COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

AILERON CONTROL WHEEL DRUM ASSEMBLY

PART NUMBER 251A1814–10, –3, –4, –5, –9

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COMPONENT MAINTENANCE MANUAL

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To: All holders of AILERON CONTROL WHEEL DRUM ASSEMBLY 27-11-35.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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Location of Change	Description of Change
27-11-35 REPAIR 2-1	Changed the data in the Consumable Materials list.

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Subject/Page	Date	Subject/Page	Date	Subject/Page	Date
27-11-35 ILLUSTRATED PARTS LIST (cont)					
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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 38060-20	MAR 01/99
		PRR 38400	JUL 01/02

All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

Revision		Filed		Revision		Filed	
Number	Date	Date	Initials	Number	Date	Date	Initials

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Temporary Revision		Inserted		Removed	
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Temporary Revision		Inserted		Removed	
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INTRODUCTION

1. General

A. The instructions in this manual supply the data necessary to do the maintenance functions together with the test, fault isolation, repair, and replacement of the defective parts.

B. This manual is divided into different parts:

(1) Title Page

(2) Transmittal Letter

(3) Highlights

(4) List of Effective Pages

(5) Table of Contents

(6) Temporary Revision & Service Bulletin Record

(7) Record of Revisions

(8) Record of Temporary Revisions

(9) Introduction

(10) Procedures & IPL Sections

C. Components that can be repaired have a different repair number for each specified repair. To find the repair number location of a component, look in the Repair-General procedure at the beginning of the REPAIR section. The Repair-General procedure also has an explanation of the True Position Dimension symbols used.

D. All dimensions, measures, quantities and weights included are in English units. When metric equivalents are given they will be in the parentheses that follow the English units.

E. The introduction to the Illustrated Parts List (IPL) shows how the IPL data is used.

F. Design changes, optional parts, configuration differences and Service Bulletin modifications may cause different part numbers. These part numbers are identified in the IPL with an alphabetical letter which is added to the end of the basic item number. This new item number is referred to as an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless shown differently.

G. The tool reference numbers found in the individual procedures and in the Special Tools, Fixtures, and Equipment section are used to identify if a tool is a standard tool (STD-XXXX), a commercial tool (COM-XXXX), or a Special Tool (SPL-XXXX). This reference number is also used to distinguish between tools with similar names in the same procedure. These reference numbers are for use in the documentation only. They are not to be used for ordering tools.

AILERON CONTROL DRUM MECHANISM ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The aileron control drum mechanism assembly is made of a drum shaft assembly, cable assemblies, a fork assembly, a dual-output force transducer, and a position transmitter, all installed in a support structure. The drum shaft assembly has a bus drum, an aileron drum, and a bearing housing, installed on the same shaft.

B. One pair of cable assemblies connects the airplane control wheels to each other through the bus drum. The other pair of cable assemblies connects the drum mechanism to the remaining parts of the airplane lateral control system.

2. Operation

A. The drum mechanism assembly is installed at the base of the captain's control column. Movement of the captain's control wheel, or the first officer's control wheel, causes the drum shaft assembly to turn. The cables attached to the aileron drum supply the input to the aileron and flight spoiler power control units for lateral control of the airplane.

B. The force transducer gives an electrical signal to the autopilot which is in proportion to the control wheel forces. The transmitter assembly gives an electrical signal which is in proportion to the amount that the drum shaft turns, and thus shows the position of the control wheels.

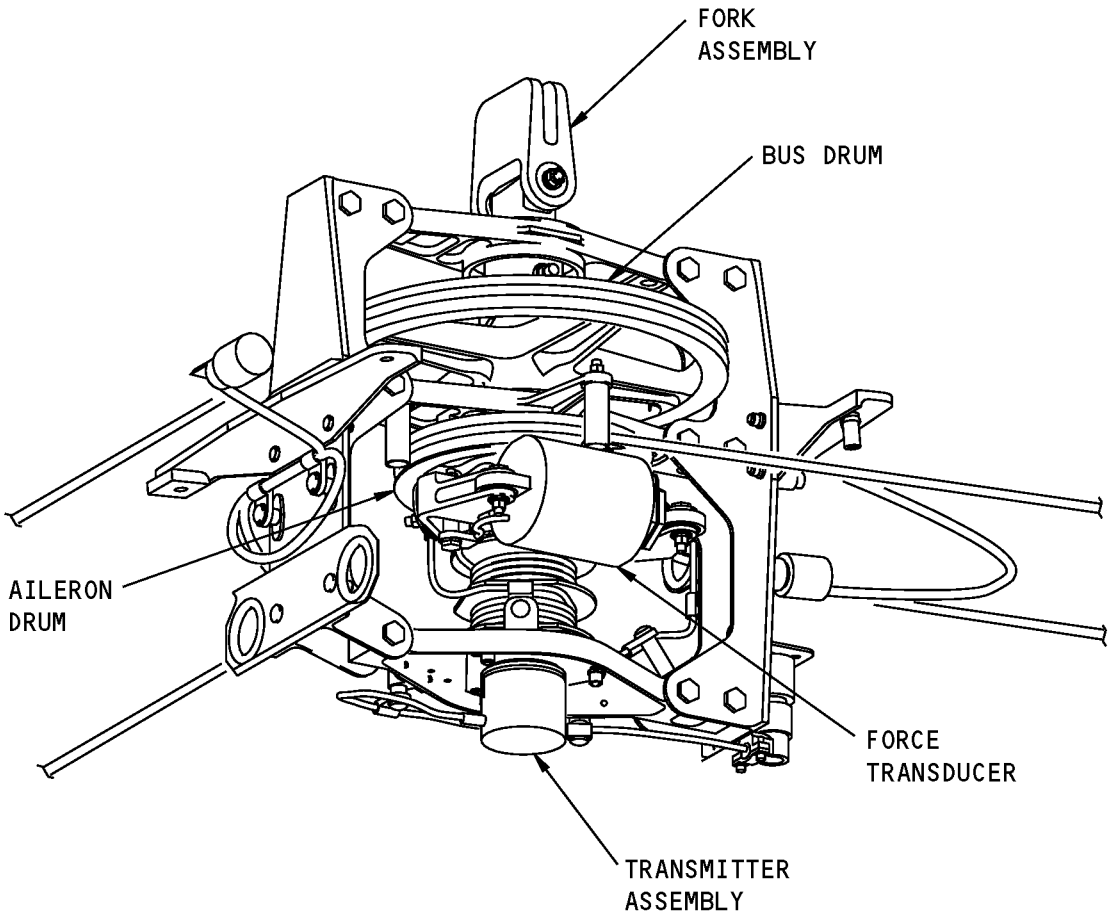
3. Leading Particulars (Approximate)

A. Length – 13.0 inches

B. Width – 10.0 inches

C. Height – 15.0 inches

D. Weight – 12.4 pounds



Aileron Control Drum Mechanism Assembly
Figure 1

TESTING AND FAULT ISOLATION

1. General

A. This procedure has the data necessary to do a test of the aileron control drum mechanism assembly after an overhaul or for fault isolation.

B. There are three parts to these procedures.

(1) Backlash Measurement Test

(2) Backlash Feel Test

(3) Fault Correction

C. Refer to IPL Figure 1 for item numbers.

2. Test Procedures

A. Backlash Measurement Test

(1) Put a clamp on the bus drum (505) to prevent movement.

(2) Attach a dial indicator to the bus drum (505). Put the dial indicator arm on one of the spacers (275), with the arm horizontal and at 90 degrees to the fork attachment bolt (265). Set the dial indicator to zero.

(3) Apply a 200 pound-inch torque to the pivot shaft (590) in the counterclockwise direction, and make a record of the dial indication.

(4) Decrease the torque on the pivot shaft (590) to zero, and set the dial indicator back to zero.

(5) Apply a 200 pound-inch torque to the pivot shaft (590) in the clockwise direction, and make a record of the dial indication.

(6) Make sure that the movement of the pivot shaft (590) in relation to the bus drum (505) is not more than 0.001 inch in either direction.

B. Backlash Feel Test

(1) Apply a 200 pound-inch torque to the pivot shaft (590), first in one direction, then in the other direction, then back to zero. Do the procedure two or three times.

(2) Make sure that you do not feel too much play in the pivot shaft, or hear unusual noises.

3. Fault Correction

A. Procedure

(1) If you feel too much play in the pivot shaft, or hear unusual noises, disassemble the drum mechanism assembly (DISASSEMBLY).

(2) Repair or replace the bus drum (505), pivot shaft (590), and/or the bolts (490). Refer to REPAIR 3-1.

(3) Assemble the drum mechanism assembly (ASSEMBLY).

DISASSEMBLY

1. General

A. This procedure has the data necessary to disassemble the aileron control drum mechanism assembly.

B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.

C. Refer to the Standard Overhaul Practices Manual (SOPM) for SOPM subjects identified in this procedure.

D. Refer to IPL Figure 1 for item numbers.

2. Disassembly

A. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT

B. Part Replacement

NOTE: The parts which follow are recommended for replacement. Unless a procedure tells you to replace a part, replacement is optional.

(1) Cotter pins (5)

C. Procedure

(1) Remove the fork assembly (285) from the drum mechanism assembly.

(a) Remove the nut (280) and bolt (265), then remove the fork assembly (285) and the spacers (275) from the drum shaft assembly (485).

(b) Remove the bearing (270) from the fork assembly (285) (SOPM 20-50-03).

NOTE: Do not remove the bearing (290) from the fork (295) unless replacement is necessary.

(2) Remove the transducer cables from the clamps on the rib assemblies (130, 180).

(a) Remove the screws (75), washers (80), clamps (85, 90), and plugs (95) from the nutplates (155, 160), to remove the transducer (480) cable from the forward rib assembly (130).

(b) Remove the screws (70, 75), washers (80), clamps (85), and plugs (95) from the nutplates (190, 230, 240), to remove the transducer (480) cable from the aft rib assembly (180).

(c) If necessary, remove the transmitter connector (350) from the clip (250) on the aft rib assembly (180).

(3) Disassemble the support structure.

(a) Remove the nuts (125), washers (120), and bolts (115) to remove the rib assemblies (130, 180) from the bearing housing (300), drum shaft assembly (485), and the plate assembly (360).

(b) Remove the screws (105) to remove the cable guide (110) from the forward rib assembly (130).

NOTE: Do not remove the grommets (100, 253) from the cable guide (110) or the fairlead (254), unless replacement is necessary. Do not remove the radius filler (260) from the rib assemblies (130, 180), or disassemble the rib assemblies unless repair or replacement of parts is necessary.

(c) Remove the bearing housing (300) and the bearing (305) from the drum shaft assembly (485).

(d) Remove the screws (75), washers (80), clamps (85), and plugs (95) from the nutplates (370, 375), to remove the transducer (480) cables from the plate assembly (360).

(e) Remove the screws (75), washers (80), clamps (85), and plugs (95) from the nutplates (380), to remove the transmitter (345) cable from the plate assembly (360). Remove the bolts (310), washers (315 or 316), and nuts (317), as applicable. Remove the transmitter assembly (320) from the plate assembly.

NOTE: Do not remove the nutplates (370, 375, 380) from the plate assembly (360) unless repair or replacement is necessary.

(f) Remove the screws (325) and washers (330), then remove the plate (335) and transmitter (350) from the clamp ring assembly (340) or clamp ring (344).

NOTE: Do not remove the nutplates (342) from the clamp ring (343) unless repair or replacement is necessary.

(4) Remove the force transducer (480) from the drum shaft assembly (485).

(a) Remove the nut (400), washer (395), clamp (405), plug (410), and bolt (390) to remove the transducer (480) cable from the spool assembly (560).

(b) Remove parts (415 thru 440) to remove the transducer (480) cable from the aileron drum (545). Remove the nut (400), washer (395), clamp (405), and plug (410) to remove the clip assembly (445) from the cable.

NOTE: Do not disassemble the clip assembly (445) unless repair or replacement is necessary.

(c) Remove the nuts (475), washers (470), and bolts (465), then remove the force transducer (480) from the drum shaft assembly (485).

(5) Remove the cotter pins (5) and the cable assemblies (10, 25, 40, 55) from the drum shaft assembly (485).

(6) Disassemble the drum shaft assembly (485).

(a) Remove the nuts (500), washers (495), and bolts (490), then remove the bus drum (505), bearing housing (530) with bearing (535), spacer (540), and the aileron drum (545) with bearings (550) from the pivot shaft (590).

(b) Remove the bearings (535, 550) from the bearing housing (530) and the aileron drum (545) (SOPM 20-50-03).

(c) Remove the nuts (520), washers (515), screws (510), and cable guards (525) from the bearing housing (530).

(d) Remove the coupling (555) from the sensor shaft (585).

(e) Remove the pins (595), then remove the spool assembly (560) and sensor shaft (585) from the pivot shaft (590).

NOTE: Do not disassemble the spool assembly (560) unless repair or replacement is necessary.

CLEANING

1. General

A. This procedure has the data necessary to clean the aileron control drum mechanism assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for the item numbers.

2. Cleaning

A. References

Reference	Title
SOPM 20-30-01	CLEANING AND RELUBRICATING BEARINGS
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

(1) Clean the bearings (270, 290, 305, 535, 550) as specified in SOPM 20-30-01.

(2) Use standard industry procedures and the instructions in SOPM 20-30-03 to clean other parts.

CHECK

1. General

A. This procedure has the data necessary to find defects in the specified parts.

B. Refer to FITS AND CLEARANCES for design dimension and wear limits.

C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Check

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION

B. Procedure

(1) Use standard industry procedures to do a visual check of all the parts for defects. Do the penetrant or magnetic particle check if the visual check shows possible defects on the parts listed below:

(2) Do a magnetic particle check (SOPM 20-20-01) of these parts:

(a) Fork (295)

(b) Sensor shaft (585)

(3) Do a penetrant check (SOPM 20-20-02) of these parts:

(a) Bearing housing (300, 530)

(b) Bus drum (505)

(c) Aileron drum (545)

(d) Pivot shaft (590)

REPAIR

1. General

A. Instructions for repair, refinish, and replacement of the specified subassembly parts are included in each REPAIR when applicable:

Table 601:

PART NUMBER	NAME	REPAIR
—	REFINISH OF OTHER PARTS	1-1
251A1814	DRUM MECHANISM ASSEMBLY	2-1
251A1814	DRUM SHAFT ASSEMBLY	3-1
6-60428	FORK ASSEMBLY	4-1, 4-2

2. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in SOPM 20-00-00.

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

A. This procedure has the data necessary to refinish the parts which are not given in the specified repairs.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for the item numbers.

2. Refinish of Other Parts

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00260	Coating - Chemical And Solvent Resistant Finish, Epoxy Resin Enamel	BMS10-11, Type II

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Instructions for the repair of the parts listed in REPAIR 1-1, Table 601 is for repair of the initial finish.

Table 601: Refinish details

IPL FIG. & ITEM	MATERIAL	FINISH
Guide (110), filler (450), clip (460), cable guard (525)	Aluminum alloy	Chemical treat or anodize and apply primer, C00259 (F-18.05).
Beam (145,210)	Aluminum alloy	Chromic acid anodize and apply primer, C00259 (F-18.13). Apply enamel coating, C00260 (F-21.03).
Beam (145A,210A), rib (175,255), fairlead (254), plate (335), clip (570)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31). Apply primer, C00259 (F-20.02).
Clip (250)	Aluminum alloy	Chemical treat (F-17.07). Apply primer, C00259 (F-20.02).

Table 601: Refinish details (Continued)

IPL FIG. & ITEM	MATERIAL	FINISH
Filler (260)	Aluminum alloy	Chemical treat or anodize and apply primer, C00259 (SRF-2.30).
Bolt (265)	CRES	Cadmium plate (F-15.06). Apply green dye or paint to the thread end for identification.
Spacer (275)	Aluminum alloy	Chromic acid anodize (F-17.02). Apply primer, C00259 (F-20.02).
Bearing housing (300,530)	Aluminum alloy	Anodize and apply primer, C00259 (SRF-2.19), but do not apply primer on 2.2500-2.2510 inch diameter bearing bore.
Clamp ring (343, 344)	CRES	Cadmium plate and apply primer, C00259 (F-16.01).
Plate (385)	Aluminum alloy	Sulfuric acid anodize (F-17.31). Apply primer, C00259 (F-20.03), but do not apply primer in the rib attach boltholes.
Sensor shaft (585)	CRES	Cadmium plate (F-16.06) all over, or on outer surfaces only (optional).
Pivot shaft (590)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid (F-17.35). Apply primer, C00259 (F-20.02).
Bus drum (505)	Aluminum alloy	Chromic acid anodize and apply primer, C00259 (F-18.13), but do not apply primer on 1.3122-1.3155 inch diameter bearing bore.
Spacer (540)	Aluminum alloy	Chromic acid anodize (F-17.02).
Aileron drum (545)	Aluminum alloy	Sulfuric acid anodize (F-17.03) and apply primer, C00259 (F-20.02), but do not apply primer on the 2.0625-2.0635 inch diameter bearing bores.

DRUM MECHANISM ASSEMBLY - REPAIR 2-1

251A1814–3, –4

1. General

A. This procedure has the data necessary to replace the grommet (100, 253), filler (260), and decal (600) on the drum mechanism assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Grommet (100, 253) Replacement

A. References

Reference	Title
SOPM 20-50-09	INSTALLATION OF PROTECTIVE GROMMET

B. Procedure

(1) Remove the grommet (100, 253) from the cable guide (110) or the fairlead (254).

(2) Clean the surface of the cable guide (110) or the fairlead (254).

(3) Install the new grommet (100, 253) on the cable guide (110) or the fairlead (254) (SOPM 20-50-09).

3. Filler (260) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00134	Adhesive - Synthetic Rubber, Buna-N, 1 Part, Fuel Resistant	BMS 5-14
A01070	Adhesive - Polyamide	BAC5010, Type 38

B. References

Reference	Title
SOPM 20-50-12	APPLICATION OF ADHESIVES
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove the filler (260) from the forward or aft rib assembly (130, 180).

(2) Bond the filler (260) to the forward or aft rib assembly (130, 180), with adhesive, A00134 (optional: adhesive, A01070) (SOPM 20-50-12). Make sure that the holes in the filler and the rib assembly are aligned.

4. Decal (600) Replacement

A. References

Reference	Title
SOPM 20-50-10	APPLICATION OF STENCILS, INSIGNIA, SILK SCREEN, PART NUMBERING AND IDENTIFICATION MARKINGS

B. Procedure

(1) Remove the decal (600).

(2) Clean the surface of the aft rib assembly (180).

(3) Install the new decal (600) on the aft rib assembly (180A) (SOPM 20-50-10).

DRUM SHAFT ASSEMBLY - REPAIR 3-1

251A1814–2, –8

1. General

A. This procedure has the data necessary to repair the drum shaft assembly (485).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Parts Replacement

A. References

Reference	Title
SOPM 20-10-01	REPAIR AND REFINISH OF HIGH STRENGTH STEEL PARTS
SOPM 20-10-02	MACHINING OF ALLOY STEEL
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure

NOTE: For repair and refinish of high strength steel parts, refer to SOPM 20-10-01. For machining of alloy steel, refer to SOPM 20-10-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

NOTE: If replacement of the bus drum (505) is necessary, we recommend that you replace the sensor shaft (585) and the pivot shaft (590) at the same time. If replacement of the pivot shaft is necessary, we recommend that you replace the sensor shaft at the same time. These steps are to make sure that the bolt (490) and pin (595) holes will be aligned after they are machined.

(1) Disassemble the drum shaft assembly (485) (DISASSEMBLY).

(2) Machine the holes for the upper pin (595), if necessary.

NOTE: Only the holes for the upper pin are machined during assembly. The holes for the lower pin are machined to the design dimensions during manufacture of the parts.

