

Safety Defect and Noncompliance Report Guide for Vehicles  
**Amended PART 573 Defect and Noncompliance Report**

**On November 6, 2006, Motor Coach Industries, Inc. decided that a defect which relates to motor vehicle safety exists in the motor vehicles listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.**

**Date this report was prepared:** January 26, 2009

**Furnish the manufacturer's identification code for this recall (if applicable):**

MCI Service Bulletins 277C and 320 (attached)

**1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.**

Motor Coach Industries, Inc.  
1700 E. Golf Road  
Suite 300  
Schaumburg, IL 60173

**Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.**

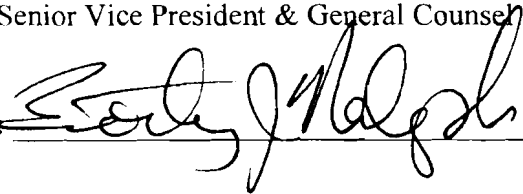
Paul Murphy  
Director, Regulatory Compliance

Telephone Number: **(204) 287-4982** Fax No.: **(502) 318-8224**

**Name and Title of Person who prepared this report.**

Timothy J. Nalepka  
Senior Vice President & General Counsel

Signed: \_\_\_\_\_



RECEIVED  
2009 FEBRUARY 3 - 2:00 PM  
OFFICE OF RECALL  
MANAGEMENT DIVISION

**I. Identify the Vehicle Models Involved in the Recall**

**2. Identify the Vehicles Involved in the Recall, for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide:**

**Make(s):** MCI

**Model Years and Models Involved:**

Certain 2005-2008 D4500 and D4505 model coaches (see attached draft MCI Service Bulletins 277C and 320, which list all affected units).

Production Dates:            Begin date: 11/2004            End date: 05/2008

VIN Range:                    2005 D4500  
                                      2006 D4505

2007 D4505

2008 D4505

**Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period.**

100 % of the coaches identified above.

**II. Identify the Recall Population**

**3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.**

**Models and Model Years Potentially Involved**

<u>2005</u>	D4500	23
<u>2006</u>	D4505	26
<u>2007</u>	D4505	46
<u>2008</u>	D4505	8

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Total Number Potentially Affected by the Recall: 103

**4. Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance:**

100 % of the coaches identified above.

**Identify and describe how the recall population was determined--in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled vehicles:**

The beginning and ending units of the recalled models were determined based on MCI's records of its coaches that were manufactured with the design configuration at issue.

**III. Describe the Defect or Noncompliance**

**5. Describe the defect or noncompliance. The description should address the nature and physical location of the defect or noncompliance. Illustrations should be provided as appropriate.**

Customers may experience a possible interference between the drive shaft U-joint bearing cap bolts and the tag axle center beam assembly.

**Describe the cause(s) of the defect or noncompliance condition.**

The cause is due to the drive shaft U-joint bearing cap bolts and the tag axle center beam assembly coming in contact on certain D4500 / D4505 coaches equipped with a Detroit Diesel Series 60 engine and a ZF transmission.

**Describe the consequence(s) of the defect or noncompliance condition.**

In MCI's original Part 573 Defect and Noncompliance Report related to this issue, MCI reported that if the tag axle on affected coaches is forced up until the bump stops in the air springs are compressed to their limits, the bearing cap bolts on the transmission input yoke end of the shaft can contact a surface on the drive shaft passage through the tag axle. If the contact is hard enough and/or repeated, it could shear the heads off some or all of the bearing cap bolts, freeing the bearings and possibly releasing the drive shaft.

In order for this contact to take place, MCI originally determined that the tag axle would need to be in the low ride position and forced up by uneven terrain, or through curbing of the axle. The coach would also have to be running in order for the bearing bolt caps to contact.

While making repairs to affected coaches, MCI determined that a third cause may be present and that additional clearance was required to ensure that no interference can take place. The third circumstance in which interference could occur is when a coach is moved after being parked, but prior to the auxiliary air system reaching its minimum acceptable operational air pressure.

Although the driver in such circumstance would be notified by the “low air” buzzer sounding and telltale light, the potential for a bottomed-out suspension may exist. This condition, coupled with uneven terrain, could create a condition that forces the tag axle air springs up into their bump stops, resulting in possible interference.

**Identify any warning which can (a) precede or (b) occur.**

- a) There would be an “impact” noise when the drive shaft U-joint bearing cap bolts were hitting the tag axle center beam assembly.
- b) The drive shaft U-joint bearing cap bolts and the tag axle center beam assembly would show signs of impact when inspected.
- c) The driver would be notified by the “low air” buzzer sounding and a telltale light on the dash in the case of the third circumstance noted above.

**If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.**

N/A

**Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:**

N/A

**IV. Provide the Chronology in Determining the Defect/Noncompliance**

*If the recall is for a defect, complete item 6, otherwise item 7.*

**6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.**

While repairing affected coaches pursuant to the original recall notice, MCI became aware in 2008 that a third cause of potential interference may exist. MCI found that when a coach is moved after being parked, and prior to the auxiliary air system reaching its minimum acceptable operational air pressure, interference could occur even after the prior recall repairs were made. MCI has not received reports of any incidents resulting from this third potential cause. Nevertheless, in order to eliminate any possibility of contact under this scenario, MCI decided to design, test, and install a new driveshaft with a smaller swing diameter.

**7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.**

N/A

## **V. Identify the Remedy**

### **8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.**

MCI is advising customers operating affected coaches to install a Tag Axle Suspension Spacer kit and an SPL250 Driveshaft Retrofit kit to limit the suspension travel and reduce the swing diameter of the driveshaft thereby increasing the clearance and eliminating any possible interference. MCI will furnish these kits to affected customers at no cost and cover applicable labor allowances for installing them.

Please note:

- 100% of coaches covered under MCI's SB 276B have received the repair referenced within that campaign.
- MCI SB 277 is being released under this amendment as revision C (SB 277C) to capture additional coaches manufactured since the release of 277B. All coaches must be completed in conjunction with SB 320.
- All coaches covered under SB 276B will also require SB 320.

### **Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.**

The appropriate combination of kits are to be installed in order to limit the suspension travel and reduce the swing diameter of the driveshaft, therefore increasing the clearance by 1.25 - 1.5 in. and allow sufficient clearance spacing.

