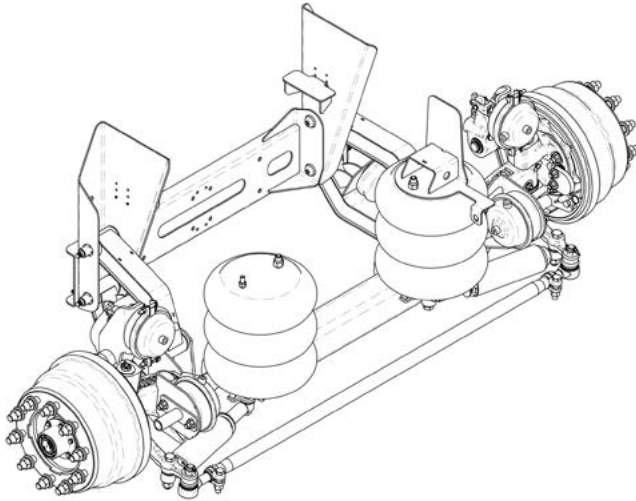


RSS-233 - 13K Truck

Self-Steering – Auxiliary Axle Suspension



Installation and Service Manual

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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.

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(800) 641-4122

The RSS-233 13K Truck Suspension System is a fully integrated, auxiliary axle suspension system. The suspension can be configured with drum or disc brake axle assemblies and an optional steering lock.

Suspension Identification Tag

The Part Number is listed as a 606xxxx Installation/Assembly Number when other components are factory installed onto the suspension.

The Suspension Number and Serial Number list the individual suspension model and date of manufacture.

Refer to the suspension model number/part number and serial number when contacting Ridewell for customer service, replacement parts and warranty information.

Notes and Cautions

Read through the entire Installation and Service Manual (ISM) before performing any procedures.

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

The ISM uses two service notes to provide important safety guidelines for suspension system operation.

The service notes are defined as:

“NOTE”: Provides additional instructions and-or procedures to complete tasks and make sure the suspension functions properly.



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

Auxiliary Axle – Self-Steering Option

Self-steer auxiliary axle suspensions have wheels that can swivel and use the forces generated during turns to steer the wheels. Steerable axles improve maneuverability, allow vehicles to turn sharper corners and reduce tire wear and tear by minimizing tire scrub.

Self-steering auxiliary axle suspensions are designed to steer only in the forward direction. The suspension **MUST** be raised off the ground or locked into a non-steerable configuration when driving in reverse.

Ridewell Suspensions strongly recommends using automated systems that raise/lock the wheels into a straightforward position during reverse travel.

A visual/audible indicator to assist with the manual operation of the lift-in-reverse system is recommended if there are no automated systems installed.

The driver should maintain slow speeds and avoid extreme turns when maneuvering in reverse with the steering lock engaged.

CAUTION Failure to lift the suspension and-or engage the steering-lock during reverse travel can cause component damage and void the warranty.

Prior to installation

Refer to the suspension model engineering drawing for dimensional requirements; available ride height; and, the suspension system operating parameters.

Installations can vary. Procedures should be adapted for different vehicles, as needed.

- The Gross Axle Weight Rating (GAWR) is determined by the system component with the lowest load rating. Please consult with the tire, wheel, axle and brake manufacturers before installation to determine the GAWR.
- If vehicle chassis modifications are required, consult with the vehicle manufacturer to ensure that such changes are permitted.
- Welding or altering of suspension components is not permitted without the express written permission of Ridewell Suspensions.

Installer Responsibilities

The installer of the suspension has the sole responsibility for proper attachment of the suspension system to the vehicle chassis.

- The installer is responsible for locating the suspension system on the vehicle to provide the proper load distribution.
- The installer must verify that vehicle crossmembers are positioned to support the suspension at the installing location.
- The installer must verify there is sufficient clearance for proper functioning of the installed auxiliary suspension – air springs; brake chambers; steering components; axle (including axle to drive-line clearance); and, tires and wheels.
- It is the installer's responsibility to determine that axle spacing conforms to any applicable federal and local bridge laws.
- The installer must verify that air reservoir volume requirements are met after suspension installation. Consult the vehicle manufacturer or the Federal Motor Vehicle Safety Standards (FMVSS) 121 for more information.

Suspension Mounting

Refer to the suspension model engineering drawing for the suspension travel table; torque specifications; and, spacing and clearance requirements for mounting.

The 13K Truck Suspension hanger locator flange is factory installed to a preset ride height (Figure 1).

The 13K Roll-Off Truck Suspension uses a 2" hanger/air spring spacer to adjust the ride height (Figure 2).

Bolt-On Installation Procedure

233-13K Truck Suspensions are shipped fully assembled. The suspension system must be reassembled with the proper torque applied before installation.

Grade-8 bolts, flanged locknuts or locknuts with hardened washers are supplied by the installer.

1. Measure vehicle frame width and the hanger-to-hanger inside dimensions of the suspension.
NOTE: Customer-supplied filler plates are required for the hangers and air spring mounting plates if the vehicle frame width is narrower than the suspension pre-set frame width.
2. Place the suspension, with any hanger/air spring filler plates or hanger/air spring spacer, in the desired installation location.
NOTE: A crossmember must be located on the frame within six inches of the leading or trailing edge of the hanger.
3. Check the installation location for adequate clearance of suspension components.
The top of the hangers and air spring mounting plates must be parallel to the chassis frame to maintain the proper caster angle.
4. The frame hangers and air spring mounting plates should be perpendicular to the chassis frame and in alignment with each other.
Clamp the hangers, the mounting plates, and any required spacer and filler plates firmly in place.
5. Refer to the engineering drawing for the recommended hanger/air spring mounting plate bolt-hole locations.
CAUTION If the recommended bolt-hole locations are not available, locate and drill the bolt-holes as far apart as possible to provide the most support for the assembled suspension.
Check to make sure that wires, hoses or other components located within the frame rail are not affected by drilling.
6. Center-punch and drill six bolt-holes in each hanger. Bolt each hanger to the frame with 5/8-inch Grade 8 bolts and locknuts.

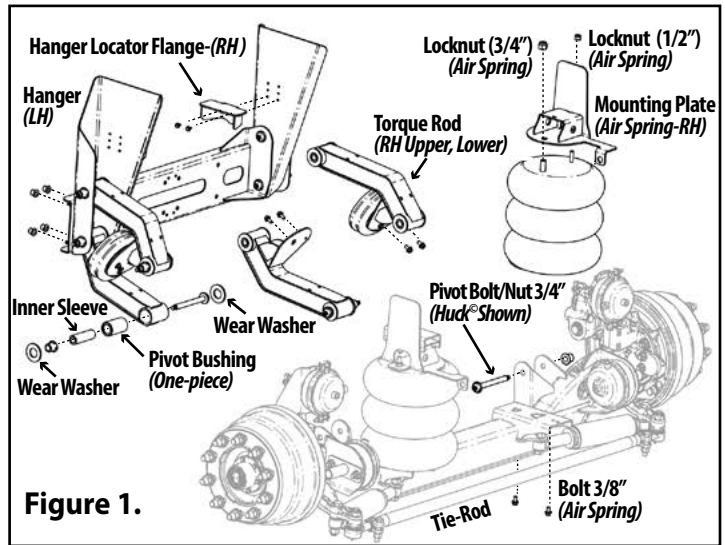
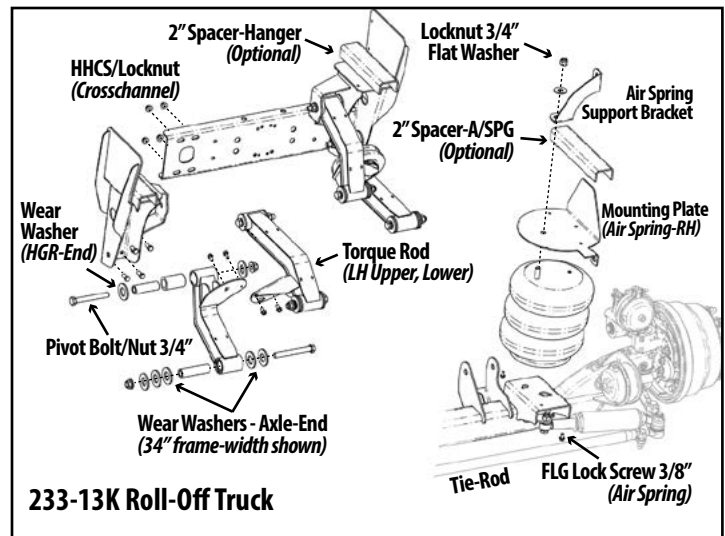


Figure 1.



