

H **HALF-TRAAX**
AXLE AND BEAM REMOVAL/REPLACEMENT
LIT NO: L533
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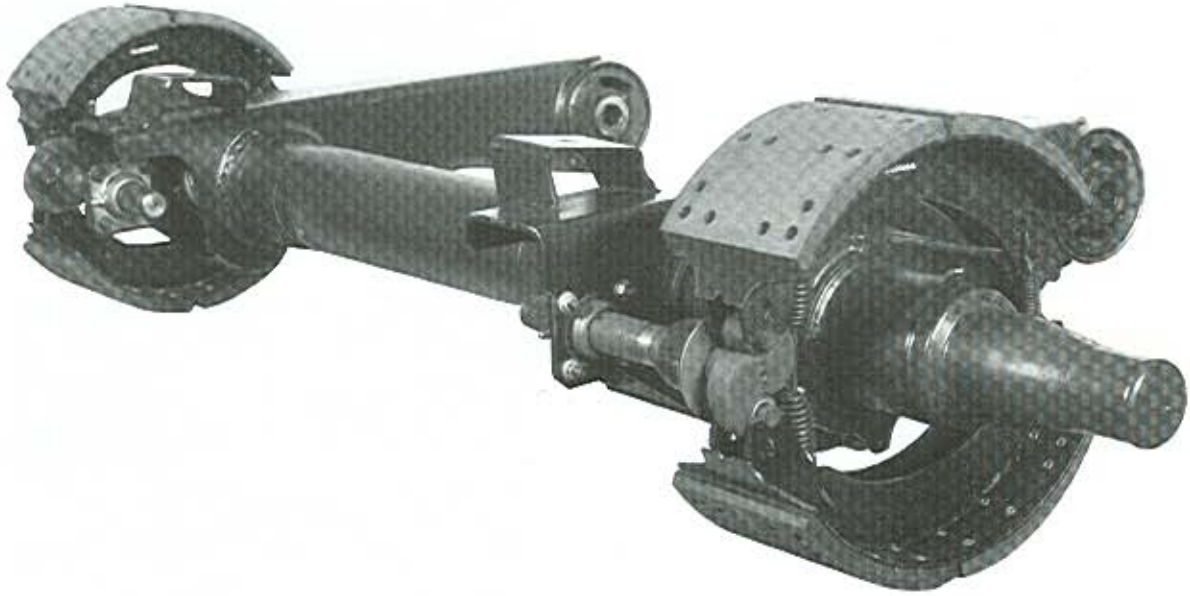


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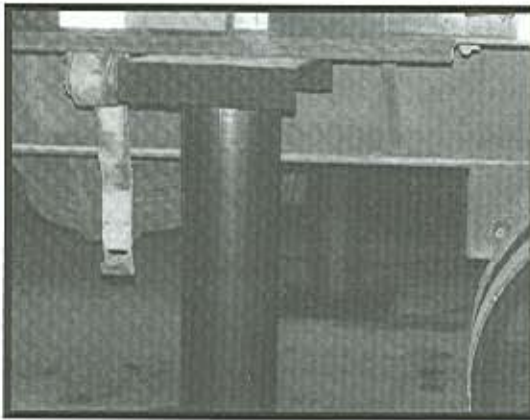


Figure 1



Figure 2

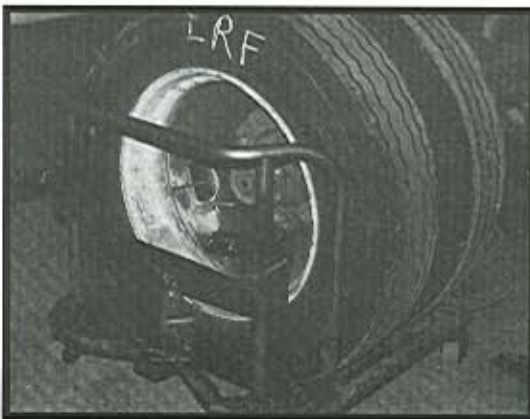


Figure 3

REMOVAL

1. Park the trailer in a suitable area. The surface should be level, free of dirt and debris.
2. Set the parking brakes. Chock the wheels of the axle that is not being replaced.
3. Exhaust the air from the suspension.

