



TO: ALL HOLDERS OF NOSE WHEEL STEERING INSTALLATION COMPONENTS COMPONENT MAINTENANCE MANUAL 32-51-02.

REVISION NO. 6 DATED JUL 01/03

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 and date on the Record of Revision Sheet.

CHAPTER/SECTION

AND PAGE NO.

DESCRIPTION OF CHANGE

CONTENTS

Added clarifications and updated callouts.

1

REPAIR-GEN

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NOSE WHEEL STEERING INSTALLATION COMPONENTS

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257T4119-4
257T4155-1
257T4158-1
257T4159-1
257T4162-1,-2
257T4164-1
257T4165-1
257T4169-1

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

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TITLE PAGE

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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
		PRR B10071 PRR B10235 PRR B10754 MC 3251MK6001 MC 3251MP6001	APR 10/83 APR 10/83 APR 10/83 JUN 01/94 JUN 01/94

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TR & SB RECORD

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TABLE OF CONTENTS

NOTE: This manual contains overhaul data for some of the components of the Nose Wheel Steering Tiller Handle and Forward Quadrant Installation. Overhaul functions which cannot be done by standard industry practices are included in the repair instructions for each component.

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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 | 4. List of Effective Pages |
| 2. Record of Revisions | 5. Table of Contents |
| 3. Temporary Revision &
Service Bulletin Record | 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.

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INTRODUCTION

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REPAIR – GENERAL

1. Content

- A. Each separate repair, as applicable, includes check, repair, and refinish instructions.

2. Standard Practices

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

- 20-20-01 Magnetic Particle Inspection
- 20-20-02 Penetrant Methods of Inspection
- 20-30-03 General Cleaning Procedures
- 20-41-01 Decoding Table for Boeing Finish Codes
- 20-41-02 Application of Chemical and Solvent Resistant Finishes
- 20-41-04 Application and Repair of Interior Decorative Finishes
- 20-42-05 Bright Cadmium Plating
- 20-43-01 Chromic Acid Anodizing
- 20-50-03 Bearing and Bushing Replacement
- 20-60-02 Finishing Materials
- 20-60-03 Lubricants

3. Materials

NOTE: Equivalent substitutes may be used.

- A. Primer -- BMS 10-11 type 1 (SOPM 20-60-02)
- B. Grease -- BMS 3-33 or BMS 3-24 (SOPM 20-60-03)
- C. Sealant -- BMS 5-95 (SOPM 20-60-04)
- D. Enamel -- BMS 10-83 type 2 (SOPM 20-60-02)

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4. Dimensioning Symbols

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

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REPAIR-GENERAL

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HOUSING AND SHAFT ASSY – REPAIR 1-1

257T4162-1, -2

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers.

1. Disassembly

- A. Remove nut (60), washer (65) and adapter (70) from shaft (75).
- B. Remove shaft (75), spacer (85) and bearing (80) from housing assembly (90 or 90A and 90B or 90C).

NOTE: Do not remove bearing (91), pins (92 or 94), rivets (50) or separate gear (55) from housing assembly (90 or 90A) unless necessary for repair or replacement.

2. Cleaning

- A. Clean all parts but bearings (80, 91, IPL Fig. 1) per SOPM 20-30-03.
- B. Clean teflon sealed bearings (80, 91) by the vendor's instructions.

3. Check

- A. Magnetic particle examine (SOPM 20-20-01) -- Adapter (70) and shaft (75).
- B. Penetrant check (SOPM 20-20-02) -- Housing (93, 93B or 93A), retainer (93G), gear (55), housing or retainer (93) hub area.

4. Repair (Fig. 601 thru 604)

- A. Refinish -- Repair is only replacement of the original finish. Refer to Refinish instructions for details.
- B. Bearing Replacement -- Remove the old bearings (80, 91). Install replacement bearings with grease and roller swage them (SOPM 20-50-03).
- C. Gear Replacement -- Remove rivets (50) and remove the old gear (55) from housing assy (90 or 90A). With the holes in housing (93) or retainer (94G) as guides, drill three 0.1150-0.1350 inch diameter holes in the replacement gear. Install the replacement gear (55) and with new rivets (50) in the housing.

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- D. Retainer Replacement -- Remove the old retainer (94G) from housing (93A). Install a replacement retainer with grease and roller swage it (SOPM 20-50-03).

5. Assembly

- A. Use standard industry practices and these steps.
- B. Apply grease to the splines and threads of shaft (75) immediately before assembly. Install spacer (85) and bearing (80) with grease.
- C. Tighten nut (60) to 95-160 lb-in.

6. Fits and Clearances

- A. See Fig. 605.

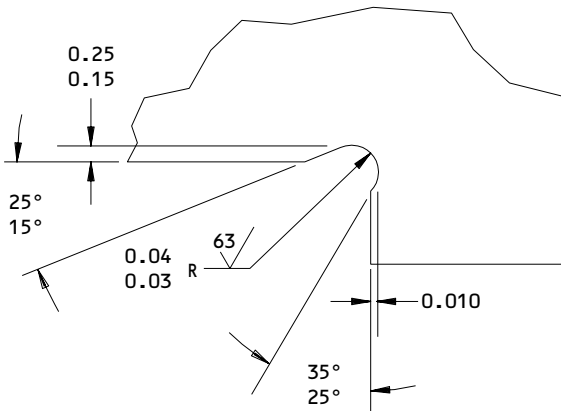
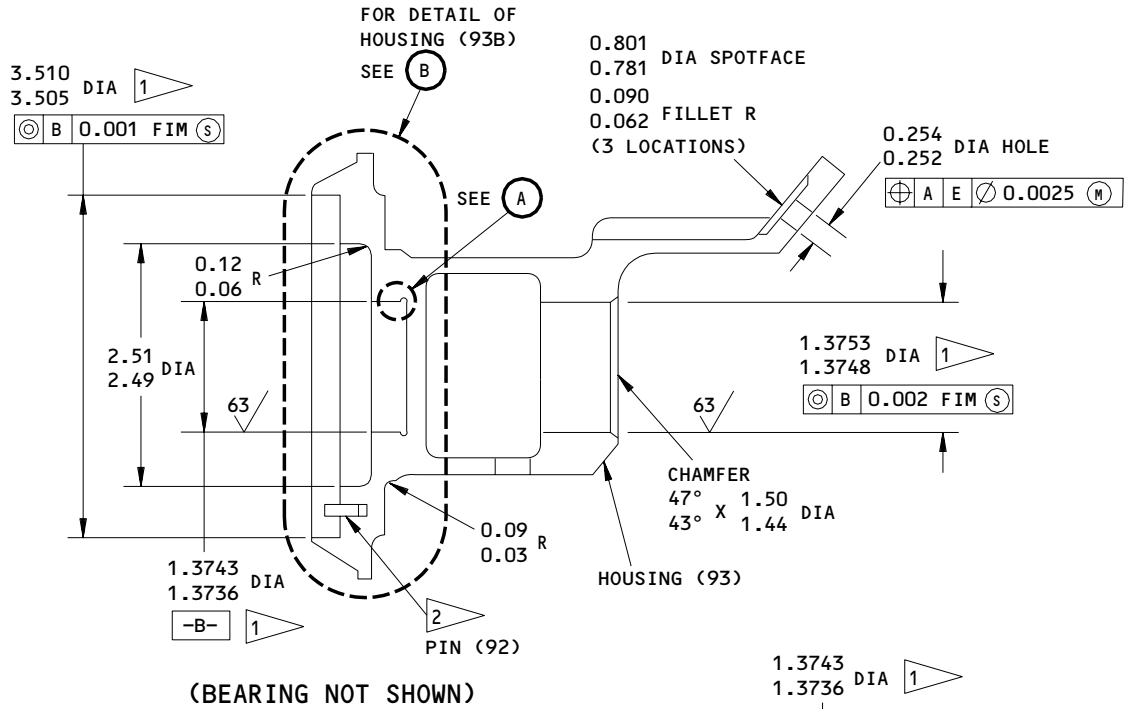
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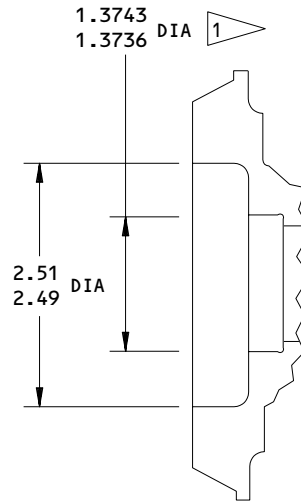
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(A)



(B)

257T4151-5

REFINISH

ANODIZE ALL OVER (F-17.05). APPLY
BMS 10-11, TYPE 1 PRIMER (F-20.02) AND
BMS 10-83, TYPE 2, ENAMEL (F-22.06-8924) 1

- 1 NO PRIMER OR ENAMEL ON THIS AREA
- 2 INSTALL PINS WITH BMS 5-95 SEALANT

REPAIR

125/ ALL MACHINED SURFACES UNLESS SHOWN
DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4151-1,-4
Housing Assembly Repair
Figure 601