233-13K Roll-Off Truck

Figure 2.
233-13K Roll-Off Truck.
Loosen crosschannel locknuts and pivot nuts on the hanger end of the suspension before installation. Torque to specifications during final assembly and inspection.

7. Center-punch and drill two bolt-holes in each air spring mounting bracket. Bolt each air spring bracket to the frame with two 5/8-inch Grade 8 bolts and locknuts.
8. Install/connect the air control kit (ACK) to the suspension (Page 6). Check the air system after installation for leaks and proper operation of controls.
9. Perform final assembly and inspection and check the wheel toe setting (Page 5)

CAUTION Failure to torque bolts/nuts of suspension components to specifications can result in failure of the suspension and void the warranty.

Final Assembly and Inspection

1. Verify that all suspension component bolts/nuts are torqued to specifications.
2. Install wheels and tires.
3. Check that tires are inflated to recommended pressure. Check wheel hubs for proper level of lubricant recommended by the manufacturer.
4. Lift the axle to the raised position. Check the air system tubing and connections for leaks.
5. Check that wheels can rotate freely and that brakes and slack adjusters are properly adjusted.
6. Raise and lower the suspension assembly (wheels and tires installed) through the entire range of travel. Make sure that sufficient clearance for air springs, brake chambers and other components has been provided.
7. Check the vehicle's reverse travel options:
 - 7.1. Check steer-lock operation.
 - 7.2. Check automated system (if installed) to make sure that suspension raises/locks wheels during reverse travel.
8. Check wheel toe-in setting and adjust if necessary (between 1/32" and 3/32").

CAUTION When lowering an auxiliary axle on an unloaded vehicle, pressure to the load air springs must be reduced to below 10 psi.

– Failure to reduce the air pressure could cause the vehicle's drive axles to rise from the ground and the vehicle could roll in an unsafe manner.

– Do not lower the auxiliary axle while the vehicle is moving above 10 mph.

Regulate load with air spring pressure

The load capacity of the auxiliary axle is adjusted by increasing or decreasing the pressure to the air springs. By applying more air, the lift axle takes on a greater percentage of the load's weight. The load capacity is decreased as the air pressure decreases.

Accurate readings of the load capacity can be obtained by parking a loaded vehicle over a calibrated scale and lowering the axle onto the scale. The air pressure to the air springs is manually adjusted up or down to obtain the axle load weight at various air pressures.

CAUTION Do not exceed the rated load capacity of the suspension system or other components. Exceeding the capacity can cause component failure and void the warranty.

Wheel Toe Setting

Wheel toe is the relationship of the distance between the front of the tires and the distance between the rear of the tires on the same axle. When the front distance is less than the rear distance, the wheels are in a "toe-in" (positive toe) condition.

Check Wheel Toe Setting

The correct setting for the RSS-233 suspension should be a positive toe-in between 1/32" and 3/32".

1. Deflate the air springs.
2. Lift axle enough for tires to rotate freely. Support with jack stands to ensure axle is level.
3. Position tires to point straight ahead. Spin each tire. Use a piece of chalk to mark a line on the center tread all the way around each tire.
4. Use a tape measure to measure the distance between the center mark at the front and the rear of the tires.
5. Subtract the distance measured at the front of the tires from the distance measured at the rear of the tires to obtain the wheel toe setting (between 1/32" and 3/32").

Adjust Wheel Toe

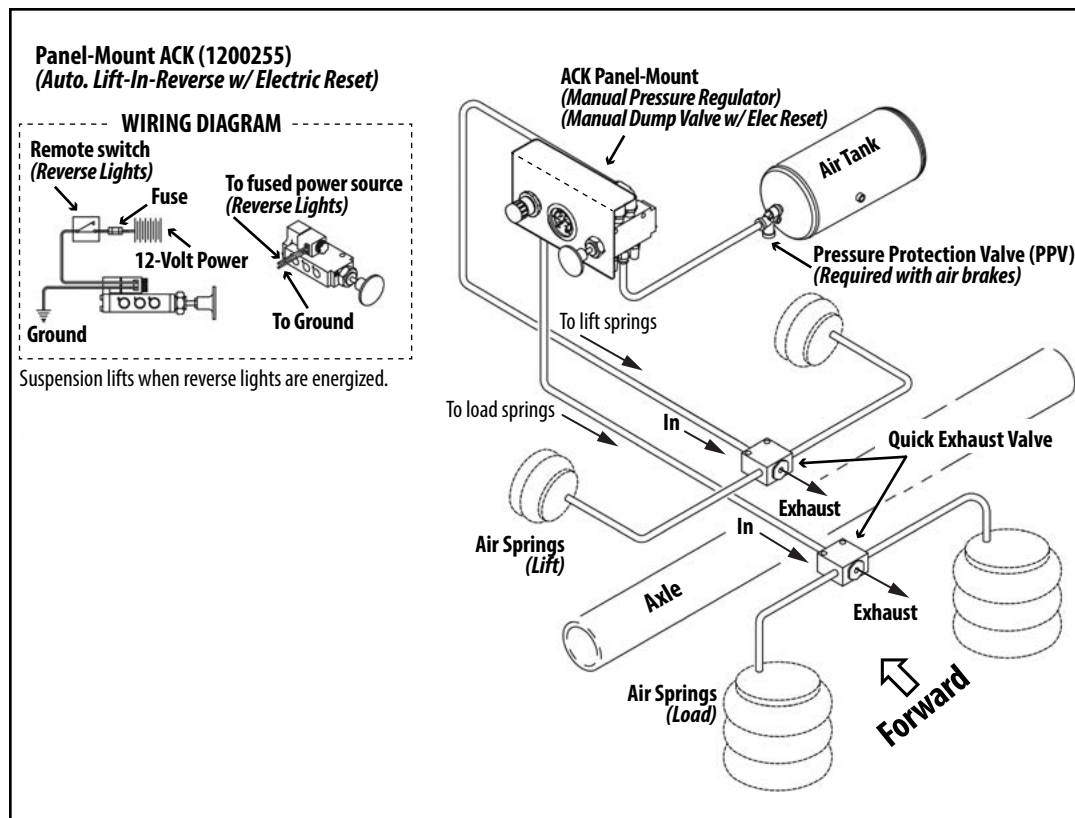
1. Loosen the clamps on both ends of the tie rod. Twist the tie rod forward/backward to move the front of the tires towards or away from each other (increase/decrease toe-in setting).
2. Continue rotating the tie rod until the proper toe-in setting is achieved.
3. Torque tie-rod clamps to 60-80 ft-lb (81-108 N-m).

Air Control Kit Components - Lift Axle

The air control kit (ACK) consists of a pressure regulator with a gauge connected to an air valve controlled by a manual knob or an electric switch. The operator uses the air control kit to control the pressure to the air springs to support different loads.

CAUTION The installer is responsible for making sure that air system requirements comply with the appropriate Federal Motor Vehicle Safety Standards.

