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COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

Decorative Elec. Window Shade Assembly
TU214-113M002

Second Issue: MAR 21/10

25-22-21

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RECORD OF REVISIONS

Rev. No.	Issue Date	Date Inserted	By	Rev. No.	Issue Date	Date Inserted	By
IR	03MAR08	03MAR08	C.M.				
A	21MAR11	21MAR11	C.M.				

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RECORD OF TEMPORARY REVISIONS

Temporary Rev No.	Page Number	Issued Date	By	Date Removed	By

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SERVICE BULLITEN LIST

SB Number And Revision	Included in Revision	Date Of Incorporation

INTRODUCTION

TASK 25-22-21-990-801

1. General

A. This document writing follows the directives of the "A.T.A Specification No. 100" updating N° 36. The instructions in this manual give the information necessary to do maintenance functions ranging from simple checks and replacement to complete shop type repair for the equipment, manufactured and supported by:

Lou Martin & Assoc., Inc.
2107 Danbury Drive
San Antonio, TX. 78217 USA
Tel.: (210) 930-8181 – Fax: (210) 930-8184

B. This document is applicable to the following equipment:

Decorative Elec. Window Shade Assy. TU214-113M002

TASK 25-22-21-990-801

2. Revision of the document

A. Two types of revisions of the manual are used to follow the evolution of this equipment/

(1) Normal revision

(a) Normal revisions are periodically issued.

(b) They are printed on white paper

(c) A List of Revisions gives a better follow-up of these revisions.

(2) Temporary revision

(a) Temporary revisions can be issued in advance of the normal revision.

(b) They are printed on yellow paper.

(c) A List of Temporary Revisions gives their follow-up.

(d) A letter comes with these temporary revisions to give all the necessary information about the insertion of these revisions.

(3) General rules for the insertion of temporary revisions

(a) A yellow page (with a higher sequential number) can replace a yellow page.

(b) A yellow page cannot replace a white page.

TASK 25-22-21-990-803

3. Certification of operation

A. The maintenance operations described in the present COMPONENT MAINTENANCE MANUAL have been checked in the manufacturer's workshop by observing the disassembly, assembly, testing, and trouble-shooting instructions detailed in this document.

TASK 25-22-21-990-804

4. WARNINGS-CAUTIONS-NOTES

A. Special adjuncts to the text are expressed by the following headings:

WARNING : CALL ATTENTION FOR THE USE OF MATERIALS, PROCESSES, METHODS, PROCEDURES OR TOLERANCES WHICH MUST BE ADHERED TO CAREFULLY IN ORDER TO AVOID ANY INJURY.

CAUTION: CALL ATTENTION TO METHODS AND PROCEDURES, WHICH MUST BE ADHERED TO IN ORDER TO AVOID DAMAGE TO EQUIPMENT.

NOTE: Call attention to methods, which make the procedures easier.

TASK 25-22-21-990-805

5. List of Abbreviations

ASSY	: ASSEMBLY
ATA	: AIR TRANSPORT ASSOCIATION OF AMERICA
FAA	: FEDERAL AVIATION ADMINISTRATION
FAR	: FEDERAL AVIATION REGULATION
IPL	: ILLUSTRATED PARTS LIST
LB.	: POUND
MS	: MILITARY STANDARD
NAS	: NATIONAL AEROSPACE STANDARD
REV	: REVISION
SB	: SERVICE BULLETINS
TR	: TEMPORARY REVISION

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DESCRIPTION AND OPERATION

TASK 25-22-21-870-806

1. Description

A. General

Basically, the decorative window shade assy. is made of a metal frame assy, blind assy., inner & outer lenses.

For attachment, refer to completion center for information.

B. Composition

(See FIGURE 1 / GRAPHIC 25-22-21-991-001 page 7)
For double shade assy.

(See FIGURE 2 / GRAPHIC 25-22-21-991-002 page 8)
For double shade assy. w/ shade controller unit

(See FIGURE 3 / GRAPHIC 25-22-21-991-002 page 9)
For single shade assy.

