Part 573 Safety Recall Report 18V-155

Manufacturer Name : New Flyer of America Inc.
Submission Date : APR 12, 2018
NHTSA Recall No. : 18V-155
Manufacturer Recall No. : R18-002

Manufacturer Information :

Manufacturer Name : New Flyer of America Inc.
Address : 711 Kernaghan Avenue
Winnipeg, MB Canada 00 R2C3T4
Company phone : 204-224-6706

Population :

Number of potentially involved : 997
Estimated percentage with defect : 40 %

Vehicle Information :

Vehicle 1 : 2017-2017 New Flyer XD35
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : DIESEL
Descriptive Information : Diesel Thirty Five Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : APR 12, 2017 - APR 20, 2017
VIN Range 1 : Begin : 5FYD8KV13HC051042 End : 5FYD8KV12HC051047 ☐ Not sequential

Vehicle 2 : 2017-2017 New Flyer XD40
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : DIESEL
Descriptive Information : Diesel Forty Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : APR 10, 2017 - MAY 02, 2017
VIN Range 1 : Begin : 5FYD8FV14HC051106 End : 5FYD8FV13HC051114 ☐ Not sequential

Vehicle 3 : 2017-2017 New Flyer XDE35
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : HYBRID ELECTRIC
Descriptive Information : Diesel Electric Hybrid Thirty Five Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : MAR 10, 2017 - AUG 14, 2017

VIN Range 1 : Begin : 5FYH8KR19HC050960 End : 5FYH8KR10HF051946 ☑ Not sequential

Vehicle 4 : 2016-2018 New Flyer XDE60
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : HYBRID ELECTRIC
Descriptive Information : Diesel Electric Hybrid Sixty Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : JAN 05, 2017 - MAR 07, 2018
VIN Range 1 : Begin : 5FYH8YU16GB049683 End : 5FYH8YU05JC053216 ☑ Not sequential

Vehicle 5 : 2016-2018 New Flyer XDE40
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : HYBRID ELECTRIC
Descriptive Information : Diesel Electric Hybrid Forty Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : JUN 14, 2016 - FEB 16, 2018
VIN Range 1 : Begin : 5FYH8FR15GB049266 End : 5FYH8FU18JB052886 ☑ Not sequential

Vehicle 6 : 2016-2017 New Flyer XD60
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : DIESEL
Descriptive Information : Diesel Sixty Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : JUL 25, 2016 - DEC 26, 2017
VIN Range 1 : Begin : 5FYD8YU10GB049659 End : 5FYD8YU1XHB051758 ☐ Not sequential

Vehicle 7 : 2016-2017 New Flyer XN60
Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES
Body Style : OTHER
Power Train : CNG/LPG
Descriptive Information : Compressed Natural Gas Sixty Foot Heavy Duty Urban Transit Bus. Recall population based on supplier shipping records and New Flyer vehicle production records. Non recalled products may have different part numbers and are visibly different.
Production Dates : AUG 17, 2016 - MAY 19, 2017
VIN Range 1 : Begin : 5FYC8YC17GB049879 End : 5FYC8YC10HB051426 ☑ Not sequential

Description of Defect :

Description of the Defect :	Drive shaft slip yokes failing.
FMVSS 1 :	NR
FMVSS 2 :	NR
Description of the Safety Risk :	Failure of the drive shaft would result in loss of motive power, increasing the risk of a rear-end collision. Additionally, in a transit bus application, loss of motive power may result in passenger unloading concerns, on or near a busy roadway. Due to the vehicle driveshaft cage and steel reinforcements, the projectile risk from a drive shaft failure has been mitigated.
Description of the Cause :	In late 2016 New Flyer's drive shaft supplier began to modify the drive shaft slip yokes which they purchase from several sub-suppliers. The modification was a change from a mild steel end cap, to a plastic end cap on the slip yoke. This required the slip yoke to be re-bored wider than the design originally required for the steel end cap. This resulted in very thin sidewalls on the slip yoke at the newly bored hole. The thinner sidewalls are subject to stress fractures and fatigue cracking, and are therefore prone to premature failure.
Identification of Any Warning that can Occur :	Prior to failure, stress cracks may be visible on the slip yoke during a maintenance inspection.

Supplier Identification :

Component Manufacturer

Name :	Prop Shaft Supply, Inc.
Address :	969 Koopman Lane Elkhorn WISCONSIN 53121
Country :	United States

Chronology :

On 12 January 2018, New Flyer was advised by one customer that four drive shafts had failed prematurely on recently delivered buses. The failed components were shipped to the drive shaft supplier for analysis with a SCAN (Supplier Corrective Action Notice) issued by New Flyer.
On 22 January 2018, New Flyer was advised of a similar failure at another customer location involving an aftermarket drive shaft from the same supplier. These parts were also sent to the supplier for analysis.
On 29 January 2018, New Flyer became aware of failure on recent production vehicle at a third customer, this drive shaft was shipped to New Flyer technical services for examination. New Flyer then arranged for failed drive shafts to be sent to an independent lab for analysis. These three customer failures involved drive shafts with different part numbers but from the same supplier, and all displaying the same failure mode.
On 5 February 2018, New Flyer engineering initiated an A3 problem solving process that determined it was the slip yoke of the drive shaft, a part which is common to many drive shaft assemblies, which had failed in all three drive shaft installations. This included a complete fleet inspection at the customer site of the first failures

reported.
On 23 February 2018 New Flyer presented their findings to that customer, to include the supplier and independent analysis. The findings determined that the failed slip yokes had been re-bored to accommodate a different style of end-cap (plastic vs. mild steel). Five separate New Flyer drive shaft Part Numbers were identified as having the suspect slip yokes. However, only two of those Part Numbers had been used in production since the supplier's first shipments of the parts in January of 2017.
On 28 February 2018, New Flyer determined that these failures were worthy of declaring a safety recall.
6 Apr 18 Prop Shaft Supply advises an additional part number which requires inspection. Recall population expanded by 474 vehicles.

Description of Remedy :

Description of Remedy Program :	Inspect and identify if the vehicle drive shaft has a slip yoke with a plastic end-cap. If suspect slip yoke found installed, replace drive shaft. For New Flyer production vehicles, the supplier will provide drive shafts for replacement if required at no cost, as well as the labor to inspect and replace the shaft. For aftermarket parts sales, if the suspect slip yokes are found, free replacement drive shafts will be made available.
How Remedy Component Differs from Recalled Component :	The following New Flyer part numbers which entered the manufacturing part stream after 1 January 2017 are subject to inspection and recall; PN 458521, and PN 540795. If the suspect component has a mild steel cap, it is not subject to recall. The supplier has options available for replacement of the slip yokes with the plastic caps. The replacement slip yokes are visibly different than the recalled components. On 6 Apr Prop Shaft Supply added Part Number 451210 to the recall listing for 474 driveshafts supplied between 09 Dec 2016 and 01 August 2017.
Identify How/When Recall Condition was Corrected in Production :	All buses with the suspect part numbers, shipped from a New Flyer manufacturing facility after 8 March 2018 will have been inspected and are certified as correct.

Recall Schedule :

Description of Recall Schedule :	Recall notifications for New Flyer production buses will be sent out once the sample letter has been approved by the ODI. Letters to aftermarket parts customers will also be sent during that same time period identifying the purchase order and providing inspection instructions.
Planned Dealer Notification Date :	MAR 21, 2018 - MAR 30, 2018
Planned Owner Notification Date :	MAR 21, 2018 - APR 18, 2018

* NR - Not Reported