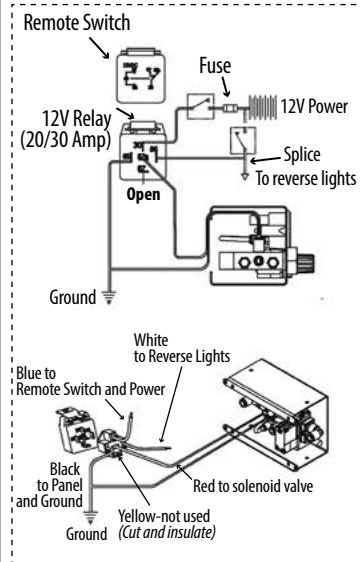
Figure 3.
Plumbing (1200255)-
Panel-Mount Air Control Kit
Manual Controls w/ Electric
Reset for Lift-In-Reverse



TROUBLESHOOTING – AIR CONTROL KIT

Problem	Possible Cause	Solution
Air springs fill but do not exhaust.	<ul style="list-style-type: none"> Obstructed air line. Faulty controls wiring. Manual override pushed in. 	<ul style="list-style-type: none"> Check for pinched/blocked lines. Check wiring w/ voltmeter. Correct wiring/installation. Release manual override.
Air system leaks down after a short period of time.	<ul style="list-style-type: none"> Leak in air system beyond accepted standards. NOTE: Some valves will leak at an acceptable rate. 	<ul style="list-style-type: none"> Pressurize system and spray soapy water solution onto tubing, valves and fittings. Check for bubbles (leaks). Check that tubing cuts are straight and smooth. Re-cut and reassemble fitting joints, if necessary.
Auxiliary unit will not stay up	<ul style="list-style-type: none"> Loose air fitting connection/Damaged air lines. Air lines to lift and load air springs are reversed. Damaged or worn air springs. 	<ul style="list-style-type: none"> Check and retighten fittings. Repair or replace component, as necessary. Check installation. Air line from regulator goes to (load) air springs. Replace air spring if worn or damaged.
Auxiliary unit not achieving correct lift	<ul style="list-style-type: none"> Air lines to lift and load air springs are reversed. Lift air springs do not have proper air pressure. Interference with driveline/other chassis components. Air control system not installed correctly. 	<ul style="list-style-type: none"> Check installation. Air line from regulator goes to (load) air springs. Check for loose fittings or worn/damaged lines. Verify air tank pressure with gauge. Visually inspect auxiliary unit operation for proper clearance. Retighten any loose fasteners. Check air control kit installation; refer to OEM installation procedures.

Note: Relay is required for lift-in-reverse operation



Panel-Mount ACK for Lift Axle w/ Lift-In-Reverse (Electric Valve; Optional Steering Lock)

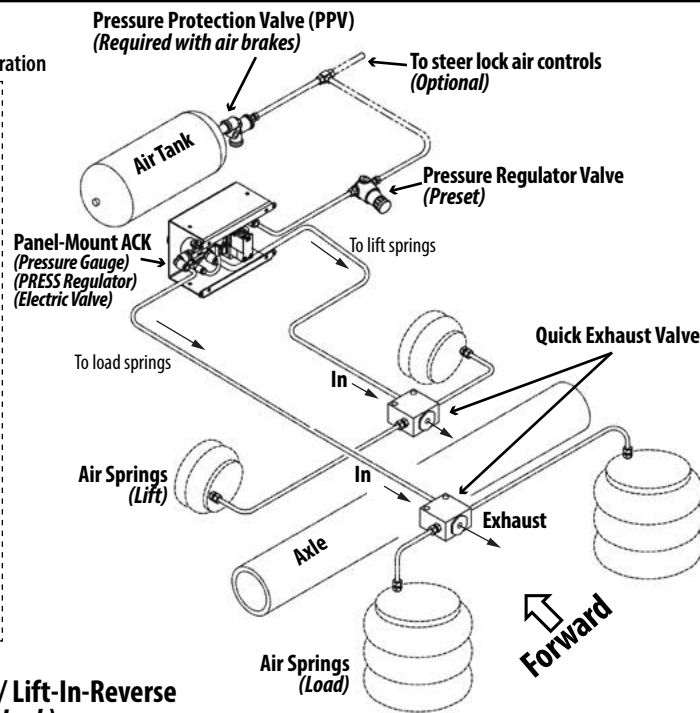
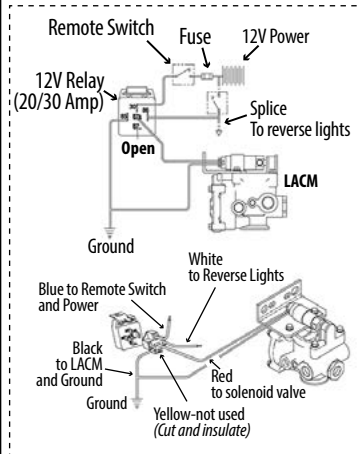


Figure 4.
Plumbing Example - 120039
(Quick Exhaust (QE) Valves)
Panel-Mount ACK w/ Electric
Controls for Lift-In-Reverse

Note: Relay required for lift-in-reverse operation



ACK with Lift Axle Control Module (LACM); Lift-In-Reverse

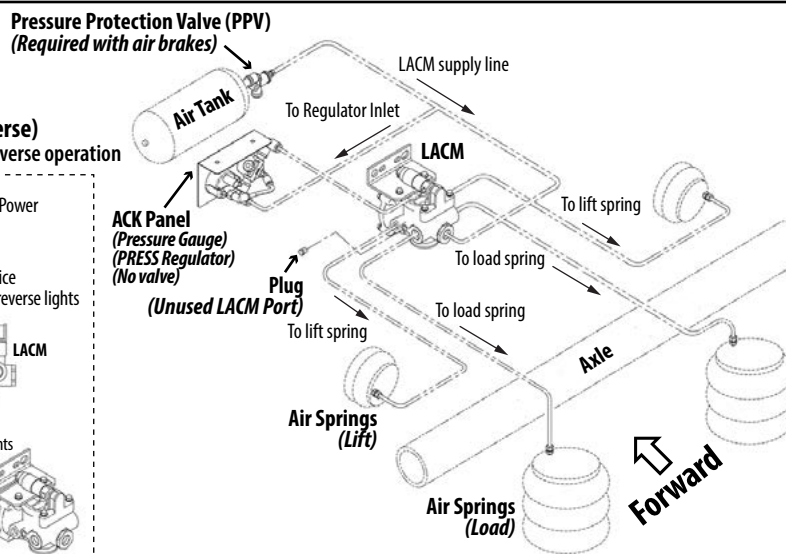


Figure 5.
Plumbing Example -
1200115 (Air Control Kit Panel)
Lift Axle Control Module
(LACM) with Lift-In-Reverse

Air Tank Integration Kit (*Factory Preplumbing Available)

Part Number	Part Number- *Preplumbing	Item Description	Air Tank- 1300 - Cu In	Pressure Protection Valve (PPV)	Lift Axle Control Module (LACM)	Brake Relay Valve	Quick Exhaust Valve (QE)
1200238	1200239	LACM Kit – 13K Truck w/ Drum Brakes <i>*Install valves; fittings and air lines from air tank to air springs.</i>	1230204	1230060	1230195	1230081	
1200266	1200267	LACM Kit – 13K Truck w/ Disc Brakes <i>*Install valves; fittings and air lines from air tank to air springs.</i>					
1200262	1200263	LACM Only – 13K Truck w/ Drum Brakes <i>*Install valves; fittings and air lines from air tank to air springs.</i>					
1200260	1200261	Quick Exhaust (QE) Valve Kit – 13K Truck w/ Drum Brakes <i>*Install valves; fittings and air lines from air tank to air springs.</i>					
1200277	1200278	LACM Kit – 13K Roll-Off Truck w/ Drum Brakes <i>*Install valves; fittings and air lines from air tank to air springs.</i>	1230254	1230060	1230195	1230081	1230078 (2) valves needed

