



Subject: ZF Brake Chamber Rework			
Field Change Program: Field Campaign	FCP Number: 478	Revision: A	Date: 03/20/2020
Coach Section: 04-Brakes & Air system	P/N: 02-01-1418, 02-01-1420		Type: Product Integrity

Application:

Coach Model	Model Year	VIN
J4500	2020	69515 - 69673
J3500	2019 - 2020	21027 - 21042
D45CRT-LE	2019	81019 - 81033

This field campaign does not necessarily apply to all the above-mentioned coaches. The owners of the coaches affected by this field campaign will be advised by a letter indicating the Vehicle Identification Number (VIN) of each applicable coach.

⚠ WARNING

Read this entire procedure before beginning work.

Use Safe Shop Practices at All Times.

To avoid personal injury:

- a. Proper Personal Protective Equipment (PPE) must be worn. Safety glasses and protective gloves are required for working with DEF Fluid.*
- b. Turn the main battery disconnect switch to the OFF position.*
- c. Ensure that both the front and the rear wheels are chocked.*
- d. Position the ENGINE RUN and ENGINE START switches on the engine compartment remote control box to the OFF position.*
- e. Allow enough time for components to cool down prior to working in the engine compartment.*

1.0 Description

Customer complaint:

ZF has notified Motor Coach Industries (“MCI”) that some of the brake chambers installed on the ZF drive axle have had water ingress, causing malfunction of the pneumatic brake system and dragging brakes during sub-zero temperature.

Cause:

ZF concluded that the new paint and washing process established in ZF’s production line led to water ingress in the horizontal mounted piston-type brake chamber. During freezing temperatures the water inside the pneumatic system may freeze, causing dragging brakes.

Corrective action:

MCI and ZF urge owners of the affected coaches to have the following procedure performed as soon as possible.

2.0 Material requirements

ITEM	PART NO	QTY	U/M	DESCRIPTION
1	6407942	4	EA	Nut, Locking M16 X1.5
2	04-01-1250	1	EA	Brake Cylinder RH
3	04-01-1249	1	EA	Brake Cylinder LH

3.0 Special tools

No special tools required.

4.0 Procedure

4.1 Removing brake chamber

Apply the coach parking brake.



Remove the drive axle wheels by following the instructions on page 15A-9 of the coach maintenance manual.

Release and cage the brake chamber by rotating the caging bolt counter-clockwise. The force to compress the spring must not exceed 33 FT-LBS during the caging process.



Cage the brake chamber by rotating the caging bolt counter-clockwise

NOTICE

CAUTION

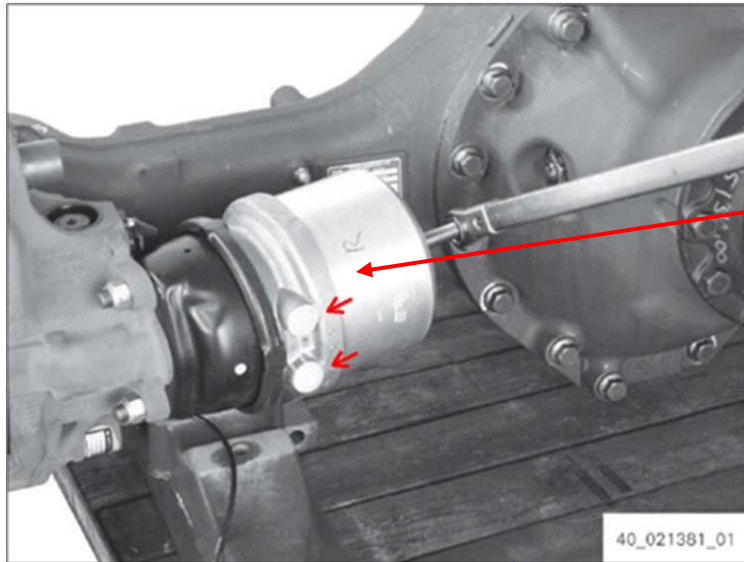
Do not use impact tools to cage the brake chamber

Release the parking brake.



Drain air from all tanks.

Locate the curbside and driver side brake chamber air lines on the drive axle.



