CHAPTER

55

STABILIZERS

MD-80
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 55
STABILIZERS

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A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

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GENERAL - DESCRIPTION AND OPERATION

1. General

A. The vertical and horizontal stabilizers are full cantilever sections of the empennage. The vertical stabilizer is attached to the aft fuselage and the horizontal stabilizer is mounted at the top of the vertical stabilizer.

2. Horizontal Stabilizer

A. The horizontal stabilizer is removable as a unit and consists of a center section and right and left outboard sections. The horizontal stabilizer is hinged to the vertical stabilizer rear spar, and serves as a movable control surface for longitudinal trim. Leading edge sections are removable. Aerodynamically balanced elevators are hinged to the outboard sections of the horizontal stabilizer.

WARNING: THE SAFETY BELT LUG DOES NOT MEET CURRENT FALL PROTECTION REQUIREMENTS. DO NOT USE THE SAFETY BELT LUG FOR FALL PROTECTION. OTHER METHODS MUST BE USED TO ENSURE ADEQUATE FALL PROTECTION.

B. A safety belt lug is located on the vertical tip fairing (Figure 1). Personnel required to perform work on the horizontal stabilizer should have adequate fall protection.

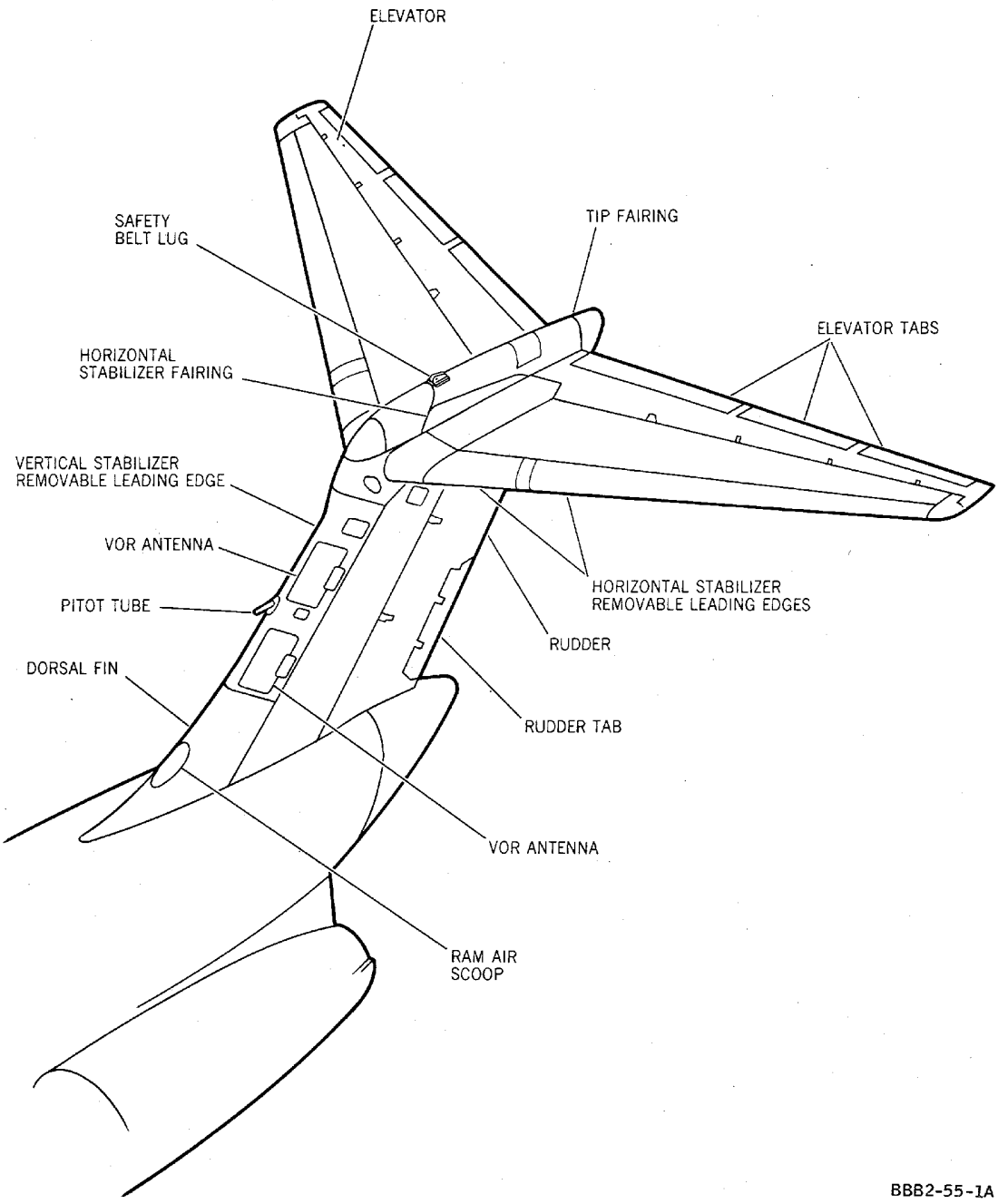
3. Elevator

A. The elevator is of all-metal construction except for a fiber-glass trailing edge. The elevator is constructed with a span-wise spar, chordwise ribs, formers, and skin with bonded doublers. Control tabs of all-metal aluminum honeycomb construction are attached to the elevator trailing edge.

B. For allowable damage to fiberglass trailing edge of the elevator. (SRM 51-01, Page 1)

4. Vertical Stabilizer

A. The vertical stabilizer is constructed as an integral part of the aft fuselage structure. A section of the leading edge and the tip fairing are removable. An aerodynamically balanced rudder is attached to the hinge brackets on the vertical stabilizer rear spar and aft fuselage structure. A pitot tube is installed on the leading edge of the vertical stabilizer. This tube supplies air, relative to air speed, to a rudder throw-limiter actuator which limits rudder travel progressively in proportion to increased air speed.



Stabilizers - General
Figure 1/55-00-00-990-801

5. **Rudder (All Metal)**

   A. The rudder is of all-metal construction except for the fiberglass trailing edge. The rudder consists of a spar, chordwise ribs, and skin with bonded doublers. A control tab constructed from metal honeycomb is attached to the trailing edge.

   B. For allowable damage to fiberglass trailing edge of the rudder. (SRM 51-01, Page 1)

6. **Rudder (Composite)**

   A. The composite rudder is of all-composite construction. The rudder consists of a spar, chordwise ribs, and skin. A control tab is attached to the trailing edge. The rudder is aerodynamically balanced by an overhanging nose-type balance, forward of the hinge line. Mass balance for flutter prevention is employed in the rudder control tab. The rudder leading edge has fixed weights bolted to the skin.

7. **Attach Fittings**

   A. The major attached fittings in the stabilizers are hinge points for the horizontal stabilizer, a fitting for the horizontal stabilizer actuator, and flight control surface hinge brackets.

STABILIZERS - STRUCTURAL INSPECTIONS - INSPECTION/CHECK

1. General

A. This procedure contains MSG-3 task card data.

TASK 55-05-03-211-801

2. Horizontal Stabilizer, Rear Spar Caps STA XHS 10.3 - STA XHS 14.6 - Structure

A. Inspection

SUBTASK 55-05-03-010-001

(1) Gain access as required.

SUBTASK 55-05-03-160-001

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-001

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-001

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-001

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

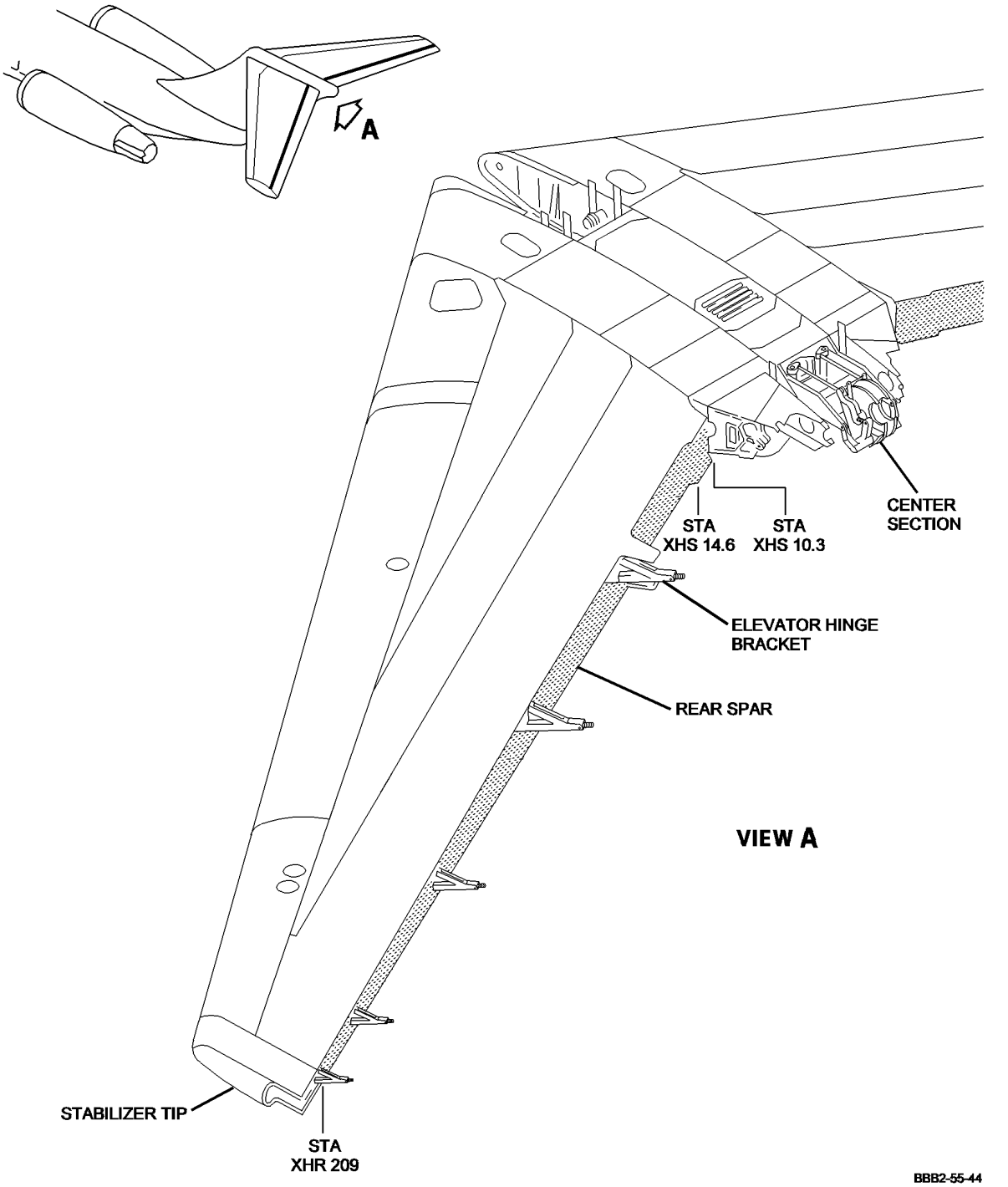
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

END OF TASK



Horizontal Stabilizer Rear Spar Caps
Figure 601/55-05-03-990-801

TASK 55-05-03-211-802

3. Horizontal Stabilizer, Rear Spar Caps STA XHS 14.6 - STA XHS 209.0 - Structure

A. Inspection

SUBTASK 55-05-03-010-002

(1) Gain access as required.

SUBTASK 55-05-03-160-002

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-002

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-002

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-002

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

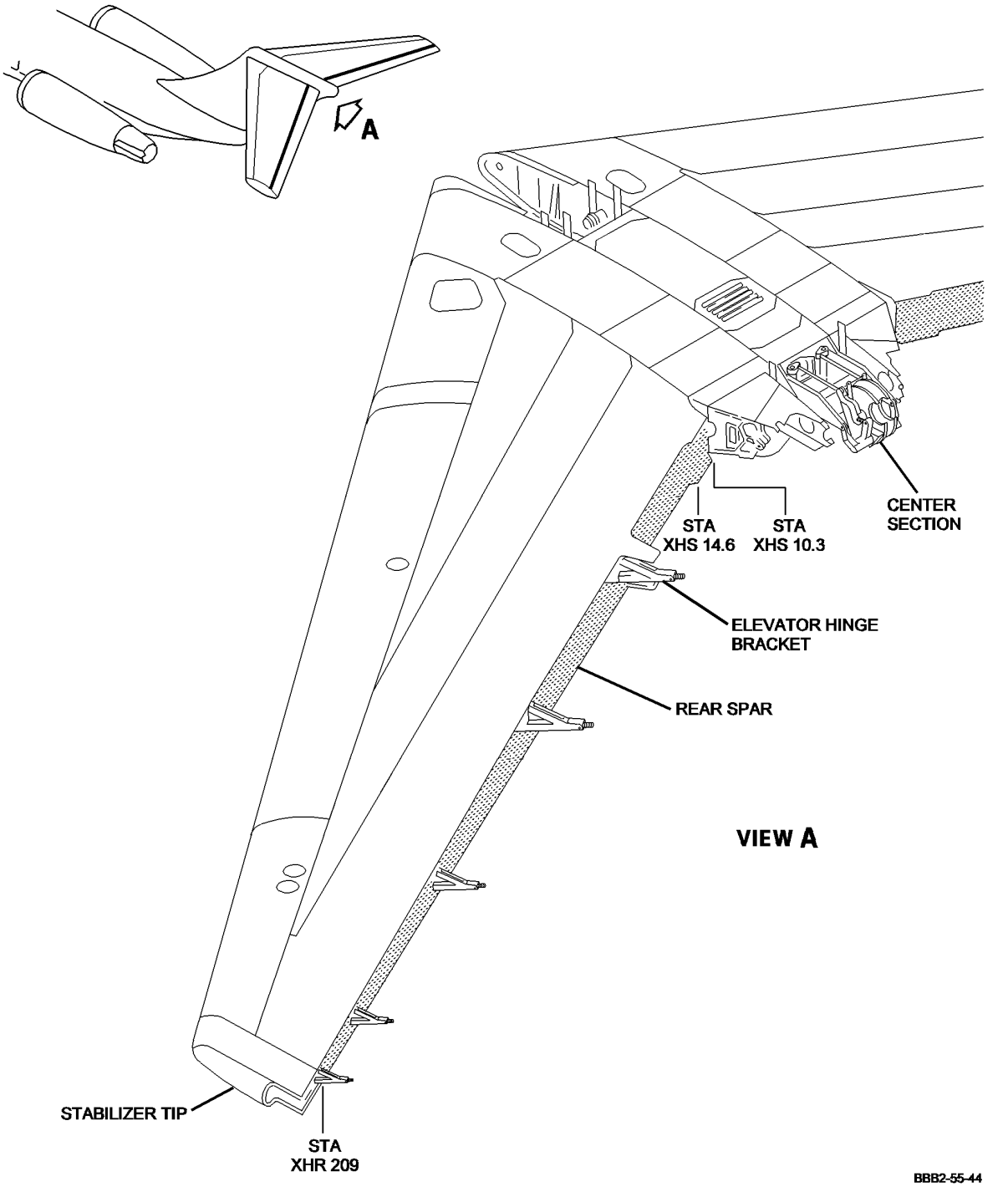
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



Horizontal Stabilizer Rear Spar Caps
Figure 602/55-05-03-990-802

TASK 55-05-03-211-803

4. Horizontal Stabilizer, Rear Spar - Center Box Caps, STA XH 27 Left - STA XH 27 Right - Internal Structure

A. Inspection

SUBTASK 55-05-03-010-003

(1) Gain access as required.

SUBTASK 55-05-03-160-003

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-003

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-003

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-003

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

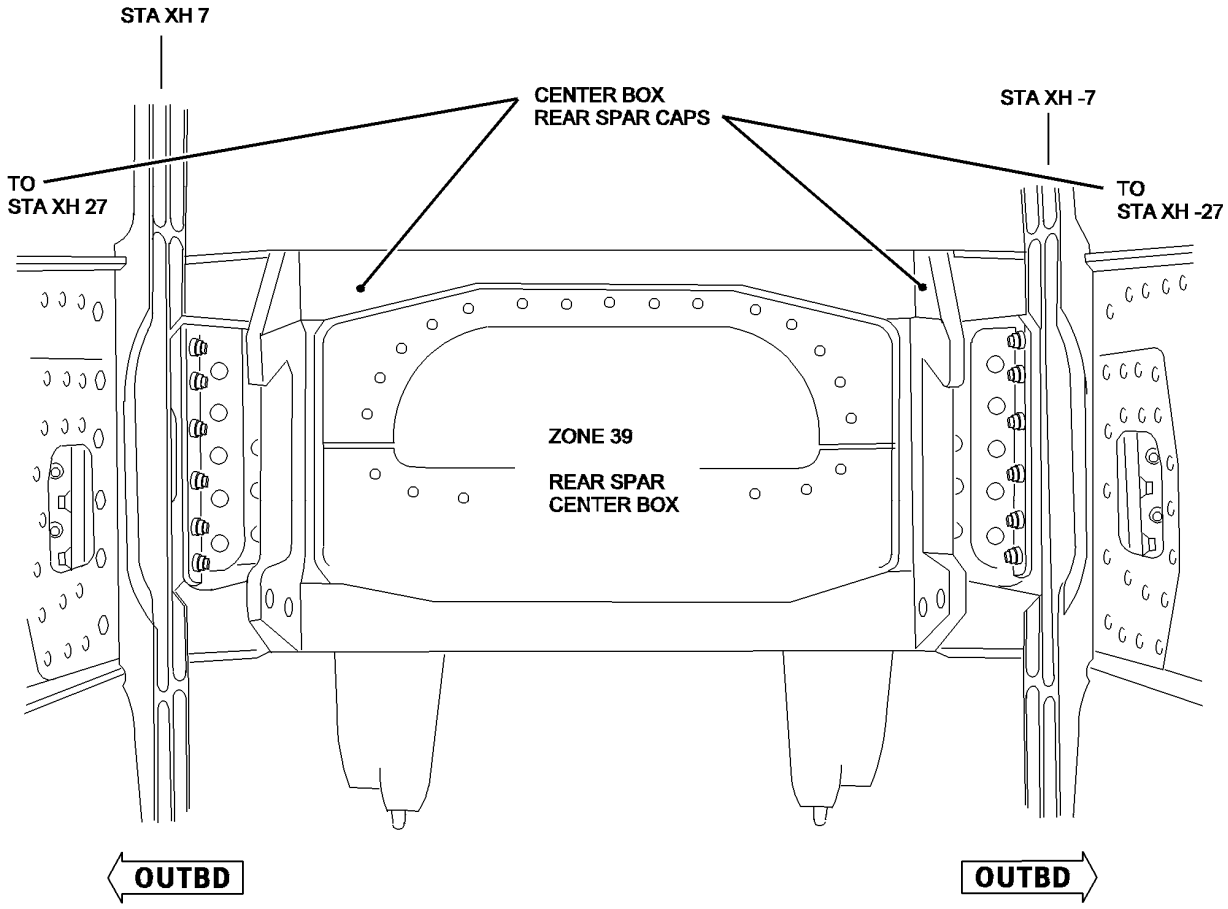
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



VIEW LOOKING FORWARD

BBB2-55-45
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Horizontal Stabilizer Rear Spar Caps
Figure 603/55-05-03-990-803

TASK 55-05-03-211-818

5. Horizontal Stabilizer, Joints, Center Box, STA XH 7 - STA XH 26.0 (Left & Right) Including Jackscrew Lug Attach Area - Internal Structure

A. Inspection

SUBTASK 55-05-03-010-012

(1) Gain access as required.

SUBTASK 55-05-03-160-019

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-018

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-013

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-012

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

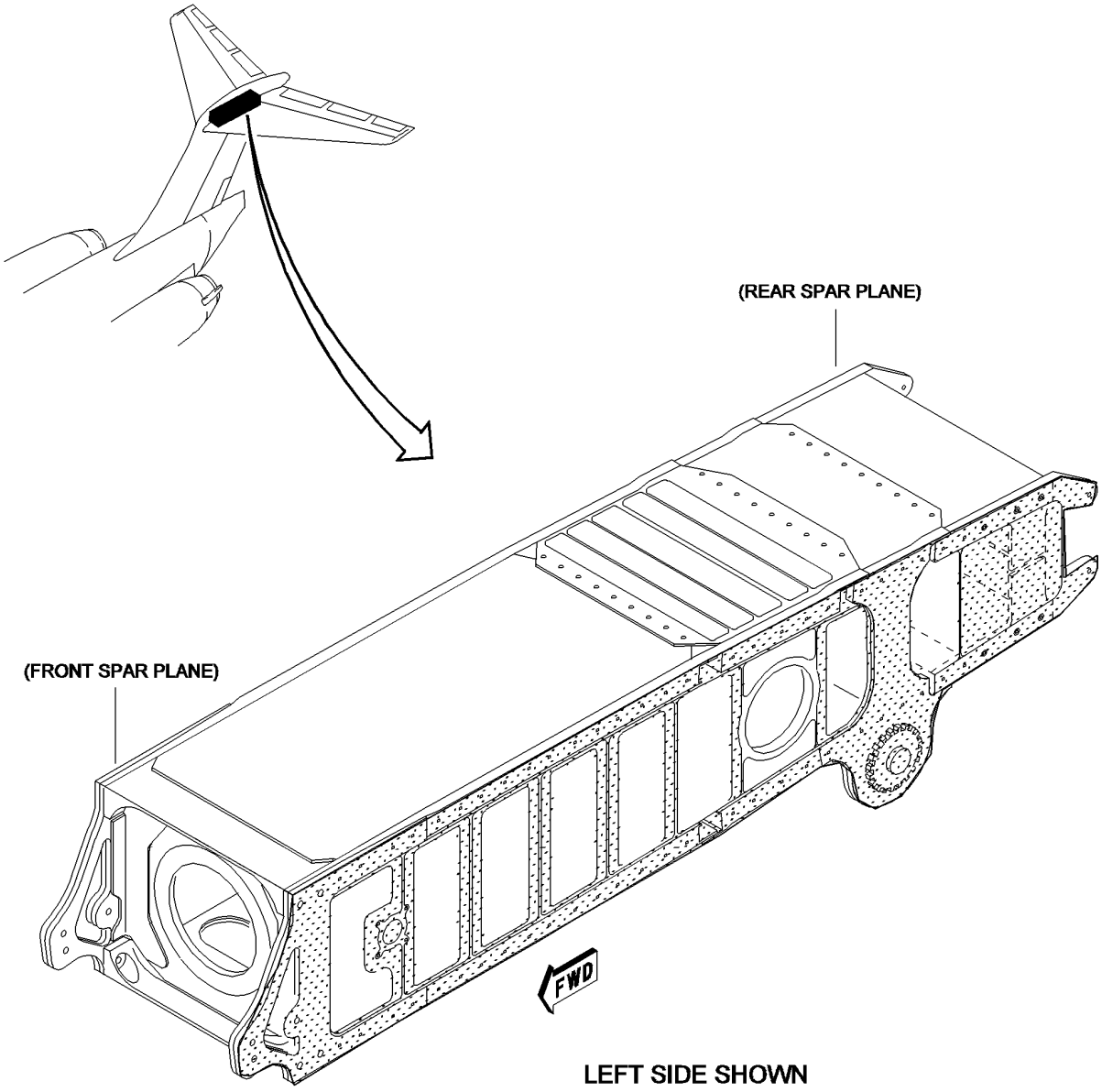
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



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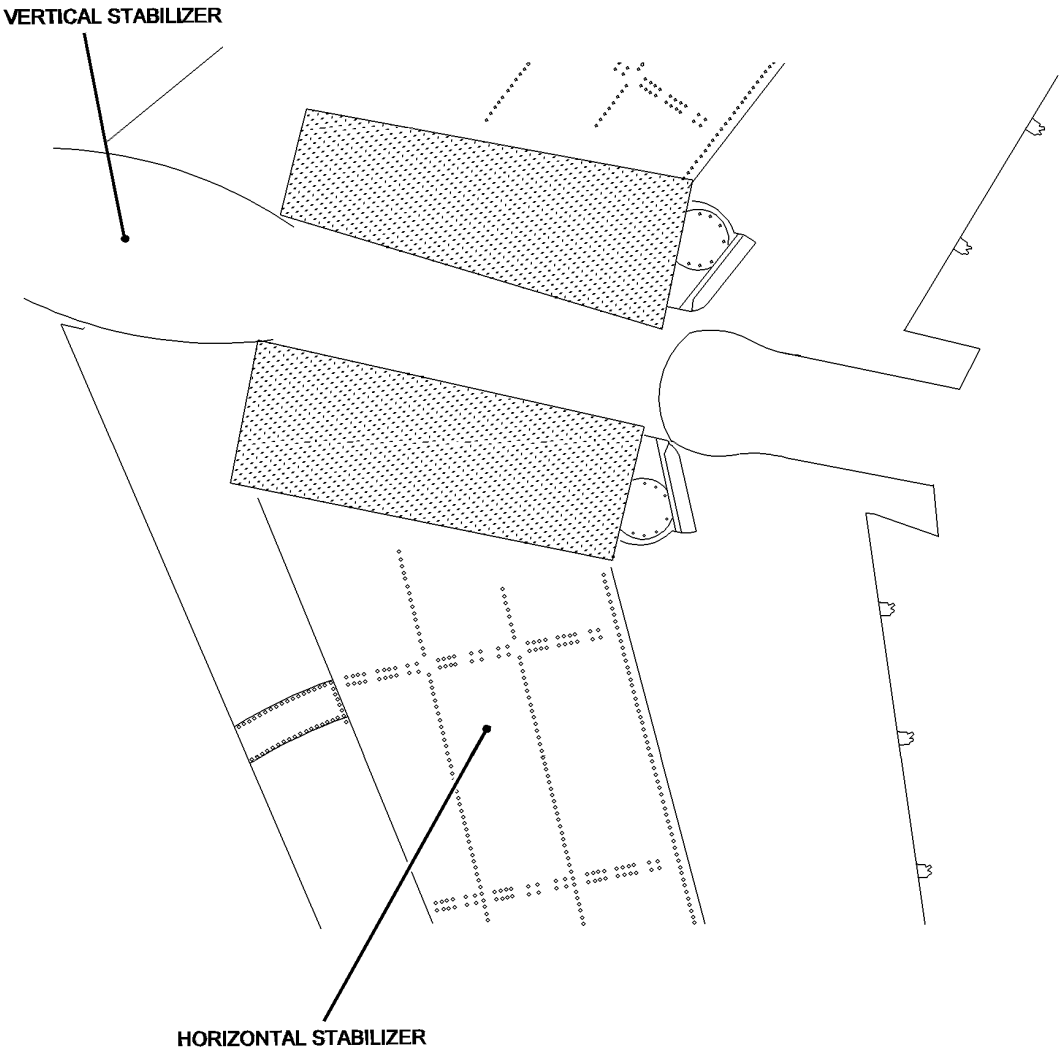
S0000275881V1

Horizontal Stabilizer Center Box Joints
Figure 604/55-05-03-990-816



BBB2-55-58
S0000275882V1

Horizontal Stabilizer Center Box Joints - Inspection Area STA XH 7.0 - STA XH 26.0 (Right & Left)
Figure 605/55-05-03-990-817

TASK 55-05-03-211-819

6. Horizontal Stabilizer, Joints, Operating Bulkhead, STA LH 9 - RH 9 - Internal Structure

A. Inspection

SUBTASK 55-05-03-010-013

(1) Gain access as required.

SUBTASK 55-05-03-160-020

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-019

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-014

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-013

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

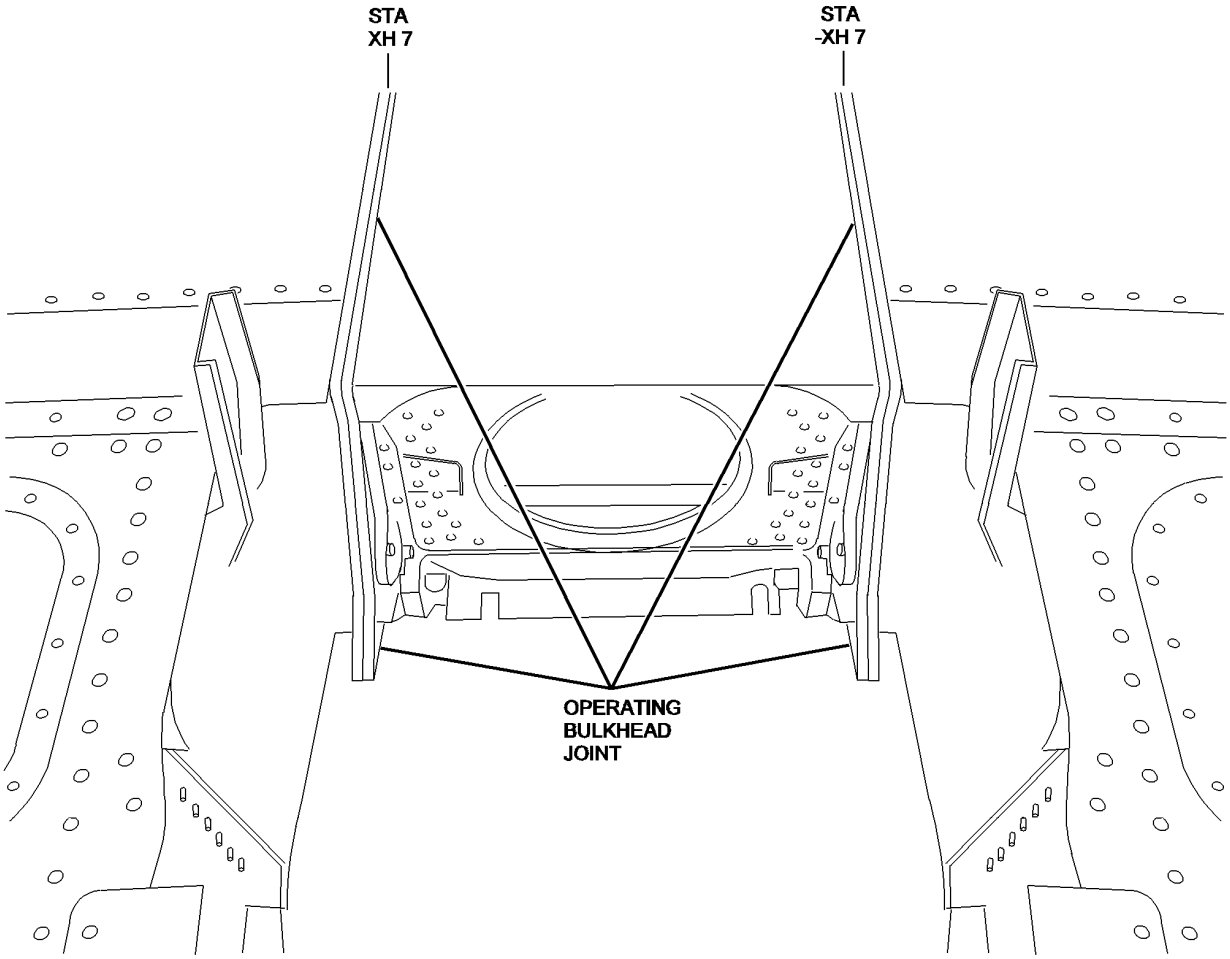
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



BBB2-55-43
S0000275808V1

Horizontal Stabilizer Joints Operating Bulkhead
Figure 606/55-05-03-990-815

TASK 55-05-03-211-816

7. Horizontal Stabilizer, Plates, Upper, STA XH 7.2 - STA XH 27.2 - External Structure

A. Inspection

SUBTASK 55-05-03-160-017

(1) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-016

(2) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-970-003

(3) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

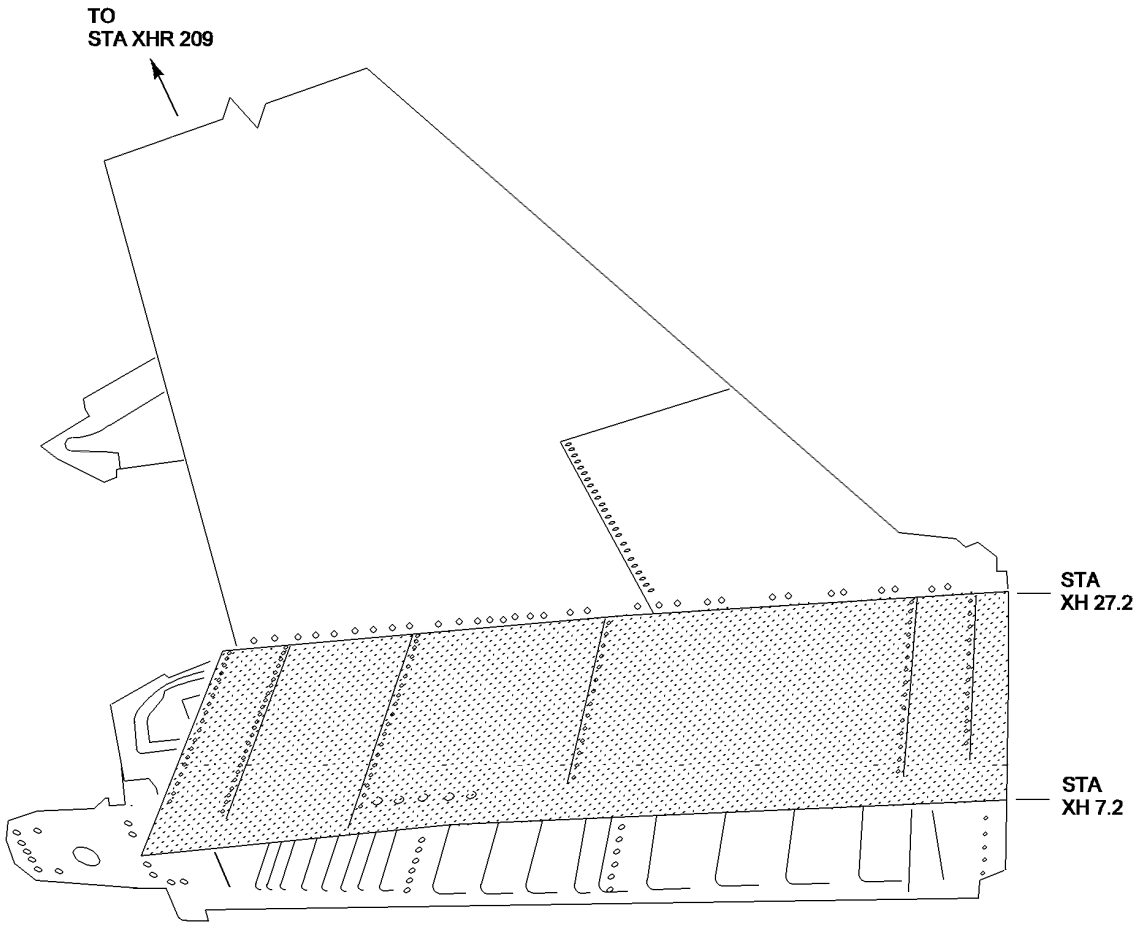
(b) If yes in Step (3(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(4) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (4(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



