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Instructions for Continued Airworthiness

AmSafe State of the Art Restraint System (SOARS)

Inflatable Kit Assembly Part Number: K7336

for Part 23 Aircraft

AmSafe Document Number: ICA7336

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The AmSafe Commercial and Government Entity (CAGE) code: 35FB9

25-10-01

Title Page T-1

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LETTER OF TRANSMITTAL

To: Holders of ICA7336, revision E, dated 27-Jun-2019. ICA7336 addresses inflatable kit assembly part number K7336.

REVISION HIGHLIGHTS

A complete reissue accomplishes the changes (summarized below). Remove and replace all pages.

Page(s)	Correction/Update
SB-1	Revised the location for service bulletins and letters in the first paragraph.
	Added SL511438.
LOT-2	Added a page.
1001	Revised the flight-hours from 4000 to 1000 in paragraph C.(1)(a).
1003	Is "unbuckled" was "buckled" in step (e).
1004	Is "solid green" was "flashing" in step 3.
1005	Is "EMA and System Locations" was "Aircraft LOPA and EMA" in the caption in Figure 1001.
1006	Is "flashing green" was "solid green" for LEDs for seats 1 and 2 in Figure 1003.
4001	Added a reference to the SDS for isopropyl alcohol in paragraph B.(2).
5001	Revised the flight-hours from 4000 to 1000 in paragraph C.(1).
	Revised steps (d) and (e) in paragraph C.(1).
10001	Is "kit (1)" was "kit" in paragraph 1.A.(1).
	Is "kit (1) locations" was "LOPA" in paragraph 1.A.(1).
10003	Item number is "50" was "45" for 7336-2070212396.
10002	Is "Locations" was "LOPA" in Figure 10002.
12001	Is "system (1)" was "system" in paragraph 1.A.(1).
12005 - 12008	Revised steps (e) through (g).
12022	Revised Figure 12025.
12023	Is (55) was (75) in the warning in step (c)1.
12024	Is (55) was (75) in the warning in step (h).
15006	Deleted a duplicate warning in paragraph (5)(a).
17001 - 17002	Revised the contact information for AmSafe at the top of the page.



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RECORD OF REVISION

On receipt of a revision insert ICA7336 in the applicable manual and complete the date inserted and the initials of the person who inserted ICA7336.

Rev. Letter	Issue Date	Date Inserted	Inserted By
-	06-Jun-2018		
A	13-Jun-2018		
B	03-Jul-2018		
C	12-Sep-2018		
D	21-Feb-2019		
E	27-Jun-2019		



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SERVICE BULLETINS/LETTERS

Below is a list of applicable service bulletins and service letters. Service bulletins and service letters are at amsafe.audodeskplm360.net. Customers may also contact AmSafe Customer Service.

Doc. No.	Title	Date Original Issue	Revision and Date	Date Incorporated
SB514387-25-01	Airbag System 4-Pin Connector Dust Covers	12-Mar-2018 Issue 1	N/A	21-Feb-2019
SB7336	Removal and Replacement of SOARS Inflatable Shoulder Harness Assembly P/Ns 7336-2050112396 and 7336-2050212396 With Inflatable Shoulder Harness Assembly P/Ns 7336-2070112396 and 7336-2070212396	21-Feb-2019 Issue 1	N/A	21-Feb-2019
SL511438	Best Practice for the Push-To-Test (PTT) Utilization Best Practice for NexGen Button on Electronic Module Assemblies P/Ns 511959, 513766 and 514518	10-May-19 Issue 1	N/A	No Effect



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LIST OF EFFECTIVE PAGES

A complete reissue of ICA7336 accomplishes changes.



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TABLE OF CONTENTS

INTRODUCTION	Intro-1
DESCRIPTION AND OPERATION	1
TESTING AND FAULT ISOLATION	1001
SCHEMATIC AND WIRING DIAGRAMS	2001
DISASSEMBLY	3001
CLEANING	4001
INSPECTION/CHECK	5001
REPAIR	6001
ASSEMBLY	7001
FITS AND CLEARANCES	8001
SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES	9001
ILLUSTRATED PARTS LIST	10001
SPECIAL PROCEDURES	11001
REMOVAL AND REPLACEMENT.....	12001
INSTALLATION.....	13001
SERVICING.....	14001
STORAGE.....	15001
REWORK (SERVICE BULLETIN/SERVICE LETTER ACCOMPLISHMENT PROCEDURES)	16001
ATTACHMENT A - ARC AUTOMOTIVE SDS.....	17001



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LIST OF FIGURES

Figure 1.	System	1
Figure 2.	Connector Half, Buckle Half and Shoulder Harness	3
Figure 3.	Connector Half, Buckle Half and Shoulder Harness	3
Figure 4.	Inflator Assembly Handling	4
Figure 5.	Child Seat Warning Label	5
Figure 1001.	Aircraft LOPA and EMA	1005
Figure 1002.	PTT Button	1006
Figure 1003.	Diagnostic Results	1006
Figure 1004.	Pairing Routing	1007
Figure 1005.	Locked Connectors	1007
Figure 4001.	P1 Connection	4002
Figure 5001.	Mounting Points	5002
Figure 5002.	Inflator Assembly Label	5004
Figure 5003.	EMA Label	5005
Figure 10001.	Components	10001
Figure 10002.	Locations	10002
Figure 12001.	Kit (1) Components	12003
Figure 12002.	Connectors	12006
Figure 12003.	Connectors - Unlocked Position	12007
Figure 12004.	Squib Connector Subassembly Connection to Inflator Assembly (95)	12007
Figure 12005.	Weld Ball	12007
Figure 12006.	Fabric Hose Subassembly Connection to Inflator Assembly (95)	12007
Figure 12008.	End Fitting on Connector Half (15 - 20)	12008
Figure 12007.	Inflator Assembly (95) Handling	12008
Figure 12009.	Interface Cable Assembly (55) Connection to the EMA (100)	12010
Figure 12010.	X-Tree Clip (80) Removal	12010
Figure 12011.	Components	12014
Figure 12012.	End Fitting on the Connector Half (15 - 20)	12014
Figure 12013.	Body Block (90) Placement	12015
Figure 12014.	Connector Half (15 - 20) On Body Block (90)	12015
Figure 12015.	Removing the Webbing From the 3-Bar Slide	12016
Figure 12016.	Airbag Cover Alignment on Body Block (90)	12016
Figure 12017.	Threading Webbing Through 3-Bar Slide	12017
Figure 12018.	Removing the Webbing on the 3-Bar Slide	12018
Figure 12019.	Location of Buckle Assembly	12019
Figure 12020.	Location of 3-Bar Slide	12019
Figure 12021.	Threading Webbing Through 3-Bar Slide	12020
Figure 12022.	Connector Attached to Rivet	12021
Figure 12023.	Inflator Assembly (95) Handling	12022
Figure 12024.	Weld Ball	12022
Figure 12025.	Fabric Hose Subassembly Connection to Inflator Assembly (95)	12023
Figure 12026.	Squib Connector Subassembly Connection to Inflator Assembly (95)	12023
Figure 12027.	EMA (100) Aircraft Forward Orientation	12025
Figure 12028.	X-Tree Clip (80) Installation	12026
Figure 12029.	Interface Cable Assembly (55) Connection to the EMA (100)	12026
Figure 12030.	EMA (100) LEDs	12026
Figure 12031.	LED Cycles	12027
Figure 12032.	Test Results	12027
Figure 12033.	Connectors	12028



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Figure 12034.	Connectors - Locked Position.....	12028
Figure 15001.	15-Pin and P2 and P3 Connectors on Interface Cable Assembly	15002
Figure 15002.	Inflator Assembly Handling.....	15003
Figure 15003.	Inflator Assembly Handling.....	15008



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LIST OF TABLES

Table INTRO-1.	Acronyms and Abbreviations	INTRO-1
Table 1001.	Test Procedure and Limits	1002
Table 1002.	Fault Isolation Procedure	1002



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INTRODUCTION

TASK 25-10-01-99C-801

1. Introduction

SUBTASK 25-10-01-99C-001

A. General

- (1) ICA7336 provides information for the part number (herein referred to as the system) on the title page. Read ICA7336 in its entirety. Refer to the table of contents for a list of topics. ICA7336 will be revised as necessary.
- (2) ICA7336 provides information to perform all of the recommended maintenance procedures to keep the system in serviceable condition. Procedures should be implemented into a maintenance program and used by maintenance personnel. Standard maintenance procedures and practices are not in ICA7336.
- (3) Should the aircraft owner or operator change they should contact AmSafe to obtain the latest version of ICA7336 and to obtain training (if necessary).

SUBTASK 25-10-01-99C-002

B. Associated Publications

- (1) Air Transport Association (ATA)
 - iSpec2200 (Information Standards for Aviation Maintenance)
- (2) AmSafe
 - E511885 (Inflatables Part Number Identification Specification)
- (3) Regulatory
 - 14 CFR §21.50 (Instructions for Continued Airworthiness and Manufacturer's Maintenance Manuals Having Airworthiness Limitations Sections)
 - 14 CFR §23.1529, Appendix A to Part 23 (Instructions for Continued Airworthiness)
 - 14 CFR §43.16 (Airworthiness Limitations)
 - 14 CFR §91.403 (General)
 - 49 CFR §172.301 (General Marking Requirements for Non-Bulk Packagings)
 - 49 CFR §172.400 (General Labeling Requirements)
 - 49 CFR §172.700 (Purpose and Scope)

SUBTASK 25-10-01-99C-003

C. Acronyms and Abbreviations

Table INTRO-1. Acronyms and Abbreviations
(Table 25-10-01-99A-001)

Acronym/Abbreviation	Name
AOG	Aircraft on Ground
Assy.	Assembly
ATA	Air Transport Association of America



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Table INTRO-1. Acronyms and Abbreviations
(Table 25-10-01-99A-001)

Acronym/Abbreviation	Name
C	Centigrade
CAGE	Commercial and Government Entity
CFR	Code of Federal Regulations
DMF	Date of Manufacture
DOT	Department of Transportation
DOT-SP	DOT Special Provision
EMA	Electronic Module Assembly
EMI	Electromagnetic Interference
ERG	Emergency Response Guide
ESD	Electrostatic Discharge
F	Fahrenheit
FAA	Federal Aviation Administration
G	Force
in-lb	Inch-pound
ICA	Instructions for Continued Airworthiness
kg	Kilogram
lb	Pound
lbf	Pound-Force
LED	Light-Emitting Diode
LH	Left-Hand
LOPA	Layout of Passenger Accommodations
LRU	Line Replaceable Unit
PTT	Push-to-Test
RF	Radio Frequency
	Reference
RFI	Radiated Field Interference
RH	Right-Hand
RMA	Return Material Authorization
SDS	Safety Data Sheets
SOARS	State of the Art Restraint System
SUPSD	Superseded
SUPSDS	Supersedes
UN POP	United Nations Performance Oriented Packaging

DESCRIPTION AND OPERATION

TASK 25-10-01-870-801

1. Description and Operation

SUBTASK 25-10-01-870-001

A. Description

- (1) The system (Figure 1) provides the seat occupant with protection from serious head-impact injury during a survivable aircraft crash and enhances the seat occupant's ability to egress the aircraft. The system does not interface to any aircraft systems, including the aircraft power supply.

NOTE: The inflatable restraint system assembly may be installed as a 2-point restraint.

NOTE: The EMA, inflator assembly LRU/Inflator cable interface and interface cable assembly are not required equipment for the aircraft. Thus, the inflatable restraint system assembly may be used without the EMA, inflator assembly LRU/Inflator cable interface and interface cable assembly. Aircraft owners or operators should follow their procedure to placard the affected components as inoperable and may use SOARS as a restraint. However, all components of SOARS should be made operable as soon as possible.

- Use: personal restraint
- Type: restraint system with passive protection
- Operating limits: single occupancy
- Belt standard: C114
- Weight: 2.11 lb (0.95 kg)
- Rated strength: 3000 lbf
- Inertia wheel locking acceleration: 1.4 - 2.4 g
- Webbing: polyester
- Warranty: Three years for hardware and one year for fabric

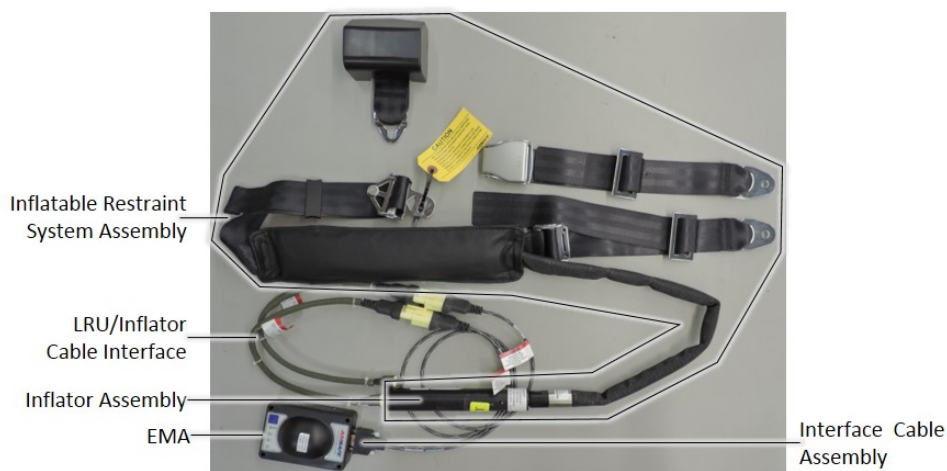


Figure 1. System
(Graphic 25-10-01-99B-001)

- (2) The system consists of an inflatable restraint system assembly, interface cable assembly and LRU/inflator interface cable, inflator assembly and an electronic module assembly (EMA).
- (a) The inflatable restraint system assembly consists of three primary subassemblies: the connector half, the buckle half and the shoulder harness (Figure 2).
- 1 The connector half consists of a connector, adjuster assembly, 3-bar slide, webbing, airbag, fabric hose subassembly and an end fitting (Figure 3). The buckle half consists of a buckle, 3-bar slide, webbing and an end fitting. The shoulder harness consists of an inertia reel, webbing and connector.
 - 2 The adjuster assembly and 3-bar slide adjust the webbing. The fabric hose subassembly attaches to the inflator assembly. The fabric hose subassembly and airbag are contained in a cover with a tear seam that opens when the EMA activates the system and gas flows from the inflator assembly, through the fabric hose subassembly, to the airbag. The airbag deploys within the seat envelope to avoid interference with unoccupied seats containing airbag systems. The end fittings attach the connector half and buckle half to mounting points and the inertia reel attaches the shoulder harness to the mounting point. The connector on the shoulder harness attaches to the rivet on the connector half.
- (b) The interface cable assembly (Figure 1) connects to the EMA and the LRU/inflator cable interface. The LRU/inflator cable interface also connects to the inflator assembly.
- (c) The inflator assembly mounts to the aircraft structure in a variety of locations (e.g., sidewall, underneath the seat or in the seatback). The inflator assembly contains compressed helium-argon gas that passes through the fabric hose subassembly and inflates the airbag upon command from the EMA.
- Department of Transportation (DOT) classification: 9/UN3268
 - Service and storage life: 10 years
 - Refurbishment: none
 - Warranty: three years
- (d) The EMA is a device that senses a crash and sends a signal to deploy the airbag.
- Battery: non-rechargeable lithium/iron disulfide
 - Battery service life: 10 years from the date of manufacture (DMF)
 - (The EMA does not have self-annunciating diagnostics that negatively impact battery life.)
 - Battery replacement: none
 - EMA storage life: 10 years from DMF
 - Refurbishment: none
 - Warranty: three years

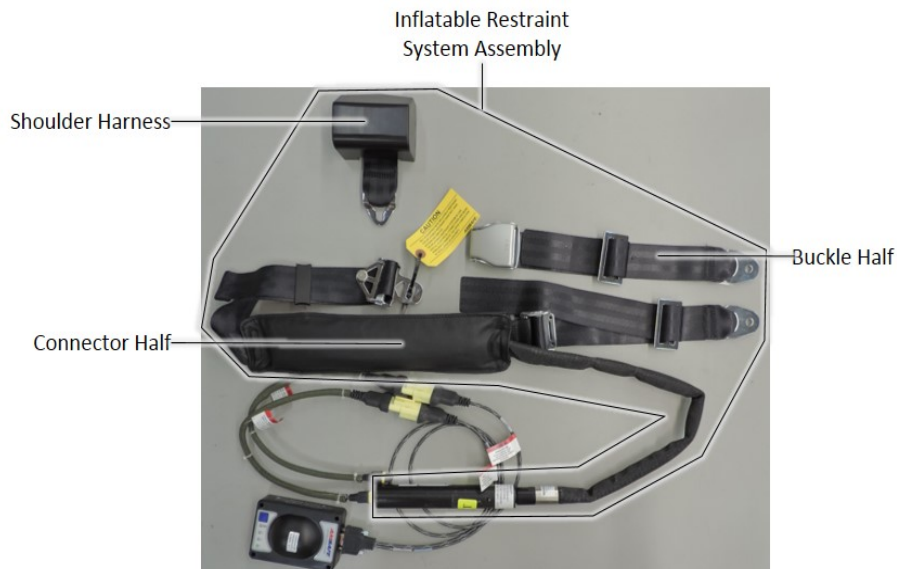


Figure 2. Connector Half, Buckle Half and Shoulder Harness
(Graphic 25-10-01-99B-002)

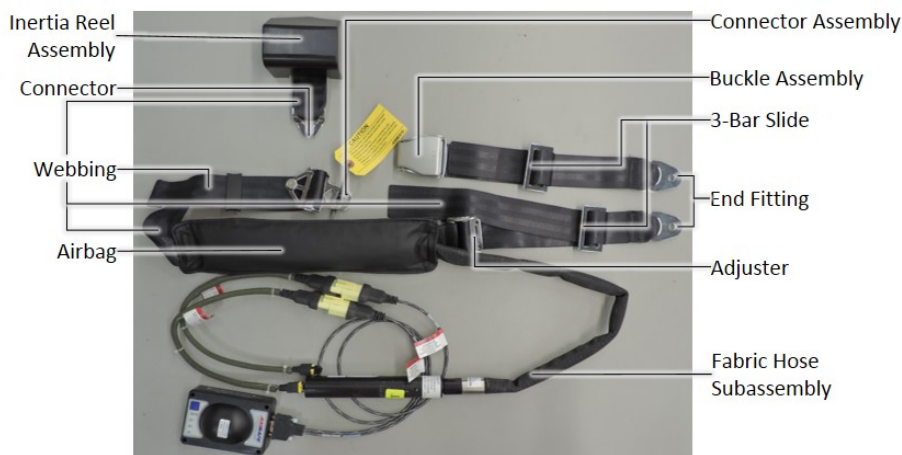


Figure 3. Connector Half, Buckle Half and Shoulder Harness
(Graphic 25-10-01-99B-003)

SUBTASK 25-10-01-870-002

B. Safety Warnings and Cautions

WARNING: A WARNING CALLS ATTENTION TO MATERIALS, PROCESSES, METHODS, PROCEDURES OR LIMITS THAT MUST BE FOLLOWED TO AVOID INJURY TO PEOPLE.

