

DEPARTMENT OF TRANSPORTATION

Docket No. NHTSA-2016-0113

National Highway Traffic Safety Administration

Denial of Motor Vehicle Defect Petition, DP12-004

AGENCY: National Highway Traffic Safety Administration (NHTSA)

ACTION: Denial of Petition for a Defect Investigation

SUMMARY: This notice describes the reasons for denying a petition (DP12-004) submitted to NHTSA under 49 U.S.C. § 30162, requesting that the agency conduct "a defect investigation into MY 2005-2010 Nissan Pathfinder, Frontier, and Xterra vehicles [the subject vehicles] for automatic transmission failures related to failed transmission coolers."

FOR FURTHER INFORMATION CONTACT: Bob Young, Office of Defects Investigation (ODI), NHTSA; 1200 New Jersey Ave., SE; Washington, DC 20590. Telephone: 202-366-4806.

SUPPLEMENTARY INFORMATION: In support of his petition, received on February 29, 2012, Mr. Mathew Oliver, Director of Operations for the North Carolina Consumers Council, Inc.

(NCCC); alleged the following:

- (1) "During the past six months, five owners of 2005 Xterra vehicles, and one owner of a 2006 Frontier vehicle, reported that they experienced sudden jerking of their vehicle(s) at highway speeds. They report, in all instances, that dealers diagnosed the problem as a failed transmission fluid cooler located in the radiator that allowed coolant to mix with, and contaminate, the automatic transmission fluid resulting in damaged internal transmission components and a damaged internal transmission computer. The complaints report no warning signs leading up to or just prior to the failures";

- (2) "NCCC has learned from website searches, and through the NHTSA website, of many other similar complaints in the subject vehicles. Website data and NHTSA reports usually [report] the same symptoms and lack of warning. Numerous complaints on the NHTSA website note repeat oil [sic] cooler and transmission failures";
- (3) Nissan extended its warranty coverage of subject vehicles' radiator/transmission fluid coolers from 3yrs/36,000 miles to 8yrs/80,000 miles and that this coverage applied only to the radiator/cooler but not to transmissions that may have been damaged as a consequence of cooler failures;
- (4) Nissan extended its warranty coverage of subject vehicles' radiator/transmission fluid coolers from 3yrs/36,000 miles to 8yrs/80,000 miles and that this coverage applied only to the radiator/cooler but not to transmissions that may have been damaged as a consequence of cooler failures. Additionally, Nissan failed to conduct inspections that may have revealed a cooler failure was imminent thus helping consumers avoid a catastrophic transmission failure; and
- (5) A class action lawsuit was filed in 2010 on behalf of clients relating to this alleged defect.

Mr. Oliver concluded his petition by stating, "through our limited investigation into the matter, all of the vehicles experiencing these [transmission] failures are within the 8 year period specified by the extended warranty but are often beyond the 80,000 mile limit. It also appears that the number of reported defects is increasing, which is concerning to say the least. Due to the nature of the reported defect, the severity of the reported failures, the repetitive nature of the

failures and the limited or missing failure warning signs, we believe that an investigation is warranted."

NHTSA has reviewed the material provided by the petitioner and other pertinent data. The results of this review and our analysis of the petition's merit is set forth in the DP12-004 Petition Analysis Report, published in its entirety as an appendix to this notice.

For the reasons presented in the petition analysis report, there is no reasonable possibility that an order concerning the notification and remedy of a safety-related defect would be issued as a result of granting Mr. Oliver's petition. Therefore, in view of the need to allocate and prioritize NHTSA's limited resources to best accomplish the agency's safety mission, the petition is denied.

Authority: 49 U.S.C. § 30162(d); delegations of authority at CFR 1.50 and 501.8.

Issued on:

Jeffrey M. Giuseppe
Acting Associate Administrator for Enforcement

Billing Code 4910-59-P

APPENDIX

Petition ANALYSIS – DP12-004

1.0 INTRODUCTION

On February 29, 2012 the National Highway Traffic Safety Administration (NHTSA) received a letter from Mr. Mathew Oliver, Director of Operations for the North Carolina Consumers Council, Inc. (NCCC); petitioning the agency to conduct "a defect investigation into MY 2005-2010 Nissan Pathfinder, Frontier, and Xterra vehicles [the subject vehicles] for automatic transmission failures related to failed transmission coolers."

Mr. Oliver's letter included the following information:

- (1) "During the past six months, five owners of 2005 Xterra vehicles, and one owner of a 2006 Frontier vehicle, reported that they experienced sudden jerking of their vehicle(s) at highway speeds. They report, in all instances, that dealers diagnosed the problem as a failed transmission fluid cooler located in the radiator that allowed coolant to mix with, and contaminate, the automatic transmission fluid resulting in damaged internal transmission components and a damaged internal transmission computer. The complaints report no warning signs leading up to or just prior to the failures";
- (2) "NCCC has learned from website searches, and through the NHTSA website, of many other similar complaints in the subject vehicles. Website data and NHTSA reports usually [report] the same symptoms and lack of warning. Numerous complaints on the NHTSA website note repeat oil [sic] cooler and transmission failures";
- (3) Nissan extended its warranty coverage of subject vehicles' radiator/transmission fluid coolers from 3yrs/36,000 miles to 8yrs/80,000 miles and that this coverage applied only to the radiator/cooler but not to transmissions that may have been damaged as a consequence of cooler failures;

- (4) Nissan extended its warranty coverage of subject vehicles' radiator/transmission fluid coolers from 3yrs/36,000 miles to 8yrs/80,000 miles and that this coverage applied only to the radiator/cooler but not to transmissions that may have been damaged as a consequence of cooler failures. Additionally, Nissan failed to conduct inspections that may have revealed a cooler failure was imminent thus allowing consumers avoid a catastrophic transmission failure; and
- (5) A class action lawsuit was filed in 2010 on behalf of clients relating to this alleged defect.

Mr. Oliver concluded his petition by stating, "Through our limited investigation into the matter, all of the vehicles experiencing these [transmission] failures are within the 8 year period specified by the extended warranty but are often beyond the 80,000 mile limit. It also appears that the number of reported defects is increasing, which is concerning to say the least. Due to the nature of the reported defect, the severity of the reported failures, the repetitive nature of the failures and the limited or missing failure warning signs, we believe that an investigation is warranted."¹

In analyzing the petitioner's allegations and preparing a response, we:

- Reviewed the petitioner's letter, received on February 29, 2012.
- Reviewed the NCCC website for additional information.
- Reviewed 2,505 individual complaints filed in our consumer complaint database through September 13, 2016.
- Reviewed individual vehicle Carfax information to determine ownership and service histories.

