

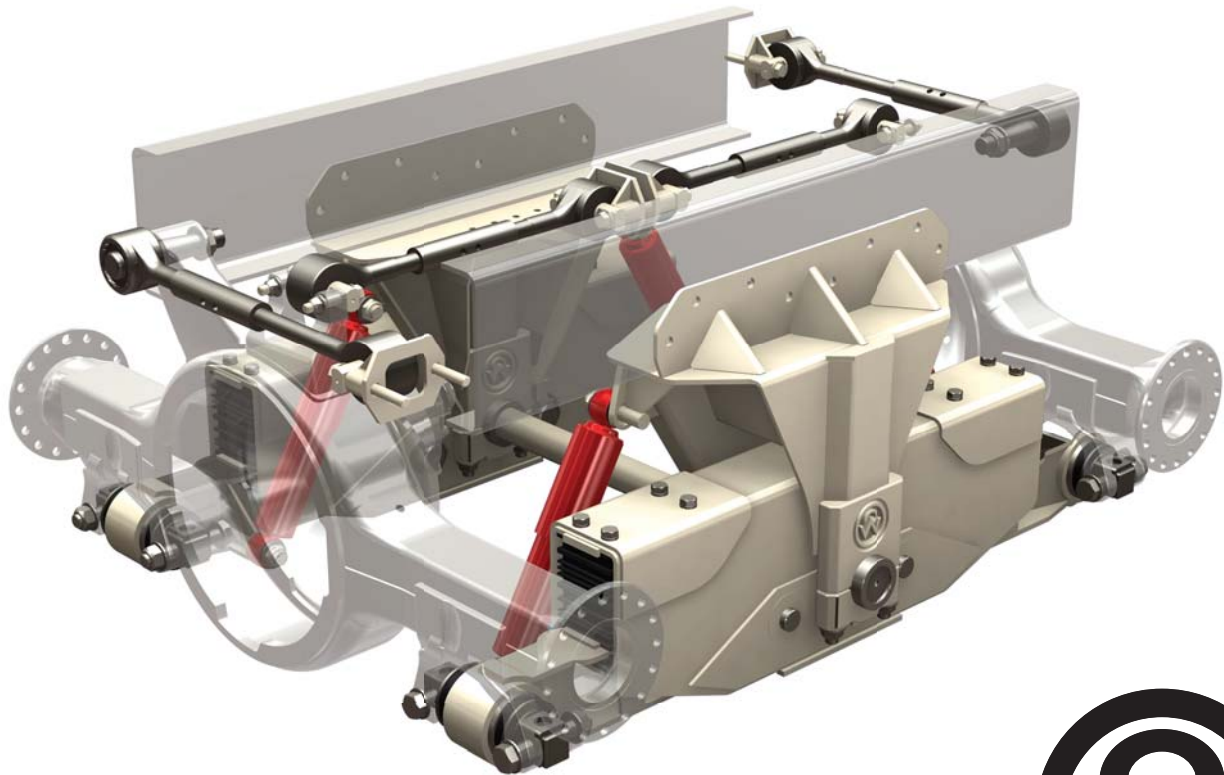
# ***RIDEWELL SUSPENSIONS***

The Engineered Suspension Company

## **RD-202S**

**Heavy-Duty Tandem Drive Truck Suspension**

**Owner's Manual**



**[www.ridewellcorp.com](http://www.ridewellcorp.com)**

P.O. Box 4586 • Springfield, MO 65808 • 417.833.4565 • 417.833.4560 (fax)



## **Suspension Identification:**

Ridewell Suspensions are identified by a metal tag attached to the pedestal that indicates part number, revision level, and serial number.

## **Parts:**

For optimum suspension performance, order only Ridewell parts. Replacement parts for Model RD-202S are shown on pages 9-13 of this manual.

## **Sales, Service & Warranty:**

If you need assistance regarding this product, please contact us and we will be glad to help you.

### **Mailing Address**

Ridewell Corporation  
P.O. Box 4586  
Springfield, MO 65808

### **Shipping Address**

Ridewell Corporation  
3715 East Farm Rd. 94  
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## Basic Operation

When properly maintained and operated within design limits, Ridewell's **Dynalastic Model RD-202S** will provide many years of trouble-free service.

The RD-202S provides the heavy-duty truck industry with a versatile tandem suspension. It has proven durability in **refuse, military, firefighting, logging and construction** applications for four continents.

## How the Suspension Works

Being a single-point design suspension, all the load is first transmitted from the frame to the center bushing. There, the load is equally distributed along the compensator. Elastomer (rubber) springs housed at the ends of the compensator deflect according to load applied and transmit this load to the independent torque arms and engage as the suspension reaches a given load deflection. The overload springs act as an assist for the main load-carrying elastomer springs. The interaction of the components provide the vehicle with an exceptionally fine ride, both in a loaded and unloaded condition.