CAUTION: A caution calls attention to materials, processes, methods, procedures or limits that must be followed to avoid damage to equipment.

- (1) Read safety warnings and cautions prior to working on the system.
- (2) Airbag

WARNING: THE SYSTEM IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM BUCKLED WHEN THE SEAT IS NOT IN USE.

(3) EMA

WARNING: DO NOT DROP OR MISHANDLE THE EMA. DAMAGE TO THE ELECTRONICS, BATTERY OR SENSOR MAY OCCUR. IF THE EMA IS DROPPED OR DAMAGED THERE IS POTENTIAL FOR AN ANOMALY, SUCH AS NOT FUNCTIONING AS INTENDED OR DESIGNED. A DAMAGED OR MISHANDLED EMA COULD RESULT IN INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT IF INSTALLED ON THE SEAT. IF DAMAGE OR MISHANDLING OCCURRED OR IS SUSPECTED, DO NOT INSTALL THE EMA. RETURN THE EMA TO AMSAFE FOR REPLACEMENT.

(a) Do not drop or mishandle the EMA.

(4) Inflator Assembly

WARNING: THE INFLATOR ASSEMBLY CONTAINS COMPRESSED GAS. DEATH OR INJURY TO PEOPLE MAY OCCUR THROUGH MISUSE, MISHANDLING OR TAMPERING.

WARNING: DO NOT MISHANDLE OR TAMPER WITH THE INFLATOR ASSEMBLY IN ANY WAY. THE INFLATOR ASSEMBLY MUST BE HANDLED AND STORED BY PEOPLE TRAINED IN THE REQUIREMENTS ASSOCIATED WITH DANGEROUS GOODS.

WARNING: DO NOT GRASP OR CARRY THE INFLATOR ASSEMBLY BY ITS DIFFUSER.

WARNING: NEVER ATTEMPT TO OPEN THE INFLATOR ASSEMBLY FOR SERVICING.

WARNING: NEVER PROBE OR APPLY ELECTRICAL CURRENT TO THE INFLATOR ASSEMBLY'S ELECTRICAL CONNECTIONS.

WARNING: KEEP THE INFLATOR ASSEMBLY AWAY FROM SOURCES OF THERMAL IGNITION, ELECTRIC SPARKS OR FLAME, IMPACT OR MECHANICAL IGNITION OR ELECTROSTATIC DISCHARGE. AUTOIGNITION MAY OCCUR WHEN THESE SOURCES ARE PRESENT AND MAY RESULT IN DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT.

(a) Safety data sheets (SDS) are in ATTACHMENT A - ARC AUTOMOTIVE SDS.

(b) Do not grasp or carry the inflator assembly by its diffuser (Figure 4).

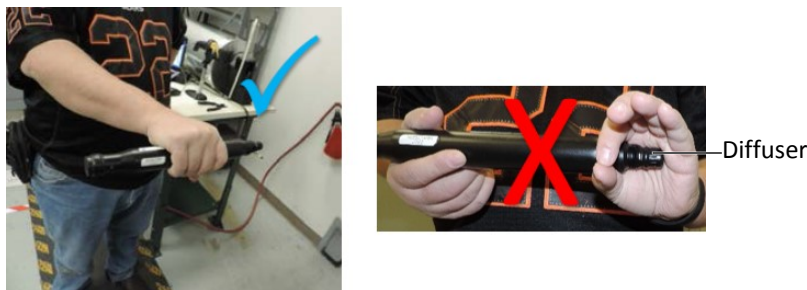


Figure 4. Inflator Assembly Handling
(Graphic 25-10-01-99B-003)

(5) Fasten and Release

(a) In the seated position grasp the buckle and position it near the hip. Grasp the connector and insert it into the buckle. Attach the connector on the shoulder harness to the rivet on the con-

nector.

- (b) Ensure the system is snug by pulling on the free end of the webbing. To lengthen, grasp and rotate the buckle approximately 45° and pull the buckle away from the seat occupant.
- (c) To release, lift the metal latch on the buckle and remove the connector from the buckle and disconnect the connector on the shoulder harness from the rivet on the connector.
- (d) Slowly retract the webbing on the shoulder harness into the inertia reel.

CAUTION: During release, restrain the webbing as it rewinds on the inertia reel. Do not let the webbing retract unrestrained.

- (e) Place the buckle half, connector half and shoulder harness on the seat to prevent them from being damaged or soiled.

(6) Brace Position

- (a) The system works with passengers in the brace position.
- (b) Special safety instructions are not necessary for passengers in the brace position.

(7) Unoccupied Seats

WARNING: THE SYSTEM IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM BUCKLED WHEN THE SEAT IS NOT IN USE.

- (a) This system is live as soon as all electrical connections are made. The airbag will deploy during a crash event.

(8) Extension Assembly

- (a) An extension assembly is not available.

(9) Child Seats

WARNING: CHILD SEATS ARE PROHIBITED ON SEATS WITH THE SYSTEM. USE OF A CHILD SEAT WITH A LIVE (I.E., ELECTRICALLY CONNECTED) SYSTEM CAN RESULT IN DEATH OR INJURY TO A CHILD.

- (a) Child seats are prohibited (Figure 5).

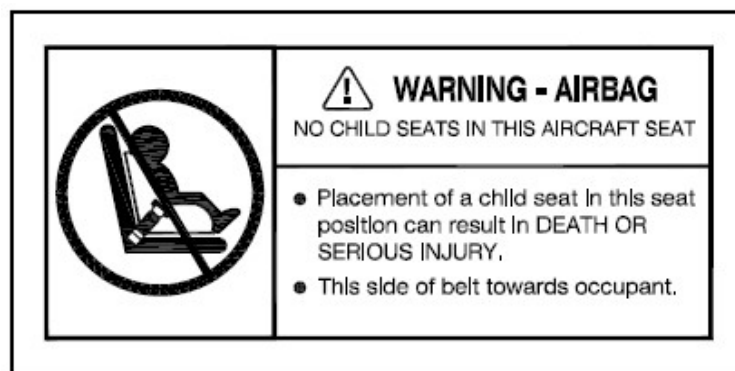


Figure 5. Child Seat Warning Label
(Graphic 25-10-01-99B-004)

(10) Lap-Held Children



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- (a) The system is not operationally-restricted for lap-held children during taxi, take-off, landing and/or in-flight operation on United States-registered aircraft.

NOTE: AmSafe does not recommend allowing lap-held children with any type of restraint system. Allowing lap-held children is strictly the decision and responsibility of the aircraft operator.

SUBTASK 25-10-01-870-003

C. Course of Action for System Anomalies

WARNING: IN THE CASE OF A SYSTEM DEPLOYMENT, DO NOT USE ANY SEAT WITH A SYSTEM SHARING THE SAME EMA AS THE DEPLOYED SYSTEM. REMOVE AND RETURN ALL COMPONENTS TO AMSAFE.

- (1) In the rare case of an airbag deployment, do not use the system with the deployed airbag or any system with an airbag that is controlled by the same EMA as that of the deployed airbag.
- (2) Immediately remove and replace the system on the seat with the deployed airbag and any seat with an airbag that is controlled by the same EMA as that of the deployed airbag. (Refer to REMOVAL AND REPLACEMENT.)
- (3) Do not keep or reuse components. Immediately return all components to AmSafe. (Refer to STORAGE.) Contact AmSafe Customer Service to submit a purchase order for replacement components.
- (4) Contact AmSafe Customer Service and provide the following information.
 - (a) When the airbag deployment occurred (e.g., in-flight, during maintenance or during a diagnostic check).
 - (b) Description of damage to components (e.g., structures).
 - (c) Date, result and records of the last diagnostic test.
 - (d) Flight or maintenance crew report (e.g., if the EMA was properly secured or loose, if there were loose or broken connectors and the total time in service of life-limited components such as the EMA and the inflator assembly).
 - (e) Photos of components (e.g., brackets) deployed airbag and system components (e.g., inflator assembly, fabric hose subassembly, EMA and interface cable assembly and LRU/inflator interface cable).
 - (f) Names of affected individuals and any injury claims.
 - (g) Contact information for flight or maintenance personnel.



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TESTING AND FAULT ISOLATION

TASK 25-10-01-700-801

1. Testing and Fault Isolation

SUBTASK 25-10-01-99C-004

A. Description

- (1) Testing and fault isolation verifies system readiness.

SUBTASK 25-10-01-99C-005

B. Personnel and Equipment

- (1) Equipment or materials are not required.

SUBTASK 25-10-01-810-001

C. Intervals

- (1) Testing and fault isolation must be performed:
- (a) A minimum of every 1000 flight-hours or 12 months (whichever occurs first). Performing testing and fault isolation on-condition at shorter intervals does not affect system reliability, operation or the system's operable life.
 - (b) On condition during system maintenance.
 - (c) Concurrently with airworthiness inspection of the aircraft.
 - (d) Concurrently with on-aircraft seat inspection or if pulled from the aircraft to determine airworthiness.
 - (e) Concurrently with any unscheduled inspection of an aircraft involved in an accident or incident.
 - (f) When a component has damage or malfunction has occurred.

SUBTASK 25-10-01-810-002

D. Procedure

- (1) Perform testing and fault isolation on the connector half, buckle half and shoulder harness.
- (a) Follow the steps in Table 1001. If a test fails, follow the steps in Table 1002 to determine the repair task. If the procedure in Table 1002 did not resolve the failure, remove and return the inflatable restraint system assembly for further evaluation or overhaul by AmSafe.
- NOTE: Skip steps 6 - 14 in Table 1001 and Table 1002 if the inflatable restraint system assembly was installed as a two-point restraint.
- NOTE: Refer to REMOVAL AND REPLACEMENT to remove and replace damaged components.

Table 1001. Test Procedure and Limits
(Table 25-10-01-99A-002)

Step	Procedure	Limits
1.	Insert the connector into the buckle.	The connector engages.
2.	Release the connector by lifting the metal latch on the buckle.	The connector releases and the metal latch on the buckle returns to its original position.
3.	Repeat steps 1 and 2 four times.	
4.	Adjust the webbing on the connector half by pulling on the free end of the webbing near the adjuster assembly.	The webbing adjusts and doesn't exhibit excessive fray or any cuts.
5.	Repeat step 4 four times.	
6.	Slowly pull the webbing on the shoulder harness all the way out of the inertia reel. Observe the webbing for freedom of movement.	The webbing extends and does not exhibit excessive fray or any cuts.
7.	Slowly retract the webbing into the inertia reel. Do not let the webbing slap into place unrestrained.	The webbing retracts smoothly.
8.	Repeat steps 6 and 7 four times.	
9.	Withdraw approximately 25% of the webbing from the inertia reel and rapidly accelerate the webbing until the inertia reel locks.	The inertia reel should lock and the webbing should not extend.
10.	Slowly retract the webbing into the inertia reel. Do not let the webbing slap into place unrestrained.	The webbing retracts smoothly.
11.	Repeat steps 9 and 10 four times.	
12.	Slide the connector on the shoulder harness over the rivet on the connector.	The connector should present a small resistance and stay in place. The connector and rivet must not show signs of weakness.
13.	Remove the connector on the shoulder harness from the rivet on the connector.	The connector should present a small resistance and come off the rivet. The connector and rivet must not show signs of weakness.
14.	Repeat steps 12 and 13 four times.	

Table 1002. Fault Isolation Procedure
(Table 25-10-01-99A-003)

Step in Table 1001 Where Test Failed	Probable Cause of Failure	Repair Task
1 - 3	Damaged buckle half or connector half.	Remove and replace the buckle half or the connector half.
4 - 5	Damaged buckle half or connector half.	Remove and replace the buckle half or the connector half.
6 - 11	Damaged inertia reel.	Remove and replace the shoulder harness.
12 - 14	Damaged connector or rivet.	Remove and replace the shoulder harness or the connector half.

(2) Perform testing and fault isolation on the EMA.

(a) Perform an inspection/check following the procedure in INSPECTION/CHECK.



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NOTE: If necessary, remove and replace components following the procedures in REMOVAL AND REPLACEMENT.

NOTE: If necessary, return components following the procedure in STORAGE.

(b) Read the warnings in DESCRIPTION AND OPERATION.

(c) Ensure all electrical connections on the following components are secure.

- EMA
- Interface cable assembly and LRU/inflator cable interface
- Inflator assembly

WARNING: WHEN REPLACING OR RETESTING THE EMA, DO NOT TEST AN EMA THAT IS NOT SECURED IN THE EMA BRACKET. INADVERTENT SYSTEM DEPLOYMENT MAY OCCUR.

(d) Ensure the EMA is secured.

WARNING: THE SYSTEM IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM BUCKLED WHEN THE SEAT IS NOT IN USE.

(e) Ensure the inflatable restraint system assembly is unbuckled.

(f) Find the LEDs on the EMA (Figure 1001).

NOTE: There is one LED for the EMA and three LEDs for up to three seat positions (one LED per seat position).

(g) Push the PTT button (Figure 1002).

(h) Get diagnostic test results (Figure 1003).

NOTE: Results are displayed for only 6 seconds before the EMA automatically performs a pairing routine (step3). If you did not see the results, wait until the LEDs are no longer lit and retest.

1 The test passed if passing results were obtained. The EMA automatically performs step 3.

NOTE: The passing result for seat position 3 is flashing red because there is no signal to the EMA.

2 The test failed if passing results were not obtained. The EMA automatically performs step 3. Go to step (i) and perform fault diagnosis.

3 The EMA automatically runs a pairing routine for wireless diagnostics (Figure 1004).

a If passing results were obtained, testing is complete.

b The EMA failed if passing results were not obtained. Do not use the EMA. Remove and replace the EMA (refer to REMOVAL AND REPLACEMENT) and return the EMA to AmSafe (refer to STORAGE).

(i) Perform fault isolation.

NOTE: For fault isolation, retest following steps (2)(d) - (h).

NOTE: Refer to REMOVAL AND REPLACEMENT to remove and replace components.

NOTE: If the problem is resolved during fault isolation, connect each P2 and P3 connector

on the interface cable assembly (Figure 1005) by seating the connectors and sliding the red tab forward until it engages. The red tab will not engage unless connectors are fully seated.

- 1 EMA LED - no illumination or red LED.
 - a Remove and replace the EMA (refer to REMOVAL AND REPLACEMENT). Retest following steps (2)(d) - (h). If the problem persists after replacing and retesting the EMA contact AmSafe Customer Service. If the problem is resolved, fault isolation is finished.
- 2 Seats 3 LED or 2 LED or 1 LED - no illumination.
 - a Reseat the connections on the interface cable assembly and retest following steps (2)(d) - (h).
 - b If the problem persists remove and replace the EMA (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - c If the problem persists contact AmSafe Customer Service.
- 3 Seats 3 LED or 2 LED or 1 LED - solid green LED
 - a Reseat the connections on the interface cable assembly (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - b If the problem persists, remove and replace the interface cable assembly (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - c If problem persists, remove and replace the LRU/inflator cable interface (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - d If the problem persists remove and replace the EMA (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - e If the problem persists contact AmSafe Customer Service.
- 4 Seats 3 LED or 2 LED or 1 LED - red LED
 - a Reseat the connections on the interface cable assembly and retest following steps (2)(d) - (h).
 - b If the problem persists remove and replace the interface cable assembly (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - c If problem persists, remove and replace the LRU/inflator cable interface (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - d If the problem persists remove and replace the EMA (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - e If the problem persists remove and replace the inflator assembly (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
 - f If the problem persists contact AmSafe Customer Service.
- 5 Seats 3 LED or 2 LED or 1 LED - amber LED
 - a Reseat the connections on the interface cable assembly and retest following steps (2)(d) - (h).
 - b If the problem persists remove and replace the interface cable assembly (refer to

REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).

- c If problem persists, remove and replace the LRU/inflator cable interface (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
- d If the problem persists remove and replace the EMA (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h).
- e If the problem persists remove and replace the inflator assembly (refer to REMOVAL AND REPLACEMENT) and retest following steps (2)(d) - (h)
- f If the problem persists contact AmSafe Customer Service.

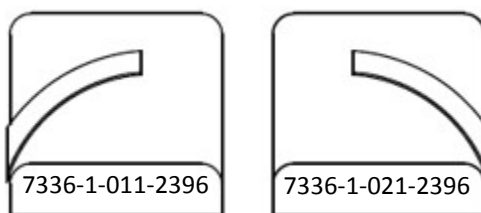
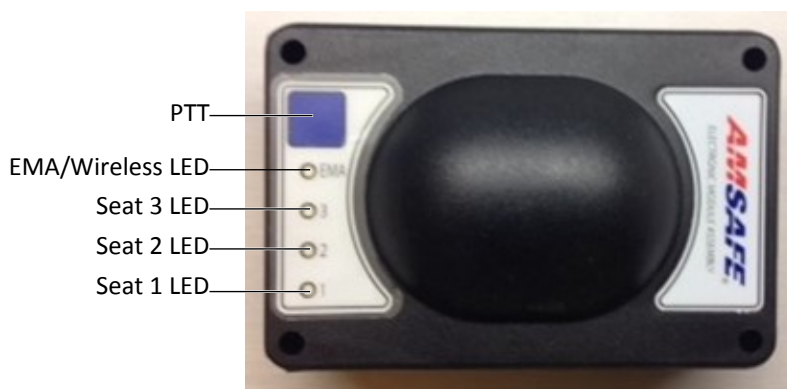
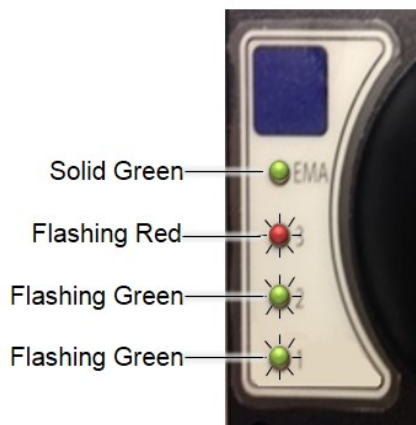


Figure 1001. EMA and System Locations
(Graphic 25-10-01-99B-005)



i LEDs cycle twice for 8 seconds (flash amber one-at-a-time).