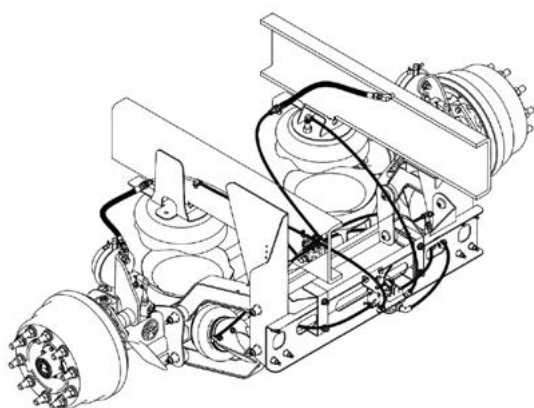


Figure 6.
Air Tank Integration Kit (1200239)
**Factory Preplumbing - Attach valves to air tank.
Install fittings and air lines from tank to air springs.*

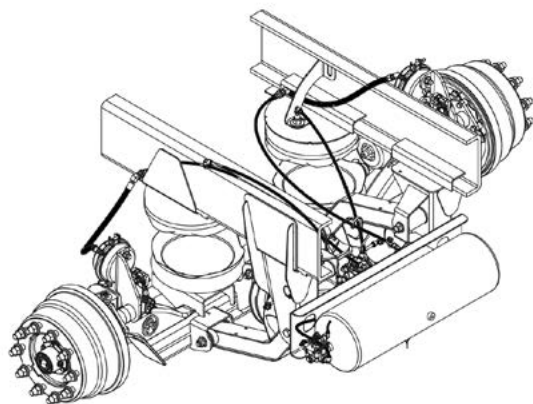
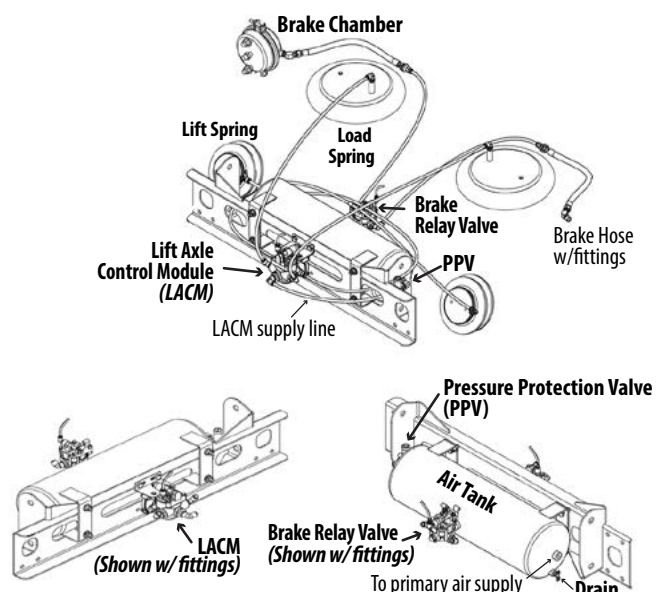
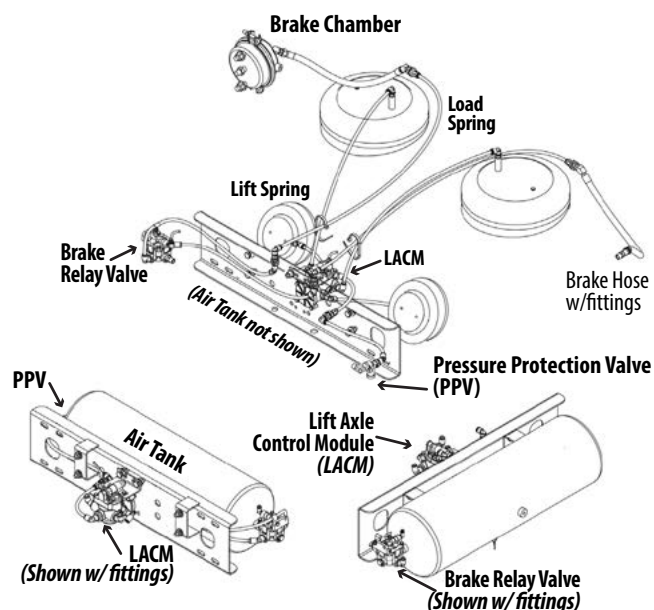


Figure 7.
13K Roll-Off Truck - Air Tank Integration Kit (1200278)
**Factory Preplumbing - Attach valves to air tank.
Install fittings and air lines from tank to air springs.*



Recommended Service Intervals

Ridewell Suspensions recommends these minimum service intervals for standard duty, on-highway usage suspension applications.

More frequent service intervals are recommended for off-highway/heavier duty applications.

Daily/Pre-Trip Inspections

- ___ Visually inspect suspension structure for signs of damage or excessive wear.
- ___ Check for loose or missing bolts/nuts.
- ___ Check for irregular movement in suspension system components.
- ___ Check tires for proper inflation, road damage or excessive wear.
- ___ Check wheel-ends for obvious signs of lubricant leakage. Check for missing components.
- ___ Make sure air controls are operating properly.
- ___ Drain all moisture from air reservoirs.

First 6,000 miles of use

- ___ Torque all suspension bolts/nuts to specifications (Chart/ENG DWG).

Every 12,000 miles of use

- ___ Lubricate Brake Cam and Slack Adjuster.
- ___ Grease kingpin thrust bearings. Apply grease in upper and lower grease fittings until new grease is visible at the purge location. Wipe the excess grease from purge areas and grease fittings.
- ___ Inspect steering damper for damage/wear.
- ___ Inspect air springs for damage/excessive wear.
- ___ Torque bolts/nuts to spec. (Chart/ENG DWG).
- ___ Check air system for leaks.

First 50,000 miles of use

- ___ Check wheel-end/knuckle for excessive play.
- ___ Inspect tie-rod and tie-rod ends for excessive damage/wear. Lubricate tie-rod ends. Verify tie-rod boot is in place and completely over the end of tie-rod. Replace entire tie-rod end if boot is damaged.
- ___ Check pivot bushings for wear.
- ___ Torque all suspension system component bolts/nuts to specifications (Chart/ENG DWG).
- ___ Check (reverse) steer lock operation (if equipped).
- ___ Verify operation of manual/automatic lift-in-reverse control system (if equipped).

Annual/100,000 Miles Inspection

- ___ Inspect pivot connections for worn bushings/wear washers. Replace if necessary. Torque pivot hardware to specifications (Page 11).
- ___ Check lubrication level in wheel-ends. Refill/Replace lubricant as needed.
(TMC RP 631-Wheel End Lubrication Procedure)
- ___ Check frame hanger and air spring mounting plate connections to frame.
- ___ Check air system for leaks.
- ___ Test air tank pressure protection valve (PPV) if equipped.
- ___ Check brakes/brake chambers for damage/function.

⚠CAUTION Failure to exhaust all pressure from the air system before vehicle work can cause serious injury.

⚠CAUTION Failure to torque suspension components to specifications can result in suspension failure and void the warranty.