(a) If the sensor shaft (585) and the pivot shaft (590) are new, align the 0.1520-0.1540 inch diameter pilot holes in the shafts. Machine the 0.1886-0.1896 inch diameter hole through the two sides of each part, as shown in REPAIR 3-1, Figure 601.

(b) If only the sensor shaft (585) is new, align the lower pin holes in the two shafts. Use the existing upper pin hole in the pivot shaft (590) as a pattern, and machine the 0.1886-0.1896 diameter hole through the sensor shaft.

(c) Remove the burrs from the machined holes, and chemical treat (F-17.10) the bare metal.

(3) Machine the holes for the bolts (490), if necessary.

(a) Install the aileron drum (545), bearings (550), spacer (540), bearing housing (530), bearing (535), and bus drum (505) on the pivot shaft (590).

(b) Put a 0.009-0.012 inch thick shim between the lower bearing (550) and the bearing seat on the pivot shaft (590). Put a clamp on the drum shaft assembly parts to hold them together.

NOTE: The shim will prevent an axial preload after the bus drum is attached to the pivot shaft with the bolts (490).

(c) If the bus drum (505) and the pivot shaft (590) are new, machine the 0.2495-0.2505 inch diameter bolt holes in the parts, as shown in REPAIR 3-1, Figure 601.

(d) If only the pivot shaft (590) is new, align the parts as shown in REPAIR 3-1, Figure 601. Use the existing holes in the bus drum (505) as a pattern, and machine the 0.2495-0.2505 inch diameter bolt holes.

(e) Remove the shims.

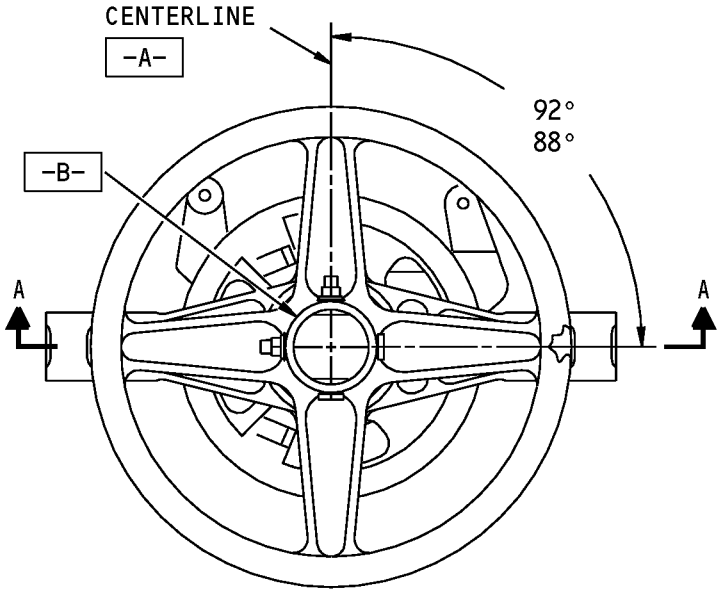
(f) Remove the burrs from the machined holes, and chemical treat (F-17.10) the bare metal.

(g) Install the new parts and assemble the drum shaft assembly (485) (ASSEMBLY).

3. Parts Refinish

A. Procedure

(1) Refer to REPAIR 1-1 for the procedures to refinish the parts of the drum shaft assembly (485).



1 ALIGN PILOT HOLES OR THE OLD PIN HOLES. THEN MACHINE HOLE FOR UPPER PIN (595)

2 TEMPORARILY INSTALL 0.009-0.012 SHIM AND CLAMP THE PARTS BEFORE YOU MACHINE THE BOLT HOLES, TO PREVENT AXIAL PRELOAD

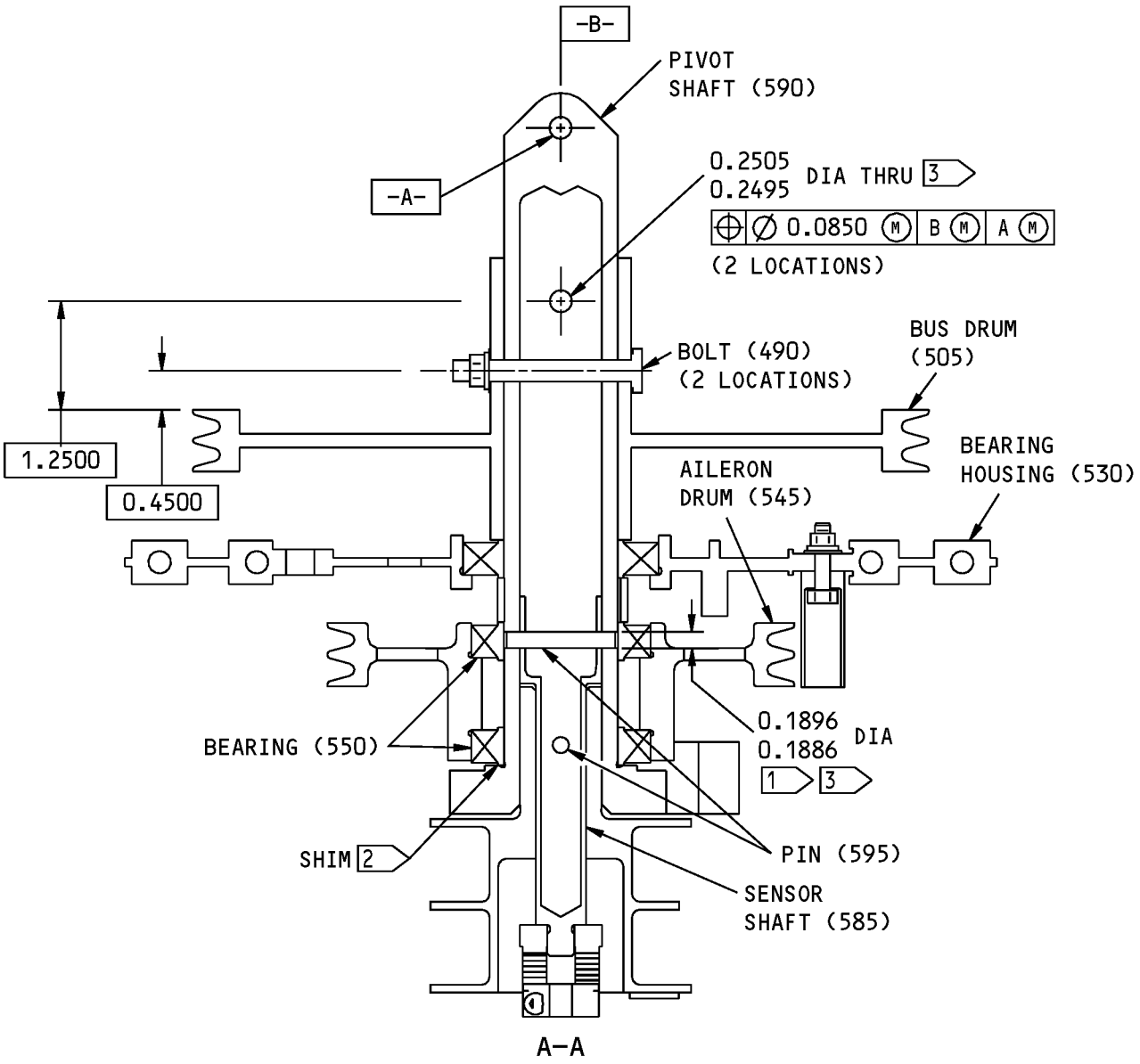
3 REMOVE BURRS FROM THE HOLES AND CHEMICAL TREAT (F-17.10) THE BARE METAL

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A1814-2,-8 Drum Shaft Assembly - Parts Replacement
Figure 601 (Sheet 1 of 2)



251A1814-2,-8 Drum Shaft Assembly - Parts Replacement
Figure 601 (Sheet 2 of 2)

FORK ASSEMBLY - REPAIR 4-1

6-60428–2, –6

1. General

A. This procedure has the data necessary to repair the fork assembly (285).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Bearing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove the bearing (290) from the fork (295).

(2) Install the new bearing (290) with sealant, A00247.

(3) Roller swage the fork (295) to hold the bearing (290) (SOPM 20-50-03).

FORK - REPAIR 4-2

6-60428–3, –7

1. General

A. This procedure has the data necessary to repair and refinish the fork (295).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for the item numbers.

D. General repair details:

(1) (1) Material: 4620 or 9310 Steel, Ra 80 minimum case hardness; Core strength 150-210 ksi (4620), 150-190 ksi (9310).

2. Repair

A. Procedure (REPAIR 4-2, Figure 601)

NOTE: For repair and refinish of high strength steel parts, refer to SOPM 20-10-01. For machining of alloy steel, refer to SOPM 20-10-02. For the decoding table of boeing finish codes, refer to SOPM 20-41-01.

(1) Machine the inner surfaces of the fork (295) to the repair dimensions shown in REPAIR 4-2, Figure 601 to remove defects.

(2) Do a magnetic particle check (SOPM 20-20-01) of the machined surfaces.

(3) Break all sharp edges.

(4) Stress relieve the fork (295) at 300-350 deg F for 2 hours, then air cool at 65-75 deg F.

(5) Apply nickel plate (SOPM 20-42-09) to put the machined surfaces back to the design dimensions, as shown in REPAIR 4-2, Figure 601.

(6) Refinish other surfaces as indicated. Refer to Refinish procedure.

3. Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

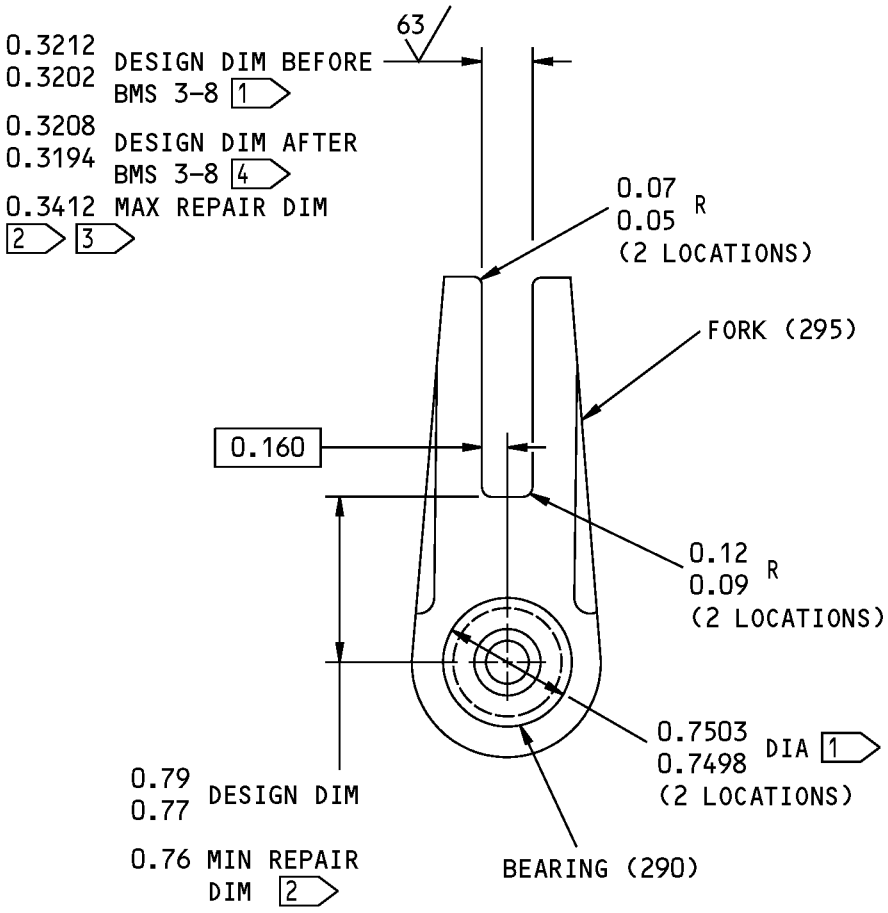
Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-08	APPLICATION OF BONDED SOLID FILM LUBRICANTS
SOPM 20-60-03	LUBRICANTS

C. Procedure REPAIR 4-2, Figure 601

NOTE: For the decoding table for boeing finish codes, refer to SOPM 20-41-01. For lubricants, refer to SOPM 20-60-03.

(1) Apply cadmium plate (F-15.23), but do not apply the plate to the bearing bores or to the inner surfaces of the fork (295).

(2) Apply solid film lubricant, D00113 (F-19.10) to the inner surfaces of the fork (295) (SOPM 20-50-08).



1 NO CADMIUM PLATE (F-15.23) ON THESE SURFACES

2 BUILD UP WITH NICKEL PLATE (SOPM 20-42-09) TO THE DESIGN DIMENSION AND FINISH SHOWN. KEEP A 0.06 PLATING RUNOUT

3 0.010 MAXIMUM MATERIAL REMOVAL FROM EITHER SURFACE

4 APPLY BMS 3-8 SOLID FILM LUBRICANT (SOPM 20-50-08)

250 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

6-60428-3,-7 Fork Repair
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the drum mechanism assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27
D00015	Grease - Aircraft Bearing (Use BMS 3-24 until existing stocks are depleted, BMS 3-33 supersedes BMS 3-24)	BMS3-24 (Superseded by BMS 3-33)
G01912	Lockwire - Monel (0.032 In. Dia.)	NASM20995N˜ C32 (QQ-N-281)

B. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-07	LUBRICATION
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For bolt and nut installation, refer to SOPM 20-50-01. For lubrication, refer to SOPM 20-50-07. For finishing materials, refer to SOPM 20-60-02. For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Assemble the drum shaft assembly (485). Refer to ASSEMBLY, Figure 701.

(a) Apply primer, C00259 to the faying surfaces of the sensor shaft (585) and the pivot shaft (590), as shown in ASSEMBLY, Figure 701.

(b) Install the sensor shaft (585) in the pivot shaft (590). Install the pin (595) in the upper pin hole in the shafts with grease, D00015.

(c) Install the spool assembly (560) on the sensor shaft (585) and into the pivot shaft (590). Install the pin (595) in the bottom hole in the shafts with grease, D00015.

(d) Install the coupling (555) on the sensor shaft (585), and tighten the coupling to 60-95 pound-inches.

(e) Install the bearings (535, 550) in the bearing housing (530) and aileron drum (545), with grease, D00015 (SOPM 20-50-03). Apply the grease, D00015 to both the inner and outer races of the bearings.

(f) Install the cable guards (525) on the bearing housing (530) with the screws (510), washers (515), and nuts (520).

(g) Install the aileron drum (545) on the pivot shaft (590). Make sure that the tang on the lever on the pivot shaft engages the slot in the lever arm of the aileron drum.

(h) Install the spacer (540), bearing housing (530), and bus drum (505) on the pivot shaft (590). Install the bolts (490), washers (495), and nuts (500) to hold the assembly together.

(2) Install the force transducer (480, 480A) on the drum shaft assembly (485,485A).

(a) For 251A1814-3,-4,-5 use 0.0210-0.0240 inch shims to keep the tang on the pivot shaft (590) in the center of the slot in the aileron drum (545). Refer to ASSEMBLY, Figure 702. For 251A1814-9,-10 use 0.057-0.060 inch shims to keep the tang on the pivot shaft (590A) in the center of the slot in the aileron drum (545). Refer to ASSEMBLY, Figure 702.

(b) Adjust the length of the force transducer (480, 480A) until the holes in the end fittings align with the mounting holes in the drum shaft assembly (485, 485A).

CAUTION: MAKE SURE THAT THE HOLES ARE ALIGNED SO THAT THE BOLTS (465) CAN BE INSTALLED FREELY. IF THE HOLES ARE NOT ALIGNED, THE LOAD ON THE FORCE TRANSDUCER (480) WILL CAUSE AN INCORRECT OUTPUT DURING OPERATION.

(c) Install the force transducer (480, 480A) on the drum shaft assembly (485, 485A) with the bolts (465, 465A), washers (470), and nuts (475). Tighten the nuts to 30-35 pound-inches.

(d) Remove the shims and measure the gaps between the tang and the slot again. For 251A1814-3,-4,-5 make sure that the gap on each side continues to be 0.0210-0.0240 inch. For 251A1814-9,-10 make sure that the gap on each side continues to be 0.057-0.060 inch.

(e) Install lockwire, G01912 on the adjustment nuts on the force transducer (480, 480A). Use the double-twist procedure (SOPM 20-50-02).

CAUTION: MAKE SURE THAT THE CLAMPS ON THE WIRE BUNDLES DO NOT CAUSE THE WIRE BUNDLES TO PUT A LOAD ON THE FORCE TRANDUCER (485). THE LOAD CAN CAUSE AN INCORRECT OUTPUT DURING OPERATION.

(3) Install the clamps (405, 425) on the wire bundles from the force transducer (480). Refer to ASSEMBLY, Figure 703.

NOTE: The "top" and "bottom" wire bundles refer to their positions when the force transducer is installed on the drum shaft assembly (485).

(a) With the force transducer (480) installed on the drum shaft assembly (485), put the clamp (425) with the plug (430) on the bottom wire bundle. Attach the clamp to the lever arm on the aileron drum (545) with the bolt (415), washer (420), washer (421) (if installed), spacer (435), clip assembly (445), and nut (440).

(b) Put the clamp (405) with the plug (410) on the top wire bundle from the force transducer (480). Attach the clamp to the stud (455) on the clip assembly (445) with the washer (395) and nut (400).

(4) Assemble the support structure around the drum shaft assembly (485).

(a) Install the cable guide (110) on the forward rib assembly (130) with the screws (105).

(b) Apply grease, D00015 to the inner and outer races of the bearing (305), then install the bearing in the bearing housing (300) (SOPM 20-50-03). Install the bearing housing and bearing on the drum shaft assembly (485).

(c) Loosely attach the forward and aft rib assemblies (130, 180) to the bearing housings (300, 530) with the bolts (115), washers (120), and nuts (125). Put the plate assembly (360) in position at the bottom of the drum shaft assembly, and attach it to the rib assemblies with the bolts (115), washers (120), and nuts (125). Tighten all of the nuts (125) to complete the assembly.

(5) Wind the wire bundles from the force transducer (480) on the spool assembly (560). Refer to ASSEMBLY, Figure 703.

NOTE: The "top" and "bottom" wire bundles refer to their positions when the force transducer is installed on the drum shaft assembly (485).

(a) From the clamp (425), wind the bottom wire bundle for four full turns, from top to bottom, around the top part of the spool assembly (560). Wind the wire bundle in the counterclockwise direction when seen from the bottom of the drum shaft assembly (485).

(b) Take the bottom wire bundle from the spool assembly (560), and put it through the clamp (85) with the plug (95). Attach the clamp to the nutplate (370) on the plate assembly (360) with the screw (68, 75) and washer (80, 81, 84).

(c) Turn the drum shaft assembly between the two stops on the aileron drum (545). Make sure that the wire bundle does not prevent the free movement of the drum shaft assembly through its full range (215 degrees). Also make sure that the bottom wire bundle stays on the top part of the spool assembly (560).

(d) Put three clamps (85) with plugs (95) on the bottom wire bundle. Attach the clamps to the nutplates (230, 240, 190) on the aft rib assembly (180) with screws (68, 70, 75) and washers (80, 81, 83, 84). Make sure that the free end of the bottom wire bundle, to the face of the connector, is 19.2-20.3 inches long.

(e) From the clamp (405), move the top wire bundle across a flat side of the center flange to the bottom part of the spool assembly (560). Wind the wire bundle for four and a half turns, from top to bottom, around the bottom part of the spool assembly. Wind the wire bundle in the clockwise direction when seen from the bottom of the drum shaft assembly (485).

(f) Put the clamp (405) with the plug (410) on the top wire bundle (before the coils). Attach the clamp with the bolt (390), washer (395), and nut (400) to the clip (570) on the spool assembly.

(g) Put a clamp (85) with a plug (95) on the top wire bundle (after the coils). Attach the clamp to the nutplate (375) on the plate assembly (360) with a screw (68, 75) and washer (80, 81, 84).

