

DOCKET NO. SA-510

EXHIBIT NO. 2D

**NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.**

**USAir
FLIGHT INFORMATION LETTER:
RUDDER PCU OPERATION ANOMALIES**

93-2
1/21/93**SUBJECT: RUDDER PCU OPERATION ANOMALIES****BACKGROUND**

In July 1992, an operator reported that a rudder system anomaly was discovered on the ground while performing a flight controls check on a model 737-300 airplane. The pilot stated, "While checking left rudder on the ground, it locked at approximately 25% input." Reportedly the pedals returned to neutral following release of foot pressure on the left rudder pedal. The aircraft returned to the gate where the rudder PCU was removed from the aircraft. It subsequently was tested extensively by the aircraft operator, Boeing and Parker Hannifin (manufacturer of the rudder PCU) with NTSB participation.

On January 4, 1993, another 737-300 owned by the same operator experienced a similar occurrence. The actuator was again removed and sent to the manufacturer for testing. The NTSB, Boeing, Parker Hannifin, and the aircraft operator once again participated in the testing.

The rudder PCU's were each found to exhibit certain anomalies. The anomalies were similar, although not identical. To date, the anomalies have not been linked to any past accidents. The anomalies are cause for concern, however, and the rudder PCU's will be modified per a Boeing Service Bulletin which is expected to be released shortly.

In the meantime, we have had a report of an incident similar to the two reported by the other operator. The PCU has been removed (aircraft 528) and is being sent to Parker Hannifin for testing.

USAir recently tested every 737 in our fleet. The test was designed to verify the operational integrity of the rudder PCU. The test was conducted even though Boeing has not recommended any operator action or testing to date. All aircraft passed without any problems being detected. Boeing believes that the existing preflight controls check will detect a rudder PCU which is not functioning properly. So far, that is exactly how the three reported incidents have been discovered.

2/5/93**B - 7 3 7 - 3 0 0 / 4 0 0 P I L O T ' S H A N D B O O K****OPERATIONAL PROCEDURE**

No special operational procedures are being requested of you at this time. Please conduct the "FLIGHT CONTROLS CHECK" on the BEFORE TAKEOFF CHECKLIST, thoroughly. It should be obvious that flight must not be attempted if any control fails to exhibit unrestricted movement.

If you should experience anything similar to the three incidents reported above, please contact my office as soon as possible after writing up the discrepancy in the Maintenance logbook.

Paul Sturpe
412-747-5985

2