CHAPTER

57

WINGS

CHAPTER 57
WINGS

A = Added, R = Revised, D = Deleted, O = Overflow

57-EFFECTIVE PAGES

CHAPTER 57
WINGS

PART NUMBER: 150MIT65B00112

NAME: SPOTFACE TOOL - CORROSION REMOVAL, WING BOX SKINS

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: NO

OTHER MANUALS: YES

SRM 57-20-01

USAGE & DESCRIPTION: The 150MIT65B00112 corrosion removal spotface tool is used on all 737-100 thru -900 airplanes.

150MIT65B00112 is used in conjunction with a customer-furnished drive unit capable of 1500 rpm. 150MIT65B00112 is used to remove corrosion at wing skin fasteners. The 150MIT65B00112 consists of a four blade cutter assembly. Also included is a pilot and commercial microstop for depth of cut adjustment. Three spotface cutters of varying diameters and six pilots of varying length and diameter provide for 18 spotface combinations. 150MIT65B00112 is used for structural repair applications.

Refer to the Structural Repair Manual (SRM) 57-20-01 and the current 150MIT65B00112 drawing for complete usage instructions.

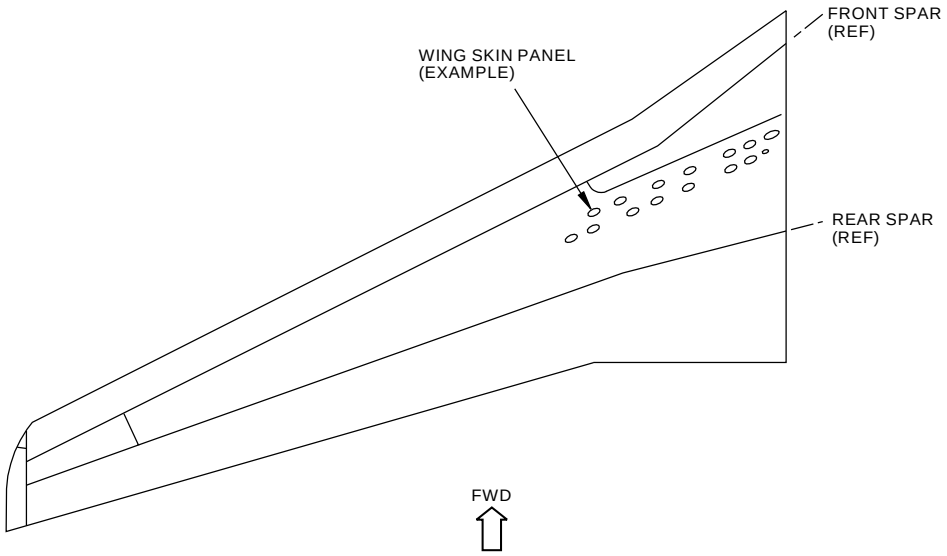
150MIT65B00112 consists of:

150MIT65B00112		
QUANTITY	**NOMENCLATURE**	**DETAIL NUMBER**
1	PILOT 1/4-INCH DIA x 3.1-INCHES	-1
1	PILOT 1/4-INCH DIA x 4.1-INCHES	-2
1	PILOT 5/16-INCH DIA x 3.1-INCHES	-3
1	PILOT 5/16-INCH DIA x 4.1-INCHES	-4
1	PILOT 3/8-INCH DIA x 3.1-INCHES	-5
1	PILOT 3/8-INCH DIA x 4.1-INCHES	-6
1	SPOTFACER	-7
1	SPOTFACER	-8
1	SPOTFACER	-9
1	MICRO STOP	Z1334-W
1	STORAGE BOX	

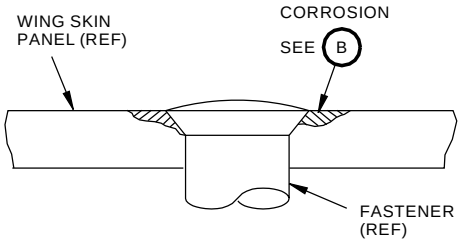
WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 3 x 2 inches (76 x 51 mm)

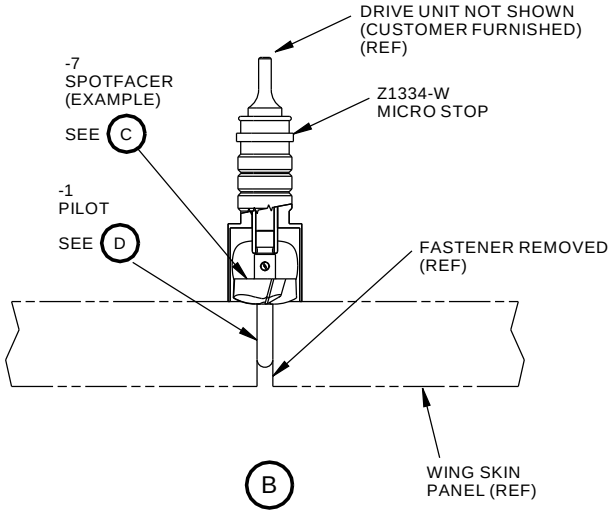
NOTE: G57012 replaces 150MIT65B00112 for future procurement.



LEFT WING IS SHOWN;
RIGHT WING IS OPPOSITE
PLAN VIEW

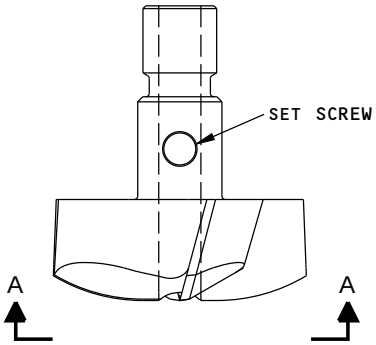


CORROSION REMOVAL
A



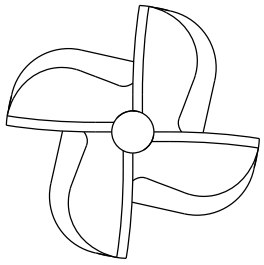
M27046 S0006832131_V3

Spotface Tool Usage
Figure 1 (Sheet 1 of 2)

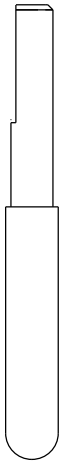


-7 SPOTFACER SHOWN
-8,-9 SIMILAR

C



A–A



-1 PILOT 1/4-INCH DIAMETER X 3.1-INCHES SHOWN
-2,-3,-4,-5,-6 SIMILAR

D

2078997 S0000437268_V1

Spotface Tool Usage
Figure 1 (Sheet 2 of 2)

PART NUMBER: C28013-2, -3

NAME: PROTECTIVE EQUIPMENT - PROTECTIVE RING FOR LOWER WING PANEL ACCESS DOOR

AIRPLANE MAINTENANCE: YES

AMM 28-11-00, AMM 28-11-11

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The C28013-2 protective equipment is used on all 737-100 thru -500 airplanes.