(h) Turn the drum shaft assembly between the two stops on the aileron drum (545). Make sure that the wire bundle does not prevent the free movement of the drum shaft assembly through its full range (215 degrees). Also make sure that the top wire bundle stays on the bottom part of the spool assembly (560).

(i) Put one clamp (85) with a plug (95) on the top wire bundle. Attach the clamp to the nutplate (160) on the forward rib assembly (130) with a screw (68, 75) and washer (80, 81, 84).

(j) Make a loop in the wire bundle and put two clamps (90) with plugs (95) on the loop. Attach the clamps to the nutplates (155) on the forward rib assembly (130) with screws (67A, 75) and washers (80, 81, 82, 84). Make sure that the free end of the wire bundle, to the face of the connector, is 6.0-7.0 inches long.

(6) Install the transmitter assembly (320) on the plate assembly (360).

(a) Attach the transmitter assembly (345) to the clamp ring assembly (340), or the clamp ring (344), with the plate (335), screws (325), and washers (330).

(b) Turn the drum shaft assembly (485) to the center of its range of travel. Look in the hole in the bottom of the coupling (555) to find the position of the flat in the coupling. Make a mark with a pencil on the bottom flange of the spool assembly (560) to show the position of the center of the flat.

WARNING: BMS 3-27 CORROSION INHIBITING COMPOUND CONTAINS SOLVENTS, CHROMATES, AND A SMALL AMOUNT OF BOUND ASBESTOS. CONSULT THE APPLICABLE SAFETY STANDARDS FOR APPROVED HANDLING PROCEDURES.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

(c) Apply compound, C00913 to the input shaft of the transmitter (355), then put the transmitter assembly (320) in the coupling (555) on the drum shaft assembly (485). Install the bolts (310), washers (315 or 316), and nuts (317), as applicable, to hold the transmitter assembly (320). Do not tighten the bolts (310) fully until the transmitter zero position is set in the steps that follow.

(d) Turn the transmitter (355) until the zero mark on the transmitter body aligns with the pencil mark on the spool assembly (560).

(e) Turn the drum shaft assembly (485) through its full range of travel to align the transmitter (355) with the drum shaft centerline. Make sure that the drum shaft turns freely.

(f) Move the drum shaft assembly back to the center of its range of travel. On assembly 251A1814-3, tighten the bolts (310) to 20-25 pound-inches to hold the transmitter at the zero positon. On assembly 251A1814-4,-5,-9,-10 tighten the nuts (317) to hold the transmitter at the zero positon.

(g) Tighten the capscrew in the coupling (555) to 12-15 pound-inches.

(7) Put two clamps (85) and plugs (95) on the wire from the transmitter (355). Attach the clamps to the nutplates (380) on the plate assembly (360) with the screws (67A, 75) and washers (80, 81, 84), as shown in ASSEMBLY, Figure 704.

NOTE: The transmitter wire can point in a different direction from that shown in ASSEMBLY, Figure 704. If the wire is too long, make a loop with the wire and use the clamps (85) to hold the loop. If necessary, larger BACC10DK4 clamps can be used to hold the loop.

(8) Install the fork assembly (285) on the drum shaft assembly (485).

(a) Apply grease, D00015 to the inner and outer races of the bearing (270). Install the bearing in the fork assembly (285).

(b) Install the fork assembly (285) on the drum shaft assembly (485), with the bearing (270), spacers (275), bolt (265), and nut (280).

(9) Install the cable assemblies (10, 25) on the bus drum (505) and the cable assemblies (40, 55) on the aileron drum (545). Make sure that the cable assemblies are installed in the correct locations as shown in ASSEMBLY, Figure 705. Install the cotter pins (5) to keep the cable assemblies in place (SOPM 20-50-02).

NOTE: Loosen or remove the cable guards (525), if necessary, to install the cable assemblies (40, 55).

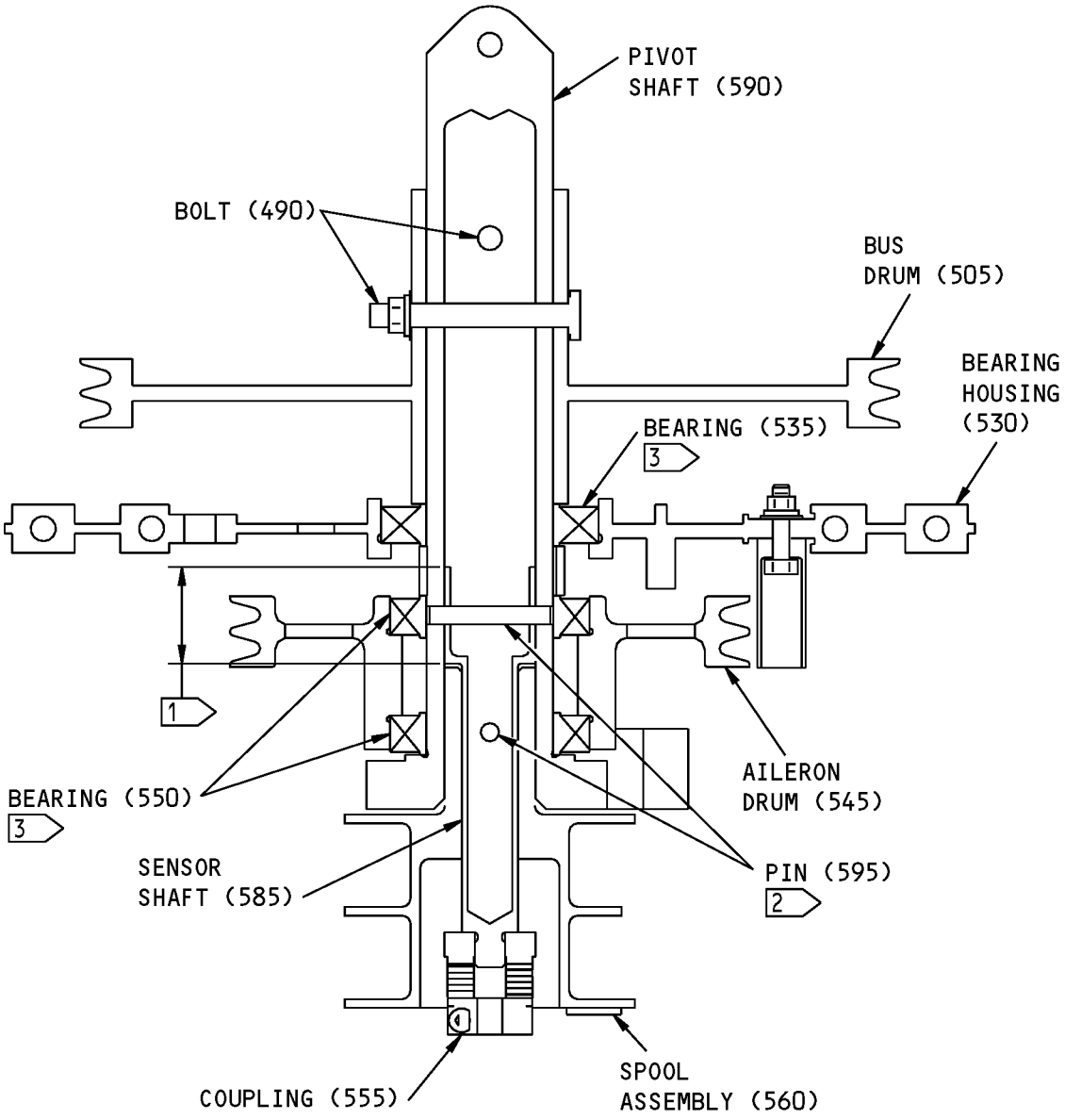
3. Storage

A. Procedure

(1) Use standard industry procedures and the data that follow to store this component. Refer to SOPM 20-44-02 for more data.

(2) Make the free ends of the cable assemblies (10, 25, 40, 55) into loops, and put the loops into bags.

(3) Attach the transmitter connector (350) to the clip (250) with string or a rubber band.



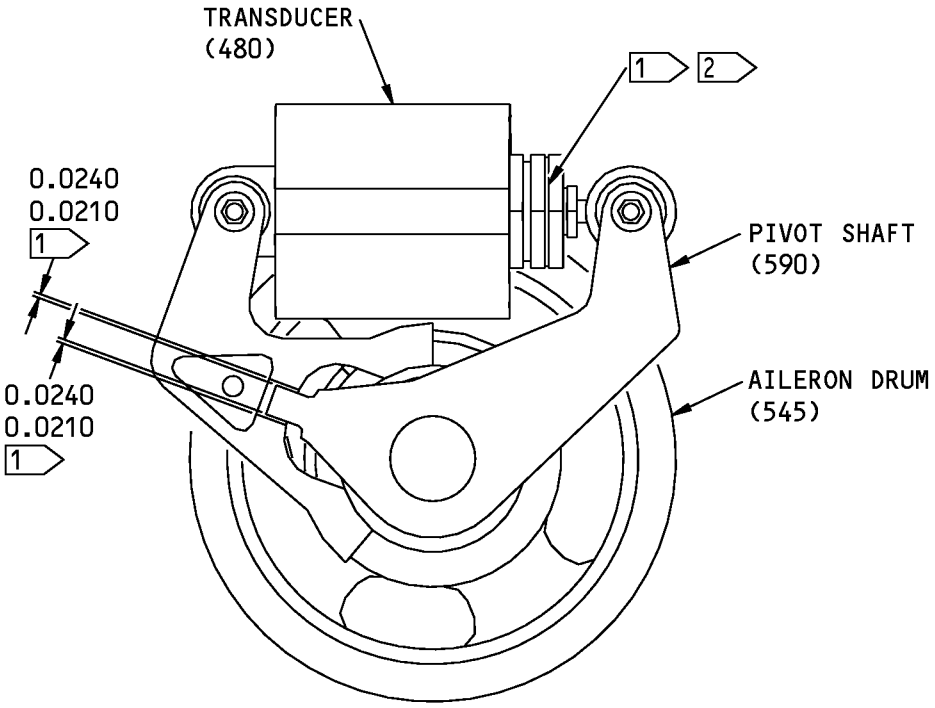
1 APPLY BMS 10-11, TYPE 1 PRIMER TO FAYING SURFACES OF SHAFTS BEFORE ASSEMBLY

2 INSTALL WITH BMS 3-24 GREASE

3 INSTALL WITH BMS 3-24 GREASE APPLIED TO INNER AND OUTER RACES

ITEM NUMBERS REFER TO IPL FIG. 1

Drum Shaft Assembly - Assembly Details
Figure 701



251A1814-3,-4,-5
BOTTOM VIEW
(TRANSDUCER WIRE BUNDLES NOT SHOWN)

1 ADJUST LENGTH OF THE FORCE TRANSDUCER TO GET 0.0210-0.0240 CLEARANCE

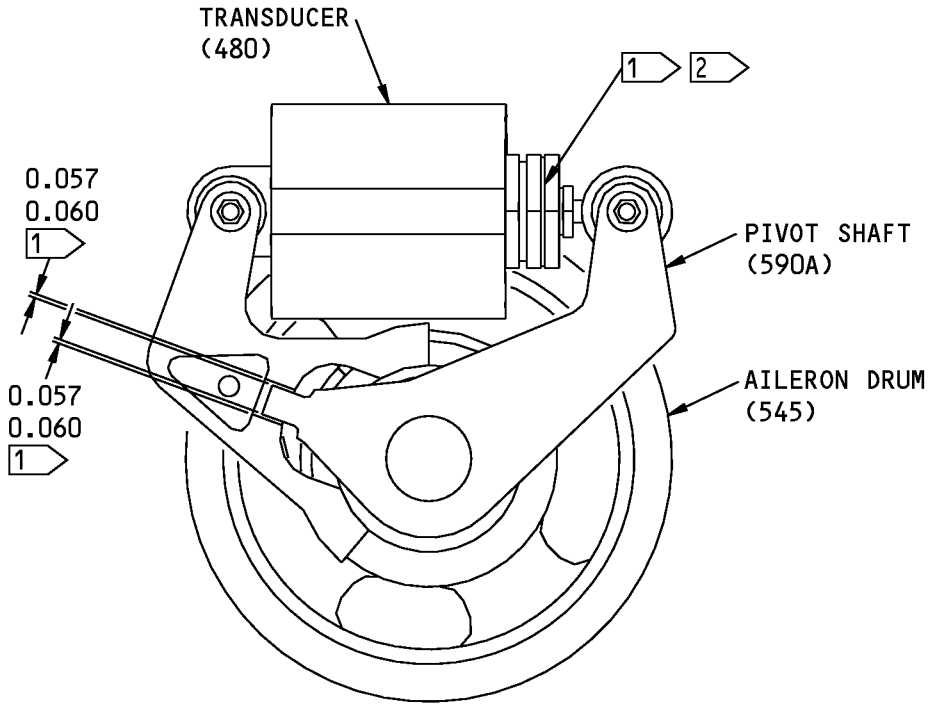
2 INSTALL MS20995NC32 LOCKWIRE AFTER YOU ADJUST THE LENGTH OF THE FORCE TRANSDUCER

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

G56276 S0004991848_V2

Installation of Force Transducer
Figure 702 (Sheet 1 of 2)



251A1814-9,-10
BOTTOM VIEW
(TRANSDUCER WIRE BUNDLES NOT SHOWN)

1 ADJUST LENGTH OF THE FORCE TRANSDUCER TO GET 0.057-0.060 CLEARANCE

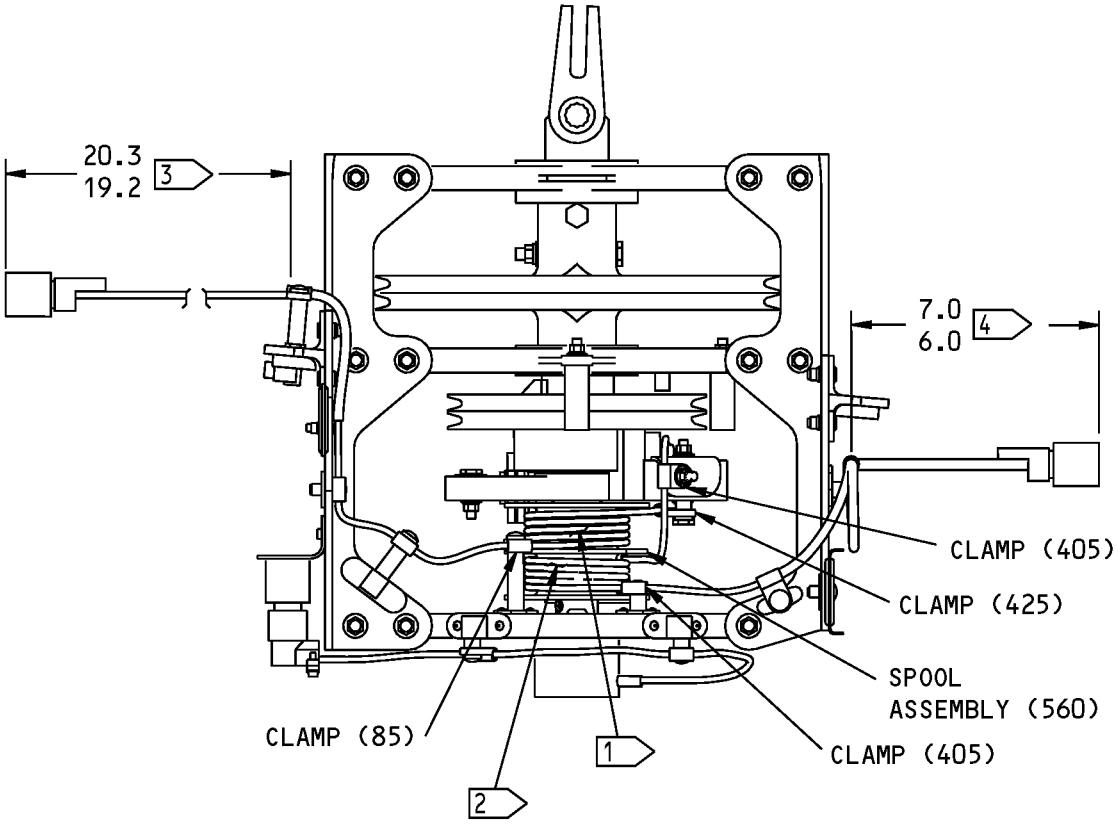
2 INSTALL MS20995NC32 LOCKWIRE AFTER YOU ADJUST THE LENGTH OF THE FORCE TRANSDUCER

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

1530500 S0000278830_V1

Installation of Force Transducer
Figure 702 (Sheet 2 of 2)



1 WIND THE BOTTOM WIRE BUNDLE AROUND THE TOP PART OF THE SPOOL ASSEMBLY, 4 TURNS COUNTERCLOCKWISE, AS SEEN FROM THE BOTTOM

2 WIND THE TOP WIRE BUNDLE AROUND THE BOTTOM PART OF THE SPOOL ASSEMBLY, 4.5 TURNS CLOCKWISE, AS SEEN FROM THE BOTTOM

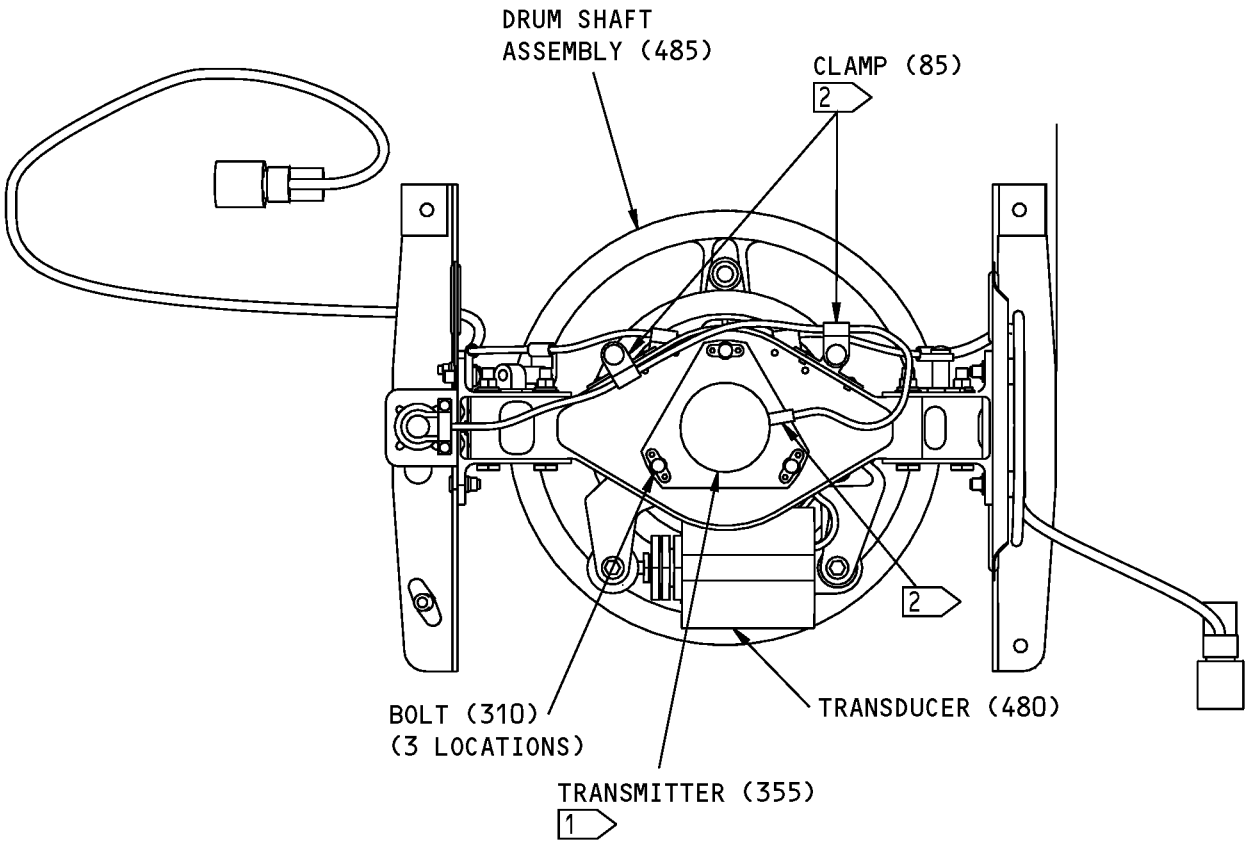
3 LENGTH OF FREE END OF BOTTOM WIRE BUNDLE, TO FACE OF CONNECTOR

