

## 2.3 HORN BAR AND AIRBAG MODULE ASSEMBLY

If conducting the following operation on an air bag that has deployed, ensure that you are wearing safety glasses and gloves to protect your eyes and hands from possible irritation when handling the deployed horn bar and air bag inflator module assembly.

After the horn bar and air bag inflator module assembly has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of corn starch (used to lubricate the bag as it inflates) and by products of the chemical reaction. Sodium hydroxide dust is produced as a by product of the deployment reaction. The sodium hydroxide then quickly reacts with atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As a precaution, however, gloves and safety glasses are recommended to prevent any possible irritation of the skin or eyes.

### REMOVE

1. Disable the SRS, refer [2.2 SYSTEM DISABLING AND ENABLING PROCEDURE - DISABLING THE SRS](#) in this Section.
2. Using a number T30H Torx bit, Tool No. ETX30H and a suitable holder such as Tool No. J25359-8, loosen and remove four screws from rear of steering wheel securing horn bar and air bag inflator module assembly to the steering wheel.

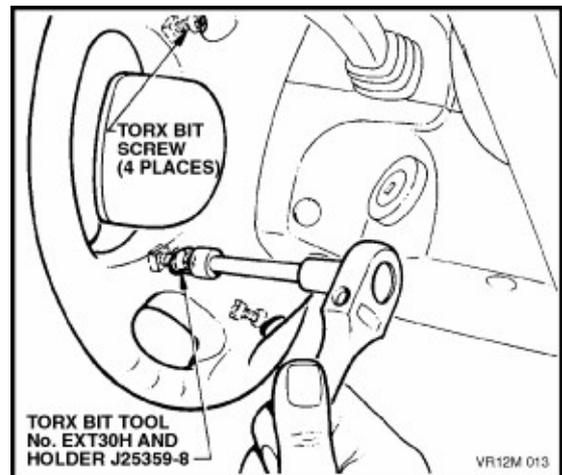


Figure 12M-27

3. Lift up horn bar and air bag inflator module assembly from steering wheel and disconnect wiring harness connectors from rear of assembly.

**NOTE:** If removing a horn bar and air bag inflator module assembly from a steering wheel fitted with stereo controls, take extreme care when disconnecting the left hand horn pad connector from the stereo control wiring connector otherwise damage to the stereo control wiring could result.

Remove horn bar and air bag inflator module assembly.

**CAUTION:** When carrying a live (undeployed) horn bar and air bag inflator module assembly, make sure the bag opening in the horn bar is pointed away from you. Never carry the horn bar and air bag inflator module assembly by the horn bar wires or connectors on the underside of the assembly. In case of an accidental deployment, the bag will then deploy with minimal chance of injury. When placing a live horn bar and air bag inflator module assembly on a bench or other surface, always face the bag and horn bar up, away from the surface. Never rest the horn bar and air bag inflator module assembly with the horn bar face down. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Otherwise, personal injury may result.

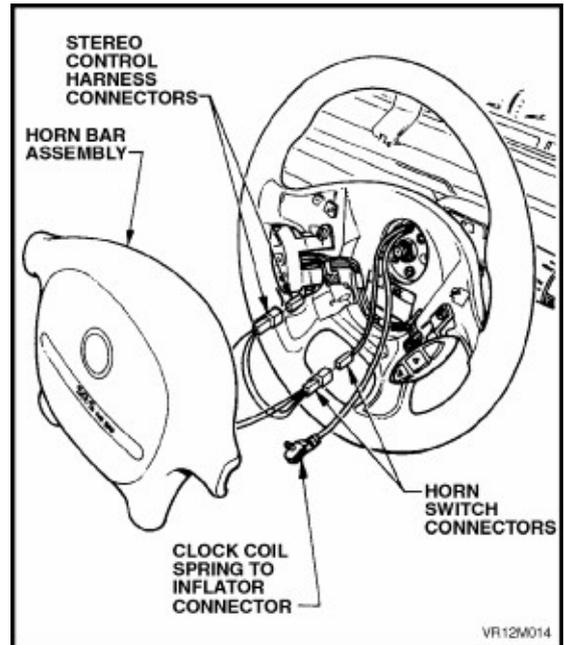


Figure 12M-28

## REINSTALL

1. Lift horn bar and air bag inflator module assembly up to steering wheel and reconnect all wiring harness connectors to rear of assembly.
2. Seat horn bar and air bag inflator module assembly on steering wheel, ensuring wiring is not exposed or trapped between air bag inflator module and steering wheel hub.

