Expander Pins
HLT Heavy Lift Transporter

General

Your machine has expander pins installed in key locations. Expander pins are engineered to reduce lug wear. As the fasteners are tightened, washers press the slotted expansion sleeves up the tapered ends of the pin. The sleeves expand, conform to the shape of the lug ears, and lock into place. See Figure 1.

Torque Schedule

The fasteners must be re-torqued at periodic intervals to ensure that the pins are seated properly. After an expander pin is first installed, replaced, or any time the mounting is adjusted, the re-torque sequence shown in Table 1 must be followed. After the 40 hour interval, the fasteners must then be re-torqued monthly, or after 250 hours of operation, whichever occurs first.

Pin Locations

Expander pins are factory installed on the Lower Drive Axle Arms (4 places). Make sure you identify all expander pins used on your machine to ensure you are re-torqueing all expander pins regularly. Consult your dealer, or Allied Systems Service Department (503.625.2560) if you have any questions.

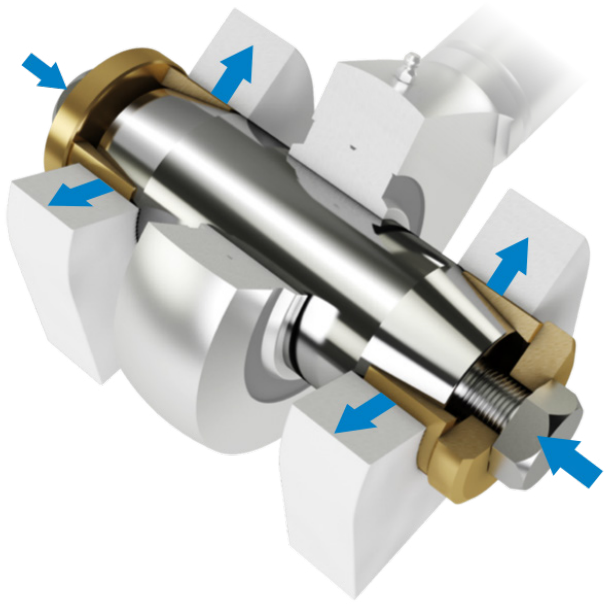

Figure 1 Typical Expander Pin

Torque Values

See Table 2 for the torque values for your expander pins. Torque the fastening elements alternately and equally in order to maintain an equal clearance between the tension washers and the mounting lugs on both sides of the Expander Pivot Pin System. Tighten until the torque wrench “clicks out” on setting.

Required Gap

The expander pin must be positioned so there is a minimum gap between the Tension Washers and the lugs. The gap must be at least 0.02”. See Figure 2 for details.

Torque Schedule	
After 1 hour	Initial Installation
After 3 hours	
After 10 hours or 1 day *	
After 40 hours or 4 days*	
Monthly or every 250 hours	Ongoing Periodic Maintenance
* When you re-torque and the wrench “clicks out” on setting without additional torque, you have successfully “seated” the expansion sleeves and the installation process is complete.	
If expansion sleeves have not “seated” within one week of operation, call Allied Systems at (503) 625-2560 for instructions.	

Table 1 Torque Schedule

Torque Value			
Pin	**Size**	**Location**	**Value**
605958	2”	Lower Drive Axle Arms	258 ft-lbs

