

To: MITSUBISHI MOTORS CORPORATION



Doc.No.AQ-F090032(1/8)

ST41 P/W AS SW Failure Returned Parts Analysis Result Report

May 11, 2009

**Omron Corporation AEC Company
Quality Assurance Division**

Issue	Check	Approve
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*The analysis could not be performed as the copper trace was lost due to generated heat and smoke.

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1 Failure Outline

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Objective

To investigate sources that caused the failure of heat and smoke generation with P/W AS SW of ST41.

Failure Occurrence Status

Vehicle Model	ST41
Vehicle No.	4A3AA46G22E133570
Vehicle manufactured date	April 5,2002
Vehicle Sales date	April 22,2002 * November 15,2007 (2nd)
Failure occurrence date	March 22,2009
Mileage	90000
P/W SW production lot No.	Burnt, Unidentifiable

*It has been confirmed, from the vehicle manufactured date, that the switch was manufactured before implementing a countermeasure against water intrusion.

2 Conclusion

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Conclusion

We have concluded that the recent SW failure led to heating and smoking was caused by the same mechanism as 2C41 P/W AS SW failure reported back on September 17, 2004.

Based on the following consideration (*1 , *2 respectively), the recent failure is thought to be an extremely rare case.

*1: The possibility of its occurrence in the market is very low.

*2: Recreation test result shows that the probability of recurrence is low.

<Mechanism of occurrence>

*1

Liquid with high content of electrolytes, such as sport drink, was spilled in a large quantity (250ml or more) at once in the vicinity of Sub SW knob area.



Liquid that entered the switch adhered to the broached area between IG-MU.



Adhered moisture dried out leaving deposit of electrolytes and carbide between traces.



Deposit of electrolytes and carbide absorbed moisture leading to a leakage between traces.



*2

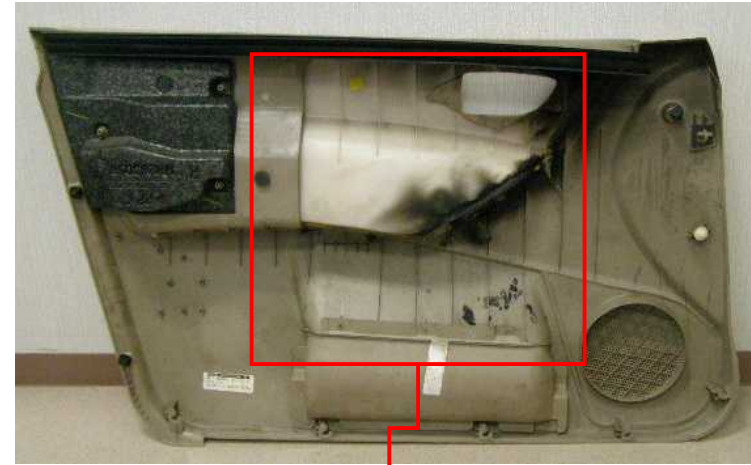
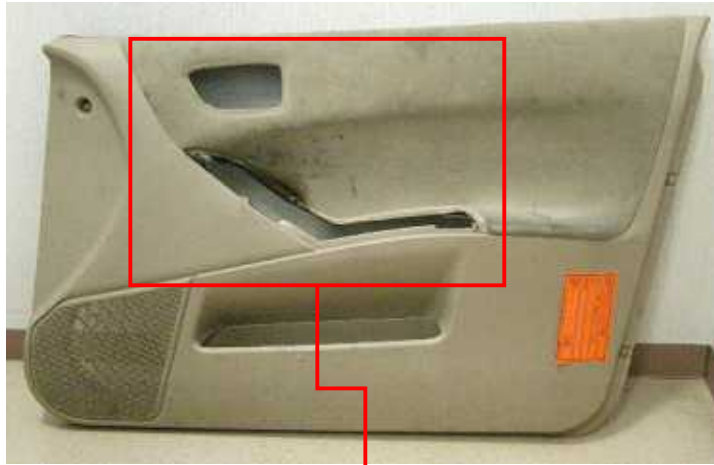
Heat and smoke generated as certain resistance value was reached.

3 Returned Part Investigation Result

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(1) Trim appearance examination

-The generation of heat and smoke was confirmed in the P/W SW area of the trim.