### **Identifying and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.**

MCI has made design changes that make the components of the Tag Suspension Spacers kit and the SPL250 Driveshaft Retrofit kit standard for the production of any future D4500/4505 model coaches with Detroit Diesel S60 engine and ZF transmission.

## **VI. Identify the Recall Schedule**

### **9. Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.**

Within ten days of MCI's receipt of NHTSA's recall number and approval of MCI's customer notification letter, MCI will notify by mail all affected customers. Implementation of the campaign repairs specified in MCI's bulletins can begin immediately. At the present time MCI

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does not foresee any delays in having the parts available for prompt completion of the campaign repairs.

## **VII. Furnish Recall Communications**

**10. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.***

Please see attached proposed customer notification letter and draft MCI Service Bulletin 277C and 320.

**Note that these documents are to be submitted separately from those provided in accordance with Part 573.8 requirements.**

«Customer»  
«attention»  
«address»  
«c». «s» «zip»

**SUBJECT: RECALL UPDATE - TAG AXLE / DRIVESHAFT INTERFERENCE**

Ref.: Service Bulletins 277C and 320

Ref.: NHTSA Recall No.:

Ref.: Transport Canada Recall No.:

Dear Customer:

This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act and the Canadian Motor Vehicle Safety Act - Notice of Safety Defects.

Motor Coach Industries, Inc. ("MCI") has decided that a defect which relates to motor vehicle safety exists in certain MCI model D4500 / D4505 motor coaches equipped with a Detroit Diesel Series 60 engine and ZF transmission. As a result, MCI advises that owners of affected coaches implement the specified steps in the attached Service Bulletins 277C and 320.

Customers may experience interference between the drive shaft U-joint bearing cap bolts and the tag axle center beam assembly. This can occur when:

- a) The coach is in low ride position and the tag axle is forced up into the air bag bump stops by uneven terrain, or
- b) Through curbing of the axle and the tag axle is forced up into the air bag bump stops, or
- c) The coach auxiliary air system is depleted of air, the tag axle is forced up into the air bag bump stops and the coach is put in motion prior to the air system reaching its minimum acceptable operational air pressure.

The interference is due to limited clearance between the drive shaft U-joint bearing cap bolts and the tag axle center beam. This can take place when the coach is positioned such that the tag axle air springs are fully collapsed and the weight of the coach is supported by the air spring internal bumpers. Under these circumstances, interference between the bearing cap bolts and the axle center beam assembly is possible, creating conditions that could cause the bearing cap bolts to shear, freeing the bearings and possibly releasing the drive shaft, increasing the risk of vehicle damage or an accident.

MCI strongly encourages customers operating affected coaches to install the parts referenced in the applicable bulletins for your identified coach(es), so as to reduce the swing diameter of the driveshaft and increase the clearance, eliminating any possible interference.

MCI records indicate that you are the owner or operator of the following unit(s) affected by this Field Change Program:

«**unit**\_number»

If you have any questions about this recall campaign, you may contact the MCI Customer Service Line at 1-800-241-2947. After contacting MCI Customer Service, if you are still unable to have the safety defect remedied without charge and within a reasonable time, you may submit a complaint:

For the U.S.:

The Administrator  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue, SE.,  
Washington, DC 20590;

or call the toll-free Vehicle Safety Hotline at 1-888-327-4236; (TTY: 1-800-424-9153);  
or go to <http://www.safercar.gov>.

For the Canada:

Road Safety and Motor Vehicle  
Regulation Directorate  
Transport Canada  
Tower C, Place de Ville  
330 Sparks Street  
Ottawa, Ontario  
K1A 0N5

or call the Transport Canada's Information Centre at 1-800-333-0371.

If you are the lessor of this vehicle, Federal law requires that you forward this notice to the lessee within ten days of your receipt of this notice.

If you have sold or otherwise transferred the vehicle(s) identified above, please contact the MCI Customer Service Line at 1-800-241-2947 with all of the information you have regarding the current owner/operator of the vehicle(s), so that we can ensure that the vehicles are corrected.

If you had this repair performed before you received this letter, you may be eligible to receive reimbursement for the cost of obtaining a pre-notification remedy of the problem associated with this recall.

Motor Coach Industries apologizes for any inconvenience this may cause.

Sincerely,  
Motor Coach Industries  
Warranty Department



# Service Bulletin No. 277C

<b>MODEL</b> D4500 / D4505 Series Coaches	<b>TYPE</b> Field Change Program	<b>SECTION/GROUP</b> 12--Suspension	<b>DATE</b>
<b>SUBJECT</b> TAG AXLE / DRIVESHAFT INTERFERENCE--FIXED TAG AXLE			
<b>CONDITIONS</b> REVISION TO 277B--ADDITIONAL UNITS INCLUDED			

**THIS BULLETIN SUPERSEDES FIELD SERVICE BULLETINS 277 & 277B IN THEIR ENTIRETY.**

Ref. NHTSA Recall No.: TBA

Ref. TC Recall No.: TBA



**Customer Complaint:**

Customers may experience interference between the drive shaft U-joint bearing cap bolts and the tag axle center beam assembly. This can occur when,

- a. The coach auxiliary air system is depleted of air, the tag axle is forced up into the air bag bump stops and the coach is put in motion prior to this system reaching its minimum acceptable operational air pressure, and/or
- b. Through curbing of the axle and the tag axle is forced up into the air bag bump stops, and/or
- c. The coach is in low ride position and the tag axle is forced up into the air bag bump stops by uneven ground.

**Cause:**

The interference is due to limited clearance between the drive shaft U-joint bearing cap bolts and the tag axle center beam. This can take place when the coach is positioned such that the tag axle air springs are fully collapsed and the weight of the coach is supported by the air spring internal bumpers. Under these circumstances, interference between the bearing cap bolts and the axle center beam assembly is possible. This situation can be found on certain D4500 / D4505 coaches equipped with a Detroit Diesel Series 60 engine, a ZF transmission and a fixed tag axle.

**Corrective Action:**

MCI strongly encourages customers operating coaches equipped with a Detroit Diesel Series 60 engine, ZF transmission and a fixed tag axle to install the parts referenced in this bulletin to reduce the swing diameter of the driveshaft and increase the clearance, eliminating any possible interference.

