



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION



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Investigation:	PE 14-006	Date Closed:	05/22/2015
Date Opened:	03/10/2014	Reviewer:	Bruce York-B
Investigator:	Robert Young		
Approver:	Stephen Ridella		
Subject:	Motorcycle steering lockup		

MANUFACTURER & PRODUCT INFORMATION

Manufacturer:	POLARIS INDUSTRIES, INC., Polaris Industries, Inc.
Products:	2008-2015 Vision
Population:	7,337
Problem Description:	Back half of two-piece front fender separates interfering with steering control.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	13	22	35
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0

ACTION / SUMMARY INFORMATION

Action: Close this PE

Summary:

This Preliminary Evaluation (PE14006) was opened after NHTSA became aware of alleged steering lockup involving Victory Vision motorcycles built by Polaris Industries, Inc. (Polaris). This issue has been the subject of numerous online forum posts by the filer of VOQ 10534733. Both the VOQs and forum posts (from all sources) formed the foundation of our investigation.

The subject motorcycles are equipped with a two-piece, plastic, front fender. The back half (the all-black portion in the photo below) is secured to the fork with a single fastener on each side. It is secured to the front half of the fender with two plastic pushpins. The back half of the subject 2-piece fender is alleged to cause steering lockup when it partially separates and becomes wedged in the lower fairing.

We have expanded the PE's original scope to include the MY2014 and 2015 Visions because (1) these bikes came on-line after we opened this investigation and (2) the subject fender remains unchanged. Since its introduction in May, 2007, Polaris has produced 7,337 Visions (and trim derivatives). In the 8 years since, we are aware of 35 incidents of partial fender separation wherein the fender "wedged" in the lower fairing opening. None of the incidents involved a crash.

During testing, with the fender both wedged in the lower fairing and with it pinned in the seam joining the right and left lower fairing halves, we noted a "notchy" steering feel but no steering lock-up. At no time was steering control lost in either circumstance (wedged and/or pinned). When the front forks were rotated at angles greater than 10 degrees, and vehicle speed was, by necessity, below 10mph we noted an increase in steering effort that was easily manageable. This is consistent with the results of Polaris' testing where steering effort increased at steering angles beyond ten degrees. Such steering angles were only reasonably obtainable at speeds below ten mph.

Polaris concluded that a fender separation of the type owners allege, does not represent an unreasonable risk to motor vehicle safety, but does compromise owner satisfaction. Consequently, on April 28, 2015, Polaris advised the agency that it decided to undertake a consumer satisfaction campaign to improve fender durability on all MY 2008-15 Victory Vision motorcycles regardless of mileage, time in service, or ownership status. Owners will receive notification

of this campaign by June 20, 2015. A copy of Polaris' April 28, 2015 letter to us about this program is in the public file for this PE.

In light of the low risk to motor vehicle safety as a result of displaced fenders, and Polaris's actions to reduce the likelihood of fender interference through a consumer satisfaction campaign, further use of agency resources does not appear to be warranted. The closing of this investigation does not constitute a finding by NHTSA that no safety-related defect exists. The agency reserves the right to take further action if warranted by the circumstances.

For additional detailed information on this investigation, see the attached closing report.

The ODI complaints cited above can be reviewed at www-odi.nhtsa.dot.gov/owners/SearchNHTSAID under the following (ODI) numbers: 10534913, 10535066, 10430546, 10469285, 10468997, 10592181, 10585428, 10534743, 10597031, 10535938, 10594160, 10594161, 10606364

1.0 BACKGROUND

This Preliminary Evaluation (PE14006) was opened after NHTSA became aware of alleged steering lockup involving Victory Vision motorcycles built by Polaris Industries, Inc. (Polaris). This issue has been the subject of numerous online forum posts by the filer of VOQ 10534733. Both the VOQs and forum posts (from all sources) formed the foundation of our investigation.

2.0 ODI ACTIVITY

Since opening this investigation, we:

- Reviewed related postings on Victory Vision-specific web forums;
- Discussed the issue with service and parts personnel at Victory retail dealers;
- Interviewed owners who filed a related complaint with us and/or Polaris;
- Met with owners, inspected their motorcycle, and obtained their broken fender;
- Met with Polaris engineering staff on May 19th in Wyoming, MN to discuss the issue. While there, rode a subject vehicle with a “wedged” fender duplicating the on-road testing Polaris reported to ODI;
- Reviewed Polaris’ EWR filings for relevant information;
- Reviewed peer vehicle complaints;
- Reviewed history of safety recalls related to increased steering effort and/or steering interference;
- Reviewed Polaris’ response to our March 18, 2014 Information Request