Damage from heat and
smoke at P/W SW

3 Returned Part Investigation Result

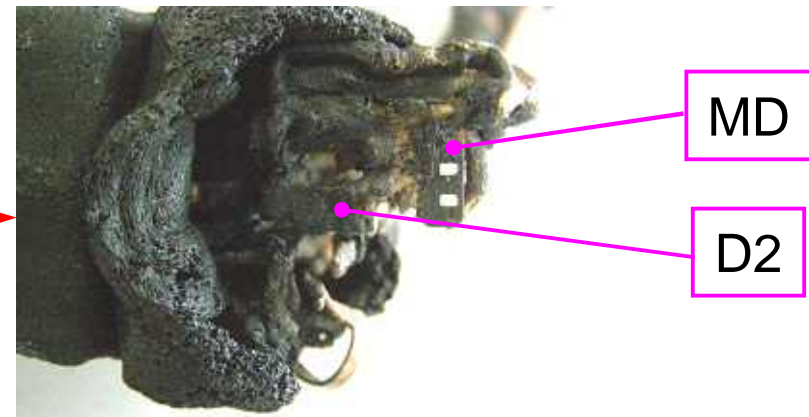
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(2)SW appearance examination

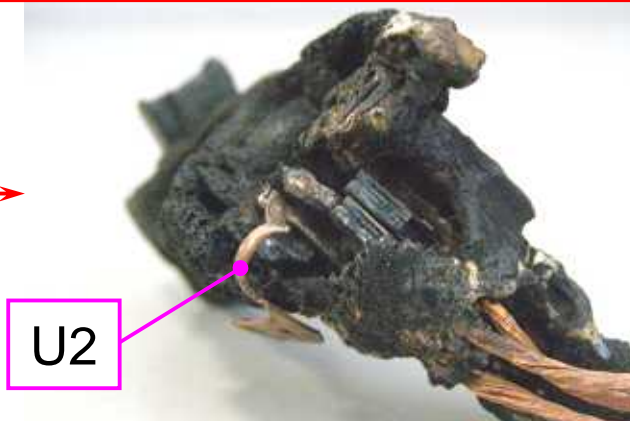
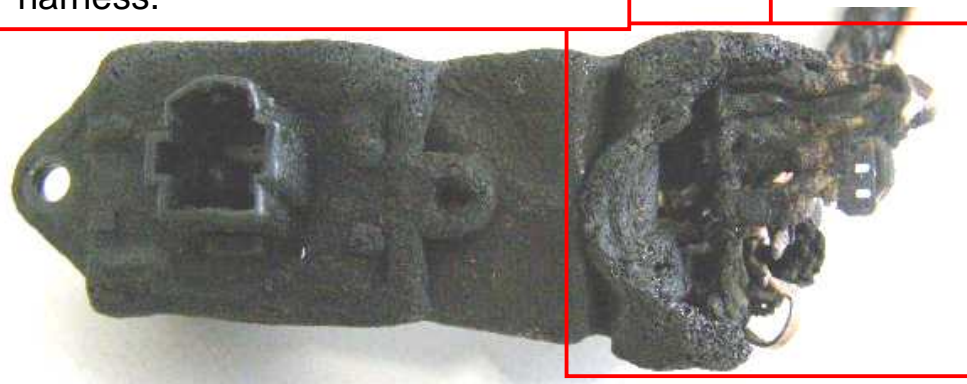
- Carbonization of the case, insert-molded base and connector of the P/W SW was confirmed.
- The copper trace (IG-MU) was lost due to generated heat and smoke.
- It was judged that the broached area between IG-MU was the source of fire as its damage was significant.



Carbonization of P/W SW case, insert-molded base, connector and harness.



The copper trace (IG-MU) was lost due to generated heat and smoke.

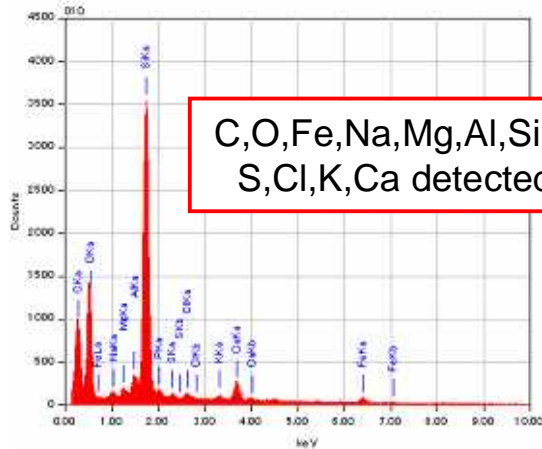


3 Returned Part Investigation Result

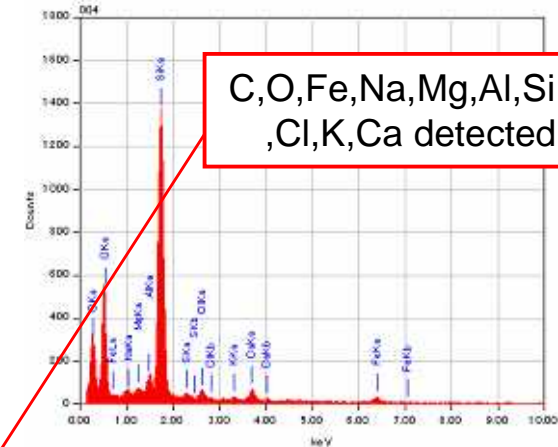
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(5)Element analysis

