TO: ALL HOLDERS OF RUDDER CONTROL RATIO CHANGER ASSEMBLY
COMPONENT MAINTENANCE MANUAL 27-21-11

REVISION NO. 10 DATED DEC 01/96

HIGHLIGHTS

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
502	Revised free length of return spring 251T3652-1.

RUDDER CONTROL RATIO CHANGER ASSEMBLY

PART NUMBER 251T3600-5,-11

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

REVISION RECORD

- Retain this record in front of manual. On receipt of revision, insert revised pages in the manual, and enter revision number, date inserted and initial.

REVISION NUMBER	REVISION DATE	DATE FILED	BY	REVISION NUMBER	REVISION DATE	DATE FILED	BY

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
27-20		PRR B10239 PRR B10683 PRR B10990	JAN 10/82 APR 10/83 OCT 10/83 APR 10/84

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801	JUL 10/83	01
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1001	JUL 10/83	01
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TABLE OF CONTENTS

*[1] Special instructions not required. Use standard industry practices and information contained in 20-30-03.

INTRODUCTION

The instructions in this manual provide the information necessary to perform maintenance functions ranging from simple checks and replacement to complete shop-type repair.

This manual is divided into separate sections:

1. Title Page
2. Record of Revisions
3. Temporary Revision & Service Bulletin Record
4. List of Effective Pages
5. Table of Contents
6. Introduction
7. Procedures & IPL Sections

Refer to the Table of Contents for the page location of applicable sections. An asterisked flagnote *[ ] in place of the page number indicates that no special instructions are provided since the function can be performed using standard industry practices.

The beginning of the REPAIR section includes a list of the separate repairs, a list of applicable standard Boeing practices, and an explanation of the True Position Dimensioning symbols used.

An explanation of the use of the Illustrated Parts List is provided in the Introduction to that section.

All weights and measurements used in the manual are in English units, unless otherwise stated. When metric equivalents are given they will be in parentheses following the English units.

Design changes, optional parts, configuration differences and Service Bulletin modifications create alternate part numbers. These are identified in the Illustrated Parts List (IPL) by adding an alphabetical character to the basic item number. The resulting item number is called an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless otherwise indicated.

Verification:

Disassembly	APR 17/90
Assembly	APR 17/90

RUDDER CONTROL RATIO CHANGER ASSEMBLY

DESCRIPTION AND OPERATION

1. The ratio changer assembly consists of a torque tube assembly, control rod assembly, two variable crank assemblies, interconnect cranks, and shafts. The ratio changer reduces the sensitivity of the movements of the rudder to the rudder pedals at higher airplane speeds.

2. Leading Particulars (Approximate)

   Width -- 11 inches
   Length -- 17 inches
   Depth -- 9 inches
   Weight -- 12 pounds

DISASSEMBLY

NOTE: Disassemble this component only as necessary to isolate defects, do necessary repairs, and return the component to a serviceable condition.

1. Disassembly (IPL Fig. 1)

CAUTION: USE EXTREME CARE WHEN REMOVING ROD ASSEMBLY (155A), INTERCONNECT CRANKS (55), RETURN SPRING (43), AND TORSION SPRINGS (60A). SPRINGS ARE HEAVILY LOADED.

A. Remove bolts (40) and nut (45) from right end and remove control rod assembly (155A) from interconnect crank (55). Release tension in spring (43) then remove left hand bolt (39 or 39A), nut (45), swivel assy (41) and remove control rod assy (155A).

NOTE: Do not remove bearing (42) from swivel assy (41) unless necessary for repair or replacement.

B. Remove nuts (5), washers (10), interconnect cranks (55), spring crank (44), return spring (43), and torsion springs (60A) from shafts (145).

NOTE: Do not remove bushings (50) from interconnect cranks (55) unless necessary for repair or replacement.

C. Remove shafts (145) from variable crank assemblies (116, 126, 133, 139).

D. Remove variable crank assemblies (116, 126, 133, 139) from torque tube assembly (65A).

NOTE: Do not remove bushing (120A, 130E, or 142) from crank assemblies (116, 126, or 139) unless necessary for repair or replacement.

E. Remove bearings (110) and spacers (115) from torque tube assembly (65A).

NOTE: Do not remove bushings (70, 75, 80) or bearings (85) from torque tube assembly (65A) unless necessary for repair or replacement. Do not remove rivets (90B) or separate tubes (95, 105A) unless necessary for repair or replacement.

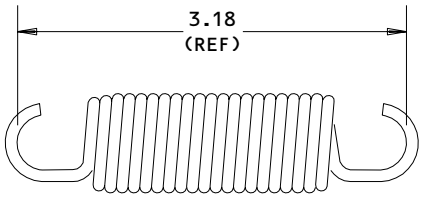
CHECK

1. Check all parts for obvious defects in accordance with standard industry practices. Refer to Fits and Clearances for design dimension and wear limits.

2. Magnetic particle check per 20-20-01 -- Inner torque tube (95A, IPL Fig. 1), spacer (115), variable cranks (122, 131, 137, 143), and shaft (145).

3. Penetrant check per 20-20-02 -- Interconnect cranks (55), inner torque tube (95), torque tube (105A), and spring crank (44).

4. Check springs (43, 60A) per Fig. 501.



YGCMM-27-21-0134

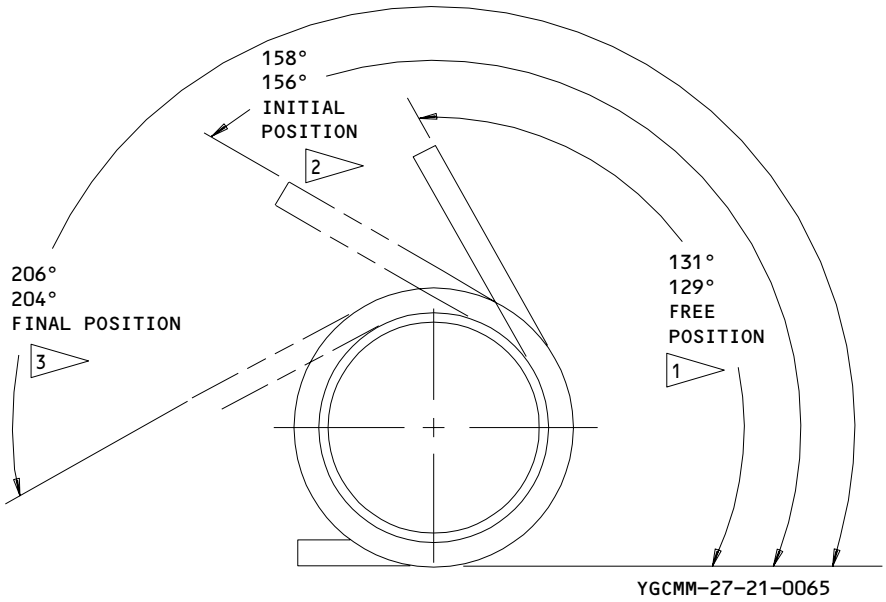
SPECIFICATIONS

1. NO PERMANENT SET SHALL RESULT WHEN EXTENDED TO 7.5 IN.

2. MIN WORKING LOAD 4.55-5.55 LB AT 3.64-3.70 IN.

3. MAX WORKING LOAD 18.9-22.9 LB AT 6.63-6.69 IN.

251T3652
RETURN SPRING CHECK



YGCMM-27-21-0065

1 ZERO DEFLECTION POINT

2 MINIMUM MOMENT: 22.2-27.2 POUND-INCHES AT INITIAL POINT

3 MAXIMUM MOMENT: 61.9-75.7 POUND-INCHES AT FINAL POINT

251T3651
Torsion Spring Check
Figure 501

REPAIR - GENERAL

1. Content

   A. Repair, refinish and replacement procedures are included in separate repair sections as follows:

P/N	NAME	REPAIR
251T3610	TUBE, TORQUE	1-1
251T3611	TUBE, TORQUE	2-1
251T3614	CRANK, VARIABLE	3-1
251T3615	CRANK, INTERCONNECT	4-1
251T3653	SWIVEL	5-1
- -	MISC PARTS REFINISH	6-1

2. Standard Practices

   A. Refer to the following standard practices as applicable, for details of procedures in individual repairs.

   20-30-02 Stripping of Protective Finishes
   20-30-03 General Cleaning Procedures
   20-41-01 Decoding Table for Boeing Finish Codes
   20-42-05 Bright Cadmium Plating
   20-50-03 Bearing Installation and Retention

3. Materials

   NOTE: Equivalent substitutes may be used.

   A. Primer -- BMS 10-11, Type 1 (Ref 20-60-02)

   B. Sealant -- BMS 5-95 (Ref 20-60-04)

   C. Grease -- MIL-G-23827 (Ref 20-60-03)

4. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in applicable repair procedures are shown in Fig. 601.

—	STRAIGHTNESS
▱	FLATNESS
⊥	PERPENDICULARITY (OR SQUARENESS)
//	PARALLELISM
○	ROUNDNESS
⌭	CYLINDRICITY
⌒	PROFILE OF A LINE
⌓	PROFILE OF A SURFACE
◎	CONCENTRICITY
⌯	SYMMETRY
∠	ANGULARITY
↗	RUNOUT
⌰	TOTAL RUNOUT
⌴	COUNTERBORE OR SPOTFACE
⌵	COUNTERSINK
⌖	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
∅	DIAMETER
S ∅	SPHERICAL DIAMETER
R	RADIUS
SR	SPHERICAL RADIUS
()	REFERENCE
BASIC (BSC) OR [DIM]	A THEORETICALLY EXACT DIMENSION USED TO DESCRIBE SIZE, SHAPE OR LOCATION OF A FEATURE FROM WHICH PERMISSIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR NOTES.
[-A-]	DATUM
Ⓜ	MAXIMUM MATERIAL CONDITION (MMC)
Ⓛ	LEAST MATERIAL CONDITION (LMC)
Ⓢ	REGARDLESS OF FEATURE SIZE (RFS)
Ⓟ	PROJECTED TOLERANCE ZONE
FIM	FULL INDICATOR MOVEMENT

EXAMPLES

[— 0.002]	STRAIGHT WITHIN 0.002
[⊥ B 0.002]	PERPENDICULAR TO B WITHIN 0.002
[// A 0.002]	PARALLEL TO A WITHIN 0.002
[○ 0.002]	ROUND WITHIN 0.002
[⌭ 0.010]	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER
[⌒ A 0.006]	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART RELATIVE TO DATUM PLANE A
[⌓ A 0.020]	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.02 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
[◎ C ∅ 0.0005]	CONCENTRIC TO C WITHIN 0.0005 DIAMETER
[⌯ A 0.010]	SYMMETRICAL WITH A WITHIN 0.010
[∠ A 0.005]	ANGULAR TOLERANCE 0.005 WITH A
[⌖ B ∅ 0.002 Ⓢ]	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
[⊥ A ∅ 0.010 Ⓜ] [0.510 Ⓟ]	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010-INCH DIAMETER, PERPENDICULAR TO, AND EXTENDING 0.510-INCH ABOVE, DATUM A, MAXIMUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	EXACT DIMENSION IS 2.000

(NOTE THAT [⌓ A 0.020] MAY ALSO APPEAR AS [⌓ 0.020 A])

True Position Dimensioning Symbols
Figure 601

3989

TUBE ASSEMBLY, TORQUE - REPAIR 1-1

251T3610-2

NOTE: Refer to REPAIR-GEN for list of applicable standard practices.

1. Tube Replacement (IPL Fig. 1, Fig. 601)

   A. Remove rivets (90B) from tube assembly (65A).

   B. Separate tubes (95, 105A).

   C. Clean all faying surfaces free of old sealant.

   D. If a new inner torque tube (95) is being installed, position tubes and drill rivet holes thru inner torque tube (95) using existing rivet holes in torque tube (105A) as a guide. Remove tube (105A) at this time.

   E. If a new torque tube (105A) is being installed, turn inner torque tube 45 degrees to either side and drill rivet holes at positions shown thru both tubes (95, 105A) and spotface to dimensions shown. Remove tube (105A) at this time.

   F. Apply wet BMS 5-95 sealant on faying surface of inner torque tube (95).

   G. Insert inner torque tube (95) thru torque tube (105A).

   H. Locate predrilled rivet holes and install rivets (90B) with sealant, BMS 5-95.

2. Bushing (70) Replacement (IPL Fig. 1, Fig. 601)

   A. Remove bushing (70).

   B. Install new bushing per 20-50-03 with wet sealant, BMS 5-95.

   C. Fillet seal bushing flanges with sealant, BMS 5-95.

   D. Machine to dimension shown.

3. Bushing (75) Replacement (IPL Fig. 1, Fig. 601)

   A. Remove bushings (75).

   B. Remove old sealant from the gap between bushings (75).

C. Install new bushing (75) per 20-50-03 with wet sealant, BMS 5-95.

D. Apply wet sealant, BMS 5-95 under shank of installed bushing.

E. Install other bushing (75) per 20-50-03 with wet sealant, BMS 5-95.

F. Fillet seal bushing flanges with wet sealant, BMS 5-95.

G. Machine to dimensions shown.

4. Bushing (80) Replacement (IPL Fig. 1, Fig. 601)

A. Remove bushing (80).

B. Install new bushings (80) flush with indicated surface of boss within 0.020 inch per 20-50-03 with wet sealant, BMS 5-95.