¹ Mathew Oliver, to Administrator, National Highway Traffic Safety Administration, Washington, DC, 29 February 2012, page 2.

- Reviewed vehicle manufacturer information concerning relevant extended warranty programs.
- Reviewed vehicle manufacturer technical information concerning transmission operation.
- Reviewed vehicle manufacturer technical information concerning transmission control module (TCM) and engine control unit (ECU) functional relationship, including transmission related fault codes triggering an illuminated "malfunction indicator lamp."
- Reviewed various ODI safety defect investigations related to engine stalling and loss of motive power (LOMP).
- Gathered and reviewed information related to the class action lawsuit cited by the petitioner.
- Reviewed vehicle production quantity information from Nissan.
- Interviewed owners, in person and by telephone, about their experience with related transmission failures.
- Test drove subject vehicles where transmission fluid and engine coolant were co-mingled and transmission problems were evident and unresolved.
- Interviewed Nissan dealer service staff about the subject issue.
- Interviewed independent transmission repair shop staff about the subject issue.
- In an effort to learn more about the transmission coolant tank failures, ODI secured the services of NHTSA's Vehicle Research and Test Center (VRTC). VRTC did the following:

A. Interviewed subject vehicle owners and test drove their vehicles; and

B. Conducted a root cause analysis to determine why subject fluid cooler tanks were failing.

Based on our analysis of the information gathered during this comprehensive effort, it does not appear there is a reasonable possibility that an order concerning the notification and remedy of a safety-related defect would be issued as a result of granting Mr. Oliver's petition. Therefore, in view of the need to allocate and prioritize NHTSA's limited resources to best accomplish the agency's safety mission, the petition is denied.

2.0 SUBJECT VEHICLES

The subject vehicles are all MY 2005-10 Nissan Pathfinder, Frontier, and Xterra vehicles equipped with a RE5R05A 5-spd, electronically controlled, automatic transmission. Nissan produced 857,432 subject vehicles for sale in the United States.

3.0 SUBJECT TRANSMISSION COOLING SYSTEM

The subject vehicles are equipped with a transmission fluid cooler. The cooler, a cylindrical tank located within the radiator and submerged in engine coolant, acts as a heat exchanger. Hot transmission fluid flows from the transmission to, and through, the tank where it is "cooled" before returning to the transmission. The tank is not visible unless the radiator is disassembled.

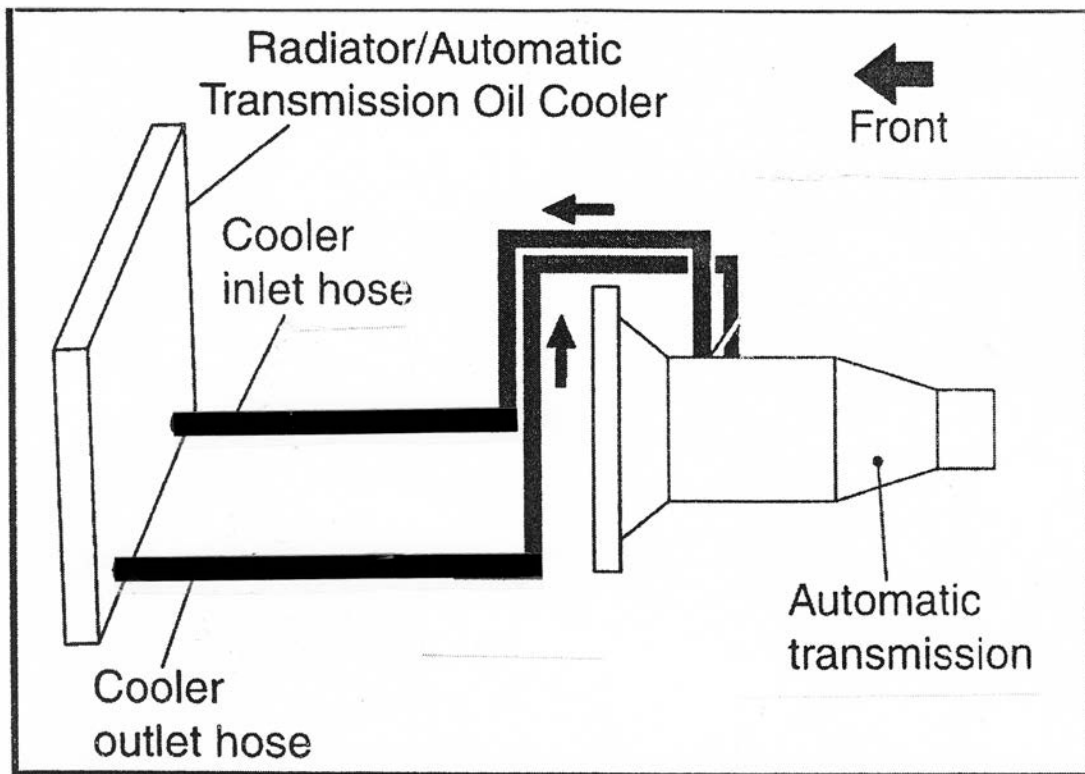


Figure 1 – Subject transmission cooling system - fluid flow schematic

4.0 THE ALLEGED DEFECT

The petitioner alleges that consumers are experiencing a subject transmission performance issue due to co-mingling of engine coolant and automatic transmission fluid (ATF) occurring when the ATF cooling tank fails.

