

## Ridewell Self-Steering Auxiliary Axle Suspensions:

- RSS 233 - Truck—  
8K; 10K; 13K Capacity
- RSS 233 - Roll-Off Truck—  
13K Capacity
- RSS 233T - Trailer—  
10K; 13K Capacity

### Notes and Cautions

This instruction provides two types of service notes definitions: "NOTE" Provides additional instructions or procedures to complete tasks and make sure component functions properly.

**CAUTION** Indicates a hazardous situation or unsafe practice that could result in equipment damage and serious injury if not avoided.

## 233 8K; 10K; 13K TRUCK (EXCLUDES 13K ROLL-OFF) – BUSHING REPLACEMENT/TORQUE SPECIFICATIONS

REPL Kit Part No.	Item Description	Size	Torque Values	
			foot-pound	Newton-meter
6040134	Pivot Bolt/Nut (HHCS/Locknut)	3/4"-16NF	310 ft-lb	420 N-m
6040215	Pivot Bolt/Nut (Huck® Hardware)		NA	NA
6040133	No Pivot Hardware		310 ft-lb	420 N-m
Fasteners	Flanged Lock Screw (Air Spring)	3/8"-16NC	25 ft-lb	35 N-m
	Locknut (Air Spring)	3/4"-16NF	50 ft-lb	68 N-m
	Locknut (Steering Damper)	3/4"-10NC	160 ft-lb	217 N-m

**CAUTION** Failure to install and maintain suspension fasteners at torque specifications could result in suspension failure and void the warranty. Refer to the suspension model engineering drawing for complete torque specifications.

### Vehicle Preparation

Park the vehicle on a level surface. Chock wheels to keep vehicle from moving. Exhaust all the air from the air system.

Disassemble suspension to reach pivot connections if necessary.

**CAUTION** Failure to chock vehicle wheels and exhaust the air system could allow vehicle movement that could result in serious injury.

### Bushing Replacement Procedure

Replace bushing in eight pivot connections at the same time (Fig 1).

1. Remove the pivot hardware by cutting/grinding away the Huck® Collar. Discard pivot hardware.
2. Remove bushing assembly from the rod eye. Clean the rod eye of foreign debris/corrosion.
3. Apply Energy Suspensions® Formula 5 Prelube to the bore (inside) of each bushing half. NOTE: Do not substitute - urethane bushing lubricant is included with replacement kit.
4. Press bushing halves into the torque rod eye until halves are snug against the eye.  
NOTE: Rubber mallet may be needed to install bushing half.
5. Press bushing inner sleeve into the center opening of the installed bushing. NOTE: Mallet or bushing press will be needed to insert sleeve.
6. Install pivot hardware and torque to specifications.
7. Reassemble suspension. Torque to specifications (Chart).

Check that wheel toe-in setting is between 1/32" and 3/32" and adjust if necessary.