Figure 1002. PTT Button
(Graphic 25-10-01-99B-006)

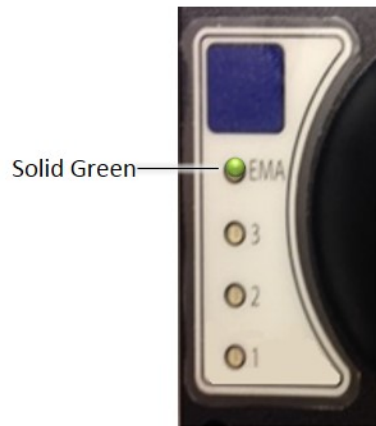


✓ Double Seats **i** LEDs are lit for 6 seconds.

Flashing red LEDs for the seat positions are normal results.

If you did not have enough time to see the results, wait until seat LEDs are no longer lit (approximately 15 seconds) and retest.

Figure 1003. Diagnostic Results
(Graphic 25-10-01-99B-007)



i Pairing routine for wireless diagnostics lasts approximately 15 seconds. After 15 seconds all LEDs turn off.

Figure 1004. Pairing Routing
(Graphic 25-10-01-99B-008)



Red Tab
(Locked)

Figure 1005. Locked Connectors
(Graphic 25-10-01-99B-009)



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SCHEMATIC AND WIRING DIAGRAMS

TASK 25-10-01-810-801

1. Schematics and Wiring Diagrams

SUBTASK 25-10-01-99C-006

A. General

(1) Not applicable.



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DISASSEMBLY

TASK 25-10-01-000-801

1. Disassembly

SUBTASK 25-10-01-99C-007

A. General

- (1) Disassembly is not allowed.



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CLEANING

TASK 25-10-01-100-801

1. Cleaning

SUBTASK 25-10-01-99C-008

A. Description

- (1) Cleaning ensures passenger satisfaction and prevents debris that could interfere with system operation, shorten the life of the system or cause metal corrosion.

SUBTASK 25-10-01-99C-009

B. Personnel, Equipment and Materials

- (1) Personnel should ensure components are visually examined and cleaned as required. When the system is properly installed, there is no risk or hazard to maintenance personnel performing cleaning.
- (2) Use the following equipment and materials as required.

NOTE: Equivalent alternatives are permitted.

- Warm water in a spill-resistant container
- Soft, lint-free cloth
- Sponge or soft brush
- Mild soap (e.g., liquid dishwater soap or laundry detergent)
- Isopropyl alcohol (refer to the manufacturer's SDS)
- Safety glasses

SUBTASK 25-10-01-110-001

C. Procedure

- (1) Visually examine the webbing, airbag cover and the visible portion of the fabric hose subassembly for debris. Follow the below procedure if cleaning is required.
- (a) Cover metal components with cloth.
- (b) Hand-wash the airbag cover, fabric hose subassembly and webbing.

CAUTION: Do not machine-wash, dry-clean or immerse in water. Excessive moisture may damage components and may cause components to fail. Excessive moisture causes webbing to shrink, significantly changing its performance characteristics.

CAUTION: Do not immerse in water. Excessive moisture may damage components and may cause components to fail. Excessive moisture causes webbing to shrink, significantly changing its performance characteristics.

CAUTION: Test cleaning materials on hidden areas to prevent damage to finishes and color transfer.

CAUTION: Do not use soap or water on metal components.

- 1 Use only enough warm water and mild soap to produce minimal suds and apply the cleaning solution with a damp cloth. Gentle scrubbing with a soft brush is allowed.

- 2 Do not leave residue on cleaned areas. If necessary, rinse with clear water and a damp cloth.

CAUTION: Do not dry components in sunlight or near any source of heat.

- (c) Air-dry components in a well-ventilated area.

WARNING: IF USING ISOPROPYL ALCOHOL, REFER TO THE MANUFACTURER'S SDS.

CAUTION: Do not use isopropyl alcohol on the webbing, airbag cover or fabric hose subassembly.

CAUTION: Do not immerse in isopropyl alcohol. Excessive moisture may damage components and may cause components to fail. Excessive moisture causes webbing to shrink, significantly changing its performance characteristics.

CAUTION: Test cleaning materials on hidden areas to prevent damage to finishes and color transfer.

- (2) Visually examine the hardware on the inflatable restraint system assembly for debris. If necessary, clean the hardware with a cloth moistened with isopropyl alcohol.
- (3) Visually examine the inflator assembly and the interface cable assembly and LRU/inflator interface cable for dirt and debris. Follow the below procedure if cleaning is required.
 - (a) Cover the cable assembly interface P1 connection to the EMA (Figure 4001) with cloth.
 - (b) Hand-wash the inflator assembly and interface cable assembly and LRU/inflator interface cable. Use cold water and mild soap to produce minimal suds and apply the cleaning solution with a damp cloth.
 - (c) Air-dry components in a well-ventilated area.



Figure 4001. P1 Connection
(Graphic 25-10-01-99B-010)



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INSPECTION/CHECK

TASK 25-10-01-200-801

1. Inspection/Check

SUBTASK 25-10-01-99C-010

A. Description

- (1) Inspection/check ensures issues related to wear or damage are addressed.

SUBTASK 25-10-01-99C-011

B. Personnel and Equipment

- (1) Inspection/check should be performed by trained maintenance personnel.
(2) No special equipment or materials are required.

SUBTASK 25-10-01-220-001

C. Intervals

- (1) Inspection/check should be performed:
- (a) Every 1000 flight hours or 12 months (whichever occurs first).
 - (b) On-condition (during system maintenance).
 - (c) Concurrently with the airworthiness inspection of the aircraft.
 - (d) When a component has damage or malfunctions.
 - (e) Upon expiration of the storage/service life as defined in subsequent sections.
 - (f) Concurrently with any unscheduled inspection of an aircraft involved in an accident or incident.

SUBTASK 25-10-01-220-002

D. Procedure

NOTE: The EMA, inflator assembly LRU/Inflator cable interface and interface cable assembly are not required equipment for the aircraft. Thus, the inflatable restraint system assembly may be used without the EMA, inflator assembly LRU/Inflator cable interface and interface cable assembly. Aircraft owners or operators should follow their procedure to placard the affected components as inoperable and may use SOARS as a restraint. However, all components of SOARS should be made operable as soon as possible.

NOTE: Refer to REMOVAL AND REPLACEMENT to remove and replace components.

NOTE: Refer to CLEANING to clean components.

- (1) Ensure the inflatable restraint system assembly is connected to its mounting points (Figure 5001) and oriented with the label facing the seat occupant.

NOTE: The airbag on the connector half must present away from the seat occupant with the warning label oriented on the inside of the airbag and towards the seat occupant. The warning label must be right-side up when viewed by the seat occupant.



Figure 5001. Mounting Points
(Graphic 25-10-01-99B-011)

- (2) Check the system for dirt, oil, grease or other unwanted particles or substances and clean if necessary.
- (3) Check the webbing for: cut or worn edges, damaged stitching, broken threads, holes, tears, excessive wear, excessive chafe marks, excessive fraying and illegible labels.
NOTE: Frayed webbing is broken filaments in either the warp (longitudinal) yarns or the weft (transverse) yarns.
 - (a) Slight wear is permitted.
 - (b) A limited amount of fraying will retain sufficient strength necessary to meet the required strength.
 - (c) Remove and replace the component if any of the following conditions are observed.
 - 1 Wear progressed to cut or worn edges or illegible labels.
 - 2 Webbing is cut or torn from the edge.
 - 3 Frayed webbing obscures the identity of any yarn (i.e., the webbing looks fuzzy) when viewed from a distance of about 8 inches.
 - 4 Fraying exceeds 10 percent of the width of the webbing or exceeds 8 inches in length.
 - 5 Webbing is sufficiently frayed or distorted to cause improper operation of a component.
 - 6 Webbing exhibits more than 15 broken yarns in locations other than the edge.
 - 7 The webbing has 15 or more torn stitches.
 - 8 Labels are illegible.
- (4) Check hardware (e.g., buckles and connectors) for cracks, dents, corrosion (typically light surface corrosion), burrs or nicks.
 - (a) Cracks or corrosion must not affect the function of any component.
 - (b) If any cracks are visible or the component cannot be operated, remove and replace the component. (Refer to REMOVAL AND REPLACEMENT.)
 - (c) Dents must not affect the function of any component and must not damage the finish.
 - (d) Burrs or nicks raised above the surface must not prevent components from properly fitting together or operating.
- (5) Check the airbag cover for damaged or unraveled stitching, broken fabric threads, holes or tears, holes in the airbag cover or tear-away seam, excessive chafe marks or wear or fraying, broken end-tacking stitching on the airbag cover, visible airbag and illegible labels.

- (a) Slight wear of the airbag cover is permitted.
- (b) Remove and replace the component if any of the following conditions are observed.
 - 1 Excessive wear (i.e., cut or worn edges or lettering on labels is worn off).
 - 2 Any fabric is cut or torn from the edge.
 - 3 Markings are not legible.
 - 4 Any holes or tears in the airbag cover or its tear-away seam.
 - 5 Cover end-tacking stitches (i.e., "O" or "V" stitching and horizontal stitching at connector end) are undone or broken.
 - 6 Compromised cover end-tacking stitches (i.e., the airbag protrudes from the airbag cover at the hose end).
- (6) Check the fabric hose subassembly, interface cable assembly and LRU/inflator interface cable for fraying or thinning of material; abrasions, holes, excessive wear or tears; or evidence of other degradation or excessive wear. Remove and replace components if there is evidence of degradation or excessive wear.
- (7) Check the interface cable assembly and LRU/inflator interface cable for damaged cables or evidence of damage; broken or worn cable ties; exposed, sharp seat edges; or tight cable connections.
 - (a) Replace cables that show significant signs of fraying or excessive wear.
 - (b) Replace worn or missing cable ties.
 - (c) Tighten or reseal connectors.
 - (d) Cover any exposed, sharp seat edges.
- (8) Check the inflator assembly for loose hardware and loose connections (e.g., loose squib connector subassembly).
 - (a) If present, tighten the bracket hardware.
 - (b) Secure the squib connector subassembly or loose hardware and connections.

NOTE: It is normal for the inflator assembly to have rust (typically light surface corrosion). There is no requirement to remove and replace a rusted inflator assembly.
 - (c) Check the DMF on the label on the inflator assembly (Figure 5002).
 - 1 Remove and replace the inflator assembly:
 - a After a maximum storage period of 10 years calculated from the DMF.
 - b Upon expiration of the service life (the total sum of the storage life and the installation life, not to exceed 10 years calculated from the DMF).

NOTE: Refer to REMOVAL AND REPLACEMENT to remove and replace the inflator assembly.
 - 2 Return the inflator assembly to Amsafe (refer to STORAGE).

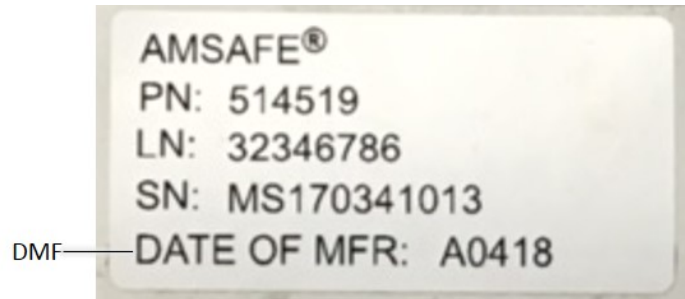


Figure 5002. Inflator Assembly Label
(Graphic 25-10-01-99B-012)

(9) EMA and EMA Bracket

WARNING: ENSURE THE EMA BRACKET IS SECURED TO PREVENT UNINTENTIONAL DEPLOYMENT OF THE AIRBAG. UNINTENTIONAL DEPLOYMENT OF THE AIRBAG MAY INJURE PEOPLE OR DAMAGE EQUIPMENT.

- (a) If present, ensure the EMA bracket is secured to a rigid aircraft structure. If necessary, secure the EMA bracket by tightening the bolts.

WARNING: ENSURE THE EMA IS SECURED TO PREVENT UNINTENTIONAL DEPLOYMENT OF THE AIRBAG. UNINTENTIONAL DEPLOYMENT OF THE AIRBAG MAY CAUSE DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT.

- (b) Ensure the EMA is secured to an EMA bracket or airframe structure. If necessary, secure the EMA by tightening the bolts.

WARNING: ENSURE THE EMA BRACKET IS NOT DAMAGED TO PREVENT UNINTENTIONAL DEPLOYMENT OF THE AIRBAG. UNINTENTIONAL DEPLOYMENT OF THE AIRBAG MAY INJURE PEOPLE OR DAMAGE EQUIPMENT.

- (c) Ensure the EMA bracket does not have damage (e.g., dents or cracks). If damage is present, remove and replace the EMA bracket following the instructions in REMOVAL AND REPLACEMENT.

- (d) Check the DMF on the EMA label (Figure 5003).

1 Remove and replace the EMA upon:

- a A maximum storage period of 10 years calculated from the DMF.
b Expiration of the service life (the total sum of the storage life and installation life, not to exceed 10 years calculated from the DMF).

NOTE: Refer to REMOVAL AND REPLACEMENT to remove and replace the EMA.

2 Dispose the EMA (refer to STORAGE).

DOM = Date of Manufacture
A = Manufactured in Phoenix
04 = Month
18 = Year



Figure 5003. EMA Label
(Graphic 25-10-01-99B-013)

- (10) Check the body block for damage (e.g., cuts, holes, tears and punctures. If the body block is damaged, discard the body block and order a new body block from AmSafe
- (11) Check the airbag-equipped label for legibility and replace the airbag-equipped label if it is not legible.

TASK 25-10-01-200-802

2. Airworthiness Limitations

SUBTASK 25-10-01-200-802

A. Limitations

- (1) This airworthiness limitations section is FAA-approved and specifies maintenance required under 14 CFR §43.16 and 14 CFR §91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.
- (2) Part 23 aircraft: there are no new (or additional) airworthiness limitations associated with this equipment and/or installation.



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REPAIR

TASK 25-10-01-300-801

1. Repair

SUBTASK 25-10-01-99C-012

A. General

(1) Not applicable.



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ASSEMBLY

TASK 25-10-01-400-801

1. Assembly

SUBTASK 25-10-01-99C-013

A. General

(1) Not applicable.



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FITS AND CLEARANCES

TASK 25-10-01-220-801

1. Fits and Clearances

SUBTASK 25-10-01-99C-014

A. General

(1) Not applicable.



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SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES

TASK 25-10-01-940-801

1. Special Tools

SUBTASK 25-10-01-99C-015

A. General

(1) Not applicable.



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ILLUSTRATED PARTS LIST

TASK 25-10-01-950-801

1. Illustrated Parts List

SUBTASK 25-10-01-950-001

A. General

- (1) Figure 10001 provides the kit (1) components and Figure 10002 provides the kit (1) locations.
- (2) Refer to AmSafe specification E511885 for part number identification.

