Authorized Field Change

AFC G-04909 Revised

Date: March, 2005

Subject File: SPRINGS

Subject: International Ride Optimize Suspensions (IROS) Installed in RE Bus Models Built in the Conway Assembly Plant Before June 16, 2004 Require the IROS System Upgraded to the Current Design Level

Model: RE 200
End Date: 06/16/2004

Model: RE 300
End Date: 06/16/2004

Unit Code: 14TBS

Unit Code: 14TBT

DESCRIPTION

The old style IROS system may have bent U-bolts, resulting in axle shift as the vehicle approaches 70,000 miles. This campaign authorizes retrofitting the IROS system with the current design level hardware.

PARTS INFORMATION

Table 1 Parts Information

Part Number	Description	Quantity
8000850R91	Retrofit Kit Contains the Following:	1
	2589432R1 Instructions (1)	
	3596113C91, Height Control Valve (1)	
	3596107C1, Shock Absorber (2)	
	3538842C2, U-Bolt (4)	
	3548295C1, Axle Seat (2)	
	3541725C3, Left U-Bolt Plate (1)	
	3541726C3, Right U-Bolt Plate (1)	
	3549202C1, U-Bolt Nut (8)	
	25549R1, U-BoltWasher (8)	
	1663979C1, Bar Pin Bolt (4)	
	416743C1, Bar Pin Nut (4)	
	3549152C1, .76 mm Axle Alignment Shim (1)	
	3549153C1, 1.42 mm Axle Alignment Shim (1)	
	3549154C1, 3.02 mm Axle Alignment Shim (1)	

Table 2 The Following Parts Must Be Ordered Separately

Part Number	Description	Quantity
3596105C91	Left Chassis Rear Spring	1
3596106C91	Right Chassis Rear Spring	1
3596112C1	Air Spring	2

SERVICE PROCEDURE

WARNING – To avoid property, personal injury or death park the vehicle on a flat level surface, set the parking brake, chock the brakes, and turn the engine off.

WARNING – Always use floor stands to support the vehicle before working under it. Using only a jack could allow the vehicle to fall resulting in property damage, personal injury, or death.

NOTE – The following Steps are for one side of the IROS system. It will be repeated on the opposite side.

SERVICE PROCEDURE (CONT.)

1. Measure and record the rear axle alignment on **both sides** of the bus by measuring the horizontal distance between the wheel rim and the inner edge of the wheel well as shown in Figure 1. Place a mark on the rim and the wheel well to indicate the two points used to make the measurement. Use a level to insure the measurement points remain in the same plane during both before and after measurements.

   NOTE – The recorded dimensions will be used to determine if shimming is required after the new components are installed.

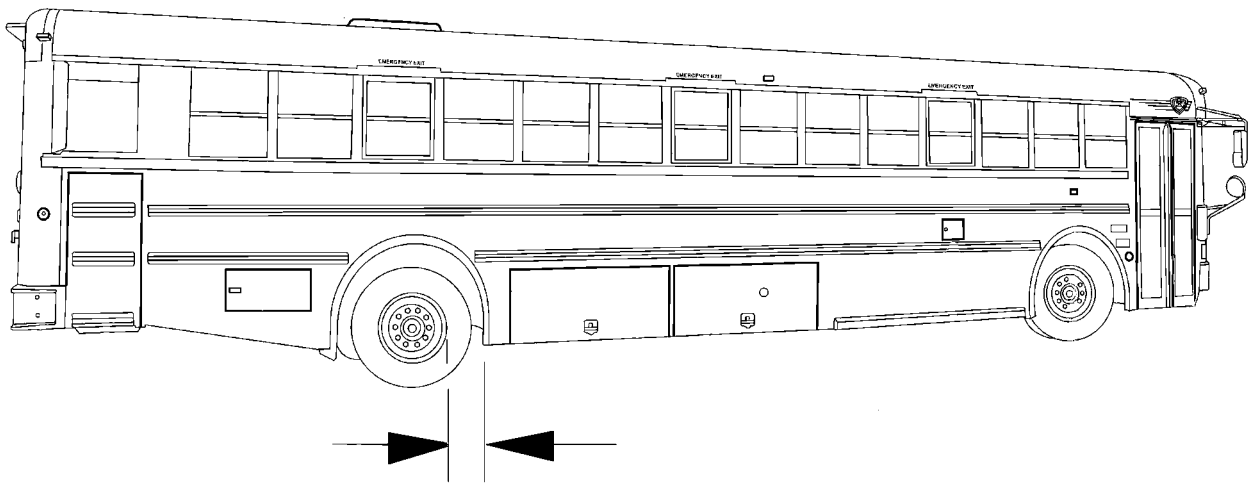


Figure 1 Measure Horizontal Dimension Between Arrows

2. Raise the chassis rear end and support from the frame rails with floor stands.

3. Drain the vehicle air system.

4. Remove the IROS ride height control rod and ride height valve assembly (Figure 2).

SERVICE PROCEDURE (CONT.)