The C28013-3 protective equipment is used on all 737 airplanes, except 737-100 thru -500 airplanes..

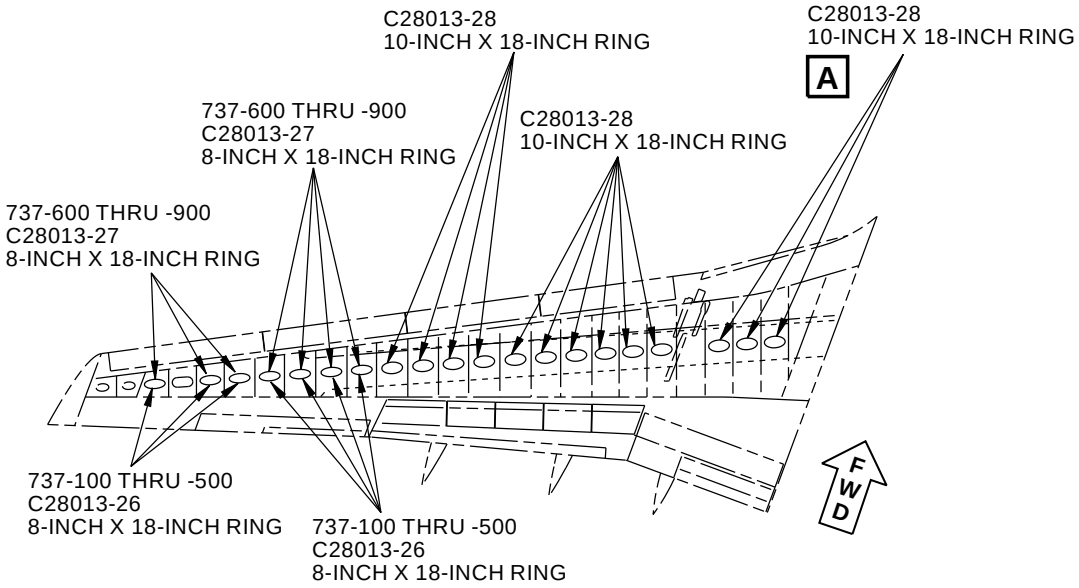
C28013 is used to protect the edges of the fuel cell access openings on the lower wing panels during wing structural inspections.

Refer to AMM 28-11-00, AMM 28-11-11 and the current C28013 drawing for complete usage instructions.

C28013-2 and -3 consists of:

C28013-2		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
14	8-INCH x 18-INCH RING	C28013-26
26	10-INCH x 18-INCH RING	C28013-28
1	STORAGE BOX	

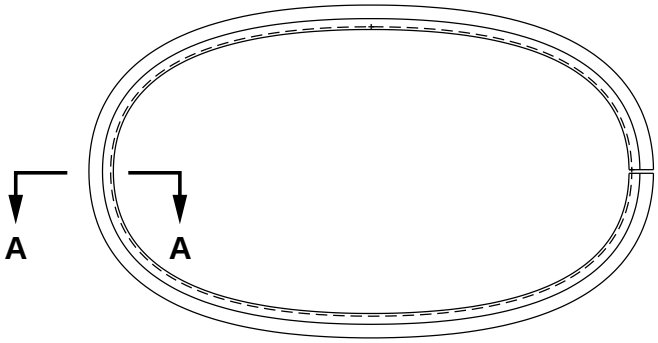
C28013-3		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
14	8-INCH x 18-INCH RING	C28013-27
26	10-INCH x 18-INCH RING	C28013-28
1	STORAGE BOX	



737 LEFT HAND WING
(LOOKING UP)

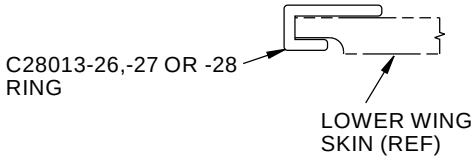
1566418 S0000290688_V3

Protective Ring For Lower Wing Panel Access Door
Figure 1 (Sheet 1 of 2)



C28013-28
10-INCH X 18-INCH RING SHOWN
C28013-26 AND 27 SIMILAR

A



A-A

1564752 S0000290142_V3

Protective Ring For Lower Wing Panel Access Door
Figure 1 (Sheet 2 of 2)

PART NUMBER: C32023-1, -12

NAME: WRENCH - TRUNNION SPHERICAL BEARING, MAIN LANDING GEAR

AIRPLANE MAINTENANCE: YES

AMM 57-16-01

COMPONENT MAINTENANCE: YES

CMM 57-15-01, CMM 57-15-02

USAGE & DESCRIPTION: The C32023-1 (option) or C32023-12 (preferred) wrench is used on all 737-600 thru -900 airplanes.

C32023 is used to torque the forward trunnion spherical bearing nut. The bearing nut is torqued on the trunnion housing assembly of the main landing gear installation.

Refer to AMM 57-16-01, CMM 57-15-01, CMM 57-15-02 and the current C32023 drawing for complete usage instructions.

C32023-1 and -12 consist of:

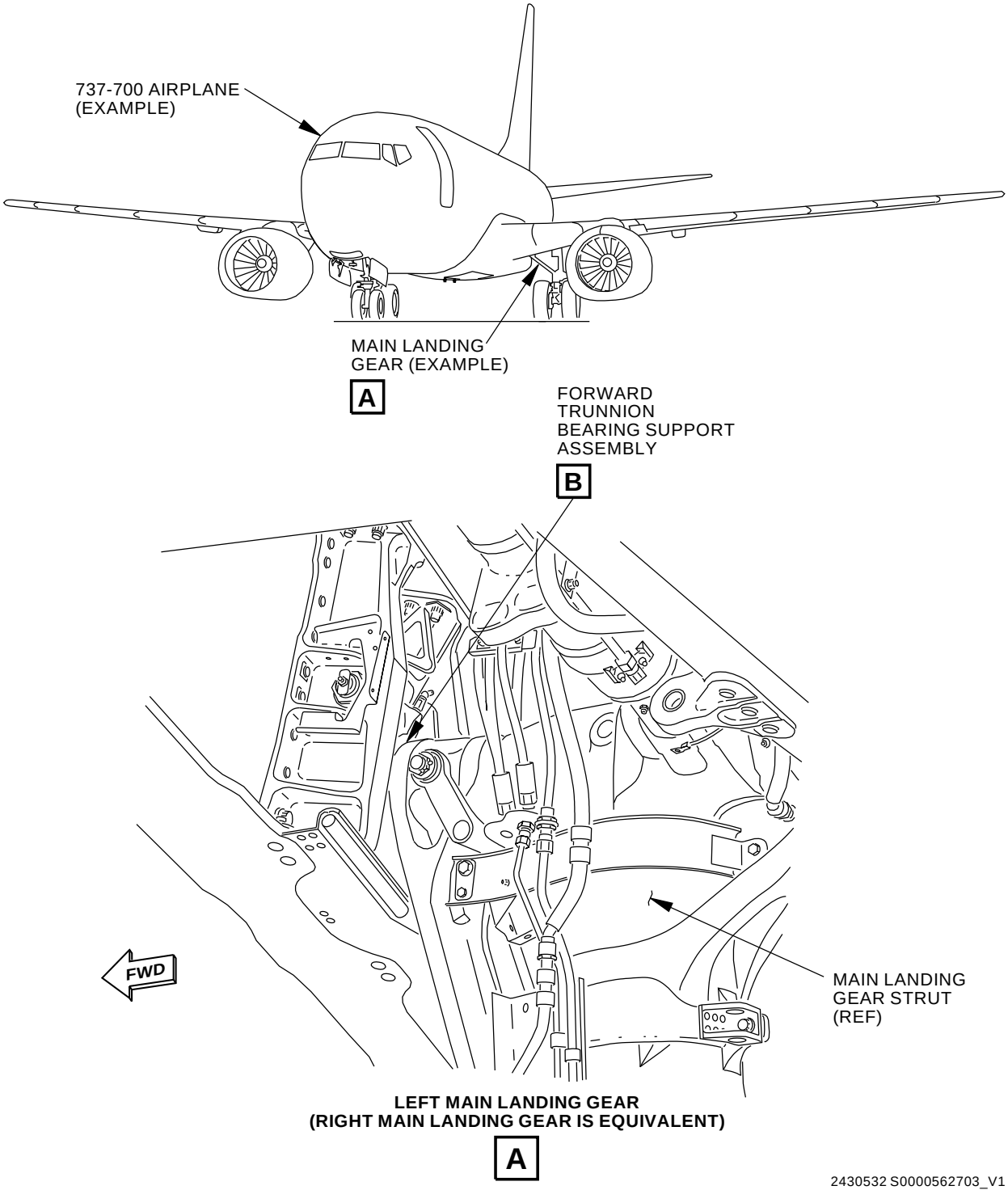
C32023-1		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	SPANNER ASSEMBLY	C32023-2
1	STORAGE BOX	

C32023-12		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	SPANNER WRENCH	C32023-14
1	STORAGE BOX	

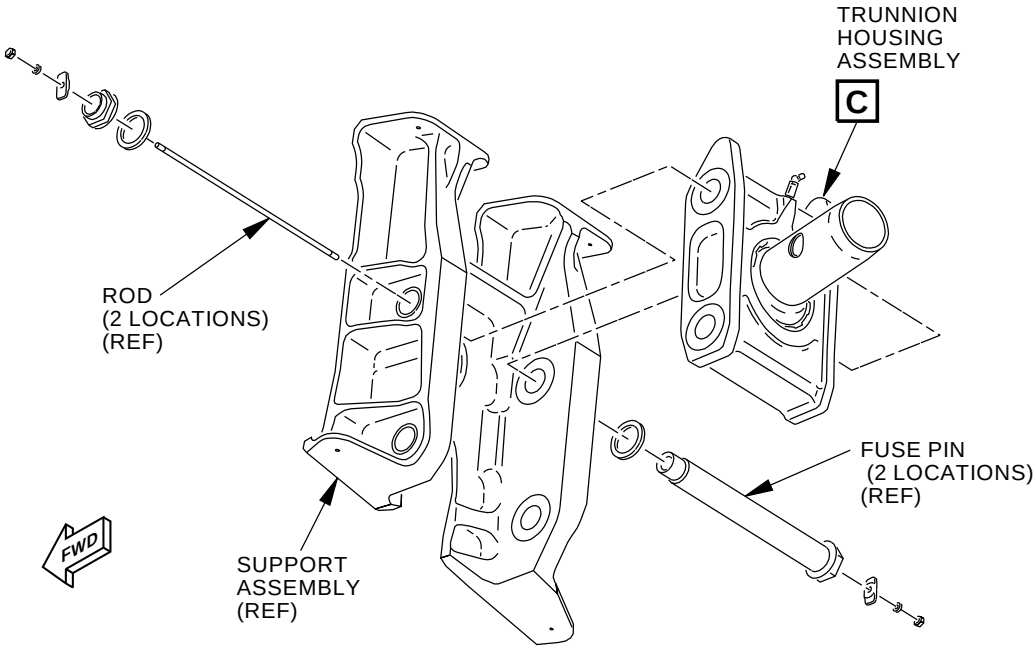
WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 3 x 3 x 8 inches (76 x 76 x 203 mm)

NOTE: C32023-12 replaces C32023-1 for future procurement.

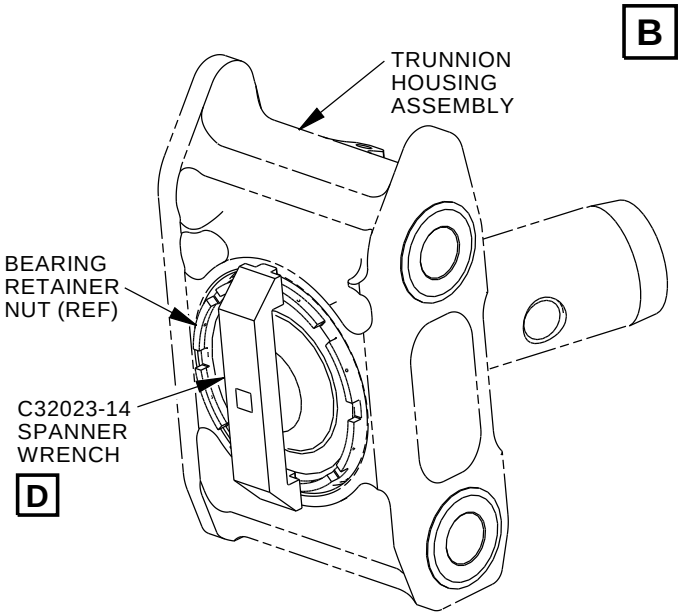


Main Landing Gear Trunnion Spherical Bearing Wrench
Figure 1 (Sheet 1 of 2)