**CAUTION** Failure to torque hardware can result in suspension failure and void the warranty.

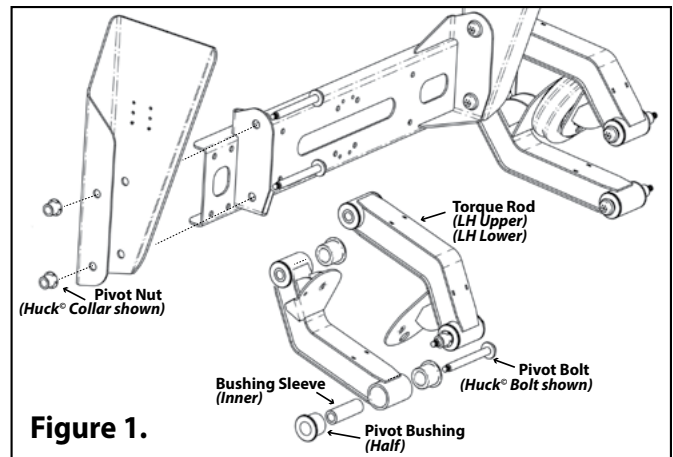


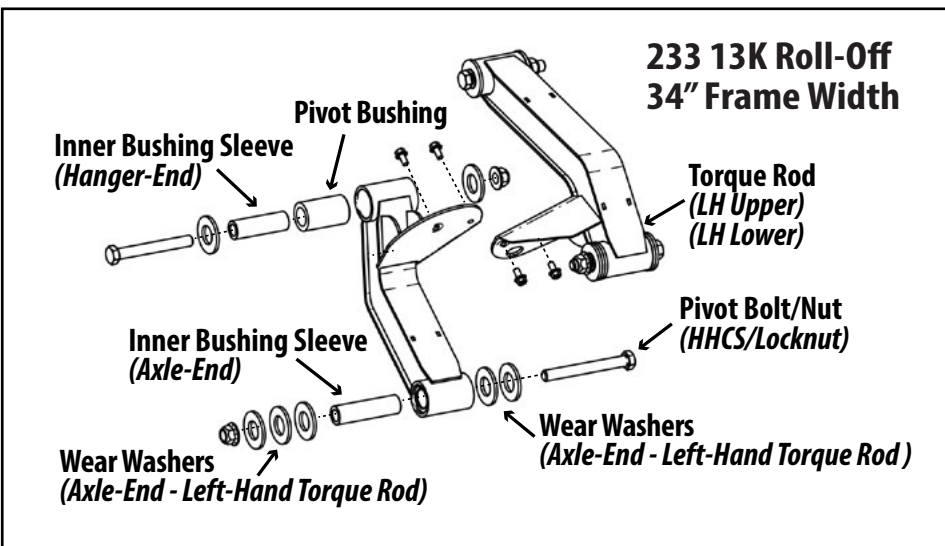
Figure 1.

**RIDEWELL**  
**SUSPENSIONS**  
Part No.: 9710017

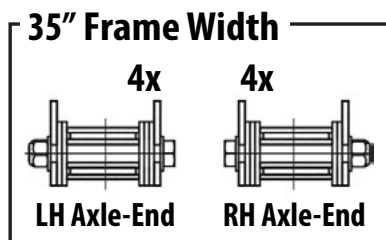
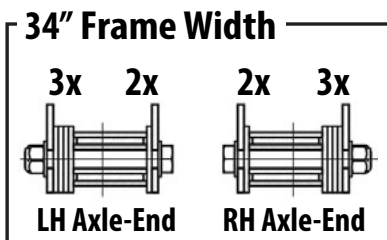
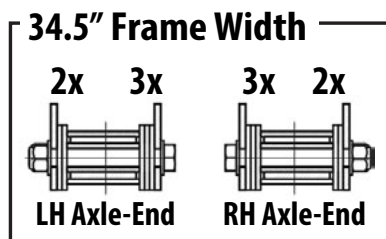
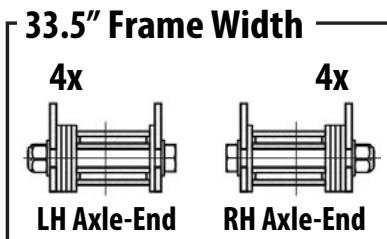
## RSS 233 13K Roll-Off – BUSHING REPLACEMENT/TORQUE SPECIFICATIONS

REPL Kit		Torque Values		
Part No.	Item Description	Size	foot-pound	Newton-meter
6040218	Pivot Bolt/Nut (HHCS/Locknut)	3/4"-16NF	310 ft-lb	420 N-m
6040217	No Pivot Hardware		310 ft-lb	420 N-m
Fasteners	Flanged Lock Screw (Air Spring)	3/8"-16NC	25 ft-lb	35 N-m
	Locknut (Air Spring)	3/4"-16NF	50 ft-lb	68 N-m
	Locknut (Steering Damper)	3/4"-10NC	160 ft-lb	217 N-m
	Locknut - (Crosschannel)	1/2"-13NC	25 ft-lb	35 N-m

**CAUTION** Failure to install and maintain suspension fasteners at torque specifications could result in suspension failure and void the warranty. Refer to the suspension model engineering drawing for complete torque specifications.