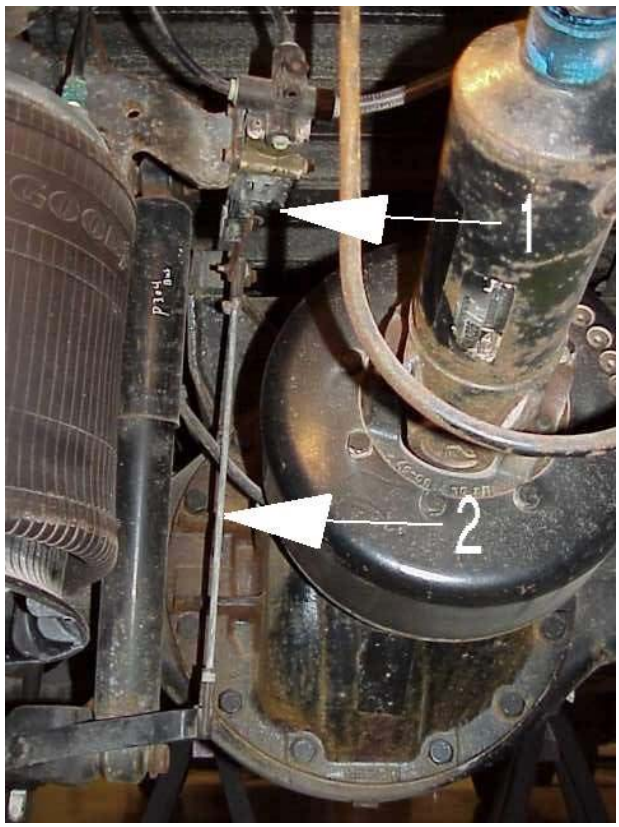


Figure 2 Remove Ride Height Control Rod and Valve Assembly

1. Ride Height Valve
2. Ride Height Control Rod

5. Disconnect air lines from the IROS air springs.

6. Remove mounting bolts and the air spring (Figure 3).

SERVICE PROCEDURE (CONT.)

Figure 3 Remove Mounting Bolts and Air Spring

7. Remove mounting bolts and shock absorber.

8. Place a jack under the axle carrier to raise the axle assembly then place floor stands under the axle assembly.

9. Remove the IROS spring U-bolts and lower U-bolt plate (Figure 4).

SERVICE PROCEDURE (CONT.)

Figure 4 Remove IROS Spring U-Bolts

1. U-Bolts
2. Lower U-Bolt Plate

10. Remove IROS spring bushing mounting bolts and remove the IROS spring (Figure 5).

SERVICE PROCEDURE (CONT.)

Figure 5 Remove Spring Bushing Bolts, Shown at Arrows

NOTE – The IROS springs in the Kit are not interchangeable. When installing the new spring, ensure the correct part number is used for the side being serviced.

11. Install the new IROS spring to the spring hanger, install new bushing bar pin bolts and nuts (Figure 6). Tighten to 370 to 460 Lbf-ft (502 to 624 Nm).

SERVICE PROCEDURE (CONT.)

Figure 6 Install new IROS Spring to Spring Hanger

1. Spring Hanger
2. Bushing Mounting Bolts

12. Use a jack to raise the new IROS spring into position, use a new axle seat (Figure 7, Item 6) from the kit, between the IROS spring and the axle, reuse the top u-bolt plate (Figure 7, Item 3) and install a new lower u-bolt plate (Figure 7, Item 5). Install new u-bolts, washers and nuts (Figure 7, Item 4) from the kit and at this time tighten only enough to hold the axle in position.

SERVICE PROCEDURE (CONT.)