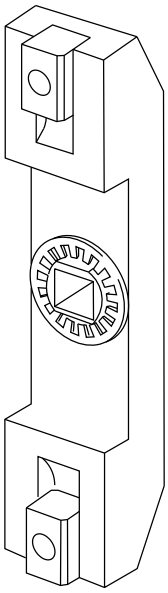
FORWARD TRUNNION BEARING SUPPORT ASSEMBLY

B



TRUNNION HOUSING ASSEMBLY

C



C32023-14 SPANNER ASSEMBLY SHOWN
C32023-2 SIMILAR

D

U41012 S0000194920_V3

Main Landing Gear Trunnion Spherical Bearing Wrench
Figure 1 (Sheet 2 of 2)

PART NUMBER: C57002-15

NAME: SLING EQUIPMENT - REMOVAL/INSTALLATION, WINGLET (CE)

AIRPLANE MAINTENANCE: YES

AMM 57-21-21

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The C57002-15 sling equipment is used on 737-700 thru -900 airplanes equipped with winglets.

C57002 is used for removal and installation of the 737 winglets. Refer to the current C57002 tool drawing and AMM 57-21-21 for complete usage instructions.

C57002-15 consists of:

C57002-15		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	SLING ASSEMBLY	C57002-2
6	WASHER	C57002-4
6	SCREW	C57002-5
1	STORAGE BOX	

WEIGHT: 20 lbs (9 kg)

DIMENSIONS: 12 x 12 x 15 inches (305 x 305 x 381 mm)

NOTE: C57002-15 supersedes C57002-1.

DECLARATION OF CONFORMITY: The design of C57002 meets the requirements of the machinery directive 2006/42/EC including its amendments. For use within the European Union. The manufacture of this equipment must also meet the requirements of that directive, at a minimum for the manufacturer, this entails the retention of a technical file. The labeling of the equipment with the CE mark, and the completion of an EC declaration of conformity.

OPERATING INSTRUCTIONS: Refer to the current C57002 and the 737 AMM procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing 737 AMM procedures to maintain Boeing 737 airplanes.

MAINTENANCE: General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent clean and wipe dry with a clean cloth. Hang freely to dry, but away from excessive heat or steam.

Slings, Synthetic: Maintenance and inspection of synthetic shall be performed in accordance with ASME B-30.9, Chapter 9-5 and 9-6.

Swivel Hoist Rings: Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

PROOF LOAD: Proof load testing for the C57002 Sling Equipment - Removal/Installation, Winglet shall be performed per the current C57002 drawing proof load diagram(s) (example Figure 2) and:

1. In conjunction with initial fabrication
2. Subsequent to modification of this equipment (equipment shall only be modified in accordance with the GSE drawing)
3. After repair of load carrying components
4. After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).

On-going integrity/safety of the device to be assured by inspection.

INSPECTION: FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Slings: General: Prior to use, all new, altered, modified or repaired slings shall be inspected by a designated person to verify compliance with the applicable provisions of ASME B30.9.

Slings, Webbing:

1. Visual inspection for damage shall be performed by the user or other designated person each day or shift the sling is used.
2. Slings shall not be returned to service until approved by a qualified person.
3. A written record of frequent inspections is not required.
4. Conditions detailed below and in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, or conditions that may result in a hazard shall cause the sling to be removed from service.
   - Red warning yarns visible.
   - Acid or caustic burns.

- Melting or charring of any part of the sling surface.
- Snags, punctures, tears or cuts.
- Broken or worn stitches in load bearing splices.
- Excessive abrasive wear.
- Knots in any part of the sling.
- Discoloration and brittle or stiff areas on any part of the sling.
- Distortion of fittings.
- Missing or illegible sling tag.

Structural and Mechanical Lifting Devices (supporting lifters, spreader bars):

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
   - Structural deformation, cracks or excessive wear of any parts of the lifting device.
   - Loose or missing guards, fasteners, covers, stops or nameplates.
   - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

Swivel Hoist Rings:

1. A visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semi-permanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
   - Body can rotate freely on bushing.
   - Bail can swivel freely on shoulder pins.
   - Shoulder pins are secure and undamaged.
1. Conditions as those listed in ASME B30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings and swivels shall not be returned to service until approved by a qualified person.
2. Written records are not required.

PERIODIC

Slings - General:

1. A complete inspection for damage to the sling shall be periodically performed by a designated person.
2. Each sling and component shall be examined individually, taking care to expose and examine all surfaces.

3. The sling shall be examined for the conditions noted in the frequent inspection and in ASME B30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.
4. Slings shall not be returned to service until approved by a qualified person.
5. A written record of the most recent periodic inspection shall be maintained and shall include the condition of the sling.

Slings, Synthetic: The straps shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.

Swivel Hoist Rings:

1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.
2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
   - Frequency of use
   - Severity of service conditions
   - Experience gained on the service life of hardware used in similar circumstances
   - Guidelines for the time intervals are:
   - Normal service - yearly
   - Severe service - monthly to quarterly
   - Special service - as recommended by a qualified person
   - Written records are not required.

Structural and Mechanical Lifting Devices (supporting lifters, spreader bars):

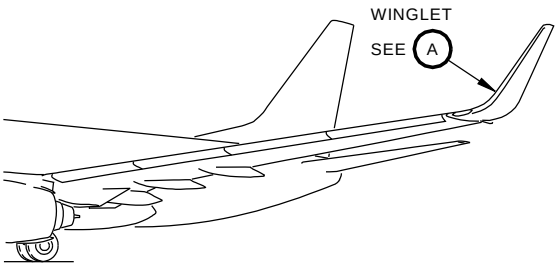
1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
   - Loose bolts or fasteners.
   - Cracked or worn gears, pulleys, sheaves, sprockets, bearings, chains and belts.
   - Excessive wear of linkages and other mechanical parts.
   - Excessive wear at hoist hooking points and load support clevises or pins.
   - Deficiencies found during the inspection are analyzed and the