Table 2 Torque Value

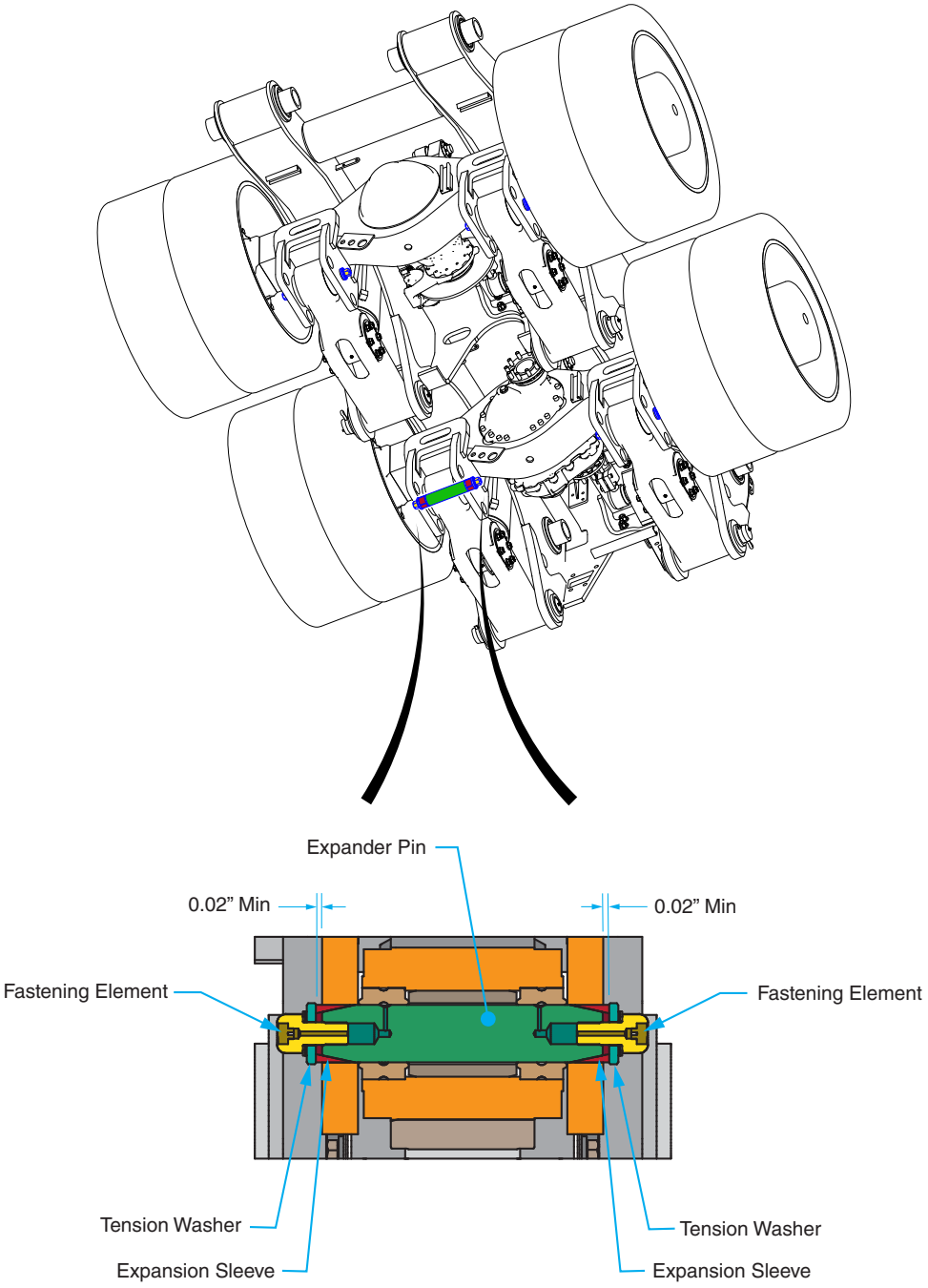

Figure 2 Lower Drive Axle Arms Hinge Pins

Lower Drive Axle Arms Hinge Pins

Figure 2 shows an installation with expander pins at the 4 locations of the Lower Drive Axle Arms, inboard of the Drive Wheels/Tires. The fastening elements must be re-torqued per the schedule in Table 1 to the torque value in Table 2.

Every time the fastener is re-torqued, check the gaps between either the Tension Washer or Spanner Nut and the lug. The gap must be a minimum of 0.02”. If the Tension Washer is touching the lug, reposition the expander pin so that the gap on both sides is maintained.

Repositioning the Pin

Should it become necessary to reposition the expander pin:

1. Unscrew the fastening element(s), and remove the washer(s) on both sides of the assembly.
2. Tap the pin alternatively on both sides until the tension on the expansion sleeves is released (use a piece of pipe between the pin and the mallet/hammer to not damage the threads). Remove the expansion sleeves. Do not damage the threads.
3. Position the expander pin so that it is centered relative to the lugs.
4. Reinstall the sleeves, tension washer(s), fastening element(s), and hand tighten.
5. Torque the fastening elements alternately and equally in order to maintain an equal clearance between the tension washers and the mounting lugs on both sides of the Expander Pivot Pin System. Refer to Table 2 for torque value. Tighten until the torque wrench “clicks out” on setting.
6. Follow the torque schedule in Table 1 to make sure the expander pin seats properly.

Removing the Pin

Should it become necessary to remove the expander pin:

1. Unscrew the fastening element(s), and remove the washer(s) on both sides of the assembly.
2. Tap the axle alternatively on both sides until the tension on the sleeves is released (use a piece of pipe between the axle and the mallet/hammer to not damage the threads). Remove the sleeves and axle. Do not damage the threads.

Installing a New Pin

If the expander pin is completely removed in order to be replaced:

1. Inspect and repair any structural damage to the drive axle arms, bushings, bearings, etc.
2. Thoroughly clean the bores and mounting surfaces.
3. Grease the sleeves and expander pin with bearing grease. Do not grease the threads.
4. Position the expander pin so that it is centered relative to the lugs.
5. Install the sleeves, tension washer(s), fastening element(s), and hand tighten.
6. Torque the fastening elements alternately and equally in order to maintain an equal clearance between the tension washers and the mounting lugs on both sides of the Expander Pivot Pin System. Refer to Table 2 for torque values. Tighten until the torque wrench “clicks out” on setting.
7. Follow the torque schedule in Table 1 to make sure the expander pin seats properly.

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