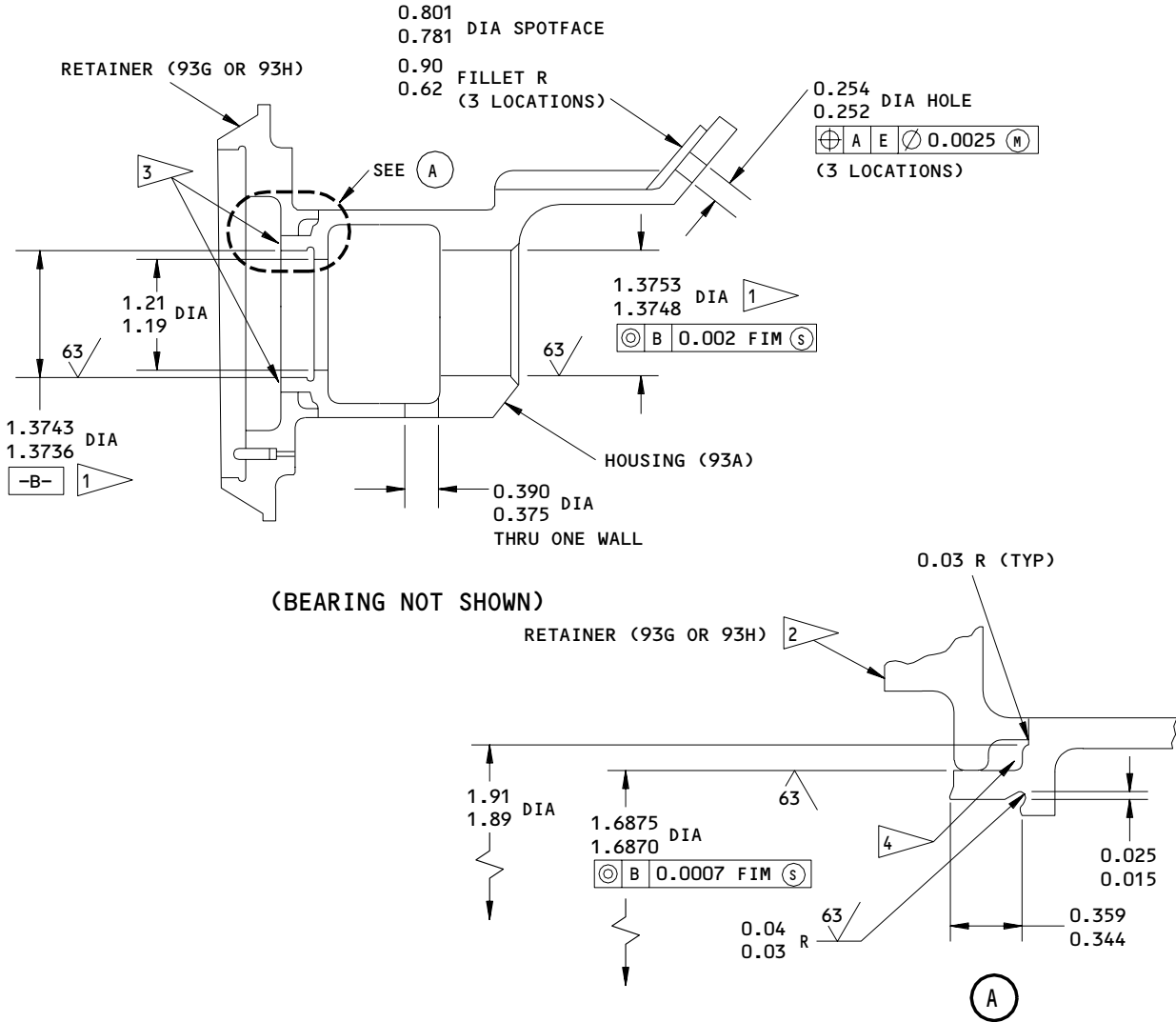
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REPAIR 1-1

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REFINISH

ANODIZE ALL OVER (F-17.05). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) AND BMS 10-83, TYPE 2 ENAMEL (F-22.06-8924) 1

- 1 NO PRIMER OR ENAMEL ON THIS SURFACE
- 2 INSTALL RETAINER WITH GREASE AND ROLLER SWAGE (SOPM 20-50-03)
- 3 PENETRANT EXAMINE HUB AREA AFTER BEARING AND RETAINER INSTALLATION
- 4 APPLY BMS 5-95 SEALANT TO THIS CAVITY BEFORE RETAINER INSTALLATION

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4163-1,-2
 Housing Assembly Repair and Refinish
 Figure 602

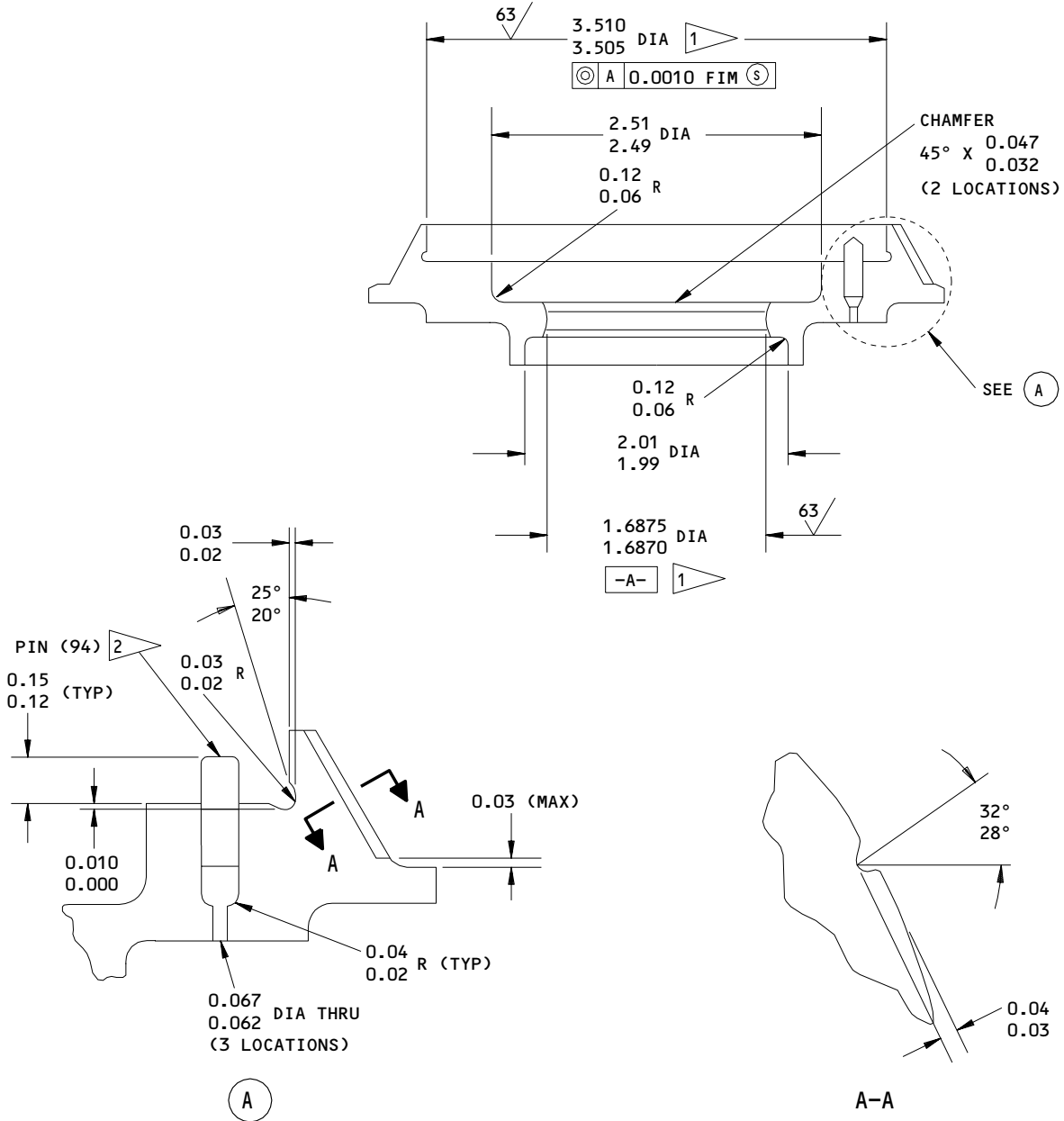
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REPAIR 1-1

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REFINISH

CHROMIC ACID ANODIZE ALL OVER.
BMS 10-11, TYPE 1, PRIMER (F-18.13)
UNLESS SHOWN BY 1

- 1 NO PRIMER ON THIS SURFACE
- 2 INSTALL PIN WITH BMS 5-95 WET SEALANT.
THIS PIN IS NOT USED WITH RETAINER (93G)

REPAIR

125/ ALL MACHINED SURFACES UNLESS SHOWN
DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4154-1,-2
Retainer Assembly Repair and Refinish
Figure 603

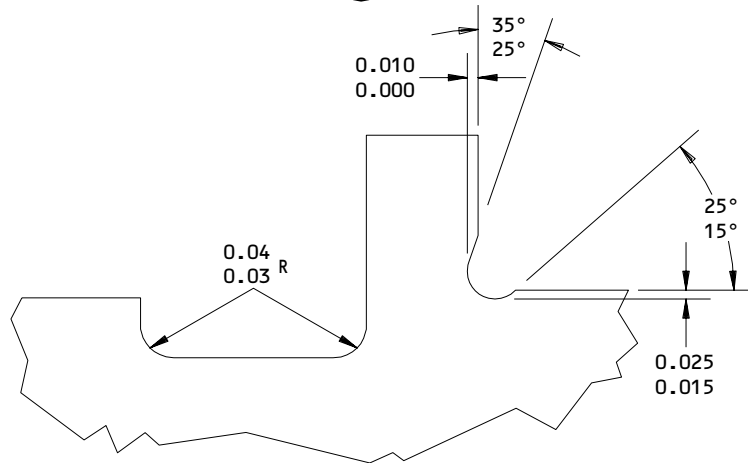
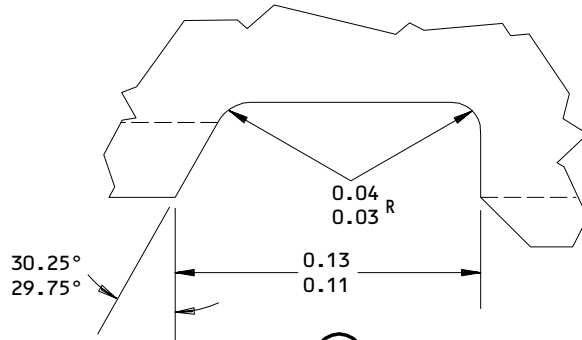
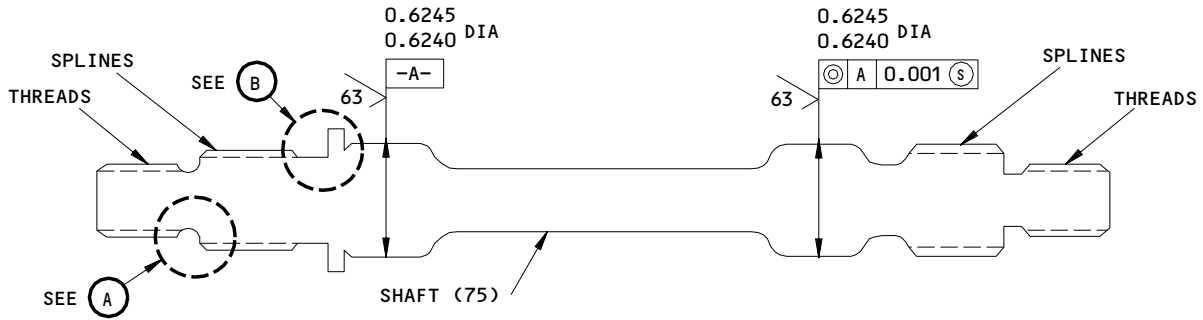
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REFINISH

