The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
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SURFACE VEHICLE RECOMMENDED PRACTICE

Submitted for recognition as an American National Standard

SAE J1855

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DEPLOYMENT OF ELECTRICALLY ACTIVATED AUTOMOTIVE AIR BAGS FOR AUTOMOBILE RECLAMATION

Foreword—Interest has been expressed by groups in government and industry regarding the issue of safe deployment of automotive air bag systems for disposal purposes. As a result, there have been numerous studies and meetings to address various methods for handling, identification, and disposal of electrically activated air bag inflators. Several viable solutions have been proposed, yet a standardized approach was still needed. For this reason, the Automotive Air Bag Disposal Study Group of the SAE Inflatable Restraints Systems Standards Committee has prepared this SAE Recommended Practice.

1. Scope—This SAE Recommended Practice describes the method for safe deployment of air bag modules in vehicles equipped with electronics or electromechanically actuated air bag systems for the purpose of disposal. It is intended to provide a procedure which does not require significant technical expertise, is easy to operate, and is readily available, to be used by automobile dismantlers or vehicle shredders to deploy air bag modules prior to automobile reclamation.

1.1 Purpose—The purpose of this document is to establish guidelines for use by automobile manufacturers for development of a uniform practice regarding the deployment of automotive air bags in vehicles during the vehicle scrappage process. This document is intended as a guide toward standard practice and is subject to change to keep pace with experience and technical advances.

2. References

2.1 Related Publications—The following publications are provided for information purposes only and are not a required part of this document.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1538—Glossary of Automotive Inflatable Restraint Terms

SAE J1856—Identification of Automotive Air Bags

SAE Technical Paper #790643—The MVMA Gas Generants Investigation

SAE Technical Paper #841217—Disposal of Inflators for Air Bag Systems

2.1.2 OTHER PUBLICATIONS

Paper EDK-0041-111-384 "Study Group on Automotive Air Bag Disposal," Daimler-Benz Position MBNA No. 190, July 1986 "Work Instructions"

"Air Bag Training Reference Book" BMW of North America

2.2 Definitions and Terminology

Refer to SAE J1538 Glossary of Automotive Inflatable Restraint Terms

3. Remote Actuation of Undeployed Air Bag Systems

3.1 Remote Deployment Connector—Existing remote deployment systems utilize plug-in type connectors. Until such time as a uniform connector is developed and utilized by all automobile manufacturers in all air bag systems and vehicle designs, access to existing connectors, or a suitable splicing location, is advised. Information regarding the description and location of these connectors or splicing locations and the types of vehicles they are being used in, should be prepared and made available by automobile manufacturers as new systems are developed. As a minimum, the following information is recommended for inclusion for each type of air bag equipped vehicle:

3.1.1 ALTERNATIVE A

3.1.1.1 Make/model/year of vehicle

3.1.1.2 Description and part number of remote deployment connector, if provided (for example, see Figure 1)

3.1.1.3 Description of remote deployment connector or splicing location(s)

3.1.2 ALTERNATIVE B

3.1.2.1 Make/model/year of vehicle

3.1.2.2 A remote deployment system connecting device which uses crimp-on type connectors where the electrical connection to the inflator firing circuit is made by crimping to a loop or insulated stub in the wiring system (for example, AMP drawing number 825598, AMP Deutschland GmbH, Langer b.Ffm, West Germany, or equivalent).

3.1.2.3 Description of location of loop or insulated stub.

3.2 Remote Deployment Device—A remote deployment device may be utilized to trigger an air bag inflator without removing the system from the vehicle. The requirements for a remote deployment device are as follows:

3.2.1 Electrical power supply may be self-contained or may utilize outside 12 V battery source.

3.2.2 The proper electrical interface connectors/adaptors for the air bag systems which are to be remotely deployed.

3.2.3 A firing switch in series between the power supply and the electrical interface connectors/adaptors. An example of a remote deployment system and the system electrical schematic is given in Figure 1.

3.3 Remote Deployment Procedures—A typical procedure for the remote deployment of an air bag system which may include:

3.3.1 Disconnect vehicle battery and wait 20 min for the energy reserve to discharge.

3.3.2 The air bag module(s) to be deployed must be firmly mounted to the vehicle. Verify that there is no loose debris around the unit(s). Deployment of loose or unmounted air bag module(s) may cause personal injury.