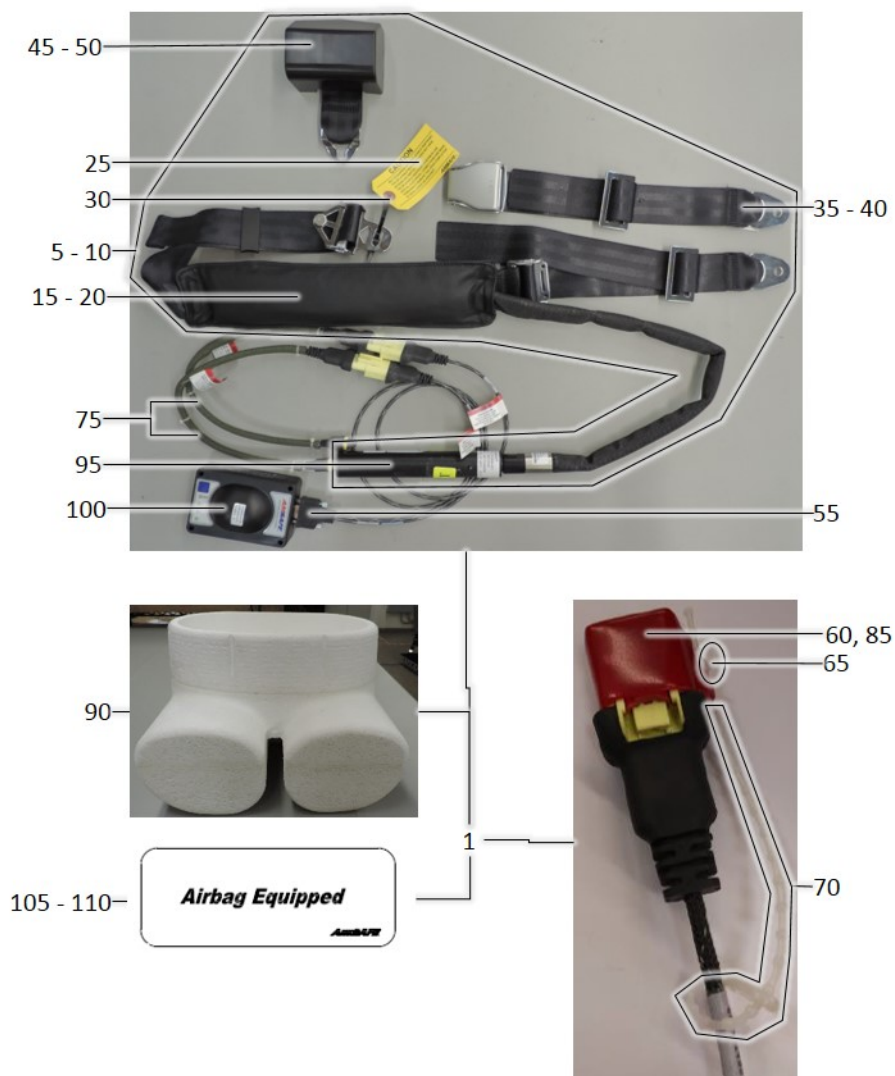


Figure 10001. Components
(Graphic 25-10-01-99B-014)



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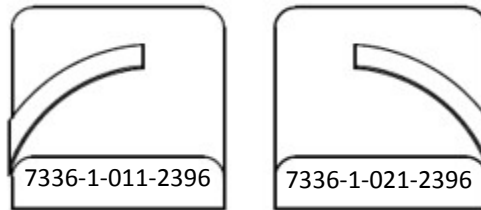


Figure 10002. Locations
(Graphic 25-10-01-99B-015)



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FIG-ITEM	PART NUMBER	AIRLINE STOCK NUMBER	INDENT	NOMENCLATURE	EFFECT CODE	UNITS PER ASSY
1-1	K7336-201		1	INFLATABLE KIT ASSEMBLY		RF
5	7336-1-011-2396		2	INFLATABLE RESTRAINT SYSTEM ASSEMBLY, LH	A	1
10	7336-1-021-2396		2	INFLATABLE RESTRAINT SYSTEM ASSEMBLY, RH	B	1
15	7336-2010112396		3	CONNECTOR HALF, LH	A	1
20	7336-2020212396		3	CONNECTOR HALF, RH	B	1
25	511006-3		4	INFLATABLE RESTRAINT CAUTION TAG ---ATTACHING PART ---		1
30	508298-3		4	STRAP, TIEDOWN, ELECTRICAL SPECIFICATION --- * ---		1
35	7336-2030112396		3	BUCKLE HALF, LH	A	1
40	7336-2030212396		3	BUCKLE HALF, RH	B	1
45	7336-2050112396		3	SHOULDER HARNESS, LH (PRE SB7336) (SUPSD BY 7336-2070112396)	A	
45	7336-2070112396		3	SHOULDER HARNESS, LH (POST SB7336) (SUPSDS 7336-2050112396)	A	1
50	7336-2050212396		3	SHOULDER HARNESS, RH (PRE SB7336) (SUPSD BY 7336-2070212396)	B	
50	7336-2070212396		3	SHOULDER HARNESS, LH (POST SB7336) (SUPSDS 7336-2050212396)	B	1
55	513046-209-3636		2	CABLE ASSEMBLY, INTERFACE		1
60	514387-1		3	ASSEMBLY, DUST CAP (FCI) (OPTIONAL)		AR
65	505098-7031		3	RETAINING WASHER (OPTIONAL) ---ATTACHING PART ---		AR
70	505098-8069		3	BEADED NYLON CABLE TIE (OPTIONAL) --- * ---		AR
75	513047-405-18		2	LRU/INFLATOR CABLE INTERFACE		2
-80	510829-1		3	SINGLE X-TREE CLIP (OPTIONAL)		1
85	514387-2		3	ASSEMBLY, DUST CAP (FCI) (OPTIONAL)		AR

RF = reference

-Not illustrated

The part number for the inflatable restraint system assembly is located on a label on the connector half, buckle half, or shoulder harness.

The dust cap, retaining washer and beaded nylon cable tie are optional and are not supplied with inflatable kit assembly K7336 however, these components may be ordered from AmSafe.



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 602-850-2850

FIG-ITEM	PART NUMBER	AIRLINE STOCK NUMBER	I N D E N T	NOMENCLATURE	EFFECT CODE	UNITS PER ASSY
65	505098-7031		3	RETAINING WASHER (OPTIONAL) ---ATTACHING PART ---		AR
70	505098-8069		3	BEADED NYLON CABLE TIE (OPTIONAL) --- * ---		AR
90	514480-1		2	BODY BLOCK		1
95	514519-401		2	INFLATOR ASSEMBLY, B0913400, EFM-01		2
100	514518-401-58		2	EMA		1
105	509121-1		2	AIRBAG EQUIPPED LABEL		1
110	509121-2		2	AIRBAG EQUIPPED LABEL		1

RF = reference
 -Not illustrated
 The part number for the inflatable restraint system assembly is located on a label on the connector half, buckle half, or shoulder harness.
 The dust cap, retaining washer and beaded nylon cable tie are optional and are not supplied with inflatable kit assembly K7336 however, these components may be ordered from AmSafe.



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SOARS Customer Service: SOARS@amsafe.com
SOARS Technical Support: SOARS_Support@amsafe.com

SPECIAL PROCEDURES

TASK 25-10-01-300-801

1. Special Procedures

SUBTASK 25-10-01-220-003

A. General

(1) Not applicable.



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REMOVAL AND REPLACEMENT

TASK 25-10-01-000-801

1. Description

SUBTASK 25-10-01-99C-016

A. Description

- (1) Removal and replacement procedures provide instructions to safely remove and replace the system (1) or its components.
- (2) Contact for after-hours aircraft on ground (AOG): 602-432-6064.

TASK 25-10-01-000-801

2. Equipment and Materials

SUBTASK 25-10-01-99C-017

A. Equipment and Materials

- (1) Use the following equipment and materials as required.
 - Standard aviation tools
 - Safety glasses
 - Loctite 242

NOTE: Equivalent alternatives are permitted.

TASK 25-10-01-000-803

3. Removal and Replacement

SUBTASK 25-10-01-010-001

A. Removal

WARNING: THE SYSTEM (1) IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM (1) BUCKLED WHEN THE SEAT IS NOT IN USE.

WARNING: ALWAYS DISCONNECT THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY (55) FOR EACH SEAT POSITION PRIOR TO ANY COMPONENT REPLACEMENT OR ELECTRICAL OR MECHANICAL SEAT MAINTENANCE.

- (1) Removal consists of the following steps.
 - (a) Read all removal procedures before proceeding. Refer to step 2.
 - (b) Ensure the system (1) (Figure 12001) is buckled. Refer to step 3.
 - (c) Verify the system's (1) condition and note part numbers. Refer to step 4.
 - (d) Review installation. Refer to step 5.
 - (e) Isolate the power source [EMA (100)] from the inflator assembly (95). Refer to step 6.
 - (f) Remove the shoulder harness (45 - 50), connector half (15 - 20), and buckle half (35 - 40). Refer to step 7.



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- (g) Remove the EMA (100). Refer to step 8.
- (h) Remove the interface cable assembly (55) and LRU/inflator cable interface (75). Refer to step 9.
- (i) If necessary remove the airbag-equipped label (105 - 110). Refer to step 10.

(2) Read all removal procedures before proceeding.

WARNING: THE SYSTEM (1) IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM (1) BUCKLED WHEN THE SEAT IS NOT IN USE.

WARNING: ALWAYS DISCONNECT THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY (55) FOR EACH SEAT POSITION PRIOR TO ANY COMPONENT REPLACEMENT OR ELECTRICAL OR MECHANICAL SEAT MAINTENANCE.

(3) Ensure the system (1) (Figure 12001) is buckled.

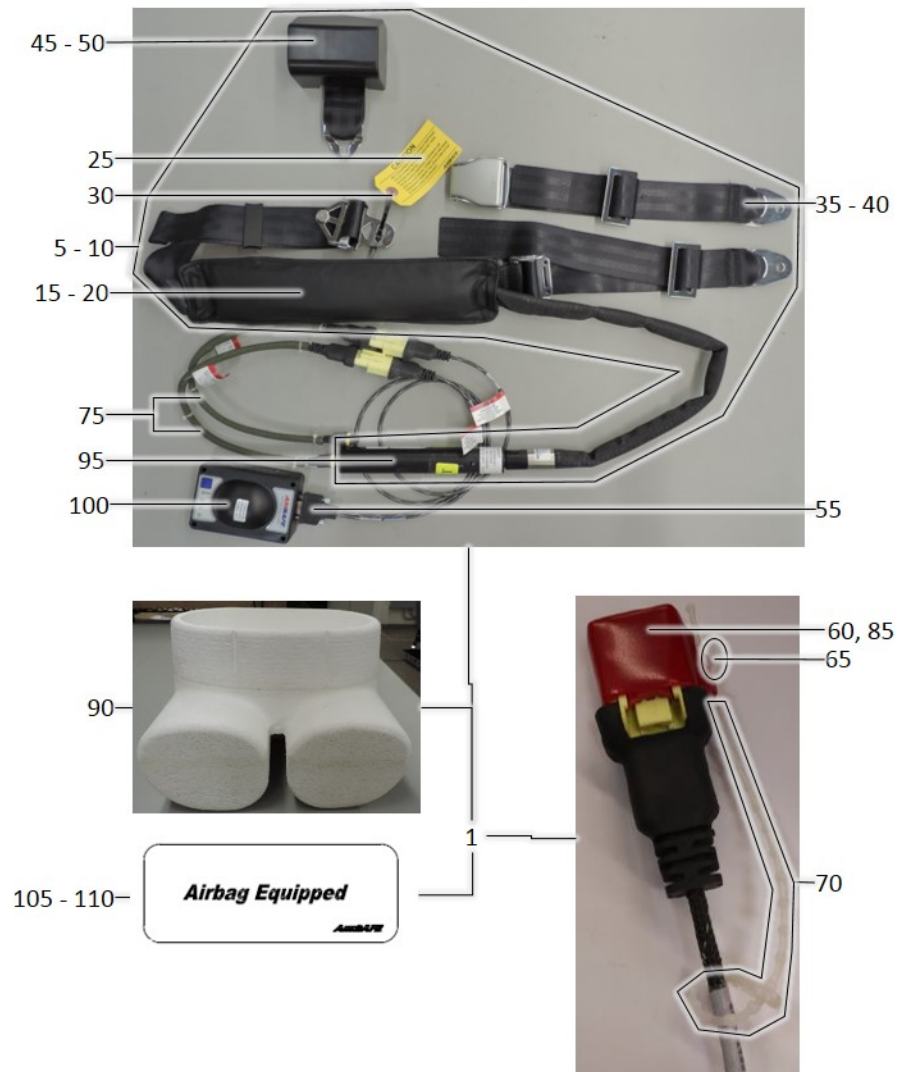


Figure 12001. Kit (1) Components
(Graphic 25-10-01-99B-016)

- (4) Verify the system's (1) condition and note part numbers.

 - (a) Examine the system (1) for anomalies and end of service life.

 - 1 EMA (100): look for evidence of dropping or mishandling (e.g., dents, nicks and cuts). Check the service life (10 years from the DMF) and remove and replace if necessary.
 - 2 Inflator assembly (95): look for loose hardware or connections (e.g., a loose squib connector subassembly) or an improperly routed or secured fabric hose subassembly.
 - 3 Fabric hose subassembly: look for holes, fraying, tears, pinching, bends within 2 inches of the fitting or twists of more than 180 degrees.
 - 4 Interface cable assembly (55) and LRU/inflator cable interface (75): look for fraying, tears, pinching, missing cable ties, exposed or sharp seat edges, tight connections, and damaged connectors.
 - 5 Seatbelt hardware (i.e., end fittings, buckle and connector): look for cracks, dents or corrosion.
 - (b) Perform a system diagnostic check if one is due. (Refer to TESTING AND FAULT ISOLATION.)
- (5) Review installation.

 - (a) Note part numbers for use during replacement.
 - (b) Note the mounting points for the connector half (15 - 20), buckle half (35 - 40) and shoulder harnesses (45 - 50).
 - (c) Inflator assembly (95): note position and orientation, existing hardware and mounting method.
 - (d) Fabric hose subassembly: note the connections i.e., to the inflator assembly (95).
 - (e) Interface cable assembly (55) and LRU/inflator cable interface (75): note location and method of securing, cable hardware [e.g., x-tree clip (80)] and cable connections such as connections to the EMA (100).
 - (f) EMA (100): note position (aircraft forward), existing hardware and mounting method.
- (6) Isolate the power source [EMA (100)] from the inflator assembly (95).

NOTE: The EMA (100) is the power source.

 - (a) Locate the P2 and P3 connectors on the interface cable assembly (55) (Figure 12002). Disconnect the connectors by sliding the red tab backwards to the unlocked position, depressing the yellow tab and pulling the connectors apart (Figure 12003).

NOTE: If the connectors are difficult to access, perform step d and then perform step a.
 - (b) If present, secure the dust cap (60) over the end of the connector on the interface cable assembly (55).

NOTE: The dust cap (60), cable tie (65) and retaining washer (70) are optional.

NOTE: Skip step 1-step 3 if the dust cap (60), cable tie (65) and retaining washer (70) were previously installed.

 - 1 Wrap the cable tie (65) around the interface cable assembly (55), thread the cable tie (65) through its opening and snap it into place.
 - 2 Thread the free end of the cable tie (65) through the hole in the side of the dust cap (60).

- 3 Secure the retaining washer (70) to the end of the cable tie (65) by sliding the retaining washer (70) over the end of the cable tie (65).

(c) If present, secure the dust cap (85) over the end of the connector on the LRU/inflator cable interface (75).

NOTE: The dust cap (85), cable tie (65) and retaining washer (70) are optional.

NOTE: Skip step 1-step 3 if the dust cap (85), cable tie (65) and retaining washer (70) were previously installed.

- 1 Wrap the cable tie (65) around the LRU/inflator cable interface (75), thread the cable tie (65) through its opening and snap it into place.
- 2 Thread the free end of the cable tie (65) through the hole in the side of the dust cap (85).
- 3 Secure the retaining washer (70) to the end of the cable tie (65) by sliding the retaining washer (70) over the end of the cable tie (65).

(d) Disconnect the squib connector subassembly from the inflator assembly (95) by squeezing both sides of the squib connector subassembly and gently pulling away from the inflator assembly (95) (Figure 12004).

(e) Loosen the inflator assembly (95) within its mounting bracket and remove the inflator assembly (95) from the fabric hose subassembly.

WARNING: THE INFLATOR ASSEMBLY (95) CONTAINS COMPRESSED GAS. DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT MAY RESULT FROM MISUSE, MISHANDLING OR TAMPERING.

WARNING: THE INFLATOR ASSEMBLY (95) CONTAINS A NEUTRAL THRUST PORT.

WARNING: DO NOT CLAMP OVER, BIND AGAINST, OR TORQUE AGAINST THE WELD BALL ON THE INFLATOR ASSEMBLY (95). DAMAGE TO THE WELD BALL IS A POTENTIAL SAFETY HAZARD.

WARNING: DO NOT FULLY REMOVE THE INFLATOR ASSEMBLY (95) FROM ITS MOUNTING BRACKET.

CAUTION: Use only soft-jaw pliers to grip and loosen the inflator assembly (95). Do not use pliers as they may damage the inflator assembly (95).

- 1 Loosen the inflator assembly (95) within its mounting bracket. Do not fully remove the inflator assembly (95) from its mounting bracket at this time.
- 2 Using soft-jaw pliers on the inflator assembly (95) and a wrench on the fabric hose subassembly, remove the inflator assembly (95) off the fabric hose subassembly (Figure 12005, Figure 12006).
 - a Cap or plug the opening on the fabric hose subassembly to prevent debris entry.
 - b Remove the mounting hardware for the fabric hose subassembly and retain for replacement.

(f) Remove the inflator assembly (95) (Figure 12007).

WARNING: THE INFLATOR ASSEMBLY (95) CONTAINS COMPRESSED GAS. DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT MAY RESULT FROM MISUSE, MISHANDLING OR TAMPERING.

WARNING: DO NOT MISHANDLE OR TAMPER WITH THE INFLATOR ASSEMBLY (95) IN ANY WAY. THE INFLATOR ASSEMBLY (95) MUST BE HANDLED AND STORED BY PEOPLE TRAINED IN THE REQUIREMENTS ASSOCIATED WITH DANGEROUS GOODS.

WARNING: DO NOT GRASP OR CARRY THE INFLATOR ASSEMBLY (95) BY ITS DIFFUSER.

WARNING: NEVER ATTEMPT TO OPEN THE INFLATOR ASSEMBLY (95) FOR SERVICING.

WARNING: NEVER PROBE OR APPLY ELECTRICAL CURRENT TO THE INFLATOR ASSEMBLY'S (95) ELECTRICAL CONNECTIONS.

WARNING: DO NOT CLAMP OVER, BIND AGAINST, OR TORQUE AGAINST THE WELD BALL ON THE INFLATOR ASSEMBLY (95). DAMAGE TO THE WELD BALL IS A POTENTIAL SAFETY HAZARD.

(g) Remove the inflator assembly (95) from the aircraft structure by loosening its mounting hardware and removing the inflator assembly (95).