VIEW LOOKING DOWN
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

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S0000275759V1

Horizontal Stabilizer Plates Upper STA XH 7.2 - STA XH 27.2
Figure 607/55-05-03-990-814

TASK 55-05-03-211-817

8. Horizontal Stabilizer, Plates, Upper STA XH 27.2 - STA XHR 209 - External Structure

A. Inspection

SUBTASK 55-05-03-160-018

(1) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-017

(2) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-970-004

(3) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

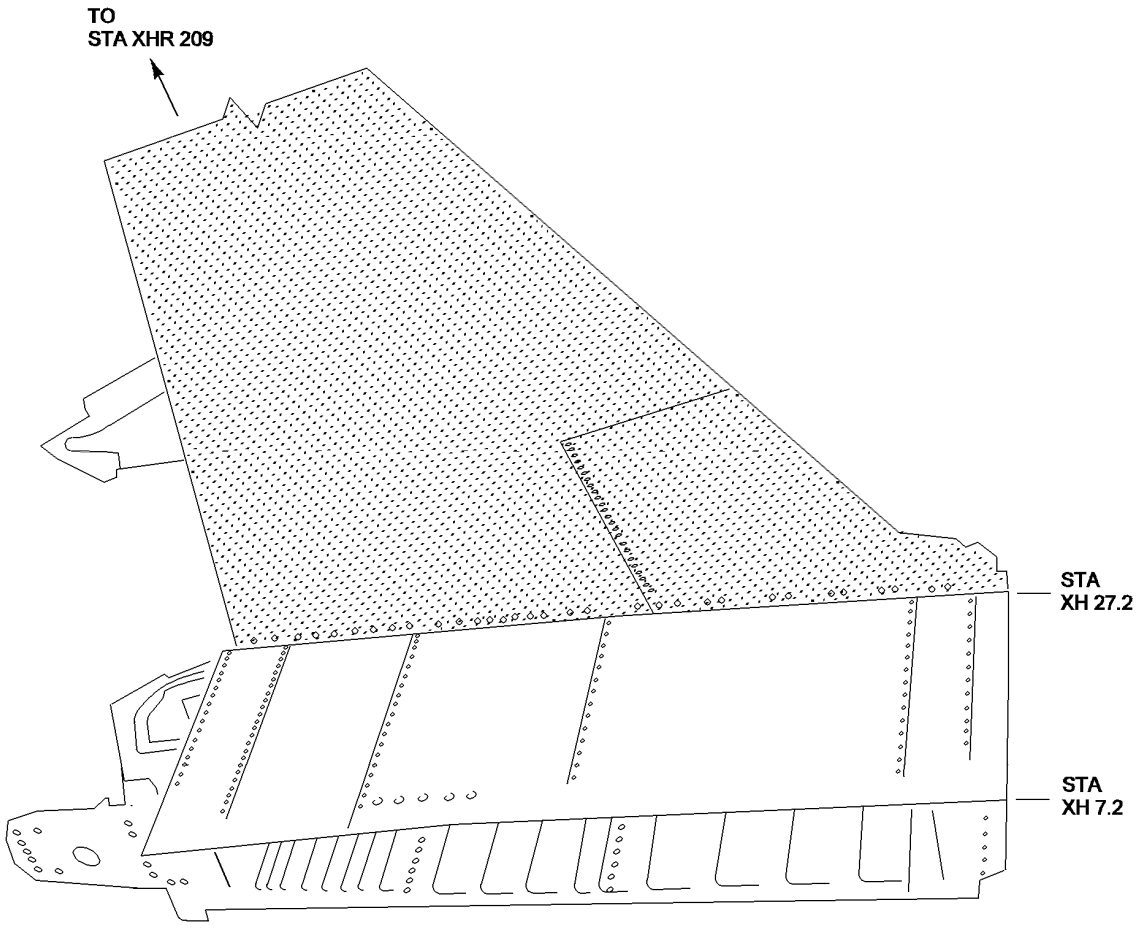
(b) If yes in Step (3(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(4) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (4(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



VIEW LOOKING DOWN
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

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S0000275760V1

Horizontal Stabilizer Plates Upper STA XH 27.2 - STA XHR 209
Figure 608/55-05-03-990-819

TASK 55-05-03-250-801

9. Horizontal Stabilizer Upper and Lower Aft Skin Panels and Rear Spar Upper Caps (SB MD80-55A065)

A. Inspection

SUBTASK 55-05-03-250-001

(1) Do an eddy current inspection of the left and right horizontal stabilizer upper and lower aft skin panels and rear spar upper caps per the latest revision of service bulletin MD80-55A065.

NOTE: Refer to the service bulletin for repair and inspection procedures.

——— END OF TASK ———

TASK 55-05-03-211-808

10. Elevators, Spar Caps, STA XE 3.4 - STA XE 236.0 - Internal Structure

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
27-30-02 P/B 401	ELEVATOR - REMOVAL/INSTALLATION

B. Inspection

SUBTASK 55-05-03-010-006

(1) Remove elevator. (ELEVATOR - REMOVAL/INSTALLATION, PAGEBLOCK 27-30-02/401)

(2) Remove leading edge.

SUBTASK 55-05-03-160-008

(3) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-008

(4) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-008

(5) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-006

(6) Install leading edge.

(7) Install elevator.(ELEVATOR - REMOVAL/INSTALLATION, PAGEBLOCK 27-30-02/401)

(8) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

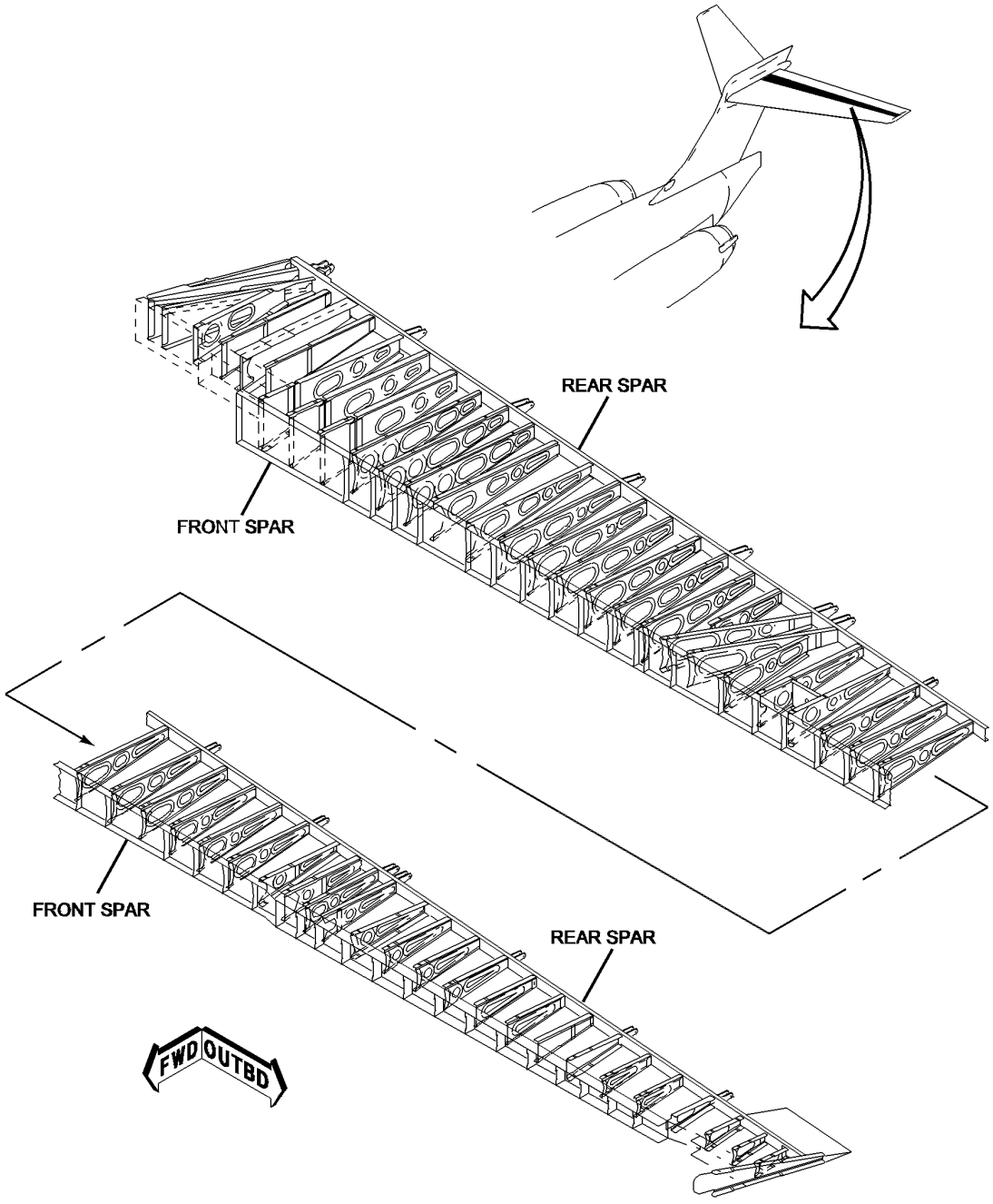
(b) If yes in Step (8(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(9) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (9(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



BBB2-55-50
S0000275667V1

Elevator Spar Caps
Figure 609/55-05-03-990-818

TASK 55-05-03-211-814

11. Elevators, Skin Panels, Upper and Lower, STA XE 3.4 - STA XE 236.0 - External Structure

A. Inspection

SUBTASK 55-05-03-160-015

(1) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-014

(2) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-970-001

(3) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

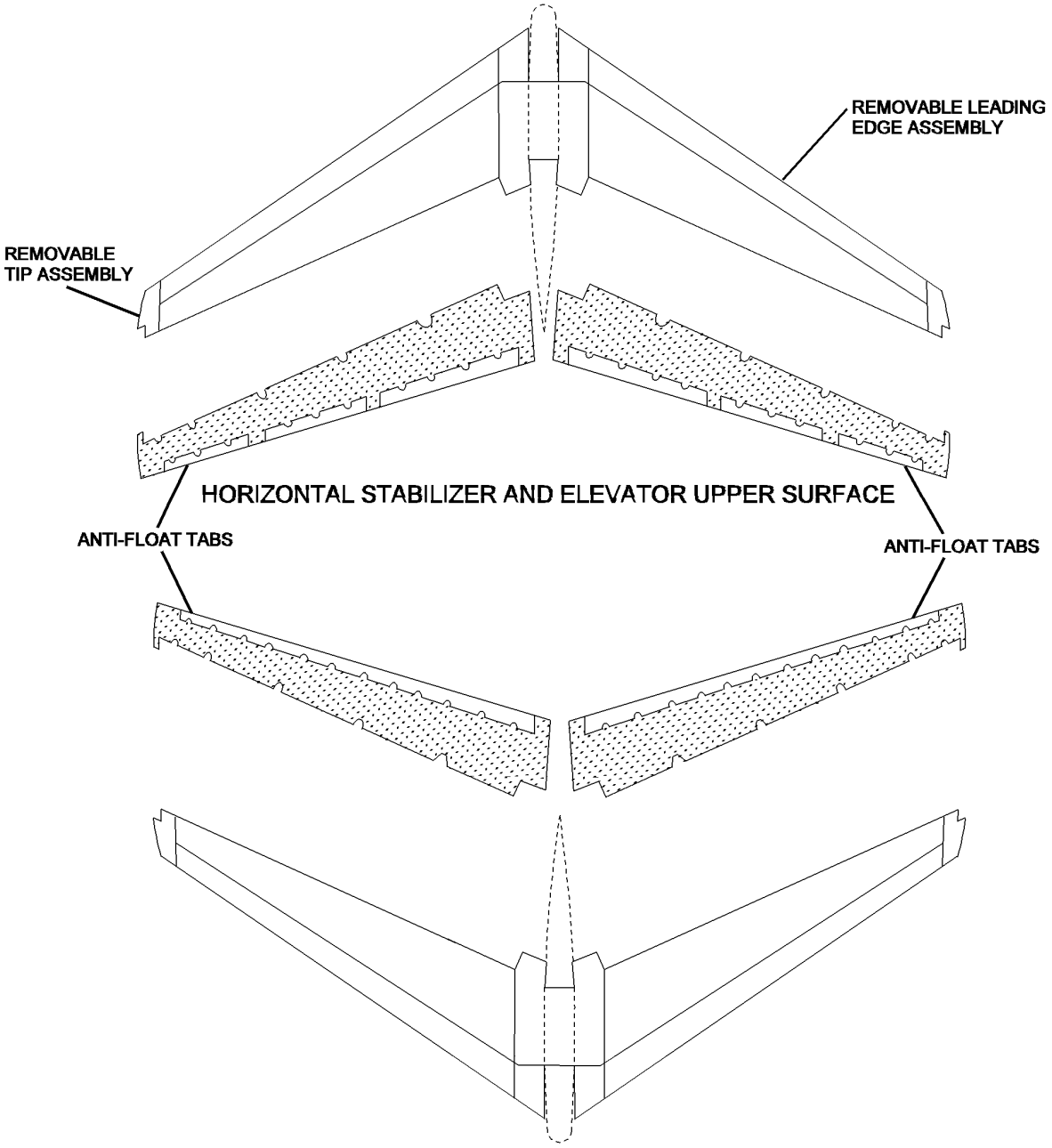
(b) If yes in Step (3(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(4) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (4(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



Elevator Upper and Lower Surface
Figure 610/55-05-03-990-812

TASK 55-05-03-211-815

12. Elevators, Anti Float Tab, Geared and Control Tabs, STA XE 171.0 - STA XE 228.0 - Structure

A. Inspection

SUBTASK 55-05-03-160-016

(1) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-015

(2) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-970-002

(3) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

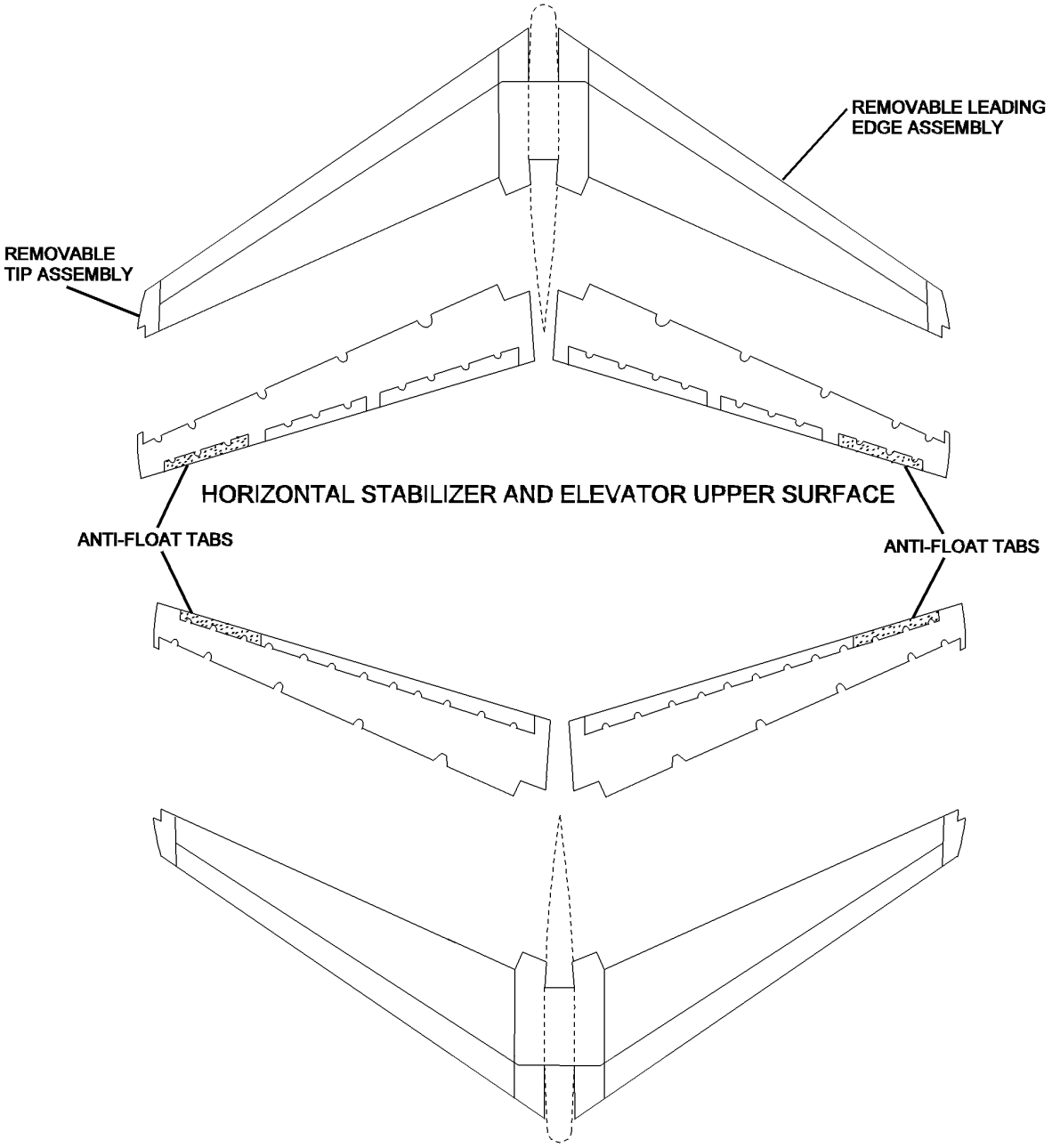
(b) If yes in Step (3(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(4) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (4(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



Anti-Float Tabs
Figure 611/55-05-03-990-813

TASK 55-05-03-211-811

13. Vertical Stabilizer, Front Spar (Attachment Tangs), STA 1388 (MD-87, STA 1179) - Structure

A. Inspection

SUBTASK 55-05-03-010-009

(1) Gain access as required.

SUBTASK 55-05-03-160-012

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-011

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-010

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-009

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

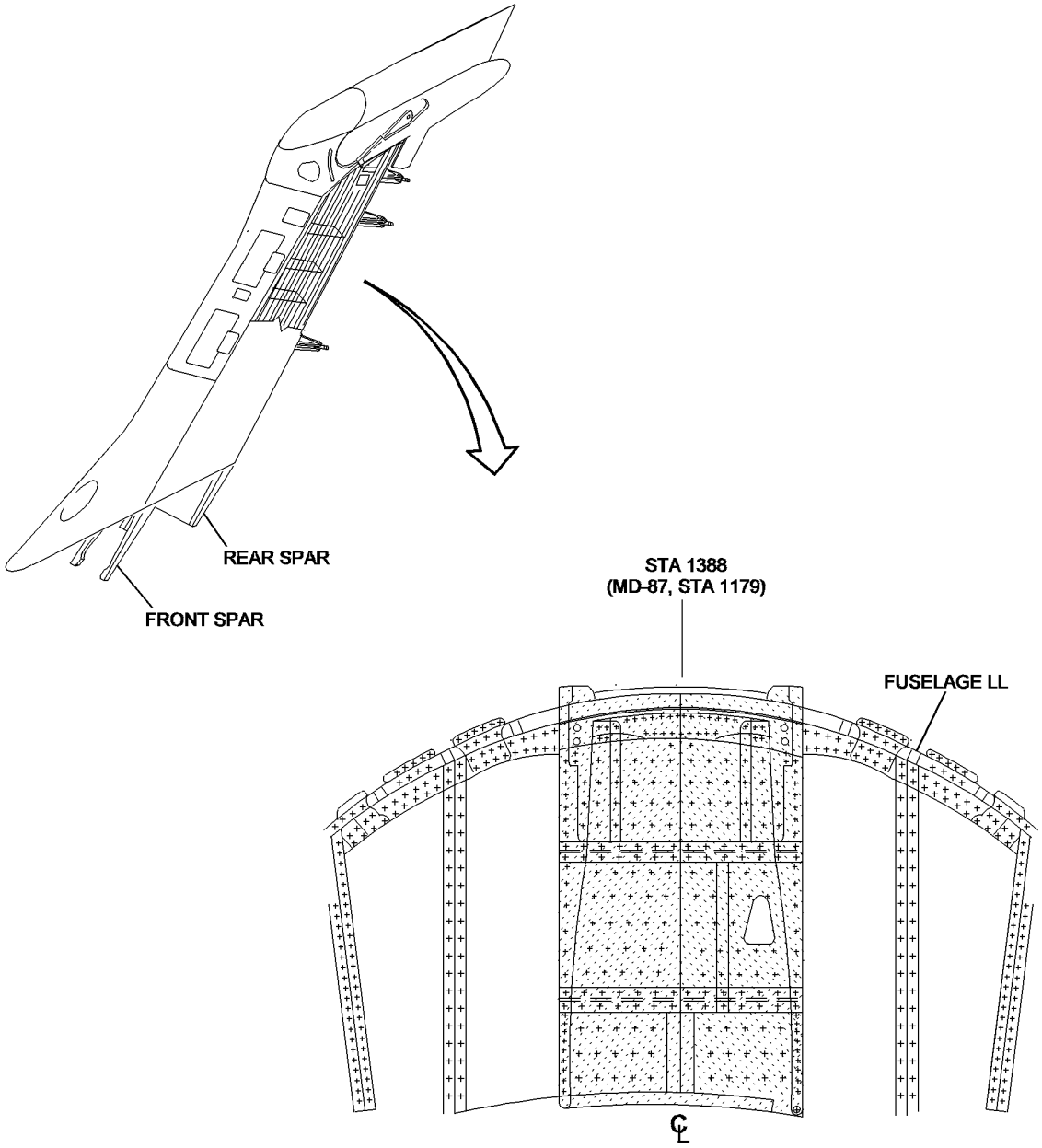
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



VIEW LOOKING FORWARD AT FRONT SPAR BULKHEAD

BBB2-55-53
S0000275683V1

Vertical Stabilizer Front Spar Attachment
Figure 612/55-05-03-990-810

TASK 55-05-03-211-812

14. Vertical Stabilizer, Rear Spar (Attachment Tangs), STA 1463 (MD-87, STA 1254) - Structure

A. Inspection

SUBTASK 55-05-03-010-010

(1) Gain access as required.

SUBTASK 55-05-03-160-013

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-012

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-011

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-010

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

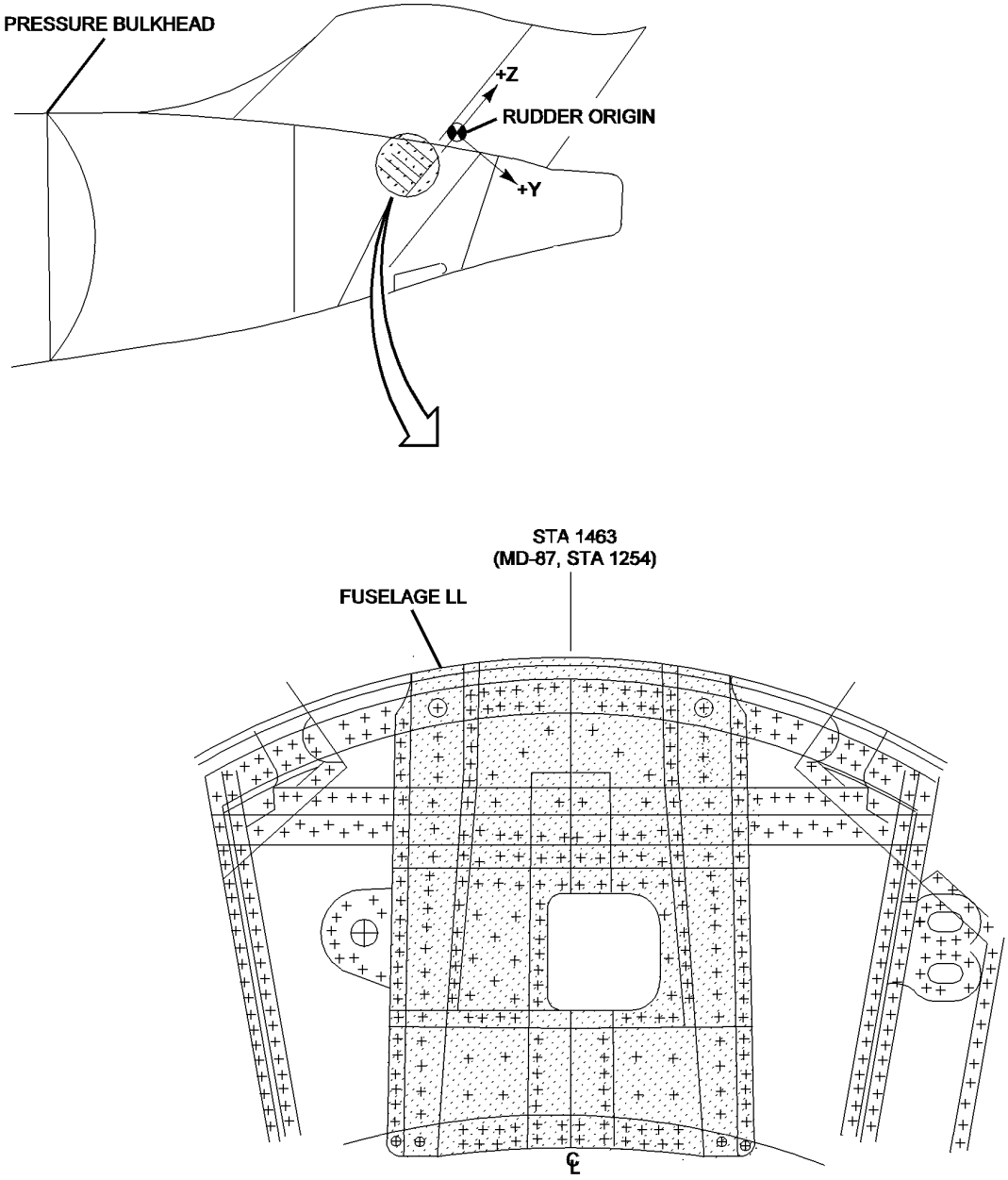
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



VIEW LOOKING FORWARD AND UP AT
REAR SPAR BULKHEAD

BBB2-55-54
S0000275684V1

Vertical Stabilizer Rear Spar Attachment Tangs
Figure 613/55-05-03-990-811

TASK 55-05-03-211-809

15. Vertical Stabilizer, Front Spar, Forward and Aft Face, STA ZFS 4.7 - STA ZFS 154.8 - Structure

A. Inspection

SUBTASK 55-05-03-010-007

(1) Gain access as required.

SUBTASK 55-05-03-160-009

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-009

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-160-010

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-007

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

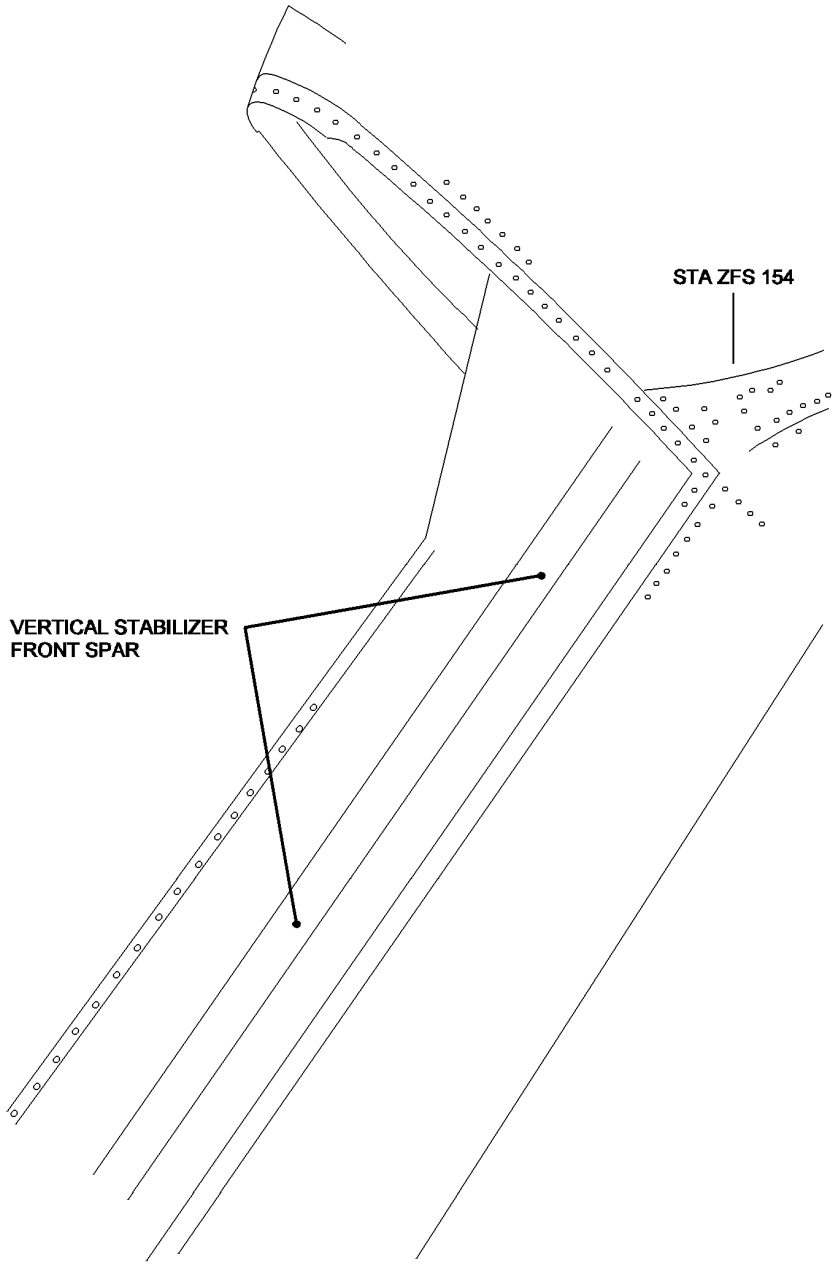
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



BBB2-55-52
S0000275678V1

Vertical Stabilizer Front Spar
Figure 614/55-05-03-990-808

TASK 55-05-03-211-810

16. Vertical Stabilizer, Rear Spar, Forward and Aft Face, STA ZRS - 5 - STA ZRS 170.0 - Structure

A. Inspection

SUBTASK 55-05-03-010-008

(1) Gain access as required.

SUBTASK 55-05-03-160-011

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-010

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-009

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-008

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

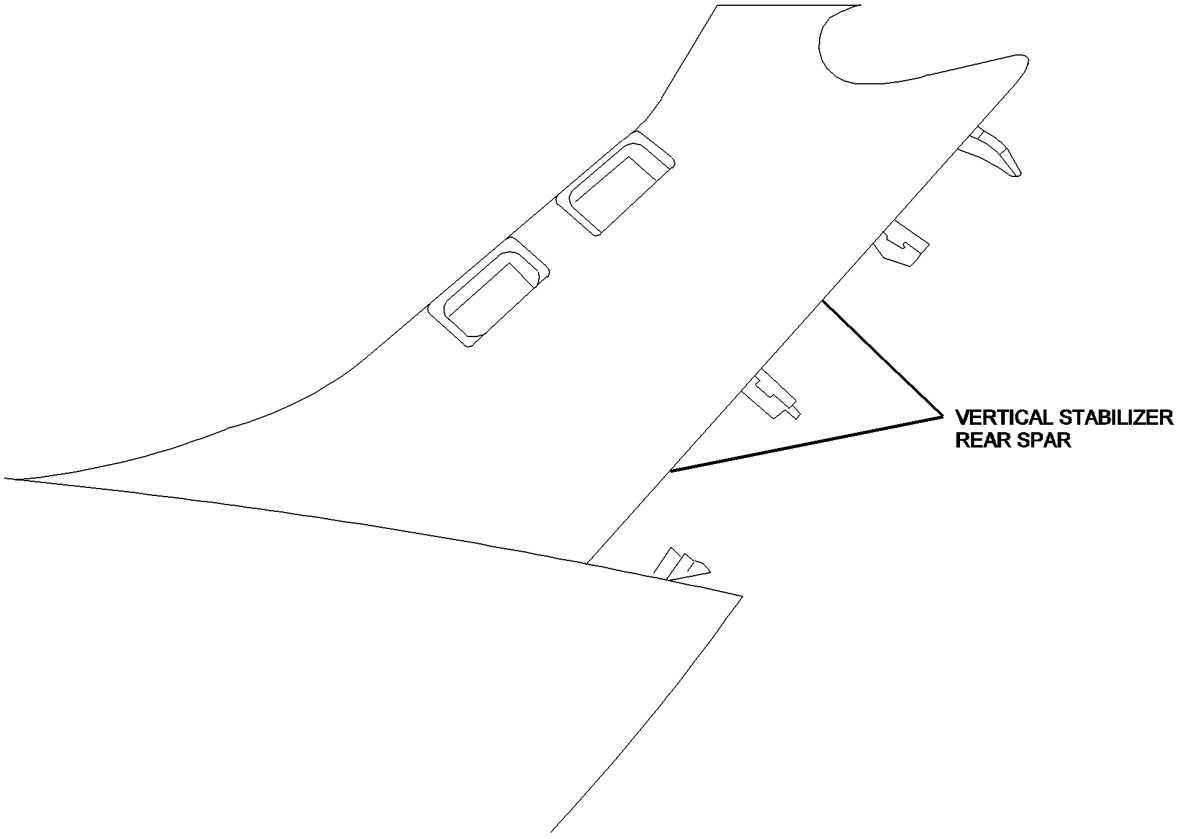
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



BBB2-55-51
S0000275679V1

Vertical Stabilizer Rear Spar
Figure 615/55-05-03-990-809

TASK 55-05-03-211-813

17. Vertical Stabilizer, Skin Panels, Leading Edge & Tip Cap - Internal Structure

A. Inspection

SUBTASK 55-05-03-010-011

(1) Gain access as required.