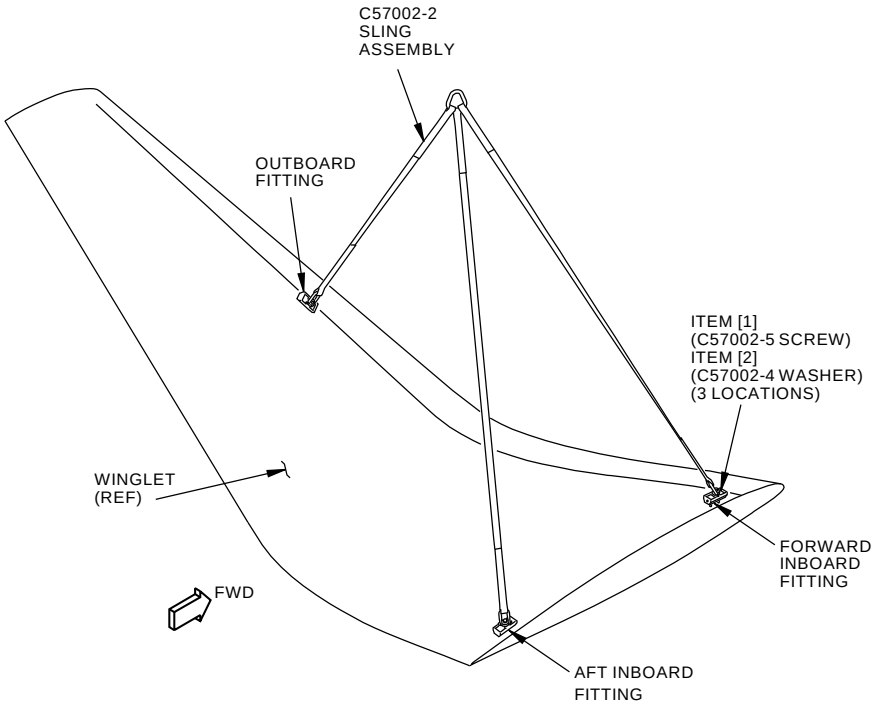
lifting device shall not be used, if deficiencies are determined to be hazardous.

- The lifting device shall not be used until the hazardous deficiencies are corrected.

STORAGE: C57002 shall be stored clean, dry, free of exposure to fumes or corrosive elements, indoors and in the furnished storage box (if provided).

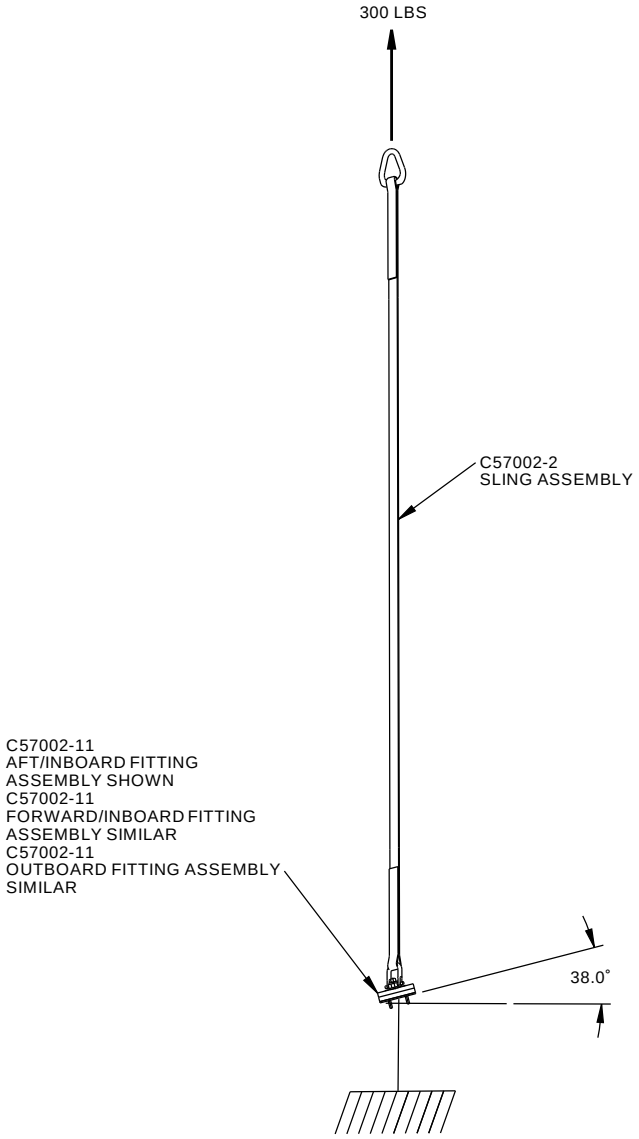
DECOMMISSIONING: C57002 parts and assemblies shall be permanently altered to prevent their unauthorized re-use. Recycling is the preferred manner of disposal for those materials where that option is available.





M90263 S0006832134_V3

Winglet Sling Equipment Usage
Figure 1



C57002-2
PROOF LOAD DIAGRAM
(EXAMPLE)
WORKING LOAD IS 150 LBS
STAMP PROOF LOAD TEST DATE ON
PROOF LOAD TAG PER DRAWING F70308
PROOF LOAD IS 2 TIMES WORKING LOAD.
EACH LEG MUST BE SEPARATELY PROOF LOADED.

2294880 S0000519986_V1

C57002 Proof Load Diagram (Example)
Figure 2

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	**PART NO.**	**NOMENCLATURE**	**VENDOR CODE**
[1]	C57002-5	SCREW (1/4-28 UNF-3A X 1.5" LONG, HEX SOCKET HEAD CAP SCREW, ALLOY STEEL, PLATED PER ANSI/ASME B18.3)	- - -
[2]	C57002-4	WASHER (1/4" NARROW, PLAIN WASHER, TYPE B, STEEL, PLATED PER ANSI/ASME B18.22.1)	- - -

PART NUMBER: C57003-1

NAME: TEST EQUIPMENT - WING DRY BAY VAPOR SEAL

AIRPLANE MAINTENANCE: YES

AMM 57-21-23

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The C57003-1 test equipment is used on all 737 airplanes equipped with winglets, except 737-100 thru -600 airplanes.

C57003 is used in conjunction with a customer-furnished manometer and regulated shop air. C57003 is used to perform a vapor seal test on the wing dry bay between Rib 25 and Rib 26. C57003 tests the integrity of the Rib 26 vapor seal.