CADMIUM PLATE
 (F-15.02)

REPAIR

(SAME AS REFINISH)

125 / ALL MACHINED SURFACES UNLESS SHOWN
 DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

MATERIAL: 4340 STEEL
 150-170 KSI

ALL DIMENSIONS ARE IN INCHES

257T4157-1
 Shaft Repair and Refinish
 Figure 604

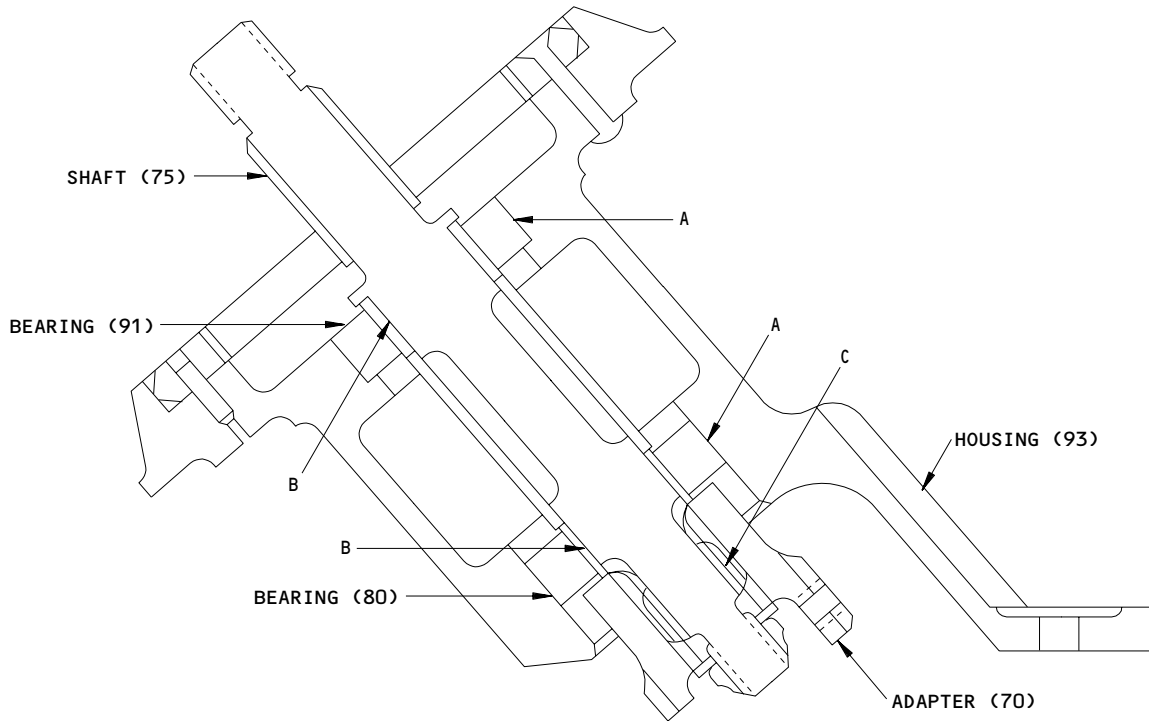
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Ref Letter Fig.605	Mating Item No. IPL Fig.1	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 93	1.3736	1.3743	-0.0014	-0.0002			
	OD 91	1.3745	1.3750	$\begin{matrix} \triangle \\ 1 \end{matrix}$	$\begin{matrix} \triangle \\ 1 \end{matrix}$			
B	ID 80, 91	0.6245	0.6250	0.0000	0.0010			
	OD 75	0.6240	0.6245					
C	ID 70	0.0982	0.1008	0.0000	0.0052			
	OD 75	0.0956	0.0982					

$\begin{matrix} \triangle \\ 1 \end{matrix}$ NEGATIVE VALUES ARE INTERFERENCE FIT
ALL DIMENSIONS ARE IN INCHES

ITEM NUMBERS REFER TO IPL FIG. 1

Fits and Clearances
Figure 605

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SHAFT ASSY – REPAIR 2-1

257T4117-1, -2

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. Refer to IPL Fig. 1 for item numbers.

1. Disassembly

A. Remove couplings (105 or 125) from fittings (100 or 120).

NOTE: Do not remove rivets (95 or 115) or separate fittings (100 or 120) from shaft (110 or 130) unless necessary for repair or replacement.

2. Cleaning

A. Special instructions not required. Use standard industry practices.

3. Check

A. Magnetic particle check per 20-20-01 -- Coupling (105 or 125).

B. Penetrant check per 20-20-02 -- Shaft (110 or 130).

4. Repair

A. Fittings and shaft replacement

(1) Remove rivets (95 or 115) and separate fittings (100 or 120) from shaft (110 or 130).

(2) Assemble replacement parts as shown in Fig. 601. Drill 0.1463-0.1663 diameter holes in replacement parts as shown.

(3) Separate fittings from shaft and deburr holes. Reassemble parts with wet BMS 5-95 sealant.

5. Assembly

A. Install couplings (105 or 125) in fittings (100 or 120) and shaft (110 or 130).

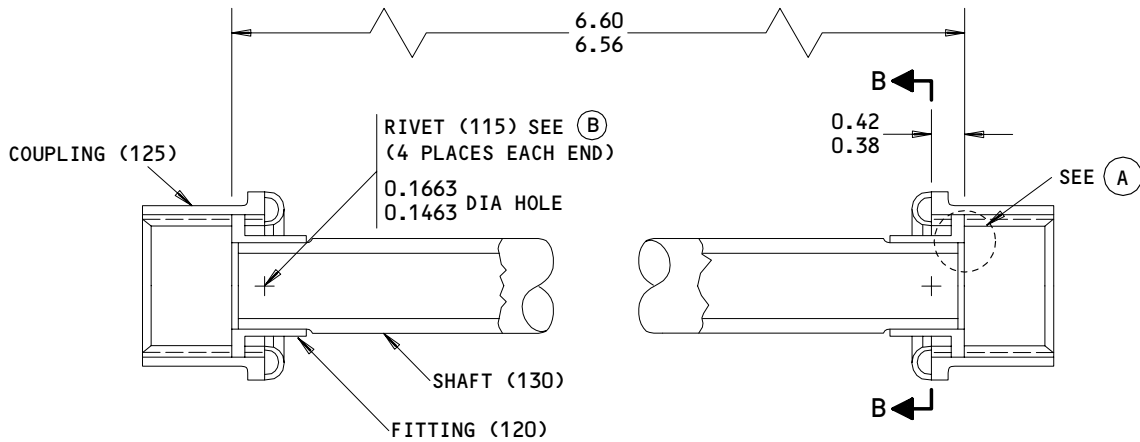
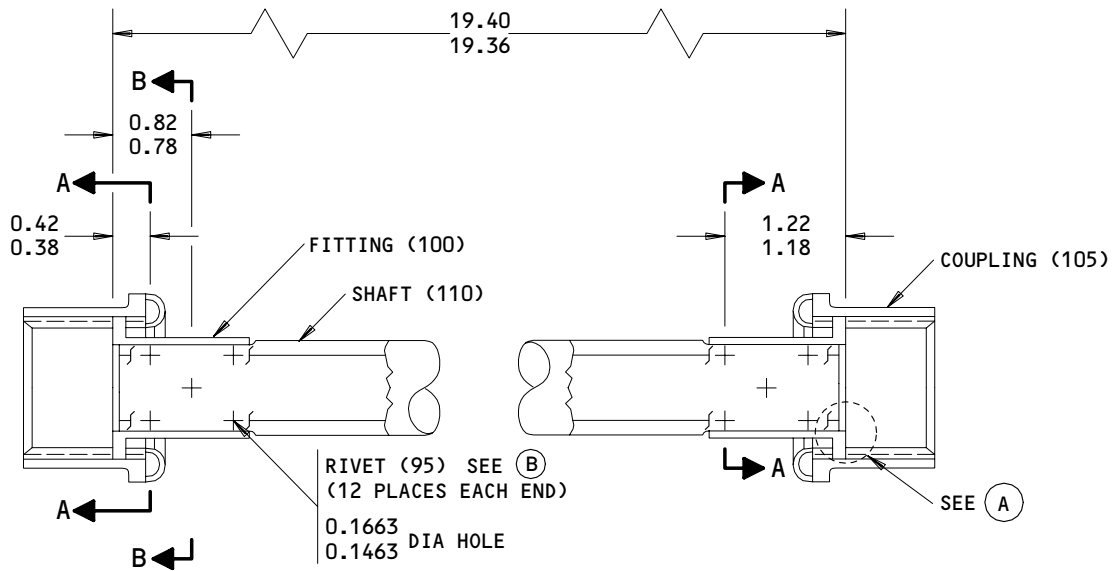
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ALL DIMENSIONS ARE IN INCHES

257T4117-1,-2

Shaft Assembly Repair
 Figure 601 (Sheet 1)