As a result, MCI advises that owners of D4500 / D4505 model coaches between the range of, and including, unit numbers 56555 to 56577, 57147 to 57166, 57540 to 57549 implement the specified steps in this procedure.

**Service Procedure:**

**General notes**

Read this entire procedure before beginning work.

**Use Safe Shop Practices At All Times.**



**REFER TO MANUAL**

**Refer to Section 12 / Suspension, in the MCI D Series Maintenance Manual, in conjunction with this procedure.**

**Parts**

<b>Qty.</b>	<b>Old P/N</b>	<b>New P/N</b>	<b>Description</b>
1		08-18-1200	Kit, Shim-Engine Mount <i>Kit Contents Are:</i>
2		08-18-1198	Shim
2		08-18-1199	Shim
2		19-01-1648	Capscrew, 7/8–14 UNF x 6
2		8G-18-154	Capscrew, 3/16–16 UNF x 5
2		19-02-0393	Washer, Flat
2		19-3-479	Nut, Lock, 7/8–14 UNF
2		19-3-480	Nut, Lock, Hex, 3/4–16 UNF
1		12-04-1082	Kit, Spacers-Tag Suspension <i>Kit Contents Are:</i>
2	12-04-1079		Plate Assembly
2		12-04-1160	Plate Assembly
2		12-04-1083	Spacer, 1.00 inch
4		19-1-240	Capscrew, 5/16–18 x 2.25
12		19-2-26	Washer, Lock, 5/16
16		19-2-8	Washer, Flat, 5/16
4		19-3-20	Nut, Hex, 5/6–18
2		12-04-1074	Spacer
4		12G-1-5	Bumper, Rubber
4		12R-1-6	Spacer, Bumper Block
2		19-1-1074	Capscrew, 5/16–18 x 1.25

1. Turn the main battery disconnect switch to the " OFF " position. Chock both sides of the tires.
2. Open the engine compartment doors. Locate the engine remote and position the ENGINE RUN and ENGINE START to the OFF position.
3. Locate the engine cradle mounting hardware shown in Figure 1 ( four locations ).
4. Remove and discard the existing locknuts only from the four locations shown in Figure 1.

## **NOTICE**

***DO NOT remove the capscrews at this time as they are required to maintain orientation alignment between the engine and the engine cradle.***

***DO NOT disconnect any engine components.***

5. Position a jack under the engine, in a safe location that can support the load of the engine and transmission without any structural damage.
6. In a safe, controlled manner, jack up the engine enough to allow for spacer installation ( approximately one inch ).

## **NOTICE**

***The engine must be supported to avoid component damage.***

## **NOTICE**

***Remove and replace ONE fastener at a time.***

7. Remove and discard the existing fastener ( and washer if applicable ). Install appropriate shim ( p/n 08-18-1198 or 08-18-1199 ) and new mounting hardware provided in Parts list. Tighten nut hand tight only.
8. Repeat Step 7. to next fastener.

## **NOTICE**

***The exhaust pipe may require removal to access the rear, roadside fastener. If removal is required, re-install exhaust pipe after completion of shim and mounting hardware installation.***

***Ensure that the exhaust pipe temperature has cooled down prior to handling.***

9. Upon completion of installing the four shims and mounting hardware, lower the jack removing all stress from the engine. Remove the jack from under the coach.
10. Torque 19-3-480 to 285–385 lbs.-ft. Torque 19-3-479 to 451–546 lbs.-ft.

## **NOTICE**

***Procedure Steps 11. to 17. are performed with the coach on a lift. Position jackstands at the front and rear frame support points, according to Figure 2, to ensure that the coach is securely supported before attempting work underneath the coach. Support the tag axle.***

