VENTURA AEROSPACE

737-800 BCF

MAINTENANCE MANUAL, RIGID CARGO BARRIER – 737-800 BCF INCLUDING INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

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53-00-00, RIGID CARGO BARRIER

53-00-01 INTRODUCTION

This manual is in support of the modification to Boeing 737-800 BCF aircraft modified by STC TBD and Ventura Aerospace, Inc. Master Drawing List No. VA-MDL-1006. This manual is intended to provide supplemental inspection and maintenance requirements for the continued airworthiness of the VA Rigid Cargo Barrier only. For all maintenance and inspection requirements other than the Rigid Cargo Barrier installation refer to the standard aircraft maintenance and inspection manuals. The Rigid Cargo Barrier must be maintained in an airworthy condition to ensure continued airworthiness and reliable operation.

53-00-03 APPLICABILITY

This manual is applicable to any Boeing 737-800 BCF that has been modified with the Rigid Cargo Barrier in accordance with Ventura Aerospace, Inc. MDL VA-MDL-1006. This manual is a supplement to the Boeing 737-800 BCF maintenance manual and does not supersede information in the Boeing 737-800 BCF manual.

53-00-04 OVERVIEW

The Ventura Aerospace Rigid Cargo Barrier is installed to meet the FAA requirements for a barrier between the main deck cargo compartment, the courier area and the cockpit. The primary purpose of the barrier is to restrain cargo in the event of a crash or severe forward load during ground operation. The Rigid Cargo Barrier (RCB) is also a smoke barrier which prevents main deck cargo compartment smoke from reaching the courier and cockpit areas.

The barrier in installed just aft of the L1/R1 cabin doors and is composed of two large bonded honeycomb panels and a sliding door. The sliding door incorporates two vent panels that allow air flow forward during a rapid decompression event.

The sliding door operates on an upper and lower track system. To open the door rotate the lever on the right side of the door to the Up position. Use the finger hole on the left side of the door to pull the door to the right.

To close the sliding door, pull the door to the left using the finger hole. Once the door is fully closed, flip the lever to the down position.

The barrier must be maintained in an airworthy condition to ensure the strength of the barrier is not degraded by damage from minor impacts, corrosion, etc. to the barrier panels, structural attachments and barrier door.

This manual and related manuals including Structural Repair Manual are provided with each barrier installation kit and are to be distributed with the modified aircraft.

Changes to this manual must be submitted to AEG for acceptance prior to distribution.

53-00-10 AIRWORTHINESS LIMITATIONS

The Airworthiness section is FAA approved and specifies the maintenance required under §43.16 and §91.403 of the Federal Aviation Regulations, unless an alternative program has been FAA approved.

The following inspections have been determined and should be conducted in accordance with Section 53-00-21 of this manual

Threshold Inspection: 18,000 Cycles
Repetitive Inspection: 18,000 Cycles

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OFFICE	DATE	BY

FAA APPROVAL

53-00-20, INSPECTION REQUIREMENTS

53-00-21 INSPECTION REQUIREMENTS

The following list of inspections is a supplement to the FAA approved maintenance plan. These inspections are for the unique features of the Rigid Cargo Barrier only. These inspection requirements should be incorporated into the FAA approved aircraft maintenance program.

A. 500 FLIGHT HOURS, 53-00-21-101

Inspection interval not to exceed 500 flight hours. NOTE: Removal of liner is not required.

TASK: ACCOMPLISH EVERY 500 FLIGHT HOURS

(1) Perform a visual inspection of the cargo barrier for cracks, dents, loose or missing fasteners, proper fit and condition of the barrier door.

(2) Verify that the door is sealed in the closed position.

(3) Perform operational check (Section 53-00-32) of the barrier door and check for smooth operation. Clean tracks and replace parts as required. Adjust door guides and pin brackets for proper door sealing.

B. 18,000 CYCLES FROM BARRIER INSTALLATION, 53-00-21-102

NOTE: A DETAILED VISUAL INSPECTION IS DEFINED AS: "AN INTENSIVE VISUAL EXAMINATION OF A SPECIFIC STRUCTURAL AREA, SYSTEM, INSTALLATION OR ASSEMBLY TO DETECT DAMAGE, FAILURE, OR IRREGULARITY. AVAILABLE LIGHTING IS NORMALLY SUPPLEMENTED WITH DIRECT SOURCE LIGHTING AT INTENSITIES DEEMED APPROPRIATE BY THE INSPECTOR. INSPECTIONS AIDS SUCH AS MIRRORS, MAGNIFYING LENSES, MAY BE USED. SURFACE CLEANING AND ELABORATED ACCESS PROCEDURES MAY BE REQUIRED."