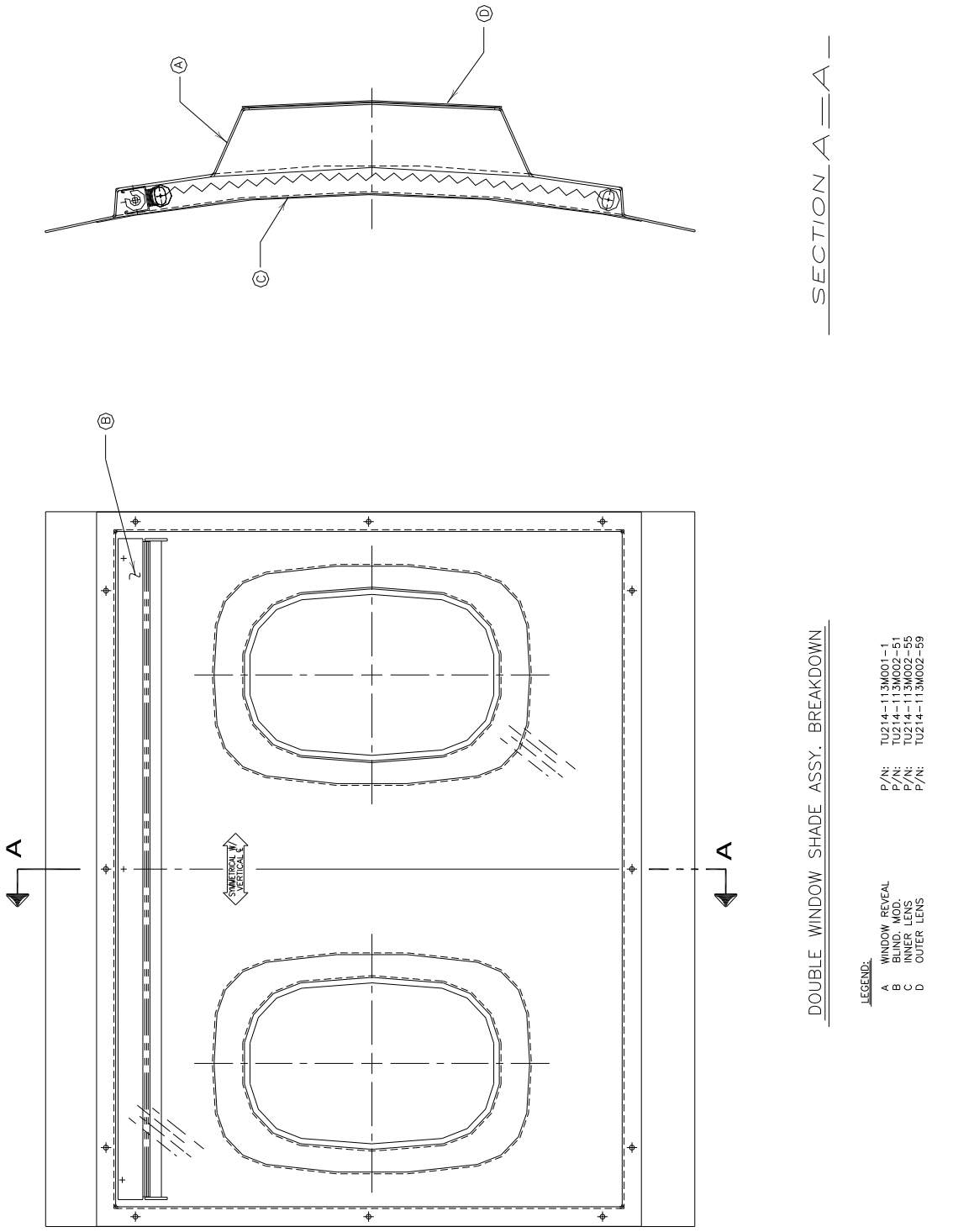

FIGURE 1 / GRAPHIC 25-22-21-991-001

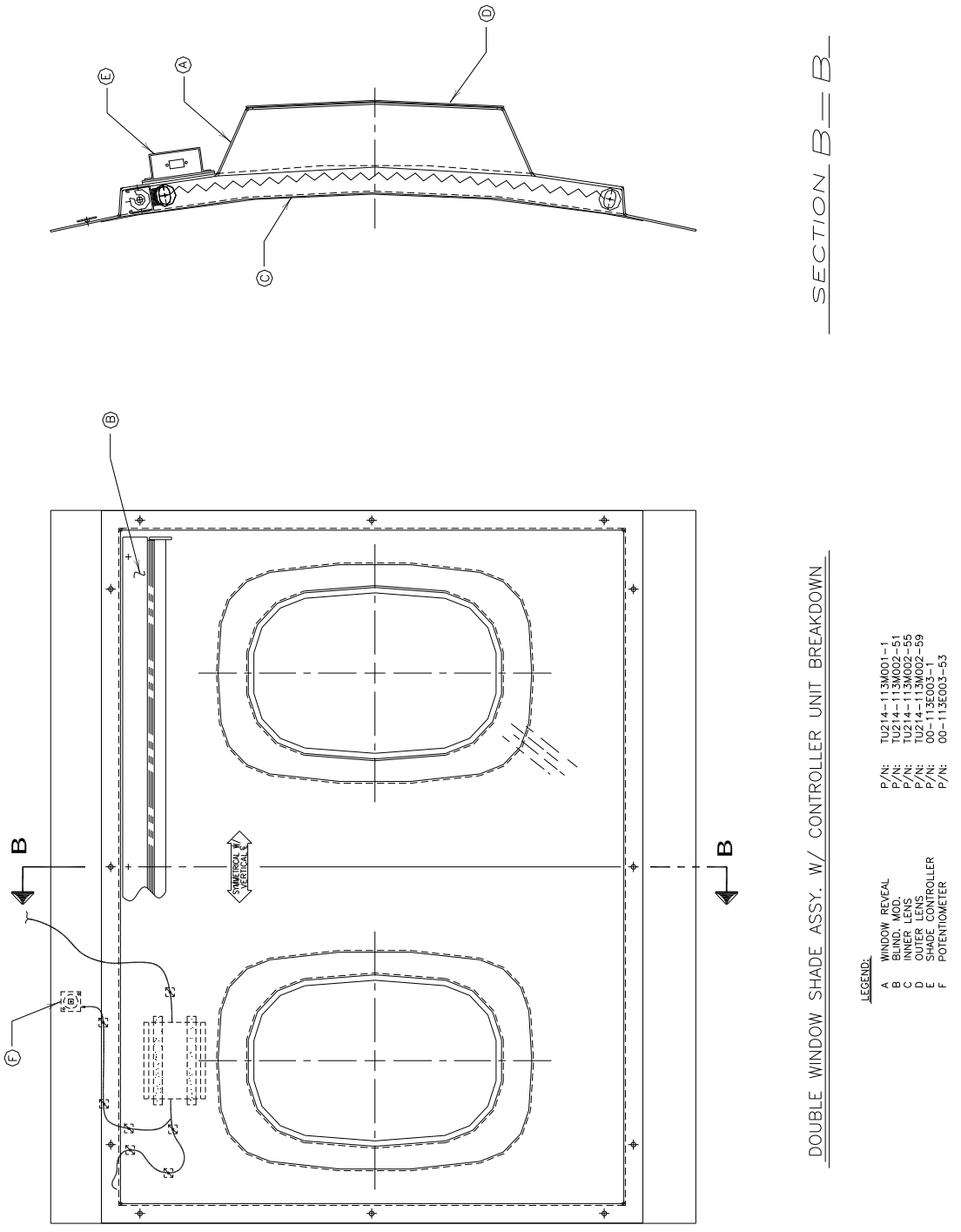

FIGURE 2 / GRAPHIC 25-22-21-991-002

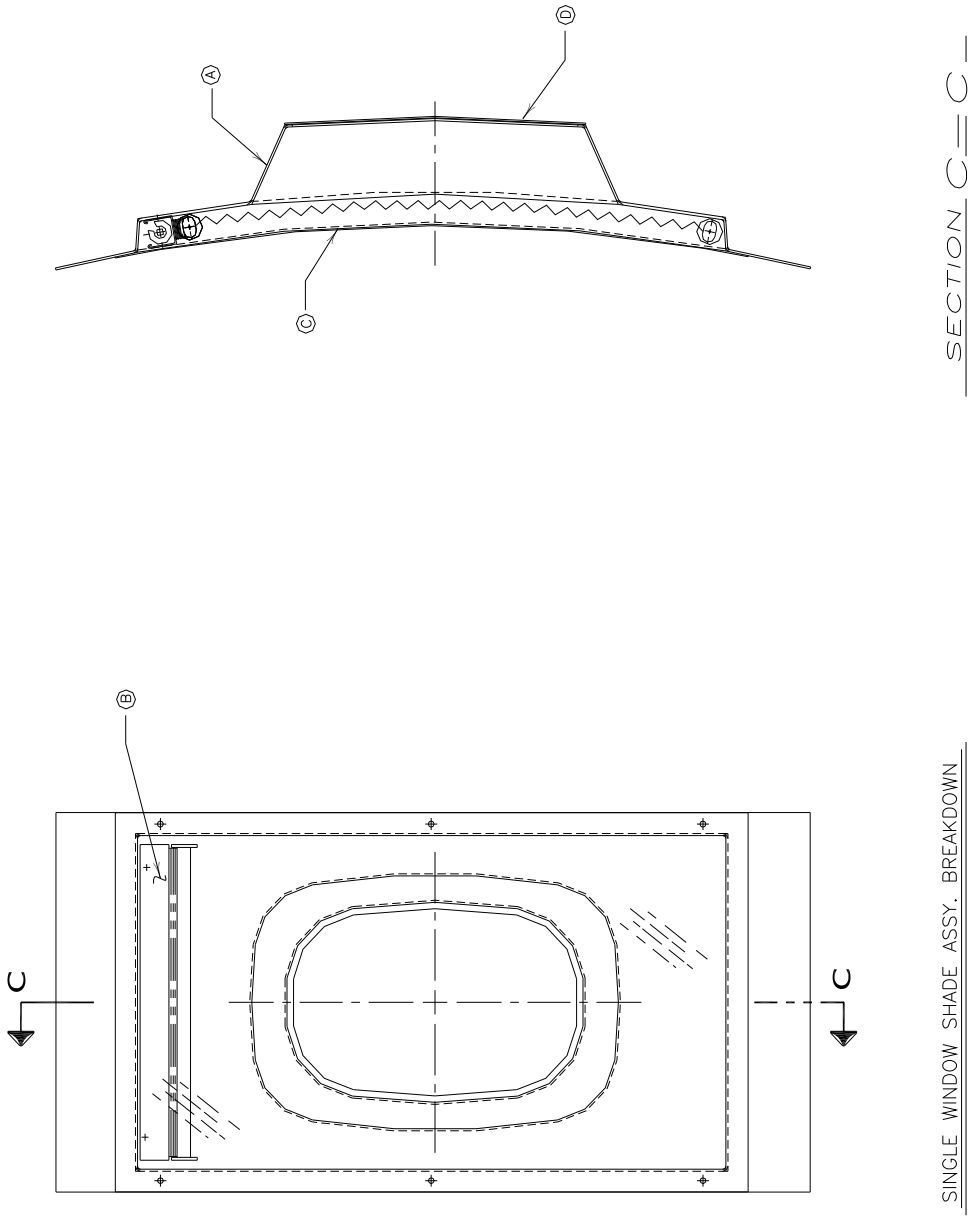

FIGURE 3/ GRAPHIC 25-22-21-991-003

TESTING AND FAULT ISOLATION

TASK 25-22-21-700-806

1. Testing

   A. General

      (1) The tests check the different adjustments, components and mechanisms of the window shade unit.

      (2) The defective parts must be repaired in workshops or can be replaced by serviceable parts.

   B. Job set-up information

      (1) Tools, fixtures, equipment and materials

         NOTE: Refer to “SPECIAL TOOLS, FIXTURE AND EQUIPMENTS” for full details on the items used.

   C. Procedure

      (1) Make sure the shade unit operates with the desired tension

TASK 25-22-21-700-802

2. Fault isolation

A. Faults you can find during the operations are given here under together with their probable causes and their corrective actions.

B. After the necessary corrective action is done, do an inspection of the window unit to make sure that the fault is corrected.

C. Mechanical fault isolation

TROUBLE	POSSIBLE CAUSE	CORRECTION
SHADE MOTOR.		
The motor continues to run after the travel rail meets the bottom rail.	Limit set to low. Also refer to "Adjustments after installation"	Readjust the down limit switch tab on the top of the head rail. Slide it to the left. This will decrease the travel rail length.
The motor shuts off before the travel rail meets the bottom rail.	Limit set to high. Also refer to "Adjustments after installation"	Readjust the down limit switch tab on the top of the head rail. Slide it to the right. This will increase the travel rail length.
The shade motor does not respond when the window control switch is activated.	Broken / frayed wiring	Check electrical system continuity. Replace damaged wiring.
	Controller board failure	Check for electrical output. Replace damaged controller board.
	Motor failure	Replace damaged motor
POTENTIOMETER		
Shade travels faster/slower than desired.	Potentiometer is out of adjustment	Readjust potentiometer (motor speed) on window till shade travels at desired speed.
Potentiometer does not change shade travel speed	Potentiometer failure	Replace damaged Potentiometer
	Controller board failure	Check for electrical output. Replace damaged controller board.
WINDOW UNIT		
Unit is loose	Installation screws are loose.	Check and tighten any loose screws.
When the plate is pushed "up" the shade goes down.	Backward plate.	Remove the plate and rotate the switch 180 degrees.

TABLE 1 / GRAPHIC 25-22-21-39-992-001

3. Adjustments after installation

A. Adjusting shade travel down limit switch. The switch is located on the right side of the blind mod. assy. near the shade motor. (See FIGURE 4 / GRAPHIC 25-22-21-991-004, next page)

(a) Remove window shade unit that requires adjustment from aircraft. See ("INSTALLING/UNINSTALLING WINDOW SHADE UNIT", section 4, page3002)

NOTE: Assure window unit lenses, plated parts, and decorative mask parts are protected at all times when work is being done.