C. Press another bushing (80) to bottom of indicated hole per 20-50-03 with wet sealant, BMS 5-95.

D. Fillet seal bushing flanges with wet sealant, BMS 5-95.

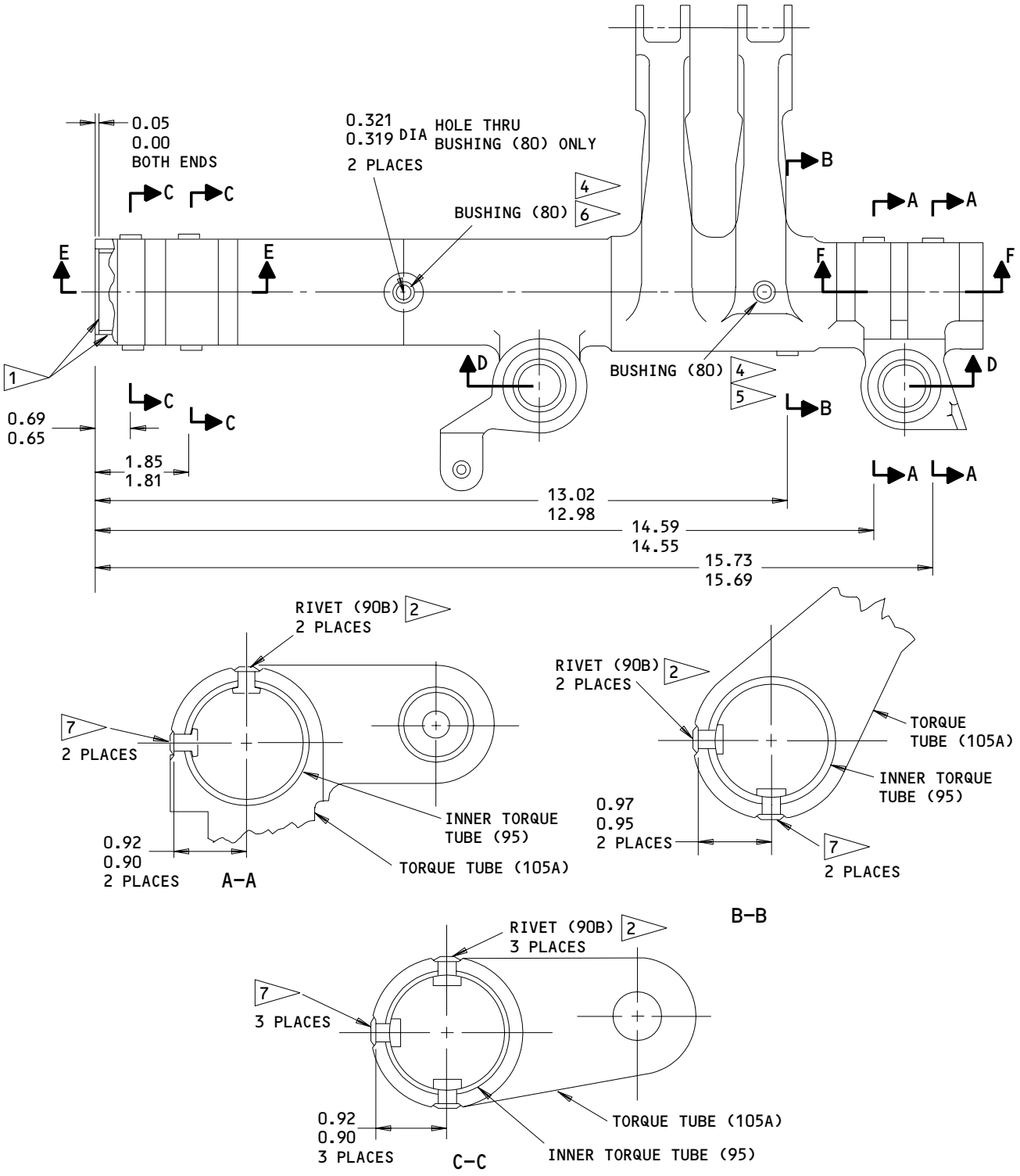
E. Machine to dimension shown.

5. Bearing Replacement (IPL Fig. 1, Fig. 601)

A. Remove bearings (85).

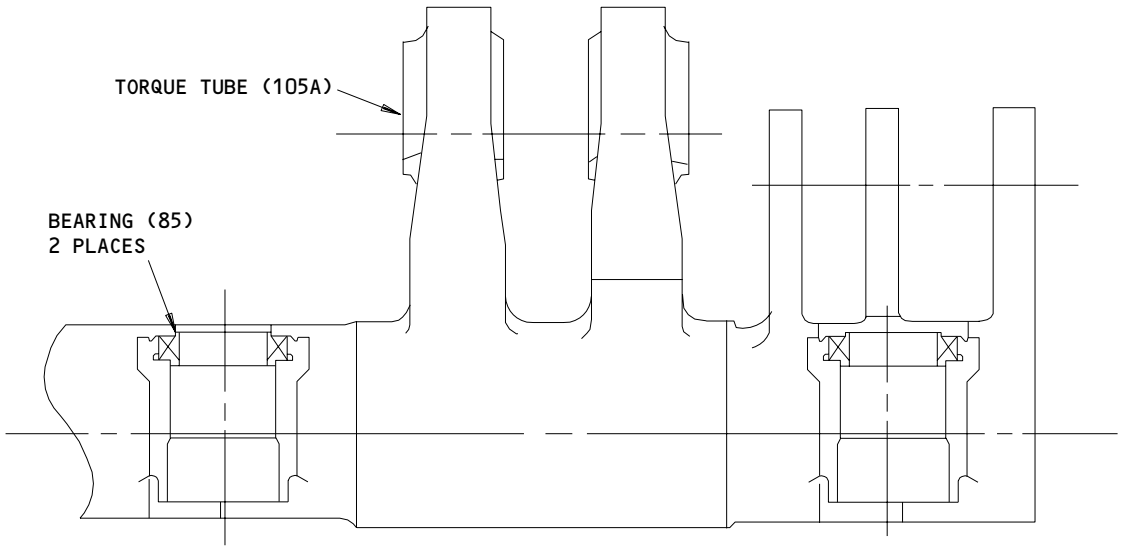
B. Install new bearing (85) and roller swage housing over bearing per 20-50-03.

C. Maximum break-away torque after swaging must be 2 lb-in.

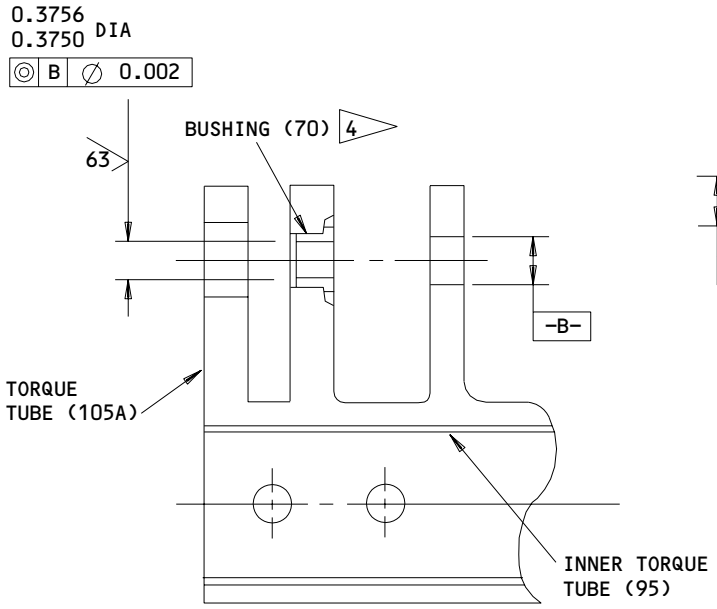


ALL DIMENSIONS ARE IN INCHES

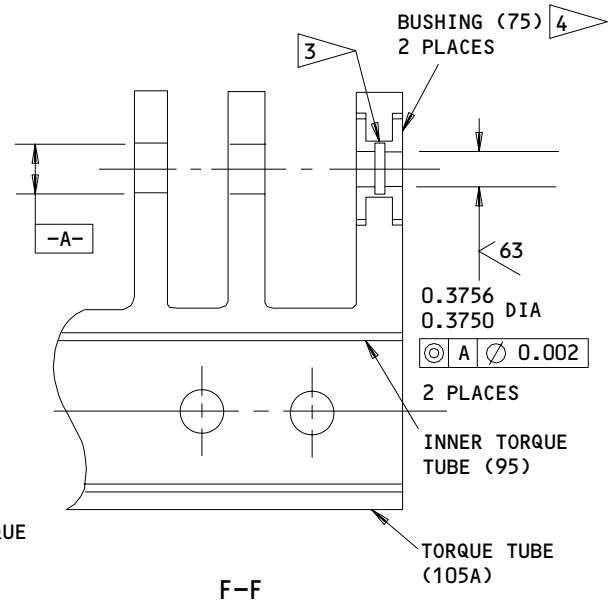
251T3610-2
Tube Assembly - Replacement Details
Figure 601 (Sheet 1)



D-D



E-E



F-F

ALL DIMENSIONS ARE IN INCHES

1. FAY SEAL WITH BMS 5-95 SEALANT
2. SEAL WITH BMS 5-95 SEALANT
3. FILL GAP WITH BMS 5-95 SEALANT
4. INSTALL AND FILLET SEAL WITH BMS 5-95 SEALANT
5. INSTALL THIS BUSHING FLUSH WITH SURFACE OF BOSS WITHIN 0.020
6. PRESS THIS BUSHING TO BOTTOM OF HOLE
7. 0.135 / 0.128 DIA HOLE AND SPOTFACES 0.645 / 0.625 DIA, FILLET R 0.090 / 0.062

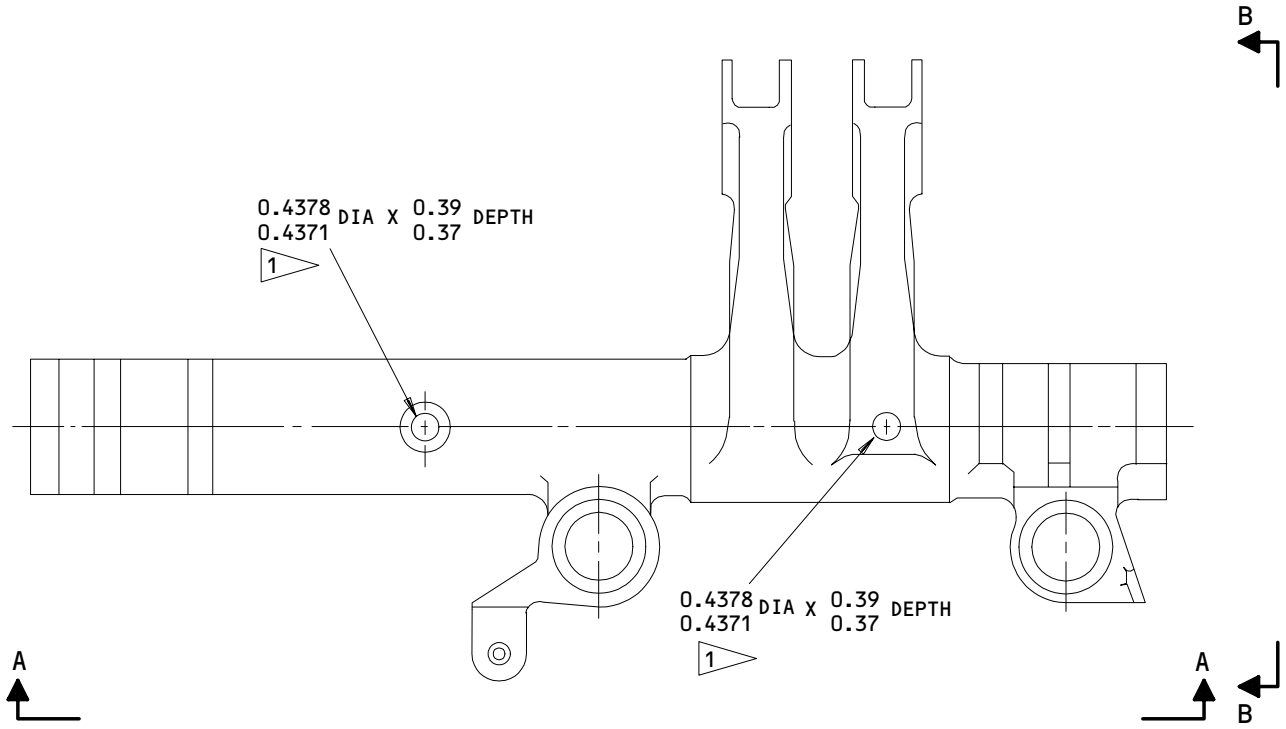
251T3610-2
Tube Assembly - Replacement Details
Figure 601 (Sheet 2)

TUBE, TORQUE - REPAIR 2-1

251T3611-4

1. Plating Repair (Fig. 601)

NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601 and to REPAIR-GEN for list of applicable standard practices.



