



# EA09-001

## 2002-2003 HONDA ACCORD SHIFT INTERLOCK FAILURE



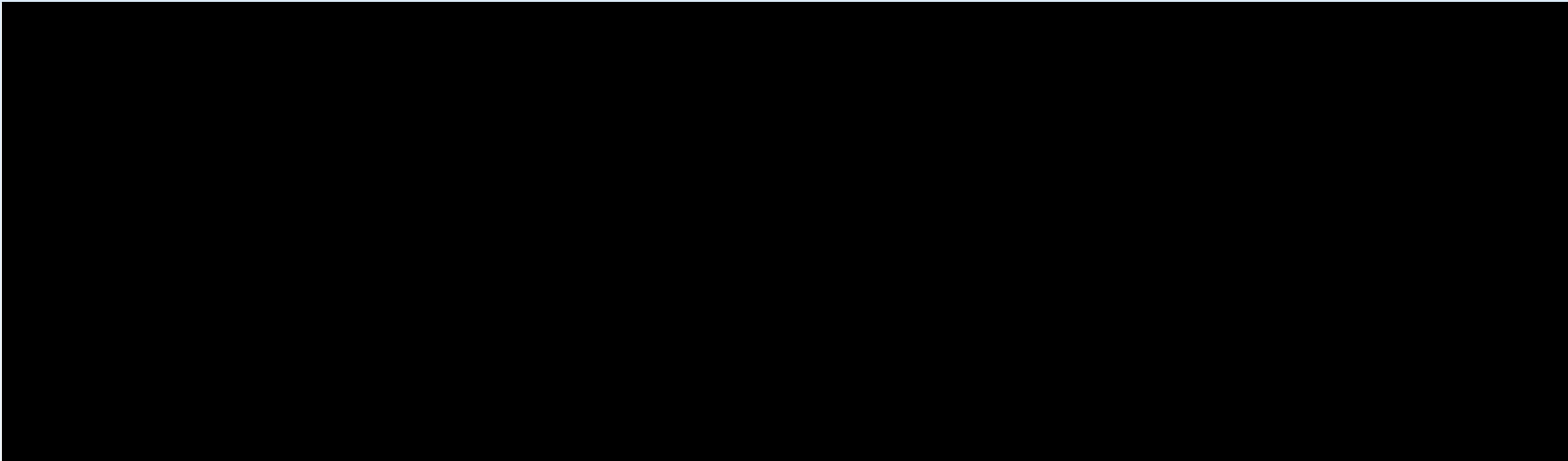
DRAFT DELIBERATIVE DOCUMENT – FOR DISCUSSION PURPOSES ONLY

# Overview

- The investigation began as an Recall Query into MY 2002 and 2003 Accords;
- The investigation revealed that the lock assembly on MY 2002 (ver. S84) is different from MY 2003 (ver. S5A) which is different from MY 2004 (ver. SEA) and beyond, and that the MY 2003 has a higher failure rate and a greater number of crashes and injuries than the other versions.

Vehicle	Lock Set	Population	VOQs	Complaints	Unique Vins	Rate per 100k	Crashes Injuries
2002 Accord	S84	340,509	7	15	16	4.7	6 - 0
2003 Accord	S5A	400,461	11	34	42	10.5	<b>18 - 1</b>

# Summary of Previous Recalls



Lock	Date & Recall	Vehicles	Content
S84	03V-423, (12/2003) EA03-017	98-99 Accords American built	Casting failure of cylinder cam allows wear on lever, reducing lever margin
S84	05V-025, (3/ 2005) PE05-002	Accords 99-02 Japanese 99-00 American	Both cylinder and body out of spec, allows lever wear reducing overlap margin
S5A	03V-422, ( 11/2003) EA03-018	2002 CR-V Japanese built	Reduced lever operation speed due to debris from manufacturing