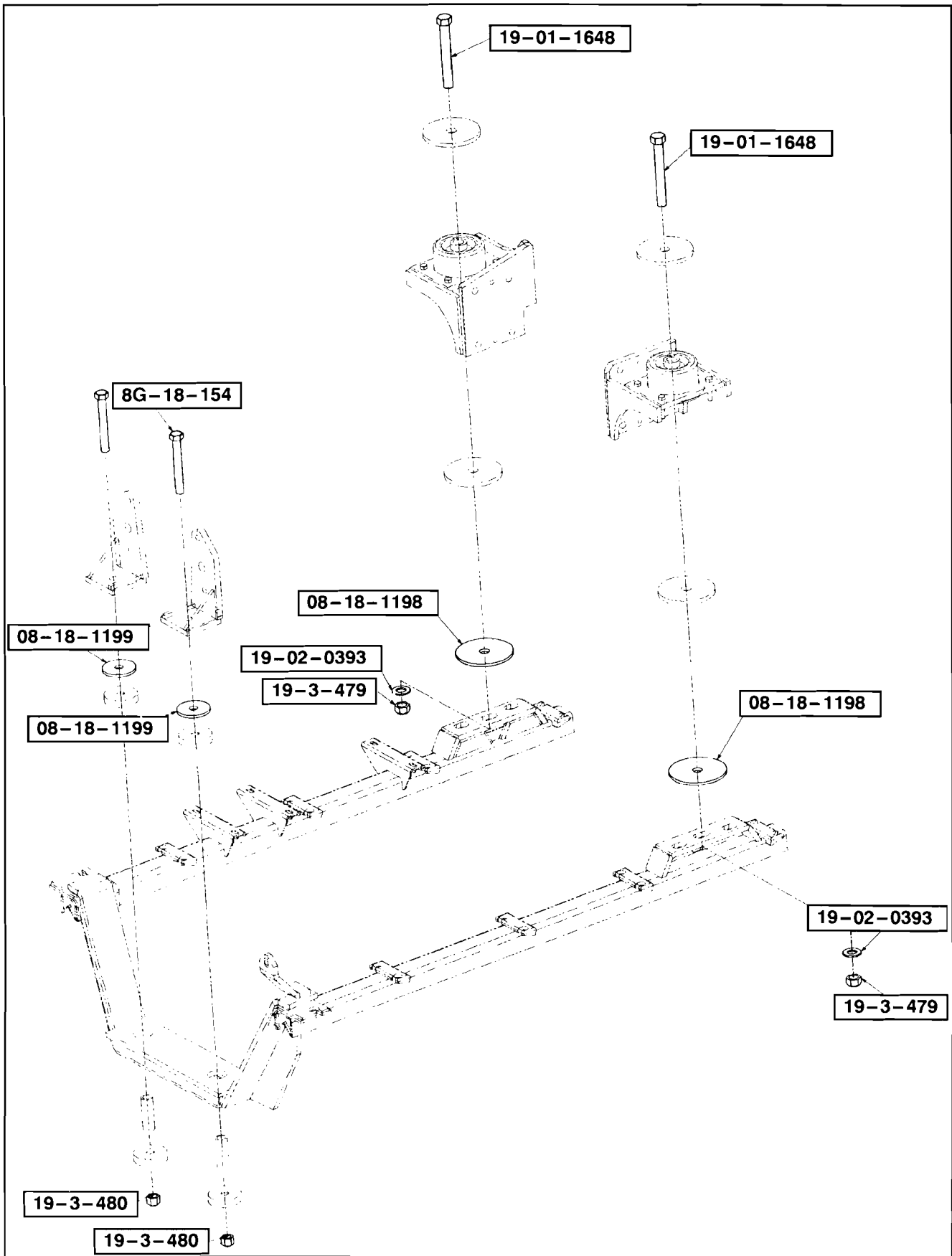


Figure 1.

### NOTICE

Steps 11. to 17. will be performed with the coach on a lift.

### NOTICE

PRIOR TO lifting the coach, exhaust all coach air. Locate the tag axle dump valves in the curbside, rear service compartment. Turn the tag axle dump valves to the OFF ( vertical ) position, completely dumping the tag axle air springs.

Dump the air from the tag axle suspension and raise coach to desired height. Position jackstands at the front and rear frame support points, according to Figure 2, to ensure that the coach is securely supported before attempting work underneath the coach.

Support the tag axle.

### ! REFER TO MANUAL

Refer to *Lifting and Towing*, in the MCI Maintenance Manual, for the basic rules, procedures and safety precautions that must be followed before a coach is to be lifted.