Refer to these Technology & Maintenance Council (TMC) Recommended Procedures for additional information:

RP 607	Maintenance - S-Cam Brakes
RP 618	Wheel Bearing Adjustment Procedure
RP 619	Air System Inspection Procedure
RP 631	Wheel End Lubrication Procedures
RP 643	Air Ride Suspension MAINT Guidelines
RP 645	Tie-Rod End Maintenance
RP 652	Inspection/Service - Air Disc Brakes
RP 1515	Maintenance Guide - Auxiliary Axle

Available Wheel-End Lubricants

Lubricant Type	Part No.	Item Description
Mineral Oil	380008G	(CITGO) MP GearOil 631310001-80W-90
Synthetic Oil	1980006	(SHELL) Synthetic API GL-5 75W-90 Oil
Synthetic Hard-Pack Grease	1980007	(CITGO) Synthetic Grease

233-13K Truck Suspension – Drum Brake (Single Upper Air Spring Mounting Stud Configuration)

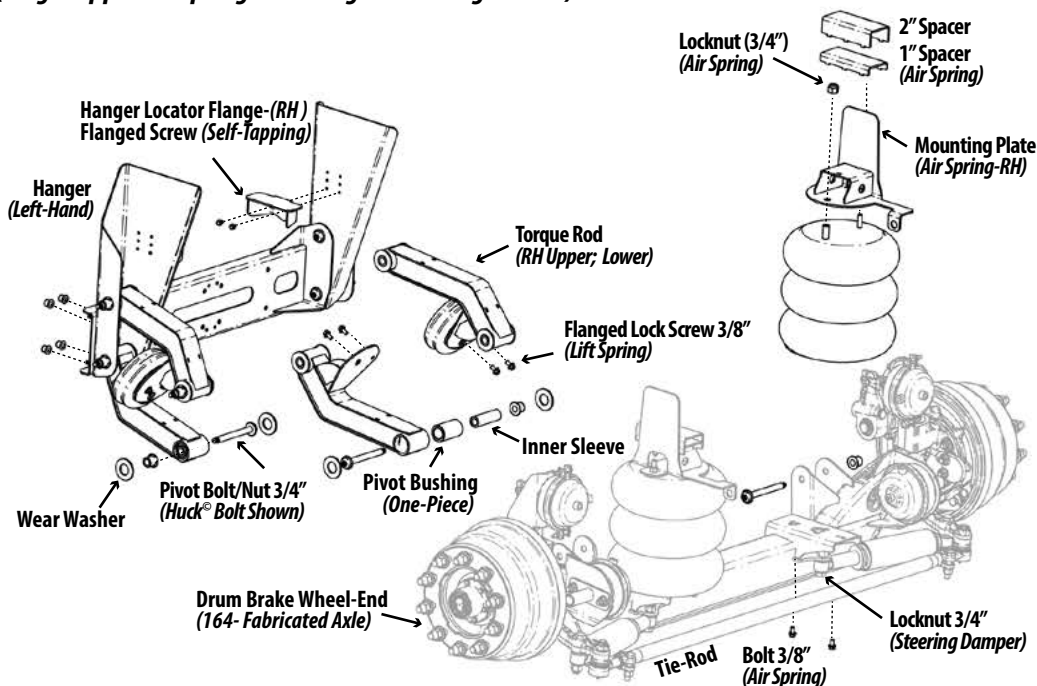


Figure 8.
233-13K Truck
Drum Brake Axle
Components –
Single upper air spring
mounting stud
configuration

233-13K Truck Suspension – Drum Brake (Dual Upper Air Spring Mounting Stud Configuration)

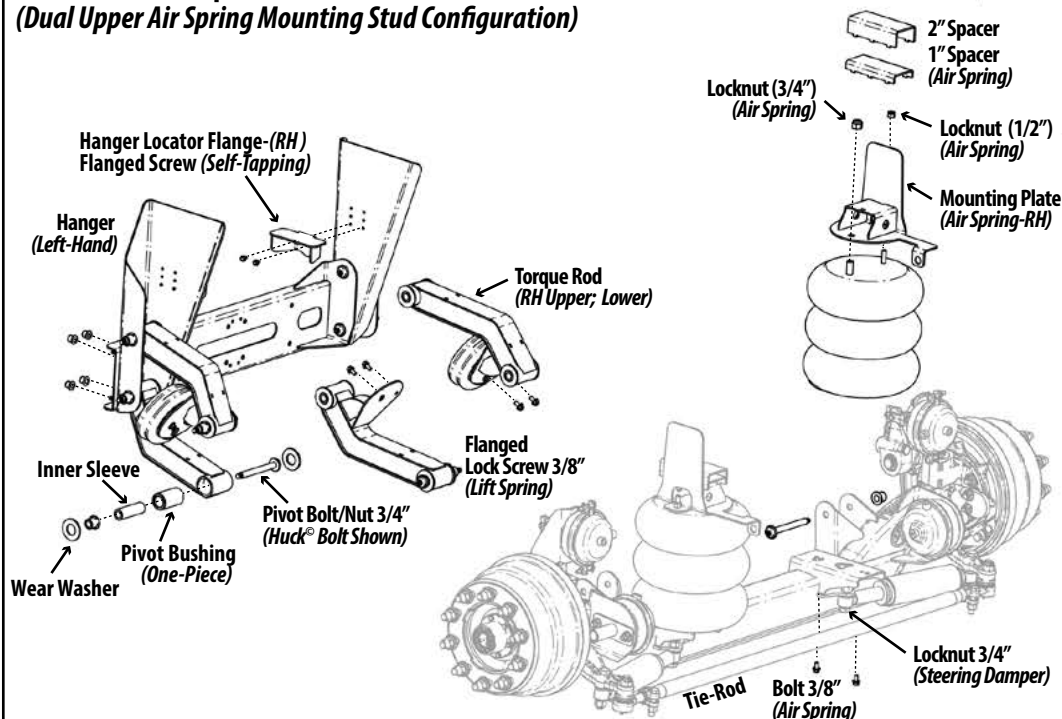


Figure 9.
233-13K Truck
Drum Brake Axle
Components –
Dual upper air spring
mounting stud
configuration

**233-13K Truck Suspension – Air Disc Brake
(Single Upper Air Spring Mounting Stud Configuration)**

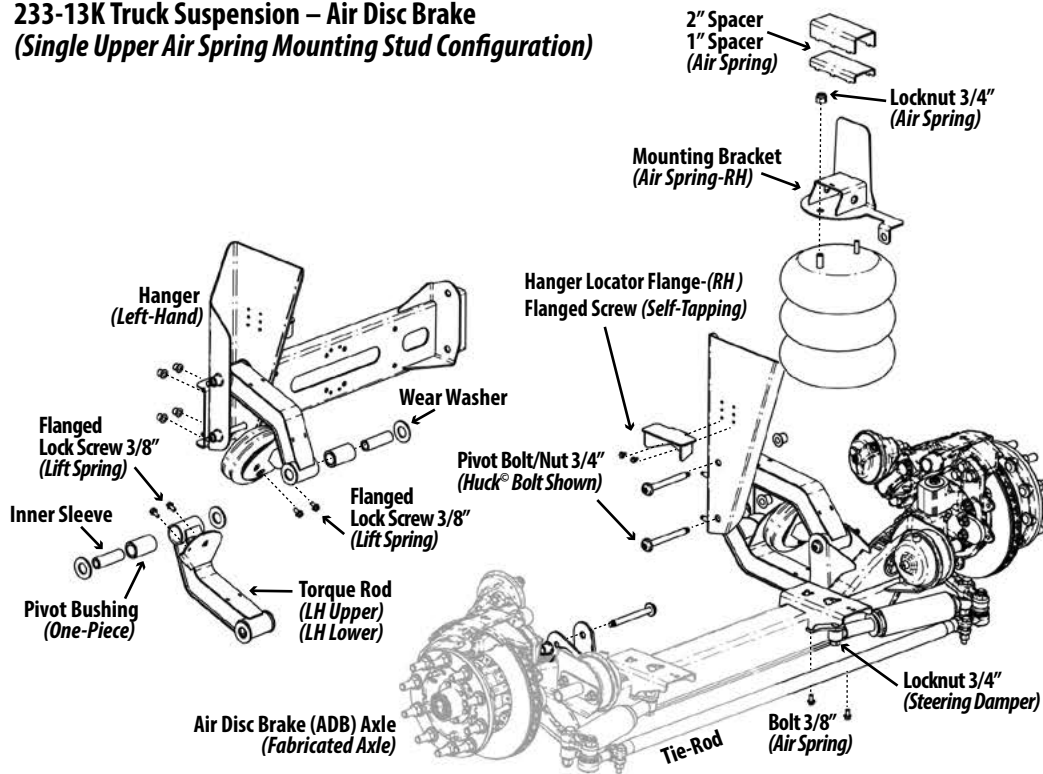


Figure 10.
233-13K Truck
Air Disc Brake (ADB)
Axle Components –
Single upper air spring
mounting stud
configuration