(b) Remove inner lens. See ("DISASSEBLY", section 4, page 4002)

(c) The down limit of the shade can be adjusted up to three inches. Turn the down limit screw located on right side of blind mod. counterclockwise to loosen the up/down adjustment tab. (See FIGURE 4 / GRAPHIC 25-22-21-991-004, next page)

(d) Move the adjustment tab to the right to lengthen the shade, and to the left to shorten the shade. Run shade up and down to assure it operates smoothly.

(e) When the proper adjustment is done, hold the adjustment tab in place while turning the screw clockwise to tighten.

(f) Re-attach inner lens. (See "ASSEMBLY", section 4 page 9003)

(g) Re-install window unit. See ("INSTALLING/UNINSTALLING WINDOW SHADE UNIT", section 4 page 3002). Complete these steps in reverse order.

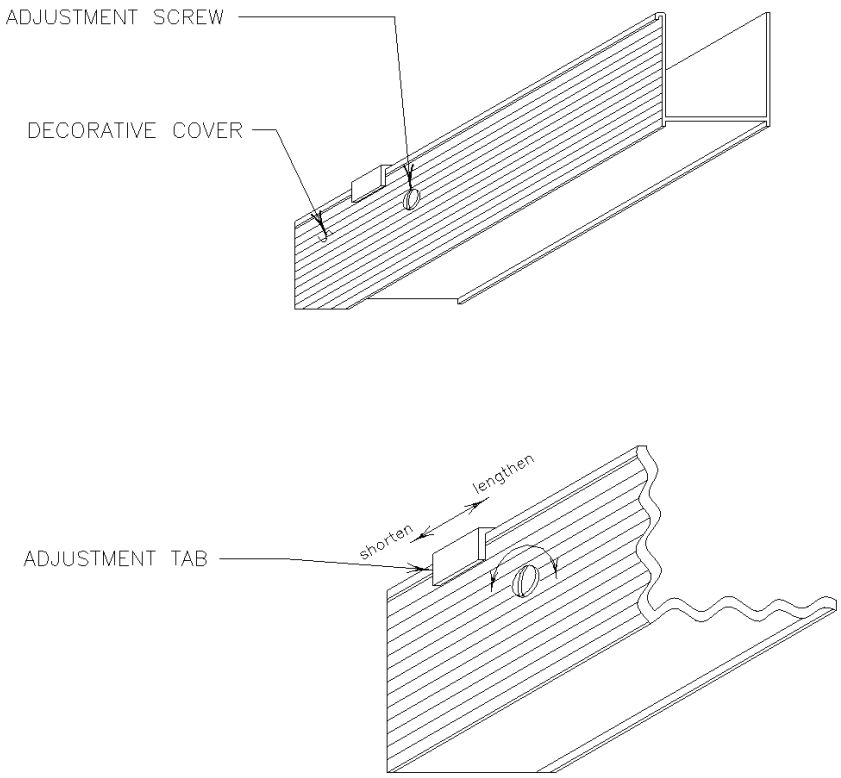

FIGURE 4 / GRAPHIC 25-22-21-991-004

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UNINSTALLING / INSTALLING WINDOW SHADE ASSY.

TASK 25-22-21-000-801

1. General

   A. The overhaul instructions contained in this manual are usually implemented in mechanical overhaul workshops.

   B. Avoid removing identification plates, unless manufacturer authorization.

   C. Assure window unit inner and outer lens, and any decorative plated parts are protected at all times when removed from the aircraft.

   D. When removing and transporting the window unit assure the shade is in the up position.

TASK 25-22-21-940-806

2. Job set-up information

   A. Tools, Fixtures, equipment and materials
   None.

TASK 25-22-21-000-802

3. Preliminary Steps

   A. Before the uninstalling, make note of the window assy. location for efficient re-installation and to prevent errors.

TASK 25-22-21-040-806

4. Decorative window uninstalling / reinstalling:

Reference aircraft documentation / specifications for uninstalling / reinstalling of window assy.

NOTE: Assure inner and outer lenses are protected at all times

DISASSEMBLY

TASK 25-22-21-000-803

1. General

   A. The overhaul instructions contained in this manual are usually implemented in mechanical overhaul workshops.

   B. Avoid removing identification plates, unless manufacturer authorization.

   C. Only disassemble what is necessary to do the repairs or to replace defective part(s).

   D. When applying the following instructions, never disassemble those components, which have been proved to be in good condition after inspection unless their disassembly is necessary to get access to the defective part.

   E. All the parts must be identified before the disassembly in order to prevent the error and to make the reassembly easier.

   F. For the identification of damage or functional failure refer to:

      “CHECKING”

TASK 25-22-21-940-802

2. Job set-up information

   A. Tools, fixtures, equipment and materials
   None.

TASK 25-22-21-000-804

3. Preliminary Steps

   A. Before the disassembly, put marks on all the parts to help the reassembly and to prevent errors.

TASK 25-22-21-040-802

4. Inner lens removal

Single shade inner lens is held in place with six MS24693S-632 screws and MS21044-N06 stop nuts
Double shade inner lens is held in place with twelve MS24693S-632 screws and MS21044-N06 stop nuts

A. Remove screws holding the inner lens in place.

B. After removal of inner lens, protect both sides from damage.

TASK 25-22-21-040-803

5. Blind mod. assy. removal

A. Assure the shade is in the full up position.

B. Disconnect blind mod. connection cable per completion center specifications and make note of approx. location of ferrite bead on connection cable for location during re-assembly of unit.

C. Prior to removal of the blind mod. it will be necessary to remove the ferrite bead from the connection cable. Use a cutting tool to carefully remove shrink wrap enclosing ferrite bead and run connection cable thru to free bead (temporary removal of connection plug on non-motor end may be required to pass cable thru bead).

D. The blind mod. is attached with two or three screws (depending on width) on the backside of the reveal. Remove the screws and the blind will be free from the reveal. (See FIGURE 5/ GRAPHIC 25-22-21-991-005)

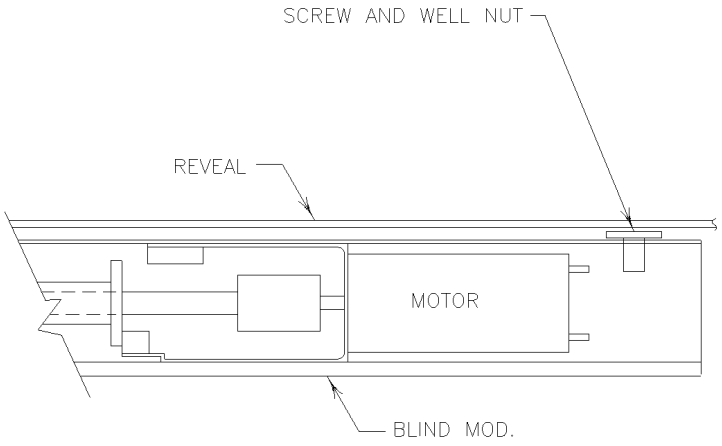

FIGURE 5/ GRAPHIC 25-22-21-991-005

TASK 25-22-21-040-804

6. Outer lens removal

Outer lens is attached to window reveal with double sided acrylic foam tape. For removal see “REPLACEMENT & REPAIR” section, 5 page 8004.

TASK 25-22-21-040-805

7. Shade motor removal

The shade motor is attached to the blind mod. housing with one attachment screw. For removal see “REPLACEMENT & REPAIR” section, 3 page 8002.

TASK 25-22-21-040-806

8. Controller board housing removal

Each window unit has 1 controller board housing located on the backside of window unit in the upper left corner (If looking at backside of reveal).

A. Prior to removal it is necessary to disconnect both wire harnesses that are connected to controller board housing. It is also necessary to make note of which side is up.

NOTE: It is recommended to cover the harness connections with masking tape or equivalent to protect connection pins from damage or contamination while disconnected.

B. The controller housing is secured using Dual Lock Velcro, gently pull unit away from housing. (See FIGURE 6 / GRAPHIC 25-22-21-991-006, next page)

9. Potentiometer removal

Each window unit has one potentiometer, located on the backside of window unit in the upper left corner (If looking at backside of reveal).

A. Prior to removal it is necessary to disconnect wire harnesses that are connected to controller board housing.

NOTE: It is recommended to cover the harness connections with masking tape or equivalent to protect connection pins from damage or contamination while disconnected.