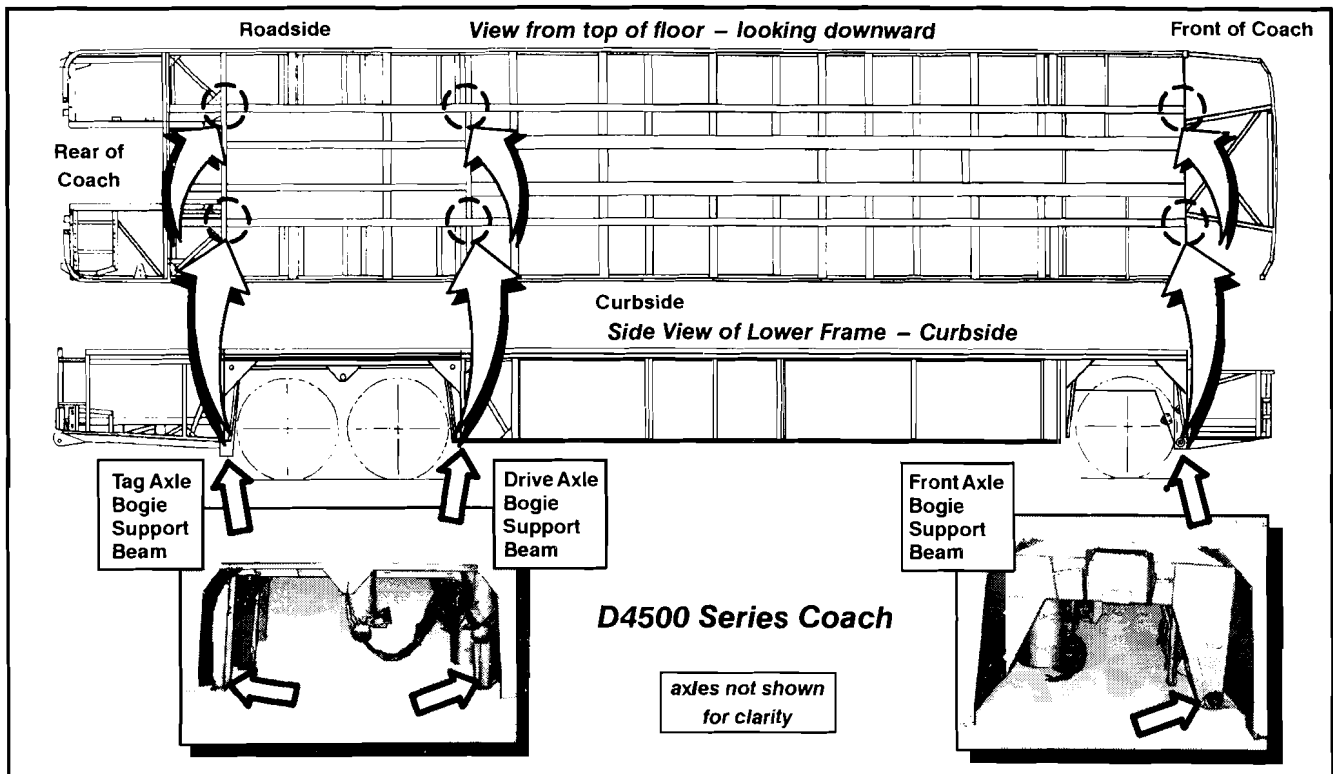


Figure 2. - D4500 Under Frame Jackstand Support Points

11. Locate the four existing rubber bumpers on the tag axle suspension assembly ( Figures 3 and 5 ).

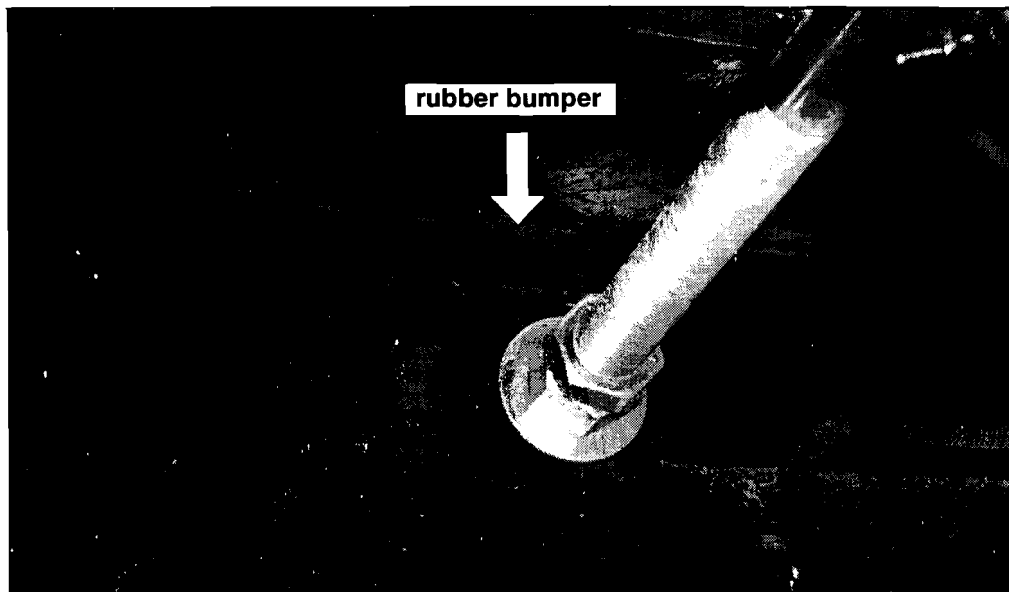


Figure 3. Reference photo.

## ***NOTICE***

***Remove and replace ONE bumper assembly at a time.***

12. Remove existing bumper assembly and discard. DO NOT re-use existing bumper.

## ***NOTICE***

***If necessary, use a reciprocating saw to cut the threads on the existing bumper assembly, to aid in removal.***

***Assemble with Never-seize.***

13. Disk sand the mounting surface in preparation of good reassembly.
14. Install the new rubber bumper ( p/n 12G-1-5 ) and bumper block spacer ( p/n 12G-1-6 ) ( Detail B / Figure 5 ).

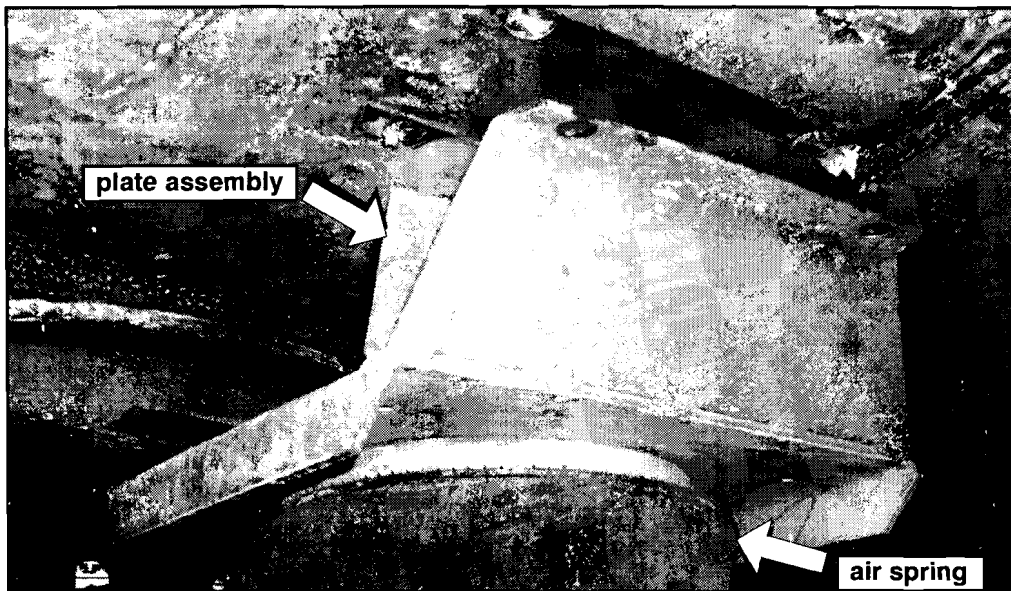
## NOTICE

*Always use new fastener hardware when installing / re-installing suspension components on the front, drive and tag suspension systems.*

## CAUTION

*DO NOT attempt repair or removal of the air spring unless the air is completely released from the spring. Use caution when working near an inflated air spring.*

15. Remove and discard the plate assembly and mounting hardware ( Figures 4 and 5 ).



**Figure 4. Reference photo.**

16. Install the new plate assembly ( p/n 12-04-1160 ) and spacer ( p/n 12-04-1083 ) in the locations shown in Figure 5., using the new plate assembly mounting hardware provided in the Parts list. Torque nut ( p/n 19-3-314 ) to 18–22 ft.-lbs.
17. Align and position the spacer ( p/n 12-04-1074 ) in the location shown in Figure 5.

