TO: ALL HOLDERS OF NOSE LANDING GEAR COMPONENT ASSEMBLY COMPONENT MAINTENANCE MANUAL 32-21-47

REVISION NO. 44 DATED NOV 01/05

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
701-702,706	Added clarifications and updated callouts.
707-709	Added more stencil data.

NOSE LANDING GEAR COMPONENT ASSEMBLY

PART NUMBERS 162T1136-001 THRU -014,-017 THRU -022,-030,-033, -035,-038,-040 THRU -044,-068 THRU -070, -072 THRU -075,-080, -081

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

182348

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
32-0073		PRR B11850	JUL 01/89
32-0079		PRR B11835	OCT 01/89
		PRR B11970	JAN 01/90
		PRR B12042	OCT 01/90
		MC3245MP6022	JAN 01/91
		MC3245MP6016	JAN 01/91
		PRR B12618	MAR 01/95
32-0131		PRR B12618K	MAR 01/95
	32-52		MAR 01/95
32-0073, Rev 1		PRR B11850	SEP 01/95

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BOEING
COMPONENT
MAINTENANCE MANUAL

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:

Testing/TS	Oct 26, 1986
Disassembly	Oct 26, 1986
Assembly	Oct 26, 1986

NOSE LANDING GEAR COMPONENT ASSEMBLY

DESCRIPTION AND OPERATION

1. The nose landing gear component assembly comprises primary components of the nose landing gear; the shock strut, upper and lower torsion links, steering actuator fittings, and trunnion mounting components. The assembly supports the nose of the airplane while on the ground, absorbs landing and taxiing shocks and steers the airplane while taxiing.

   A. The torsion links maintain radial alignment of the shock strut inner cylinder and the steering collar.

   B. The steering actuator fittings secure the rod end of the steering actuators to the steering collar.

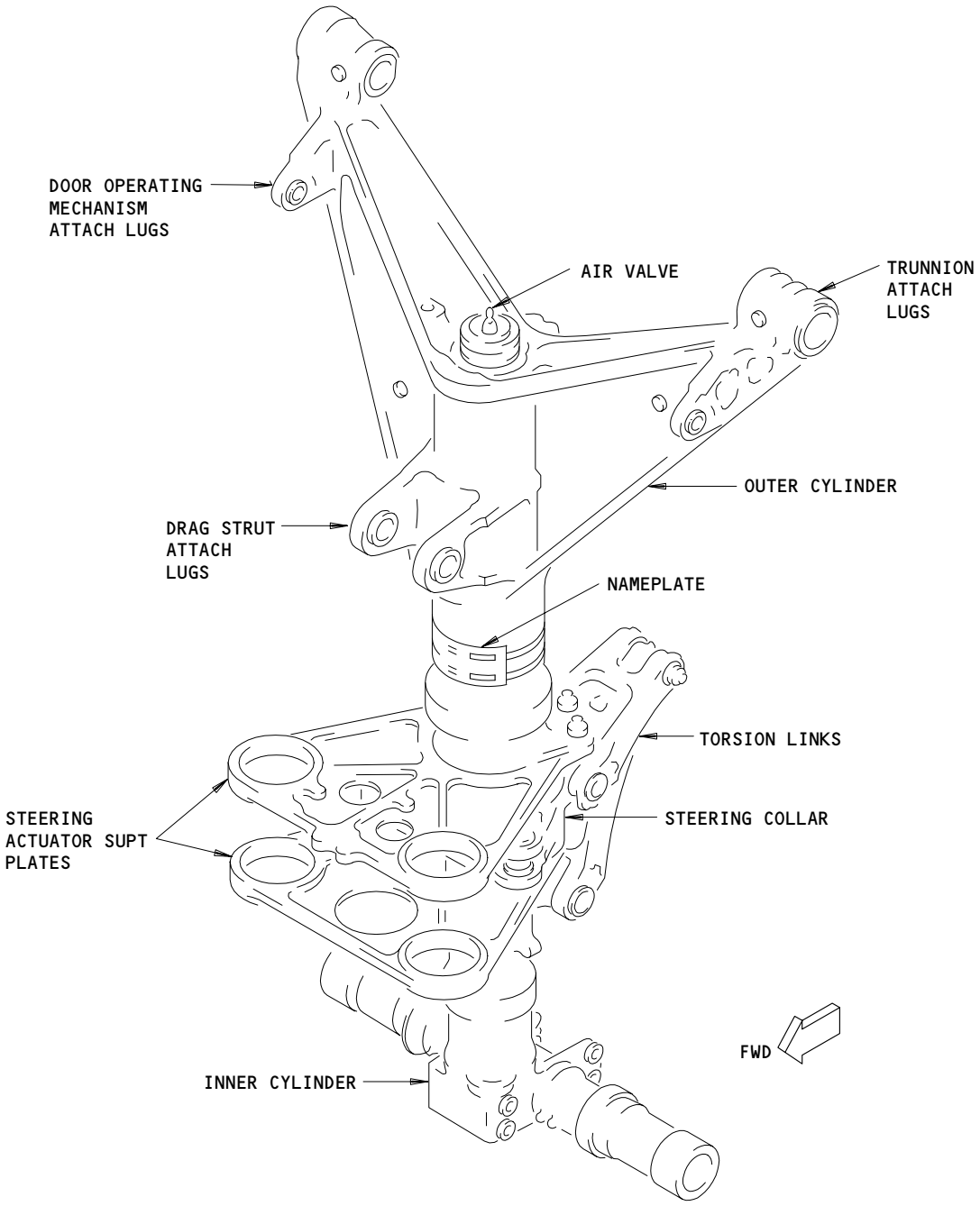
   C. The trunnion mounting components allow the shock strut to be attached to airplane through the trunnions.

2. The shock strut is the main supporting member of the nose gear. Its main structural components are the inner cylinder, which also includes the axles, and the outer cylinder, which attaches to the airplane structure. Internal components include a tapered metering pin, orifice with support tube, and upper and lower centering cams. The inner and outer cylinders are made of high strength steel (275-300 ksi). All pinned joints are assembled with bushings or bearings.

3. The lower centering cam is keyed to the outer cylinder and the upper centering cam is keyed to the inner cylinder. Cam action centers the gear when the shock strut is extended. An air valve for inflating the strut is located at the top of the outer cylinder. A metering pin, connected to the inner cylinder, moves through an orifice plate supported from the outer cylinder and varies the fluid flow as the strut is compressed or extended.

4. Leading Particulars (Approximate)

   Length (extended) -- 91 inches
   Length (compressed) -- 76 inches
   Axle Length -- 35 inches
   Weight (wet) -- 907 pounds
   Weight (dry) -- 891 pounds
   Operating Medium -- Hydraulic fluid, MIL-H-6083 and/or MIL-H-5606, and pressurized dry air or nitrogen
   Fluid Capacity -- 500 cubic inches (8.7 quarts/8.2 liters)



Nose Landing Gear Component Assembly
Figure 1

182352

TESTING AND TROUBLE SHOOTING

1. Test Equipment and Materials

   NOTE: Equivalent substitutes may be used.

   A. Dry air or nitrogen -- Regulated supply of at least 200 psi

   B. Buildup Stand -- A32057-1 or -40

   C. Sling Assembly -- A32036-43

   D. Hydraulic Fluid -- MIL-H-6083 (Ref 20-60-03)

   E. Hydraulic Fluid -- MIL-H-5606 (Ref 20-60-03)

   F. Lubricant -- Lubrizol 1395 (Ref 20-60-04)

   G. Lubricant -- MIL-G-4343 (Ref 20-60-04)

2. Prepare for Test

   A. Using sling assy A32036-43, mount component assembly vertically in buildup stand A32057-1 or -40.

   B. Remove air valve (420) cap and carefully release air pressure by turning swivel nut one or two turns counterclockwise.

   C. Open air valve fully by turning swivel nut counterclockwise to stop.

   D. With strut in compressed position, remove oil charging valve cap (460) and fill to overflowing with 460 cubic inches minimum MIL-H-6083 hydraulic fluid, including 13 cubic inches (+0.5/-0.5 cu.in.) of Lubrizol 1395, through oil charging valve (465). Fully extend inner cylinder and replace valve cap (460).

3. Perform Leakage Test

   WARNING: DO NOT PRESSURIZE SHOCK STRUT FOR TEST UNLESS INNER CYLINDER IS FULLY EXTENDED OR INJURY TO PERSONNEL AND DAMAGE TO PARTS MAY RESULT.

   A. Pressurize strut to 194-206 psi through air valve. Close valve fully and replace cap. Allow 30 minutes to stabilize; then no leakage is allowed in a one-hour period. If leakage occurs, refer to trouble shooting chart, Fig. 101, for probable cause and correction.

B. After test, bleed assembly of all pressure through air valve. Collapse shock strut to fully retracted position. Tighten swivel nut to 5-7 pound-feet.

TROUBLE	PROBABLE CAUSE	CORRECTION
Leakage at air valve (420)	Defective air valve	Disassemble and replace air valve (par. 4.A., 4.B.).
	Defective seal surface on support tube (730)	Disassemble and replace support tube (par. 4.B.).
Leakage at support washer (445)	Defective T-ring (455)	Disassemble and replace T-ring (par. 4.B.).
	Defective seal surface on support tube (730)	Disassemble and replace or repair the tube (par. 4.B.).
	Defective seal surface on outer cylinder (535)	Disassemble and replace or repair the cylinder (par. 4.C.).
Leakage at oil charging valve (465)	Defective O-ring (470)	Disassemble and replace O-ring (par. 4.D.).
	Defective seal surface on outer cylinder (535)	Disassemble and replace or repair the cylinder (par. 4.C.).
Leakage at gland nut (625)	Defective T-ring Seals (640, 668) or backup rings (667)	Disassemble and replace seals and rings (par. 4.E).
	Defective seal surface on inner cylinder (610)	Disassemble and replace or repair the cylinder (par. 4.F.).
	Defective seal surface on outer cylinder (535)	Disassemble and replace or repair the cylinder (par. 4.C.).
Leakage at drain hole (bottom of inner cylinder (610), forward of axle)	Defective T-ring (760)	Disassemble and replace T-ring (par. 4.G.).
	Defective seal surface on inner cylinder (610)	Disassemble and replace or repair the cylinder (par. 4.F.).

Trouble Shooting Chart
Figure 101

4. Corrective Procedures

A. Air valve (420) replacement.

(1) Disassemble parts per par. 3.A., 3.C. of DISASSEMBLY. Check valve and replace if necessary. Reinstall tag.

B. T-ring (455) or support tube (730) replacement.

(1) Disassemble parts per par. 3.A., 3.C. thru 3.G., 3.I. thru 3.K., 3.M., 3,T,. and 3.U. of DISASSEMBLY.

(2) Replace T-ring if defective.

(3) Replace support tube if defective.

(4) Reassemble parts per ASSEMBLY and retest for leakage.

C. Outer cylinder (535) replacement.

(1) Disassemble parts per par. 3.A., 3.C. thru 3.G., 3.I. thru 3.K., 3.M., 3.Q., 3.R., 3.T., 3.V. and 3.W. of DISASSEMBLY. For repair of outer cylinder, refer to REPAIR 1-3.

(2) Replace outer cylinder if defective.

(3) Reassemble parts per ASSEMBLY and retest for leakage.

D. O-ring (470) replacement.

(1) Disassemble parts per par. 3.A. 3.C. and 3.D. of DISASSEMBLY.

(2) Replace O-ring if defective.

(3) Reassemble parts per ASSEMBLY and retest for leakage.

E. T-ring (640, 668) replacement.

(1) Disassemble parts per par. 3.A., 3.C. thru 3.G., 3.I. thru 3.M. of DISASSEMBLY and remove packings.

(2) Replace T-rings if defective.

(3) Reassemble parts per ASSEMBLY and retest for leakage.

F. Inner cylinder (610) replacement.

(1) Disassemble parts per par. 3.A., 3.C. thru 3.G., 3.I. thru 3.M., 3.O. and 3.P. of DISASSEMBLY. For repair of inner cylinder, refer to REPAIR 2-3.

(2) Replace inner cylinder if defective.

(3) Reassemble parts per ASSEMBLY and retest for leakage.

G. T-ring (760) replacement.

(1) Disassemble parts per par. 3.A., 3.C. thru 3.G., 3.I. thru 3.K., 3.M., 3.O. of DISASSEMBLY.

(2) Replace T-ring.

(3) Reassemble parts per ASSEMBLY and retest for leakage.

DISASSEMBLY

NOTE: Refer to TESTING/TROUBLE SHOOTING to establish condition or probable cause of any malfunction and to determine extent of disassembly and repair.

1. Equipment

   NOTE: Equivalent substitutes may be used.

   A. Buildup Stand -- A32057-1 or -40

   B. Gland Nut Wrench Adapter -- A32021-1

   C. Lower Bearing Seal Retainer Puller -- A32029-48

   D. Steering Nut Wrench Adapter -- A32034-1

   E. Retainer Ring Adapter -- A32047-40

   F. Orifice Plate Wrench Assembly -- A32047-30

   G. Retainer Nut Wrench Assembly -- A32047-31

   H. Orifice Nut Wrench Adapter -- A32047-3

   I. Retainer Ring Adapter Assembly -- A32047-39

   J. Orifice Tube Adapter Assembly -- A32047-32

   K. Guide Bushing -- A32047-16

   L. Guide Shaft -- A32047-15

   M. Sling Assembly -- A32036-43

2. Part Replacement (IPL Fig. 1)

   NOTE: The following parts are recommended for replacement. Unless otherwise specified, actual replacement may be based on in-service experience.

   A. Cotter pins (5, 40, 195, 340, 385, 705)

   B. Nuts (55, 100, 360, 405)

C. Backup rings (450, 635, 667, 755)

D. Packings (455, 470, 540, 640, 668, 670, 760)

3. Disassembly

WARNING: FAILURE TO REMOVE ALL AIR FROM THE SHOCK STRUT BEFORE DISASSEMBLY MAY RESULT IN INJURY TO PERSONNEL OR DAMAGE TO PARTS.

A. Release air pressure from shock strut by turning swivel nut on air valve (420) one or two turns counterclockwise; then open valve fully.

B. Using sling assembly A32036-43, mount component assembly in buildup stand A32057-1 or -40.

C. Remove air valve (420) and tag (415).

D. Drain hydraulic fluid then remove the charging valve cap (460), valve (465) and packing (470).

E. Remove cotter pin (5), bolt (10), washers (15, 20), nut (25) and lower pin (35).

WARNING: LOWER TORSION LINK WEIGHS 16 POUNDS. USE CARE WHEN REMOVING OR INJURY TO PERSONNEL AND DAMAGE TO PARTS MAY RESULT.

F. Disconnect torsion links.

(1) Units with apex bolt (45): Remove cotter pin (40), nut (55), washer (50), apex bolt (45) and lower torsion link assembly (165).

(2) Units with handles (110): Pull on handles (110) to release torsion link assemblies (85, 165A).

NOTE: Refer to REPAIR 5-1 for disassembly of handle parts.

WARNING: UPPER TORSION LINK WEIGHS 14 POUNDS. BE CAREFUL WHEN YOU REMOVE IT OR INJURY TO PERSONNEL AND DAMAGE TO PARTS COULD OCCUR.

G. Remove cotter pin (5), nut (25), washers (15, 20), bolt (10), upper pin (30) and upper torsion link assembly (60).

H. Remove bolt (250), washer (255) and lockplates (260, 265).

I. Unscrew gland nut assembly (615) using wrench adapter A32021-1 and remove excluder (630). Extend inner cylinder sufficient to provide clearance for lower bearing seal retainer puller A32029-48 and remove lower bearing (665), seal adapter (650) and lower cam (680, 696).

J. Using sling assembly A32036-43, lift outer cylinder off inner cylinder and place in suitable stand.

K. Remove seal (540), upper bearing halves (550, 555), recoil valve (560), upper cam (565), dowels (575) and circlip (570).

L. Remove lower cam (680, 696), lower bearing (665) and seal adapter (650), excluder (630) and gland nut (615) from inner cylinder.

M. Remove headed pins (645), seals (640, 668, 670), backup rings (635, 667), rivets (685, 697), dowel retaining pin (693), and dowels (690, 698).

N. Remove metering pin (765)

(1) Slide retainer ring adapter A32047-39 into inner cylinder assembly (585) and remove metering pin nut (740) with retainer nut wrench A32047-31.

(2) With retainer ring adapter inside inner cylinder (585), remove retainer ring (735) by pulling metering pin (765). Slide retainer ring adapter and metering pin from inner cylinder.

(3) Remove seal (760) and backup rings (755). Remove plug (745) only if repair or replacement is necessary.

O. Remove axle spacers (580), which are a shrink fit on the axle.

P. Remove steering nut (270), lower plate (285) and steering collar (300).

Q. Remove bolts (230), washers (235), plates (240), cotter pins (340), nuts (360), washers (355) and bolts (345, 350). Remove support torque tube (365).

R. Remove cotter pins (195), nuts (215), washers (205, 210), bolt (200), caps (220) and steering collar pins (225).

CAUTION: BE VERY CAREFUL WHEN YOU REMOVE ORIFICE SUPPORT NUT (440) AND ORIFICE SUPPORT TUBE (730) OR DAMAGE TO INNER WALL OF OUTER CYLINDER COULD OCCUR.

S. Remove orifice support tube (730).

(1) Install orifice tube adapter A32047-32 in outer cylinder (485) and remove bolts (425), washers (430) and lockplate (435).

(2) Remove orifice support nut (440) using orifice nut wrench A32047-3. Remove support washer (445) and install guide bushing A32047-16 and guide shaft A32047-15.

(3) Carefully slide orifice support tube (730) from outer cylinder (485) and remove seal (455) and backup rings (450).

T. Remove cotter pin (705), nut (720), washer (715) and bolt (710). Remove orifice plate (725) using wrench adapter A32047-30. Remove piston ring (700).

U. Remove cotter pins (385), nuts (405), washers (395, 400), bolts (390) and trunnion pins (410).

V. Remove seals (475), straps (480) and nameplate (770).

W. If applicable, remove nut (780) and plate (775) from inner cylinder bushing (607).

CLEANING

1. Clean all parts but charging valve (465) by standard industry practices and the instructions in SOPM 20-30-03.

2. Clean charging valve (465) with a Series 82 solvent (Ref SOPM 20-30-82).

CHECK

1. Examine all parts for defects by standard industry practices. Refer to Fits and Clearances (Fig. 801) for wear limits.

2. Magnetic particle examine (SOPM 20-20-01):

   A. Pins (30, 35, 225, 410)

   B. Bolts (45, 345, 350)

   C. Axle spacer (580)

   D. Cylinders (535, 610)

   E. Torsion links (80, 190)

   F. Lower plate (295)

   G. Steering collar (335)

   H. Nuts (280, 440, 625, 750)

   I. Lockplate (260, 265, 435)

   J. Orifice plate (725)

   K. Centering cam (565)

   L. Retainer ring (735)

   M. Dowel (575, 690, 698)

   N. Circlip (570)

   O. Plunger (150)

   P. Cap (130)

Q. Washers (115, 135)

R. Spring (145)

S. Lockplate (140)

T. Support tube (380)

3. Penetrant check (SOPM 20-20-02):

A. Cap (220)

B. Support tube (730)

C. Metering pin (765)

D. Bearings (545, 665)

E. Centering cam (695, 699)

F. Recoil valve (560)

G. Washer (445)

H. Seal adapter (650)

I. Piston ring (700)

J. Sleeve (155)

4. Spring (145)

A. Compress the spring to 1.20 inch. The load must be 6.89-8.42 pounds.

B. Compress the spring to 2.20 inch. The load must be 3.89-4.76 pounds.

C. Compress the spring to 1.10 inch. There must be no permanent set.

D. Free length is approximately 3.50 inches.

REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
162T1137	CYLINDER, OUTER	1-1, 1-2, 1-3
162T1138	CYLINDER, INNER	2-1, 2-2, 2-3, 2-4
162T1404	COLLAR, STEERING	3-1, 3-2
162T1617	TORSION LINK, LOWER	4-1, 4-2
162T1116	TORSION LINK, UPPER	5-1, 5-2
162T1400	TORQUE TUBE SUPT	6-1, 6-2, 6-3
162T1402	PLATE, LOWER SUPT	7-1
162T1101	PIN, TRUNNION	8-1
162T1120	BOLT, APEX	9-1
162T1118	PIN, UPPER	10-1
162T1119	PIN, LOWER	10-1
162T1408	PIN, STEERING COLLAR	11-1
162T1409	BOLT, TORQUE TUBE SUPT	12-1
162T1512	NUT, GLAND	13-1

162T1406	NUT, STEERING	14-1
162T1605	PLUNGER	15-1
162T1607	CAP	16-1
162T1103	NAMEPLATE	17-1
- -	MISCELLANEOUS PARTS REFINISH	18-1
- -	SEALING	19-1
162T1507	CENTERING CAM ASSEMBLY	20-1
162T0002	PIN, METERING	21-1
162T1521	PIN, METERING	21-1

2. Standard Practices

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

20-00-00 Introduction
20-10-01 Repair and Refinish of High Strength Steel Parts
20-10-02 Machining of Alloy Steel
20-10-03 Shot Peening
20-10-04 Grinding of Chrome Plated Parts
20-30-02 Stripping of Protective Finishes
20-30-03 General Cleaning Procedures
20-41-01 Decoding Table for Boeing Finish Codes
20-41-03 Application of Corrosion Preventatives to Closed-End Tubes
20-42-02 Low Hydrogen Embrittlement Cadmium-Titanium Alloy Plating

NOTE: Low Hydrogen Embrittlement Cadmium Plating (SOPM 20-42-01) may be substituted for the preferred Low Hydrogen Embrittlement Cadmium-Titanium Alloy Plating (SOPM 20-42-02).

20-42-03 Hard Chrome Plating
20-42-05 Bright Cadmium Plating
20-42-09 Electrodeposited Nickel Plating
20-43-01 Chromic Acid Anodizing
20-44-01 Application of Special Purpose Coatings and Finishes
20-50-03 Bearing and Bushing Replacement
20-50-05 Application of Aluminum Foil and other Markers
20-50-10 Application of Stencils, Insignia, Silk Screen, Part Numbering, and Identification Markings
20-50-12 Application of Adhesives
20-60-01 Cleaning Materials
20-60-02 Finishing Materials
20-60-03 Lubricants
20-60-04 Miscellaneous Materials
32-00-02 Landing Gear Attachment Parts - Topcoat Application
32-00-03 Landing Gear Parts Lubrication Fitting Replacement
32-00-05 Repair of High-Strength Landing Gear Parts

3. Materials

NOTE: Equivalent substitutes can be used.

A. Corrosion Preventive Compound -- MIL-C-16173, Grade 1 (SOPM 20-60-02)

B. Corrosion Preventive Compound -- MIL-C-11796, Class 1 (SOPM 20-60-02)

C. Corrosion Preventive Compound -- BMS 3-29 (SOPM 20-60-02)

D. Enamel -- BMS 10-60, Gloss, Color 707 Gray (SOPM 20-60-02)

E. Grease -- MIL-G-23827 (SOPM 20-60-03)

F. Mylar Tape -- Scotch 5421, Y-8412 or 8412 (replaces Mystik 7355) (SOPM 20-60-04)

G. Primer -- BMS 10-11, type 1 (SOPM 20-60-02)

H. Protective Finish -- Type 41 (SOPM 20-60-02)

I. Protective Finish -- Karon (SOPM 20-60-02)

J. Sealant -- BMS 5-95 (SOPM 20-60-04)

K. Naphtha -- TT-N-95 (SOPM 20-60-01)

L. Adhesive -- Type 93 (SOPM 20-50-12)

4. Dimensioning Symbols

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

CYLINDER ASSEMBLY, OUTER - REPAIR 1-1

162T1137-1

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

1. Bushing and Bearing Replacement (Fig. 601)

   A. Remove bushings and bearings.

   B. If corrosion or damage exists on lug faces or hole surfaces refer to REPAIR 1-2 for repair instructions.

   C. Install replacement bushings using shrink-fit method per 20-50-03.

   D. Install replacement bearings and secure by swaging.

   E. Bearing check:

      (1) Apply axial load of 2370 lbs. Bearing shall not push-out.

      (2) Apply torque to ball of bearing. Torque to misalign ball shall be no greater than 56 lb-in.

   F. Check dimensions and machine as necessary.

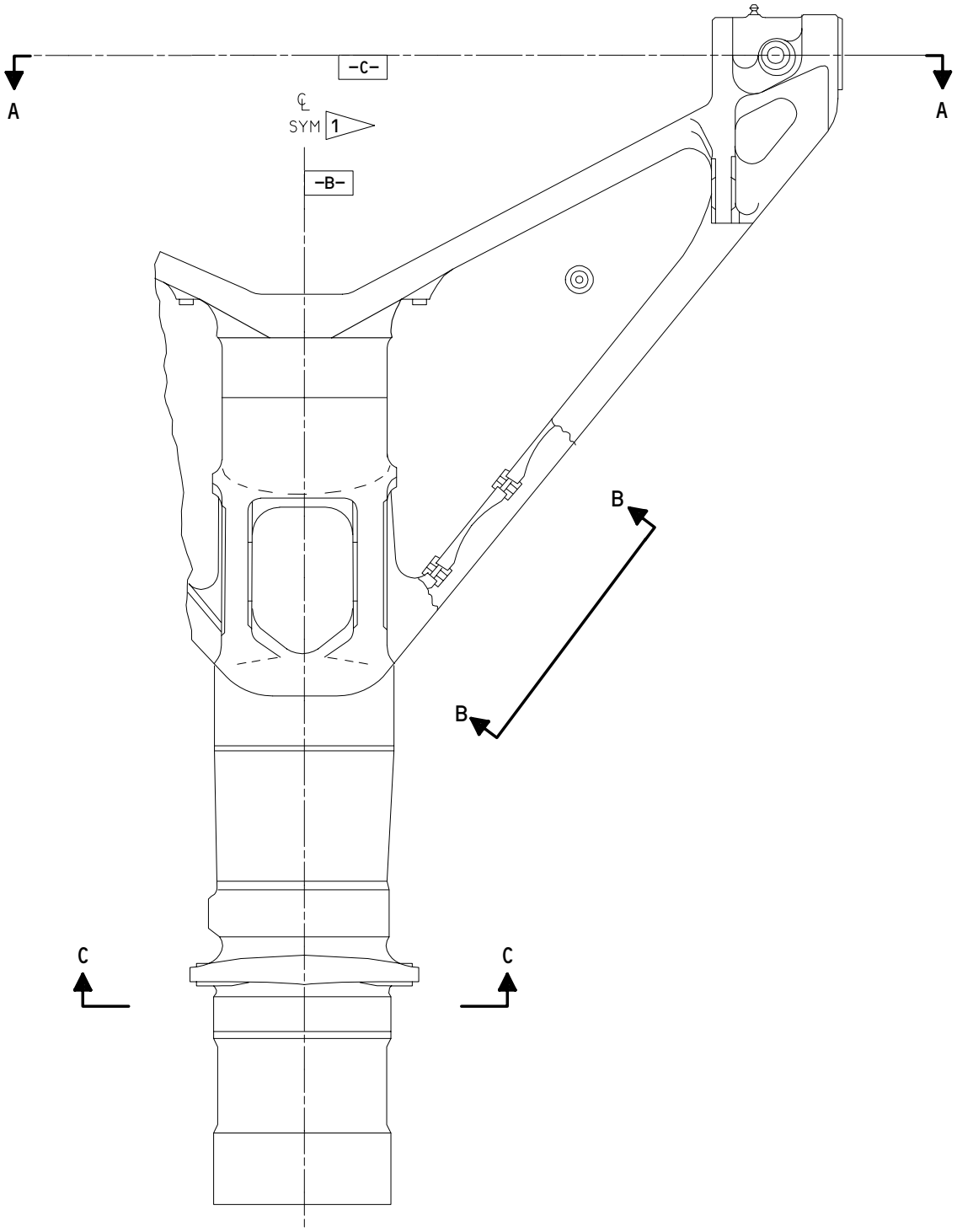
      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

   G. Seal bushings and bearings as noted.

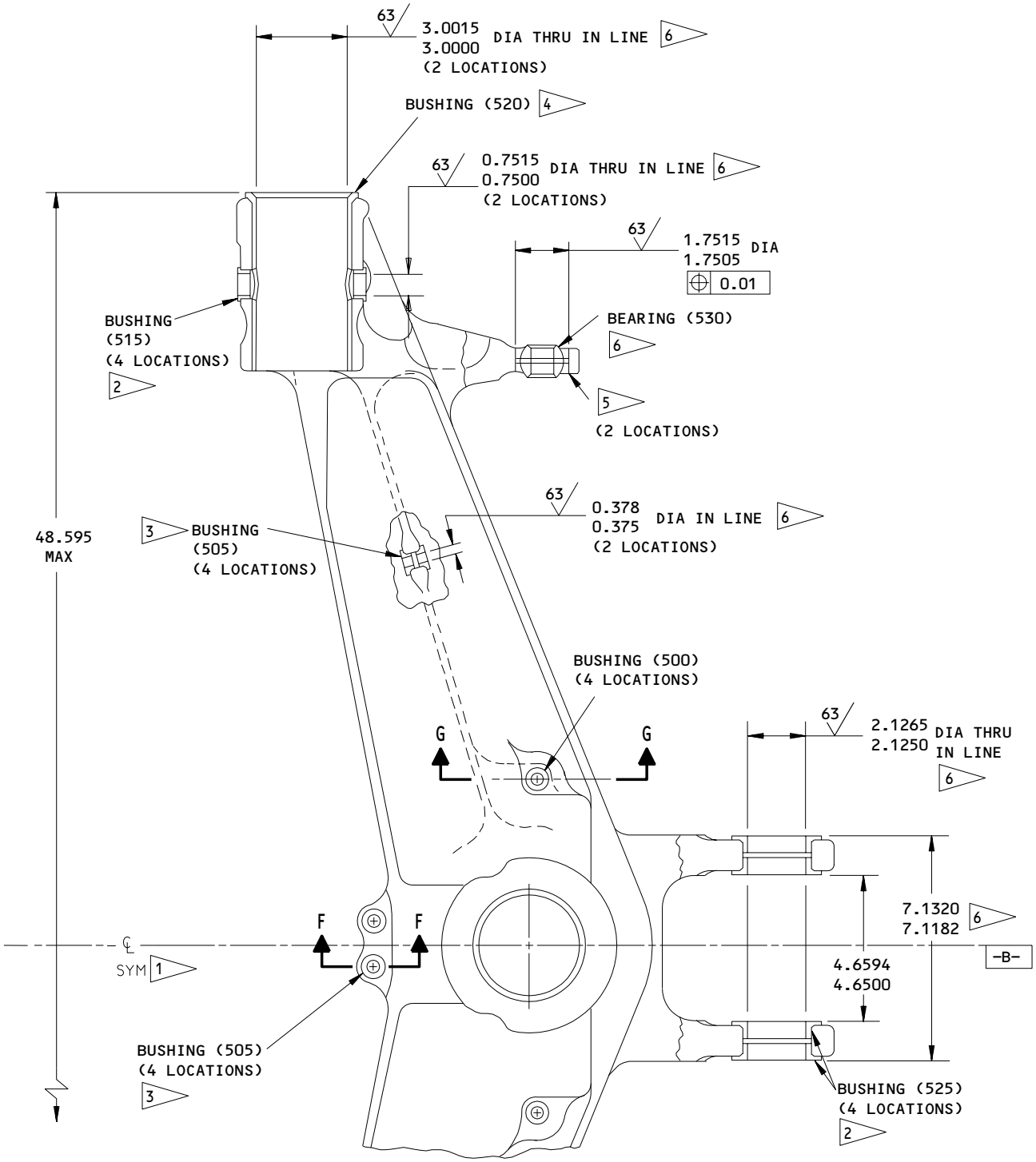
   H. Apply MIL-G-23827 to lube fittings until grease is clearly visible on ball of bearing.

2. Lube Fitting Replacement

   A. Replace lube fittings (490, 495) per 32-00-03.



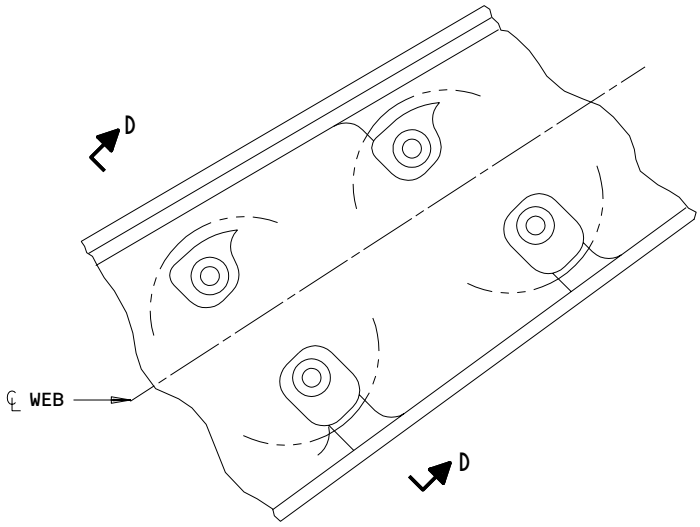
162T1137-1
Bushing and Bearing Replacement
Figure 601 (Sheet 1)



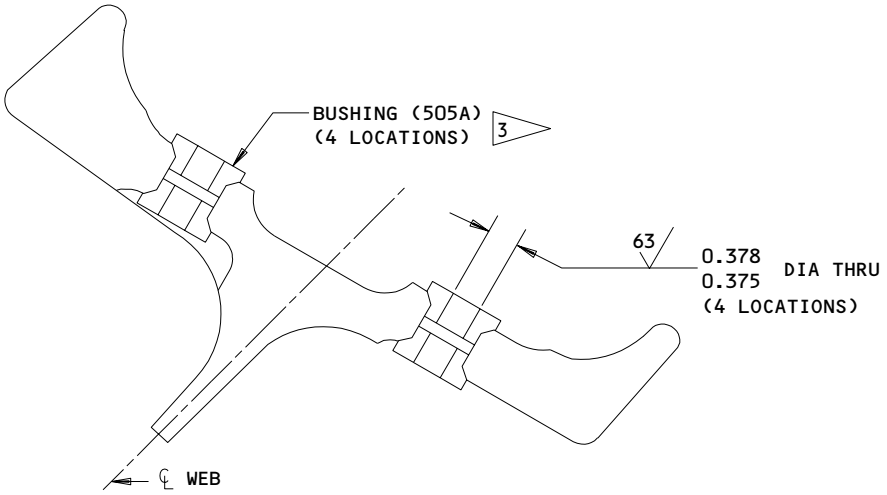
A-A

ALL DIMENSIONS ARE IN INCHES

162T1137-1
Bushing and Bearing Replacement
Figure 601 (Sheet 2)



B–B



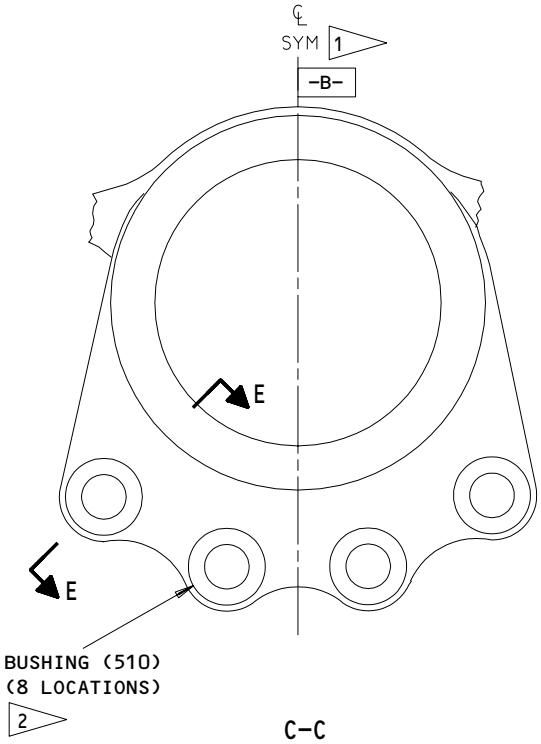
D–D

ALL DIMENSIONS ARE IN INCHES

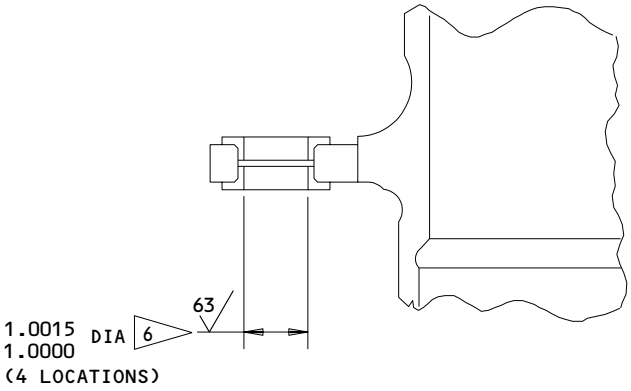
162T1137-1

Bushing and Bearing Replacement
Figure 601 (Sheet 3)

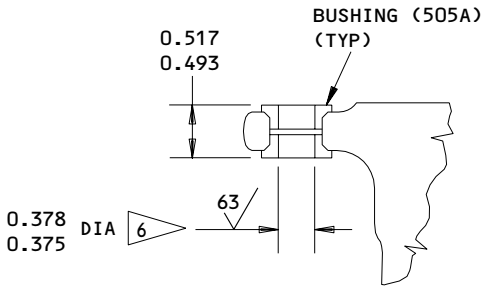
182277



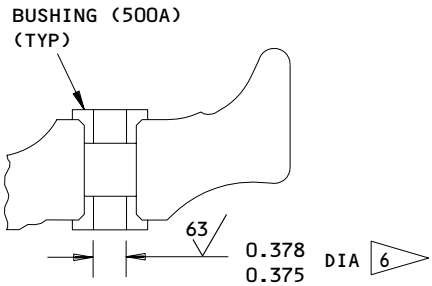
C-C



E-E



F-F



G-G

REFINISH

FOR REFINISH INSTRUCTIONS
REF REPAIR 1-3

1 EXCEPT OIL CHARGE VALVE BOSS
2 APPLY FILLET SEAL PER FIG. 601, REPAIR 19-1
3 APPLY FILLET SEAL PER FIG. 603, REPAIR 19-1
4 APPLY FILLET SEAL PER FIG. 604, REPAIR 19-1
5 APPLY FILLET SEAL PER FIG. 602, REPAIR 19-1
6 NO PRIMER OR ENAMEL

ALL DIMENSIONS ARE IN INCHES

162T137-1
Bushing and Bearing Replacement
Figure 601 (Sheet 4)

CYLINDER, OUTER - REPAIR 1-2

162T1137-2

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, REPAIR 1-3.

1. Lug Faces and Holes (Fig. 601)

A. Method 1 -- Removal of Corrosion in Center of Lug ID

NOTE: This procedure enables corrosion to be removed without machining the entire bore oversize, if corrosion is localized at the center area which is exposed between two bushings.

(1) Determine repair diameter and width of groove required to remove corrosion (Fig. 602).

(2) Machine center area as required.

(3) Cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(4) Install bushings per REPAIR 1-1.

B. Method 2 -- Installation of Oversize Bushings

(1) Machine as required, within repair limits shown, to remove defects.

(2) Shot peen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(3) Manufacture bushings (Fig. 603), as required, to compensate for amount of material removed in step (1).

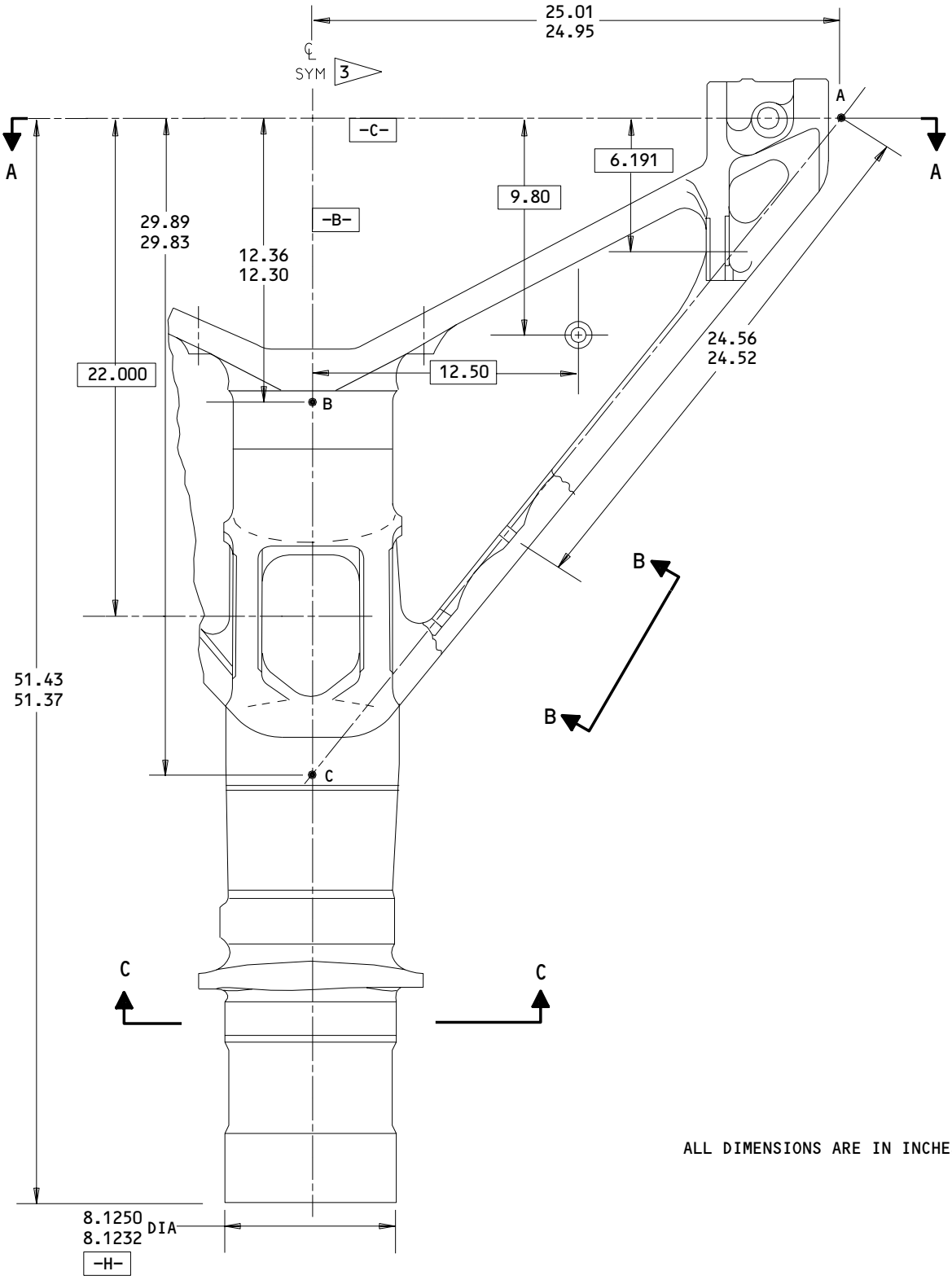
(4) Install bushings per REPAIR 1-1.

C. Method 3--Door Attach Lug Holes

(1) Machine as required, within repair limits, to remove defects.

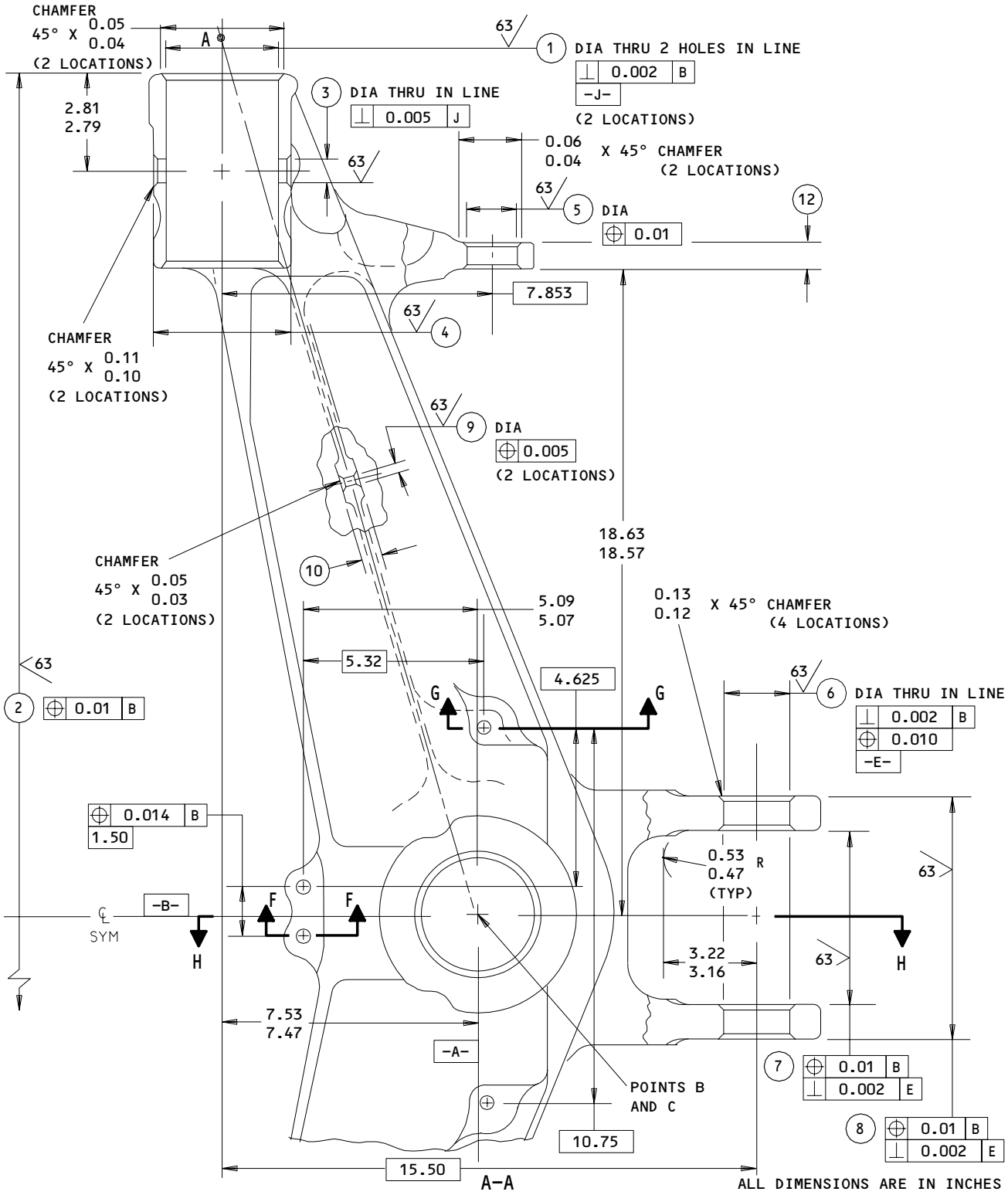
(2) Shot peen as indicated.

(3) Build up the hole with nickel plate and machine to design dimensions and finish.

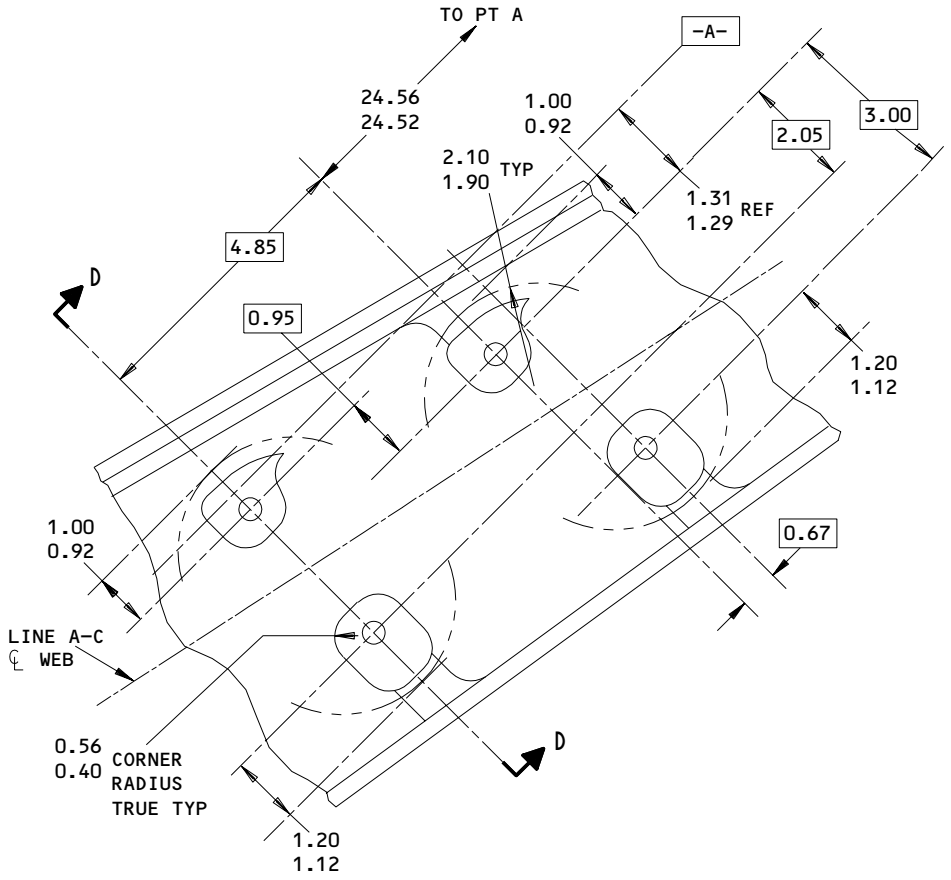


ALL DIMENSIONS ARE IN INCHES

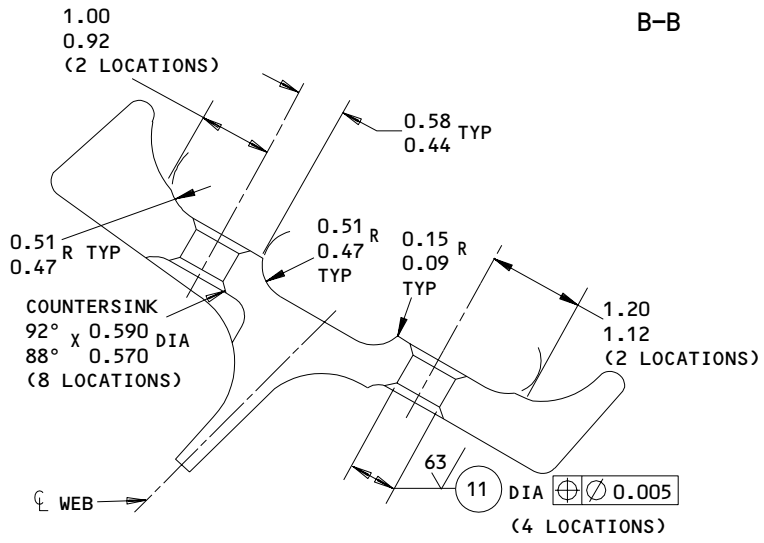
162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 1)



162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 2)



B-B



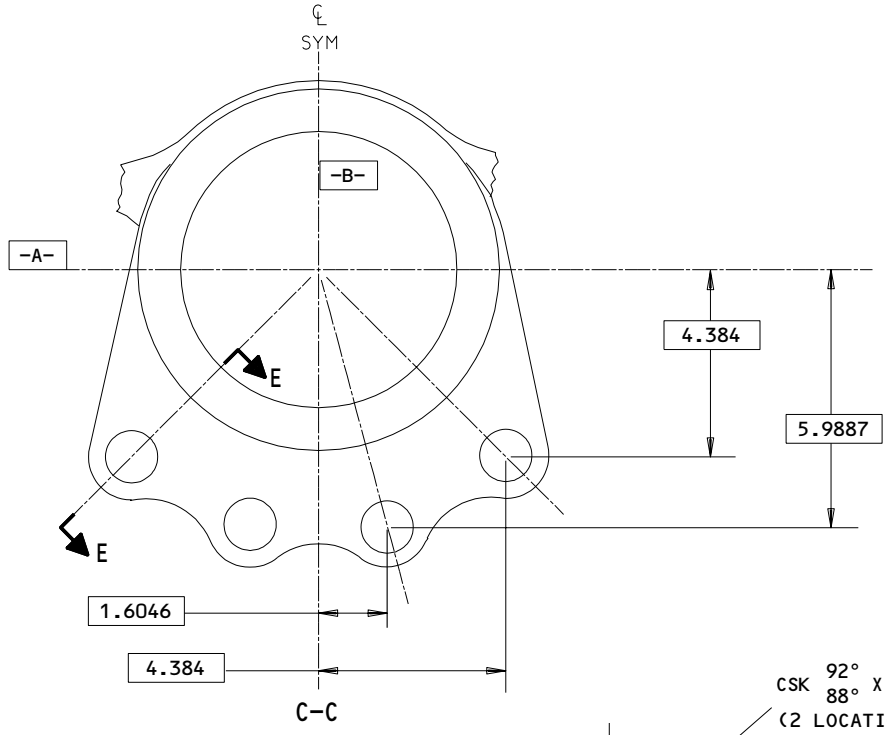
D-D

	11	12
DESIGN DIM	0.5015 0.5000	0.807 0.797
REPAIR LIMIT 1	0.5615 1	---

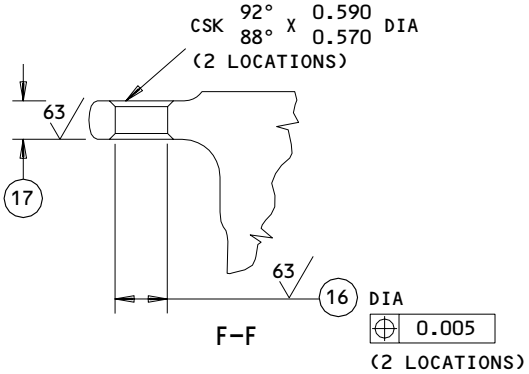
ALL DIMENSIONS ARE IN INCHES

162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 3)

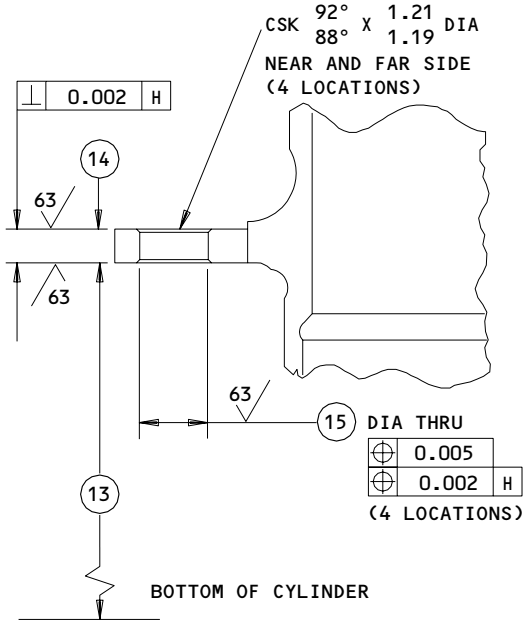
182283



C-C



F-F



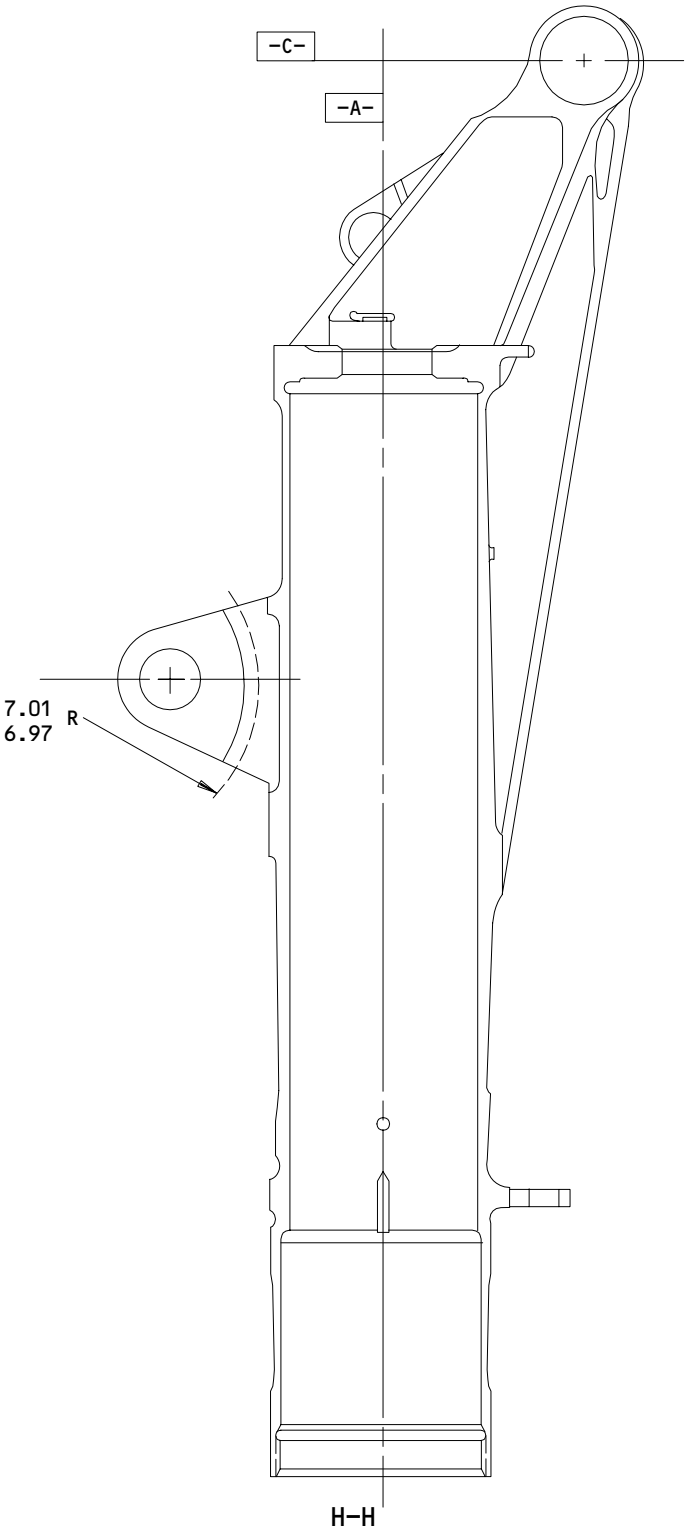
E-E

	13	14	15	16	17
DESIGN DIM	10.070 10.050	0.635 0.615	1.1265 1.1250	0.5015 0.5000	0.39 0.37
REPAIR LIMIT ▽1	10.085	0.585	1.1865	0.5615	0.34

ALL DIMENSIONS ARE IN INCHES

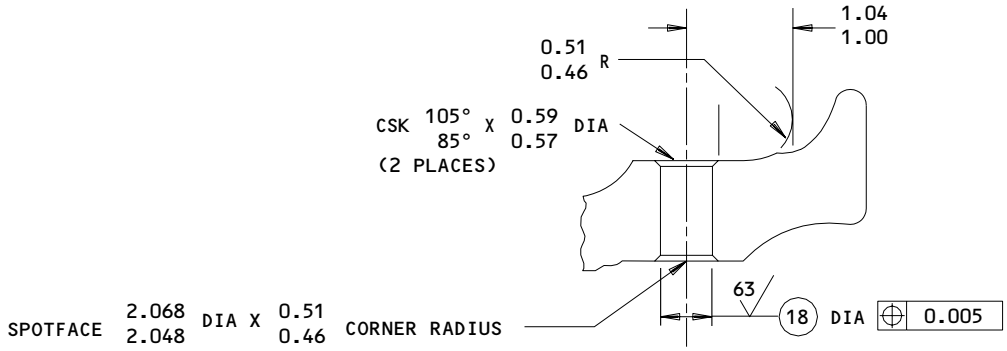
162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 4)

182292



162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 5)

182355



G-G

	(1)	(2) ▷2	(3)	(4) ▷2	(5)	(6)	(7) ▷2	(8) ▷2	(9)	(10) ▷2	(18)
DESIGN DIM	3.2415 3.2400	48.389 48.384	0.8765 0.8750	4.01 3.99	1.7515 1.7505	2.2865 2.2850	4.7816 4.7766	7.005 6.995	0.5015 0.5000	0.51 0.49	0.5015 0.5000
REPAIR LIMIT	3.3015 ▷1	48.354 ▷1	0.9365 ▷1	3.95 ▷1	1.810 ▷5	2.3465 ▷1	4.8116 ▷1	6.965 ▷1	0.5615 ▷1	0.46 ▷1	0.5615 ▷1

REFINISH

FOR REFINISH INSTRUCTIONS,
REF REPAIR 1-3

REPAIR

REF ▷1 ▷2 ▷4 ▷5

125 MACHINE FINISH EXCEPT AS NOTED

BREAK SHARP EDGES 0.06R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL, 275-300 KSI

ALL DIMENSIONS ARE IN INCHES

162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 6)

182295

1 REPAIR LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS

2 LUG FACE MACHINING REQUIREMENTS:

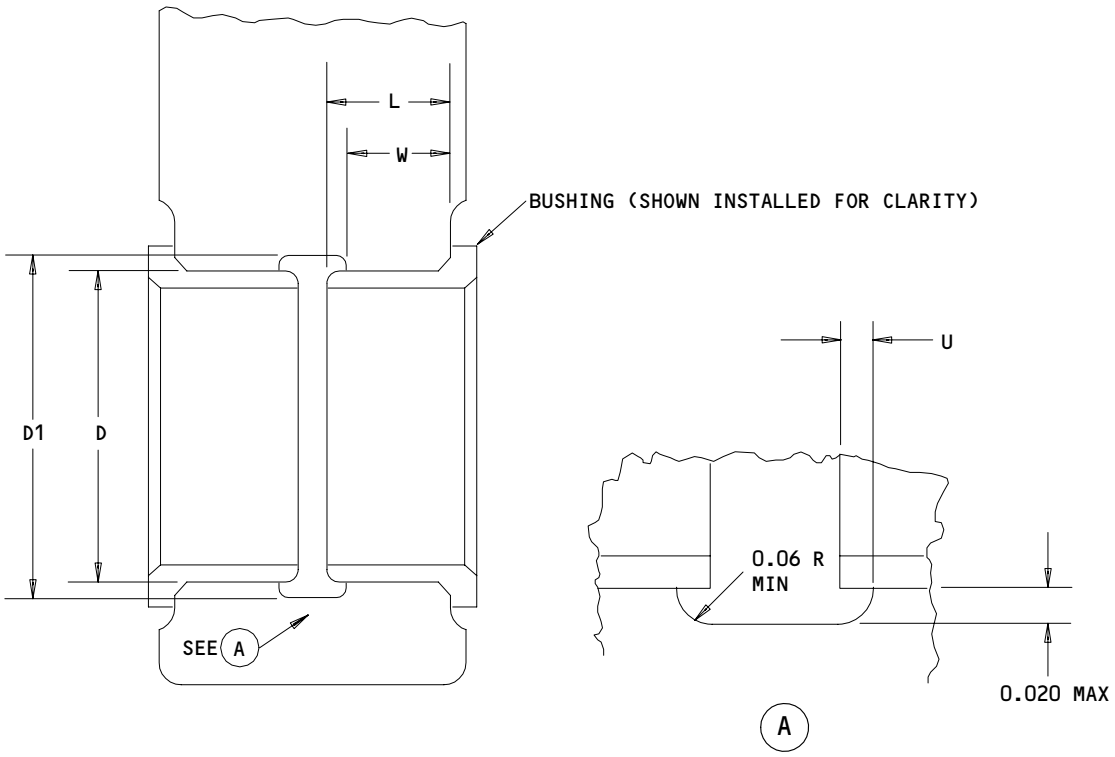
1. MATERIAL REMOVED FROM ANY FACE MUST NOT EXCEED HALF THE DIFFERENCE BETWEEN THE DESIGN DIM AND REPAIR LIMIT.
2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA OF BUSHING TO BE INSTALLED.
3. BLEND MISMATCH STEPS TO 0.18-0.26 RADIUS, OR IF WITHIN 0.10 OF LUG FILLET RADIUS, USE SAME RADIUS AS LUG FILLET. BREAK SHARP EDGES 0.03-0.07 R.