1 Retain the mounting hardware for replacement.

2 Store the inflator assembly (95) (Refer to STORAGE.)



Figure 12002. Connectors
(Graphic 25-10-01-99B-017)



Figure 12003. Connectors - Unlocked Position
(Graphic 25-10-01-99B-018)



Figure 12004. Squib Connector Subassembly Connection to Inflator Assembly (95)
(Graphic 25-10-01-99B-019)



Figure 12005. Weld Ball
(Graphic 25-10-01-99B-020)



Figure 12006. Fabric Hose Subassembly Connection to Inflator Assembly (95)
(Graphic 25-10-01-99B-021)

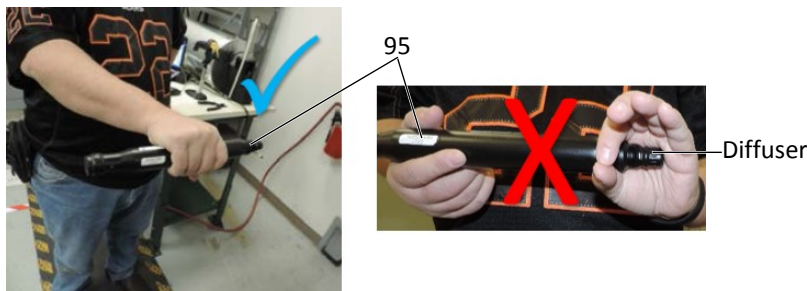


Figure 12007. Inflator Assembly (95) Handling
(Graphic 25-10-01-99B-021)

- (7) Remove the shoulder harness (45 - 50), connector half (15 - 20), and buckle half (35 - 40).
- (a) Disconnect the connector on the shoulder harness (45 - 50) from rivet on the connector.
- NOTE:** The inflatable restraint system assembly (5 - 10) may be installed as a 2-point restraint. If the inflatable restraint system assembly (5 - 10) is installed as a 2-point restraint skip step a.
- (b) Disconnect the inertia reel from the mounting point.
- NOTE:** Follow the aircraft owner/operators instructions to access the inertia reel.
- 1 Remove the cover on the inertia reel.
- 2 Remove the inertia reel.
- (c) Disconnect the connector half (15 - 20) and the buckle half (35 - 40) from the mounting points by detaching the end fitting (Figure 12008).
- NOTE:** Retain hardware for replacement.
- (d) Store the shoulder harness (45 - 50), inertia reel cover, connector half (15 - 20), and buckle half (35 - 40). [Refer to STORAGE.]



Figure 12008. End Fitting on Connector Half (15 - 20)
(Graphic 25-10-01-99B-022)

(8) Remove the EMA (100).

WARNING: DO NOT DROP OR MISHANDLE THE EMA (100). DAMAGE TO THE ELECTRONICS, BATTERY OR SENSOR MAY OCCUR. IF THE EMA (100) IS DROPPED OR DAMAGED THERE IS THE POTENTIAL FOR AN ANOMALY, SUCH AS NOT FUNCTIONING AS INTENDED OR DESIGNED. A DAMAGED OR MISHANDLED EMA (100) COULD INJURE PEOPLE OR DAMAGE EQUIPMENT IF INSTALLED ON THE SEAT. IF DAMAGE OR MIS-HANDLING HAS OCCURRED OR IS SUSPECTED, DO NOT INSTALL THE EMA (100). RETURN THE EMA (100) TO AMSAFE FOR REPLACEMENT.

- (a)** Unscrew the thumb screws on the interface cable assembly (55) and pull the interface cable assembly (55) straight out (Figure 12009).
- (b)** Remove the four bolts on the EMA (100) and remove the EMA (100).
- (c)** Remove the EMA bracket.)
- (d)** Store the EMA (100) and the EMA bracket. (Refer to STORAGE.)

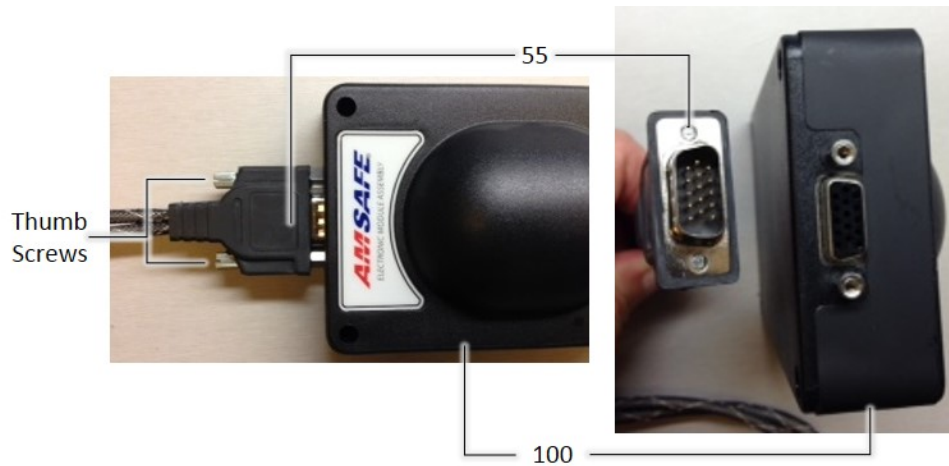


Figure 12009. Interface Cable Assembly (55) Connection to the EMA (100)
(Graphic 25-10-01-99B-023)

- (9)** Remove the interface cable assembly (55) and LRU/inflator cable interface (75).
- (a)** Remove the hardware securing the interface cable assembly (55) and remove the interface cable assembly (55).
 - (b)** Remove the hardware securing the LRU/inflator cable interface (75) and remove the LRU/inflator cable interface (75).
 - 1** Remove the x-tree clip (80) on the LRU/inflator cable interface (75) by holding onto the connector, attaching needle-nose pliers to the end of the x-tree clip (80) and pulling outwards (Figure 12010).
- NOTE:** If present, remove the dust cap (85) before removing the x-tree clip (80).
- NOTE:** Do not damage the end of the connector.

- (c) Store the interface cable assembly (55) and LRU/inflator cable interface (75). [Refer to STORAGE.]



Figure 12010. X-Tree Clip (80) Removal
(Graphic 25-10-01-99B-024)

- (10) If necessary remove the airbag-equipped label (105 - 110).

SUBTASK 25-10-01-410-001

B. Replacement

- (1) Refer to Equipment and Materials for a list of equipment and materials.
- (2) Replacement consists of the following steps.
- (a) Read all replacement procedures before proceeding. Refer to step 3.
 - (b) Replace the connector half (15 - 20), buckle half (35 - 40) and shoulder harness (45 - 50) (Figure 12011). Refer to step 4.
 - (c) Replace the inflator assembly (95) (Figure 12023 and Figure 12024). Refer to step 5.
 - (d) Replace the fabric hose subassembly and secure the inflator assembly (95). Refer to step 6.
 - (e) Replace the EMA (100), EMA bracket, interface cable assembly (55) and LRU/inflator cable interface (75). Refer to step 7.
 - (f) Perform a functional test. (Refer to TESTING AND FAULT ISOLATION). Refer to step 8.
 - (g) If necessary replace the airbag-equipped label (105 - 110). Refer to step 8.

NOTE: Replace all components with same part number as the removed component. (Refer to the ILLUSTRATED PARTS LIST.)

- (3) Read all replacement procedures before proceeding.
- (4) Replace the connector half (15 - 20), buckle half (35 - 40) and shoulder harness (45 - 50) (Figure 12011).

WARNING: THE SYSTEM (1) IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM (1) BUCKLED WHEN THE SEAT IS NOT IN USE.

WARNING: UNINTENTIONAL DEPLOYMENT OF THE AIRBAG COULD OCCUR IF COMPONENTS ARE REPLACED OUT OF SEQUENCE. UNINTENTIONAL DEPLOYMENT OF THE AIRBAG COULD INJURE PEOPLE OR DAMAGE EQUIPMENT.

- (a) If replacing with a new connector half (15 - 20), buckle half (35 - 40) or shoulder harness (45 - 50), unwrap the connector half (15 - 20), buckle half (35 - 40) or shoulder harness (45 - 50). Remove and discard the cable tie (30) and caution tag (25) on the connector half (15 - 20).

- (b) Secure the end-fitting on the buckle half (35 - 40) to the mounting point (Figure 12012).

NOTE: There is a left-hand buckle half (35) and a right-hand buckle half (40). Install the correct buckle half (35 - 40). Refer to the ILLUSTRATED PARTS LIST.

NOTE: If necessary, secure a bushing between the mounting point and the end fitting.

NOTE: Use the existing hardware provided by the aircraft owner/operator.

- (c) Secure the end-fitting on the connector half (15 - 20) to the mounting point (Figure 12012).

NOTE: There is a left-hand connector half (15) and a right-hand connector half (20). Install the correct connector half (15 - 20). Refer to the ILLUSTRATED PARTS LIST.

NOTE: If necessary, secure a bushing between the mounting point and the end fitting.

NOTE: Use the existing hardware provided by the aircraft owner/operator.

NOTE: The airbag on the connector half (15 - 20) must present away from the seat occupant with the warning label oriented on the inside of the airbag and towards the seat occupant. The warning label must be right-side up when viewed by the seat occupant.

- (d) Secure the inertia reel on the shoulder harness (45 - 50) to the mounting point.

NOTE: Skip this step if the inflatable restraint system assembly (5 - 10) is installed as a two-point restraint.

NOTE: There is a left-hand shoulder harness (45) and a right-hand shoulder harness (50). Install the correct shoulder harness (45 - 50). Refer to the ILLUSTRATED PARTS LIST.

- 1 If necessary, remove the cover on the inertia reel.

- 2 Secure the inertia reel on the shoulder harness (45 - 50) to the mounting point.

NOTE: If necessary, use a bushing to secure the inertia reel.

NOTE: Use the hardware provided by the aircraft owner/operator to install the shoulder harnesses (45 - 50).

- 3 Secure the cover on the inertia reel.

- (e) If replacing with the existing connector half (15 - 20) or buckle half (35 - 40) proceed to step h.

- (f) If replacing with a new connector half (15 - 20) or buckle half (35 - 40), follow step 1 - step 7 to align the connector half (15 - 20) and buckle half (35 - 40).

- 1 Ensure the seat is in the center position of the horizontal and vertical adjustment.

NOTE: This procedure is for installation on the seat at the midway point of the seat and addresses the full range of seat occupants from the 5th percentile female to the 95th percentile male. It is not necessary to repeat step 1 - step 7 after the installation on the seat if the seat occupant exceeds the 5th percentile female to the 95th percentile male.

NOTE: The figures referenced in step 1 - step 7 are representative and show mounting points on the seat. The actual mounting points may be to the seat, floor or aircraft structure.

WARNING: THE SHAPE OF THE BODY BLOCK (90) ENSURES PROPER ALIGNMENT AND INSTALLATION. DO NOT USE THE BODY BLOCK (90) IF IT IS DAMAGED (E.G., CRACKS, TEARS, HOLES, DENTS OR MISSING PIECES).

- 2 Ensure the body block (90) is not damaged (e.g., cracks, tears, holes dents or missing pieces).
- 3 Place the body block (90) on the center of the seat and flat against the seat's bottom and back cushions (Figure 12013).

NOTE: Ensure the body block (90) is centered on the seat and against the seat's bottom and back cushions at all times the body block (90) is in use.

- 4 Place the connector half (15 - 20) around the pelvis on the body block (90) (Figure 12014).

- 5 Secure the connector half (15 - 20).

- a Remove the webbing from the 3-bar-slide on the connector half (15 - 20) until one layer of webbing remains in the 3-bar slide and the 3-bar slide moves easily along the length of the webbing (Figure 12015).

NOTE: Do not completely remove the webbing from the 3-bar slide.

- b Align the leading edge of the airbag cover (the edge near the connector) with the inboard groove on the body block (90) (Figure 12016).
- c Simultaneously hold the airbag against the body block (90) and pull the free end of the webbing until the connector half (15 - 20) is snug against the body block (90).
- d If necessary, repeat step b and step c until the leading edge of the airbag cover aligns with the inboard groove on the body block (90).
- e Thread the loose end of the webbing through and around the 3-bar slide until the webbing is snug around the 3-bar slide (Figure 12017).

- 6 Secure the buckle half (35 - 40).

- a Buckle the connector half (15 - 20) and buckle half (35 - 40).

NOTE: Ensure the connector half (15 - 20) and buckle half (35 - 40) are not twisted.

NOTE: Ensure the leading edge of the airbag cover (the edge near the connector) aligns with the inboard groove on the body block (90).

- b Remove the webbing from the 3-bar-slide on the buckle half (35 - 40) until one layer of webbing remains in the 3-bar slide and the 3-bar slide moves easily along the length of the webbing (Figure 12018).
- c Adjust the location of the buckle assembly until it is adjacent to the hip on the body block (90) (Figure 12019).
- d Simultaneously hold the airbag against the body block (90) and pull the free end of the webbing near the connector until the connector half (15 - 20) and buckle half (35 - 40) are snug against the body block (90).
- e Unbuckle the connector half (15 - 20) and buckle half (35 - 40).
- f Place the 3-bar slide 2 in (5.08 cm) or more from the buckle assembly

(Figure 12020).

- g Thread the loose end of the webbing over and through the end of the 3-bar slide and then through the 3-bar slide (Figure 12021).
- h Ensure the webbing on the 3-bar slide is snug.
- i Remove the body block (90).
- (g) Buckle the connector half (15 - 20) and buckle half (35 - 40).
- (h) Attach the connector on the shoulder harness (45 - 50) to the rivet on the connector half (15 - 20) (Figure 12022).

NOTE: Skip step h if the system was installed as a two-point restraint.

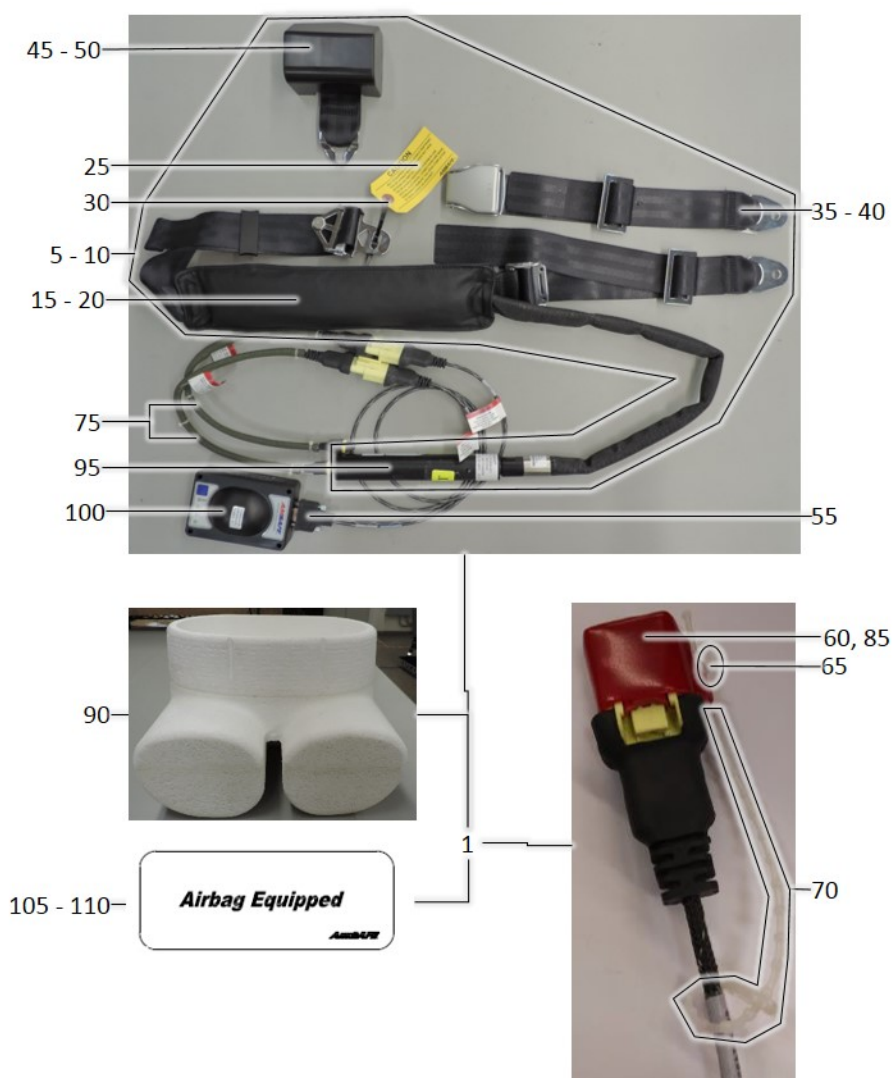


Figure 12011. Components
(Graphic 25-10-01-99B-025)



Figure 12012. End Fitting on the Connector Half (15 - 20)
(Graphic 25-10-01-99B-026)



Figure 12013. Body Block (90) Placement
(Graphic 25-10-01-99B-027)



Figure 12014. Connector Half (15 - 20) On Body Block (90)
(Graphic 25-10-01-99B-028)

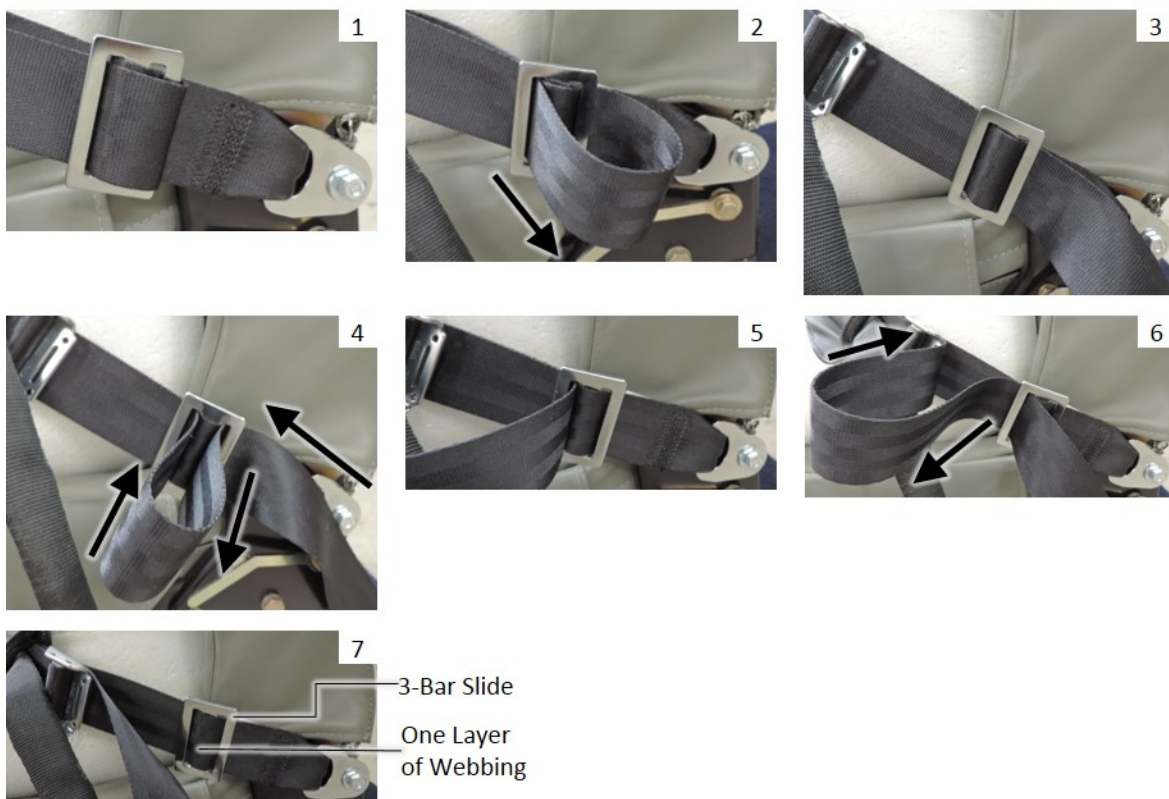


Figure 12015. Removing the Webbing From the 3-Bar Slide
(Graphic 25-10-01-99B-029)