REFINISH

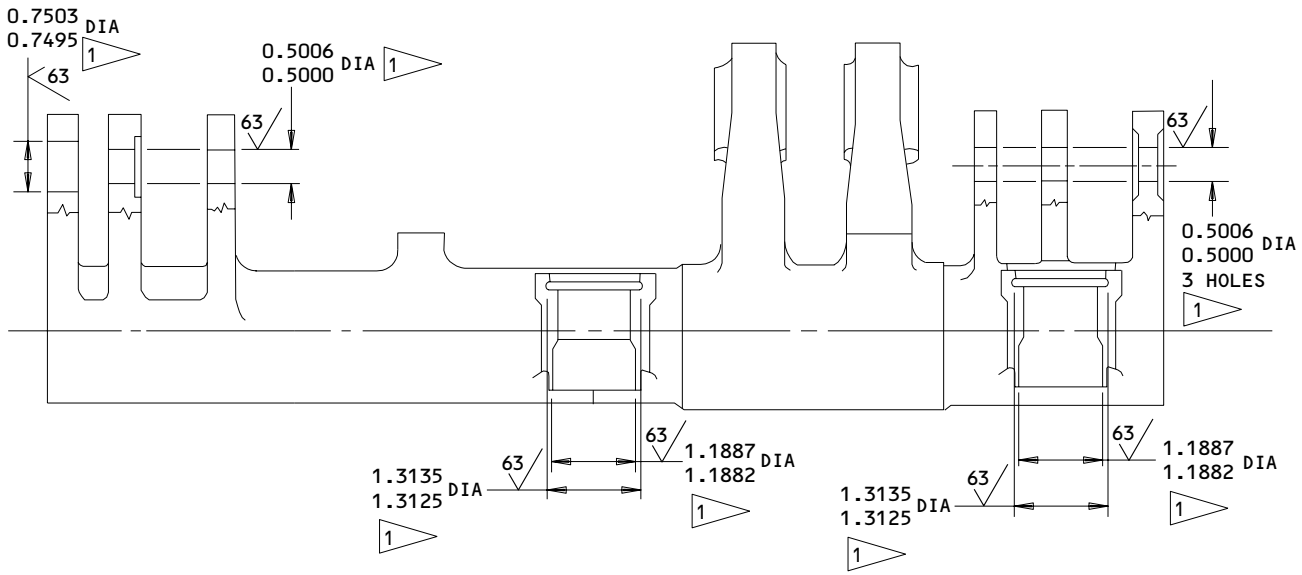
ANODIZE (F-17.05) AND APPLY TWO COATS OF PRIMER, BMS 10-11, TYPE 1 (F-20.03) EXCEPT AS NOTED

1 OMIT PRIMER

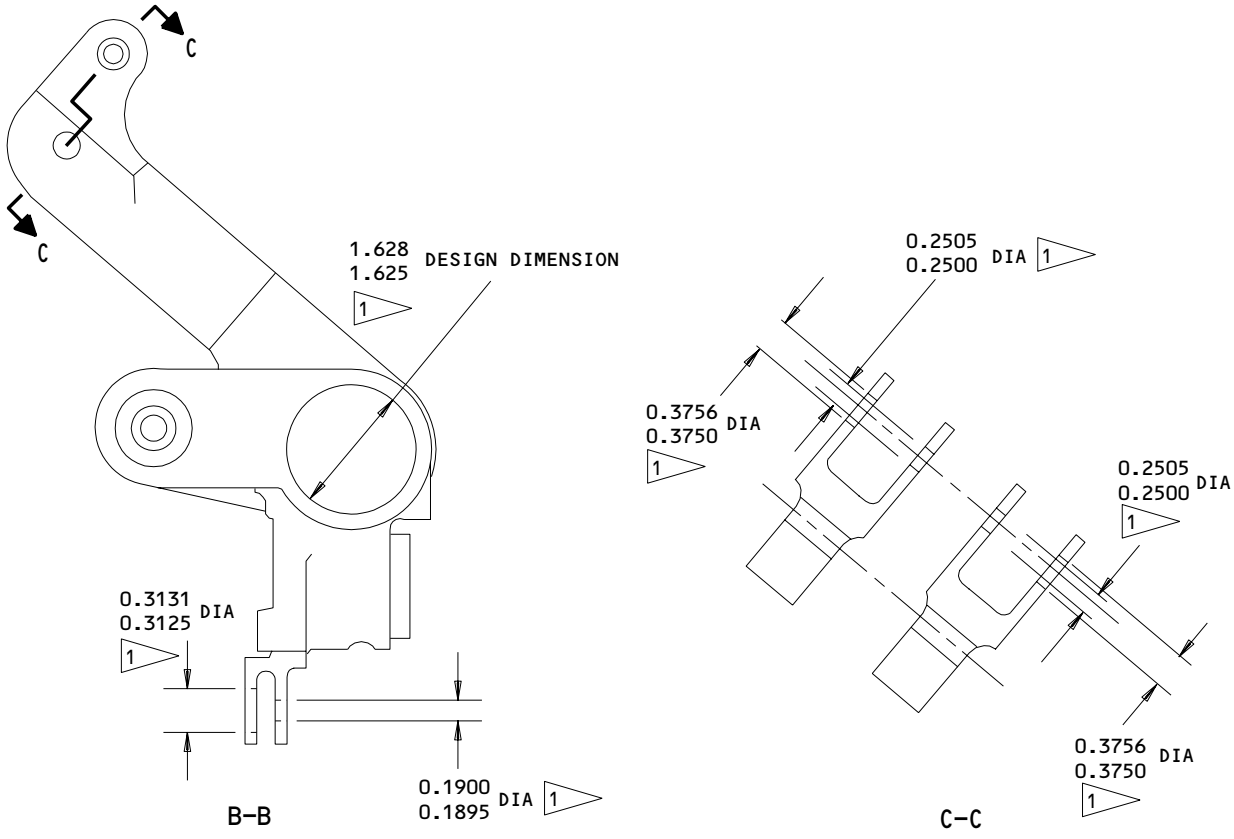
MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

Torque Tube - Plating Repair
Figure 601 (Sheet 1)



A-A



B-B

C-C

ALL DIMENSIONS ARE IN INCHES

251T3611-4
Torque Tube - Plating Repair
Figure 601 (Sheet 2)

CRANK ASSEMBLY, VARIABLE - REPAIR 3-1

251T3650-1
251T3614-25, -30

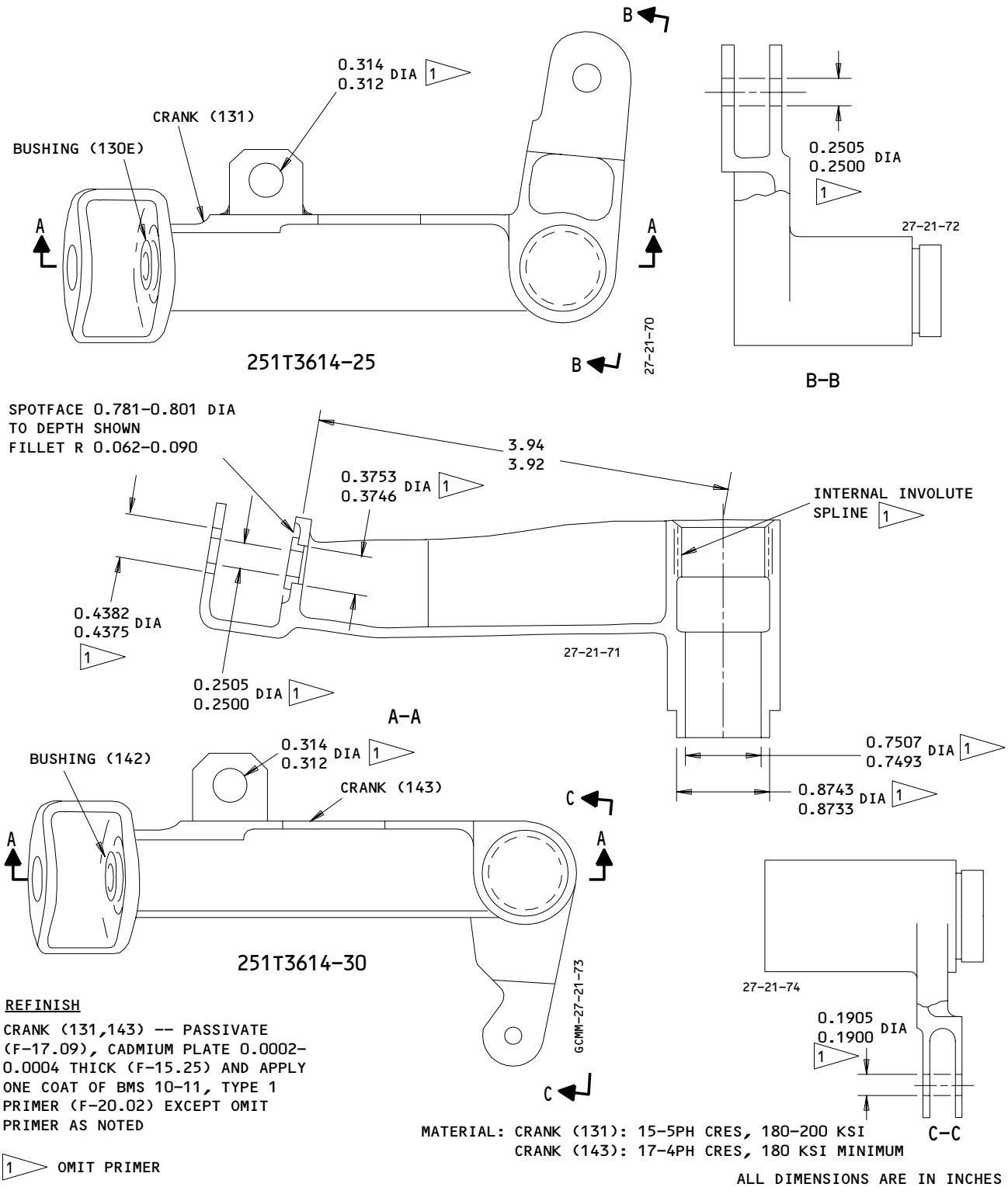
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require restoration of original finish, refer to Refinish instructions, Fig. 601.

1. Bushing Replacement (Fig. 601)

   A. Remove bushing (120A, 130E, 142, IPL Fig. 1)

   B. Install new bushing per 20-50-03.

   C. Machine to dimension shown.



REFINISH

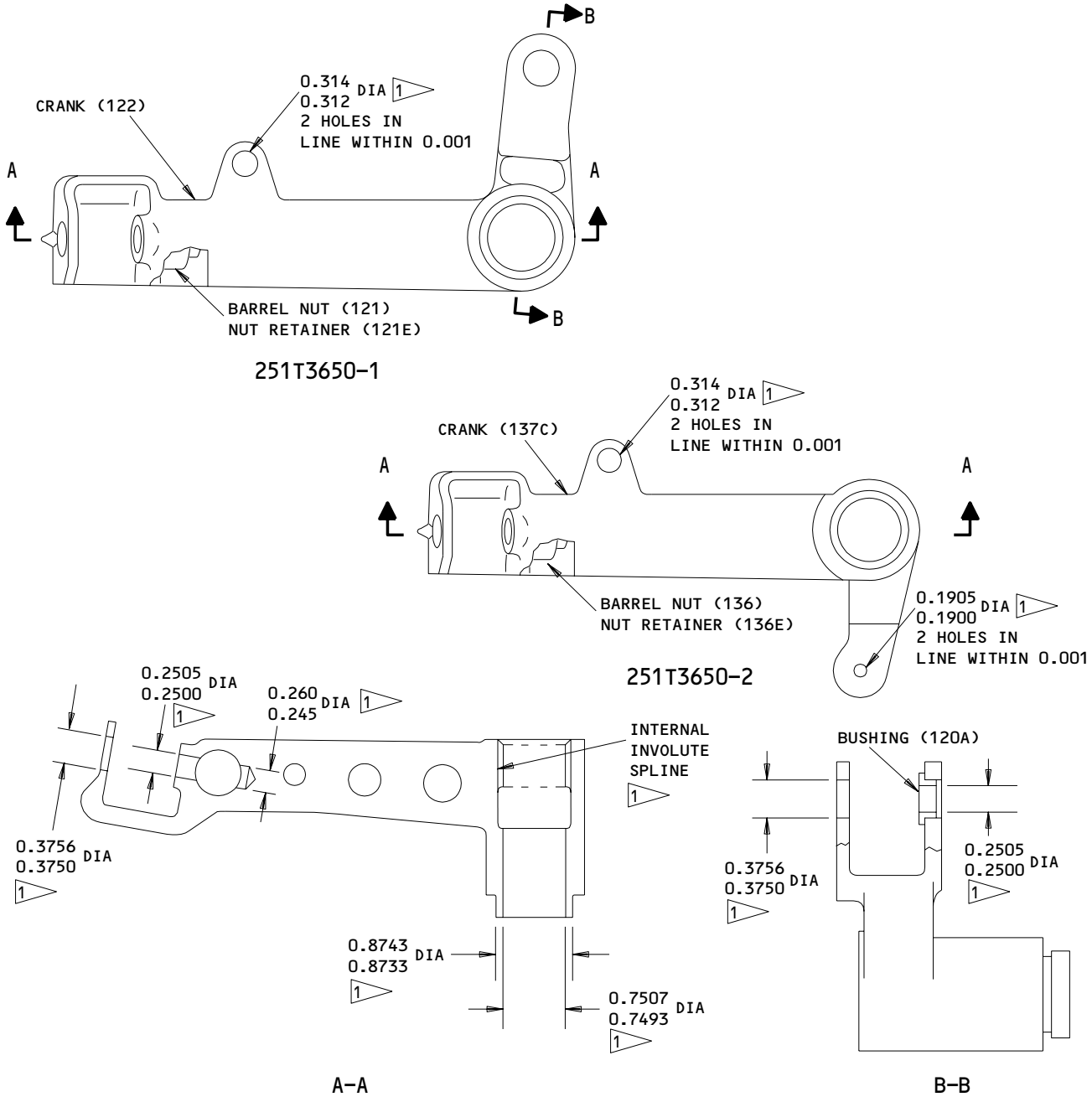
CRANK (131,143) -- PASSIVATE (F-17.09), CADMIUM PLATE 0.0002-0.0004 THICK (F-15.25) AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT OMIT PRIMER AS NOTED