### 233-13K Roll-Off - Wear Washer Torque Rod Install



**Figure 2.** Refer to the suspension model engineering drawing for the number of wear washers on the axle-end of the left-hand and right-hand torque rod. Number of washers will vary according to the pre-set frame width.

### Vehicle Preparation

Park the vehicle on a level surface. Chock wheels. Exhaust all the air from the air system.

Disassemble suspension to reach pivot connections if necessary.

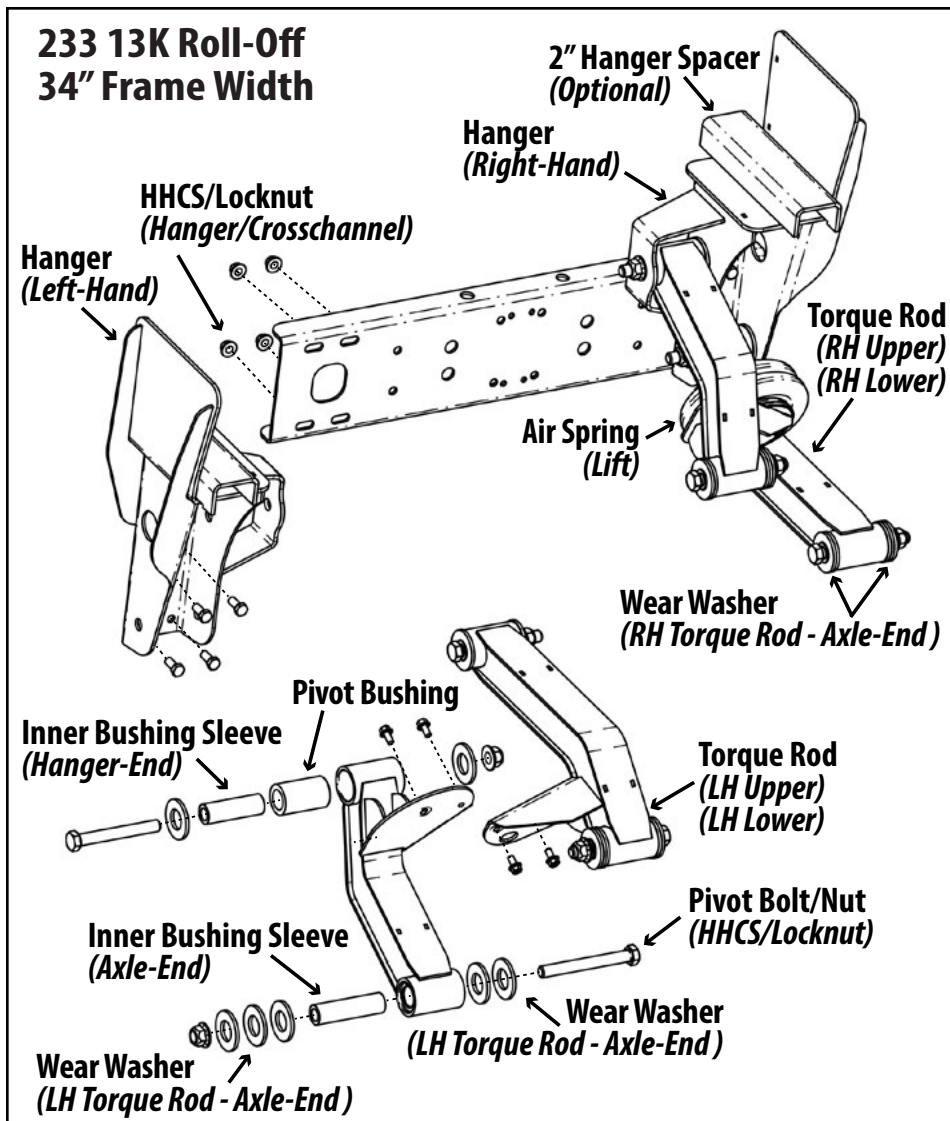
**CAUTION** Failure to properly chock the vehicle wheels and exhaust the air system could allow vehicle/suspension movement that could result in serious injury.