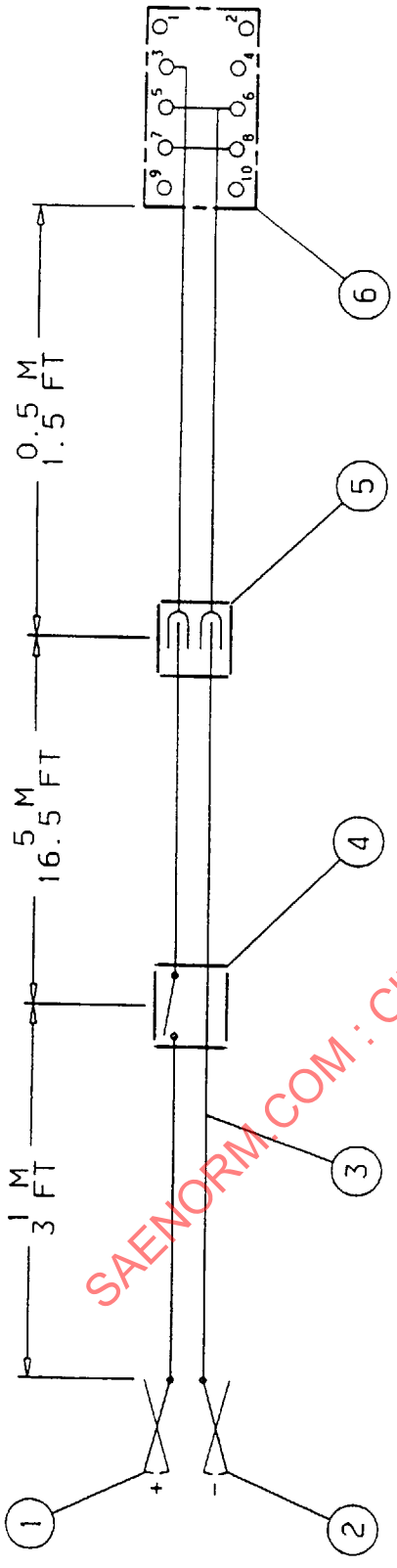
3.3.3 The operator of the remote deployment device should ensure that no other persons are in or near the vehicle when the bag(s) is deployed.

3.3.4 Connect the manufacturer specified electrical connector for the air bag(s) system to be deployed to one end of the firing line of the remote deployment device.

3.3.5 Connect the other end of the firing line to the remote air bag(s) inflator firing system connector.

3.3.6 Close the doors of the car, if possible, extending the connecting cable to its full length of at least 6 m (20 ft).

3.3.7 Connect the remote firing line to an automobile battery or other remote power source.



1. Allied Electronics, Terminal Clip, Stock No. 860R0091, Type 46A.
   Alternate: Newark Stock No. 28F468, Type 46A.
2. Allied Electronics, Terminal Clip, Stock No. 860R0089, Type 46A.
   Alternate: Newark Stock No. 28F467, Type 46A.
3. General cable, 186A two conductor rubber vinyl wire Stock No. 03010-27.
4. Switchcraft, spring loaded toggle, normally open, H.H. Smith P/N 525, gamp, and box "Budd" P/N CU2102B.
   Alternate: Automotive remote push-button starter switch.
5. Allied Electronics, two circuit connector, Stock No. 03-09-2021.
   Alternate: Newark, Switchcraft, phone jacks, P/N 11, Plug P/N 270.
6. Airbag connector - Example- Mercedes Benz Case No. 011 545 2028, Pin No. 001 545 2826

FIGURE 1—EXAMPLE OF AN AIR BAG REMOTE DEPLOYMENT DEVICE CIRCUIT

3.3.8 From a safe position, activate the firing button(s) to initiate remote deployment of the air bag module(s).

4. The deployment procedure should be made available to scrap industry associations.

PREPARED BY THE SAE AUTOMOTIVE AIR BAG DISPOSAL STUDY GROUP OF THE SAE INFLATABLE RESTRAINTS SYSTEMS STANDARDS COMMITTEE