SUBTASK 55-05-03-160-014

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-013

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-012

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-011

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———

TASK 55-05-03-211-806

18. Rudder Spar Cap Attachments, STA ZR 10.0 - STA ZR 165 - External Structure

A. Inspection

SUBTASK 55-05-03-160-006

(1) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-006

(2) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-006

(3) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-960-001

(4) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

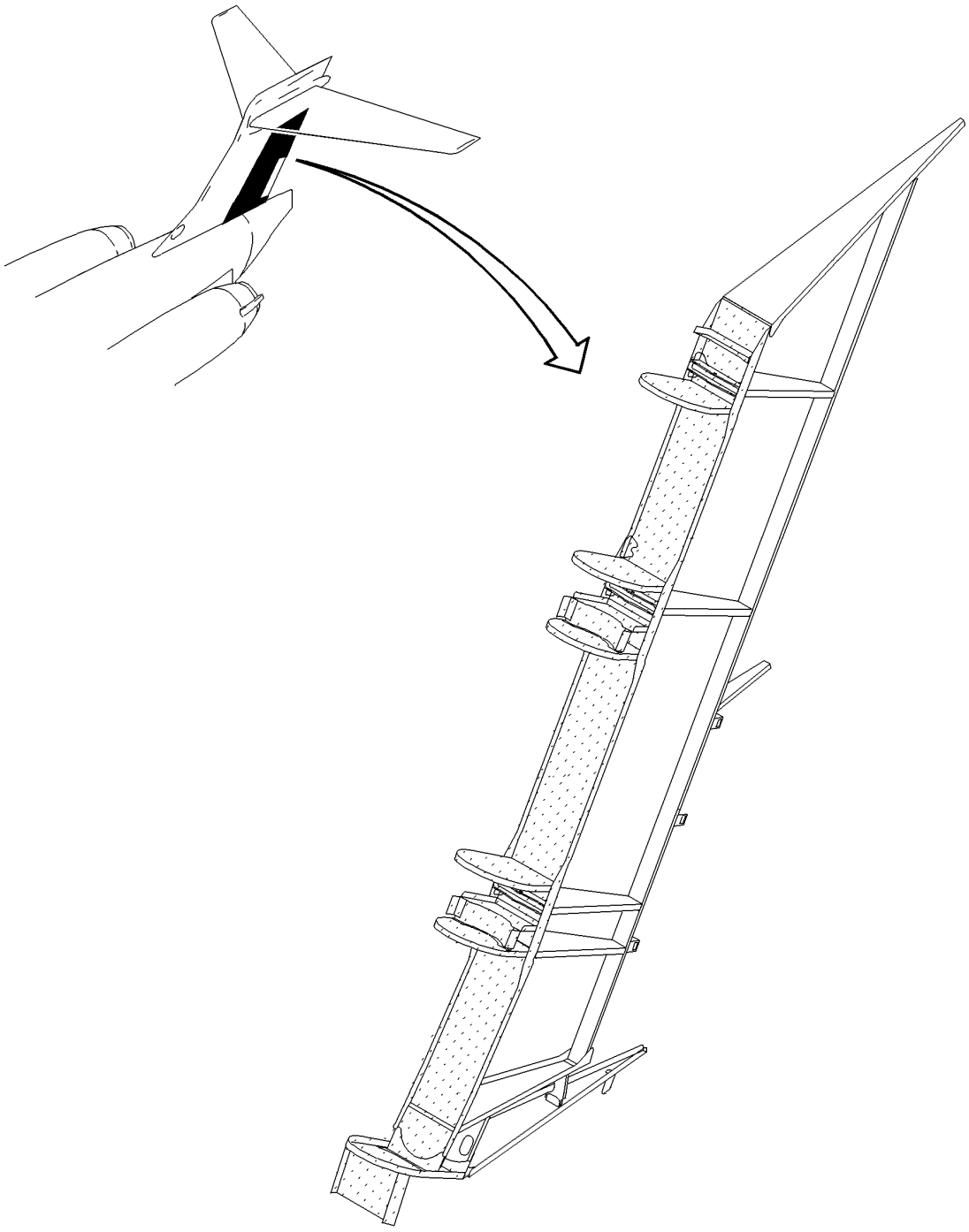
(b) If yes in Step (4(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(5) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (5(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



BBB2-55-48
S000275656V1

Rudder Front Spar
Figure 616/55-05-03-990-806

TASK 55-05-03-211-807

19. Rudder, Skin Panels, STA ZR 8.0 - STA ZR 179.0 - External Structure

A. Inspection

SUBTASK 55-05-03-160-007

(1) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-007

(2) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-007

(3) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-960-002

(4) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

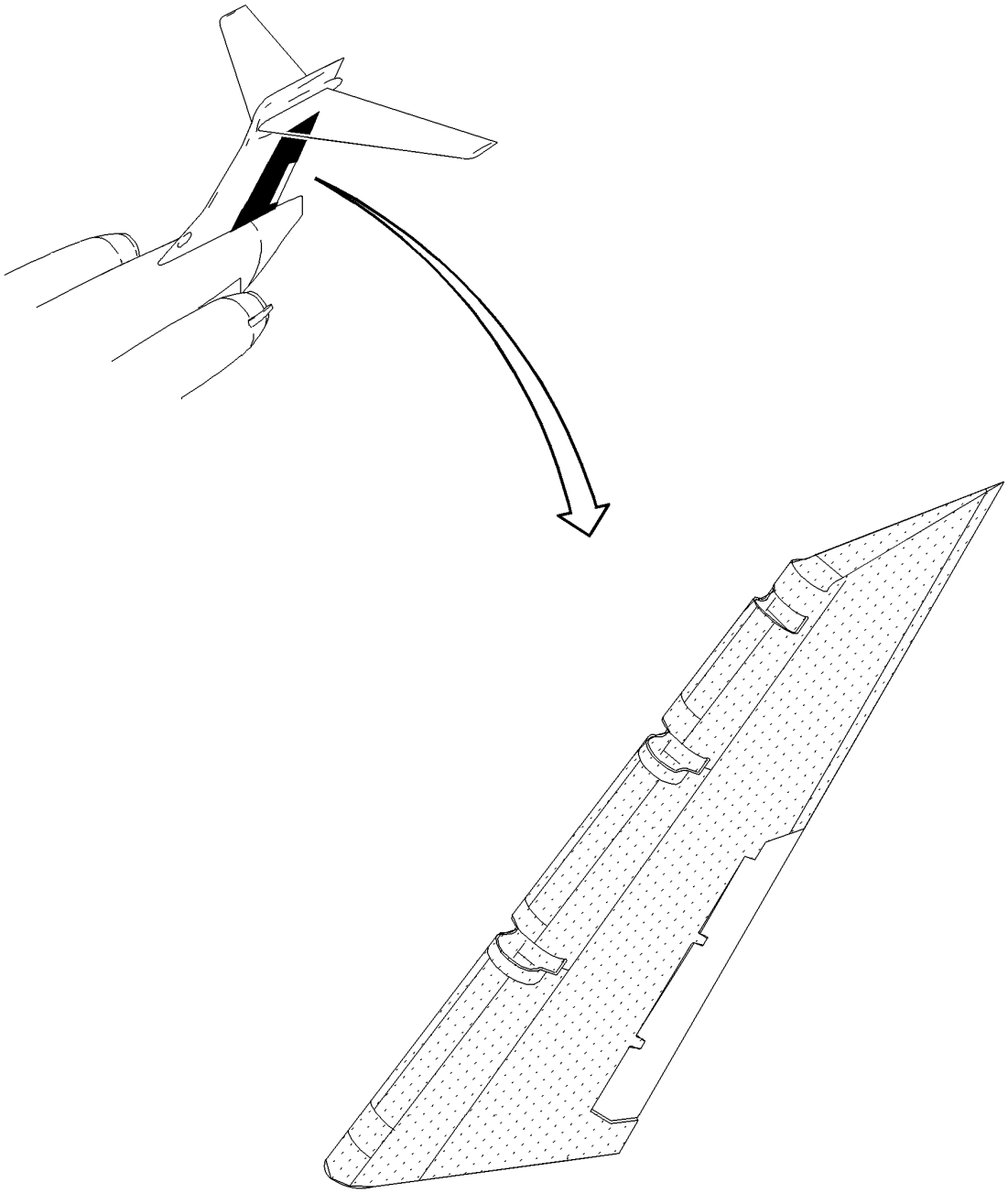
(b) If yes in Step (4(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(5) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (5(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



BBB2-55-49
S0000275661V1

Rudder Skin Panels
Figure 617/55-05-03-990-807

TASK 55-05-03-211-805

20. Attach Fittings, Horizontal Stabilizer Pivot Support Fittings, STA XH 7.2 (Left & Right) & STA ZRS 173.0 - Structure

A. Inspection

SUBTASK 55-05-03-010-005

(1) Gain access as required.

SUBTASK 55-05-03-160-005

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-005

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-005

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-005

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

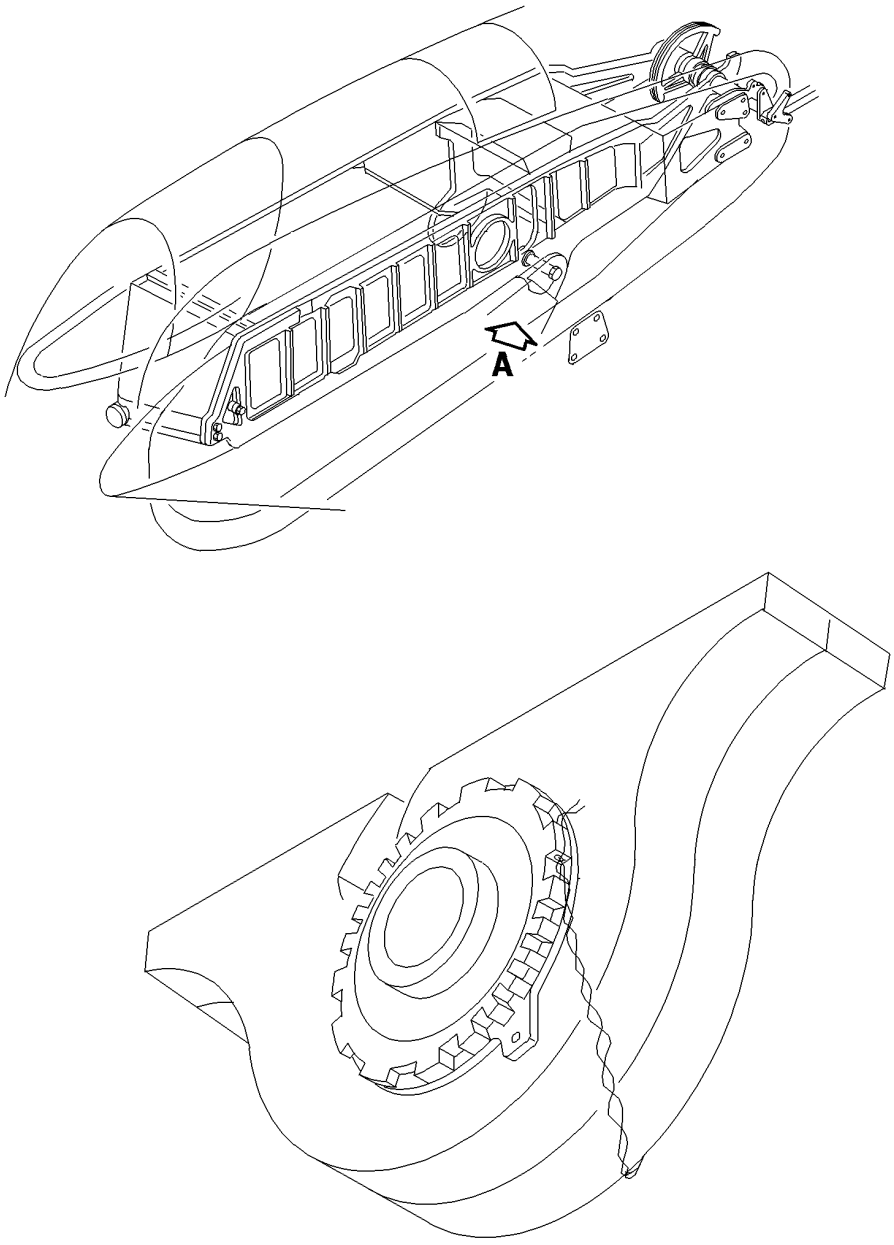
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



VIEW A

BBB2-55-47
S0000275653V1

Horizontal Stabilizer Pivot Support Fittings
Figure 618/55-05-03-990-805

TASK 55-05-03-211-804

21. Attach Fittings, Elevator Hinge Assembly, STA's XE 2, 49, 103, 157, 204, 225 - Structure

A. Inspection

SUBTASK 55-05-03-010-004

(1) Gain access as required.

SUBTASK 55-05-03-160-004

(2) Clean inspection area as required.

NOTE: It is expected that the area to be inspected is clean enough to minimize the possibility that accumulated dirt, lint, fibers or grease might hide unsatisfactory conditions that would otherwise be obvious. Any cleaning that is considered necessary should be performed in accordance with accepted procedures in order to minimize the possibility of the cleaning process itself introducing anomalies.

SUBTASK 55-05-03-211-004

(3) Do the detailed inspection.

NOTE: A detailed inspection is an intensive examination of a specific item, installation or assembly, to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses or other means may be necessary. Surface cleaning and elaborate access procedures may also be required.

SUBTASK 55-05-03-916-004

(4) Apply surface treatments and/or corrosion inhibiting compound as required.

NOTE: Protective materials (e.g. corrosion inhibiting compounds, paints, etc.) shall be re-applied if removed to perform the inspection/maintenance task.

SUBTASK 55-05-03-410-004

(5) Install removed panels.

(6) Record corrosion findings.

(a) Corrosion finding: Yes _____ No _____

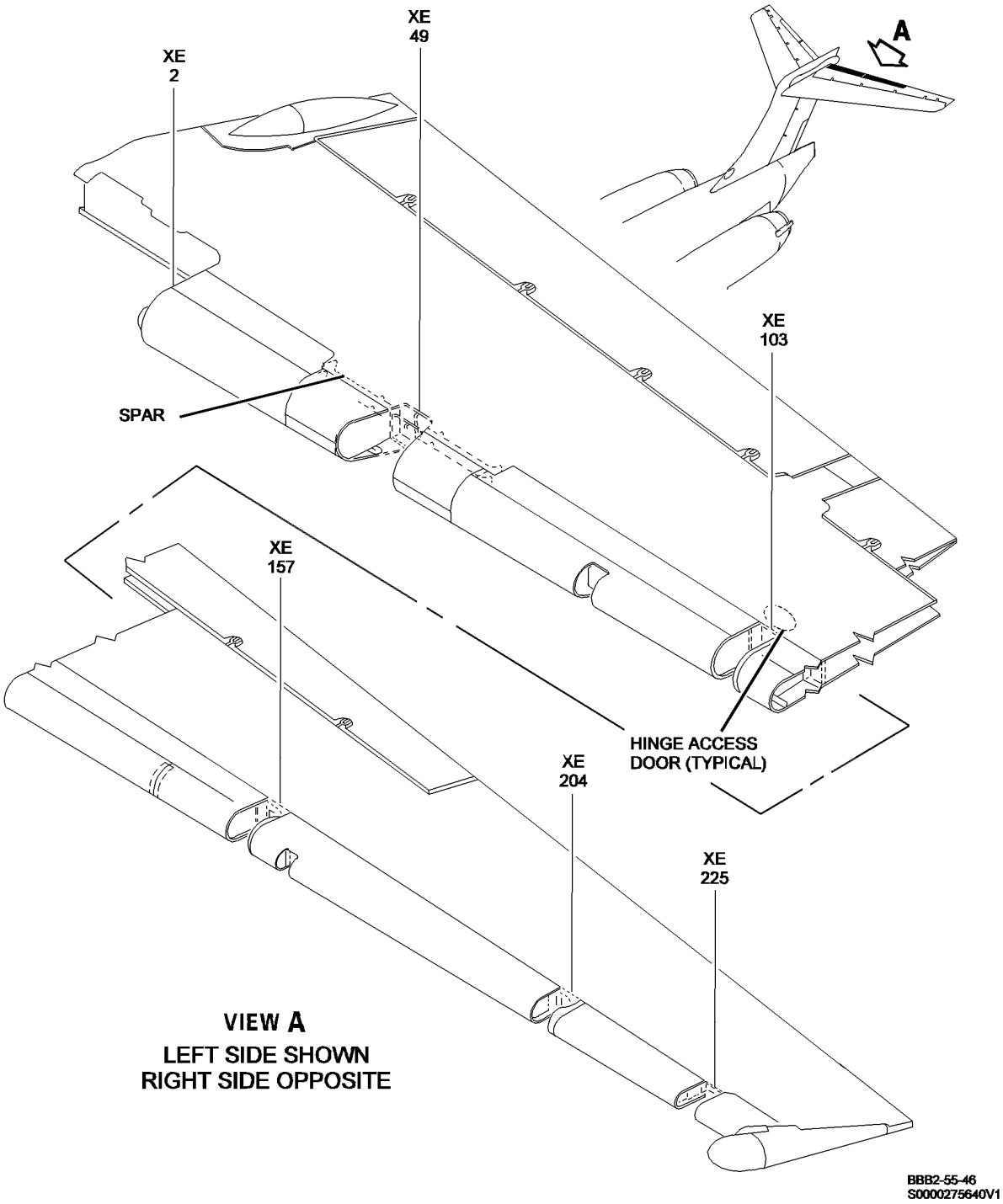
(b) If yes in Step (6(a), record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here _____.

(7) Record structural findings.

(a) Structural finding: Yes _____ No _____

(b) If yes in Step (7(a), record specific area of structural cracking on a non-routine form and list the non-routine(s) identification number(s) here _____.

——— END OF TASK ———



Elevator Hinge Fittings
Figure 619/55-05-03-990-804

HORIZONTAL STABILIZER - DESCRIPTION AND OPERATION

1. General

A. The horizontal stabilizer is of all-metal, two-spar construction, designed as a movable control surface for longitudinal trim. The stabilizer consists of a center section and two outboard sections which are removable as a unit. Each outboard section has a two-section leading edge and tip which are removable. For more detailed information on the horizontal stabilizer actuating mechanism, refer to (FLIGHT CONTROLS, CHAPTER 27).

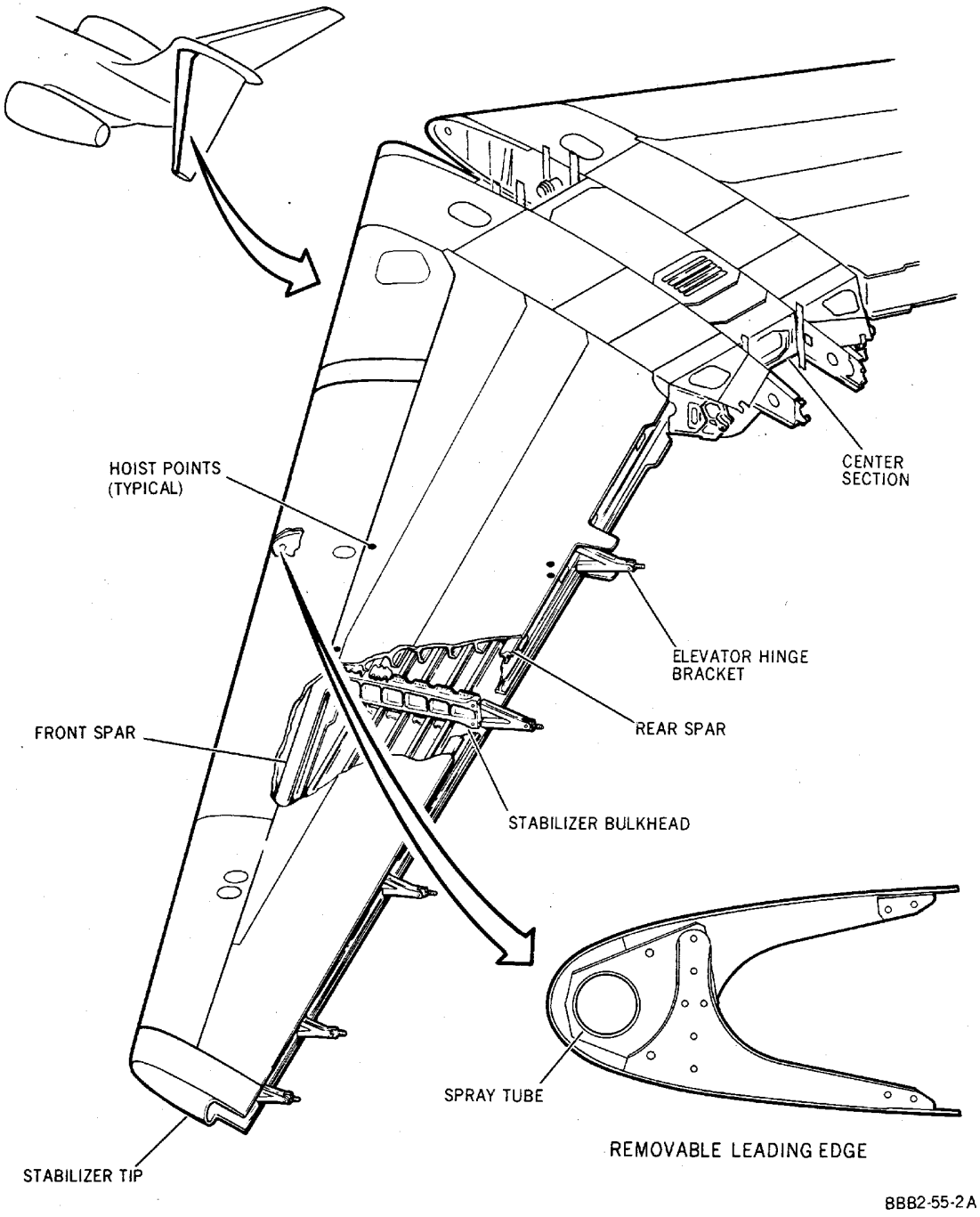
2. Horizontal Stabilizer

A. The stabilizer leading edge has provisions for ice protection.

Passages for distribution of heated air is through a spray duct onto the leading edge. The duct is constructed of titanium tubing supported with brackets which are attached to leading edge ribs.

B. The stabilizer center section is mounted on top of the vertical stabilizer. The hinge attach point is approximately 10 inches forward of the horizontal stabilizer rear spar. The longitudinal trim actuator is attached to the front spar, and provides the stabilizer with down and up travel. Rollers in the side load structure of the horizontal stabilizer ride on tracks mounted on both sides of the vertical stabilizer tip leading edge. The rollers prevent the horizontal stabilizer from yawing and provide positive alignment throughout travel of the stabilizer.

C. The outboard sections are of a two-spar construction with skin panels machined from 1 1/2-inch (38.1 mm) thick tapered aluminum alloy plate. Spanwise stringers are an integral part of the skin panels. Bulkheads and ribs provide chordwise support and shape to the stabilizer. Elevator hinge brackets are bolted to the bulkheads and the rear spar of the horizontal stabilizer. The horizontal stabilizer outboard sections are bolted to the center section.



Horizontal Stabilizer
Figure 1/55-10-00-990-801

HORIZONTAL STABILIZER - MAINTENANCE PRACTICES

1. General

A. The horizontal stabilizer is mounted on top of the vertical stabilizer and weighs approximately 1235 lb (560 kg) without the elevators or 2015 lb (914 kg) with the elevators. The outboard sections are connected to a center section of the horizontal stabilizer, and are removed as a unit.

B. Access to the actuator support, the ice protection rotating joint, and Y-duct connections is gained through the stabilizer actuator door 6308C.

C. Access to the elevator control cable turnbuckles is gained through the tail compartment.

D. When removing side fairings additional clearance may be obtained by removing elevator hinge access covers.

E. An interim method for securing loose pivot bolt bearing retainer nuts is given in Figure 205. This procedure is for temporary use only.

WARNING: THE SAFETY BELT LUG DOES NOT MEET CURRENT FALL PROTECTION REQUIREMENTS. DO NOT USE THE SAFETY BELT LUG FOR FALL PROTECTION. OTHER METHODS MUST BE USED TO ENSURE ADEQUATE FALL PROTECTION.

F. A safety belt lug is located on the vertical tip fairing. Personnel required to perform work on the horizontal stabilizer should have adequate fall protection.

2. Equipment and Materials

NOTE: Equivalent substitutes may be used instead of the following listed items.

NOTE: It is possible that some materials in the Equipment and Materials List cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities, and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local, and provincial laws and regulations when it is necessary to work with these materials.

Table 201

Name and Number	Manufacturer
Sling, Horizontal stabilizer 5916739-501 or -503 (Uses NAS6203-8 bolts at fwd fittings, NAS1304-9 bolts at aft fittings)	The Boeing Company
Parker-O-Lube DPM 5367 or Mastinox-D40	Parker Seal Co. Culver City, CA CELLOLAC, Croissy-Sur Seine, France
MIL-G-81322 grease DPM 5348	
Grease gun	Commercially available
Horizontal stabilizer restraining fixture 4916750-1	The Boeing Company.
Torque wrench (0 in-lb (0 N·m)-1200 in-lb (136 N·m) range)	Commercially available
Torque wrench (0 in-lb (0 N·m)-3600 in-lb (407 N·m) range)	Commercially available
Inconel Lockwire 0.032 in, NASM20995N32, DPM 684	

Table 201 (Continued)

Name and Number	Manufacturer
Corrosion Resistant Steel Lockwire 0.032 in NASM20995C32, DPM 5865	
Sealant, PR-1422 B 1/2 or B2 DPM 2292-2	Products Research & Chemical Corp.
Cleaning wipers, DMS 1820	
Hand wipe cleaner, DPM 6380–3	
240 grist abrasive paper, DPM 923	
Pressure sensitive tape, DMS 2128	
Roller, Hard Rubber	Commercially available
Squeegee, Plastic	Commercially available
Abrasive nylon web pads, DPM 3427	
Anti-chafe coating, DPM 5066	

3. Removal/Installation Horizontal Stabilizer

A. Remove Horizontal Stabilizer

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Open these circuit breakers and install safety tags:

UPPER EPC, LEFT RADIO DC BUS

Row	Col	Number	Name
G	22	B10-90	PRIMARY LONGITUDINAL TRIM CONTROL
G	23	B10-95	PRIMARY LONGITUDINAL TRIM BRAKE

UPPER EPC, RIGHT RADIO AC BUS

Row	Col	Number	Name
D	9	B10-62	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE A
D	10	B10-61	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE B
D	11	B10-60	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE C

(2) Depressurize left hydraulic system.

(3) Remove vertical stabilizer upper fairing and cover.

(4) Remove horizontal stabilizer side fairings. (Figure 203)

(5) Remove the applicable horizontal stabilizer upper fairing from the horizontal stabilizer as follows: (Figure 203)

NOTE: The bolts that attach the horizontal stabilizer fairing are different lengths. The figure identifies each bolt that has a different length with a different number. you can use masking tape and a marker to identify the location of each bolt by the identification number used in this text.

WJE ALL; ALL PRE SL-55-104

(a) Remove two cotter pins (14), nuts (4), washers (3) and the bolts (2).

WJE ALL; ALL POST SL-55-104

(b) Remove bolt (5) and washer (6).

(c) Remove cotter pin (7), nut (4), washer (3), and bolt (2).

WJE ALL

(d) Remove four bolts (11) and bolt (10).

(e) Remove four bolts (5) and washers (6).

(f) Remove bolt (12) and washer (13) from the angle.

(g) Remove two bolts (9), two bolts (7), two bolts (8) and the six washers (6).

(h) Remove the horizontal stabilizer upper fairing.

(6) Remove the applicable horizontal stabilizer lower fairing from the horizontal stabilizer as follows: (Figure 203)

NOTE: The bolts that attach the horizontal stabilizer fairing are different lengths. The figure identifies each bolt that has a different length with a different number. you can use masking tape and a marker to identify the location of each bolt by the identification number used in this text.

WJE ALL; ALL PRE SL-55-104

(a) Remove two cotter pins (14), nuts (4), washers (3) and bolts (2).

WJE ALL; ALL POST SL-55-104

(b) Remove bolt (5) and washer (6).

(c) Remove cotter pin (7), nut (4), washer (3), and bolt (2).

WJE ALL

(d) Remove three bolts (11) and bolt (10).

(e) Remove four bolts (5) an washers (6).

(f) Remove two bolts (9) and washers (6).

(g) Remove four bolts (8), two bolts (7) and six washers (6).

(h) Remove the horizontal stabilizer lower fairing (1).

(7) Loosen elevator control cable turnbuckles.

(8) Disconnect elevator control cables from sector attached to rear spar.

(9) Remove clamp from horizontal ice protection duct at rotating joint to Y-duct right and left panels.

(10) Disconnect hydraulic lines that transition from vertical stabilizer to horizontal stabilizer.

(11) Disconnect electrical connector from boost pressure switch.

(12) Disconnect electrical connectors from stabilizer longitudinal actuators.

(13) Remove horizontal stabilizer leading edge fairings. (Figure 201)

(14) Remove side load roller bracket.

WARNING: SLING MUST BE INSTALLED USING NAS6203-8 BOLTS AT FORWARD FITTINGS; NAS1304-9 BOLTS AT AFT FITTINGS. SLING MUST NOT BE INSTALLED IN REVERSE. HORIZONTAL STABILIZER MUST NOT BE LIFTED UNTIL ALL FITTINGS, ATTACHMENTS, CONNECTIONS, TIE POINTS, AND HINGE BOLTS ARE DISCONNECTED OR REMOVED.

WARNING: WHEN USING SLING, P/N 5916739-501, ELEVATORS MUST BE INSTALLED TO PROVIDE PROPER COUNTERBALANCE. INSTALLATION OF ELEVATORS IS OPTIONAL WHEN USING SLING, P/N 5916739-503.

CAUTION: OUTBOARD LUGS OF MAIN SPREADER BAR OF SLING MUST FACE FORWARD. SHORT CABLES MUST BE AFT. OVERHANG OF SMALL SPREADER BARS MUST FACE AFT.

CAUTION: POSITION CRANE HOOK SO HOOK HANGS DIRECTLY OVER LONGITUDINAL AXIS AND IS 5 INCHES (127 MM) AFT OF TOP REAR ACCESS PANEL.

(15) Install sling and take up slack.

(16) Install horizontal stabilizer restraining fixture.

(17) Disconnect horizontal stabilizer center section from longitudinal trim actuating mechanism support.

(18) Remove hinge bolts, sleeve retainers, sleeves, and shims from vertical stabilizer.

(19) Remove horizontal stabilizer restraining fixture.

(20) Remove stabilizer by slowly imposing lifting force on hoist while lengthening forward leg of sling with grip hoist.

(21) As rear of stabilizer clears vertical stabilizer tip fairing, maneuver horizontal stabilizer up and to rear for complete disengagement.

(22) Place stabilizer on suitable rack.

(23) Remove sling and install screws in hoist points.

B. Install Horizontal Stabilizer

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Make sure that these circuit breakers are open and have safety tags:

UPPER EPC, LEFT RADIO DC BUS

Row	Col	Number	Name
G	22	B10-90	PRIMARY LONGITUDINAL TRIM CONTROL
G	23	B10-95	PRIMARY LONGITUDINAL TRIM BRAKE

UPPER EPC, RIGHT RADIO AC BUS

Row	Col	Number	Name
D	9	B10-62	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE A
D	10	B10-61	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE B
D	11	B10-60	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE C

WARNING: SLING MUST BE INSTALLED USING NAS6203-8 BOLTS AT FORWARD FITTINGS; NAS1304-9 BOLTS AT AFT FITTINGS. SLING MUST NOT BE INSTALLED IN REVERSE. HORIZONTAL STABILIZER MUST NOT BE LIFTED UNTIL ALL FITTINGS, ATTACHMENTS, CONNECTIONS, TIE POINTS, AND HINGE BOLTS ARE DISCONNECTED OR REMOVED.

WARNING: WHEN USING SLING, P/N 5916739-501, ELEVATORS MUST BE INSTALLED TO PROVIDE PROPER COUNTERBALANCE. INSTALLATION OF ELEVATORS IS OPTIONAL WHEN USING SLING, P/N 5916739-503.

CAUTION: OUTBOARD LUGS OF MAIN SPREADER BAR OF SLING MUST FACE FORWARD. SHORT CABLES MUST BE AFT. OVERHANG OF SMALL SPREADER BARS MUST FACE AFT.

CAUTION: POSITION CRANE HOOK SO HOOK HANGS DIRECTLY OVER LONGITUDINAL AXIS AND IS 5 INCHES (127 MM) AFT OF TOP REAR ACCESS PANEL.

CAUTION: ENSURE THAT BEARINGS ARE ALIGNED AND GREASED.

CAUTION: MAKE CERTAIN THAT GREASE SLOTS IN BUSHING ARE NOT ALIGNED WITH LOCKWASHER TAB CUTOUT AREAS.