B. Remove screw holding potentiometer in place and store component in clean dry place till re-attachment. (See FIGURE 6 / GRAPHIC 25-22-21-991-006, see below)

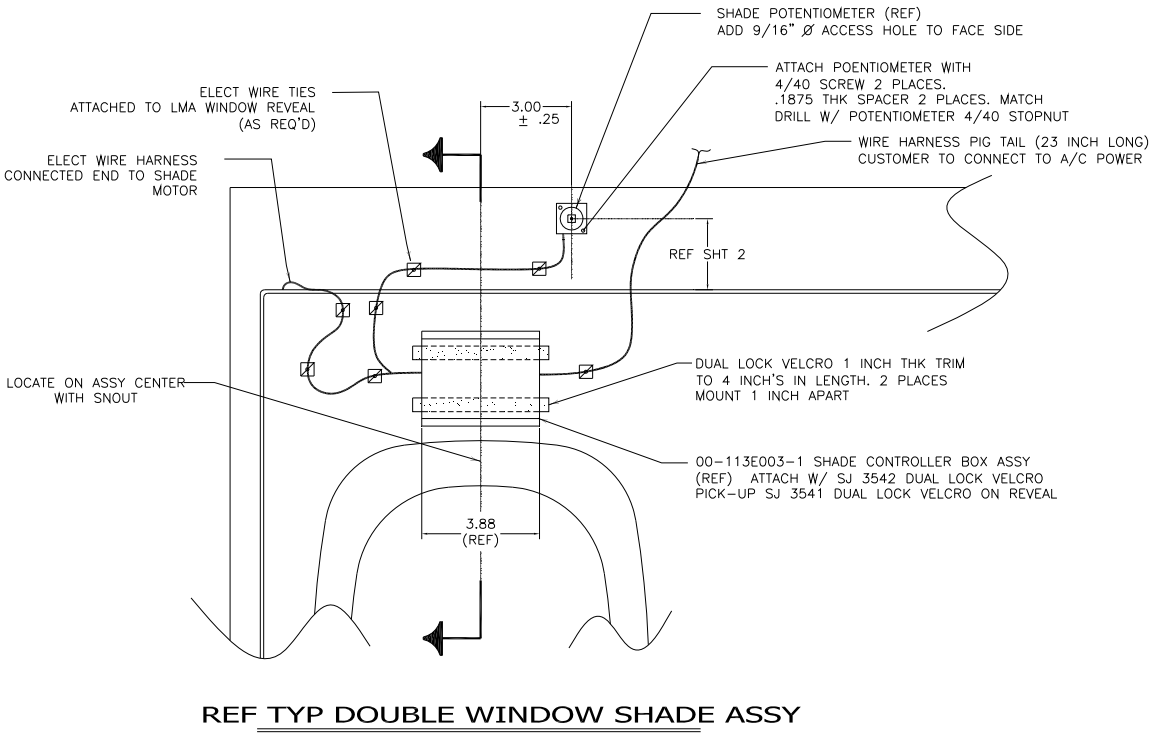

FIGURE 6/ GRAPHIC 25-22-21-991-006

CLEANING

TASK 25-22-21-100-806

1. General

   A. A full cleaning is necessary before each accurate inspection to find the correct location and the extent of the damage.

   B. Cleaning removes all the remaining particles, which can have an unwanted effect on the performance of the equipment. It also helps the possible repair.

TASK 25-22-21-940-803

2. Job set-up information

   A. Tools, Fixtures, equipment and materials

   NOTE: Refer to "SPECIAL TOOLS, FIXTURES, EQUIPMENT AND MATERIALS" for full details on the items used.

REFERENCE	QTY	NAME
#PC-10	AR	NOVUS PLASTIC POLISH
BRILLIANIZE	AR	CLEANER & POLISH
SPRAYWAY	AR	VINAL LEATHER CLEANER
39139 (Prepsol)	AR	CLEANER FOR NON-FABRIC PARTS

TABLE 2 / GRAPHIC 25-22-21-39-992-002

TASK 25-22-21-100-802

3. Procedure

A. How to use Novus Plastic Polish No. 1

Remove surface dust with soft cloth. Shake bottle contents and apply a light mist. Spread evenly and buff with a clean, soft, lint-free cloth.

B. How to use BRILLIANIZE Cleaner & Polish

Shake contents firmly and apply evenly to any hard, shiny, non-absorbent surface at room temperature. Rub gently. Before surface dries, polish with a dry lint-free cloth or non-damaging material, until the surface feels “as smooth as ice”.

FIGURE 7/ GRAPHIC 25-22-21-991-007

C. Shade fabric

Lou Martin easy-glide shade systems utilize a metallized fabric, which is inherently anti-static. They actually repel dust and seldom require cleaning. An occasional light sweep of a vacuum is all that should be needed.

In the event of a mishap, Lou Martin easy-glide shades may be cleaned with a mild detergent and water. However, water spotting can occur. If a detergent is required, we suggest a mild detergent such as woolite.

Do not use ammonia cleaners near the Lou Martin easy-glide shade. Ammonia cleaners will damage the shade.

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AIRWORTHINESS LIMITATIONS

TASK 25-22-21-200-801

1. General

   A. The Airworthiness Limitations section is FAA-approved and specifies maintenance required under §§43.16 and 91.403 of the Federal aviation regulations, unless an alternative program has been FAA approved.

   B. There are no additional airworthiness limitations as a result of this modification.

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INSPECTION/CHECK

TASK 25-22-21-200-806

1. General

A. Lou Martin & Assoc., Inc. recommends that window shade units be inspected during every aircraft C check, or equivalent time period predicated on the aircraft's maintenance and inspection program specifications.

B. Visually check all hardware, detail parts and assemblies for the following criteria:

(1) Wear, tears, fraying of the shade & decorative mask fabric.

(2) Correct attachment and condition of the Velcro tapes

(3) Security and tightness of the screws and nuts

(4) Condition of the Inner and Outer Lenses for scratches, cracks or spots.

(5) Condition of the reveal for scratches, chipping or fading of the paint.

(6) Condition of the plated handle assy. for scratches

C. Do a careful check of all the parts for corrosion, distortion, incipient cracks, cracks, dents, nicks, scores, stripped threads, excessive wear, etc. which can damage the performance of the equipment and give it an unsatisfactory condition.

NOTE: If any of the above items are discovered and the deterioration of affected part(s) is equal to or greater than 5 percent contact Lou Martin & Assoc., Inc. for replacement part(s) or for shipment of window unit to Lou Martin & Assoc., Inc. for service.

TASK 25-22-21-200-807

2. Replacement of Parts

After an inspection has been completed write all the damage detected in the appropriate aircraft log book or equivalent as determined by appropriate personnel. Be sure to note the current condition of damaged part(s) and the probable cause and/or the source. Immediately repair and/or replace any non-critical components as required.

NOTE: In accordance with FAR Part 121 or 135 the replacement times for parts are only required for only critical parts or for the parts of a large aircraft of 10 passenger seats or more.

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REPLACEMENT & REPAIR

TASK 25-22-21-300-801

1. General

A. The procedures given in this chapter are general repair procedures and are not applicable to the riveted or welded parts. The manufacturer must repair the riveted or welded junctions, which are damaged.

TASK 25-22-21-940-804

2. Job set-up information

A. Tools, fixtures, equipment and materials

B. It is recommended that the completion center contact Lou Martin & Assoc., Inc. for replacement parts to insure quality and operation

NOTE: Assure window unit lenses, plated parts, decorative mask parts are protected at all times when work is being done.

(1) Repair materials

REFERENCE	QTY	NAME
4945	AR	3M Acrylic foam tape
FMR-604 (.06 Thk.)	AR	Replacement outer lens
FMR-604 (.13 Thk.)	AR	Replacement inner lens
8-MIL CORD (WHITE)	AR	Replacement shade string
AN525-832	AR	Replacement screw
AN526-832	AR	Replacement screw

TABLE 3 / GRAPHIC 25-22-21-39-992-003

TASK 25-22-21-350-806

3. Replacement procedure for damaged shade motor

A. For removal of blind mod. See “DISASSAMBLY” section 5, page 4002)

B. To remove the motor, unscrew and remove adjustment screw and well nut (if necessary) located at right hand side of blind. (See FIGURE 8/ GRAPHIC 25-22-21-991-008)

C. Pull out motor and replace with new motor.

NOTE: To insure optimal operation and proper RF noise reduction it recommended to order replacement motor from Lou Martin & Assoc., Inc.

D. Ensure motor clutch is locked with adjustment screw. Reposition well nut and adjustment screw. (See FIGURE 9/ GRAPHIC 25-22-21-991-009)