Ensure that horn bar and air bag inflator module assembly is located correctly on the steering wheel, aligning dimples on upper spokes with mating recesses on underside of horn bar.

3. Using number T30H Torx bit and suitable holder, install and tighten four screws into rear of steering wheel to secure horn bar and air bag inflator module assembly to the steering wheel. Tighten screws to the

the steering wheel. Tighten screws to the correct torque specification.

**HORN BAR AND AIRBAG MODULE  
ASSEMBLY TO STEERING WHEEL  
SECURING SCREW  
TORQUE SPECIFICATION**

**10 - 14  
Nm**

4. Enable the SRS, refer [2.2 SYSTEM DISABLING AND ENABLING PROCEDURE - DISABLING THE SRS](#) in this Section.
5. Switch ignition on, and observe the SRS 'AIRBAG' warning lamp. The warning lamp should be illuminated for approximately 3.5 seconds. During this period of time the SDM performs a wiring and self check. If the warning lamp illuminates again after a 2 second delay, a fault is present. Refer to [3. DIAGNOSTICS](#) in this Section to rectify fault.

**HORN BAR AND AIRBAG MODULE  
ASSEMBLY SCRAPPING PROCEDURE**

During the course of a vehicle's useful life, certain situations may arise which will necessitate the disposal of a live (undeployed) horn bar and air bag inflator module assembly. The following information covers proper procedures for deploying a live assembly.

**CAUTION: Failure to follow proper Supplemental Restraint System (SRS) horn bar and air bag inflator module assembly disposal procedures can result in air bag deployment which may cause personal injury. The undeployed air bag inflator module contains substances that can cause severe illness or personal injury if the sealed container is damaged during disposal.**

In situations which require deployment of a live horn bar and air bag inflator module assembly, deployment may be accomplished inside or outside the vehicle. The method employed depends upon the final disposition of the particular vehicle, as noted in 'Deployment Outside Vehicle' and 'Deployment Inside Vehicle' in this Section.

**Horn Bar And Airbag Module**

## Deployment Outside Vehicle

There may be some circumstance that require the deployment of a horn bar and air bag inflator module assembly before a vehicle is to be returned to service. For example, situations in which the vehicle will be returned to an owner after a functionally or cosmetically malfunctioning horn bar and air bag inflator module assembly is replaced. Deployment and disposal of a malfunctioning air bag inflator module is, of course, subject to any required retention period.

For deployment of a live (undeployed) horn bar and air bag inflator module assembly outside the vehicle, the deployment procedure must be followed exactly. Always wear safety glasses during the deployment procedure until the assembly is removed. Before performing the procedure you should be familiar with servicing the SRS and with proper handling of the horn bar and air bag inflator module assembly.

The following must be read fully and understood before performed the actual procedure.

The following procedure requires use of J38826-1 SRS deployment harness with adaptor E1992. Do not attempt procedure without J38826-1 and E1992.

**CAUTION: Failure to follow procedures in the order listed may result in personal injury. Never connect deployment harness to any power source before connecting deployment harness to the horn bar and air bag inflator module assembly. The deployment harness must remain shorted and not be connected to a power source until the horn bar and air bag inflator module assembly is ready to be deployed. The module will immediately deploy the air bag when a power source is connected to it. Wear safety glasses and gloves throughout this entire deployment and disposal procedure.**

1. Turn ignition switch 'OFF' and put on safety glasses.
2. Inspect J38826-1 SRS deployment harness and adaptor, E1992 for damage. If harness or adaptor is damaged, discard and obtain a replacement.
3. Short two SRS deployment harness leads

3. Short two SRS deployment harness leads together by fully seating one banana plug into the other. SRS deployment harness MUST remain shorted and NOT connected to a power source until the air bag is to be deployed.
4. Connect the appropriate pigtail adaptor to the SRS deployment harness.