(2) Install sling and take up slack. (Figure 201)

(3) Position stabilizer directly above and slightly behind forward end of vertical stabilizer.

(4) Use grip hoist on forward leg of sling and slowly lower forward end of stabilizer into place on vertical stabilizer rear spar.

(5) Measure distance (dimension A) between hinge fittings on structure (both hinges). (Figure 201)

(6) Lower rear of stabilizer and maneuver into position on vertical stabilizer spar hinge fittings.

(7) Select bearing shim (0.012 in. (0.305 mm), 0.020 in. (0.508 mm), 0.025 in. (0.635 mm) thick) as required and insert between bearing and over hinge fitting to reduce dimension A to 2.125 in. (53.975 mm) to 2.135 in. (54.229 mm) between hinge fittings (both hinges). (Figure 201)

WARNING: GREASE LUBRICANT IS AN AGENT THAT IS AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN GREASE LUBRICANT IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET GREASE LUBRICANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(8) Coat sleeves with lubricant (MIL-G-81322 grease, or equivalent), and install in bearings.

(9) On aircraft with two-bolt type sleeve retainers (retainers cover end of sleeve), position tapered shim and proper thickness of retainer shim (0.016 in. (0.406 mm), 0.025 in. (0.635 mm), 0.032 in. (0.813 mm) thick) to maintain +0.015 in. (0.381 mm) to -0.000 in. (0.000 mm) gap between sleeve retainer and end structure at sleeve retainer attach bolts.

(10) Install sleeve retainer.

WARNING: GREASE LUBRICANT IS AN AGENT THAT IS AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN GREASE LUBRICANT IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET GREASE LUBRICANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(11) Install hinge bolts in sleeves after coating with lubricant (Parker-O-Lube) grease or equivalent).

(12) Install washers and nuts on bolts and tighten to torque of 2000 in-lb (226 N·m) to 3000 in-lb (339 N·m). Secure with cotter pins.

(13) Install horizontal stabilizer restraining fixture. (FLIGHT CONTROLS, CHAPTER 27)

(14) Install horizontal stabilizer center section to longitudinal trim actuating mechanism support.

(15) Remove horizontal stabilizer restraining fixture.

(16) Remove sling and install screws in hoist points.

(17) Connect hydraulic lines from vertical stabilizer to horizontal stabilizer.

(18) Connect electrical connector to boost pressure switch.

(19) Connect electrical connectors to stabilizer longitudinal trim actuating mechanism.

(20) Check wire bundles radius length at the transition from the horizontal center box to the vertical stabilizer. (Figure 206)

(a) If the radius length of the wire bundles are incorrect, loosen clamps and adjust to correct radius lengths.

(21) Install clamp on stabilizer ice protection duct rotating joint to Y-duct connection right and left panels.

(22) Remove forward end of Y-duct. (ICE AND RAIN PROTECTION, CHAPTER 30)

CAUTION: SEVERE DAMAGE CAN RESULT FROM MOVING A STABILIZER WITH A JOINT THAT IS BINDING. FORCE REQUIRED TO MOVE WYE DUCT MUST NOT EXCEED 5 POUNDS (2.27 KG).

(23) Move Y-duct up and down to ensure rotating joint is not binding.

CAUTION: MAKE CERTAIN THAT T-BOLT ATTACHING WYE DUCT CLAMP TO ROTATING JOINT IS ROTATED TO PROPER POSITION. IF CLAMP IS NOT PROPERLY INSTALLED, POSSIBLE DAMAGE MAY OCCUR DURING STABILIZER ROTATION.

(24) Install forward end of Y-duct. (ICE AND RAIN PROTECTION, CHAPTER 30) (Figure 201)

(25) Install elevator control cables and safety with lockwire. (LOCKWIRE SAFETYING - MAINTENANCE PRACTICES, PAGEBLOCK 20-10-18/201)

(26) Adjust elevator control cables. (FLIGHT CONTROLS, CHAPTER 27)

(27) Install side load roller bracket.

(28) Adjust side load rollers. (HORIZONTAL STABILIZER - ADJUSTMENT/TEST, PAGEBLOCK 55-10-00/501)

(29) Install horizontal stabilizer side fairings. At aft attach point use bolts, washers, nuts and safety with cotter pins. (For fairing adjustment, see Paragraph 4.) (Figure 203)

(30) Install the applicable horizontal stabilizer upper fairing (1) as follows: (For fairing adjustment, see Paragraph 4.)Figure 203

(a) Hold the horizontal stabilizer upper fairing (1) in its position.

(b) Loosely, install the two bolts (9) and washers (6).

WJE ALL; ALL PRE SL-55-104

(c) Loosely, install the two bolts (2), washers (3), and the nuts (4).

WJE ALL; ALL POST SL-55-104

(d) Loosely, install bolt (5) and washer (6).

(e) Loosely, install bolt (2), washer (3), and nut (4).

WJE ALL

(f) Install the four bolts (5) and washers (6).

(g) Install the two bolts (8), two bolts (7) and the four washers (6).

(h) Tighten the two bolts (9) and the bolt (2).

WJE ALL; ALL PRE SL-55-104

(i) Tighten the two nuts (4) and the two bolts (2), and safety the two nuts (4) with cotter pins (14).

WJE ALL; ALL POST SL-55-104

(j) Tighten bolt (5) and safetywire to bolt (2).

(k) Tighten nut (4) and bolt (2) and , safety nut (4) with cotter pin (7).

WJE ALL

(l) Install the four bolts (11) and bolt (10).

(m) Install the bolt (12) and washer (13).

(n) Make sure that all bolts extend a minimum of 1/32 in. (1 mm) out from the edge of the nut.

(31) Install the applicable horizontal stabilizer lower fairing (1) as follows: (For fairing adjustment, see Paragraph 4.)(Figure 203)

(a) Hold the horizontal stabilizer lower fairing (1) in its position.

(b) Loosely, install the two bolts (9) and washers (6).

WJE ALL; ALL PRE SL-55-104

(c) Loosely, install the bolt (2), washer (3), and the nut (4).

WJE ALL; ALL POST SL-55-104

(d) Loosely, install bolt (5) and washer (6).

(e) Loosely, install bolt (2), washer (3), and nut (4).

WJE ALL

(f) Install the four bolts (5) and washers (6).

(g) Install the four bolts (8), two bolts (7), and the six washers (6).

(h) Tighten the two bolts (9) and bolt (2).

WJE ALL; ALL PRE SL-55-104

(i) Tighten the two bolts (2) and two nuts (4), and safety the two nuts (4) with the cotter pins (14).

WJE ALL; ALL POST SL-55-104

(j) Tighten bolt (5) and safetywire to bolt (2).

(k) Tighten bolt (2) and nut (4), and safety nut (4) with cotter pin (7).

WJE ALL

(l) Install the three bolts (11) and bolt (10).

(m) Make sure that all bolts extend a minimum of 1/32 in. (1 mm) out from the edge of the nut.

(32) Install vertical stabilizer upper fairing and cover.

(33) Install horizontal stabilizer leading edge fairings.

(34) Pressurize the left hydraulic system. (HYDRAULIC POWER, CHAPTER 29)

(35) Perform test of elevator boost system to check for hydraulic leaks. (FLIGHT CONTROLS, CHAPTER 27)

(36) Perform test of stabilizer ice protection system to check for leaks. (ICE AND RAIN PROTECTION, CHAPTER 30)

(37) Remove the safety tags and close these circuit breakers:

UPPER EPC, LEFT RADIO DC BUS

Row	Col	Number	Name
G	22	B10-90	PRIMARY LONGITUDINAL TRIM CONTROL
G	23	B10-95	PRIMARY LONGITUDINAL TRIM BRAKE

UPPER EPC, RIGHT RADIO AC BUS

Row	Col	Number	Name
D	9	B10-62	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE A
D	10	B10-61	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE B
D	11	B10-60	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE C

WARNING: GREASE LUBRICANT IS AN AGENT THAT IS AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN GREASE LUBRICANT IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET GREASE LUBRICANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

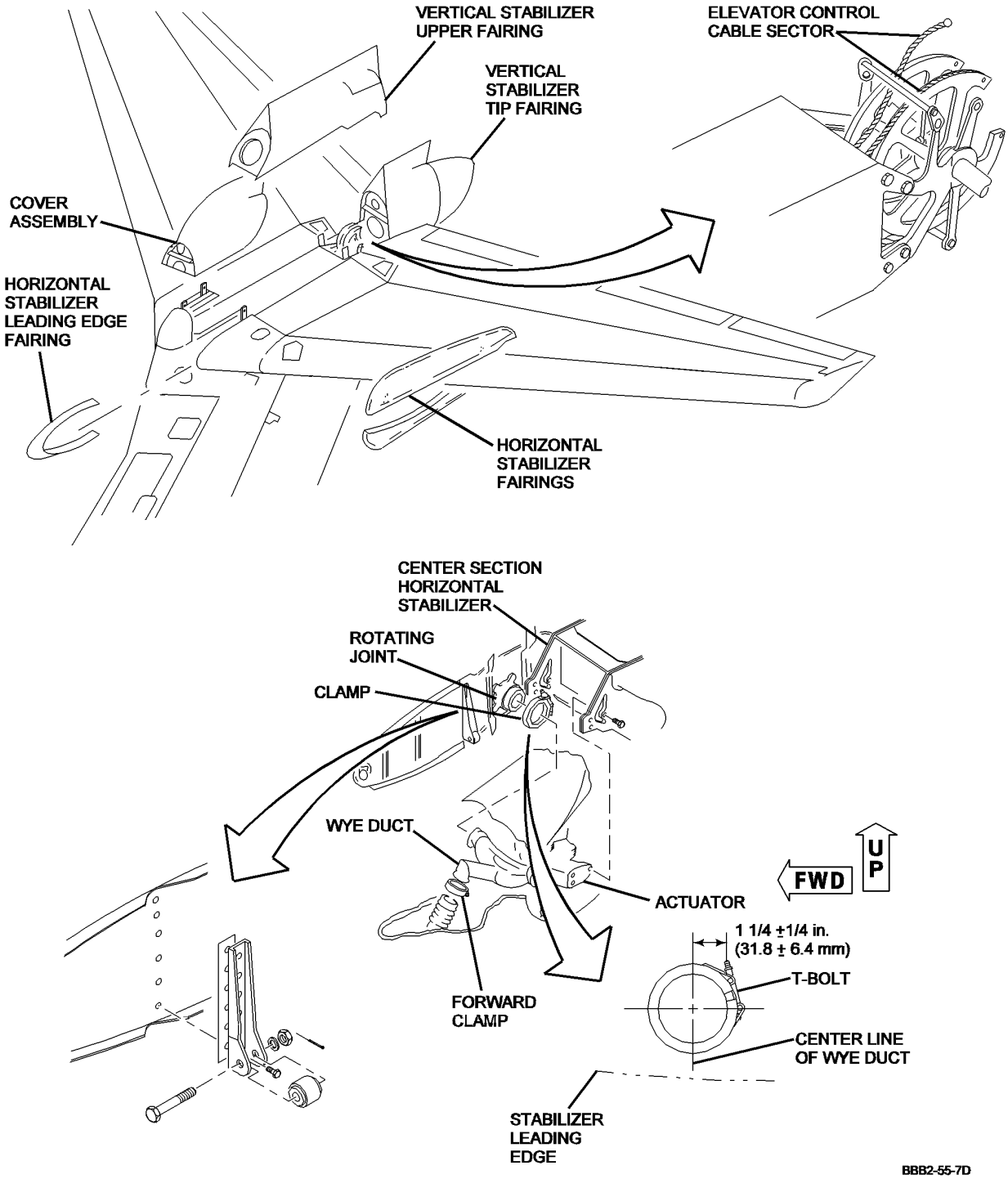
WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

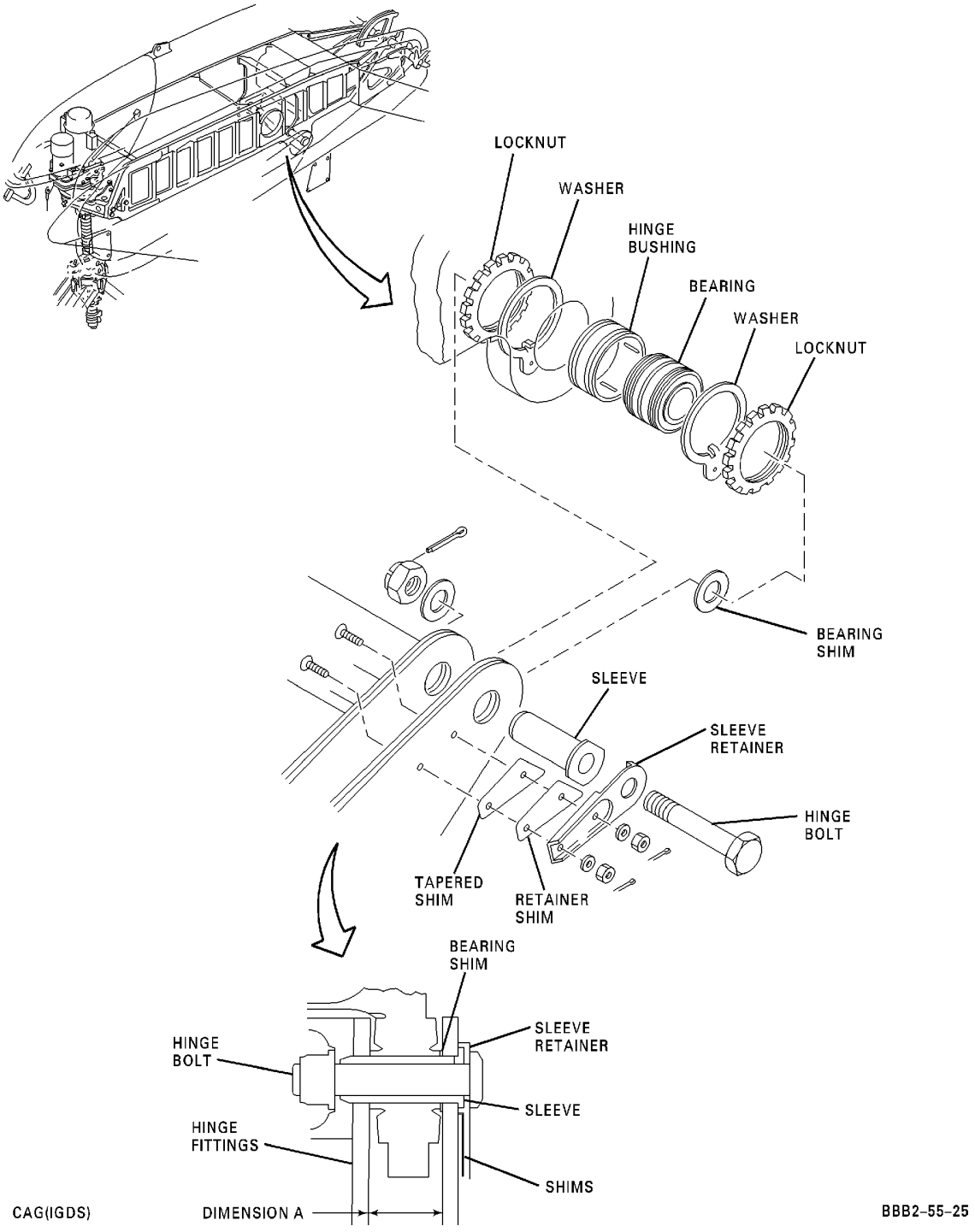
TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(38) Lubricate two hinge fittings. Use grease gun filled with MIL-G-81322 grease (or equivalent). (SERVICING, CHAPTER 12)

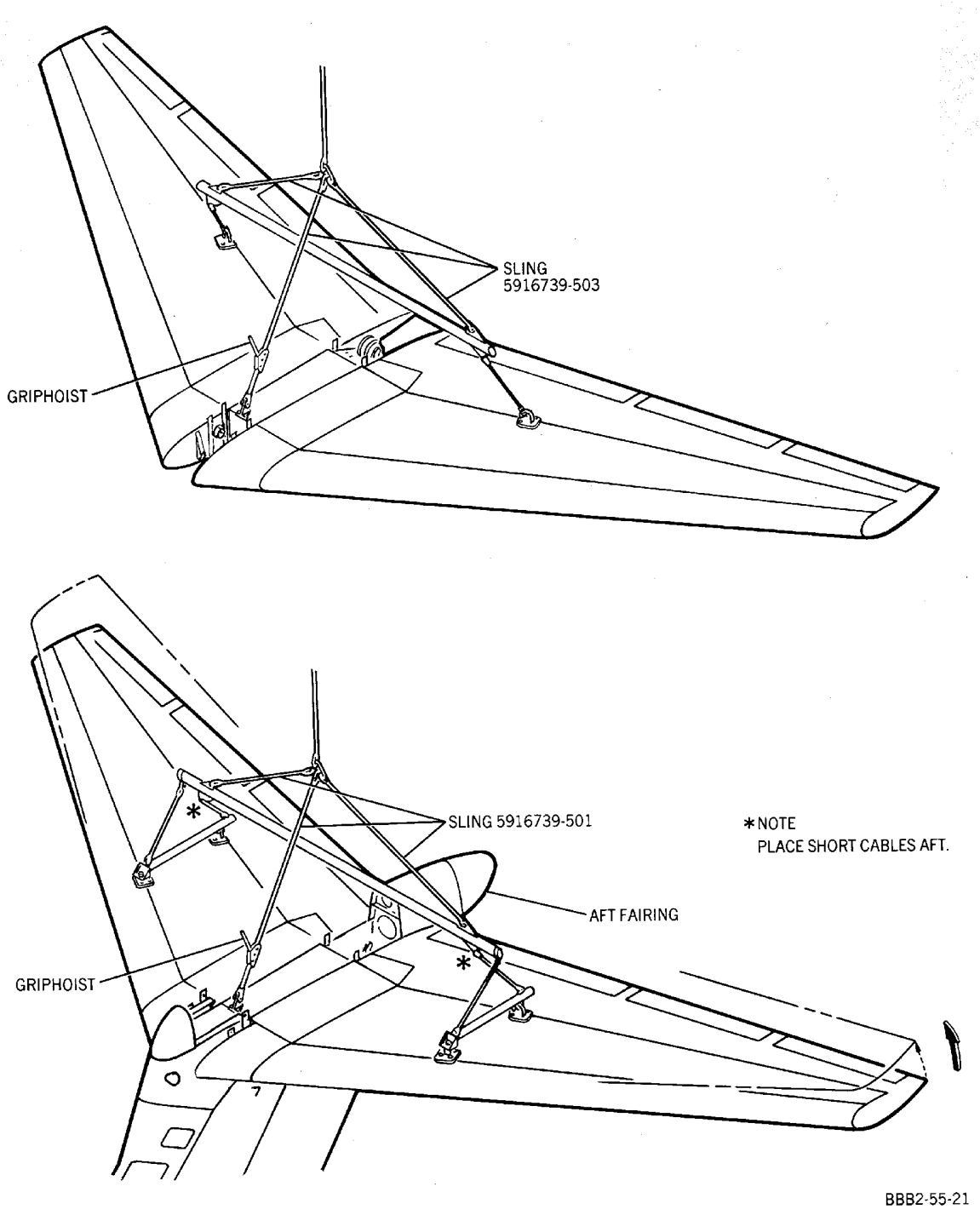
(39) Perform test of longitudinal trim system to check for binding of fairings. (HORIZONTAL STABILIZER - ADJUSTMENT/TEST, PAGEBLOCK 27-40-00/501)



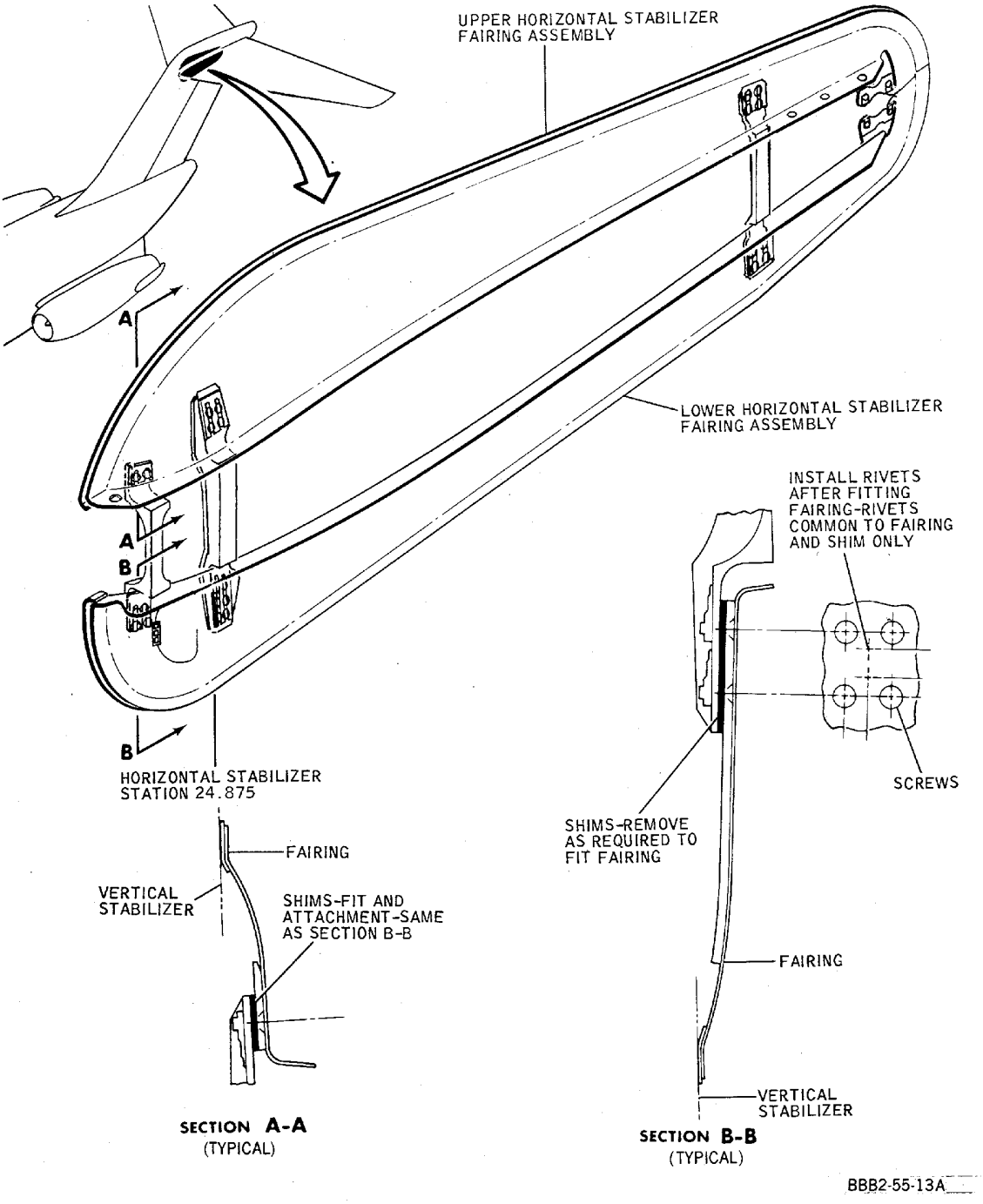
Horizontal Stabilizer -- Removal/Installation
Figure 201/55-10-00-990-805 (Sheet 1 of 3)



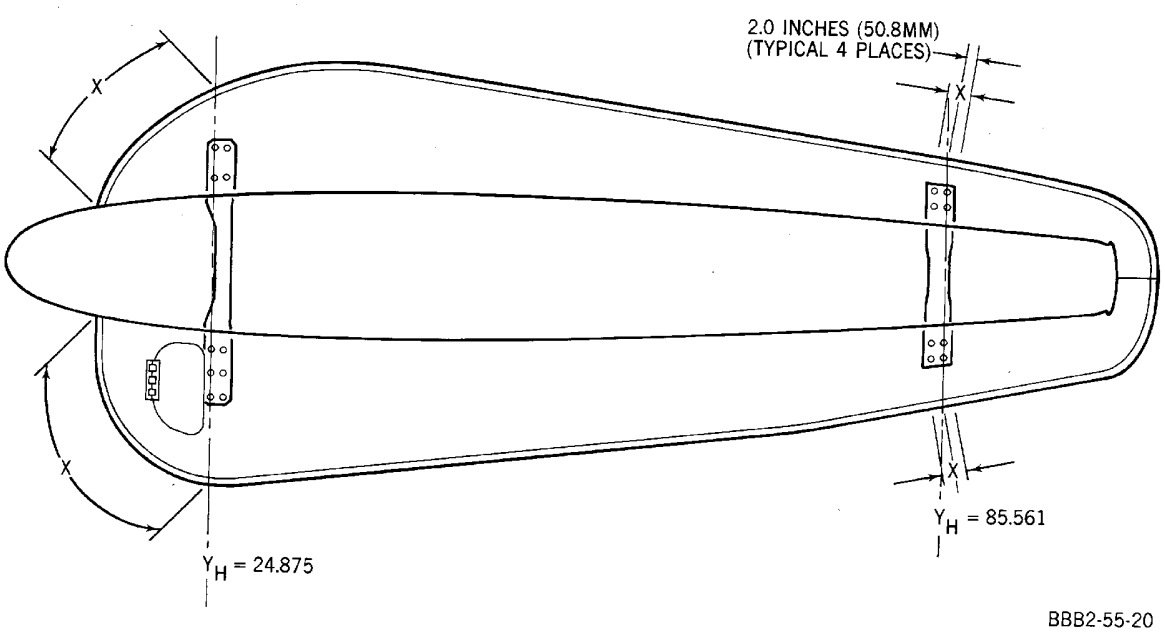
Horizontal Stabilizer -- Removal/Installation
Figure 201/55-10-00-990-805 (Sheet 2 of 3)



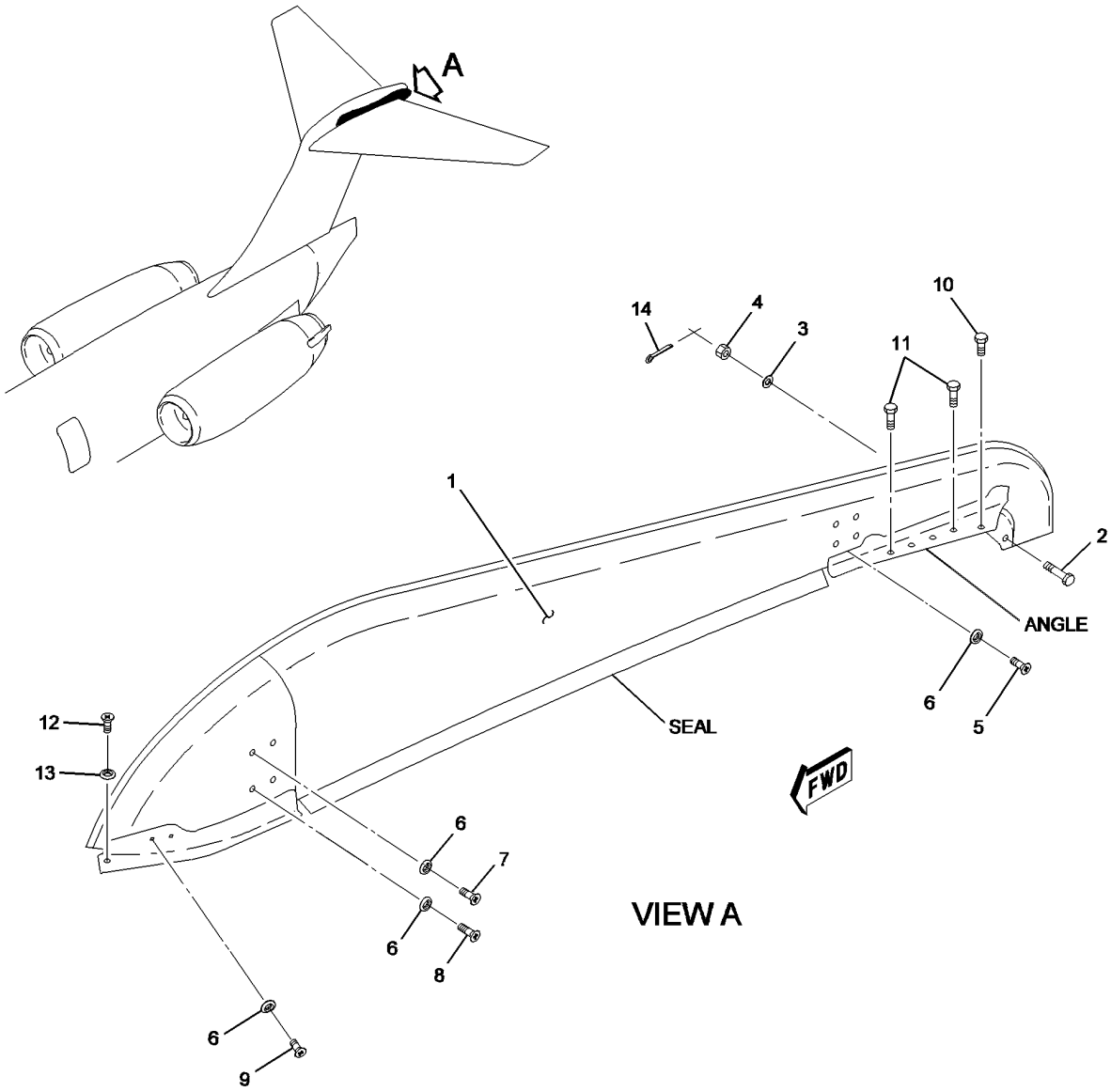
Horizontal Stabilizer -- Removal/Installation
Figure 201/55-10-00-990-805 (Sheet 3 of 3)



Horizontal Stabilizer Fairing -- Rigging
Figure 202/55-10-00-990-806 (Sheet 1 of 2)



Horizontal Stabilizer Fairing -- Rigging
Figure 202/55-10-00-990-806 (Sheet 2 of 2)

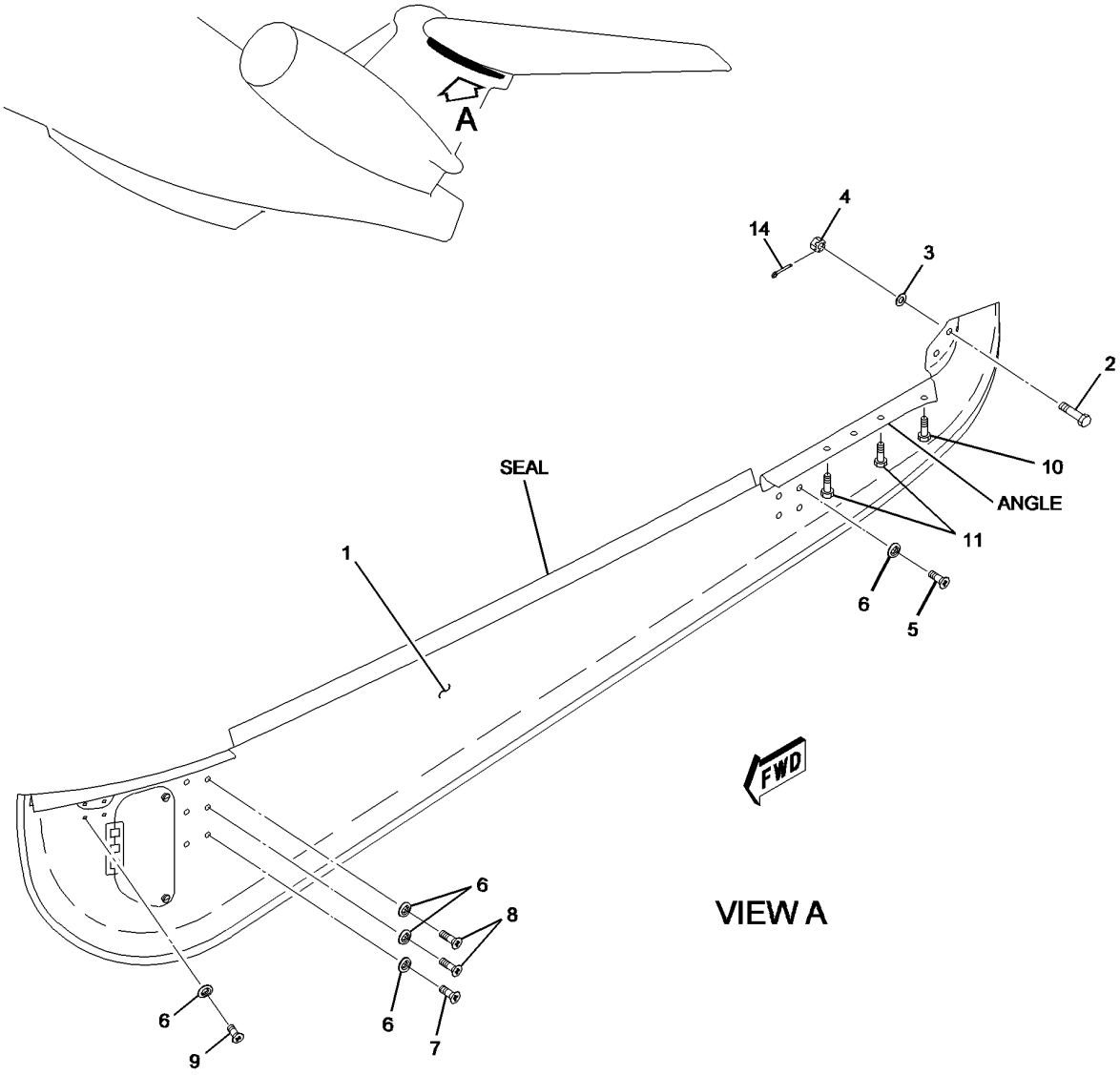


LEGEND:

1. UPPER HORIZONTAL STABILIZER FAIRING
2. BOLT
3. WASHER
4. NUT
5. BOLT
6. WASHER
7. BOLT
8. BOLT
9. BOLT
10. BOLT
11. BOLT
12. BOLT
13. WASHER
14. COTTER PIN

BBB2-55-34
S0000249548V1

Horizontal Stabilizer Fairing -- Removal/Installation
Figure 203/55-10-00-990-811 (Sheet 1 of 4)

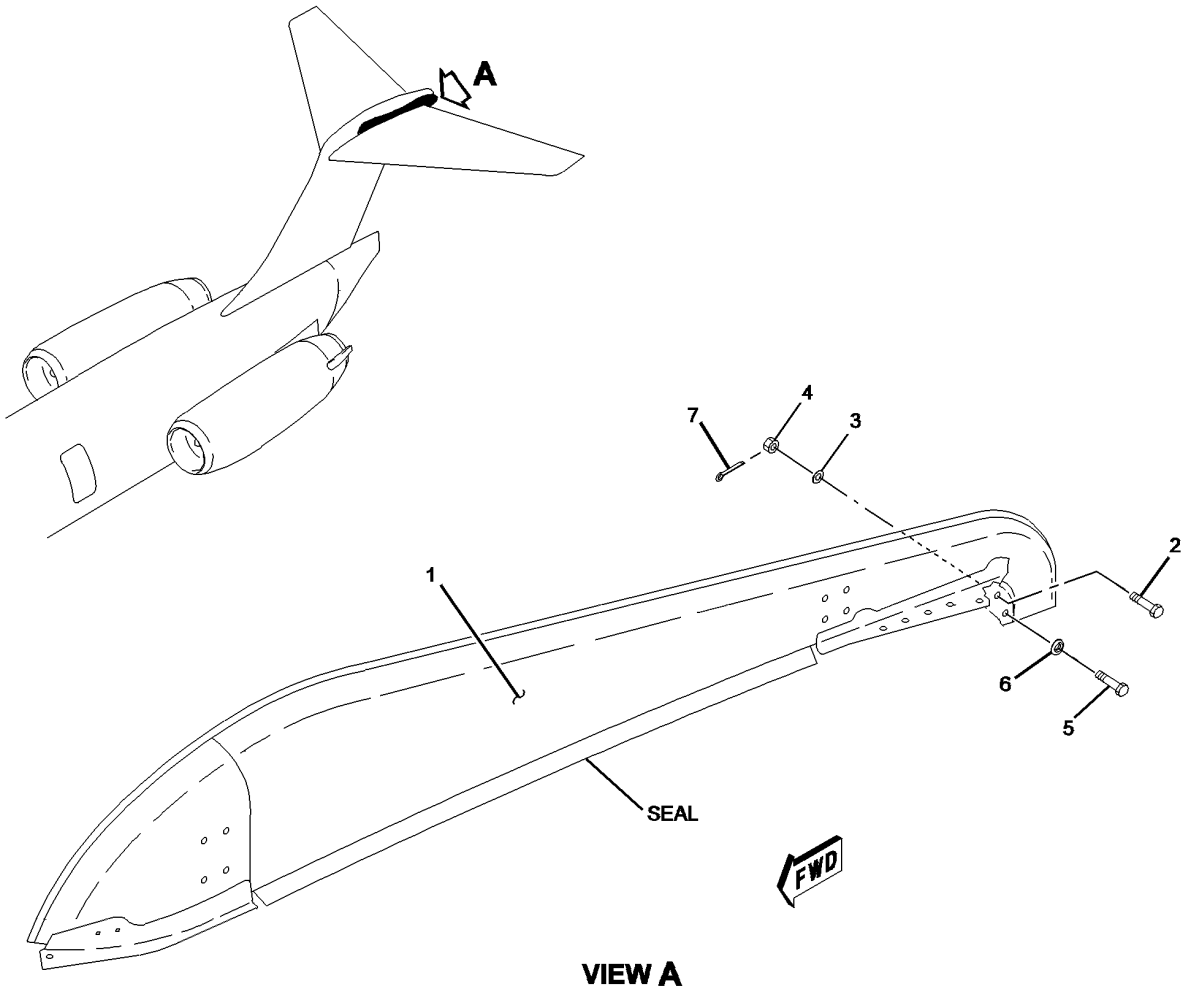


LEGEND:

1. LOWER HORIZONTAL STABILIZER FAIRING	7. BOLT
2. BOLT	8. BOLT
3. WASHER	9. BOLT
4. NUT	10. BOLT
5. BOLT	11. BOLT
6. WASHER	14. COTTER PIN

BBB2-55-35
S0000249555V1

Horizontal Stabilizer Fairing -- Removal/Installation
Figure 203/55-10-00-990-811 (Sheet 2 of 4)

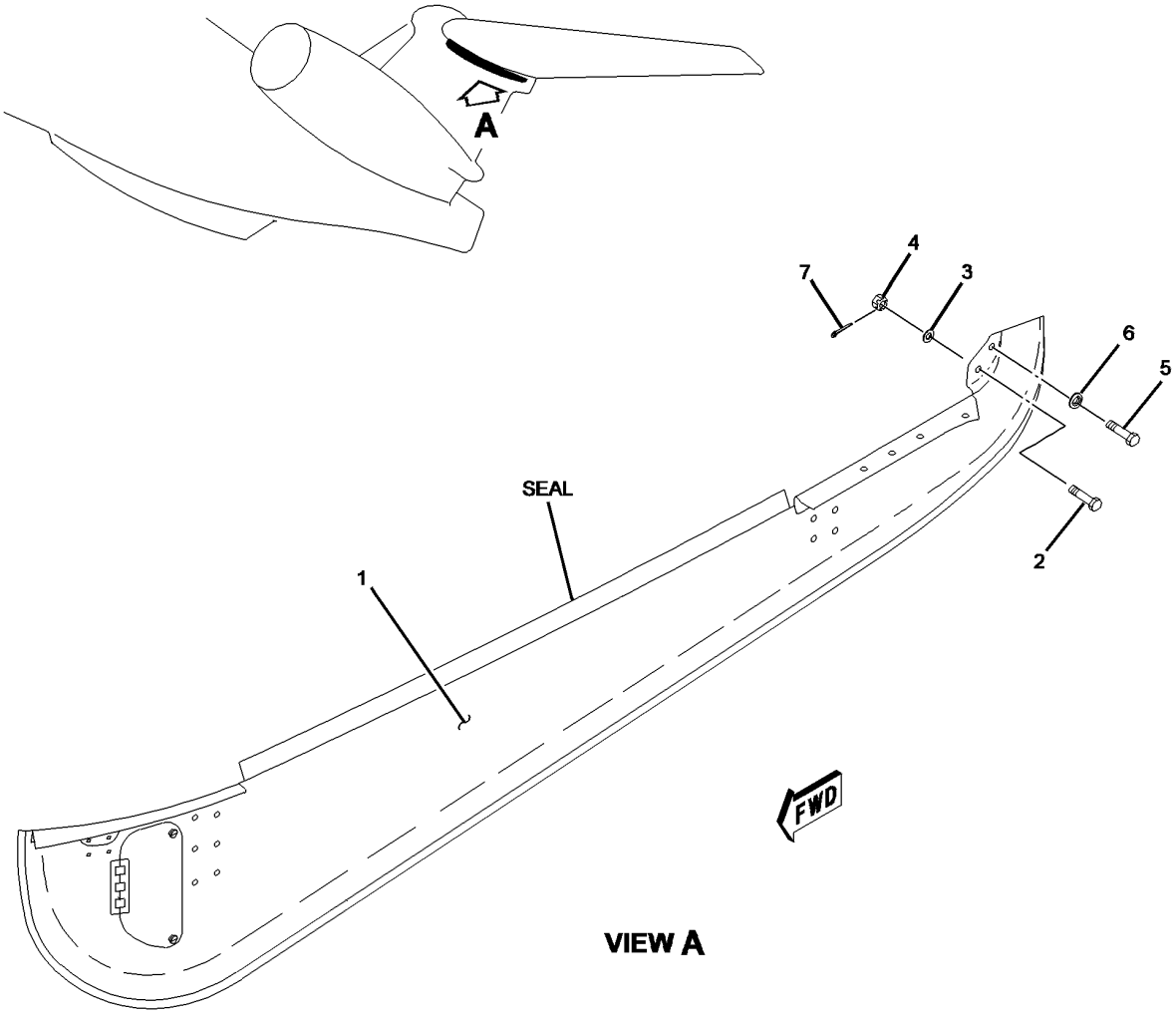


VIEW A

LEGEND:
1. UPPER HORIZONTAL STABILIZER FAIRING
2. BOLT
3. WASHER
4. NUT
5. BOLT
6. WASHER
7. COTTER PIN

BBB2-55-39
S0000254277V1

Horizontal Stabilizer Fairing -- Removal/Installation
Figure 203/55-10-00-990-811 (Sheet 3 of 4)



LEGEND:
1. LOWER HORIZONTAL STABILIZER FAIRING
2. BOLT
3. WASHER
4. NUT
5. BOLT
6. WASHER
7. COTTER PIN

BBB2-55-40
S0000254282V1

Horizontal Stabilizer Fairing -- Removal/Installation
Figure 203/55-10-00-990-811 (Sheet 4 of 4)

4. **Horizontal Stabilizer Fairing Adjustment**

A. Rigging Fairing (Figure 202)

(1) Perform rigging of fairing per PAGEBLOCK 55-10-03/501.

5. **Horizontal Stabilizer Anti-Chafing Rubstrip Tape**

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

WARNING: HANDWIPE CLEANER IS AN AGENT THAT IS FLAMMABLE, POISONOUS, AN ASPHYXIANT, AND AN IRRITANT. MAKE SURE ALL PERSONS OBEY THE PRECAUTIONS WHEN HANDWIPE CLEANER IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET HANDWIPE CLEANER IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

A. Remove the used rubstrip tape (1) as follows: (Figure 204)

(1) Remove the applicable used tape segment with a non-metallic scraper.

NOTE: If bulk material is used, the damaged tape must be replaced with new tape of the same dimensions.

(2) Remove the remaining adhesive and fully clean the area with cleaning wipers made moist with hand wipe cleaner. Immediately dry the area with dry cleaning wipers. Do not let the solvent dry on the surface.

(a) Examine the surface to make sure that no contamination stays.

(3) Abrade the surface to a matt finish with 240 grit abrasive paper or a finer grit abrasive paper.

(4) Clean the surface with cleaning wipers made moist with hand wipe cleaner. Immediately dry the area with dry cleaning wipers. Do not let the solvent dry on the surface.

(a) Examine the surface to make sure that no contamination stays.

B. Apply the bulk pressure sensitive tape as follows: (Figure 204)

NOTE: Tape No. P223-5D, Type 1, Class 1 from the vendor Mask-off Corp. is not used for this special application.

(1) Measure the dimensions of the area where the new pressure sensitive tape will be installed.

(2) Cut the new pressure sensitive tape to the correct dimensions.

(3) Apply the new pressure sensitive tape to the specified surface with a hard rubber roller or a plastic squeegee.

(a) Do not touch or contaminate the pressure-sensitive adhesive.

(b) Make sure that the pressure sensitive tape makes full contact with the applicable area on the horizontal stabilizer.

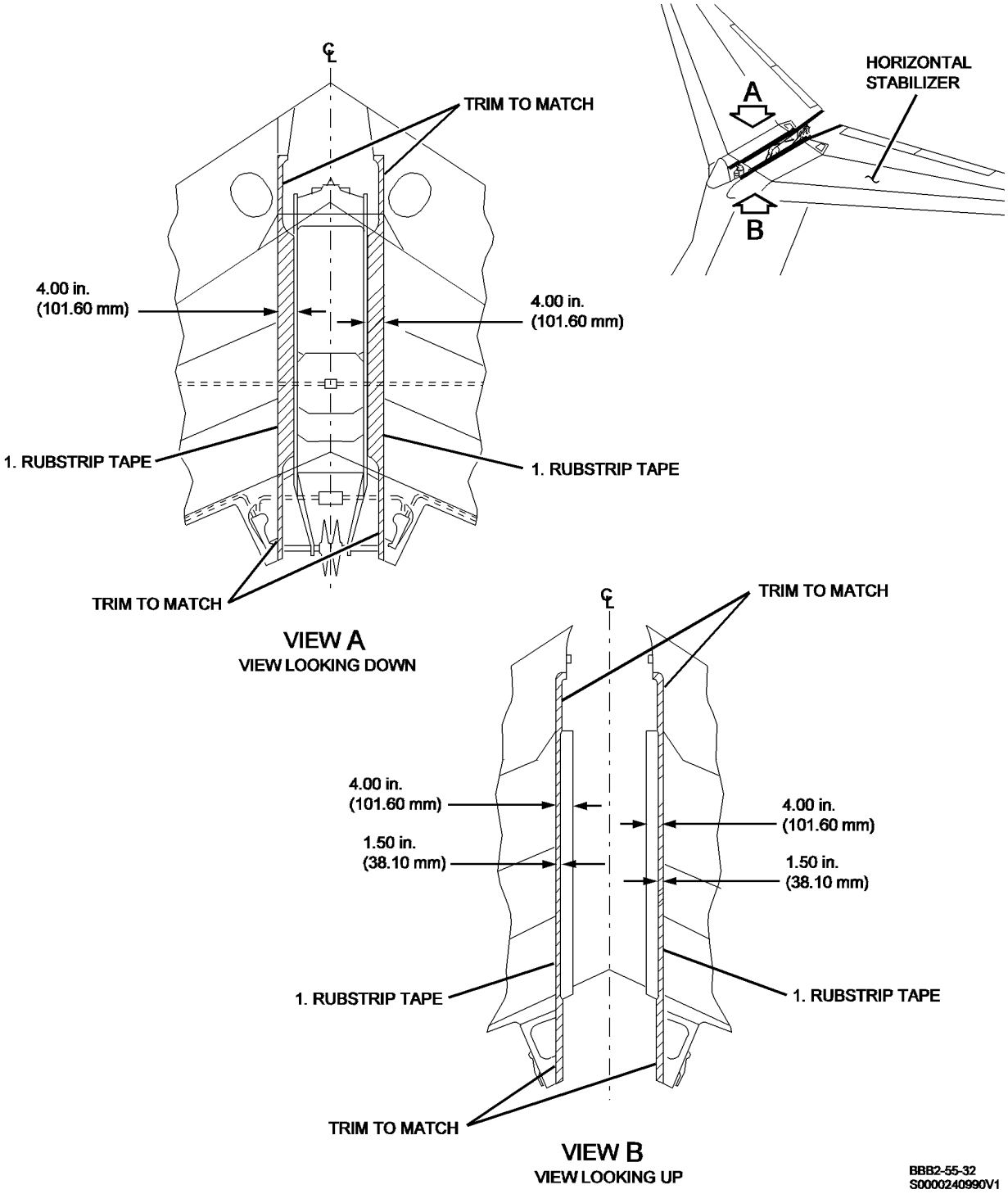
C. Apply the prefabricated rubstrip tape (1) segments as follows: (Figure 204)

(1) Align the applicable new rubstrip tape (1) segment with the surface where the segment will be installed.

(2) Apply the new rubstrip tape (1) segment to the surface with a hard rubber roller or a plastic squeegee.

(a) Do not touch or contaminate the pressure-sensitive adhesive.

(b) Make sure that the pressure sensitive tape makes full contact with the applicable area on the horizontal stabilizer.



Horizontal Stabilizer Anti-Chafing Rubstrip - Replacement
Figure 204/55-10-00-990-809

6. Horizontal Stabilizer Anti-Chafing Coating

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

WARNING: HANDWIPE CLEANER IS AN AGENT THAT IS FLAMMABLE, POISONOUS, AN ASPHYXIANT, AND AN IRRITANT. MAKE SURE ALL PERSONS OBEY THE PRECAUTIONS WHEN HANDWIPE CLEANER IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET HANDWIPE CLEANER IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

A. Remove the damaged anti-chafe coating as follows: (Figure 204)

(1) Remove the damaged coating with a non-metallic scraper.

(a) Also fully remove the primer or epoxy layer to the bare metal surface.

(2) Clean the area with clean cleaning wipers made moist with hand wipe cleaner. Immediately dry the area with dry cleaning wipers. Do not let the solvent dry on the surface.

(a) Examine the surface to make sure that no contamination stays.

(3) Abrade the surface to a matt finish with 240 grit abrasive paper, a finer grit abrasive paper, or abrasive nylon web pads.

(4) Clean the surface with clean cleaning wipers made moist with hand wipe cleaner. Immediately dry the area with dry cleaning wipers. Do not let the solvent dry on the surface.

(a) Examine the surface to make sure that no contamination stays.

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(WARNING PRECEDES)

WARNING: HANDWIPE CLEANER IS AN AGENT THAT IS FLAMMABLE, POISONOUS, AN ASPHYXIANT, AND AN IRRITANT. MAKE SURE ALL PERSONS OBEY THE PRECAUTIONS WHEN HANDWIPE CLEANER IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET HANDWIPE CLEANER IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

B. Apply the anti-chafe coating to the applicable anti-chafe coating repair area as follows: (Figure 204)

(1) Spray three cross-coats of anti-chafe coating within the one to three hour dry time of the primer or epoxy coating. Allow 15 minutes between coats.

(a) Make sure that the total dry layer thickness of the three cross-coats is 0.008 in. (0.203 mm) to 0.010 in. (0.254 mm).

(2) Let the anti-chafe coating dry a minimum of 24 hours.

(a) To force cure the anti-chafe coating dry the coating one hour at the ambient temperature then apply 130 ±15°F (54 ±9°C) heat for 2.5 hours.

7. Horizontal Stabilizer Hinge Bearing Replacement

A. Remove Hinge Bearing

(1) Remove horizontal stabilizer. (Paragraph 3.A.)

(2) Remove bearing locknuts and lockwashers.

(3) Remove bearings using care to prevent damage to horizontal stabilizer bushing.

B. Install Hinge Bearing

WARNING: GREASE LUBRICANT IS AN AGENT THAT IS AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN GREASE LUBRICANT IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET GREASE LUBRICANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(1) Coat bearing with MIL-G-81322 grease or equivalent, and install bearing in stabilizer, using care to prevent damage to horizontal stabilizer bushing.

WARNING: LOW VISCOSITY POLYSULFIDE SEALANT IS AN AGENT THAT IS POISONOUS AND AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN LOW VISCOSITY POLYSULFIDE SEALANT IS USED.

- GAS/AIR MIXTURE MORE THAN THE LOWER EXPLOSIVE LIMIT (LEL) CAN CAUSE AN EXPLOSION IF HIGH HEAT, SPARKS, OR FLAMES SUPPLY IGNITION.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET LOW VISCOSITY POLYSULFIDE SEALANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

CAUTION: TAPERED FACE OF NUT SHOULD POINT AWAY FROM BEARING.

(2) Coat both sides of lockwashers with faying surface seal of PR-1422 sealant.

(3) Install bearing lockwashers and locknuts.

(4) Center stabilizer hinge bearing and torque locknuts 500 in-lb (56 N·m) to 600 in-lb (68 N·m) (40 ft-lb (54 N·m) to 50 ft-lb (68 N·m)) .

(5) Safety locknut to lockwasher with lockwire. (LOCKWIRE SAFETYING - MAINTENANCE PRACTICES, PAGEBLOCK 20-10-18/201)

NOTE: If either lockwasher has rotated from the secured position (notch on upper, aft side), and the horizontal stabilizer has not been removed, install lockwire between locknuts. (Figure 205)(LOCKWIRE SAFETYING - MAINTENANCE PRACTICES, PAGEBLOCK 20-10-18/201)

WARNING: LOW VISCOSITY POLYSULFIDE SEALANT IS AN AGENT THAT IS POISONOUS AND AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN LOW VISCOSITY POLYSULFIDE SEALANT IS USED.

- GAS/AIR MIXTURE MORE THAN THE LOWER EXPLOSIVE LIMIT (LEL) CAN CAUSE AN EXPLOSION IF HIGH HEAT, SPARKS, OR FLAMES SUPPLY IGNITION.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET LOW VISCOSITY POLYSULFIDE SEALANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

(WARNING PRECEDES)

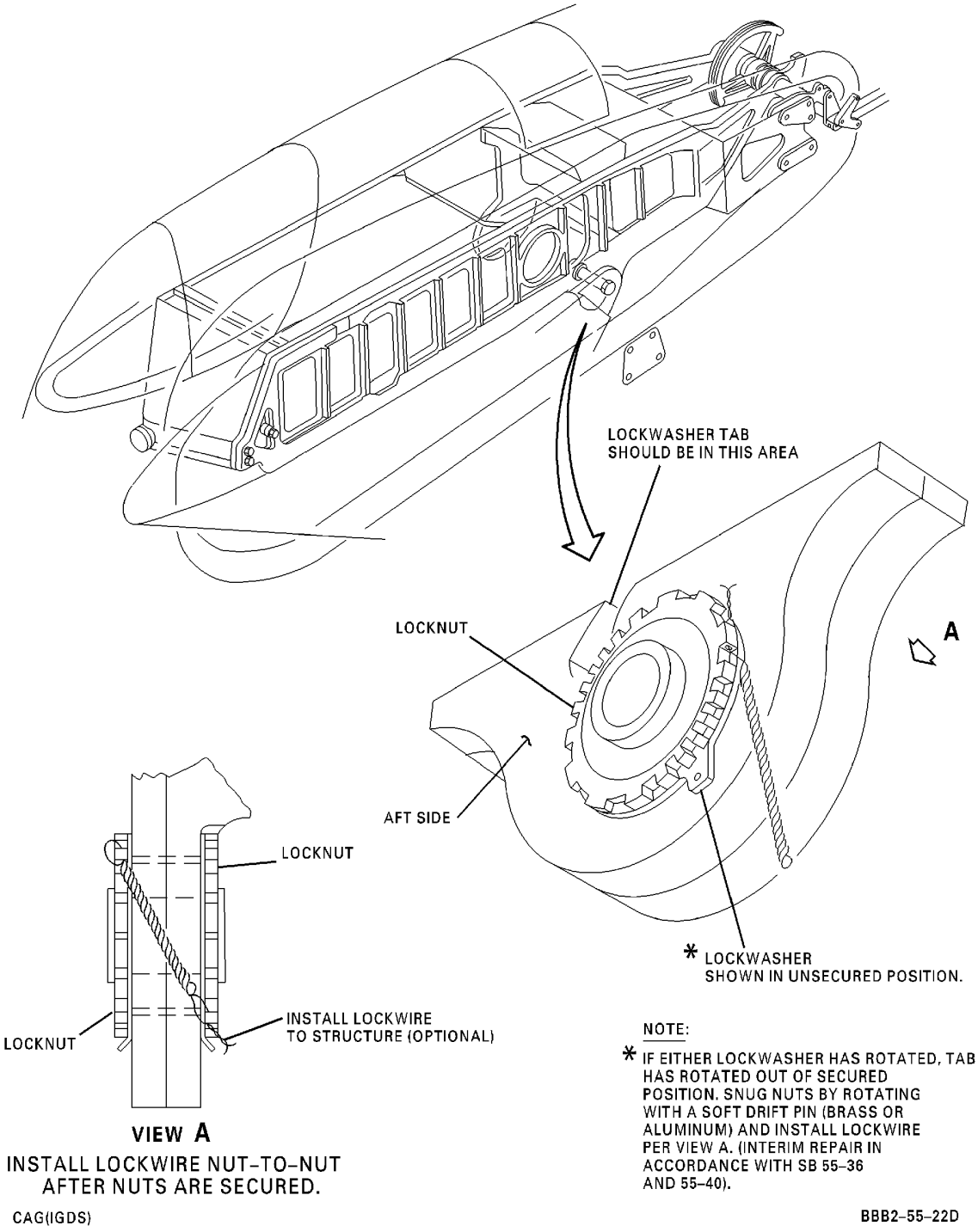
WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(6) Seal locknut and lockwasher to structure with bead of PR-1422 sealant or equivalent.

(7) Install horizontal stabilizer. (Paragraph 3.B.)



Bearing Retaining Nut - Interim Method of Securing
Figure 205/55-10-00-990-807

8. Horizontal Stabilizer Hinge Bushing Replacement

A. Remove Hinge Bushing

(1) Remove hinge bearing. (Paragraph 7.A.)

(2) Remove hinge bushing, using care to prevent damage to housing bore.

B. Install Hinge Bushing

WARNING: LUBRICANT IS AN AGENT THAT IS AN IRRITANT. MAKE SURE ALL PERSONS OBEY THE PRECAUTIONS WHEN LUBRICANT IS USED.

- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET THE LUBRICANT IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.

WARNING: REFER TO THE APPLICABLE MANUFACTURER'S OR SUPPLIER'S MSDS FOR:

- MORE PRECAUTIONARY DATA
- APPROVED SAFETY EQUIPMENT
- EMERGENCY MEDICAL AID.

TALK WITH THE LOCAL SAFETY DEPARTMENT OR AUTHORITIES FOR THE PROCEDURES TO DISCARD THIS HAZARDOUS AGENT.

(1) Coat bore of fitting with Parker-O-Lube.

CAUTION: MAKE CERTAIN THAT GREASE SLOTS IN BUSHING ARE NOT ALIGNED WITH LOCKWASHER TAB CUTOUT AREAS.

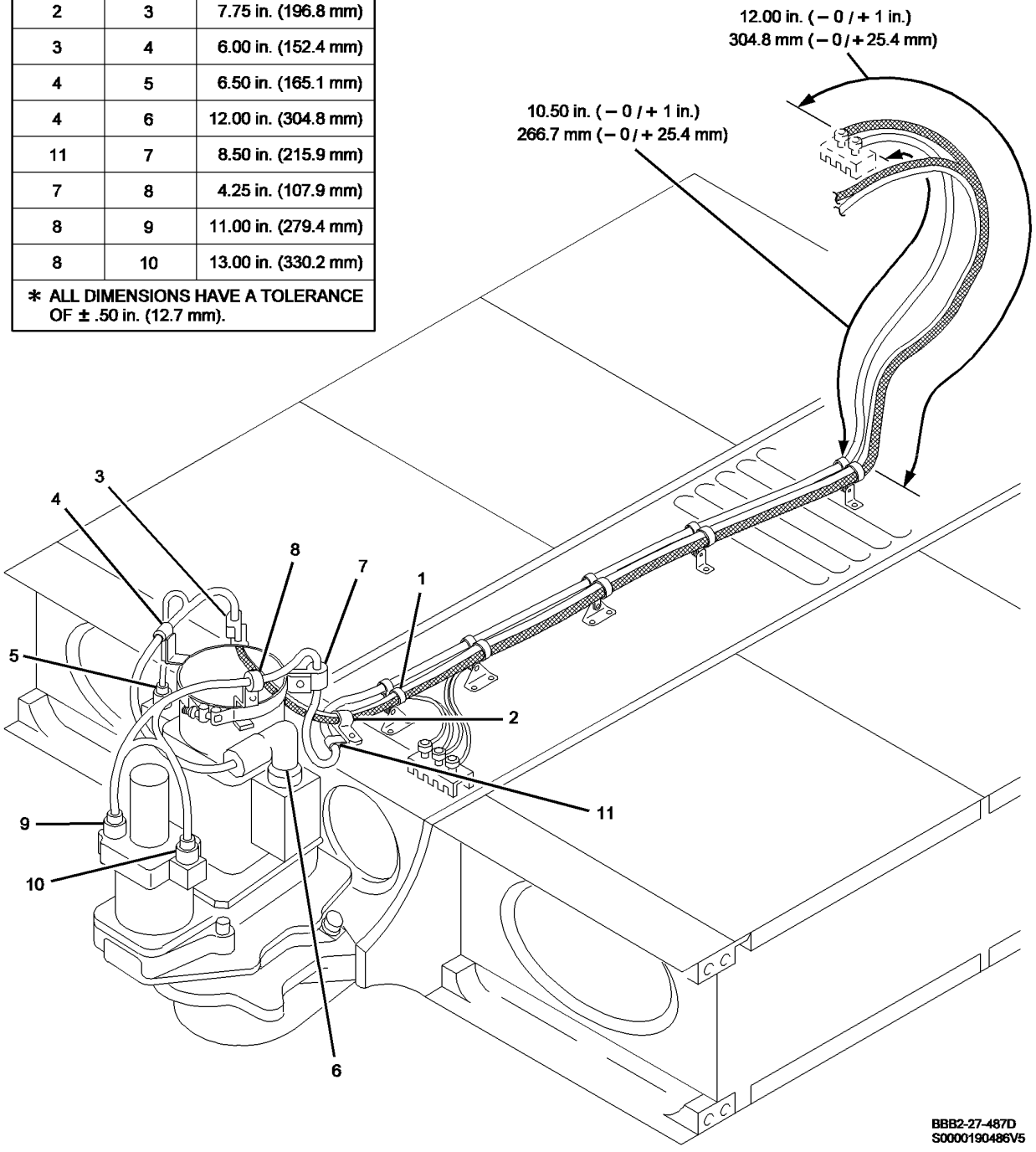
(2) Install bushing with 0.002 in. (0.051 mm) to 0.005 in. (0.127 mm) interference fit.

NOTE: The final bushing inside diameter hole size is 2.6240 in. (66.6496 mm) to 2.6245 in. (66.6623 mm).

(3) Install hinge bearing. (Paragraph 7.B.)

FROM	TO	* LENGTH
1	2	1.75 in. (44.4 mm)
2	3	7.75 in. (196.8 mm)
3	4	6.00 in. (152.4 mm)
4	5	6.50 in. (165.1 mm)
4	6	12.00 in. (304.8 mm)
11	7	8.50 in. (215.9 mm)
7	8	4.25 in. (107.9 mm)
8	9	11.00 in. (279.4 mm)
8	10	13.00 in. (330.2 mm)
* ALL DIMENSIONS HAVE A TOLERANCE OF ± .50 in. (12.7 mm).		

NOTE: ALL DIMENSIONS ARE TAKEN FROM CENTER OF CLAMP TO CENTER OF CLAMP AND FROM CENTER OF CLAMP TO END OF PLUG.



Horizontal Stabilizer -- Wire Routing
Figure 206/55-10-00-990-812

HORIZONTAL STABILIZER - ADJUSTMENT/TEST

1. General

A. The following procedures are for adjustment of the horizontal stabilizer side load rollers.

B. Access to the rollers is gained by removing the fairing on the inboard leading edge of the horizontal stabilizer.

C. The adjustment procedures for the left and right side rollers are identical.

2. Adjustment/Test Horizontal Stabilizer Side Load Rollers

WARNING: STATION A QUALIFIED MAN IN FLIGHT COMPARTMENT TO PREVENT INADVERTENT MOVEMENT OF HORIZONTAL STABILIZER WHICH COULD CAUSE SERIOUS INJURY TO PERSONNEL WORKING ON INBOARD LEADING EDGE.

A. Adjust Side Load Roller to Track

(1) With track firmly pressed against vertical stabilizer, check clearance between roller and track at stabilizer full up, center, and full down positions.

NOTE: Move horizontal stabilizer slowly, using alternate longitudinal trim control located on control pedestal to trim stabilizer.

(2) Add shims under roller bracket or remove laminated shims from under track to obtain clearance (Dimension A) of 0.002 inch to 0.015 inch (0.051 to 0.381 mm) between roller and track as follows:

NOTE: Maximum allowable gap between roller and track for in-service wear is 0.030 inch (0.762 mm).

CAUTION: HOLD ROLLER WHEN BOLT IS REMOVED TO PREVENT DAMAGE TO ROLLER.

(a) Remove side load roller.

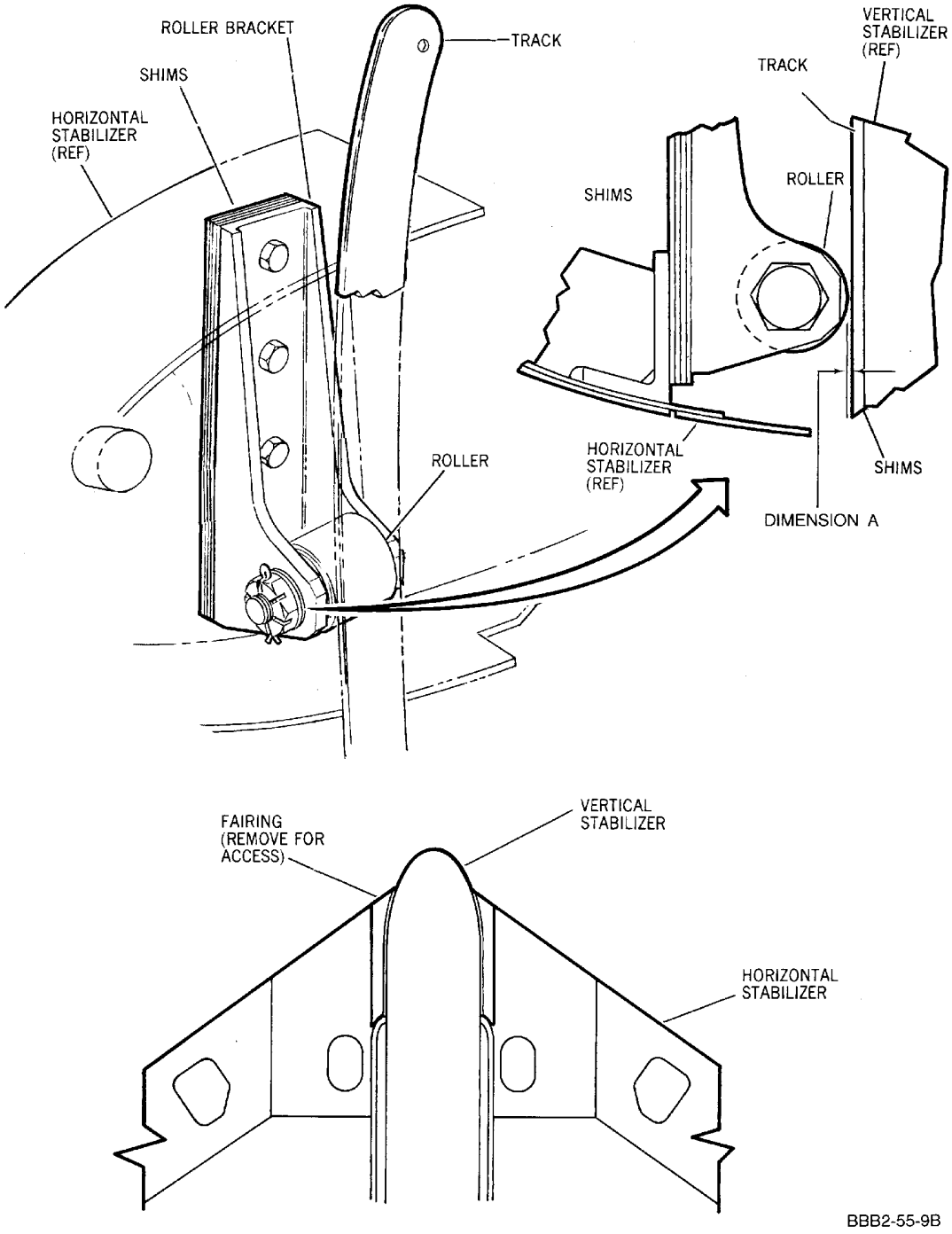
(b) Remove roller bracket.