E. Reinstall blind mod. See “ASSEMBLY” section 3, page 9003.

F. Adjust blind length if required. Refer to “TESTING AND FAULT ISOLATION” section 3 for proper adjustments.

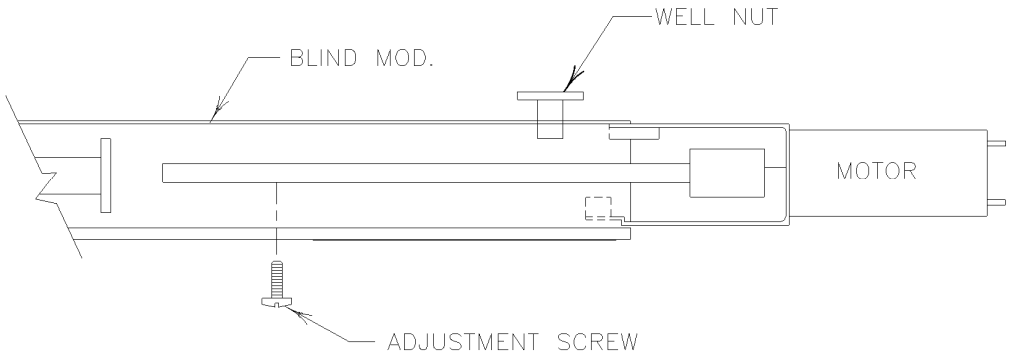


FIGURE 8/ GRAPHIC 25-22-21-991-008

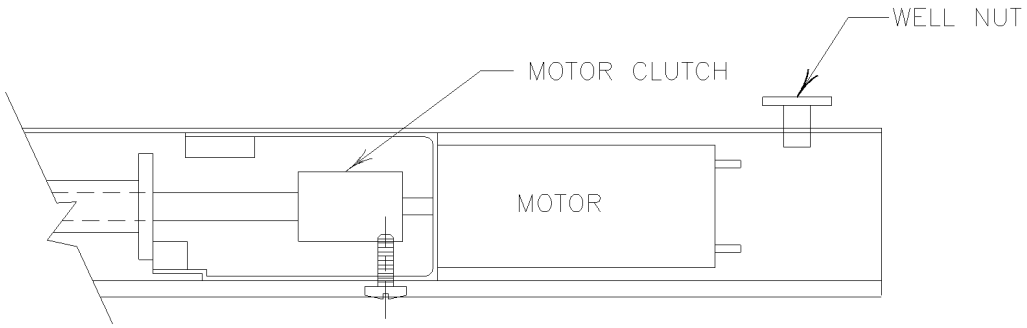


FIGURE 9/ GRAPHIC 25-22-21-991-009

TASK 25-22-21-350-803

4. Replacement procedure for a damaged inner lens

A. Mark both sides of inner lens on reveal to assure replacement inner lens is properly located during reassembly.

B. Remove damaged inner lens from window assy. (See “DISASSEMBLY”, section 4, page 4002)

NOTE: To insure correct sizing and proper override cutouts and location it is recommended to contact Lou Martin & Assoc., Inc. for lens replacement.

C. Before attaching new lens peel off protective film from the outboard side of lens. Note: Before clamping, use a static blow-off gun to eliminate dust attraction on both sides of lens

D. Clamp replacement inner lens to window assy., assure lens follows window reveal’s contour.

NOTE: It will help if the lower surface of lens is clamped first then force the lens to follow reveals contour then clamp upper lens surface.

E. Test shade up & down to check for tension. Loose lens will ease the tension on the shade, if not refer to “Testing & Fault Isolation”.

F. Attach new inner lens to window assy. Match drill lens with existing hole locations. Then remove clamps. (See “ASSEMBLY”, section 4, page 9003)

TASK 25-22-21-350-806

5. Replacement procedure for outer lens (See FIGURE 10/ GRAPHIC 25-22-21-991-010)

A. Remove existing outer lens to be replaced. Note: Lens is attached w/ strong adhesive double-sided tape; some hard jerks may be required.

B. Remove both layers used tape from reveal and clean surface with clean cloth damped with alcohol or prepsol.

NOTE: When cleaning take care to not get alcohol or prepsol on reveal fabric, solution may damage fabric.

C. Trim and apply one layer of #4945 3M Acrylic foam tape between reveal fabric and outer edge of flange, joining both ends of tape with a seam. (Do not overlay seam). Repeat same process with a second full width strip of tape over first strip and reveal fabric on outboard side of reveal.

D. Locate new lens and decide which side of lens to be bonded to reveal. Remove this side's protective film before bonding. Note, use a static blow-off gun to eliminate dust attraction.

E. Center the lens at one end and work towards the top evenly on both sides pressing firmly for bonding. Go back and press additional times as required to assure full contact all around lens.

F. Check lens and assure it follows reveal contour. Assure center of lens is not flat or popped inboard, if so re-attaching lens may be required.

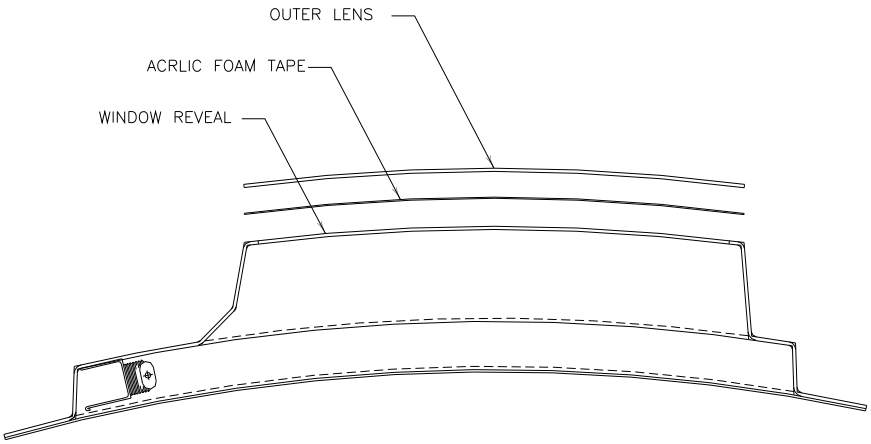


FIGURE 10/ GRAPHIC 25-22-21-991-010

ASSEMBLY

TASK 25-22-21-400-801

1. General

   A. Before the assembly, make sure that the “CLEANING”, “INSPECTION/CHECK”, and “REPLACEMENT & REPAIR” procedures of all parts are done.

   B. Where it is possible, it is recommended to use new parts and genuine approved parts.

TASK 25-22-21-940-804

2. Job set-up information

   A. Tools, Fixtures, equipment and materials

      NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND MATERIALS for full details on the items used.

REFERENCE	QTY	NAME
4945	AR	3M Acrylic foam tape
FMR-604 (.13 Thk.)	AR	Replacement inner lens
FMR-604 (.06 Thk.)	AR	Replacement outer lens
AN960-8	AR	Replacement washer
MS51092-8	AR	Replacement washer
AN526-832	AR	Replacement screw
AN526-632	AR	Replacement screw
NAS546-P6	AR	Replacement screw
MS35206-245	AR	Replacement screw
#2643540002	AR	Replacement Ferrite Bead

TABLE 4 / GRAPHIC 25-22-21-39-992-004

TASK 25-22-21-440-801

3. Blind mod. Reattachment

A. Assure the shade is in the full up position.

B. Feed the wire pigtail thru the grommet at the top of the reveal and pull the wire taught.

C. Reattach the blind mod. assy. by aligning the well nuts with the existing holes on the backside of the reveal, and secure in place with two AN525-832 screws. (See FIGURE 11/ GRAPHIC 25-22-21-991-011)

D. Once blind mod. is secure re-attach ferrite bead on connection cable, reference notes made during removal for correct location. Feed cable thru bead and loop thru a second time, prior to re-attachment of connection plug feed piece of shrink tubing (length as required) to cover ferrite bead heat as needed to apply shrink tubing.

E. Reconnect blind mod. connection cable per completion center specifications

F. Adjust blind length if required. Refer to “TESTING AND FAULT ISOLATION” section 3 for proper adjustments.

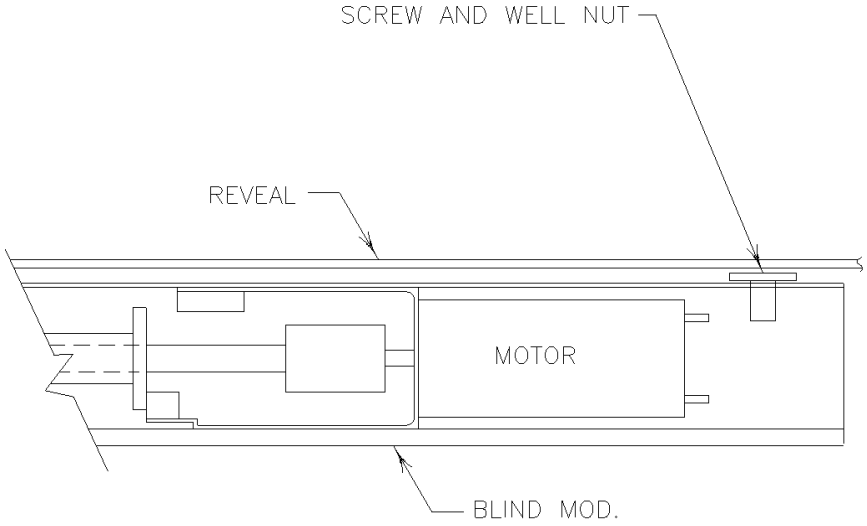


FIGURE 11/ GRAPHIC 25-22-21-991-011

TASK 25-22-21-440-802

4. Inner lens reattachment

- Single shade inner lens is held in place with six MS24693S-632 screws and MS21044-N06 stop nuts
- Double shade inner lens is held in place with twelve MS24693S-632 screws and MS21044-N06 stop nuts

A. Reattach inner lens with screw & stop nut

B. Remove protective film from inboard side of lens after attachment.

TASK 25-22-21-440-803

5. Outer lens reattachment

Outer lens is attached to window reveal with double sided acrylic foam tape. For attachment see “REPLACEMENT & REPAIR” section, 5 page 8004.

