



23 October 2012

VIA EMAIL and MAIL

Chief - Recall Management Division

US DOT – National Highway Traffic Safety Administration
Office of Defects Investigation (NVS-215)
1200 New Jersey Ave. SE,
Washington, DC 20590

Subject: New Flyer Safety Recall Declaration - MGM Integrated Guide Brake Chambers

To whom it may concern:

New Flyer Industries Canada ULC and New Flyer of America Inc. (together "New Flyer"), is declaring recall status with regards to reported failures of the integrated guide brake chambers which are designed and manufactured by Indian Head Industries Inc. / MGM Brakes ("MGM").

New Flyer has been working with MGM for almost a year to determine the root cause brake overheat issues experienced on New Flyer vehicles. . It has been determined that MGM changed the internal design of the specific models of brake chamber used by New Flyer between November 2010 and December 2011. to the integrated guide design. These brake chambers may under certain conditions allow sufficient pressure to escape from the parking brake circuit to result in brake drag.

Brake drag causes thermal damage to brakes, brake system components and may result in fire.

New Flyer has not experienced any fires related to these overheat issues and with MGM's assistance has been actively campaigning those customers who may have this brake chamber design installed. Buses found to have the modified brake chamber design are retrofitted with a previous design of chamber which has not exhibited the same failure.

The new MGM design was to improve brake chamber performance at lower temperatures. Since the fit, form and function of this non-serviceable component remained the same, no modification of part number was made, and no end used notification was required from MGM. This has resulted in some difficulty identifying the specific New Flyer vehicles the subject chambers have been installed on. Of the brake chambers originally shipped to New Flyer, 56% have already been identified and replaced.

New Flyer will contact the customers who purchased buses identified as possibly having the subject chambers, and will continue to coordinate the retrofit campaigns with MGM.

New Flyer is filing the appropriate 573 defect report (see attached) and will manage all quarterly reporting for this recall.

If you have any further questions please contact me.

Sincerely,

**NEW FLYER OF AMERICA INC.
NEW FLYER INDUSTRIES CANADA ULC**

By: Kerry Legg
Vehicle Safety & Regulatory Compliance Manager
(204) 224-6706

**Headquarters/
Winnipeg Facility**
711 Kernaghan Ave.
Winnipeg, Manitoba
R2C 3T4 Canada
Ph: (204) 224-1251

**Customer
Services**
25 DeBaets St.
Winnipeg, Manitoba
R2J 4G5 Canada
Ph: (204) 982-8400

**New Product
Development**
Unit 7, 45 Beghin Ave.
Winnipeg, Manitoba
R2J 4B9 Canada
Ph: (204) 982-8413

**Crookston
Facility**
214 5th Ave. SW
Crookston, Minnesota
56716 USA
Ph: (218) 281-5752

**St. Cloud
Facility**
6200 Glenn Carlson Dr.
St. Cloud, Minnesota
56301 USA
Ph: (320) 203-0576

www.newflyer.com

Safety Defect and Noncompliance Report Guide for Vehicles
PART 573 Defect and Noncompliance Report¹

On 10 October 2012, New Flyer Industries Canada ULC [MFR] 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: 24 October 2012

Furnish the manufacturer's identification code for this recall (if applicable): R12-031

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.

New Flyer Industries Canada ULC
Corporate Headquarters
711 Kernaghan Ave.
Winnipeg, MB Canada
R2C 3T4

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

Mr. Kerry Legg
Vehicle Safety & Regulatory Compliance Manager
Telephone Number: (204) 224-6706

Fax No.: (204) 224-0248

Name and Title of Person who prepared this report.

Same as above.



Signed:

¹Each manufacturer must furnish a report, to the Associate Administrator for Safety Assurance, for each defect or noncompliance condition which relates to motor vehicle safety.

This guide was developed from 49 CFR Part 573, "Defect and Noncompliance Reports" and also outlines information currently requested. Any questions, please consult the complete Part 573 or contact Mr. Jon White at (202) 366-5227 or by FAX at (202) 366-7882.