3 EXCEPT OIL CHARGING VALVE BOSS

4 DO NOT SHOT PEEN THREADS OR OIL CHARGING VALVE BOSS.

5 LIMIT FOR SULFAMATE NICKEL PLATE BUILDUP (REF 20-42-09) AND MACHINE TO DESIGN DIMENSIONS AND FINISH

162T1137-2
Lug Face and Hole Repair
Figure 601 (Sheet 7)



D = MAX REPAIR DIA OF HOLE (SEE FIG. 601)

D1 = MAX REPAIR DIA OF GROOVE = (D +0.040)

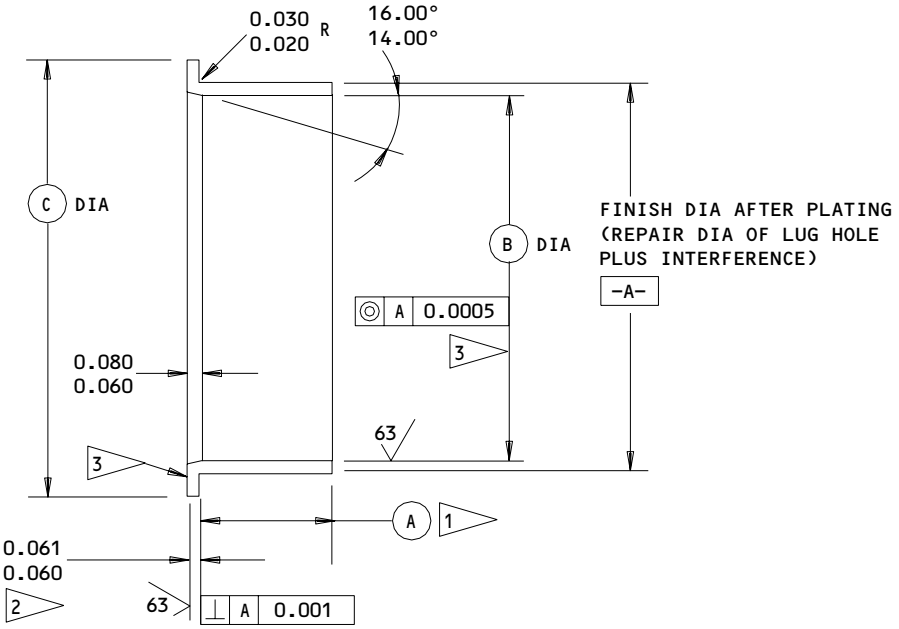
L = LENGTH OF BUSHING (SEE FIG. 603)

U = UNDERCUT = (L X 0.1) (0.06 MAX)

W = LUG DIM TO EDGE OF GROOVE = (L–U)

ALL DIMENSIONS ARE IN INCHES

Lug Hole Diameter – Corrosion Removal from Area Between Bushings
Figure 602



HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	A 1	B	C	INTER-FERENCE
3	(515) 161T1210-4	0.360 0.340	0.7545 0.7530	1.16 1.10	0.0036 0.0006
18	(500) 161T1210-1	0.260 0.240	0.3794 0.3779	0.78 0.72	0.0034 0.0004

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID OR FACE (F-25.01)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MINIMUM THICK) ALL OVER EXCEPT AS NOTED

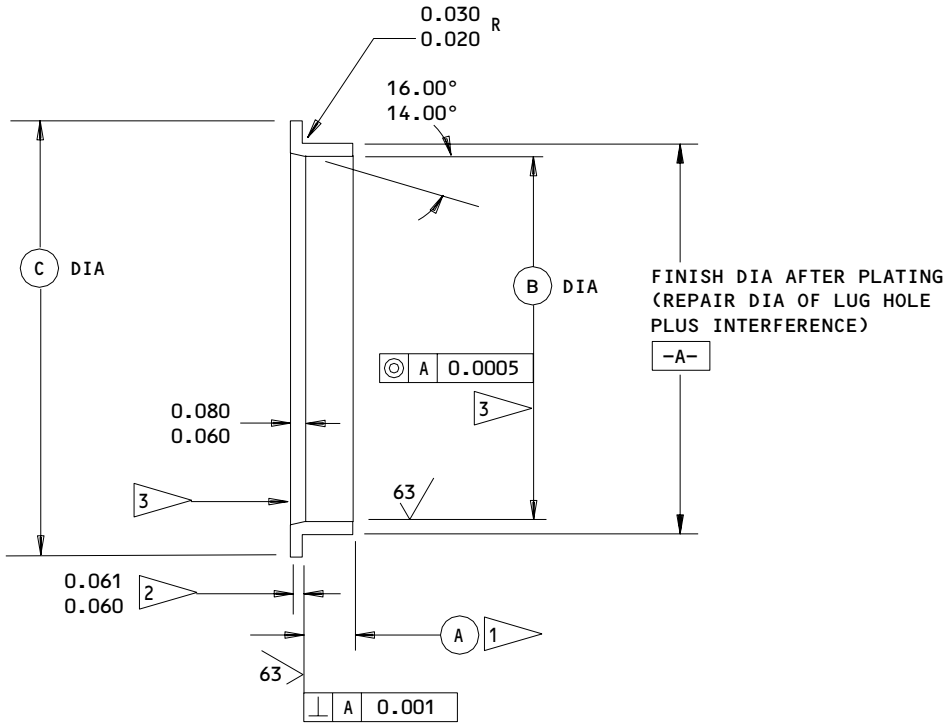
MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 603

182362



HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG.1)	A 1	B	C	INTER-FERENCE
15	(510) 161T1210-3	0.290 0.270	1.0046 1.0031	1.48 1.42	0.0037 0.0007
9 11 16	(505) 161T1210-2	0.160 0.140	0.3794 0.3779	0.78 0.72	0.0034 0.0004

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID OR FACE (F-25.01)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MINIMUM THICK) ALL OVER EXCEPT AS NOTED

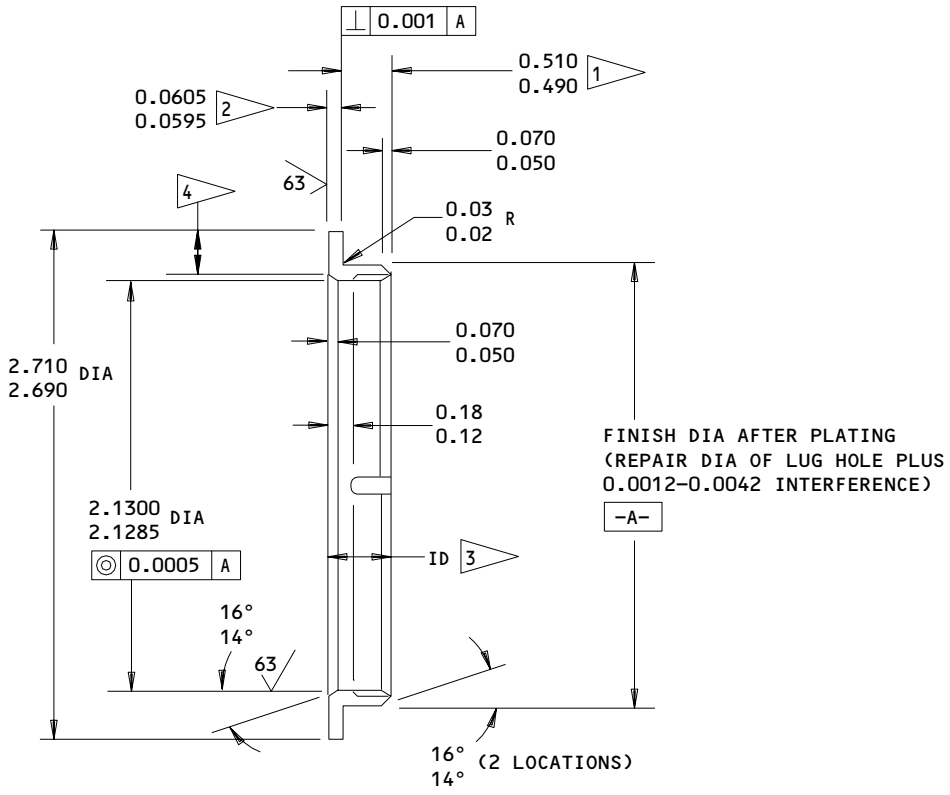
MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 604

182363



1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID

4 FLASH CHROME (0.0003–0.0005 THICK) PER SOPM 20–42–03 ON BUSHING FACE. OPTION – THIN DENSE CHROME PLATE (F–15.43, WHICH REPLACES BMS 10–70).

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01–0.02 R

CADMIUM PLATE (F–15.06, 0.0003 MINIMUM THICK) ALL OVER EXCEPT AS NOTED

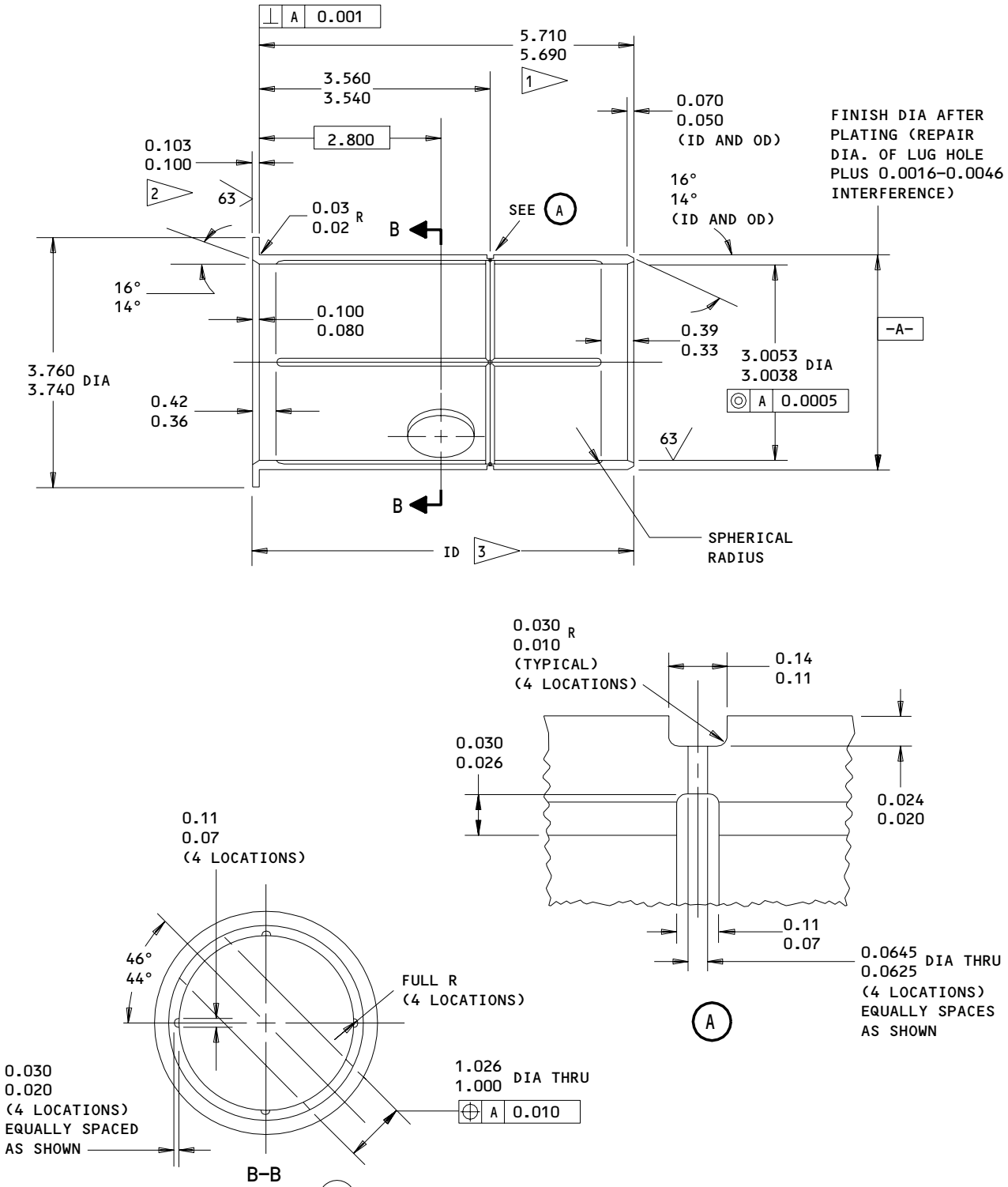
MATERIAL: AL–NI–BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (6) FIG. 601 – REPLACES BUSHING (525) 162T1122–1

Oversize Bushing Details
Figure 605



HOLE LOCATION (1) FIG. 601 – REPLACES BUSHING (520) 162T1121-1

Oversize Bushing Details
Figure 606 (Sheet 1)

182282

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01–0.02 R

CADMIUM PLATE (F–15.06, 0.0003 MINIMUM THICK) ALL OVER EXCEPT AS NOTED

MATERIAL: AL–NI–BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (1) FIG. 601 – REPLACES BUSHING (520) 162T1121–1

Oversize Bushing Details
Figure 606 (Sheet 2)

CYLINDER, OUTER - REPAIR 1-3

162T1137-2

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Barrel Repair (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen. Build up with chrome plate or nickel plate. Grind the chrome plate or machine the nickel plate to the design dimensions and finish. Chrome plate thickness must not be more than 0.010 inch after grinding.

   C. Deleted

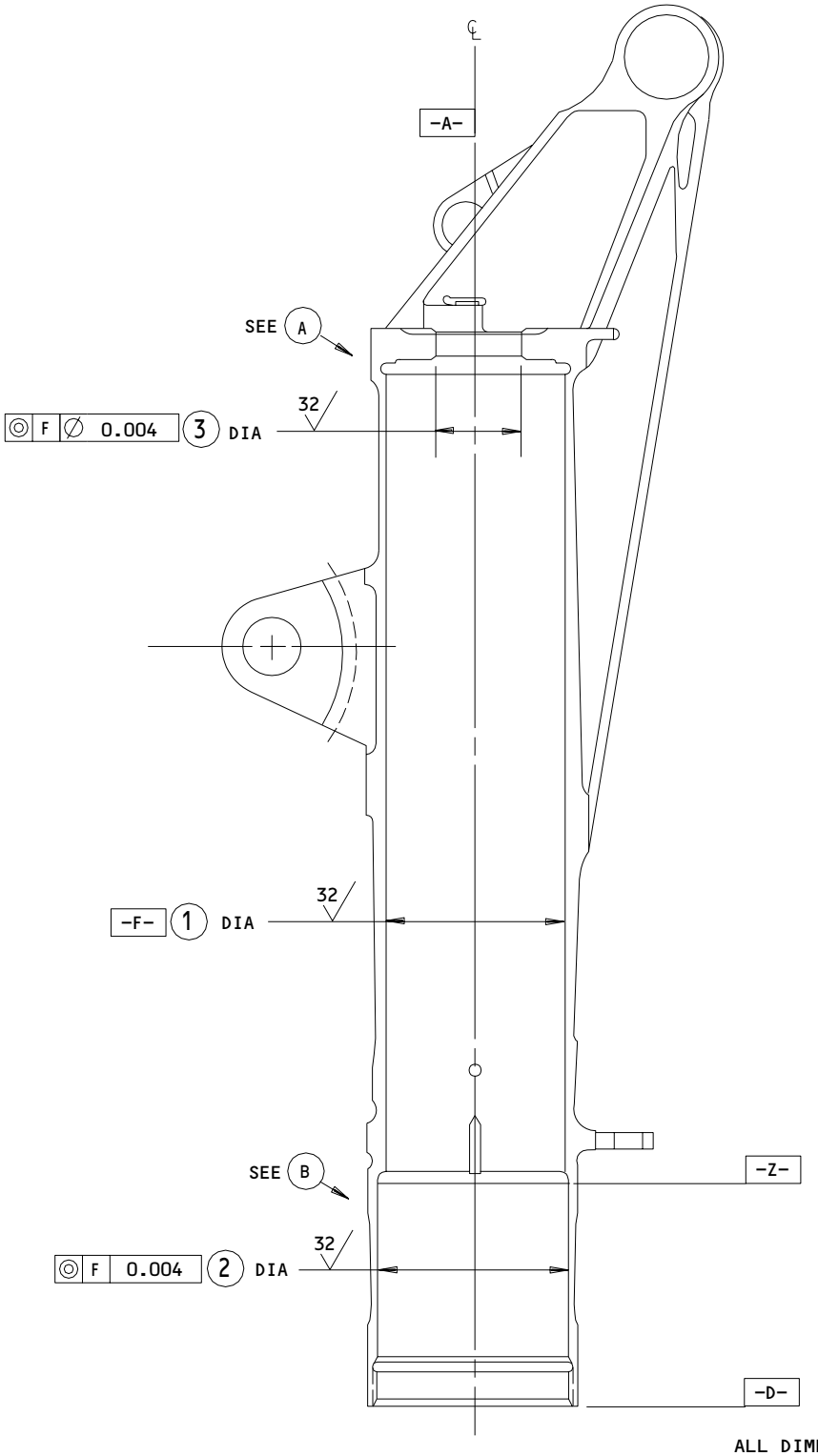
2. Threads for Gland Nut (Fig. 601)

   A. Cut the threads to a larger size, as shown.

   B. Cadmium-titanium plate the threads. Apply BMS 10-11, Type 1 primer.

   C. Make an oversize gland nut per REPAIR 13-1, Fig. 601.

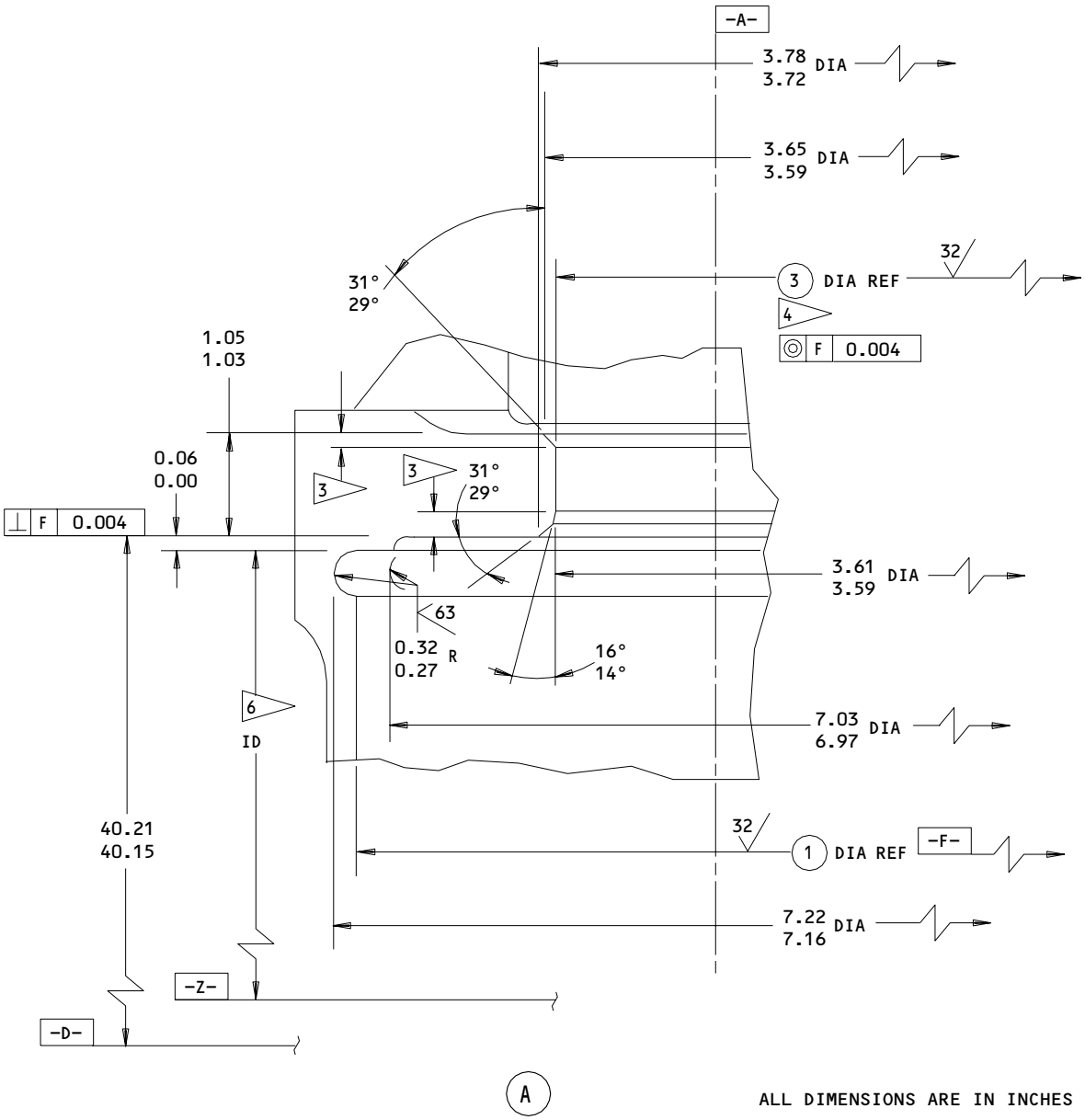
   D. Be sure to identify the cylinder and the nut as matched parts. We recommend that you vibro-engrave MATCHED SET - DO NOT SEPARATE on the cylinder and the nut, and paint these parts with yellow BMS 10-60 enamel.



ALL DIMENSIONS ARE IN INCHES

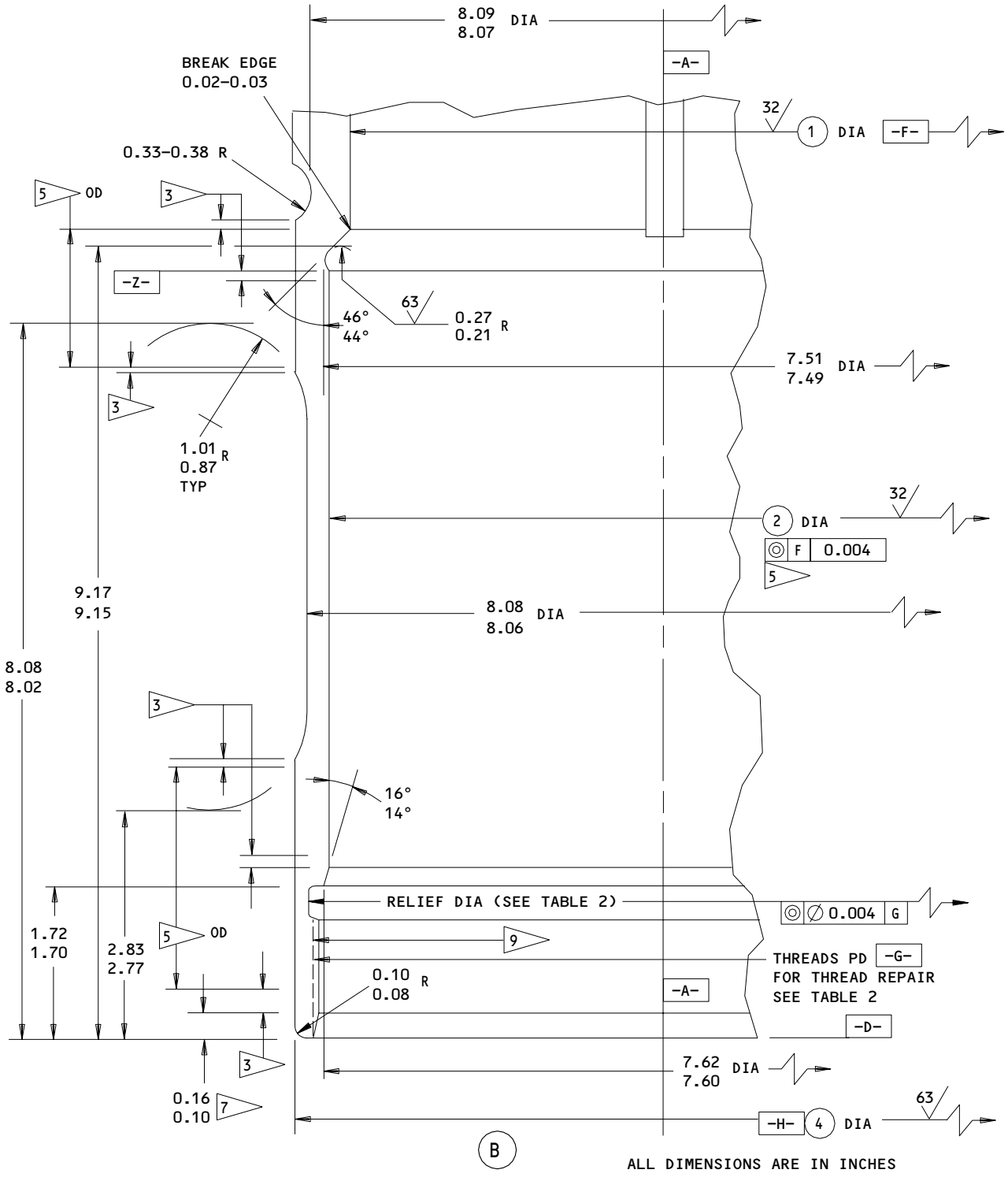
162T1137-2
Barrel Repair
Figure 601 (Sheet 1)

182368



162T1137-2
Barrel Repair
Figure 601 (Sheet 2)

182380



162T1137-2
Barrel Repair
Figure 601 (Sheet 3)

182381

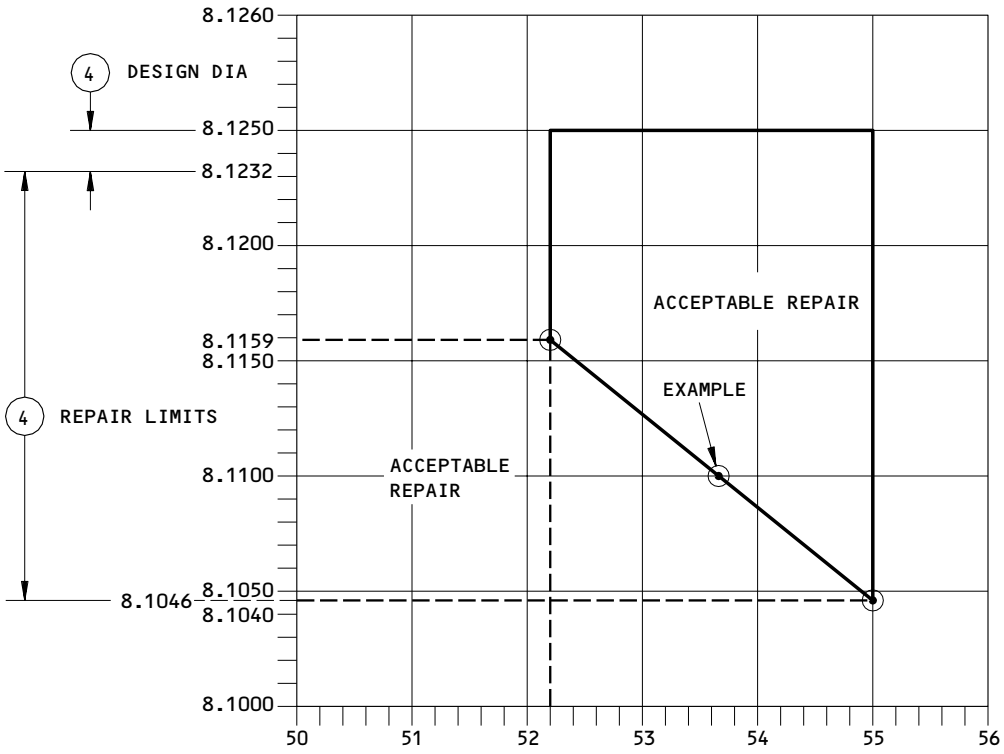
REFERENCE NUMBER	(1)	(2)	(3)	(4)
DESIGN DIMENSION	7.153 7.150	7.477 7.474	3.495 3.492	8.1250 8.1232
REPAIR LIMIT	7.173 1	7.497 1	3.535 2	1 10

TABLE 1

UNJS-3B THREAD SIZE	7.750-8 (DESIGN) (REF)	7.875-8 (1/8 OVERSIZE)
MAJOR DIAMETER	7.7476 7.7320	7.8726 7.8570
PITCH DIAMETER	7.6769 7.6688	7.8019 7.7938
MINOR DIAMETER	7.6432 7.6282	7.7682 7.7532
ROOT RADIUS	0.0226 0.0188	0.0226 0.0188
THREAD RELIEF DIAMETER	7.793 7.783	7.918 7.908

(DIMENSIONS AFTER PLATING)
TABLE 2

162T1137-2
Barrel Repair
Figure 601 (Sheet 4)



REPAIR CRITERIA

THE COMBINATION OF OD REPAIR LIMITS AND HARDNESS (HRC) MUST BE WITHIN THE INDICATED AREA OF THE CHART. AN ACCEPTABLE OD REPAIR LIMIT OR HARDNESS CAN BE CALCULATED AS FOLLOWS:

HRC = 52.2 MINIMUM, IF (8.1159 < OD ≤ 8.1250)
HRC ≥ 2063.2 − (247.79) (OD) IF (8.1046 ≤ OD ≤ 8.1159)

OD ≥ 8.3266 − (0.004036) (HRC) IF (52.2 < HRC ≤ 55)

EXAMPLE: IF THE OD IS MACHINED DOWN TO 8.1100,
HRC ≥ 2063.2 − (247.79) (8.1100)
HRC ≥ 53.6

THIS MEANS THE HARDNESS FOR THIS PART CAN NOT BE SMALLER THAN 53.6.
IF THE HARDNESS IS KNOWN FIRST, THE OD REPAIR LIMIT CAN SIMILARLY BE FOUND.

162T1137-2
Barrel Repair
Figure 601 (Sheet 5)

H34933

REFINISH

CADMIUM-TITANIUM PLATE (0.0005-0.0007 THICK) AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.32) TO LUBE HOLES AND THREADS AT BOTTOM OF CYLINDER. NICKEL PLATE PER 4 DIA (3) (FIG. 601, REPAIR 1-3). CHROME PLATE PER 5 DIA (2) (FIG. 601, REPAIR 1-3), AND LOWER BARREL OD AS NOTED. CADMIUM-TITANIUM PLATE (0.0005-0.0007 THICK) AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.32) FOLLOWED BY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) TO HOLES FOR BUSHINGS, LUG FACES (4), (9), (10) (FIG. 601, REPAIR 1-2) UPPER LUG FACE AT HOLE (17) (FIG. 601, REPAIR 1-2) AND THE UPPER FACES OF LUGS (17), (2) (FIG. 601, REPAIR 1-2). CADMIUM-TITANIUM PLATE (0.0005 MIN THICK) AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.01) FOLLOWED BY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) TO ALL OTHER SURFACES EXCEPT NO PRIMER ON BARREL ID AS NOTED, AND OIL CHARGING VALVE HOLE. AFTER BUSHING, BEARING, AND LUBE FITTING INSTALLATION, APPLY BMS 10-60, GRAY GLOSS ENAMEL (SRF-14.9813) TO ALL SURFACES RECEIVING F-15.01 EXCEPT BUSHINGS, BEARING, LUBE FITTINGS, ID AS NOTED, AND OIL CHARGING VALVE HOLE.

1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH, WITH 0.08 MAX PLATING RUNOUT AT EDGES, HOLES AND RELIEFS UNLESS OTHERWISE NOTED.

2 LIMIT FOR NICKEL PLATE BUILDUP AND MACHINE TO DESIGN DIMENSIONS AND FINISH, WITH 0.08 MAX PLATING RUNOUT AT EDGES, HOLES AND RELIEFS UNLESS OTHERWISE NOTED.

3 CHROME OR NICKEL PLATE RUNOUT AREA

4 NICKEL PLATE (F-15.33), 0.0015 MIN THICK

5 CHROME PLATE (F-15.34), 0.003 MIN THICK

6 NO PRIMER OR ENAMEL

7 NO CHROME PLATE

8 EXCEPT OIL CHARGING VALVE BOSS

9 DO NOT SHOT PEEN THREADS OR OIL CHARGING VALVE HOLE.

10 IF THE THREADS ARE DESIGN VALUES, THE LIMIT IS 8.1032. IF THE THREADS ARE 1/8 OVERSIZE, SEE CHART FOR LIMITS.

REPAIR

REF 1 2 9 10

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.06R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL, 275-300 KSI

ALL DIMENSIONS ARE IN INCHES

162T1137-2
Barrel Repair
Figure 601 (Sheet 6)

CYLINDER ASSEMBLY, INNER - REPAIR 2-1

162T1138-1, -3, -5

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

1. Bushing Replacement (Fig. 601)

   A. Remove the old bushings.

   B. If you find defects on lug faces or hole surfaces, refer to REPAIR 2-2 for repair instructions.

   C. Install replacement bushings by the shrink-fit method (SOPM 20-50-03).

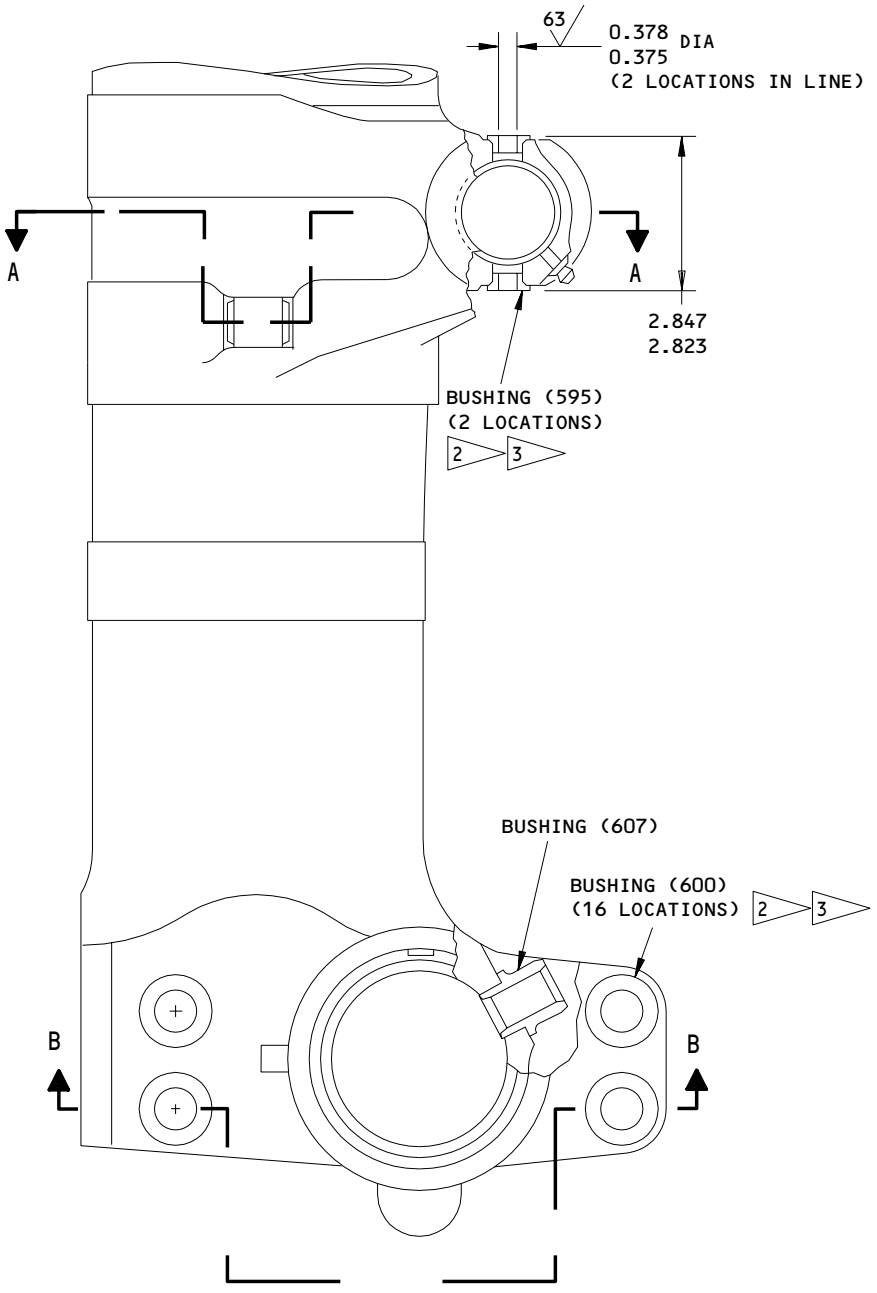
   D. Make check of the dimensions and machine them as necessary.

      NOTE: Machining of bushings after installation is not usually necessary because bushings and lug faces are premachined to give the dimensions shown.

   E. Seal bushings as indicated.

2. Lube Fitting Replacement

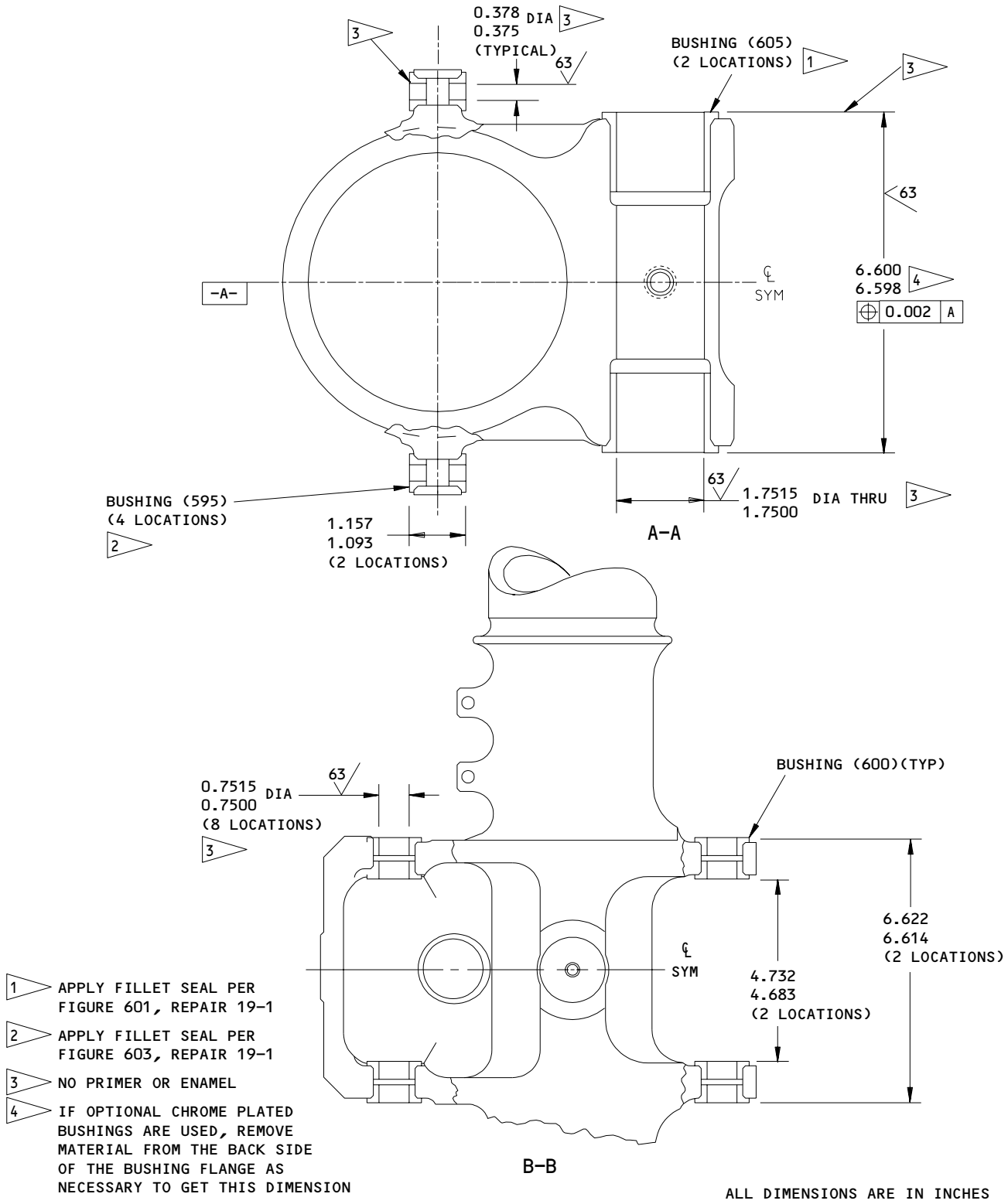
   A. Replace lube fitting (590) per CMM 32-00-03.



ALL DIMENSIONS ARE IN INCHES

162T1138-1,-3,-5
Bushing Replacement
Figure 601 (Sheet 1)

182406



162T1138-1,-3,-5
Bushing Replacement
Figure 601 (Sheet 2)

182289

CYLINDER, INNER - REPAIR 2-2

162T1138-2, -4, -6

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601, REPAIR 2-4.

1. Lug Faces and Holes (Fig. 601)

A. Method 1 -- Removal of Corrosion in Center of Lug ID

NOTE: This procedure enables corrosion to be removed without machining the entire bore oversize, if corrosion is localized at the center area which is exposed between two bushings.

(1) Determine repair diameter and width of groove required to remove corrosion (Fig. 602).

(2) Machine center area as required.

(3) Cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(4) Apply MIL-C-11796, Class 1 corrosion preventive compound (F-19.03) to the indicated diameter.

(5) Install bushings per REPAIR 2-1.

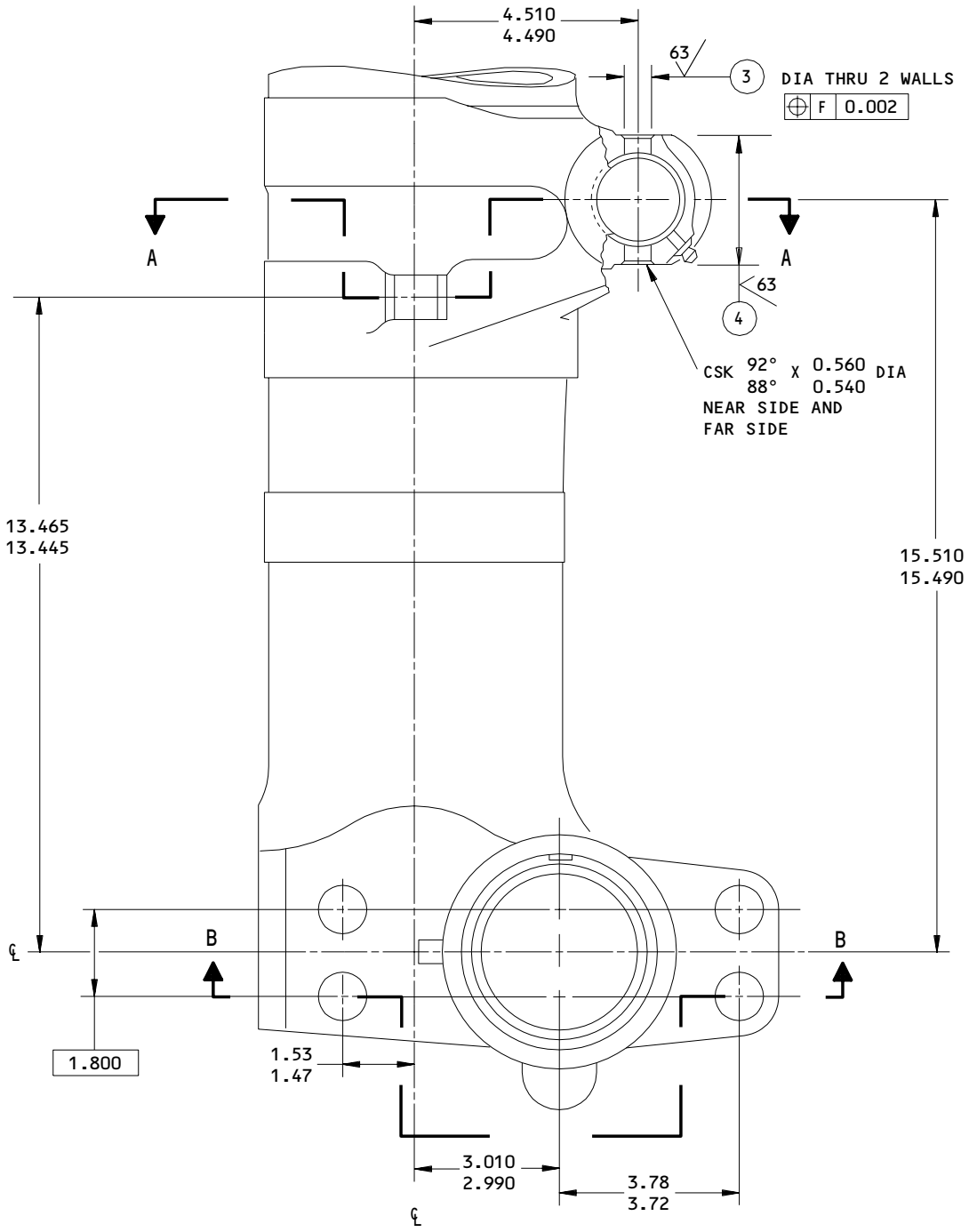
B. Method 2 -- Installation of Oversize Bushings

(1) Machine as required, within repair limits shown, to remove defects.

(2) Shot peen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

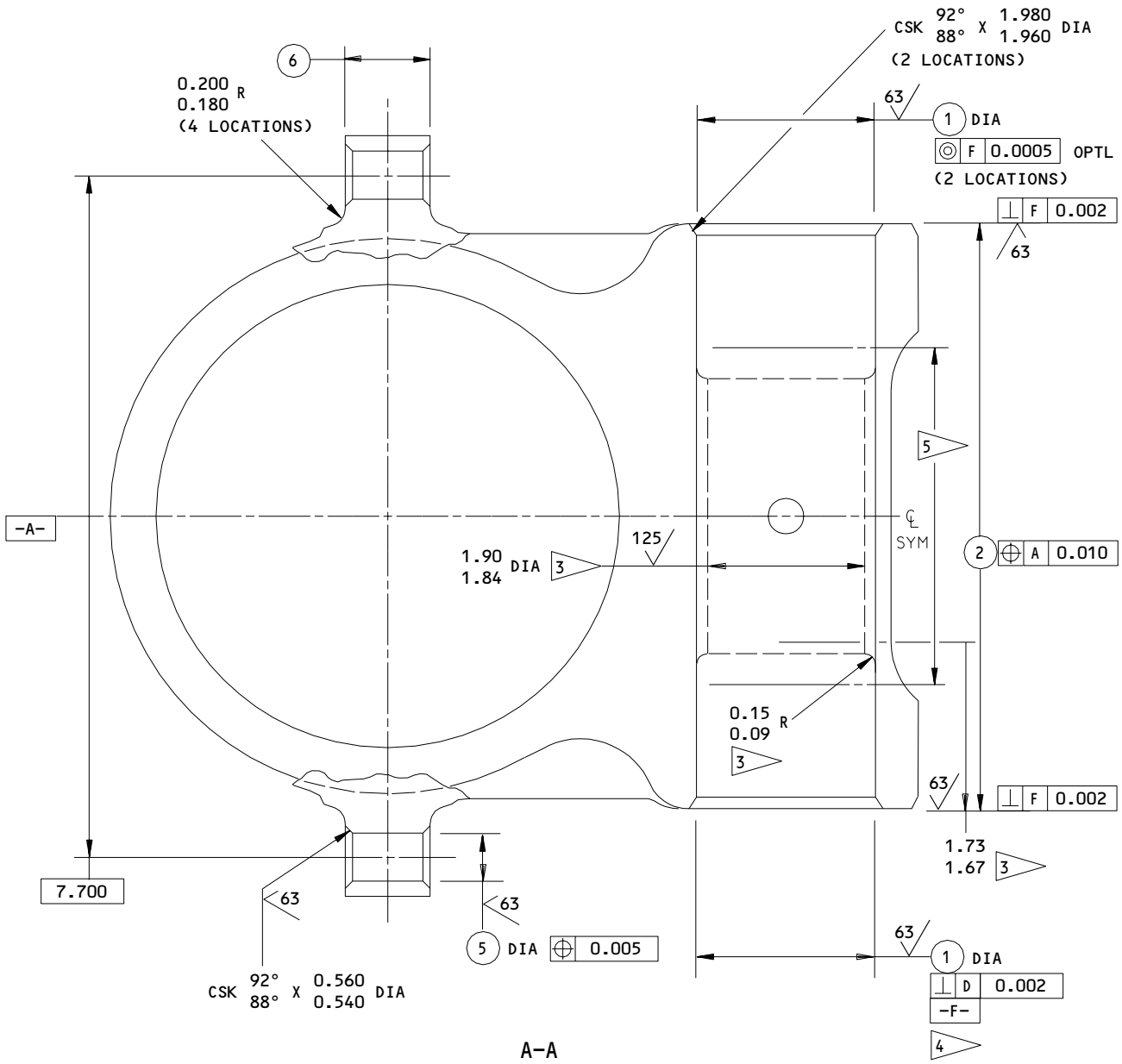
(3) Manufacture bushings (Fig. 603), as required, to compensate for amount of material removed in step (1).