As the vehicle encounters a bump, the independent torque arms for the elastomer spring go into compression. This compression is absorbed in the compensator and equalizes the bump's dynamic force between front and rear elastomer springs before reaching the chassis of the vehicle.



## Operational Inspection

1. Inspect all fasteners at the pedestal clamp and pedestal to frame connections. Refer to torque chart for proper torque requirements.
2. Inspect elastomer springs.
3. Inspect shocks and shock attach points.
4. Inspect torque beam end bushings and axle attachments.

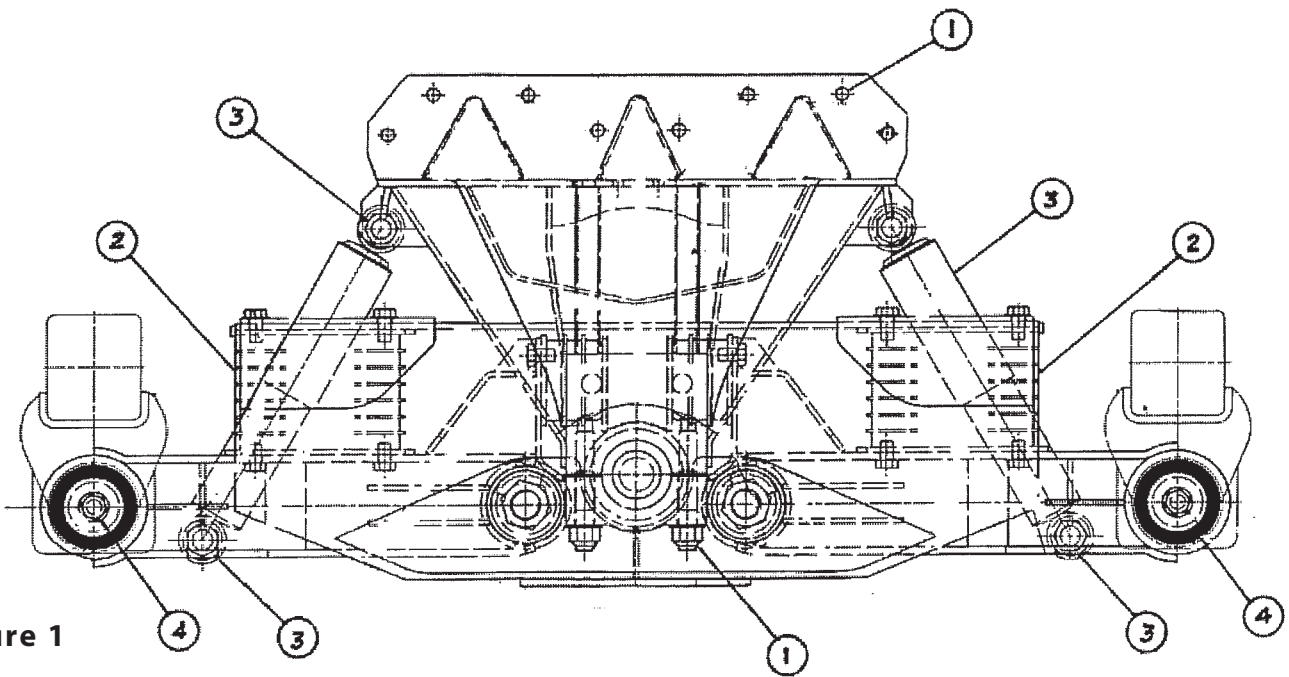


Figure 1

# Preventative Maintenance

## Daily

Check for loose or broken parts on or around suspension. If loose or broken parts are detected, immediate corrective action must be taken.

## 6,000 Miles

After suspension has been in operation for approximately 6,000 miles (10,000 KM), all fasteners must be re-tightened to specified torque.

## Every 30 Days

Check clearances around all moving suspension parts, tires, and shock absorbers. Any signs of interference should be corrected immediately.

## Every 90 Days & with Annual Inspection

Inspect items required in daily & 30-day inspections.

Inspect all welded connections.

Inspect all pivot and clamping connections such as the suspension pivots, elastomer springs, and shock mounts.

## 50,000 Miles

All fasteners must be re-tightened to specified torque. Repeat every 50,000 miles.