WARNING! ENSURE THE SUSPENSION IS FULLY EXHAUSTED PRIOR TO UNCOUPLING, TO PREVENT TRAILER WALK AND TO AVOID COMPONENT STRESS.

4. Release the parking brakes.
5. Using a jack capable of lifting the entire trailer, raise the trailer until the wheels of the affected axle assembly clear the surface. See Figure 1.

CAUTION! SUPPORT THE TRAILER WITH JACK STANDS TO PREVENT POSSIBLE DAMAGE TO THE EQUIPMENT OR INJURY IF SLIPPAGE FROM THE JACK SHOULD OCCUR. See Figure 2.

6. Remove the tires and wheels from both ends of the affected axle assembly using manufacturer's removal procedures. Removal of hubs and brake drums is optional at this time. See Figure 3.

NOTE: It will be necessary to retract the brakes to make brake drum removal possible. Follow the brake chamber manufacturer's procedure and cautions for manual brake chamber release.

NOTE: If the Half-Traax you are installing is equipped with new brake lining and brake components, skip to step #11 of this procedure.



Figure 4

7. If you are exchanging brake components, ensure the brake shoes are fully retracted. The brake shoe rollers will be resting in the valley of the S-cam head when the shoes are fully retracted.

8. Remove both sets of brake lining using the procedure outlined in the "Wheel End Maintenance" manual. Discard used brake hardware.

NOTE: Hendrickson Trailer Suspension Systems recommends the use of new mounting hardware when installing brake shoes.

9. Remove the cotter and clevis pins from the brake chamber clevis at the slack adjusters. **See Figure 4.**

10. Remove the camshaft mounting hardware and camshafts using the "Wheel End Maintenance" manual. Discard used camshaft hardware.

IMPORTANT: YOU MAY CHOOSE TO REMOVE CAMSHAFTS AND CAMSHAFT HARDWARE AFTER THE AFFECTED AXLE ASSEMBLY HAS BEEN REMOVED FROM THE TRAILER.

NOTE: Hendrickson Trailer Suspension Systems recommends the use of new hardware when installing camshafts.



Figure 5

11. Remove the Height Control Valve linkage from the bracket on the brake chamber, if the linkage is mounted on the affected axle. Remove the bracket when the brake chambers are removed. **See Figure 5.**

IMPORTANT: MARK THE LINKAGE SO IT CAN BE REINSTALLED IN THE CORRECT POSITION ON THE VALVE ARM, AFTER THE NEW HALF-TRAAX IS INSTALLED.

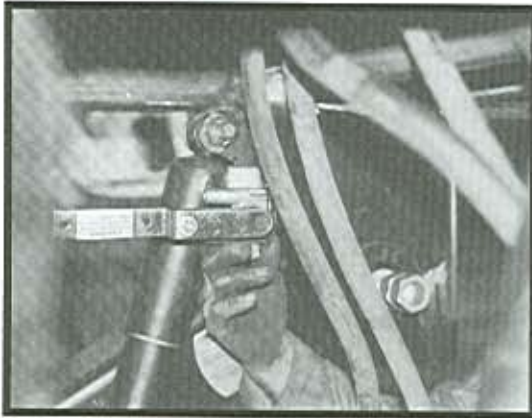


Figure 6



Figure 7



Figure 8

12. Remove the air lines from the brake chambers and plug the lines to prevent contamination from entering the air system. Remove the brake chambers by removing the nuts from the mounting studs. See Figure 6.

CAUTION! DO NOT REMOVE AIR LINES FROM BRAKE CHAMBERS IF SYSTEM AIR IS BEING USED TO KEEP THE BRAKES RELEASED. COMPONENT DAMAGE OR PERSONAL INJURY COULD OCCUR.

NOTE: Removal of the air lines is not required if the brake chambers can be stored out of the way. Brake chambers should not be allowed to hang from the air lines.

13. Using a floor jack, raise the affected axle assembly.

14. Remove the air spring mounting fastener from the suspension beams. See Figure 7.

NOTE: Removal of the air springs from the trailer is optional but not required.

15. If you choose to remove the air springs entirely, remove the air lines on the air spring fittings. Plug the lines to prevent contamination from entering the air system. Remove the air spring mounting hardware on the sub-frame. See Figure 8.