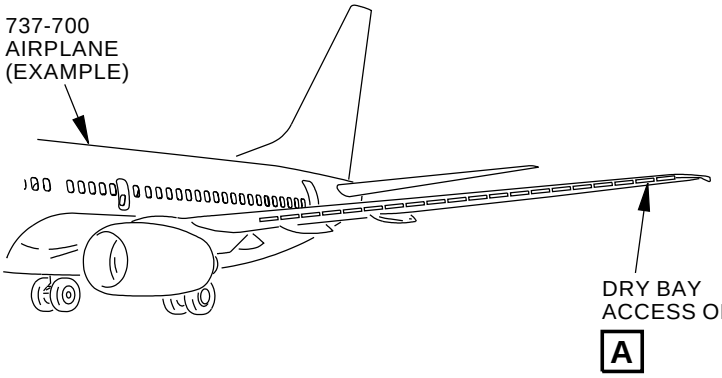
Refer to AMM 57-21-23 and the current C57003 drawing for complete usage instructions.

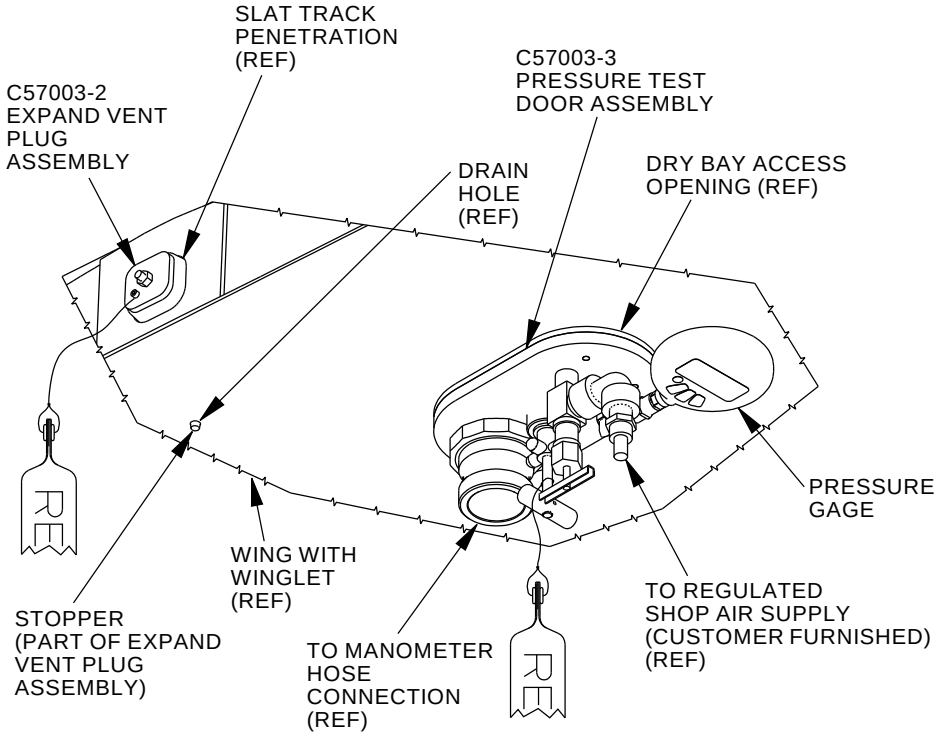
C57003-1 consists of:

C57003-1		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	EXPAND VENT PLUG ASSEMBLY	C57003-2
1	PRESSURE TEST DOOR ASSEMBLY	C57003-3
1	STORAGE BOX	

WEIGHT: 6 lbs (2.7 kg)

DIMENSIONS: 8 x 9 x 16 inches (203 x 229 x 406 mm)





J83579 S0000179655_V3

Wing Dry Bay Vapor Seal Test Equipment
Figure 1

PART NUMBER: J28010-26, -135

NAME: CONSOLE EQUIPMENT - SHOP AIR SUPPLY

AIRPLANE MAINTENANCE: YES

AMM 28-11-00, AMM 57-21-23

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The J28010-26 (option) or J28010-135 (preferred) console equipment is used on all 737 airplanes.

J28010 is used in conjunction with a customer-furnished C57003 plug assembly, an F72951 water manometer and a dry, filtered, regulated air source to perform fuel tank leak inspections. J28010 transforms 90 to 110 psig shop air to a closely regulated positive pressure, 2.0 to 3.0 +/-0.1 psig.

The design of J28010 meets the requirements of article 3, paragraph 3 of the Pressure Equipment Directive 97/23/EC.

Refer to AMM 28-11-00, AMM 57-21-23 and the current J28010 drawing for complete usage instructions.

J28010-26 and 135 consist of:

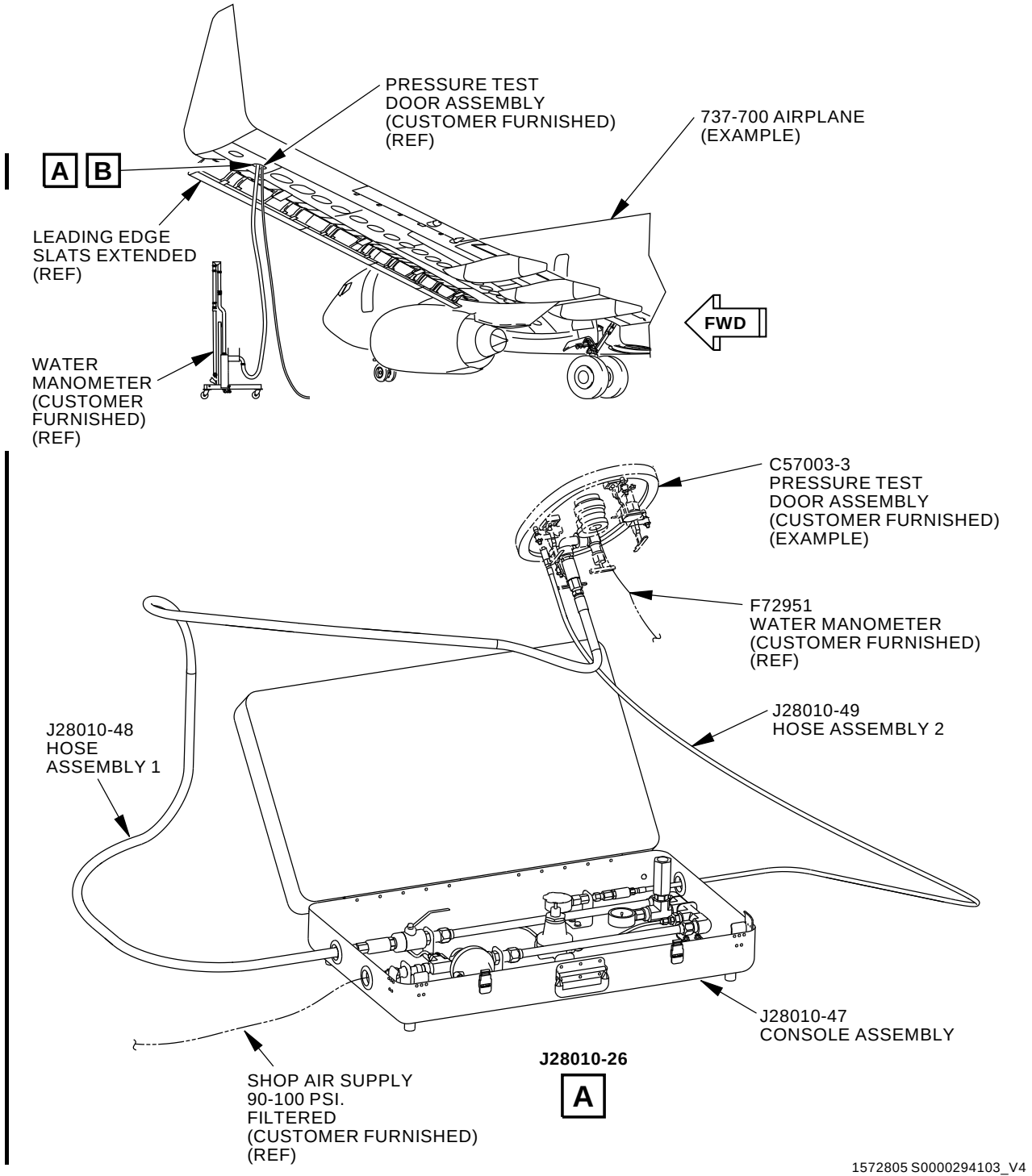
J28010-26		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	CONSOLE ASSEMBLY	J28010-47
1	HOSE ASSEMBLY 1	J28010-48
1	HOSE ASSEMBLY 2	J28010-49
1	STORAGE BOX	

J28010-135		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	CONSOLE ASSEMBLY	J28010-136
1	HOSE ASSEMBLY 1	J28010-48
1	HOSE ASSEMBLY 2	J28010-49
1	STORAGE BOX	

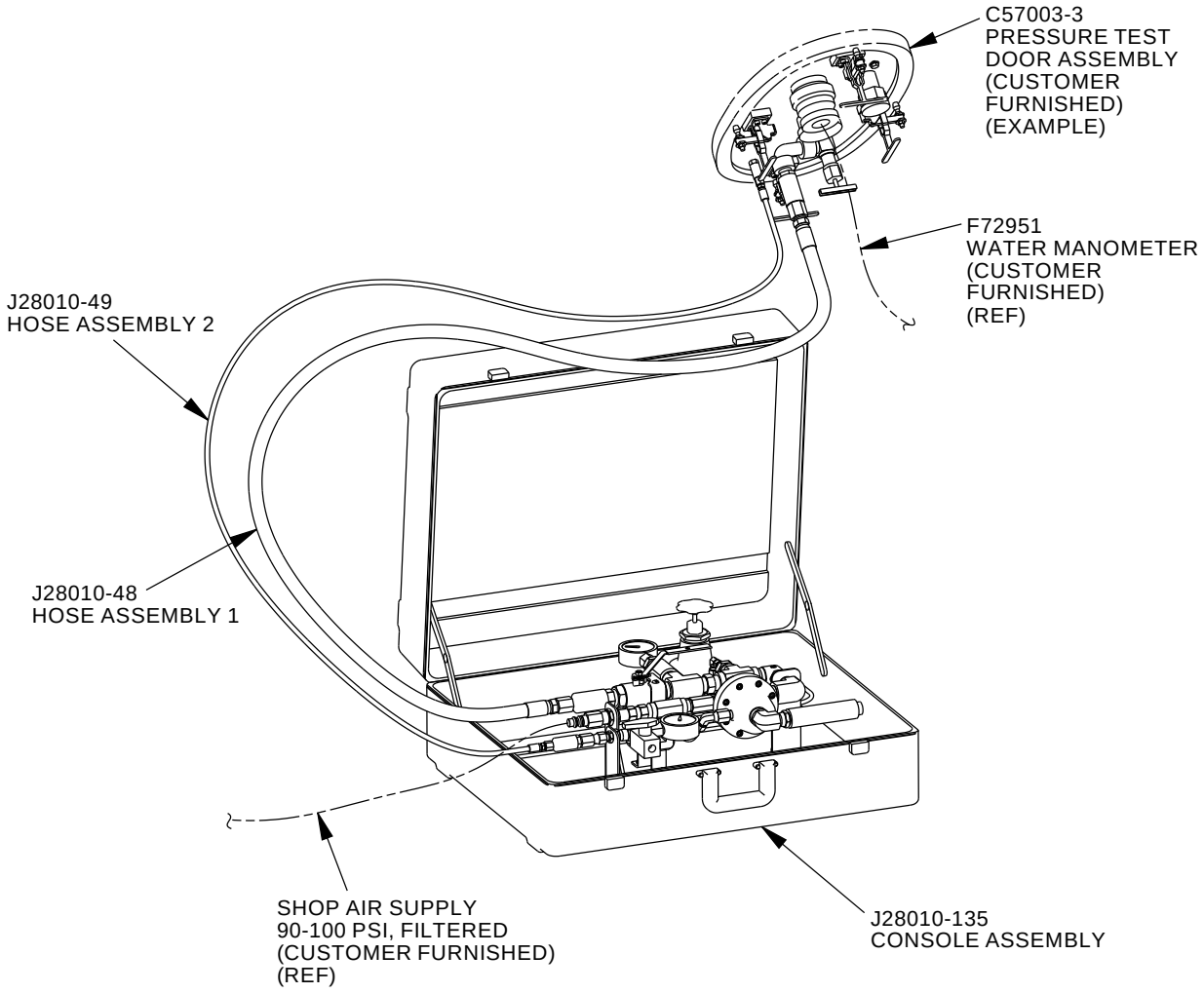
WEIGHT: 32 lbs (14.5 kg)

DIMENSIONS: J28010-26 - 38 x 23 x 10 inches (965 x 584 x 254 mm)
J28010-135 - 27 x 22 x 10 inches (686 x 559 x 254 mm)

NOTE: J28010-96 replaces J28010-26 for future procurement.
J28010-135 supersedes J28010-96.