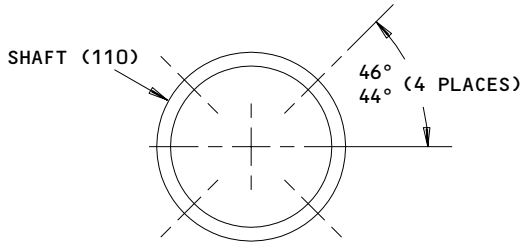
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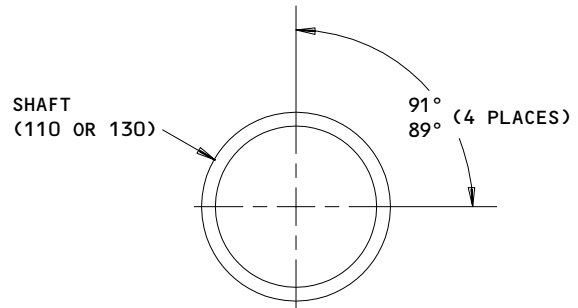
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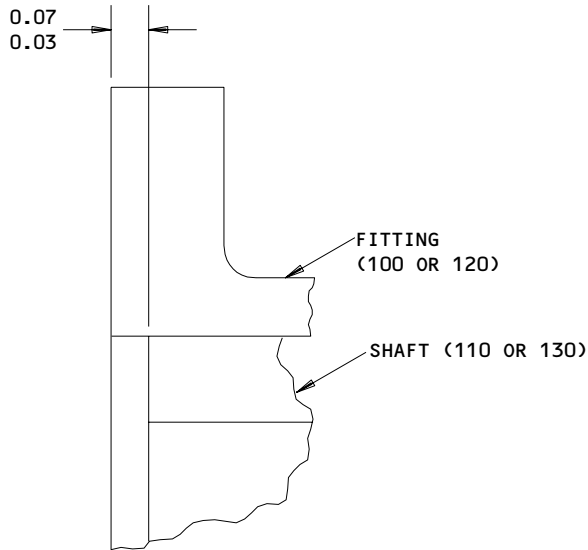
NOTE: COUPLING (105) AND FITTING (100) ARE OMITTED FOR CLARITY

A-A

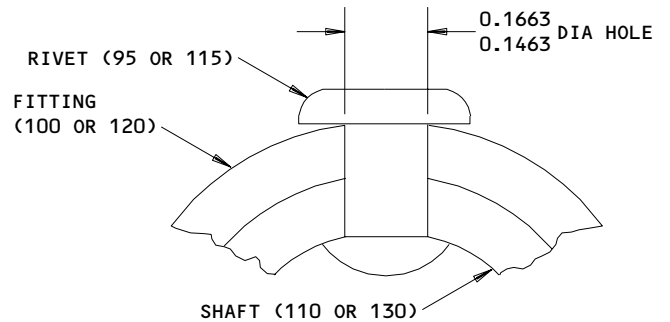


NOTE: COUPLING (105 OR 125) AND FITTING (100 OR 120) ARE OMITTED FOR CLARITY

B-B



A



B

257T4117-1,-2

Shaft Assembly Repair
Figure 601 (Sheet 2)

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REPAIR 2-1

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TILLER ASSY - REPAIR 3-1

257T4119-4

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. Refer to IPL Fig. 1 for item numbers.

1. Disassembly

A. Disassemble using standard industry practices.

2. Cleaning

A. Special instructions not required. Use standard industry practices.

3. Check

A. Penetrant check per 20-20-02 -- Handle (195A) and insert (170).

4. Repair

A. Knob Assy Bushing Replacement -- Remove existing bushings and install replacement bushings per 20-50-03.

B. Refinish -- Repair consists of restoration of original finish.

(1) Insert (170) -- Apply one coat of BMS 10-11, type 1 primer (F-18.05). Apply BMS 10-83 type 11 tan brown enamel (F-22.06-8924).
Material: Al alloy.

(2) Handle (195A) -- Chromic acid anodize (F-17.04). Apply one coat BMS 10-11 type 1 primer (F-20.02) and apply one coat BMS 10-83 type 11 tan brown enamel (F-22.06-8924), except omit primer and enamel from splines. Material: Al alloy.

5. Assembly

A. Assemble using standard industry practices.

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COVER - REPAIR 4-1

257T4164-1

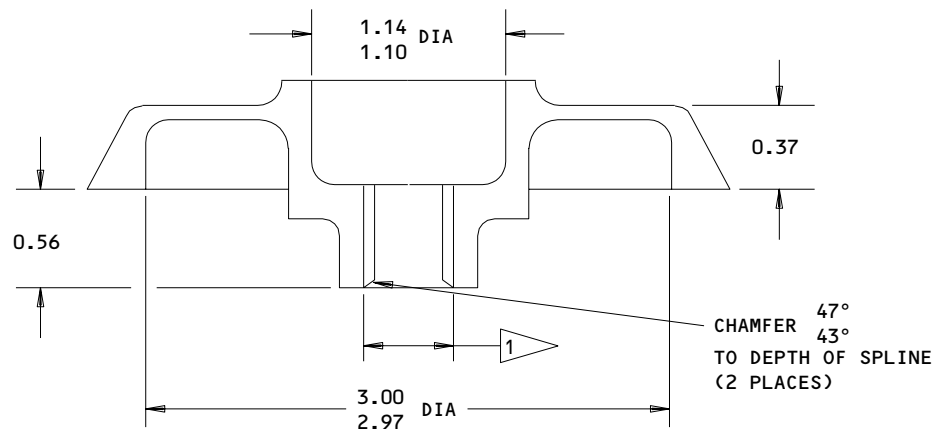
NOTE: Refer to REPAIR-GEN for list of applicable standard practices.

1. Cleaning


A. Special instructions not required. Use standard industry practices.

2. Repair

A. Refinish -- Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601.




REFINISH

CHROMIC ACID ANODIZE AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-18.13), FOLLOWED BY BMS 10-83 TYPE II, ENAMEL (F-22.06-8924) EXCEPT AS NOTED 

MATERIALS: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

 OMIT PRIMER

Cover Repair
Figure 601

59683

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REPAIR 4-1

01.1

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INDICATOR ASSY – REPAIR 5-1

257T4165-1
257T4153-1

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 2 for item numbers.

1. Disassembly

- A. Remove rivets (8) from retainer assy (15) and inner ring (10).
- B. Separate retainer assy (15) and inner ring (10).
- C. Remove bushings (20) from retainer (30).

NOTE: Do not remove pin (25) unless necessary for repair or replacement

2. Cleaning

- A. Special instructions are not required. Use standard industry practices and the data in 20-30-03.

3. Check

- A. Examine all parts for defects with standard industry practices.
- B. Do a penetrant check per 20-20-02 on retainer (30).

4. Repair (Fig. 601)

- A. Refinish -- Repair is only replacement of the original finish. Refer to Refinish instructions for details.
- B. Bushing Replacement -- Remove existing bushings (20). Install replacement bushings with BMS 5-95 wet sealant per 20-50-03.

5. Assembly

- A. Use standard industry practices.