I. Identify the Vehicle Models Involved in the Recall

2. Identify the Vehicles Involved in the Recall:

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): C35LFR

VIN Range: Beginning: 038625 **Ending:** 038629

VIN Range: Beginning: 039003 **Ending:** 039011

Vehicle Type: Heavy Duty Transit Bus **Body style:** Compressed Natural Gas Thirty Five Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): C40LF

VIN Range: Beginning: 038660 **Ending:** 038661

VIN Range: Beginning: 039460 **Ending:** 039582

VIN Range: Beginning: 039640 **Ending:** 039899

Vehicle Type: Heavy Duty Transit Bus **Body style:** Compressed Natural Gas Forty Foot Low Floor

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): C40LFR

VIN Range: Beginning: 038603 **Ending:** 038604

VIN Range: Beginning: 038662 **Ending:** 038664

VIN Range: Beginning: 038799 **Ending:** 038806

VIN Range: Beginning: 038891 **Ending:** 038916

VIN Range: Beginning: 038981 **Ending:** 039002

VIN Range: Beginning: 039202 **Ending:** 039221

VIN Range: Beginning: 039331 **Ending:** 039338

VIN Range: Beginning: 039443 **Ending:** 039451

VIN Range: Beginning: 039988 **Ending:** 039991

VIN Range: Beginning: 040094 **Ending:** 040104

Vehicle Type: Heavy Duty Transit Bus **Body style:** Compressed Natural Gas Forty Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): D35LFR

VIN Range: Beginning: 038795 **Ending:** 038798

VIN Range: Beginning: 040108 **Ending:** 040112

Vehicle Type: Heavy Duty Transit Bus **Body style:** Diesel Thirty Five Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011 - 2012

Model(s): D40LFR

VIN Range: Beginning: 038672 **Ending:** 038706

VIN Range: Beginning: 038790 **Ending:** 038794

VIN Range: Beginning: 039312 **Ending:** 039319

VIN Range: Beginning: 040241 **Ending:** 040295

Vehicle Type: Heavy Duty Transit Bus **Body style:** Diesel Forty Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011 - 2012

Model(s): D60LFR

VIN Range: Beginning: 038559 **Ending:** 038576

VIN Range: Beginning: 038665 **Ending:** 038665

VIN Range: Beginning: 038707 **Ending:** 038731

VIN Range: Beginning: 038756 **Ending:** 038758

VIN Range: Beginning: 039284 **Ending:** 039308

VIN Range: Beginning: 039321 **Ending:** 039330

VIN Range: Beginning: 039593 **Ending:** 039627

VIN Range: Beginning: 040113 **Ending:** 040118

Vehicle Type: Heavy Duty Transit Bus **Body style:** Diesel Sixty Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): DE35LFR

VIN Range: Beginning: 038630 **Ending:** 038631

Vehicle Type: Heavy Duty Transit Bus **Body style:** Diesel Electric Thirty Five Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): DE40LFR

VIN Range: Beginning: 038632 **Ending:** 308654

VIN Range: Beginning: 039012 **Ending:** 039031

VIN Range: Beginning: 039921 **Ending:** 039934

VIN Range: Beginning: 039996 **Ending:** 040008

Vehicle Type: Heavy Duty Transit Bus **Body style:** Diesel Electric Forty Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2011 - 2012

Model(s): DE60LFR

VIN Range: Beginning: 038752 **Ending:** 038755

VIN Range: Beginning: 038807 **Ending:** 038822

VIN Range: Beginning: 038917 **Ending:** 038919

VIN Range: Beginning: 038950 **Ending:** 038980

VIN Range: Beginning: 040024 **Ending:** 040057

VIN Range: Beginning: 040159 **Ending:** 040223

Vehicle Type: Heavy Duty Transit Bus **Body style:** Diesel Electric Sixty Foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 011211 to 121311.

Make(s): New Flyer **Model Years Involved:** 2010 - 2011

Model(s): XD35

VIN Range: Beginning: 038226 **Ending:** 038242

VIN Range: Beginning: 039905 **Ending:** 039909

VIN Range: Beginning: 039975 **Ending:** 039975

Vehicle Type: Heavy Duty Transit Bus **Body style:** Xcelsior Diesel Thirty Five Foot

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 112310 to 120611.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): XD40

VIN Range: Beginning: 038577 **Ending:** 038585

VIN Range: Beginning: 038759 **Ending:** 038789

VIN Range: Beginning: 039073 **Ending:** 039147

VIN Range: Beginning: 039339 **Ending:** 039375

VIN Range: Beginning: 039628 **Ending:** 039639

VIN Range: Beginning: 040071 **Ending:** 040084

VIN Range: Beginning: 040124 **Ending:** 040128

Vehicle Type: Heavy Duty Transit Bus **Body style:** Xcelsior Diesel Forty Foot

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 112310 to 120611.