TASK: ACCOMPLISH AT 18,000 CYCLES AFTER BARRIER INSTALLATION

(1) REMOVE THE CARGO LINER FROM AROUND THE AFT SIDE OF THE BARRIER

(2) REMOVE THE INTERIOR LINER FROM AROUND THE FORWARD SIDE OF THE BARRIER

(3) PERFORM A DETAILED VISUAL INSPECTION OF THE BULKHEAD ATTACHMENT AND ADJACENT FUSELAGE STRUCTURE INCLUDING INTERCOSTALS, STINGERS, FRAMES AND THE SKIN FOR CRACKS, LOOSE FASTENERS AND WRINKLING.

(4) REINSTALL THE CARGO LINER AFT OF THE BARRIER

(5) REINSTALL THE INTERIOR LINER FORWARD OF THE BARRIER

C. 18,000 CYCLE REPEAT INTERVAL INSPECTION, 53-00-21-103

NOTE: A DETAILED VISUAL INSPECTION IS DEFINED AS: "AN INTENSIVE VISUAL EXAMINATION OF A SPECIFIC STRUCTURAL AREA, SYSTEM, INSTALLATION OR ASSEMBLY TO DETECT DAMAGE, FAILURE, OR IRREGULARITY. AVAILABLE LIGHTING IS NORMALLY SUPPLEMENTED WITH DIRECT SOURCE LIGHTING AT INTENSITIES DEEMED APPROPRIATE BY THE INSPECTOR. INSPECTIONS AIDS SUCH AS MIRRORS, MAGNIFYING LENSES, MAY BE USED. SURFACE CLEANING AND ELABORATED ACCESS PROCEDURES MAY BE REQUIRED."

TASK: ACCOMPLISH EVERY 18,000 AFTER TASK 53-00-11-102

(1) REMOVE THE CARGO LINER FROM AROUND THE AFT SIDE OF THE BARRIER

(2) REMOVE THE INTERIOR LINER FROM AROUND THE FORWARD SIDE OF THE BARRIER

(3) PERFORM A DETAILED VISUAL INSPECTION OF THE BULKHEAD ATTACHMENT AND ADJACENT FUSELAGE STRUCTURE INCLUDING INTERCOSTALS, STINGERS, FRAMES AND THE SKIN FOR CRACKS, LOOSE FASTENERS AND WRINKLING.

(4) REINSTALL THE CARGO LINER AFT OF THE BARRIER

(5) REINSTALL THE INTERIOR LINER FORWARD OF THE BARRIER

53-00-30, GENERAL REPAIRS AND MAINTENANCE REQUIREMENTS

53-00-31 GENERAL REPAIRS

NOTE: It is always permissible to replace damaged parts in their entirety as long as the replacement part meets all of the approved data requirements.

NOTE: Repairs of structural discrepancies must be accomplished in accordance with FAA approved data only. If there is a repair scheme provided by the Boeing SRM and it does not conflict with the Ventura Aerospace modifications it may be used. Where no applicable repair scheme is found, or it is unclear if a conflict exists, the following must be followed.

A. FASTENERS

(1) Replace loose, missing or broken fasteners with like kind. Next oversize fastener may be used to maintain fit.

B. DENTS

(1) Repair of dents, cracked or otherwise damaged structure must be performed in accordance with a specifically designed and FAA approved repair scheme. Consult Ventura Aerospace or other FAA approval authority for guidance and FAA approval of repairs.

(2) Damage to the barrier face sheet or door may be repaired by application of a local doubler, contact Ventura Aerospace for instructions and FAA approval.

C. FINISH

(1) Any areas of the barrier that have been bared by wear, scratch or impact must be touched up in accordance with Mil-C-5541 Class 1A and Mil-P-23377, type I, class 1 or 2 applied IAW Mil-T-704, Type A-1 or Boeing 737-800 BCF SRM equivalent.

53-00-32 GENERAL MAINTENANCE

NOTE: THERE IS NO SCHEDULED REPLACEMENT OR OVERHAUL TIMES FOR ANY RCB COMPONENTS. ONLY NON-ROUTINE MAINTENANCE AND REPAIRS ARE REQUIRED.

A. CLEANING REQUIREMENTS

(1) The sliding door operates on upper and lower tracks, with two lower rollers and two upper guide pins attached to the door. Periodic cleaning of the tracks and rollers is required to assure smooth operation of the door. Use a clean dry rag to remove dirt, oils, or other material from the tracks and rollers. Removal of the door or rollers is not required for this function.

(2) Keep the track clear of debris, and apply a light lubricant to facilitate door operation.