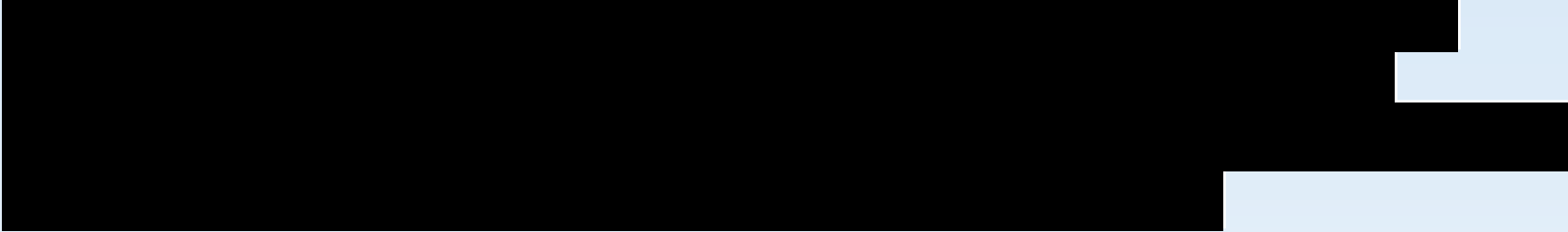
# Complaint Excerpts

- I realized the car was rolling backwards. I started back towards the car when the door was knocking me down. When I fell, I tried to get up immediately. I must have had my right leg bent, because the car ran over my left leg at the calf area. I sustained a crush injury to the leg. I ended up with two large blisters/wounds to my left leg. One healed the other required skin grafts/donor site left thigh. Hospitalized one week on bed rest for the grafts to take. Have suffered permanent damage and chronic pain to the left leg.
- I parked car in garage took out key, almost in house when car rolled out of garage down driveway tried to stop car all most ran me over; car crashed into cable box at end of driveway.
- The vehicle rolled out into the street due to a faulty ignition.
- I was able to easily remove the ignition key from an automatic transmission car. Because of this, I assumed the transmission was in park when actually it was in reverse. Later the car rolled forward striking at least one other car.

# Complaint Excerpts

- The car rolled backwards out of my almost-level driveway and came to a stop after it struck a tree across the street
- I was in the grocery store. A page came over the loudspeaker stating that the owner of a gray Honda parked in the side parking lot should come to the manager's office. The manager and I walked out of the store together and I saw that my 2003 Honda accord was at rest in the side of another car. The door was locked, the car in reverse and the emergency brake on. I had the keys with me in the grocery store.
- After returning he noticed the vehicle rolled back his driveway striking another car before hitting a pole to stop.

# Analysis

- 
- ODI believes the root cause is that the S5A interlock lever is prone to “perching” and that the lever can be permanently damaged by the simple process of:
  - 1) a driver turning the vehicle off when not in Park,
  - 2) the driver attempting to remove the key which stops in the OFF position,
  - 3) the driver then pushing the shifter forward to Park while the key is still in the OFF position thereby damaging the interlock lever
  - 4) after the damage is done the key is able to be removed out-of-sequence
- All S5A cylinders tested by the VRTC were found to “perch” or “half lock” during an out-of-sequence shutdown (see following slide)