1 OMIT PRIMER

MATERIAL: CRANK (131): 15-5PH CRES, 180-200 KSI
CRANK (143): 17-4PH CRES, 180 KSI MINIMUM

ALL DIMENSIONS ARE IN INCHES

251T3614-25,-30
Variable Crank Assembly - Bushing Replacement and Refinish
Figure 601 (Sheet 1)



REFINISH

CRANK (122, 137C) -- PASSIVATE (F-17.09), CADMIUM PLATE (F-20.06), AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT AS NOTED.

MATERIAL: CRANK (122,137C): 17-4PH CRES, 180 KSI MINIMUM
CRANK (122A, 137D): 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

251T3650-1,-2
Output Crank Assembly - Bushing Replacement and Refinish
Figure 601 (Sheet 2)

79845

CRANK, INTERCONNECT - REPAIR 4-1

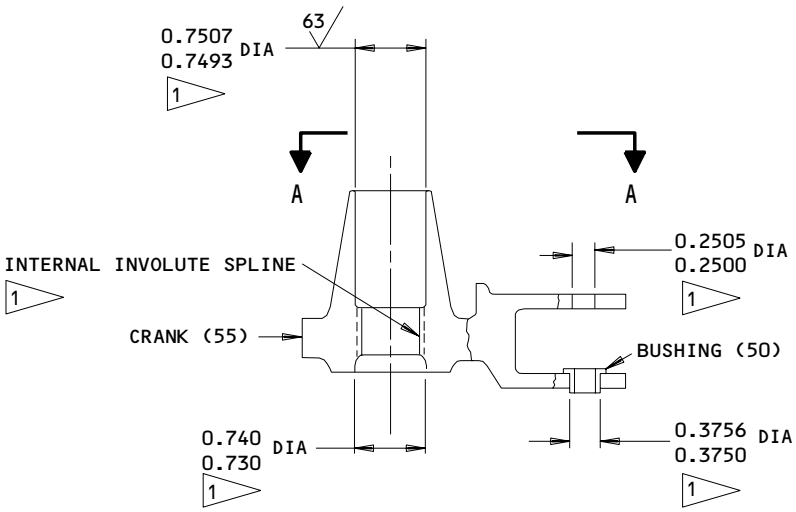
251T3615-1, -4

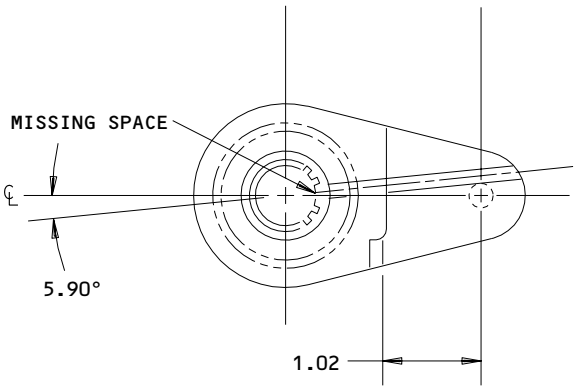
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require restoration of original finish, refer to refinish instructions, Fig. 601.

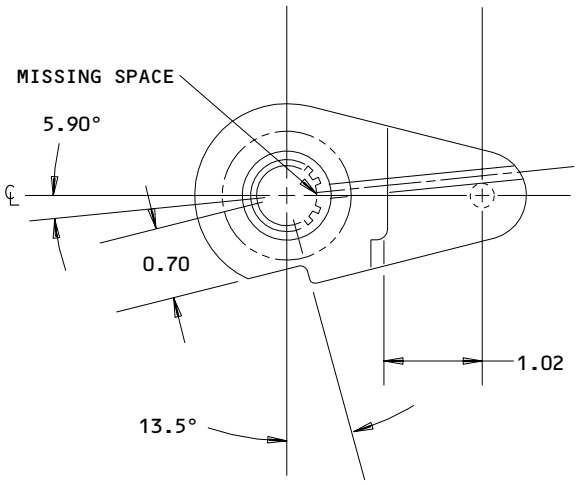
1. Bushing Replacement (IPL Fig. 1, Fig. 601)

   A. Remove bushing (50)

   B. Install new bushing with MIL-G-23827 grease per 20-50-03.







251T3615-1

A-A

251T3615-4

REFINISH

CRANK (55)--ANODIZE (F-17.05) AND APPLY TWO COATS OF PRIMER, BMS 10-11, TYPE 1 (F-20.03) EXCEPT AS NOTED

1 OMIT PRIMER

NOTE: BUSHING (50) IS NOT PART OF CRANK (55). REPLACEMENT OF BUSHING (50) IS SHOWN HERE TO TO FACILITATE ASSEMBLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

251T3615-1,-4
Interconnect Crank - Plating Repair
Figure 601

SWIVEL ASSEMBLY - REPAIR 5-1

251T3653-1

1. Bearing Replacement (IPL Fig. 1)

   A. Remove bearings (42).

   B. Install new bearing (42) and roller swage housing over bearing per 20-50-03.

   C. Maximum break-away torque after swaging, 2 lb-in max.

MISC PARTS REFINISH - REPAIR 6-1

1. Repair of parts listed in Fig. 601 consists of restoration of the original finish.

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Tube (95)	Al alloy	Chemical treat interior and exterior surface and apply one coat of primer, BMS 10-11, Type 1 (F-18.07).
Tube (95A)	15-5PH CRES, 150 ksi	Cadmium plate and apply one coat of BMS 10-11, Type 1 (F-16.01)
Spacer (115)	4340 Steel, 150-170 ksi	Cadmium plate and apply one coat of primer, BMS 10-11, Type 1 (F-16.01).
Shaft (145)	4340 Steel, 180-200 ksi	Cadmium plate and apply one coat of BMS 10-11, Type 1 (F-16.01) except omit primer on faying surface under flanges.

Refinish Details
Figure 601

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes may be used.

A. Grease -- MIL-G-23827 (Ref 20-60-03)

2. Equipment

A. Rig Pin -- MS 20392-4 or equivalent

3. Assembly (IPL Fig. 1, Fig. 701)

A. Install variable crank assemblies (116, 126, 133, 139) thru bearings (85) in torque tube assembly (65A).

B. Install spacers (115) under bearings (85).

C. Install bearings (110) under spacers (115) with grease per 20-50-03.

CAUTION: USE EXTREME CARE WHEN INSTALLING TORSION SPRING (60A). SPRINGS ARE HEAVILY LOADED.

D. Install springs (60A), interconnect cranks (55), and for assembly 251T3600-11 the spring crank (44).

E. Apply grease on all faying surfaces of shafts (145) including spline teeth.

F. Install shafts (145) thru variable crank assemblies (116, 126, 133, 139), torque tube assembly (65A), interconnect cranks (55), and for assembly 251T3600-11 the spring crank (44).

G. Install washers (10) and nuts (5) as follows:

(1) Observe run up torque.

(2) After assembly is clamped up, tighten nut (5) to 105-130 lb-in higher than run up torque.

H. Install bushings (50, 52, or 52A) in interconnect cranks (55) with grease on all surfaces.

CAUTION: USE EXTREME CARE WHEN INSTALLING RIG PINS. SPRINGS (60A) ARE HEAVILY LOADED.

I. Move crank assemblies (116, 126, 133, 139) to high speed position (where A hole overlaps B hole and C hole overlaps D hole) and insert rig pins thru holes A and B and holes C and D.

J. Adjust rod assembly (155A) so that bolts (39 or 39A, 40) at both ends can be freely inserted in interconnect cranks (55) and rod assembly (155A), tighten jamnut on rod assembly (155A).

K. For the 251T3600-5 assembly, secure the rod (155A) as follows:

(1) Secure the right end of the rod assembly (155A) with the bolt (40) and nut (45) in the interconnect crank (55B).

(2) Install the left end of the rod assembly (155A) with the bolt (39) and nut (45) in the interconnect crank (55).

L. For the 251T3600-11 assembly, secure the rod (155A), swivels (41) and return spring (43) as follows:

(1) Secure the right end rod assembly (155A) with the bolt (40) and nut (45) the interconnect crank (55A).

(2) Install the left end rod assembly (155A) with the bolt (39A) in the interconnect crank (55) but do not install the nut (45).

(3) Secure the swivel assembly (41) to the spring crank (44) with bolt (40G), washer (47A), and nut (45G).

(4) Install and tension spring (43), slip left swivel assembly (41) over bolt in step (2). Install nut (45).

CAUTION: RESTRAIN CRANK ASSEMBLIES (120, 130) FROM SNAPPING BACK TO LOW SPEED (RELAXED POSITION) WHILE REMOVING RIG PINS.

M. Remove rig pins from holes A and B and holes C and D.

N. Allow crank assemblies (116, 126, 133, 139) to return slowly to low speed position.

O. If any or all of the following attaching parts require assembly, assemble them per IPL Figure 1, finger-tight. Final tightening of bolts and nuts will take place upon installation of ratio changer assembly and its associated control/actuator rods in the airplane.

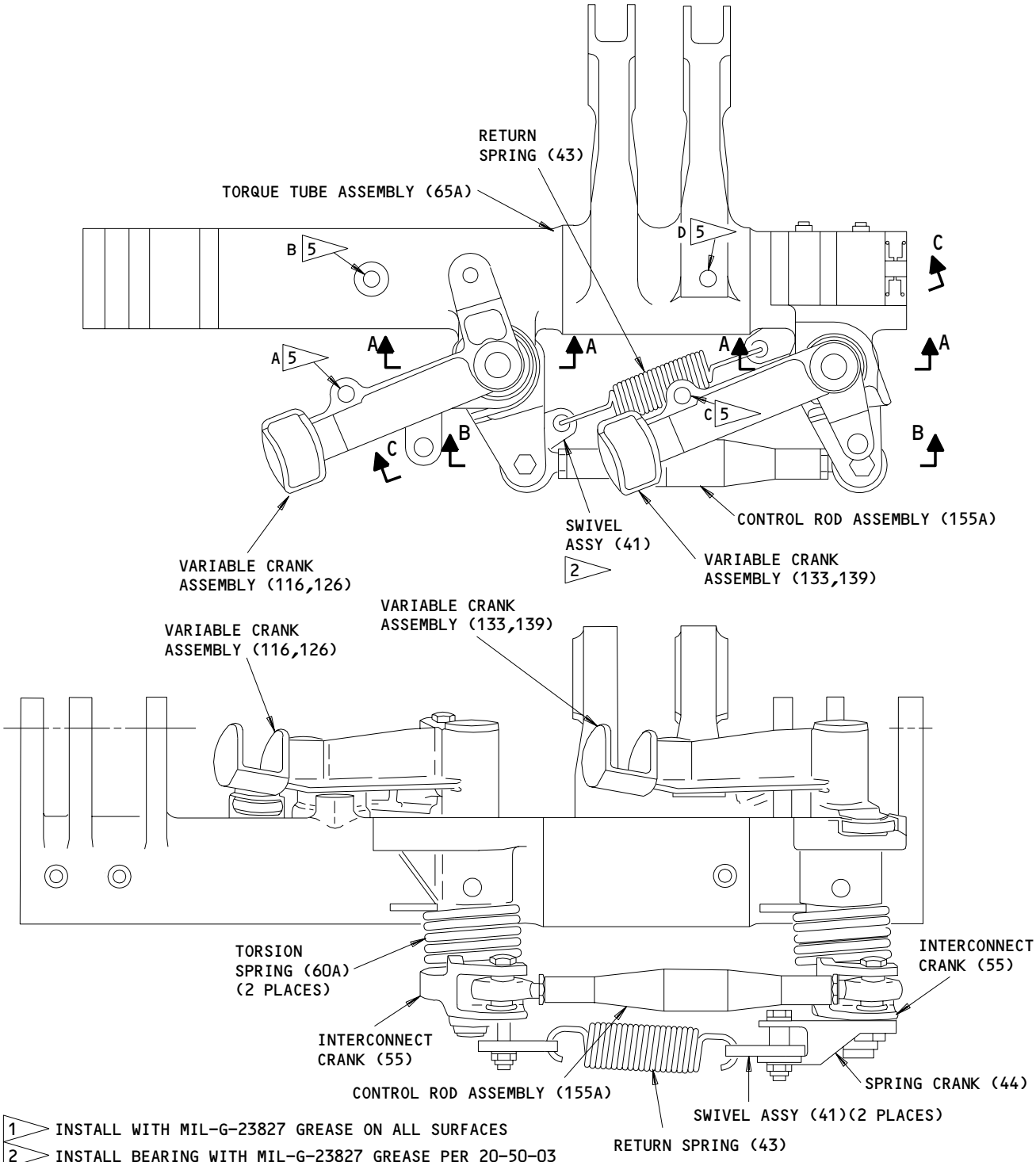
(1) Bolts (117, 127B, 127G, 134, 138, 140)