(4) Install bushings per REPAIR 2-1.



ALL DIMENSIONS ARE IN INCHES

162T1138-2,-4,-6
Lug Face and Hole Repair
Figure 601 (Sheet 1)

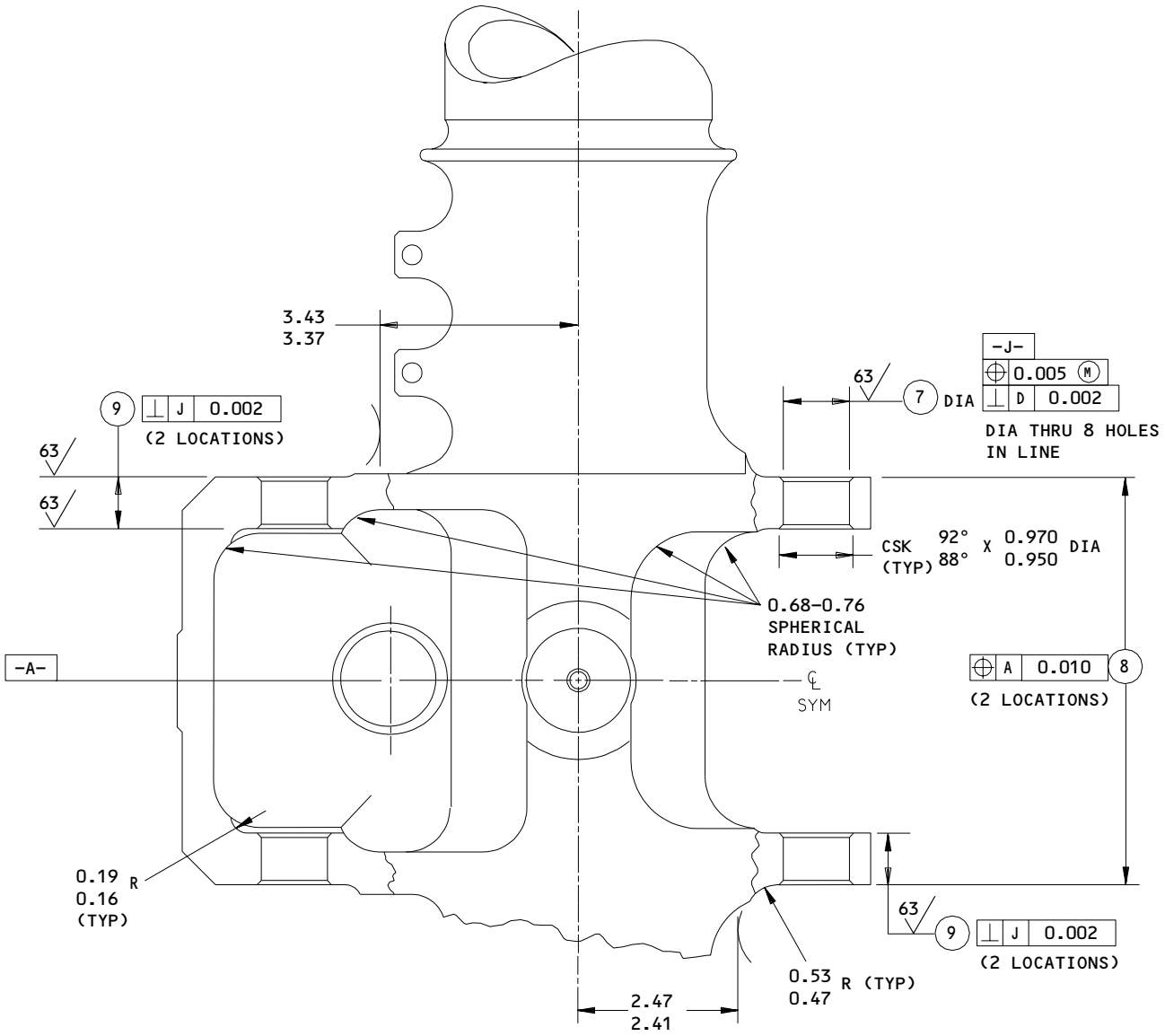


A-A

ALL DIMENSIONS ARE IN INCHES

162T1138-2,-4,-6
Lug Face and Hole Repair
Figure 601 (Sheet 2)

182404



B-B

ALL DIMENSIONS ARE IN INCHES

162T1138-2,-4,-6
Lug Face and Hole Repair
Figure 601 (Sheet 3)

182285

REFINISH

FOR REFINISH INSTRUCTIONS REF
REPAIR 2-3

REPAIR

REF 1 2

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.06 R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL
(275-300 KSI)

ALL DIMENSIONS ARE IN INCHES

	1	2 2	3	4 2	5	6 2	7	8 2	9 2
DESIGN DIM	1.9115 1.9100	6.4734 6.4684	0.5015 0.5000	2.720 2.700	0.5015 0.5000	1.03 0.97	0.8765 0.8750	6.4954 6.4904	0.840 0.820
REPAIR LIMIT 1	1.9715	6.4384	0.5615	2.670	0.5615	0.94	0.9365	6.4604	0.790

162T1138-2,-4,-6
Lug Face and Hole Repair
Figure 601 (Sheet 4)

182387

1 REPAIR LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS

ALL DIMENSIONS ARE IN INCHES

2 LUG FACE MACHINING REQUIREMENTS:

1. MATERIAL REMOVED FROM ANY FACE MUST NOT BE MORE THAN HALF THE DIFFERENCE BETWEEN THE DESIGN DIMENSION AND THE REPAIR LIMIT.

2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA OF BUSHING TO BE INSTALLED.

3. BLEND MISMATCH STEPS TO 0.18–0.26 RADIUS, OR IF WITHIN 0.10 OF LUG FILLET RADIUS, USE SAME RADIUS AS LUG FILLET. BREAK SHARP EDGES 0.03–0.07 R.

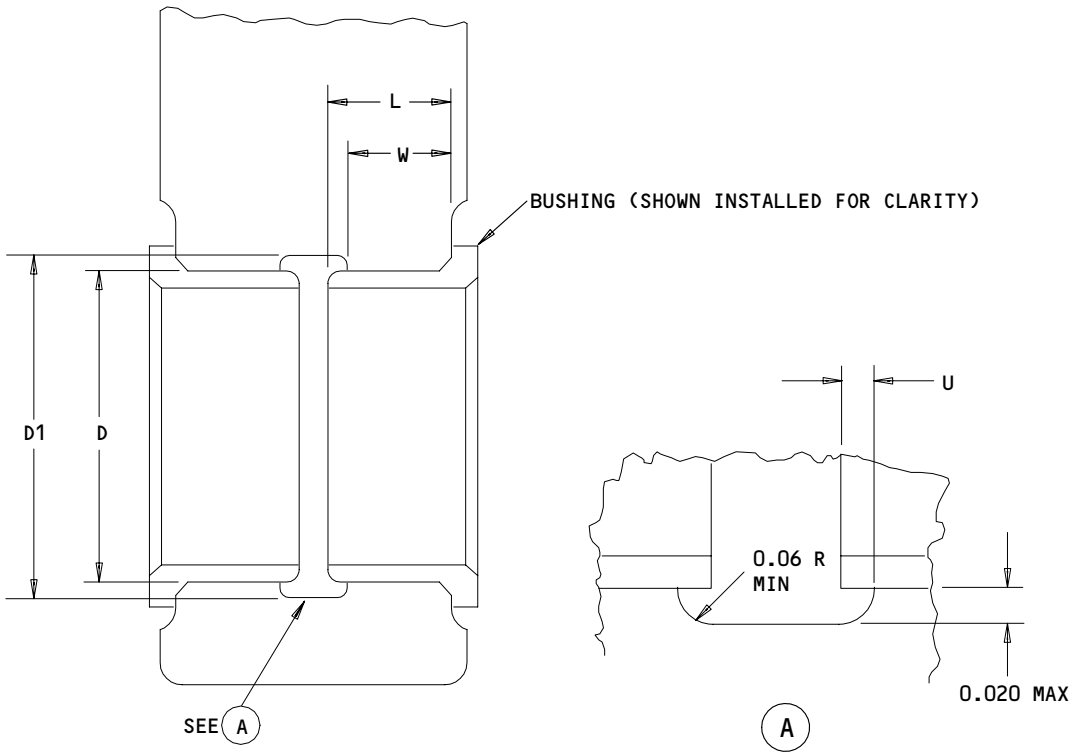
3 OPTIONAL MACHINING PROFILE; DESIGNATED BY DOTTED LINES.

4 FOR [-D-] REF REPAIR 2-3

5 COAT ID BETWEEN BUSHINGS WITH MIL-C-11796, CLASS I, CORROSION PREVENTIVE COMPOUND (F-19.03) PER 20-41-03

162T1138-2,-4,-6
Lug Face and Hole Repair
Figure 601 (Sheet 5)

182388



D = MAX REPAIR DIA OF HOLE (SEE FIG. 601)

D1 = MAX REPAIR DIA OF GROOVE = (D +0.040)

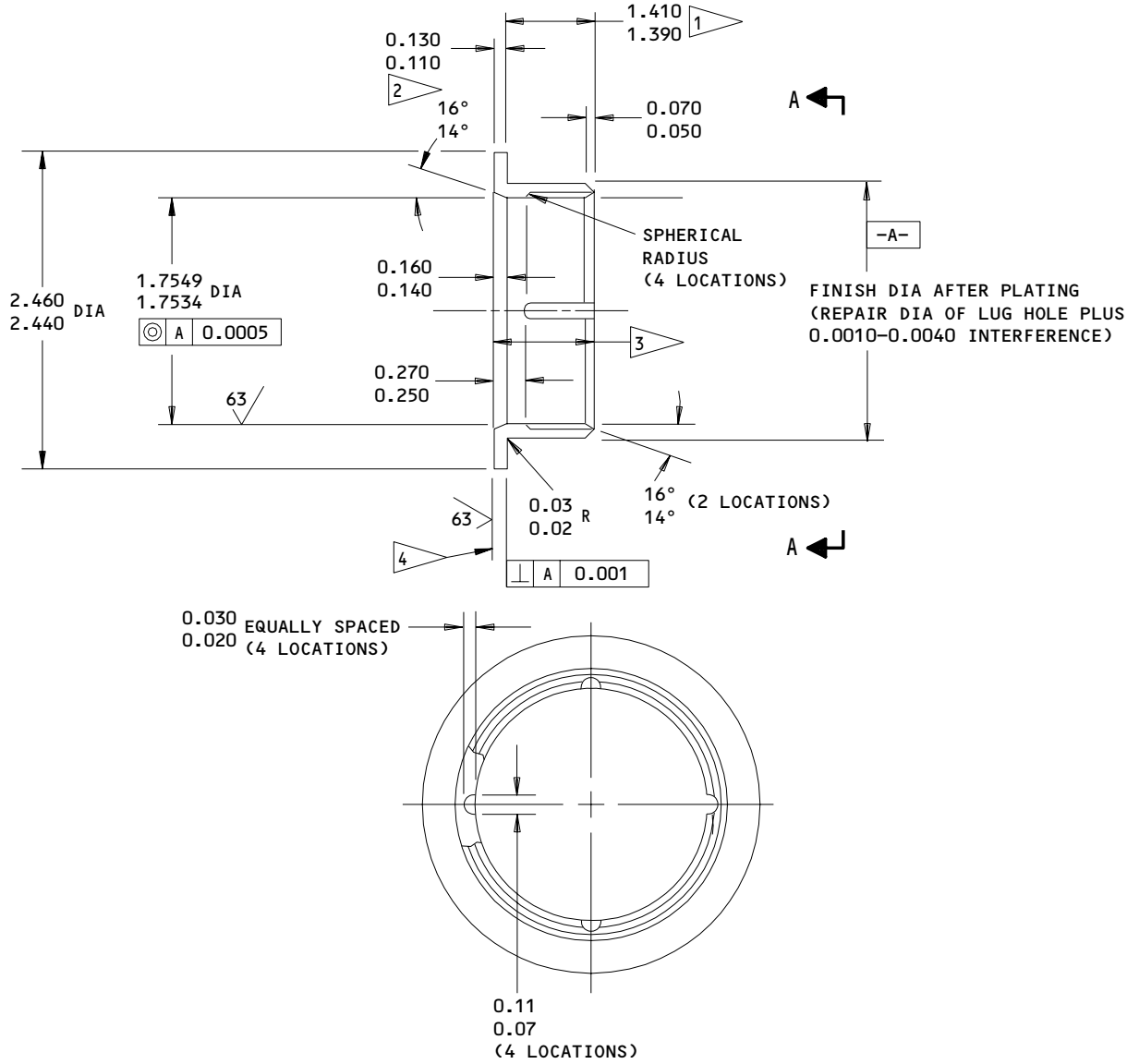
L = LENGTH OF BUSHING (SEE FIG. 603)

U = UNDERCUT = (L X 0.1) (0.06 MAX)

W = LUG DIM TO EDGE OF GROOVE = (L–U)

ALL DIMENSIONS ARE IN INCHES

Lug Hole Diameter – Corrosion Removal from Area Between Bushings
Figure 602



A-A

1. MINUS AMOUNT REMOVED FROM LUG FACE
2. PLUS AMOUNT REMOVED FROM LUG FACE
3. DO NOT PLATE ID
4. OPTIONAL: FLASH CHROME PLATE (SOPM 20-42-03) THE FLANGE FACE, 0.0003-0.0005 THICK, WITH 0.08 MAX RUNOUT AT OD EDGES

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN) ALL OVER EXCEPT AS NOTED

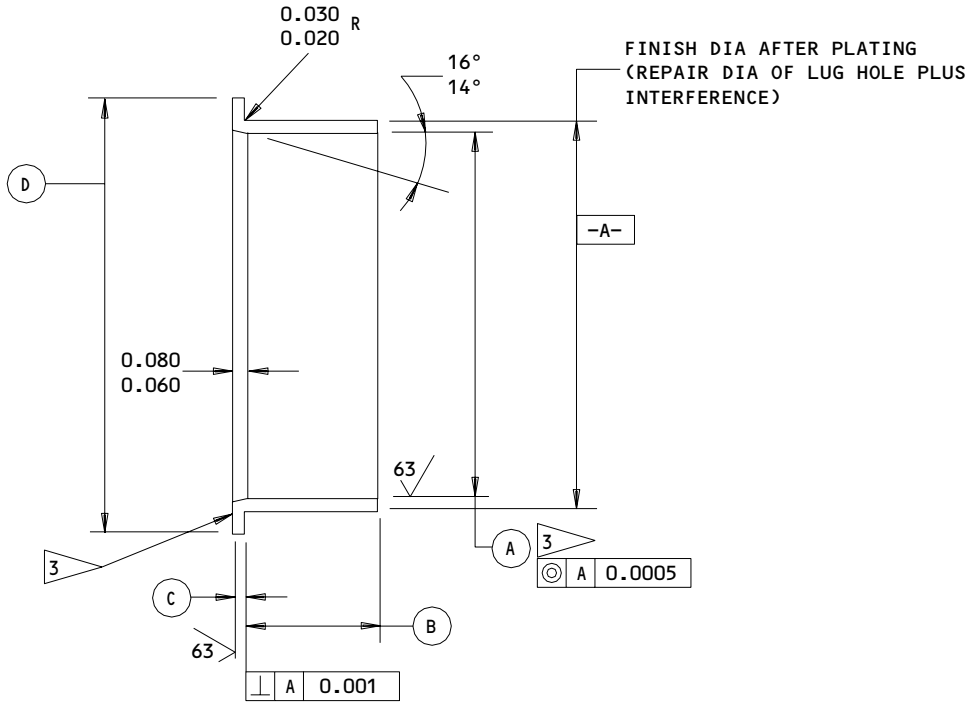
MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (1) FIG. 601 - REPLACES BUSHING (605, IPL FIG. 1) 162T1124-2

Oversize Bushing Details
Figure 603



HOLE LOCATION (FIG. 601)	A	B 1	C 2	D	INTER-FERENCE
3, 5	0.3794 0.3779	0.260 0.240	0.061 0.060	0.78 0.72	0.0034 0.0004
7	0.7545 0.7530	0.360 0.340	0.061 0.060	1.33 1.27	0.0036 0.0006

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN) ALL OVER EXCEPT AS NOTED

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID OR FACE

HOLE LOCATION 3 , 5 , 7 FIG. 601

Oversize Bushing Details
Figure 604

CYLINDER, INNER - REPAIR 2-3

162T1138-2,-4, -6

NOTE: Refer to REPAIR-GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601, REPAIR 2-4.

1. Shank Diameters 1, 2, 3, 5, 6 (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate thickness must not be more than 0.010-inch after grinding.

2. Shoulder Face (Fig. 601)

   A. Machine as required, within repair limits, to remove defects. Blend into relief groove if necessary.

   B. Shot peen. Chrome plate and grind to restore grip length. Do not chrome plate relief groove.

3. Relief Grooves (Fig. 601)

   A. Machine as required, within repair limits, to remove defects. If necessary to adjust grip length, machine shoulder at thread relief.

   B. Shot peen. Apply cadmium-titanium plate and primer.

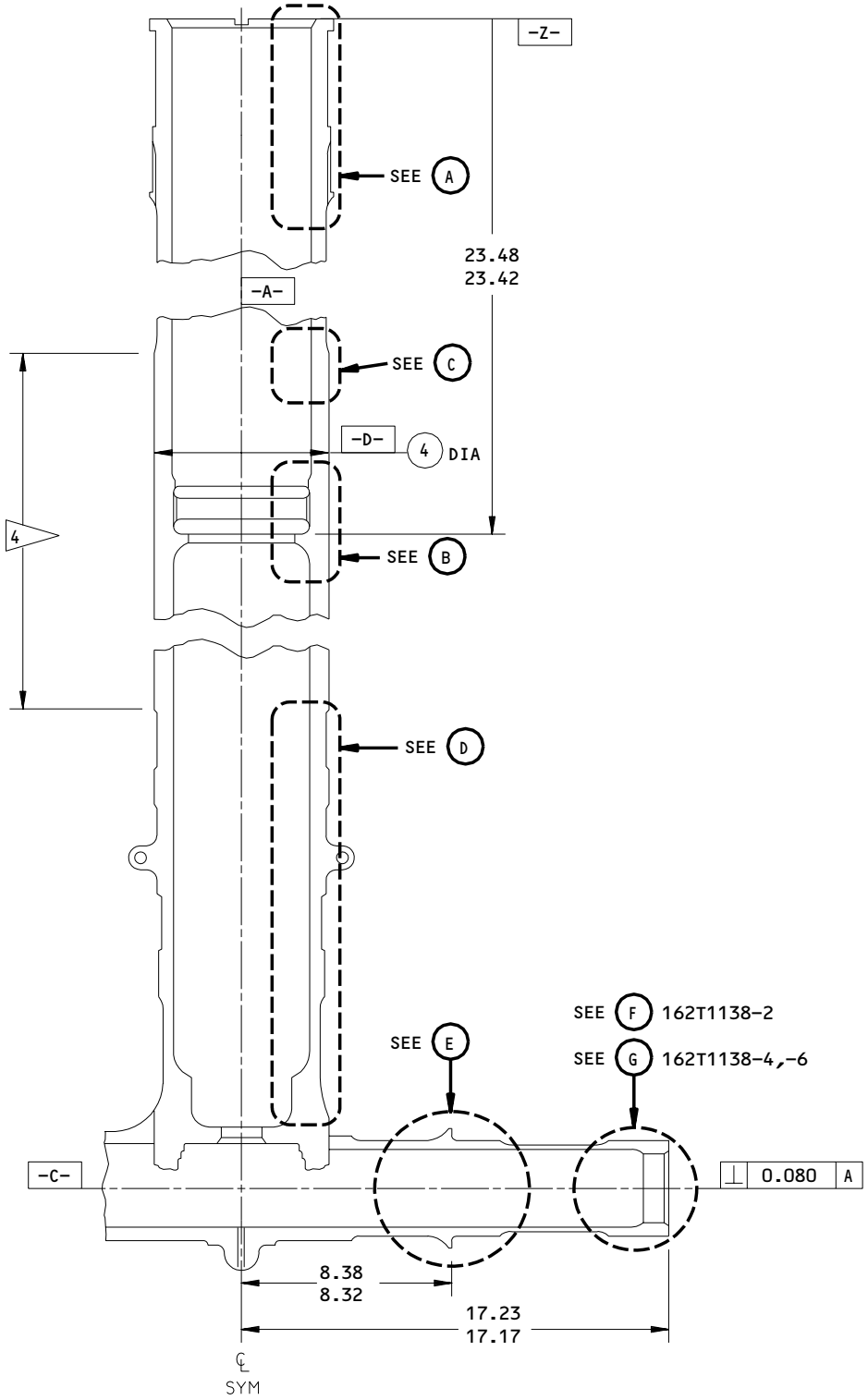
4. Axle Threads (Fig. 601)

   A. For 162T1138-2 inner cylinders (internal threads), cut the threads to a larger size, as shown in Table B. For 162T1138-4,-6 (exterior threads), cut the threads to a smaller size, as shown in Table C.

B. Cadmium-titanium plate the threads. Apply primer per CMM 32-00-02.

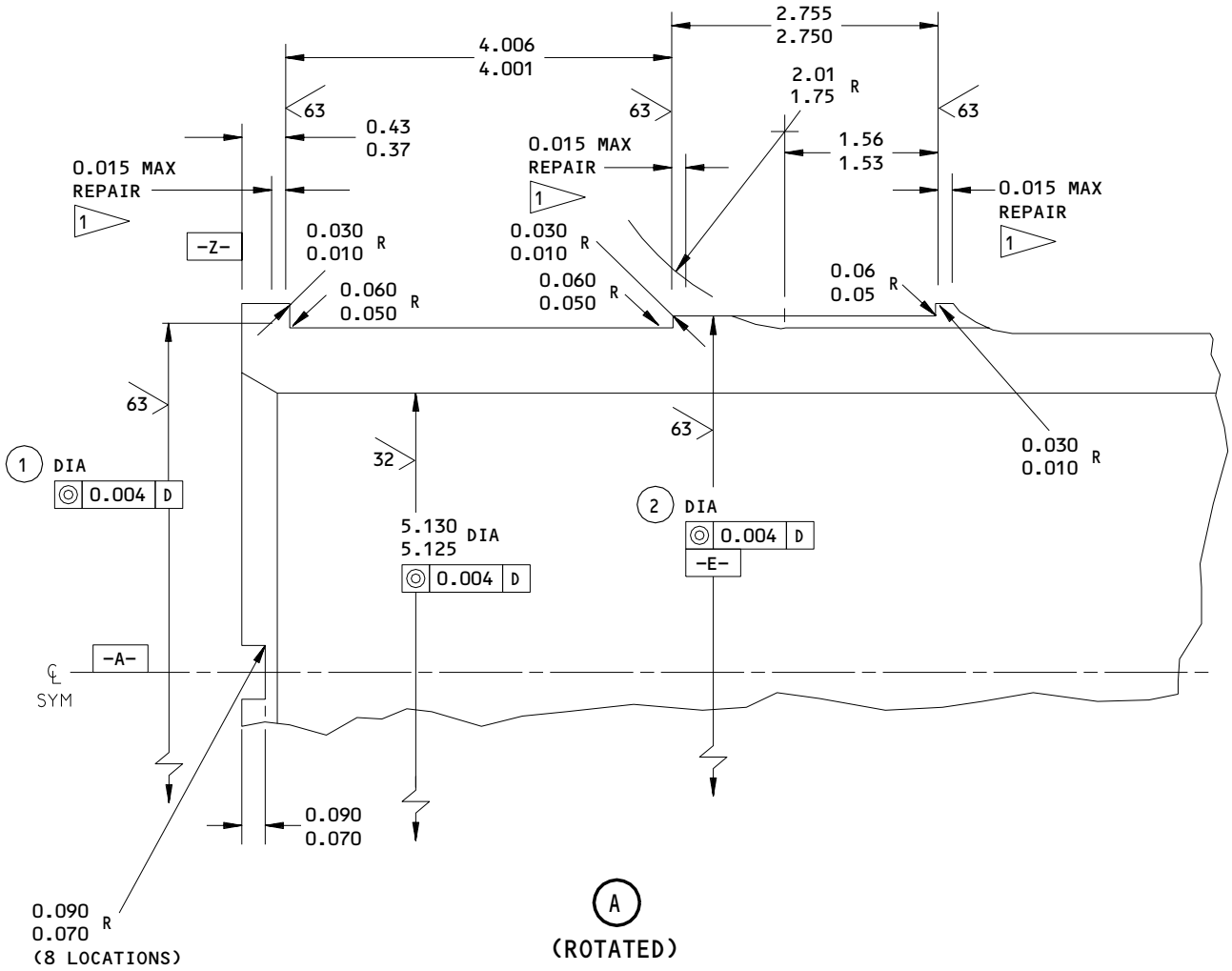
C. For 162T1138-2 inner cylinders, make an oversized nut (CMM 32-21-21, REPAIR 12-1). For 162T1138-4,-6 inner cylinders, make an undersize nut (CMM 32-21-21 REPAIR 14-1).

D. Be sure to identify the inner cylinder and the nut as matched parts. We recommend that you vibro-engrave "MATCHED SET-DO NOT SEPARATE" on the inner cylinder and the nut, and paint these parts with yellow BMS 10-60 enamel.



ALL DIMENSIONS ARE IN INCHES

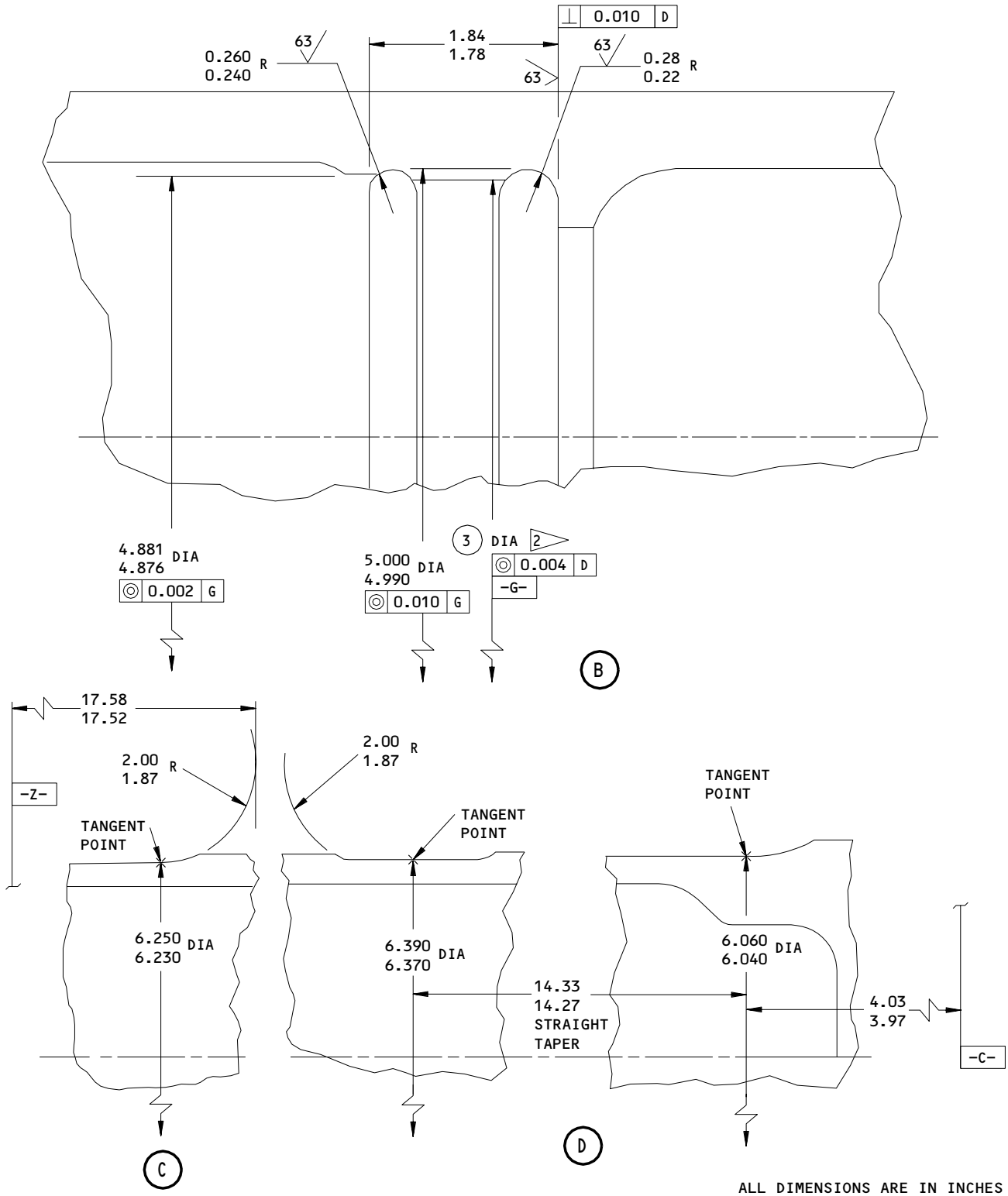
162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 1)



ALL DIMENSIONS ARE IN INCHES

162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 2)

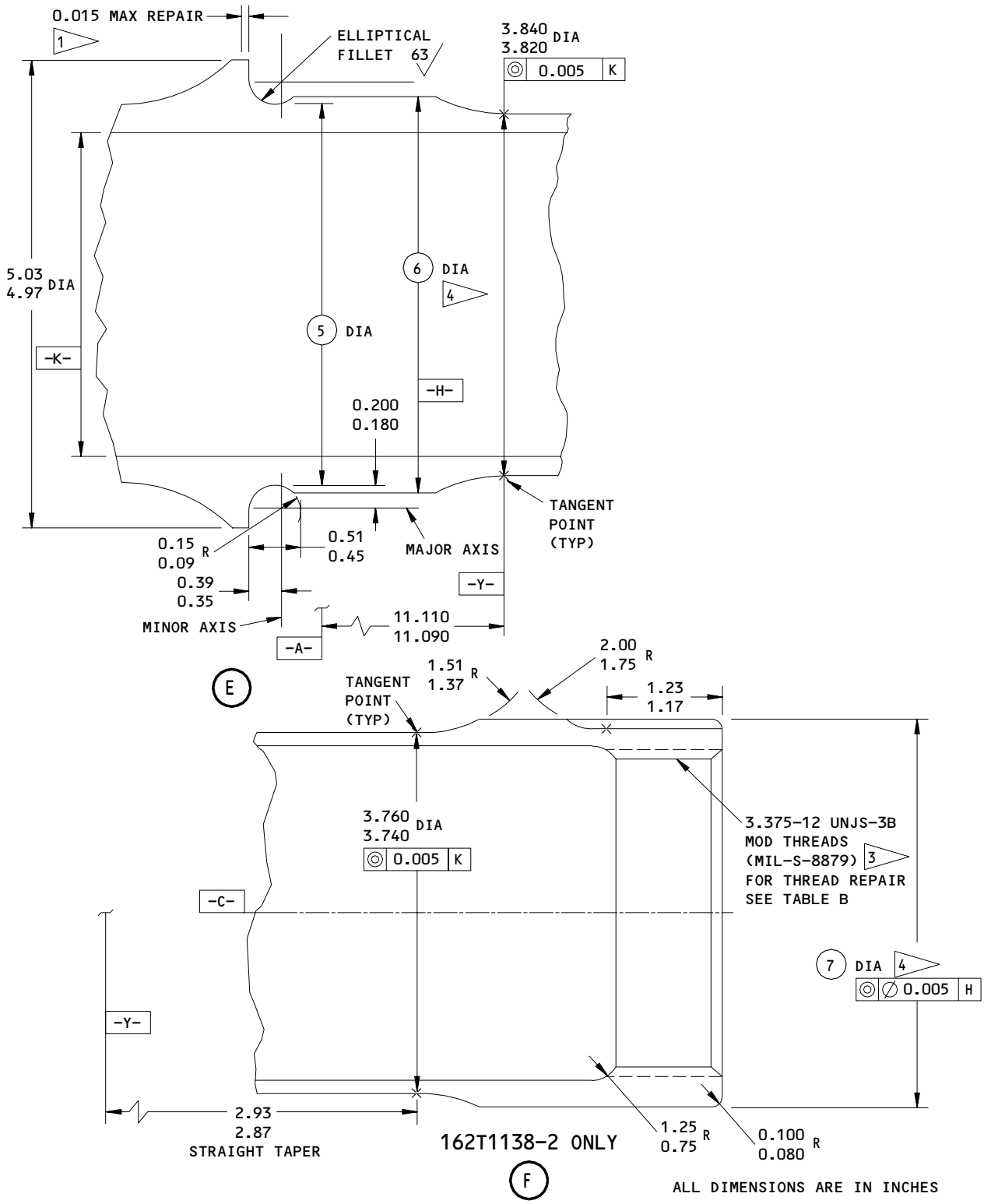
182617



ALL DIMENSIONS ARE IN INCHES

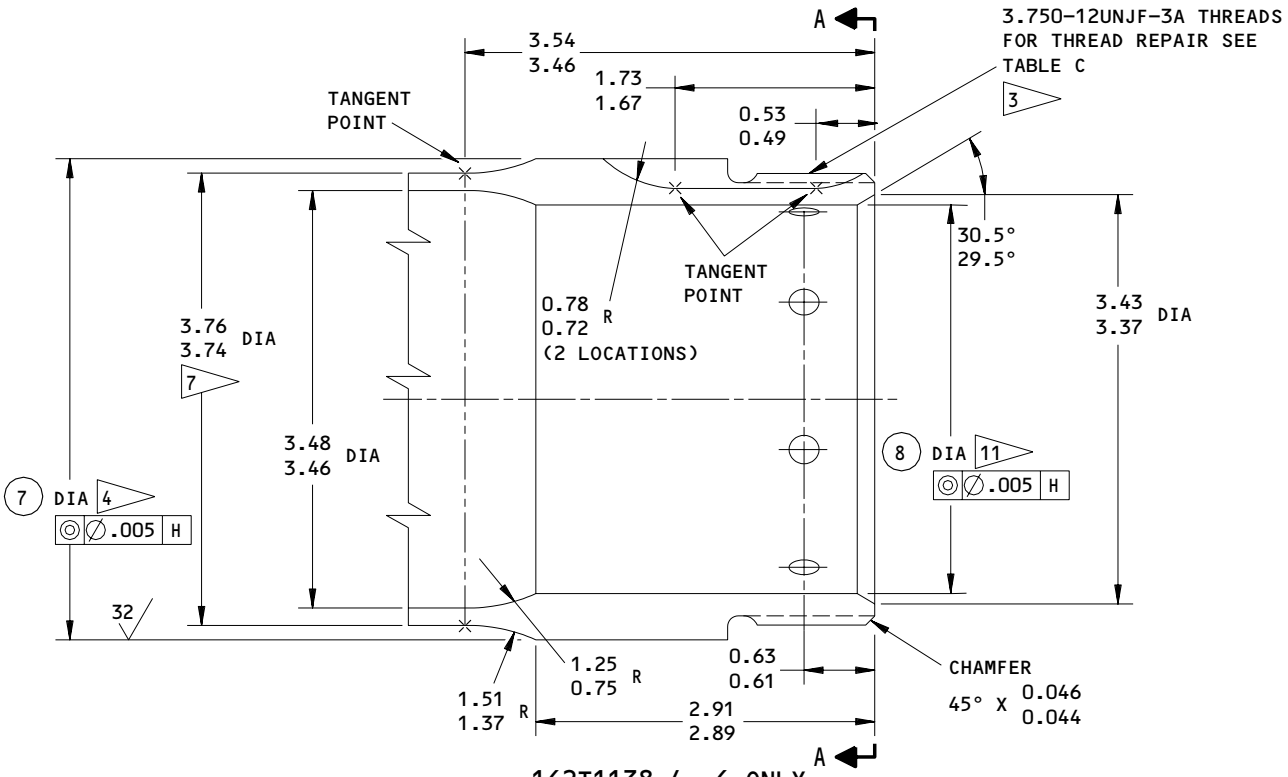
162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 3)

182614

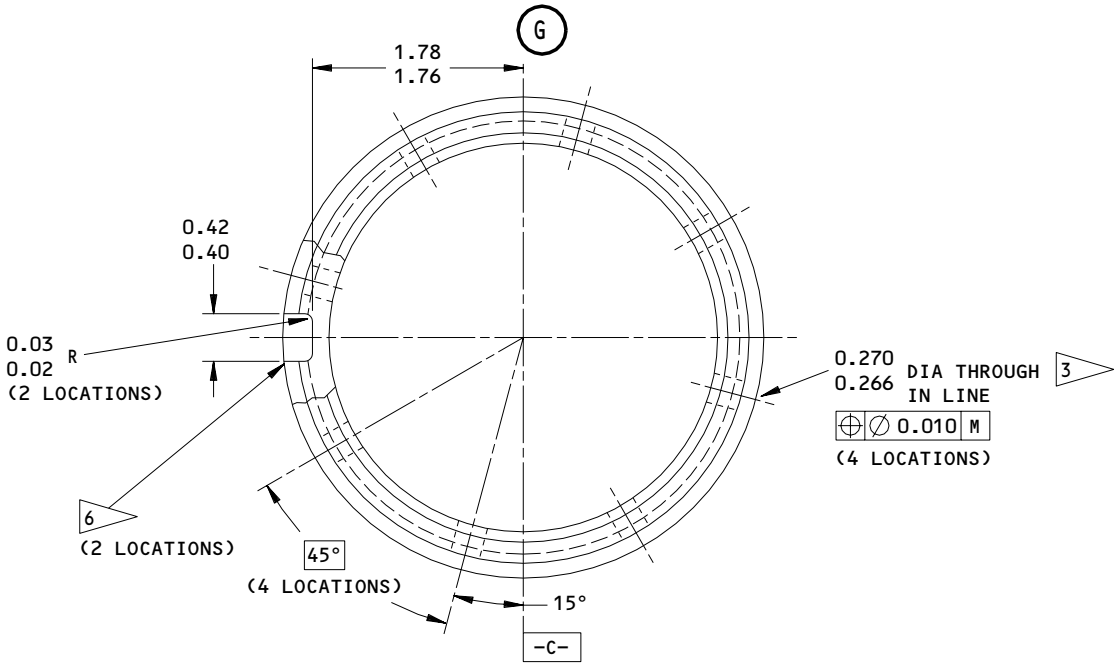


162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 4)

182521



162T1138-4,-6 ONLY



162T1138-4 ONLY
A-A

162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 5)

805474

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) 10 11
DESIGN DIM	5.9112 5.9087	6.307 6.302	4.870 4.868	6.497 6.494	4.200 4.180	4.2106 4.2096	3.999 3.998	3.250 3.246
REPAIR LIMIT	5.8887 1	6.282 1	4.890 1	6.474 1	4.160 5	4.1896 1	3.978 1	---

TABLE A

UNJS-3B THREAD SIZE	3.375-12 (DESIGN)		3.500-12 (1/8 OVERSIZE)	
	7	8	7	8
MAJOR DIA	3.3753 3.3644	3.3743 3.3630	3.5003 3.4894	3.4999 3.4880
PITCH DIA	3.3292 3.3237	3.3272 3.3209	3.4542 3.4487	3.4522 3.4459
MINOR DIA	3.3048 3.2952	3.3038 3.2938	3.4298 3.4202	3.4288 3.4188
ROOT RADIUS	0.0155 0.0132	0.0150 0.0125	0.0155 0.0132	0.0150 0.0125
THREAD RELIEF DESIGN DIA	3.480 3.460	---	3.533 3.523	---
THREAD RELIEF REPAIR LIMIT	---	---	---	---

162T1138-2 ONLY
TABLE B

162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 6)

182393

UNJF-3A THREAD SIZE	3.750-12 (DESIGN)		3.625-12 11 (1/8 UNDERSIZE)	
	7	8	7	8
MAJOR DIA	3.7486 3.7376	3.7500 3.7386	3.6236 3.6126	3.6250 3.6136
PITCH DIA	3.6931 3.6896	3.6959 3.6911	3.5681 3.5646	3.5709 3.5661
MINOR DIA	3.6524 3.6480	3.6538 3.6440	3.5274 3.5230	3.5288 3.5190
ROOT RADIUS	0.0155 0.0132	0.0150 0.0125	0.0155 0.0132	0.0150 0.0125
THREAD RELIEF DESIGN DIA	3.630 3.620	---	3.500 3.490	---
THREAD RELIEF REPAIR LIMIT	---	---	---	---

162T1138-4,-6 ONLY
TABLE C

REFINISH

REF REPAIR 2-4 FOR REFINISH INSTRUCTIONS

1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH. PUT A 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS SHOWN DIFFERENTLY. DO NOT PLATE RELIEF RADII.

2 63 BEFORE PLATING; 32 AFTER PLATING

3 DO NOT SHOT PEEN

4 32 BEFORE PLATING; 16 AFTER PLATING

5 RESTORATION TO DESIGN DIMENSIONS NOT REQUIRED

6 BREAK EDGES TO 0.03-0.04 R

7 BEFORE PLATING

8 AFTER PLATING

9 162T1138-2

10 162T1138-4,-6

11 UNDERSIZE THREAD REPAIR PERMITTED ONLY IF THIS ID IS WITHIN DESIGN DIMENSIONS

REPAIR

REF 1 5 11

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.06 R

SHOT PEEN: (UNLESS SHOWN BY 3)
0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL, 275-300 KSI

ALL DIMENSIONS ARE IN INCHES

162T1138-2,-4,-6
Barrel Repair
Figure 601 (Sheet 7)

H96704

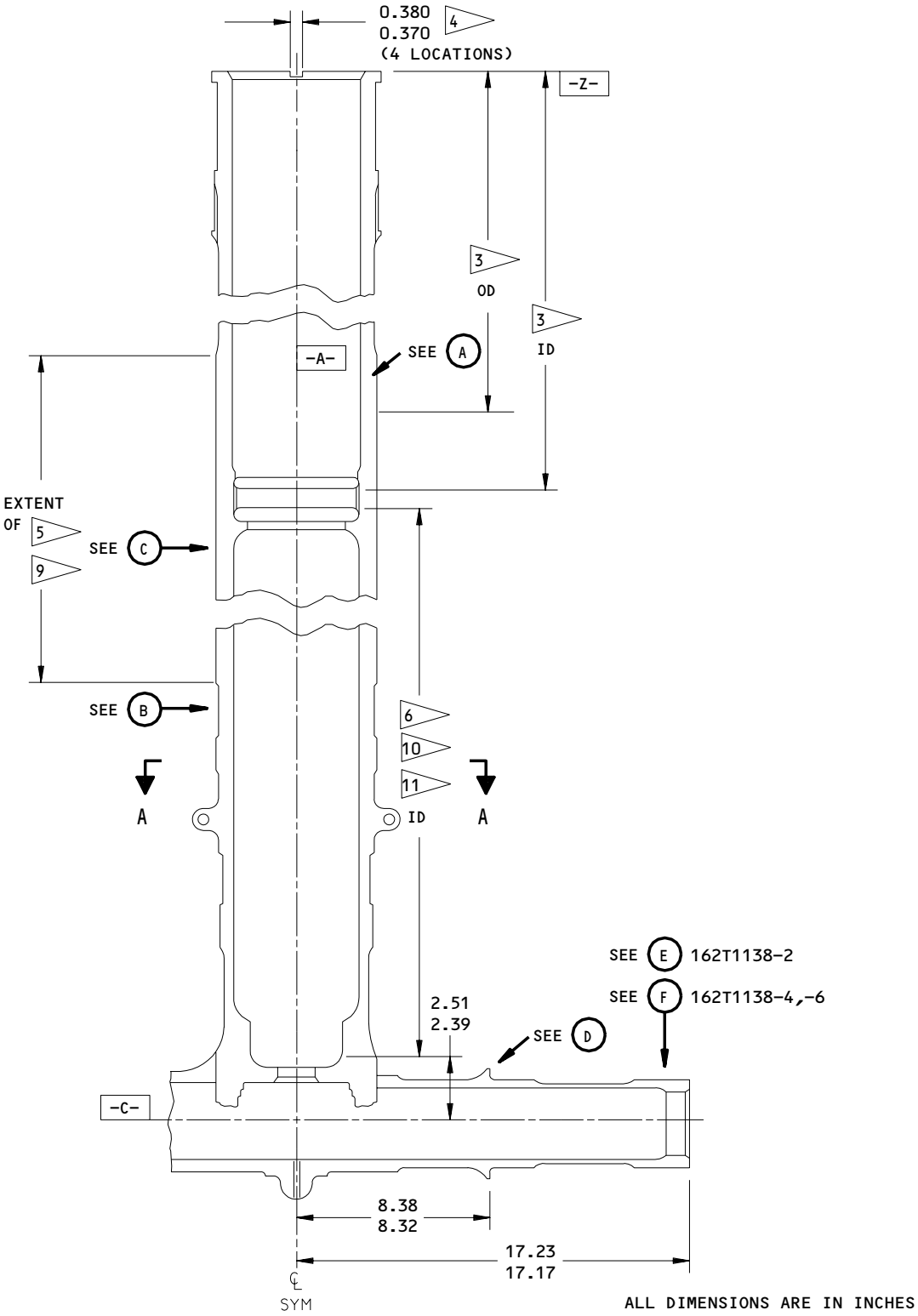
CYLINDER, INNER - REPAIR 2-4

162T1138-2,-4, -6

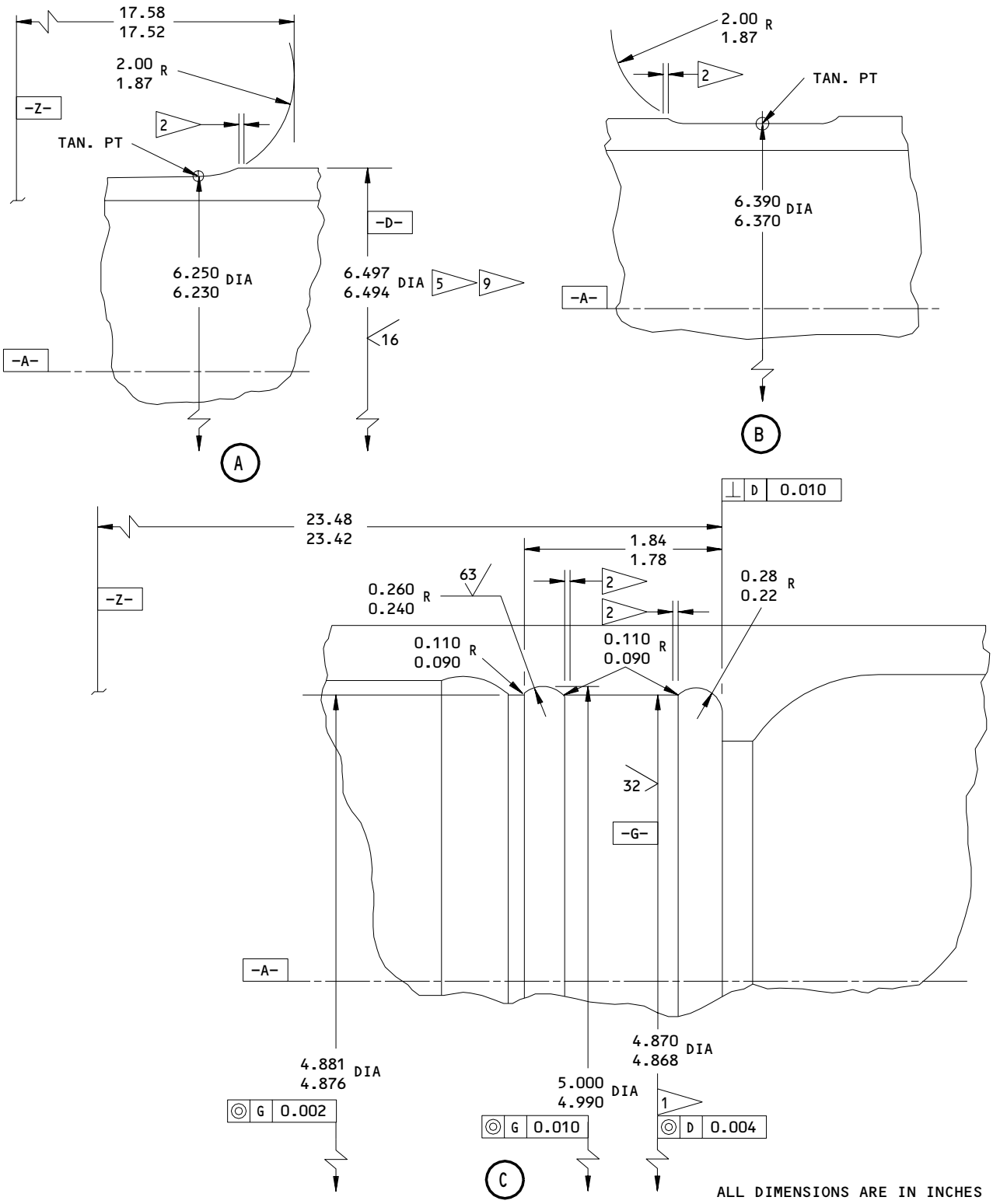
1. Plating and Coating Repair (Fig. 601)

   A. Repair is only replacement of the original finish. Refer to Refinish instructions for details.

   B. Refer to REPAIR-GENERAL for a list of applicable standard practices.

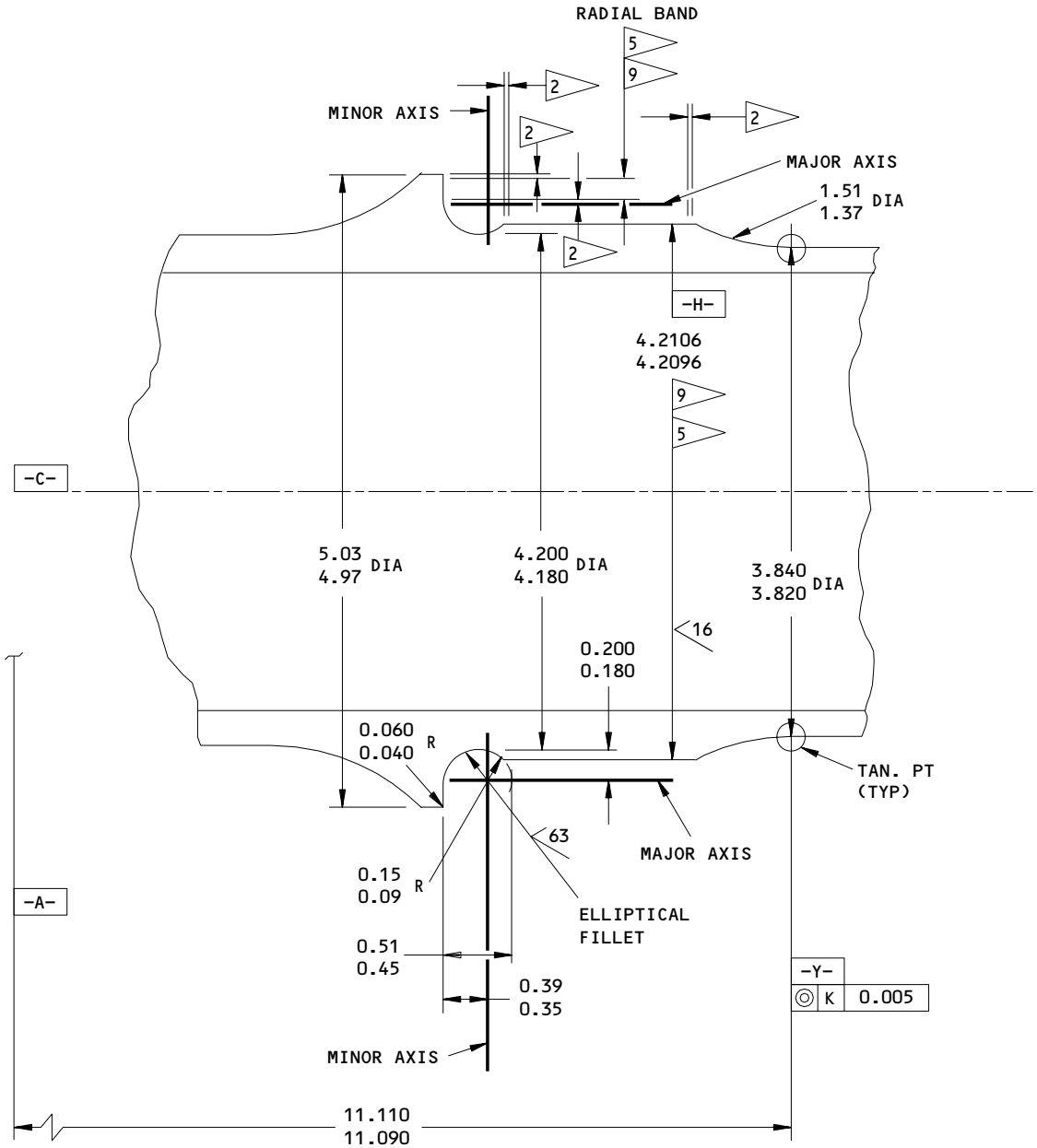


162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 1)



162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 2)