TASK 25-22-21-440-804

6. Lower rail and end cap reattachment (Refer FIGURE 12/ GRAPHIC 25-22-19-991-012)

A. Run shade half way down approx. 7" – 8"

B. Pull shade away from window reveal and lightly tap-in end cap and roller (NOTE: Use a rubber mallet)

C. Run shade up & down to assure sooth operation.

D. Adjust blind length if required. Refer to "TESTING AND FAULT ISOLATION" section 2C for proper adjustments.

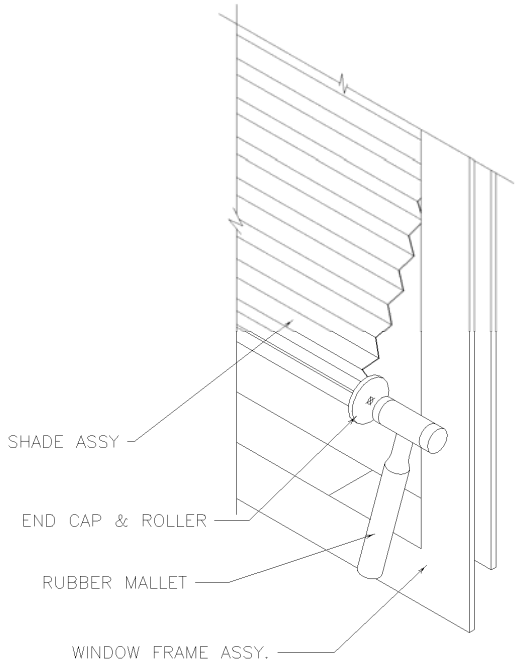


FIGURE 12/ GRAPHIC 25-22-21-991-012

TASK 25-22-21-440-805

7. Controller board housing reattachment

A. Reposition controller board housing with correct side facing up and re-attach unit to window assy. by gently compressing unit against window to engage the Dual Lock Velcro. (See FIGURE 13 / GRAPHIC 25-22-21-991-013)

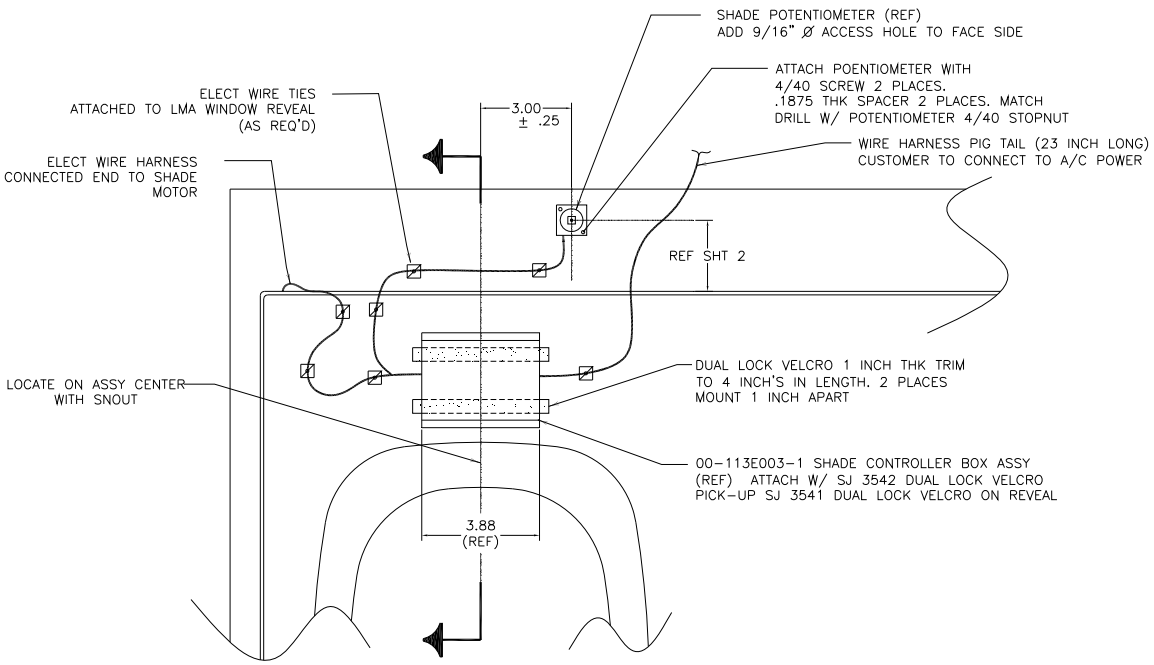
B. Remove protective covering from connections on housing and on wire harnesses and re-connect.

TASK 25-22-21-440-806

8. Potentiometer reattachment

A. Reposition potentiometer with correct side facing up and re-attach with A6X4 screw (2 places) (See FIGURE 13 / GRAPHIC 25-22-21-991-013)

B. Remove protective covering from connections on wire harnesses and re-connect.



REF TYP DOUBLE WINDOW SHADE ASSY

FIGURE 13/ GRAPHIC 25-22-21-991-013

FITS AND CLEARANCES

TASK 25-22-21-820-801

1. General

   A. The listed clearances are to insure the window is properly installed into the aircraft

TASK 25-22-21-820-802

2. Clearances

   A. Assure a min. clearance of .063 in. (1.59 cm) between the window shade assy. and existing structure.

   B. Assure a min. clearance of .13 in. (3.18 cm) between the window assy's outer lens and the inboard side of the aircraft's existing pressure lens.

   C. Assure a min. clearance of .04 in. (1.02 cm) between each decorative mask fwd & aft in the aircraft.

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SPECIAL TOOLS, FIXTURES, EQUIPMENT

TASK 25-22-21-940-805

1. Special tools, fixtures and equipments

   No special tools, fixtures and equipment are necessary for the maintenance or the overhaul to be performed on the standard equipment.

   Standard tools are used for these operations.

STORAGE

TASK 25-22-21-940-806

1. General

   A. When any of the window assay's need to be removed from the aircraft, Lou Martin & Assoc., Inc. recommends to stow the shade is in the up position.

   B. Store in a sheltered, ventilated place with normal hygrometric degree (70%)

   C. Cover the window unit with large clean plastic bags or equivalent to protect it from dust and other airborne particles.

   D. On the outside of the bag or cover add a tag with its location in the aircraft for tracking purposes and quicker reinstallation in the aircraft.

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ILLUSTRATED PARTS LIST

TASK 25-22-21-950-806

1. Introduction

A. General

(1) The Illustrated Parts List (IPL) intends to show the details of the equipment and permits easy provisioning of the spares necessary for the maintenance of this equipment.

B. Use of the illustrated parts list

(1) "Introduction" section

The introduction contains all explanatory information for the individual sections necessary for the use of this IPL.

(2) "Illustrated Parts List" section

The detailed parts list gives the list and the illustrations of parts making up the considered assembly. The different columns of the parts list pages are organized as follows:

1st column: Figure and item number
2nd column: Manufacturer's part number
3rd column: Airline part number (not used)
4th column: Indenture
5th column: Designation
6th column: Usage from to
7th column: Quantity per Assembly

(a) Figure and item number

1 Each illustration receives a figure number starting at 06 and carrying on in sequence.

2 Each illustration can be divided up into several folios

3 When it is necessary to add figures, alphabetic indexes are added to the original figure, from A to Z, except I and O

4 An item number is attributed to each part mentioned in the detailed parts list. Numbers start at 006A up to 999A per sequence of 10 by 10 or else in order to insert additional items.

5 Alternative parts have the same item as the initial part and are indexed.

6 To follow the evolution of the standard of parts or assemblies modification, items are indexed from B to Z, except I and O.

7 Non-illustrated items are identified by a dash placed in front of the item.

(b) Manufacturer's part number

This column indicates the original manufacturer's part number or the part manufacturer.

(c) Airline part number

This column is left blank; it is reserved for the airline.

(d) Indenture

The designation is presented according to indentations indicating as follows the relation between the different components:

1 Assembly

2 Sub-assemblies

2 Attaching parts of the sub-assembly

3 Constitutive parts of the sub sub-assembly

3 Attaching parts of the sub sub-assembly

4 Constitutive parts of the sub subassembly
Etc.

(e) Designation

The designation of the item can be followed by:

- The CAGE manufacturer's code,

- Cross-references indicating numbers, figures, items where this very item is illustrated.

(f) Usage from to

The interchangeability relation of constitutive parts according to the higher assembly is identified by the item number.

This code is only valid for the assembly dealt with in the corresponding figure.

Example:

FIG-ITEM	PART NUMBER	AIRLINE PART NUMBER	IND	NOMENCLATURE	USAGE FROM TO	UNITS PER ASSY.
- 1A	PN1		1	ASSEMBLY 1		RF
- 1B	PN2		1	ASSEMBLY 2		RF
- 1C	PN3		1	ASSEMBLY 3		RF
10A	SPN1		2	SUB-ASSEMBLY 1	1AC	1
10B	SNP2		2	SUB-ASSEMBLY 2	1B	1
20A	SSNP1		3	SUB SUB-ASSEMBLY 1	10A	1
20B	SSPN2		3	SUB SUB-ASSEMBLY 2	10B	1
30A	SPN3		2	SUB-ASSEMBLY 3		1

TABLE 5 / GRAPHIC 25-22-21-39-992-005

(g) Quantity per assy.

This column gives the number of parts required for an immediately higher assembly.

If a same assembly or a same part appears in several figures, the quantity is only given in the first parts list; the RF abbreviation appears in the following parts list.

If the quantity of a component is to be established as required (EX. seal, etc.) the quantity is replaces by the term AR (as required)

(2) How to use the Illustrated Parts List

(a) When the part number is known:

1 Turn to the numerical index and locate the part number.

2 The figure and item number on the illustration where the part appears are listed in the column to the right of the part number.