(2) Washers (117E, 127M, 140E)

(3) Nuts (117K, 127S, 140K)

(4) Bushings (118, 118E, 128, 134E, 140Q)

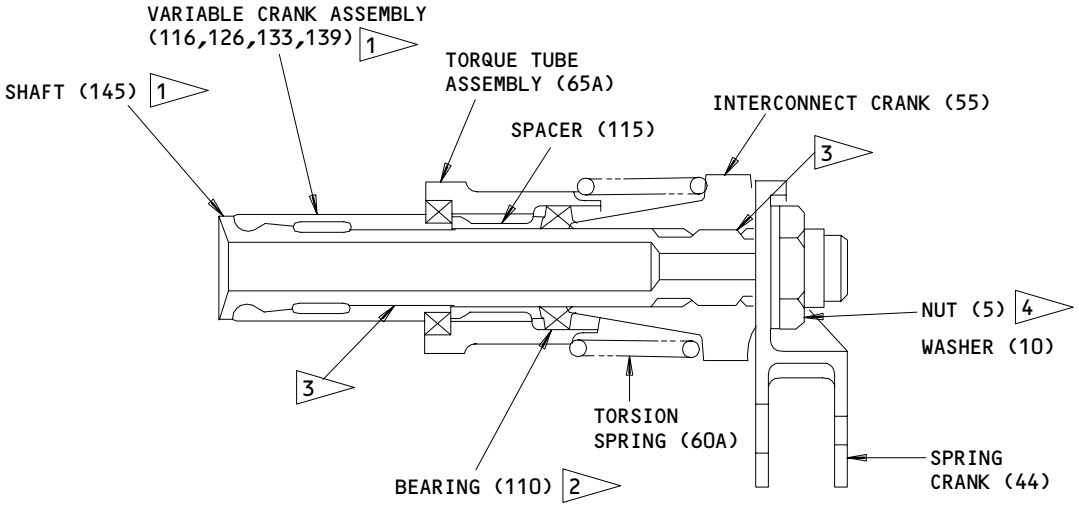
4. Prepare and store component in accordance with standard industry practices.



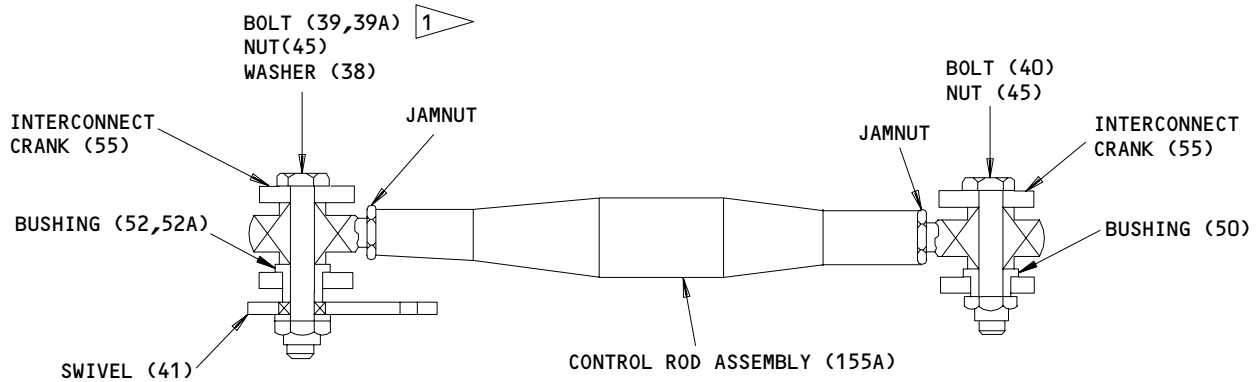
1 INSTALL WITH MIL-G-23827 GREASE ON ALL SURFACES
2 INSTALL BEARING WITH MIL-G-23827 GREASE PER 20-50-03
3 COAT NOTED SURFACE WITH MIL-G-23827 GREASE
4 INSTALL NUT (5) AS FOLLOWS: OBSERVE RUNUP TORQUE AFTER ASSEMBLY IS CLAMPED UP. TORQUE NUT TO 105-130 LB-IN HIGHER THAN THE RUNUP TORQUE.
5 HOLES FOR RIGGING PINS

251T3600-5,-11

Ratio Changer Assembly
Figure 701 (Sheet 1)



A–A

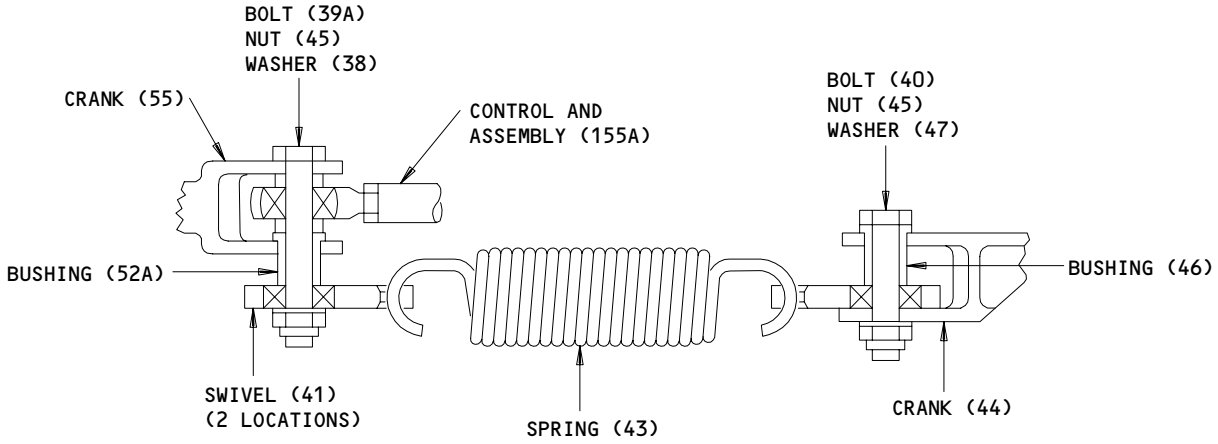


B–B

ITEM NUMBERS REFER TO IPL FIG. 1

251T3600-5,-11

Ratio Changer Assembly
Figure 701 (Sheet 2)



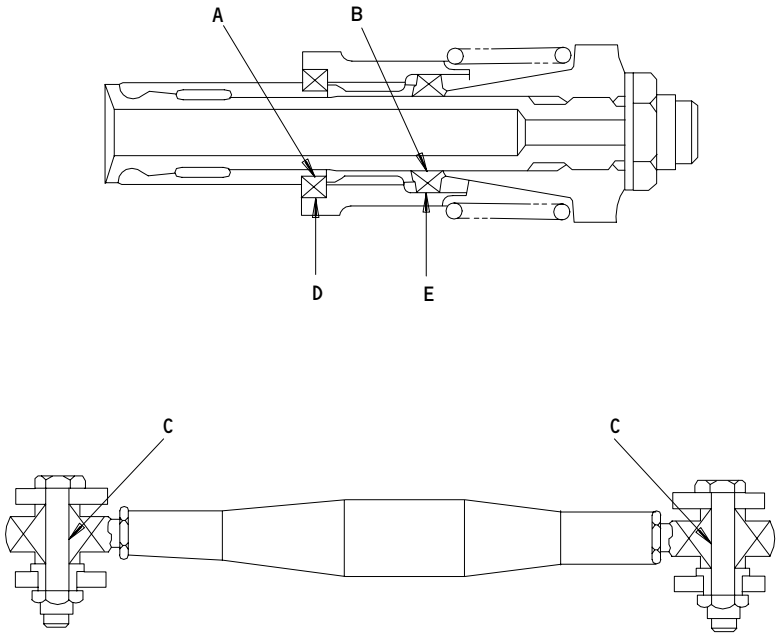
C-C

ITEM NUMBERS REFER TO IPL FIG. 1

251T3600-11

Ratio Changer Assembly
Figure 701 (Sheet 3)

99430



Fits and Clearances
Figure 801 (Sheet 1)

		Design Dimension				Service Wear Limit		
Ref Letter Fig.801	Mating Item No. IPL Fig.1	Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 85	0.8743	0.8757	0.0000	0.0024			
	OD 135	0.8733	0.8743					
B	ID 110	0.7493	0.7507	0.0000	0.0024			
	OD 145	0.7483	0.7493					
C	ID 155	0.2495	0.2500	0.0000	0.0015			
	OD 40	0.2485	0.2495					
D	ID 65A	1.3125	1.3135	0.0000	0.0020			
	OD 85	1.3115	1.3125					
E	ID 65A	1.1882	1.1887	0.0007	0.0022			
	OD 110	1.1865	1.1875					

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 2)

FOR TORQUE VALUE OF STANDARD FASTENERS, REFER TO 20-50-01			
ITEM NO. IPL FIG. 1	NAME	TORQUE	
		POUND-INCHES	POUND-FEET
5	Nut	RUN UP TORQUE PLUS 105-130	

Torque Table
Figure 802

ILLUSTRATED PARTS LIST

1. This section lists and illustrates replaceable or repairable component parts. The Illustrated Parts Catalog contains a complete explanation of the Boeing part numbering system.

2. Indentures show parts relationships as follows:

    Assembly
      Detail Parts for Assembly
      Subassembly
      Attaching Parts for Subassembly
        Detail Parts for Subassembly

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

3. One use code letter (A, B, C, etc.) is assigned in the EFF CODE column for each variation of top assembly. All listed parts are used on all top assemblies except when limitations are shown by use code letter opposite individual part entries.

4. Letter suffixes (alpha-variants) are added to item numbers for optional parts, Service Bulletin modification parts, configuration differences (except left- and right-hand parts), product improvement parts, and parts added between two sequential item numbers. The alpha-variant is not shown on illustrations when appearance and location of all variants of the part is the same.

5. Service Bulletin modifications are shown by the notations PRE SB XXXX and POST SB XXXX.

    A. When a new top assembly part number is assigned by Service Bulletin, the notations appear at the top assembly level only. The configuration differences at detail part level are then shown by use code letter.

    B. When the top assembly part number is not changed by the Service Bulletin, the notations appear at the detail part level.

6. Parts Interchangeability

Optional (OPT)	The parts are optional to and interchangeable with other parts having the same item number.
Supersedes, Superseded By (SUPSDS, SUPSD BY)	The part supersedes and is not interchangeable with the original part.
Replaces, Replaced By (REPLS, REPLD BY)	The part replaces and is interchangeable with, or is an alternate to, the original part.

