



U.S. Department  
of Transportation

National Highway  
Traffic Safety  
Administration

# Memorandum

Subject: Test Request: Evaluation of Driver Air bag  
Inadvertent Deployment Date: JAN 25 2010

From: Kathleen C. DeMeter, Director  
Office of Defects Investigation Reply to: NVS-212pco  
Attn of: EA10-001

To: Roger Saul, Director  
Vehicle Research and Test Center

This Office of Defects Investigation (ODI) memorandum to the Vehicle Research and Test Center (VRTC) requests the survey and evaluation of the alleged defect described below.

**BACKGROUND:** ODI is conducting an Engineering Analysis (EA10-001) on Ford F-150 vehicles. The alleged defect is defined as driver side frontal air bag inadvertent deployment (ABID). This non-crash air bag deployment condition is due to a chafed wire resulting in a short-to-ground condition during initial engine start-up/restraint system diagnostic testing. Attachment 1 illustrates the source and location of the chafed/cut clockspring jumper wire. The air bag light (ABL) may illuminate (intermittently or constant ON) prior to this event. MY2004-2006 (to Jan 23, 2006) Ford F-150 vehicles are affected by this condition. Since these vehicles are now out-of-warranty, many owners may be operating their vehicles with the ABL illuminated or had experienced an inadvertent driver air bag deployment and have not repaired their vehicles.

**OBJECTIVES:** The objective of this test program is to survey and evaluate the frequency and extend of this chafe wire condition from F-150 vehicles registered in the state of Ohio.

**METHODOLOGY/TEST PROCEDURES:** Although VRTC will design the tests as it sees fit, below is a list of objectives to be achieved through the survey/evaluation tests.

1. From the approximately 44,000 Ohio registered F-150 owners, from those who responded, tabulate the number of owners experiencing the following conditions:
  - a. Previously repaired driver side frontal ABID (with no frontal crash/impact)
    - i. Prior ABL condition if any (intermittent or constant ON?)
    - ii. Duration of ABL condition if any (# of days)
    - iii. Description of injury if any (bruises/abrasions/cuts/others)
    - iv. Parts replaced – check all that applies (driver side air bag module; clock spring assembly; passenger side air bag module; side impact air bag modules; RCM electronic module; none that applies or others)



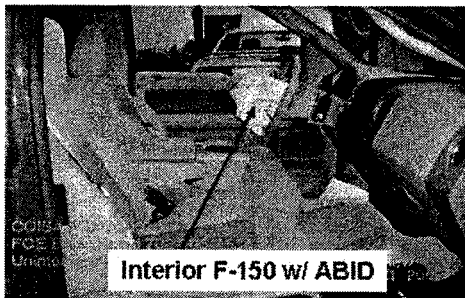
- iv. Parts replaced – check all that applies (driver side air bag module; clock spring assembly; passenger side air bag module; side impact air bag modules; RCM electronic module; none that applies or others)
  - v. Repaired at dealership or independent repair shop/self
  - vi. Pictures/invoice or parts if requested?
- b. Previous ABL illumination condition
- i. ABL condition (intermittent or constant ON?)
  - ii. Duration of ABL condition (# of days)
  - iii. Parts replaced – check all that applies (driver side air bag module; clockspring assembly; passenger side air bag module; side impact air bag modules; RCM electronic module, none that applies or others)
  - iv. Repaired at dealership or independent repair shop/self
  - v. Pictures/invoice or parts if requested
- c. Present driver side frontal ABID (not yet repaired)
- i. Prior ABL condition if any (intermittent or constant ON?)
  - ii. Duration of ABL condition if any (# days)
  - iii. Description of injury if any?
  - iv. Parts needing to be replaced if known – check all that applies (driver side air bag module; clockspring assembly; passenger side air bag module; side impact air bag modules; RCM electronic module, none that applies or others)
  - v. Pictures if requested
- d. Present ABL illumination condition (not yet repaired)
- i. ABL condition (intermittent or constant ON?)
  - ii. Duration of ABL condition (# of days)
  - iii. Parts needing to be replaced if known – check all that applies (driver side air bag module; clockspring assembly; passenger side air bag module; side impact air bag modules; RCM electronic module, none that applies or others)
  - iv. Copy of repair estimate if requested
2. Randomly obtain from owners who responded with having “none of the above” conditions, a representative number (5 - 10) of clockspring assemblies (with jumper wire) and examine for any signs of wire chafe/cut condition.
3. From owners who responded with the “present ABID” condition:
- a. Obtain ABL trouble code if present
  - b. Download crash data from the Event Data Recorder (EDR) and verify that it was not due to a normal command deployment (i.e. not above threshold crash event) and the number of ignition cycles of ABL illumination prior to event if any
  - c. Obtain a representative number (5 - 10) of clockspring assemblies and inspect for a chafed wire condition
4. From owners who responded with the “present ABL” condition:

- a. Obtain ABL trouble code if present
- b. Obtain a representative number (5 - 10) of clockspring assemblies and inspect for a chafed wire condition

**ADDITIONAL INFORMATION:** The project engineer at ODI, Peter Ong, will discuss the details of this test request with VRTC. He can be reached on 202-366-0583 or [peter.ong@dot.gov](mailto:peter.ong@dot.gov). The data file containing the affected MY2004-2006 F-150 VINs will be provided to VRTC. Please provide a draft copy of survey for comments prior to final release/sending.

**SCHEDULE:** The survey and examination must be completed by April 01, 2010.

# Clockspring Wire Chafed/Cut Condition



Attachment 1 Location of Chafed Wire after Air Bag/Horn Assembly Removal