4 LENGTH OF FREE END OF TOP WIRE BUNDLE, TO FACE OF CONNECTOR

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Transducer Wire Bundle Installation
Figure 703



BOTTOM VIEW

1 ALIGN THE ZERO MARK ON THE TRANSMITTER (355) WITH THE FLAT IN THE COUPLING (555) BEFORE YOU TIGHTEN THE BOLTS (310)

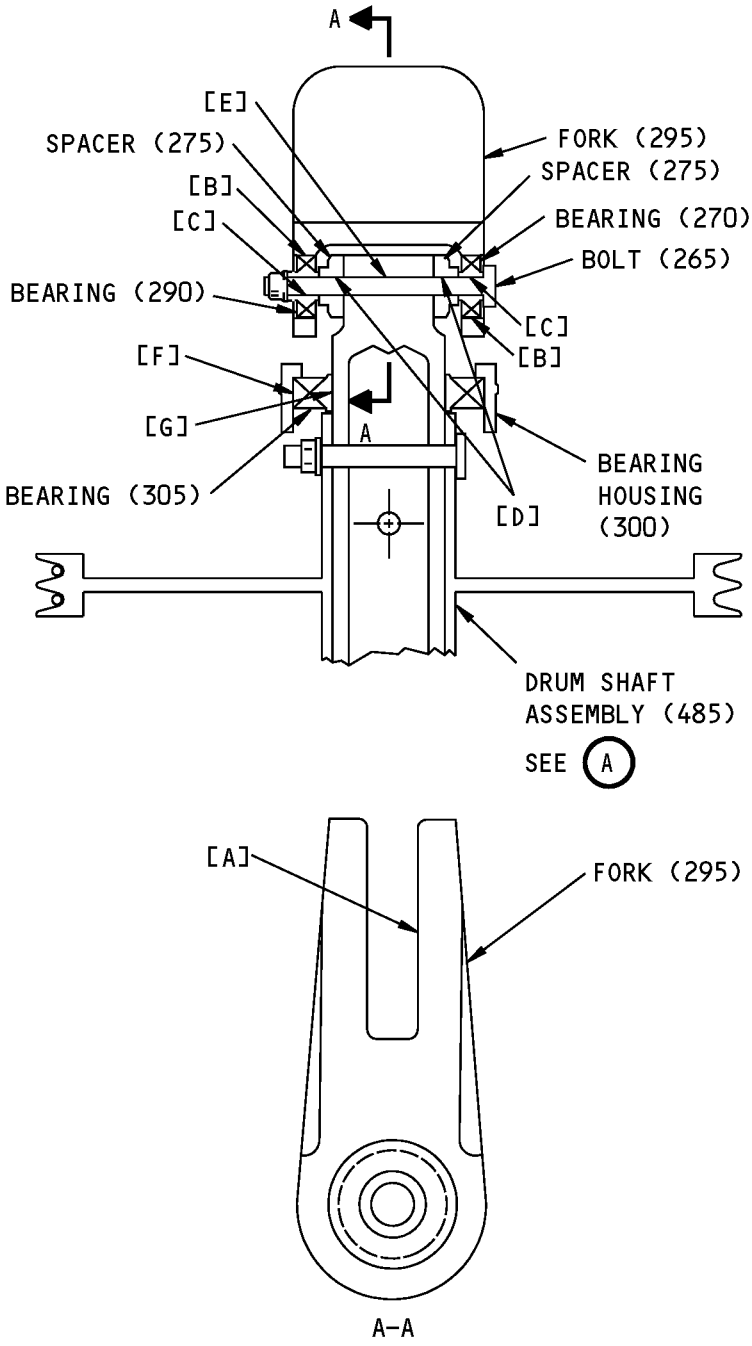
2 TRANSMITTER WIRE CAN POINT IN A DIFFERENT DIRECTION FROM THAT SHOWN. IF NECESSARY, MAKE A LOOP WITH THE WIRE, AND HOLD THE LOOP WITH THE CLAMPS (85)

ITEM NUMBERS REFER TO IPL FIG. 1

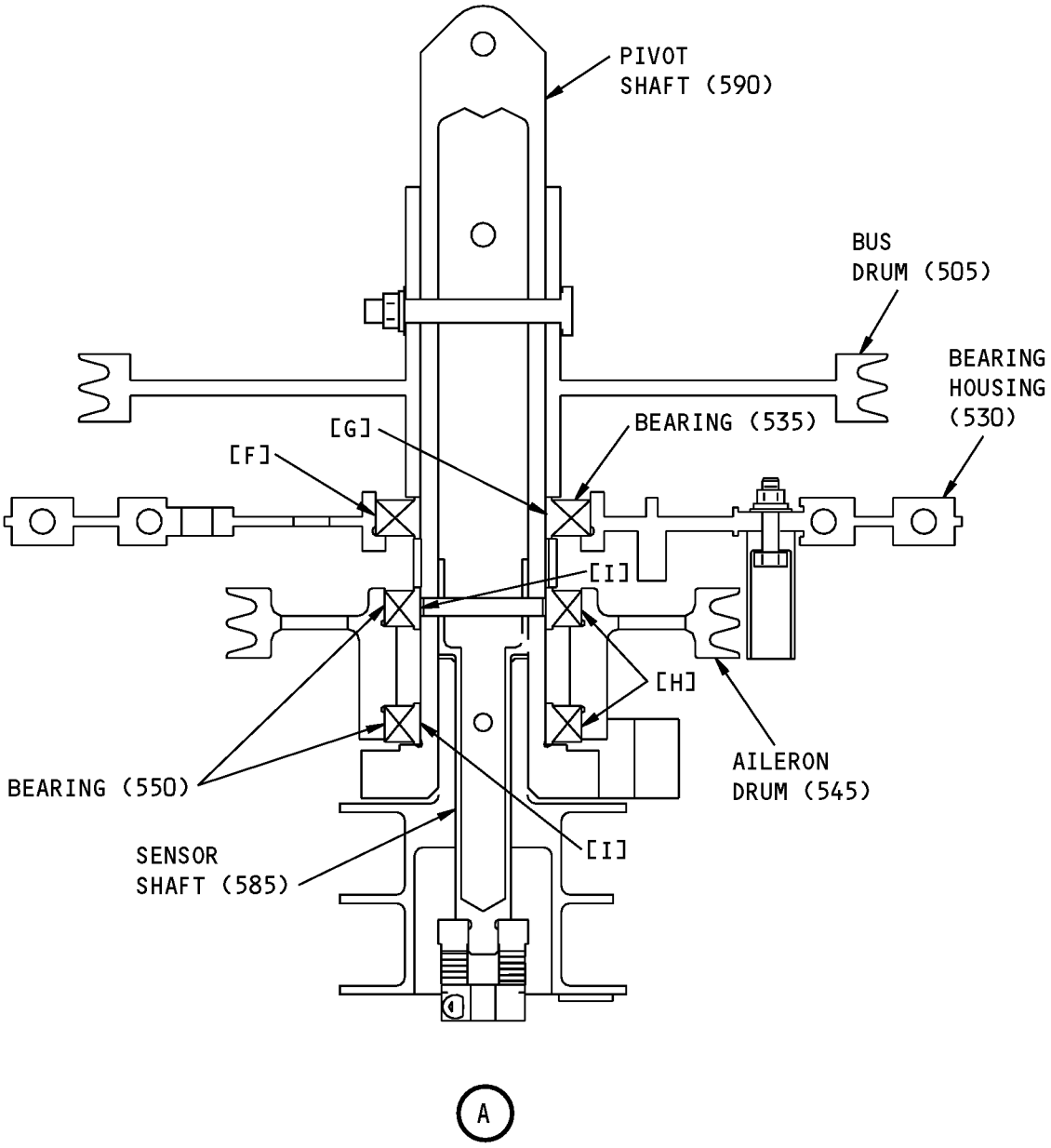
Transmitter Installation
Figure 704

CABLE (IPL FIGURE 1)	CABLE IDENTIFICATION	DRUM	GROOVE
10	ACBB	Bus	Upper
25	ACBA	Bus	Lower
40	A-AL	Aileron	Upper
55	A-BL	Aileron	Lower

Cable Installation Details
Figure 705



Fits and Clearances
Figure 801 (Sheet 1 of 3)



ITEM NUMBERS REFER TO IPL FIG. 1

Fits and Clearances
Figure 801 (Sheet 2 of 3)

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION* DIMENSION MIN	DESIGN DIMENSION* DIMENSION MAX	DESIGN DIMENSION* ASSEMBLY CLEARANCE 3 MIN	DESIGN DIMENSION* ASSEMBLY CLEARANCE 3 MAX	SERVICE WEAR LIMIT* DIMENSION MIN	SERVICE WEAR LIMIT* DIMENSION MAX	SERVICE WEAR LIMIT* MAXIMUM CLEARANCE
[A]	295 1 2	0.3194 0.3184	0.3208 0.3193	0.0001	0.0024	0.3160	0.3249	0.0060
[B]	ID 295 OD 270,290	0.7498 0.7495	0.7503 0.7500	-0.0002	0.0008	0.7495	0.7503	0.0008
[C]	ID 270,290 OD 265	0.2495 0.2485	0.2500 0.2495	0.0000	0.0015	0.2485	0.2500	0.0015
[D]	ID 275 OD 265	0.2500 0.2485	0.2540 0.2495	0.0005	0.0055	0.2485	0.2540	0.0055
[E]	ID 590 OD 265	0.2495 0.2485	0.2505 0.2495	0.0000	0.0020	0.2485	0.2505	0.0020
[F]	ID 300,530 OD 305,305A,535	2.2500 2.2490	2.2510 2.2500	0.0000	0.0020	2.2490	2.2510	0.0020
[G] 4	ID 305,535 OD 590	1.3120 1.3110	1.3130 1.3120	0.0000	0.0020	1.3110	1.3130	0.0020
[G] 5	ID 305A OD 590A	1.3120 1.3110	1.3125 1.3120	0.0000	0.0015	1.3110	1.3125	0.0015
[H]	ID 545 OD 550	2.0625 2.0615	2.0635 2.0625	0.0000	0.0020	2.0615	2.0635	0.0020
[I]	ID 550 OD 590	1.3120 1.3110	1.3130 1.3120	0.0000	0.0020	1.3110	1.3130	0.0020

* ALL DIMENSIONS ARE IN INCHES

1 WIDTH OF SLOT AFTER APPLICATION OF BMS 3-8 SOLID FILM LUBRICANT

2 THICKNESS OF MATING PART 6-60429 AFTER APPLICATION OF BMS 3-8 SOLID FILM LUBRICANT

3 NEGATIVE VALUES INDICATE INTERFERENCE FIT

4 251A1814-3,-4,-5

5 251A1814-9,-10

G60516 S0004991855_V2

Fits and Clearances
Figure 801 (Sheet 3 of 3)

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	475	Nut	30-35	
1	555	Coupling	60-95	

* REFER TO SOPM 20-50-01 FOR TORQUE VALUES OF STANDARD FASTENERS.

Torque Table
Figure 802

(NOT APPLICABLE)

ILLUSTRATED PARTS LIST

1. Introduction

A. The Illustrated Parts List (IPL) contains an illustration and a list of component parts you can repair or replace. The Illustrated Parts Catalog (IPC) shows how to use the Boeing part number system.

B. This shows how parts are related: The relation of each item to its next higher assembly (NHA) is shown in the NOMENCLATURE column. Use the indenture system that follows:

1 2 3 4 5 6 7

. Assembly

. Attaching parts for assembly

. . Detail parts for assembly

. . Subassembly

. . Attaching parts for subassembly

. . . Detail parts for subassembly

. . . Sub-subassembly

. . . Attaching parts for subassembly

. . . . . Details parts for sub-subassembly

Detail Installation Parts (Included only if installation parts may be sent to the shop as part of assembly)

C. Each top assembly is given one use code letter (A, B, C, etc.) in the USAGE CODE column. All subsequent component parts in the list can have one or more of the use code letters to show effectivity to top assemblies. A component part without a use code applies to all top assemblies.

D. An alphabetical letter is added after the item number for optional parts, parts changed by a Service Bulletin, configuration differences (except left-handed and right-handed parts), last engineering releases, and parts added between item numbers in a sequence. The alphabetical letter will not be shown on the illustration for equivalent parts of the same part number.

E. Color-coded parts are identified with a single digit alpha following the dash number or with ''SP'' suffix. If the ''SP'' suffix is used, it represents consolidation of all color codes applicable for a given usage which are not separately listed. Orders for color-coded parts should include the registry number of the airplane for which the parts are ordered.

F. If a part number is 15 characters long but will not fit in the part number column, the part number will be displayed with a ''~'' at the end of the line and will be continued on the next line. The ''~'' denotes that the part number continues on the next line.

G. Parts changed by a Service Bulletin are shown by PRE SB XXXX and POST SB XXXX added to the NOMENCLATURE column.

(1) When a new top assembly is added by a Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the top assembly level only. The configuration differences at the detail part level are shown by use code letters.

(2) When the top assembly part number is not changed by the Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the detail level.

H. Interchangeable Parts

Optional (OPT)	The part is optional to and interchangeable with other parts that have the same item number.
Replaces, Replaced by and not interchangeable with (REPLACES, REPLACED BY AND NOT INTCHG/W)	The part replaces and is not interchangeable with the initial part.
Replaces, Replaced by (REPLACES, REPLACED BY)	The part replaces and is interchangeable with, or is an alternative to, the initial part.

VENDOR CODES

Code	Name
04169	WESTERN SKY INDUSTRIES A DIVISION OF ATLAS CORPORATION 1280 SAN LUIS OBISPO STREET HAYWARD, CALIFORNIA 94544-7916 FORMERLY WESTERN SKY IND VB0008
06144	INDUSTRIAL TECTONICS BEARING CORP 18301 SOUTH SANTA FE AVENUE RANCHO DOMINGUEZ, CALIFORNIA 90221 FORMERLY IN COMPTON, CALIFORNIA
06725	AIR INDUSTRIES CORPORATION 12570 KNOTT STREET GARDEN GROVE, CALIFORNIA 92641-3932 FORMERLY AIR INDUSTRIES OF CALIF IN GARDENA, CALIF.
06950	SCREWCORP VSI AEROSPACE PRODUCTS DIV FAIRCHILD IND DIV 13001 EAST TEMPLE AVENUE PO BOX 730 CITY OF INDUSTRY, CALIFORNIA 91746-1417 FORMERLY VB0096 AND VSI CORP SCREWCORP DIV FORMERLY IN CULVER CITY, CALIFORNIA SCREW CORP SEE V.S.I. CORP SCREWCORP DIVISION

Code	Name
08524	Replaced: [V08524] DEUTSCH FASTENER CORP SEE CODE V97928 Replaced: [V97928] SEE V17446 HUCK INTL by Code: Name and Address below 17446: HUCK INTL INC AEROSPACE FASTENER DIV 900 WATSON CENTER ROAD CARSON, CALIFORNIA 90745-4201 FORMERLY V32134 REXNORD INC; FORMERLY V97928 HUCK INTL Referenced in FORMERLY line below [17419] DEUTSCH COMPANY THE WELLS FARGO BANK BLDG 2444 WILSHIRE BLVD #600 SANTA MONICA, CALIFORNIA 90403 FORMERLY DEUTSCH FASTENER CORP V08524 FORMERLY IN LOS ANGELES
0PTK6	SPS TECHNOLOGIES INC AEROSPACE PRODUCTS DIV 5195 W 4700 SALT LAKE CITY, UTAH 94118 SEE V56878 SPS TECHNOLOGIES INC
11328	Replaced: [V11328] AEROQUIP SEE EATON AEROQUIP V00624 LINAIR ENG A TELEDYNE CO SEE TELEDYNE LINAIR ENGINEERING TELEDYNE INC SEE LINAIR ENGINEERING TELEDYNE LINAIR ENG SEE AEROQUIP CORP LINAIR DIV by Code: Name and Address below 00624: EATON AEROQUIP INC ENGINEERED SYSTEMS DIV 300 S EAST AVE JACKSON, MICHIGAN 49203-1972 FORMERLY AEROQUIP ELBEE PLANT V99879 OR WESTERN PLANT V70128; FORMERLY AEROQUIP AEROSP DIV JACKSON PLANT; FORMERLY V11328 AEROQUIP LINAIR DIV
11815	CHERRY AEROSPACE FASTENERS DIV OF TEXTRON 1224 EAST WARNER AVENUE PO BOX 2157 SANTA ANA, CALIFORNIA 92707-0157 FORMERLY IN LOS ANGELES, CALIF , FORMERLY CHERRY FASTENERS TOWNSEND DIV OF TEXTRON INC V71087
13201	HELICAL PRODUCT CO 901 WEST MCCOY LANE PO BOX 1069 SANTA MARIA, CALIFORNIA 93456

Code	Name
15653	ALCOA GLOBAL FASTENERS INC DIV KAYNAR PRODUCTS 800 S STATE COLLEGE BLVD FULLERTON, CALIFORNIA 92831-3001 FORMERLY VK6405 MICRODOT AEROSP LTD; FORMERLY KAYNAR TECH FORMERLY FAIRCHILD FASTENERS KAYNAR DIV
21335	TIMKEN US CORPORATION DIV FAFNIR 336 MECHANIC STREET LEBANON, NH 03766-0267 FORMERLY FAFNIR BRG AND TEXTRON INC FAFNIR DIV IN NEW BRITAIN, CONNECTICUT ; FORMERLY TORRINGTON CO THE SPECIAL PRODUCTS DIV SUB OF THE INGERSOLL-RAND CO V8D210 FORMERLY TORRINGTON CO FAFNIR BEARING DIV IN TORRINGTON, CT
22277	BELL-MEMPHIS INC 1650 CHANNEL AVENUE MEMPHIS, TENNESSEE 38113-0187 FORMERLY BELL,R.E. MFG CO V11097
22863	KAVLICO CORP INC 14501 LOS ANGELES AVENUE MOORPARK, CALIFORNIA 93021 FORMERLY IN VAN NUYS AND CHATSWORTH, CALIFORNIA
26590	HOOD INDUSTRIES 4615 SHEPARD STREET BAKERSFIELD, CALIFORNIA 93309 FORMERLY IN PARAMOUNT, CALIFORNIA
30163	VALENTEC DAYRON INC 333 MAGUIRE BLVD PO BOX 140394 ORLANDO, FLORIDA 32814-0394
38443	MRC BEARINGS 402 CHANDLER STREET JAMESTOWN, NEW YORK 14701-3802 FORMERLY MARLIN-ROCKWELL CORP DIV TRW AND TRW INC