VENDORS

K8455 RHP BEARINGS PLC RHP AEROSPACE
OLDENDS LANE
STONEHOUSE GL10 3RM UK

06710 LAMSON AND SESSIONS CO THE VALLEY-TODECO
12975 BRADLEY AVENUE
SYLMAR, CALIFORNIA 91342-3830

06725 AIR INDUSTRIES CORPORATION
12570 KNOTT STREET
GARDEN GROVE, CALIFORNIA 92641-3932

06950 SCREWCORP VSI AEROSPACE PRODUCTS DIV FAIRCHILD IND DIV
13001 EAST TEMPLE AVENUE PO BOX 730
CITY OF INDUSTRY, CALIFORNIA 91746-1417

08524 DEUTSCH FASTENER CORP SEE CODE V97928

11815 CHERRY AEROSPACE FASTENERS DIV OF TEXTRON
1224 EAST WARNER AVENUE PO BOX 2157
SANTA ANA, CALIFORNIA 92707-0157

15653 MICRODOT INC AEROSPACE FASTENING SYS KAYNAR MFG DIV
800 SOUTH STATE COLLEGE BLVD PO BOX 3001
FULLERTON, CALIFORNIA 92634-3001

17943 FEDERAL MANUFACTURING CORPORATION
9825 DESOTO AVENUE
CHATSWORTH, CALIFORNIA 91311

21335 TORRINGTON CO FAFNIR BEARING DIV
59 FIELD STREET
TORRINGTON, CONNECTICUT 06790-4942

23294 AVALON MACHINE PRODUCTS INC
15337 ALLEN STREET
PARAMOUNT, CALIFORNIA 90723-4011

VENDORS

27624 PB FASTENERS DIV OF BRILES PAUL R
1700 WEST 132ND STREET
GARDENA, CALIFORNIA 90249

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

43991 FAG BEARING INCORPORATED
118 HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

52828 REPUBLIC FASTENER MFG CORP
1300 RANCHO CONEJO BLVD
NEWBURY PARK, CALIFORNIA 91320-1405

56878 SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV
HIGHLAND AVENUE
JENKINTOWN, PENNSYLVANIA 19046

62554 SIMMONDS MECAERO FASTENERS INC
1734 SEQUOIA AVENUE
ORANGE, CALIFORNIA 92668

70265 ALL POWER MANUFACTURING COMPANY
13141 MOLETTE STREET
SANTA FE SPRINGS, CALIFORNIA 90670-5523

71087 BOOTS ACFT NUT DIV TOWNSEND CO SEE TEXTRON INC CHERRY
FASTENER TOWNSEND DIV V11815

72962 ELASTIC STOP NUT A DIV OF HARTFORD INDUSTRIES INC
2330 VAUXHALL ROAD
UNION, NEW JERSEY 07083-5038

VENDORS

80539 SPS TECHNOLOGIES INC AEROSPACE PRODUCTS DIV
2701 SOUTH HARBOR BOULEVARD PO BOX 1259
SANTA ANA, CALIFORNIA 92702-1259

92215 VOI-SHAN DIV OF VSI CORP SUB OF FAIRCHILD INDUSTRIAL INC
8463 HIGUERA STREET
CULVER CITY, CALIFORNIA 90230

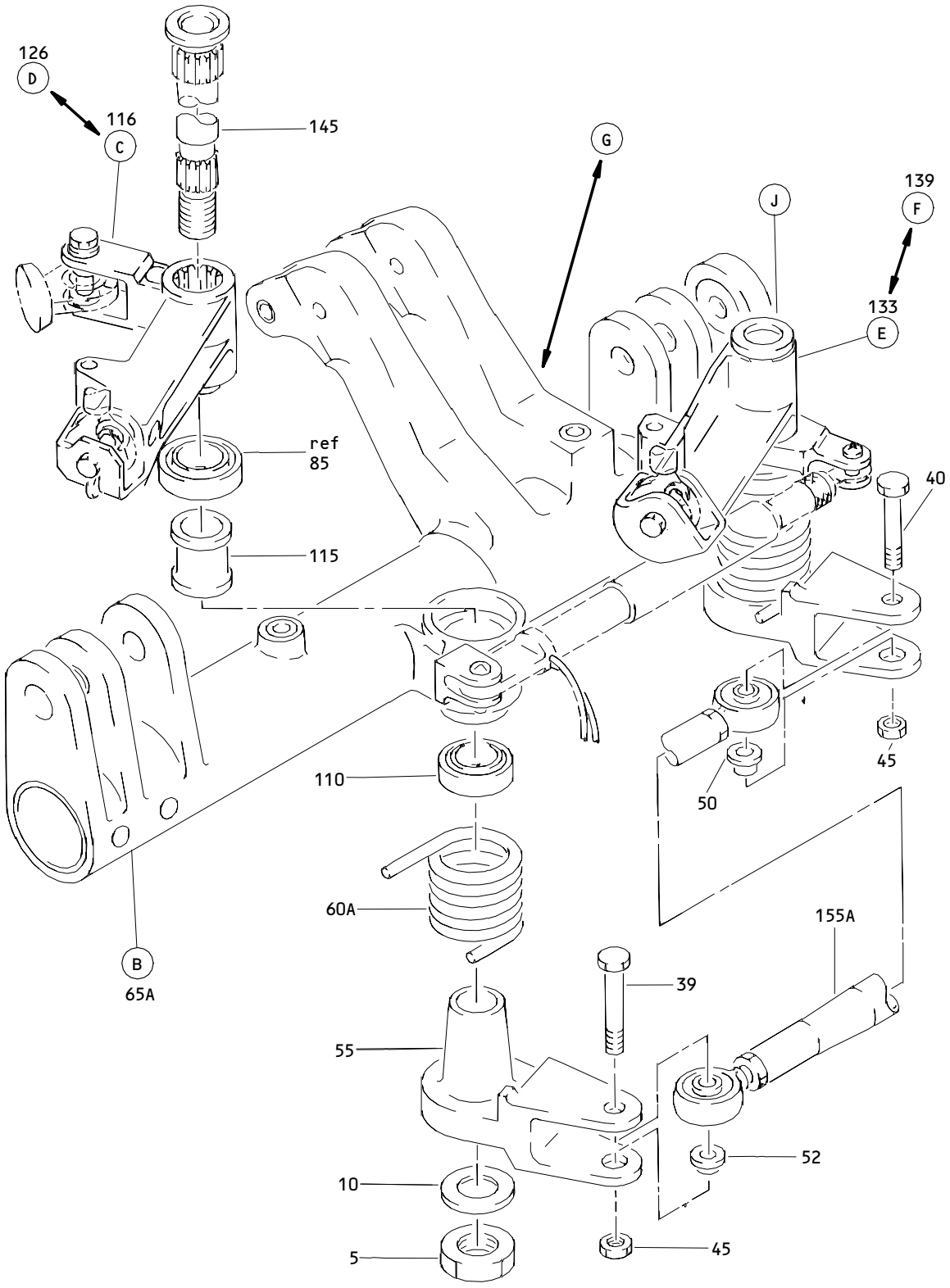
94892 MASTER MACHINE PRODUCTS CORPORATION
1551 SOUTH PRIMROSE AVE
MONROVIA, CALIFORNIA 91016-4542

97928 DEUTSCH FASTENER CORP
3969 PARAMONT BOULEVARD
LAKEWOOD, CALIFORNIA 90712-4193

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AN960JD1016		1	10A	1
AN960JD1016L		1	12B	1
AN960JD416		1	47A	1
AN960PD1016		1	10	1
		1	12	1
AN960PD416		1	117E	1
		1	127M	2
		1	140E	1
AN960XC416		1	38	1
BACB10AC4A		1	42	2
BACB10CF12PP		1	110	2
BACB10CF14PP		1	85	2
BACB28AA6C014		1	75	2
BACB28AP06P033		1	70	1
BACB28U5E035		1	80	2
BACB28W4C014		1	120A	1
BACB30NE4-16		1	140	1
BACB30NF4-14		1	127B	1
BACB30NF4-16		1	39	1
		1	40	1
		1	127G	1
BACB30NF4-18		1	117	2
		1	134	1
BACB30NF4-26		1	39A	1
BACN10HR4		1	140K	1
BACN10JC10		1	5	2
BACN10JC4		1	45	2
		1	117K	1
		1	127S	2
BAC27TCT0294		1	123	1
		1	132A	1
BAC27TCT0295		1	138	1
		1	144	1
BMNN10HR4		1	140K	1
BMN4122AD3-10		1	5	2
BRH10A4		1	45	2
		1	117K	1
		1	127S	2
B539-2TS		1	110	2
B540-2TS		1	85	2
B540DD		1	85	2
B540DDFS428		1	85	2
B540SSG27		1	85	2

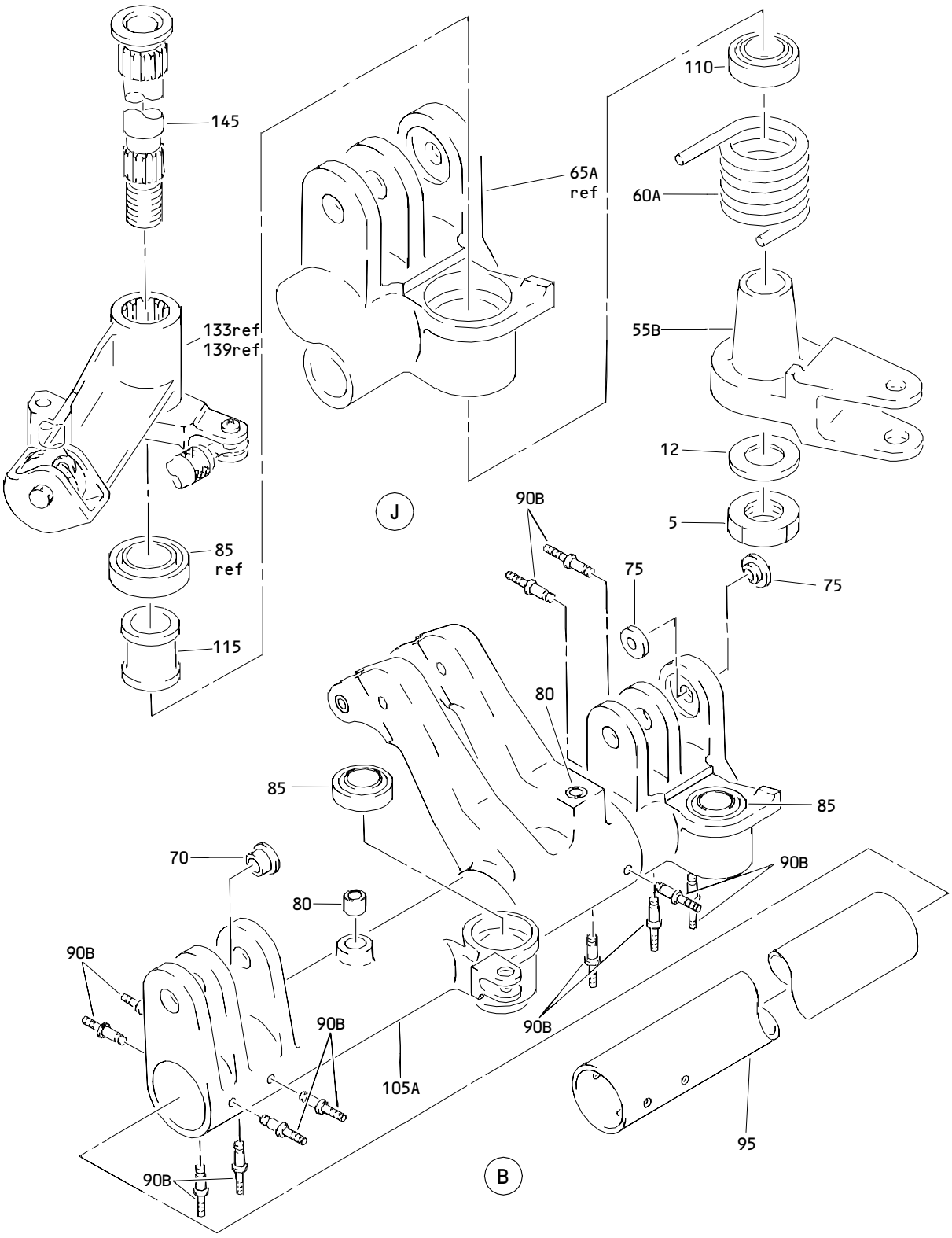
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
CR59064		1	140K	1
HHKSP4A		1	42	2
H10-10BAC		1	5	2
H10-4BAC		1	45	2
H10-4BAC		1	117K	1
		1	127S	2
H96-4		1	140K	1
KSP4A		1	42	2
KSP4AE9440A		1	42	2
KSP4AFS428		1	42	2
KSP4A2TS		1	42	2
MS21042L4		1	45G	3
NAS1398D8-4		1	90B	12
NAS538-4P007		1	130E	1
		1	142	1
NAS577-4A		1	121	1
		1	136	1
NAS578-4A		1	121E	1
		1	136E	1
NS202101-048		1	45	2
		1	117K	1
		1	127S	2
RMLH22-4		1	140K	1
RMLH9074-10		1	5	2
RMLH9075-4W		1	45	2
		1	117K	1
		1	127S	2
SL7058S428		1	140K	1
T339E		1	110	2
T340E		1	85	2
T6S428J		1	45	2
		1	117K	1
		1	127S	2
VAL280094		1	140K	1
VN303A048		1	45	2
		1	117K	1
		1	127S	2
251T0100-361		1	155A	1
251T3600-11		1	1C	RF
251T3600-5		1	1B	RF
251T3600-6		1	116	1
251T3600-7		1	126	1
251T3600-8		1	133	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T3600-9		1	139	1
251T3610-2		1	65A	1
251T3611-4		1	105A	1
251T3611-5		1	105B	1
251T3611-6		1	105C	1
251T3612-1		1	95	1
251T3612-2		1	95A	1
251T3614-25		1	129	1
251T3614-26		1	131	1
251T3614-30		1	141	1
251T3614-31		1	143	1
251T3615-1		1	55	1
251T3615-4		1	55A	1
251T3617-1		1	145	2
251T3618-1		1	115	2
251T3650-1		1	119	1
251T3650-2		1	135D	1
251T3650-3		1	122	1
251T3650-4		1	137C	1
251T3650-7		1	122A	1
251T3650-8		1	137D	1
251T3651-1		1	60A	2
251T3652-1		1	43	1
251T3653-1		1	41	2
251T3653-2		1	42A	2
251T3654-2		1	44	1
251T3742-1		1	118	1
251T3742-17		1	118E	1
		1	134E	1
251T3742-2		1	50	1
		1	51	
		1	52	1
251T3742-20		1	51A	
		1	52A	1
251T3742-6		1	128	1
		1	140Q	1
48FT1018		1	5	2
678324		1	140K	1
96-048		1	45	2
		1	117K	1
		1	127S	2