182516

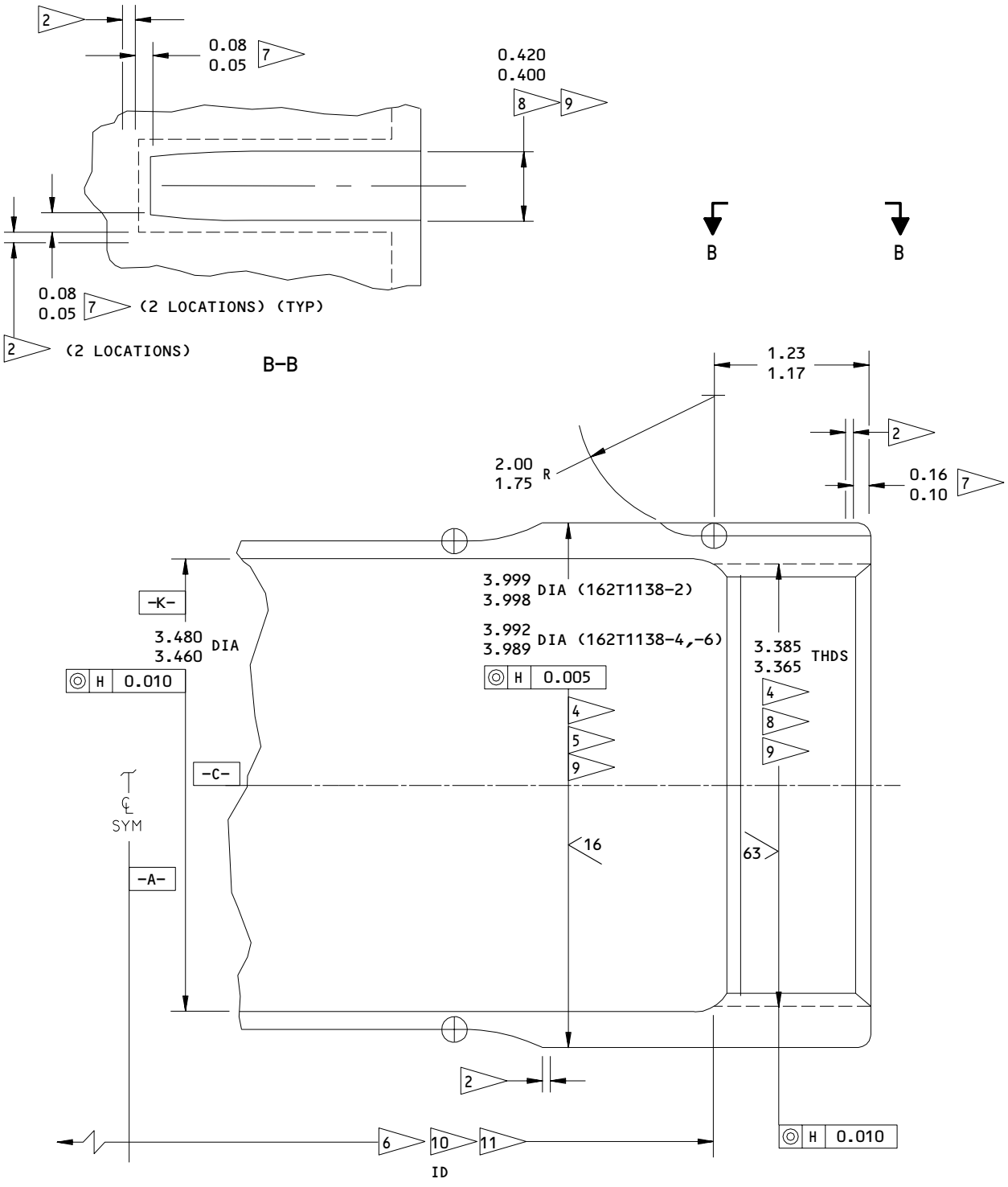


D

ALL DIMENSIONS ARE IN INCHES

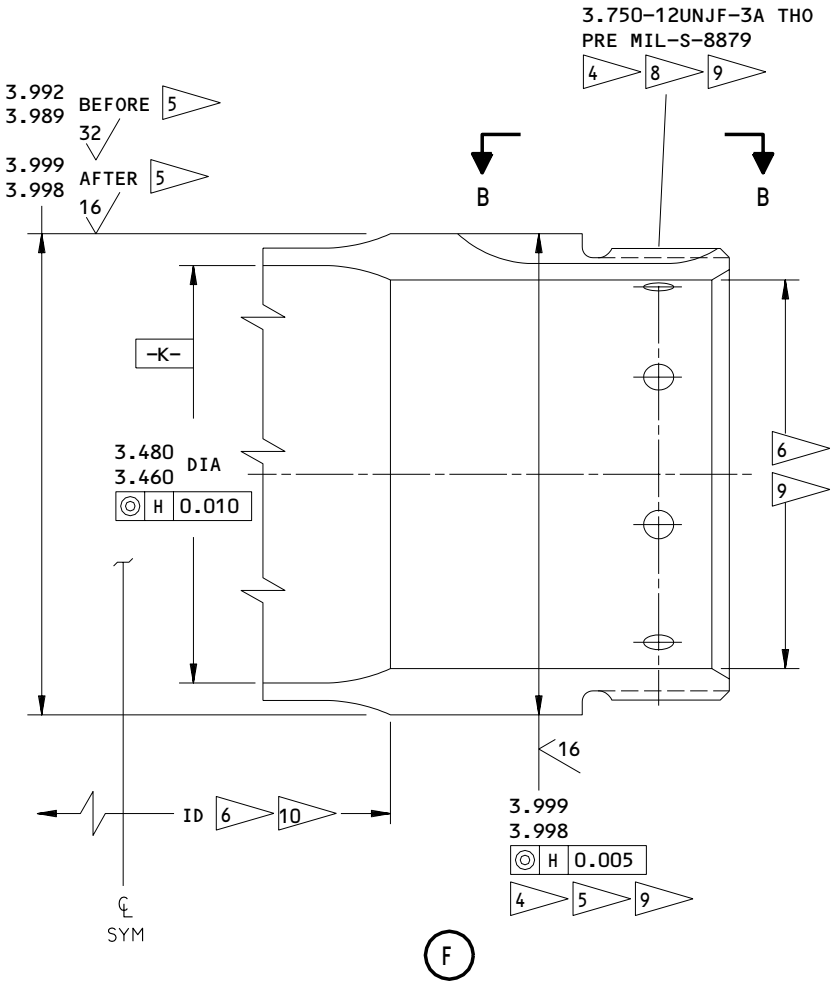
162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 3)

182284



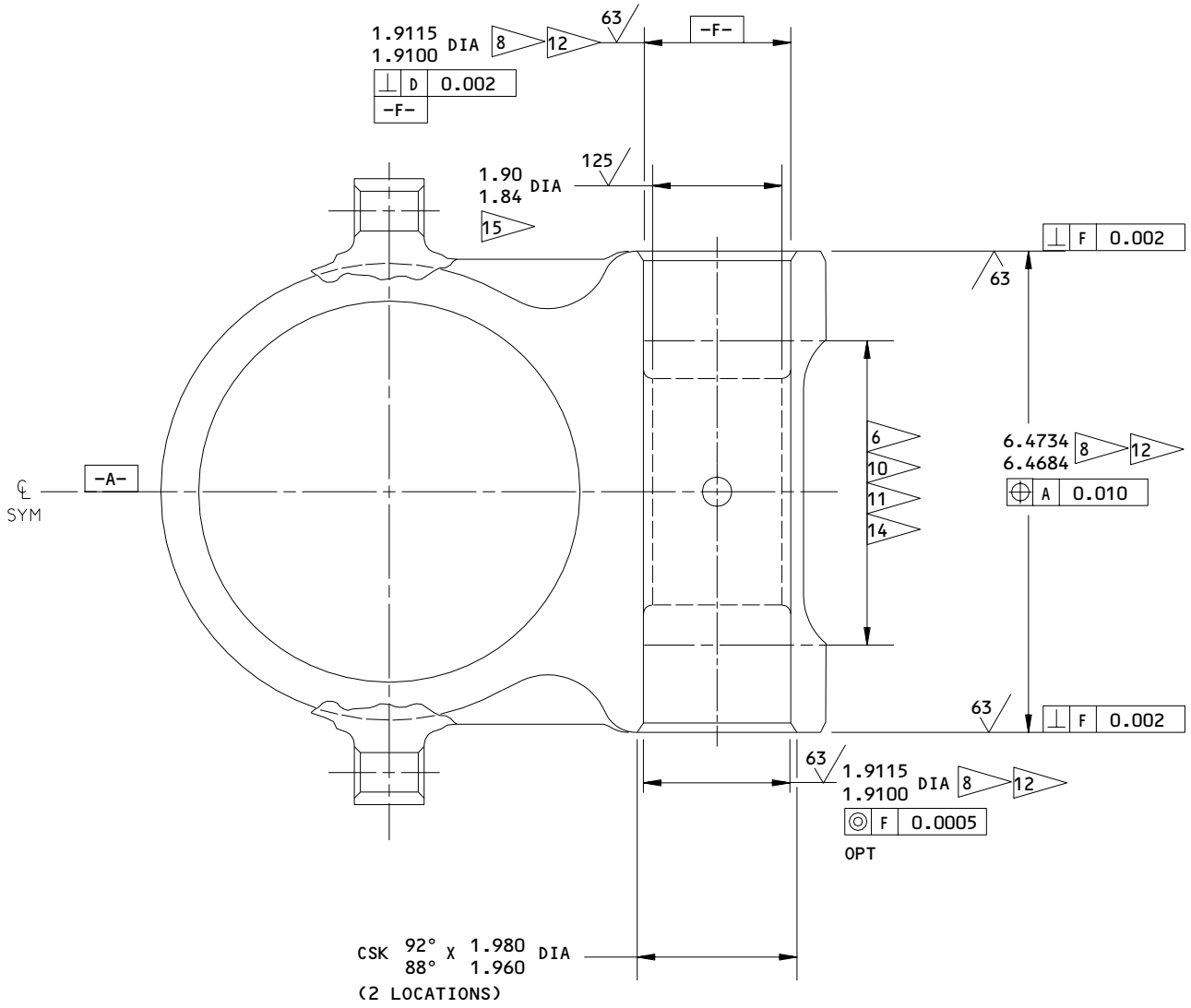
162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 4)

182514



162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 5)

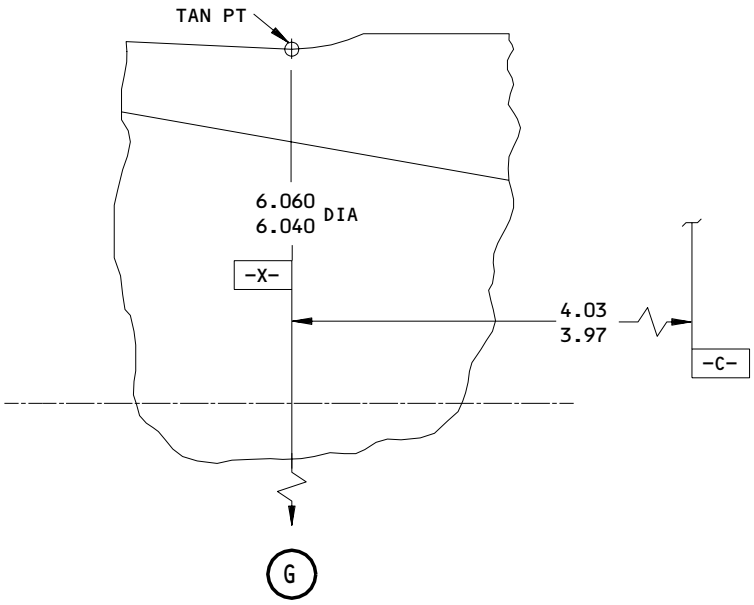
805489



A-A

ALL DIMENSIONS ARE IN INCHES

162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 6)



REFINISH

CHROME PLATE DIA-G- PER 1 2. CHROME PLATE PER 5 2 DIAS -D-, -H-, -W-, AND RADIAL BAND ON AXLE SHOULDER. CADMIUM-TITANIUM PLATE PER 8 AXLE SPLINES, KEYWAYS, LUBE HOLES, DIAS (5) (7), SURFACES (2) (REPAIR 2-2, FIG. 601). CADMIUM-TITANIUM PLATE DIA-V- PER 8 6. CADMIUM-TITANIUM PLATE ALL OTHER SURFACES PER 6. APPLY PRIMER TO DIA-V- PER 10 12. APPLY PRIMER PER 10 TO BORES. WIPE CHROME PLATE WITH PRIMER 9. APPLY PRIMER 12 TO ALL OTHER SURFACES BUT NOT LUBE HOLES, LUG HOLES ON AXLE FORWARD FACE, KEY SLOTS ON CYLINDER TOP, OR AREAS 3 4. APPLY CORROSION PREVENTIVE COMPOUND 11 TO BORES, AXLE ID, AND DIA-V- AS SHOWN.

AFTER BUSHINGS AND LUBE FITTINGS ARE INSTALLED, APPLY ENAMEL 13 ALL OVER BUT NOT ON BUSHINGS, LUBE FITTINGS, BORES, CHROME PLATE, AXLE BORE OR SPLINES.

REPAIR

(SAME AS REFINISH)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

SHOT PEEN (BUT NOT THREADS):
0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL, 270-300 KSI

ALL DIMENSIONS ARE IN INCHES

1. CHROME PLATE (F-15.04), 0.003 MIN THICK
2. PUT A 0.08 CHROME PLATE RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS SHOWN DIFFERENTLY. DO NOT PLATE RELIEF RADII.
3. DO NOT PLATE OR APPLY ENAMEL OR PRIMER.
4. NO PRIMER OR ENAMEL.
5. CHROME PLATE (F-15.34) 0.003 MIN THICK.
6. CADMIUM-TITANIUM PLATE (F-15.01).
7. NO CHROME PLATE
8. CADMIUM-TITANIUM PLATE (F-15.32) 0.0005-0.0007 THICK
9. WIPE WITH PRIMER (F-19.45)
10. APPLY BMS 10-11, TYPE 1 PRIMER (F-20.03)
11. APPLY CORROSION PREVENTIVE COMPOUND MIL-C-11796 (F-19.03) OR BMS 3-29 (F-19.261)
12. APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02)
13. AFTER BUSHING AND LUBE FITTING INSTALLATION, APPLY BMS 10-60 GRAY GLOSS ENAMEL (F-14.9813, WHICH REPLACES SRF-14.9813)
14. ID ONLY, THIS LENGTH
15. OPTIONAL MACHINING PATTERN (DASHED LINES)

162T1138-2,-4,-6
Refinish Details
Figure 601 (Sheet 7)

COLLAR ASSEMBLY, STEERING - REPAIR 3-1

162T1404-5

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

1. Bushing Replacement (Fig. 601)

   A. Remove bushings.

   B. If corrosion or damage exists on lug faces or hole surfaces refer to REPAIR 3-2 for repair instructions.

   C. Install new bushings using shrink-fit method per 20-50-03.

   D. Check dimensions and machine as necessary.

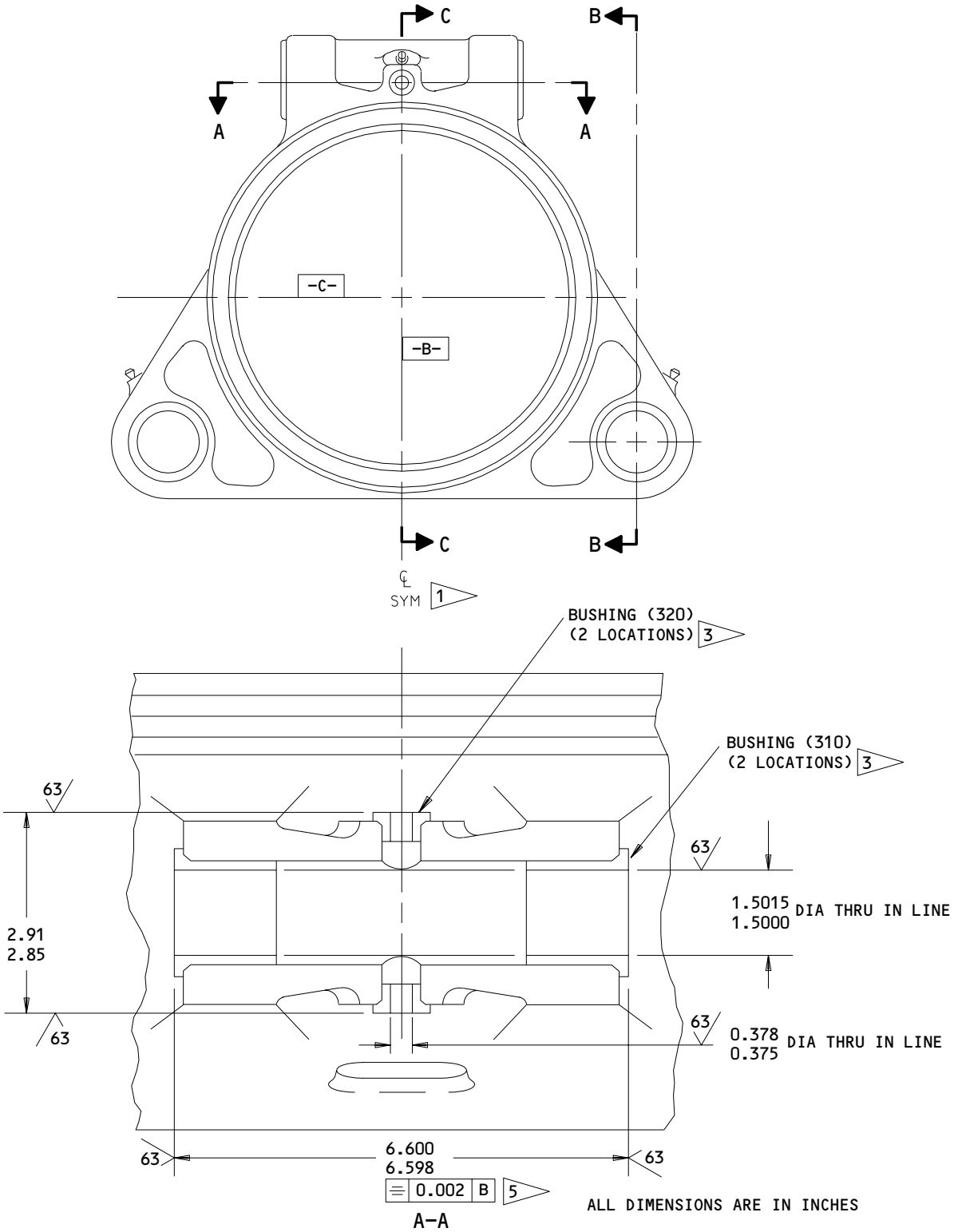
      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

   E. Seal bushings as noted.

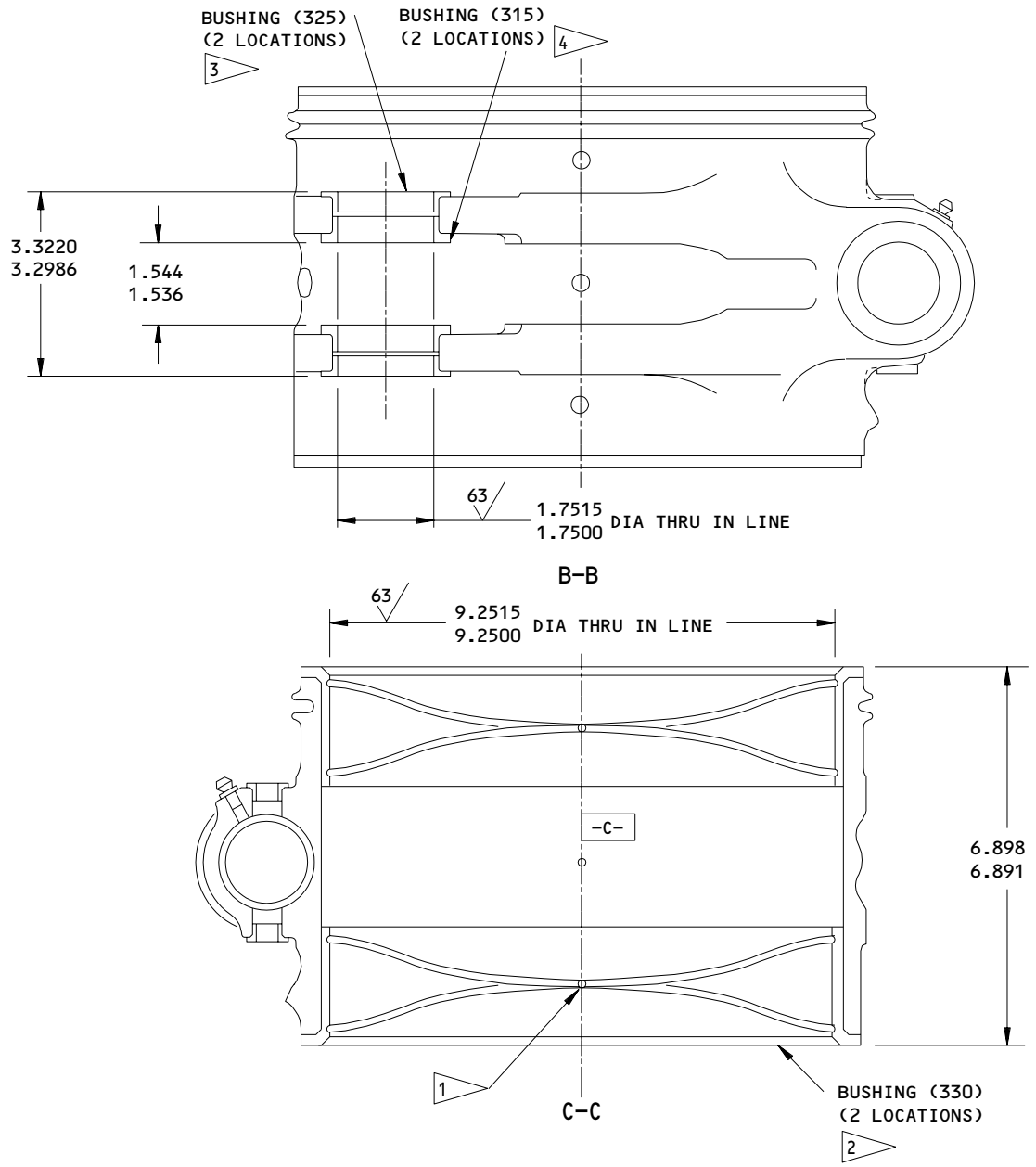
   F. Apply MIL-G-23827 grease to lube fittings until grease appears at ID of bushing.

2. Lube Fitting Replacement

   A. Replace lube fittings (305) per 32-00-03.



162T1404-5
Steering Collar Bushing Replacement
Figure 601 (Sheet 1)



REFINISH

FOR REFINISH INSTRUCTIONS REF REPAIR 3–2

1. ALIGN BUSHING GROOVE CONNECTION HOLES WITHIN 0.2 OF DATUM –C–
2. APPLY FILLET SEAL PER FIG. 605, REPAIR 19–1
3. APPLY FILLET SEAL PER FIG. 601, REPAIR 19–1

REPAIR

ALL DIMENSIONS ARE IN INCHES

4. DO NOT APPLY FILLET SEAL
5. IF OPTIONAL CHROME PLATED BUSHINGS ARE USED, REMOVE MATERIAL FROM THE BACKSIDE OF THE BUSHING FLANGE AS NECESSARY TO GET THIS DIMENSION

162T1404–5
Steering Collar Bushing Replacement
Figure 601 (Sheet 2)

182450

COLLAR, STEERING - REPAIR 3-2

162T1404-4

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. Lug Faces and Holes (Fig. 601)

A. Method 1 -- Removal of Corrosion in Center of Lug ID

NOTE: This procedure enables corrosion to be removed without machining the entire bore oversize, if corrosion is localized at the center area which is exposed between two bushings.

(1) Determine repair diameter and width of groove required to remove corrosion (Fig. 602).

(2) Machine center area as required.

(3) Cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(4) Install bushings per REPAIR 3-1.

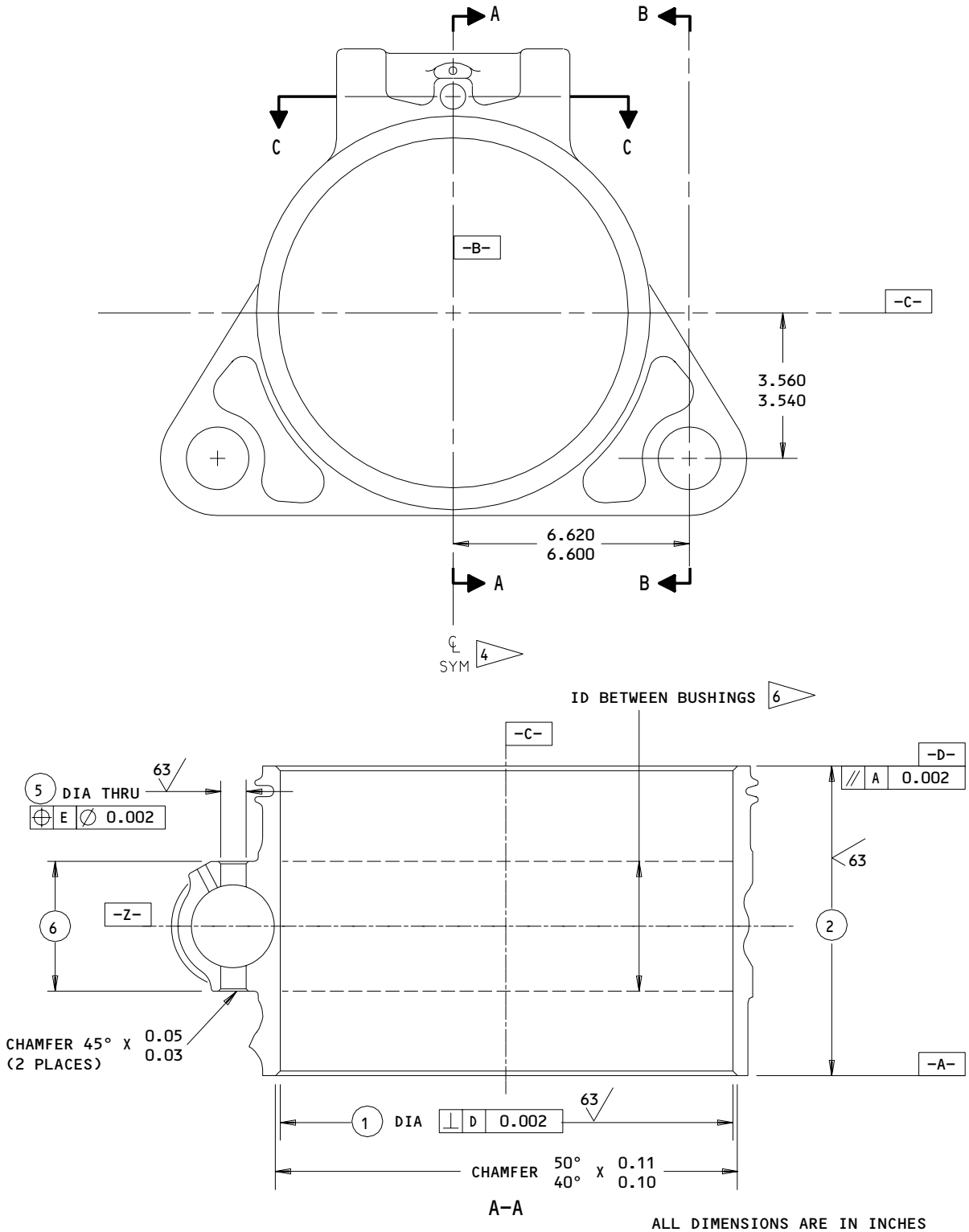
B. Method 2 -- Installation of oversize Bushings

(1) Machine as required, within repair limits shown, to remove defects.

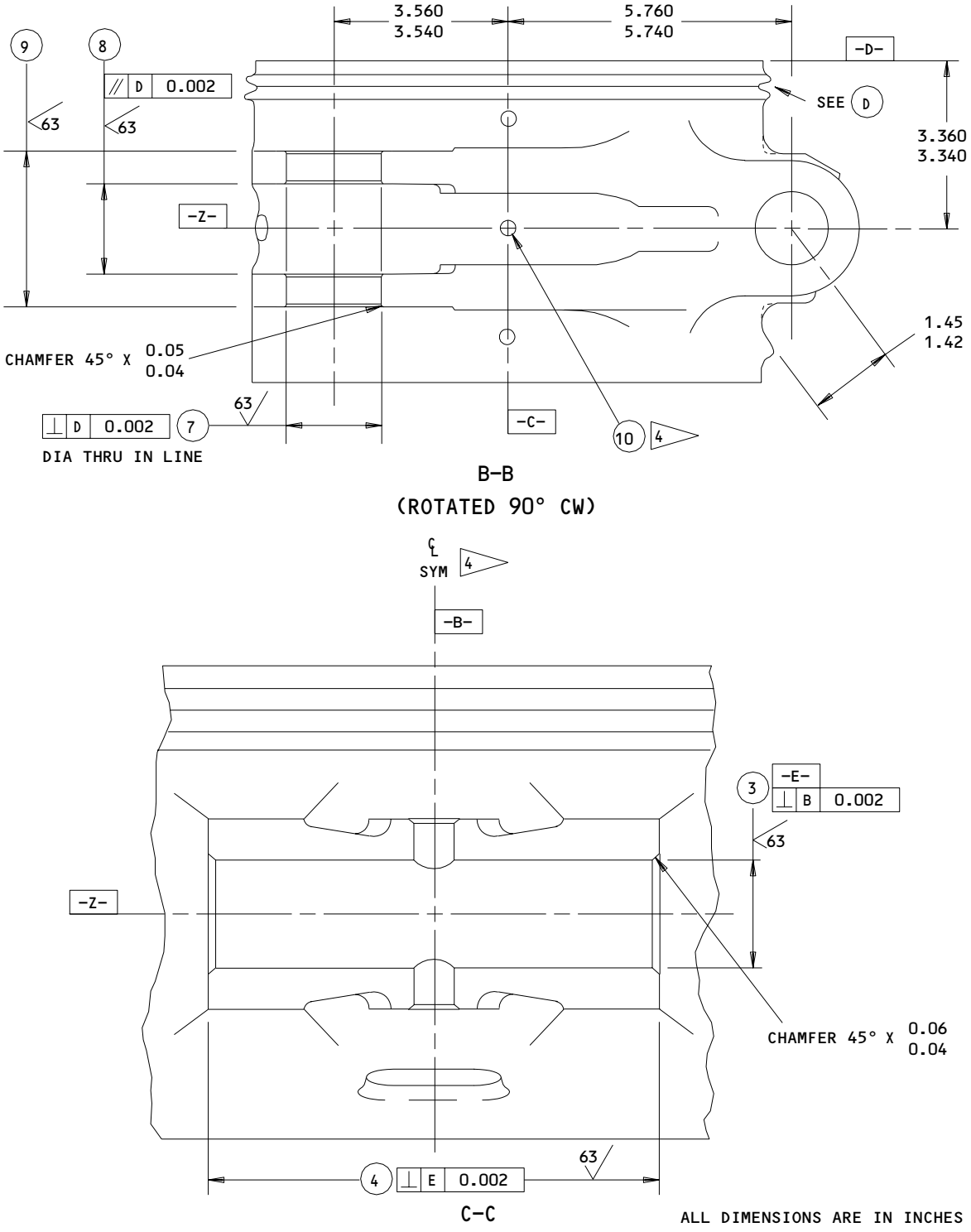
(2) Shot peen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(3) Manufacture bushings (Fig. 603), 12 required, to compensate for amount of material removed in step (1).

(4) Install bushings per REPAIR 3-1.

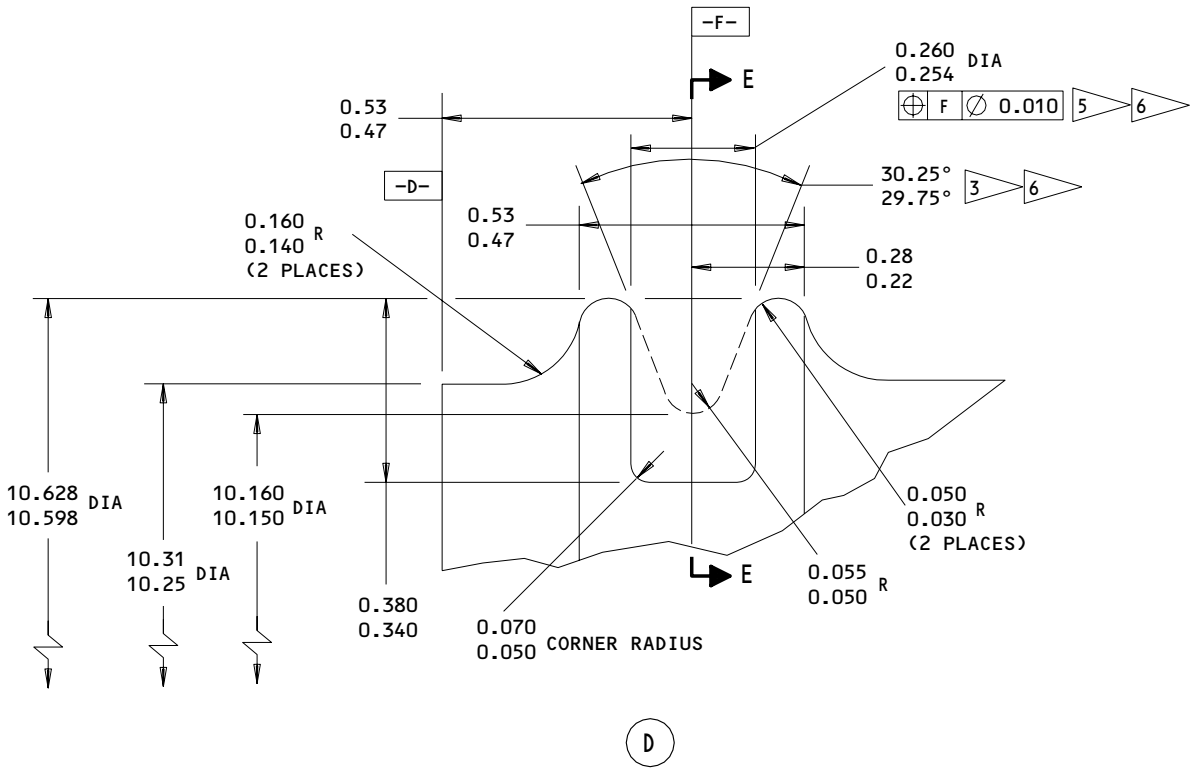


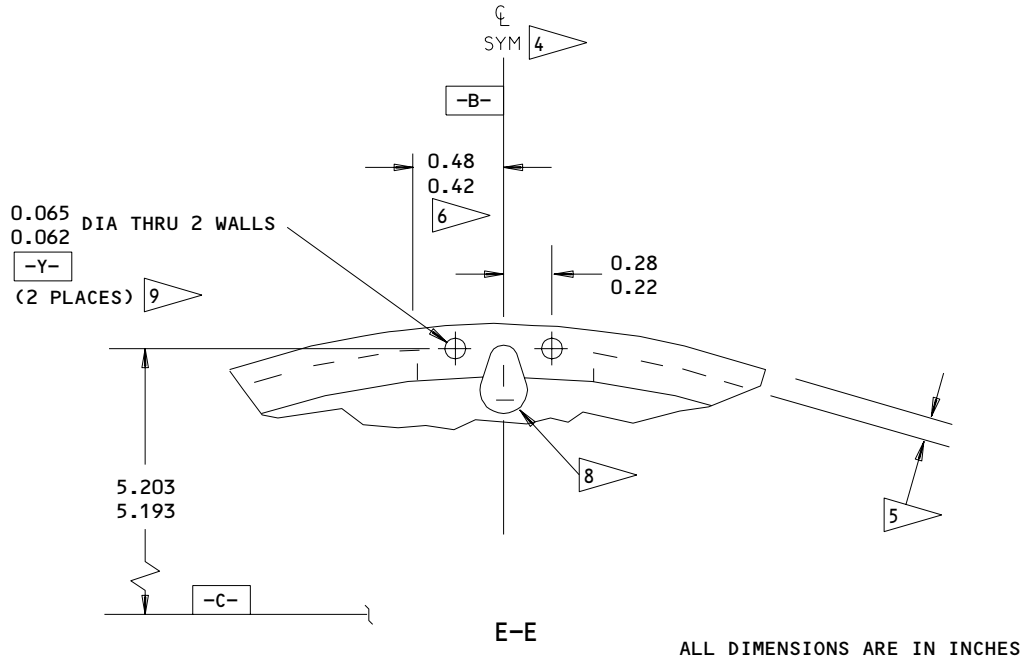
162T1404-4
Lug Face and Hole Repair
Figure 601 (Sheet 1)



162T1404-4
Lug Face and Hole Repair
Figure 601 (Sheet 2)

182455





ALL DIMENSIONS ARE IN INCHES

162T1404-4
Lug Face and Hole Repair
Figure 601 (Sheet 3)

	(1)	(2) ▷2	(3)	(4) ▷2	(5)	(6) ▷2	(7)	(8) ▷2	(9) ▷2
DESIGN DIM	9.5315 9.5300	6.493 6.490	1.6615 1.6600	6.4734 6.4684	0.5015 0.5000	2.770 2.750	1.9115 1.9100	1.847 1.842	3.197 3.177
REPAIR LIMIT ▷1	9.5915	6.390	1.7215	6.4384	0.6000	2.720	1.9715	1.877	3.147

REFINISH

CHROME PLATE GROOVE AT DATUM -F- PER ▷3 ▷7 CADMIUM-TITANIUM PLATE (0.0005-0.0007 THICK) AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.32) TO LUBE HOLES, BUSHING HOLES, AND LUG FACES (2), (8), (9). CADMIUM-TITANIUM PLATE (0.0005 MIN) AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.01) TO ALL OTHER SURFACES. APPLY ONE COAT BMS 10-11, TYPE 1, (F-20.02) PRIMER ALL OVER, EXCEPT IN LUBE HOLES, AND AS NOTED PER ▷6.
AFTER BUSHING AND LUBE FITTING INSTALLATION, APPLY BMS 10-60 GRAY GLOSS ENAMEL (SRF-14.9813) ALL OVER, EXCEPT ON BUSHINGS, LUBE FITTINGS, AND AS NOTED PER ▷6.

REPAIR

REF ▷1 ▷2

125 MACHINE FINISH

BREAK SHARP EDGES 0.06 R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.018 A2 INTENSITY

MATERIAL: 4340M STEEL
(275-300 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1404-4
Lug Face and Hole Repair
Figure 601 (Sheet 4)

1 REPAIR LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS.

2 LUG FACE MACHINING REQUIREMENTS:

1. MATERIAL REMOVED FROM ANY FACE MUST NOT EXCEED HALF THE DIFFERENCE BETWEEN THE DESIGN DIM AND THE REPAIR LIMIT.

2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA OF BUSHING TO BE INSTALLED.

3. BLEND MISMATCH STEPS TO 0.18-0.26 RADIUS, OR IF WITHIN 0.10 OF LUG FILLET RADIUS, USE SAME RADIUS AS LUG FILLET. BREAK SHARP EDGES 0.03-0.07R.

3 CHROME PLATE (F-15.04, SINGLE PLATE THICKNESS 0.0003-0.0005).

4 DATUM -B- IS A SYMMETRICAL CENTERLINE EXCEPT FOR CYLINDER CENTER LUBE FITTING (10).

5 NO CHROME PLATE THIS AREA.

6 NO PRIMER OR ENAMEL THIS AREA.

7 CHROME PLATE SHALL NOT TERMINATE IN A SQUARE EDGE, BUT SHALL FADE OUT FROM FULL TO ZERO THICKNESS IN 0.00-0.08. OBSERVE RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS OTHERWISE NOTED. DO NOT PLATE RELIEF RADII.

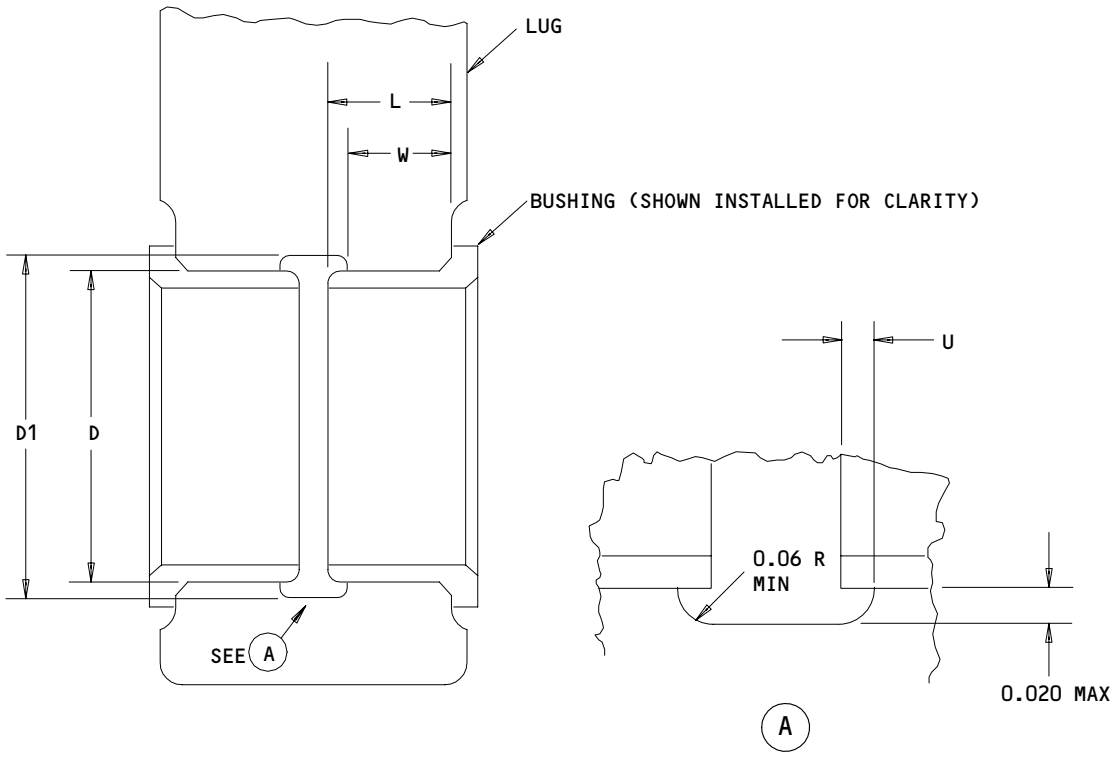
8 BREAK EDGES AROUND HOLE INTERSECTION EQUIVALENT TO 0.015 R.

9 REMOVE SHARP CORNERS AT ENDS OF HOLES EQUIVALENT TO 0.02-0.03 R.

ALL DIMENSIONS ARE IN INCHES

162T1404-4
Lug Face and Hole Repair
Figure 601 (Sheet 5)

182498



D = MAX REPAIR DIA OF HOLE (SEE FIG. 601)

D1 = MAX REPAIR DIA OF GROOVE = (D +0.040)

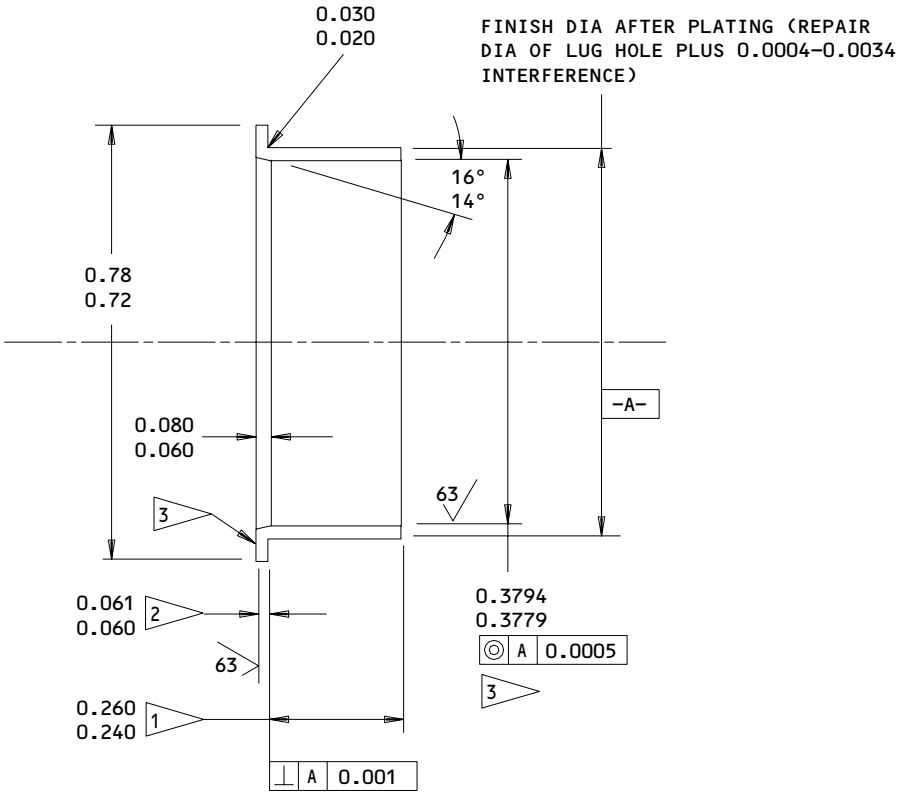
L = LENGTH OF BUSHING (SEE FIG. 603)

U = UNDERCUT = (L X 0.1) (0.06 MAX)

W = LUG DIM TO EDGE OF GROOVE = (L–U)

ALL DIMENSIONS ARE IN INCHES

Lug Hole Diameter – Corrosion Removal from Area Between Bushings
Figure 602



125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN) ALL OVER EXCEPT AS NOTED

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

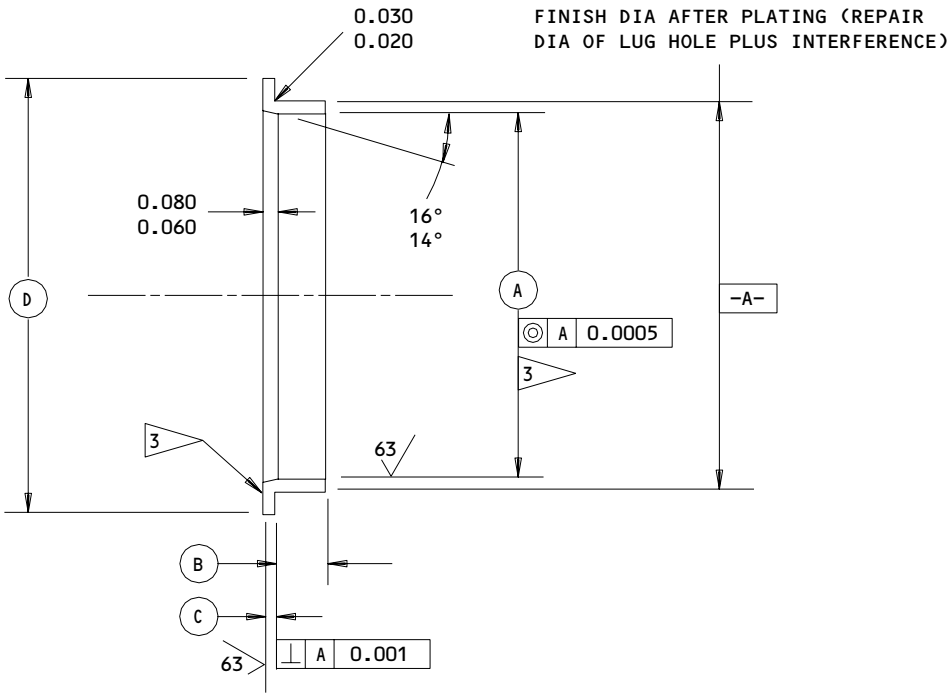
1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE ID OR BUSHING FACE

HOLE LOCATION (5) FIG. 601

Oversize Bushing Details
Figure 603



HOLE LOCATION (FIG. 601)	(A)	(B) 1	(C) 2	(D)	INTER-FERENCE
(7) INNER	1.7549 1.7534	0.320 0.300	0.151 0.150	2.38 2.32	0.0040 0.0010
(7) OUTER	1.7549 1.7534	0.320 0.300	0.061 0.060	2.38 2.32	0.0040 0.0010

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN) ALL OVER EXCEPT AS NOTED

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

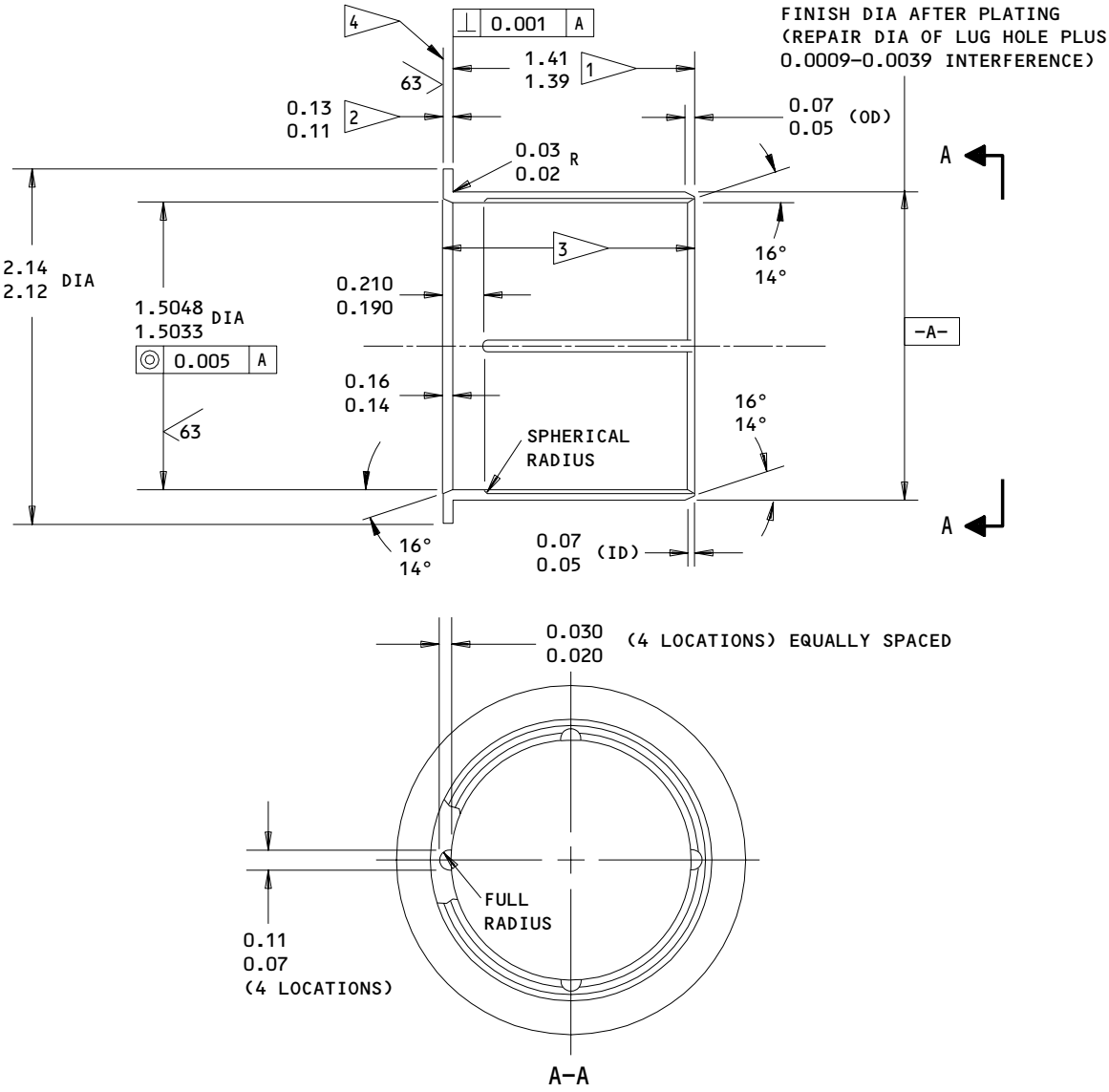
1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID OR FACE

HOLE LOCATION (7) FIG. 601

Oversize Bushing Details
Figure 604



1. MINUS AMOUNT REMOVED FROM LUG FACE
2. PLUS AMOUNT REMOVED FROM LUG FACE
3. DO NOT PLATE ID
4. OPTIONAL: FLASH CHROME PLATE (SOPM 20-42-03) THE FLANGE FACE, 0.0003-0.0005 THICK, WITH 0.08 MAX RUNOUT AT OD EDGES

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.02, 0.0002-0.0004 THICK) ALL OVER UNLESS SHOWN DIFFERENTLY

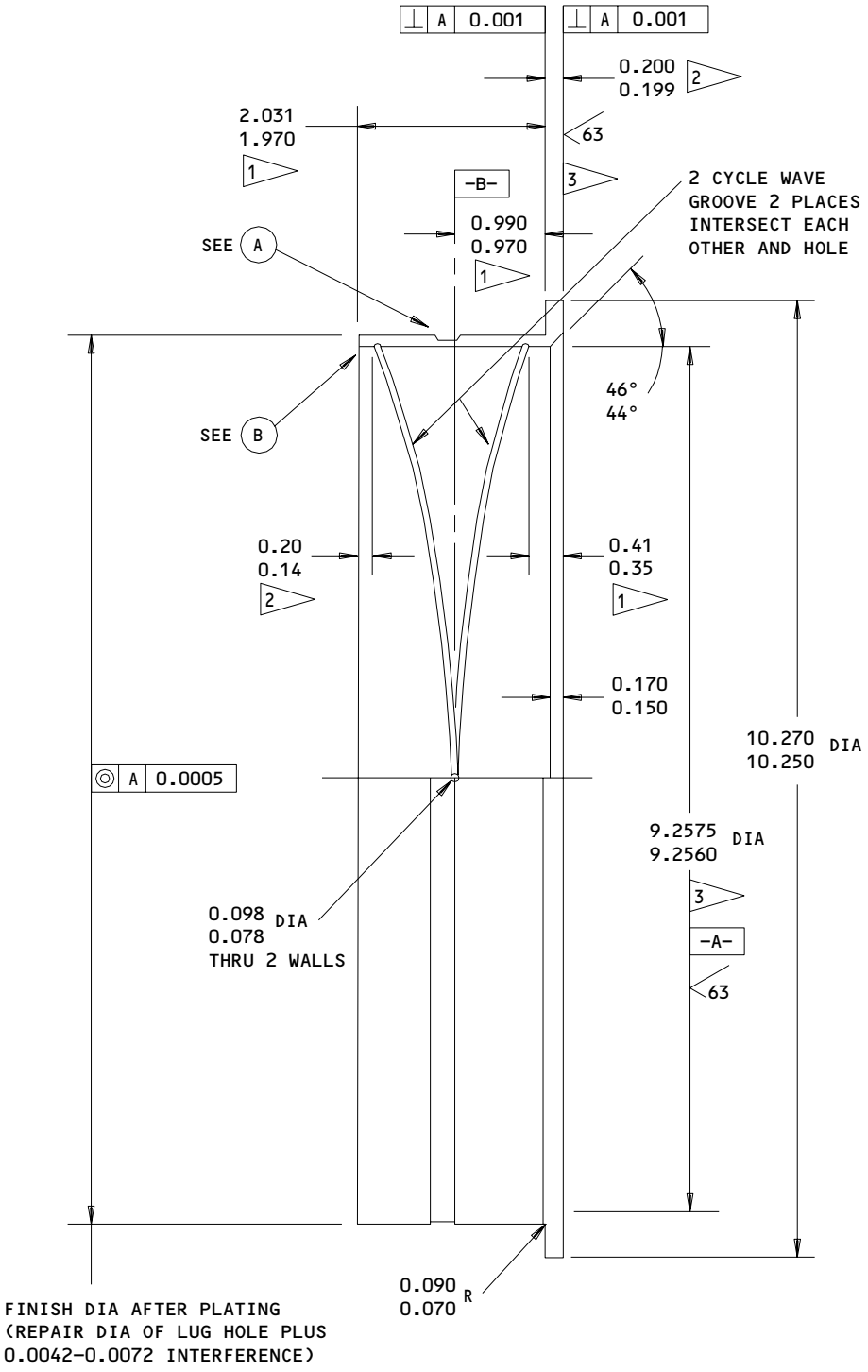
MATERIAL: AL-NI-BRZ, AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (3) FIG. 601 - REPLACES BUSHING (310) 162T1414-2

Oversize Bushing Details
Figure 605

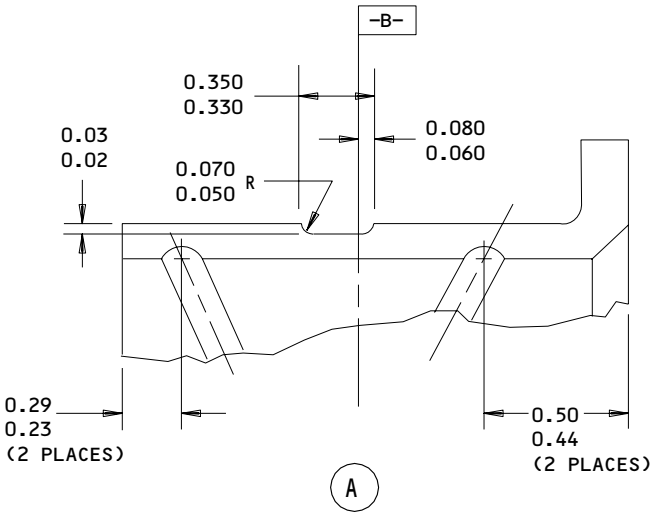


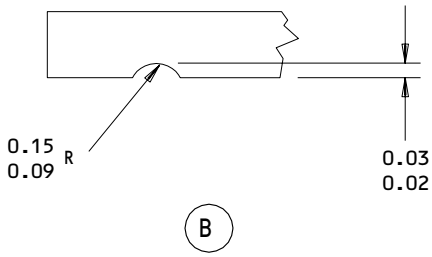
HOLE LOCATION (1) FIG. 601

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 606 (Sheet 1)

182503





125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.010-0.030 R

CADMIUM PLATE (F-15.02, 0.0002-0.0004 THICK) ALL OVER EXCEPT AS NOTED

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID OR FACE

HOLE LOCATION (1) FIG. 601

Oversize Bushing Details
Figure 606 (Sheet 2)

LINK ASSEMBLY, TORSION, LOWER - REPAIR 4-1

162T1617-1, -3

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

1. Bushing Replacement (Fig. 601)

   A. Remove bushings.

   B. If corrosion or damage exists on lug faces or hole surfaces refer to REPAIR 4-2 for repair instructions.

   C. Install new bushings using shrink-fit method per 20-50-03.

   D. Check dimensions and machine as necessary.

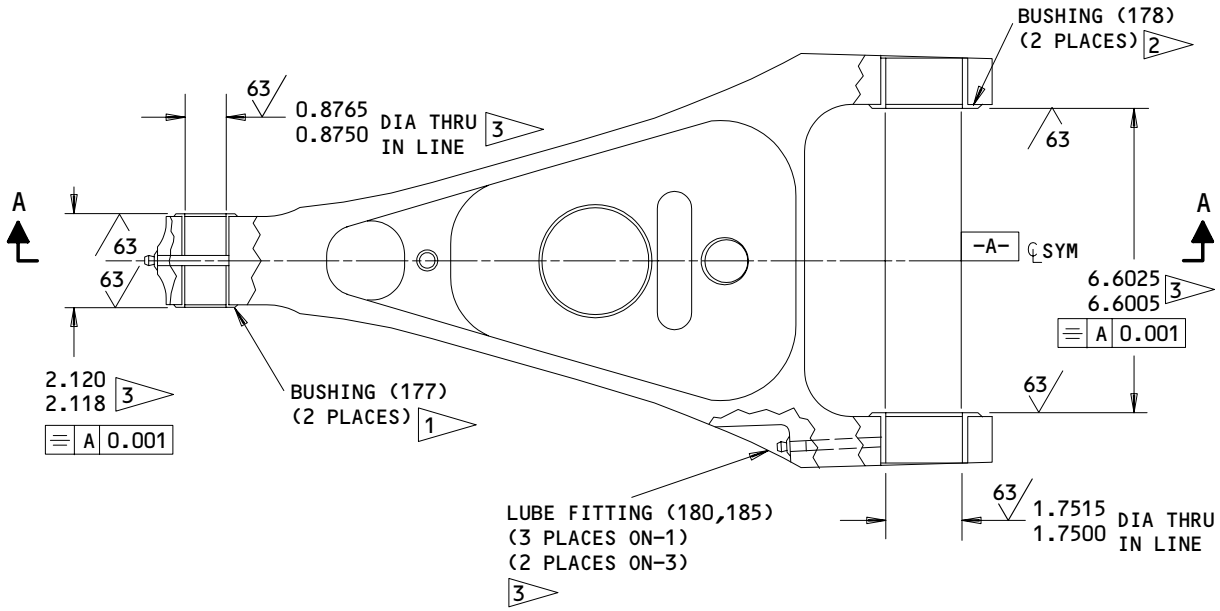
      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

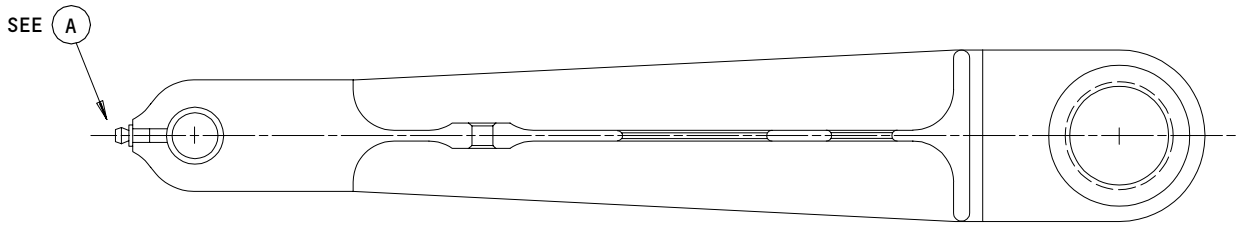
   E. Seal bushings as noted.