3 The corresponding item number in the accompanying parts list will give part number, description, assembly relationship and quantity required for that particular application.

(b) When the part number is not known:

1 Look through the illustrations and find the assembly of which the component is part, or look through the illustrations and identify the part by appearance. Note the item number in the exploded view and find part, description and quantity required for that part.

(3) List of abbreviations

The following abbreviations have been used in this CMM:

AR	As Required. Indicates that an indefinite quantity is required
ASSY	Assembly
CMM	Component Maintenance Manual
CAGE CODE	Commercial and Government Entity Code
DET	Detail
FIG	Figure
H	Horizontal
IND	Indenture
IPL	Illustrated Parts List
LH	Left Hand
NHA	Next Higher Assembly
NP	After any description means that this part number constitutes an assembly of breakdown parts not supplied as a whole. Although not procurable, a view of each assembly, sub-assembly, sub-sub-assembly, or small unit, exploded as necessary to show detail parts, is provided to illustrate each part in the detail parts list. Illustrations of all parts will be technically correct in assembly installation relation ships.
QTY	Quantity
RF	Reference indicates those parts which have their quantity listed elsewhere in the Illustrated Parts List.
R	Recline
RH	Right Hand
SYM	Symmetrical
V	Vertical

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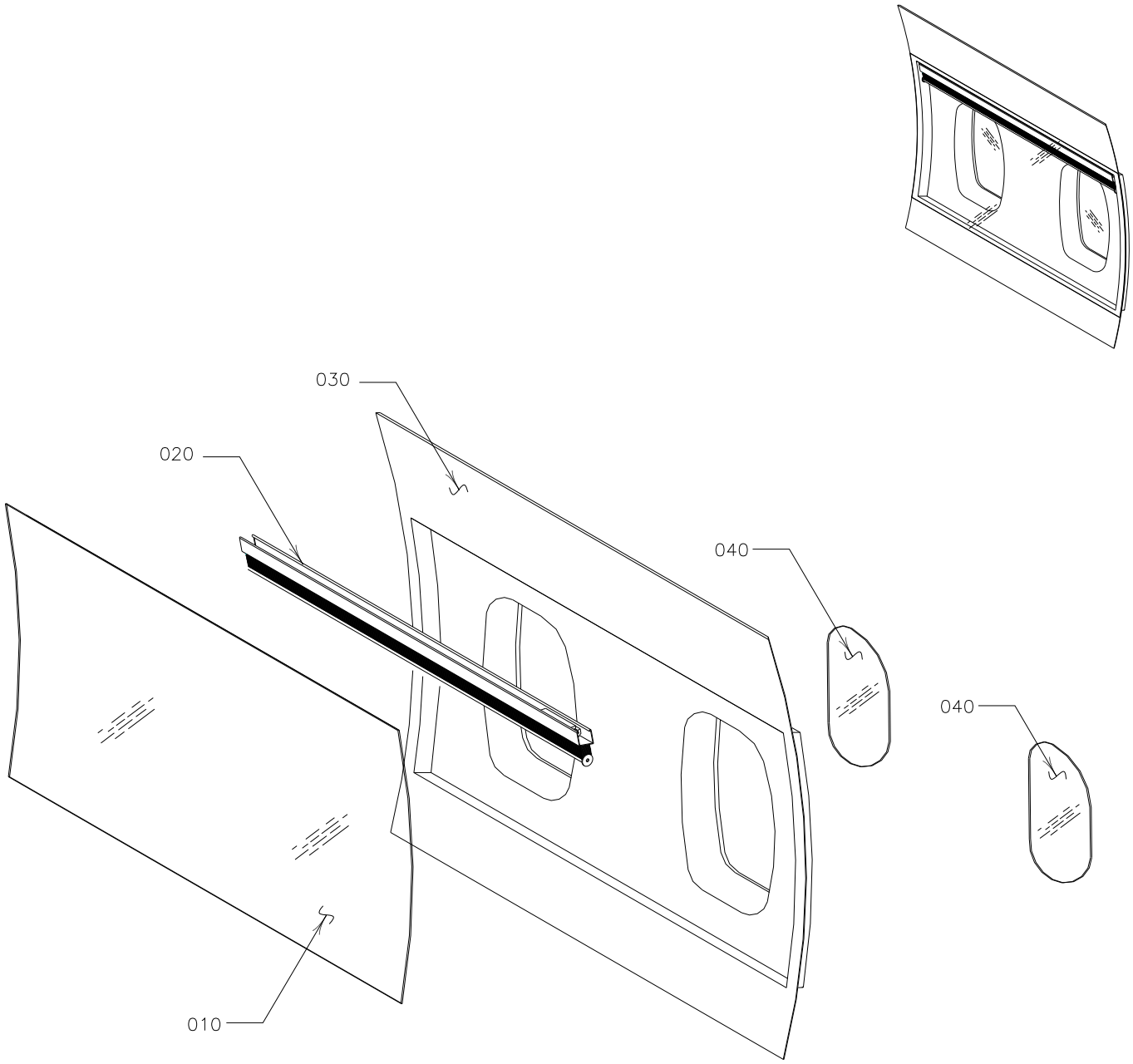
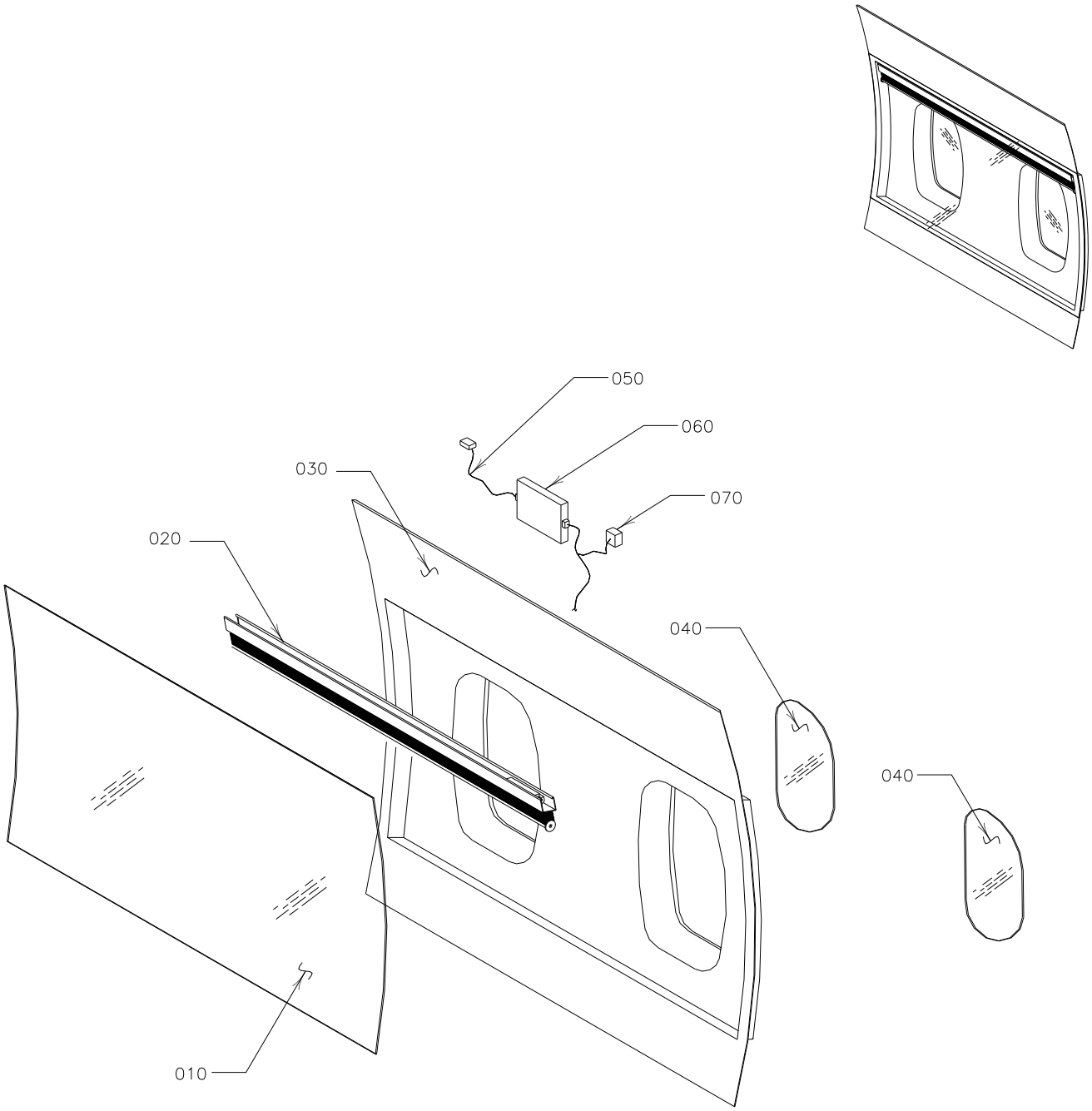
3. Alphanumerical index

