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DEFECTS INVESTIGATION
RECALL MGMT DIV.

NEW FLYER

2 January, 2008

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

08V-010
(12 pages)

Subject: **Safety Recall – Stainless Steel Hydraulic tubes with 90º Flanged Fittings.**

Dear Mr. Person:

This letter is written to inform you of New Flyer Industries' intention to recall all stainless steel hydraulic tubes with a 90º flanged fittings. These tubes were designed by New Flyer and manufactured by two different suppliers during the 2006 – 2007 production periods.

The defect was determined after a high failure rate of these tubes on newly delivered vehicles. Failure of these tubes has already resulted in one minor fire in the vehicle engine compartment. Therefore, failure of the hydraulic lines in this fashion can result in vehicle fire.

Post failure examination, and testing of the failed lines as well as new stock, indicated that the process of manufacturing the part to the New Flyer design, resulted in the creation of micro cracks at the 90º flanged fitting on the tube. Also, metallic slag resulting from the formation of the flange during the manufacture process, prevents the fitting from creating a proper seat or seal.

The correction involves the replacement of all stainless steel lines installed which have the 90º flanged fitting, with a previously proven design (flexible hydraulic lines).

The recall population was based on the production Bill of Materials from our engineering database. The subject steel lines could be individual or part of an assembly. Individual lines and assemblies containing a line with the 90º flanged fitting, which would be replaced with a single line, will be retrofitted under warranty with flexible hydraulic lines.

Headquarters/ Winnipeg Facility
711 Kernaghan Avenue
Winnipeg, Manitoba
R2C 3T4 Canada
Ph: (204) 224-1251
Fx: (204) 224-0551
E: bussales@newflyer.com

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

New Jersey Service Support Center
808 Garfield Avenue
Jersey City, New Jersey
07305-4423 USA
Ph: (201) 369-1200
Fx: (201) 369-0345

New Product Development
Unit 7, 45 Beghin Avenue
Winnipeg, Manitoba
R2J 4B9 Canada
Ph: (204) 982-8413
Fx: (204) 654-4941

Crookston Facility
214 5th Avenue SW
Crookston, Minnesota
56716 USA
Ph: (218) 281-5752
Fx: (218) 281-5672

St. Cloud Facility
6200 Glenn Carlson Drive
St.Cloud, Minnesota
56301 USA
Ph: (320) 203-0576
Fx: (320) 203-0584

www.newflyer.com

These lines were introduced into production in 2006, as a means of standardizing line routing, and reducing the wear effects of expansion and vibration on flexible lines.

New Flyer will contact the customers who purchased these buses with parts and instructions on how to complete this recall.

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

If you have any further questions please contact me.

Sincerely,

Kerry Legg
Safety & Compliance Manager
Customer Services Head Office

cc: H. Peper, C. Murray, A. Farrant, D. Bean, S. Halbesma, T. Sutherland

Attachments: 573 Defect Report,
Sample Letter to Customer,

Safety Defect and Noncompliance Report Guide for Vehicles

PART 573 Defect and Noncompliance Report[1]

On 17 December 2007, 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: 2 January 2008

Furnish the manufacturer's identification code for this recall (if applicable): N/A

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

Customer Services Head Office

25 DeBaets St.,

Winnipeg, MB Canada

R2J 4G5

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

Mr. Kerry Legg

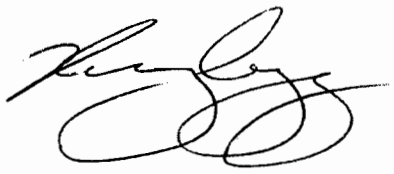
Safety & Compliance Manager

Telephone Number: (204) 934-4876 **Fax No.:** (204) 224-0248

Name and Title of Person who prepared this report.

Same as above.

Signed:



[1]Each 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, *for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide*:

Make(s): New Flyer **Model Years Involved**: 2006 -2007 **Model(s):** C40LFR

Production Dates: **Beginning**: Nov 2006 **Ending**: Dec 2007

VIN Range: **Beginning**: 030312 **Ending**: 030374

VIN Range: **Beginning & Ending**: 030546

VIN Range: **Beginning & Ending**: 031723

VIN Range: **Beginning**: 032164 **Ending**: 032300

Vehicle Type: Heavy Duty Transit Bus **Body style**: Compressed natural gas 40 foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2007 **Model(s):** DE35LF

Production Dates: **Beginning**: Nov 2007 **Ending**: Dec 2007

VIN Range: **Beginning**: 032595 **Ending**: 032604

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel Electric 35 foot Low Floor