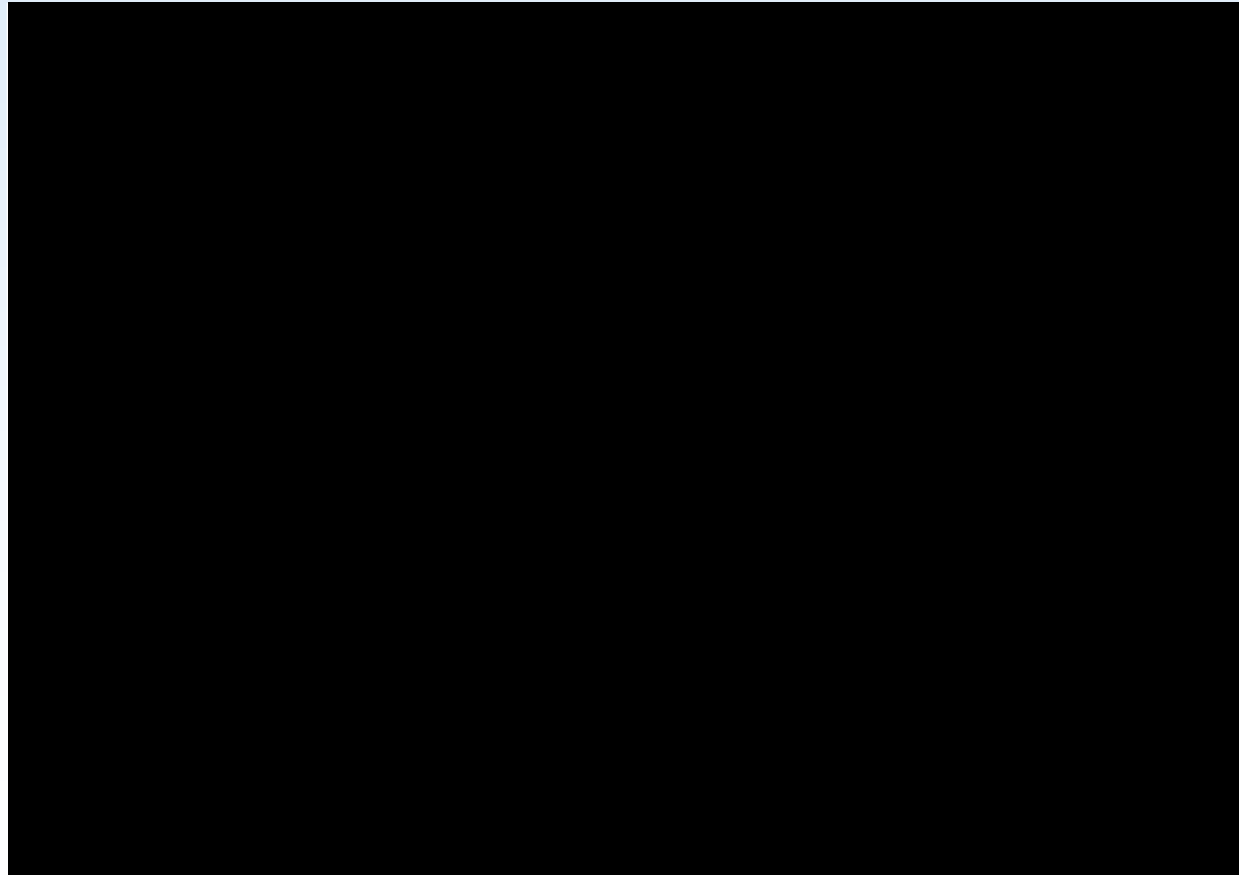
# VRTC Description of Damage Sequence

- The driver turns the key to OFF with the shifter not in Park
- The driver then releases the key, which can leave the lever/barrel in the engaged and blocked position, and moves the shifter to Park.
- After the shifter is moved to Park, the lever is still deployed and blocking the barrel from rotating so a turn towards the OFF direction is still blocked;
- Depending upon how the driver reengages the key, the lever could stay fully blocked, partially blocked, or release;
- Without the fully deployed lever, the overlap is reduced and NORMAL turning forces can permanently damage the interlock lever
- The driver then releases the key, which can leave the lever/barrel in the engaged and blocked position, and moves the shifter to Park. As the driver touches the key the lever can stay fully engaged, slide to partially engaged, or release. In the cases where the lever hangs in a half cocked position the partial overlap no longer provides sufficient blocking strength to stop the driver from damaging the lever permanently disabling the interlock function