PART NUMBER	AIRLINE STOCK NUMBER	FIGURE	ITEM	TTL REQUIRED
22N 28 208E 286		15	10	1
875-XXXX		15	40	AR
AN525-832		15	80	2
B-832		15	70	2
TU214-113M001-1/-3		14, 16	030, 10	1
TU214-113M002-51/-53		14	020	1
TU214-113M002-59		14	040	A/R
MOTOR HOUSING		15	20	1
LOWER RAIL		15	50	1
00-113M006-21		15	50	2
00-113E003-1		15	050	1
00-113E003-3		15	070	1
00-113E003-51		15	060	1
NAS548-P6		15	60	2



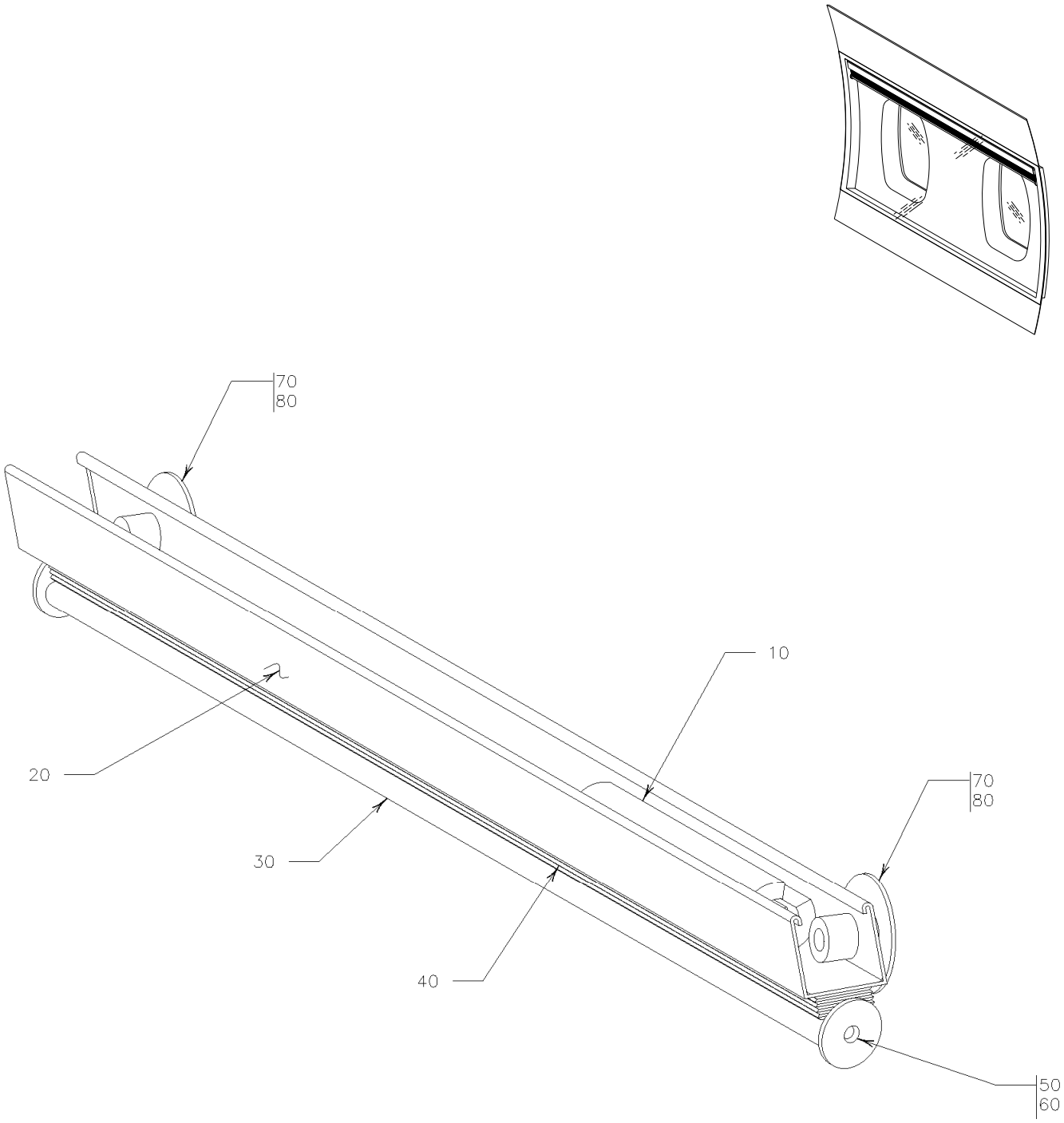
Decorative Window Shade Assy.
FIGURE 14/ GRAPHIC 25-22-21-991-014

14 FIG-ITEM	PART NUMBER	AIRLINE PART NUMBER	IND	NOMENCLATURE	USAGE FROM TO	UNITS PER ASSY.
010	TU214-113M002-55/-57		1	INNER LENS		1
020	TU214-113M002-51/-53		1	BLIND MOD.		1
030	TU214-113M002-1/-3		1	WINDOW REVEAL		1
040	TU214-113M002-59		1	OUTER LENS		A/R



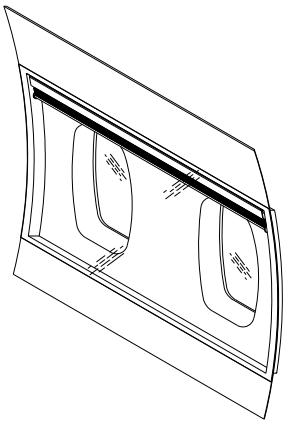
Decorative Window Shade Assy.
FIGURE 15/ GRAPHIC 25-22-21-991-015

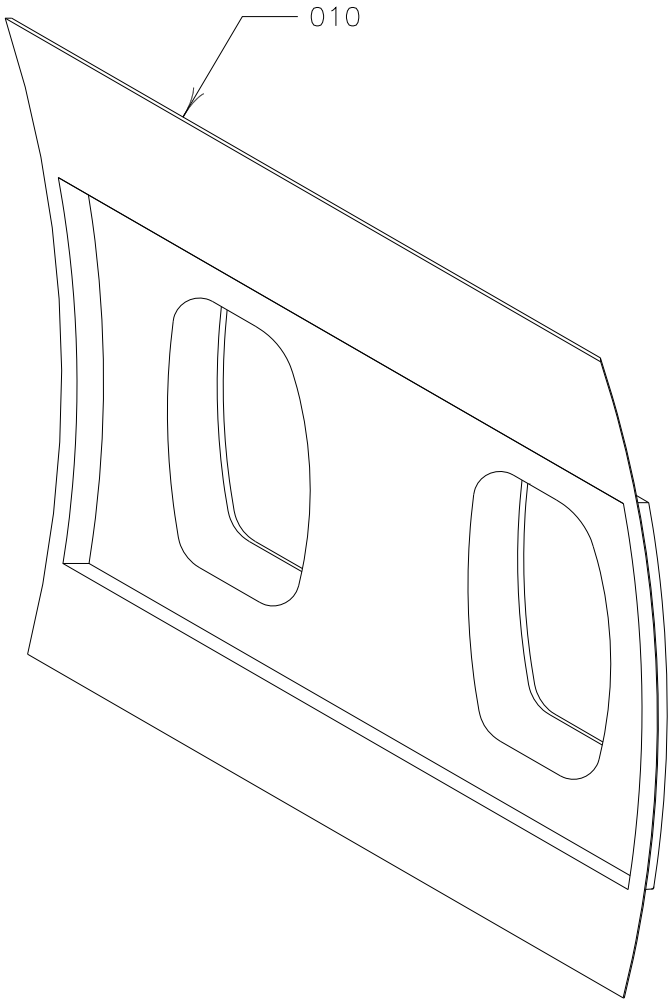
15 FIG-ITEM	PART NUMBER	AIRLINE PART NUMBER	IND	NOMENCLATURE	USAGE FROM TO	UNITS PER ASSY.
010	TU214-113M002-55/-57		1	INNER LENS		1
020	TU214-113M002-51/-53		1	BLIND MOD.		1
030	TU214-113M002-1/-3		1	WINDOW REVEAL		1
040	TU214-113M002-59		1	OUTER LENS		A/R
050	00-113E003-1		1	WIRE HARNESS		1
060	00-113E003-51		1	CONTROLLER HOUSING		1
070	00-113E001-3		1	POTENTIOMETER		1



Blind Mod. Assy.
FIGURE 16/ GRAPHIC 25-22-21-991-016

16 FIG-ITEM	PART NUMBER	AIRLINE PART NUMBER	IND	NOMENCLATURE	USAGE FROM TO	UNITS PER ASSY.
10	22N 28 208E 286		1	SHADE MOTOR		1
20	SUPPLIED W/ BLIND		1	MOTOR HOUSING		1
30	SUPPLIED W/ BLIND		1	LOWER RAIL		1
40	875-XXX		1	SHADE FABRIC		1
50	00-113M006-21		1	ROLLER		2
60	NAS548-P6		1	WOOD SCREW		2
70	B-832		1	WELL NUT		2
80	AN525-832		1	SCREW		2





Finished Window Reveal
FIGURE 17/ GRAPHIC 25-22-21-991-017

17 FIG-ITEM	PART NUMBER	AIRLINE PART NUMBER	IND	NOMENCLATURE	USAGE FROM TO	UNITS PER ASSY.
10	TU214-113M001-1/-3		1	WINDOW REVEAL		1