Figure 9

16. Remove the shock absorbers by loosening and removing the shock mounting hardware. See Figure 9.

NOTE: Removing the shocks from the trailer is not mandatory. The shocks are only required to be removed from the suspension beams. They may hang from the frame hangers until the new Half-Traax is installed.

17. Lower and remove the floor jack. The end of the suspension beams should rest on the surface.

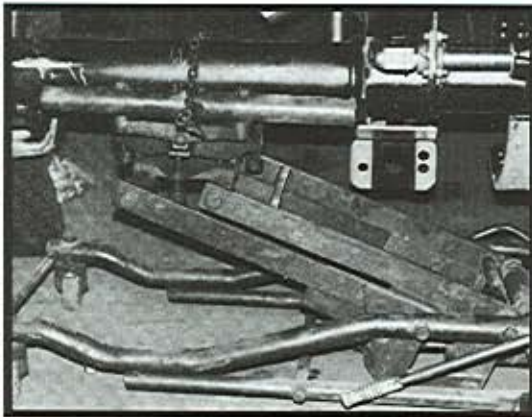
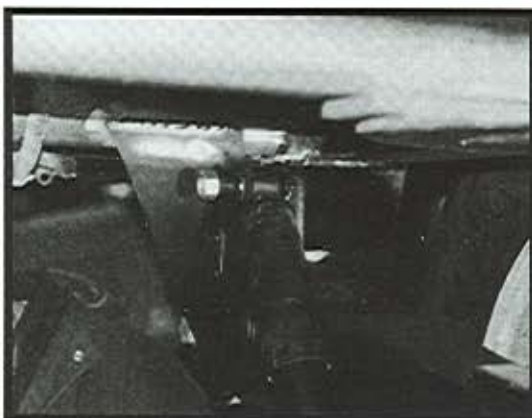
CAUTION! CARE MUST BE TAKEN WHEN RAISING AND LOWERING THE JACK. BECAUSE THE AXLE IS STILL ATTACHED AT THE PIVOT JOINT, IT WILL TEND TO MOVE ON THE JACK WHILE IT IS BEING LOWERED. CAUTION SHOULD BE EXERCISED TO ENSURE THE (HALF-TRAAX) ASSEMBLY DOES NOT SLIP OFF THE JACK CAUSING COMPONENT DAMAGE OR INJURY.

18. Using an impact wrench with a 1-7/16" impact socket, remove and discard the **Torq-Rite™** nuts, pivot bolts and hardened washers from the **Quik-Align®** pivot joint. Remove and save the alignment collars.

CAUTION! AFTER THE PIVOT BOLTS AND ALIGNMENT COLLARS ARE REMOVED, THE SUSPENSION BEAMS ARE FREE TO DROP OUT OF THE **Quik-Align®** HANGERS. SUPPORT THE SUSPENSION BEAMS DURING PIVOT BOLT REMOVAL TO PREVENT PERSONAL INJURY OR DAMAGE TO COMPONENTS.

19. Remove the suspension beams from the hangers. It may be necessary to pry down on the suspension beam(s) at the pivot connection until they are clear of the hangers. Discard the wear pads.

20. Removal of the affected axle is complete. Check hangers and trailer sub-frame for damage if the suspension was involved in accident damage. Repair or replace defective material.

AXLE AND BEAM REMOVAL/REPLACEMENT*Figure 1**Figure 2**Figure 3***INSTALLATION**

1. Clean and inspect all reusable parts (hubs, drums, lining, etc.) for wear or damage.

NOTE: Hendrickson Trailer Suspension Systems recommends the use of new brake shoe mounting kits, camshaft kits, **Quik-Align®** pivot bolts and **Torq-Rite™** nuts.

2. Using masking tape, attach the wear pads to the pivot bushings. The tape will hold the wear pads in place during reassembly. See Figure 1.

3. Position a jack, preferably a transmission jack, under the center of the Half-Traax. Secure the Half-Traax to the jack if possible. Move the assembly into an installation position under the trailer. See Figure 2.

4. Raise the Half-Traax assembly with the jack. Attach the shock absorbers to the hangers and the suspension beams using the mounting hardware. Torque the bolts or nuts to specifications. See Figure 3.