### Replacement Procedure

- Count the number of wear washers on each side of the bushing on the Axle-End Torque Rod Assembly. The wear washer number varies according to the pre-set frame width (Figure 2).
- Remove pivot hardware and discard. Inspect wear washers for extreme wear/damage. Replace if necessary.  
NOTE: Pivot hardware/wear washers included with kit.
- Remove bushing from torque rod and discard. Clean rod eye of foreign debris/corrosion.
- Apply Energy Suspensions® Formula 5 Prelube to the bore (inside) of new bushings.  
NOTE: Do not substitute - special urethane bushing lubricant included with all bushing kits.
- Install new bushing into the eye of the torque rod.  
NOTE: Mallet /press needed to install bushing.
- Torque Rod Hanger-End (Bushing Sleeve - 4.1")  
Press inner sleeve into the installed bushing. Center sleeve so that both ends extend slightly past the sides of the bushing. Assemble pivot connection with one wear washer on each side of the bushing. Inner sleeve must be flush with or extend slightly past the outside of the wear washers on both ends.

*continued on next page*

## Bushing Replacement Procedure – 233-13K Roll-Off truck



**Figure 3.**  
The number of wear washers on the axle-end of the left-hand and right-hand torque rod varies by the frame width.

7. Torque Rod Axle-End (Bushing Sleeve - 4.8")  
Press inner sleeve into the installed bushing. Position inner sleeve so that one end extends further past the bushing on appropriate side as determined by the frame width.  
Assemble pivot connection with appropriate number of wear washers on either end of the inner sleeve on the axle-end of the torque rod (Figure 3).  
NOTE: Inner sleeve must be flush with or slightly past the outside of installed wear washers on both sides of torque rods. Adjust sleeve if necessary.
8. Torque pivot nut to specifications (500 ft-lb - 678 N-m).
9. Reassemble suspension, if necessary. Torque components to specifications.
10. Check wheel toe-in setting (between 1/32" and 3/32") and adjust, if necessary.

**RSS 233T 10K; 13K TRAILER – BUSHING REPLACEMENT/TORQUE SPECIFICATIONS**

REPL Kit		Torque Values		
Part No.	Item Description	Size	foot-pound	Newton-meter
6040188	Pivot Bolt/Nut (HHCS/Locknut)	3/4"-16NF	310 ft-lb	420 N-m
6040187	No Pivot Hardware		310 ft-lb	420 N-m
Fasteners	Flanged Lock Screw (Air Spring)	3/8"-16NC	25 ft-lb	35 N-m
	Locknut (Air Spring)	3/4"-16NF	50 ft-lb	68 N-m
	HHCS (Air Spring)	1/2"-10NC	50 ft-lb	68 N-m
	Locknut (Steering Damper)	3/4"-10NC	160 ft-lb	217 N-m

**CAUTION** Failure to install and maintain suspension fasteners at torque specifications could result in suspension failure and void the warranty. Refer to the suspension model engineering drawing for complete torque specifications.

**Vehicle Preparation**

Park the vehicle on a level surface. Chock wheels. Exhaust all the air from the air system.

Disassemble suspension to reach pivot connections if necessary.

**CAUTION** Failure to properly chock the vehicle wheels and exhaust the air system could allow vehicle/suspension movement that could result in serious injury.

**Replacement Procedure**

NOTE: 233T 13K Trailer Suspensions manufactured before October 2018 do not use wear washers at the pivot connection.