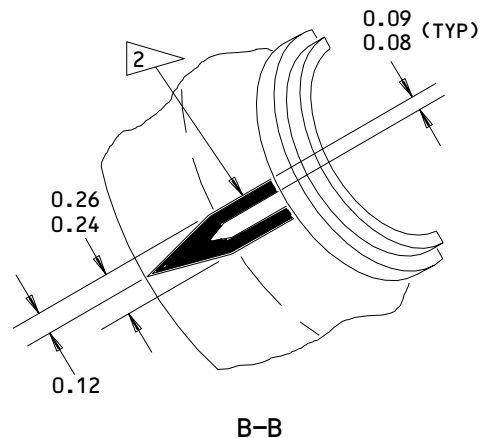
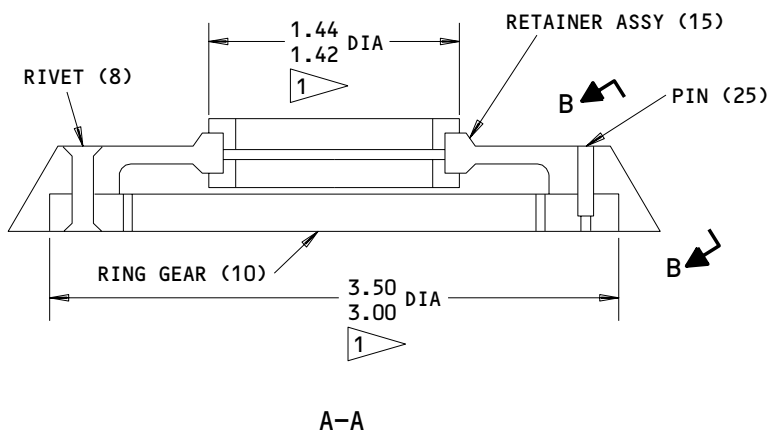
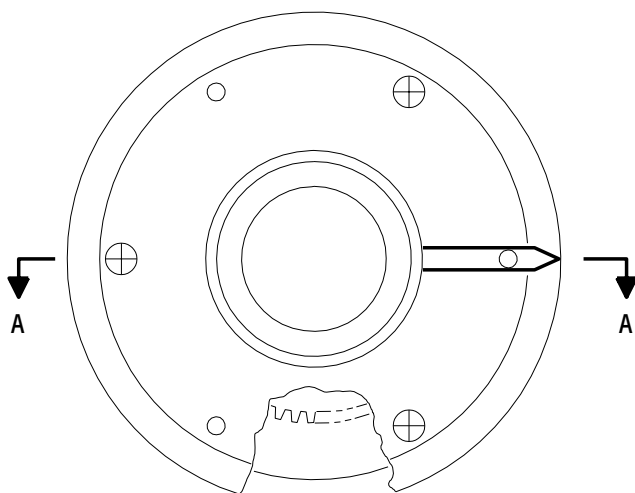
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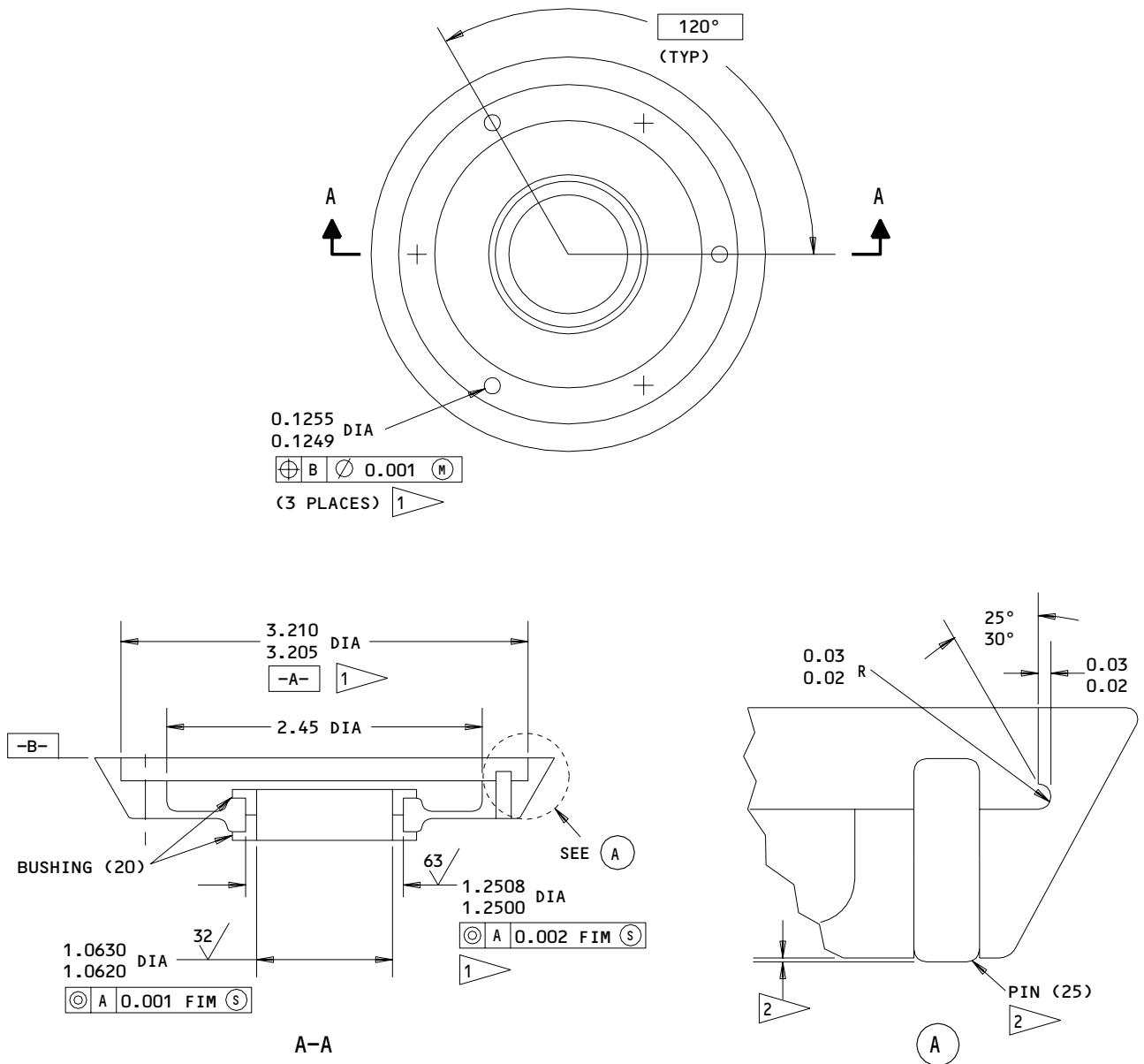
REFINISH

APPLY BMS 10-83, TYPE II, ENAMEL
 (F-22.06-8924) EXCEPT AS NOTED

ALL DIMENSIONS ARE IN INCHES

- 1 OMIT ENAMEL ON THIS SURFACE
- 2 PAINT SHADED AREA WITH BMS 10-83,
 TYPE II, ENAMEL (F-22.06-702)

257T4165-1
 Indicator Assembly Repair
 Figure 601 (Sheet 1)



REFINISH

CHROMIC ACID ANODIZE ALL OVER. APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-18.13) EXCEPT AS NOTED

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

- 1 OMIT PRIMER ON THIS SURFACE
- 2 INSTALL PINS WITH WET BMS 5-95 SEALANT AND FLUSH WITH INDICATED SURFACE WITHIN ±0.005

257T4153-1
Indicator Assy Repair
Figure 601 (Sheet 2)

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REPAIR 5-1

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LINK - REPAIR 6-1

257T4155-1

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

1. Cleaning

A. Special instructions not required. Use standard industry practices.

2. Repair

A. Refinish -- Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601.

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QUADRANT ASSY – REPAIR 7-1

257T4169-1

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. Refer to IPL Fig. 1 for item numbers.

1. Disassembly

A. Special instructions are not necessary. Use standard industry practices.

2. Cleaning

A. Special instructions are not necessary. Use standard industry practices and the data in 20-30-03.

3. Check

A. Examine all parts for defects by standard industry practices.

B. Penetrant check (SOPM 20-20-02) -- housing (255), quadrant (230).

C. Magnetic particle check (SOPM 20-20-01) -- shaft (225).

4. Repair

A. Refinish:

(1) Housing (255) -- Fig. 601

(2) Shaft (225) -- Fig. 602

(3) Quadrant (230) -- Anodize (F-17.05) and apply BMS 10-11, type 1 primer (F-20.03).

B. Bearing Replacement -- Remove the old bearing (235, 250). Install and roller swage replacement bearings with grease (SOPM 20-50-03).

C. Bushing Replacement -- Remove the old bushing (240). Install a replacement bushing with grease (SOPM 20-50-03).

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REPAIR 7-1

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5. Assembly (IPL Fig. 1)

A. Materials

NOTE: Equivalent substitutes can be used.

- (1) Grease -- BMS 3-24 (Ref 20-60-03).

B. Lubrication

- (1) Apply grease on shafts (225) threads, splines and bearing seats before assembly.
- (2) Apply grease on guard pins (210) shanks and threads before assembly.

C. Assembly

- (1) Install bushing (235), bearing (240) on housing assy (245) per 20-50-03. Install shaft (225) on housing assy.
- (2) Install quadrant (230), washer (220), and nut (215) on shaft (225). Tighten nut to 180-200 lb-in.
- (3) Install guard pins (210) on housing assy (245). Install washers (205), nuts (200) on guard pin. Tighten nut.

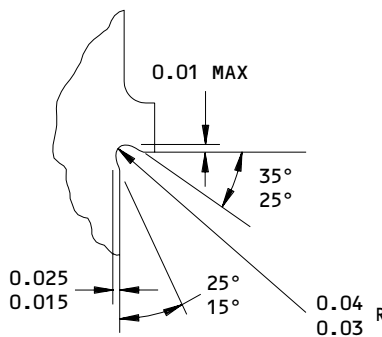
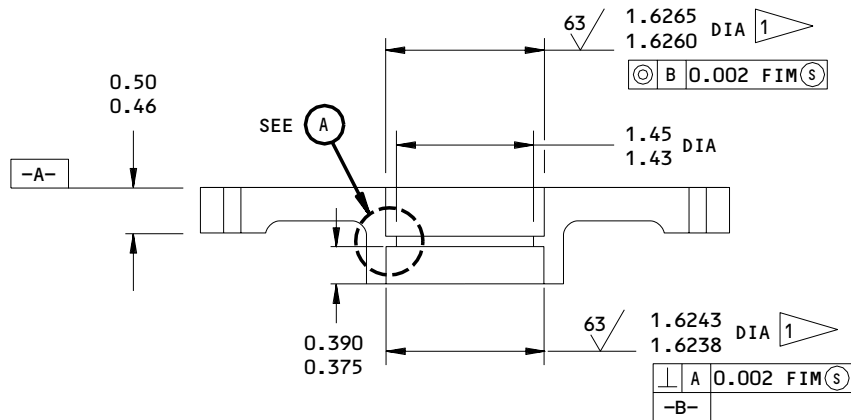
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(A)

REFINISH

ANODIZE (F-17.05) ALL OVER.
APPLY BMS 10-11, TYPE 1 PRIMER
(F-20.02) BUT NOT ON SURFACES
SHOWN BY 

 NO PRIMER ON THIS SURFACE

REPAIR

(SAME AS REFINISH)

125/ ALL MACHINED SURFACES UNLESS SHOWN
DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4128-4
Housing Repair and Refinish
Figure 601

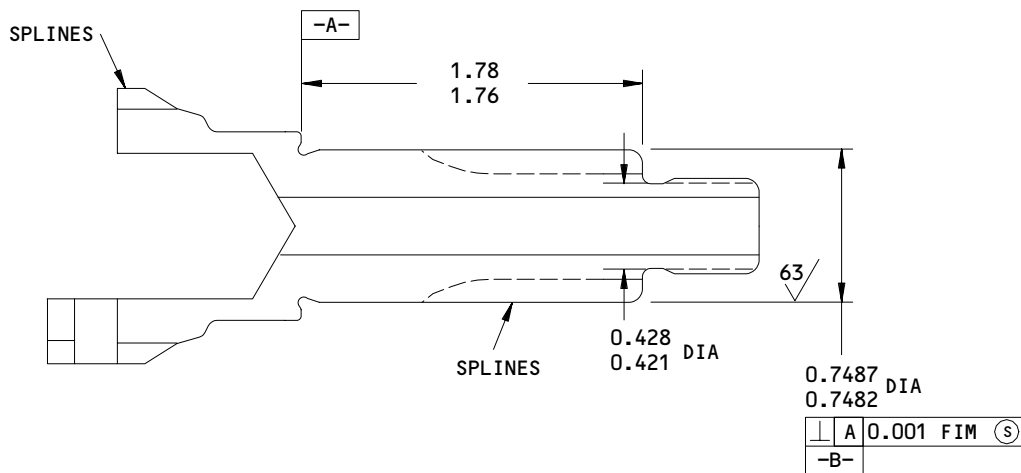
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REPAIR 7-1

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REFINISH

CADIMUM PLATE (F-15.02)

REPAIR

(SAME AS REFINISH)

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: 4340 STEEL, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

257T4168-2
 Shaft Repair and Refinish
 Figure 602

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MISCELLANEOUS PARTS REFINISH – REPAIR 8-1

1. Repair of these parts is only replacement of the original finish. Refer to REPAIR-GENERAL for a list of applicable standard practices.