Shop Air Supply Console Equipment
Figure 1 (Sheet 1 of 2)



J28010-135

B

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Shop Air Supply Console Equipment
Figure 1 (Sheet 2 of 2)

PART NUMBER: G57012-1

NAME: SPOTFACE EQUIPMENT - CORROSION REMOVAL, WING BOX SKINS

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: NO

OTHER MANUALS: YES

SRM 57-20-01

USAGE & DESCRIPTION: The G57012-1 wing box corrosion removal spotface equipment is used on all 737-100 thru -900 airplanes.

G57012 is used in conjunction with a customer-furnished drive unit for corrosion removal at wing skin fasteners. G57012 consists of a four blade cutter assembly. Also included is a pilot and commercial microstop for depth of cut adjustment. Four spotface cutters of varying diameters and eight pilots of varying length and diameter provide for 32 spotface combinations. G57012 is used for structural repair applications.

Refer to the current G57012 tool drawing and Structural Repair Manual (SRM) 57-20-01 for complete usage instructions.

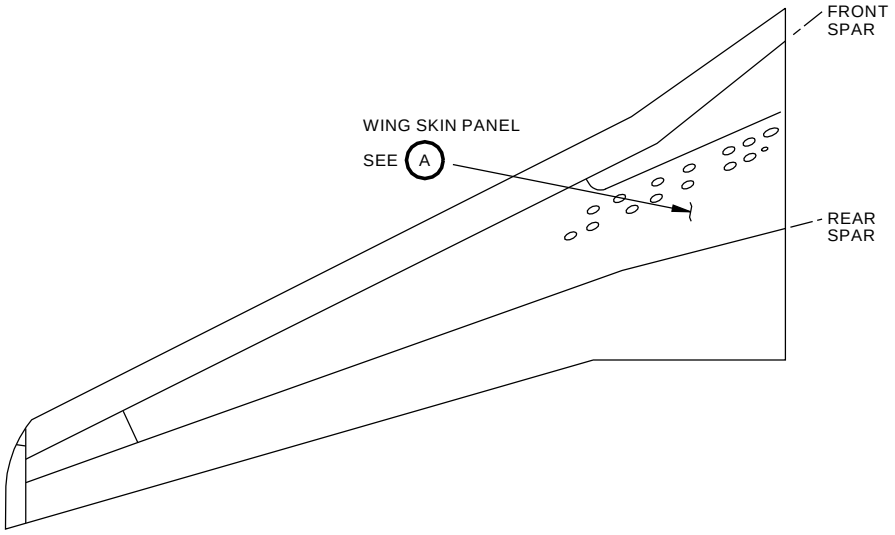
The G57012-1 wing box corrosion removal spotface equipment consists of:

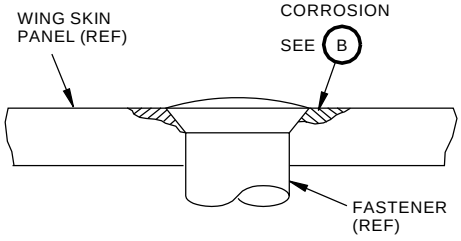
G57012-1		
QUANTITY	**NOMENCLATURE**	**PART NUMBER**
1	PILOT 1/4	G57012-3
1	PILOT 1/4 LONG	G57012-4
1	PILOT 5/16	G57012-5
1	PILOT 5/16 LONG	G57012-6
1	PILOT 3/8	G57012-7
1	PILOT 3/8 LONG	G57012-8
1	PILOT 7/16	G57012-9
1	PILOT 7/16 LONG	G57012-10
1	SPOTFACER 1/4	G57012-11
1	SPOTFACER 5/16	G57012-12
1	SPOTFACER 3/8	G57012-13
1	SPOTFACER 7/16	G57012-14
4	SET SCREW	G57012-15
1	MICRO STOP	G57012-16
1	STORAGE BOX	

WEIGHT: 3 lbs (1.4 kg)

DIMENSIONS: 3 x 7 x 9 inches (76 x 178 x 229 mm)

NOTE: G57012 replaces 150MIT65B0012 for future procurement.





CORROSION REMOVAL
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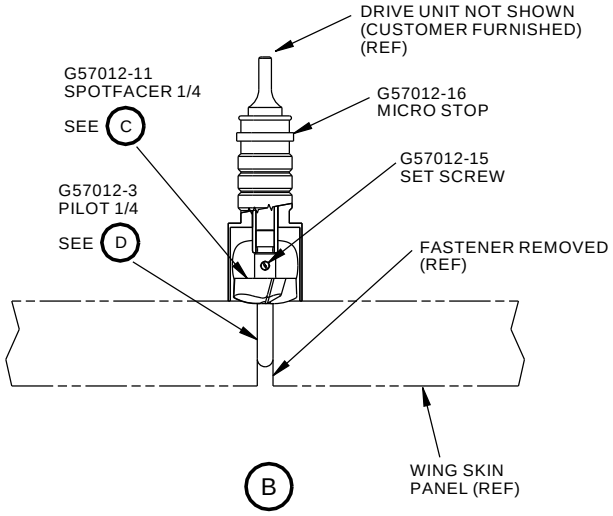

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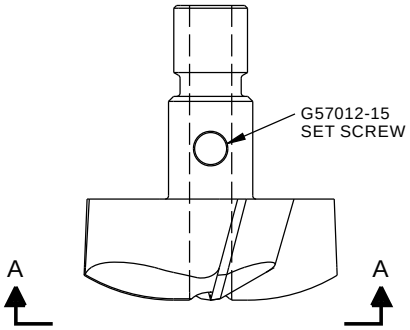
Wing Box Corrosion Removal Spotface Equipment
Figure 1 (Sheet 1 of 2)



G57012-11 SPOTFACER 1/4 SHOWN
G57012-12,-13,-14 SIMILAR

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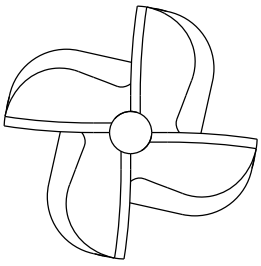

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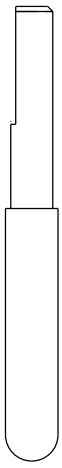

G57012-3 PILOT 1/4 SHOWN
G57012-4,-5,-6,-7,-8,-9,-10 SIMILAR

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Wing Box Corrosion Removal Spotface Equipment
Figure 1 (Sheet 2 of 2)