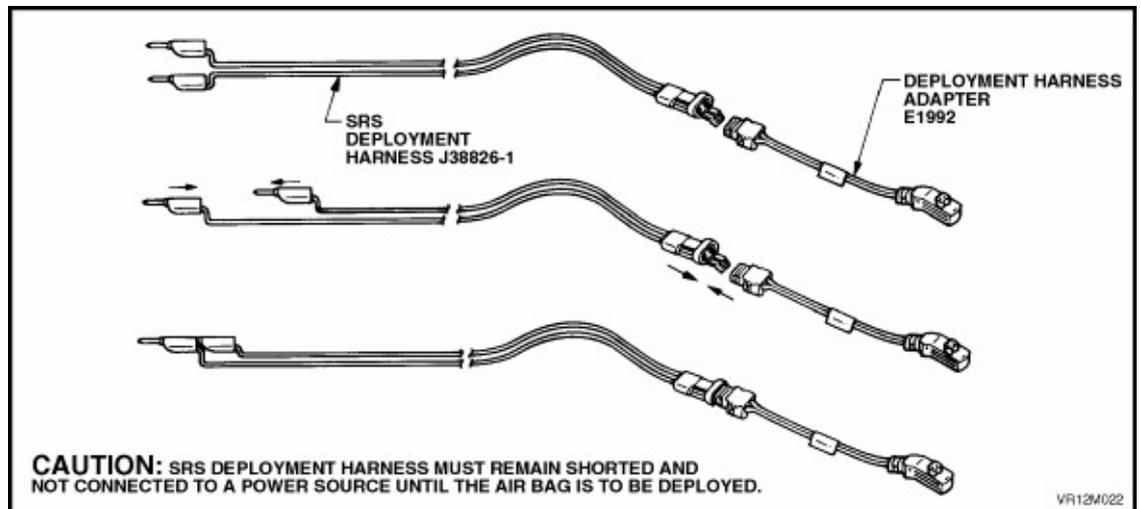
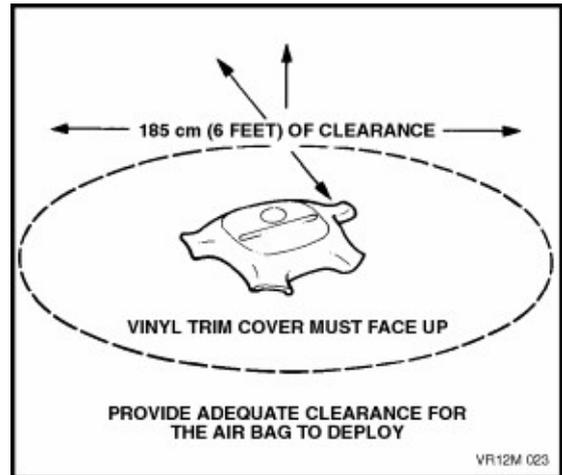


Figure 12M-29

5. Remove horn bar and air bag inflator module assembly from vehicle, refer [2.3. HORN BAR AND AIRBAG MODULE ASSEMBLY](#) - REMOVE in this Section.

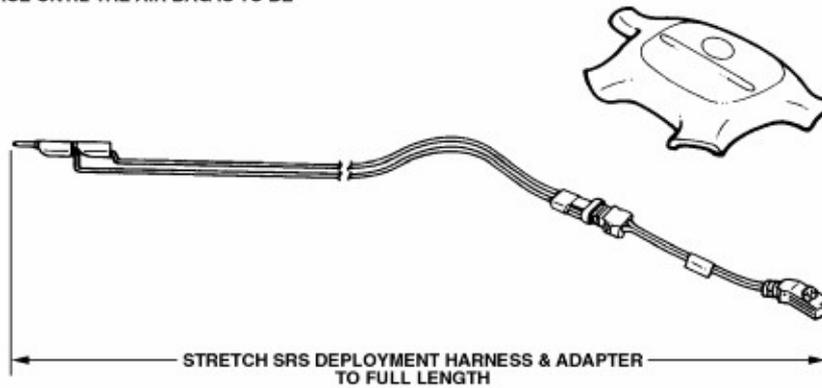
**CAUTION:** When storing a live horn bar and air bag inflator module assembly or when leaving a live assembly unattended on a bench or other surface, always face the assembly with the horn bar up and away from the surface. This is necessary so that a free space is provided to allow the air bag to expand in the unlikely event of accidental deployment. Failure to follow procedures may result in personal injury.