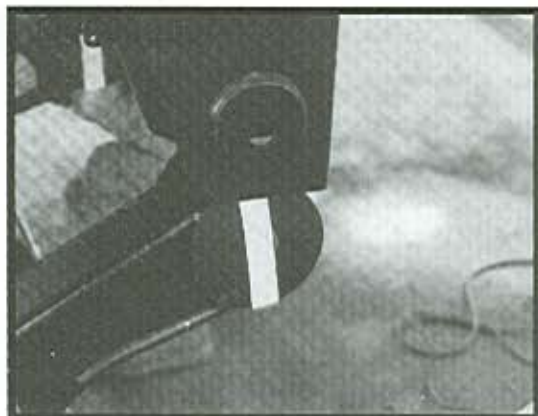


Figure 4

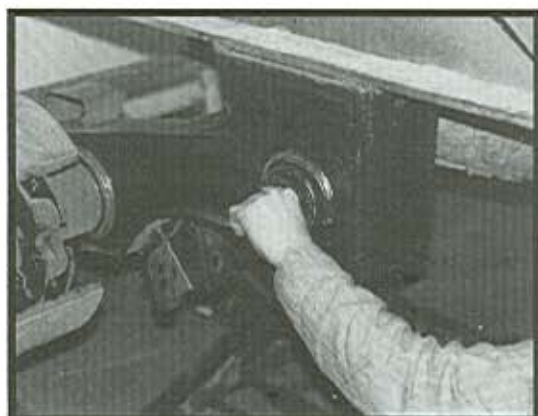


Figure 5



Figure 6

5. Carefully guide the suspension beams and wear pads into the hanger. The masking tape may remain on the wear pads during installation. See Figure 4.

6. Line up the holes in the bushings with the alignment slots in the **Quik-Align**[®] hangers.

7. Install one of the hardened washers and the eccentric alignment collars on the pivot bolts. Slide the assembly through the hanger until the eccentric collars rest flat on the hangers. Repeat the step on the opposite side. See Figure 5.

NOTE: The 1/2" square adjustment holes in the eccentric collars should be at the 12 o'clock position during installation.

8. Install alignment collars, hardened washers and **Torq-Rite**[™] nuts on the inboard side of the hangers.

9. Using a 1-7/16" wrench, socket or adjustable wrench, tighten the **Torq-Rite**[™] nuts until the joints are snug.

IMPORTANT: DO NOT OVERTORQUE THE PIVOT JOINT HARDWARE. ENSURE THE HARDENED WASHERS ARE FREE TO SPIN.

10. Guide the air spring bottom mounting studs into the mounting brackets on the suspension beams. Install the nuts and torque to specifications. See Figure 6.

NOTE: You may choose to remove the transmission jack and use a floor jack for the remaining operations.

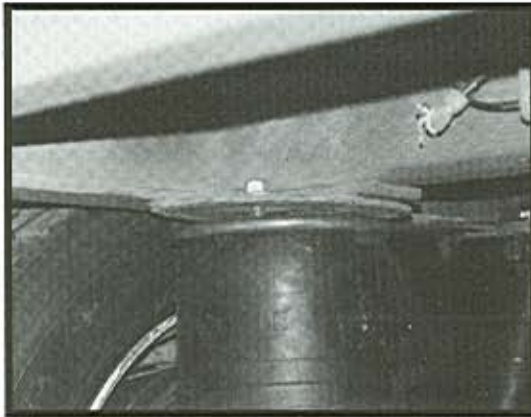


Figure 7

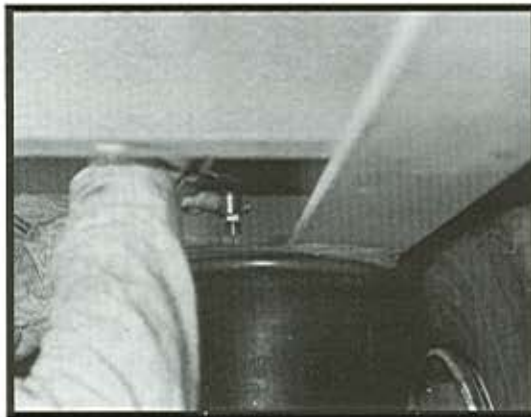


Figure 8



Figure 9

11. Guide the upper air spring combination fittings (if removed) in the mounting holes in the bag plate. Install the nuts on the combination fittings and torque to specifications. **See Figures 7 and 8.**

12. Attach the air lines to the air spring combination fittings (if removed) and torque to specifications.

CAUTION! DO NOT USE THREAD TAPE ON FITTINGS IN THE AIR SYSTEM. CONTAMINATION OF THE AIR SYSTEM COULD OCCUR.