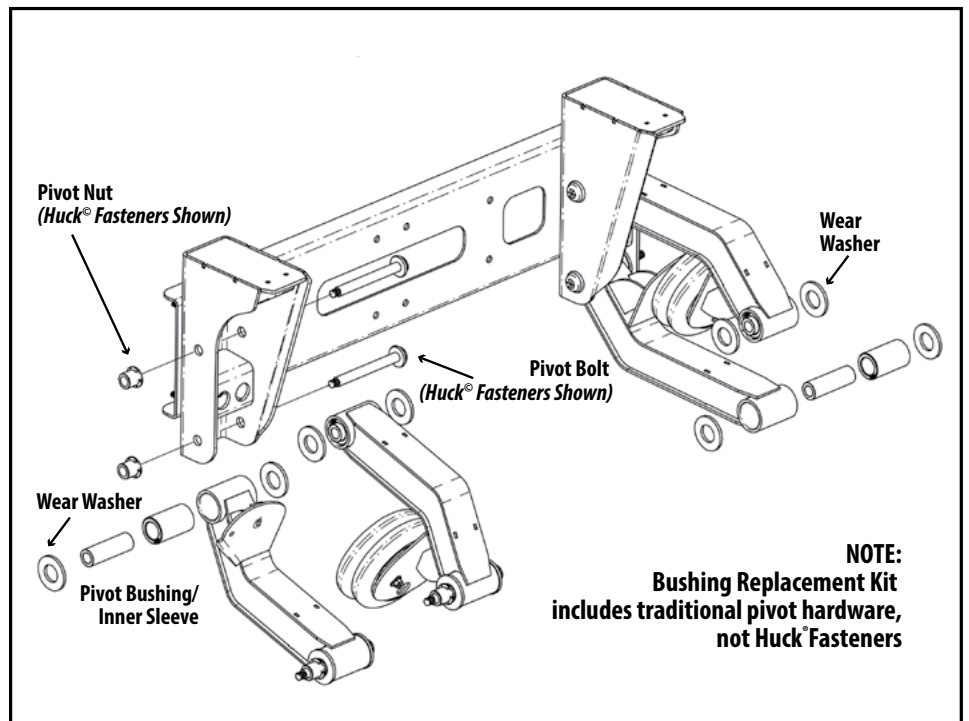
Replace eight pivot connection bushings at the same time (Fig. 4).

1. Remove Huck® Collar by cutting/grinding. Take pivot connection apart. Discard pivot hardware. Discard wear washers.  
NOTE: Wear washers included in all bushing replacement kits.
2. Remove bushing assembly from the rod eye and discard.  
NOTE: 233T 13K Trailers bushing assembly on suspensions manufactured before October 2018 consists of two bushing halves and inner sleeve.
3. Clean the torque rod eye of foreign debris/corrosion with a wire brush before installing new bushing assembly.

4. Apply Energy Suspensions® Formula 5 Prelube to the bore (inside) of the replacement pivot bushing.  
NOTE: Do not substitute - urethane bushing lubricant is included with all bushing replacement kits.
5. Install (press) bushing into the eye of the torque rod.  
NOTE: Mallet/press needed to install bushing.

6. Press inner sleeve into the installed bushing. Center the sleeve inside the bushing so that the sleeve ends extend slightly past the bushing sides.
7. Assemble the pivot connection with one wear washer on each side of the bushing.  
NOTE: The inner sleeve of the bushing must be flush with or extend slightly past the outside of the pivot connection wear washers after assembly.
8. Torque pivot hardware to specifications (Chart).
9. Reassemble suspension, if necessary. Torque to specifications (Chart/Engineering Drawing).
10. Check wheel toe-in setting (between 1/32" and 3/32") and adjust, if necessary.

**CAUTION** Failure to torque pivot hardware can result in suspension failure and void the warranty.



**Figure 4.** 233T-13K Trailer Suspension. Bushing kits include replacement components for eight pivot connections.