IPL FIG. & ITEM	MATERIAL	FINISH
<u>FIG. 1A</u> Bushing (5)	15-5 PH 150-170 Ksi	Passivate (F-17.25 which replaces F-17.09)
Gear (6)	Acetal resin	Apply no finish

Refinish Details
Figure 601

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REPAIR 8-1

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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.

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ILLUSTRATED PARTS LIST

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VENDORS

08524 DUETSCH FASTENER CORP
DIVISION OF DUETSCH CORP
P.O. BOX 92925
LOS ANGELES, CALIFORNIA 90009

11815 TOWNSEND DIV OF TEXTRON INC.
CHERRY FASTENER UNIT
PO BOX 2157 1224 EAST WARNER AVE.
SANTA ANA, CALIFORNIA 92707

15653 KAYNAR MFG COMPANY INC KAYLOCK DIV
PO BOX 3001 800 SOUTH STATE COLLEGE BLVD
FULLERTON, CALIFORNIA 92634

21335 TEXTRON INC FAFNIR BEARING DIVISION
37 BOOTH STREET
NEW BRITAIN, CONNECTICUT 06050

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

30163 DAYRON CORP
333 MAGUIRE BLVD P.O. BOX 20394
ORLANDO, FLORIDA 32914

38443 TRW INC BEARING DIV
402 CHANDLER STREET
JAMESTOWN, NEW YORK 14701

43991 FAG BEARING INCORPORATED
HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

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

56878 SPS TECHNOLOGIES INC
HIGHLAND AVE
JENKINTOWN, PENNSYLVANIA 19046

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VENDORS

70265 ALL POWER MANUFACTURING COMPANY
13141 MOLETTE STREET
SANTE FE SPRINGS, CALIFORNIA 90670

71087 CHERRY FASTENERS TOWNSEND
DIV OF TEXTRON INC
1224 E WARNER ST. P.O. BOX 2157
SANTA ANA, CALIFORNIA 92707

72962 AMERACE CORP ESNA DIV
2330 VAUXHALL ROAD
UNION, NEW JERSEY 07083

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

90255 DAHLSTROM INDUSTRIES INC
9508 WINONA AVENUE
SCHILLER PARK, ILLINOIS 60176

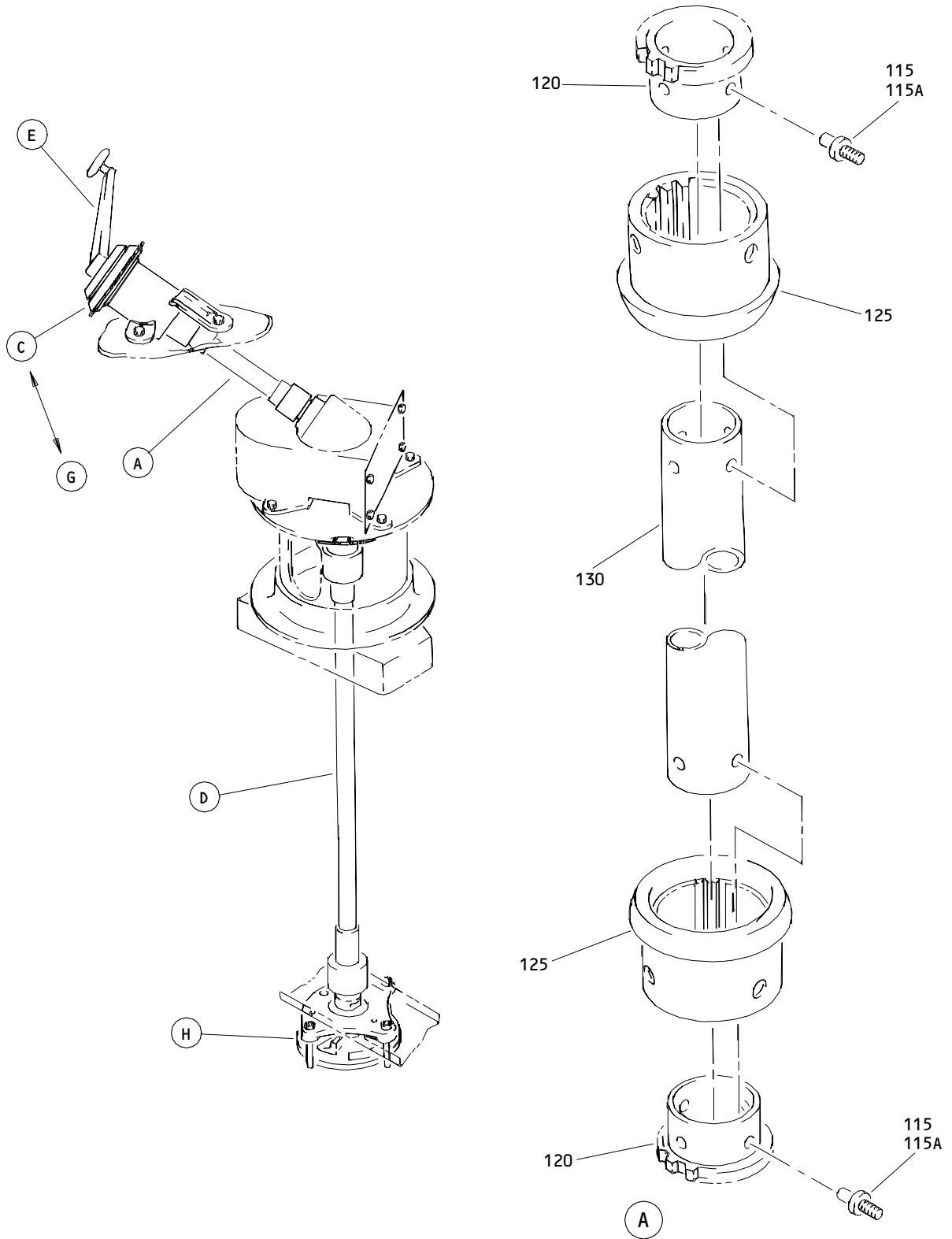
92215 VOI-SHAN DIV OF VSI CORP
8463 HIGUERA STREET
CULVER CITY, CALIFORNIA 90230

94892 MASTER MACHINE PRODUCTS CORP
2069 RANDOLPH
HUNTINGTON PARK, CALIFORNIA 90255

97820 SHAMBAN W S AND CO
711 MITCHELL ROAD
NEWBURY PARK, CALIFORNIA 91320

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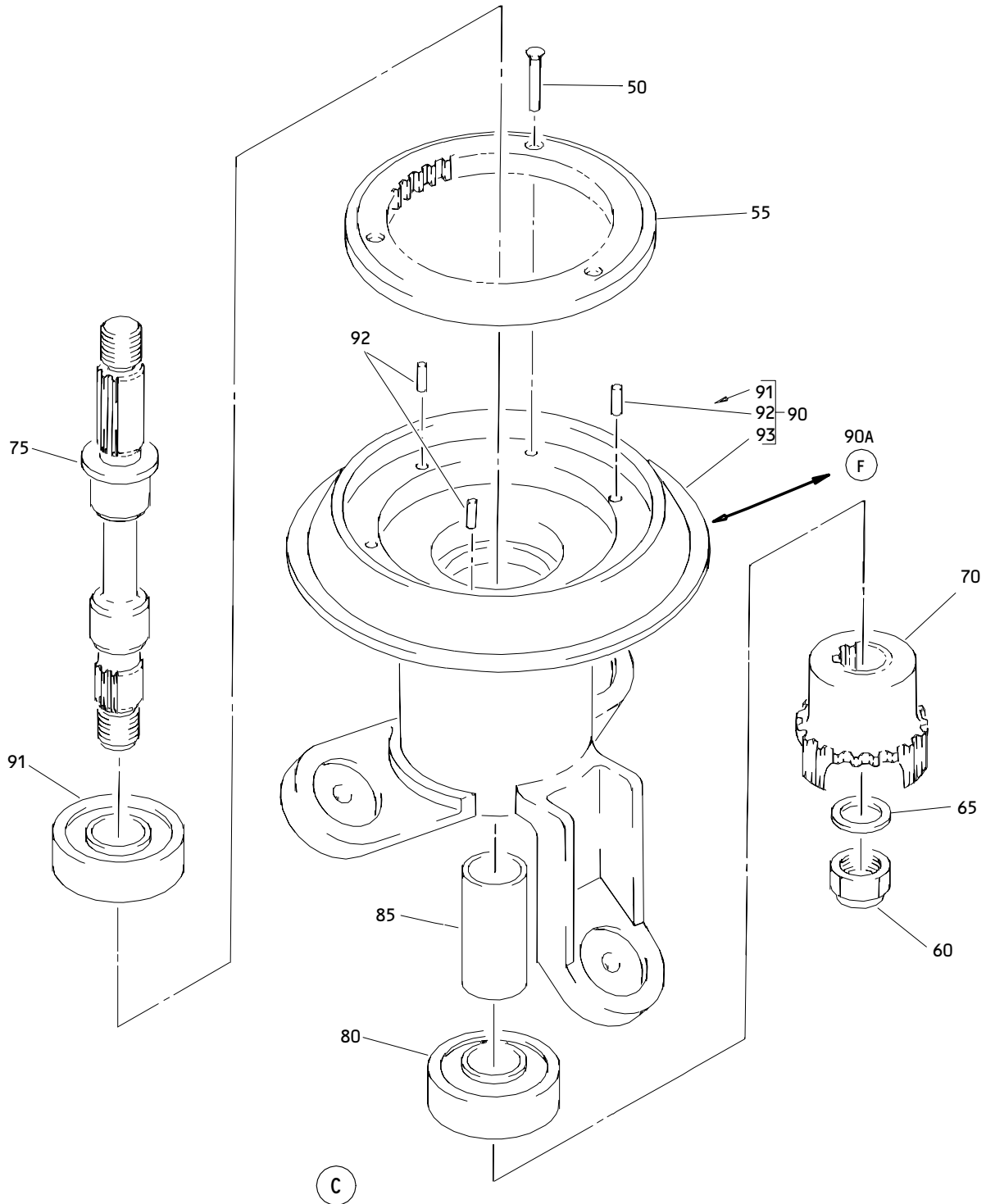
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Nose Wheel Steering Installation Components
Figure 1 (Sheet 1)