Code	Name
40920	MPB MINIATURE PRECISION BEARING DIV PRECISION PARK PO BOX 547 KEENE, NEW HAMPSHIRE 03431 FORMERLY MPB CORP AND MINIATURE BRG DIV MPB CORP
43991	FAG BEARING INCORPORATED 118 HAMILTON AVENUE STAMFORD, CONNECTICUT 06904 FORMERLY NORMA-HOFFMAN BEARING CORPORATION FORMERLY NORMA FAG BEARINGS CORPORATION
52828	REPUBLIC FASTENER MFG CORP 1300 RANCHO CONEJO BLVD NEWBURY PARK, CALIFORNIA 91320-1405 FORMERLY IN SYLMAR, CALIFORNIA
56878	SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV 301 HIGHLAND AVE JENKINTOWN, PENNSYLVANIA 19046 FORMERLY STANDARD PRESSED STEEL FORMERLY IN SALT LAKE, UTAH
5M902	ALCOA GLOBAL FASTENERS INC, DIV OF VOI-SHAN PRODUCTS 3000 W LOMITA BLVD TORRANCE, CALIFORNIA 90505-5103 FORMERLY FAIRCHILD INC INC FAIRCHILD AEROSPACE FASTENERS DIV
60516	WEST COAST AEROSPACE INC 812 MIRAFLORES STREET SAN PEDRO, CALIFORNIA 90731-1439
62554	SIMMONDS MECAERO FASTENERS INC 1734 SEQUOIA AVENUE ORANGE, CALIFORNIA 92668
72962	HARVARD INDUSTRIES INC 3 WERNER WAY SUITE 210 LEBANON, NEW JERSEY 08833 FORMERLY ESNA V7A079 FORMERLY ELASTIC STOP NUT IN UNION, NJ

Code	Name
73197	HI-SHEAR TECHNOLOGY CORP 2600 SKYPARK DRIVE TORRANCE, CALIFORNIA 90509
75345	KIRKHILL RUBBER CO 300 EAST CYPRESS STREET BREA, CALIFORNIA 92821-4097 FORMERLY L.A. STANDARD RUBBER CO V84914
80523	BABCOCK ACCO INC ACCO CONTROLS GROUP SUB OF BABCOCK INTL 1014 ERIE STREET PO BOX 608 ADRIAN, MICHIGAN 49221-0608 FORMERLY CABLE CONTROLS DIV OF AMERICAN CHAIN AND CABLE FORMERLY ACCO IND INC CABLE CONTROLS DIV
80539	SPS TECHNOLOGIES INC DIV AERPSOACE - SANTA ANA 2701 SOUTH HARBOR BOULEVARD SANTA ANA, CALIFORNIA 92704-5803 FORMERLY NUTT-SHEL DIV OF SPC WESTERN CO V80539 AND STANDARD PRESSED STEEL WESTERN DIV V17279
82686	HORIZON AEROSPACE LLC DBA TRANSICOIL 2560 GENERAL ARMISTEAD AVE NORRISTOWN, PENNSYLVANIA 19403-5214 FORMERLY TRANSCOIL INC. COMPONENTS & CONTROLS
83014	HARTWELL CORPORATION 900 SOUTH RICHFIELD ROAD PLACENTIA, CALIFORNIA 92670-6732 FORMERLY V0532B IN LOS ANGELES, CALIFORNIA
83086	NEW HAMPSHIRE BALL BEARING, INC HITECH DIVISION 172 JAFFREY ROAD PETERBOROUGH, NEW HAMPSHIRE 03458
84914	Replaced: [V84914] LOS ANGELES STD RUBBER CO by Code: Name and Address below 75345: KIRKHILL RUBBER CO 300 EAST CYPRESS STREET BREA, CALIFORNIA 92821-4097 FORMERLY L.A. STANDARD RUBBER CO V84914

Code	Name
92215	FAIRCHILD IND INC FAIRCHILD AEROSPACE FASTENER DIV 3010 W LOMITA BLVD TORRANCE, CALIFORNIA 90505-5102 FORMERLY VOI-SHAN IN CULVER CITY, CALIF
95272	STILLMAN SEL CORP 6020 AVENIDA ENCINAS CARLSBAD, CALIFORNIA 92009-1001 FORMERLY SARGENT IND
97928	Replaced: [V97928] SEE V17446 HUCK INTL by Code: Name and Address below 17446: HUCK INTL INC AEROSPACE FASTENER DIV 900 WATSON CENTER ROAD CARSON, CALIFORNIA 90745-4201 FORMERLY V32134 REXNORD INC; FORMERLY V97928 HUCK INTL
9N513	VOI SHAN/CHATSWORTH DIV OF VSI CORP SUB OF FAIRCHILD IND CHATSWORTH, CALIFORNIA 91311-5013 COMPANY NO LONGER WISHES TO BE CONSIDERED FOR FED CONTRCTG
K8455	RHP BEARINGS PLC RHP AEROSPACE OLDENDS LANE STONEHOUSE GL10 3RM UK

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
10-61072-8		1	480	1
102F9201M3		1	170	2
		1	240	1
109A9201M3		1	342	3
251A1805-1		1	360	1
251A1805-2		1	385	1
251A1805-3		1	360A	1
251A1805-4		1	385A	1
251A1806-1		1	320	1
251A1806-2		1	320A	1
251A1807-1		1	590	1
251A1807-2		1	590A	1
251A1808-1		1	585	1
251A1809-1		1	570	1
251A1809-2		1	250	1
251A1809-3		1	254	1
251A1810-1		1	560	1
251A1810-2		1	580	1
251A1811-1		1	335	1
251A1812-1		1	175	1
251A1812-2		1	255	1
251A1812-3		1	175A	1
251A1813-1		1	130	1
251A1813-3		1	180	1
251A1813-4		1	130A	1
251A1813-5		1	180A	1
251A1814-10		1	1E	RF
251A1814-2		1	485	1
251A1814-3		1	1A	RF
251A1814-4		1	1B	RF
251A1814-5		1	1C	RF
251A1814-6		1	76	9
251A1814-7		1	76A	9
251A1814-8		1	485A	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
251A1814-9		1	1D	RF
251A1819-1		1	145A	1
251A1819-2		1	210A	1
253T4015-7		1	345	1
253U1116-3		1	340	1
253U1116-4		1	343	1
253U1116-5		1	344	1
4841		1	95	10
		1	410	2
		1	430	1
50-3361-4174		1	260	2
6-60428-2		1	285	1
6-60428-3		1	295	1
6-60428-6		1	285A	1
		1	285B	1
6-60428-7		1	295A	1
65-55476-6		1	530	1
65-55476-7		1	300	1
65-55711-3		1	505	1
65-55729-5		1	545	1
66-24952-1		1	275	2
69-40961-2		1	265	1
69-41762-2		1	525	3
69-41771-2		1	145	1
69-41772-2		1	210	1
69-41789-1		1	110	1
69-42919-1		1	540	1
69-71533-1		1	445	1
69-71533-2		1	460	1
69-71533-4		1	450	1
69308-6A3		1	310	3
7332-6-67MM		1	555	1
8-04057-4		1	20	1
		1	35	1
		1	50	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	65	1
BAC27DCT608		1	600	1
BACB10BW21		1	550	2
BACB10BX04		1	270A	1
BACB10BX4		1	270	1
		1	290	1
BACB10EX21		1	305	1
		1	535	1
BACB10FV21J		1	305A	1
BACB30LH3-2		1	390	1
BACB30LK3-3		1	105A	2
BACB30LK3-5		1	70A	1
BACB30LM3-20		1	415A	1
BACB30LM3-3		1	310B	3
BACB30LM3-9		1	465A	2
BACB30LM4-23		1	115A	11
BACB30LU3-2		1	390	1
BACB30MB6A3		1	310	3
BACB30VT5HK2		1	251	1
BACB30VT5HK4		1	252	1
BACB30VT6K4		1	135	4
		1	215	4
BACC10DK3		1	85	8
		1	405	2
		1	425	1
BACC10DK4		1	90	2
BACC2A4B00321CG		1	25	1
BACC2A4B00321DG		1	10	1
BACC2C4C00262EG		1	55	1
BACC2C4C00385FG		1	40	1
BACC30BL5		1	252J	2
BACC30BL6		1	140	4
		1	220	4
BACC63BN10B5P		1	350	1
BACN10GH3-2		1	195	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	380	2
BACN10GH3-6		1	230A	1
BACN10GH3-8		1	230	1
BACN10JC3CD		1	317	3
BACN10JN3CD		1	170	2
		1	240	1
BACN10JP3ACM		1	342	3
BACN10TL3-10		1	190	1
BACN10TL3-14		1	370	1
BACN10TL3-3		1	155	2
BACN10TL3-4		1	375	1
BACN10TL3-6		1	160	1
BACN10TL3A6		1	205	1
BACN10YR3CD		1	400	2
		1	440	1
		1	475	2
		1	520	3
BACN10YR4CD		1	125	11
		1	280	1
		1	500	2
BACP18BC02C04P		1	5	4
BACP20BA1		1	95	10
		1	410	2
		1	430	1
BACR15BA3AD		1	165	4
		1	235	2
BACR15BA3D		1	447	2
BACR15BA4AC		1	565	2
BACR15BA4AD		1	202	1
BACR15BB3AD		1	150	6
		1	185	4
		1	225	2
		1	365	8
BACR15BB4AD		1	200	1
BACR15BB5AD		1	245	2

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
BACR15DR3		1	341	6
BACS12BG04AP3		1	325	4
BACS12HN3-10		1	68B	5
BACS12HN3-12		1	68C	5
BACS12HN3-8		1	67B	4
BACS53B1EA1		1	455	1
BACT14A4		1	20	1
		1	35	1
		1	50	1
		1	65	1
BM2488A4		1	20	1
		1	35	1
		1	50	1
		1	65	1
BRFM20C3D		1	170	2
		1	240	1
BRM200C3M		1	342	3
CS204E		1	270	1
		1	290	1
GM10603		1	480A	1
GM5341-8		1	480	1
H52732-3CD		1	400	2
		1	440	1
		1	475	2
		1	520	3
H52732-4CD		1	125	11
		1	280	1
		1	500	2
HI2099		1	20	1
		1	35	1
		1	50	1
		1	65	1
HL448UC6-3		1	310	3
		1	310	3
		1	310	3

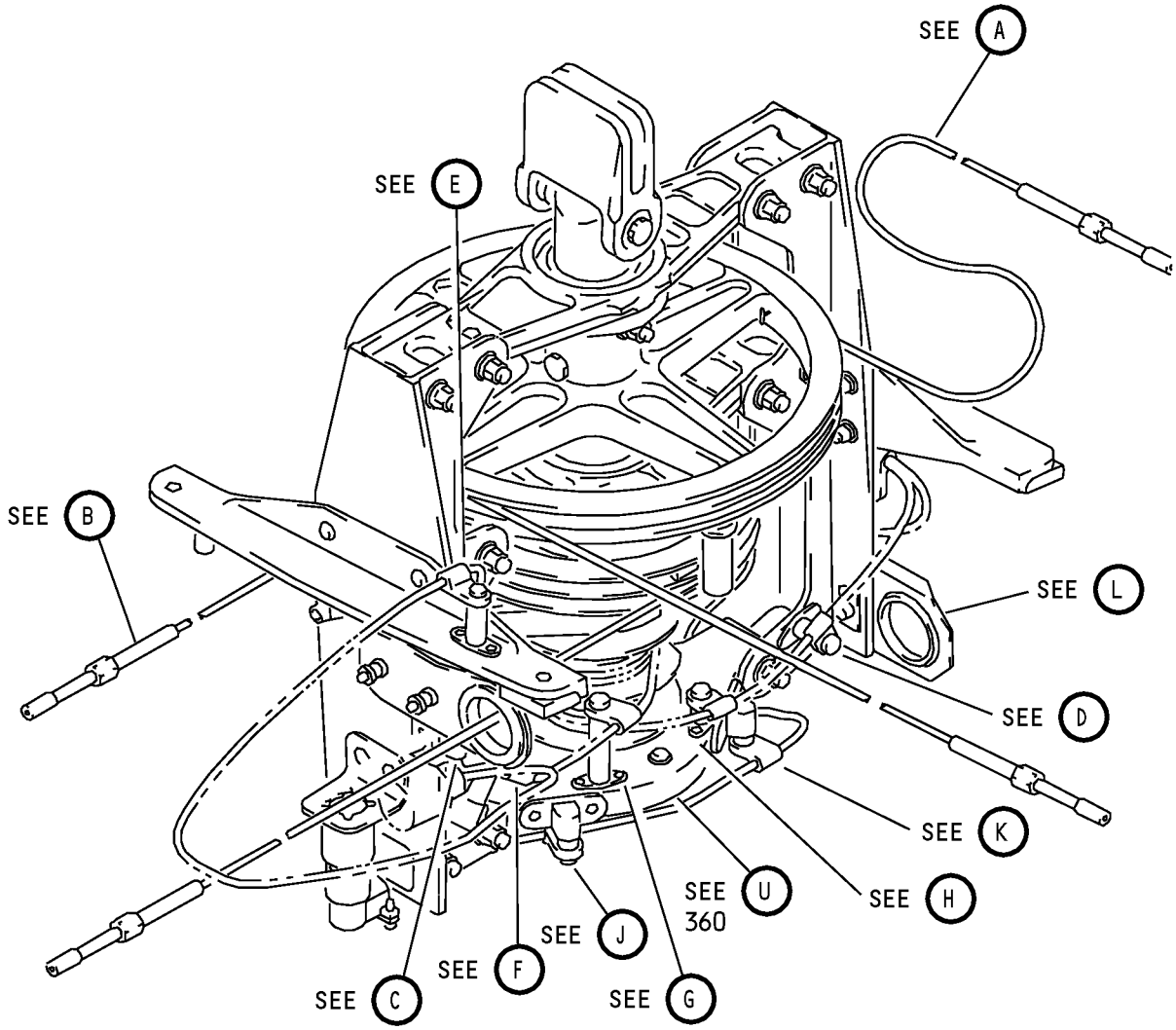
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	310	3
		1	310	3
		1	310	3
		1	310	3
HST10AG6-4		1	135	4
		1	135	4
		1	135	4
		1	135	4
		1	215	4
		1	215	4
		1	215	4
		1	215	4
HST79-5		1	252J	2
HST79-6		1	140	4
		1	140	4
		1	140	4
		1	220	4
		1	220	4
		1	220	4
HST79CY5		1	252J	2
		1	252J	2
		1	252J	2
HST79CY6		1	140	4
		1	220	4
HT100-4		1	20	1
		1	35	1
		1	50	1
		1	65	1
KP04A		1	270A	1
KP04A2TS		1	270A	1
KP04AFS428		1	270A	1
KP04ALY196		1	270A	1
KP04ASD610		1	270A	1
KP21B		1	550	2
KP21B2TS		1	550	2

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
KP21BFS428		1	550	2
KP21BG27		1	550	2
KP21BLY196		1	550	2
KP21BS		1	305	1
		1	535	1
KP21BSD610		1	550	2
KP21BSLY196		1	305	1
		1	535	1
KP21BSSD610		1	305	1
		1	535	1
KP4A		1	270	1
		1	290	1
KP4A2TS		1	270	1
		1	290	1
KP4AFS428		1	270	1
		1	290	1
KP4AG27		1	270	1
		1	290	1
KP4ALY196		1	270	1
		1	290	1
KP4ASD610		1	270	1
		1	290	1
LLKP04A		1	270A	1
LLKP21B		1	550	2
LLKP4A		1	270	1
		1	290	1
MF51637-3		1	170	2
		1	240	1
MK1001-3BAC		1	342	3
MS21260L4LH		1	60	1
MS21260L4RH		1	45	1
MS21260S4LH		1	30	1
MS21260S4RH		1	15	1
N2088		1	95	10
		1	410	2

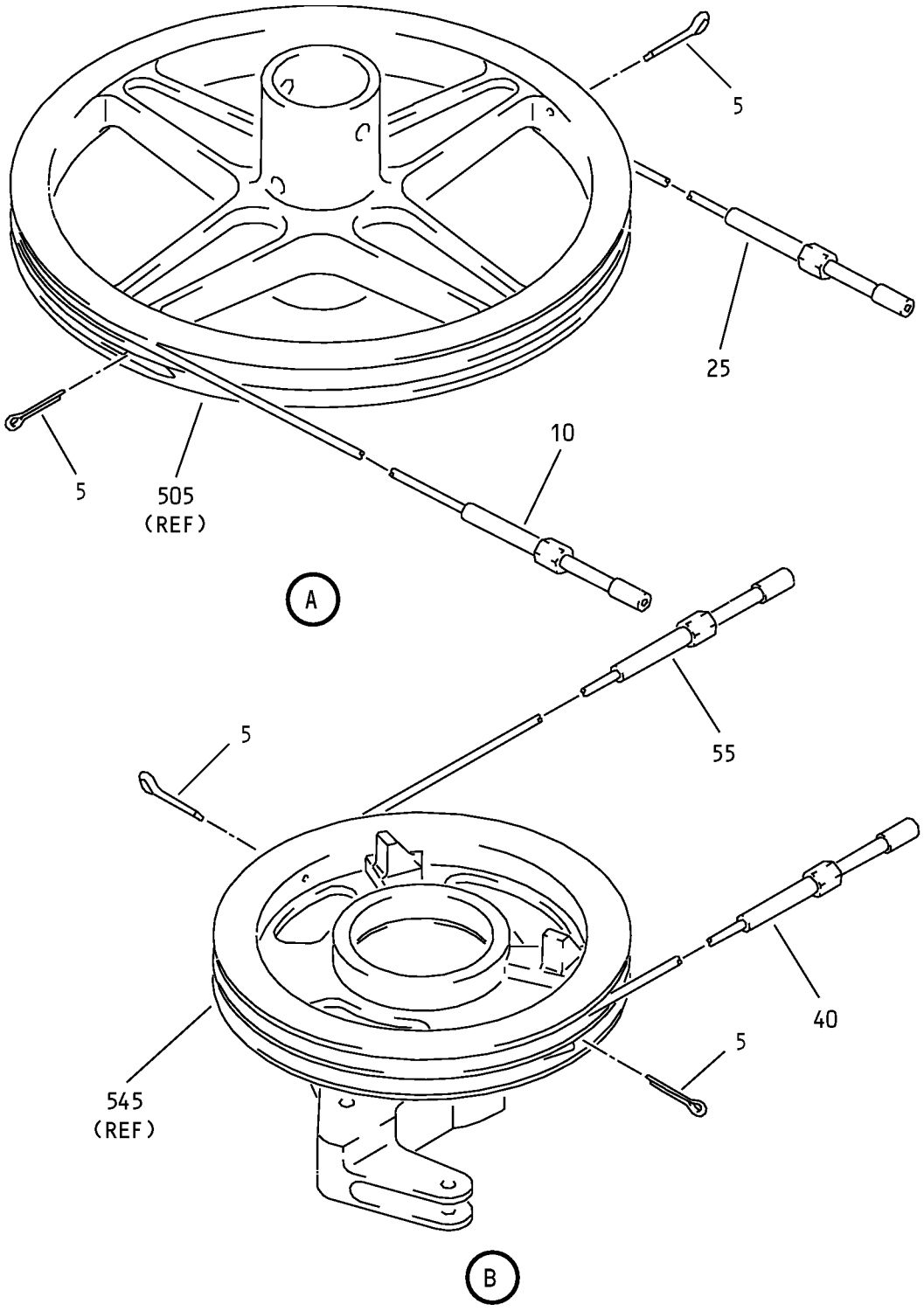
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	430	1
NAS1149CN416R		1	330	4
NAS1149D0332J		1	515	3
NAS1149D0416J		1	495	2
NAS1149DN432J		1	575	2
NAS1149E0316P		1	78	2
		1	80	10
		1	83	1
		1	84	16
		1	315	3
		1	316	3
		1	395	2
		1	421	1
NAS1149E0332P		1	81	16
		1	420	2
		1	470	2
NAS1149E0363P		1	78A	3
		1	82	2
NAS1149E0432P		1	120	11
NAS1351N3-12P		1	510	3
NAS1368N16A		1	100	2
		1	253	1
NAS1801-3-6		1	77	1
NAS1801-3-8		1	67A	4
		1	77A	1
NAS43DD3-52FC		1	435	1
NAS607-3-10P		1	595	2
NAS623-3-10		1	68	5
NAS623-3-12		1	68A	5
NAS623-3-3		1	75	9
		1	105	2
NAS623-3-5		1	70	1
NAS6603-20		1	415	1
NAS6603-9		1	465	2
NAS6604-23		1	115	11