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2007 **Model(s):** D35LFR

Production Dates: **Beginning**: Sep 2007 **Ending**: Oct 2007

VIN Range: **Beginning**: 032340 **Ending**: 032355

VIN Range: **Beginning**: 032361 **Ending**: 032364

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel 35 foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2007 **Model(s):** D61LFR

Production Dates: **Beginning**: Oct 2007 **Ending**: Dec 2007

VIN Range: **Beginning**: 032586 **Ending**: 032594

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel 61 foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2006 - 2007 **Model(s):** D40LF

Production Dates: **Beginning**: Jul 2006 **Ending**: Present

VIN Range: **Beginning**: 030317 **Ending**: 030330

VIN Range: **Beginning**: 030342 **Ending**: 030350

VIN Range: **Beginning**: 030526 **Ending**: 030536

VIN Range: **Beginning**: 030749 **Ending**: 030757

VIN Range: **Beginning**: 030789 **Ending**: 030912

VIN Range: **Beginning**: 031404 **Ending**: 031467

VIN Range: **Beginning**: 031492 **Ending**: 031512

VIN Range: **Beginning**: 031728 **Ending**: 031780

VIN Range: **Beginning**: 031791 **Ending**: 032046

VIN Range: **Beginning**: 032564 **Ending**: 032585

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel 40 foot Low Floor

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2006 - 2007 **Model(s):** D35LF

Production Dates: **Beginning**: Jul 2006 **Ending**: Jul 2007

VIN Range: **Beginning**: 030314 **Ending**: 030316

VIN Range: **Beginning & Ending**: 031993

VIN Range: **Beginning**: 032157 **Ending**: 032158

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel 35 foot Low Floor

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2006 - 2007 **Model(s):** D40LFR

Production Dates: **Beginning**: Aug 2006 **Ending**: Aug 2007

VIN Range: **Beginning**: 030339 **Ending**: 030341

VIN Range: **Beginning**: 031523 **Ending**: 031546

VIN Range: **Beginning**: 031549 **Ending**: 031600

VIN Range: **Beginning**: 031724 **Ending**: 031727

VIN Range: **Beginning**: 032308 **Ending**: 032323

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel 40 foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2006 **Model(s)**: DE41LF

Production Dates: **Beginning**: Dec 2006 **Ending**: Jan 2007

VIN Range: **Beginning**: 030934 **Ending**: 030943

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel Electric 41 foot Low Floor

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

Make(s): New Flyer **Model Years Involved**: 2006 - 2007 **Model(s)**: DE41LFR

Production Dates: **Beginning**: Jul 2006 **Ending**: Jun 2007

VIN Range: **Beginning**: 030169 **Ending**: 030211

VIN Range: **Beginning**: 030986 **Ending**: 030989

VIN Range: **Beginning**: 031119 **Ending**: 031148

VIN Range: **Beginning**: 031248 **Ending**: 031287

VIN Range: **Beginning**: 031603 **Ending**: 031606

Vehicle Type: Heavy Duty Transit Bus **Body style**: Diesel Electric 41 foot Low Floor Restyled

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall: Recalled vehicles have the following stainless steel hydraulic lines or hydraulic line assemblies installed, New Flyer Part Number 279951, and assembly part number combinations 298746 - 298716, 307432 - 307339, 321287 - 298716 and 289118 - 303051.

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.

43.2%

II. Identify the Recall Population

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

Model	Year	Number of Vehicles Potentially Involved
C40LFR	2006 -2007	202
DE35LF	2007	10
D35LFR	2007	20
D61LFR	2007	9
D40LF	2006 -2007	572
D35LF	2006 -2007	6
D40LFR	2006 -2007	99
DE41LF	2006	10
DE41LFR	2006 -2007	121

Total Number Potentially Affected by the Recall: 1049

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

100%

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 recall population consists of all bus models containing the following parts as installed in the New Flyer Production, Bill of Materials:

New Flyer part number 279951; and

New Flyer assembly part number combinations:

298746 – 298716;

307432 – 307339;

321287 – 298716; and

289118 – 303051.

This campaign effects all stainless steel hydraulic lines that either have a 90 degree flange fitting, or as part of an assembly is containing a line with a 90 degree flange fitting, where the assembly will be replaced by a single line.

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.