6. Place the assembly on a work bench or other surface away from all loose or flammable objects with its horn bar facing up, away from the surface.
7. Clear a space on the ground about 185 cm in diameter where the assembly is to be deployed. A paved, outdoor location where there is no activity is preferred. If an outdoor location is not available, a space on the workshop floor where there is no activity and sufficient ventilation is recommended. Ensure no loose or flammable objects are within the deployment area.
8. Place the assembly, with its horn bar facing up, on the ground in the space just cleared.
9. Stretch the SRS deployment harness and adaptor from the horn bar and air bag inflator module assembly to its full length.
10. Place a power source near the shorted end of the SRS deployment harness. Recommend application: 12 volts minimum, 2 amps minimum (a vehicle battery is suggested).
  
11. Connect the horn bar and air bag inflator module assembly to the adaptor E1992 on the SRS deployment harness. The deployment harness **MUST** remain shorted and **NOT** connected to a power source until the air bag is to be deployed. The module will immediately deploy the air bag when a power source is connected to it.



**Figure 12M-30**

**CAUTION:** SRS DEPLOYMENT HARNESS MUST REMAIN SHORTED AND NOT CONNECTED TO A POWER SOURCE UNTIL THE AIR BAG IS TO BE DEPLOYED.



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**Figure 12M-31**

12. Verify that the area around the horn bar and air bag inflator module assembly is clear of all people and loose or flammable objects.
13. Verify that the horn bar and air bag inflator module assembly is resting with horn bar facing up.
14. Notify all people in the immediate area that you intend to deploy the horn bar and air bag inflator module assembly. The deployment will be accompanied by an explosion which may startle the uninformed.

15. Separate the two banana plugs on the SRS deployment harness.

**NOTE: 1.** When the air bag deploys, the rapid gas expansion will create an explosion. Notify all people in the immediate area that you intend to deploy the module.

**NOTE: 2.** When the air bag deploys, the assembly may jump about 30 cm vertically. This is a normal reaction of the module to the force of the rapid gas expansion inside the air bag.

**CAUTION:** The deployment harness **MUST** remain shorted and **NOT** connected to a power source until the air bag is to be deployed. The module will immediately deploy the air bag when a power source is connected to it. Connecting the deployment harness to the power source should always be the last step prior to deployment of the air bag. Failure to follow procedures in the order listed may result in personal injury.

16. Connect SRS deployment harness leads to the power source to immediately deploy the horn bar and air bag inflator module assembly.