**233-13K Truck Suspension – Air Disc Brake
(Dual Air Spring Upper Mounting Stud Configuration)**

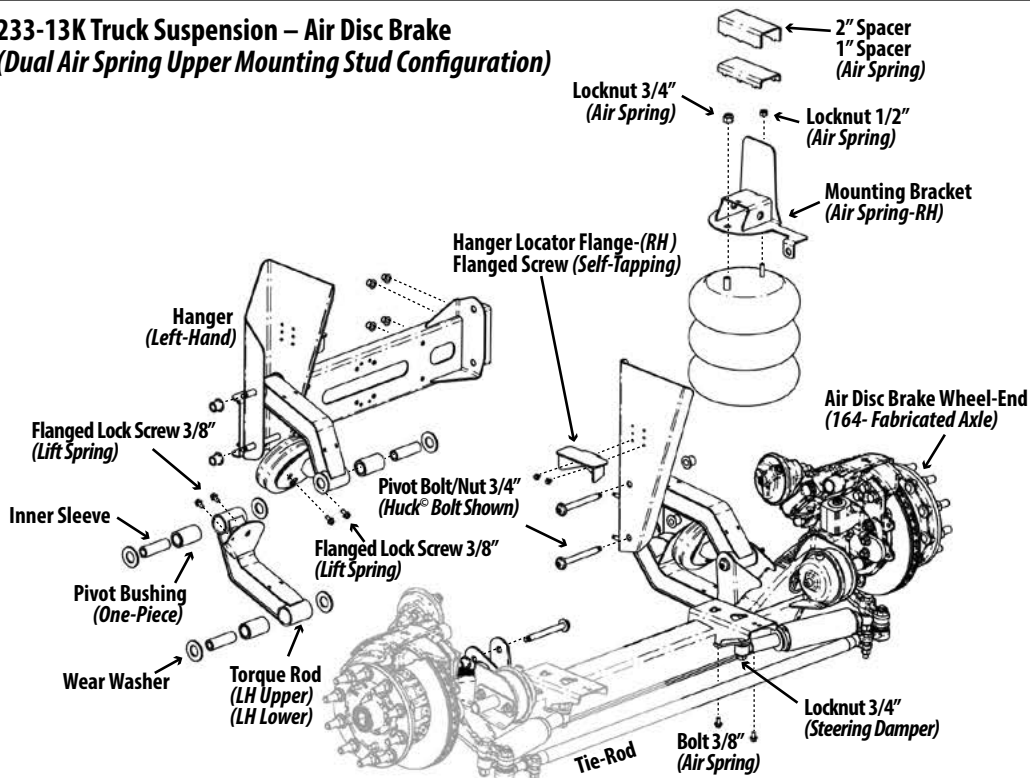


Figure 11.
233-13K Truck
Air Disc Brake (ADB)
Axle Components –
Dual upper air spring
mounting stud
configuration

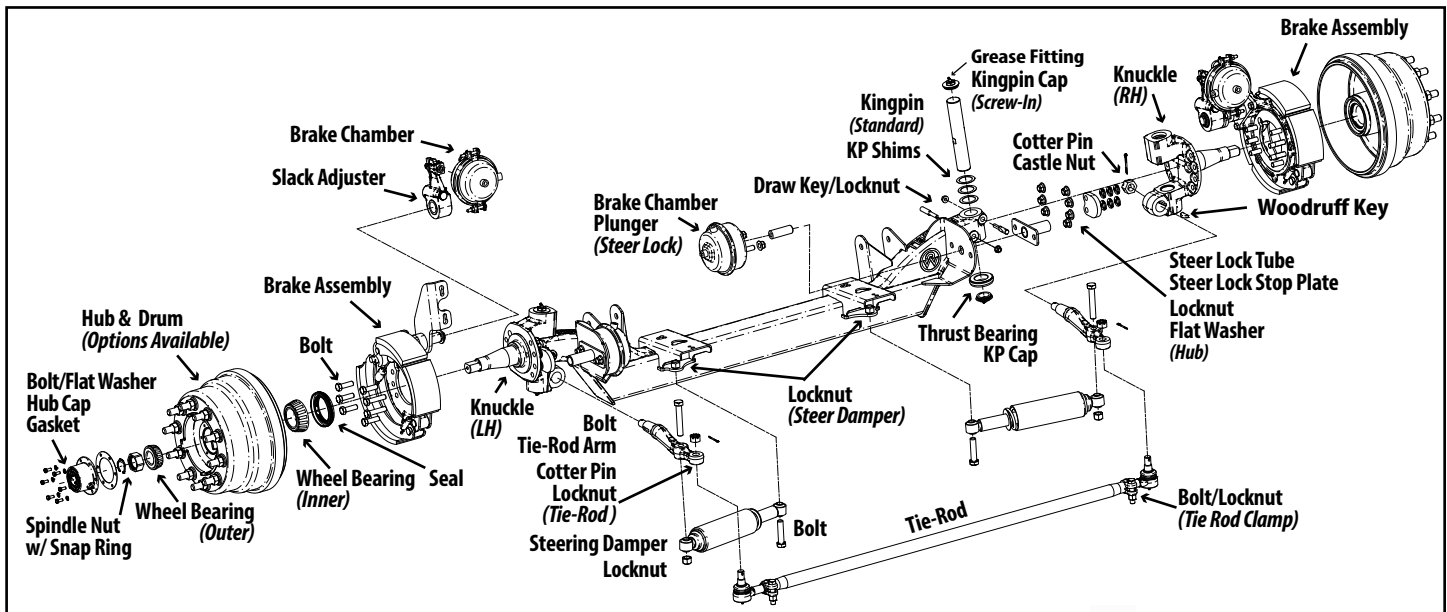


Figure 12.
Drum Brake Fabricated Axle (FAXL) Components (Steer-Lock; Westport Knuckle; Standard Kingpin shown)
(Reference only. Drum brake fabricated axle can be configured with Kaiser Kingpin.)