(c) Install bracket, adding or removing shims.

(d) Install roller and tighten nut finger tight.

NOTE: Repeat the above four steps until proper clearance is obtained. (Paragraph 2.A.(2)(a)) (Paragraph 2.A.(2)(b)) (Paragraph 2.A.(2)(c)) (Paragraph 2.A.(2)(d))

(e) Tighten nut to a torque of 290 to 415 inch-pounds (32.8 to 46.9 N·m) and install cotter pin.



Horizontal Stabilizer Roller Adjustment
Figure 501/55-10-00-990-802

HORIZONTAL STABILIZER - INSPECTION/CHECK

1. General

A. The following procedure provides a check of the horizontal stabilizer pivot point bearing to determine the bearing looseness. Bearings must be replaced if looseness exceeds limits stated in check.

2. Equipment and Materials

NOTE: Equivalent substitutes may be used instead of the following listed items:

NOTE: Some materials in the Equipment and Materials list may not be permitted to be used in your location. Persons in each location must make sure they are permitted to use these materials. All persons must obey all applicable federal, state, local, and provincial regulations for their location.

Table 601

Name and Number	Manufacturer
Dial Indicator Support Tools	Locally manufactured from 0.125 inch 6061 T Alloy (or equivalent)
Dial Indicators	
Ballast (150 pounds)	

3. Inspection/Check Horizontal Stabilizer Joint Bearings

A. Check Joint Bearings

(1) Remove left and right horizontal stabilizer bearing access doors.

(2) Install dial indicator support tools (2 each). (Figure 601)

(3) Attach dial indicators to support tools on left and right sides. (Figure 601)

NOTE: Dial should be set to read approximate equal measurement for an up and down movement.

(4) Record each dial indicator measurement in a static position without ballast.

(5) Apply ballast to upper surface of horizontal stabilizer as near to the tip as possible on one side. Ballast is applied to eliminate joint friction and gain total movement of joint.

(6) Record each dial indicator measurement.

NOTE: Do not reset dial indicators.

(7) Transfer ballast to opposite side to an identical location, and record each dial indicator measurement.

NOTE: Reduce total measurement of each dial indicator (sum of up and down deflections) by .006 inch (0.152 mm) to deduct structural deflection due to ballast effect.

(8) The attached chart produces analytical data to establish the correlation between dial indicator measurement and calculated joint looseness. (Figure 602)

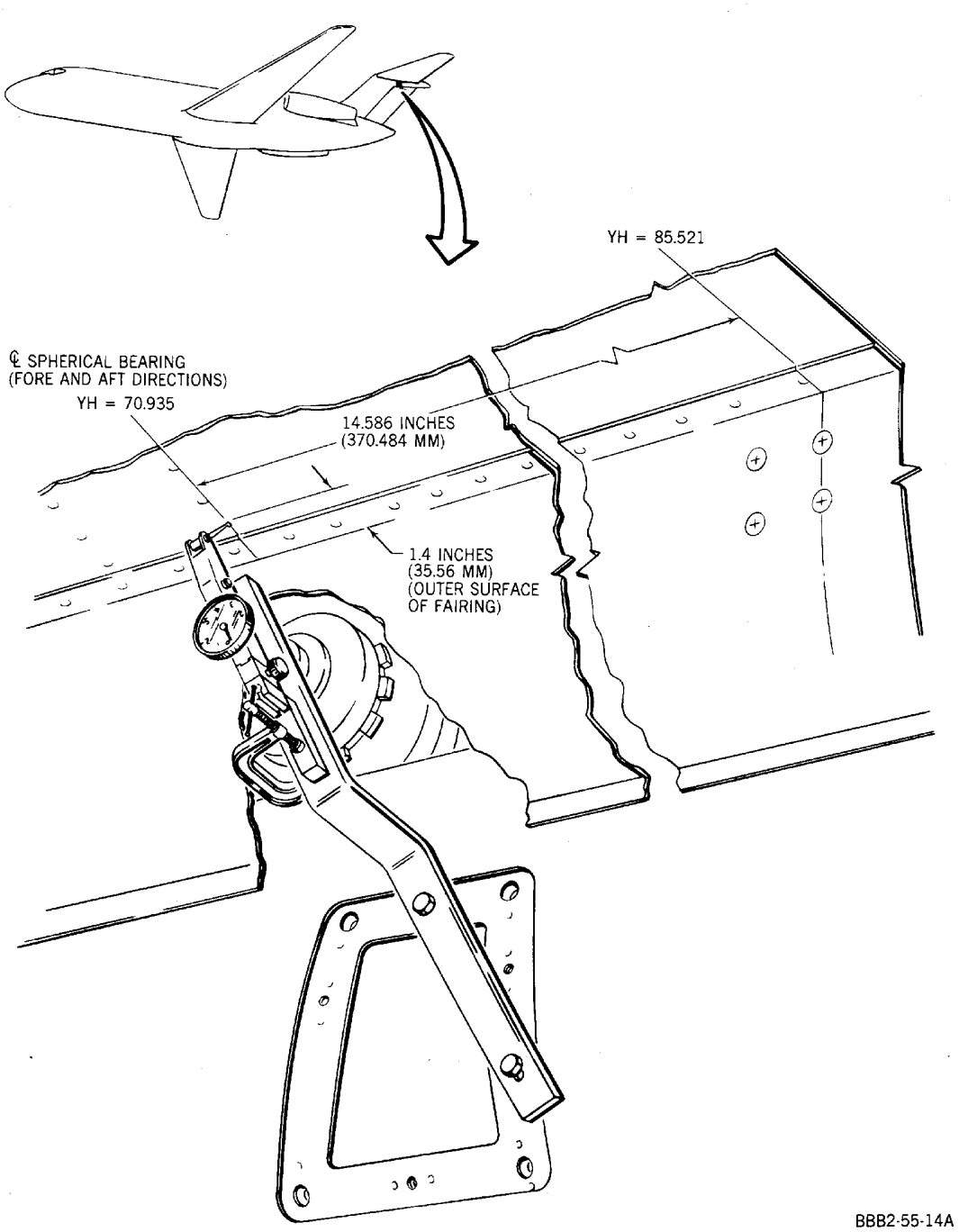
(9) If bearing looseness exceeds 0.030 inch 0.762 mm) it must be replaced.

(10) Remove ballast from upper surface of horizontal stabilizer.

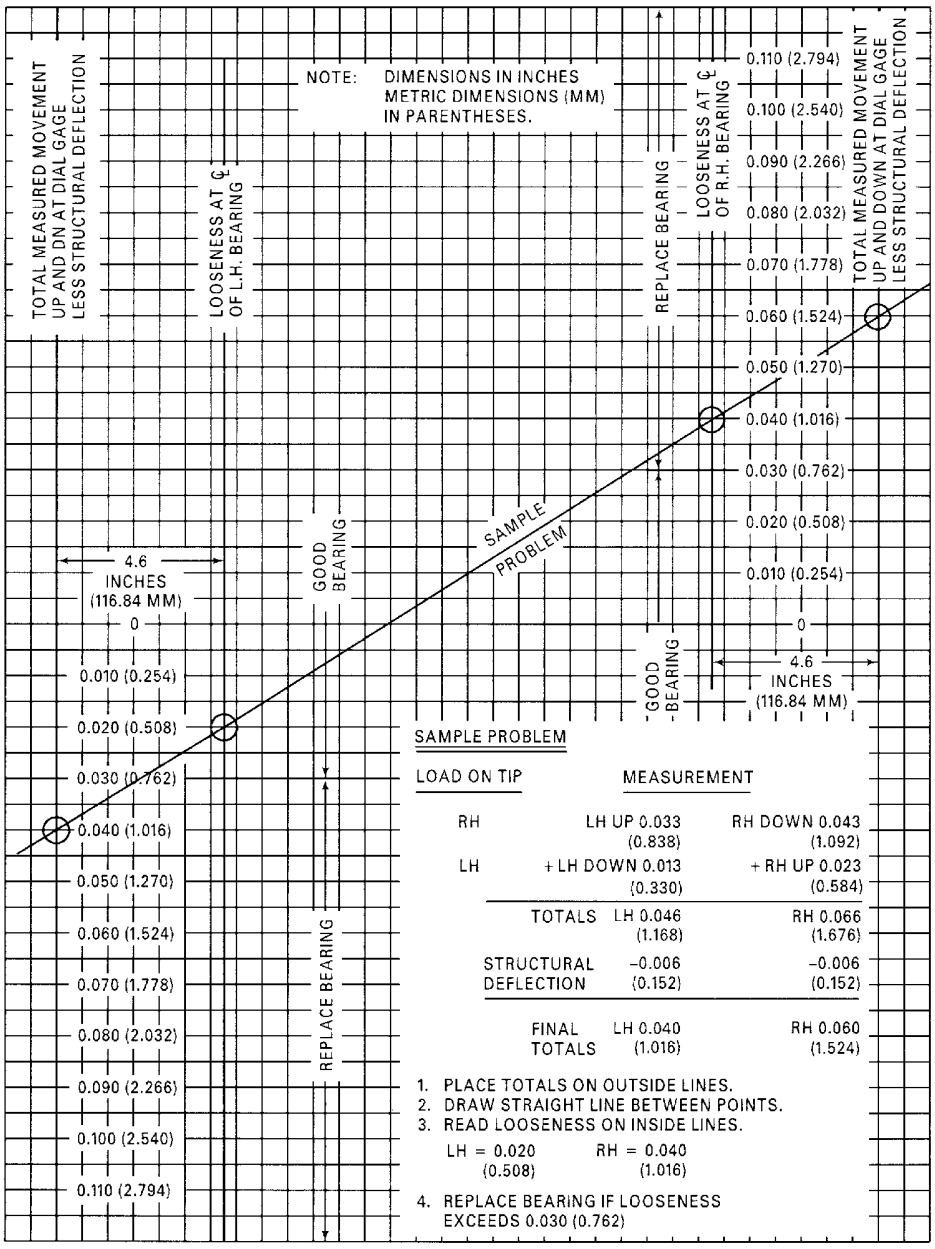
(11) Remove dial indicators from left and right sides of horizontal stabilizer.

(12) Remove dial indicator support tools from left and right sides of horizontal stabilizer.

(13) Install left and right horizontal stabilizer bearing access doors.



Horizontal Stabilizer Spherical Bearing -- Inspection/Check
Figure 601/55-10-00-990-803



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Horizontal Stabilizer Pivot Joint Measurement Chart
Figure 602/55-10-00-990-804

HORIZONTAL STABILIZER LEADING EDGE - MAINTENANCE PRACTICES

1. General

A. The leading edge of the horizontal stabilizer is removed in two sections. If both sections of leading edge are to be removed, remove outboard section first. The removal and installation procedures for the right and left stabilizer leading edge are identical. Close tolerance screws are used to attach the leading edge to the front spar.

B. The following access doors provide access to the leading edge as required by this maintenance practice.

Table 201

Item	Access Door	Location
Left splice belt, ice protection duct elbow clamp and flange fitting, inboard leading edge outboard rib bolts, anti-float tab cable	3103C	Between inboard and outboard leading edge sections on left side
Right splice belt, ice protection duct elbow clamp and flange fitting, inboard leading edge outboard rib bolts, anti-float tab cable	3204C	Between inboard and outboard leading edge sections on right side
Ice protection rotating joint and wye duct	6308C	Forward end of center fairing
Left inboard anti- float tab pulley bracket and inboard leading edge inboard rib bolts	3107C	Inboard end of left inboard leading edge
Right inboard anti- float tab pulley bracket and inboard leading edge inboard rib bolts	3208C	Inboard end of right inboard leading edge
Left outboard anti- float tab pulley bracket and inboard leading edge middle rib bolts	3101C	Inboard of splice belt on left inboard leading edge
Right outboard anti-float tab pulley bracket and inboard leading edge middle rib bolts	3202C	Inboard of splice belt on right inboard leading edge

2. Removal/Installation Horizontal Stabilizer Leading Edge

A. Remove Inboard Leading Edge

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Open these circuit breakers and install safety tags:

UPPER EPC, LEFT RADIO DC BUS

Row	Col	Number	Name
G	22	B10-90	PRIMARY LONGITUDINAL TRIM CONTROL
G	23	B10-95	PRIMARY LONGITUDINAL TRIM BRAKE

UPPER EPC, RIGHT RADIO AC BUS

Row	Col	Number	Name
D	9	B10-62	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE A
D	10	B10-61	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE B
D	11	B10-60	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE C

(2) Remove horizontal stabilizer center fairing from leading edge.

(3) Remove splice belt from leading edge.

(4) Remove clamp on stabilizer ice protection duct from wye duct to rotating joint connection.

(5) Remove clamp from ice protection duct elbow, and disconnect at flange fitting from outboard section of leading edge.

(6) Disconnect anti-float tab pulley brackets, and disconnect cable thru leading edge splice opening.

NOTE: There are two pulley brackets on each side with four different length bolts on each bracket. Mark for proper installation.

CAUTION: LEAVE SEVERAL BOLTS IN TOP EDGES NEAR CENTER TO PREVENT POSSIBLE DAMAGE TO LEADING EDGE BY TOP EDGE FALLING AWAY FROM SPAR BEFORE ALL ATTACHMENTS ARE REMOVED.

(7) Remove bolts from three ribs, and along bottom and top edges of section.

(8) Rotate ice protection duct slightly down through splice opening to clear, and move section forward until clear of stabilizer; then lower. Store section in appropriate padded rack.

NOTE: Inboard section of leading edge weighs approximately 38 pounds (17.2 kg).

B. Install Inboard Section Leading Edge

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Make sure that these circuit breakers are open and have safety tags:

UPPER EPC, LEFT RADIO DC BUS

Row	Col	Number	Name
G	22	B10-90	PRIMARY LONGITUDINAL TRIM CONTROL
G	23	B10-95	PRIMARY LONGITUDINAL TRIM BRAKE

UPPER EPC, RIGHT RADIO AC BUS

Row	Col	Number	Name
D	9	B10-62	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE A
D	10	B10-61	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE B
D	11	B10-60	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE C

(2) Check channel nuts to assure all are in place and in good condition.

(3) Position leading edge on front spar of horizontal stabilizer.

(4) Align mating holes and install several (three to five) bolts, evenly spaced, along top and bottom surfaces. Do not tighten bolts until all are installed. (Paragraph 2.B.(15))

(5) Install remaining bolts in top and bottom surfaces and three inside ribs.

(6) Position gasket between flanges of ice protection duct on outboard section, and install flange bolts.

(7) Install clamp on stabilizer ice protection duct rotating joint to wye duct connection.

(8) Remove forward end of wye duct. (ICE AND RAIN PROTECTION, CHAPTER 30)

CAUTION: SEVERE DAMAGE CAN RESULT FROM MOVING A STABILIZER WITH A JOINT THAT IS BINDING. FORCE REQUIRED TO MOVE WYE DUCT MUST NOT EXCEED 5 POUNDS (2.27 KG).

(9) Move wye duct up and down to be sure rotating joint is not binding.

(10) Install forward end of wye duct. (ICE AND RAIN PROTECTION, CHAPTER 30)

(11) Perform operational test of horizontal ice protection system to check for leaks. (ICE AND RAIN PROTECTION, CHAPTER 30)

(12) Install splice belt. Install one bolt in each corner of splice belt and add bolts along inboard and outboard edges (four along each edge).

NOTE: The splice belt mating holes may not align in which case the new splice belt furnished with the new leading edge will require holes drilled to match.

(13) Install remaining bolts in splice belt.

(14) Tighten bolts attaching three ribs to structure.

(15) Tighten all bolts in leading edge section and splice belt in sequence to assure even tightening.

(16) Install anti-float tab pulley brackets, using correct position for attaching bolts as noted in Paragraph 2.A.(6). Connect and tension cable.

(17) Check rigging of elevator anti-float tab. (PAGEBLOCK 27-30-00/501)

(18) Install horizontal stabilizer center fairing to leading edge.

(19) Remove the safety tags and close these circuit breakers:

UPPER EPC, LEFT RADIO DC BUS

Row	Col	Number	Name
G	22	B10-90	PRIMARY LONGITUDINAL TRIM CONTROL
G	23	B10-95	PRIMARY LONGITUDINAL TRIM BRAKE

UPPER EPC, RIGHT RADIO AC BUS

Row	Col	Number	Name
D	9	B10-62	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE A
D	10	B10-61	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE B
D	11	B10-60	AUTOPILOT & ALTERNATE LONGITUDINAL TRIM PHASE C

(20) Check adjustment of side load rollers. Adjust as necessary. (PAGEBLOCK 55-10-00/501)

(21) Perform operational check of longitudinal trim. (FLIGHT CONTROLS, CHAPTER 27)

C. Remove Outboard Section Leading Edge

NOTE: Prior to removal of outboard section leading edge, a protective plate should be temporarily installed between leading edge and anti-float tab pulley bracket to prevent damage to bracket.

(1) Remove splice belt.

(2) Remove stabilizer tip.

(3) Disconnect ice protection duct at flange fitting from out-board section of leading edge.

CAUTION: LEAVE SEVERAL BOLTS IN TOP EDGES NEAR CENTER TO PREVENT POSSIBLE DAMAGE TO LEADING EDGE BY TOP EDGE FALLING AWAY FROM SPAR BEFORE ALL ATTACHMENTS ARE REMOVED.

(4) Remove bolts along bottom and top edges of section.

(5) Move section forward until clear of stabilizer, then lower. Store section in appropriate padded rack.

NOTE: Outboard section of leading edge weighs approximately 100 pounds (45.4 kg).

D. Install Outboard Section Leading Edge

(1) Check channel nuts to assure all are in place and in good condition.

(2) Position leading edge on front spar of horizontal stabilizer.

(3) Align mating holes and install several (three to five) bolts, evenly spaced, along top and bottom surfaces. Do not tighten bolts until all are installed. (Paragraph 2.D.(10))

(4) Install remaining bolts in top and bottom surfaces.

(5) Position gasket between flanges of ice protection duct on outboard section and install flange bolts.

(6) Install stabilizer tip.

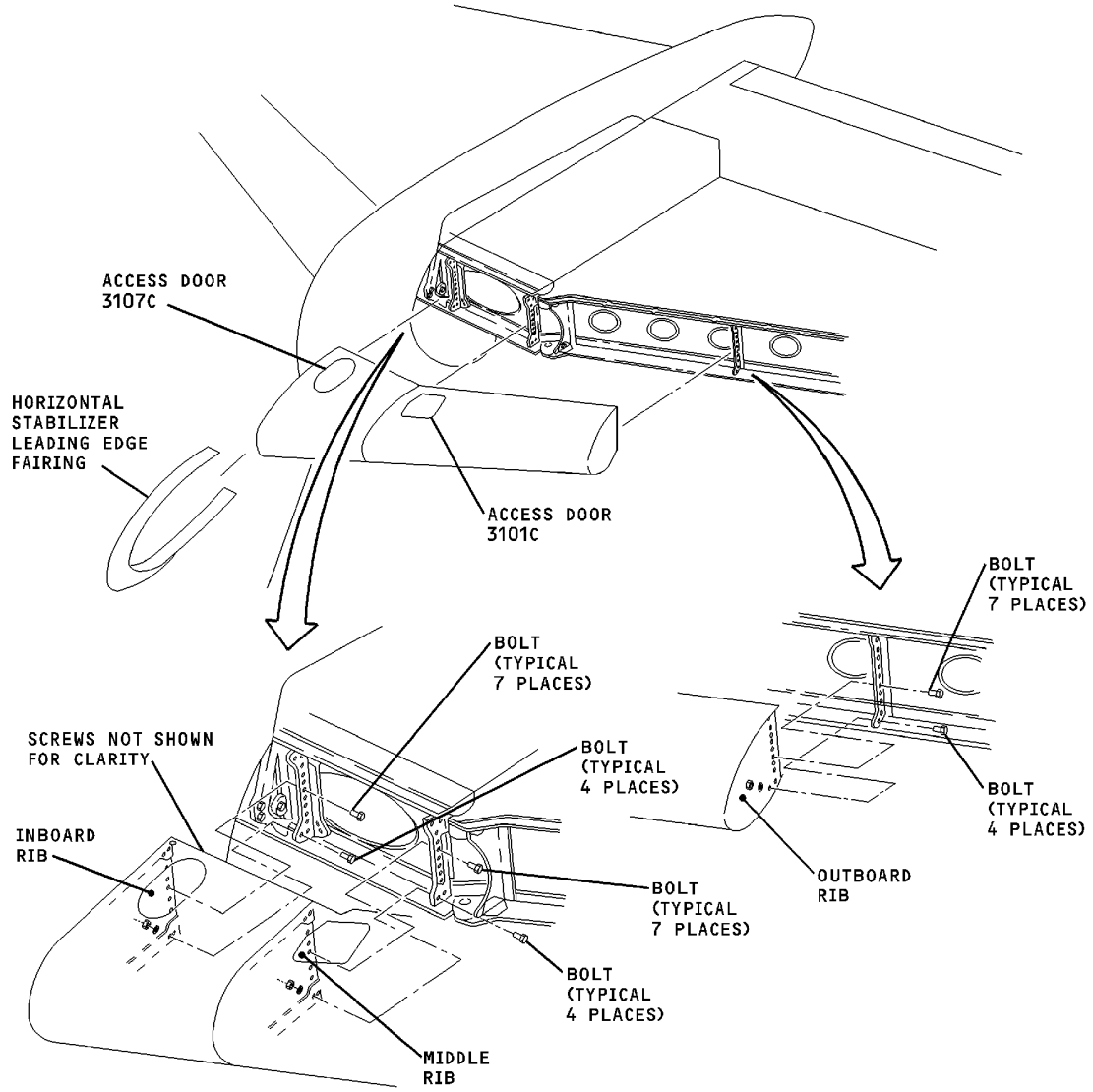
(7) Perform operational test of horizontal stabilizer ice protection system to check for leaks. ICE AND RAIN PROTECTION, CHAPTER 30)

(8) Install splice belt. Install one bolt in each corner of splice belt and add bolts along inboard and outboard edges (four along each edge).

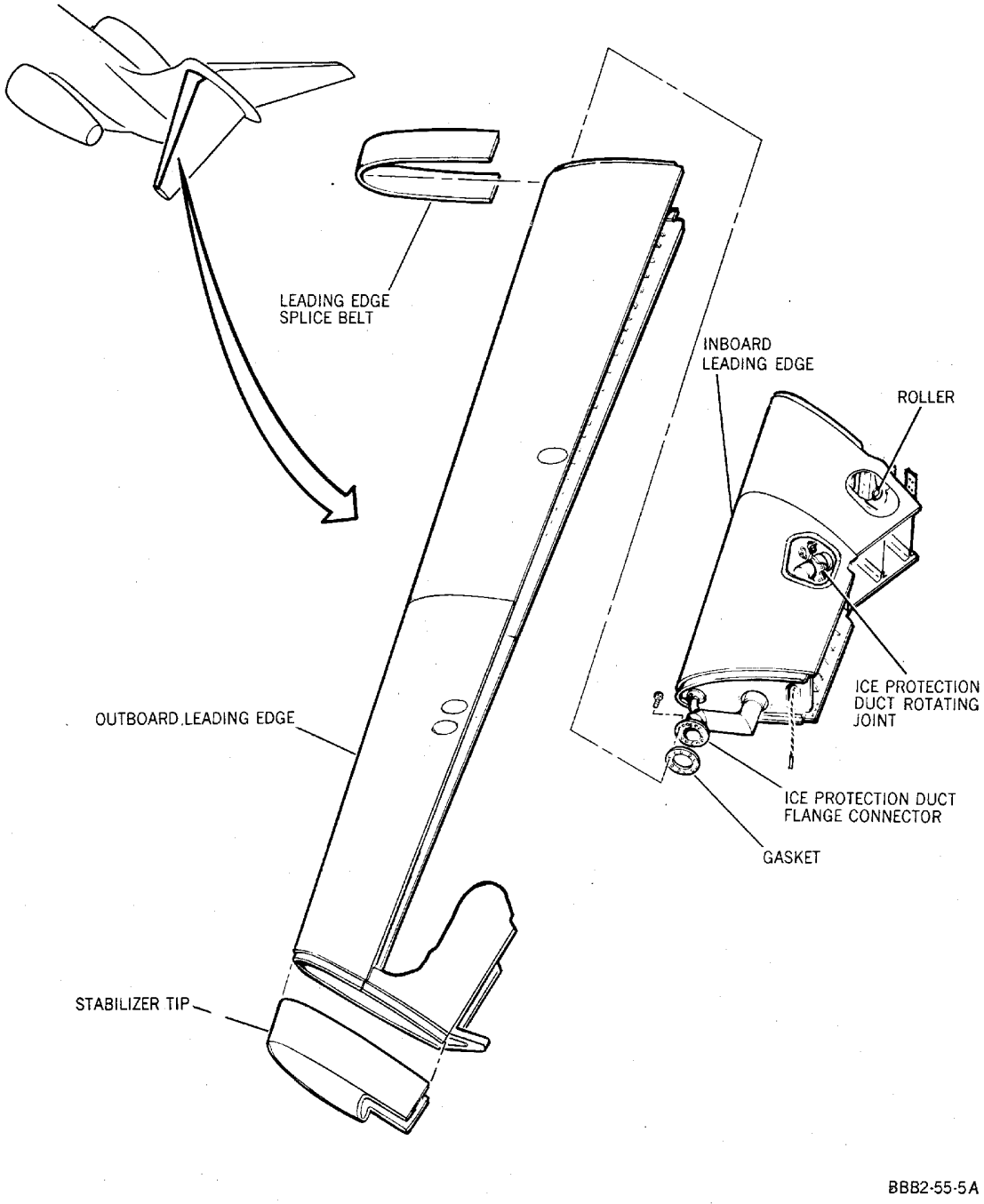
NOTE: The splice belt mating holes may not align in which case the new splice belt furnished with the new leading edge will require holes drilled to match.

(9) Install remaining bolts in splice belt.

(10) Tighten all bolts in leading edge section and splice belt in sequence to assure even tightening.



Horizontal Stabilizer Leading Edge
Figure 201/55-10-01-990-801 (Sheet 1 of 2)



Horizontal Stabilizer Leading Edge
Figure 201/55-10-01-990-801 (Sheet 2 of 2)

HORIZONTAL STABILIZER FAIRING - ADJUSTMENT/TEST

1. General

A. This procedure gives the horizontal stabilizer fairing rigging instructions.

B. The horizontal stabilizer fairing is located on the tail vertical stabilizer. (Figure 501)

C. These rigging instructions are intended for use during all horizontal stabilizer fairing installations.

2. Equipment and Materials

NOTE: Equivalent substitutes may be used for the following listed items:

NOTE: It is possible that some materials in the Equipment and Materials List cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities, and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local, and provincial laws and regulations when it is necessary to work with these materials.

Adhesive, Epoxy EC2216 B/A Gray DPM 3279	Minnesota Mining & Mfg. Co.
Isopropyl alcohol DPM 530	
Feeler gage (0.010 - 0.030)	
Inconel Lockwire 0.032 in, NASM20995N32, DPM 684	
Corrosion Resistant Steel Lockwire 0.032 in NASM20995C32, DPM 5865	

3. Horizontal Stabilizer Fairing Riqqinq Instructions

A. Preliminary Requirements

(1) Set the horizontal stabilizer to the neutral 2°arc (0 rad) leading edge down position.

B. Lower Fairing Rigging Requirement Instructions (Figure 501) and (Figure 502)

(1) Temporarily install the left or right lower fairing.

NOTE: There are three areas that are to contain shims, the forward shim area, aft shim area, and tail shim area . (Figure 501)

(2) In the forward, aft, and tail shim areas, install sufficient number of shims so the fairing just touches the vertical stabilizer.

(3) Put a .010-.030 feeler gage between the edge of the fairing and the vertical stabilizer with a 2.0 lb force against the gage.

(4) Beginning at the forward top edge of the fairing, check the fairing preload every 2.0 in. (5.08 cm) to 3.0 in. (7.62 cm) where the fairing touches the vertical stabilizer.

(a) If the gage slides under the edge of the fairing with a less than 2.0 lb force, the fairing is preloaded correctly.

(b) Continue at Paragraph 3.D..

(5) If the force to install the gage is more than a 2.0 lb force there is a gap.

(a) Adjust the shims in the applicable area.

(b) Cold form the fairing edge to correct the fairing preload.

(c) When the fit is correct, continue at Paragraph 3.D..

(6) This is a preliminary set up of the shims before the permanent installation.

NOTE: The permanent installation, the shims have adhesive epoxy added to keep shims attached to the fairing which can make the fairing move out from the original setting.

(7) Operate the horizontal stabilizer to verify the fairing moves smoothly.

C. Upper Fairing Rigging Requirement Instructions (Figure 501) and (Figure 502)

(1) Temporarily install the upper left or right fairing.

(2) In areas noted as forward, aft, and tail shim areas, install sufficient number of shims so that fairing just touches the vertical stabilizer.

(a) In the tail shim area, install shims so the edge of fairing clears vertical stabilizer by 0.015 in. (0.038 cm) to 0.025 in. (0.064 cm).

(3) Tighten fairing attach bolts to preload the fairing.

(4) Check for excessive preload or gaps as follows:

(a) Put a .010-.030 feeler gage between the edge of the fairing and the vertical stabilizer with a 2.0 lb force against gage.

(b) Beginning at the forward and lower edge of the fairing, check the fairing preload every 2.00 in. (5.08 cm) to 3.00 in. (7.62 cm) through Zone 3.

(c) If the gage slides under the edge of the fairing with a less than 2.0 lb force, the upper fairing is preloaded correctly. Continue at Paragraph 3.D..

(5) If there is open gaps or excessive preload between the fairing and the vertical stabilizer, do the following:

(a) Adjust the shims or cold form fairing so that the entire length is in contact with the vertical stabilizer.

(b) Do not cold form Zone 1 areas.

NOTE: This is a preliminary set up of the shims before the permanent installation. In the permanent installation, the shims have adhesive epoxy added to keep shims attached to the fairing which makes the fairing move out from original setting.

(c) When a correct fit is obtained continue at Paragraph 3.D..

D. Permanent Installation of Upper and Lower Fairings

(1) After the requirements of the rigging instructions are met, remove the applicable upper and lower fairings.

(2) Keep the shims for each area together.

WARNING: ISOPROPYL ALCOHOL IS AN AGENT THAT IS FLAMMABLE, EXPLOSIVE, AND POISONOUS. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN ISOPROPYL ALCOHOL IS USED.

- GAS/AIR MIXTURES MORE THAN THE LOWER EXPLOSIVE LIMIT (LEL) CAN CAUSE AN EXPLOSION IF HIGH HEAT, SPARKS, OR FLAMES SUPPLY IGNITION.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET ISOPROPYL ALCOHOL IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

(WARNING PRECEDES)

WARNING: REFER TO THE MANUFACTURER'S MATERIAL SAFETY DATA SHEETS FOR CONSUMABLE MATERIAL INFORMATION SUCH AS: HAZARDOUS INGREDIENTS, PHYSICAL/CHEMICAL CHARACTERISTICS, FIRE, EXPLOSION, REACTIVITY, HEALTH HAZARD DATA, PRECAUTIONS FOR SAFE HANDLING, USE AND CONTROL MEASURES.

(3) Make sure the shims are clean. Use isopropyl alcohol with clean cloth to clean them.

WARNING: EPOXY ADHESIVE IS AN AGENT THAT IS POISONOUS AND AN IRRITANT. MAKE SURE ALL PERSONS OBEY ALL OF THE PRECAUTIONS WHEN EPOXY ADHESIVE IS USED.

- DO NOT USE IN AREAS WHERE THERE IS HIGH HEAT, SPARKS, OR FLAMES.
- USE IN AN AREA OPEN TO THE AIR.
- CLOSE THE CONTAINER WHEN NOT USED.
- DO NOT GET EPOXY ADHESIVE IN THE EYES, ON THE SKIN, OR ON YOUR CLOTHES.
- DO NOT BREATHE THE GAS.

WARNING: REFER TO THE MANUFACTURER'S MATERIAL SAFETY DATA SHEETS FOR CONSUMABLE MATERIAL INFORMATION SUCH AS: HAZARDOUS INGREDIENTS, PHYSICAL/CHEMICAL CHARACTERISTICS, FIRE, EXPLOSION, REACTIVITY, HEALTH HAZARD DATA, PRECAUTIONS FOR SAFE HANDLING, USE AND CONTROL MEASURES.