5.0 ROOT CAUSE

NHTSA's Vehicle Research and Test Center (VRTC) in East Liberty, OH was tasked with conducting an assessment to determine why ATF and engine coolant were co-mingling. VRTC's final report, documenting this work, was filed on May 30, 2013.²

5.1 MY2005 Nissan Pathfinder, VOQ 10415028

The owner of a 2005 Nissan Pathfinder filed VOQ #10415028, including the following summary:

"TRANSMISSION STARTED SLIPPING STARTED JERKING WHILE DRIVING, ALSOSOUNDED LIKE TIRES WERE MAKING NOISE ESPECIALLY AROUND 40 MPH. I WAS DRIVING ON RT 62 NEAR MY HOME AND WAS VERY FORTUNATE NOT BEING T-BONED AS A PULLED OUT,MY PATHFINDER DIDN'T GO LIKE IT WAS SUPPOSED TO, FORTUNATELY THE ONCOMING VEHICLE STOPPED. I TOOK IT TO A NISSAN DEALER AND THEY SAID THAT THE 2005,2006,2007 PATHFINDER WERE KNOWN TO HAVE AN ISSUE WITH THE COOLER FAILING AND BREAKING DOWN THE TRANSMISSION AND THAT THEY KNEW ABOUT THE FAULTY COOLER FOR ALONG TIME. NISSAN SAID THEY INCREASED THE WARRANTY FROM 60,000 TO 80,000 BUT OTHER THAN THAT THEY HAVE DONE NOTHING. AND DIDN'T INFORM THE PUBLIC. MY FAMILY

² FINAL REPORT: DP12-004 "Inspections and Tests of Engine Coolant Radiators with Integrated ATF-Temperature-Stabilizing Cylinders from 2005-10 Nissan Light Trucks"; Roger A. Saul, Director, VRTC, May 30, 2013.

AND I, DIDN'T GET HURT OR HURT SOMEONE ELSE, HOWEVER THIS SCENARIO COULD BE VERY DANGEROUS AND NISSAN SHOULD INFORM THE PUBLIC AND RECALL THE TRANSMISSION AND FAULTY COOLER BEFORE DEATHS START HAPPENING."

In a follow-up phone interview, he reported the transmission and radiator were original equipment and that he had the radiator flushed once but was still having problems. He knew about the extended warranty, but his vehicle mileage was beyond the mileage limit. The owner reported that he had not been driving the vehicle for approximately one year.

The owner accepted VRTC's offer of a cost-free tow and free vehicle inspection at his local Nissan dealer. If co-mingled fluid was found, his radiator would be removed and taken to the Center's lab.

However, on the day of the inspection (August 28, 2012), he drove it to the dealership. The vehicle appeared to be in good condition with 126,495 miles on the odometer. At the dealership, the owner discussed his situation. He had replaced the engine coolant and the ATF approximately 12months/40 miles ago. He described transmission slipping, jerking, the tires making chirping noises, and lack of acceleration when needed, such as pulling out onto a highway. He reiterated his concern about the \$6,000.00 estimated repair cost.

VRTC staff removed the radiator cap and found the fluids co-mingled. The radiator was removed and replaced with a new one. Before leaving with the subject radiator, the dealership service manager reported that they find co-mingled fluid in subject vehicles about once or twice per month.

5.2 VRTC root cause finding

At VRTC, the radiator was pressurized and submerged in a tank of water. The radiator bubbled slowly and steadily from the open ATF ports indicating a crossover leak, as shown in Figure 2. When the ATF cooling cylinder was removed and pressurized, a leak was noted just inboard of

the AFT ports, as shown in Figure 3. Figure 4 shows this was due to a fractured interface between the cylinder and the disk that supports the ATF port. This fracture appears to be the result of normal hoop stress on the cylinder in an area that was restrained by the port disk that resulted in a stress concentration and a fatigue fracture.

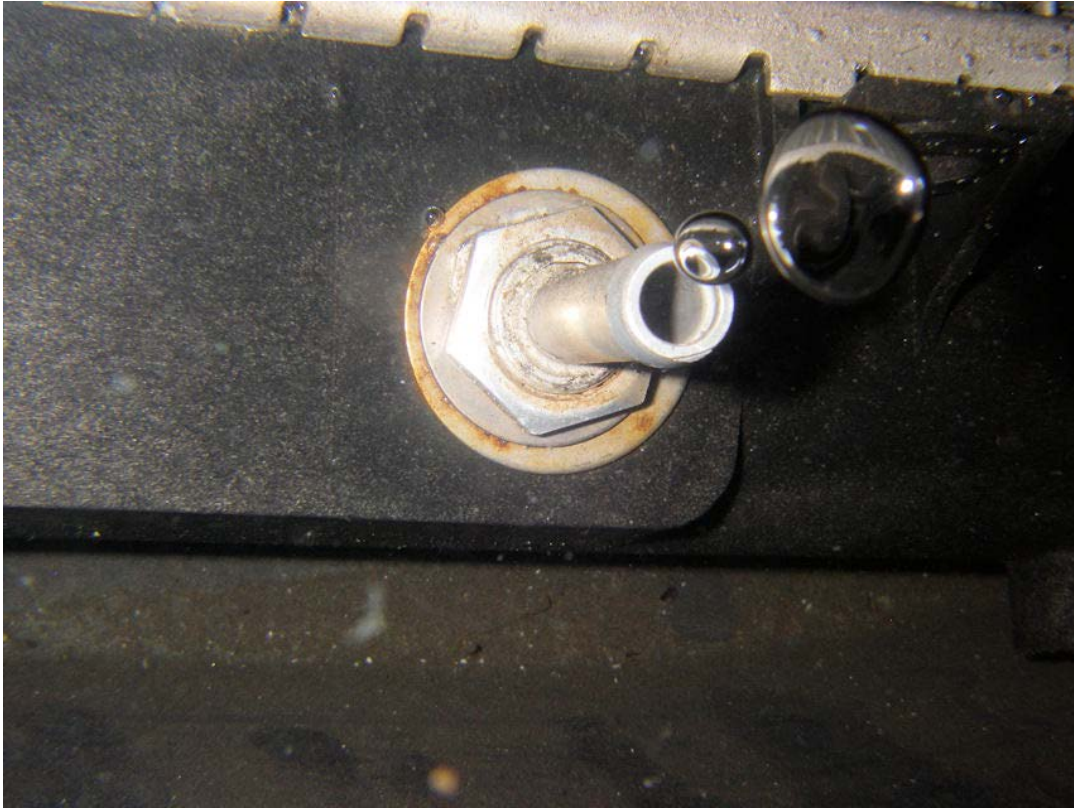


Photo 1 – Crossover leak from the ATF cooling cylinder port



Photo 2 – Leak at left ATF port from submerged cooling cylinder



Photo 3 – The ATF cooling cylinder fracture at 25x magnification

6.0 EFFECT OF CO-MINGLED FLUID ON VEHICLE OPERATION

Co-mingled ATF and engine coolant may affect transmission performance and may cause an engine stall.