13. Install the camshafts, slack adjusters and brake lining following the installation procedures in the "Wheel End Maintenance" manual. Care must be taken to follow all notes, cautions and warnings.

14. Install the hubs and brake drums using the component manufacturer's installation procedures. Adjust the wheel bearing using the procedure in the "Wheel End Maintenance" manual.

15. Fill the hubs with approved lubricant.

16. Mount the brake chamber on the mounting bracket, torque the nuts. Remove the release tool (if used) following the brake chamber manufacturer's procedure. The brake chamber manufacturer's warnings and cautions must be observed. **See Figure 9.**

IMPORTANT: IF THE HEIGHT CONTROL VALVE IS TO BE MOUNTED TO THE NEW HALF-TRAAX ASSEMBLY, ENSURE THE BRACKET FOR THE VALVE LINKAGE IS INSTALLED ON THE BRAKE CHAMBER MOUNTING STUD BEFORE INSTALLING AND TIGHTENING THE BRAKE CHAMBER NUTS.



Figure 10

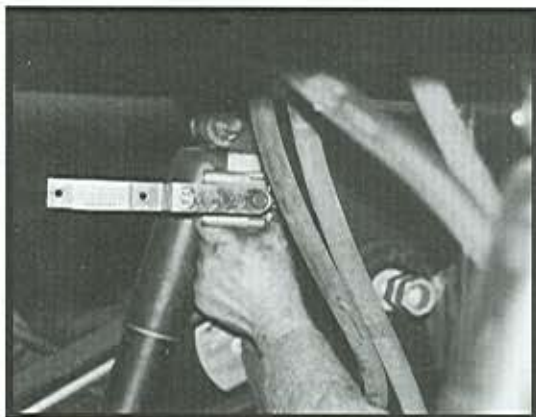


Figure 11

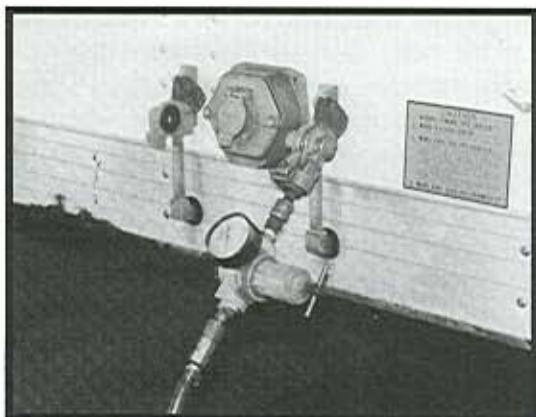


Figure 12

17. Install the brake chamber air lines (if removed) and tighten the fittings.

CAUTION! DO NOT USE THREAD TAPE ON FITTINGS IN THE AIR SYSTEM. CONTAMINATION OF THE AIR SYSTEM COULD OCCUR.

18. Attach the clevis of the brake chamber pushrod to the slack adjuster using the clevis pin. Install the cotter pin in the clevis pin. **See Figure 10.**

19. Attach the Height Control Valve linkage to the valve lever and air chamber bracket. **See Figure 11.**

IMPORTANT: ADJUSTMENT OF THE HEIGHT CONTROL VALVE LINKAGE MAY BE NECESSARY AFTER THE INSTALLATION OF THE HALF-TRAAX IS COMPLETED.

20. Install the tires and wheels.

21. Adjust the slack adjusters, following the slack adjuster manufacturer's adjustment procedure.

22. Lower the axle assembly and remove the jack.

23. Align the trailer following the procedure in L-313A ("**Quik-Align**[®] Alignment Procedure").

24. Complete final checks of the suspension and brake system by supplying air to the trailer. **See Figure 12.** Inflate the air springs and check for air leaks. Check the ride height and adjust if necessary. Check the fluid level in the wheel hubs. Ensure the pivot joints are tight and the **Torq-Rite**[™] nuts are sheared.

25. Road test the trailer and check for proper brake and suspension operation. Check for air and/or fluid leaks.