Figure 12016. Airbag Cover Alignment on Body Block (90)
(Graphic 25-10-01-99B-030)



Figure 12017. Threading Webbing Through 3-Bar Slide
(Graphic 25-10-01-99B-031)

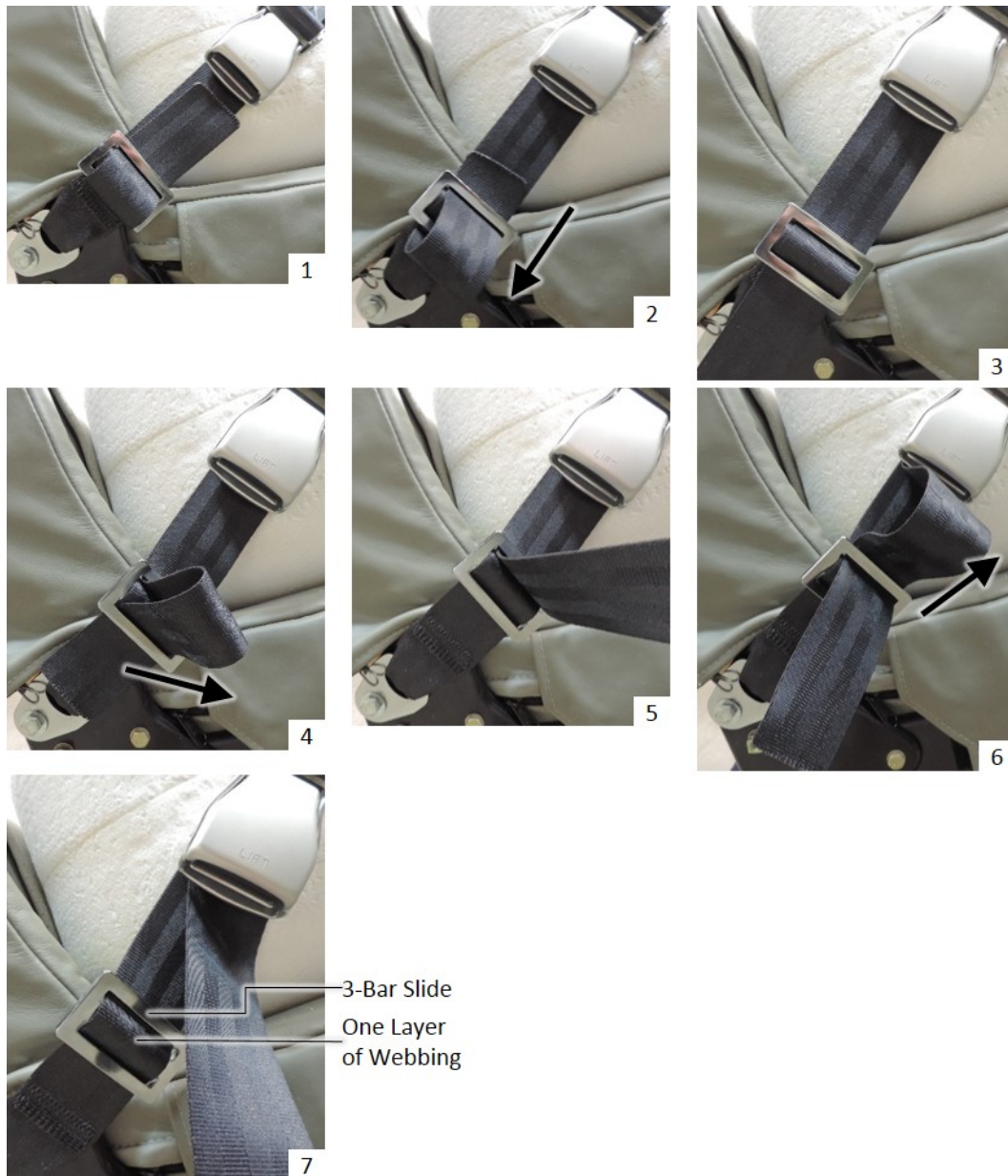
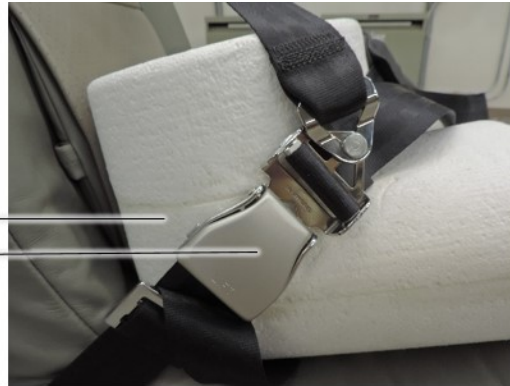


Figure 12018. Removing the Webbing on the 3-Bar Slide
(Graphic 25-10-01-99B-032)

Hip on Body Block (90)
Buckle Assy.



Buckle Assembly
too Forward

Figure 12019. Location of Buckle Assembly
(Graphic 25-10-01-99B-033)

Buckle
Assembly

3-Bar Slide



Figure 12020. Location of 3-Bar Slide
(Graphic 25-10-01-99B-034)

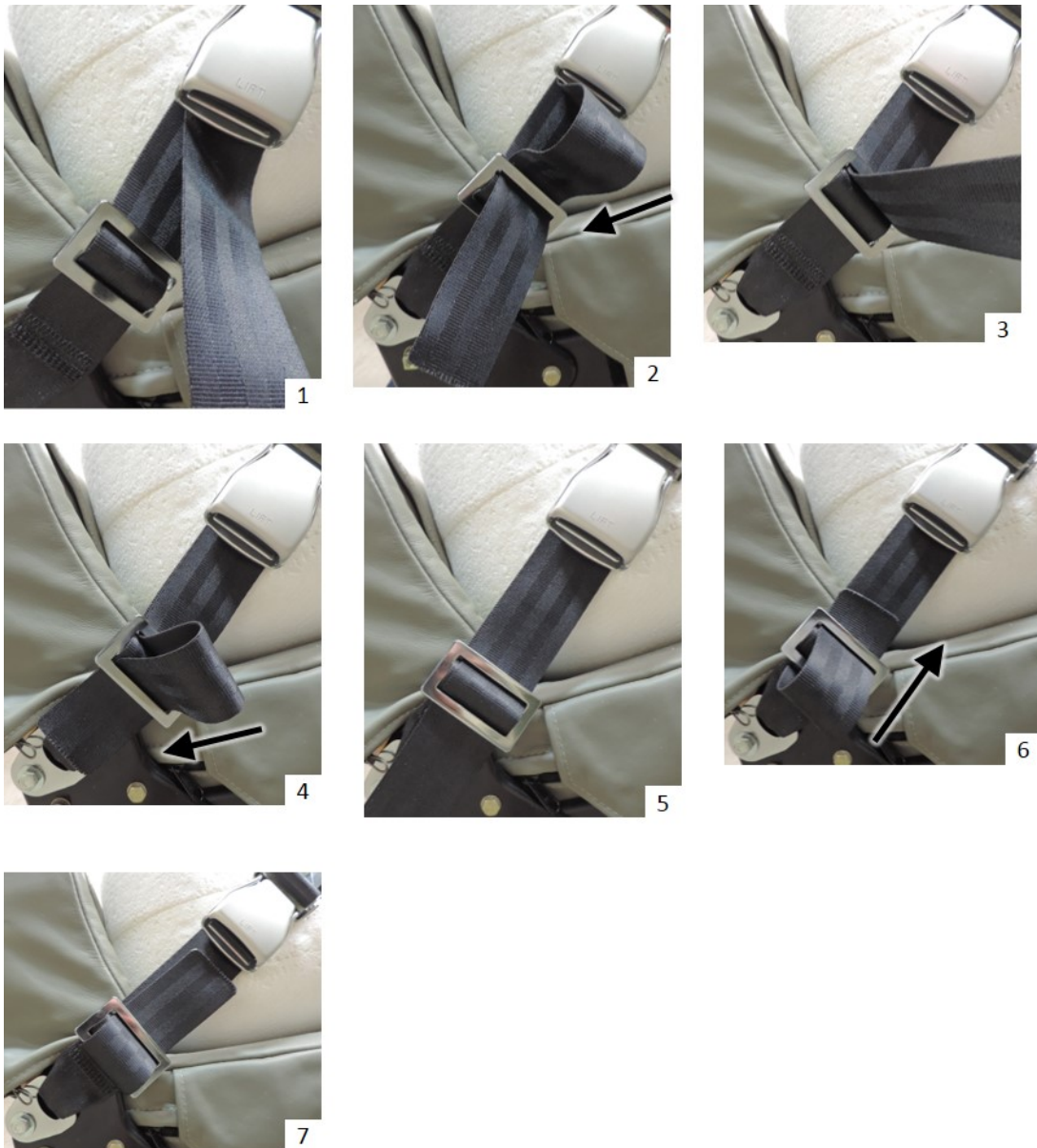


Figure 12021. Threading Webbing Through 3-Bar Slide
(Graphic 25-10-01-99B-035)



Figure 12022. Connector Attached to Rivet
(Graphic 25-10-01-99B-036)

- (5) Replace the inflator assembly (95) (Figure 12023 and Figure 12024).

WARNING: THE INFLATOR ASSEMBLY (95) CONTAINS COMPRESSED GAS. DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT MAY RESULT FROM MISUSE, MISHANDLING OR TAMPERING.

WARNING: IF THE INFLATOR ASSEMBLY (95) IS NOT SECURED AND THE INFLATOR ASSEMBLY (95) IS UNINTENTIONALLY DEPLOYED, THE COMPRESSED GAS MAY CAUSE DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT.

WARNING: DO NOT MISHANDLE OR TAMPER WITH THE INFLATOR ASSEMBLY (95) IN ANY WAY. THE INFLATOR ASSEMBLY (95) MUST BE HANDLED AND STORED BY PEOPLE TRAINED IN THE REQUIREMENTS ASSOCIATED WITH DANGEROUS GOODS.

WARNING: DO NOT GRASP OR CARRY THE INFLATOR ASSEMBLY (95) BY ITS DIFFUSER.

WARNING: NEVER ATTEMPT TO OPEN THE INFLATOR ASSEMBLY (95) FOR SERVICING.

WARNING: NEVER PROBE OR APPLY ELECTRICAL CURRENT TO THE INFLATOR ASSEMBLY'S (95) ELECTRICAL CONNECTIONS.

WARNING: DO NOT CLAMP OVER, BIND AGAINST, OR TORQUE AGAINST THE WELD BALL ON THE INFLATOR ASSEMBLY (95). DAMAGE TO THE WELD BALL IS A POTENTIAL SAFETY HAZARD.

WARNING: ENSURE THE INFLATOR ASSEMBLY (95) IS INSTALLED TO ENSURE IT WILL NOT TRANSLATE IN THE EVENT IT IS UNINTENTIONALLY DEPLOYED. IF THE INFLATOR ASSEMBLY (95) IS UNINTENTIONALLY DEPLOYED, THE COMPRESSED GAS MAY CAUSE DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT.

- (a) Install the inflator assembly (95). If a mounting bracket is used, ensure the inflator assembly (95) is contained within the mounting bracket.

NOTE: Do not fully tighten the inflator assembly (95) at this time.

NOTE: Do not damage the serial number on the inflator assembly (95) when mounting.

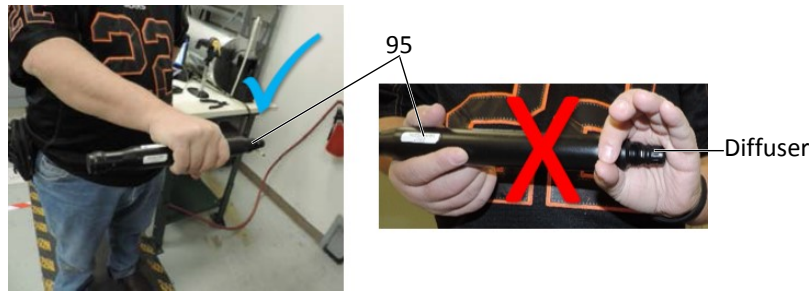


Figure 12023. Inflator Assembly (95) Handling
(Graphic 25-10-01-99B-037)



Figure 12024. Weld Ball
(Graphic 25-10-01-99B-037)

- (6) Replace the fabric hose subassembly and secure the inflator assembly (95).
- (a) Route the fabric hose subassembly such that there are no twists, no bends within 2 inches of the fitting and no more than two, 90-degree bends.
- NOTE:** Refer to the seat OEM's documentation and/or drawings for hose routing.
- (b) Secure the fabric hose subassembly with hardware.
- NOTE:** Refer to the notes taken during removal to secure the fabric hose subassembly.
- (c) Remove the cap plug from the fabric hose subassembly.
- WARNING:** **DO NOT CLAMP OVER, BIND AGAINST, OR TORQUE AGAINST THE WELD BALL ON THE INFLATOR ASSEMBLY (95). DAMAGE TO THE WELD BALL IS A POTENTIAL SAFETY HAZARD.**
- CAUTION:** Do not use pliers to secure the fabric hose subassembly to the inflator assembly (95) as they may damage the fabric hose subassembly.
- CAUTION:** Use only soft-jaw pliers or a strap wrench to grip and loosen the inflator assembly (95). Do not use pliers as they may damage the inflator assembly (95).
- (d) Secure the fabric hose subassembly to the inflator assembly (95) (Figure 12025).
- NOTE:** Ensure the fabric hose subassembly is fully seated onto the inflator assembly (95).
- 1 Apply 2-3 drops of thread-locking compound in a thin, even coat onto the threaded end of the inflator assembly (95).
 - 2 Ensure the fabric hose subassembly is routed through the seat structure such that there are no twists, no bends within 2 inches of the fitting and no more than two, 90-degree bends.

CAUTION: Use only soft-jaw pliers. Do not use pliers to secure the fabric hose subassembly to the inflator assembly (95) as they may damage the fabric hose subassembly. Do not damage the end of the fabric hose subassembly or inflator assembly (95).

3 Secure the inflator assembly (95) to the fabric hose subassembly by rotating the inflator assembly (95).

4 Torque the fabric hose subassembly onto the inflator assembly (95) 60 ± 10 in-lb.

NOTE: If it is not possible to perform step 4 with the inflator assembly (95) partially secured, follow step a - step c.

a Remove the inflator assembly (95) and secure the inflator assembly (95) to the fabric hose subassembly.

b Ensure the fabric hose subassembly is routed through the seat structure such that there are no twists, no bends within 2 inches of the fitting and no more than two, 90-degree bends.

c Torque the fabric hose subassembly onto the inflator assembly (95) 60 ± 10 in-lb and reinstall the inflator assembly (95).

(e) Secure the inflator assembly (95) so that the inflator assembly (95) cannot move.

(f) Seat the squib connector subassembly on the LRU/inflator cable interface (75) to the inflator assembly (95) until the squib connector subassembly locks into place (Figure 12026).



Figure 12025. Fabric Hose Subassembly Connection to Inflator Assembly (95)
(Graphic 25-10-01-99B-038)

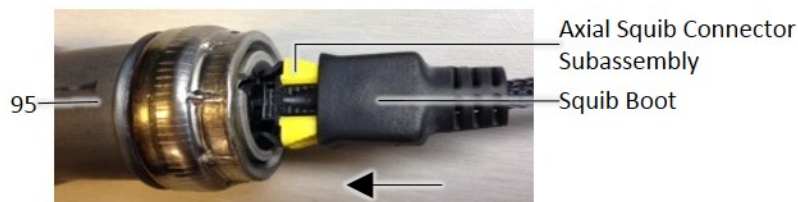


Figure 12026. Squib Connector Subassembly Connection to Inflator Assembly (95)
(Graphic 25-10-01-99B-039)

- (7) Replace the EMA (100), EMA bracket, interface cable assembly (55) and LRU/inflator cable interface (75).

WARNING: DO NOT DROP OR MISHANDLE THE EMA (100). DAMAGE TO THE ELECTRONICS, BATTERY OR SENSOR MAY OCCUR. IF THE EMA (100) IS DROPPED OR DAMAGED THERE IS THE POTENTIAL FOR AN ANOMALY, SUCH AS NOT FUNCTIONING AS INTENDED OR DESIGNED. A DAMAGED OR MISHANDLED EMA (100) COULD INJURE PEOPLE OR DAMAGE EQUIPMENT IF INSTALLED ON THE SEAT. IF DAMAGE OR MISHANDLING HAS OCCURRED OR IS SUSPECTED, DO NOT INSTALL THE EMA (100). RETURN THE EMA (100) TO AMSAFE FOR REPLACEMENT.

WARNING: ENSURE THE EMA (100) IS SECURED TO PREVENT UNINTENTIONAL DEPLOYMENT OF THE AIRBAG. UNINTENTIONAL DEPLOYMENT OF THE AIRBAG MAY INJURE PEOPLE OR DAMAGE EQUIPMENT.

- (a) Install the EMA bracket to a primary aircraft load-carrying structure.

NOTE: Skip the above step if an EMA bracket is not used.

- (b) Orient the EMA (100) aircraft forward (Figure 12027) and install the EMA (100) using four fasteners. Torque fasteners 30 ± 2 in-lb.