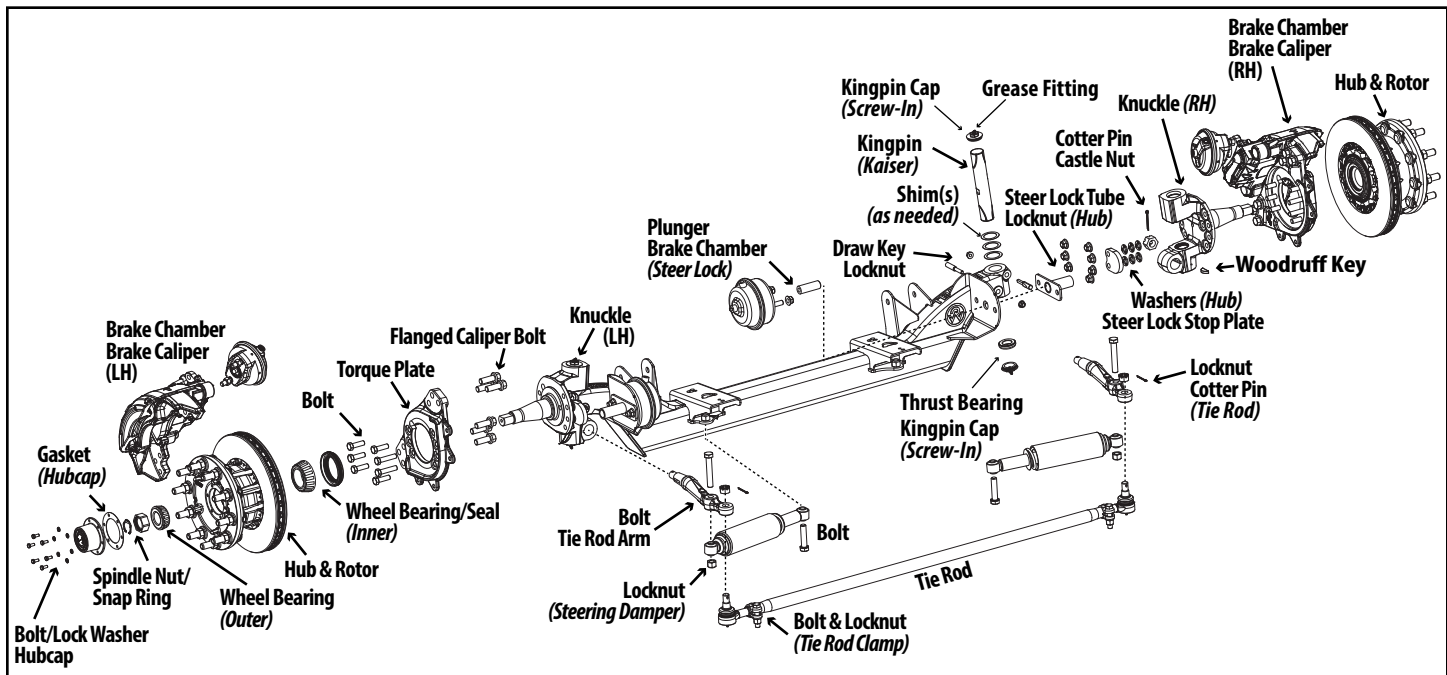


Figure 13.
Disc Brake Fabricated Axle (FAXL) Components (Steer-Lock; Westport Knuckle; Kaiser Kingpin shown)
(Reference only. Disc brake fabricated axle can be configured with Standard Kingpin.)



Scan/double-click the QR-Code
 for more information on kingpin
 service parts posted on the ISM
 page at www.ridewellcorp.com

233 13K TRUCK — BUSHING REPLACEMENT KITS/PROCEDURE

Part Number	Item Description	Size	Torque Values	
			foot-pound	Newton-meter
6040188	Traditional Hardware (HHCS/Locknut)	3/4"-16NF	310 ft-lb	420 N-m
6040187	(No Hardware)			
Fasteners	Locknut (Air Spring; Upper)	3/4"-16NF	50 ft-lb	68 N-m
	Locknut (Dual-Stud Air Spring; Upper)	1/2"-13NC	25 ft-lb	35 N-m
	Flanged Lock Screw (Lift Spring; Air Spring, Lower)	3/8"-16NC	25 ft-lb	35 N-m
	Locknut (Steering Damper)	3/4"-10NC	160 ft-lb	217 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.

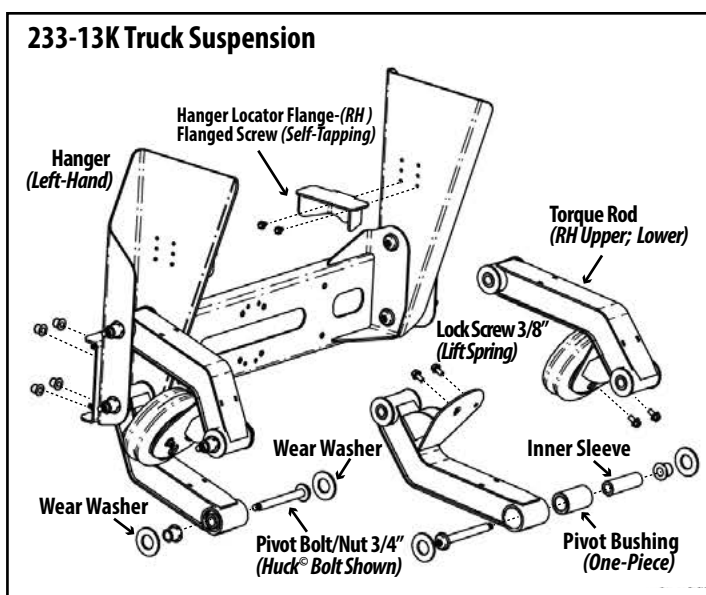


Figure 14.
Bushing Replacement Kits include one-piece pivot bushings, wear washers and traditional hardware components to replace the Huck® fasteners used in the factory assembly.

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/suspension movement that could result in serious injury.

Bushing Replacement Procedure

1. Replace all pivot connections at the same time. Remove pivot hardware by cutting/grinding away Huck® Collar.
2. Remove pivot hardware and discard. Remove the bushing and wear washers and discard. Clean rod eye with wire brush.
3. Apply Energy Suspensions® Formula 5 Prelube to the bore (inside) of new bushing.
NOTE: Do not substitute - special urethane bushing lubricant included with all bushing kits.
4. Install new bushing into the eye of the torque rod.
NOTE: Mallet /press needed to install bushing.
5. Press inner sleeve into the installed bushing opening. Center the sleeve so that both ends extend slightly past the bushing sides.
NOTE: Mallet /press needed to install sleeve.
6. Assemble pivot connection with one wear washer on each side of the bushing. Sleeve must be flush with or extend slightly past the outside of wear washers on both ends.
7. Install pivot hardware. Torque to specifications (Chart/Engineering drawing).
8. Reassemble suspension, if necessary. Torque to specifications (Chart/Engineering Drawing).
9. Check that the wheel toe-in setting is between 1/32" and 3/32" and adjust, if necessary (Page 5).

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

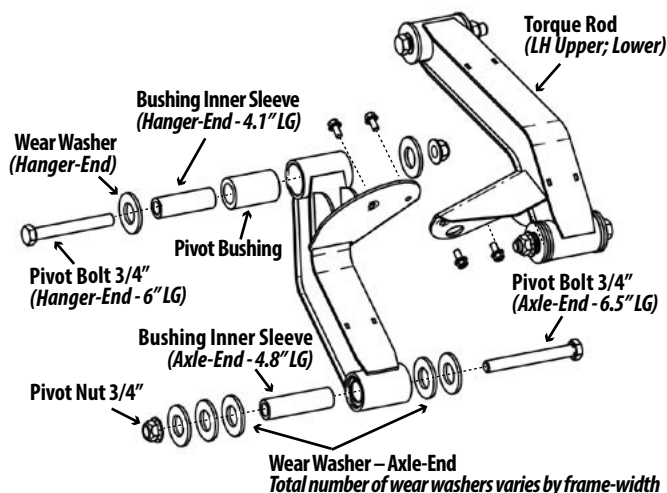
233-13K Roll-Off Truck – BUSHING REPLACEMENT KITS

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

233-13K Roll-Off Truck – Left-Hand Torque Rods; 34" Frame-Width Shown



233-13K Roll-Off Truck – Axle-End Wear Washer Installation

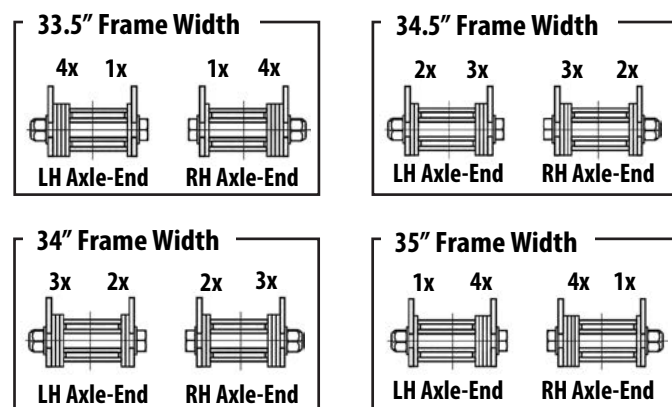


Figure 15.
Refer to suspension model engineering drawing for the correct number of wear washers on the axle-end of both the left- and right-hand torque rod.

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, if necessary, to reach pivot connections.