Due to unexpectedly high rate of failure in the field for a newly designed stainless steel hydraulic tubes with 90º flanged fittings located in the vehicle engine compartment, the tubes were inspected at a local test facility. Inspection of new 90º flanged tube revealed two major manufacturing flaws, micro-cracking at the flange, as well as excessive steel slag build up on the sleeve side of the flange face. The steel build up on the flange prevents a uniform seating of the sleeve, and focuses the stress at two points which then act as a hinge point to focus any hydraulic line pressure to one area on the flange. This pressure acts upon the micro-cracks in the flange, resulting in a failure of the tube in a short time period.

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

Design and manufacturing defects have been discovered in stainless steel tubes with 90º flanged fittings.

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

Failure of the stainless steel hydraulic lines could introduce high pressure hydraulic fluid spray into the engine compartment. High pressure spray contacting hot surfaces could result in a fire in the engine compartment.

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

None.

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

Oriskany Manufacturing Technologies
1914 Dwyer Ave., Utica, NY 13502

and

Spiral Manufacturing Company Inc.
11419 Yellowpine St. NW, Minneapolis, MN 55448

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

Oriskany - David Pellegrini, VP of Business Development

Spiral - Dave Jackson, Sales Engineer

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 March 2007 there were three reported failures of stainless steel hydraulic lines on new production vehicles. A campaign was initiated to replace these lines in the field. Failed lines and new product were sent for analysis. Lab results discovered several manufacturing flaws, and it was determined that a 90º flanged fitting was not the best design for this application.
In August of 2007, a failure of a different stainless steel tube with a 90º flanged fitting on a customer vehicle, resulted in a minor fire in the engine compartment. The field campaign was expanded. This event, in concert with the lab results called for a complete engineering review of all stainless steel tube designs currently in use. It was determined that only those tubes with 90º flanged fittings were suffering the same failure mode.
In November 2007after a full review of the lab results, all production changed back to flexible lines to replace the tubes with the 90º flanged fitting, and to expand the field campaign to replace all tubes with the 90º flanged design.
In December 2007, it was decided that NHTSA should be notified that a recall campaign was in progress.

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.

Subject stainless steel hydraulic lines will be replaced the previously proven design consisting of flexible lines.

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

The replacement flexible hydraulic fluid lines incorporate Aeroquip fittings which have a proven track record in previous design.

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.

Flexible hydraulic lines were reincorporated into all production in late 2007 to replace lines with a 90º flanged fitting, and will be original equipment on some of the recall population as they were in mid production at the time the issue was determined.

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.

New Flyer is already actively replacing these lines on delivered vehicles with approved product. 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.

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.

SAMPLE LETTER.

NEW FLYER

XX January, 2008

<<Name>>
<<Title>>
<<Property Name>>
<<Address 1>>
<<Address 2>>

Re: **Recall 08V-XXX – Stainless Steel Hydraulic Line Replacements**

Dear **<<Name>>,**

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

New Flyer has decided that a defect which relates to motor vehicle safety exists in certain New Flyer transit vehicles. Further investigation has revealed that the following vehicles, operated by **<<Property Name>>** are affected:

Make: New Flyer Transit Vehicle

Model: **<<Model>>**

VIN Range (last 6 digits): **XXXXXX** to **XXXXXX**.

New Flyer has determined that certain models of bus have stainless steel hydraulic lines with 90° flange fittings which are subject to failure due to errors in both the design and manufacture of these lines.

Failure of these lines, located in the engine compartment, could result in vehicle fire.

New Flyer proposes to remove these lines and incorporate the previously proven design of flexible line. This corrective action will be done at no cost to you.

We regret any inconvenience which this action may cause you, however, we are concerned about your safety. For specific information or assistance with regards to this defect, contact either your Regional Product Support Manager **<<RPSM>>**, or New Flyer Customer Services at (204) 934-4874. If you no longer own this vehicle, please inform us when you call.

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

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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

Federal regulations require that any vehicle lessor receiving this notice, must forward a copy of this notice to the lessee within ten days.

This recall is being managed by New Flyer. Parts and labor required to accomplish the recall in accordance with an Instruction to Service (ITS**XXXX**) will be provided. The line replacement action should take approximately two hours per vehicle to complete.

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. For more information please contact the New Flyer Warranty Department at (204) 934-4803.

If we fail, or we are unable to remedy this defect without charge and within a reasonable time, you may submit a written compliant to:

Administrator
National Highway Traffic Safety Administration
400 Seventh Street, SW
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 .

Thank you for your attention to this important matter.

Sincerely,

Kerry Legg
Safety & Compliance Manager
Customer Service Support

cc: **<<RPSM>>**, Hans Peper, Cliff Murray, Don Bean, Scott Halbesma, Todd Sutherland.

Attachment: Instruction to Service ITS**XXXX**