6.1 Transmission performance anomalies due to co-mingled fluid

Exposure to co-mingled ATF and engine coolant will have an adverse effect on transmission performance and longevity. Engine coolant (e.g., water, anti-freeze and/or a combination of the two) will cause the automatic transmission clutch linings to delaminate from transmission clutch plates and bands. Once that begins to occur, transmission performance will degrade over time with operators first noting sluggish shifts, shift shudder, slipping in gear, and a delay when shifting from Park into Drive or Reverse. If not remedied, ultimately the transmission will no longer transmit engine power to the driven wheels and the vehicle will perform as though its transmission is in neutral (i.e., no motive power).

6.2 Engine stalling due to co-mingled fluid

The subject transmission is electronically controlled by the Transmission Control Module (TCM) located internally. By design, the TCM should never come in contact with engine coolant. The TCM communicates with the Engine Control Module through the vehicle's Controller Area Network (CAN). The TCM is capable of diagnosing transmission malfunctions and the ECM stores the resulting diagnostic trouble codes (DTCs) in memory. In some instances, a TCM malfunction (due to contamination by engine coolant, for example), can result in an engine stall, poor shift performance, and an engine no-start condition. Typically a TCM malfunction will trigger the illumination of a MIL (malfunction indicator lamp), which, on the subject vehicles' instrument cluster, is displayed as "Service Engine Soon."



Photo 4 – Subject vehicle MIL - "Service Engine Soon"

Typically "fault codes" are stored within the ECM when the MIL is illuminated due to a TCM anomaly. These codes are later used by technicians to diagnose the problem. For example, a "U1000" code is stored when the TCM cannot communicate with the ECM.³ The engine may stall when this type of malfunction is detected.

7.0 CONSUMER COMPLAINTS TO NHTSA

As of September 13, 2016 we received 2,505 complaints concerning subject vehicle transmission performance. Of these, 2,081 were submitted since the petition was filed on February 29, 2012.

After reviewing the complaints, they broadly fall into two categories: Customer Satisfaction and Potential Hazard.

³ The "U1000" code is identified in alleged crash VOQ 10789140 discussed later in this report

7.1 Customer Satisfaction-Related

Of the 2,505 complaints received by ODI, 1,867 pertained to customer satisfaction issues such as cost of repair, vehicle shudder and shake, no engine start, engine overheat, no cabin heat, no reverse, and check engine light on. Fully fifty percent of these complaints (944) mention cost of repair, the single most reported concern. Vehicle shudder and shake was identified in 798 VOQs, the most reported vehicle-related customer satisfaction issue.

7.2 Potential Hazard

Six hundred and thirty-eight VOQs reported the following potential hazards: unable to maintain vehicle speed, loss of motive power, and engine stalling. As in the customer satisfaction-related VOQs discussed previously, cost of repair was the single most identified issue, with fifty-four percent (344) voicing the concern. Allegations of "unable to maintain speed" and "no motive power" were found in 573 complaints (299 and 274, respectively). Engine stalling was identified in 65 VOQs. Average vehicle mileage when these complaints were filed is approximately 106,482.

8.0 ALLEGED CRASH REPORTS

Four crashes are alleged; two due to loss of motive power, one due to an engine stall, and the fourth due to vehicle shudder.

8.1 Alleged crash report #1 - VOQ 10555827 - Loss of motive power

This VOQ was filed with us on December 12, 2013 by the second owner of a MY2008 Nissan Xterra. No VIN was provided. It includes this summary:

"WHILE DRIVING THROUGH THE INTERSECTION, MY VEHICLE SUDDENLY
LOST POWER CAUSING ME TO GET REAR ENDED. VERY MINIMAL DAMAGE

TO MY VEHICLE BUT MY DAUGHTER WAS IN THE CAR WITH ME. UPON FURTHER INSPECTION AT A SHOP IT WAS CONCLUDED THAT THE CAUSE OF THE LOSS OF POWER WAS DUE TO A FAILURE IN THE TEAMS FLUID COOLER CAUSING RADIATOR FLUID TO ENTER THE TRANSMISSION. "

In a subsequent telephone conversation, complainant stated that he had purchased the vehicle, with 112,098 miles, from a private owner on December 6, 2013. No transmission or radiator issues were disclosed. However some sluggishness in transmission up- and down- shifting was noted about a day before the crash.

The owner reported that he was driving the Xterra, with his 12 y.o. daughter as a passenger, on December 9, 2013 as they approached an intersection at about 40 mph. The vehicle suddenly lost motive power, slowed, and was rear-ended resulting in damage to the rear bumper and no personal injury. No police report was filed. Later that day, he drove the Xterra to his local Nissan dealer where co-mingled fluids were found. He was given a repair estimate of \$4500 to replace the radiator and transmission. He was also told that, based on vehicle age and mileage, he was not eligible of either Nissan's extended warranty or the class action settlement terms (which are, in fact, identical). So, unable to afford this repair, the vehicle has been parked near his home since.

We attempted to gather service and owner history information but without a VIN have been unable to do this. The owner agreed to provide the VIN by e-mail. To date he has not done so.

8.2 Alleged crash report #2 - VOQ 10561840 - Shudder

This VOQ was filed with ODI on January 28, 2014 by the second owner of a MY2007 Nissan Pathfinder. The alleged crash occurred on January 10, 2014, at about 90,000 miles which he summarized as follows:

"I REQUEST THAT THE DOT NHTSA INVESTIGATE MANUFACTURER DEFECTS IN 2007 NISSAN PATHFINDERS COOLING SYSTEM AND TRANSMISSION AS

UNEXPECTED FAILURE RELATES TO DRIVER SAFETY. MY 2007 PATHFINDER WITH 90,000 MILES CAUSED A MAJOR COLLISION WITH A DEER AS THE TRANSMISSION BEGAN TO FAIL. DRIVING HOME, AT AROUND 40MPH, UP A HILL (ENGINE UNDER LOAD @ 2,200-2,500 RPM) THE WHOLE CAR BEGAN SUDDENLY TO "SHUDDER"- SIMILAR TO THE FEELING/ SOUND OF RIDING OVER HIGHWAY RUMBLE STRIPS. THIS RESULTED IN A LOSS OF CONTROL OVER THE SPEED OF THE VEHICLE AND A NOTICEABLE DISTRACTION LEAVING ME UNPREPARED AS A LARGE BUCK RAN OUT FROM THE TREE LINE ATTEMPTING TO CROSS THE ROAD- THE BUCK DID NOT MAKE IT ACROSS. AS I HAVE FOUND IN MY RESEARCH AFTERWARDS, THERE IS A WIDELY KNOWN MANUFACTURER DEFECT IN WHICH ENGINE COOLANT MIXES WITH TRANSMISSION FLUID. THE RESULTING "GOOP" SHREDS THE INTERNAL PARTS OF THE TRANSMISSION RENDERING IT (ALONG WITH THE RADIATOR AND COMPONENTS) COMPLETELY USELESS. THESE VEHICLES ARE UNSAFE FOR THE ROADWAYS AS THIS PROBLEM OCCURS SUDDENLY AND UNEXPECTEDLY WITHOUT WARNING. I CONSIDER MYSELF LUCKY FOR BEING ALIVE- NOW, BUT SINCE NISSAN NOR ANY OTHER ORGANIZATION IS WILLING TO RECALL OR REPLACE THIS VEHICLE/ AFFECTED PARTS, I AM STUCK, *FORCED* [EMPHASIS ADDED] TO DRIVE ON THE ROAD BEING A HAZARD TO OTHERS AND MYSELF."