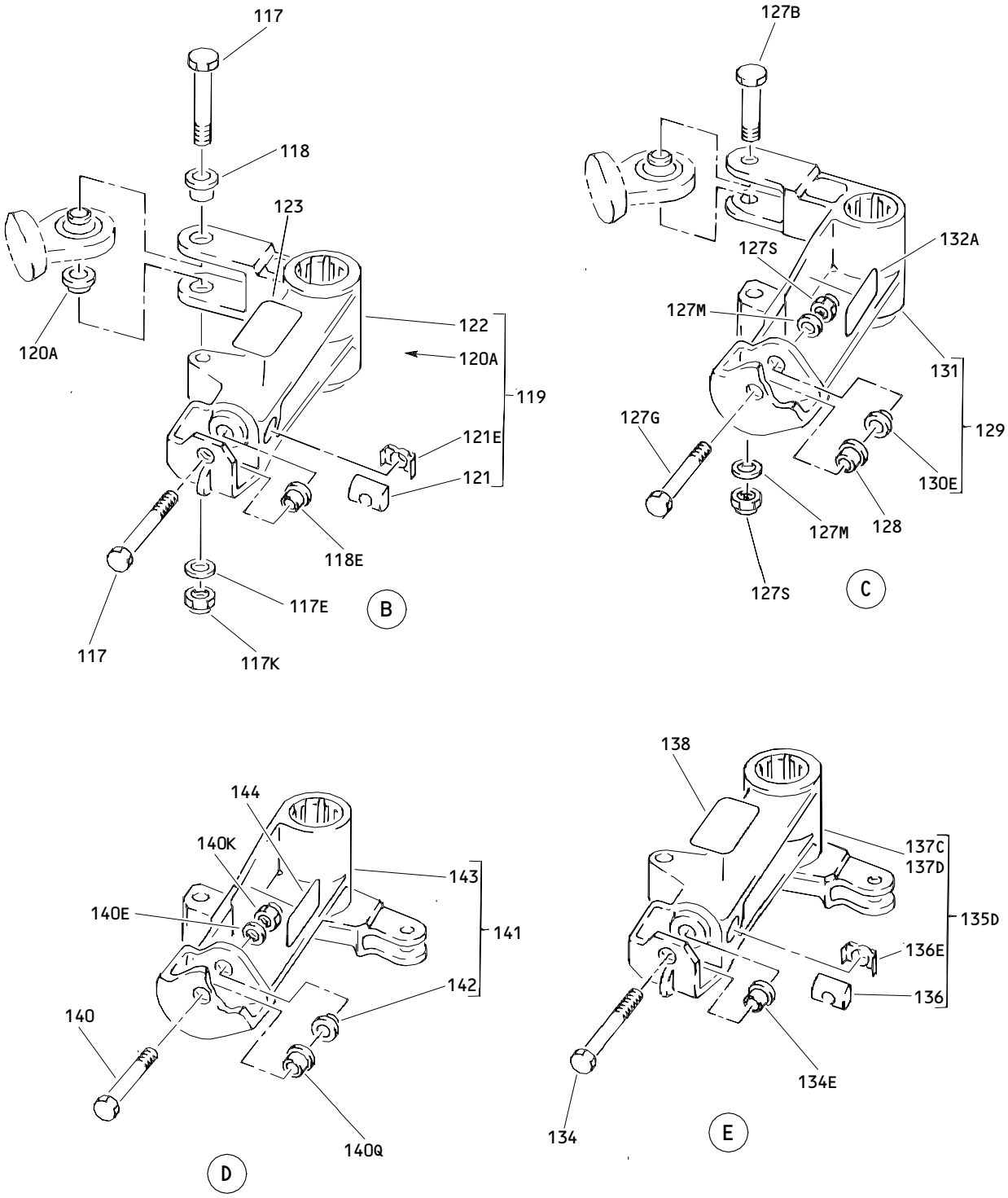
Rudder Control Ratio Changer Assembly
Figure 1 (Sheet 1)

T81481

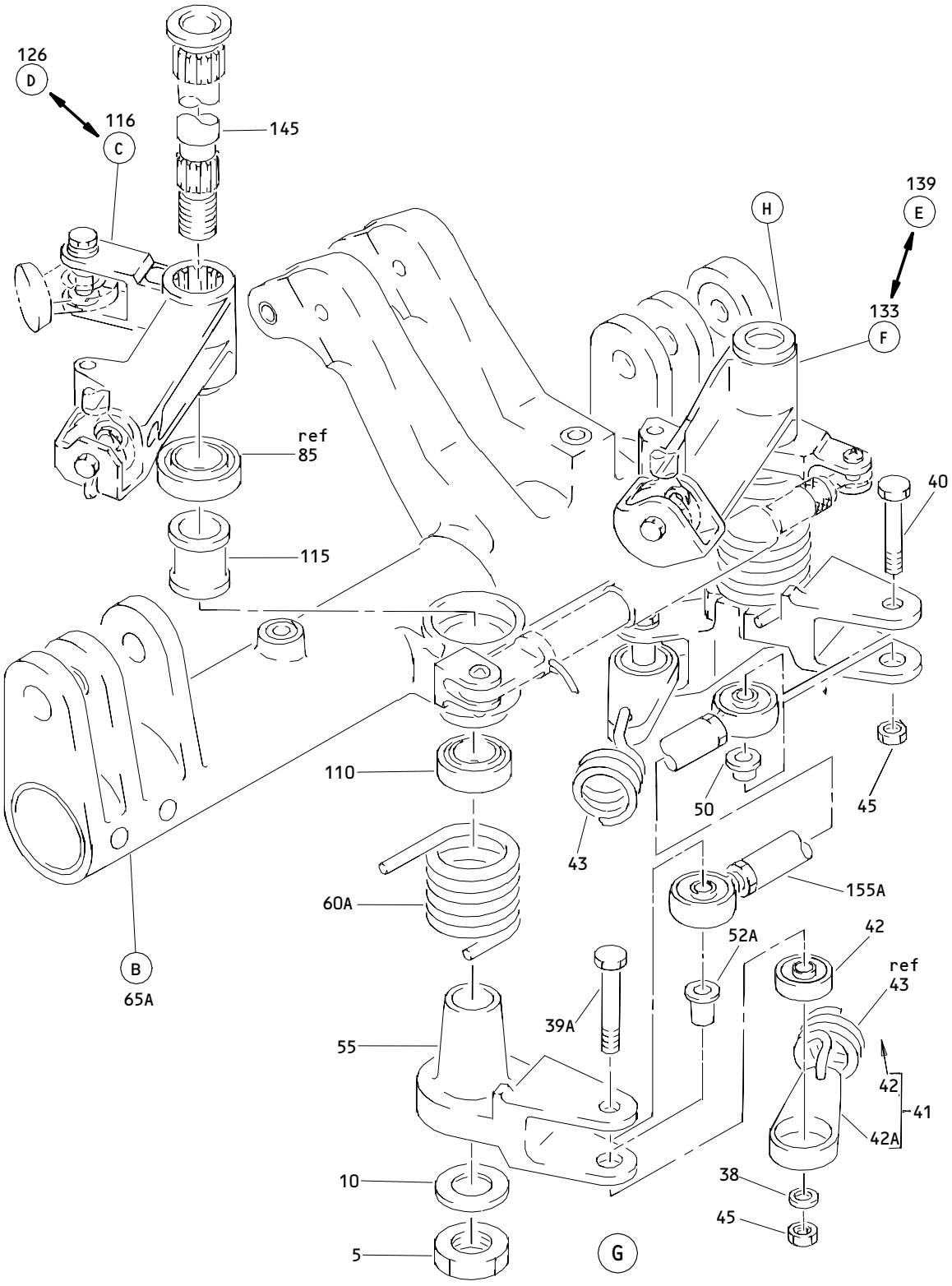


Rudder Control Ratio Changer Assembly
Figure 1 (Sheet 2)

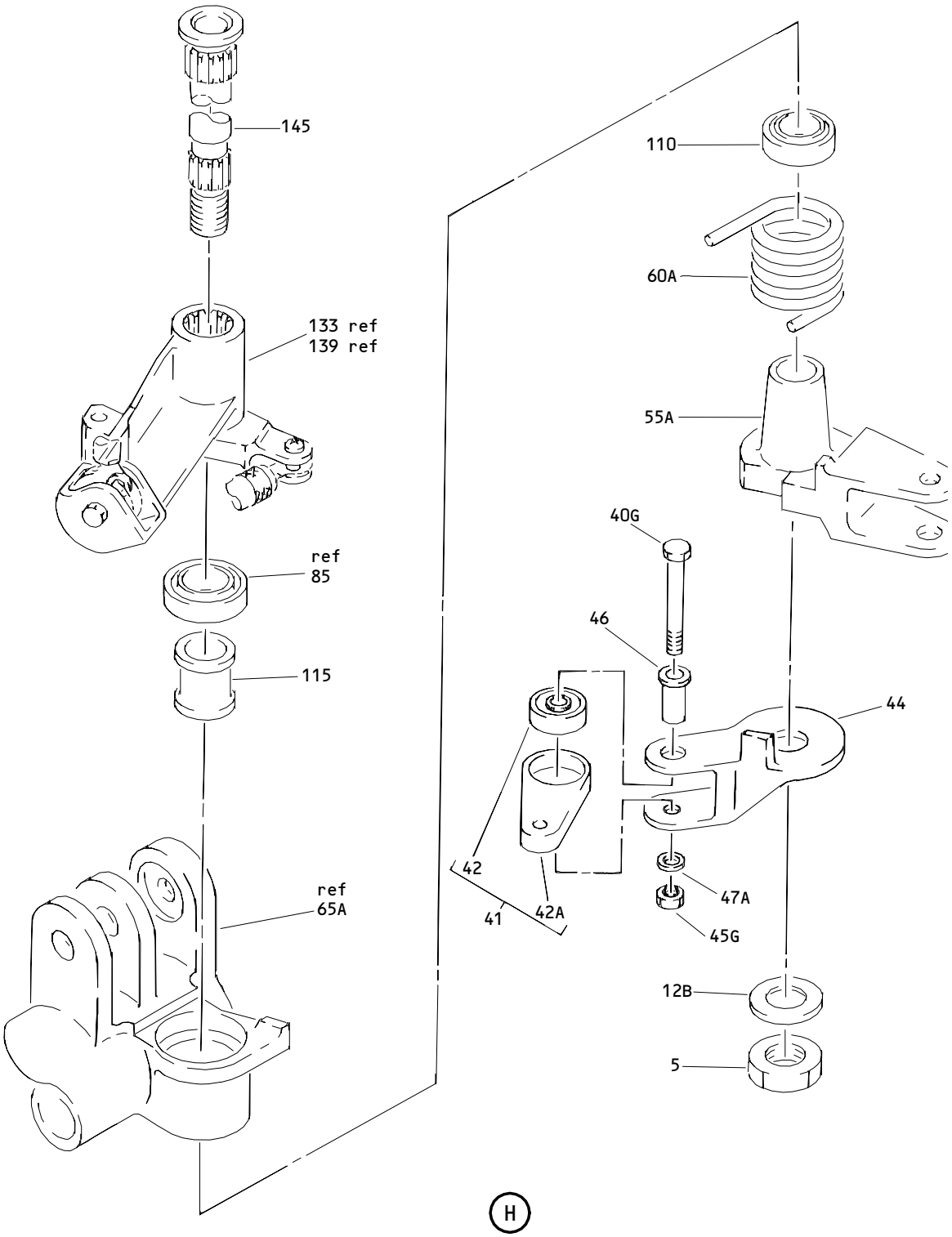
T54989



Rudder Control Ratio Changer Assembly
Figure 1 (Sheet 3)



Rudder Control Ratio Changer Assembly
Figure 1 (Sheet 4)



Rudder Control Ratio Changer Assembly
Figure 1 (Sheet 5)