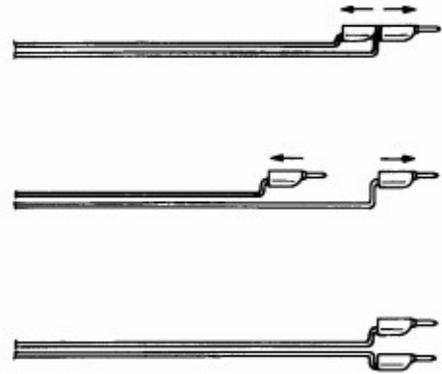
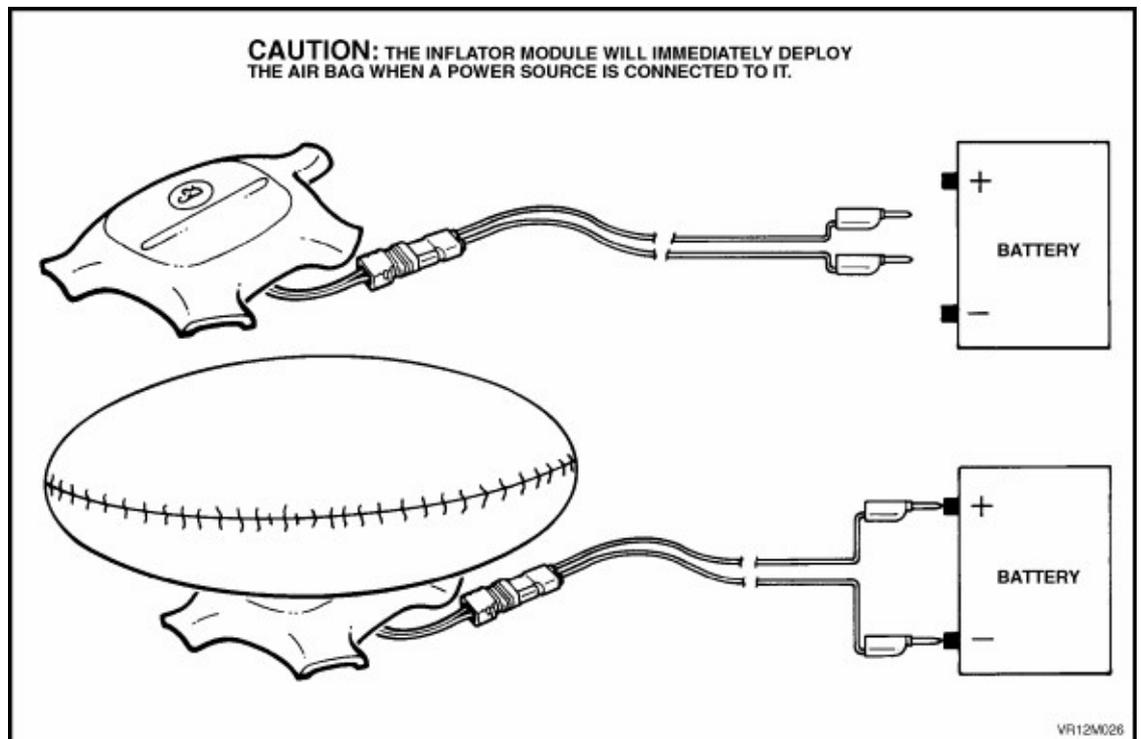
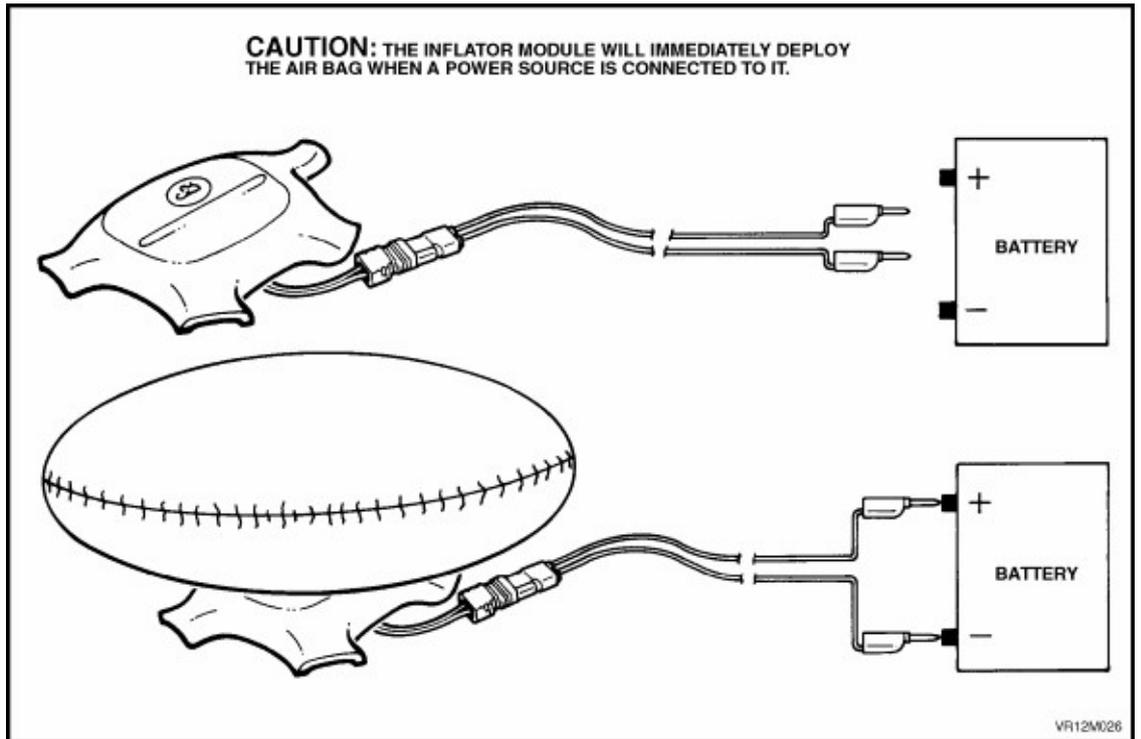


Figure 12M-32





**Figure 12M-33**

17. Disconnect the SRS deployment harness from the power source.
18. Short the two SRS deployment harness leads together by fully seating one banana plug into the other.