Numerous attempts to contact this filer, by mail, e-mail, and telephone have been unsuccessful.

According to the VOQ, the incident was not reported to police.

A Carfax vehicle history report reveals that the subject owner, the vehicle's second, purchased it on February 21, 2009 at 29,526 miles. The detailed service history includes 11 service visits prior to the alleged crash...none related to either the transmission or radiator nor are any crash-related repairs identified either before or after the alleged crash date. We recognize, however, that not all service attempts may be documented in the report.

8.3 Alleged crash report #3 - VOQ 10789140 - Engine Stall

This VOQ was filed on November 9, 2015 by the owner of a MY2008 Nissan Pathfinder. It contains the following summary:

" ON NOVEMBER 6, 2015 AROUND OR ABOUT 7:00PM MY V6 2008 NISSAN PATHFINDER SERVICE ENGINE LIGHT TURNED ON WHILE IN FIRST GEAR IN MOSTION; THE SUV ENGINE AND TRANSMISSION TURNED OFF HAD NO BRAKES AND HAD A FENDER BENDER WHILE IN MOTION , HAD THE SUV TOWED HOME AND CHECKED THE CODE ON THE OBD AND IT READ CODE: U1000 CONTROLLER AREA NETWORK (CAN) COMMUNCATION LINE SIGAL MALFUNCTION.DID A VISUAL CHECK INSIDE RADIATOR FILLER PORT, ELECTRICAL FUSE (10AMP FUSE TO THE TRANSMISSION BLEW WHICH ATOMCTICLY TOLD ME A COMMUNICATION HARNESS IS OPEN OR SHORTED; OR A FAULTY ENGINE CONTROL MODULE(ECM))AND ALSO CHECKED THE RESIVOR FILLER PORT, FOUND RED TRANSMISSION FLUID AND GREEN ENGINE COOLENT FLUID INCORPORATED IN RADIATOR (CONTAMINATION) ,ALSO CHECKED TRANSMISSION DIP STICK TO SEE IF TRANSMISSON FLUIDS LOW BUT INSTEAD FOUND RUST AT THE END PART OF THE DIPSTICK INSIDE THE TRANSMISSON INDICATING ENGINE COOLENT CONTAMINATION (WATER) ALL INSIDE THE TRANSMISSION.WHO KNOW HOW MUCH RUST IS INSIDE THE TRANSMISSION UNTIL A FULL TEAR DOWN AND THOROUGH INSPECTION IS PERFORMED.....CAR IS STATIONARY AND WILL NOT START"

We have been unable to contact the owner to confirm the details related in his complaint.

This vehicle, with 105,985 miles, was bought at auction in July, 2015 by a used car dealer in Texas before being sold, on September 9th to the current owner (and VOQ filer). Fifty-seven days later the alleged crash occurred due to an engine stall. No police report was filed. The Carfax service history shows no transmission/radiator-related repairs and indicates that the only service work done on the vehicle since September 9, 2015 was a "maintenance inspection" at 111,916 miles.

8.4 Alleged crash report #4 - VOQ 10854627 - Loss of motive power

This VOQ was filed with us on April 10, 2016 alleging that a crash occurred on September 15, 2015 involving a MY2006 Nissan Frontier. The Carfax Vehicle History Report shows there have been at least 5 owners of this truck with the current owner filing a VOQ containing this narrative:

"I BOUGHT MY 06 NISSAN FRONTIER WITH 95000 MILES GREAT TRUCK LOVED IT WHEN IT GOT TO 118000 MILES THE RADIATOR MESSED UP CAUSING ME TO REPLACE THE RAD AND TRANS FLUSH 500\$ TWO WEEKS LATER NO REVERSE ONE DAY HEADED HOME FROM WORK GOING UP LICK HILL SECOND GEAR GOS OUT CAUSING ME TO GET REAREND THEN THERE'S 200\$ FOR TOWING AND A SMASHED UP TRUCK JUST SPENT 8000 ON THE TRUCK AND CAN NOT AFFORD TO PUT 4000 MORE IN IT WHAT THE HELL THIS IS A JOKE MY TRUCK WILL ROT TO THE GROUND BEFORE I SPEND 4000 MORE I HOPE THIS IS TAKEN CARE OF NOBODY SHOULD HAVE TO DEAL WITH THIS NOW I A PIECE OF JUST THAT'S NOT WORTH 2500 NISSAN U SUCK"

In a subsequent telephone conversation with us, the owner said, after finding co-mingled ATF/engine coolant, he replaced the radiator and then had an independent repair shop perform a transmission fluid flush. The transmission still would not shift into reverse. No further repair attempts were made. Two weeks later the September 15th crash occurred. No police accident report was filed and the vehicle has been parked since.

9.0 ODI VEHICLE INSPECTIONS

ODI met with two local owners for an interview and vehicle inspection. The second prompted the discovery, and inspection, of a third vehicle.

9.1 VOQ 10695005

On June 28, 2016, we met with the original owner of the MY 2007 Nissan Pathfinder at his home in the Baltimore, MD suburbs. We focused on this owner because his vehicle was involved in a loss of motive power incident; the dealer confirmed the fluid was co-mingled; and it had not been repaired. His VOQ (10695005), filed on March 18, 2015, included the following summary:

"PURCHASED 2007 NISSAN PATHFINDER BRAND NEW. BROUGHT TO NISSAN DEALER DUE TO CHECK ENGINE LIGHT ON DASHBOARD. DIAGNOSIS PERFORMED AND DETERMINED RADIATOR/TRANSMISSION FLUID/COOLANT LEAKING INTO TRANSMISSION. ESTIMATED REPAIR \$6000 TO REPLACE RADIATOR/THERMOSTAT/TRANSMISSION. AT 140000 MILES, NISSAN STATES NO LONGER UNDER POWERTRAIN WARRANTY. DECLINED SERVICE."