   F. Apply MIL-G-23827 grease to lube fittings until grease appears at ID of bushing.

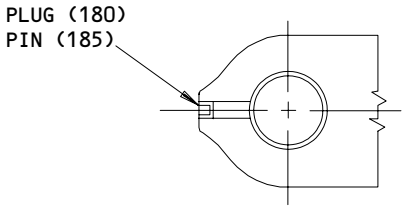
2. Lube Fitting Replacement

   A. Replace lube fittings (170, 175) per 32-00-03.





A-A



A

162T1617-3 ONLY

1 APPLY FILLET SEAL PER FIGURE 601, REPAIR 19-1

2 APPLY FILLET SEAL PER FIGURE 604, REPAIR 19-1

3 NO PRIMER OR PAINT

ALL DIMENSIONS ARE IN INCHES

162T1617-1,-3
Bushing Replacement
Figure 601

182465

LINK, TORSION, LOWER - REPAIR 4-2

162T1617-2

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. Lug Faces and Holes (Fig. 601)

A. Method 1 -- Removal of Corrosion in Center of Lug ID

NOTE: This procedure enables corrosion to be removed without machining the entire bore oversize, if corrosion is localized at the center area which is exposed between two bushings.

(1) Determine repair diameter and width of groove required to remove corrosion (Fig. 602).

(2) Machine center area as required.

(3) Cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(4) Install bushings per REPAIR 4-1.

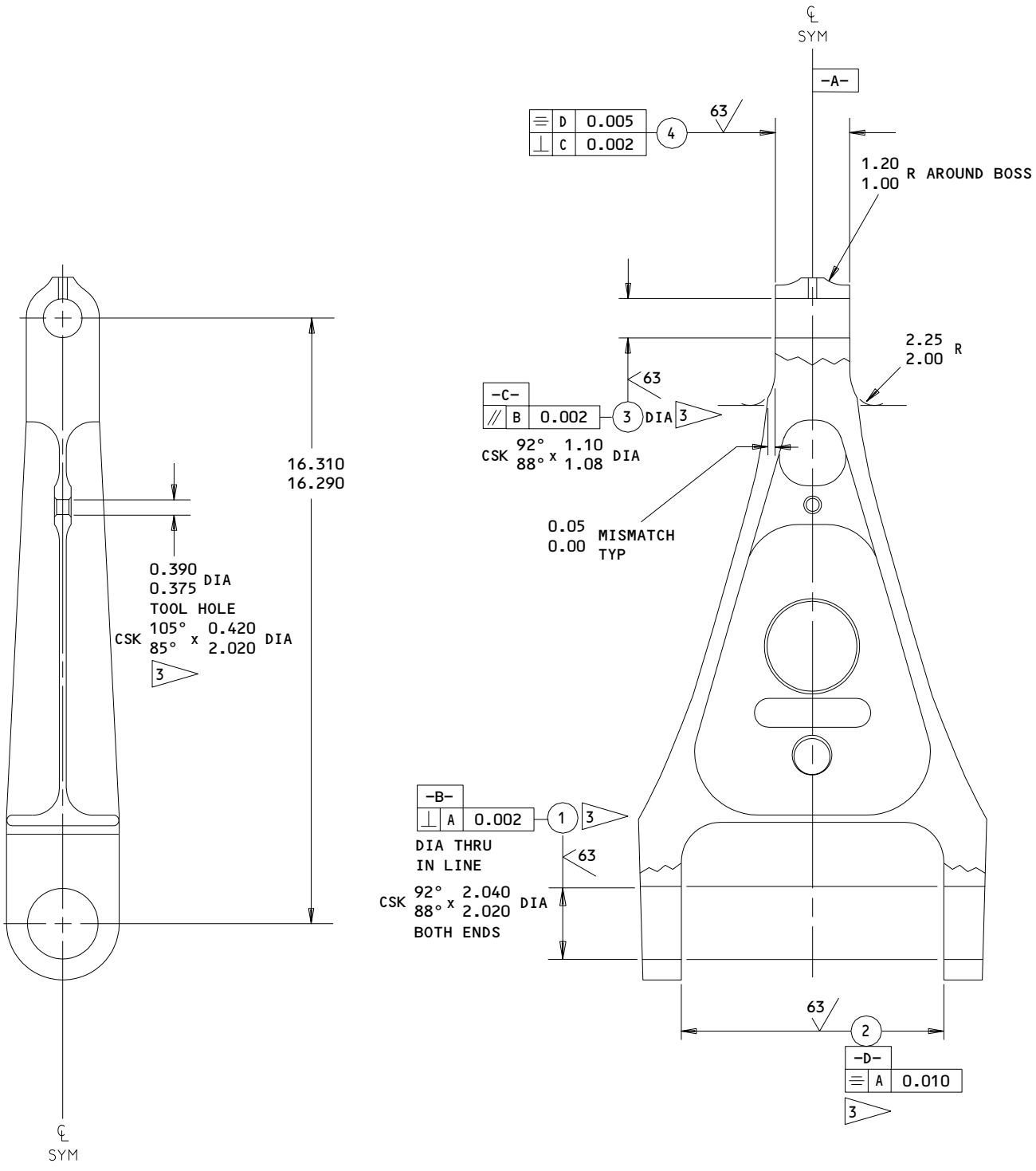
B. Method 2 -- Installation of Oversize Bushings

(1) Machine as required, within repair limits shown, to remove defects.

(2) Shot peen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(3) Manufacture bushings (Fig. 603), as required, to compensate for amount of material removed in step (1).

(4) Install bushings per REPAIR 4-1.



ALL DIMENSIONS ARE IN INCHES

162T1617-2

Lug Face and Hole Repair
Figure 601 (Sheet 1)

182531

	(1)	(2) ▷2	(3)	(4) ▷2
DESIGN DIM	1.9515 1.9500	6.7316 6.7266	1.0015 1.0000	1.9934 1.9884
REPAIR LIMIT ▷1	2.0115	6.800	1.0615	1.9584

REFINISH

REFINISH LUG FACES, TOOL HOLE AND BUSHING HOLE ID'S AS SHOWN IN ▷3. CADMIUM-TITANIUM PLATE (F-15.32, 0.0005-0.0007 THICK) LUBE HOLES. CADMIUM-TITANIUM PLATE (F-15.01, 0.0005 THICK) AND APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) TO ALL OTHER SURFACES. AFTER BUSHING AND LUBE FITTING INSTALLATION, APPLY BMS 10-60 GRAY GLOSS ENAMEL (SRF-14.9813) ALL OVER, BUT NOT ON BUSHINGS AND LUBE FITTINGS.

▷1 LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS

▷2 LUG FACE MACHINING REQUIREMENTS:
1. MATERIAL REMOVED FROM ANY FACE MUST NOT EXCEED HALF THE DIFFERENCE BETWEEN THE DESIGN DIM AND THE REPAIR LIMIT
2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA OF BUSHING TO BE INSTALLED
3. BLEND MISMATCH STEPS TO 0.18-0.26 RADIUS, OR IF WITHIN 0.10 OF LUG FILLET RADIUS, USE SAME RADIUS AS LUG FILLET. BREAK SHARP EDGES 0.03-0.078.

▷3 CADMIUM-TITANIUM PLATE (F-15.32, 0.0005-0.0007 THICK) AND APPLY ONE COAT BMS 10-11, TYPE 1 PRIMER (F-20.02)

REPAIR

REF ▷1 ▷2

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.06 R

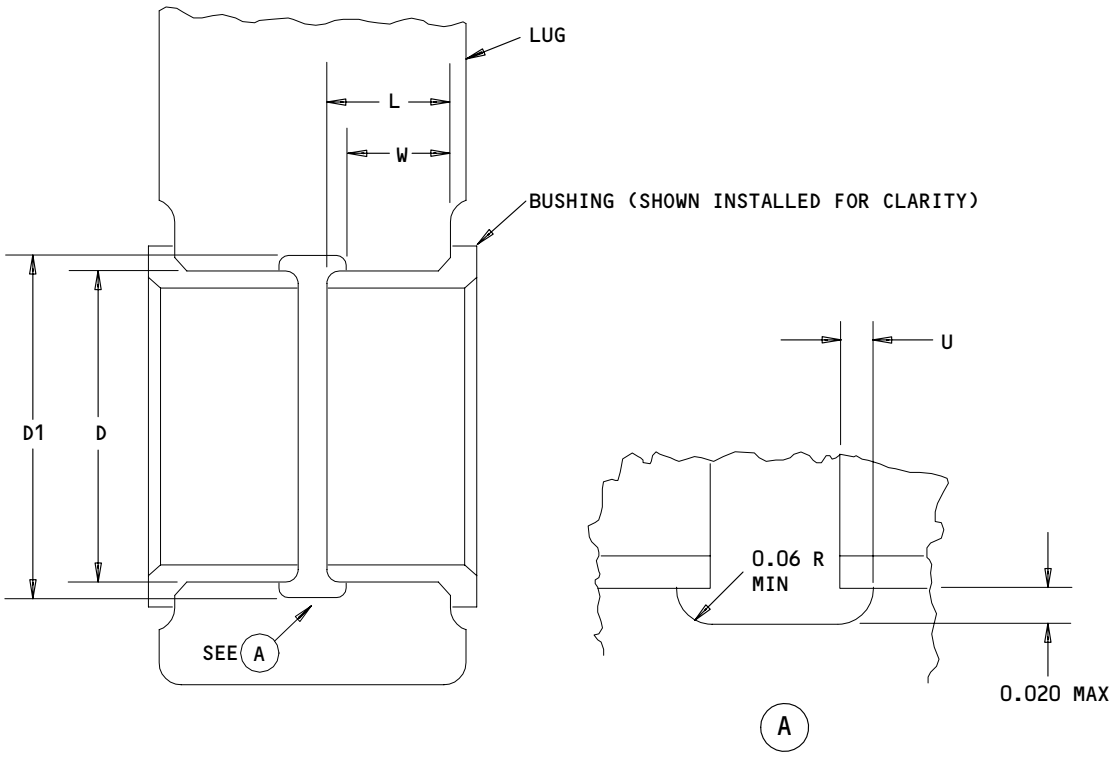
SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL (275-300 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1617-2

Lug Face and Hole Repair
Figure 601 (Sheet 2)



D = MAX REPAIR DIA OF HOLE (SEE FIG. 601)

D1 = MAX REPAIR DIA OF GROOVE = (D +0.040)

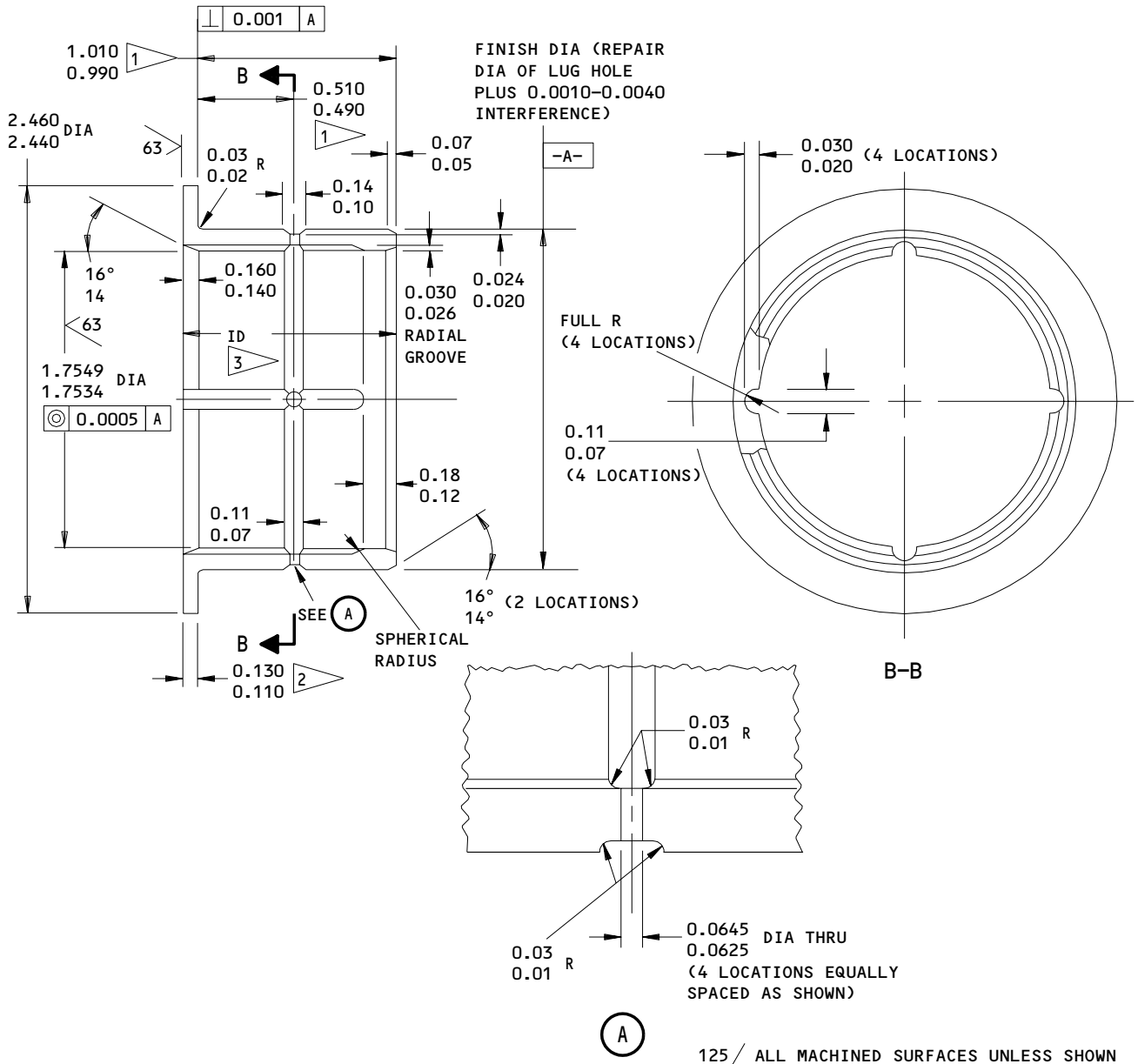
L = LENGTH OF BUSHING (SEE FIG. 603)

U = UNDERCUT = (L X 0.1) (0.06 MAX)

W = LUG DIM TO EDGE OF GROOVE = (L–U)

ALL DIMENSIONS ARE IN INCHES

Lug Hole Diameter – Corrosion Removal From Area Between Bushings
Figure 602



125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01–0.02 R

FINISH: CADMIUM PLATE (F-15.06, 0.0003 MIN THICK) ALL OVER UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRZ (AMS 4640 OR 4880)

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

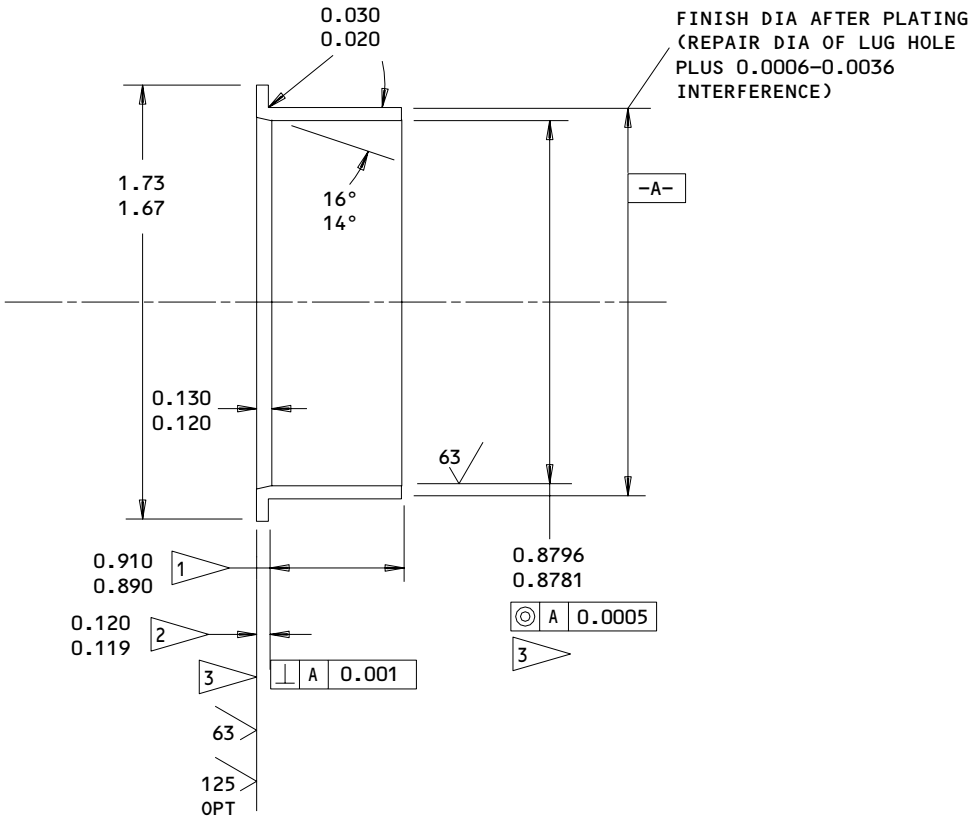
1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID

HOLE LOCATION (1) – REPLACES BUSHING (178) 162T1123-2

Oversize Bushing Details
Figure 603



1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID OR FACE

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN) ALL OVER EXCEPT AS NOTED

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (3)

Oversize Bushing Details
Figure 604

182508

LINK ASSEMBLY, TORSION, UPPER - REPAIR 5-1

162T1116-3, -4, -5

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

1. Bushing Replacement (Fig. 601)

   A. Remove bushings.

   B. If corrosion or damage exists on lug faces or hole surfaces refer to REPAIR 5-2 for repair instructions.

   C. Install new bushings using shrink-fit method per 20-50-03.

   D. Check dimensions and machine as necessary.

      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

   E. Seal bushings as noted.

   F. Apply MIL-G-23827 grease to lube fittings until grease appears at ID of bushing.

2. Sleeve Replacement (Fig. 601)

   A. Remove nut (100), washer (105), handle (110) and cap assembly (120).

   B. Remove lockplate (140), washer (135), plunger (150) and spring (145) from sleeve (155).

   C. Remove sleeve (155).

   D. If corrosion or damage exists on lug faces or hole surfaces refer to REPAIR 5-2 for repair instructions.

   E. Install new sleeve using shrink-fit method per 20-50-03.

   F. Check dimensions and machine as necessary.

      NOTE: Machining of sleeves after installation is not normally required since sleeves and lug faces are premachined to provide dimensions shown.

G. Seal sleeves as noted.

H. Lubricate plunger (150), sleeve (155), cap (130), washers (115, 135) and threads with grease.

I. Insert spring (145) and plunger (150) into cap assembly (120).

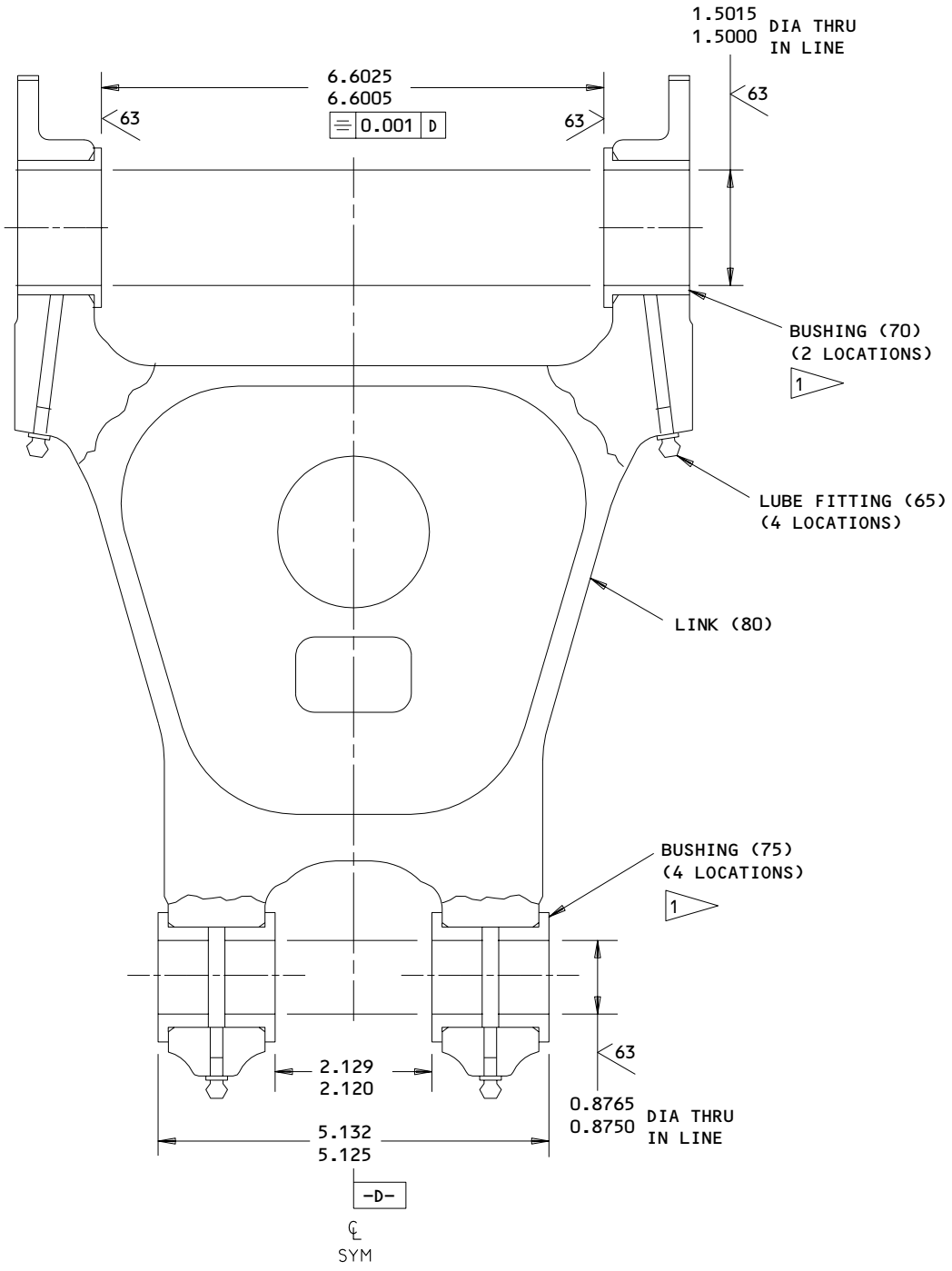
J. Install cap assembly (120) on sleeve (155) with washer (135) and lockplate (140). Tighten cap to 30-40 lb-ft.

K. Install washers (105), handles (110) and nuts (100) on plunger (150).

L. Bend tabs on lockplate (140) onto flats of cap assembly (120).

3. Lube Fitting Replacement

A. Replace lube fittings (65, 90) per 32-00-03.

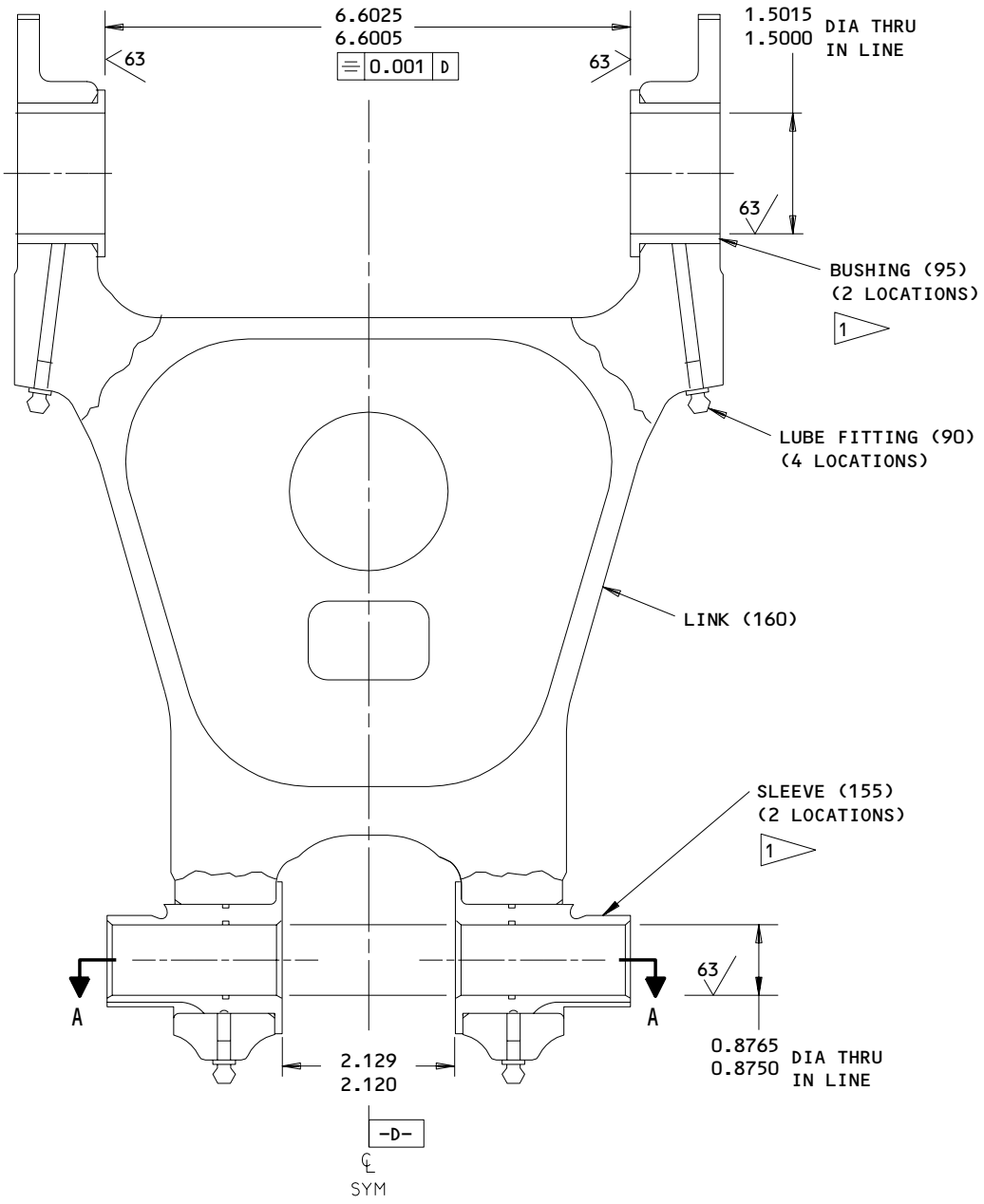


ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

162T1116-3

Upper Torsion Link Parts Replacement
Figure 601 (Sheet 1)



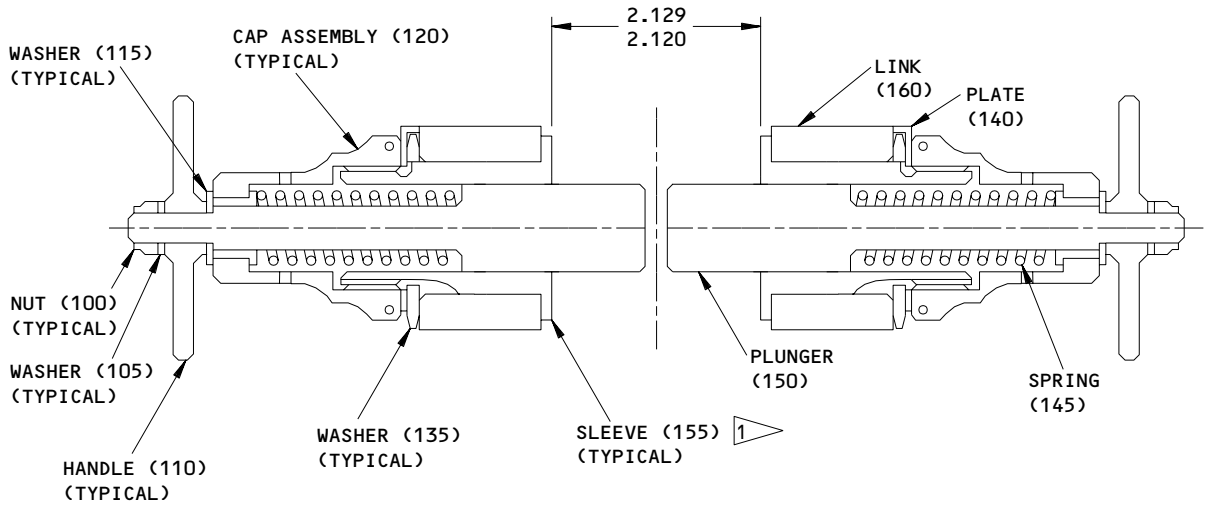
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

162T1116-4,-5

Upper Torsion Link Parts Replacement
Figure 601 (Sheet 2)

B82115



162T1116-4,-5
A-A

1 FILLET SEAL PER REPAIR 19-1, FIG. 601

REPAIR

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

162T1116-3,-4,-5
Upper Torsion Link Parts Replacement
Figure 601 (Sheet 3)

LINK, TORSION, UPPER - REPAIR 5-2

162T1116-2

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. Lug Faces and Holes (Fig. 601)

A. Method 1 -- Removal of Corrosion in Center of Lug ID

NOTE: This procedure enables corrosion to be removed without machining the entire bore oversize, if corrosion is localized at the center area which is exposed between two bushings.

(1) Determine repair diameter and width of groove required to remove corrosion (Fig. 602).

(2) Machine center area as required.

(3) Cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(4) Install bushings per REPAIR 5-1.

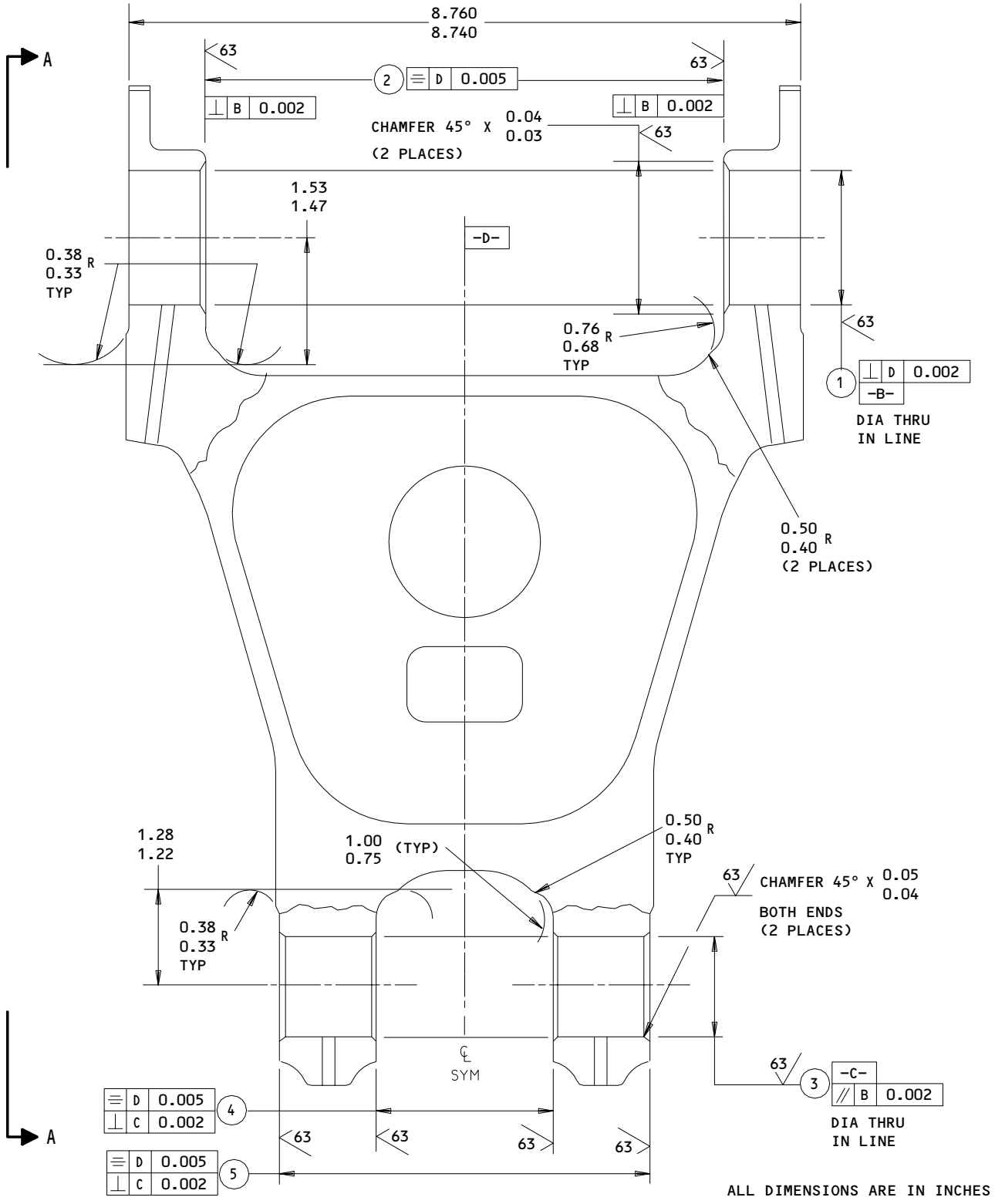
B. Method 2 -- Installation of Oversize Bushings or Sleeves

(1) Machine as required, within repair limits shown, to remove defects.

(2) Shot peen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

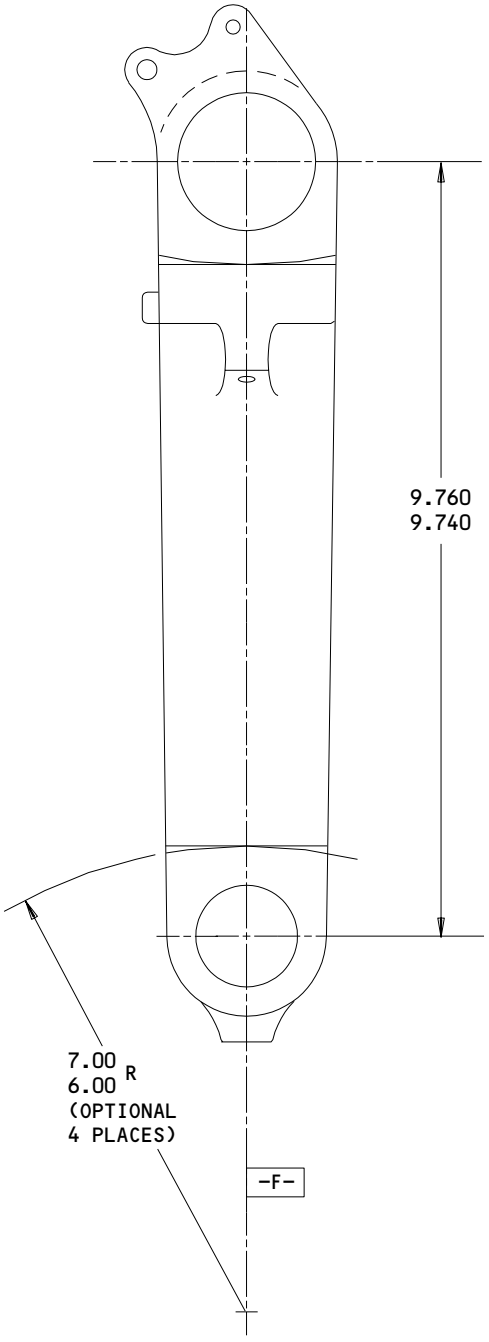
(3) Manufacture bushings or sleeves (Fig. 603), as required, to compensate for amount of material removed in step (1).

(4) Install bushings per REPAIR 5-1.



162T1116-2
Lug Face and Hole Repair
Figure 601 (Sheet 1)

182550



ALL DIMENSIONS ARE IN INCHES

162T1116-2
Lug Face and Hole Repair
Figure 601 (Sheet 2)

	(1)	(2) ▷2	(3)	(4) ▷2	(5) ▷2
DESIGN DIM	1.7015 1.7000	6.7316 6.7266	1.3140 1.3125	2.380 2.375	4.880 4.875
REPAIR LIMIT ▷1	1.7615	6.7616	1.3740	2.410	4.845

REFINISH

CADMIUM-TITANIUM PLATE (F-15.32, 0.0005-0.0007 THICK) AND APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) TO LUG FACES AND BUSHING HOLE ID's. CADMIUM-TITANIUM PLATE (F-15.32, 0.0005-0.0007 THICK) LUBE HOLES. CADMIUM-TITANIUM PLATE (F-15.01, 0.0005 MIN.) AND APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) TO ALL OTHER SURFACES. AFTER BUSHING, SLEEVE AND LUBE FITTING INSTALLATION, APPLY BMS 10-60 GRAY GLOSS ENAMEL (SRF-14.9813) ALL OVER, EXCEPT ON BUSHINGS, SLEEVES AND LUBE FITTINGS.

REPAIR

REF ▷1 ▷2

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.06 R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL (275-300 KSI)

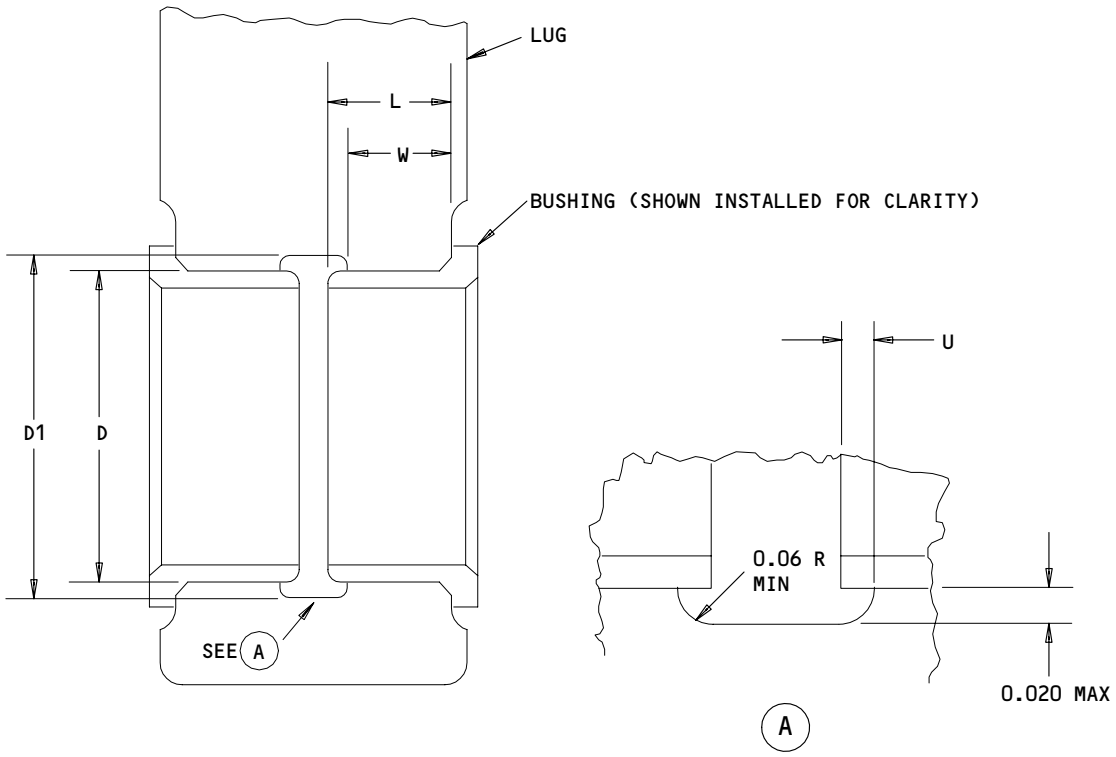
ALL DIMENSIONS ARE IN INCHES

▷1 REPAIR LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS.

▷2 LUG FACE MACHINING REQUIREMENTS

1. MATERIAL REMOVED FROM ANY FACE MUST NOT EXCEED HALF THE DIFFERENCE BETWEEN THE DESIGN DIM AND THE REPAIR LIMIT.
2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA OF BUSHING TO BE INSTALLED.
3. BLEND MISMATCH STEPS TO 0.18-0.26 RADIUS, OR IF WITHIN 0.10 OF LUG FILLET RADIUS, USE SAME RADIUS AS LUG FILLET. BREAK SHARP EDGES 0.03-0.07 R.

162T1116-2
Lug Face and Hole Repair
Figure 601 (Sheet 3)



D = MAX REPAIR DIA OF HOLE (SEE FIG. 601)

D1 = MAX REPAIR DIA OF GROOVE = (D +0.040)

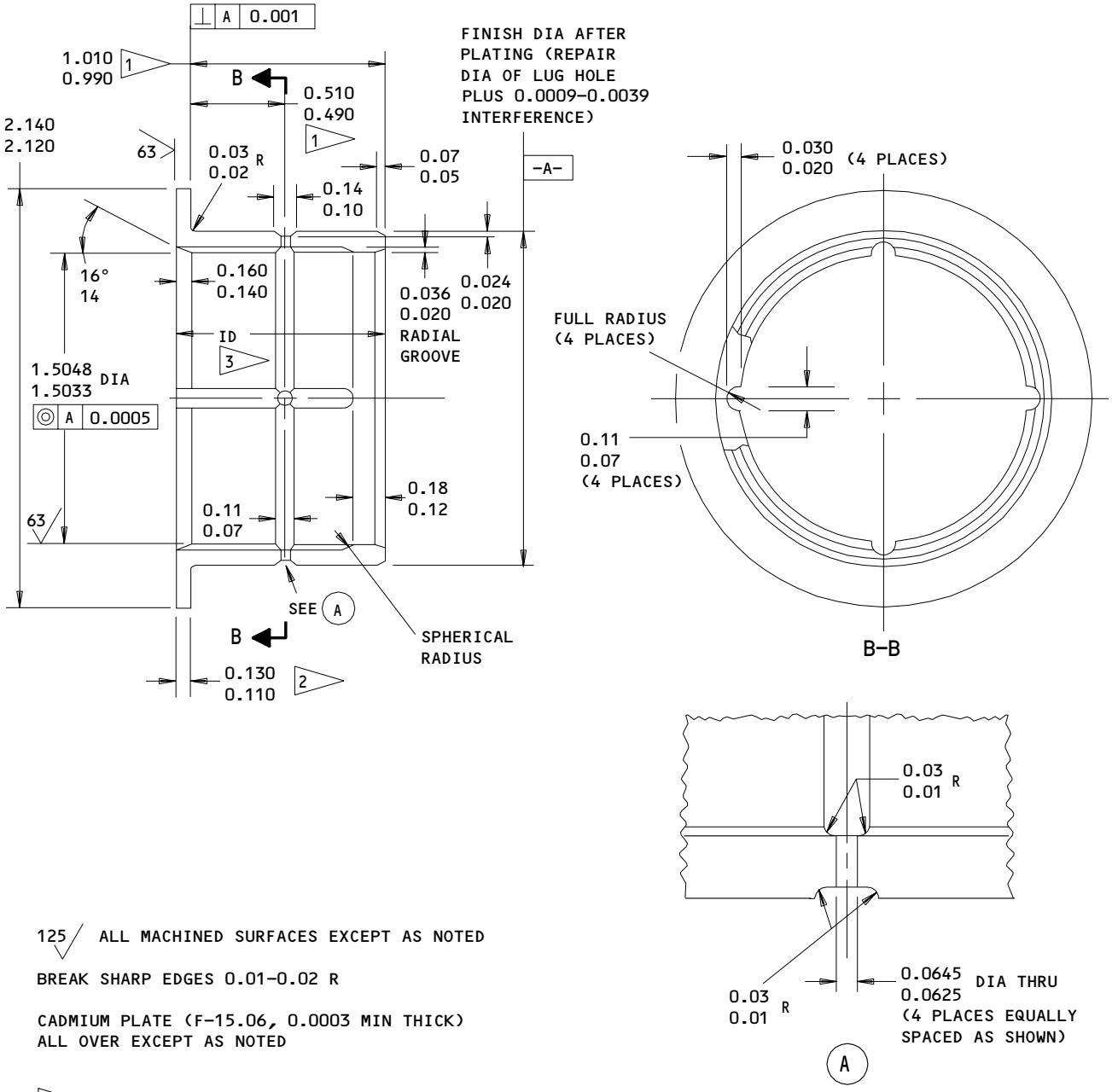
L = LENGTH OF BUSHING (SEE FIG. 603)

U = UNDERCUT = (L X 0.1) (0.06 MAX)

W = LUG DIM TO EDGE OF GROOVE = (L–U)

ALL DIMENSIONS ARE IN INCHES

Lug Hole Diameter – Corrosion Removal From Area Between Bushings
Figure 602



125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN THICK) ALL OVER EXCEPT AS NOTED

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FRON LUG FACE

3 DO NOT PLATE BUSHING ID

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

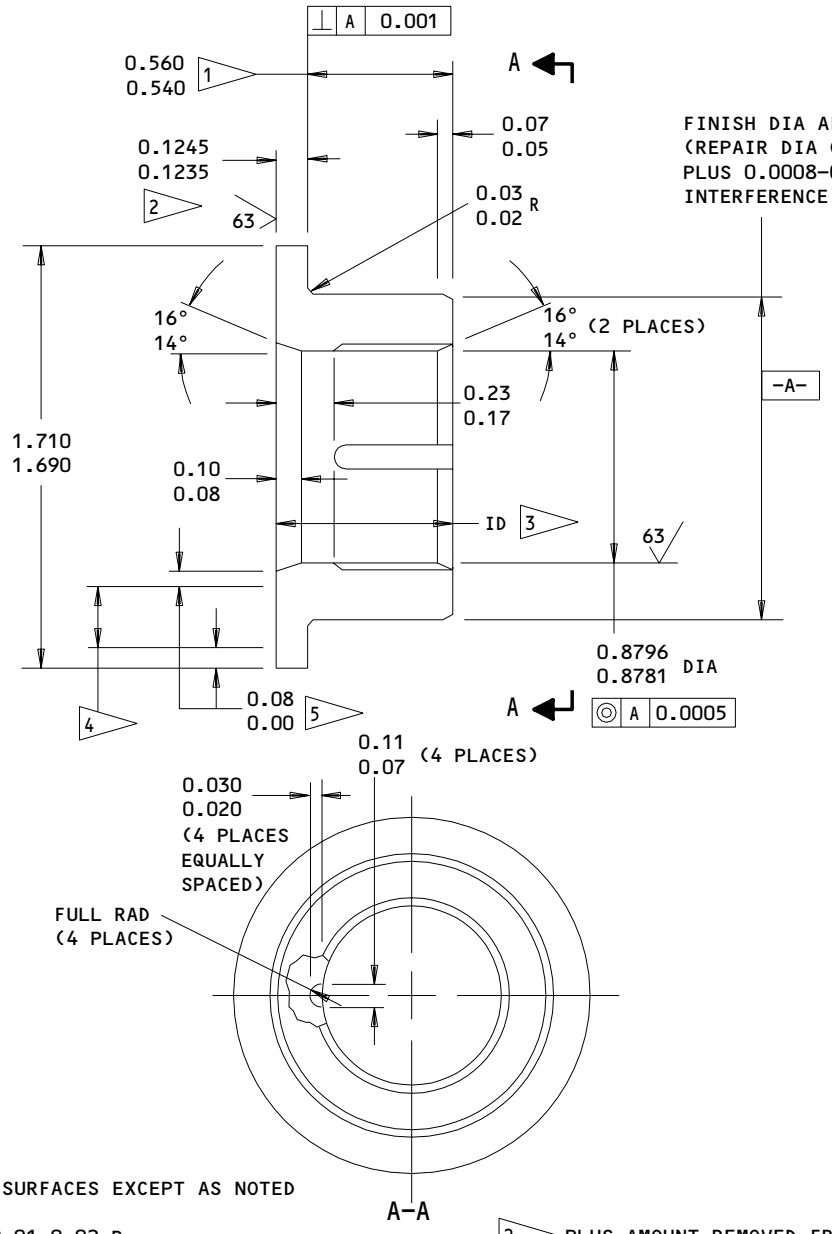
ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (1)

Oversize Bushing Details
Figure 603

182558



125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02 R

CADMIUM PLATE (F–15.06, 0.0003 MIN) ALL OVER, EXCEPT AS NOTED

MATERIAL: AL–NI–BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

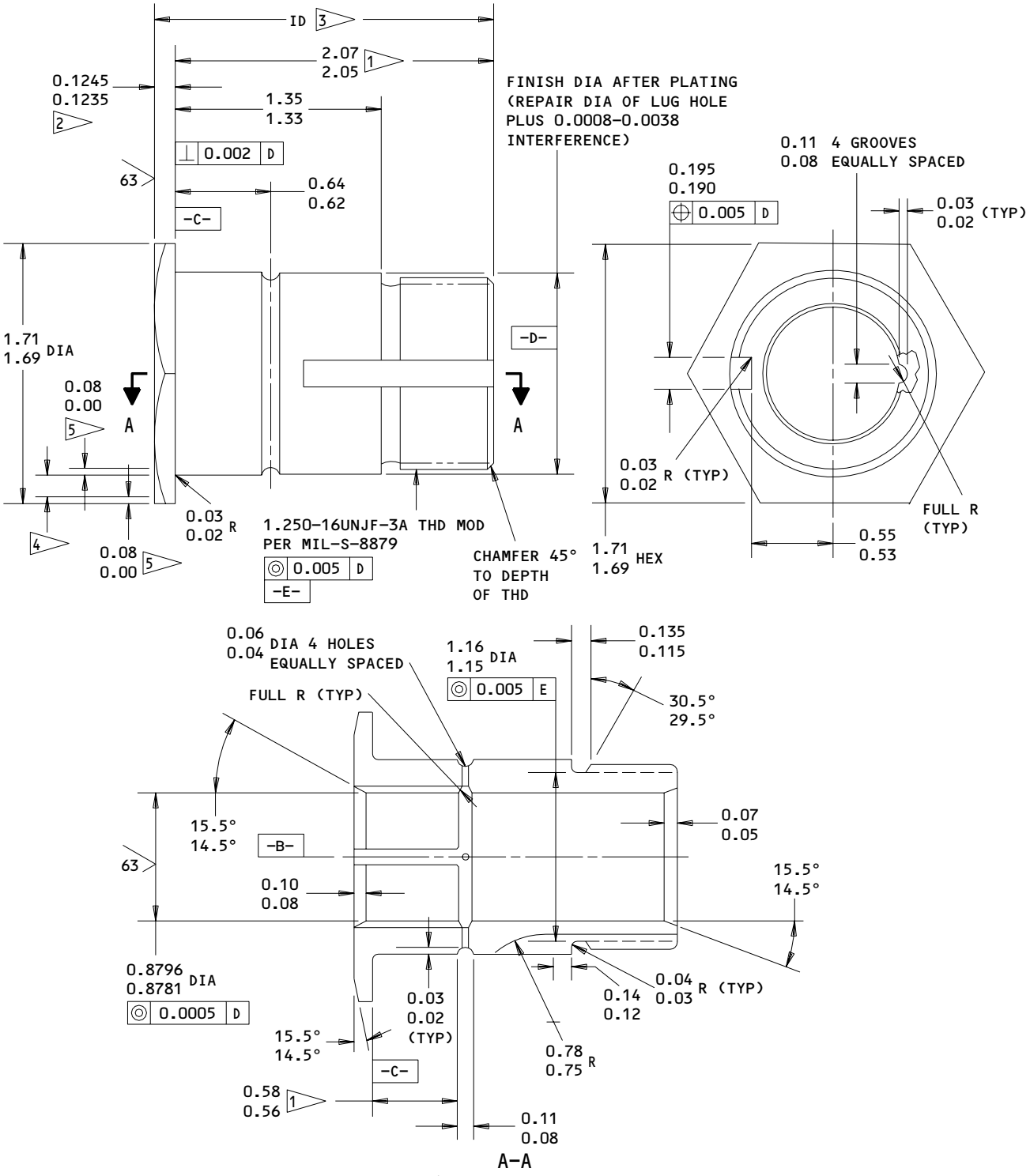
3 DO NOT PLATE ID (F–25.01)

4 FLASH CHROME (0.0003–0.0005 THICK) ON NOTED SURFACE (REF 20–42–03)

5 CHROME PLATE SHALL NOT TERMINATE IN A SQUARE EDGE, BUT SHALL RUN OUT FROM FULL TO ZERO THICKNESS IN THE DISTANCE SHOWN

HOLE LOCATION (3) FOR 162T1116–3 ASSY

Oversize Bushing Details
Figure 604



HOLE LOCATION (3) FOR 162T1116-4,-5 ASSEMBLY

Oversize Sleeve Details
Figure 605 (Sheet 1)

182532

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE ID (F-25.01).

4 FLASH CHROME (0.0003-0.0005 THICK) ON NOTED SURFACE (SOPM 20-42-03)

5 CHROME PLATE SHALL NOT TERMINATE IN A SQUARE EDGE, BUT SHALL RUN OUT FROM FULL TO ZERO THICKNESS IN THE DISTANCE SHOWN.