**DO NOT PAINT THIS STICKER**

RIDEWELL SUSPENSIONS TORQUE CHART	
BOLT SIZE	LUBRICATED THREADS
1 1/2"	1,100 FT. LB. (1,490 N•m)
1 1/4"	1,000 FT. LB. (1,350 N•m)
1 1/8"	500 FT. LB. (680 N•m)
1"	GRADE 5 360 FT. LB. (490 N•m)
1"	GRADE 8 460 FT. LB. (625 N•m)
7/8"	350 FT. LB. (475 N•m)
3/4"	GRADE 5 160 FT. LB. (220 N•m)
3/4"	GRADE 8 190 FT. LB. (260 N•m)
5/8"	100 FT. LB. (135 N•m)
*3/4"	50 FT. LB. (70 N•m)
*1/2"	25 FT. LB. (35 N•m)

**\*AIR SPRING CONNECTION ONLY**

After suspension has been in operation for approximately 6,000 miles (10,000 km), all fasteners must be re-tightened to specified torque. Repeat every 50,000 miles (80,000 km).

**DO NOT OVER TORQUE!**


 **RIDEWELL SUSPENSIONS** #1990020

Figure 2



## Basic Troubleshooting

1. Vehicle pulls to left or right - check the following:
  - a. Tire pressure
  - b. All suspension bushings
  
2. Vehicle has excessive sway - check the following:
  - a. Sway bar
  - b. Torque beam bushings
  - c. Center bushing
  
3. Vehicle has axle walk or hop - check the following:
  - a. Torque beam bushings
  - b. Center bushings
  
4. Mounting height has changed - check the following:
  - a. Elastomer springs
  - b. Compensator
  - c. All suspension bushings



## Bushing & Elastomer Replacement Procedure

**It is recommended that torque beam pivot bushings and elastomer springs be replaced in pairs for maximum suspension performance.**

1. Remove vehicle weight from suspension by raising and blocking vehicle chassis and axles. Remove tires and wheels.
2. Remove axle/axle bracket assembly from torque beams.
3. Remove shock absorbers.
4. Remove elastomer spring fasteners from compensator.
5. Remove locking plate from torque beam/compensator pivot bolt and remove 1½" bolt.
6. Remove torque beam/elastomer spring assembly from compensator.
7. Inspect torque beam pivot bushing, end beam bushing, elastomer spring, and overload spring for damage or excessive wear.
8. Replace defective parts using only genuine Ridewell replacement parts.
9. After servicing the assembly, re-assemble the suspension by reversing this procedure.
10. It is imperative that all fasteners be tightened to specified torque and bolt locking plates be re-installed on bolt heads.
11. If you require additional assistance, please contact Ridewell Corporation.



## Shock Absorber Adjustment

If your suspension is equipped with Koni adjustable shock absorbers and requires adjustment, proceed as follows:

**NOTE: READ THIS ENTIRE PROCEDURE BEFORE STARTING.**

1. Remove the shock absorber from the vehicle and hold it vertically with the lower eye in a vice.
2. Press top of shock down while turning **gently** counter-clockwise until you feel the cams of the adjusting nut engage in the recesses of the front valve assembly. When engagement is made, turn top of shock 2 **half** turns clockwise and stop. Adjustment is complete.
3. Pull top of shock up about ½" and remove from vice.
4. Re-install on vehicle.

**IMPORTANT NOTE:**

**Shock absorbers must be adjusted in pairs. There is a minimum of 5 half turns clockwise adjustment on your shock absorber. Do not use excessive force when making adjustments. If you are having difficulty, please contact Ridewell.**