19. Ensure that you are wearing safety glasses and gloves to protect your eyes and hands from possible irritation and heat when handling the deployed horn bar and air bag inflator module assembly.

After the horn bar and air bag inflator module assembly has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of corn starch (used to lubricate the bag as it inflates) and by products of the chemical reaction. Sodium hydroxide dust is produced as a by product of the deployment reaction. The sodium hydroxide then quickly reacts with the atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As a precaution, however, gloves and safety glasses are recommended to prevent any possible irritation of the skin or eyes.



Figure 12M-34

**CAUTION: Safety precautions must be observed when handling a deployed horn bar and air bag inflator module assembly. After deployment, the metal surfaces of the module will be very hot. Allow the module to cool before handling any metal portion of it. Do not place the deployed horn bar and air bag inflator module assembly near any flammable objects. Failure to follow procedures may result in fire or personal injury.**

**After a horn bar and air bag inflator module assembly has been deployed, the metal canister and surrounding areas of the module will be very hot. Do not touch the metal areas of the module for about 10 minutes after deployment. If the deployed horn bar and air bag inflator module assembly must be moved before it has cooled, wear gloves and handle by the air bag or the horn bar.**

20. Disconnect the adaptor E1992 from the module as soon as possible after deployment. This will prevent damage to the adaptor or SRS deployment harness due to possible contact with the hot module canister. The adaptor and SRS deployment harness are designed to be

deployment harness are designed to be reused. They should, however, be inspected for damage after each deployment and replaced if necessary.

21. Dispose of the deployed horn bar and module assembly through normal refuse channels after it has cooled for at least 10 minutes.
22. Wash your hands with mild soap and water afterward.

### **Horn Bar And Airbag Module Deployment Inside Vehicle (Vehicle Scrapping Procedure)**

Deployment of the horn bar and air bag inflator module assembly inside a vehicle may be necessary when the vehicle is to be destroyed or salvaged for component parts. This includes, but is not limited to, the following situations:

1. The vehicle has completed its useful life.
2. The vehicle has been damaged beyond repair in a non-deployment type accident.
3. The vehicle was stolen and has been stripped or damaged beyond repair.
4. The vehicle will be salvaged for component parts to be used on other vehicles.

**IMPORTANT: Never use SRS components from another vehicle. This is to ensure SRS integrity since only NEW SRS system components may be used in servicing an SRS equipped vehicle.**

**CAUTION: Failure to follow proper SRS horn bar and air bag inflator module assembly deployment procedures can result in air bag deployment which may cause personal injury.**

1. Turn ignition switch 'OFF' and put on safety glasses.
2. Remove all loose objects from driver's seat.
3. Disable the SRS, refer [2.2 SYSTEM DISABLING AND ENABLING PROCEDURE - DISABLING THE SRS](#) in this Section.

4. Locate the yellow coloured SRS main wiring harness connector at the base of the steering column lower cover (refer Fig. 12M-24). Using a 'seam splitter' cut back insulation from main wiring harness to expose yellow coloured connector leads. Cut connector from the main wiring harness, leaving at least 15 cm of wire at the connector.
5. Strip 13 mm of insulation from each lead of the connector.

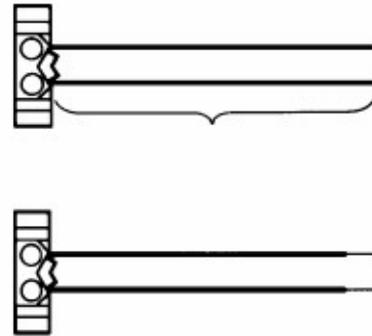


Figure 12M-35

6. Cut two 460 cm deployment wires from 8 mm (18 gauge) or thicker multi-strand wire. These wires will be used to fabricate a deployment harness.
7. Strip 13 mm of insulation from both ends of the deployment wires cut in the previous step.
8. Short the wires by twisting together one end from each. The deployment wires MUST remain shorted and NOT connected to a power source until the air bag is to be deployed.