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

CADMIUM PLATE (F-15.06, 0.0003 MIN) ALL OVER, EXCEPT AS NOTED

MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (3) FOR 162T1116-4,-5 ASSEMBLY

Oversize Sleeve Details
Figure 605 (Sheet 2)

182563

SUPPORT ASSEMBLY, TORQUE TUBE - REPAIR 6-1

162T1400-1

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

1. Bushing Replacement (Fig. 601)

   A. Remove bushings.

   B. If corrosion or damage exists on lug faces or hole surfaces refer to REPAIR 6-2 for repair instructions.

   C. Install new bushings using shrink-fit method per 20-50-03.

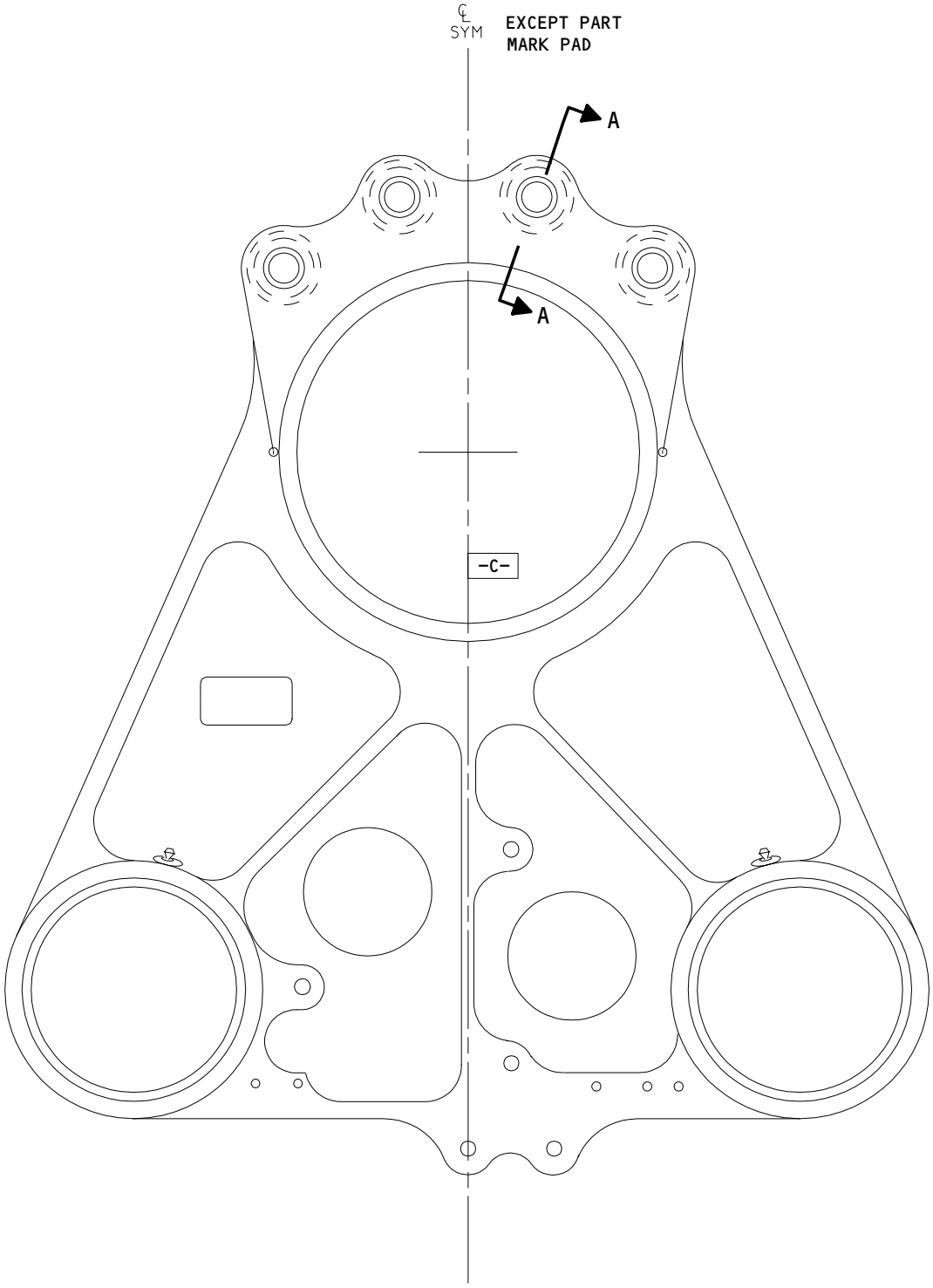
   D. Check dimensions and machine as necessary.

      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

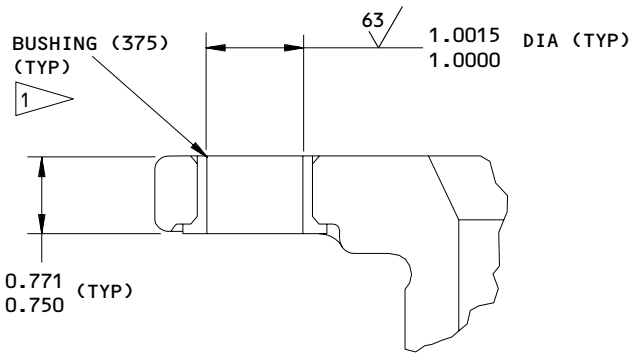
   E. Seal bushings as noted.

2. Lube Fitting Replacement

   A. Replace lube fittings (370) per 32-00-03.



162T1400-1
Bushing Replacement
Figure 601 (Sheet 1)



A-A

REFINISH

FOR REFINISH INSTRUCTIONS, REF REPAIR 6-3

ALL DIMENSIONS ARE IN INCHES

1 APPLY FILLET SEAL PER REPAIR 19-1, FIG. 604

162T1400-1
Bushing Replacement
Figure 601 (Sheet 2)

182565

SUPPORT, TORQUE TUBE - REPAIR 6-2

162T1400-2, -3, -4

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601, REPAIR 6-3.

1. Lug Faces and Holes (Fig. 601)

A. Flange Attach Holes -- Installation of Oversize Bushings (Fig. 601)

(1) Machine as required, within repair limits, to remove defects.

(2) Shot peen and apply primer, BMS 10-11, type 1.

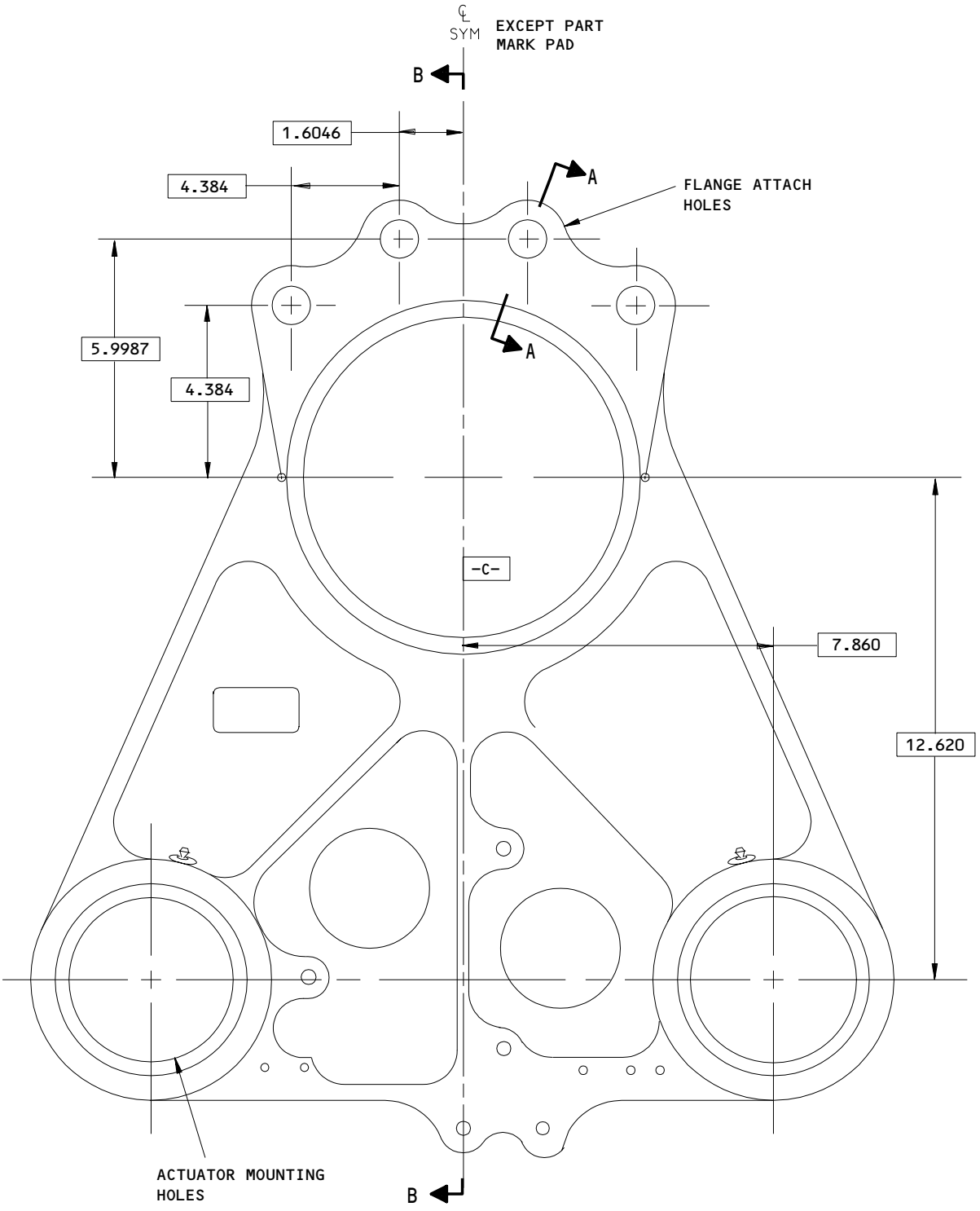
(3) Make bushings (Fig. 602), as required, to adjust for the amount of material removed in step (1).

(4) Install the bushings per REPAIR 6-1.

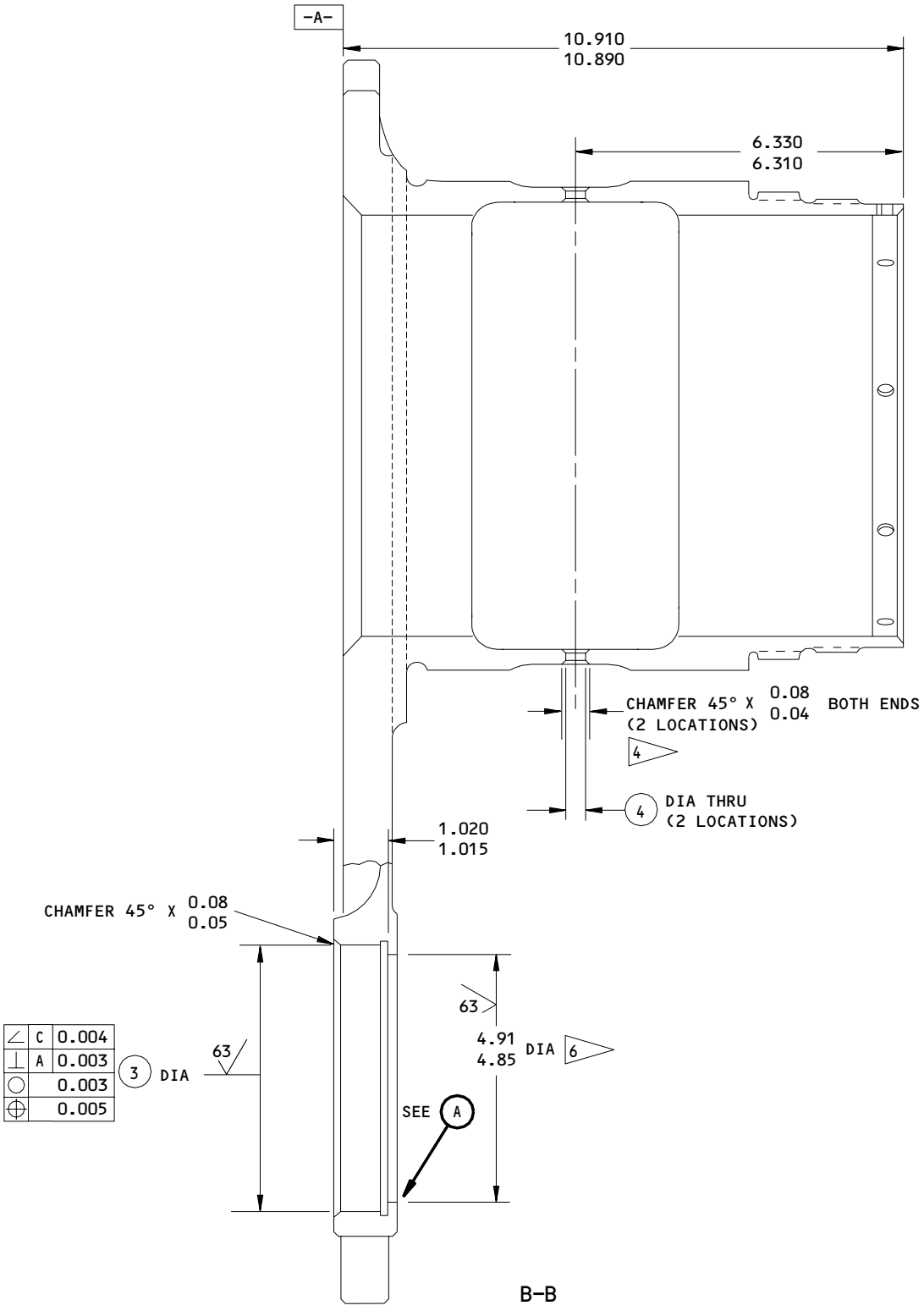
B. Actuator Mounting Holes -- Chrome Plate Repair (Fig. 601)

(1) Machine as required, within repair limits, to remove defects.

(2) Shot peen, chrome plate, and machine to design dimensions and finish.

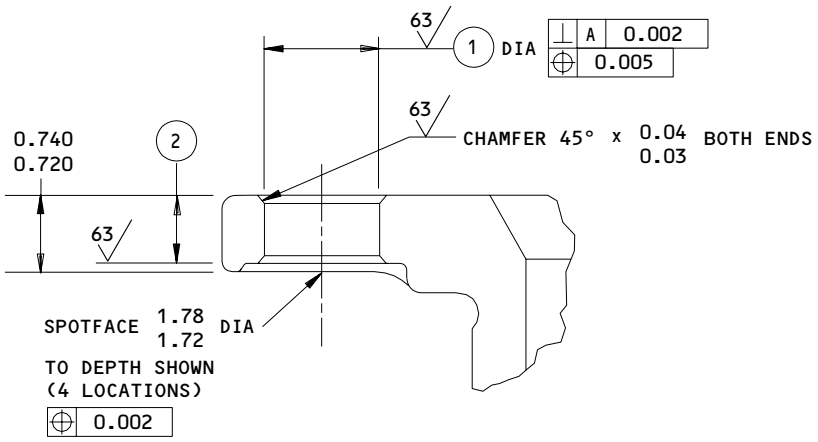


162T1400-2,-3,-4
Lug Face and Hole Repair
Figure 601 (Sheet 1)

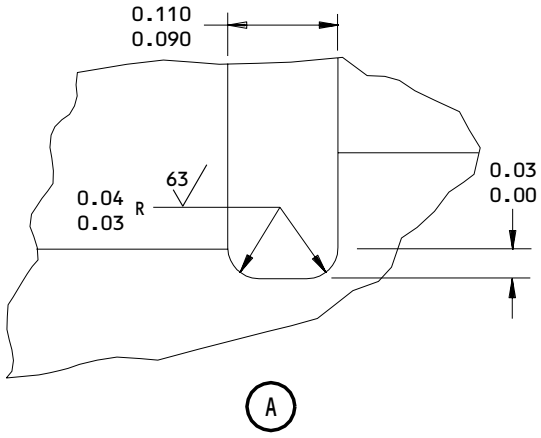


162T1400-2,-3,-4
Lug Face and Hole Repair
Figure 601 (Sheet 2)

182567



A-A



	1	2 ▷3	3	4
DESIGN DIM	1.1275 1.1250	0.710 0.690	5.127 5.125	0.385 0.365
REPAIR LIMIT	1.1875 ▷2	0.675 ▷2	5.147 ▷1	0.405 ▷5

ALL DIMENSIONS ARE IN INCHES

162T1400-2,-3,-4
Lug Face and Hole Repair
Figure 601 (Sheet 3)

REFINISH

FOR REFINISH INSTRUCTIONS REF REPAIR 6-3

FLASH CHROME PLATE (F-15.03) DIA (3), 0.0005-0.0007 THICK. FOR COMPLETE REFINISH, REFER TO REPAIR 6-3.

1 LIMIT FOR CHROME PLATE BUILDUP AND GRINDING TO DIMENSIONS SHOWN.

2 LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS.

3 LUG FACE MACHINING REQUIREMENTS:

1. MATERIAL REMOVED FROM ANY FACE MUST NOT BE MORE THAN HALF THE DIFFERENCE BETWEEN THE DESIGN DIMENSION AND REPAIR LIMIT.
2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA. OF BUSHING TO BE INSTALLED.
3. BLEND MISMATCH STEPS TO 0.18-0.26 RADIUS, OR IF WITHIN 0.10 OF LUG FILLET RADIUS, USE SAME RADIUS AS LUG FILLET. BREAK SHARP EDGES 0.03-0.07 R.

4 RADIAL LOCATION OPTIONAL WHEN ORIGINALLY MANUFACTURED. (180° APART WITHIN 2°)

5 RESTORATION TO DESIGN DIM NOT REQUIRED. DO NOT PLATE. THIS NOTE TAKES PRECEDENCE OVER OTHER NOTES IN THIS REPAIR.

6 BREAK SHARP EDGES 0.02-0.03 R ON AREA NOTED.

7 PUT A 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS. DO NOT PLATE RELIEF RADII.

REPAIR

REF 1 2 3 4 7

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

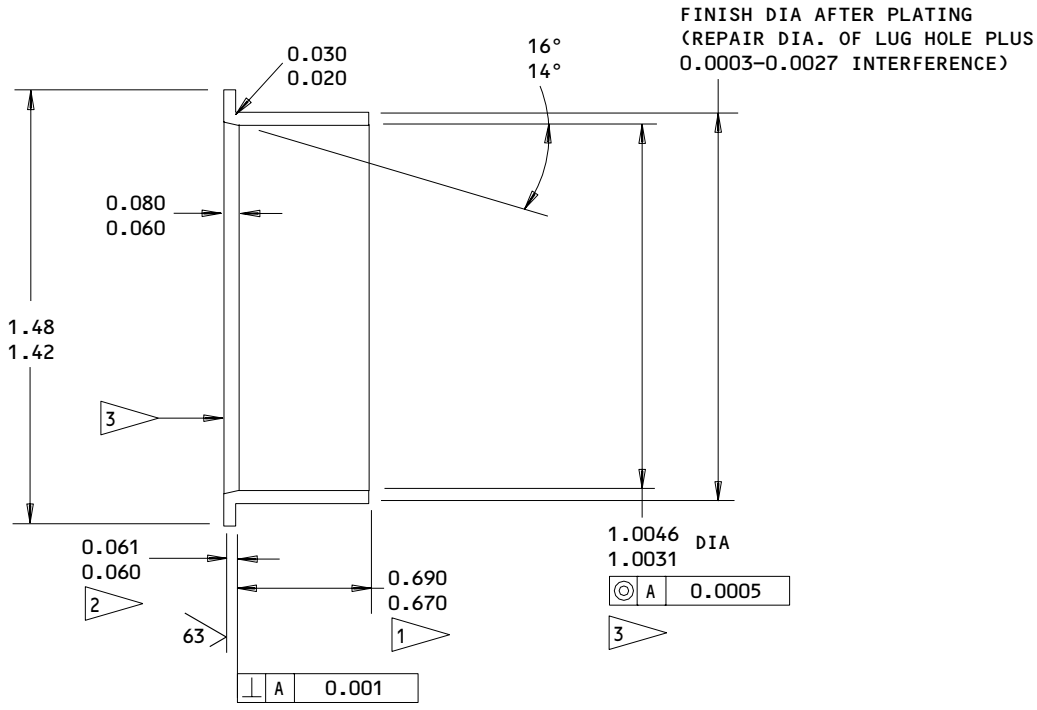
BREAK SHARP EDGES: 0.09-0.15 UNLESS SHOWN DIFFERENTLY

SHOT PEEN: 0.017-0.033 SHOT SIZE
0.012 A2 INTENSITY

MATERIAL: 15-5PH CRES (180-200 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1400-2,-3,-4
Lug Face and Hole Repair
Figure 601 (Sheet 4)



125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES: 0.01–0.02 R

CADMIUM PLATE 0.0003 THICK, EXCEPT AS NOTED

MATERIAL: AL–NI–BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE (F–25.01) BUSHING ID AND FACE

HOLE LOCATION (1)

Oversize Bushing Details
Figure 602

182570

SUPPORT, TORQUE TUBE - REPAIR 6-3

162T1400-2, -3, -4

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions in Fig. 601.

1. OD - Diameter 1 (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate thickness must not be more than 0.010 inch after grinding.

2. Diameter 2 (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen.

   C. Build up with coating as indicated.

3. Shoulder Face (Fig. 601)

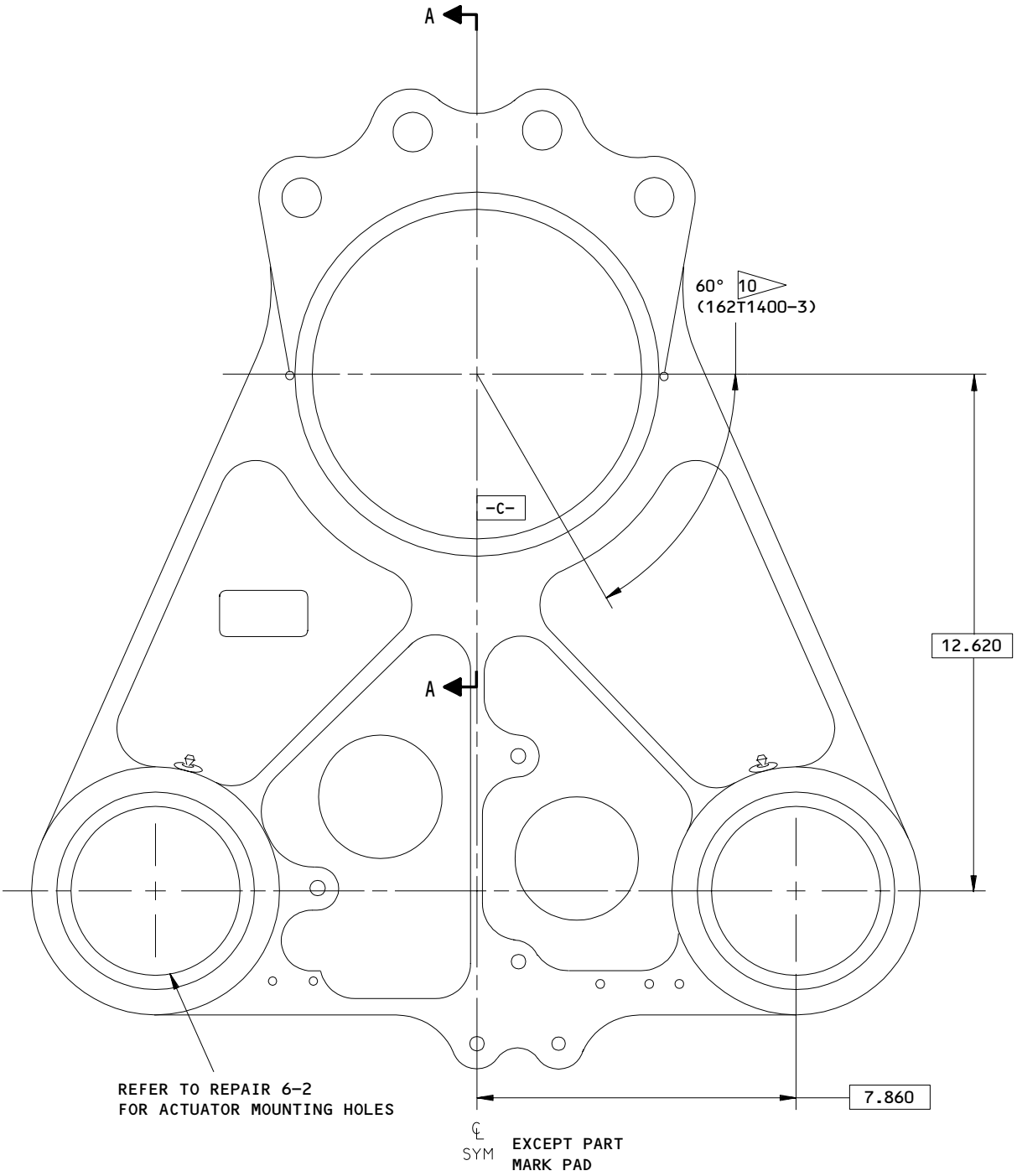
   A. Machine as required, within repair limits, to remove defects. Blend into relief groove if necessary.

   B. Shot peen, chrome plate and grind to restore grip length. Do not chrome plate relief groove.

4. Relief Grooves (Fig. 601)

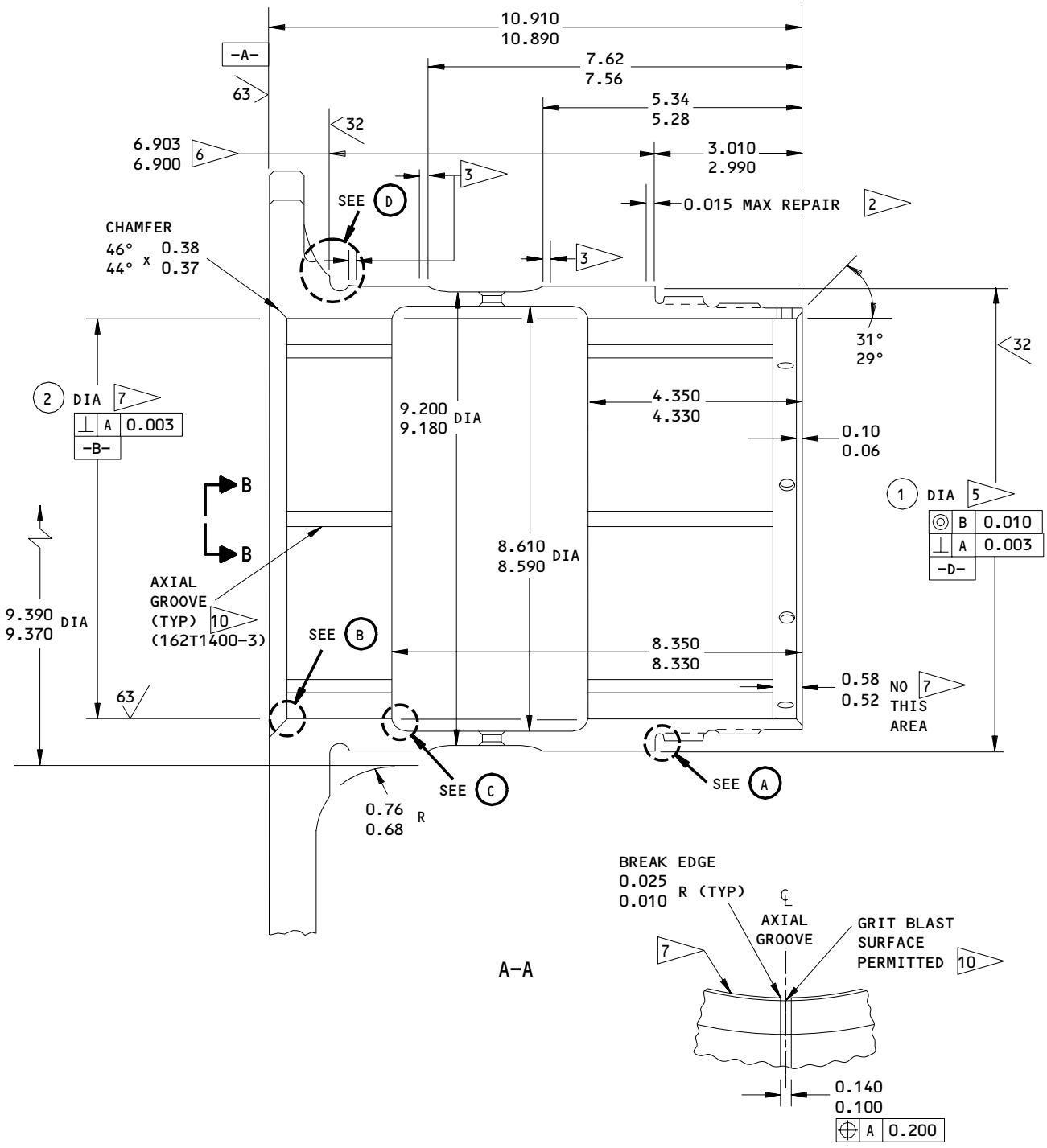
   A. Machine as required, within repair limits, to remove defects. If necessary to adjust grip length, machine shoulder at thread relief.

   B. Shot peen (but not threads). Passivate.

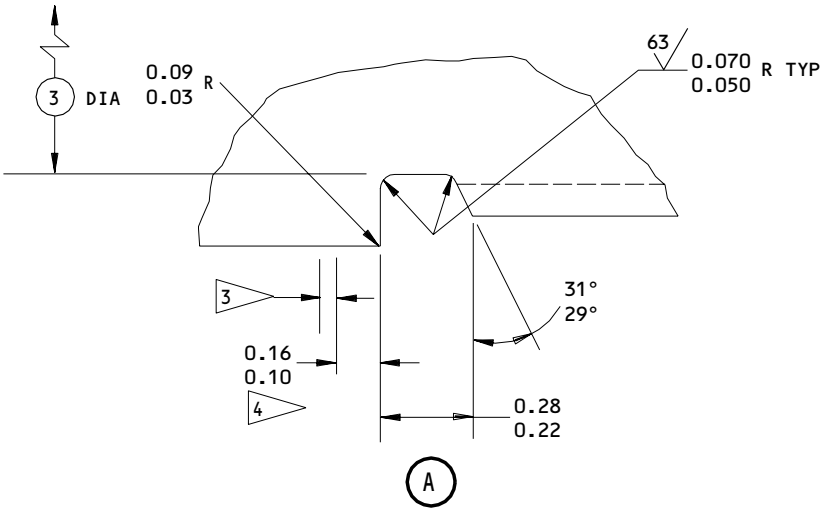


162T1400-2,-3,-4
Support Repair and Refinish
Figure 601 (Sheet 1)

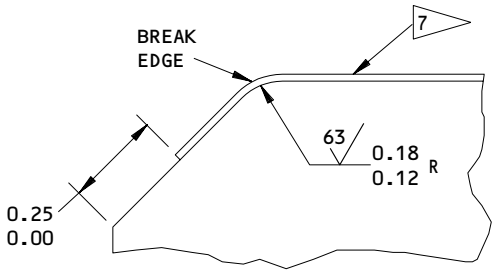
182571



162T1400-2,-3,-4
Support Repair and Refinish
Figure 601 (Sheet 2)

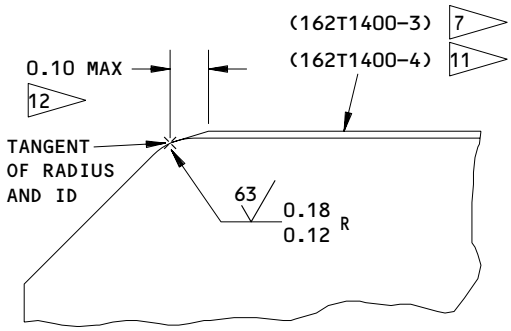


A



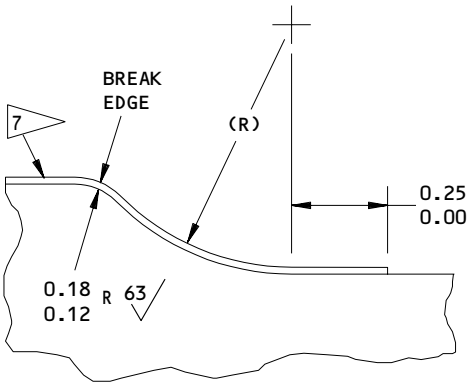
162T1400-2

B



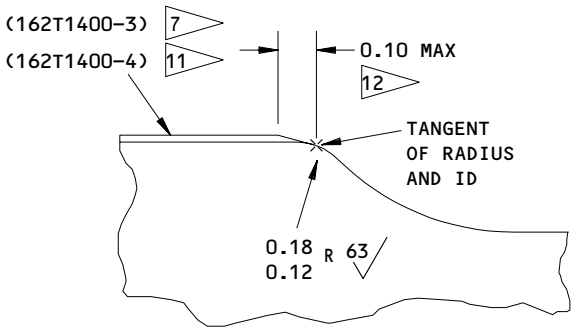
162T1400-3,-4

B



162T1400-2
(2 LOCATIONS)

C

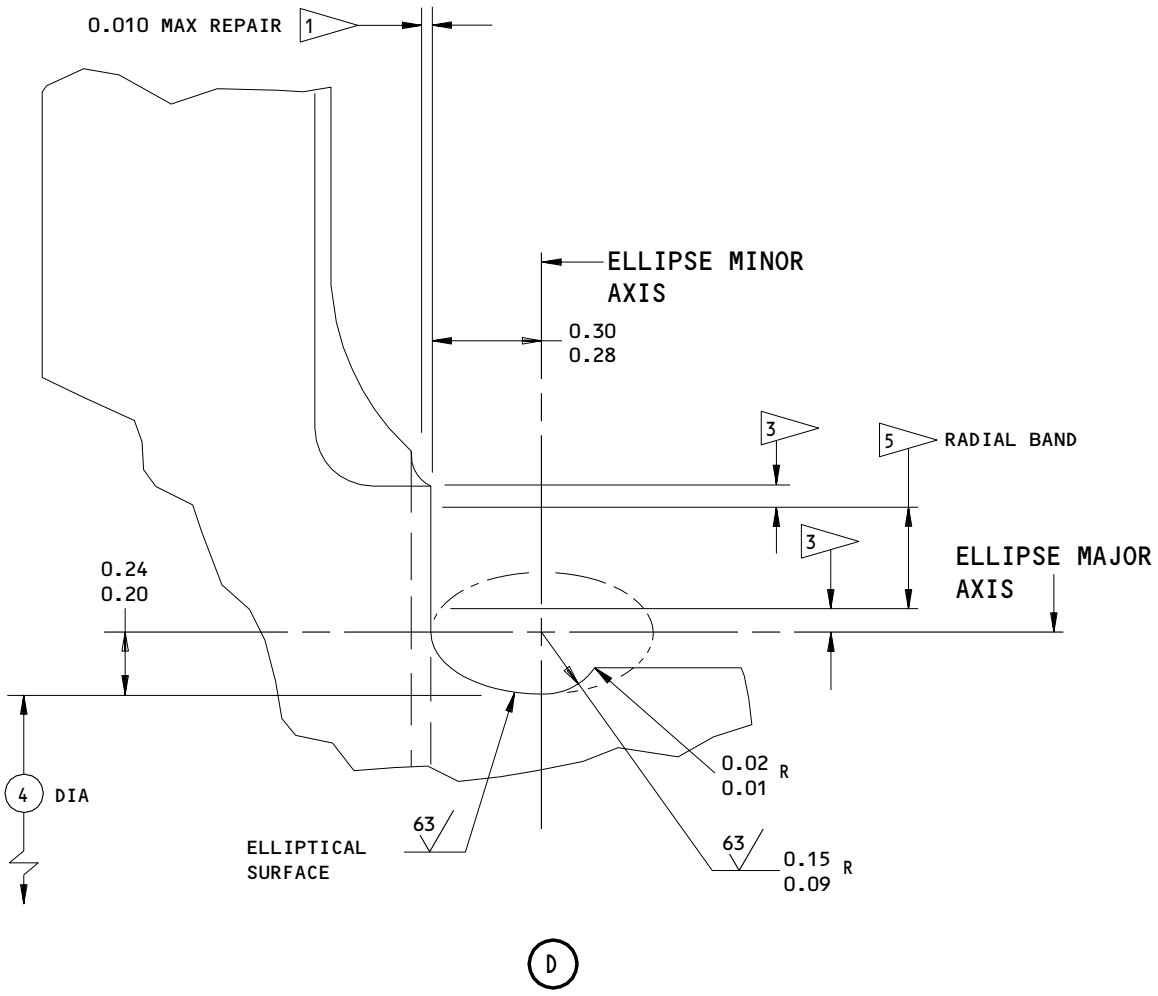


162T1400-3,-4
(2 LOCATIONS)

C

162T1400-2,-3,-4
Support Repair and Refinish
Figure 601 (Sheet 3)

182575



162T1400-2,-3,-4
Support Repair and Refinish
Figure 601 (Sheet 4)

182576

	1	2	3	4
DESIGN DIM	9.2490 9.2475 6	8.1278 8.1260	8.690 8.670	9.150 9.130
REPAIR LIMIT	9.2175 1	8.160 9	8.640 2	9.100 2

REFINISH

CHROME PLATE SHOULDER FACE AND DIA -D- PER 5. PUT A 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS SHOWN DIFFERENTLY. DO NOT PLATE RELIEF RADII. APPLY COATING (LINER) TO ID DIA -B- PER 7 OR 11. APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02) TO HOLES FOR BUSHINGS. PASSIVATE (F-17.25, WHICH REPLACES F-17.09) ALL OTHER SURFACES. REFER TO REPAIR 6-2 FOR REFINISH OF ACTUATOR MOUNTING HOLES.

1. LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS. PUT A 0.08 PLATING RUNOUT AT EDGES HOLES, AND RELIEFS UNLESS SHOWN DIFFERENTLY. DO NOT PLATE RADII
2. RESTORATION TO DESIGN DIMENSION NOT REQUIRED
3. 0.08 MAXIMUM CHROME PLATE RUNOUT AREA
4. NO CHROME PLATE THIS AREA
5. CHROME PLATE (F-15.03), 0.003 MINIMUM THICKNESS
6. AFTER PLATING
7. COAT THESE SURFACES WITH KARON PER MIL-B-81934. KAMATICS CORPORATION (V50632) IS THE ONLY VENDOR WHO CAN APPLY THIS COATING
8. FLASH CHROME PLATE (F-15.03), 0.0005-0.0007 THICK
9. LIMIT FOR BUILDUP WITH COATING PER 7 OR 11 TO DESIGN DIMENSIONS
10. SIX AXIAL GROOVES MUST BE WITHIN THE KARON COATING ONLY, AND MUST NOT GO INTO THE METAL. RADIAL POSITION OF THESE GROOVES IS OPTIONAL
11. COAT THESE SURFACES WITH KAHRLON X1200S LINER BONDED TO THE SURFACE, WITH DACRON/ ADHESIVE BACKING. KAHR BEARING (V97613) IS THE ONLY VENDOR WHO CAN APPLY THIS COATING
12. LINER RUNOUT

REPAIR

REF 1 2 9

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.09-0.15 R UNLESS SHOWN DIFFERENTLY

SHOT PEEN: BUT NOT THREADS OR SPLINES
0.017 - 0.033 SHOT SIZE
0.012 A2 INTENSITY

MATERIAL: 15-5PH CRES (180-200 KSI)

DIMENSIONS APPLY BEFORE PLATING UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

162T1400-2,-3,-4
Support Repair and Refinish
Figure 601 (Sheet 5)

182577

LOWER SUPPORT PLATE ASSEMBLY - REPAIR 7-1

162T1402-1

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Lug Faces and Holes (Fig. 601)

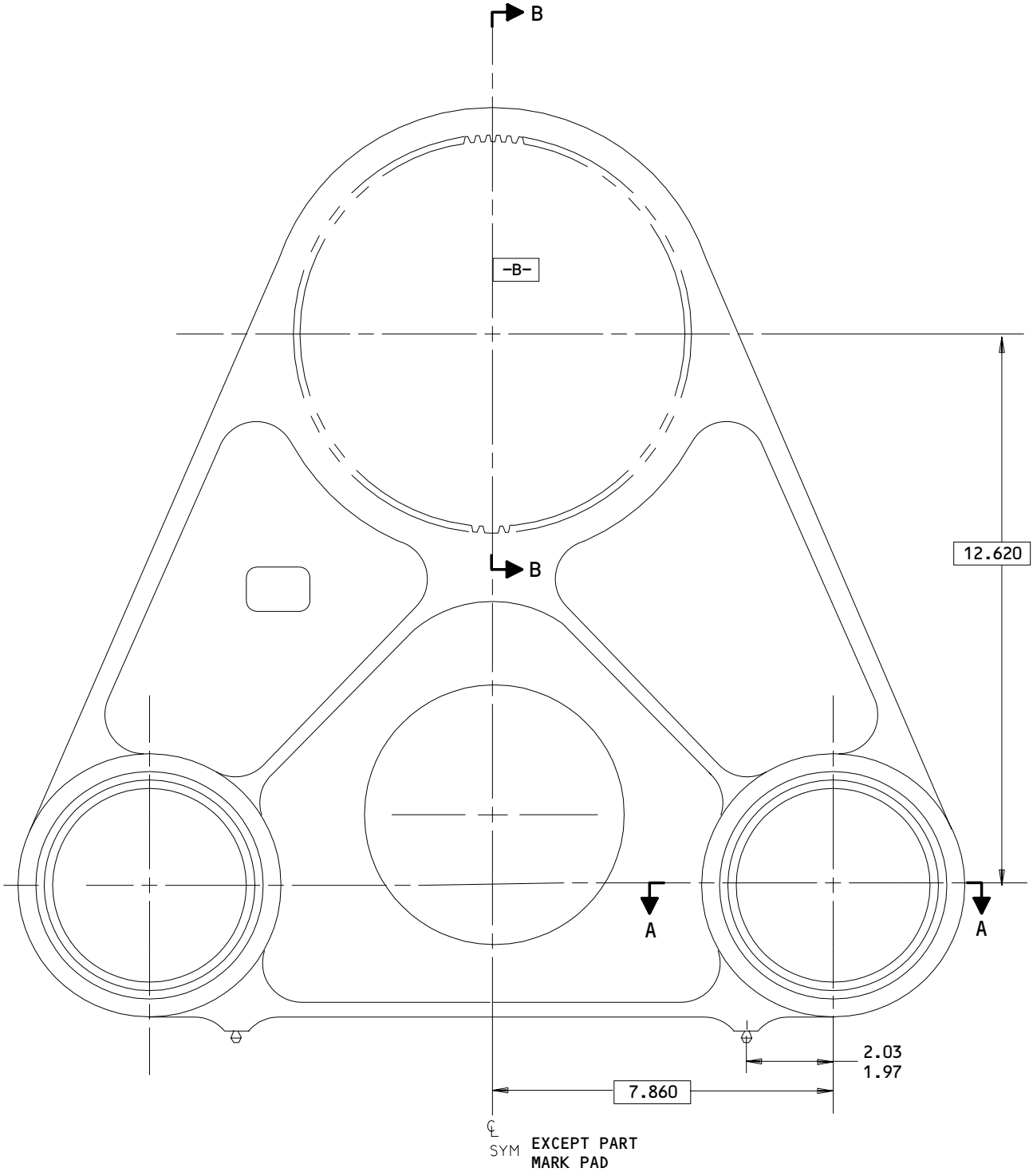
   A. Chrome Plate Buildup

      (1) Machine as required, within repair limits, to remove defects.

      (2) Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate thickness must not be more than 0.010 inch after grinding.

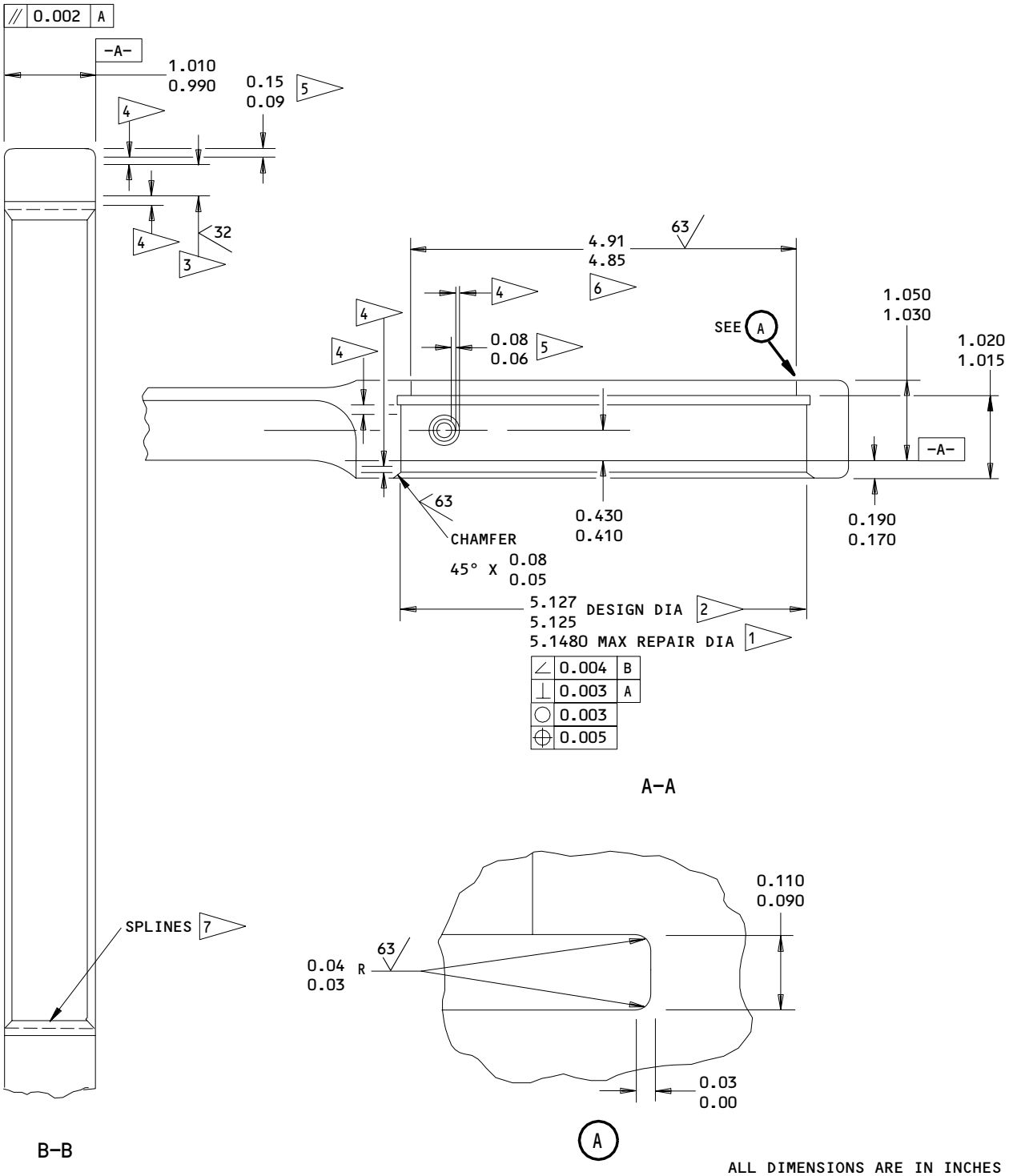
2. Lube Fitting Replacement

   A. Replace lube fittings (290) per 32-00-03.



ALL DIMENSIONS ARE IN INCHES

162T1402-1
Lower Support Plate Hole Repair
Figure 601 (Sheet 1)



ALL DIMENSIONS ARE IN INCHES

162T1402-1
Lower Support Plate Hole Repair
Figure 601 (Sheet 2)

182579

REFINISH

PASSIVATE (F-17.09) ALL OVER AND
CHROME PLATE RADIAL BAND AS SHOWN BY 3
CHROME PLATE ID OF HOLES FOR ACTUATORS AS
SHOWN BY 2

1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH, WITH 0.08 MAX PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS SHOWN BY 4.

2 FLASH CHROME PLATE (F-15.03)(0.0005-0.0007 THICK)

3 CHROME PLATE (F-15.03) ON RADIAL BAND.

4 CHROME PLATE RUNOUT 0.08 MAX

5 NO CHROME PLATE THIS AREA

6 BREAK SHARP EDGES 0.02-0.03 R ON ALL HOLES.

7 OPTIONAL: APPLY BONDED SOLID FILM LUBRICANT TYPE 6, CLASS 3 (SOPM 20-50-08) TO THE SPLINES, 0.0002-0.0005 THICK, IF THE COATED SPLINES WILL BE WITHIN DESIGN DIMENSIONS (ANSI B92-1-1970).

REPAIR

REF 1 7

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES: 0.09-0.15 EXCEPT AS NOTED

SHOT PEEN: 0.017-0.033 SHOT SIZE
0.012 A2 INTENSITY

MATERIAL: 15-5PH CRES (180-200 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1402-1
Lower Support Plate Hole Repair
Figure 601 (Sheet 3)

182580

PIN, TRUNNION - REPAIR 8-1

162T1101-1

NOTE: Refer to REPAIR-GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Shank Repair - OD (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate thickness must not be more than 0.015 inch after grinding.

2. Relief Groove (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen and apply cadmium-titanium plate followed by primer.

3. Pin Retention Holes (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Cadmium-titanium plate. Apply primer.

4. Cross-hole for bolt (390) (Fig. 601)

   CAUTION: BEFORE YOU DO THIS REPAIR, YOU MUST KNOW IF THE PIN WILL BE USED ON THE LEFT OR RIGHT SIDE OF THE SHOCK STRUT. LEFT-SIDE PINS MUST BE REPAIRED WITH TWO SHORT SLEEVES TO PERMIT INSTALLATION OF A SWIVEL BRACKET IN THE PIN BORE. RIGHT-SIDE PINS MUST BE REPAIRED WITH ONE LONG SLEEVE.

   A. Machine as required, within repair limits, to remove defects.

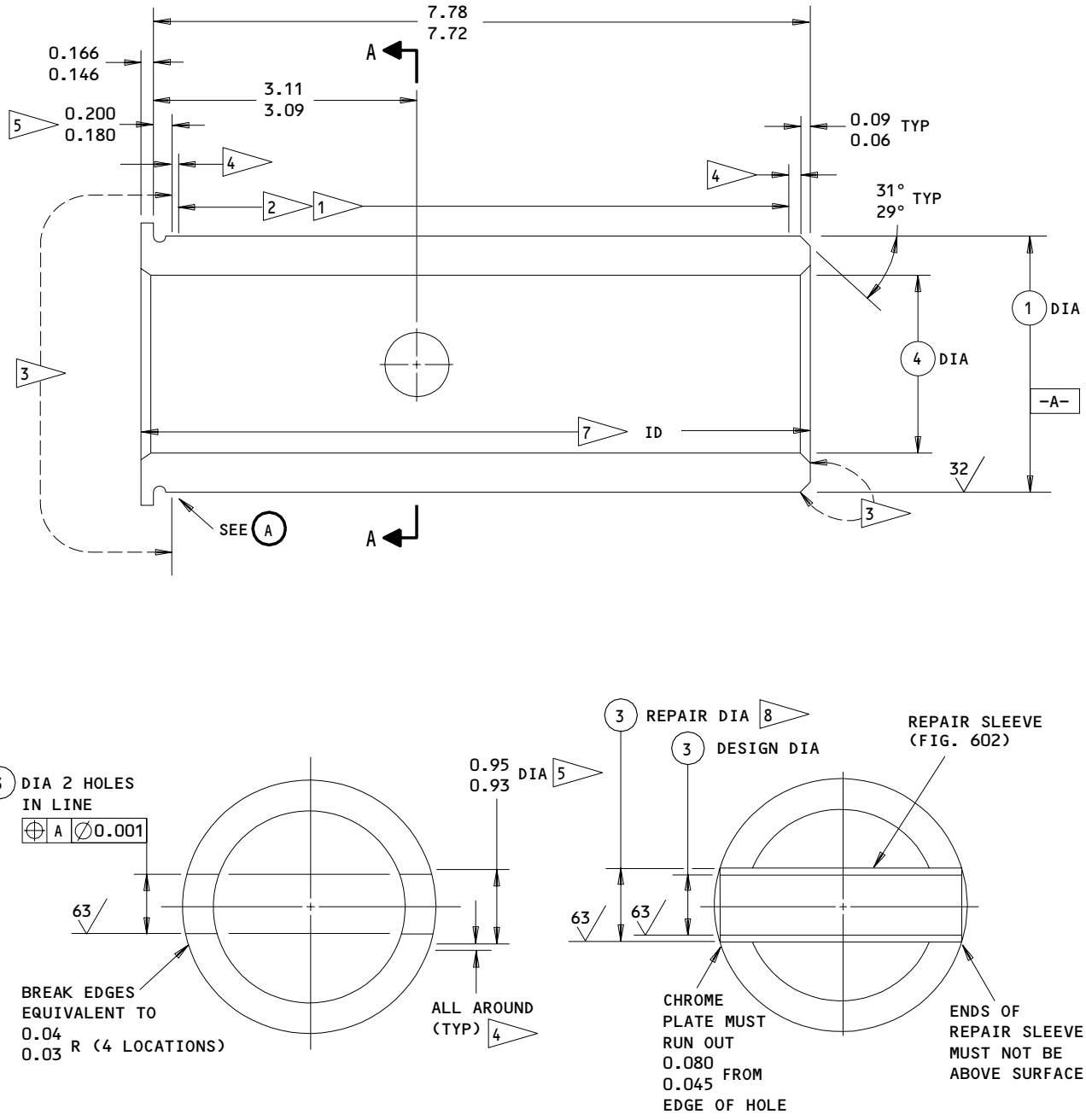
   B. Shot peen as indicated. Cadmium-titanium plate the hole.

C. As applicable for right or left side pins respectively, make a long repair sleeve (Fig. 602) or two short repair sleeves (Fig. 603), to make allowance for the material removed in step A.

D. Install the repair sleeve or sleeves with wet primer BMS 10-11, type 1. Make sure the ends do not go above the surface of the trunnion pin OD.

E. Machine the bore of the sleeve to design dimensions and finish.

F. Identify pins with the long sleeve as "Right Side Only". Identify pins with the two short sleeves as "Left Side Only".



ORIGINAL CONFIGURATION

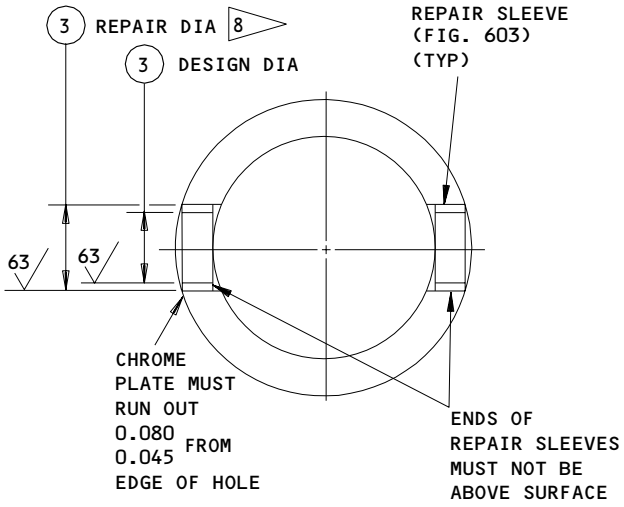
REPAIR SLEEVE INSTALLED
(RIGHT-SIDE PINS)

A-A

ALL DIMENSIONS ARE IN INCHES

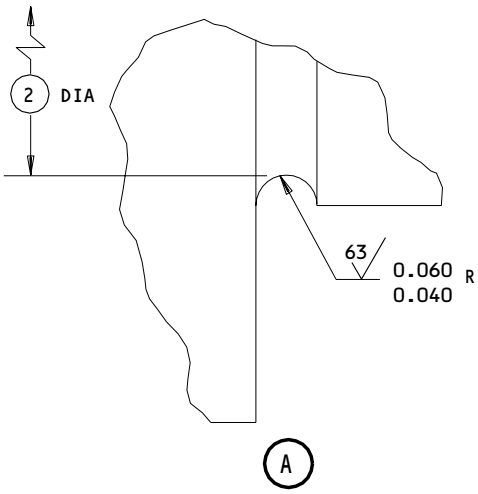
162T1101-1
Pin Repair and Refinish
Figure 601 (Sheet 1)

182547



REPAIR SLEEVE INSTALLED
(LEFT-SIDE PINS)

A-A



	1	2	3	4
DESIGN DIM	2.9990 2.9980	2.910 2.890	0.7515 0.7500	2.140 2.135
REPAIR LIMIT	2.9680 1	2.840 6	0.8800 0.8100 8	2.170 9

REFINISH

CHROME PLATE (F-15.34, THICKNESS 0.003 MIN) OD. CADMIUM-TITANIUM PLATE (F-15.01) ALL OTHER SURFACES. APPLY PRIMER AND ENAMEL AS SHOWN IN CMM 32-00-02, 2 3 7.

1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH. OBSERVE 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS OTHERWISE NOTED.