Make(s): New Flyer **Model Years Involved:** 2010 - 2011

Model(s): XDE35

VIN Range: Beginning: 038262 **Ending:** 038278

VIN Range: Beginning: 038586 **Ending:** 038587

VIN Range: Beginning: 040146 **Ending:** 040149

Vehicle Type: Heavy Duty Transit Bus **Body style:** Xcelsior Diesel Electric Thirty Five Foot

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 112310 to 120611.

Make(s): New Flyer **Model Years Involved:** 2010 - 2012

Model(s): XDE40

VIN Range: Beginning: 038140 **Ending:** 038153

VIN Range: Beginning: 038491 **Ending:** 038542

VIN Range: Beginning: 038588 **Ending:** 038602

VIN Range: Beginning: 038920 **Ending:** 038926

VIN Range: Beginning: 039035 **Ending:** 039072

VIN Range: Beginning: 039222 **Ending:** 039222

VIN Range: Beginning: 039226 **Ending:** 039272

VIN Range: Beginning: 039309 **Ending:** 039311

VIN Range: Beginning: 039376 **Ending:** 039442

VIN Range: Beginning: 039583 **Ending:** 039592

VIN Range: Beginning: 040122 **Ending:** 040123

VIN Range: Beginning: 040150 **Ending:** 040153

VIN Range: Beginning: 040158 **Ending:** 040158

Vehicle Type: Heavy Duty Transit Bus **Body style:** Xcelsior Diesel Electric Forty Foot

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 112310 to 120611.

Make(s): New Flyer **Model Years Involved:** 2011 - 2012

Model(s): XN40

VIN Range: Beginning: 039910 **Ending:** 039920

VIN Range: Beginning: 040090 **Ending:** 040093

VIN Range: Beginning: 040224 **Ending:** 040239

Vehicle Type: Heavy Duty Transit Bus **Body style:** Xcelsior Compressed Natural Gas Forty Foot

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 112310 to 120611.

Make(s): New Flyer **Model Years Involved:** 2011

Model(s): XN60

VIN Range: Beginning: 039320 **Ending:** 039320

Vehicle Type: Heavy Duty Transit Bus **Body style:** Xcelsior Compressed Natural Gas Sixty Foot

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have spring brake chambers with date codes between 112310 to 120611.

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.

84.7 %

II. Identify the Recall Population

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

<u>Model</u>	<u>Year</u>	<u>Number of Vehicles Potentially Involved</u>
C35LFR		14
C40LF		385
C40LFR		113
D35LFR		9
D40LFR		103
D60LFR0		123
DE35LFR		2
DE40LFR		70
DE60LFR		153
XD35		23
XD40		183
XDE35		23
XDE40		261
XN40		31
XN60		1

Total Number Potentially Affected by the Recall:

1494

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

67%

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:

Sales and purchase orders of MGM brake chambers were reviewed to correlate receipt, and use in New Flyer production. Due to the inconsistencies with supply stock and usage, the recall population also includes buses from the same build order which were on the production line both before and after the time period specified. All vehicles will be inspected for applicable brake chamber date codes, to identify those brake chambers which will require replacement.

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.

Under certain intermittent conditions, brake chambers have been found to leak sufficient pressure from the parking brake circuit to allow for brake drag when the parking brake is supposed to be released.

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

Cause is believed to be related to modification of the internal seal of the spring brake chamber piston.

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

May produce brake drag at sufficient speed and duration creating an overheat condition, and can possibly result in fire.

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

Brake drag can and will result in smoking brakes due to overheated brake components.

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

MGM Brakes
Transit Business Unit
8530 Cliff Cameron Dr.
Charlotte, NC 28269

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

Henry Dangson
Director Quality Assurance

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.

In late October of 2011, New Flyer began receiving field reports from a single customer indicating hot brake conditions had been detected on a drum style rear brake system. New Flyer incorporated the engineering assistance of our axle and brake component suppliers in an effort to troubleshoot for root cause. Between that time and February of 2012, they explored the slack adjuster geometry, brake shoe design, brake lining composition, springs and hardware, brake retarder set-up and pressure, vehicle programming for retarder and interlock control, regional or environmental factors. No specific root cause was identified. Complicating the issue was the lack of similar or related occurrences at other nationwide locations operating buses with the same components and vehicle programming.