**CAUTION: Failure to follow procedures in the order listed could result in personal injury. Never connect deployment wires to any power source before connecting deployment wires to the clock spring coil yellow coloured connector. Deployment wires MUST remain shorted and NOT connected to a power source until the air bag is to be deployed.**

The module will immediately deploy the air bag when a power source is connected to it. Wear safety glasses throughout this entire deployment and disposal procedure.

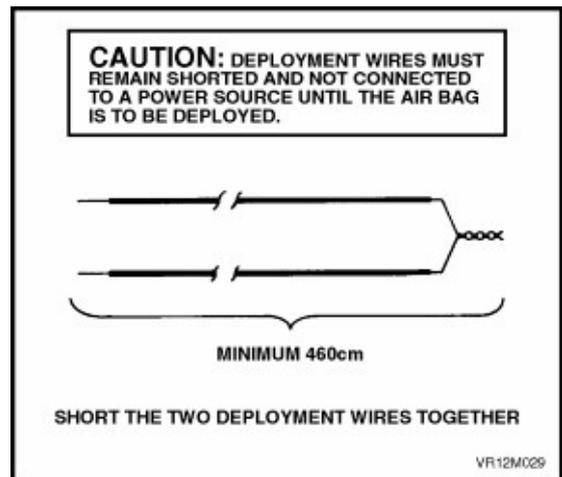


Figure 12M-36

9. Twist together one connector wire lead to one deployment wire. The connection should be mechanically secure.
10. Bend twisted connection made in the previous step flat and wrap tightly with electrical tape to insulate and secure.
11. Twist together, bend and tape the remaining connector wire lead to the remaining deployment wire.
12. Connect the deployment harness connector (red coloured connector) to the yellow coloured clock spring coil connector at the base of the steering column lower cover. Route deployment harness out the driver side of the vehicle.

**CAUTION: Deployment wires MUST remain shorted and NOT connected to a power source until the air bag is to be deployed. The module will immediately deploy the air bag when a power source is connected to it. Connecting the deployment wires to the power source should always be the final step in the horn bar and air bag inflator module assembly deployment procedure. Failure to follow procedures in the order listed could result in personal injury.**

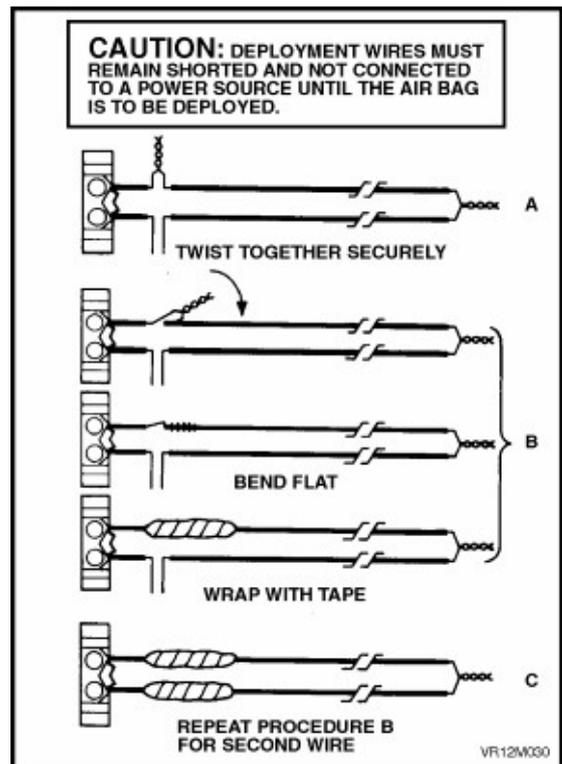
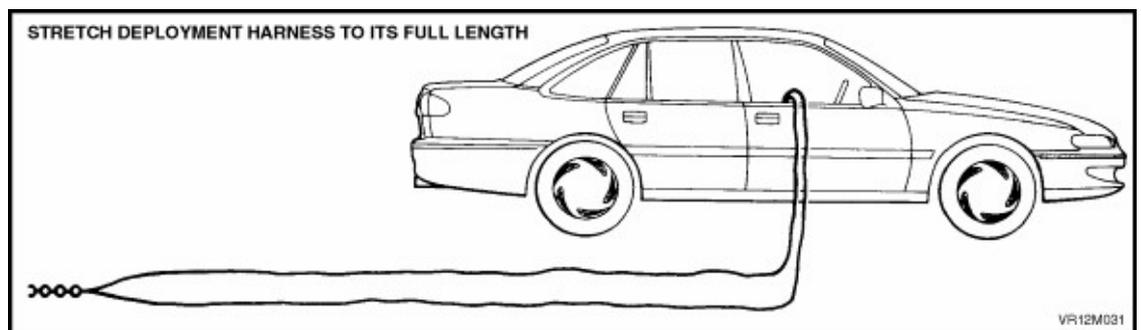