2 WIPE CHROME PLATE WITH PRIMER (F-19.45).

3 APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02) FOLLOWED BY BMS 10-60 GRAY GLOSS ENAMEL (SRF-14.9813) THIS AREA.

4 CHROME PLATE RUNOUT 0.08 MAX

5 NO CHROME PLATE THIS AREA.

6 RESTORATION TO DESIGN DIM NOT REQUIRED.

7 APPLY BMS 10-11, TYPE 1, PRIMER (F-20.03) AND MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) ON ID.

8 RANGE FOR INSTALLATION OF REPAIR SLEEVE(S) (FIG. 602 OR 603)

REPAIR

REF 1 6 8 9

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES: 0.02-0.04R UNLESS SHOWN DIFFERENTLY

SHOT PEEN: 0.016 - 0.033 SHOT SIZE
0.014 - 0.016 A2 INTENSITY

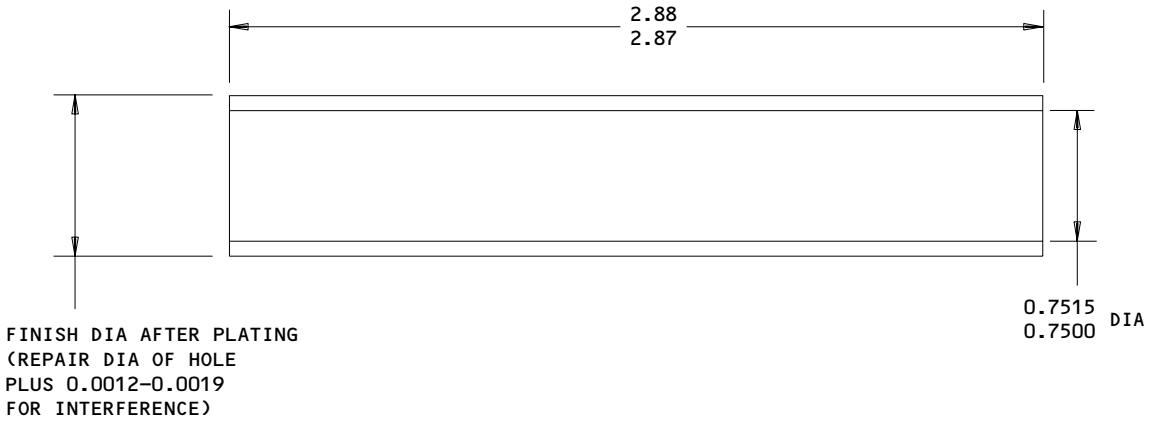
MATERIAL: 4340M STEEL (275 - 300 KSI)

ALL DIMENSIONS ARE IN INCHES

9 LIMIT FOR SULFAMATE NICKEL PLATE BUILDUP AND MACHINE TO DESIGN DIMENSIONS AND FINISH. IF YOU USE THIS METHOD, YOU MUST REMOVE ALL CHROME PLATE FROM OD BEFORE YOU NICKEL PLATE.

162T1101-1
Pin Repair and Refinish
Figure 601 (Sheet 2)

182581



FINISH

CADMIUM PLATE (F-15.06), 0.0003–0.0005 THICK EXCEPT NO PLATING IN ID

REPAIR

125 ALL MACHINED SURFACES

BREAK SHARP EDGES 0.01–0.02 R

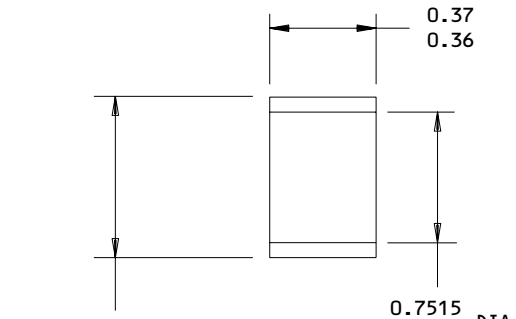
MATERIAL: AL–NI–BRZ, AMS 4640 OR 4880

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (3) FIG. 601 – RIGHT-SIDE PINS

Repair Sleeve Details
Figure 602

B21577



FINISH

CADMIUM PLATE (F–15.06), 0.0003–0.0005 THICK EXCEPT NO PLATING IN ID

REPAIR

125 ALL MACHINED SURFACES

BREAK SHARP EDGES 0.01–0.02 R

MATERIAL: AL–NI–BRZ, AMS 4640 OR 4880

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (3) FIG. 601 – LEFT–SIDE PINS

Repair Sleeve Details
Figure 603

BOLT, APEX - REPAIR 9-1

162T1120-1

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. Shank Repair - OD (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate shall not exceed 0.010 after grinding.

2. Head Face Repair - Method 1 (Optional)

   A. Machine as required, within repair limits, to remove defects, the surface denoted by datum -Y-. Blend into relief groove if necessary. Note amount of material removed.

   B. Machine surface denoted by datum -Z-, removing amount of material noted in step 2.A.

   C. Shot peen and refinish.

   D. Adjust grip length by machining shoulder at thread end per par. 4.

3. Head Face Repair - Method 2 (Optional)

   A. Machine as required, within repair limits, to remove defects, surface denoted by datum -Y-.

   B. Shot peen, chrome plate and grind to design dimensions. Do not chrome plate relief groove. Chrome plate shall not exceed 0.010 after grinding.

4. Relief Grooves

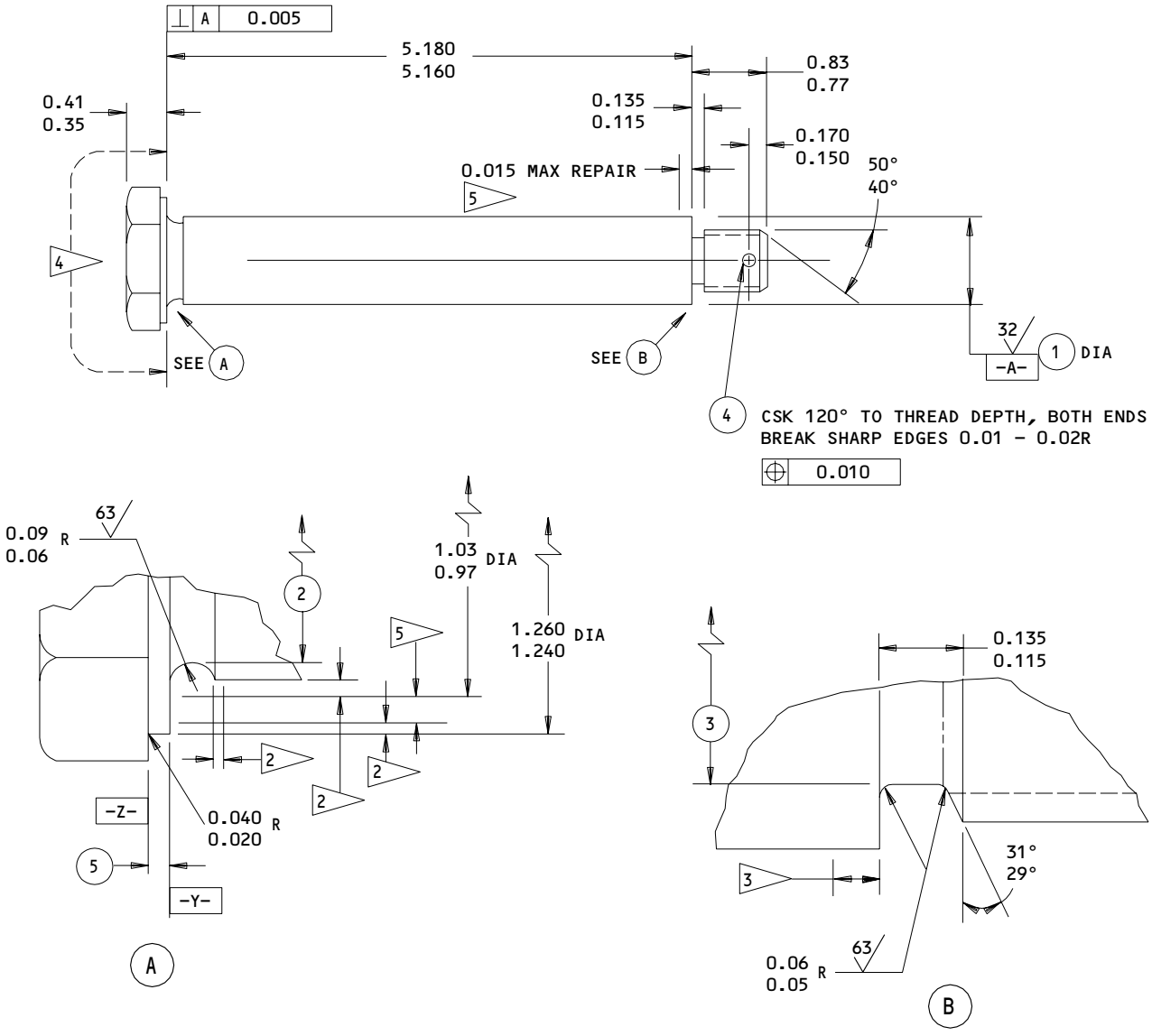
   A. Machine as required, within repair limits, to remove defects. If necessary to adjust grip length, machine shoulder at thread relief.

   B. Shot peen and apply cadmium-titanium plate followed by primer.

5. Pin Retention Holes

A. Machine as required, within repair limits, to remove defects.

B. Cadmium-titanium plate. Apply primer.



	1	2 DIA.	3 DIA.	4 DIA.	5 5	5 6
DESIGN DIM	0.8740 0.8730	0.850 0.830	0.543 0.539	0.103 0.093	0.025 0.015	0.025 0.015
REPAIR LIMIT	0.8530 1	0.810 2	0.519 2	0.123 2	0.010 MAX REPAIR	0.010 MAX REPAIR

ALL DIMENSIONS ARE IN INCHES

162T1120-1
Bolt Repair
Figure 601 (Sheet 1)

182549

REFINISH

CHROME PLATE (F-15.34, 0.003 MIN THICKNESS) OD. CADMIUM-TITANIUM PLATE AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.01) ALL OTHER SURFACES. APPLY PRIMER AND ENAMEL PER 32-00-02 AND 4 .

REPAIR

REF 1 2

125 ALL MACHINED SURFACES EXCEPT AS NOTED.

BREAK SHARP EDGES 0.06 R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL (275-300 KSI)

ALL DIMENSIONS ARE IN INCHES

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSIONS SHOWN. OBSERVE 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS OTHERWISE NOTED.

2 RESTORATION TO DESIGN DIM NOT REQUIRED.

3 CHROME PLATE RUNOUT (0.00-0.08).

4 APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) AND BMS 10-60 GRAY GLOSS ENAMEL (SRF-14.9813) TO AREA NOTED.

5 FOR HEAD FACE REPAIR METHOD 1, REF 2

6 FOR HEAD FACE REPAIR METHOD 2, REF 1

162T1120-1
Bolt Repair
Figure 601 (Sheet 2)

182582

PIN, UPPER/PIN, LOWER - REPAIR 10-1

162T1118-1
162T1119-2

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. Shank Repair - OD (Fig. 601)

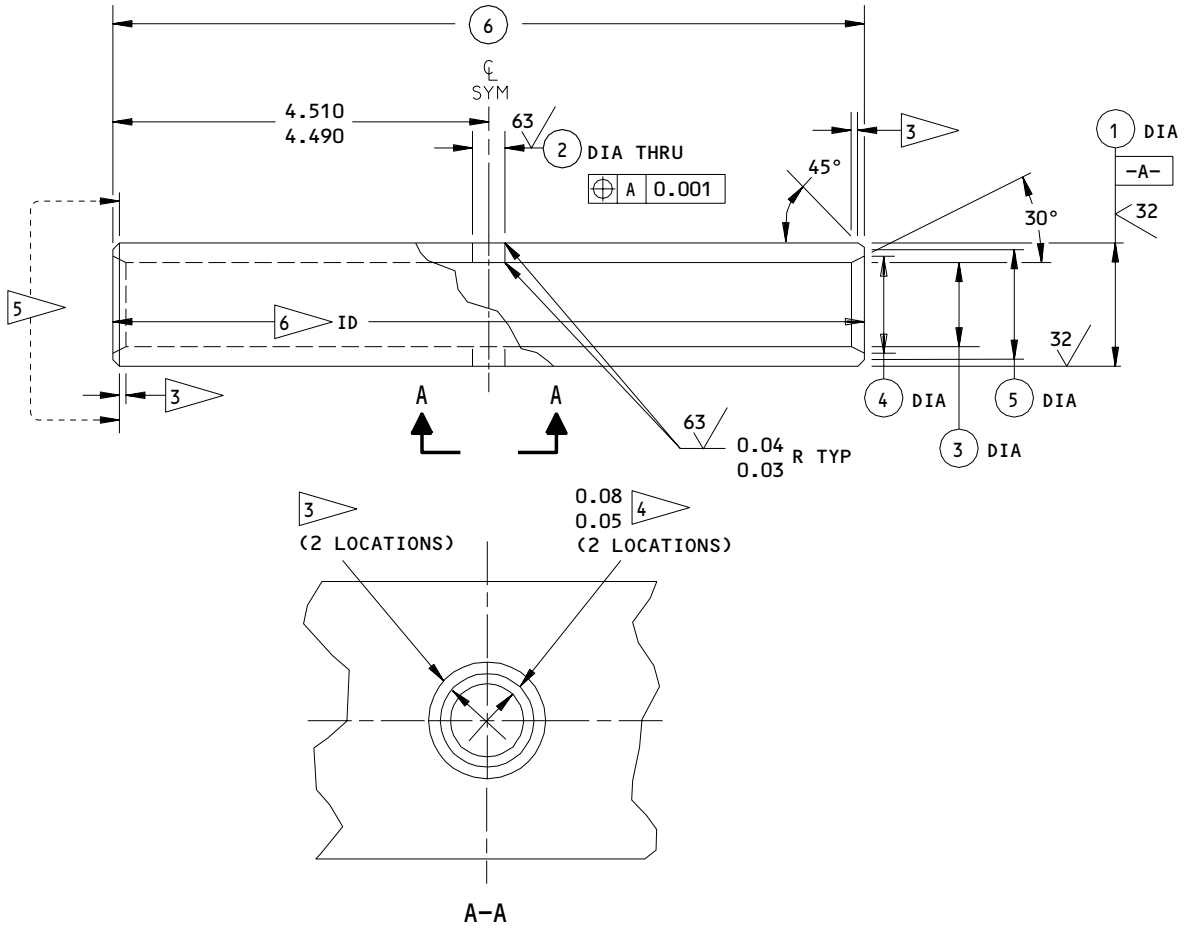
   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate shall not exceed 0.010 after grinding.

2. Pin Retention Holes

   A. Machine as required, within repair limits, to remove defects.

   B. Cadmium-titanium plate. Apply primer.



A-A

		1	2	3	4	5	6
162T1118-1	DESIGN DIM	1.499 1.498	0.379 0.375	1.060 1.040	1.180 1.160	1.390 1.370	9.03 8.97
	REPAIR LIMIT	1.488 1	0.399 2	--	--	--	--
162T1119-2	DESIGN DIM	1.7490 1.7480	0.379 0.375	1.180 1.160	1.360 1.290	1.65 1.59	9.01 8.99
	REPAIR LIMIT	1.7280 1	0.399 2	--	--	--	--

162T1118-1
162T1119-2

Pin Repair and Refinish
Figure 601 (Sheet 1)

182342

REFINISH

CHROME PLATE (F-15.34M 0.003 MIN THICK) OD. CADMIUM-TITANIUM PLATE (F-15.01) ALL OTHER SURFACES. APPLY PRIMER AND ENAMEL AS SHOWN IN CMM 32-00-02 5 6

REPAIR

REF 1 2

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.06R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL (275-300 KSI)

ALL DIMENSIONS ARE IN INCHES

1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH. PUT A 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS SHOWN DIFFERENTLY

2 RESTORATION TO DESIGN DIM NOT REQUIRED

3 CHROME PLATE RUNOUT

4 NO CHROME PLATE

5 APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02) AND BMS 10-60 GRAY GLOSS ENAMEL (SRF-14.9813) ON NOTED AREA

6 APPLY BMS 10-11, TYPE 1, PRIMER (F-20.03) AND MIL-C-11796, CLASS 1, CORROSION PREVENTIVE COMPOUND (F-19.03) TO ID

162T1118-1
162T1119-2
Pin Repair and Refinish
Figure 601 (Sheet 2)

182343

PIN, STEERING COLLAR - REPAIR 11-1

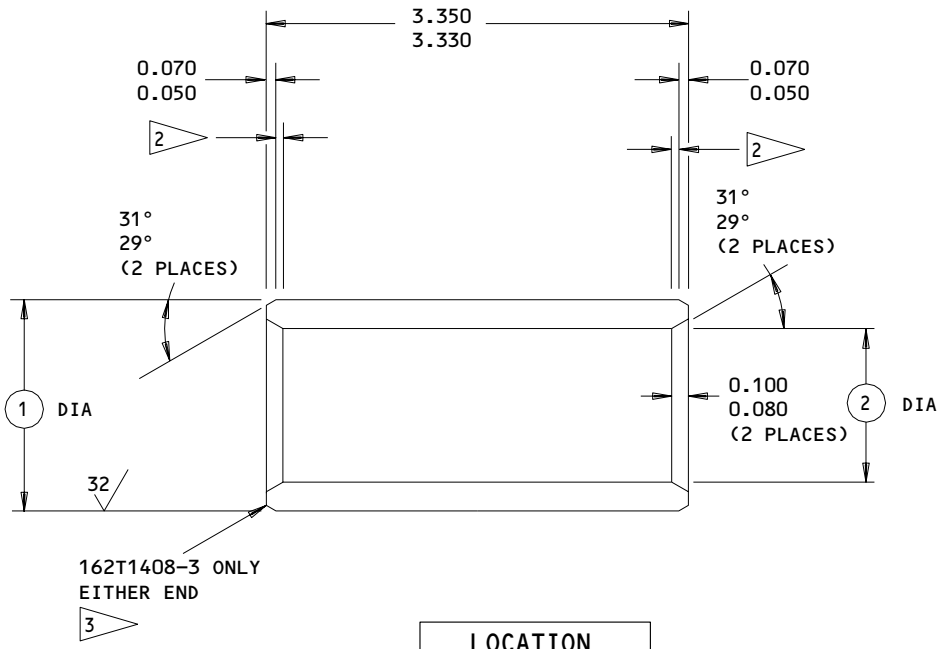
162T1408-2, -3

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. Shank Repair - ID and OD (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate shall not exceed 0.010 after grinding.



	LOCATION	
	(1)	(2)
DESIGN DIM	1.7480 1.7468	1.250 1.245
REPAIR LIMIT 1	1.7268	1.270

REFINISH

CHROME PLATE (F-15.34, 0.003 MIN) ON OD. CADMIUM-TITANIUM PLATE (0.0005 MIN) AND APPLY CHROMATE POST-PLATE TREATMENT (F-15.01) PLUS 2 COATS BMS 10-11, TYPE I, PRIMER (F-20.03) ALL OTHER SURFACES. CLEAN AND COAT ID WITH MIL-C-11796, CLASS I, CORROSION PREVENTIVE COMPOUND.

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSIONS SHOWN. OBSERVE 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS OTHERWISE NOTED.

2 CHROME PLATE RUNOUT

3 VIBRO ENGRAVE THE PART SERIAL NUMBER AND THE PART NUMBER ON NOTED AREA. (OPTIONAL: ELECTROCHEMICAL DEEP ETCH)

REPAIR

REF 1 2

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.06R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016 A2 INTENSITY

MATERIAL: 4340M STEEL (275-300 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1408-2,-3
Pin Repair
Figure 601

BOLT, SUPT. TORQUE TUBE - REPAIR 12-1

162T1409-1, -3

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. Shank Repair - OD (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate shall not exceed 0.010 after grinding.

2. Head Face Repair - Method 1 (Optional)

   A. Machine as required, within repair limits, to remove defects, the surface denoted by datum -Y-. Blend into relief groove if necessary. Note amount of material removed.

   B. Machine surface denoted by datum -Z-, removing amount of material noted in step 2.A.

   C. Shot peen and refinish.

   D. Adjust grip length by machining shoulder at thread end per par. 4.

3. Head Face Repair - Method 2 (Optional)

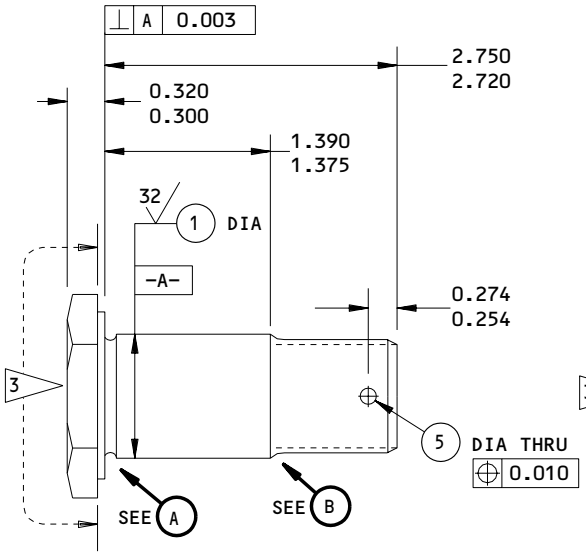
   A. Machine as required, within repair limits, to remove defects, surface denoted by datum -Y-.

   B. Shot peen, chrome plate and grind to design dimensions. Do not chrome plate relief groove. Chrome plate shall not exceed 0.010 after grinding.

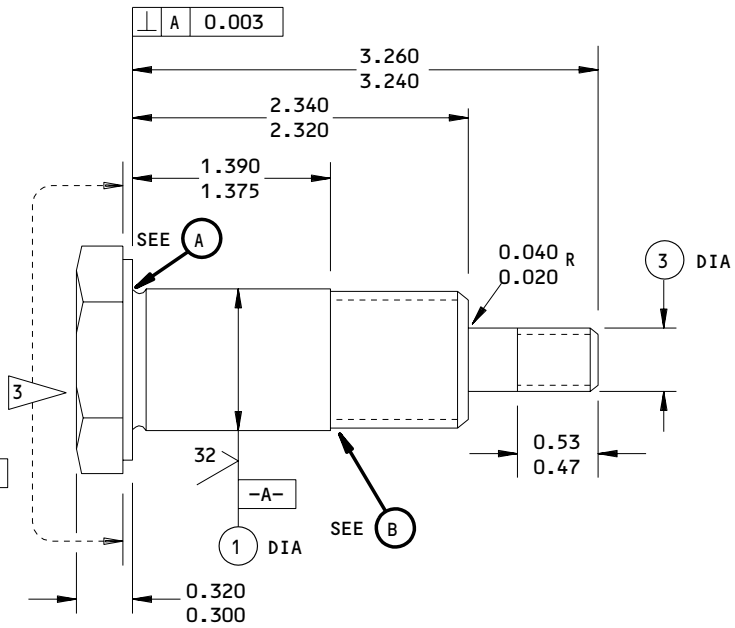
4. Relief Grooves

   A. Machine as required, within repair limits, to remove defects. If necessary to adjust grip length, machine shoulder at thread relief.

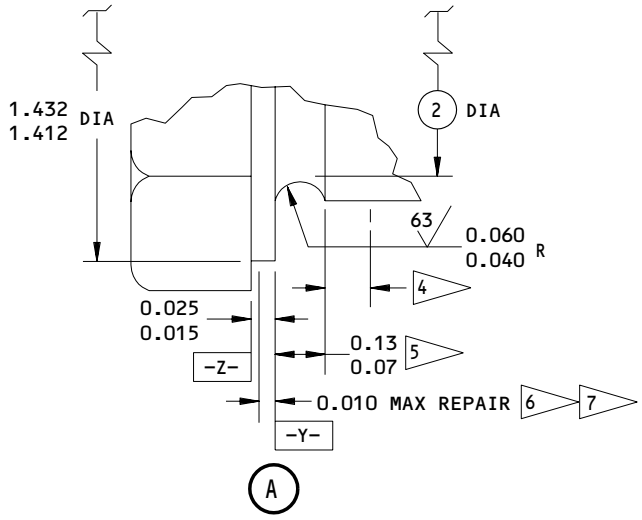
   B. Shot peen and apply cadmium-titanium plate followed by primer.

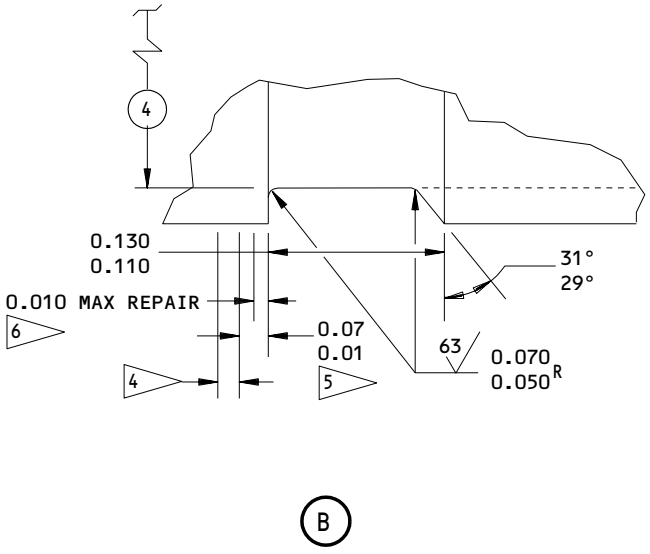


162T1409-1



162T1409-3





ALL DIMENSIONS ARE IN INCHES

162T1409-1,-3
Bolt Repair and Refinish
Figure 601 (Sheet 1)

	LOCATION				
	(1)	(2)	(3)	(4)	(5)
DESIGN DIM	0.9990 0.9980	0.970 0.950	0.3737 0.3731	0.880 0.870	0.151 0.141
REPAIR LIMIT	0.9780 ▷1	0.930 ▷2	0.3531 ▷1	0.850 ▷2	---

REFINISH

CHROME PLATE (F-15.04, 0.003 MIN THICK) OD. CADMIUM-TITANIUM PLATE (F-15.01) ALL OTHER SURFACES. APPLY PRIMER AND ENAMEL PER CMM 32-00-02 AND ▷3 .

▷1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH. MAKE A 0.08 PLATING RUNOUT AT EDGES, HOLES, AND RELIEFS UNLESS SHOWN DIFFERENTLY

▷2 RESTORATION TO DESIGN DIMENSION NOT REQUIRED

▷3 APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02) AND BMS 10-60 GRAY GLOSS ENAMEL (F-14.9813, SRF-14.9813) ON THIS AREA

▷4 CHROME PLATE RUNOUT

▷5 NO CHROME PLATE THIS AREA

▷6 FOR HEAD FACE REPAIR METHOD 1, SEE ▷2

▷7 FOR HEAD FACE REPAIR METHOD 2, SEE ▷1

REPAIR

REF ▷1 ▷2 ▷6 ▷7

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.06 R

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.014-0.016A2 INTENSITY

MATERIAL: 4330M STEEL (220-240 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1409-1,-3
Bolt Repair and Refinish
Figure 601 (Sheet 2)

GLAND NUT ASSEMBLY - REPAIR 13-1

162T1512-3, -5

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Lube Fitting Replacement

   A. Replace lube fitting (620) per CMM 32-00-03.

   B. Or, as an option, install a plug per par. 2.

2. Plug Replacement

   A. If applicable, remove the plug or unwanted lube fitting from the nut. Remove sealant from around the hole.

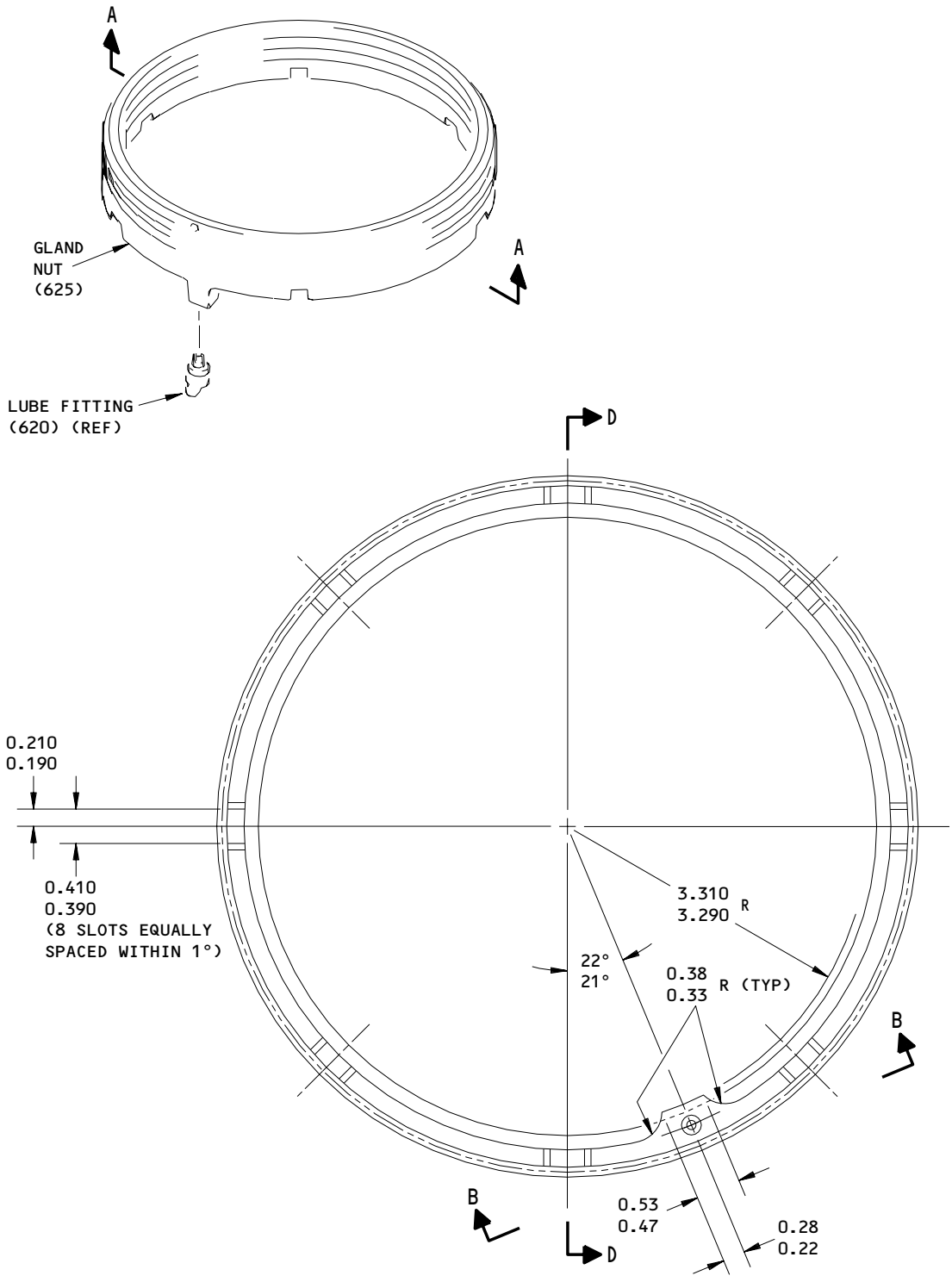
   B. Clean and degrease the gland nut. This includes the bore for the lube fitting and the lube passage.

   C. Completely fill the lube fitting bore and the lube passage with BMS 5-95 sealant.

   D. Install a BACR15BB6DD5 rivet into the lube fitting hole. Some light force could be necessary.

   E. Apply a layer of BMS 10-11, Type 1 primer to the rivet head.

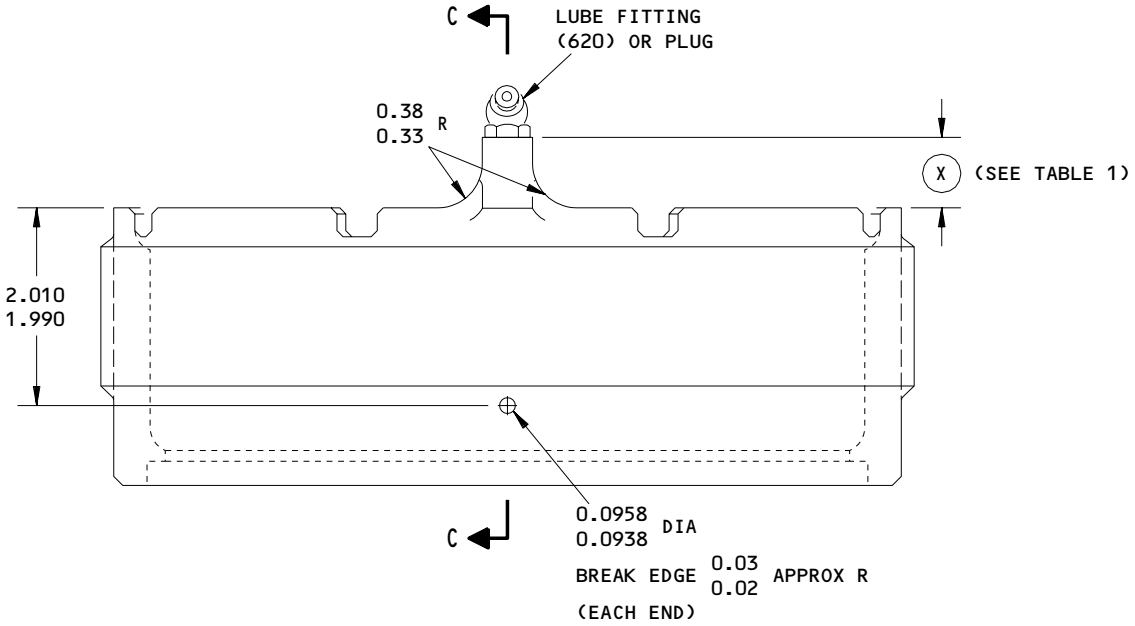
   F. If necessary, change the part number of the nut. Nut 162T1512-1 becomes a -5. Nut 162T1512-3 becomes a -6.



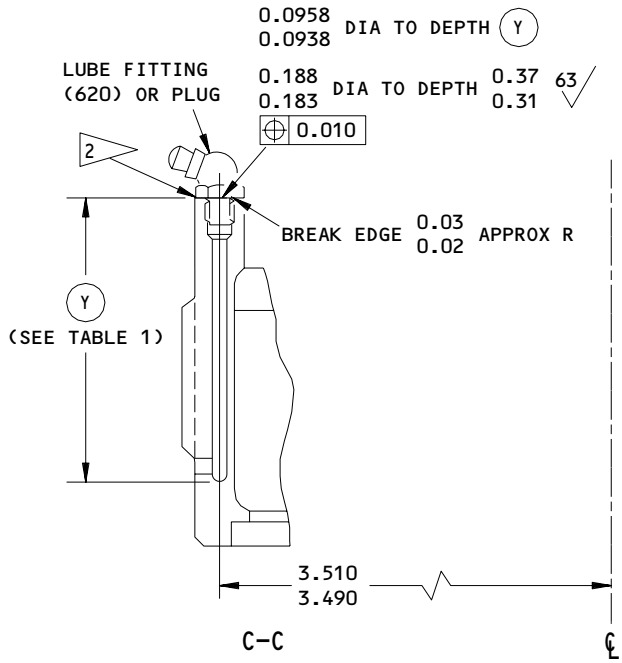
A-A

162T1512-3,-5
Gland Nut Repair and Refinish
Figure 601 (Sheet 1)

G76051



B-B



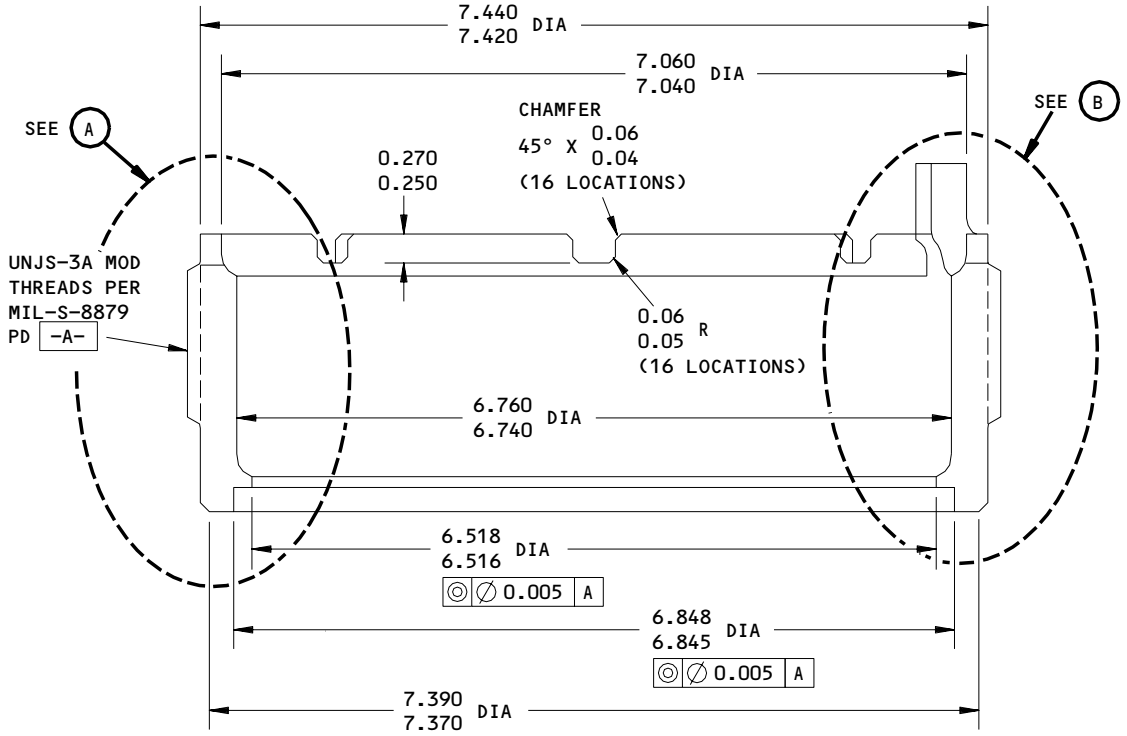
C-C

GLAND NUT (625) PART NUMBER	X	Y
162T1512-2	0.72 0.66	2.86 2.80
162T1512-4,-6	0.37 0.31	2.53 2.47

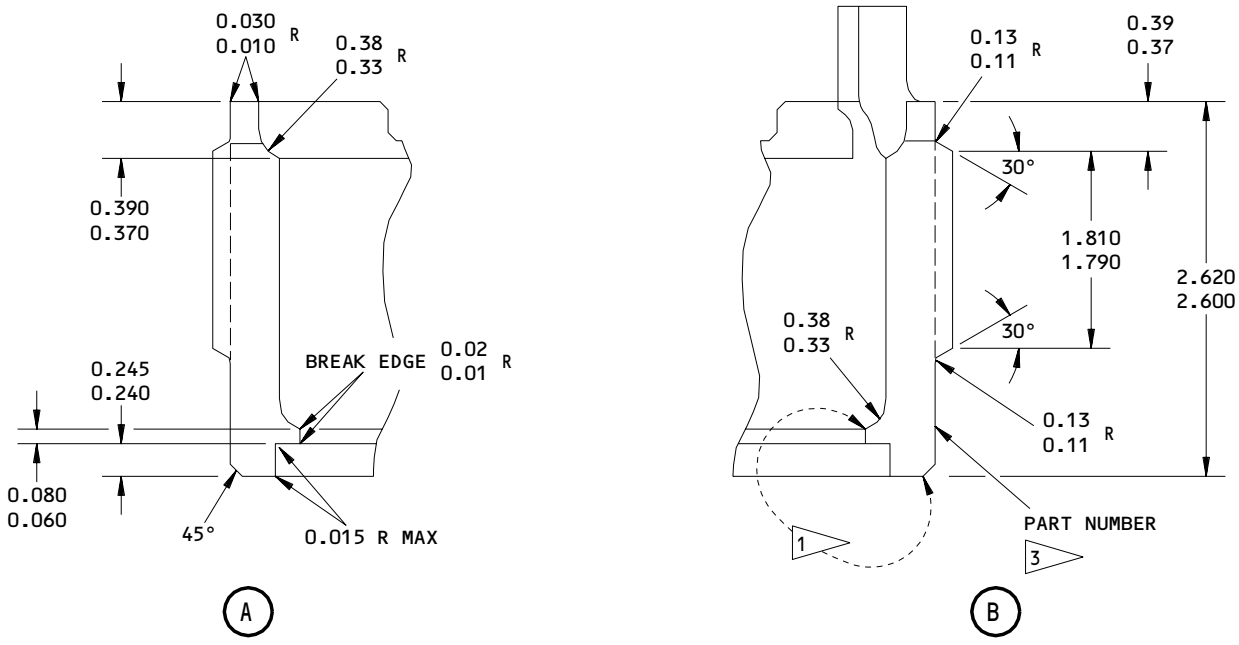
TABLE 1

162T1512-3,-5
Gland Nut Repair and Refinish
Figure 601 (Sheet 2)

G76052



D-D



162T1512-3,-5
Gland Nut Repair and Refinish
Figure 601 (Sheet 3)

G76053

UNJS-3A THREAD SIZE	7.750-8 (DESIGN) (REF)	7.875-8 (1/8 OVERSIZE)
MAJOR DIAMETER	7.7094 7.6944	7.8344 7.8194
PITCH DIAMETER	7.6688 7.6625	7.7938 7.7875
MINOR DIAMETER	7.6056 7.5918	7.7306 7.7168
ROOT RADIUS	0.0226 0.0188	0.0226 0.0188

(DIMENSIONS AFTER PLATING)
TABLE 2

REFINISH

CADMIUM-TITANIUM PLATE (F-15.32) THE THREADS. CADMIUM-TITANIUM PLATE (F-15.01) OTHER SURFACES, 0.0005 MIN THICK.

AFTER LUBE FITTING OR PLUG INSTALLATION, APPLY PRIMER BMS 10-11, TYPE 1 (F-20.02) AND ENAMEL BMS 10-60 (SRF-14.9813) BUT NOT ON LUBE FITTING OR AREAS SHOWN BY 1. USE YELLOW ENAMEL ON NUTS WITH OVERSIZE THREADS.

1. NO PRIMER OR ENAMEL THIS AREA
2. IF LUBE FITTING (620) IS INSTALLED, APPLY BMS 5-95 SEALANT ALL AROUND THE WRENCH FLATS OF THE LUBE FITTING.
3. ON NUTS WITH OVERSIZE THREADS, VIBRO-ENGRAVE "MATCHED SET - DO NOT SEPARATE" HERE.

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.06 R UNLESS SHOWN DIFFERENTLY

SHOT PEEN (BUT NOT THREADS):
0.016-0.039 SHOT SIZE
0.014 A2 INTENSITY

MAGNETIC PARTICLE EXAMINE CLASS A CRITICAL PER SOPM 20-20-01

MATERIAL: 4330M STEEL, 180-200 KSI

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

DIMENSIONS ARE BEFORE PLATING UNLESS SHOWN DIFFERENTLY

162T1512-3,-5
Gland Nut Repair and Refinish
Figure 601 (Sheet 4)

G76054

STEERING NUT ASSEMBLY - REPAIR 14-1

162T1406-1

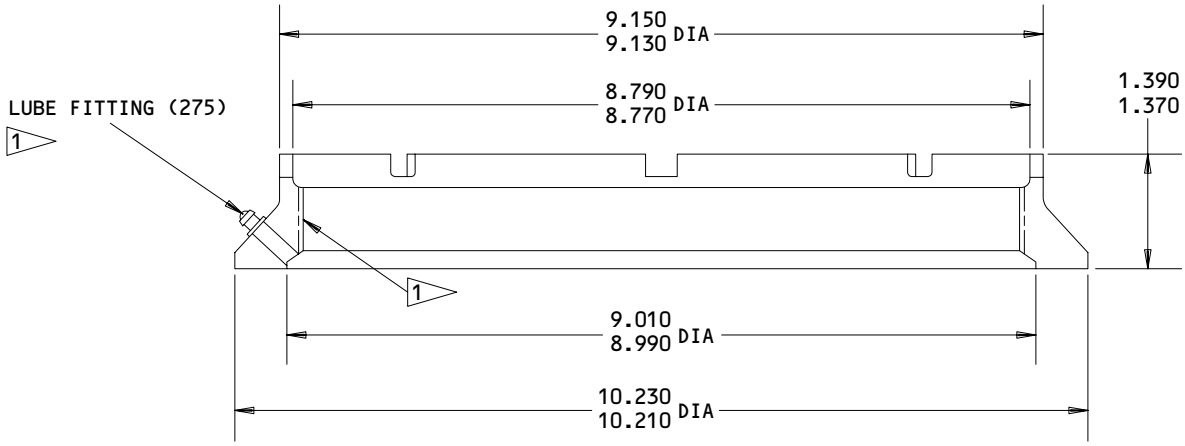
NOTE: Repair consists of restoration of original finish. Refer to REPAIR-GEN for list of applicable standard practices, and to IPL Fig. 1 for item numbers.

1. Refinish (Fig. 601)

   A. Remove lube fitting (275).

   B. Cadmium-titanium plate (F-15.32, 0.0005 -0.0007) nut. Apply one coat BMS 10-11, type 1 primer (F20.02) and BMS 10-60 gray gloss enamel (SRF-14.9813) except as noted.

   C. Install lube fitting (275) per 32-00-03.



1 NO PRIMER OR PAINT

MATERIAL: 4340 STEEL (180-200 KSI)

ALL DIMENSIONS ARE IN INCHES

Nut Repair
Figure 601

182131

PLUNGER - REPAIR 15-1

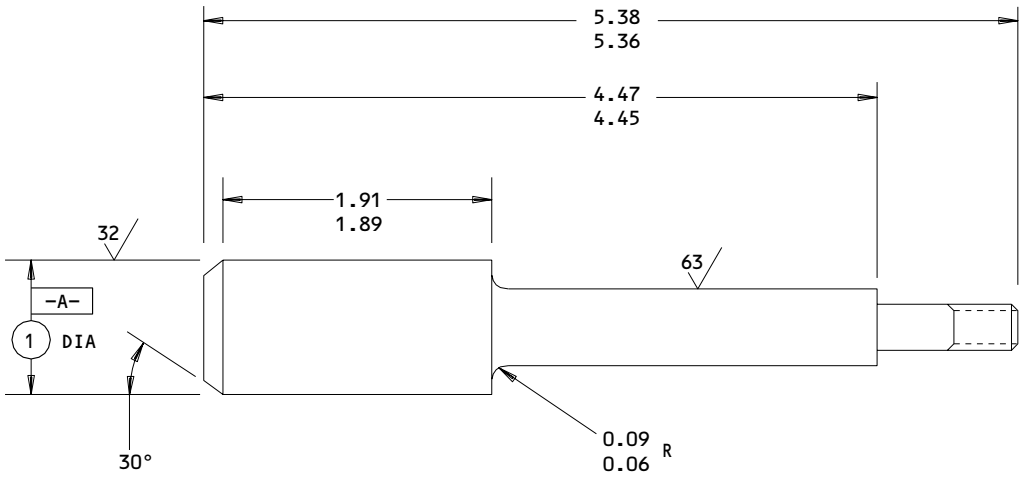
162T1605-1, -2

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. Plunger Repair - OD (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate shall not exceed 0.010 after grinding.



REFERENCE NUMBER	(1)
DESIGN DIMENSION	0.8740 0.8730
REPAIR LIMIT	0.8530 1

REFINISH

CHROME PLATE (F-15.34) DIA-A-, 0.003 MIN THICK.
PASSIVATE (F-17.09) OTHER SURFACES

1 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

REPAIR

REF 1

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY.

BREAK SHARP EDGES 0.02-0.03 R

SHOT PEEN: 0.017-0.046 SHOT SIZE
0.016A2 INTENSITY

MATERIAL: 15-5PH CRES (150-170 KSI)

ALL DIMENSIONS ARE IN INCHES

162T1605-1,-2
Plunger Repair and Refinish
Figure 601

CAP ASSEMBLY - REPAIR 16-1

162T1607-1

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

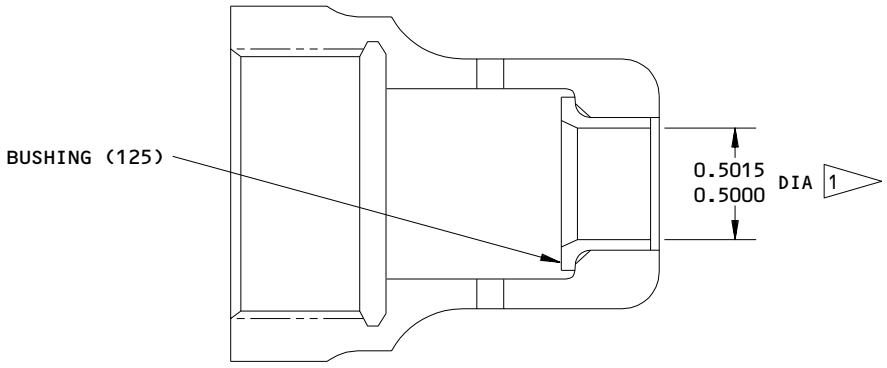
1. Bushing Replacement (Fig. 601)

   A. Remove the old bushing.

   B. If you find defects on the cap surfaces, refer to REPAIR 16-2 for repair instructions.

   C. Install a replacement bushing by the shrink-fit method.

   D. Make a check of the dimensions and machine them as necessary.



REFINISH

SEE REPAIR 16-2

1 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

162T1607-1

Bushing Replacement
Figure 601

182346

CAP - REPAIR 16-2

162T1607-2

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Bore for Bushing (Fig. 601)

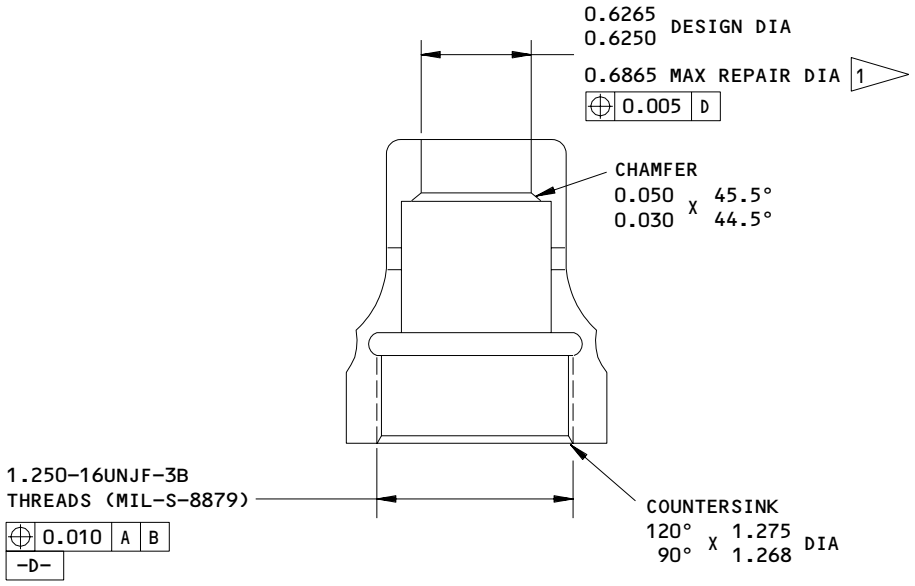
2. Installation of Oversize Bushings

   A. Machine as required, within repair limits, to remove defects.

   B. Passivate as indicated.

   C. Make an oversize bushing (Fig. 602) as necessary, to adjust for the material removed.

   D. Install the bushing per REPAIR 16-1.



REFINISH

PASSIVATE (F-17.25, WHICH REPLACES F-17.09)

1 LIMIT FOR INSTALLATION OF OVERSIZE BUSHING

REFINISH

REF 1

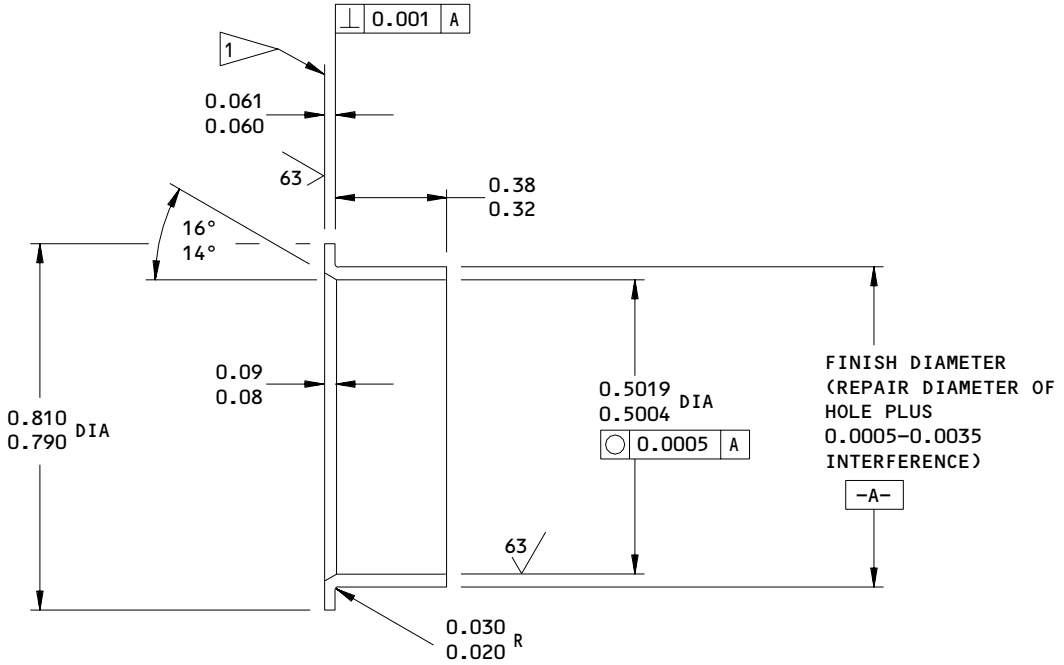
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: 15-5PH CRES, 150-170 KSI

ALL DIMENSIONS ARE IN INCHES

162T1607-2
Cap Repair
Figure 601

W25161



1 NO FINISH

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

FINISH: CADMIUM PLATE (F-15.06) UNLESS SHOWN BY 1

MATERIAL: AL-N1-BRONZE (AMS 4640 OR AMS 4880)

ALL DIMENSIONS ARE IN INCHES

REPLACES BUSHING (125) 161T1210-59

Oversize Bushing Details
Figure 602

W25195

NAMEPLATE - REPAIR 17-1

162T1103-1,-2

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

1. Nameplate Replacement (Fig. 601)

   A. Steel stamp the shock strut assembly identification data on the replacement nameplate with 0.12-inch high characters.

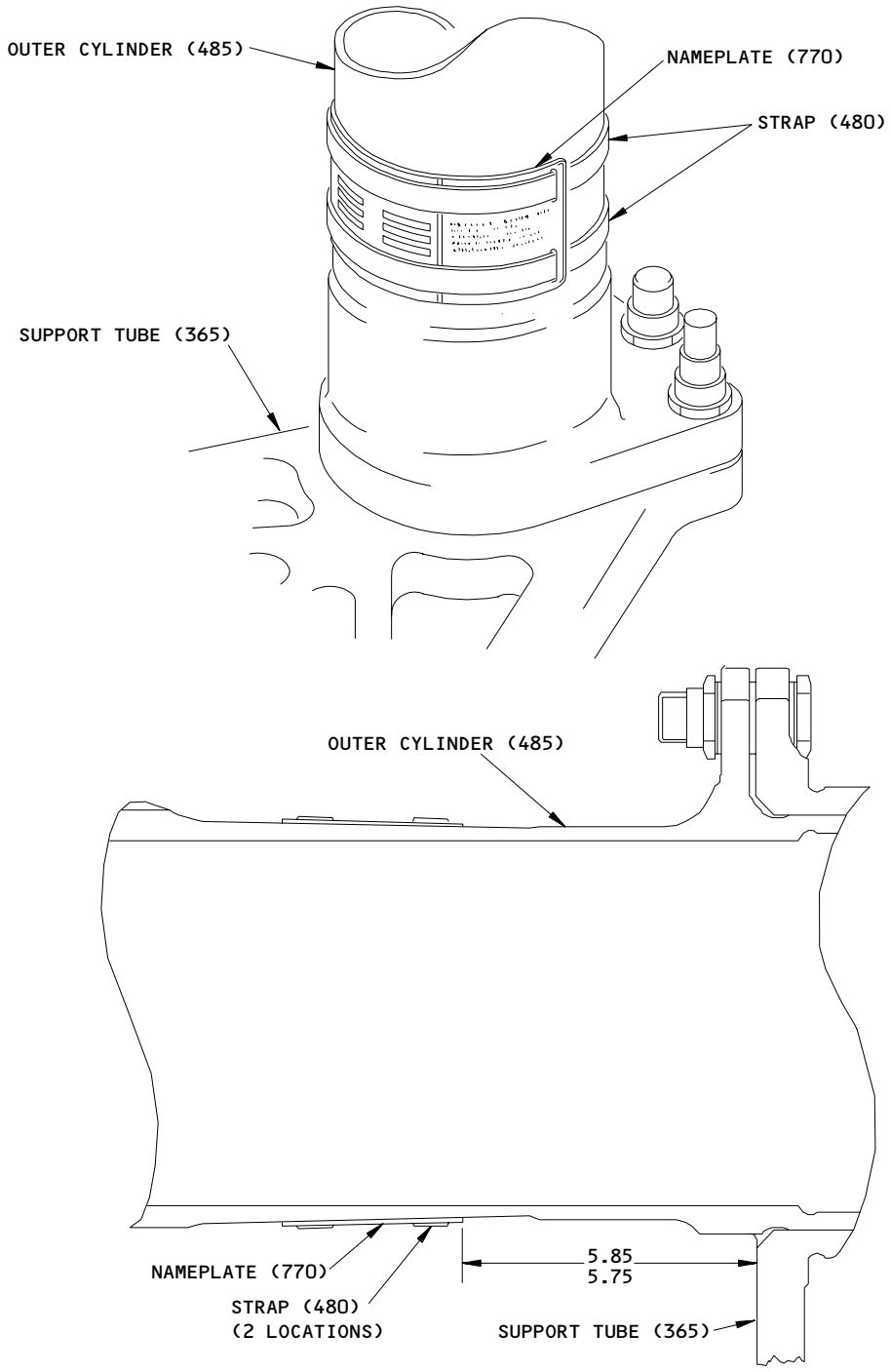
   B. Bend the nameplate to fit the curved surface of the outer cylinder.