(3) To improve door seal life, clean the aft barrier panel surface in the area where the sliding door seal bears against it in the closed position with a clean dry cloth.

B. OPERATIONAL CHECK

(1) To perform an operational check, operate the door, as defined in the Overview section of this manual, to verify the door operates smoothly and properly.

(2) If flip latch is found not to remain in the un-latched (up) position when placed there, replace the flip latch assembly. Any vent panel found to be unrestrained by the ball/detent restraint system must be corrected prior to flight. If a door seal or roller is found to be damaged or binding, replace the seal or roller. Refer to 53-00-33 for door seal replacement.

C. DOOR ADJUSTMENT REQUIREMENTS

(1) If the sliding door does not seal or operate properly, it may require adjustment. To adjust door, adjust upper guide pins for proper fit into the upper track. Maintain .013”-.030” gap between guide and track. Ensure the door operates freely and seals properly.

53-00-33 DOOR SEAL REPLACEMENT

NOTE: THE BARRIER DOOR MUST BE MAINTAINED SO THAT IT SEALS AGAINST THE BARRIER. THE DOOR SEAL MUST BE MAINTAINED TO ENSURE A GOOD SEAL.

EQUIPMENT REQUIRED:

- 3145 RTV (Dow Corning)
- VA-RCB-3315-1 Seal (Ventura Aerospace)

TASK: DOOR SEAL REPLACEMENT

(1) Remove sliding door from aircraft
(2) Remove VA-RCB-3315-1 seal
(3) Remove any existing adhesive residue
(4) Apply Dow Corning 3145 RTV sealant to mating surface on the sliding door
(5) Reinstall VA-RCB-3315-1 seal, splice at location shown in Figure 53-00-23-1
(6) Reinstall sliding door in the aircraft
(7) Perform operational check of door (53-00-32). Ensure door seals properly and that new seal does not impede door operation.