Figure 12M-37

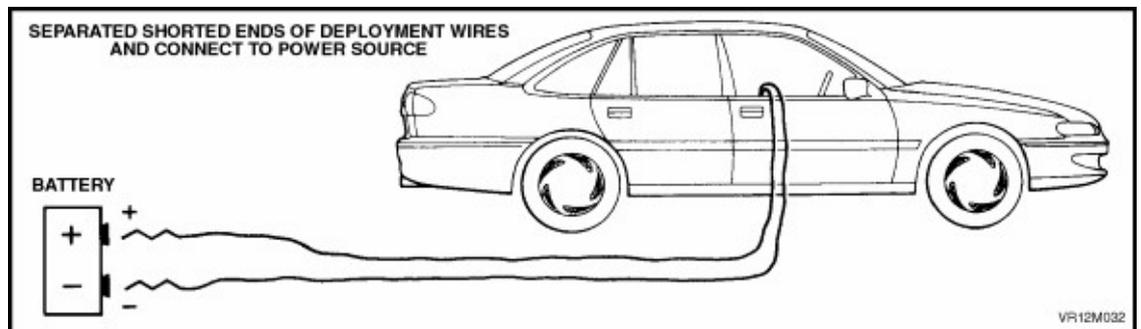


**Figure 12M-38**

13. Verify that the inside of the vehicle is clear of all people and loose or flammable objects.
14. Stretch the deployment harness to its full length.
15. Notify all people in the immediate area that you intend to deploy the air bag. The deployment will be accompanied by an explosion which may startle the uninformed.
16. Separate the two ends of the deployment harness wires.

**NOTE:** When the air bag deploys, the rapid gas expansion will create an explosion. Notify all people in the immediate area that you intend to deploy the air bag.

17. Connect the deployment harness wires to a power source to immediately deploy the air bag. Recommended application: 12 volts minimum, 2 amps minimum (a vehicle battery is suggested).



**Figure 12M-39**

After the horn bar and air bag inflator module assembly has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of corn starch (used to lubricate the bag as it inflates) and by products of the chemical reaction. Sodium hydroxide dust is produced as a by product of the deployment reaction. The sodium

of the deployment reaction. The sodium hydroxide then quickly reacts with atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that sodium hydroxide will be present after deployment. As a precaution, however, gloves and safety glasses are recommended to prevent any possible irritation of the skin or eyes.

**CAUTION: Safety precautions must be observed when handling a deployed horn bar and air bag inflator module assembly. After deployment, the metal surfaces of the module will be very hot. Allow the module to cool before handling any metal portion of it. Do not place the hot deployed horn bar and module assembly near any flammable objects. Failure to follow procedures could result in fire or personal injury.**

**After a horn bar and air bag inflator module assembly has been deployed, the metal canister and surrounding areas of the module will be very hot. Do not touch the metal areas of the module for about 10 minutes after deployment. If the deployed horn bar and module assembly must be moved before it has cooled, wear gloves and handle by the air bag or the horn bar.**

18. Short the deployment harness wires by twisting together the ends of each wire.
19. Disconnect deployment harness from the yellow coloured clock spring coil connector and discard the harness.
20. Vehicle may now be scrapped in the same manner as a non-SRS equipped vehicle.

### **Deployed Airbag Module Handling**

After the module has been deployed, the surface of the air bag may contain a powdery residue. This powder consists primarily of corn starch (used to lubricate the bag as it inflates) and by products of the chemical reaction. Sodium hydroxide dust is produced as a by product of the deployment reaction. The sodium hydroxide then quickly reacts with atmospheric moisture and is converted to sodium carbonate and sodium bicarbonate (baking soda). Therefore, it is unlikely that

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