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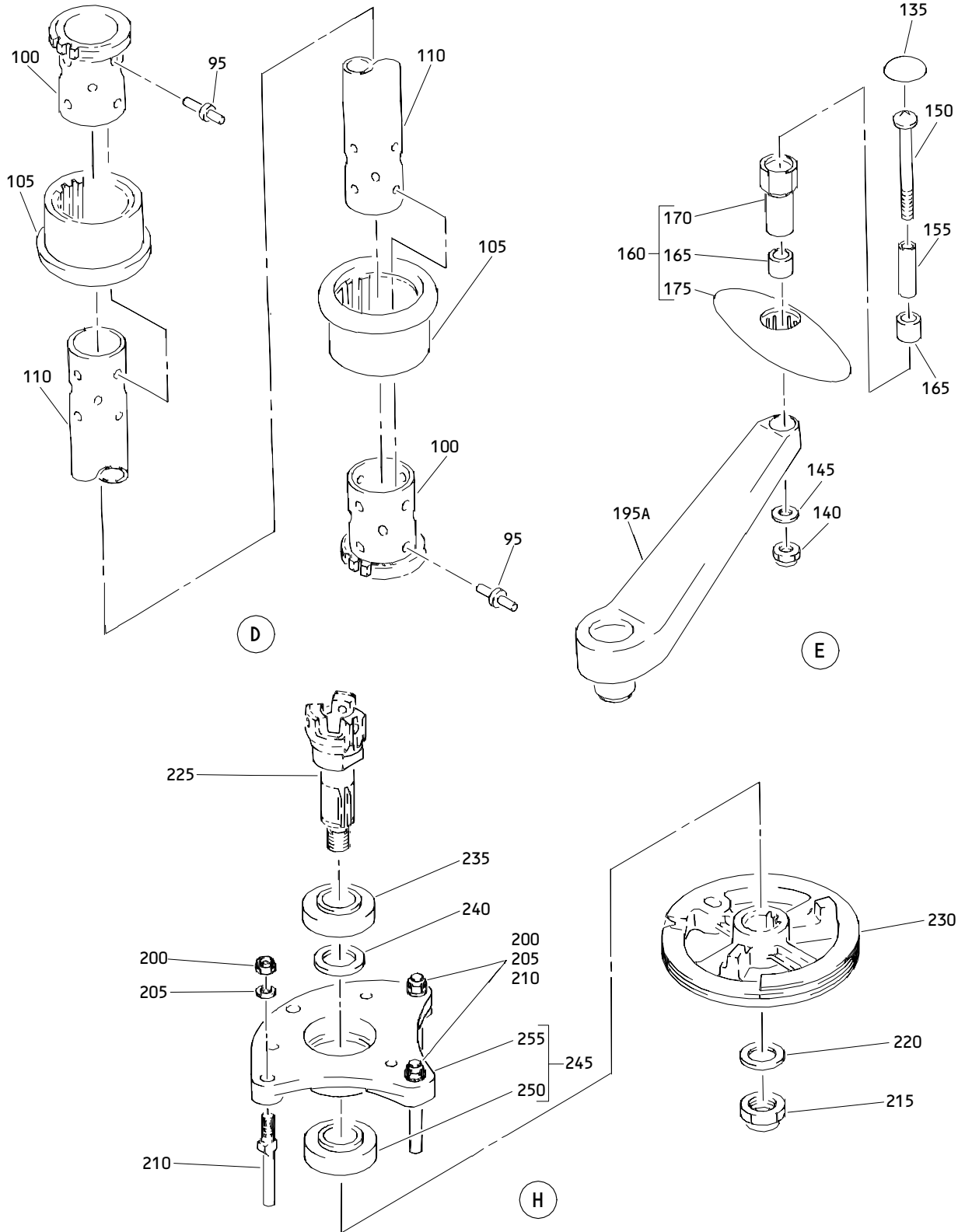
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Nose Wheel Steering Installation Components
Figure 1 (Sheet 2)

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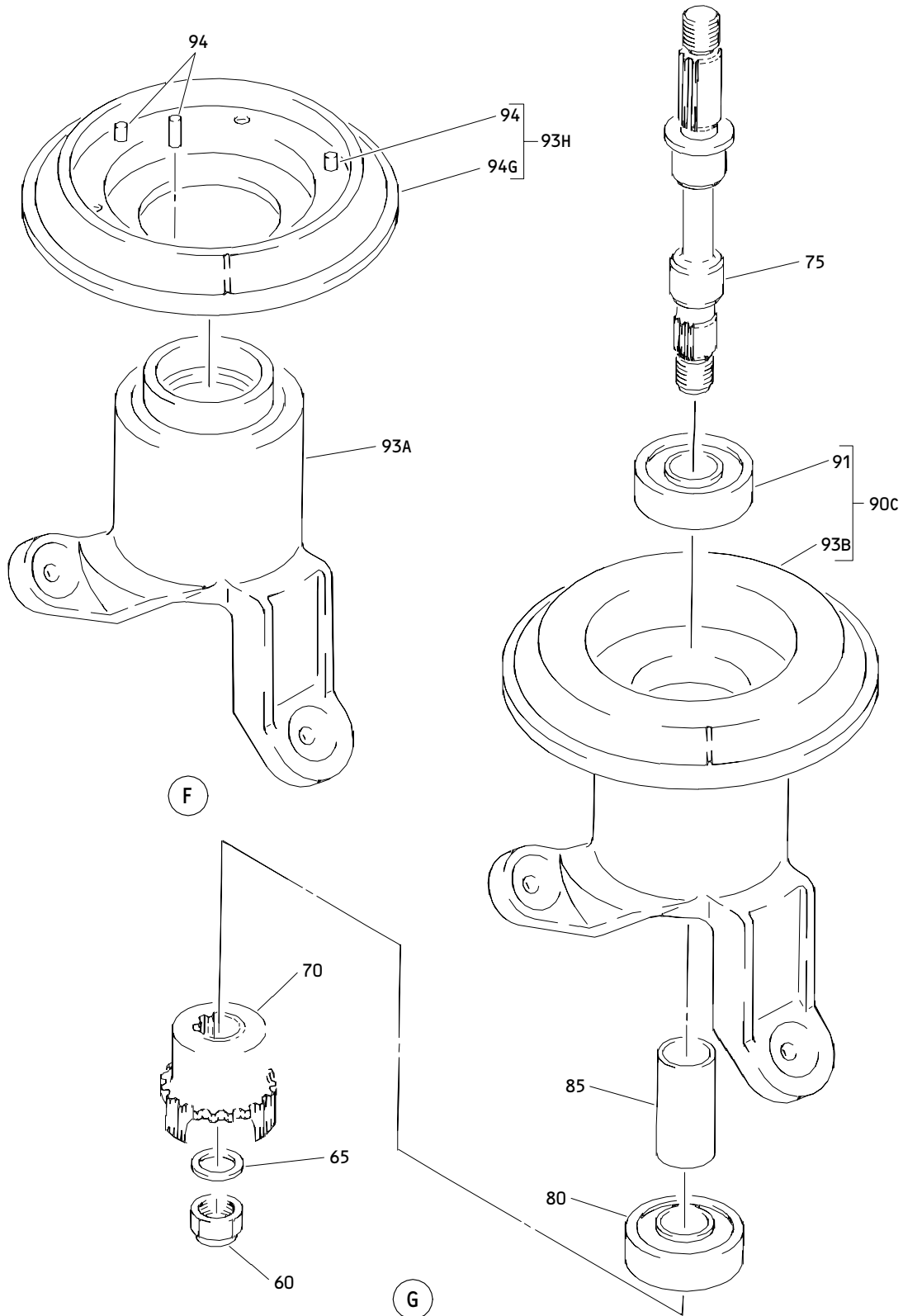
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Nose Wheel Steering Installation Components
Figure 1 (Sheet 3)

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Nose Wheel Steering Installation Components
 Figure 1 (Sheet 4)

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-	257T4115-1		DELETED		
-1A	257T4115-1		DELETED		
-1D	257T4115-1		DELETED		
			NOSE WHL STEERING INSTL COMPONENTS		
-2	257T4162-1		SHAFT ASSY-NOSE WHL STEERING UPR BRG HSG AND TILLER	B	RF
-2A	275T4162-2		SHAFT ASSY-NOSE WHL STEERING UPR BRG HSG AND TILLER	A	RF
-3	257T4117-1		SHAFT ASSY-NOSE WHL STEERING	C	RF
-4	257T4117-2		SHAFT ASSY-NOSE WHL STEERING	D	RF
-5	257T4119-1		DELETED		
-5A	257T4119-4		TILLER ASSY-NOSE WHL STEERING HANDLE	E	RF
-6	257T4119-3		DELETED		
-7	257T4144-1		DELETED		
-8	257T4169-1		QUADRANT ASSY	H	RF
9	BRH10-6		DELETED		
10	AN960PD616		DELETED		
15	257T4143-1		DELETED		
20	257T4131-1		DELETED		
25	KP10A		DELETED		
30	NAS43DD10-129		DELETED		
35	257T4127-1		DELETED		
40	KP10A		DELETED		
45	257T4127-2		DELETED		
50	BACR15BA4AD		.RIVET- (SIZE DETERMINE ON INST)	B	3