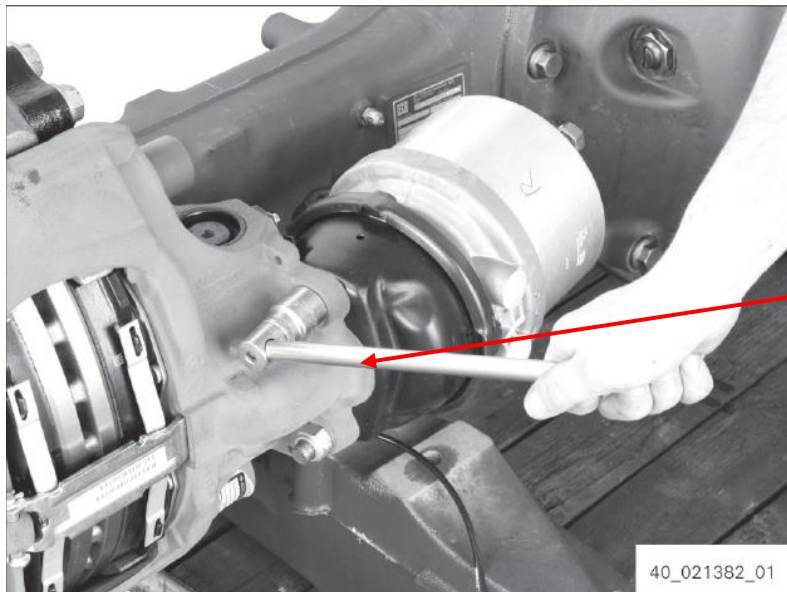
Curbside brake chamber

Disconnect air lines on ports 11 and 12 of the curbside and driver side brake chambers.

Visually mark the installation position of the brake chambers and air to assist during reassembly.

If required, clean the general area around the brake chambers to prevent debris from falling into the brake caliper openings during later steps.

Remove and discard mounting nuts from each brake chamber.



Remove and discard mounting nuts

Remove brake chambers from both curbside and driver side wheel caliper housings.

Clean the mating surfaces of both the removed brake chambers and calipers. Additionally, insert a clean, suitably sized plug into the brake cylinder bore on the brake calipers.

4.2 Installing new brake chamber

Clean the new brake chambers and caliper mounting surfaces and then remove plugs in brake cylinder bores.

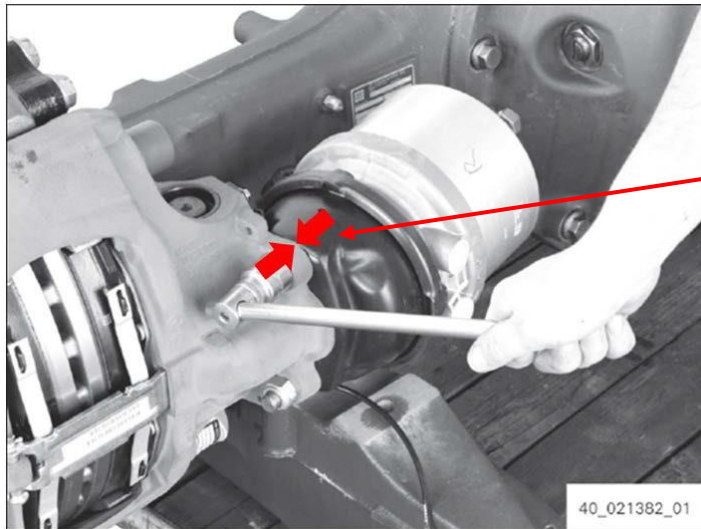
NOTICE

CAUTION

Cover brake chamber opening on the brake caliper when cleaning the mounting surfaces so as to prevent the entry of any contaminants.

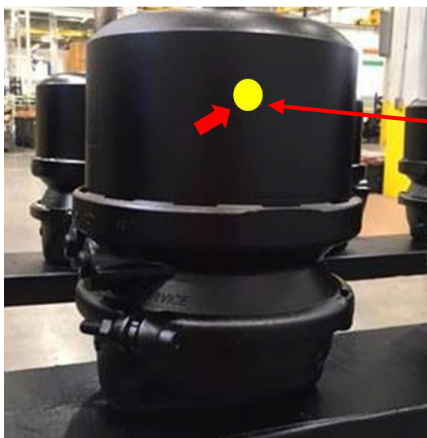
Do not use grease containing molybdenum sulfide on the brake caliper spherical cup or brake chamber sealing surface. Always use the recommended white lithium-based grease.