While meeting with the owner, he told us that about a week after filing his VOQ, he drove the Pathfinder, with his family, to a birthday party about 20 miles away. He noted that the vehicle seemed to shudder when shifting and that engaging "Drive" occurred sluggishly when shifting out of "Park". While driving home from the party, it suddenly became difficult to keep up with traffic on the Baltimore beltway. Soon he was driving in the far right lane with his flashers on. They finally made it home but the vehicle was unable to negotiate the ramp onto his driveway so he just parked it on the ramp. The following day he was able to move the vehicle in reverse and he parked it, on the street in front of his house, where it remained until our visit.



Photo 5 – June 28, 2016 - 2005 Pathfinder

The owner advised he had made no attempt to have the vehicle repaired due to the estimated \$6,000.00 repair cost. He was aware of both Nissan's extended warranty and the class action settlement but neither would cover his repair due to both age (now 11 years) and mileage (greater than 100,000).

During our visit, we removed the radiator cap and found co-mingled ATF/coolant.

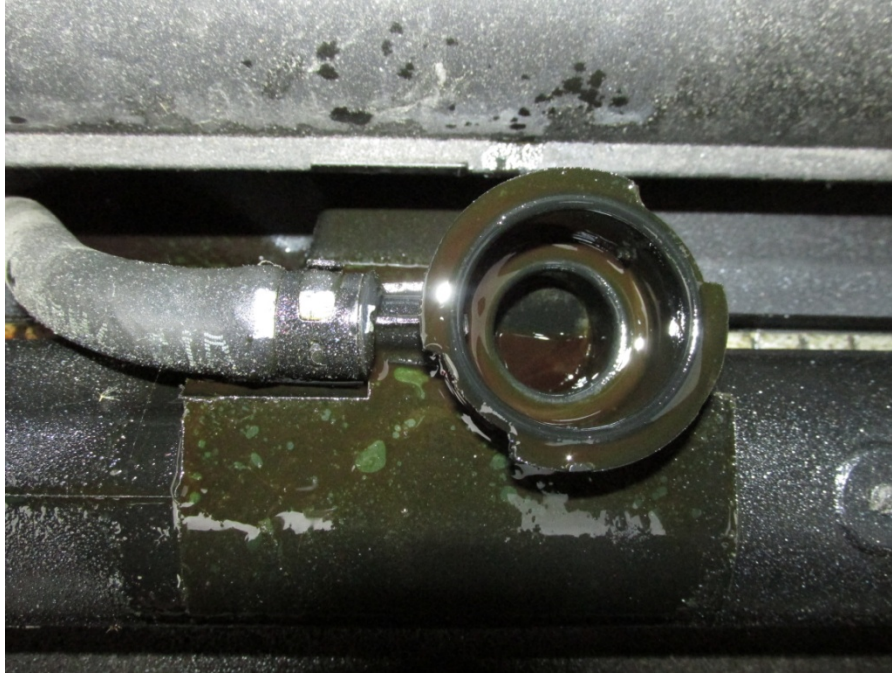


Photo 6 – June 28, 2016 - 2005 Pathfinder - co-mingled ATF/Coolant

We then drove the vehicle, accompanied by the owner, around his neighborhood. The engine started easily as the owner had charged the battery in anticipation of our meeting. Initially, no transmission shift anomalies were noted but the check engine light was illuminated as described over a year earlier in the subject VOQ. However, as the engine warmed up, we began to notice sluggish engagement whenever the transmission would up-, and down-, shift. After about 10 minutes, we parked in front of his house. No other transmission anomalies were noted.

When asked why, after being told by the dealer that he needed a new transmission, he elected to drive to the birthday party in the Pathfinder with his wife and three children, he told us he did not realize that the transmission might fail in a way that would make it impossible to maintain highway speed. He further advised that he did not want to spend \$6,000.00 to repair the vehicle and was awaiting the outcome of this investigation before deciding whether to sell the vehicle or have it repaired.

9.2 VOQ 10721809

On May 27, 2015 we received a VOQ from the owner of a MY2006 Nissan Pathfinder located in the northern Baltimore suburbs. She is the vehicle's second owner, having purchased it on October 8, 2011. Vehicle mileage was 53,887 at that time. The VOQ summary reads:

"TRANSMISSION IS SHAKY AND JERKS WHEN SHIFTING, APPARENTLY
NISSAN KNEW ABOUT RADIATOR COOLANT LEAKING INTO THE
TRANSMISSION LINE!!!"

We decided to meet with this owner because the dealer installed an aftermarket ATF cooler in addition to replacing the radiator and transmission. On June 30, 2016 we met at her work and inspected her vehicle.



Photo 7 – June 30, 2016 - 2006 Pathfinder

She advised that the radiator and transmission were replaced by her local Nissan dealer on December 15, 2015 and provided a copy of the repair order. At the time her vehicle was less than 10 years old and had fewer than 90,000 miles (87,110), thus she was eligible for the

\$3,000.00 deductible extended warranty coverage. We confirmed that an external ATF cooler had been installed. After discussing the repair, we removed the radiator cap and found apparent co-mingled fluid:



Photo 8 – June 30, 2016 - 2006 Pathfinder - co-mingled ATF/Coolant

Further inspection found that the aftermarket cooler had been installed "in series" so that ATF still flowed through the OE ATF cooler. Thus, a failure of the OE cooler could still result in co-mingled ATF and engine coolant. We were unable to confirm that the source of the co-mingled fluid resulted from an OE cooler failure, however.

9.2.3 No VOQ

Following our visit with owner two (VOQ 10721809), we cold-called a local Nissan dealer service department to learn about its perspective concerning subject transmission failures due to ATF/ engine coolant co-mingling.

The service manager advised that his department had replaced "about 30" subject transmissions due to ATF cooler failures. "In fact, he said, we have one in right now." He then led us out to the lot where we found this 2005 Xterra:



Photo 9 – June 30, 2016 - 2005 Xterra

Upon removing the radiator cap, we found evidence of fluid co-mingling:



Photo 10 – June 30, 2016 - 2005 Xterra - co-mingled ATF/Coolant

When asked for this vehicle owner's contact information, the service manager was reluctant to provide it without first contacting the customer. He said would have them call us. As of September 21, 2016 we have not heard from the customer.