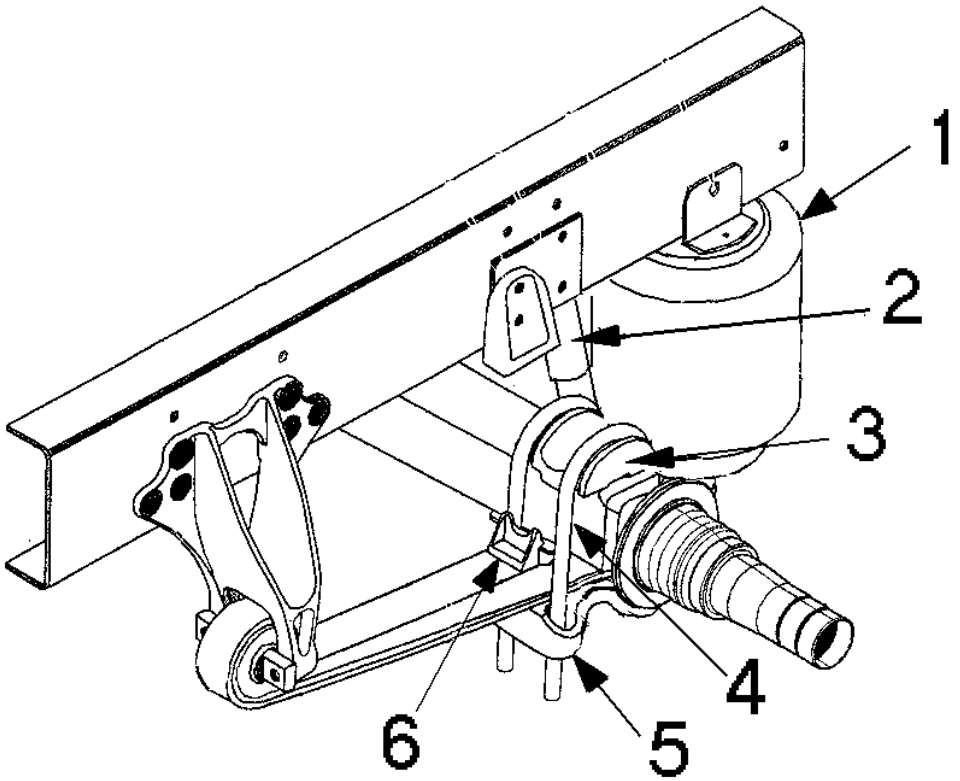


Figure 7 IROS Components

1. Air Spring
2. Shock Absorber
3. Top U-Bolt Plate
4. U-Bolt, Washer, and Nut
5. Lower U-Bolt Plate
6. Axle Seat

13. Install a new shock absorber (Figure 7, Item 2) from the kit. Tighten to 135 to 165 Lbf-ft (183 to 224 Nm).

14. Install a new air spring (Figure 7, Item 1) from the kit. Tighten mounting nuts to 40 to 60 Lbf-ft (54 to 81 Nm).

15. Repeat Steps 4 – 14 for the opposite side then continue to Step 16.

16. Install the new ride height valve and rod from the kit.

17. Reconnect the air lines to the ride height valve.

18. Reconnect the air lines to the ride height valve and air springs.

19. Remove floor stands and jack.

20. Start the engine to charge the air system and check for air leaks.

SERVICE PROCEDURE (CONT.)

21. Refer to TSI-04–03–01, Air Suspension Adjustment Specifications, to ensure the axle travel is set to the correct specification. Adjust as needed.

22. Repeat the measurements made in Step 1, between the marked points, and compare them to the original dimensions. Shims are included in the kit to adjust the alignment. NOTE: If shims are required, place the shim between the spring hanger and the IROS bushing. If there is a large difference side to side you must slide the axle at the spring mounting.

    It is more important that the difference in the two measurements is maintained than the absolute value of the number is maintained.

23. After the alignment is properly set, tighten the spring U-bolts to 400 to 450 Lbf-ft (542 to 610 Nm).

Operation number must appear on all claims.

Table 3 Labor Information

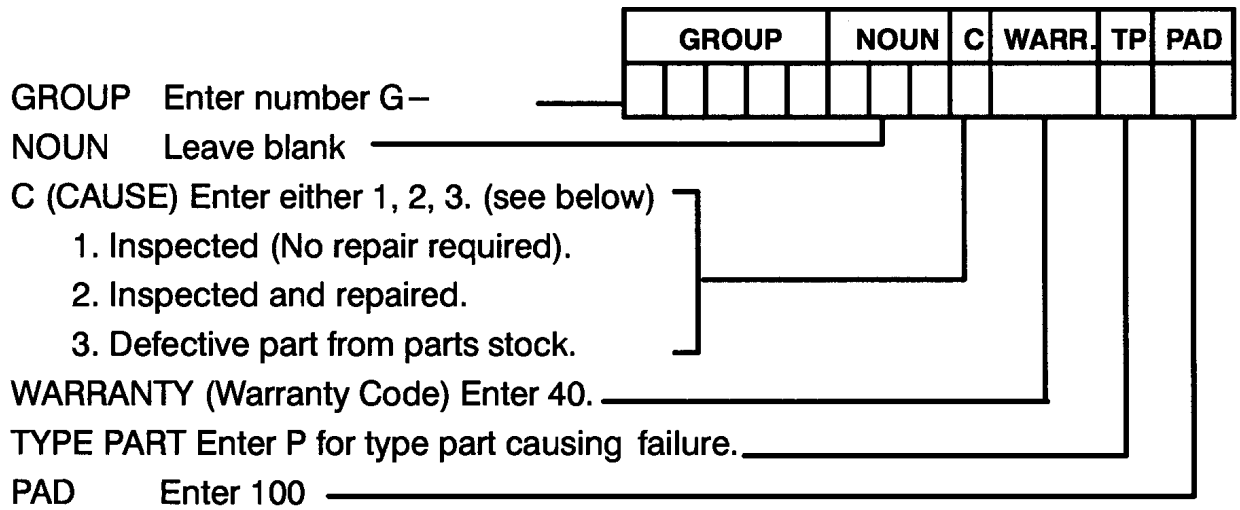
Operation No.	Description	Time
A40–04909–1	Retrofit IROS to Current Design Level	3.2 hrs.

ADMINISTRATIVE PROCEDURE

Expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Authorized Field Change Number G-04909.

It is important that the coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Manual, Section 7–1. Special attention should be given to Items 39 through 44.

To assure this important improvement is made in a timely manner, all claims for G-04909 activity must be submitted by February 28, 2006 or within the normal warranty period for the vehicle, if after February 28, 2006.



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