Using the previously made markups position the RH brake chamber, MCI P/N: 04-01-1250, on the curbside and LH brake chamber, MCI P/N: 14-01-1249, on the driver side.



Position the RH
brake chamber, MCI
P/N: 04-01-1250

NOTE: Replacement brake chambers should come from ZF with a yellow sticker. Verify that the sticker is present before installation.



Yellow sticker on the
brake chamber

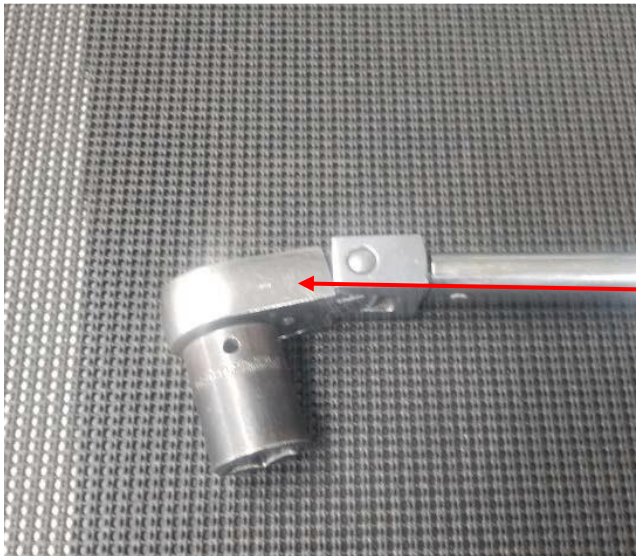
NOTICE

CAUTION

Do not attempt to loosen the clamp band bolt in order to rotate and reposition the air inlet ports. Do not use clamping tools such as vise grips to hold the pushrod. The spring brake actuator contains an internal boot to seal the caliper from containments and may be damaged if brake chamber is rotated or if clamping tools are used on the pushrod.

Ensure the brake chamber is properly positioned so that the breather tube is not facing directly downward toward the road surface.

Secure brake chamber to wheel caliper housing using new mounting nuts, MCI P/N 6407942. Using a flexible head torque wrench (24mm socket), apply an initial torque of 25 FT-LBS and a final torque of 143 FT-LBS.



Using a flexible head torque wrench secure the brake chambers

Uncage the brake chambers by tightening the caging bolts (clockwise) to a torque of 14.75 FT-LBS. Do not exceed 52 FT-LBS.

Reconnect air lines to both curbside and driver side brake chambers.

Turn the main battery disconnect switch to the “on” position.

Start vehicle and charge air system to normal operating pressure. Inspect for air leaks.

Release the parking brake and actuate service/parking brakes several times and check for air leaks.

Install the drive axle wheels as specified on Page 15A-9 of the MCI maintenance manual.

Tag the removed brake chambers and release the cage spring by rotating the bolt clockwise.



5.0 Field Change Program Conditions:

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

A labor allowance of 6.4 hours will be granted for the rework.

This labor allowance will be credited to your MCI Fleet Support Parts Account on receipt of the attached "MCI Field Change Program Verification Form" and a "Warranty Claim Form" as detailed in your Owner Warranty manual to MCI's Warranty department. A "MCI Field Change Program Verification Form" needs to be submitted for each VIN affected. Photocopy the attached "MCI Field Change Program Verification Form" as required for the number of affected coaches in your fleet.

This program will end on Mar 20, 2021.

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



5.1 MCI FIELD CHANGE PROGRAM (FCP) VERIFICATION

CONTACT INFORMATION	
CUSTOMER NAME: _____	
(PLEASE PRINT)	
FCP INFORMATION – ONE FORM PER UNIT	
FCP#: _____ Coach Model _____ Model Year _____	
COACH SERIAL #: (At least the last 5 digits)	DATE COMPLETED __ / __ / __
MILEAGE:	
IMPORTANT: TO RECEIVE CREDIT FOR ANY ALLOWABLE LABOR CHARGES, THIS VERIFICATION FORM MUST BE RETURNED TO MCI UPON COMPLETION OF THE FCP.	
SUBMITTED BY: (Please Print)	
_____ DATE __ / __ / __	
TITLE: (Please Print) _____	
SIGNATURE: _____	
COMMENTS:	



FAX TO: 800-360-8886

Mail or fax the completed limited warranty claim form and verification form to MCI's warranty department, or photocopy and mail 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.