



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 06-005
Date Opened: 01/20/2006 Date Closed: 05/02/2006
Principal Investigator: Nate Seymour
Subject: Inadvertent Slide-Out Extension Movement

Manufacturer: Fleetwood Enterprises, Inc., Fleetwood Folding Trailer, Inc.
Products: Fleetwood 2002-05 Rv's W/Slide Out Extension
Population: 156,652

Problem Description: Vehicles equipped with a "slide-out room" may experience unintentional opening or movement of the slide-out while the vehicle is in motion.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	4	61	64
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	189	189

*Description of Other: WARRANTY

Action: this PE is closed. A safety-related defect trend has not been identified.

Engineer: Nate Seymour NS

Date: 05/02/2006

Div. Chief: Richard Boyd

Date: 05/02/2006

Office Dir.: Kathleen C. DeMeter

Date: 05/02/2006

Summary: This investigation was opened based on ODI's receipt of a congressional letter on behalf of a constituent. The constituent reported incidents where the "slide out" room of his motor home would inadvertently move (extend) during highway use. ODI was concerned that a fully extended slide out would degrade the vehicle's dynamic handling characteristics and/or possibly impact an object or another vehicle, resulting in a crash.

ODI contacted Fleetwood and discovered that slide out rooms were installed in motor homes, travel trailers and folding trailers. As part of the investigation ODI visited a RV show and the Fleetwood Paxinos plant to examine "slide outs" in various new make and model vehicles and gain an understanding of how the systems work. During the investigation ODI learned that there are two methods used to extend slide out rooms. Some manufacturers use hydraulic systems and others, such as Fleetwood, use an electric motor.

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PE06-005 Closing Resume – Continued

Fleetwood's slide out room extends on a set of rails. The motor is 12 volt DC, with an integrated brake feature, supplied by Power Gear. Whenever power to the motor is turned off, a dynamic brake is engaged. The motor also includes, a spring-set power release disc brake integrated into the motor armature shaft. ODI measured the torque and calculated the force required to overcome the dynamic and disc brake features. The dynamic brake produces between 330 and 360 pounds of resistance force and the disc brake increases this value to over 1500 pounds.

The braking systems can be manually released by the operator. The manual over-ride is necessary in the event that the motor fails to fully extend or retract the slide-out and the operator must manually crank it in or out. If the brake is not reengaged after the room has been retracted, the "slide out" may creep. Creep is considered to be less than three inches of movement compared to the full extension of up to 30 inches, depending on the slide-out room.

Fleetwood reports no complaints or incidents with the folding trailer equipped slide outs. This is due to the design of the trailer which uses a "cap" to prevent any significant movement while in its "travel position" (fully retracted). Therefore ODI's focus is on the motor homes and travel trailers. The complaint and warranty information on these models is included in the table below.

MY 2002-2005	Complaints	R/100K	Warranty	R/100K	Population
Motor Homes	54	136	123	310	39,618
Travel Trailers	10	9	66	56	117,034
Total	64	41	189	120	156,652

ODI is aware of 64 complaints (one duplication). Each of the complaints was carefully reviewed. Detailed information was gleaned on 52 of the complaints. Of those complaints, sixteen reported the average movement was 2.6 inches, with nine reporting less than an inch. Three reports indicated "more than 3 inches. The most significant movement was six and eight inches reported on 2004 and 2005 travel trailers respectively. The 2004 owner was contacted and he reported that the motor was replaced solving the problem. ODI was unable to contact the model year 2005 owner. However the RV service center that made the repair was contacted and indicated one of the cables (connecting the slide out room to the electric motor) had broken. ODI discovered that only a limited number of units incorporated a cable system and a review of all complaints and warranty determined that this is the only known cable failure. Three complaints were corrected by engaging the disc brake and 14 other owners were told (during verbal inquiries) to ensure the disc brake (manual release) was engaged. There were no additional follow-up complaints after receipt of the instructions. It should be noted that the position of the manual brake release lever cannot be visually determined. A rubber boot covers the lever requiring the operator to feel the position. There were no reported deaths, injuries, or crashes for any complaint.

Fleetwood also reported 189 total warranty claims. Discussions with Fleetwood indicated that the majority of warranty repairs were due to motor failures resulting in the inability of the motor to fully retract or extend the slide-out room. These failures were not related to the slide-out extending during highway use.

Fleetwood's position is that "... a highway safety issue exists if a full deployment of a slide-out room should occur, however, all analysis indicates that a condition that could be called room creep (room movement of one to three inches as previously reported) is the issue that is actually occurring. This condition does not represent a highway hazard for either the motor home or travel trailer operator or other traffic."

During this investigation ODI visited a Fleetwood manufacturing plant, observed units in the field, discussed failures with owners and dealers and reviewed Fleetwood's information response. ODI had the opportunity to drive a motor home with the disc brake released and then with the brakes fully engaged. ODI observed creep of 1/2 inch with the brake released and no movement with the brakes fully engaged. The dynamic braking of the electric motor creates 330 to 360 pounds of force. Given this amount of braking force it is unlikely that the slide-out room would suddenly and catastrophically slide out the full 30 inches. ODI believes that the majority of warranty claims are motor failures. Further, the complaints indicate minimal movement, with no deaths, injuries, or crashes on a population of 156,652 vehicles, some of which have been in operation for up to four years. The field experience to date supports this position.

Therefore this investigation is closed. ODI will continue to monitor this matter and reserves the right to take further action if warranted by future circumstances. The closing of this investigation does not constitute a finding by NHTSA that no safety-related defect exists.

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