NOTE: The top of the fasteners should be flush with the top of the EMA (100). If necessary, exceed the initial torque value.

- (c) Replace the interface cable assembly (55) and LRU/inflator cable interface (75).

WARNING: THE LAST ELECTRICAL CONNECTIONS ARE TO THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY (55). THESE CONNECTIONS ARE MADE ONLY AFTER REPLACEMENT OF ALL COMPONENTS.

- 1 Route and secure the interface cable assembly (55) using new hardware that is the same as that originally installed.

NOTE: Use notes made during removal to facilitate replacement.

NOTE: Ensure the interface cable assembly (55) does not have pinch points caused by seat movement.

- 2 Route and secure the LRU/inflator cable interface (75) using new hardware that is the same as that originally installed.

NOTE: Ensure the LRU/inflator cable interface (75) does not have pinch points caused by seat movement.

- a Using needle-nose pliers, secure an x-tree clip (80) to the LRU/inflator cable interface (75) by pushing it into the P1 connector (Figure 12028). Do not damage the end of the connector.

WARNING: ENSURE MATING INTERFACES ARE PARALLEL AND ON CENTER WHEN CONNECTING OR DISCONNECTING THE 15-PIN CONNECTOR ON THE INTERFACE CABLE ASSEMBLY (55) TO THE EMA (100). IF MISALIGNED CONNECTORS ARE MATED OR FORCED TOGETHER, DAMAGE TO THE 15-PIN CONNECTOR COULD OCCUR AND COULD LEAD TO UNINTENTIONAL DEPLOYMENT OF COMPRESSED GAS THAT MAY INJURE PEOPLE OR DAMAGE EQUIPMENT.

- (d) Check for any debris or damage to the 15-pin connector (P1), (Figure 12029).

- (e) Connect the 15-pin connector (P1) to the EMA (100).

NOTE: Ensure there is no resistance when connecting the 15-pin connector (P1) to the EMA (100).

- (f) Torque the thumb screws 6±2 in-lb.

NOTE: If connecting the 15-pin connector to the EMA (100) is a blind connection, or is difficult to make and a proper connection cannot be assured, follow step 1 - step 5.

- 1 Ensure the P2 and P3 connectors on the interface cable assembly (55) are disconnected. If the P2 and P3 connectors are connected, disconnect them by sliding the red tab on the connector backwards to the unlocked position, depressing the yellow tab and then pulling the connectors apart.

- 2 If necessary, remove the EMA (100) (for clear visual access.)

- 3 Connect the 15-pin connector (P1) to the EMA (100).

NOTE: Ensure there is no resistance when connecting the 15-pin connector (P1) to the EMA (100).

- 4 Torque the thumb screws 6±2 in-lb.

- 5 Reinstall the EMA (100).

- (g) Check the EMA (100) for mishandling.

- 1 Find the LEDs on the EMA (100) (Figure 12030).

- 2 Push the PTT button on the EMA (100) (Figure 12031).

- 3 Passing results are in Figure 12032. If the test failed, remove and replace the EMA (100) (refer to REMOVAL AND REPLACEMENT) and install a new EMA (100).

WARNING: THE LAST ELECTRICAL CONNECTIONS ARE TO THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY (55). THESE CONNECTIONS ARE MADE ONLY AFTER REPLACEMENT OF ALL COMPONENTS.

WARNING: ENSURE THE EMA (100) IS SECURED TO PREVENT UNINTENTIONAL DEPLOYMENT OF THE AIRBAG. UNINTENTIONAL DEPLOYMENT OF THE AIRBAG MAY INJURE PEOPLE OR DAMAGE EQUIPMENT.

- (h) Connect each P2 and P3 connector on the interface cable assembly (55) (Figure 12033) to the connector on the LRU/inflator cable interface (75).

- 1 If present, remove the dust cap (60) from the connector on the interface cable assembly (55).

- 2 If present, remove the dust cap (85) from the connector on the and LRU/inflator cable interface (75).

- 3 Lock connectors by sliding the red tab forward (Figure 12034). The red tab will not engage unless connectors are fully seated.



Figure 12027. EMA (100) Aircraft Forward Orientation
(Graphic 25-10-01-99B-040)



Figure 12028. X-Tree Clip (80) Installation
(Graphic 25-10-01-99B-041)

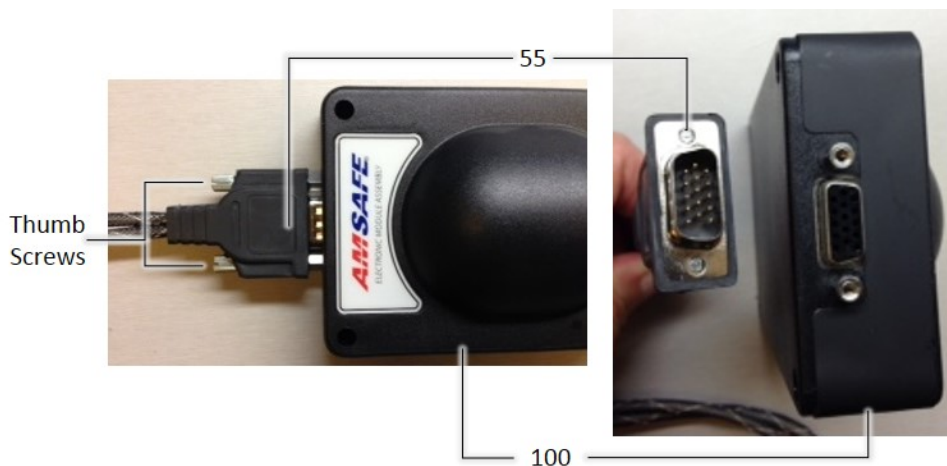
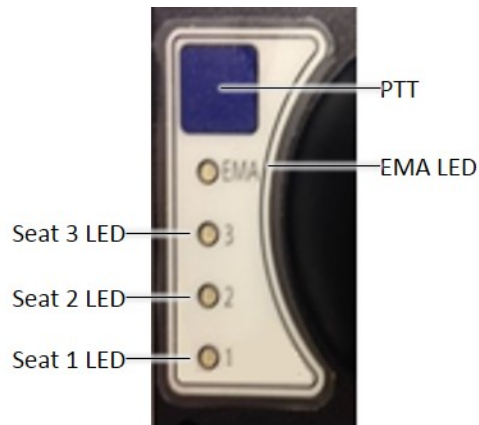
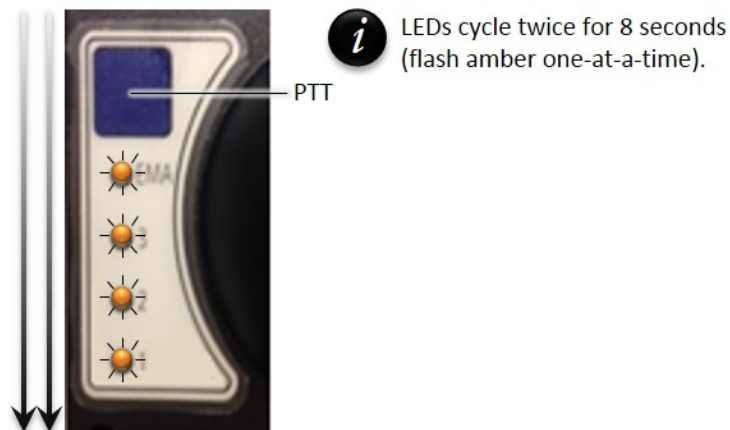


Figure 12029. Interface Cable Assembly (55) Connection to the EMA (100)
(Graphic 25-10-01-99B-042)



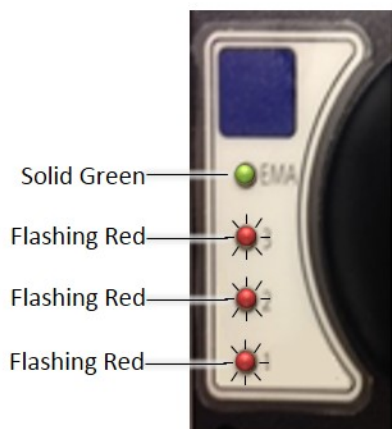
EMA for up to Three Seats
and One Inflator Assembly
per Seat

Figure 12030. EMA (100) LEDs
(Graphic 25-10-01-99B-043)



EMA for up to Three Seats
and One Inflator Assembly
per Seat

Figure 12031. LED Cycles
(Graphic 25-10-01-99B-044)



EMA for up to Three Seats
and One Inflator Assembly
per Seat



EMA



LEDs are lit for 6 seconds.

- EMA LED is solid green.
- Seat LEDs are flashing red. Flashing red LEDs are normal results.

After 6 seconds, the EMA LED remains solid green for wireless functions and all other LEDs are unlit.

If you did not have enough time to see the results, wait until LEDs are no longer lit (approximately 15 seconds) and retest.

Figure 12032. Test Results
(Graphic 25-10-01-99B-045)



Figure 12033. Connectors
(Graphic 25-10-01-99B-046)



Figure 12034. Connectors - Locked Position
(Graphic 25-10-01-99B-047)

- (8) Perform a functional test. (Refer to TESTING AND FAULT ISOLATION).
- (9) If necessary replace the airbag-equipped label (105 - 110).



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INSTALLATION

TASK 25-10-01-400-801

1. Installation

SUBTASK 25-10-01-99C-018

A. General

(1) Not applicable.



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SERVICING

TASK 25-10-01-600-801

1. Servicing

SUBTASK 25-10-01-99C-019

A. General

(1) Not applicable.



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STORAGE

TASK 25-10-01-500-801

1. Storage

SUBTASK 25-10-01-99C-021

A. Description

- (1) The information and procedures in storage ensures the system and its components are appropriately handled, shipped, stored and disposed.

NOTE: With the exception of warnings, cautions and notes, these instructions are general.

SUBTASK 25-10-01-99C-021

B. Personnel

- (1) Personnel should review these instructions and be trained in handling dangerous goods.

SUBTASK 25-10-01-99C-022

C. Equipment and Materials

- (1) Use the following equipment and materials as required.
- Packaging material (e.g., bubble wrap or wrapping paper)
 - U.S. DOT-approved container that is UN (United Nations) tested and marked under UN performance oriented packing (POP).

NOTE: Equivalent alternatives are permitted.

SUBTASK 25-10-01-580-001

D. Safety Warnings, Cautions and Notes

- (1) Read all warnings and cautions prior to working on any system.

WARNING: THE SYSTEM IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM BUCKLED WHEN THE SEAT IS NOT IN USE.

WARNING: IN THE CASE OF A SYSTEM DEPLOYMENT, DO NOT USE ANY SEAT WITH A SYSTEM SHARING THE SAME EMA AS THE DEPLOYED SYSTEM. REMOVE AND RETURN ALL COMPONENTS TO AMSAFE.

- (a) Follow the above warnings for seats and refer to Figure 15001 to locate the connectors on the interface cable assembly

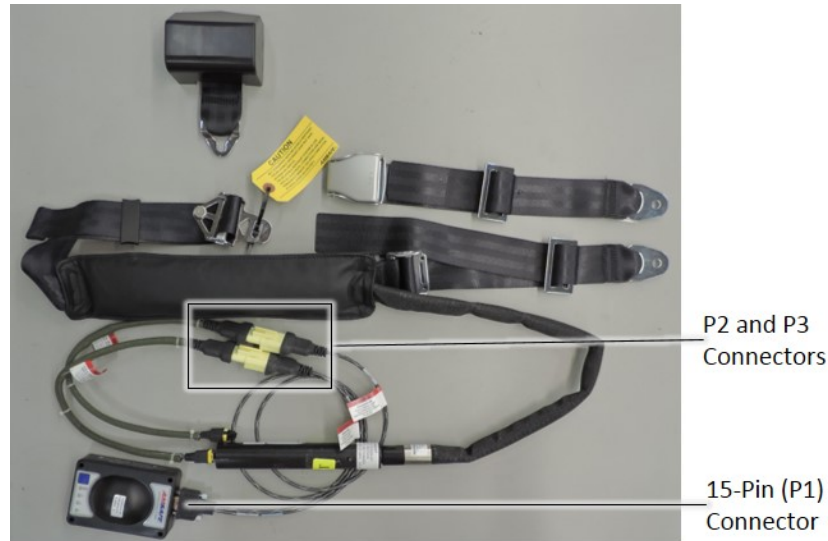


Figure 15001. 15-Pin and P2 and P3 Connectors on Interface Cable Assembly
(Graphic 25-10-01-99B-048)

(2) Connector Half and Buckle Half

WARNING: THE SYSTEM IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM BUCKLED WHEN THE SEAT IS NOT IN USE.

WARNING: ALWAYS DISCONNECT THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY FOR EACH SEAT POSITION PRIOR TO ANY COMPONENT REPLACEMENT OR ELECTRICAL OR MECHANICAL SEAT MAINTENANCE.

(a) Follow the above warnings for the connector half and buckle half.

(3) EMA

WARNING: DO NOT DROP OR MISHANDLE THE EMA. DAMAGE TO THE ELECTRONICS, BATTERY OR SENSOR MAY OCCUR. IF THE EMA IS DROPPED OR DAMAGED THERE IS POTENTIAL FOR AN ANOMALY, SUCH AS NOT FUNCTIONING AS INTENDED OR DESIGNED. A DAMAGED OR MISHANDLED EMA COULD RESULT IN INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT IF INSTALLED ON THE SEAT. IF DAMAGE OR MISHANDLING OCCURRED OR IS SUSPECTED, DO NOT INSTALL THE EMA. RETURN THE EMA TO AMSAFE FOR REPLACEMENT.

(a) Follow the above warning for the EMA.

(4) Inflator Assembly

- WARNING:** THE INFLATOR ASSEMBLY CONTAINS COMPRESSED GAS. DEATH OR INJURY TO PEOPLE MAY OCCUR THROUGH MISUSE, MISHANDLING OR TAMPERING.
- WARNING:** DO NOT MISHANDLE OR TAMPER WITH THE INFLATOR ASSEMBLY IN ANY WAY. THE INFLATOR ASSEMBLY MUST BE HANDLED AND STORED BY PEOPLE TRAINED IN THE REQUIREMENTS ASSOCIATED WITH DANGEROUS GOODS.
- WARNING:** DO NOT GRASP OR CARRY THE INFLATOR ASSEMBLY BY ITS DIFFUSER.
- WARNING:** NEVER ATTEMPT TO OPEN THE INFLATOR ASSEMBLY FOR SERVICING.
- WARNING:** NEVER PROBE OR APPLY ELECTRICAL CURRENT TO THE INFLATOR ASSEMBLY'S ELECTRICAL CONNECTIONS.
- WARNING:** KEEP THE INFLATOR ASSEMBLY AWAY FROM SOURCES OF THERMAL IGNITION, ELECTRIC SPARKS OR FLAME, IMPACT OR MECHANICAL IGNITION OR ELECTRO-STATIC DISCHARGE. AUTOIGNITION MAY OCCUR WHEN THESE SOURCES ARE PRESENT AND MAY RESULT IN DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT.

- (a) Follow the above warnings for the inflator assembly (Figure 15002).



Figure 15002. Inflator Assembly Handling
(Graphic 25-10-01-99B-048)

SUBTASK 25-10-01-510-001

E. General Shipping Procedure

- CAUTION:** Do not use packing material (e.g., packing peanuts) that allows the system or its components to shift. This packing material does not prevent damage to the system or its components.
- NOTE:** Observe local, national and international regulations. Failure to comply with regulations for dangerous goods may result in civil or criminal penalties.
- NOTE:** Contact AmSafe Customer Service for any shipping questions or concerns.
- NOTE:** Contact AmSafe Customer Service to obtain a return material authorization (RMA) number and shipping address. Provide the customer's name, location, contact person and phone number.
- NOTE:** Contact AmSafe Customer Service to receive packaging materials and work instructions to properly pack and assemble materials.



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(1) General Shipping Procedure

- (a) Use the original packaging if it is available and in a usable condition or use new packaging of the same quality and size.
- (b) Use a minimum of three inches of packaging material to prevent the system or component from shifting during shipping.

- 1 Use packaging material (e.g., bubble wrap) to protect parts.
- 2 Line the sides, top and bottom of shipping containers with packaging material (e.g., wrapping paper) to prevent movement. If necessary, use partitions or dividers for added protection.

NOTE: Use packaging material (e.g., bubble wrap) to protect plated parts.

- 3 Ensure the label is legible, durable and located and secured such that it is will not be obstructed or lost when the package is shipped. Ensure the label contains the following items.
 - Customer address
 - AmSafe's shipping address
 - RMA number
 - Hazardous material labels per 49 CFR §172.400 and 49 CFR §172.301
 - Labels required by country of shipping origin

(2) Inflatable Restraint System Assembly

WARNING: THE SYSTEM IS ALWAYS LIVE AS SOON AS ALL ELECTRICAL CONNECTIONS ARE MADE. TO MINIMIZE THE RISK OF INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT, KEEP THE SYSTEM BUCKLED WHEN THE SEAT IS NOT IN USE.

WARNING: ALWAYS DISCONNECT THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY FOR EACH SEAT POSITION PRIOR TO ANY COMPONENT REPLACEMENT OR ELECTRICAL OR MECHANICAL SEAT MAINTENANCE.

(a) Shipping

- 1 Return the inflatable restraint system assembly following the General Shipping Procedure.

NOTE: An inflatable restraint system assembly with a functional defect must be returned to AmSafe.

NOTE: To claim warranty, an inflatable restraint system assembly that is under warranty and have a manufacturing defect must be returned to AmSafe using an RMA.

(b) Storage

- 1 Store the inflatable restraint system assembly in a cool and dry environment.
- 2 Store the inflatable restraint system assembly so that it is protected from sunlight, dust, moisture and other contamination.

(c) Disposal

- 1 The inflatable restraint system assembly does not contain dangerous goods and may be disposed in accordance with the aircraft owner/operator's policy.



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(3) Interface Cable Assembly and LRU/Inflator Cable Interface

(a) Shipping

- 1** Return the interface cable assembly and LRU/inflator interface cable following the General Shipping Procedure.