CAUTION: WHEN MIXING THE ADHESIVES, CARE SHALL BE TAKEN TO AVOID BREATHING THE CURING AGENT OR HARDENER VAPORS. ADEQUATE VENTILATION SHALL BE PROVIDED IN THE WORKING AREAS. IN THE EVENT EITHER THE MIXED ADHESIVE OR THE HARDENER CONTACTS THE SKIN, REMOVE WITH A CLEAN WIPER, DAMPENED WITH DPM 530 SOLVENT, ISOPROPYL ALCOHOL FOLLOWED BY A THOROUGH WASHING WITH SOAP AND WATER.

(4) Mix 100 parts by weight of (DPM 3279) adhesive epoxy EC2216 Part B, and 140 parts by weight of EC2216 Part A.

(a) Mix in a non-absorbent container (glass, metal or polyethylene coated paper) until a mass is a uniform color and viscosity.

(b) Do not use high speed agitation.

(c) Maximum quantity to be mixed in one batch is one pound (454 grams).

(d) Pot life is approximately 40 minutes at 77°F (25°C) in one pound batches.

(5) Apply the adhesive epoxy EC2216 mixture (DPM 3279) to the shims and the fairing. Install the shims to the fairing in the exact manner removed from fairing.

(a) Immediately assemble the parts in proper alignment and supply sufficient pressure to allow intimate contact and to maintain approximately 0.003 to 0.010 inch (0.076 to 0.254 mm) adhesive in the joint.

(b) Allow to cure at 70°F (21°C) to 85°F (29°C) until firm before handling. Adequate bond strength is attained in 24 hours (minimum 70°F (21°C)).

(6) Make sure that all the bolts correctly attach the shims and fairing to the horizontal stabilizer attach lugs.

(7) Install the upper and lower fairings using attach bolts and washers.

WJE ALL PRE DC9-55-061

(a) Install upper and lower fairings aft attach washers bolts and nuts. Install cotter pin.

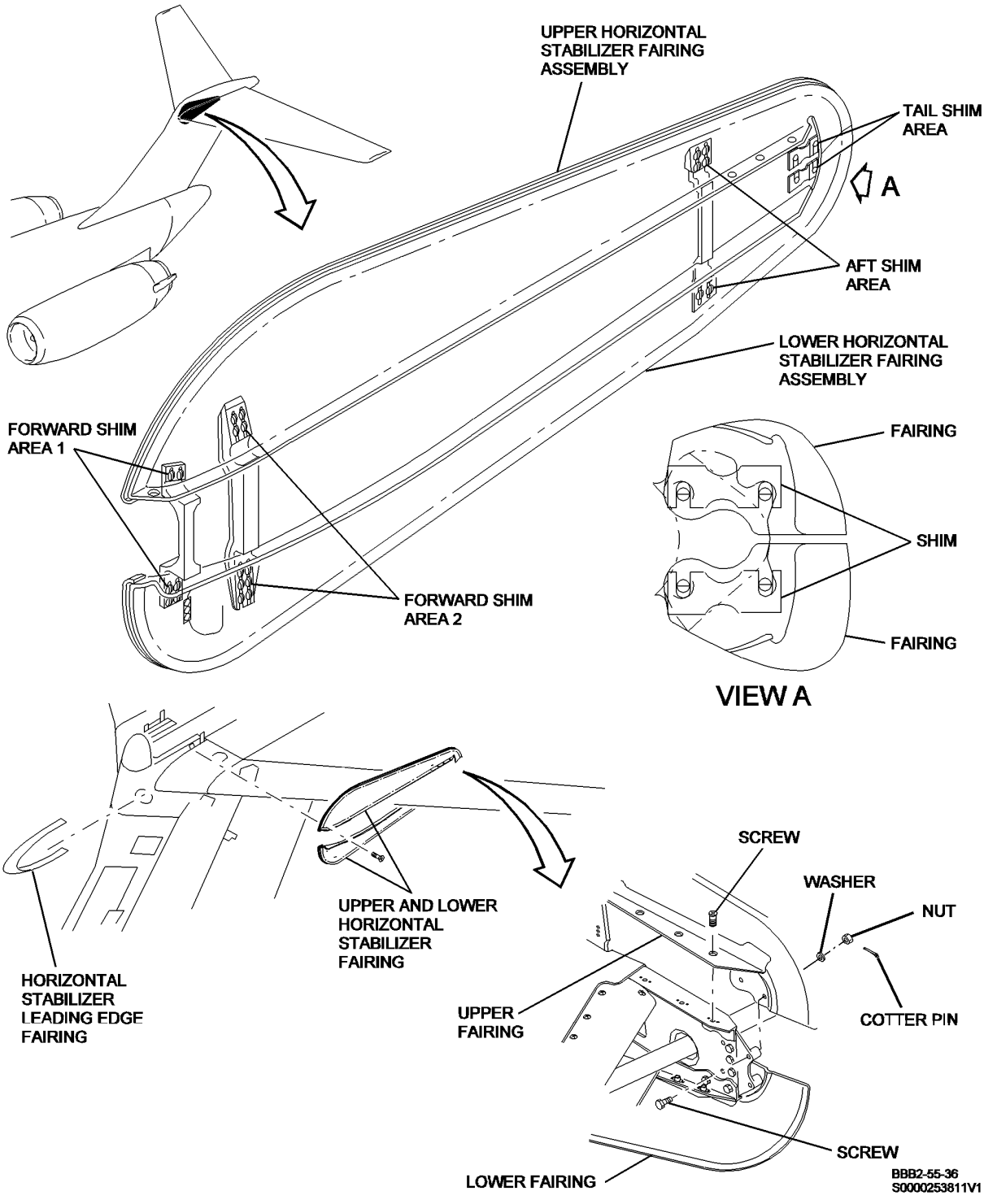
WJE ALL POST DC9-55-061

(b) Install upper and lower fairings aft attach washers and bolts. Safety the upper and lower aft faring attach bolts with lockwire.(LOCKWIRE SAFETYING - MAINTENANCE PRACTICES, PAGEBLOCK 20-10-18/201)

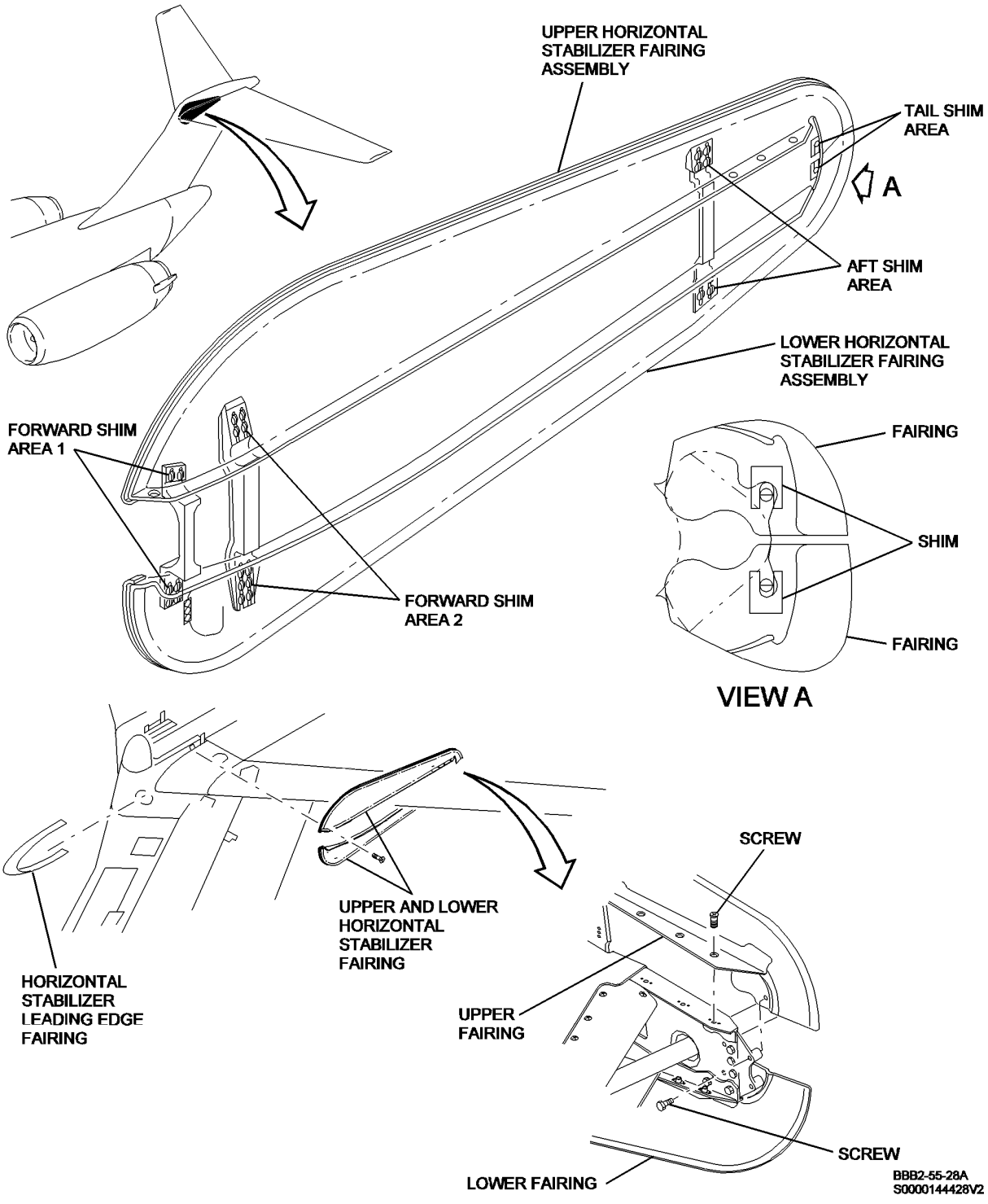
WJE ALL

(8) Make sure that the rigging requirements of Paragraph 3.B. and Paragraph 3.C. are met.

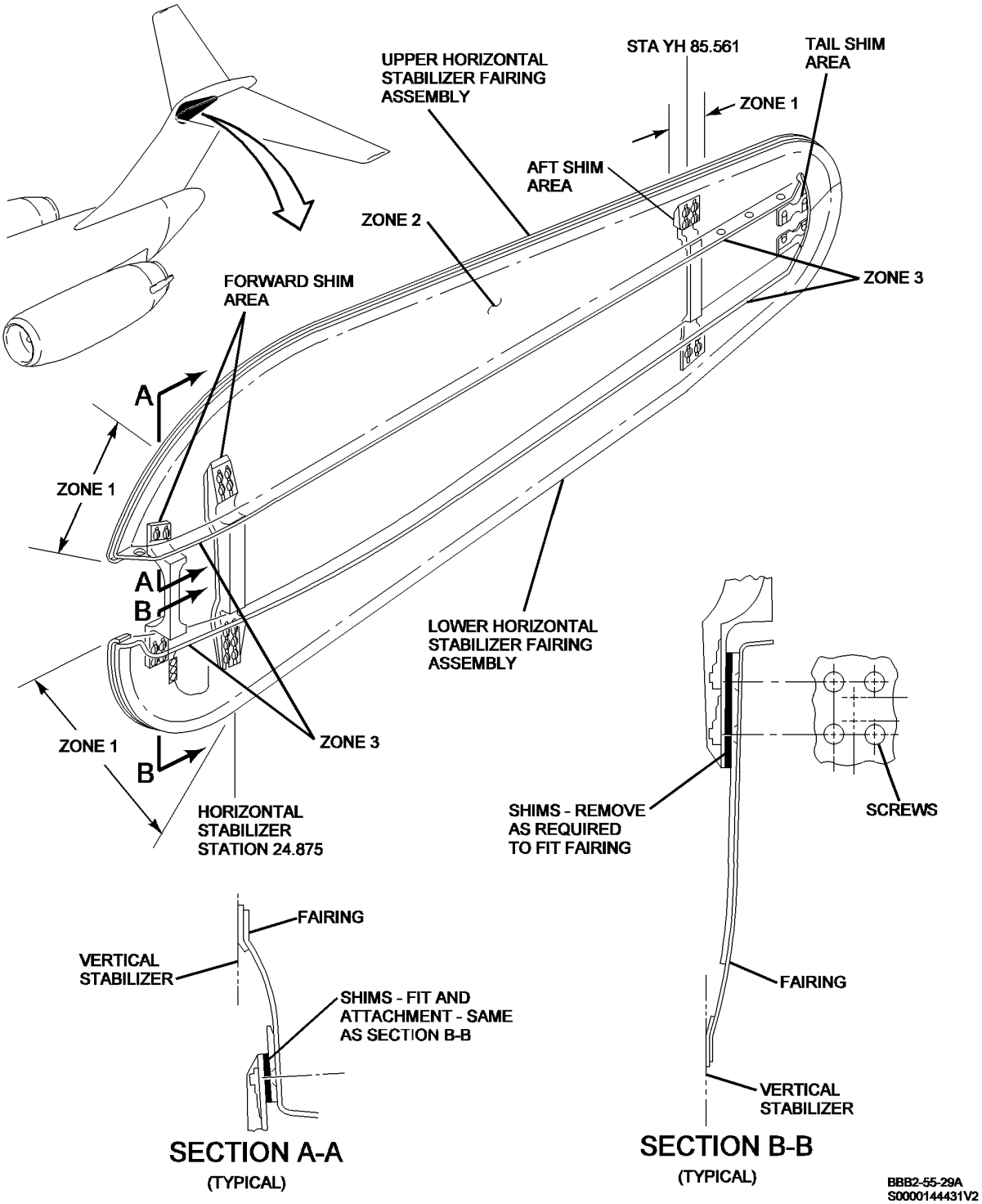
(9) If the rigging requirements are not met, repeat this procedure by adjusting the shims until the requirements are met.



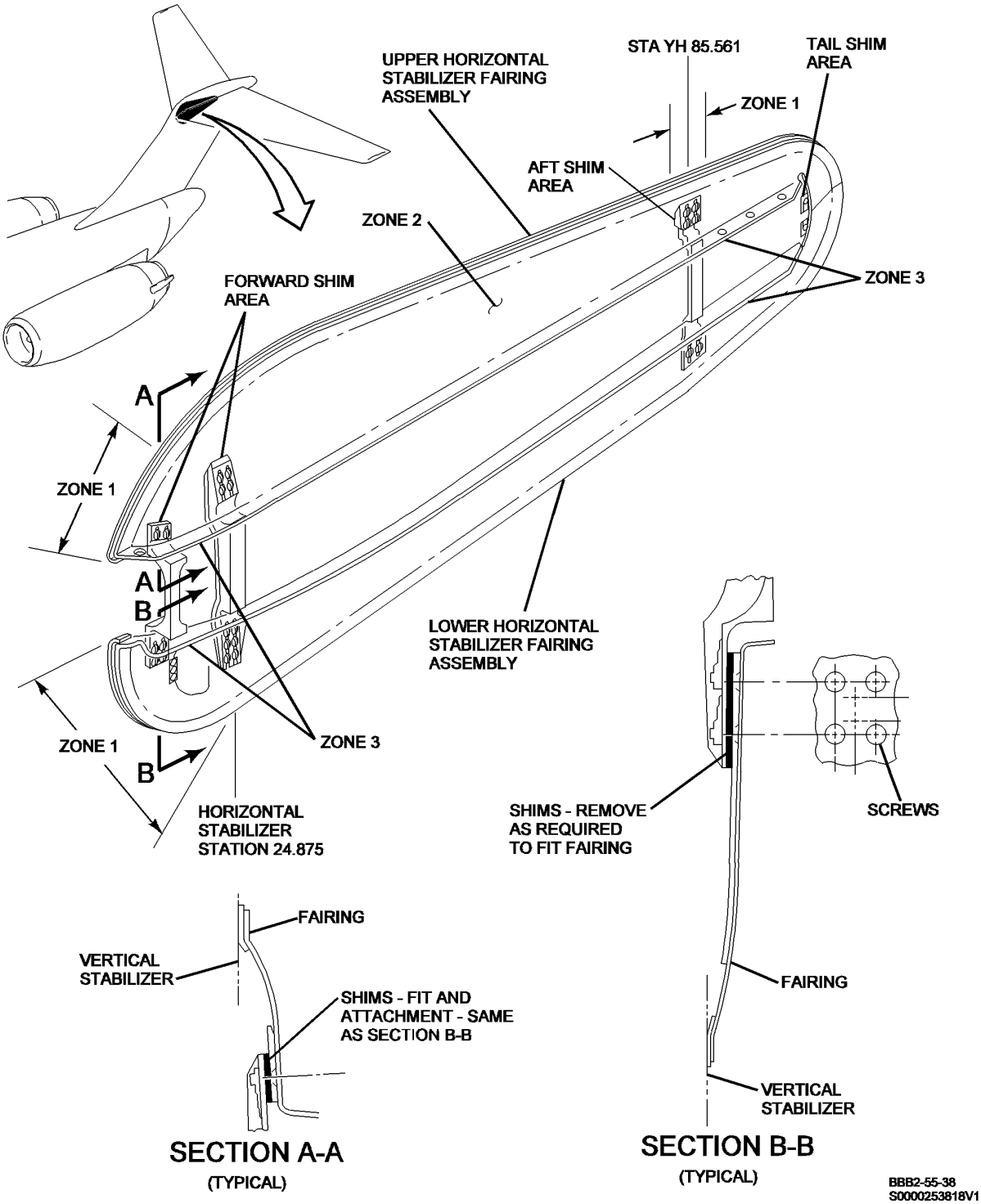
Horizontal Stabilizer Fairing - Rigging
Figure 501/55-10-03-990-801 (Sheet 1 of 2)



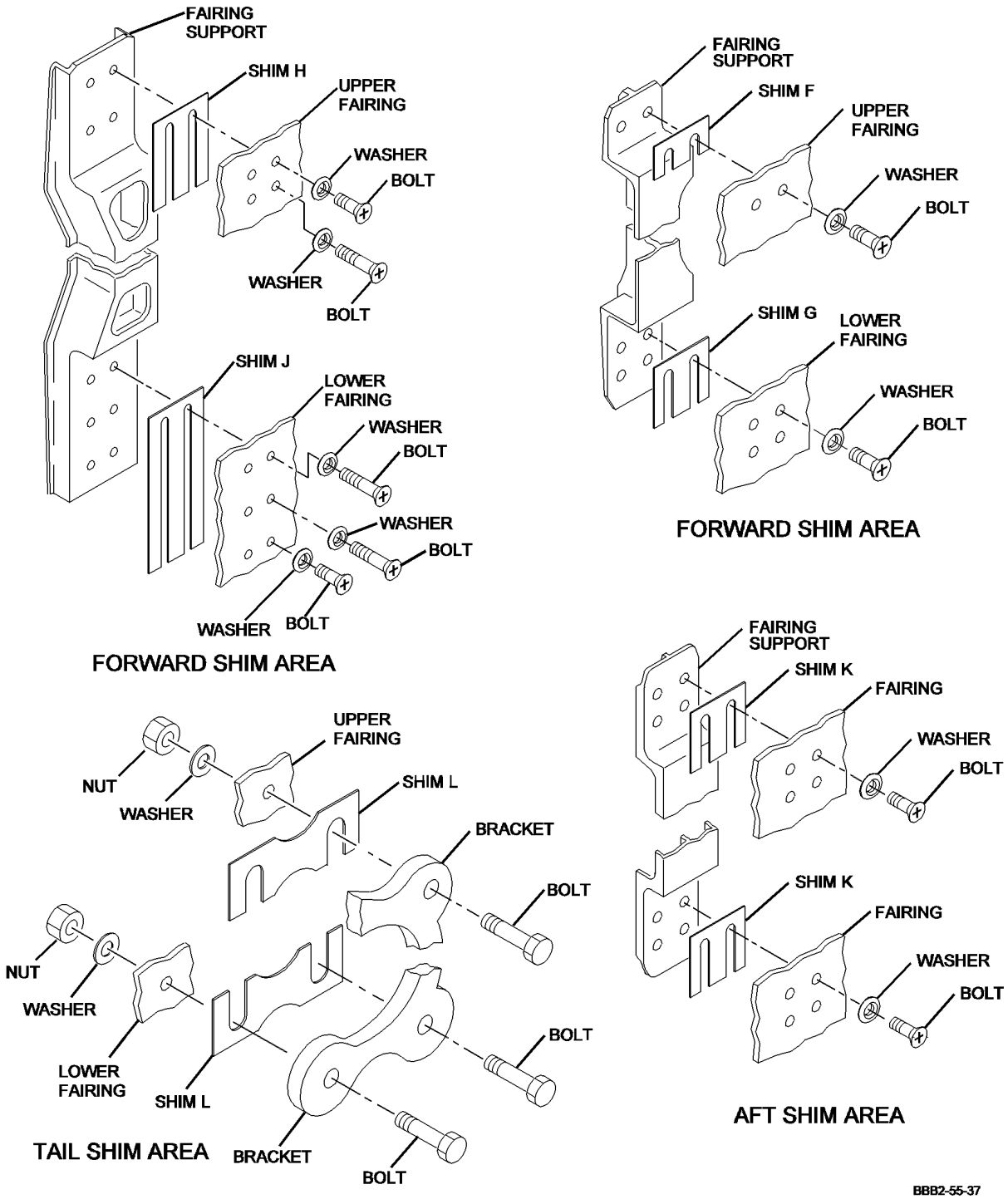
Horizontal Stabilizer Fairing - Rigging
Figure 501/55-10-03-990-801 (Sheet 2 of 2)



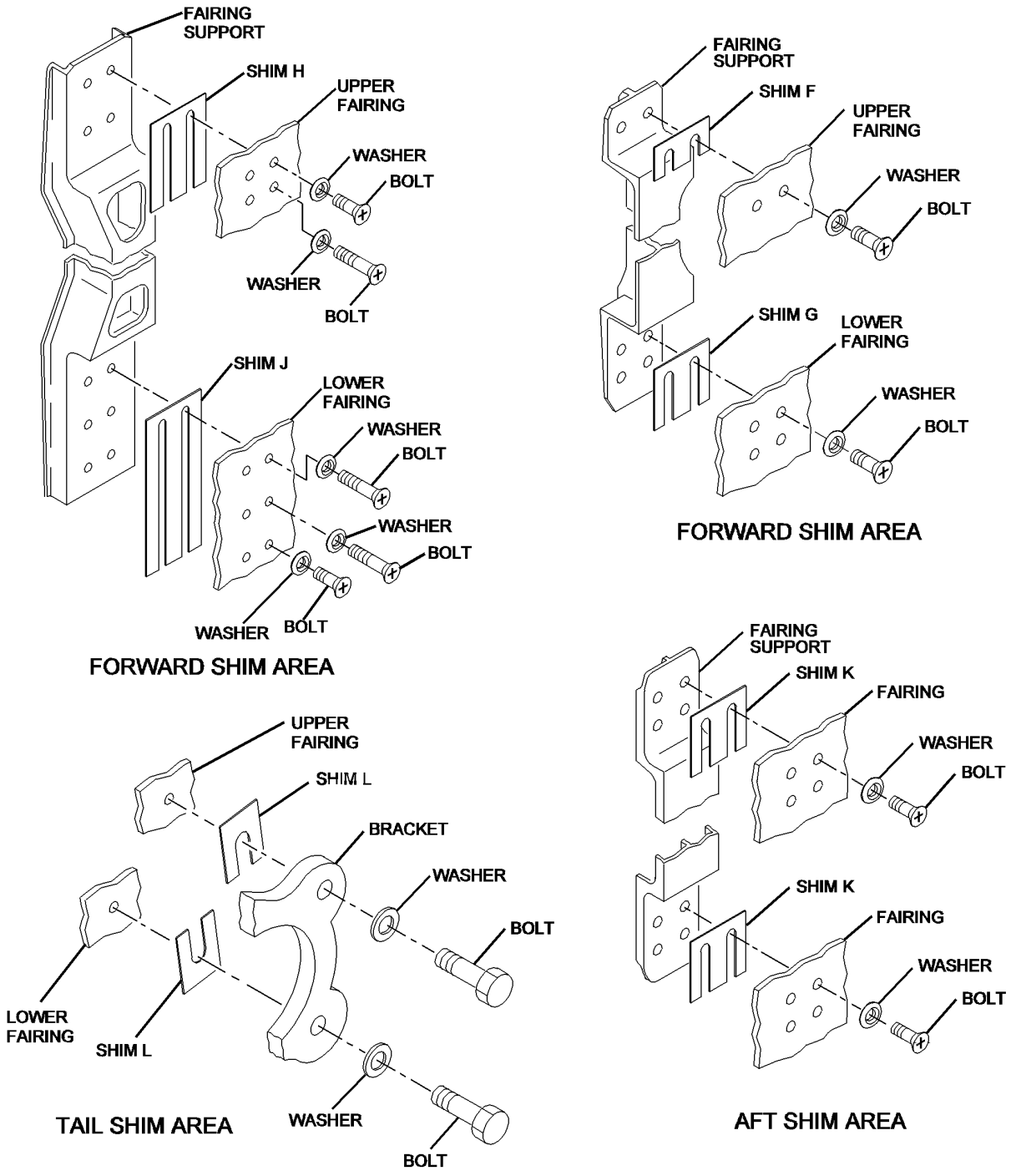
Horizontal Stabilizer Fairing - Rigging
Figure 502/55-10-03-990-802 (Sheet 1 of 4)



Horizontal Stabilizer Fairing - Rigging
Figure 502/55-10-03-990-802 (Sheet 2 of 4)



Horizontal Stabilizer Fairing - Rigging
Figure 502/55-10-03-990-802 (Sheet 3 of 4)



Horizontal Stabilizer Fairing - Rigging
Figure 502/55-10-03-990-802 (Sheet 4 of 4)

ELEVATORS - DESCRIPTION AND OPERATION

1. General

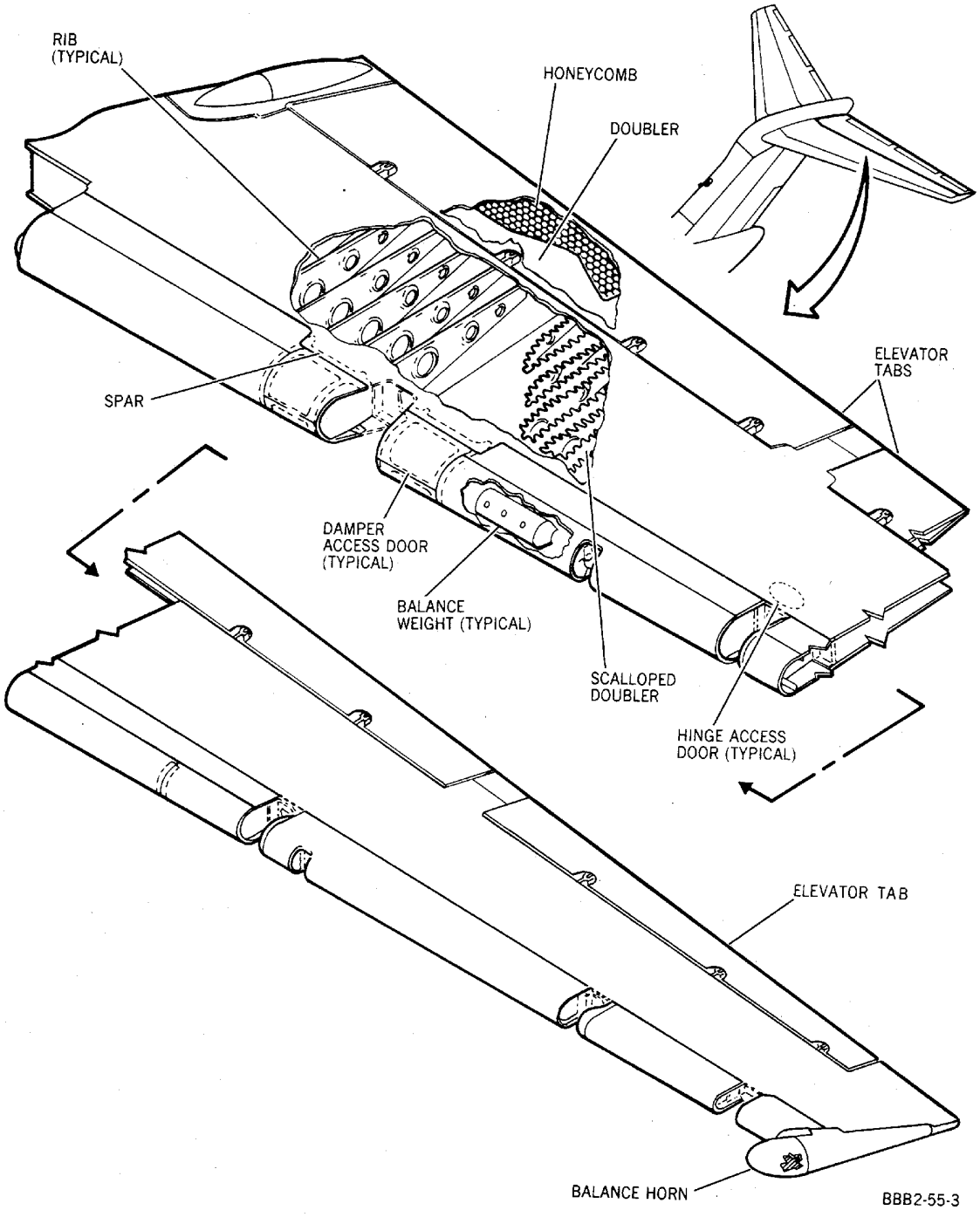
A. The elevators are mounted on truss-type hinge fittings which are attached to the horizontal stabilizer rear spar. The hinges incorporate roller-type bearings which are replaceable without removing the elevator. Access doors in the elevator provide access to bearings, dampeners, and attach points within the elevator. Removable nose caps on the elevators are installed with screws.

2. Elevators

A. The elevators are of all-metal construction except for a fiber-glass trailing edge. The elevators are constructed with a spanwise spar, chordwise ribs, formers, and skin with bonded doublers. Control tabs of all-metal aluminum honeycomb construction are attached to the elevator trailing edge. Tabs are interchangeable without rebalancing the elevator.

B. The elevator is aerodynamically balanced by an overhanging nose-type balance, forward of the hinge line. Mass balance for prevention of flutter is provided by fixed weights in the nose caps.

C. The elevators are sealed against the entry of liquids; however, drain holes are provided in areas where liquids may collect. These holes are open at all times to permit constant draining.



Elevator Flight Control Structure
Figure 1/55-20-00-990-801

VERTICAL STABILIZER - DESCRIPTION AND OPERATION

1. General

A. The vertical stabilizer is a fully cantilevered sweptback construction with three spars. The front and rear spars extend the full length of the stabilizer. With a short center spar, the front and rear spars are attached to the aft fuselage structure with lockbolts and collars. The permanently attached vertical stabilizer provides attachment at the top for the horizontal stabilizer and elevators. The rudder is attached to the rear spar. A removable leading edge section is attached to the front spar. A leading edge tip is permanently attached to the stabilizer structure.

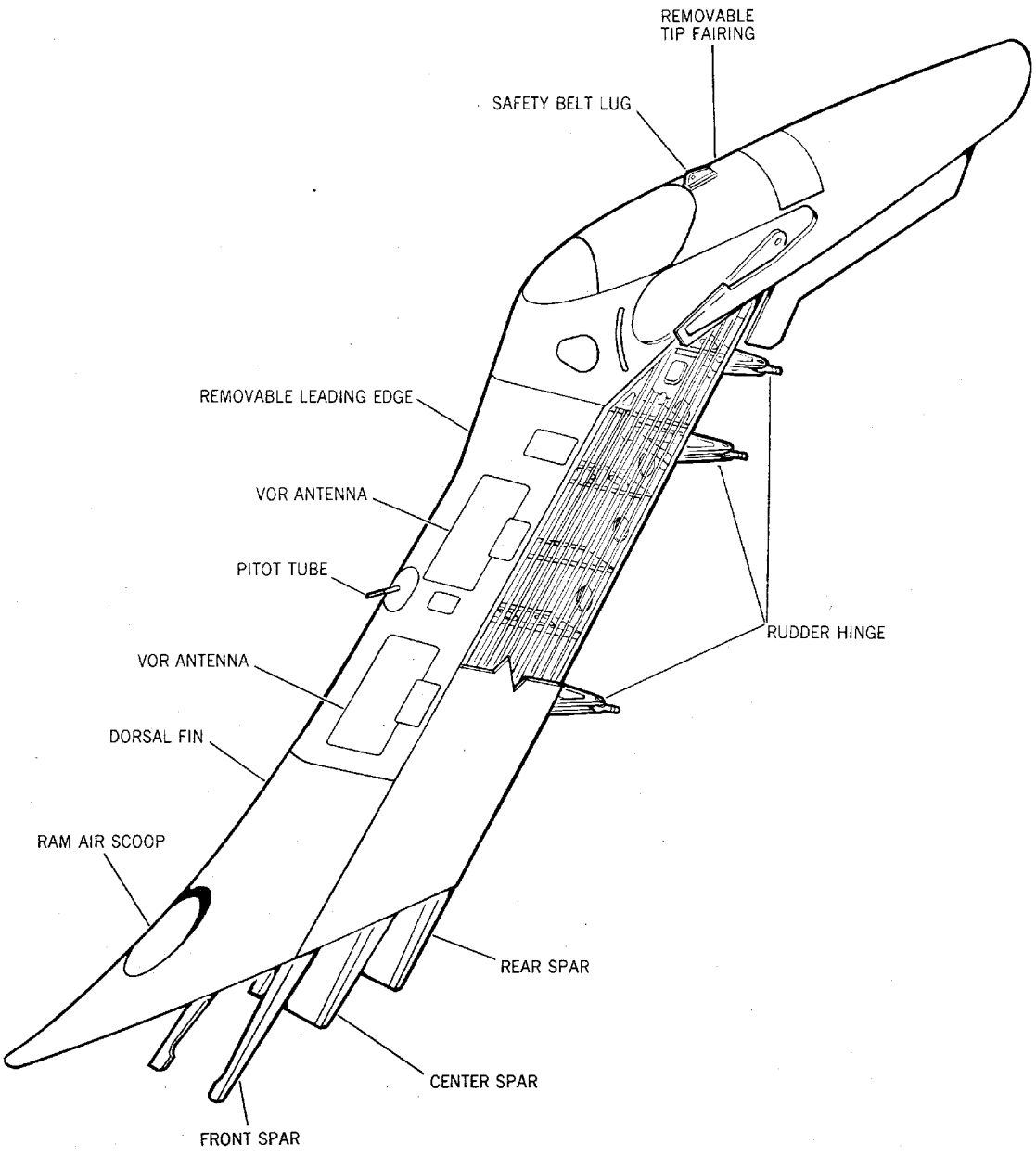
2. Vertical Stabilizer

A. The leading edge section is of single-skin construction with doublers, stiffeners, and ribs. The VOR antennas are located on the leading edge. Access doors in the leading edge provide access for maintenance and inspection of ice protection ducts, pitot tube, pitot tubehose, and antenna connections. Hoist points for a sling are provided for use during removal or installation of the leading edge.

