Ridewell Tandem Lift 239 NonSteerable Auxiliary Axle Suspension

- RTL-239 6K Tandem Axle
 (2390003-Narrow Track) (2390005-Wide Track)
 DTL 220 2K Gingle Axle
- RTL-239 3K Single Axle (2390101-BLTN AX-Seat) (2390102-Bolt-On Axle)

RIDEWELL SUSPENSIONS The Engineered Suspension Company					
	PART NO:				
	SUSP. NO:				
	SERIAL NO:				
GROSS AXLE WEIGHT RATING CERTIFICATION IS PER THE FINAL STAGE MANUFACTURER OR ALTERER.					
THIS PRODUCT MAY BE COVERED UNDER ONE OR MORE PATENTS, ADDITIONAL PATENTS MAY BE PENDING.					
www.ridewellcorp.com (800) 641-4122					

Suspension Identification Tag

The **Part Number** is listed as a (606-) Installation/Assembly Number when additional components are factory installed onto the suspension. The **Suspension Number** and **Serial Number** refer to the suspension model and date of manufacture.

Notes and Cautions

All work should be completed by a trained technician using the proper tools and safe work procedures.

Two service notes provide important safety guidelines. The notes are defined:

"NOTE": Provides additional instructions or work procedures to complete tasks and ensure the suspension functions properly.

▲ CAUTION Indicates hazardous situations or unsafe practices that, if not avoided, could result in equipment damage and serious injury.



The RTL 239 Suspension ISM is available by visiting https://www.ridewellcorp.com/installation-and-service.

RTL-239-6K; RTL-239-3K NonSteerable Trailer Suspension – Bushing Replacement

Bushing REPL Kit	Item Description	Size	To foot-pound	r que Newton-meter
6040134	Traditional Pivot Hardware (HHCS/Locknut)	3/4" 16NF	310 ft-lb	420 N-m
6040133	No Pivot Hardware	-		
6040078	Pivot Bolt/Nut (Huck [®] Hardware)	3/4″	-	-
Fasteners	Locknut - (Air Spring, Upper)	3/4" 16NF	50 ft-lb	68 N-m
	Locknut - (Air Spring, Upper; Lower)	1/2" 13NC	25 ft-lb	35 N-m
	Flanged Lock Screw - (Lift Spring)	3/8" 16NC	25 ft-lb	35 N-m
	Flanged Locknut - (Crosschannel)	1/2" 13NC	80 ft-lb	108 N-m
	Locknut (Axle Seat)	1/2" 13NC	80 ft-lb	108 N-m
	HHCS/Locknut (Optional Shock Absorber-6K)	3/4" 10NC	200 ft-lb	270 N-m

Torque values reflect a lubricated thread condition (Nuts are pre-lubed). Do not overtorque. $\underline{\mathbb{C}}$

Vehicle Preparation

Park vehicle on a level surface. Chock wheels to keep vehicle from moving.

Exhaust all air from air system. Take suspension apart to reach pivot connections.

<u>CAUTION</u> Failure to chock wheels and exhaust air system could allow vehicle movement that could result in serious injury.

Bushing Replacement Procedure

Replace bushings in eight pivot connections at the same time.

- 1. Cut/grind away Huck[®] Collar to remove pivot hardware. Discard.
- 2. Remove bushing assembly. Clean rod eye of foreign debris/corrosion.
- 3. Apply Energy Suspensions[®] Formula 5 Prelube to inside of each bushing half. NOTE: Do not substitute. Urethane lubricant included in kit.
- 4. Press bushing halves into torque rod eye until halves are snug against eye. NOTE: Mallet may be needed to install the bushing.
- 5. Press the inner sleeve into the center opening of the installed bushing. NOTE: Mallet/bushing press needed to insert inner sleeve into bushing.
- 6. Check that inner sleeve is flush with sides of installed bushing.
- 7. Install pivot hardware and torque to specifications.
- 8. Reassemble suspension. Torque to specifications.

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





239-3K Suspension (Bolt-On Axle Seats)

239-3K SINGLE AXLE SUSPENSION W/ TORFLEX [™] BOLT-ON AXLE (2390102) – BUSHING REPLACEMENT							
Bushing Replacement Kit	Item Description	Size	Torque S foot-pound	pecifications Newton-meter			
6040134	Traditional Hardware (HHCS/Locknut)	3/4"-16NF	310 ft-lb	420 N-m			
6040133	No Pivot Hardware	_					
6040078	Pivot Bolt/Nut (Huck [®] Hardware)	3/4″ GR 8	_	_			
Fasteners	Locknut - (Air Spring, Upper)	3/4"-16NF	50 ft-lb	68 N-m			
	Locknut - (Air Spring, Upper, Lower)	1/2"-13NC	25 ft-lb	35 N-m			
	Flanged Lock Screw - (Lift Spring)	3/8"-16NC	25 ft-lb	35 N-m			
	Flanged Locknut - (Crosschannel)	1/2″-13NC	80 ft-lb	108 N-m			
Customer-Supplied (Preset mounting bracket width)	#12 Torflex Bolt-On Axle (HHCS/Locknut)	5/8″-11NC	155 ft-lb	210 N-m			

Torque values reflect a lubricated thread condition (Nuts are pre-lubed). Do not overtorque.