According to a Carfax report, run on September 21, 2016, this vehicle has had three owners. The first sold the vehicle on December 18, 2010 with 38,353 miles. The second owner traded in the vehicle on July 15, 2016 (16 days after we inspected it) with 102,816 miles. On September 5, 2016 the vehicle was sold at auction to an unidentified buyer as a "dealer vehicle." The last service noted occurred on June 27, 2016 as "recommended maintenance performed / Oil and filter changed." No transmission or radiator-related work is identified.

10.0 COST OF REPAIR

The single most commonly reported concern, expressed by 1,288 of the 2,505 owners filing related VOQs with us, is repair cost. Once an automatic transmission has been exposed to engine coolant due to a radiator failure, vehicle owners are faced with an expensive repair. With subject vehicles, a radiator replacement and fluid flush costs between \$500.00 and \$1,000.00. However, fluid flushes do nothing to reverse damage done to transmission clutch material. Thus, replacing a subject transmission (to effectively repair the vehicle) will cost an additional \$3,200.00 to \$6,500.00 for a total repair cost (radiator and transmission replacement) of \$4,200.00-\$7,500.00. Since these failures occur on some vehicles greater than ten years old, such an expense may be more than 50% of vehicle re-sale value. Finally, despite two warranty extensions by Nissan and a class action settlement, owners are still faced with a steep repair bill to correct a manufacturing issue.

10.1. Nissan's first extended warranty

In October, 2010, Nissan extended its warranty coverage of subject radiators to 8 years/80,000 miles from the original 3 years/36,000 miles. Nissan claims it did this to "demonstrate our commitment to stand behind our products and our customers, by addressing an issue that had

been identified with a limited number of vehicles. Specifically, in a small number of vehicles equipped with automatic transmissions, a crack in the radiator assembly might occur at higher mileages leading to internal leakage of engine coolant." No direct notice of this warranty extension was sent to the affected customers. Nissan later claimed such coverage extended to "other affected components" (such as the transmission). However, affected Nissan customers report that the company would refuse to cover replacement of automatic transmissions damaged by such "internal leakage of engine coolant" resulting from a "crack in the radiator assembly." Here is one such report:

VOQ 10310194 - "I OWN A 2005 NISSAN PATHFINDER AND I HAVE BEEN HAVING PROBLEMS WITH THE HEAT STAYING CONSISTENT (DOES NOT BLOW HOT AIR WHEN IDLE) AS WELL A VIBRATION WHEN DRIVING AT CERTAIN SPEEDS. I ALSO BEGIN TO NOTICE THAT TRANSMISSION BEGAN TO SLIP. I WOULD STOP AT A RED LIGHT AND GO TO TAKE OFF AND WOULD NOT BE ABLE TO PICK UP SPEED WHICH CAN BE DANGEROUS WHEN ENTERING THE HIGHWAY. I RESEARCHED THIS ONLINE AND FOUND MANY OTHERS HAVING THE SAME PROBLEMS. I TOOK THE TRUCK TO A NISSAN DEALERSHIP AND THEY TOLD ME EXACTLY WHAT I ALREADY KNEW, THE RADIATOR WAS NOW NO GOOD AND LEAKING ANTIFREEZE INTO THE TRANSMISSION WHICH HAS CAUSED BOTH OF THEM TO BE RUINED AND THEY WANT TO CHARGE ME 5K TO REPLACE. I ASKED IF THE DEALERSHIP HAS SEEN THIS BEFORE AND IT WAS CONFIRMED THAT SEVERAL OF THE SAME VEHICLES HAVE BEEN IN FOR THIS VERY REASON. HE ADVISED THAT NISSAN HAS NOT PAID FOR THESE SERVICES AS THE VEHICLES ARE ALWAYS OUT OF WARRANTY ON THE RADIATOR. I STILL HAVE 2000 MILES LEFT ON MY POWERTRAIN AND ADVISED THAT I WOULD BE CONTACTING NISSAN FOR "GOODWILL" ASSISTANCE. NISSAN FINALLY CONTACTED ME AND ADVISED THAT SINCE THE PROBLEM WAS INITIALLY CAUSED BY THE RADIATOR, THEY WOULD NOT HONOR THE POWERTRAIN WARRANTY..."

10.2 Class Action Lawsuit

On September 30, 2010, shortly before Nissan's first extension of subject radiator warranty terms, a class action lawsuit was filed against the company alleging cross-contamination (co-mingling) of coolant and transmission fluid in MY 2005 Nissan Pathfinders. Nissan asserts it was already in the process of extending the warranty before the lawsuit was filed.⁴ Later, the lawsuit complaint was amended to include all vehicles covered by Nissan's first warranty extension (which are also the "subject vehicles" in this petition analysis).

On July 23, 2012, Nissan and the plaintiffs agreed to settlement terms and formal settlement papers were executed in August, 2012. On October 9, 2012 the court preliminarily approved the following settlement and granted the plaintiff attorneys application for an award of attorneys' fees in the amount of \$1,620,000.00.

"Nissan agrees to make repairs through authorized [Nis-san] Dealers, if and as needed, on the radiator assembly and other damaged components (including the trans-mission) in Class Vehicles owned or leased by Settlement Class Members because of cross-contamination of engine coolant and transmission fluid (and inclusive of towing costs, if any) as a result of a defect in the radiator up to a maximum of 10 years or 100,000 miles, which-ever is less, subject to the following customer co-pay:

(a) All repairs on vehicles that exceed eight years or 80,000 miles, whichever is less, but fewer than nine years or 90,000 miles, whichever is less, are subject to a customer co-pay in the amount of \$2500 which is the responsibility of the Settlement Class Member.

(b) All repairs on vehicles that exceed nine years or 90,000 miles, whichever is less, but fewer than 10 years or 100,000 miles, whichever is less, are subject to a customer co-pay in the amount of \$3000 which is the responsibility of the Settlement Class Member.