# Failure Analysis

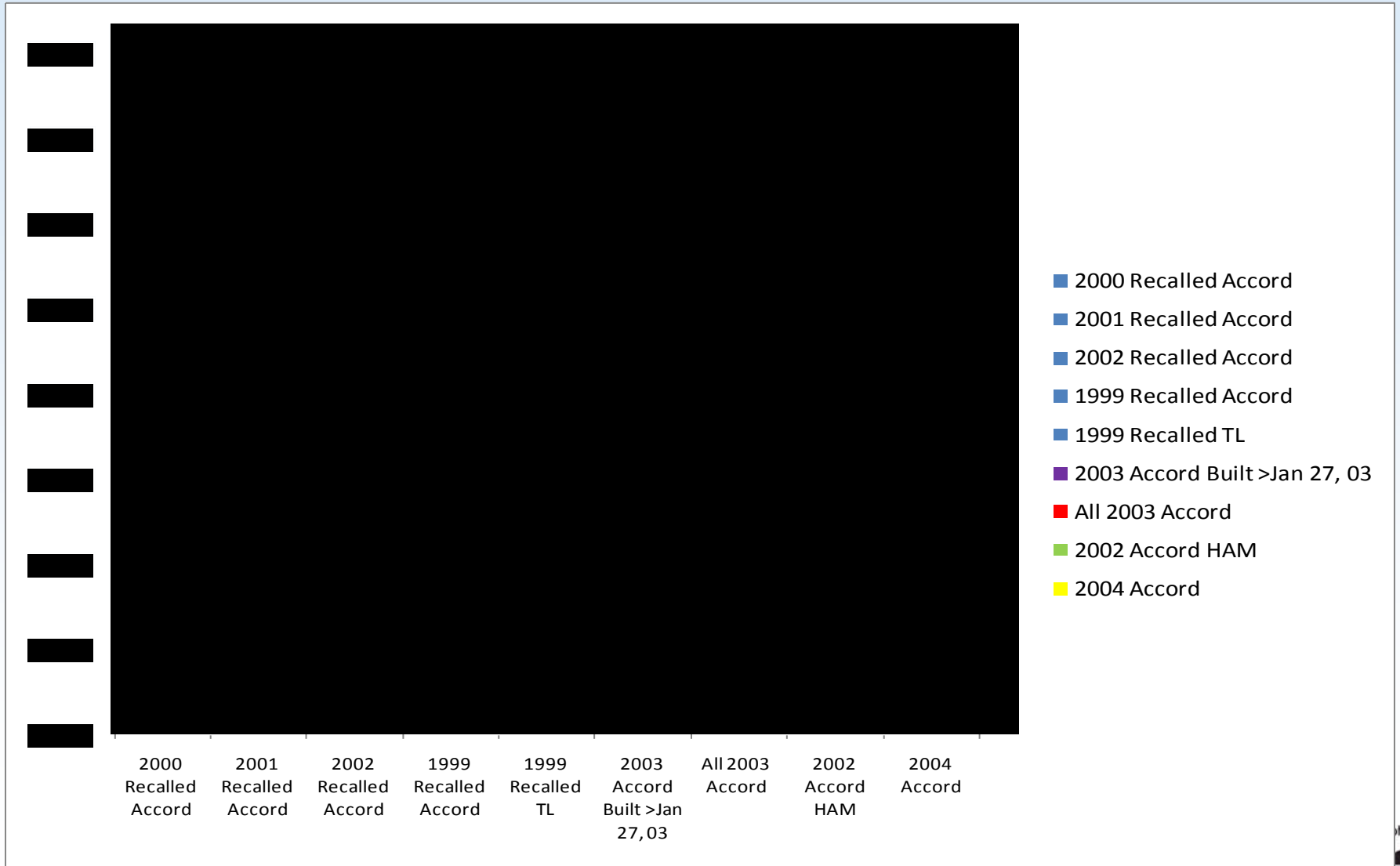
- The S5A lock assembly for MY 2003 Accord is unique to those model year Accords. It was introduced at beginning of production and modified again on [REDACTED] at which point the failure rate increases; the failure rate for the SEA version is much improved (based on warranty analysis, see following slide).

IR response  
Q13 page 1  
shows  
improvement  
to lock  
cylinder  
eliminating  
possibility of  
“half lock”  
mode





# Warranty failures as a % of build: 2003 Accord vs. 05V-025 recalled vehicles and non-recalled Accords 2002 & 2004



# Complaint Rate per 100,000 Vehicles: Comparison to Prior Recalls

Pursuit	Recall	Subjects	Population	Unique Complaints	Rate /100k	Crashes Injuries
EA03-018	03V-422	2002 Honda CR-V	76,988	35	45.5	7-3
EA03-017	03V-423	1998-1999 Honda Accord	490,480	142	29.0	24-1
EA98-014	98V-183	96-97 Chrysler Sebring	72,000	20	27.8	4-0
EA03-011	04V-021	93-99 Chrysler JA, JX, & LH	2,315,768	639	27.6	115-14-1
PE05-002	05V-025	1997-02 Honda & Acura	486,659	75	15.4	12-0
PE08-006	08V-139	2006 Mitsubishi Endeavor	107,597	14	13.0	7-1
PE07-034	97V-213	97 Toyota Camry	289,326	29	10.0	8-0
<b>EA09-001</b>	<b>open</b>	<b>2003 Accord</b>	400,461	42	10.5	<b>18-1</b>