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	-1	251T3600-2		DELETED		
	-1A	251T3600-4		DELETED		
R	-1B	251T3600-5		CHANGER ASSY-RUD CONT RATIO (PRE SB 27-20)	A	RF
R	-1C	251T3600-11		CHANGER ASSY-RUD CONT RATIO (POST SB 27-20)	B	RF
R	5	BMN4122AD3-10		.NUT- (V08524) (SPEC BACN10JC10) (OPT H10-10BAC (V15653)) (OPT RMLH9074-10 (V72962)) (OPT 48FT1018 (V56878)) (OPT RMLH9074-10 (V72962)) (OPT 48FT1018 (V56878))		2
R	10	AN960PD1016		.WASHER	A	1
R	-10A	AN960JD1016		.WASHER	B	1
R	12	AN960PD1016		.WASHER	A	1
	12A	AN960PD1016L		DELETED		
R	12B	AN960JD1016L		.WASHER	B	1
	15	NAS623-3-7		DELETED		
	20	NAS623-3-9		DELETED		
	25	AN960PD10		DELETED		
	30	H10-3BAC		DELETED		
	35	251T3741-9		DELETED		
R	38	AN960XC416		.WASHER	B	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R	01-39	BACB30NF4-16		.BOLT- (V06710) (SPEC BACB30NF4-16) (OPT BACB30NF4-16 (V06725)) (OPT BACB30NF4-16 (V06950)) (OPT BACB30NF4-16 (V08524)) (OPT BACB30NF4-16 (V17943)) (OPT BACB30NF4-16 (V27624)) (OPT BACB30NF4-16 (V56878)) (OPT BACB30NF4-16 (V80539)) (OPT BACB30NF4-16 (V92215)) (OPT BACB30NF4-16 (V97928))	A	1
R	39A	BACB30NF4-26		.BOLT	B	1
R	40	BACB30NF4-16		.BOLT- (V06710) (SPEC BACB30NF4-16) (OPT BACB30NF4-16 (V06725)) (OPT BACB30NF4-16 (V06950)) (OPT BACB30NF4-16 (V08524)) (OPT BACB30NF4-16 (V17943)) (OPT BACB30NF4-16 (V27624)) (OPT BACB30NF4-16 (V56878)) (OPT BACB30NF4-16 (V80539)) (OPT BACB30NF4-16 (V92215)) (OPT BACB30NF4-16 (V97928))		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R	01-40G	BACB30NF4-16		.BOLT- (V06710) (SPEC BACB30NF4-16) (OPT BACB30NF4-16 (V06725)) (OPT BACB30NF4-16 (V06950)) (OPT BACB30NF4-16 (V08524)) (OPT BACB30NF4-16 (V17943)) (OPT BACB30NF4-16 (V27624)) (OPT BACB30NF4-16 (V56878)) (OPT BACB30NF4-16 (V80539)) (OPT BACB30NF4-16 (V92215)) (OPT BACB30NF4-16 (V97928))	B	1
R	41	251T3653-1		.SWIVEL ASSY	B	2
R	42	KSP4A		..BEARING- (V38443) (SPEC BACB10AC4A) (OPT HHKSP4A (V38443)) (OPT KSP4AE944OA (V21335)) (OPT KSP4AFS428 (V21335)) (OPT KSP4A2TS (V43991))	B	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	42A	251T3653-2		..SWIVEL	B	1
R	43	251T3652-1		.SPRING-RETURN	B	1
R	44	251T3654-2		.CRANK-SPR	B	1
R	45	H10-4BAC		.NUT- (V15653) (SPEC BACN10JC4) (OPT NS202101-048 (V80539)) (OPT RMLH9075-4W (V72962)) (OPT T6S428J (V71087)) (OPT VN303A048 (V92215)) (OPT 96-048 (V80539)) (OPT BRH10A4 (V52828))	A	2
	45A	H10-4BAC		DELETED		
R	45G	MS21042L4		.NUT	B	3
R	46	NAS77-4-55		.BUSHING	B	1
	47	AN960PD416		DELETED		
R	47A	AN960JD416		.WASHER	B	1
R	50	251T3742-2		.BUSHING-FLANGED		1
	51	251T3742-2		DELETED		
	51A	251T3742-20		DELETED		
R	52	251T3742-2		.BUSHING-FLANGED	A	1
R	52A	251T3742-20		.BUSHING-FLANGED	B	1
R	55	251T3615-1		.CRANK-INTERCONNECT		1
R	55A	251T3615-4		.CRANK-INTERCONNECT	B	1
R	55B	251T3615-1		.CRANK-INTERCONNECT	A	1
	60	251T3616-1		DELETED		

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	60A	251T3651-1		.SPRING-TORSION		2
	65	251T3610-1		DELETED		
R	65A	251T3610-2		.TUBE ASSY-TORQUE		1
R	70	BACB28AP06P033		..BUSHING- (V23294) (SPEC BACB28AP06P033) (OPT BACB28AP06P033 (V70265)) (OPT BACB28AP06P033 (V94892))		1
R	75	BACB28AA6C014		..BUSHING- (V23294) (SPEC BACB28AA6C014) (OPT BACB28AA6C014 (V70265)) (OPT BACB28AA6C014 (V94892))		2
R	80	BACB28U5E035		..BUSHING- (V23294) (SPEC BACB28U5E035) (OPT BACB28U5E035 (V70265)) (OPT BACB28U5E035 (V94892))		2
R	85	B540DD		..BEARING- (V38443) (SPEC BACB10CF14PP) (OPT B540-2TS (V43991)) (OPT B540DDFS428 (V21335)) (OPT B540SSG27 (V30163)) (OPT T340E (VK8455))		2
	90	BACR15FT8D8		DELETED		
	90A	NAS1398D		DELETED		
	90B	NAS1398D8-4		..RIVET		12
	92	BACR15FT8D9		DELETED		
	95	251T3612-1		..TUBE-INNER TORQUE (OPT ITEM 95A)		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	-95A	251T3612-2		..TUBE-INNER TORQUE (OPT ITEM 95)		1
	105	251T3611-1		DELETED		
	105A	251T3611-4		..TUBE-TORQUE (OPT ITEMS 105B, 105C)		1
R	-105B	251T3611-5		..TUBE-TORQUE (OPT ITEMS 105A, 105C)		1
R	-105C	251T3611-6		..TUBE TORQUE- (OPT ITEMS 105A, 105B)		1
R	110	B539DD		.BEARING- (V38443) (SPEC BACB10CF12PP) (OPT B539-2TS (V43991)) (OPT B539DDFS428 (V21335)) (OPT B539SSG27 (V30163)) (OPT T339E (VK8455))		2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	115	251T3618-1		.SPACER-BRG		2
R	116	251T3600-6		.CRANK ASSY- (OPT ITEM 126)		1
R	117	BACB30NF4-18		..BOLT- (V06710) (SPEC BACB30NF4-18) (OPT BACB30NF4-18 (V06725)) (OPT BACB30NF4-18 (V06950)) (OPT BACB30NF4-18 (V08524)) (OPT BACB30NF4-18 (V17943)) (OPT BACB30NF4-18 (V27624)) (OPT BACB30NF4-18 (V56878)) (OPT BACB30NF4-18 (V80539)) (OPT BACB30NF4-18 (V92215)) (OPT BACB30NF4-18 (V97928))		2
R	117E	AN960PD416		..WASHER		1
R	117K	H10-4BAC		..NUT- (V15653) (SPEC BACN10JC4) (OPT NS202101-048 (V80539)) (OPT RMLH9075-4W (V72962)) (OPT T6S428J (V71087)) (OPT VN303A048 (V92215)) (OPT 96-048 (V80539)) (OPT BRH10A4 (V52828))		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	118	251T3742-1		..BUSHING		1
R	118E	251T3742-17		..BUSHING		1
R	119	251T3650-1		..CRANK ASSY		1
	120	251T3614-2		DELETED		
R	120A	BACB28W4C014		...BUSHING- (V23294) (SPEC BACB28W4C014) (OPT BACB28W4C014 (V70265)) (OPT BACB28W4C014 (V94892))		1
R	121	NAS577-4A		...NUT		1
R	121E	NAS578-4A		...RETAINER		1
R	122	251T3650-3		...CRANK- (OPT ITEM 122A)		1
R	-122A	251T3650-7		...CRANK- (OPT ITEM 122)		1
R	123	BAC27TCT0294		..MARKER-ALUMINUM FOIL-RIG PIN 6		1
	125	NAS538-4P007		DELETED		
R	126	251T3600-7		.CRANK ASSY- (OPT ITEM 116)		1
	127	251T3614-4		DELETED		
	-127A	251T3614-8		DELETED		
R	127B	BACB30NF4-14		..BOLT- (V06710) (SPEC BACB30NF4-14) (OPT BACB30NF4-14 (V06725)) (OPT BACB30NF4-14 (V06950)) (OPT BACB30NF4-14 (V08524)) (OPT BACB30NF4-14 (V17943)) (OPT BACB30NF4-14 (V27624)) (OPT BACB30NF4-14 (V56878)) (OPT BACB30NF4-14 (V80539)) (OPT BACB30NF4-14 (V92215)) (OPT BACB30NF4-14 (V97928))		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	127G	BACB30NF4-16		..BOLT- (V06710) (SPEC BACB30NF4-16) (OPT BACB30NF4-16 (V06725)) (OPT BACB30NF4-16 (V06950)) (OPT BACB30NF4-16 (V08524)) (OPT BACB30NF4-16 (V17943)) (OPT BACB30NF4-16 (V27624)) (OPT BACB30NF4-16 (V56878)) (OPT BACB30NF4-16 (V80539)) (OPT BACB30NF4-16 (V92215)) (OPT BACB30NF4-16 (V97928))		1
R	127M	AN960PD416		..WASHER		2
R	127S	H10-4BAC		..NUT- (V15653) (SPEC BACN10JC4) (OPT NS202101-048 (V80539)) (OPT RMLH9075-4W (V72962)) (OPT T6S428J (V71087)) (OPT VN303A048 (V92215)) (OPT 96-048 (V80539)) (OPT BRH10A4 (V52828))		2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	128	251T3742-6		..BUSHING		1
R	129	251T3614-25		..CRANK ASSY		1
	130	251T3614-9		DELETED		
	-130A	251T3614-13		DELETED		
	-130B	251T3614-18		DELETED		
	130C	251T3614-20		DELETED		
	-130D	251T3614-23		DELETED		
R	130E	NAS538-4P007		...BUSHING		1
R	131	251T3614-26		...CRANK		1
	132	NAS538-4P007		DELETED		
R	132A	BAC27TCT0294		..MARKER-ALUMINUM FOIL-RIG PIN 6		1
R	133	251T3600-8		.CRANK ASSY- (OPT ITEM 139)		1
R	134	BACB30NF4-18		..BOLT- (V06710) (SPEC BACB30NF4-18) (OPT BACB30NF4-18 (V06725)) (OPT BACB30NF4-18 (V06950)) (OPT BACB30NF4-18 (V08524)) (OPT BACB30NF4-18 (V17943)) (OPT BACB30NF4-18 (V27624)) (OPT BACB30NF4-18 (V56878)) (OPT BACB30NF4-18 (V80539)) (OPT BACB30NF4-18 (V92215)) (OPT BACB30NF4-18 (V97928))		1
R	134E	251T3742-17		..BUSHING		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	135	251T3614-10		DELETED		
	-135A	251T3614-12		DELETED		
	135B	251T3614-21		DELETED		
	-135C	251T3614-22		DELETED		
R	135D	251T3650-2		..CRANK ASSY		1
R	136	NAS577-4A		...NUT		1
R	136E	NAS578-4A		...RETAINER		1
	-137	251T3614-14		DELETED		
	137A	251T3614-19		DELETED		
	-137B	251T3614-24		DELETED		
R	137C	251T3650-4		...CRANK- (OPT ITEM 137D)		1
R	137D	251T3650-8		...CRANK- (OPT ITEM 137C)		1
R	138	BAC27TCT0295		..MARKER-ALUMINUM FOIL-RIG PIN 7		1
R	139	251T3600-9		.CRANK ASSY- (OPT ITEM 133)		1
R	140	BACB30NE4-16		..BOLT		1
R	140E	AN960PD416		..WASHER		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R	01-140K	BMNN10HR4		..NUT- (V08524) (SPEC BACN10HR4) (OPT BMN10HR4 (V97928)) (OPT CR59064 (V62554)) (OPT H964 (V15653)) (OPT RMLH224 (V72962)) (OPT VAL280094 (V06710)) (OPT 678324 (V56878)) (OPT H96-4 (V15653)) (OPT RMLH22-4 (V72962)) (OPT SL7058S428 (V11815)) (OPT 67832-428 (V56878)) (OPT BMN10HR4 (V97928))		1
R	140Q	251T3742-6		..BUSHING		1
R	141	251T3614-30		..CRANK ASSY		1
R	142	NAS538-4P007		...BUSHING		1
R	143	251T3614-31		...CRANK		1
R	144	BAC27TCT0295		..MARKER-ALUMINUM FOIL-RIG PIN 7		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	145	251T3617-1		.SHAFT		2
	150	Q0902		DELETED		
	155	251T0100-310		DELETED		
R	155A	251T0100-361		.ROD ASSY-CONT (REF CMM 27-00-11)		1