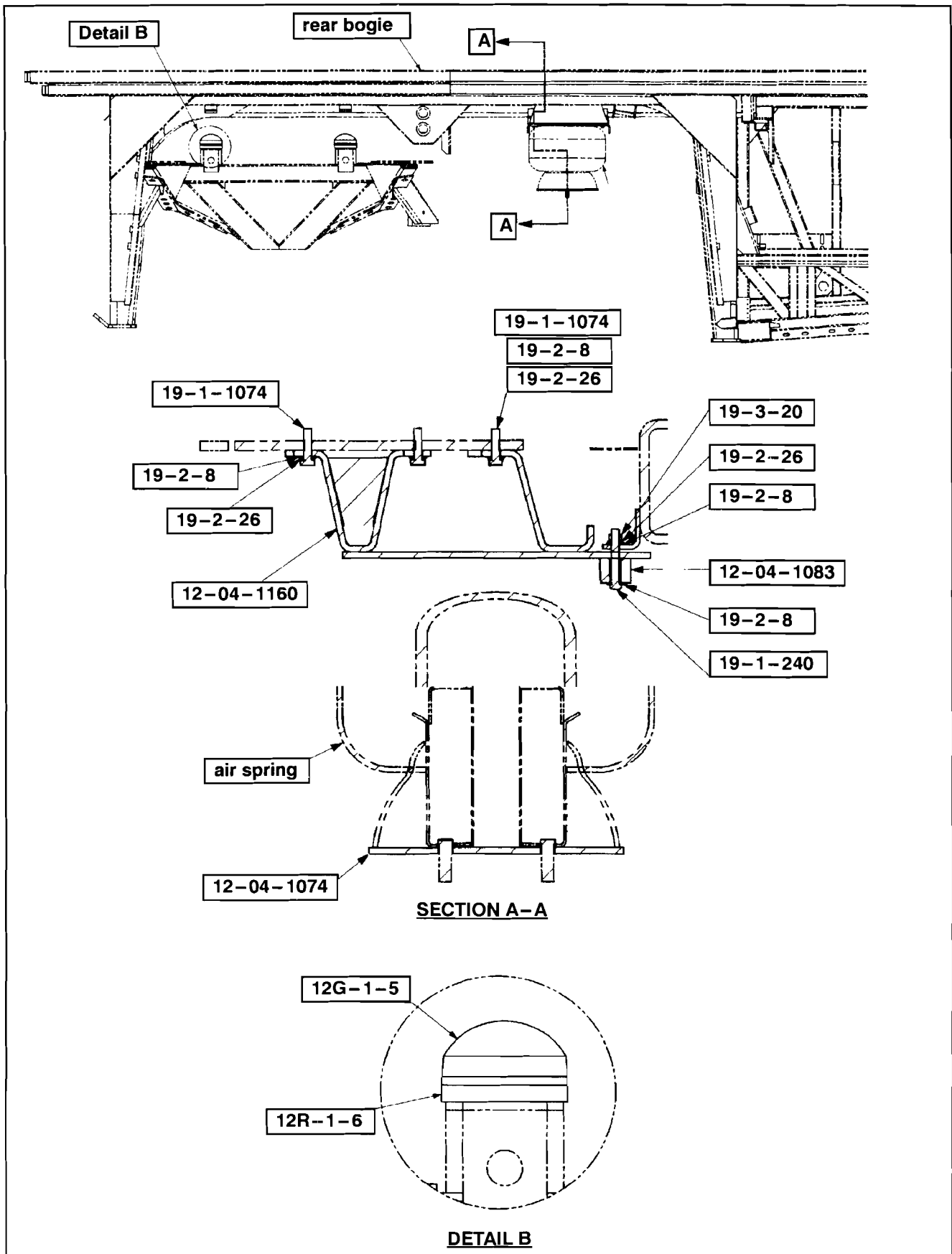


Figure 5.

18. After the coach has been lowered to the ground and lifts removed, return the tag axle dump valves to the ON ( horizontal ) position. Close the curbside, rear service department door.

*Procedure complete.*



Mail or fax the completed warranty claim form to MCI's warranty department, or photocopy and mail it to:

MCI Fleet Support  
Attn: Warranty Department  
7001 Universal Coach Drive  
Louisville, KY 40258  
Fax Number 1-800-360-8886

to receive credit for the hours used to complete this task. Contact the MCI Fleet Support Technical Center at 1-800-241-2947 for any further information.

***Field Change Program Conditions:***

The parts required for this change will be supplied without charge.

A labor allowance of 5.5 hours will be granted, for the procedure of installing the specified part(s) in this bulletin on D4500 / D4505 model coaches.

**Only 1 claim can be filed against the coach VIN, SB 277, SB 277B or SB 277C.**

This labor allowance will be credited to your MCI Fleet Support Parts Account on receipt of a "Warranty Claim Form" as detailed in your Owner Warranty manual.

Motor Coach apologizes for any inconvenience resulting from this campaign, but urges you to implement this change as soon as possible.

Sincerely,

*Motor Coach Industries*  
U.S. and Canadian Service Departments.



# Service Bulletin No. 320

<b>MODEL</b> D4500 / D4505 Series Coaches	<b>TYPE</b> Field Change Program	<b>SECTION/GROUP</b> 14 – Drive Shaft	<b>DATE</b>
<b>SUBJECT</b> TAG AXLE / DRIVE SHAFT INTERFERENCE – DETROIT DIESEL SERIES 60 ENGINE AND ZF TRANSMISSION			
<b>CONDITIONS</b> IN CONJUNCTION WITH THIS CAMPAIGN, COMPLETION OF FCP 276B AND FCP 277C IS REQUIRED ON COACHES IDENTIFIED ON THOSE FCP'S.			

Ref. NHTSA Recall No.: TBA

Ref. TC Recall No.: TBA



### Customer Complaint:

Customers may experience interference between the drive shaft U–joint bearing cap bolts and the tag axle center beam assembly. This can occur when,

- The coach auxiliary air system is depleted of air, the tag axle is forced up into the air bag bump stops and the coach is put in motion prior to this system reaching its minimum acceptable operational air pressure, and/or
- Through curbing of the axle and the tag axle is forced up into the air bag bump stops, and/or
- The coach is in low ride position and the tag axle is forced up into the air bag bump stops by uneven ground.

### Cause:

The interference is due to limited clearance between the drive shaft U–joint bearing cap bolts and the tag axle center beam. This can take place when the coach is positioned such that the tag axle air springs are fully collapsed and the weight of the coach is supported by the air spring internal bumpers. Under these circumstances, interference between the bearing cap bolts and the axle center beam assembly is possible. This situation can be found on certain D4500 / D4505 coaches equipped with a Detroit Diesel Series 60 engine and a ZF transmission.

### Corrective Action:

MCI strongly encourages customers operating MCI coaches equipped with a Detroit Diesel Series 60 engine and a ZF transmission to install the parts referenced in this bulletin to reduce the swing diameter of the driveshaft and increase the clearance, eliminating any possible interference.

As a result, MCI advises that owners of D4500 / D4505 model coaches between the range of, and including, unit numbers 56555 to 56577, 56773 to 56775, 57046, 57147 to 57166, 57203 and 57204, 57340, 57345 to 57379, 57540 to 57549, 58311 to 58313, 58337, 58338, 58500, 58582, 58583 implement the specified steps in this procedure.