CAUTION Suspension is shipped with minimal torque applied to fasteners. All fasteners must be re-torqued after first 6,000 miles of operation. Failure to install and maintain fasteners at torque specifications could result in suspension failure and void the warranty.



Figure 1.

239 3K Single-Axle Trailer Suspension (Bolt-On Axle)

Refer to the engineering drawing Axle Bracket Frame-Center Chart to determine correct Beam/Frame Centerline Dimension to mount the customer-supplied Torflex[™] axle.

Vehicle Preparation

Park the vehicle on a level surface. Chock wheels to keep vehicle from moving.

Exhaust all air from the air system.

Disassemble suspension to reach the pivot connections.

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

Bushing Replacement Procedure

Replace bushings in the eight pivot connections at the same time (Figure 2).

- 1. Cut/grind away the Huck® Collar at the pivot connection. Remove and discard pivot hardware.
- 2. Remove the bushing assembly from the rod eye. Clean the rod eye of foreign debris/corrosion.
- Apply Energy Suspensions[®] Formula 5 Prelube to the bore (inside) of each bushing half. NOTE: Do not substitute - urethane bushing lubricant included with all replacement kits.
- 4. Press bushing halves into the eye of the torque rod until halves are snug against the eye. NOTE: Mallet may be needed to install bushing.
- Press inner sleeve into the center opening of the installed bushing. NOTE: Mallet/bushing press needed to insert sleeve.
- 6. Check that inner sleeve is flush with both sides of installed bushing.
- 7. Install pivot hardware. Torque to specifications.
- 8. Reassemble suspension. Torque to specifications.

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

Quantity per Axle		Part Number	Item Description	TORQUE SPI foot-pound	CIFICATIONS Newton-meter
1		6030117	(2390101 3K Single-Axle) Bolt-On Axle-Seat Replacement Kit	80 ft-lb	108 N-m
	2	8001589	(Bolt-On) Axle Seat		
	8	1140084	HHCS 1/2" 13NC (Length - 1.25")		
	8	1150012	Flanged Locknut 1/2" 13NC (Grade 8)		
1		6030116	(2390003; 2390005 6K Tandem-Axle) Bolt-On Axle-Seat Replacement Kit	80 ft-lb	108 N-m
	2	8004622	Bolt-On Axle Seat (3" Round Axle)		
	8	1140084	Hex Head Cap Screw (HHCS) 1/2" 13NC - 1.25"LG		
	8	1150012	Locknut - 1/2" 13NC Grade 8		
1		6030118	(2390003; 2390005 6K Tandem-Axle) Front Axle w/Axle-Seats Replacement Kit	80 ft-lb	108 N-m
	1	6270592	3" Axle w/ Electric Brakes (Axle-Seats welded to axle-42" BC)		
	8	1140084	Hex Head Cap Screw (HHCS) 1/2" 13NC - 1.25"LG		
	8	1150012	Locknut - 1/2" 13NC Grade 8		
1		6030119	(2390003; 2390005 6K Tandem-Axle) Rear Axle w/Axle-Seats Replacement Kit	80 ft-lb	108 N-m
	1	6270466	3" Axle w/ Electric Brakes (Axle-Seats welded to axle-42" BC)		
	8	1140084	Hex Head Cap Screw (HHCS) 1/2" 13NC - 1.25"LG		
	8	1150012	Locknut - 1/2" 13NC Grade 8		

Torque values reflect a lubricated thread condition (Nuts are pre-lubed). Do not overtorque.

<u>CAUTION</u> Retorque fasteners after first 6,000 miles of operation and every 36,000 miles thereafter. Refer to the suspension model engineering drawing for complete torque specifications. Failure to install and maintain fasteners at torque specifications could result in suspension failure and void the warranty.



Vehicle Preparation

Park vehicle on a level surface. Chock wheels to prevent movement.

Raise to height that removes load from suspension. Support with jack stands.

Disconnect linkage from height control valve(s), if equipped. Exhaust all air from the air system.

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

239-3K; 239-6K Auxiliary Axle Trailer Suspension Bolt-On Axle Seat Replacement Procedure

Remove wheels and tires from axle. Provide vehicle support for axle removal and replacement.

Cut/grind away the axle-seat Huck[®] Fasteners on both the right- and left-hand load beam assembly and discard. Remove axle from the suspension.

Refer to the suspension model engineering drawing for the correct axle-seat orientation.

Attach each axle-seat with the supplied (traditional) hardware. Torque to 80 ft-lb (108 N-m).

Center the replacement axle between the load beam assemblies. Make sure the electric brake wiring is positioned correctly. Place axle onto axle seats.

Weld axle to each axle seat according to Ridewell Weld Process #2 (Page 4).

Remove axle support. Install wheels and tires.

Connect height control valve linkage, if necessary. Inflate air springs.

Raise vehicle and remove support stands. Lower vehicle to ground.

CAUTION Failure to follow procedures and design specifications could result in injury, damage to axle or suspension, and void the warranty.





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