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

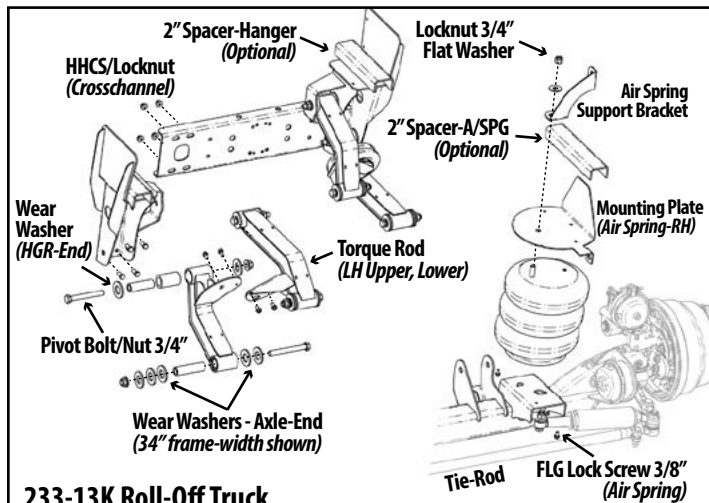
Bushing Replacement Procedure

- Count the number of wear washers installed on each side of the Axle-End of both the Left- and Right-Hand torque rod.
The number of wear washers varies according to the preset frame width (Figure 15).
- Remove pivot hardware and discard. Remove the bushing and wear washers and discard.
NOTE: Pivot hardware/wear washers are included with bushing replacement kit.
- Clean rod eye. 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 (Sleeve Length - 4.1")
Press inner sleeve into installed bushing. Center the sleeve so that both ends extend slightly past the bushing sides.

Assemble pivot connection with one wear washer on each side of the bushing. Sleeve must be flush with or extend slightly past the outside of wear washers on both ends.

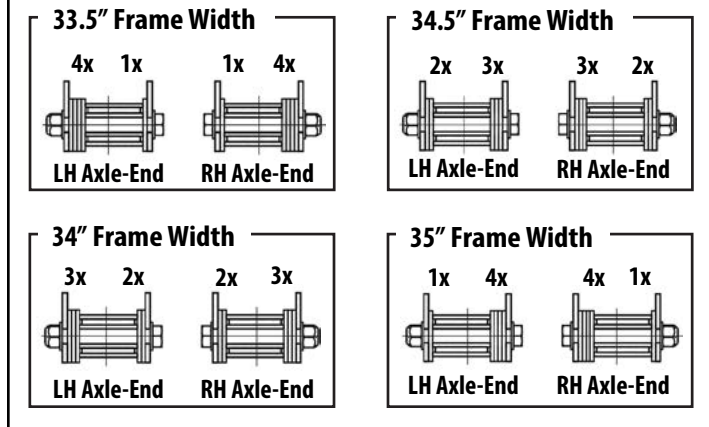
continued on next page

Bushing Replacement Procedure – 13K Roll-Off Truck Suspension (continued)



233-13K Roll-Off Truck

Figure 16.



- Torque Rod Axle-End (Sleeve Length - 4.8")
Press inner sleeve into the installed bushing. Position sleeve so that one end extends further past the bushing on the left- or right-hand side as determined by the preset frame width. Assemble the pivot connection with the appropriate number of wear washers on both sides of the axle-end of the torque rod (Figure 16).
NOTE: Inner sleeve must be flush with or slightly past the outside of installed wear washers on both sides of torque rod. Adjust sleeve if necessary.
- Torque pivot nut to spec (500 ft-lb - 678 N-m).
- Reassemble suspension, if necessary. Torque components to specifications.
- Check wheel toe-in setting (between 1/32" and 3/32") and adjust, if necessary (Page 5).

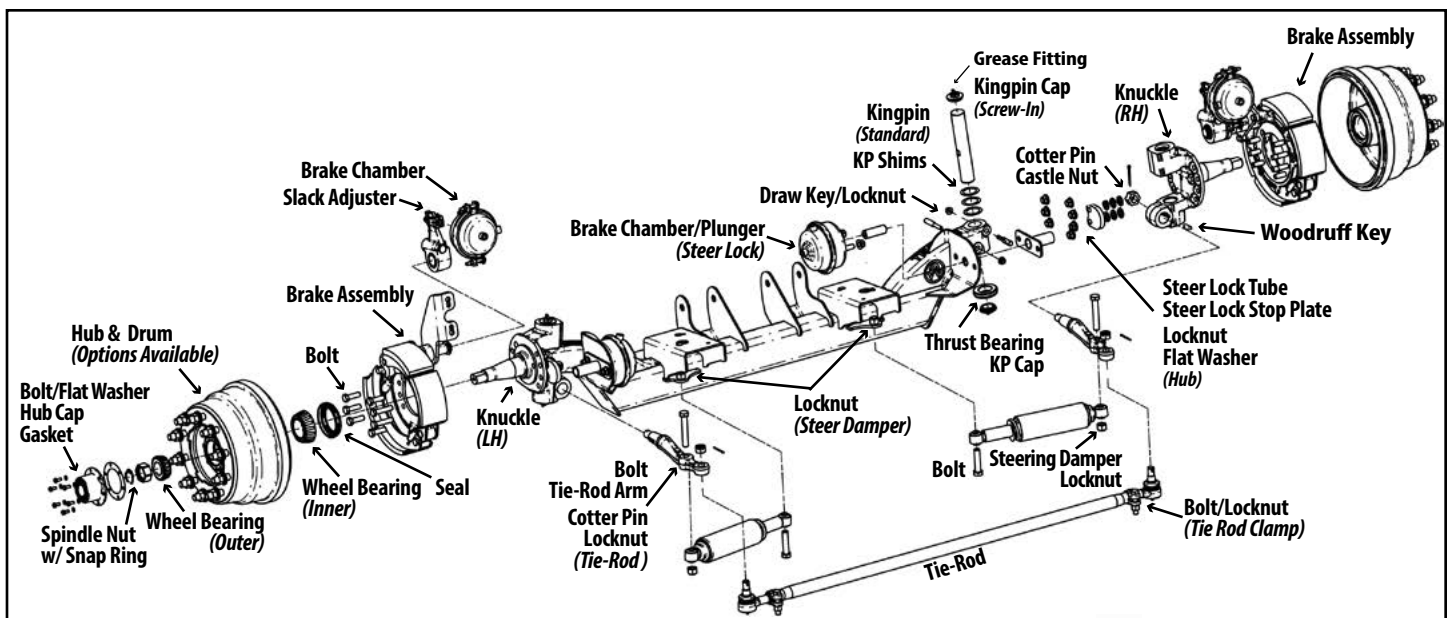


Figure 17.
13K Roll-Off Truck-Drum Brake Axle - Steer-Lock; Westport Knuckle; Standard Kingpin shown
(Reference only. Drum brake fabricated axle can be configured with Kaiser Kingpin.)

Terms and coverage in this warranty apply only to the United States and Canada.

Ridewell Suspensions warrants the suspension systems manufactured by it to be free of defects in material and workmanship. Warranty coverage applies only to suspensions that have been properly installed, maintained and operated within the rated capacity and recommended application of the suspension. The responsibility for warranty coverage is limited to the repair/replacement of suspension parts. The liability for coverage of purchased components is limited to the original warranty coverage extended by the manufacturer of the purchased part.

All work under warranty must have prior written approval from the Ridewell warranty department. Ridewell has the sole discretion and authority to approve or deny a claim and authorize the repair or replacement of suspension parts. All parts must be held until the warranty claim is closed.

Parts that need to be returned for warranty evaluation will be issued a Returned Materials Authorization (RMA). Parts must be returned to Ridewell with the transportation charges prepaid. The transportation charges will be reimbursed if the warranty claim is approved.

This non-transferable warranty is in lieu of all other expressed or implied warranties or representations, including any implied warranties of merchantability or fitness or any obligations on the part of Ridewell. Ridewell will not be liable for any business interruptions, loss of profits, personal injury, any costs of travel delays or for any other special, indirect, incidental or consequential losses, costs or damages.

Contact the Ridewell Warranty Dept. at 417.833.4565 - Ext. 135, for complete warranty information.