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-55	257T4161-1		.GEAR-OUTER RING	B	1
60	BRH10-6		.NUT (V52828) (SPEC BACN10JC6) (OPT H10-6BAC (V15653)) (OPT RMLH9075-6 (V72962)) (OPT 96-064 (V80539))	AB	1
65	AN960PD616		.WASHER	AB	1
70	257T4143-1		.ADAPTER	AB	1
75	257T4157-1		.SHAFT	AB	1
80	KP10A		.BEARING- (V38443) (SPEC BACB10BX10) (OPT KP10AFS428 (V21335)) (OPT KP10A2TS (V43991)) (OPT LLKP10A (V38443)) (OPT KP10AG27 (V30163))	AB	1
85	NAS43HT10-95		.SPACER	AB	1
90	257T4151-1		.HOUSING ASSY (OPT ITEM 90A)	B	1
90A	257T4163-1		.HOUSING ASSY- (OPT ITEM 90)	B	1
-90B	257T4163-2		.HOUSING ASSY- (OPT ITEM 90C)	A	1
90C	257T4151-4		.HOUSING ASSY- (OPT ITEM 90B)	A	1
91	KP10A		..BEARING- (V38443) (SPEC BACB10BX10) (REFER TO ITEM 75 FOR OPTIONAL PARTS)	AB	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-92	NAS607-2-3P		..PIN (USED ON ITEM 90)	B	3
93	257T4151-2		..HOUSING (USED ON ITEM 90)	B	1
93A	257T4163-3		..HOUSING- (USED ON ITEMS 90A,90B)	AB	1
93B	257T4151-5		..HOUSING- (USED ON ITEM 90C)	A	1
-93G	257T4154-2		..RETAINER- (USED ON ITEM 90B)	A	1
93H	257T4154-1		..RETAINER ASSY- (USED ON ITEM 90A)	B	1
94	NAS607-2-3P		...PIN-DOWEL	B	3
94G	257T4154-2		...RETAINER	B	1
95	NAS1398MW5-4		.RIVET- (OPT ITEM 95A)	C	24
-95A	NAS1398MW5A4		.RIVET- (OPT ITEM 95)	C	24
100	257T4133-1		.FITTING-END	C	2
105	257T4134-1		.COUPLING	C	2
110	257T4132-1		.SHAFT-TORQUE	C	1
115	NAS1398MW5-4		.RIVET- (OPT ITEM 115A)	D	8
115A	NAS1398MW5A4		.RIVET- (OPT ITEM 115)	D	8
120	257T4133-2		.FITTING-END	D	2
125	257T4134-1		.COUPLING	D	2
130	257T4132-2		.SHAFT-TORQUE	D	1
135	257T4119-2		.BUTTON-PLUG	E	1
140	BRH10-4		.NUT- (V52828) (SPEC BACN10JC4) (OPT H10-4BAC (V15653)) (OPT NS202101-048 (V80539)) (OPT RMLH9075-4W (V72962)) (OPT T6S428J (V71087)) (OPT VN303A048 (V92215)) (OPT 96-048 (V80539))	E	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
145	AN96OPD416		.WASHER	E	1
150	NAS623-4-25		.SCREW	E	1
155	BACB28Y4C107		.BUSHING- (V23294) (SPEC BACB28Y4C107) (V70265, V94892)	E	1
160	69B81297-7		.KNOB ASSY	E	1
165	S037-2A		..BUSHING- (V97820)	E	2
170	69B81297-9		..INSERT	E	1
175	69B81297-8		..KNOB	E	1
180	257T4130-1		DELETED		
185	NAS607-2-3P		DELETED		
190	257T4130-2		DELETED		
195	287T4156-1		DELETED		
195A	257T4167-1		.HANDLE-TILLER	E	1
200	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))	H	3

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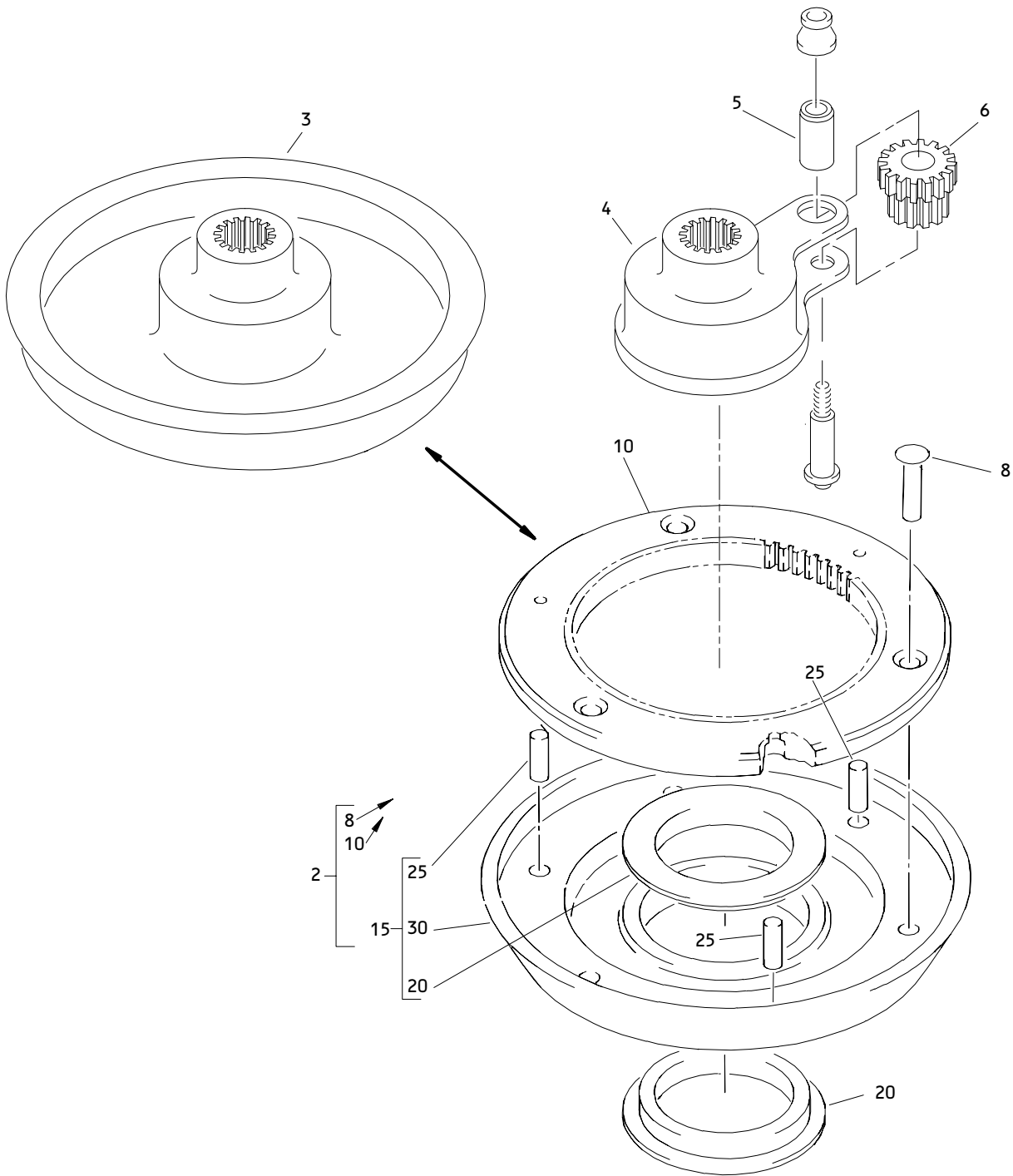
FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
205	AN960PD416		.WASHER	H	3
210	69B82871-2		.PIN	H	3
215	H10-8BAC		.NUT-	H	1
			(V15653)		
			(SPEC BACN10JC8)		
			(OPT BMN4122A8		
			(V85495))		
			(OPT RMLH9074-8		
			(V72962))		
			(OPT 48FT820		
			(V56878))		
			(OPT BMN4122AD3-8		
			(V08524))		
220	AN960PD816		.WASHER	H	1
225	257T4168-2		.SHAFT	H	1
230	257T4102-3		.QUADRANT	H	1
235	KP12A		.BEARING-	H	1
			(V38443)		
			(SPEC BACB10BX12)		
			(OPT KP12AFS428		
			(V21335))		
			(OPT KP12A2TS		
			(V43991))		
			(OPT LLKP12A		
			(V38443))		
			(OPT KP12AG27		
			(V30163))		
240	BACB28AK12-018		.BUSHING-	H	1
			(V23294)		
			(SPEC BACB28AK12-018)		
			(OPT BACB28AK12-018		
			(V70265))		
			(OPT BACB28AK12-018		
			(V94892))		
245	257T4128-1		.HOUSING ASSY	H	1
250	KP12A		..BEARING-	H	1
			(V38443)		
			(SPEC BACB10BX12)		
			(SEE ITEM 235 FOR OPT.)		

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE	EFF CODE	QTY PER ASSY
01- 255	257T4128-4		1234567 ..HOUSING	H	1

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Nose Wheel Steering Installation Components
 Figure 1A

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01A-			NOSE WHL STEERING INSTL COMPONENTS		
-2	257T4165-1		INDICATOR ASSY-NOSE WHL STEERING NLG POSTION	A	RF
3	257T4164-1		257T4165 PL NEW COVER-NOSE WHL STEERING UPR BRG HSG	B	RF
4	257T4155-1		LINK-NOSE WHL STEERING NLG POSITION IND CARRIER	C	RF
5	257T4158-1		BUSHING-NOSE WHL STEERING CLAMP UP	D	RF
6	257T4159-1		GEAR-NOSE WHL STEERING COMPOUND PLANET	E	RF
8	BACR15BA4AD		.RIVET- (SIZE DETERMINE ON INST)	A	3
10	257T4160-1		.GEAR-INNER RING	A	1
15	257T4153-1		.RETAINER ASSY	A	1
20	BACB28W17B010		..BUSHING	A	2
25	NAS607-2-3P		..PIN-DOWEL	A	3
30	257T4153-2		..RETAINER	A	1

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