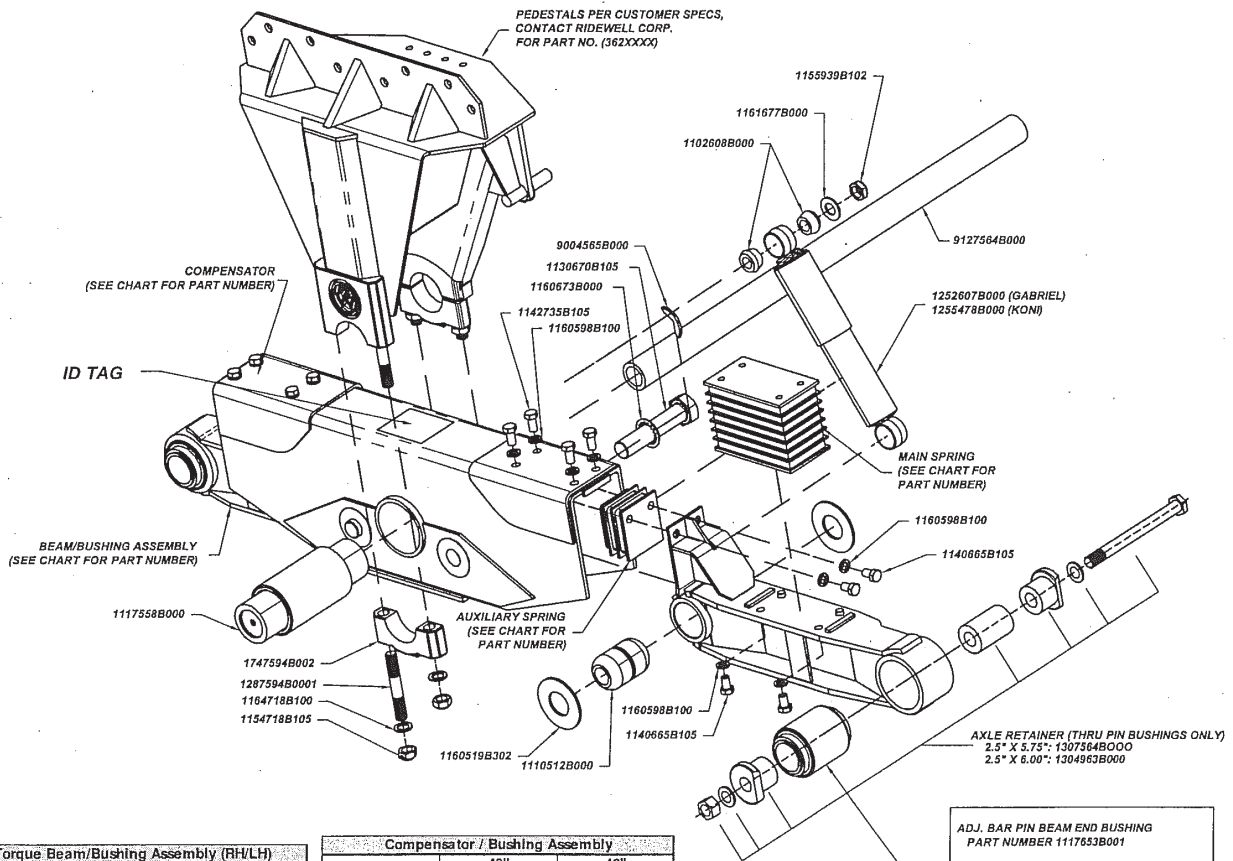
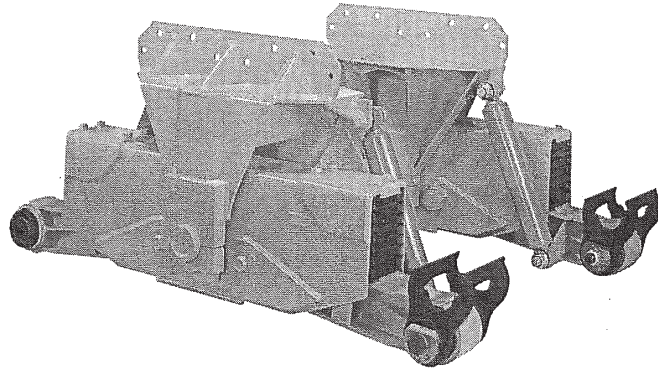




**RD-202S DYNALASTIC STRADDLE MOUNT**

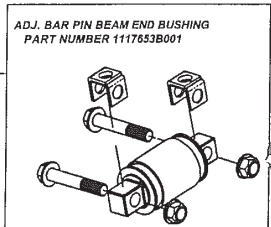
**MODELS:**

- RD202S-54-44-XXXX
- RD202S-54-48-XXXX
- RD202S-54-52-XXXX
- RD202S-54-54-XXXX



Torque Beam/Bushing Assembly (RH/LH)		
	40"	42"
	Compensator	compensator
	5.75" Thru pin Bushing (1117564B001)	
W/ Shocks	5277626C110/210	---
No Shocks	5277634C000	---
	6" Thru-Pin Bushing (1114964B000)	
W/ Shocks	---	5277490C101/201
No Shocks	---	5277433C100/200
	Bar Pin Bushing (1117653B000/1)	
W/ Shocks	5277653C120/220	5277768C110/210
No Shocks	5270021	---

Compensator / Bushing Assembly		
	40"	42"
	Compensator	Compensator
Standard	5257634C000	5257678C000
W/ Restraints	5250007	5250005
	Springs	
	Capacity: 44,000 lb	Capacity: 48,000 lbs
		52,000 lbs
		54,000 lbs
Main Spring	1037326D002	1037326D003
Auxiliary Spring	1037261C002	1037261C001



BEAM END BUSHING:  
THRU PIN 6.0": 1114964B000 (ABOVE)  
THRU PIN 5.75": 1117564B001  
ADJ BAR-PIN: 1117653B001 (INSET)  
NON ADJ BAR-PIN: 1117653B000