3.0 THE VEHICLE

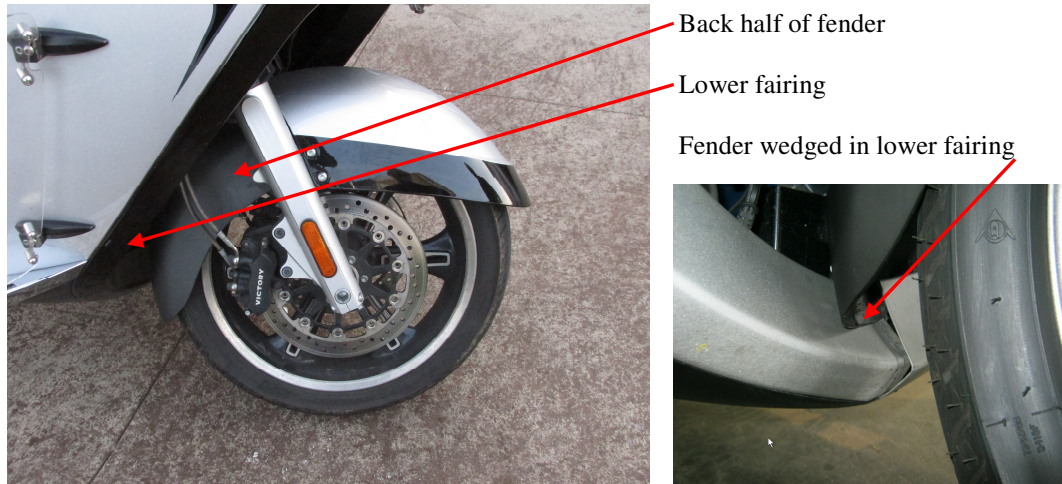
Officially launched by the Victory Division of Polaris in Bombardier Recreational Products (BRP) as a 2008 model in February, 2007, the Vision is a touring motorcycle equipped with hard saddlebags and a tail trunk.



4.0 THE ISSUE

The subject motorcycles are equipped with a two-piece, plastic, front fender. The back half (the all-black portion in the photo below) is secured to the fork with a single fastener on each side. It is secured to the front half of the fender with two plastic pushpins.

The back half of the subject 2-piece fender is alleged to cause steering lockup when it partially separates and becomes wedged in the lower faring.



5.0 OWNER COMPLAINTS

NHTSA has received 30 owner reports detailing a subject fender problem. Seventeen of these involved cracked fender material and other owners concerned they might have a future failure. The remaining 13 report the fender became "wedged" in their bike's lower fairing.

Polaris identified 125 consumer complaints and field reports within the scope of our Information Request. Based on our owner interviews, 22 of these actually involved incidents of displaced fenders positioned between the lower fairing and vehicle battery.

When interviewed, 20 owners claimed the steering "locked" when the subject fender became wedged in the lower fairing opening. Most went on to say that they were then able to maneuver the machine to the roadway shoulder, an outcome that would be impossible if the steering truly "locked." During our May 19th test ride, with the fender both wedged in the lower fairing and with it pinned in the seam joining the right and left lower fairing halves, we noted a "notchy" steering feel but no steering lock-up. At no time was steering control lost in either circumstance (wedged and/or pinned). When the front forks were rotated at angles greater than 10 degrees, and vehicle speed was, by necessity, below 10mph we noted an increase in steering effort that was easily manageable. This is consistent with the results of Polaris' testing where steering effort increased at steering angles beyond ten degrees. Such steering angles were only reasonably obtainable at speeds below ten mph.

6.0 ODI ANALYSIS

We have expanded the PE's original scope to include the MY2014 and 2015 Visions because (1) these bikes came on-line after we opened this investigation and (2) the subject fender remains unchanged. Since its introduction in May, 2007, Polaris has produced 7,337 Visions (and trim derivatives). In the 8 years since, we are aware of 35 incidents of partial fender separation wherein the fender is "wedged" in the lower fairing opening...none involving a crash. The relatively low occurrence rate appears due to the very specific chain of events which must occur for the fender to become "wedged:"

1. The fender is no longer firmly attached to the fork sliders;
2. The forks are compressed sufficiently to allow the fender's trailing edge to clear the lower fairing chinbar;
3. The fender has rotated sufficiently so that it is positioned between the chinbar and battery; and
4. The forks rebound before the fender moves back to its original position.

Initially concerned about claims of steering lockup, we believe that true "steering lockup" on motorcycles will result in a crash. The fact no crashes have occurred indicates that fender separations in this instance do not result in true steering lockup.

7.0 POLARIS CUSTOMER SATISFACTION PROGRAM

Polaris concluded that a fender separation of the type owners allege, does not represent an unreasonable risk to motor vehicle safety, but does compromise owner satisfaction with its Victory Visions. Consequently, on April 28, 2015, Polaris advised the agency that it decided to undertake a consumer satisfaction campaign to improve fender durability on all MY 2008-15 Victory Vision motorcycles regardless of mileage, time in service, or ownership status. Owners will receive notification of this campaign by June 20, 2015. A copy of Polaris' April 28, 2015 letter to us about this program is in the public file for this PE.

8.0 CONCLUSION

In light of the low risk to motor vehicle safety as a result of displaced fenders, and Polaris's actions to reduce the likelihood of fender interference through a consumer satisfaction campaign, further use of agency resources does not appear to be warranted. The closing of this investigation does not constitute a finding by NHTSA that no safety-related defect exists. The agency reserves the right to take further action if warranted by the circumstances.

The 13 VOQs identified in the resume are:

10534913,10535066,10430546,10469285,10468997,10592181,10585428,10534743,10597031,10535938,10594160,10594161,10606364