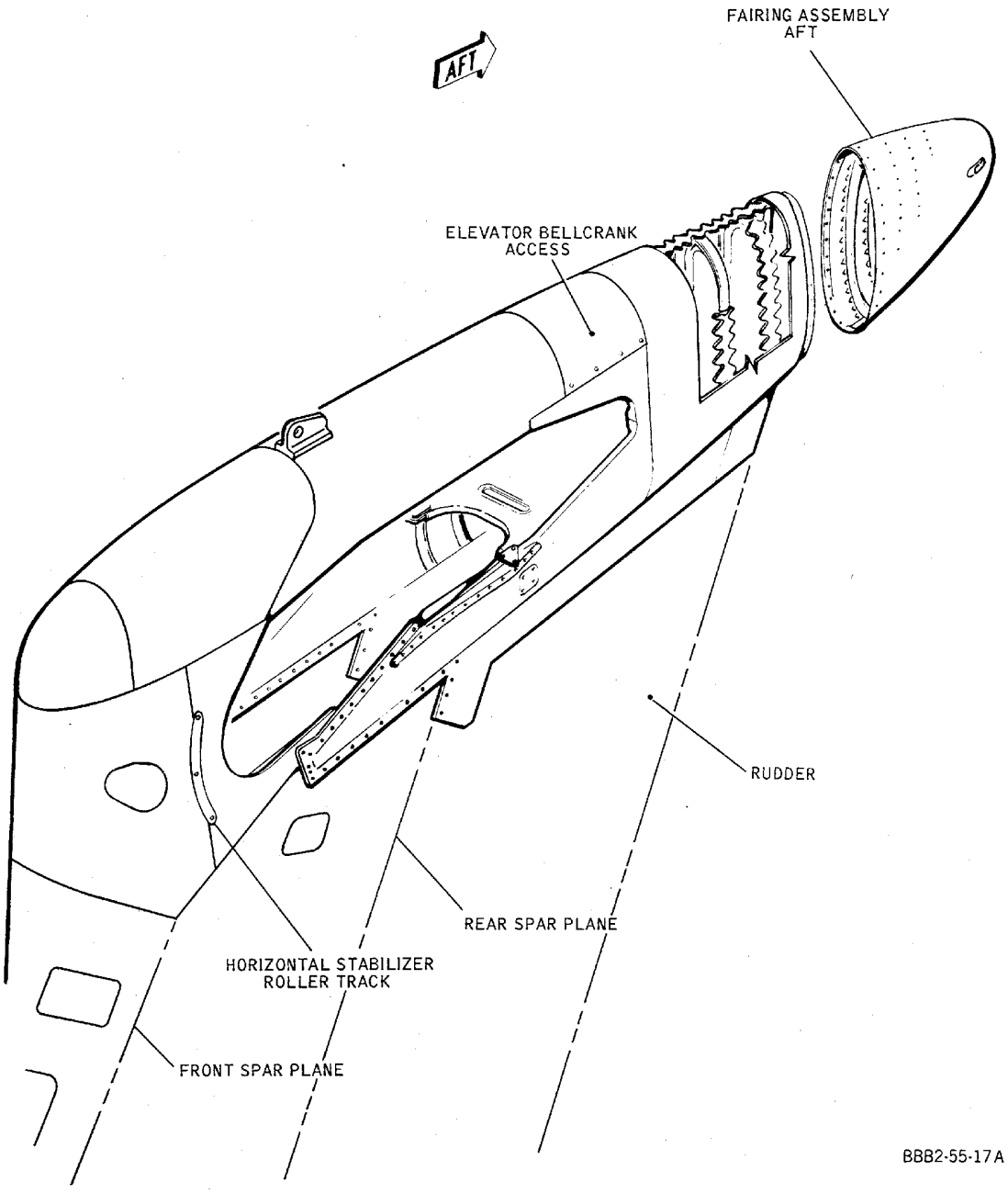
B. A removable vertical stabilizer tip fairing is attached to the top of the stabilizer structure with screws, and provides access to the horizontal stabilizer center section.

C. The lower section of the leading edge is permanently attached to the aft fuselage structure and the vertical stabilizer.

A ram air scoop is located in the lower section and is heated for ice protection.



Vertical Stabilizer
Figure 1/55-30-00-990-801



Vertical Stabilizer Removable Tip Fairing
Figure 2/55-30-00-990-802

VERTICAL STABILIZER LEADING EDGE - MAINTENANCE PRACTICES

1. General

A. The upper section of the leading edge of the vertical stabilizer is removable for access to lines and ducts attached to the front spar. The section is approximately 9 feet long and weighs about 70 pounds (32 kg). Hoist points are provided for use of a sling.

B. Access to VOR antenna connectors and pitot tube connection is gained through access doors located on the left hand side of the leading edge.

2. Equipment and Materials

NOTE: Equivalent substitutes may be used instead of the following listed items:

NOTE: It is possible that some materials in the Equipment and Materials List cannot be used for some or all of their necessary applications. Before you use the materials, make sure the types, quantities, and applications of the materials necessary are legally permitted in your location. All persons must obey all applicable federal, state, local, and provincial laws and regulations when it is necessary to work with these materials.

Table 201

Name and Number	Manufacturer
Copper Lockwire, 0.020 in (MS20995CY20)	
Sling 5952162-1	The Boeing Company

3. Removal/Installation Vertical Stabilizer Leading Edge

A. Remove Leading Edge

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Open these circuit breakers and install safety tags:

OVERHEAD EMERGENCY AC BUS

Row	Col	Number	Name
WJE 401-409, 411, 412, 414-427, 429, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 891-893			
A	4	B10-77	VHF NAV-1 28 VAC
WJE 410			
A	5	B10-77	VHF NAV-1 28 VAC

OVERHEAD EMERGENCY DC BUS

Row	Col	Number	Name
WJE 401-409, 411, 412, 414-427, 429, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 891-893			
B	9	B10-22	VHF NAV-1
WJE 410			
B	10	B10-22	VHF NAV-1

WJE 410 (Continued)

UPPER EPC, RIGHT RADIO BUS

Row	Col	Number	Name
WJE ALL			
B	5	B10-78	VHF NAV-2

UPPER EPC, RIGHT RADIO DC BUS

Row	Col	Number	Name
G	7	B10-24	VHF NAV-2

(2) Disconnect VOR antenna coaxial cable connectors and pitot tube hose.

CAUTION: DO NOT IMPOSE LIFTING FORCE.

(3) Install sling, and then take up slack.

(4) Remove bolts along mating edge, except leave one bolt in each mating edge near center of row.

(5) Make certain that all attachments are removed and that leading edge is supported by sling, then remove remaining bolt in each mating edge.

(6) Move leading edge forward until clear of vertical stabilizer, then lower. Store in appropriate padded rack.

(7) Remove sling and install screws in hoist points.

B. Install Leading Edge

WARNING: TAG AND USE SAFETY CLIPS TO SAFETY THE CIRCUIT BREAKERS. IF THE CIRCUIT BREAKERS ARE NOT OPENED, TAGGED, AND SAFETIED, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Make sure that these circuit breakers are open and have safety tags:

OVERHEAD EMERGENCY AC BUS

Row	Col	Number	Name
WJE 401-409, 411, 412, 414-427, 429, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 891-893			
A	4	B10-77	VHF NAV-1 28 VAC
WJE 410			
A	5	B10-77	VHF NAV-1 28 VAC

OVERHEAD EMERGENCY DC BUS

Row	Col	Number	Name
WJE 401-409, 411, 412, 414-427, 429, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 891-893			
B	9	B10-22	VHF NAV-1
WJE 410			
B	10	B10-22	VHF NAV-1

UPPER EPC, RIGHT RADIO BUS

Row	Col	Number	Name
WJE ALL			
B	5	B10-78	VHF NAV-2

UPPER EPC, RIGHT RADIO DC BUS

Row	Col	Number	Name
G	7	B10-24	VHF NAV-2

(2) Check channel nuts to assure all are in place and in good condition.

(3) Attach sling to leading edge section.

(4) Hoist leading edge into position for installing on vertical stabilizer front spar. Align mating holes and insert one flush mating bolt in each mating edge hole near center of row.

(5) Install all bolts along each mating edge. Do not tighten bolts until all are installed. (Paragraph 3.B.(7))

(6) Remove sling and install screws in hoist points.

(7) Tighten all bolts in leading edge in sequence to assure even tightening.

(8) Connect VOR antenna coaxial cable connectors and pitot tube hose. Safety with copper lockwire. (LOCKWIRE SAFETYING - MAINTENANCE PRACTICES, PAGEBLOCK 20-10-18/201)

(9) Remove the safety tags and close these circuit breakers:

OVERHEAD EMERGENCY AC BUS

Row	Col	Number	Name
WJE 401-409, 411, 412, 414-427, 429, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 891-893			
A	4	B10-77	VHF NAV-1 28 VAC
WJE 410			
A	5	B10-77	VHF NAV-1 28 VAC

OVERHEAD EMERGENCY DC BUS

Row	Col	Number	Name
WJE 401-409, 411, 412, 414-427, 429, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 891-893			
B	9	B10-22	VHF NAV-1
WJE 410			
B	10	B10-22	VHF NAV-1

UPPER EPC, RIGHT RADIO BUS

Row	Col	Number	Name
WJE ALL			
B	5	B10-78	VHF NAV-2

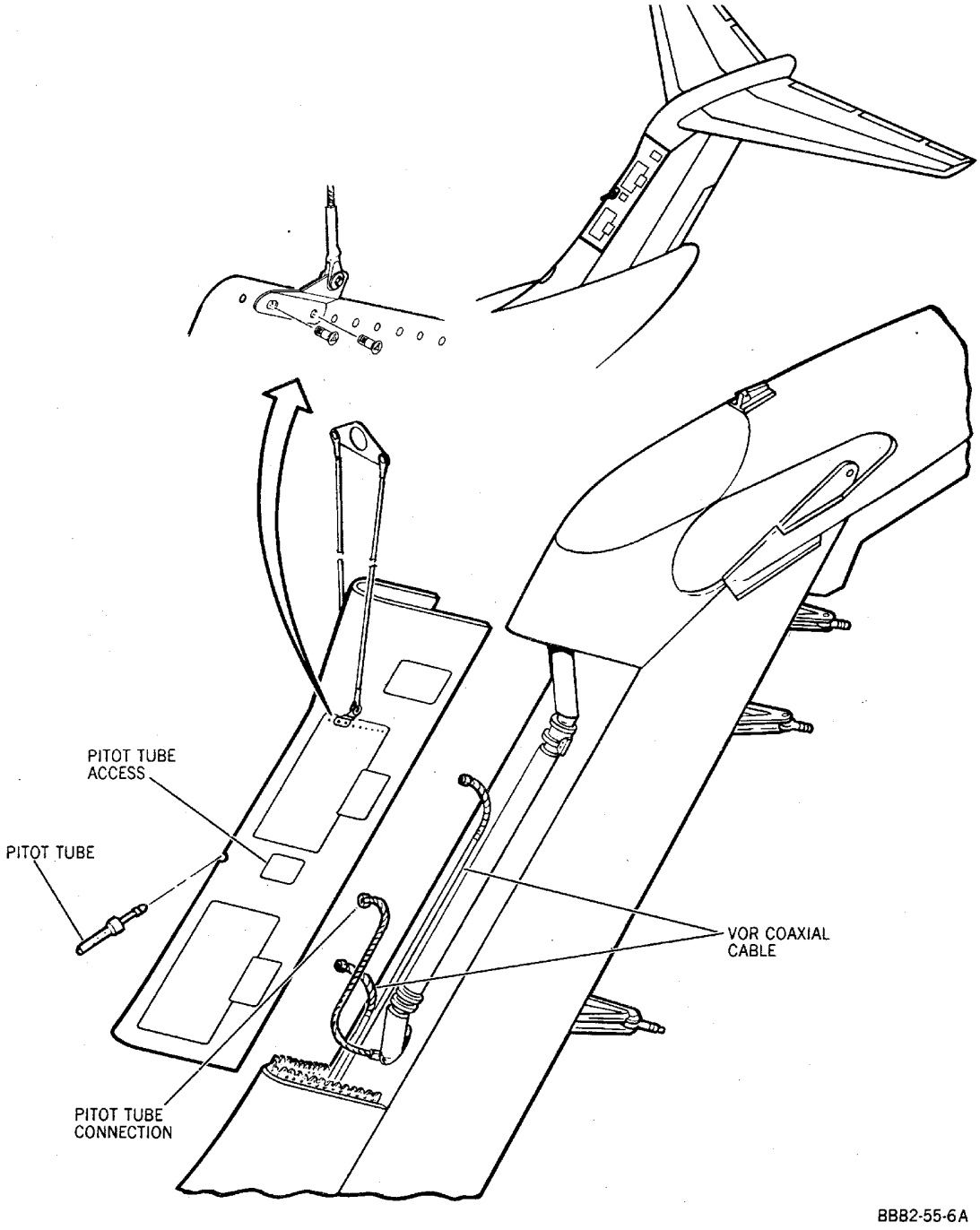
UPPER EPC, RIGHT RADIO DC BUS

Row	Col	Number	Name
G	7	B10-24	VHF NAV-2

(10) Perform operational check of VOR system. (VHF NAVIGATION, SUBJECT 34-51-00, Page 201)

(11) Do a rudder limiter pitot heat check. (PITOT TUBES - MAINTENANCE PRACTICES, PAGEBLOCK 34-11-02/201)

(12) Do a test of the vertical stabilizer pitot line. (PITOT STATIC - MAINTENANCE PRACTICES, PAGEBLOCK 34-11-00/201 Config 1)



Vertical Stabilizer -- Leading Edge
Figure 201/55-30-01-990-801

RUDDER - DESCRIPTION AND OPERATION

1. General

A. The rudder is mounted on truss-type brackets attached to the vertical stabilizer rear spar. The hinges incorporate roller-type bearings and, except for the lower bearing, may be replaced without removing the rudder. The lower bearing fitting is in the aft fuselage section.

2. Rudder

A. Access doors in the rudder provide access to bearings, dampeners, and rudder attach points.

WJE 420, 422, 424, 429, 891

B. The rudder is of all-metal construction except for the fiber-glass trailing edge. The rudder consists of a spar, chordwise ribs, and skin with bonded doublers. A control tab constructed from metal honeycomb is attached to the trailing edge. The rudder is aerodynamically balanced by an overhanging nose-type balance, forward of the hinge line. Mass balance for flutter prevention is employed in the rudder control tab. The rudder leading edge skins are 1/8-inch (3.18 mm) thick aluminum alloy. The lower and center bays are chemmilled and the upper bay has fixed weights bolted to the skin. (Figure 1)

NOTE: Composite rudders cannot be used on these aircraft.

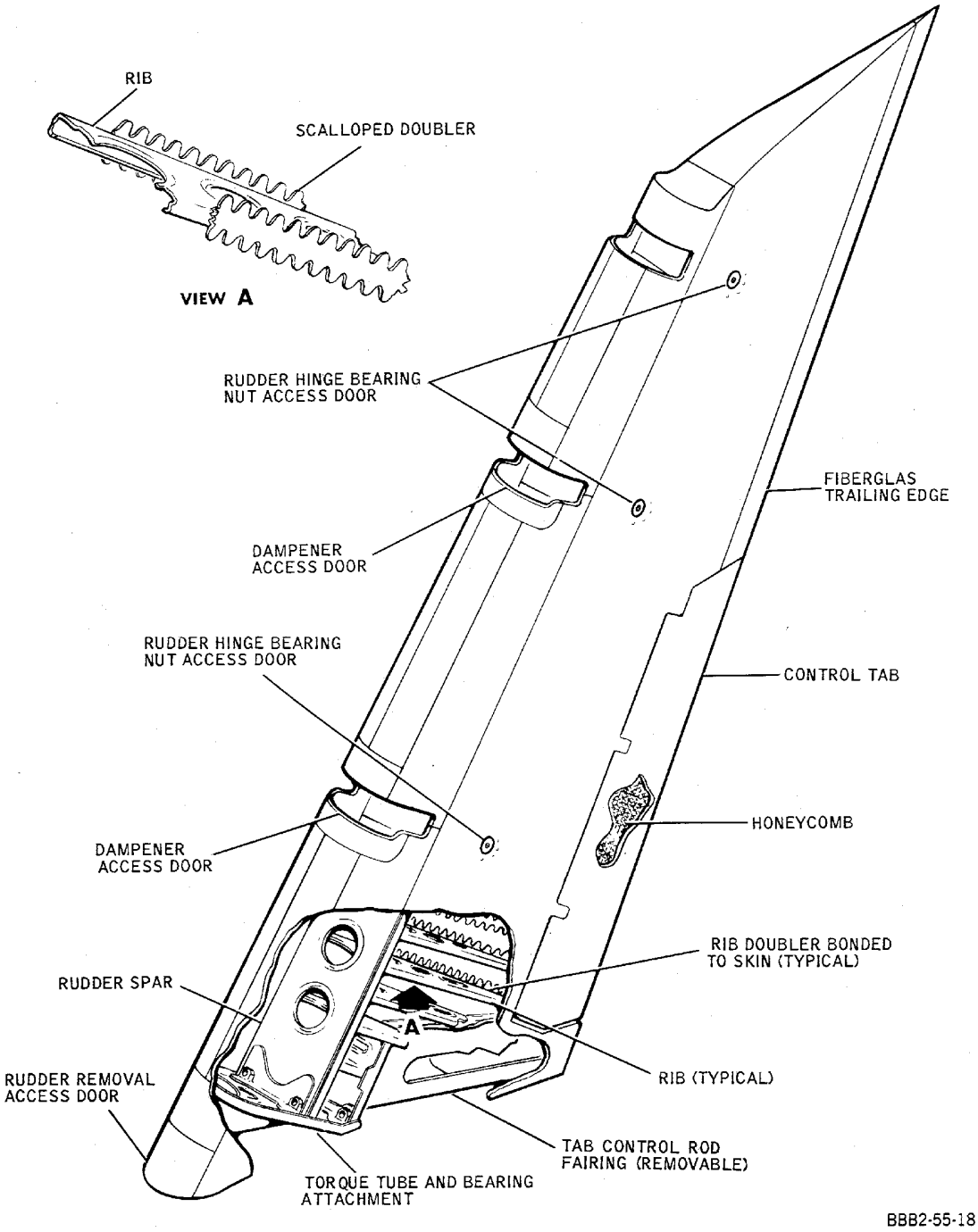
WJE 401-412, 414-419, 421, 423, 425-427, 861-866, 868, 869, 871-881, 883, 884, 886, 887, 892, 893

C. The metal rudder is of all-metal construction except for the fiberglass trailing edge. The rudder consists of a spar, chordwise ribs, and skin with bonded doublers. A control tab constructed from metal honeycomb is attached to the trailing edge. The rudder is aerodynamically balanced by an overhanging nose-type balance, forward of the hinge line. Mass balance for flutter prevention is employed in the rudder control tab. The rudder leading edge skins are 1/8-inch (3.18 mm) thick aluminum alloy. The lower and center bays are chemmilled and the upper bay has fixed weights bolted to the skin. (Figure 1)

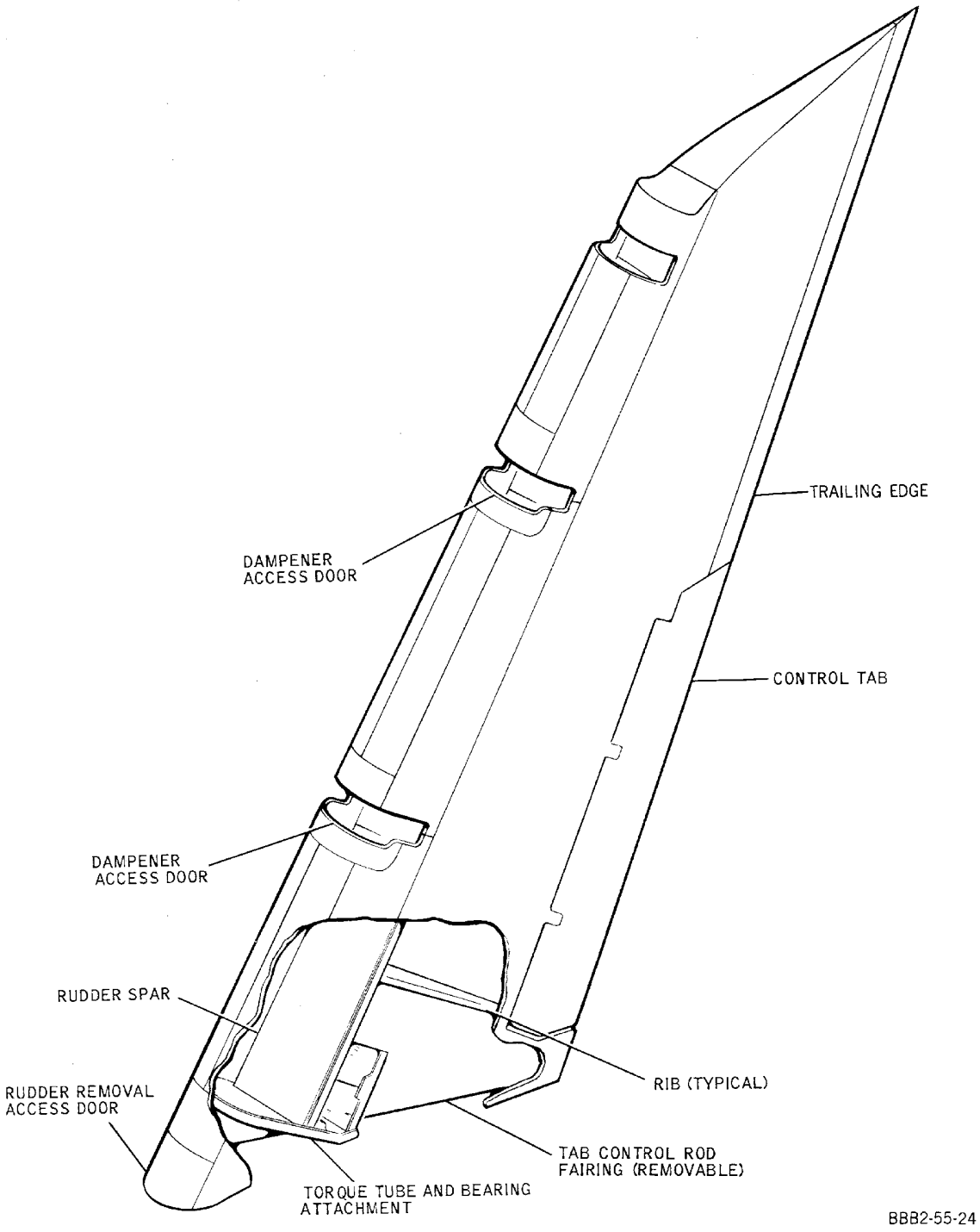
D. The composite rudder is of all-composite construction. The rudder consists of a spar, chordwise ribs, and skin. A control tab is attached to the trailing edge. The rudder is aerodynamically balanced by an overhanging nose-type balance, forward of the hinge line. Mass balance for flutter prevention is employed in the rudder control tab. The rudder leading edge has fixed weights bolted to the skin. (Figure 2)

E. Either type rudder (metal or composite) may be used on the aircraft. However, minor modifications are required to change from one to the other. (PAGEBLOCK 27-20-01/401)

WJE ALL



Metal Rudder -- Structure
Figure 1/55-40-00-990-801



Composite Rudder -- Structure
Figure 2/55-40-00-990-802

ATTACH FITTINGS - DESCRIPTION AND OPERATION

1. General

A. The major attach fittings are the hinge point for the horizontal stabilizer, flight control hinge brackets, and the actuator for the horizontal stabilizer.

2. Attach Fittings

A. Horizontal Stabilizer

(1) The horizontal stabilizer attachment is the upper end of the vertical stabilizer rear spar caps. Steel plates are bolted to the spar caps to form a fitting for the horizontal stabilizer hinge point.

(2) The horizontal stabilizer actuator is supported by a fitting in the vertical stabilizer. The fitting is made of machined aluminum alloy 7075 plate. The gimbal for the jackscrew of the actuator mounts into the fitting. (Figure 1)

(3) Fittings on the horizontal stabilizer center section and on the vertical stabilizer top rib cap provide attach points for a maintenance support strut. The support strut holds the horizontal stabilizer, during removal and installation of the actuator.

B. Elevator

(1) The elevator hinge bracket assemblies are made from machined aluminum alloy 7075 plate, and are bolted to the rear spar of the stabilizers.

(2) Disturbing the elevator hinge bracket assemblies and/or shims will affect the alignment of the six attachment points for the elevator bearings. If attach brackets and/or shims are removed, they should be returned to the original orientation to prevent misalignment. (Figure 2)

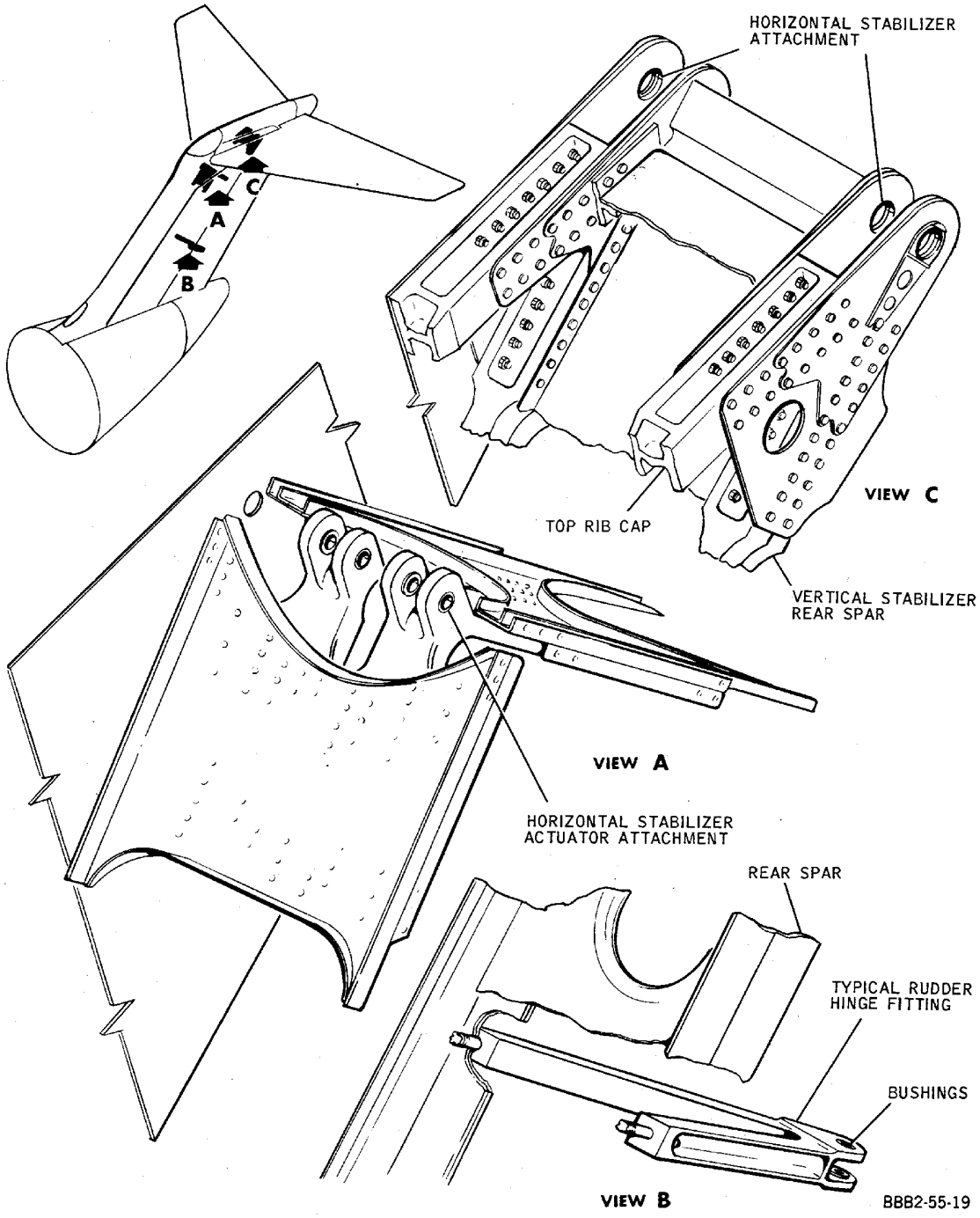
CAUTION: SHIMS MUST BE MACHINED AS NECESSARY TO PROVIDE FOR THE SIX ATTACHMENT POINTS ALIGNMENT.

(3) If new parts are installed, the removed parts should be checked for alignment and appropriate shims should be installed in order to restore alignment.

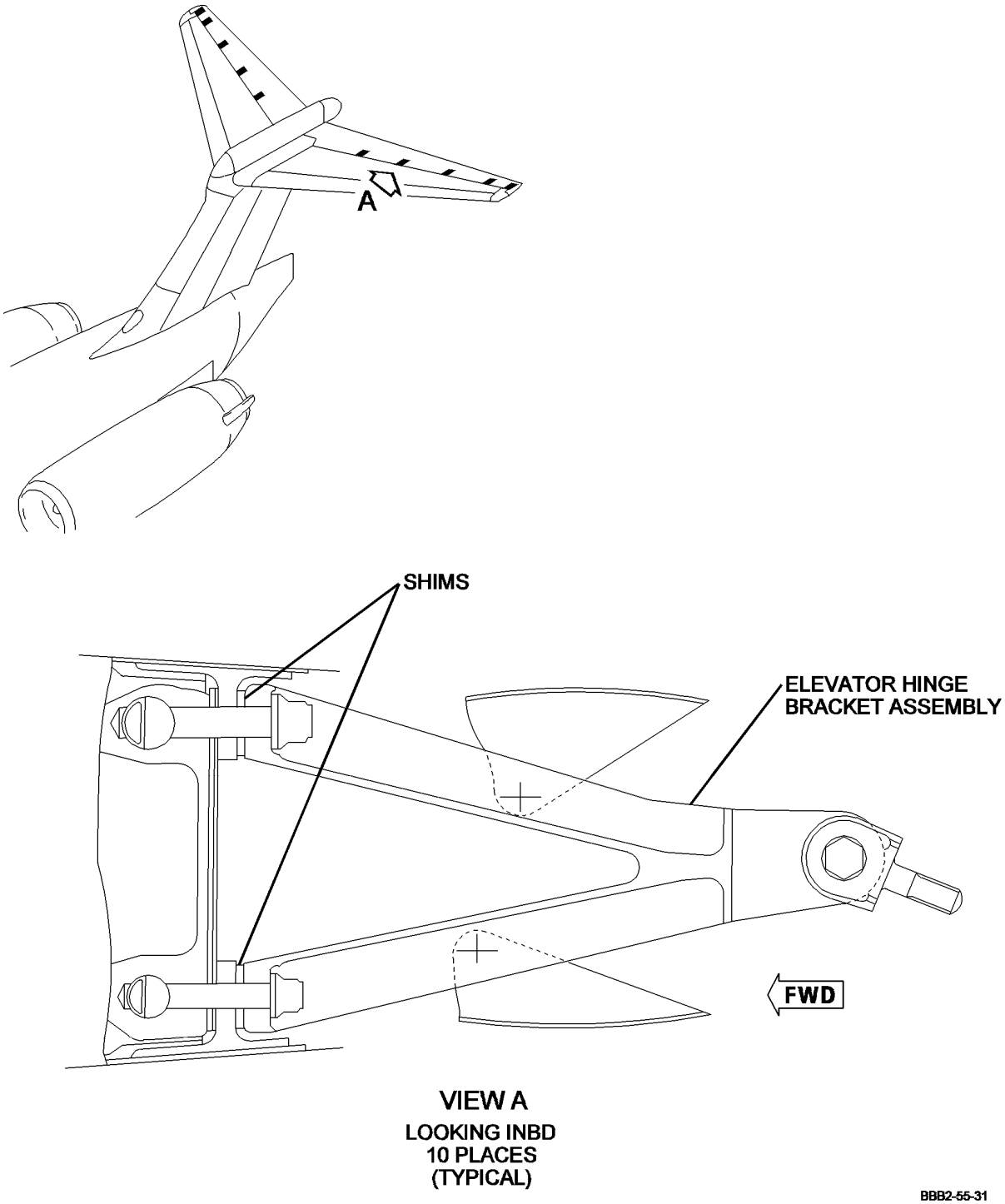
C. Rudder

(1) The rudder hinge brackets are made from machined aluminum alloy 7075 plate, and are bolted to the rear spar of the stabilizers.

(2) These bolts are tightened to a torque of 780(±40) inch-pounds (87.36(±4.48) N·m).



Stabilizer Attach Fittings
Figure 1/55-50-00-990-801



Elevator Hinge Bracket Assembly
Figure 2/55-50-00-990-802