### Parts

Qty.	Old P/N	New P/N	Description
1		26-14-0001	Kit, SPL250 Driveshaft Retrofit
			<i>Kit Contents Are:</i>
1		02-03-1028	Seal, Pinion, Oil, Drive
1		13-01-1087	Flange, Output, ZF
1		13-01-1088	Seal, Output Shaft, ZF
1		13-01-1089	O-Ring, Yoke, Retaining Plate, ZF
1		13-01-1090	Plate, Yoke Retaining, ZF
2		13-01-1091	Bolt, Hex, M12x60, Yoke, Retaining Plate
1		14-01-1025	End Yoke Assembly, 1/2 Round, SPL250
1		14-01-1026	Driveshaft, SPL250, S60, ZF
2		14-01-1027	Yoke Flange, 1/2 Round, SPL250
1		14-01-1028	Kit, Strap / Bolt, SPL250
4		14-01-1029	Capscrew, Hex Head, M14x1.5x50
4		19-03-0634	Nut, Hex, M14x1.5
a/r		21-7212-26	Loctite 262
a/r		21-7512-5	Grease, Heavy

## Service Procedure:

### General notes

Read this entire procedure before beginning work.

**Use Safe Shop Practices At All Times.**

1. Turn the main battery disconnect switch to the " OFF " position.

## NOTICE

**PRIOR TO lifting the coach, exhaust all coach air. Locate the tag axle dump valves in the curbside, rear service compartment. Turn the tag axle dump valves to the OFF ( vertical ) position, completely dumping the tag axle air springs.**

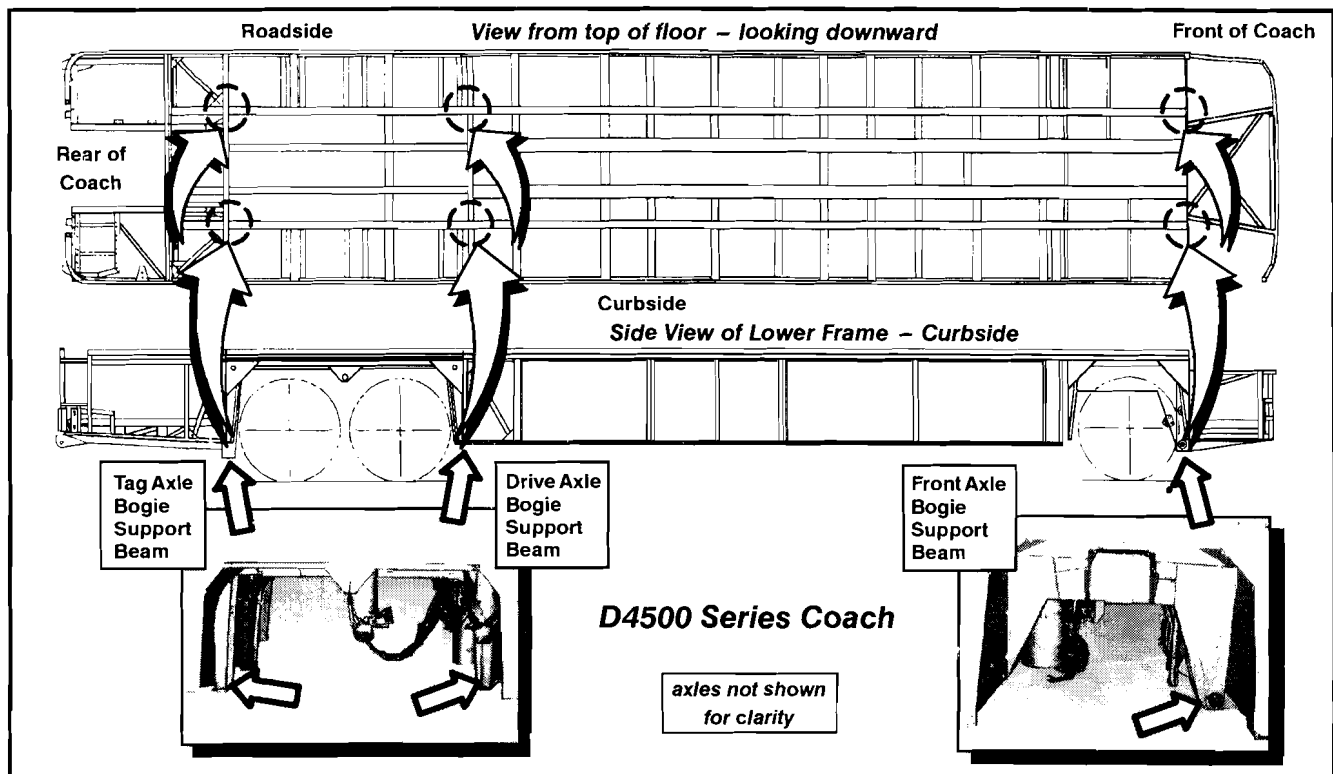
**Dump the air from the tag axle suspension and raise coach to desired height. Position jackstands at the front and rear frame support points, according to Figure 1, to ensure that the coach is securely supported before attempting work underneath the coach.**

**Support the tag axle.**



## REFER TO MANUAL

**Refer to Lifting and Towing, in the MCI Maintenance Manual, for the basic rules, procedures and safety precautions that must be followed before a coach is to be lifted.**





## **REFER TO MANUAL**

**Refer to Section 14 / Driveshaft, in the MCI D Series Maintenance Manual, in conjunction with this procedure.**

2. Remove and retain the driveshaft guard.
3. Remove the half-round straps at the differential yoke.
4. Remove the driveshaft from the differential yoke by collapsing the slip-joint.
5. Remove the half-round straps at the transmission yoke.
6. Remove and discard the driveshaft from the coach.
7. Drain the transmission fluid into a clean, suitably-sized container. Place container aside to be re-used later.
8. Drain the drive axle oil into a clean, suitably-sized container. Place container aside to be re-used later.
9. Remove and discard the existing transmission end yoke and output seal.
10. Remove and discard the existing the drive axle end yoke and pinion seal. Retain the pinion nut and washer to be re-installed at a later step in this procedure.
11. Using tool no. 20-710, install the drive axle pinion seal ( p/n 02-03-1028 ) ( refer to Figure 2 ).
12. Lubricate the seal mounting surface of the end yoke assembly ( p/n 14-01-1025 ) and install on the output shaft taking care not to damage the seal. Install the washer and pinion nut removed in Step 10. and torque the pinion nut to 1000-1230 lb-ft.
13. Using an appropriate size seal installation tool, install the output seal ( p/n 13-01-1088 ) into the transmission. Take care not to damage the seal.
14. Lubricate the seal contact surface on the output flange ( p/n 13-01-1087 ) and install in transmission using plate ( p/n 13-01-1091 ) , o-ring ( p/n 13-01-1089 ) and bolts ( p/n 13-01-1091 ). Apply Loctite to bolts and torque to 80-95 lb-ft.
15. Using bolts ( p/n 14-01-1029 ) and nuts ( p/n 19-03-0634 ), install flange yoke ( p/n 14-01-1027 ) to output flange. Torque to 115-125 ft-lbs.