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
NAS6604-26		1	490	2
NAS6703-3		1	310A	3
NS103197SE02		1	342	3
NS202487-02		1	170	2
		1	240	1
PLH53CD		1	400	2
		1	440	1
		1	475	2
		1	520	3
PLH54CD		1	125	11
		1	280	1
		1	500	2
S251A102-1		1	480A	1
ST2099		1	20	1
		1	35	1
		1	50	1
		1	65	1
SZ7105		1	95	10
		1	410	2
		1	430	1
T8080C1032		1	342	3
T81243CDS		1	170	2
		1	240	1
U221557		1	355	1
VL310AG5-2		1	251	1
		1	251	1
		1	251	1
VL310AG5-4		1	252	1
		1	252	1
		1	252	1
VN202D1-02		1	342	3
VNS1924CA1-8		1	455	1
VNS1924CA3-1-8		1	455	1
WC4486-3		1	310	3
WS1-4A6		1	205	1

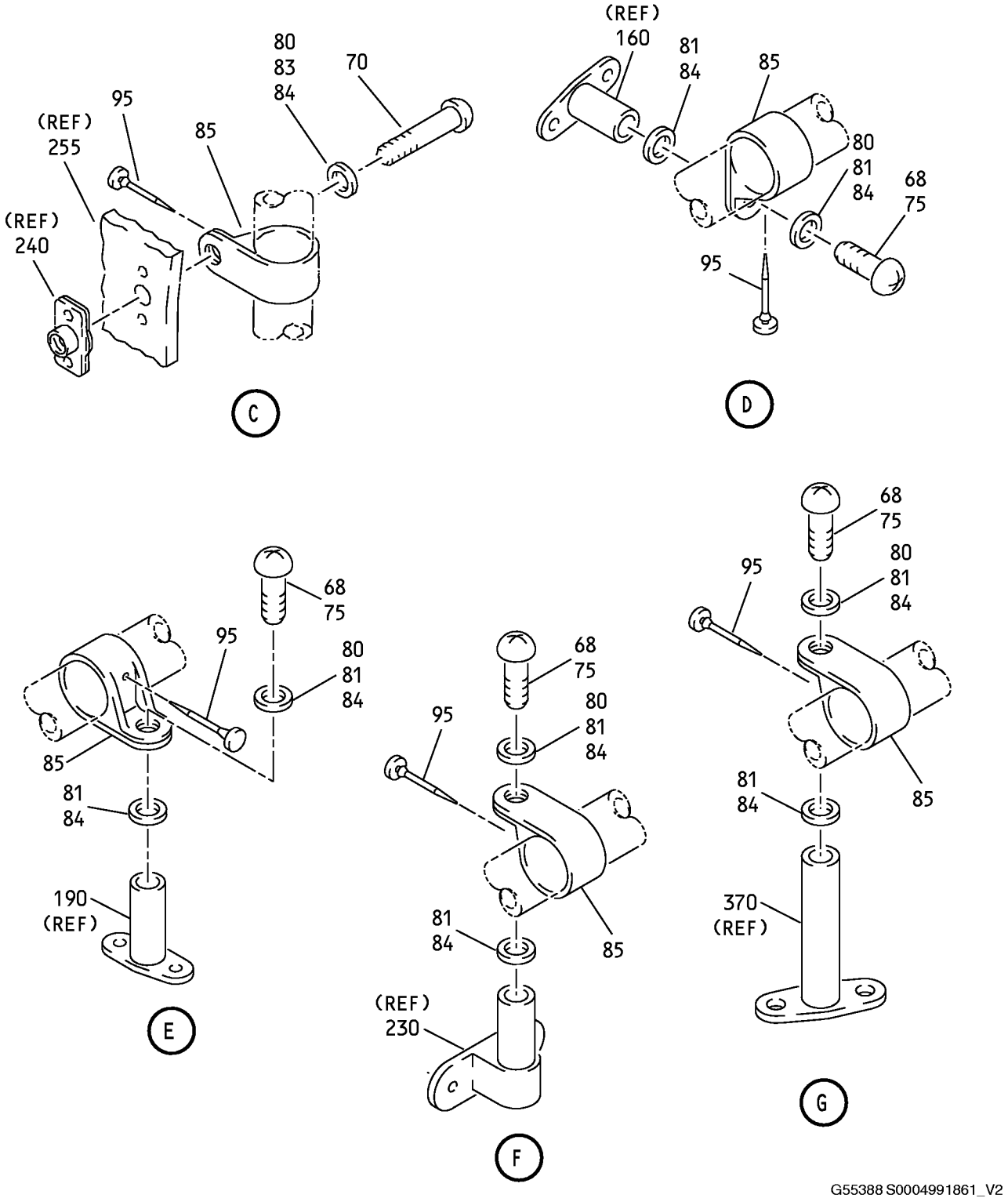
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
WSI332-2		1	195	1
		1	380	2
WSI332-6		1	230A	1
WSI332-8		1	230	1
WSI4-10		1	190	1
WSI4-14		1	370	1
WSI4-3		1	155	2
WSI4-4		1	375	1
WSI4-6		1	160	1



Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 1 of 13)



Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 2 of 13)



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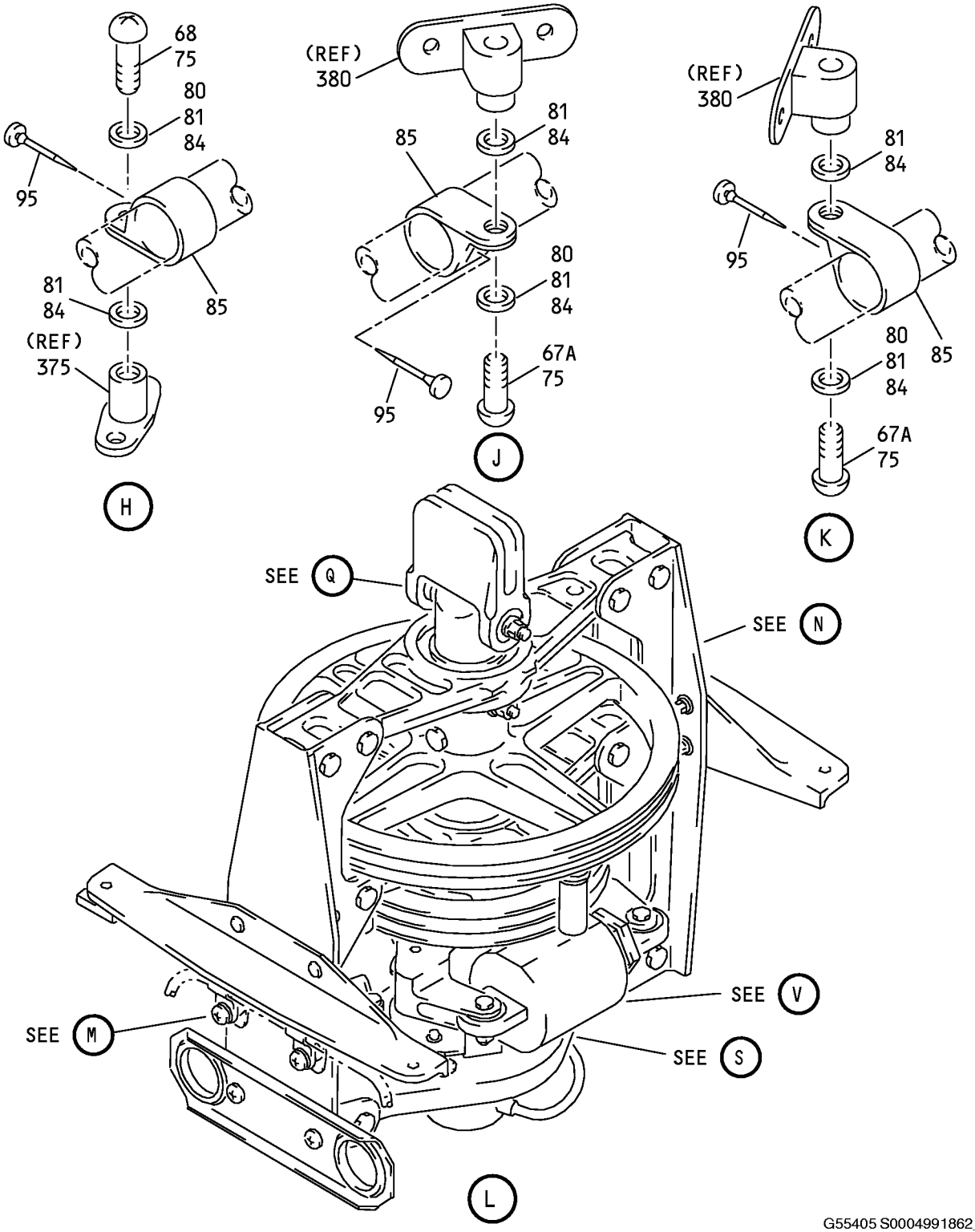
Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 3 of 13)



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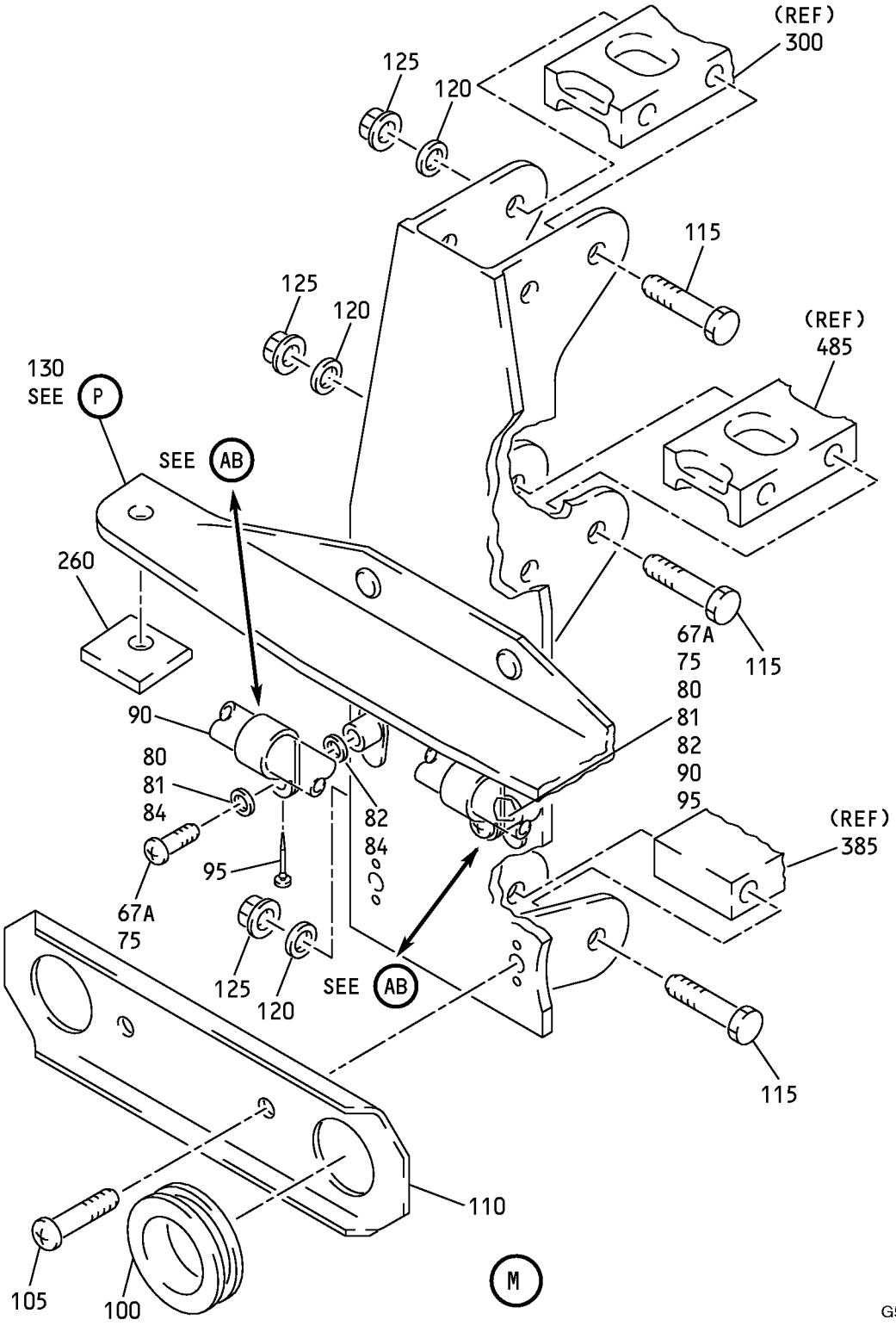
Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 4 of 13)



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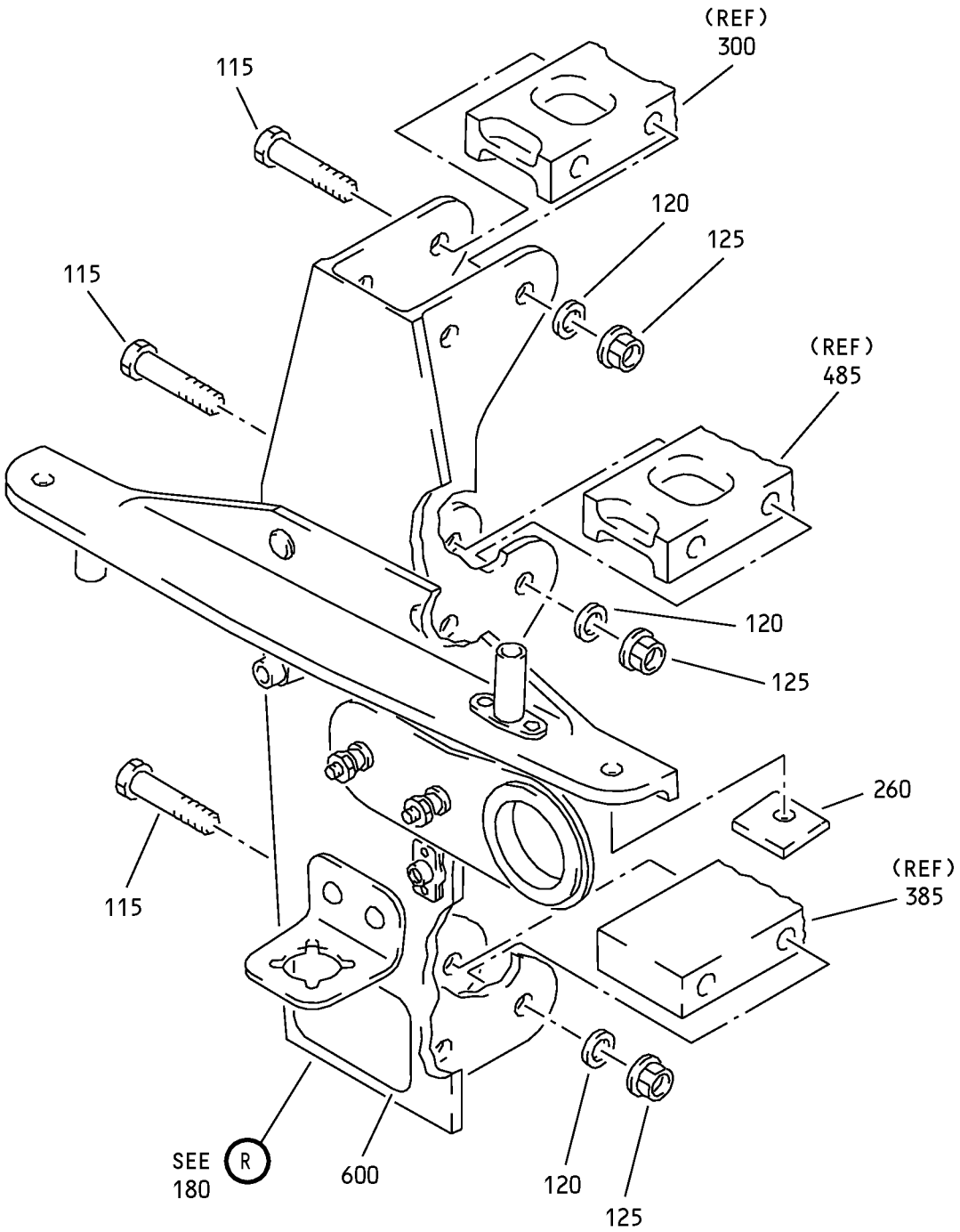
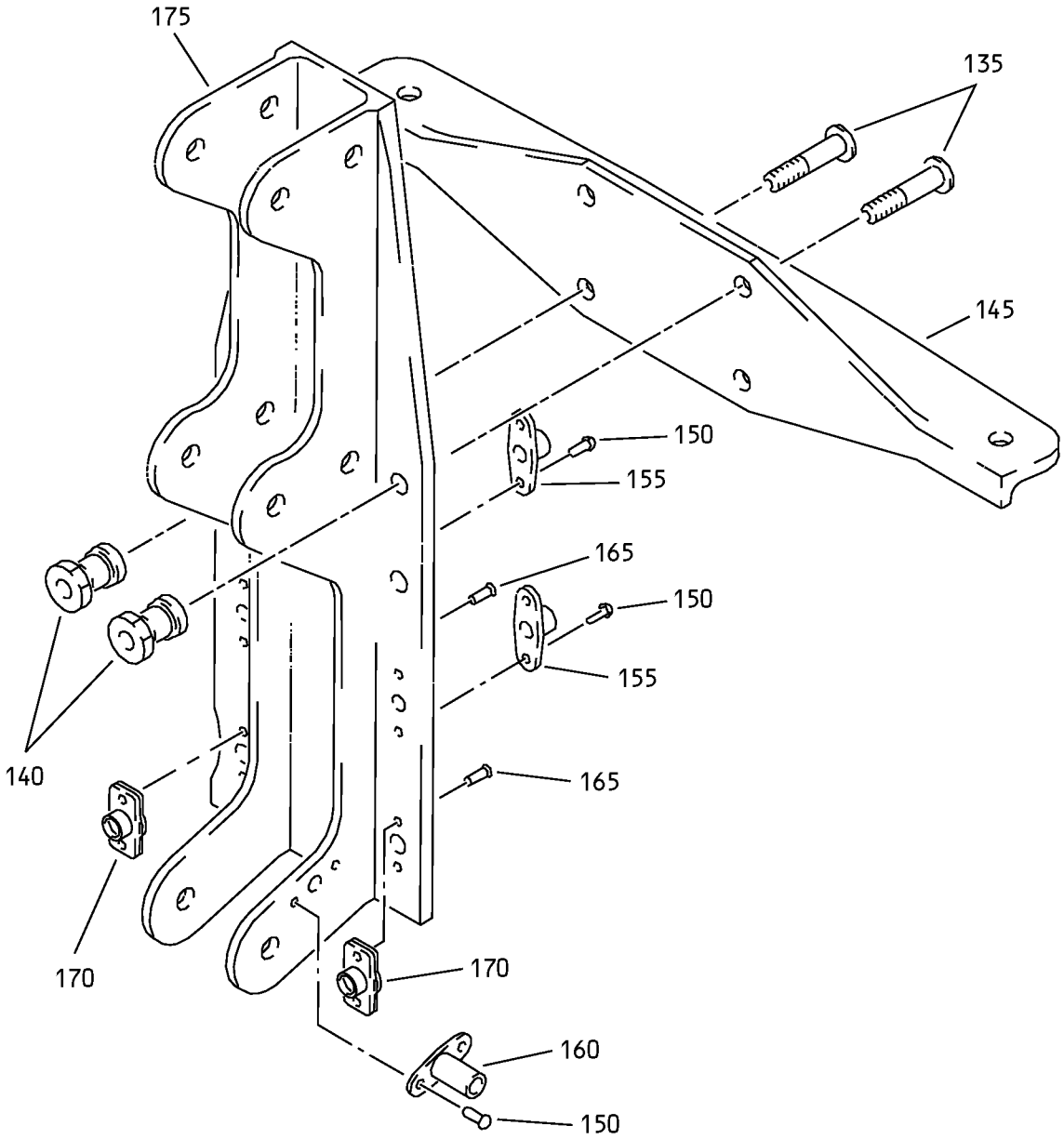
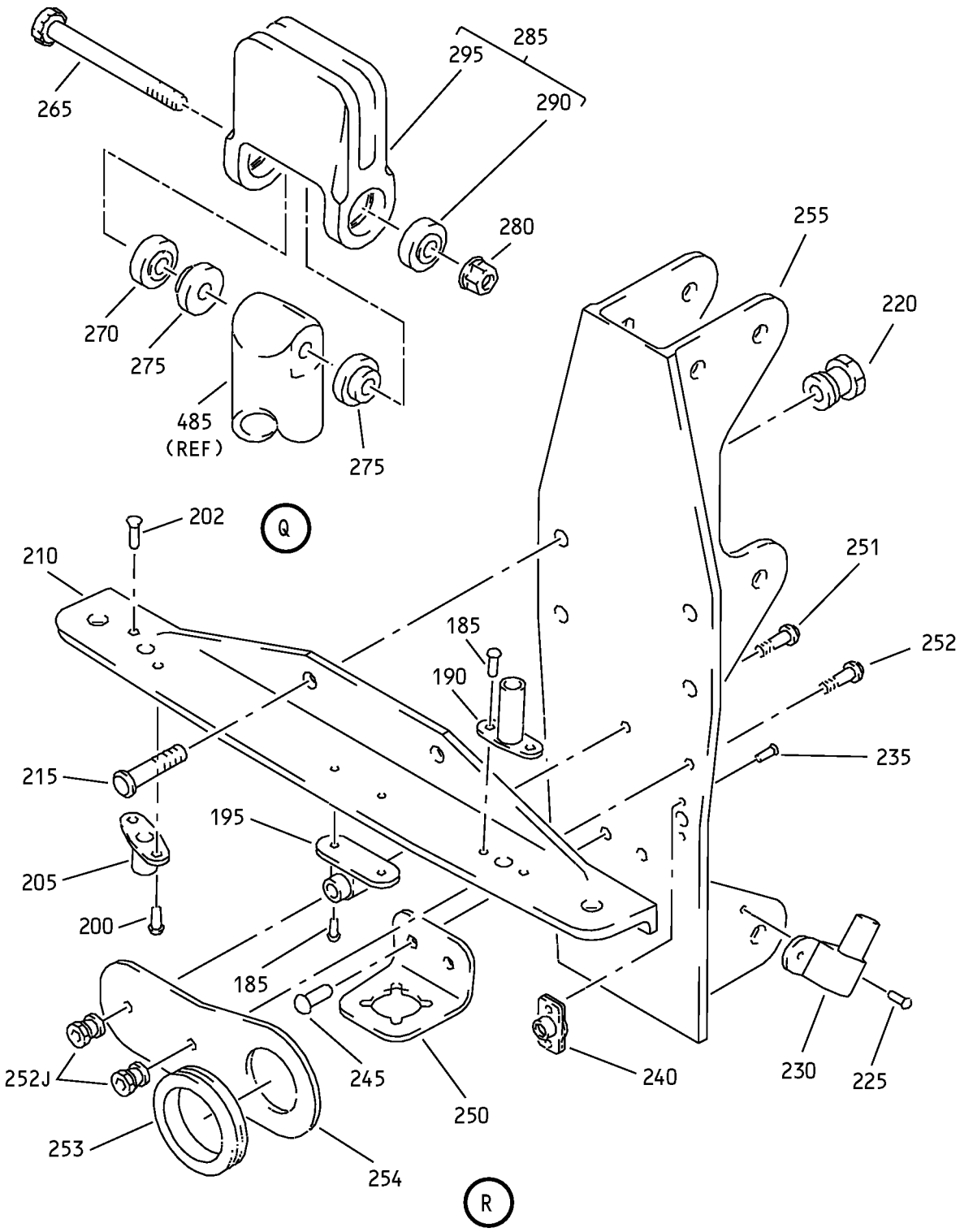
Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 5 of 13)