NOTE: A interface cable assembly or LRU/inflator interface cable with a functional defect must be returned to AmSafe.

(b) Storage

- 1** Store the interface cable assembly and LRU/inflator interface cable in a cool and dry environment.

(c) Disposal

- 1** The interface cable assembly and LRU/inflator interface cable do not contain dangerous goods and may be disposed in accordance with the aircraft owner/operator's policy.

(4) EMA

(a) Handling

WARNING: DO NOT DROP OR MISHANDLE THE EMA. DAMAGE TO THE ELECTRONICS, BATTERY OR SENSOR MAY OCCUR. IF THE EMA IS DROPPED OR DAMAGED THERE IS POTENTIAL FOR AN ANOMALY, SUCH AS NOT FUNCTIONING AS INTENDED OR DESIGNED. A DAMAGED OR MISHANDLED EMA COULD RESULT IN INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT IF INSTALLED ON THE SEAT. IF DAMAGE OR MISHANDLING OCCURRED OR IS SUSPECTED, DO NOT INSTALL THE EMA. RETURN THE EMA TO AMSAFE FOR REPLACEMENT.

- 1** Follow the above warning when handling the EMA.

NOTE: The EMA should be handled by personnel trained in handling dangerous goods.

(b) Shipping

- 1** Return the EMA following the General Shipping Procedure.

NOTE: An EMA with a functional defect must be returned to AmSafe.

NOTE: To claim warranty, an EMA that is under warranty and has a manufacturing defect must be returned to AmSafe using an RMA.

NOTE: AmSafe cannot warranty the EMA or be found liable for any unauthorized use or installation of the EMA.

NOTE: The EMA contains a lithium-ion disulfide, non-rechargeable battery. The EMA must be shipped to UN3091 in compliance with PI 970, section II - Lithium Batteries Contained in Equipment.

NOTE: The EMA should be shipped following all international, national and local regulations. Failure to comply with regulations for dangerous goods may result in civil or criminal penalties.

NOTE: For regulated materials, compliance with the applicable transportation requirements is strictly the responsibility of the user and not AmSafe.



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(c) Storage

- 1 The maximum storage period is 10 years calculated from the DMF.
- 2 Store the EMA in its original packaging to protect the EMA from shock and damage.
- 3 Store the EMA in cool and dry environment at ambient temperature. Store the EMA between -40°F (-40°C) and 176°F (80°C).
- 4 Store the EMA so that it is protected from sunlight, dust, moisture and other contamination.
- 5 Store the EMA so that it is protected from environments with excessive heat, electromagnetic interference (EMI), radiated field interference (RFI) and electrostatic discharge.
- 6 Store in a controlled area.
- 7 Observe all local storage regulations.

(d) Disposal

- 1 Dispose the EMA in accordance with all international, national and local regulations.

(5) Inflator Assembly

(a) Handling

WARNING: THE INFLATOR ASSEMBLY CONTAINS COMPRESSED GAS. DEATH OR INJURY TO PEOPLE MAY OCCUR THROUGH MISUSE, MISHANDLING OR TAMPERING.

WARNING: IF DAMAGE OR MISHANDLING OF THE SYSTEM OR ITS COMPONENTS OCCURRED OR IS SUSPECTED, RETURN THE SYSTEM OR COMPONENT TO AMSAFE.

WARNING: DO NOT GRASP OR CARRY THE INFLATOR ASSEMBLY BY ITS DIFFUSER.

WARNING: NEVER ATTEMPT TO OPEN THE INFLATOR ASSEMBLY FOR SERVICING.

WARNING: NEVER PROBE OR APPLY ELECTRICAL CURRENT TO THE INFLATOR ASSEMBLY'S ELECTRICAL CONNECTIONS.

- 1 Follow the above warnings when handling the inflator assembly (Figure 15003).

NOTE: The inflator assembly shall be handled by personnel trained in handling dangerous goods in accordance with 49 CFR §172.700.

NOTE: Refer to ATTACHMENT A for the safety data sheet (SDS).

(b) Shipping

- 1 Return the inflator assembly following the general shipping procedure.

NOTE: Follow all international, national and local regulations. Failure to comply with regulations for dangerous goods may result in civil or criminal penalties.



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NOTE: The inflator assembly is classified by the U.S. DOT as Class 9, air bag inflators, UN3268.

NOTE: Refer to DOT special provision (DOT-SP) DOT SP 12122. Once the inflator assembly is installed it is no longer regulated by the DOT.

NOTE: Refer to emergency response guide (ERG) 171.

NOTE: Failure to comply with all relevant dangerous goods regulations regarding the system may result in civil or criminal penalties.

NOTE: Components with a functional defect must be returned to AmSafe.

NOTE: To claim warranty, an inflator assembly that is under warranty and has a manufacturing defect must be returned to AmSafe using an RMA.

NOTE: The inflator assembly must be shipped in either packaging provided by AmSafe or a U.S. DOT-approved container that is UN tested and marked under UN POP.

NOTE: Contact AmSafe Customer Service to receive packaging materials and work instructions to properly pack and assemble materials.

- 2 Use the original packaging if it is available and in a usable condition or use new packaging of the same quality and size that conforms to UN POP.
- 3 Use a minimum of three inches of cushioning material to prevent the component from shifting in the packaging.
- 4 Ensure the label is legible, durable, and located and secured such that it will not be obstructed or lost when the package is shipped, closed or opened. Ensure the label contains the following items.
 - Customer address
 - AmSafe's shipping address
 - RMA number
 - Hazmat labels per 49 CFR §172.400 and 49 CFR §172.301
 - Labels required by country of shipping origin

(c) Storage

- 1 Store the inflator assembly in its original packaging material.

WARNING: KEEP THE INFLATOR ASSEMBLY AWAY FROM SOURCES OF THERMAL IGNITION, ELECTRIC SPARKS OR FLAME, IMPACT OR MECHANICAL IGNITION OR ELECTROSTATIC DISCHARGE. AUTOIGNITION MAY OCCUR WHEN THESE SOURCES ARE PRESENT AND MAY RESULT IN DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT.

- 2 Store the inflator assembly in cool and dry environment at ambient temperature. Do not store the inflator assembly in environments that exceed -40-185°F (-40-85°C).
- 3 Store the inflator assembly away from open flames.
- 4 Store the inflator assembly so that it is protected from sunlight, dust, moisture, and other contamination.
- 5 Store the inflator assembly so that it is protected from excessive EMI/RFI/ESD.

6 The maximum storage period is 10 years calculated from the date of manufacture

(d) Disposal

WARNING: DO NOT ATTEMPT TO DISPOSE THE INFLATOR ASSEMBLY. DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT MAY RESULT. RETURN THE INFLATOR ASSEMBLY TO AMSAFE FOR DISPOSAL OR DELIVER THE INFLATOR ASSEMBLY TO A LICENSED DISPOSAL FACILITY.

1 Return the inflator assembly to AmSafe.

NOTE: AmSafe recommends returning the inflator assembly to AmSafe for proper disposal regardless if the inflator assembly was deployed or not deployed.

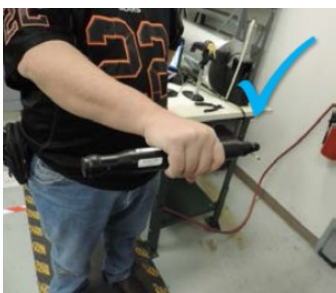


Figure 15003. Inflator Assembly Handling
(Graphic 25-10-01-99B-048)

(6) Transporting Seats Equipped with the System

WARNING: DISABLE THE SYSTEM BEFORE MOVING, SHIPPING OR INSTALLING A SEAT. THE SYSTEM MAY DEPLOY AND MAY CAUSE DEATH OR INJURY TO PEOPLE OR DAMAGE TO EQUIPMENT IF THE SEAT RECEIVES AN IMPACT (E.G., DROPPING OR HAMMERING THE SEAT). THE SYSTEM MUST BE DISABLED BY DISCONNECTING THE P2 AND P3 CONNECTORS ON THE INTERFACE CABLE ASSEMBLY.

WARNING: DO NOT DROP OR MISHANDLE A SEAT. IF DROPPING OR MISHANDLING OCCURS, PERFORM AN INSPECTION/CHECK TO ENSURE THE SYSTEM IS PROPERLY SECURED AND COMPONENTS ARE NOT DAMAGED. IF ANY DAMAGE IS NOTED, REMOVE AND RETURN THE ENTIRE SYSTEM.

WARNING: IN THE CASE OF A SYSTEM DEPLOYMENT, DO NOT USE ANY SEAT WITH A SYSTEM SHARING THE SAME EMA AS THE DEPLOYED SYSTEM. REMOVE AND RETURN ALL COMPONENTS TO AMSAFE.

(a) Disable the system by disconnecting the P2 and P3 connectors on the interface cable assembly.

(b) Protect the buckle from damage by folding the buckle half on itself and securing it in protective packaging (e.g., bubble wrap).



1043 N. 47th Ave., Phoenix, AZ 85043 USA | www.amsafe.com
602-850-2850

SOARS Customer Service: SOARS@amsafe.com
SOARS Technical Support: SOARS_Support@amsafe.com

REWORK (SERVICE BULLETIN/SERVICE LETTER ACCOMPLISHMENT PROCEDURES)

TASK 25-10-01-800-801

1. General

SUBTASK 25-10-01-99C-023

A. General

(1) Not applicable.



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ATTACHMENT A - ARC AUTOMOTIVE SDS



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602-850-2850

SOARS Customer Service: SOARS@amsafe.com
SOARS Technical Support: SOARS_Support@amsafe.com

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ARC Automotive, Inc. **Material Safety Data Sheet**

1. Product and Contact Information

Product Name: Hybrid Airbag Inflator Assembly

Chemical Name / Synonym / Trade Name:	Inflator Assembly
Pseudonyms/Programs:	APH, AHS, SH5, CADH, PH7-120, PH7-90, PH5, PH5.1, CH3, CH5, Piston, HC38, HD38, ADH89, MHS, DH7, DH8, MPD, SP2, PH8, etc
Manufacturer's Name:	ARC Automotive, Inc.
Address:	1601 Midpark Road Suite 100 Knoxville, TN 37921
ARC Information Phone Number:	(865) 583-7851
Emergency Phone (Chemtrec) Inside USA	(800) 424-9300

2. Hazards Identification

Appearance and Odor: The device is a Steel Cylinder containing pressurized gas and energetic material.

HMIS: Health:	0
Flammability:	0
Physical Hazard:	2

Personal Protection: Heat Protective Gloves, Eye Protection, Hearing Protection
May cause burns if deployed by hand

Relevant routes of exposure:	Skin, Eye, Hearing
Inhalation:	None. If device vents/functions, the products of combustion have been demonstrated to comply with ACGIH exposure limits.
Skin contact:	May cause burns if deployed by hand
Eye contact:	Protect eyes from debris
Hearing:	Hearing protection from impact noise, exceeds 85 dBa

3. Composition / Information on Ingredients

Emergency Overview: The tamper-resistant, sealed metal container poses limited risk of chemical exposure before deployment. It **may** cause some skin and respirable irritation after deployment. If inflator is incinerated, broken, drilled into, crushed, or electric current is connected to lead wires, a physical hazard may exist. This inflator contains solid gas generant. *Do not* drill, break, or breach the steel container.

Potential Health Effects None expected when used as intended. Effluent gases from multiple deployments in testing situations may cause skin, eye, or mucous membrane irritation. Effluent gases in these situations must be effectively controlled through engineering systems designed and tested to remove applicable contaminants or PPE that will accomplish the same effect. Inflator does not contain azide.

Human Health Effects and Symptoms of Overexposure

Inhalation	None expected when used as intended.
Skin Contact	None expected when used as intended.
Eyes	None expected when used as intended.
Ingestion	None expected when used as intended.
Carcinogenicity	None expected when used as intended.
Medical Conditions Aggravated by Exposure	None expected when used as intended.
Target Organs	None expected when used as intended.
Potential Environmental Effects	None expected when used as intended.

The inflator assembly is a steel pressure vessel containing igniter assemblies, compressed gas composed of between 0 and 170 grams of 75-98% argon / 2-50% helium mixture. It also contains the following potentially hazardous chemicals formulated into the gas generant components.

<u>HAZARDOUS INGREDIENTS</u>		<u>CAS NO.</u>	<u>Carcinogen</u>
ARCAIR 102A/ 102H/ 102K/ 102J:	up to 40g:	Not Listed	No
• Ammonium Nitrate		6484-52-2	No
• Guanidine Nitrate		506-93-4	No
• Potassium Nitrate		7757-79-1	No
• Potassium Perchlorate		7778-74-7	No
• Polyvinyl Alcohol		9002-89-5	No
• Copper Phthalocyanine		147-14-8	No
• Graphite		7782-42-5	No
ARCADENE 459 or ARCITE 497L:	up to 30.0g:	Not Listed	No
• Polyurethane Binder System		68951-41-7	No
• Potassium Perchlorate		7778-74-7	No
• Dioctyl Adipate		103-23-1	No
• Polyvinyl Chloride		9002-86-2	No
• Lithium Carbonate		554-13-2	No
FS01	up to 3.5 g:	Not Listed	No
• Proprietary Ingredients		None	No
AIC	up to 0.5 g:	Not Listed	No
• Molybdenum		7439-98-1	No
• Silver Nitrate		7761-88-8	No
• Potassium Nitrate		7758-09-0	No
• Guanidine Nitrate		506-93-4	No
• Cab-O-Sil		112945-52-5	No
Initiator:	up to 2 at 260mg ea.	Not Listed	No
• Zirconium Potassium Perchlorate		Not listed	No

4. First Aid Measures

Inhalation:	None
Skin Contact:	Treat for second degree burn, cool burn area
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention
Heating:	Avoid repeated exposure

5. Fire and Explosive Data

Special Fire and Explosive Hazards:	N/A
Extinguishing Media:	Copious amounts of water
Special Fire Fighting Procedures:	Apply water until the fire is extinguished and the device has cooled to a temperature less than 130°C The device will relieve pressure at relatively low temperatures and is designed to move no more than 2 to 3 meters when pressure is relieved. No special protective equipment required for firefighters.
Hazardous Combustion Products:	N/A
Conditions Which Cause Ignition:	When the device reaches a temperature in excess of 130 °C , it will release the stored gas. Additional heating will result in burning of the energetic materials. All energetic materials are consumed if the device reaches a temperature in excess of 300°C .

If the igniter is stimulated with an electrical current in the excess of 1.2 amps, the device will function; result is rapid combustion of the energetic materials and release of the stored gas.

6. Accidental Release Measures

Environmental precautions:	None expected
Clean up & Containment Method:	When handled and installed properly, no spills or leaks should occur. If inflator is ruptured and gas generant is present, clean up with non-sparking tools. Avoid spark, static electricity, and open flame. Avoid raising dust. Ventilate area. Wash spill site with water after material pick-up is complete.
Unusual Fire & Explosion Hazards:	The device (inflator assembly) is a container with compressed gas at up to 7000 psig pressure supplemented by rapidly burning gas generant materials. If the device is exposed to high temperature, the pressure system will release argon/helium gas mixture. Continued heating will cause the propellant to ignite and combustion gases to be released. The combustion gases are non-toxic, and have demonstrated compliance with ACGIH exposure limits.

7. Handling and Storage

Handling:	Avoid spark, ESD, impact, friction and open flame. Do not puncture or crush or drop. Post deployment, the surface of the inflator may have trace amounts of particulate and is usually hot. Residue may be irritating to the skin, eyes and mucous membranes.
Storage:	When not in use, devices should be stored in original shipping containers. Store away from high temperatures, open flame, static electricity, and other ignition sources. Store in accordance with federal, state, and local regulations. Recommend storage at ambient temperatures.

8. Exposure Controls Personal Protection

Engineering Controls:	Do not expose to excessive heat or flame. Do not puncture or crush. Do not expose to electrical current. Do not incinerate.
Respiratory Protection:	None
Skin Protection:	Heat Protection Gloves
Eye/Face Protection:	Safety Glasses
Hearing Protection:	Hearing Protection, Ear Muffs

9. Physical and Chemical Properties

Boiling Point:	N/A	Vapor Density:	N/A
Melting Point:	N/A	Specific Gravity:	N/A
Vapor Pressure:	N/A	Evaporation Rate:	N/A
Solubility:	N/A.		
Appearance and Odor:	The device is a Steel Cylinder/Toroid containing pressurized gas and energetic material.		

10. Stability and Reactivity

Stability:	Sealed unit is stable when used as designed.
Conditions to Avoid:	Sparks, static electricity, open flame, and hot temperatures
Incompatible Materials:	None in present form.

11. Toxicological Information

Carcinogen Status:	None Known
Target Organ and Other Health Effects:	None Known

12. Ecological Information

When used properly, no environmental effects are anticipated.

Persistence and Degradability	Perchlorate Material – Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate
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13. Disposal Considerations

Information provided is for unused product only

Recommended method of disposal:	Dispose in accordance with Federal, State and local regulations
EPA hazardous waste number:	Not a RCRA Waste

14. Transportation Information

SPECIAL HANDLING, STORAGE, AND PACKAGING RECOMMENDATIONS: This MSDS is not intended to have all required shipping information. When not used, devices should be stored in original shipping containers. Do not drop or expose to temperatures above 107C.

Identification number	UN3268
Proper shipping name	Safety Device
Hazard Classification	Class 9
Special Permit	Product Dependent. Available upon request
For further information contact: ARC Automotive, Inc 1729 Midpark Rd. Knoxville, TN 37921	

15. Regulatory Information

United States Regulatory Information

TSCA 8 (b) Inventory Status:	Contains none listed
TSCA 12 (b) Export Notification:	None
CERCLAS/Sara	None Listed
California Proposition 65:	Could affect California's Perchlorate Contamination Prevention Act 2003 (AB 826)

16. Other Information

For Technical Information: Vice President of Engineering ARC Automotive Inc. Knoxville, TN 37921 (865) 583-7600	For Health and Safety Information: Health, Safety, & Environmental Manager ARC Automotive Inc. Knoxville, TN 37921 (865) 583-7851
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DISCLAIMER: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

Gabe Bucca
VP Human Resources & Safety

Date