## **NOTICE**

**Install the slip joint end towards axle.**

16. Using the straps and bolts kit ( p/n 14-01-1028 ), install the driveshaft ( p/n 14-01-1026 ) being sure to install the slip yoke end towards the drive axle. Torque the bearing cap bolts to 115 - 125 lb-ft.
17. Re-fill the drive axle with oil saved in Step 2. Top-up level as required.
18. Re-fill the transmission with fluid saved in Step 2. Top-up level as required.
19. Using grease ( p/n 21-7512-5 ), grease driveshaft u-joint.
20. Reinstall the driveshaft guard and fasteners removed in Step 2. Torque fasteners to 16-28 lb-ft.

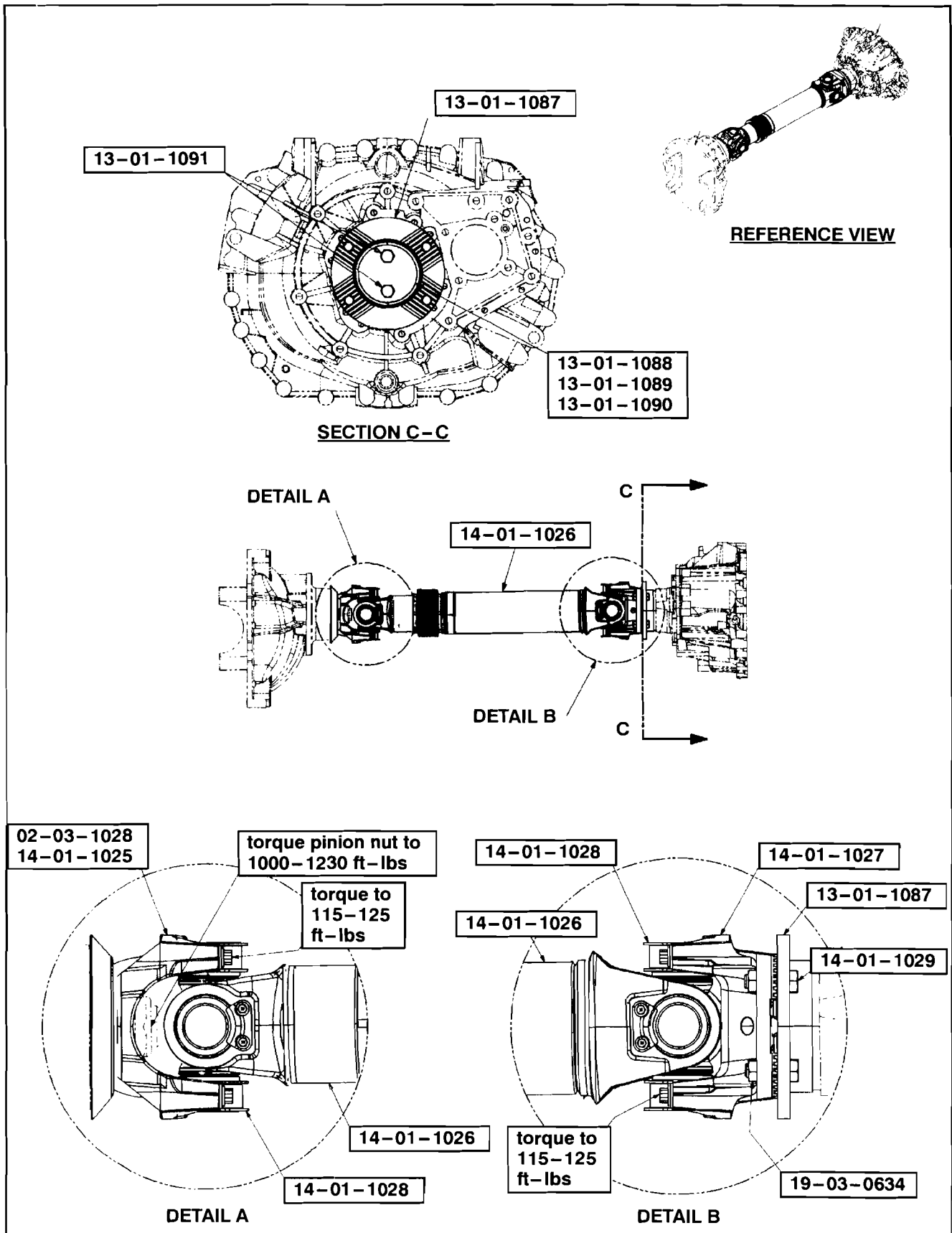


Figure 2.

21. After the coach has been lowered to the ground and lifts removed, return the tag axle dump valves to the ON ( horizontal ) position. Close the curbside, rear service department door.
22. After 50 to 100 miles of operation, check transmission output shaft seal and drive axle input seal for leaks. Replace if necessary.

*Procedure complete.*

Mail or fax the completed warranty claim form to MCI's warranty department, or photocopy and mail it to:

MCI Fleet Support  
Attn: Warranty Department  
7001 Universal Coach Drive  
Louisville, KY 40258  
Fax Number 1-800-360-8886

to receive credit for the hours used to complete this task. Contact the MCI Fleet Support Technical Center at 1-800-241-2947 for any further information.

***Field Change Program Conditions:***

The parts required for this change will be supplied without charge.

A labor allowance of 5.0 hours will be granted, for the procedure of installing the specified part(s) in this bulletin on D4500 / D4505 model coaches.

This labor allowance will be credited to your MCI Fleet Support Parts Account on receipt of a "Warranty Claim Form" as detailed in your Owner Warranty manual.

Motor Coach apologizes for any inconvenience resulting from this campaign, but urges you to implement this change as soon as possible.

Sincerely,

**DRAFT**

*Motor Coach Industries*  
U.S. and Canadian Service Departments.