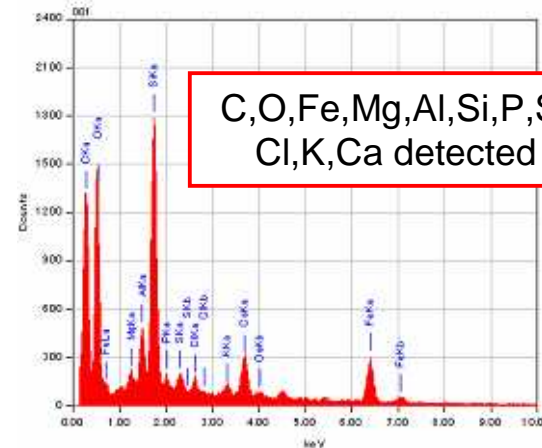
-From the fact that ionic impurities (Na,Mg,Cl,K,Ca,etc.) were found under P/W SW knob, it is considered that there is a high possibility of fluid intrusion inside SW.



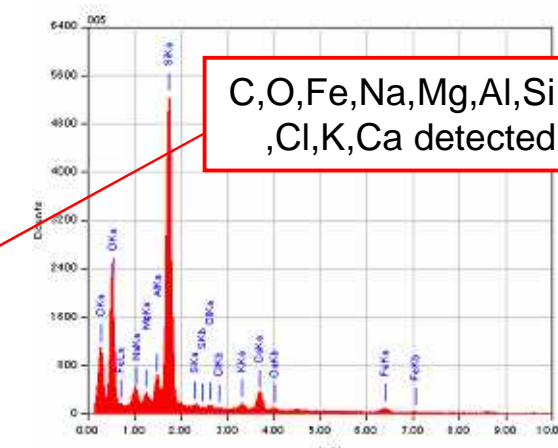
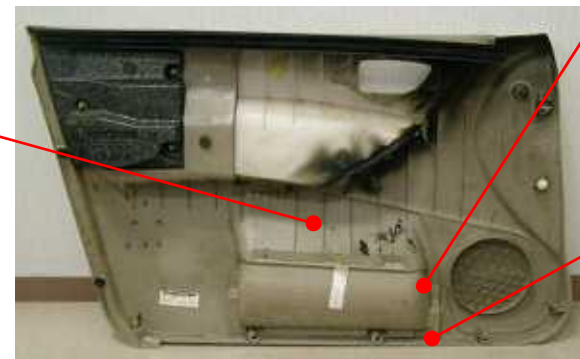
C,O,Fe,Na,Mg,Al,Si,P
S,Cl,K,Ca detected



C,O,Fe,Na,Mg,Al,Si,S
,Cl,K,Ca detected



C,O,Fe,Mg,Al,Si,P,S,
Cl,K,Ca detected



C,O,Fe,Na,Mg,Al,Si,S
,Cl,K,Ca detected

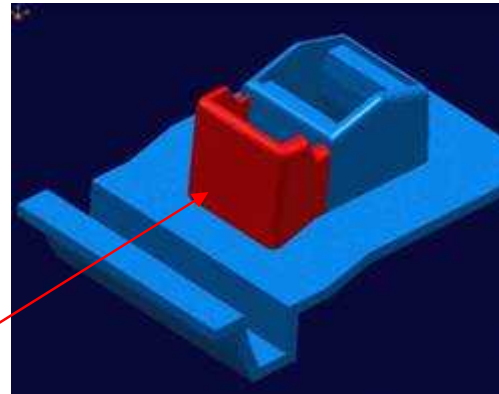
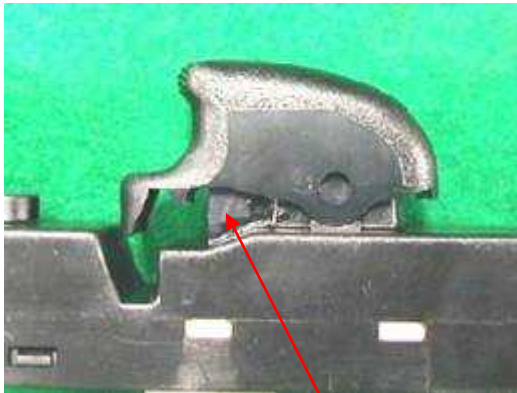
4 Countermeasure Implementation History

Countermeasure implementation History

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* Case change

Jan-27,2005



Additional figure