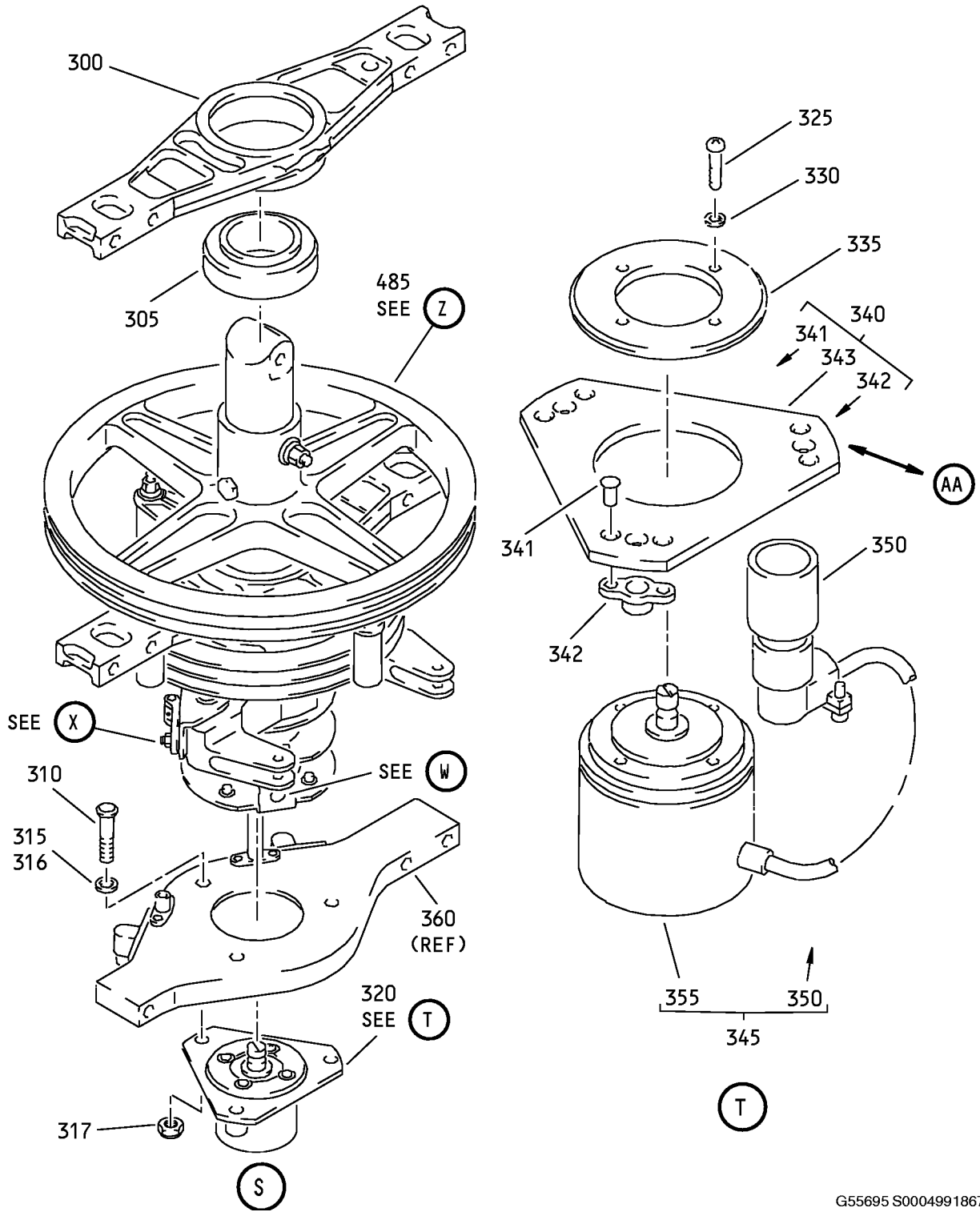
Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 6 of 13)



Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 7 of 13)



Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 8 of 13)



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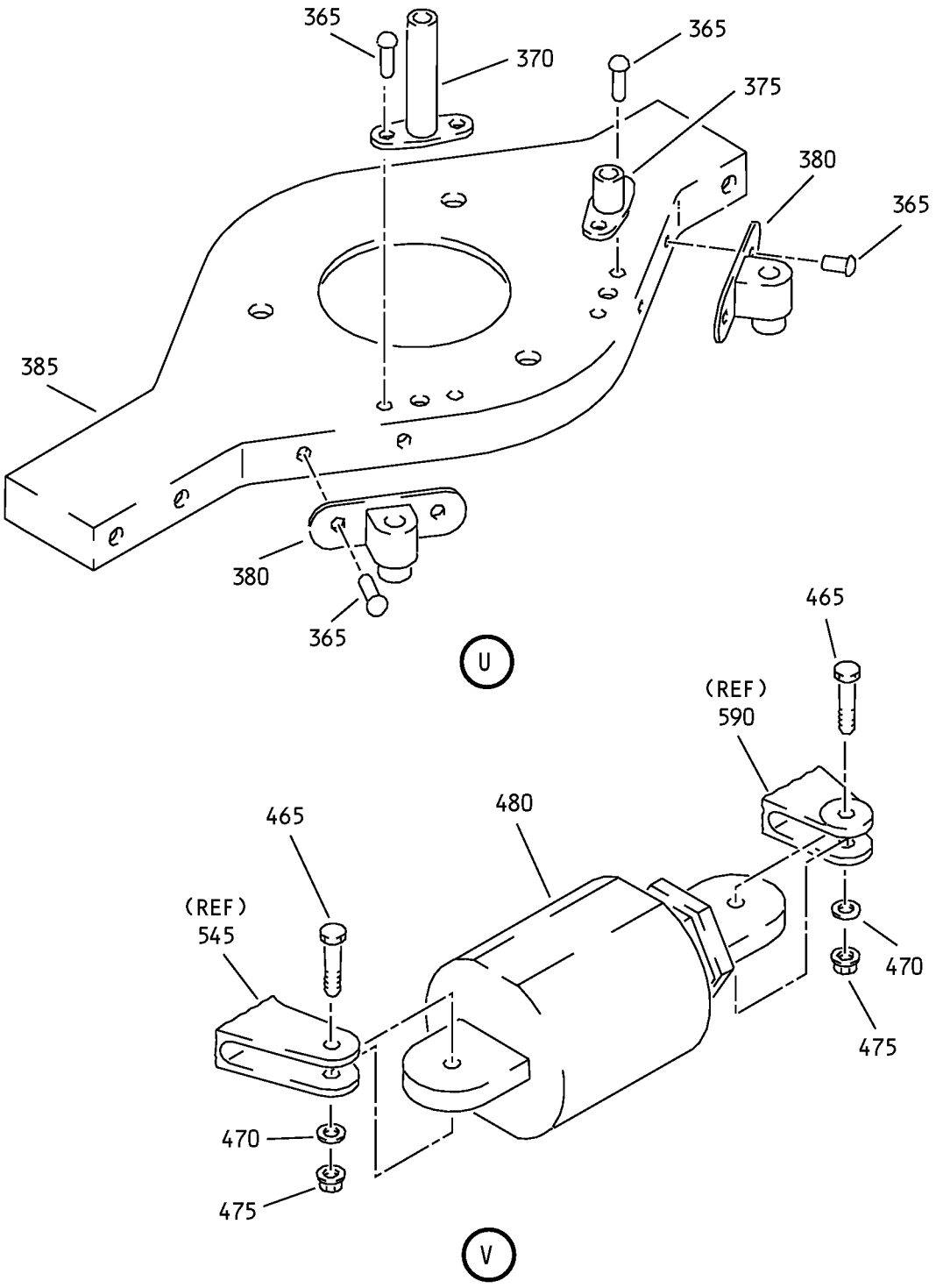
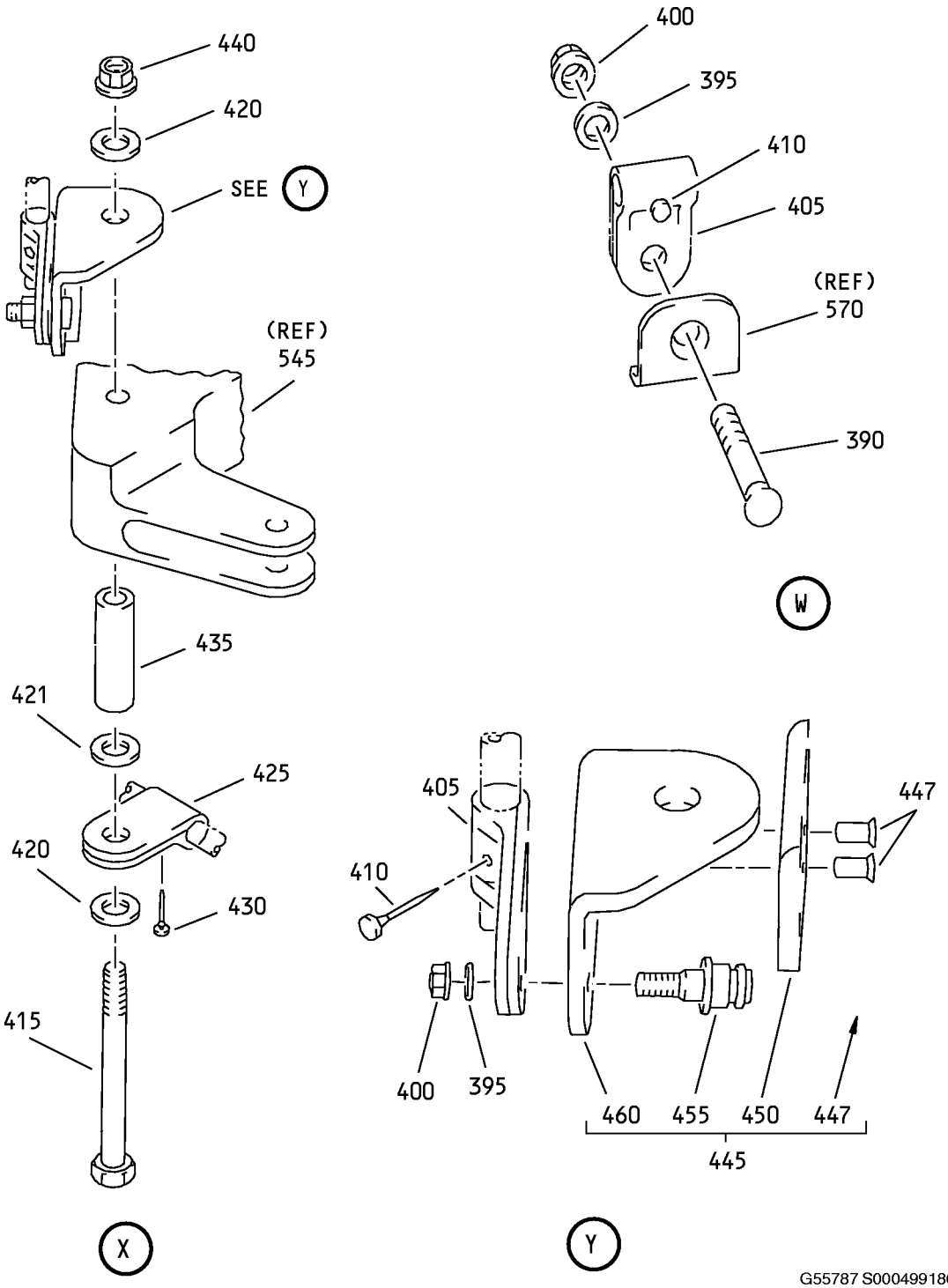
Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 9 of 13)



Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 10 of 13)



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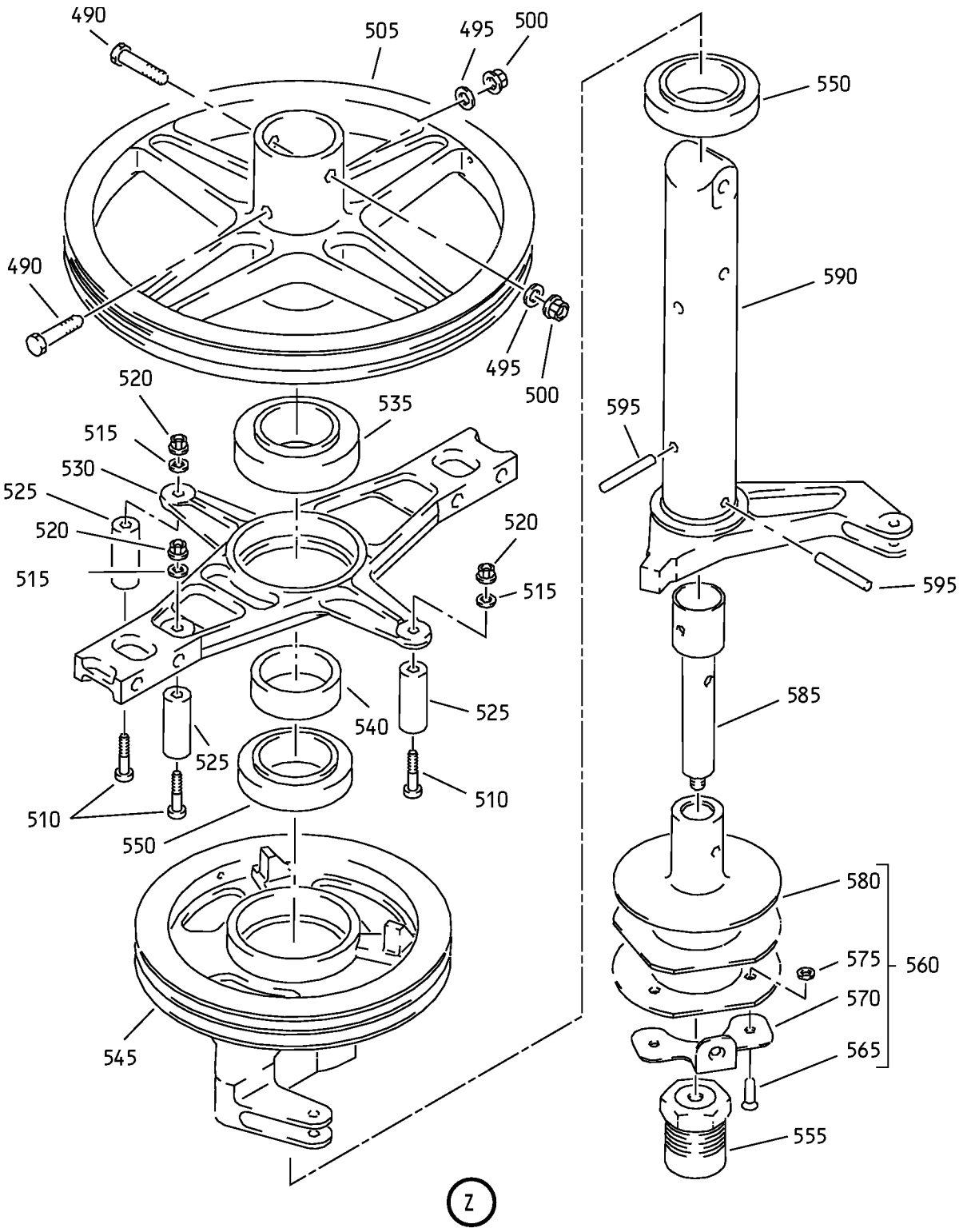
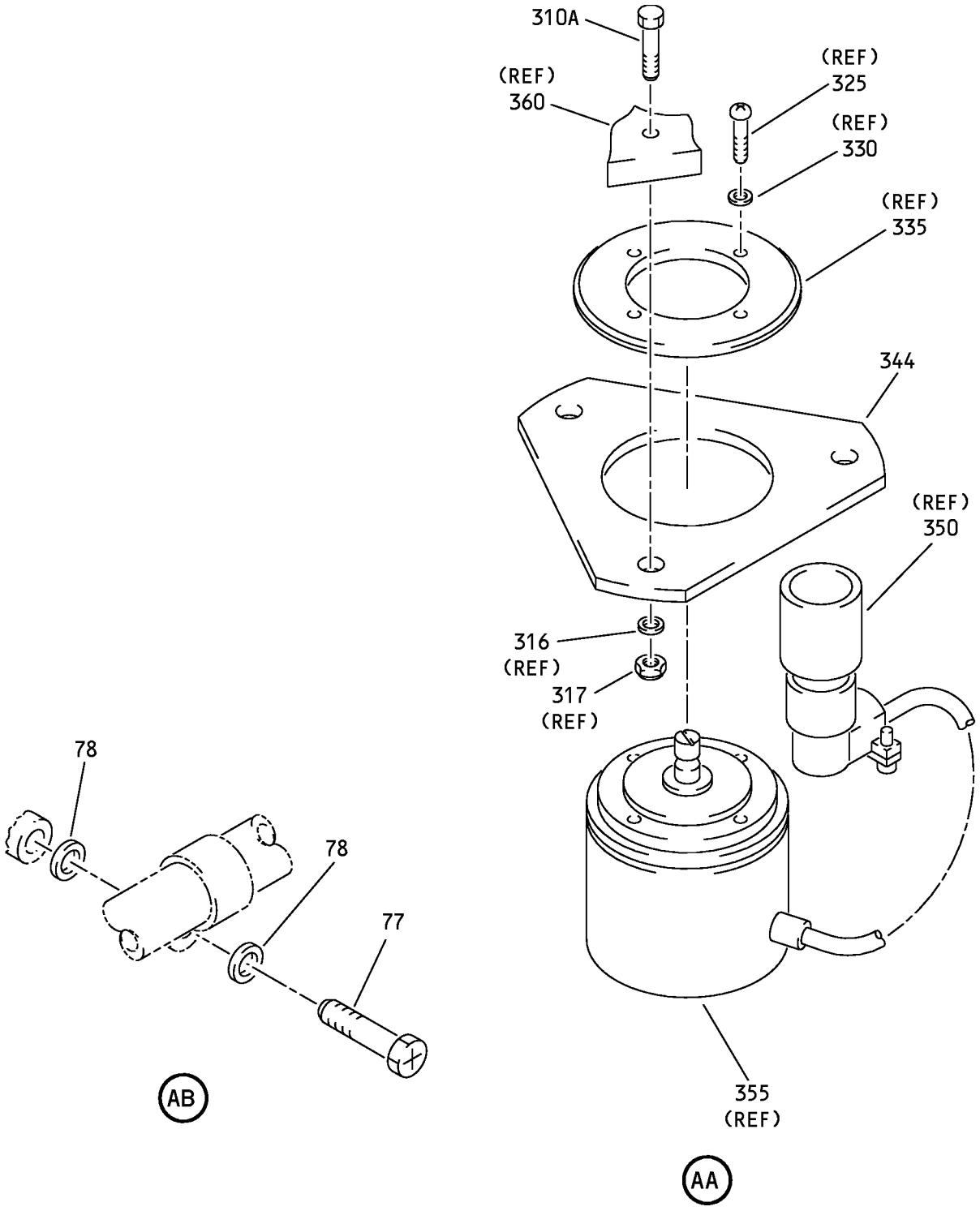
Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 11 of 13)



Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 12 of 13)



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Aileron Control Drum Mechanism Assembly
IPL Figure 1 (Sheet 13 of 13)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	251A1814-3		DRUM MECHANISM ASSY-AIL. CONT	A	RF
–1B	251A1814-4		DRUM MECHANISM ASSY-AIL. CONT	B	RF
–1C	251A1814-5		DRUM MECHANISM ASSY-AIL. CONT	C	RF
–1D	251A1814-9		DRUM MECHANISM ASSY-AIL. CONT	D	RF
–1E	251A1814-10		DRUM MECHANISM ASSY-AIL. CONT	E	RF
5	BACP18BC02C04P		. PIN		4
10	BAC~ C2A4B00321DG		. CABLE ASSY		1
–15	MS21260S4RH		. . TERMINAL		1
–20	HI2099		. . TERMINAL (V26590) (SPEC BACT14A4) (OPT HT100-4 (V83014)) (OPT ST2099 (V80523)) (OPT BM2488A4 (V22277)) (OPT 8-04057-4 (V11328))		1
25	BAC~ C2A4B00321CG		. CABLE ASSY		1
–30	MS21260S4LH		. . TERMINAL		1
–35	HI2099		. . TERMINAL (V26590) (SPEC BACT14A4) (OPT HT100-4 (V83014)) (OPT ST2099 (V80523)) (OPT BM2488A4 (V22277)) (OPT 8-04057-4 (V11328))		1
40	BACC2C4C00385FG		. CABLE ASSY		1
–45	MS21260L4RH		. . TERMINAL		1
–50	HI2099		. . TERMINAL (V26590) (SPEC BACT14A4) (OPT HT100-4 (V83014)) (OPT ST2099 (V80523)) (OPT BM2488A4 (V22277)) (OPT 8-04057-4 (V11328))		1
55	BACC2C4C00262EG		. CABLE ASSY		1
–60	MS21260L4LH		. . TERMINAL		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–65	HI2099		. . TERMINAL (V26590) (SPEC BACT14A4) (OPT HT100-4 (V83014)) (OPT ST2099 (V80523)) (OPT BM2488A4 (V22277)) (OPT 8-04057-4 (V11328))		1
67	NAS623-3-8		DELETED		
67A	NAS1801-3-8		. SCREW	D	4
67B	BACS12HN3-8		. SCREW	E	4
68	NAS623-3-10		. SCREW (OPT ITEM 68A)	D	5
–68A	NAS623-3-12		. SCREW (OPT ITEM 68)	D	5
–68B	BACS12HN3-10		. SCREW (OPT ITEM 68C)	E	5
–68C	BACS12HN3-12		. SCREW (OPT ITEM 68B)	E	5
70	NAS623-3-5		. SCREW	A-D	1
70A	BACB30LK3-5		. BOLT	E	1
75	NAS623-3-3		. SCREW	A, B	9
–76	251A1814-6		. SUB KIT ASSY (OPT ITEM 76A)	C	9
–76A	251A1814-7		. SUB KIT ASSY (OPT ITEM 76)	C	9
77	NAS1801-3-6		. . SCREW (USED ON ITEM 76)	C	1
–77A	NAS1801-3-8		. . SCREW (USED ON ITEM 76A)	C	1
78	NAS1149E0316P		. . WASHER (USED ON ITEM 76)	C	2
–78A	NAS1149E0363P		. . WASHER (USED ON ITEM 76A)	C	3
80	NAS1149E0316P		. WASHER	A, B	10
81	NAS1149E0332P		. WASHER	D, E	16
82	NAS1149E0363P		. WASHER	D, E	2
83	NAS1149E0316P		. WASHER	D, E	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
84	NAS1149E0316P		. WASHER	C	16
85	BACC10DK3		. CLAMP		8
90	BACC10DK4		. CLAMP		2
95	N2088		. PLUG (V75345) (SPEC BACP20BA1) (OPT SZ7105 (V95272)) (OPT 4841 (V84914))		10
100	NAS1368N16A		. GROMMET		2
105	NAS623-3-3		. SCREW	A-D	2
105A	BACB30LK3-3		. BOLT	E	2
110	69-41789-1		. GUIDE		1
115	NAS6604-23		. BOLT	A-D	11
115A	BACB30LM4-23		. BOLT	E	11
120	NAS1149E0432P		. WASHER		11
125	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		11
130	251A1813-1		. RIB ASSY-FWD	A	1
–130A	251A1813-4		. RIB ASSY-FWD	B-E	1
135	HST10AG6-4		. . BOLT (V06725) (SPEC BACB30VT6K4) (OPT HST10AG6-4 (V73197)) (OPT HST10AG6-4 (V56878)) (OPT HST10AG6-4 (V0PTK6))		4
140	HST79CY6		. . COLLAR (V73197) (SPEC BACC30BL6) (OPT HST79-6 (V56878)) (OPT HST79-6 (V92215)) (OPT HST79-6 (V5M902))		4
145	69-41771-2		. . BEAM (OPT ITEM 145A)		1
–145A	251A1819-1		. . BEAM (OPT ITEM 145)		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
150	BACR15BB3AD		. . RIVET (SIZE DETERMINED ON INST)		6
155	WSI4-3		. . NUTPLATE (V04169) (SPEC BACN10TL3-3)		2
160	WSI4-6		. . NUTPLATE (V04169) (SPEC BACN10TL3-6)		1
165	BACR15BA3AD		. . RIVET (SIZE DETERMINED ON INST)		4
170	BRFM20C3D		. . NUTPLATE (V52828) (SPEC BACN10JN3CD) (OPT 102F9201M3 (V72962)) (OPT NS202487-02 (V80539)) (OPT MF51637-3 (V15653)) (OPT T81243CDS (V11815))		2
175	251A1812-1		. . RIB	A	1
–175A	251A1812-3		. . RIB	B-E	1
180	251A1813-3		. RIB ASSY-AFT	A, B	1
–180A	251A1813-5		. RIB ASSY-AFT	C-E	1
185	BACR15BB3AD		. . RIVET (SIZE DETERMINED ON INST)		4
190	WSI4-10		. . NUTPLATE (V04169) (SPEC BACN10TL3-10)		1
195	WSI332-2		. . NUTPLATE (V04169) (SPEC BACN10GH3-2)		1
200	BACR15BB4AD		. . RIVET (SIZE DETERMINED ON INST)		1
202	BACR15BA4AD		. . RIVET (SIZE DETERMINED ON INST)		1
205	WS1-4A6		. . NUTPLATE (V04169) (SPEC BACN10TL3A6)		1
210	69-41772-2		. . BEAM (OPT ITEM 210A)		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–210A	251A1819-2		. . BEAM (OPT ITEM 210)		1
215	HST10AG6-4		. . BOLT (V06725) (SPEC BACB30VT6K4) (OPT HST10AG6-4 (V73197)) (OPT HST10AG6-4 (V56878)) (OPT HST10AG6-4 (V0PTK6))		4
220	HST79CY6		. . COLLAR (V73197) (SPEC BACC30BL6) (OPT HST79-6 (V56878)) (OPT HST79-6 (V92215)) (OPT HST79-6 (V5M902))		4
225	BACR15BB3AD		. . RIVET (SIZE DETERMINED ON INST)		2
230	WSI332-8		. . NUTPLATE (V04169) (SPEC BACN10GH3-8)	A, B	1
–230A	WSI332-6		. . NUTPLATE (V04169) (SPEC BACN10GH3-6)	C-E	1
235	BACR15BA3AD		. . RIVET (SIZE DETERMINED ON INST)		2
240	BRFM20C3D		. . NUTPLATE (V52828) (SPEC BACN10JN3CD) (OPT 102F9201M3 (V72962)) (OPT NS202487-02 (V80539)) (OPT MF51637-3 (V15653)) (OPT T81243CDS (V11815))		1
245	BACR15BB5AD		. . RIVET (SIZE DETERMINED ON INST)		2
250	251A1809-2		. . CLIP		1
251	VL310AG5-2		. . BOLT (V06950) (SPEC BACB30VT5HK2) (OPT VL310AG5-2 (V9N513)) (OPT VL310AG5-2 (V97928))		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
252	VL310AG5-4		. . BOLT (V06950) (SPEC BACB30VT5HK4) (OPT VL310AG5-4 (V9N513)) (OPT VL310AG5-4 (V97928))		1
252J	HST79CY5		. . COLLAR (V73197) (SPEC BACC30BL5) (OPT HST79-5 (V92215)) (OPT HST79CY5 (V56878)) (OPT HST79CY5 (V5M902))		2
253	NAS1368N16A		. . GROMMET		1
254	251A1809-3		. . FAIRLEAD		1
255	251A1812-2		. . RIB		1
260	50-3361-4174		. FILLER		2
265	69-40961-2		. BOLT		1
270	KP4AFS428		. BEARING (V21335) (SPEC BACB10BX4) (OPT KP4A2TS (V43991)) (OPT LLKP4A (V38443)) (OPT KP4AG27 (V30163)) (OPT KP4A (V38443)) (OPT KP4ALY196 (V40920)) (OPT KP4ASD610 (V83086)) (OPT CS204E (VK8455))	A, B	1
–270A	KP04ASD610		. BEARING (V83086) (SPEC BACB10BX04) (OPT KP04ALY196 (V40920)) (OPT KP04AFS428 (V21335)) (OPT KP04A2TS (V43991)) (OPT LLKP04A (V38443)) (OPT KP04A (V38443))	C-E	1
275	66-24952-1		. SPACER		2
280	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		1
285	6-60428-2		. FORK ASSY (OPT ITEM 285A)	A	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–285A	6-60428-6		. FORK ASSY (OPT ITEM 285)	A	1
–285B	6-60428-6		. FORK ASSY	B-D	1
290	KP4AFS428		. . BEARING (V21335) (SPEC BACB10BX4) (OPT KP4A2TS (V43991)) (OPT LLKP4A (V38443)) (OPT KP4AG27 (V30163)) (OPT KP4A (V38443)) (OPT KP4ALY196 (V40920)) (OPT KP4ASD610 (V83086)) (OPT CS204E (VK8455))		1
295	6-60428-3		. . FORK (USED ON ITEM 285)		1
–295A	6-60428-7		. . FORK (USED ON ITEM 285A)		1
300	65-55476-7		. HOUSING-BRG		1
305	KP21BSLY196		. BEARING (V40920) (SPEC BACB10EX21) (OPT KP21BSSD610 (V83086)) (OPT KP21BS (V06144))	A-D	1
305A	BACB10FV21J		. BEARING	E	1
310	HL448UC6-3		. BOLT (V56878) (SPEC BACB30MB6A3) (OPT HL448UC6-3 (V73197)) (OPT HL448UC6-3 (V92215)) (OPT HL448UC6-3 (V97928)) (OPT 69308-6A3 (V56878)) (OPT HL448UC6-3 (V80539)) (OPT HL448UC6-3 (V08524)) (OPT HL448UC6-3 (V9N513)) (OPT WC4486-3 (V60516))	A	3
310A	NAS6703-3		. BOLT	B-D	3
310B	BACB30LM3-3		. BOLT	E	3
315	NAS1149E0316P		. WASHER	A	3
316	NAS1149E0316P		. WASHER	B-E	3
317	BACN10JC3CD		. NUT	B-E	3

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
320	251A1806-1		. TRANSMITTER ASSY	A	1
–320A	251A1806-2		. TRANSMITTER ASSY	B-E	1
325	BACS12BG04AP3		. . SCREW		4
330	NAS1149CN416R		. . WASHER		4
335	251A1811-1		. . PLATE		1
340	253U1116-3		. . RING ASSY-CLAMP	A	1
340A	253U1116-5		DELETED		
341	BACR15DR3		. . . RIVET (SIZE DETERMINED ON INST)	A	6
342	BRM200C3M		. . . NUTPLATE (V52828) (SPEC BACN10JP3ACM) (OPT MK1001-3BAC (V15653)) (OPT NS103197SE02 (V80539)) (OPT VN202D1-02 (V92215)) (OPT 109A9201M3 (V72962)) (OPT T8080C1032 (V11815))	A	3
343	253U1116-4		. . . RING-CLAMP	A	1
344	253U1116-5		. . RING-CLAMP	B-E	1
345	253T4015-7		. . TRANSMITTER ASSY		1
350	BACC63BN10B5P		. . . CONNECTOR		1
355	U221557		. . . TRANSMITTER (V82686)		1
360	251A1805-1		. PLATE ASSY	A	1
–360A	251A1805-3		. PLATE ASSY	B-E	1
365	BACR15BB3AD		. . RIVET		8
370	WSI4-14		. . NUTPLATE (V04169) (SPEC BACN10TL3-14)		1
375	WSI4-4		. . NUTPLATE (V04169) (SPEC BACN10TL3-4)		1
380	WSI332-2		. . NUTPLATE (V04169) (SPEC BACN10GH3-2)		2
385	251A1805-2		. . PLATE	A	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–385A	251A1805-4		. . PLATE	B-E	1
390	BACB30LU3-2		. BOLT	A-D	1
390	BACB30LH3-2		. BOLT	E	1
395	NAS1149E0316P		. WASHER		2
400	H52732-3CD		. NUT (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		2
405	BACC10DK3		. CLAMP		2
410	N2088		. PLUG (V75345) (SPEC BACP20BA1) (OPT SZ7105 (V95272)) (OPT 4841 (V84914))		2
415	NAS6603-20		. BOLT	A-D	1
415A	BACB30LM3-20		. BOLT	E	1
420	NAS1149E0332P		. WASHER		2
421	NAS1149E0316P		. WASHER	C-E	1
425	BACC10DK3		. CLAMP		1
430	N2088		. PLUG (V75345) (SPEC BACP20BA1) (OPT SZ7105 (V95272)) (OPT 4841 (V84914))		1
435	NAS43DD3-52FC		. SPACER		1
440	H52732-3CD		. NUT (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		1
445	69-71533-1		. CLIP ASSY		1
447	BACR15BA3D		. . RIVET (SIZE DETERMINED ON INST)		2
450	69-71533-4		. . FILLER		1
455	VNS1924CA1-8		. . STUD (V5M902) (SPEC BACS53B1EA1) (OPT VNS1924CA3-1-8 (V92215))		1
460	69-71533-2		. . CLIP		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
465	NAS6603-9		. BOLT	A-D	2
465A	BACB30LM3-9		. BOLT	E	2
470	NAS1149E0332P		. WASHER		2
475	H52732-3CD		. NUT (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		2
480	GM5341-8		. TRANSDUCER (V22863) (SPEC 10-61072-8)	A-C	1
–480A	GM10603		. TRANSDUCER (V22863) (SPEC S251A102-1)	D, E	1
485	251A1814-2		. SHAFT ASSY-DRUM	A-C	1
–485A	251A1814-8		. SHAFT ASSY-DRUM	D	1
490	NAS6604-26		. . BOLT		2
495	NAS1149D0416J		. . WASHER		2
500	H52732-4CD		. . NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		2
505	65-55711-3		. . DRUM-BUS		1
510	NAS1351N3-12P		. . SCREW		3
515	NAS1149D0332J		. . WASHER		3
515A	NAS1149D0332J		DELETED		
520	H52732-3CD		. . NUT (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		3
525	69-41762-2		. . GUARD-CABLE		3
530	65-55476-6		. . HOUSING-BRG		1
535	KP21BSLY196		. . BEARING (V40920) (SPEC BACB10EX21) (OPT KP21BSSD610 (V83086)) (OPT KP21BS (V06144))		1
540	69-42919-1		. . SPACER		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
545	65-55729-5		. . CASTING-AILERON		1
550	KP21B		. . BEARING (V38443) (SPEC BACB10BW21) (OPT KP21B2TS (V43991)) (OPT LLKP21B (V38443)) (OPT KP21BG27 (V30163)) (OPT KP21BFS428 (V21335)) (OPT KP21BLY196 (V40920)) (OPT KP21BSD610 (V83086))		2
555	7332-6-67MM		. . COUPLING (V13201)		1
560	251A1810-1		. . SPOOL ASSY		1
565	BACR15BA4AC		. . . RIVET (SIZE DETERMINED ON INST)		2
570	251A1809-1		. . . CLIP		1
575	NAS1149DN432J		. . . WASHER		2
580	251A1810-2		. . . SPOOL		1
585	251A1808-1		. . SHAFT-SENSOR		1
590	251A1807-1		. . SHAFT-PIVOT	A-C	1
–590A	251A1807-2		. . SHAFT-PIVOT	D, E	1
595	NAS607-3-10P		. . PIN		2
600	BAC27DCT608		. DECAL-CONTROL WHEEL POSITION SENSOR M520		1
605	BAC27DCT2712		DELETED		

–Item not Illustrated