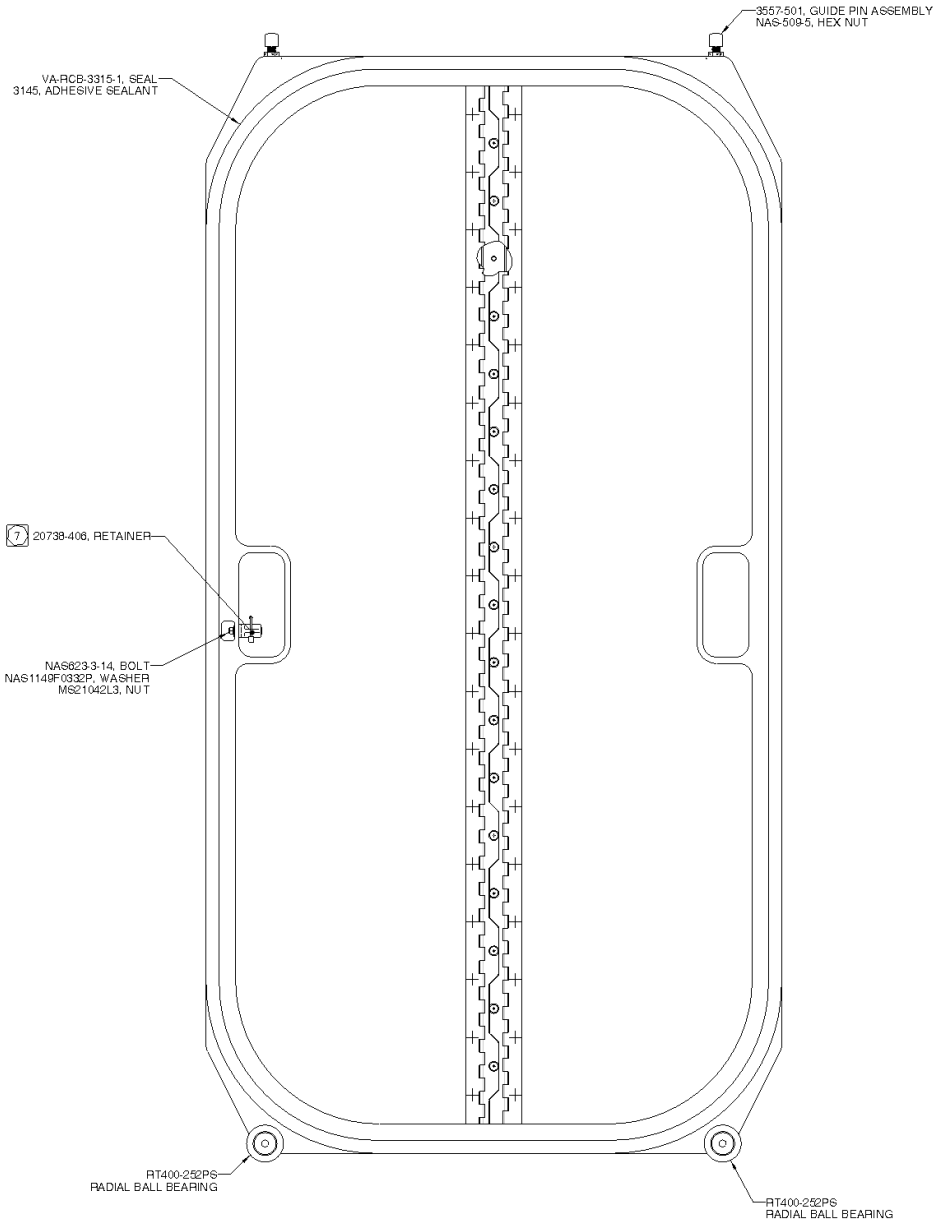


FIGURE 53-00-23-1: SLIDING DOOR ASSEMBLY REMOVED FROM AIRCRAFT

53-00-34 DOOR ROLLER REPLACEMENT

EQUIPMENT REQUIRED:

- RT400-252PS

TASK: DOOR ROLLER REPLACEMENT

(1) Remove sliding door from aircraft. This is accomplished by removing the VA-RCB-3317-1, Door Track from the aft face of the barrier panel. This is the lower door track.

(2) Remove RT400-252PS by unscrewing it from the sliding door

(3) Inspect sliding door for damage. If damage is found the replace the sliding door.

(4) Install replacement RT400-252PS by screwing it into the door. Torque the roller to 120 in-lb

(5) Reinstall sliding door and lower door track.

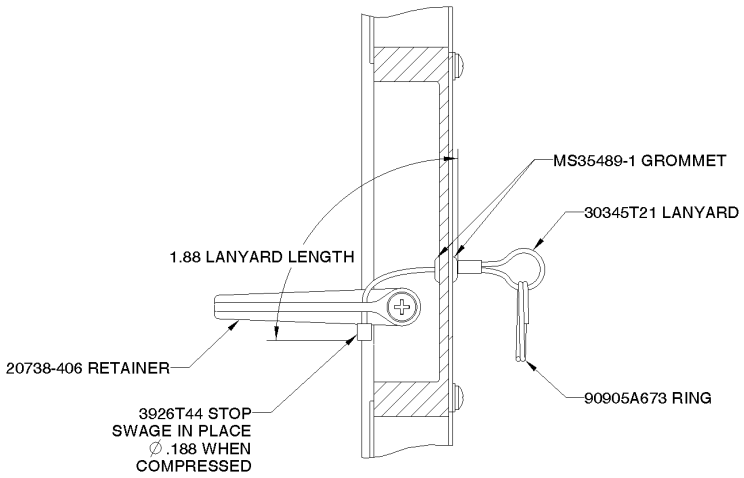
(6) Perform operational check of door (53-00-32). Ensure door seals properly and that new seal does not impede door operation.

53-00-35 DOOR LANYARD REPLACEMENT

EQUIPMENT REQUIRED:

- MS35489-1 Grommet
- 3145 RTV Silicone Adhesive
- 90905A673 Ring
- 30345T21 Lanyard
- 3926T44 Stop
- Compression Tool

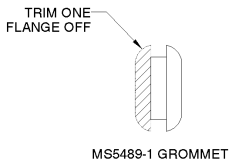
TASK: DOOR LANYARD REPLACEMENT



NOTE: ANY OR ALL COMPONENTS MAY BE REPLACE SEPARATELY AS NEEDED

(1) If required remove all loose components and replace as needed.

(2) Replace quantity 2 MS35489-1 grommets by first cutting one flange off of each grommet. Install one each MS535489-1 grommets in the door, one on the forward side, one on the aft side. Bond in using 3145 RTV Silicone Adhesive. Allow to cure before replacing the lanyard.



(3) Replace 30345T21 lanyard by cutting it to 1.88 in length from the eyelet. Feed through grommets in door and through the hole in 20738-406 retainer. Swage the

3926T44 stop on the end of the lanyard. The 3926T44 should be swaged down to ∅.188.

(4) Install 90905A673 Ring on the end of the lanyard eyelet.
(5) Verify operation of the lanyard by rotating the retainer down then pulling the lanyard to rotate the retainer up. The retainer must rotate 90° and engage the integral detents. If the latch does not rotate fully the lanyard must be replaced with a longer one.