New Flyer installed data loggers, brake monitoring systems and modified control system software in an effort to prevent the events. By the 6th of February, twelve hot brake incidents had been recorded which escalated the issue to fleet defect proportions at that customer location. Brake chamber leakage seemed to be the primary cause.

On 22 February 2012, New Flyer attended the testing lab for MGM in an effort to replicate the failures. The following items remained as a focus, slack adjuster geometry, interlock function combined with park brake application and the affects of the assembly grease used in the chamber manufacture.

MGM also disclosed at this time that there had been an internal design modification to the MGM spring brake chambers which was incorporated into their production in November of 2010. The original design had a single lip seal and an O-ring guiding the piston within the bore of the chamber. The new design, replaced the seal and o-ring with a single larger integrated guide (seal). This design was proven to provide better sealing qualities at lower ambient temperatures (approaching -40 degrees F) than the original design. As there were no specific changes to the fit, form or function of the brake chamber, no changes to the component part number were made nor were any notifications sent to the end user.

MGM also made a decision to revert back to the original brake chamber design in December of 2011, once again no notifications were sent to end users. The concept of replacing the new brake chamber design with the exiting brake chamber design is explored, while continuing to review vehicle programming changes (modification of retarder function, interlock application and pressure, and anti-rollback features) and the incorporation of brake monitoring systems.

On 28 Feb 2012 New Flyer issues an instruction (ITS4919) to this customer to inspect and replace all rear brake chambers within specified date codes.

In March of 2012 New Flyer receives reports of hot brake incidents from four more customers. One of these is has vehicle with a disk brake design. Root cause analysis is conducted to determine if these events are related to the original. MGM commits to supplying replacement brake chambers of the original design for these campaigns.

Between April and June of 2012, two more disk brake equipped customers report hot brake conditions. New Flyer develops instructions to replace the brake chambers on disk brake equipped models. New Flyer and MGM review shipping and production records in order to determine which New Flyer customers are potentially effected during that year of production.

Final approval of both the instructions is delayed by customer approval process. ITS5094 was created for disk brakes for date codes from 112310 to 120611 (November 23 2010 to December 6, 2011), and ITS5095 was created for drum brakes for date codes from, 011211 to 121311 (January 12, 2011 to December 13, 2011). Both instructions are finalized and released in September of 2012, during the interim two more customers report hot brake events.

October 2012, New Flyer decides to declare recall and conduct inspections on all vehicles and fleets which were in production during the applicable time frame to determine if the brake chambers require replacement. The current listing includes 1494 buses bound for US consumers, and although it is anticipated that only 67% of these will actually have the suspect components installed, more vehicle may be added to the listing pending results of the inspections in the field.

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.

Vehicles built within a specific date range will be inspected to determine the date coding on the rear (and center) axle brake chambers to determine if the brake chambers require replacement. Those disk brake chambers which were manufactured by MGM with date codes from 112310 to 120611 (November 23 2010 to December 6, 2011), and those drum brake chambers manufactured by MGM with date codes from, 011211 to 121311 (January 12, 2011 to December 13, 2011) will be replaced.

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

MGM disk brake chambers (MGM part number MJB2024ET758) manufactured with date codes from 112310 to 120611 (November 23 2010 to December 6, 2011), and drum brake chambers (MGM part numbers MJS3024ET115 and MJS3024ET116) manufactured with date codes from, 011211 to 121311 (January 12, 2011 to December 13, 2011) will be replaced.

Identify 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.

New Flyer began receiving the originally designed brake chambers (correction for recall) for use in production in December of 2011.

VI. Identify the Recall Schedule

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.

Recall notifications to owners will be sent out within 10 days of notification receipt of this document from the NHTSA Recalls Office, and the assignment of the Recall Code. New Flyer and MGM are currently already engaged recall preventative actions at many of our customer locations. At this time, of the 2233 chambers shipped to New Flyer approximately 57% have been identified and replaced.

VII. Furnish Recall Communications

9. 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 electronically or by Fax (202-366-7882) for review prior to mailing.*

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