Nissan also agreed to reimburse Class Members who have paid for repairs to their radiators and other damaged components (including the transmission) because of cross-contamination of engine coolant and transmission fluid as a result of a defect in the radiator between 8 years/80,000 miles, whichever occurs

⁴ DECISION MEMORANDUM, United States District Court, S.D. New York; in re NISSAN RADIATOR/TRANSMISSION COOLER LITIGATION; No. 10 DV 7493(VB); May 30, 2013, page 1.

first, and 10 years/100,000 miles, whichever occurs first, subject to the mileage-related co-payments described above. Reimbursement is inclusive of towing costs, if any, incurred as a result of this problem."

On January 7, 2013, settlement notices were sent to the subject vehicle owners.

10.3 Nissan's second extended warranty

On October 12, 2012, three days after the court approved the class action lawsuit settlement, Nissan released the following bulletin notifying its dealers that it was further extending warranty coverage of subject radiators.

Subject: **2005-10 Frontier, Pathfinder, and Xterra Radiator Assembly
Additional Warranty Extension**

Attention: **Dealer Principals, Sales, Parts and Service Managers**

******* Warranty Extension Announcement *******

Nissan has decided in the interest of customer satisfaction, to further extend the warranty for the Radiator Assembly on all 2005-10 Frontier, Pathfinder, and Xterra vehicles equipped with automatic transmissions.

On a small percentage of vehicles, an internal crack on the oil cooler tube may occur leading to internal leakage of engine coolant. While the majority of vehicles will not experience this issue, for customer satisfaction purposes, Nissan has decided to further extend the coverage of the New Vehicle Limited Warranty on the radiator assembly, subject to certain customer co-pays that vary with age/mileage.

The New Vehicle Limited Warranty coverage on applied vehicles for the Radiator Assembly (original terms 3 years/36,000 miles) will be extended from the current extension of 8 years/80,000 miles to 10 years/100,000 miles (whichever occurs first), including damage, repairs, replacement, and towing resulting from this issue.

With the additional extension, the following warranty coverage and corresponding customer co-pays will now apply:

- Up to 8 years/80,000 miles (whichever comes first): **No customer co-pay**
- After 8 years/80,000 miles (whichever comes first) up to 9 years/90,000 miles (whichever comes first): **Customer co-pay is \$2,500**
- After 9 years/90,000 miles (whichever comes first) up to 10 years/100,000 miles (whichever comes first): **Customer co-pay is \$3,000**

As with the prior extension, this extension of warranty on the radiator assembly will cover damage caused to other affected components, including the vehicle transmission, as a result of an internal leakage condition in the radiator assembly. However, existing powertrain coverage applicable to the transmission (5 years/60,000 miles) otherwise remains unchanged.

Figure 2 – Nissan's extended warranty bulletin sent to dealers 10/12/12

The terms described in this bulletin are identical to those found in the lawsuit settlement, including the specific reference to coverage of transmissions damaged as a result of radiator failure and the reimbursement provision. And, as in the class settlement, there would be no assistance for owners of subject vehicles older than 10 years or with more than 100,000 miles.

11.0 NHTSA ANALYSIS

Automatic transmission failures as a result of clutch degradation (which, in this case occurs due to contamination by engine coolant) are progressive. Prior to a complete breakdown, vehicle performance will exhibit hesitation when shifting from Park to D/R, harsh shifting, intermittent slippage and/or vehicle shudder before a loss of motive force occurs. In many instances drivers report they had no idea that vehicle shift shudder would ultimately result in a loss of motive power and leave them stranded if they ignored an apparent problem with their vehicle's transmission. Those that do have the vehicle inspected for "shift shudder," for example, many times refuse the service due to cost and continue driving it instead. Others, faced with the expense of replacing the transmission and radiator (frequently without the benefit of the extended warranty or class action settlement since their vehicle is either too old or has too many miles), simply sell it to an unsuspecting buyer. Indeed, the four crashes alleged to have occurred due to the subject issue involved vehicles that had been purchased, used, less than two months earlier at an average of 109,000 miles. The petitioner (NCCC) recognized this latter scenario in a May 18, 2016 consumer advisory against purchasing a subject vehicle.⁵

The United States Code for Motor Vehicle Safety (Title 49, Chapter 301) defines motor vehicle safety as “the performance of a motor vehicle or motor vehicle equipment in a way that protects the public against unreasonable risk of accidents occurring because of the design, construction, or performance of a motor vehicle, and against unreasonable risk of death or injury in an accident, and includes nonoperational safety of a motor vehicle.”

⁵ North Carolina Consumer Council at www.ncconsumer.org/news-articles/nccc-advises-against-the-purchase-of-nissan-pathfinder-frontier-and-xterra-vehicles.

The Office of Defects Investigations (ODI) has opened many defect investigations into engine stalling and / or loss of motive power. The majority of investigations resulting in safety recalls involved a complete loss of motive power, frequently accompanied by loss of power-assist to steering and brake systems (the latter conditions not present here). Factors that support recalls to remedy these conditions include a lack of warning or precursor symptoms to the driver; stalling during power-demand situations such as accelerating or to maintain highway speeds / uphill grades; and an inability to immediately “restart” or restore mobility to a stranded vehicle. Absent very high failure rates in new vehicles, NHTSA has not successfully pursued hesitation, reduced engine power modes, or stalling outside the conditions listed above, primarily because these conditions have not been found to demonstrate an unreasonable risk to motor vehicle safety. Experience of harsh shifting and transmission degradation over time would typically fall into this category, even if it leads to an eventual loss of motive power condition.

12.0 FINDINGS

1. Of the 2,505 complaints received through September 13, 2016, 1,288 (51%) mention repair cost...the single most cited issue
2. The high repair cost motivates many owners to delay repair if one is done at all. The extended warranty/CA settlement terms contribute to this.
3. Cost of repair motivates some owners to sell un-repaired vehicles w/o disclosing co-mingling problem
4. Transmission failures resulting in LOMP, due to co-mingled fluid, are slowly progressive...vibration, shift degradation, slipping, then loss of motive power.
5. While many owners acknowledge noticing shift quality degradation, they did not understand that, if left untended, it could result in loss of motive force.

6. Three of the four alleged crashes involve pre-event warning symptoms which were ignored and all involved used vehicles that had recently been purchased presumably with a pre-existing fluid co-mingling condition.

13.0 CONCLUSION

Based on the foregoing analysis, there is no reasonable possibility that an order concerning the notification and remedy of a safety-related defect would be issued as a result of granting Mr. Oliver's petition. Therefore, in view of the need to allocate and prioritize NHTSA's limited resources to best accomplish the agency's safety mission, the petition is denied.