   C. Clean the painted surfaces with naphtha. Then install one wrap of mylar tape at each strap location. Overlap the ends of the tape approximately 1 inch.

   D. With seals (475) and straps (480), install nameplate (770) with Type 93 adhesive (SOPM 20-50-12).

   E. Fillet seal around the edges of the nameplate with BMS 5-95 sealant after straps are installed.

   F. Apply Type 41 protective finish (F-21.34) to all of the nameplate surface, the sealant fillets, and the straps.



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

162T1103-1,-2

Nameplate Installation
Figure 601

182133

MISCELLANEOUS PARTS REFINISH - REPAIR 18-1

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
Fig. 1		
Lockplate (435), Spacer (580)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-15.06) all over.
Cap (220)	Al alloy	Chromic acid anodize (F-17.04). Apply BMS 10-11, type 1 primer (F-20.02) and BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813) all over.
Tube (730)	Al alloy	Chromic acid anodize (F-17.04) all over.
Nut (440)	4340 Steel, 180-200 ksi	Cadmium plate and apply BMS 10-11, type 1 primer (F-16.01) and apply apply BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813), but do not apply primer or enamel to threads or faying surface.

Refinish Details
Figure 601 (Sheet 1)

IPL FIG. & ITEM	MATERIAL	FINISH
Washer (445)	Al alloy	Chromic acid anodize (F-17.02) all over. Apply BMS 10-11, type 1 primer (F-20.02) and BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813) to flange faying surface, flange edge, edge chamfer and face of part.
Dowels (575,690, 698)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25, which replaces F-17.09).
Circlip (570)	17-7PH CRES, CH900 HT TR	Passivate (F-17.25, which replaces F-17.09).
Lockplate (260)	15-5PH CRES, 180-200 ksi 17-4PH CRES (optional)	Passivate (F-17.25, which replaces F-17.09).
Plate (240)	Al alloy	Chromic acid anodize (F-17.04) all over. Apply BMS 10-11, type 1 primer (F-20.02) and BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813) all over but not in sensor attach holes.
Handle (110)	17-4PH CRES	Passivate (F-17.25, which replaces F-17.09).
Washers (115,135)	15-5PH CRES 180-200 ksi	Passivate (F-17.25, which replaces F-17.09).
Lockplate (140)	17-4PH CRES 150-170 ksi	Passivate (F-17.25, which replaces F-17.09).
Spring (145)	17-7PH CRES Wire	Passivate (F-17.25, which replaces F-17.09).
Ring (735)	4340 steel 180-200 ksi	No finish.
Plate (775)	301 CRES	Passivate (F-17.25, which replaces F-17.09).

Refinish Details
Figure 601 (Sheet 2)

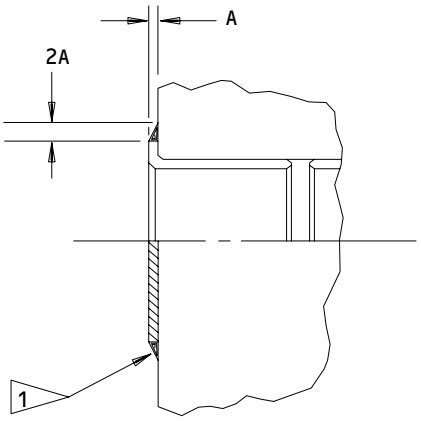
SEALING - REPAIR 19-1

1. All paint applications must be completed including final gray topcoat prior to sealant application.

2. Solvent clean area to be sealed and surrounding area per 20-30-03.

3. Apply fillet of BMS 5-95 sealant as shown in applicable figure.

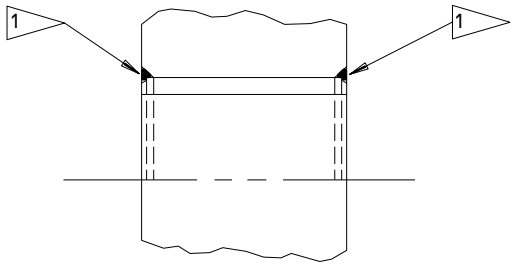
4. Coat sealant and areas around sealant with enamel to match surrounding surfaces. Apply protective finish per 20-50-05. Use care not to apply enamel to bushing faces or bolthead faces.



1 FILLET SHALL EXTEND TO TOP OF BUSHING FLANGE EDGE AND BE PROPORTIONED AS SHOWN. DO NOT APPLY SEALANT TO BUSHING FACE.

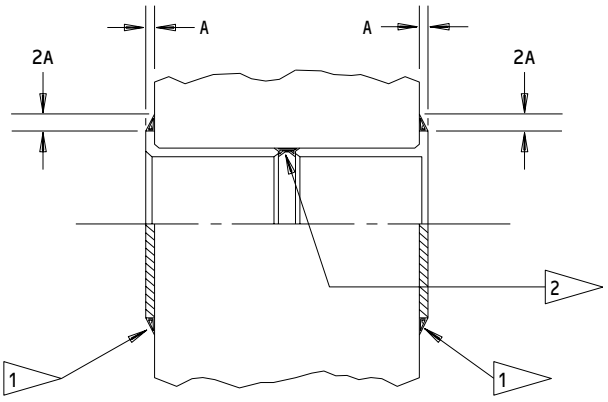
Bushing Sealing Details
Figure 601

182134



1 FILL ENTIRE CAVITY AROUND BUSHING MAKING SURE SEALANT IS FLUSH WITH SURFACE.

Bushing Sealing Details
Figure 602

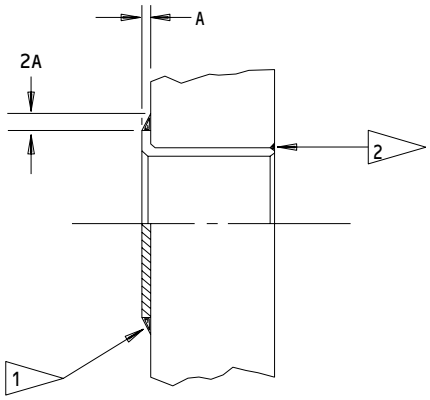


1 FILLET SHALL EXTEND TO TOP OF BUSHING FLANGE EDGE AND BE PROPORTIONED AS SHOWN. DO NOT APPLY SEALANT TO BUSHING FACE.

2 FILL CAVITY BETWEEN BUSHINGS AS SHOWN. SEALANT SHALL NOT EXTEND PAST BORE DIA OF BUSHINGS. OMIT PAINT FROM THIS SEALANT.

Bushing Sealing Details
Figure 603

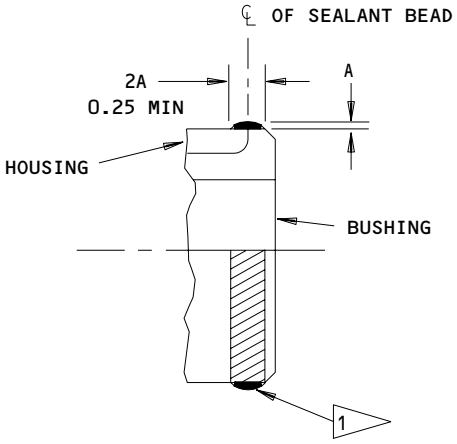
182135



1 FILLET SHALL EXTEND TO TOP OF BUSHING FLANGE EDGE AND BE PROPORTIONED AS SHOWN. DO NOT APPLY SEALANT TO BUSHING FACE.

2 FILL ENTIRE CAVITY AROUND BUSHING MAKING SURE SEALANT IS FLUSH WITH SURFACE.

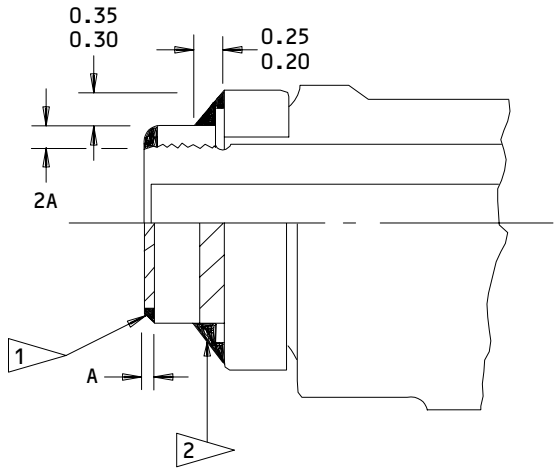
Bushing Sealing Details
Figure 604



1 APPLY A BEAD OF SEALANT AROUND PERIPHERY OF BUSHING FLANGE, WHERE IT CONTACTS HOUSING AS SHOWN.

CAUTION: DO NOT ALLOW SEALANT TO CONTACT FACE OF BUSHING FLANGE.

Bushing Sealing Details
Figure 605



1 FILLET SHALL EXTEND TO OUTSIDE EDGE OF NUT OR 0.15 MAX AND SHALL BE PROPORTIONED AS SHOWN.

2 FILLET SHALL EXTEND FROM NUT TO CLEVIS, COVER WASHER, AND BE DIMENSIONED AS SHOWN COMPLETELY AROUND NUT.

ALL DIMENSIONS ARE IN INCHES

Nut Sealing Details
Figure 606

LOWER CENTERING CAM ASSEMBLY - REPAIR 20-1

162T1507-3,-5
015T0525-5

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

1. Dowel Replacement (Fig. 601)

   A. Drill out rivet (685) and remove defective dowel (690 or 692).

      CAUTION: DO NOT SCRATCH, NICK, OR CRACK DOWEL DURING RIVET INSTALLATION.

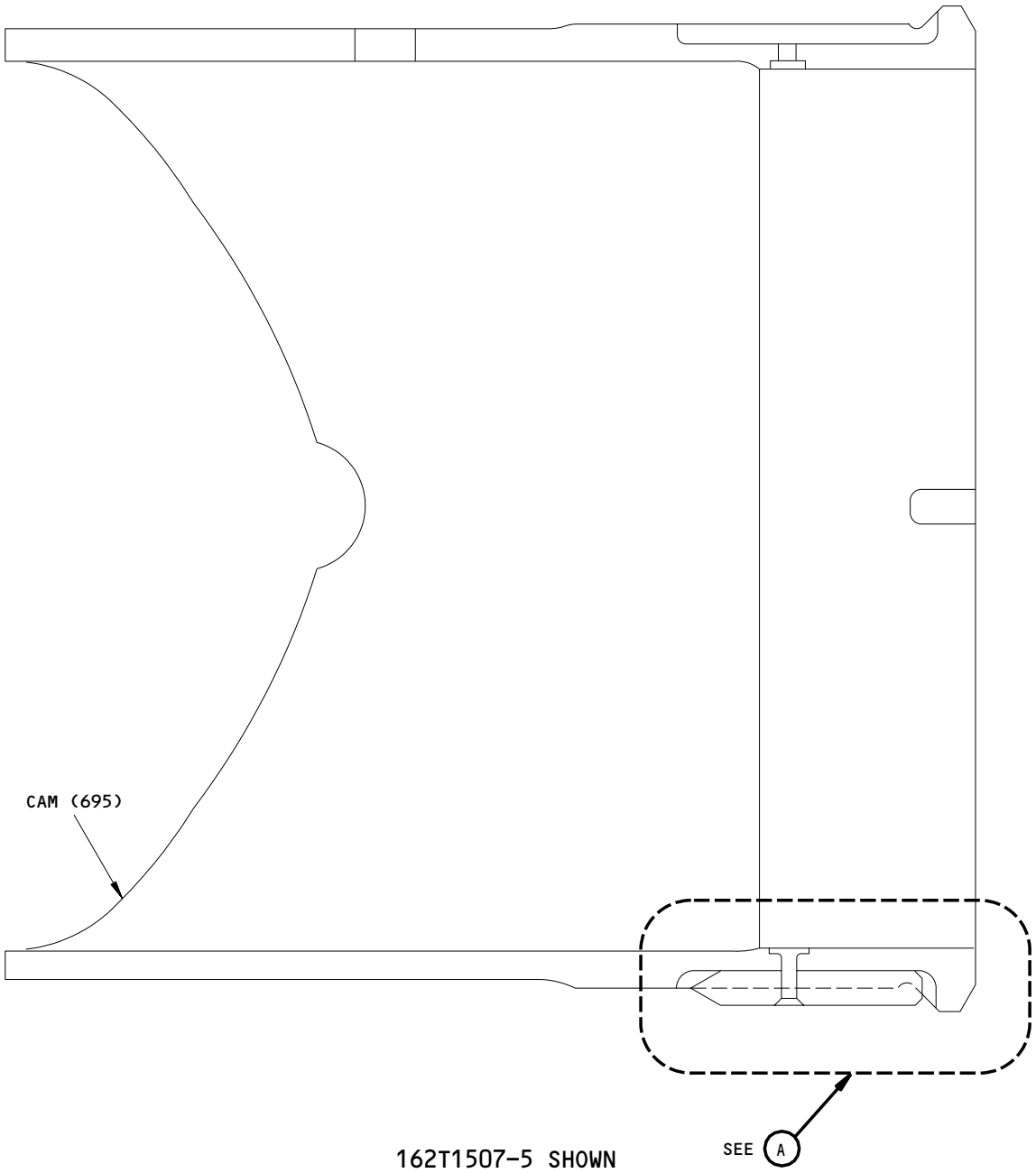
   B. Install replacement dowel (690 or 692) and a new rivet (685). Hand-swage the rivet until the dowel is anchored but still can move in any direction 0.01-0.02 inch. Make sure the swaged end is flush with or below the dowel contour.

2. Pin (687) Replacement (Fig. 601)

   NOTE: This pin is installed in cam 162T1507-4 to prevent inadvertent use of the longer dowel 162T1517-2 instead of the shorter correct dowel 162T1517-3.

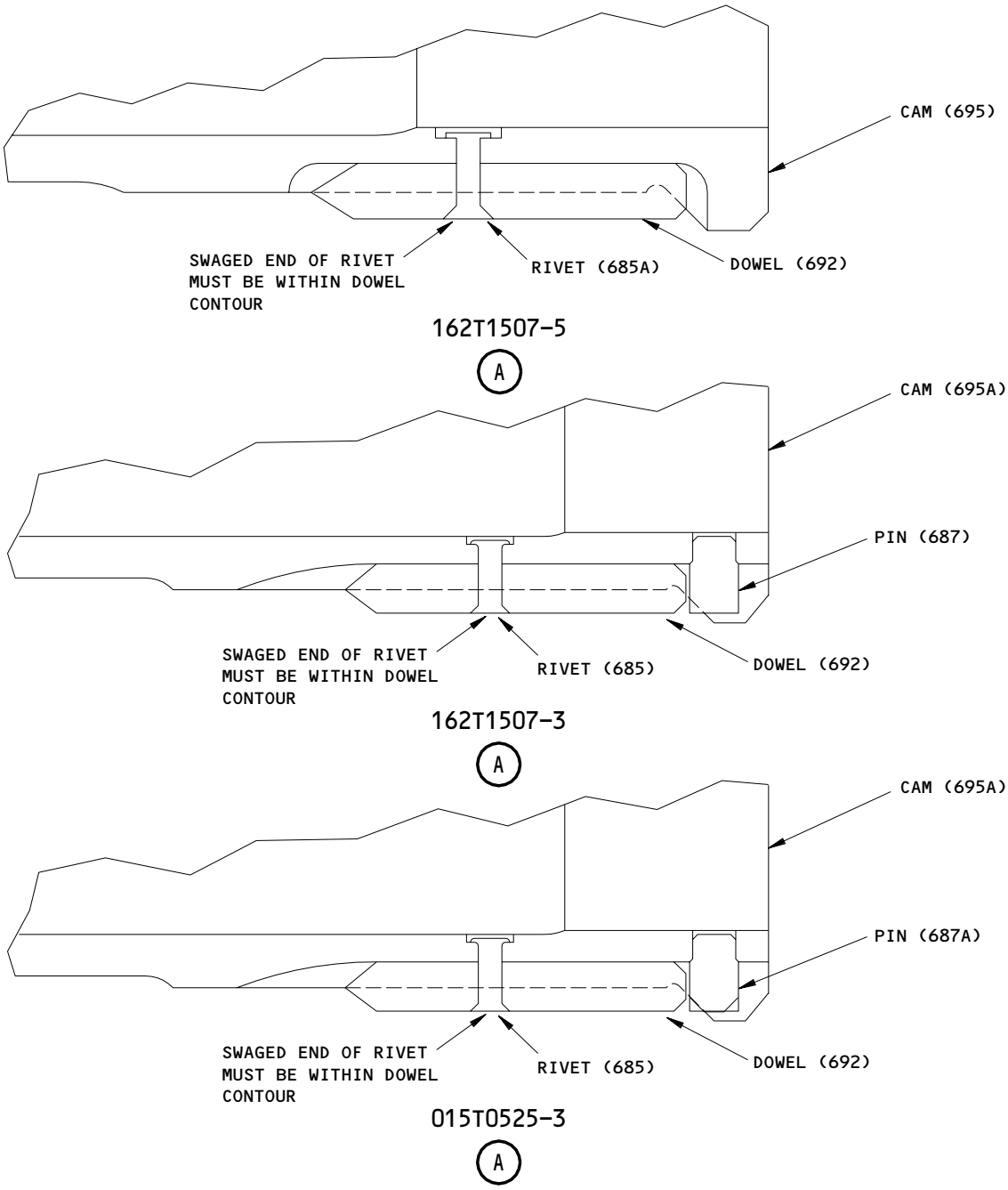
   A. Remove defective pin (687) from cam (695A). Interference fit is 0.0003-0.0028 inch.

   B. Install a replacement pin by the shrink-fit method. We recommend you use shorter pin (687A) to prevent possible damage to the outer cylinder.



162T1507-5 SHOWN

162T1507-3,-5
015T0525-5
Lower Centering Cam Assembly
Figure 601 (Sheet 1)



ITEM NUMBERS REFER TO IPL FIG. 1

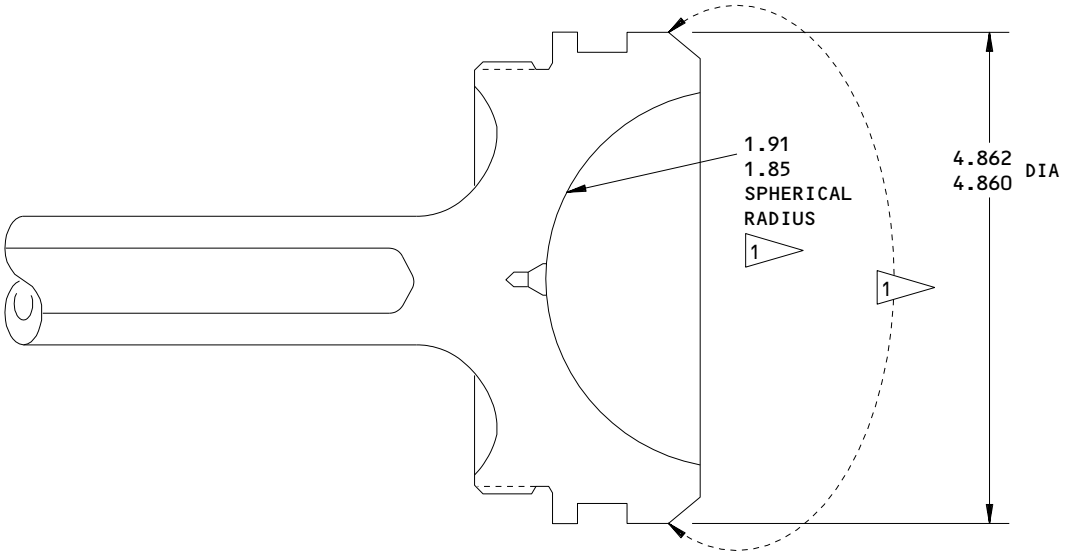
162T1507-3,-5
015T0525-5
Lower Centering Cam Assembly
Figure 601 (Sheet 2)

PIN, METERING - REPAIR 21-1

162T0002-1
162T1521-1, -2, -3

1. Coating Repair (Fig. 601)

A. Repair is only replacement of the original finish. Refer to Refinish instructions, Fig. 601, and to REPAIR-GEN for a list of applicable standard practices.



REFINISH

162T0002-SERIES: BORIC ACID - SULFURIC ACID ANODIZE OR CHROMIC ACID ANODIZE (F-17.35). THEN APPLY PRIMER AS SHOWN BY 1.

162T1521-SERIES: CHROMIC ACID ANODIZE (F-17.04). THEN APPLY PRIMER AS SHOWN BY 1.

1 APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) ON THESE SURFACES

REPAIR

(SAME AS REFINISH)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

162T0002-1
162T1521-1,-2,-3
Metering Pin Repair and Refinish
Figure 601

K26685

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes can be used.

A. Enamel -- BMS 10-60, Lusterless, Color 31136 Red (SOPM 20-60-02)

B. Grease -- BMS 3-24 (SOPM 20-60-03)

C. Grease - BMS 3-33 (SOPM 20-60-03)

D. Grease -- MIL-G-23827 (SOPM 20-60-03)

E. Hydraulic Fluid -- BMS 3-32, Type 1 or 2, MIL-H-6083 or MIL-H-5606 (SOPM 20-60-03)

F. Lockwire -- MS20995C32 (SOPM 20-60-04)

G. Lubricant -- MIL-G-4343 (SOPM 20-60-03)

H. Petrolatum -- VV-P-236 (SOPM 20-60-03)

I. Primer -- BMS 10-11, type 1 (SOPM 20-60-02)

J. Sealant -- BMS 5-95 (SOPM 20-60-04)

K. Tamper-proof Putty -- BMS 8-45 (SOPM 20-60-04)

L. Solvent -- BMS 11-7 (SOPM 20-60-01)

M. Corrosion Preventive Compound -- BMS 3-27 (SOPM 20-60-02)

2. Equipment

NOTE: Equivalent substitutes can be used.

A. Buildup Stand -- A32057-1 or -40

B. Gland Nut Wrench Adapter -- A32021-1

C. Lower Bearing Seal Retainer Puller -- A32029-48

D. Steering Nut Wrench Adapter -- A32034-1

E. Retainer Ring Adapter -- A32047-40

F. Orifice Plate Wrench Assembly -- A32047-30

G. Retainer Nut Wrench Assembly -- A32047-31

H. Orifice Nut Wrench Adapter -- A32047-3

I. Retainer Ring Adapter Assembly -- A32047-39

J. Orifice Tube Adapter Assembly -- A32047-32

K. Guide Shaft -- A32047-15

L. Guide Bushing -- A32047-16

M. Sling Assembly -- A32036-43

3. Lubrication

A. Lubricate packings (T-ring or O-ring) in hydraulic fluid. If necessary, apply a thin layer of petrolatum on packings and backup rings. Do not use too much. Wipe the mating surfaces during assembly with hydraulic fluid.

B. Lubricate pins (30, 35, 225, 410) and bolt (45) shanks, threads and mating surfaces with BMS 3-33 or MIL-G-23827 grease before assembly.

C. Apply BMS 3-33 grease to the gland nut lube fitting, if it has a lube fitting. Lubricate the other lube fittings after assembly with MIL-G-23827 grease.

D. During assembly, apply a thin layer of BMS 3-27 corrosion preventive compound to axle adapter ID and threads, nut (780), and plate (775).

4. Assembly

A. With sling assembly A32036-43, mount outer cylinder (485) in buildup stand A32057-1 or -40 and inner cylinder (585) in stand.

B. Install trunnion pins (410) with bolts (390), washers (395, 400) and nuts (405). Tighten nuts as required for installation of cotter pins (385). Install cotter pins and bend them to hold parts temporarily, because these parts will be removed when other parts are installed on the shock strut.

C. Install piston ring (700). Install orifice plate (725) and tighten to 230-280 lb-ft with wrench A32047-30. Back off if necessary to let you install lockbolt (710). Install lockbolt, washer (715) and nut (720). Tighten nut and install cotter pin (705).

D. Install orifice support tube (730)

(1) Install seal (455) and backup rings (450).

(2) Install guide bushing A32047-16 in top of outer cylinder assembly (485) and guide shaft A32047-15 in top of orifice support tube (730).

(3) With orifice tube adapter A32047-32, carefully slide support tube (730) into outer cylinder with guide shaft and bushing to guide and support orifice support tube.

(4) Remove guide shaft and guide bushing and install support washer (445) and orifice support nut (440).

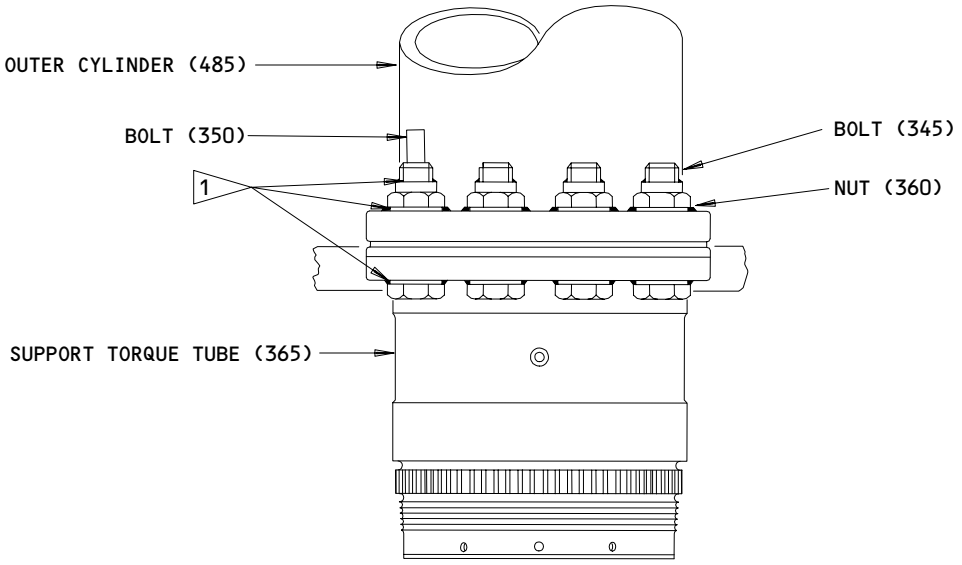
(5) Tighten orifice support nut (440) to 50-75 lb-ft with orifice nut wrench A32047-3. Back off nut if necessary, to let you install vernier lockplate (435). Install lockplate and washers (430) and bolts (425). Tighten bolts and remove orifice tube adapter assembly. Apply BMS 8-45 sealing compound to nut (440).

E. Install support torque tube assembly (365) and secure with bolts (345, 350), washers (355) and nuts (360). Tighten nuts and apply sealant as shown in Fig. 701. Apply BMS 8-45 sealing compound. Apply sealant and grease between torque tube support and outer cylinder (485) as shown in Fig. 702.

F. Attach sensor mounting plates (240) with bolts (230), lockwashers (235) and sealant. Tighten bolts and install lockwire using double twist method.

G. Install steering collar (300), lower plate (285) and steering nut (270). Tighten nut to 75-100 lb-ft using adapter A32034-1.

H. Install steering collar pins (225) with pin caps (220), bolts (200), washers (205, 210) and nuts (215). Tighten nuts as required for installation of cotter pin (195). Install cotter pin and bend it to hold it in position temporarily, because these parts will be removed later when the steering actuators are installed.

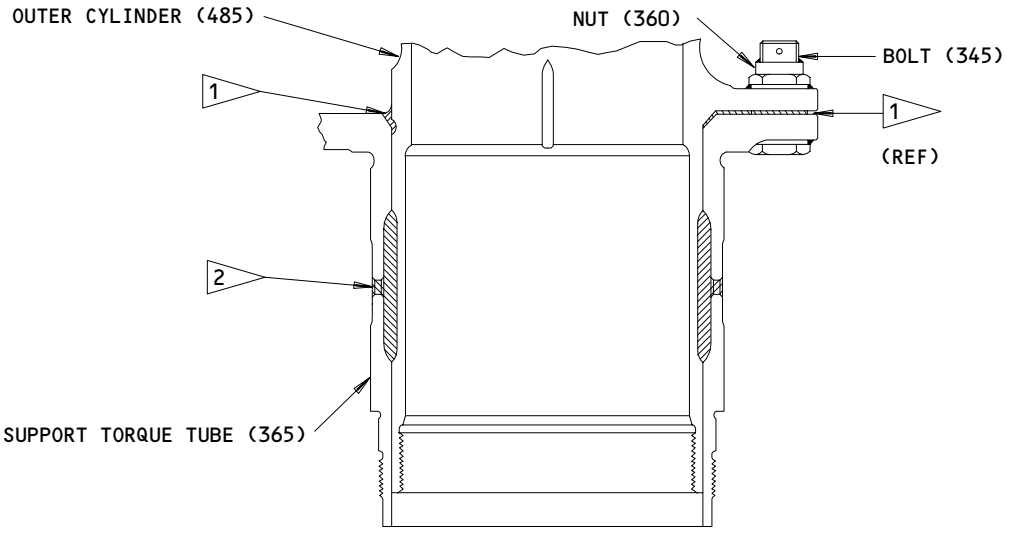


1 MAKE A FILLET WITH SEALANT AS SHOWN IN REPAIR 19-1, FIG. 606

ITEM NUMBERS REFER TO IPL FIG. 1

Torque Tube Support Bolt Sealing
Figure 701

F55814



1 MAKE A FILLET WITH THE SEALANT

2 FILL WITH GREASE MIL-G-23827

ITEM NUMBERS REFER TO IPL FIG. 1

Support Torque Tube Sealing
Figure 702

182138

I. Install axle spacers (580) by the shrink-fit procedure (SOPM 20-50-03). Heat the spacers to 250-275°F and apply BMS 3-33 or BMS 3-24 grease to the axle mating surfaces before installation. Install nut (780) and plate (775) in the electrical access hole.

J. Install metering pin (765) in inner cylinder assembly (585)

(1) Install seal (760A) and backup rings (755A) on metering pin (765). Carefully slide metering pin into inner cylinder assembly (585).

(2) Place retainer ring (735) inside non-flanged end of retainer ring adapter A32047-39. Slide adapter into inner cylinder (585).

(3) Slide ring adapter A32047-40 inside ring adapter A32047-6. Push retainer ring (735) into place. Remove ring adapter.

(4) With retainer nut wrench A32047-31, install metering pin nut (740) and tighten to 75-100 lb-ft. Remove ring adapter and nut wrench tools.

K. Install seals (640, 668, 670) and backup ring (635, 667) in lower bearing (665) and lower bearing seal adapter (650). Connect lower bearing and seal adapter with headed pins (645).

L. If the gland nut has a lube fitting, lubricate the gland nut (615) threads with BMS 3-33 grease. If the gland nut has a plug or nothing in it, apply BMS 3-27 compound to the threads. Then slide the following parts down over the inner cylinder, in order; gland nut (615), excluder (630), lower bearing seal adaptor followed by lower bearing as connected in par. 4.K. above and lower centering cam (680), See Fig. 704 for excluder (630) orientation.

M. Install the following parts, in order, on the inner cylinder: circlip (570), dowels (575), upper centering cam (565), and recoil valve (560).

CAUTION: UPPER BEARING ASSEMBLY (545) IS A MATCHED SET OF HALVES (550, 555). DO NOT MIX WITH HALVES FROM ANOTHER SET OR DAMAGE TO PARTS COULD OCCUR.

N. Install upper bearing assembly (545) and seal (540).

CAUTION: THE LOWER CENTERING CAM MUST BE TURNED TO PUT ITS HOLE IN THE CAM WALL ADJACENT TO THE CHARGING VALVE HOLE IN THE OUTER CYLINDER, OR THE UNIT WILL NOT FULLY EXTEND AND DAMAGE TO PARTS COULD OCCUR.

O. Put inner cylinder (585) into outer cylinder (485) with lower centering cam oriented to place hole in cam adjacent to the hole for charging valve (465) in the outer cylinder. Install lower bearing (665), seal adapter (650), excluder (630) and gland nut (615). Tighten gland nut to 125-150 lb-ft with wrench adapter A32021-1. Back off steering nut (270) minimum amount, if necessary, to align with nearest hole. Back off gland nut (615), if necessary, to align nearest slot to the same hole.

P. Install lockplates (260, 265) with bolt (250) and washer (255). Tighten bolt, install lockwire by the double twist method and apply sealing compound.

Q. Install lower torsion link (165) with lower pin (35). Install bolt (10), washers (15, 20) and nut (25). Lubricate bolt (10) shank, threads, and washers (15, 20) surfaces with MIL-G-23827 grease. Tighten nut, install cotter pin (5) and apply sealing compound.

R. Install upper torsion link (60) with upper pin (30). Install bolt (10), washers (15, 20) and nut (25) with sealant. Tighten nut, install cotter pin (5) and apply sealing compound.

S. Connect torsion links.

(1) Units with apex bolt (45): Install apex bolt (45) and secure with washer (50) and nut (55). Tighten nut to 60-95 lb-in. and install cotter pin (40).

(2) Units with handle (110): Pull on handles (110), align upper and lower torsion links and release handles.

NOTE: Refer to REPAIR 5-1 for assembly of handle parts (100 thru 155).

T. Install oil charging valve (465) with packing (470). Tighten valve body to 22-25 lb-ft. Install cap (460).

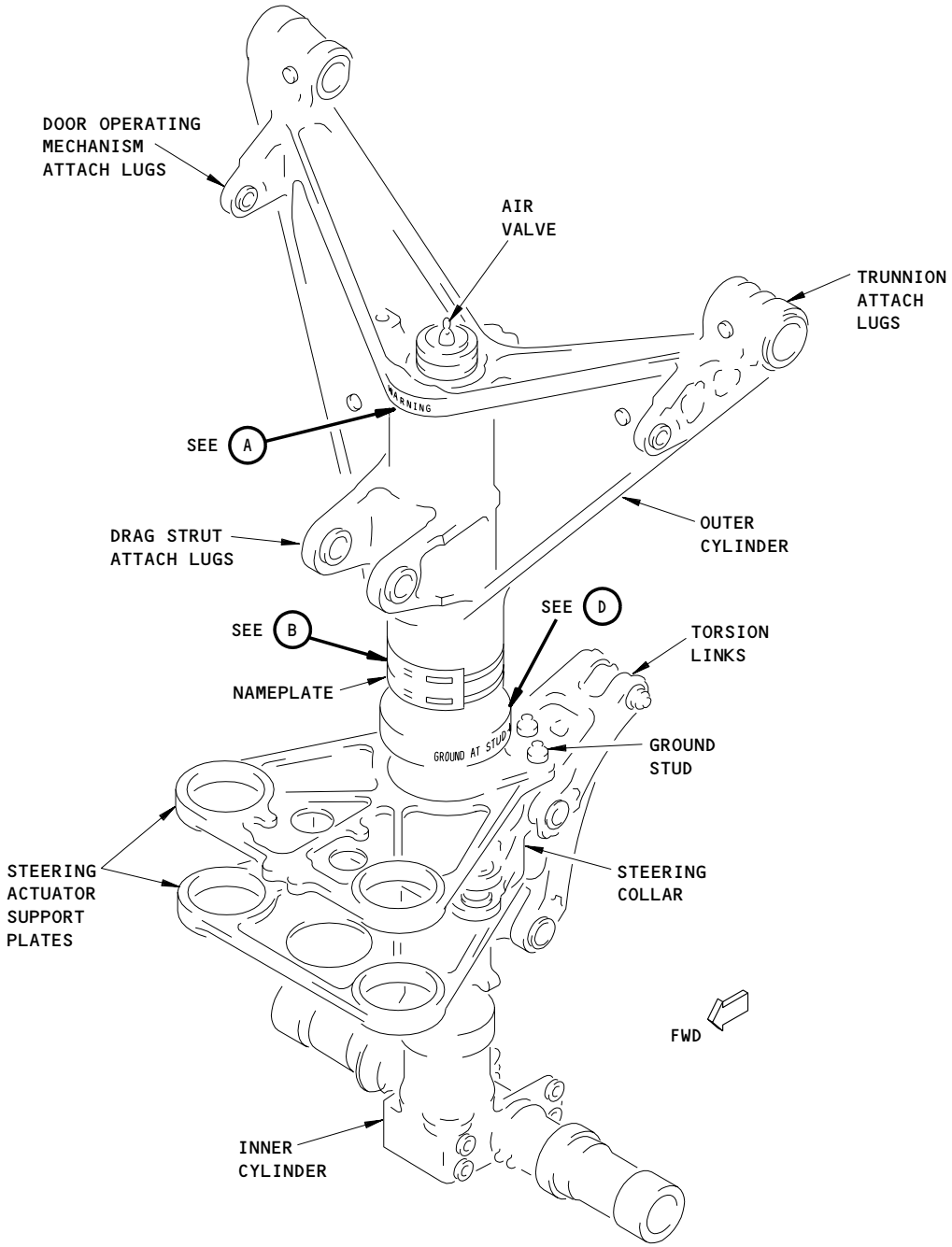
U. Install air valve (420), and tighten body to 11-14 lb-ft and swivel nut to 5-7 lb-ft. Attach tag (415).

V. If applicable, install plate (775) and nut (780) on inner cylinder bushing (607) with BMS 3-27 corrosion preventive compound on the mating surfaces. Lockwire the nut to the bushing by the double twist method of SOPM 20-50-02.

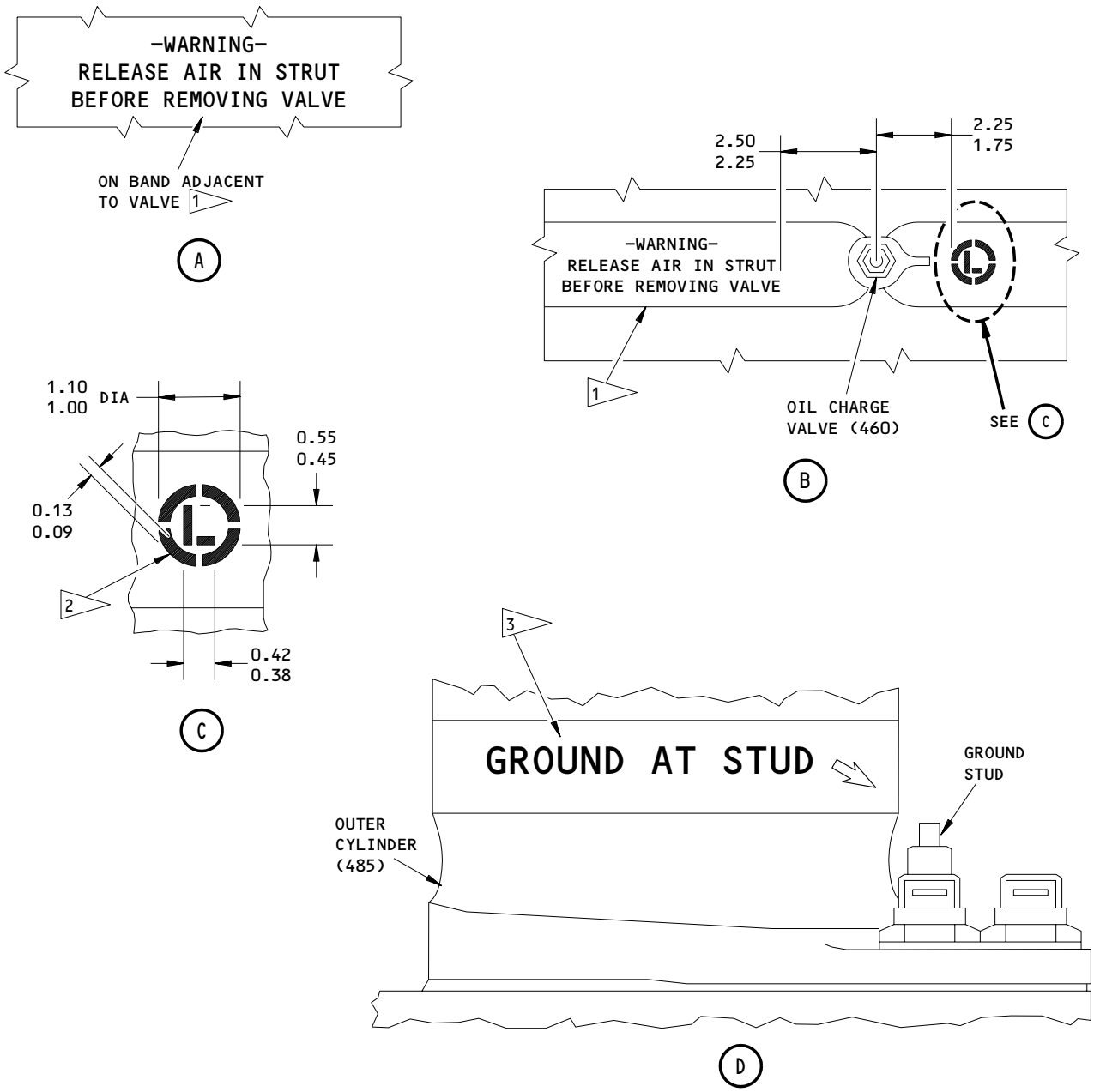
W. Stencil markings on the shock strut (Fig. 703).

X. Do a test of the assembled component assembly (Ref TESTING AND TROUBLE SHOOTING).

Y. Put the unit away and give it protection by standard industry practices.



Stenciling Details
Figure 703 (Sheet 1)



1 STENCIL (SOPM 20-50-10), 0.25-HIGH LETTERS, WITH RED BMS 10-60 ENAMEL (F-14.9815-101, WHICH REPLACES SRF-14.9815-101)

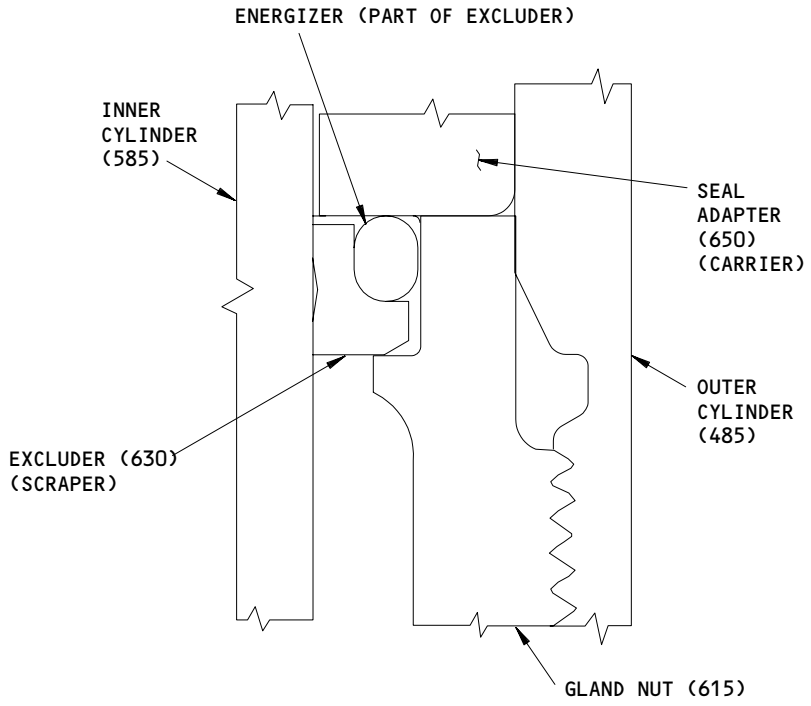
2 STENCIL (SOPM 20-50-10) THIS CIRCLE L SYMBOL (ASSEMBLIES THRU 162T1136-036) WITH RED BMS 10-60 ENAMEL (F-14.9815-101, WHICH REPLACES SRF-14.9815-101)

3 STENCIL (SOPM 20-50-10), 1.0-HIGH (OPTIONAL--0.50 HIGH) LETTERS, PAINT AS SHOWN IN FED-STD-595, COLOR NO. 31136, 72 POINT ARROW, 98 LENGTH SOLID COLOR

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Stenciling Details
Figure 703 (Sheet 2)

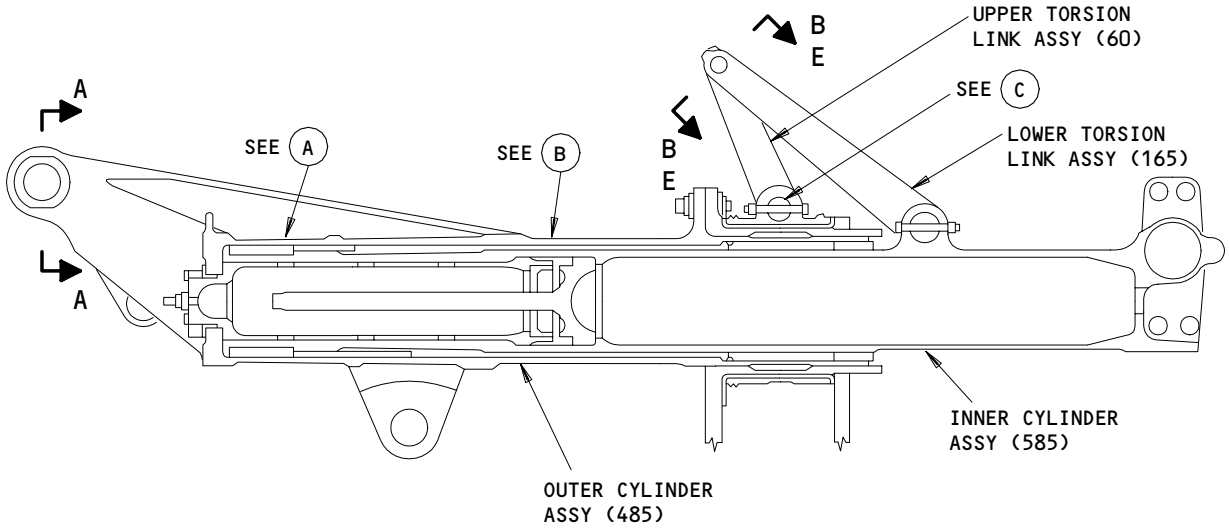


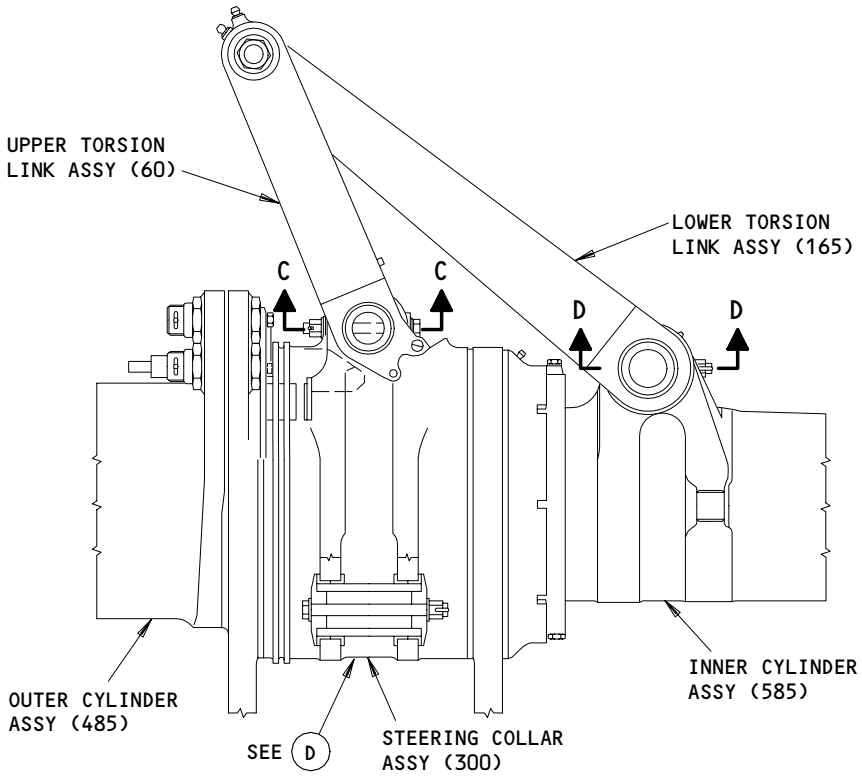
SHAMBAN S32925-55G5

Excluder (Scraper) Installation
Figure 704

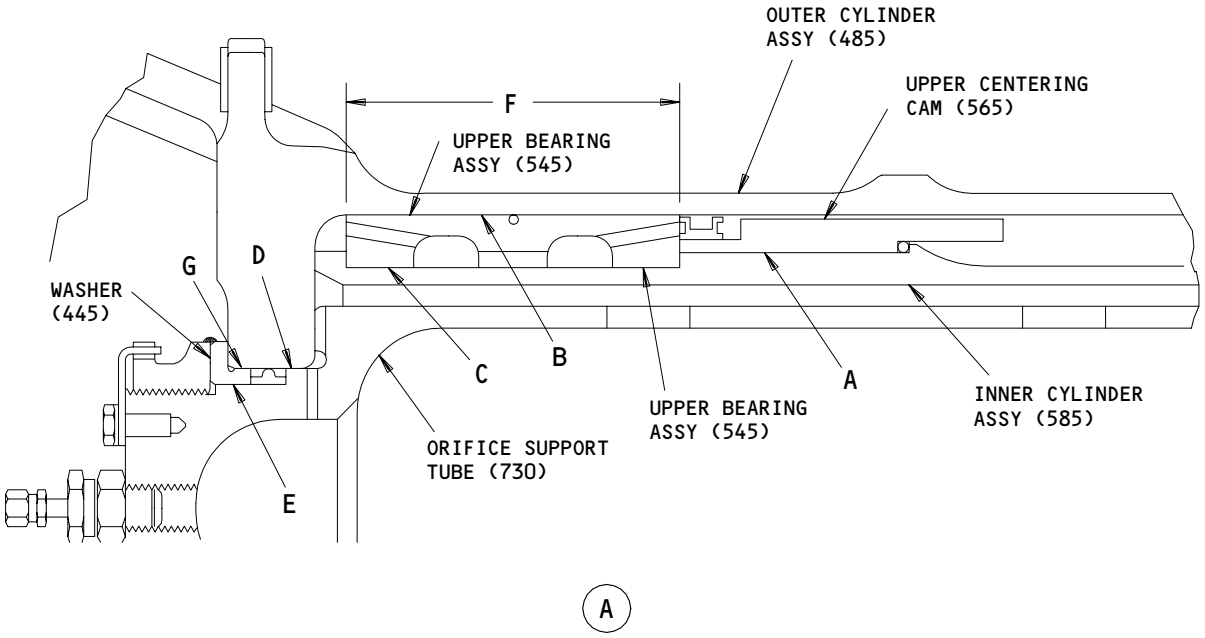
A75706

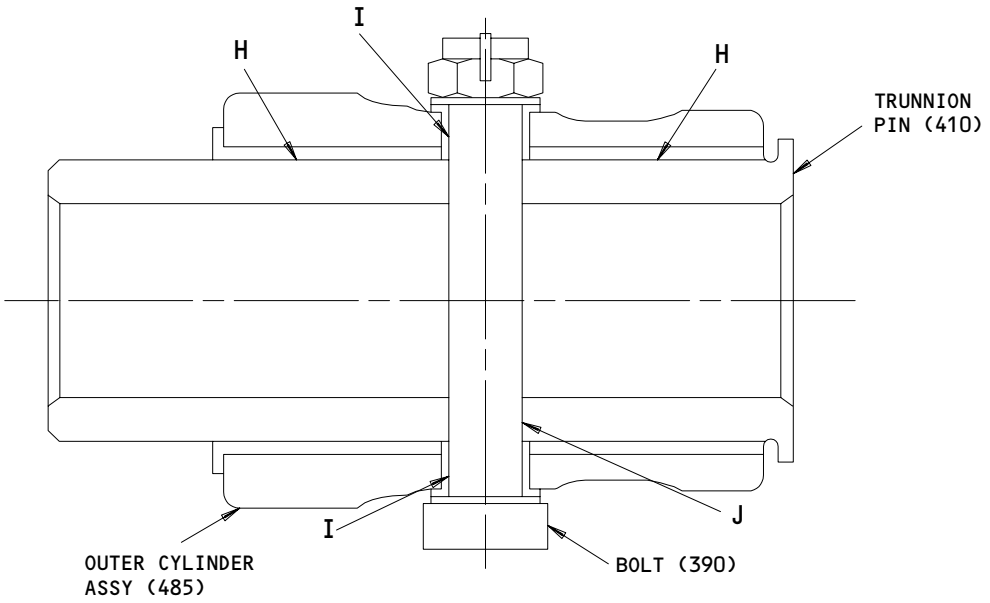
FITS AND CLEARANCES





Fits and Clearances
Figure 801 (Sheet 1)

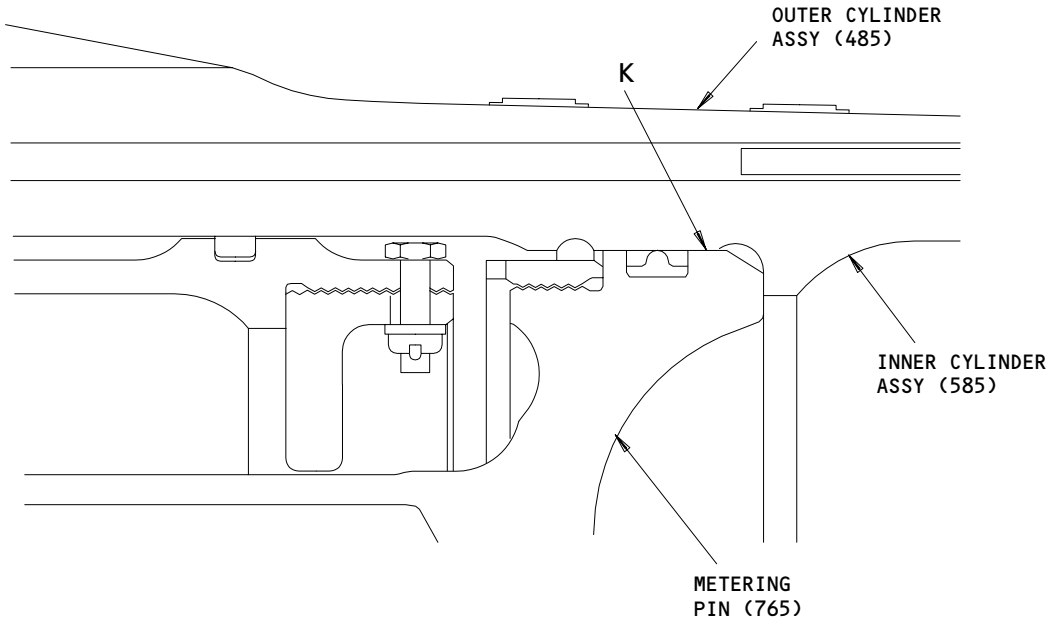




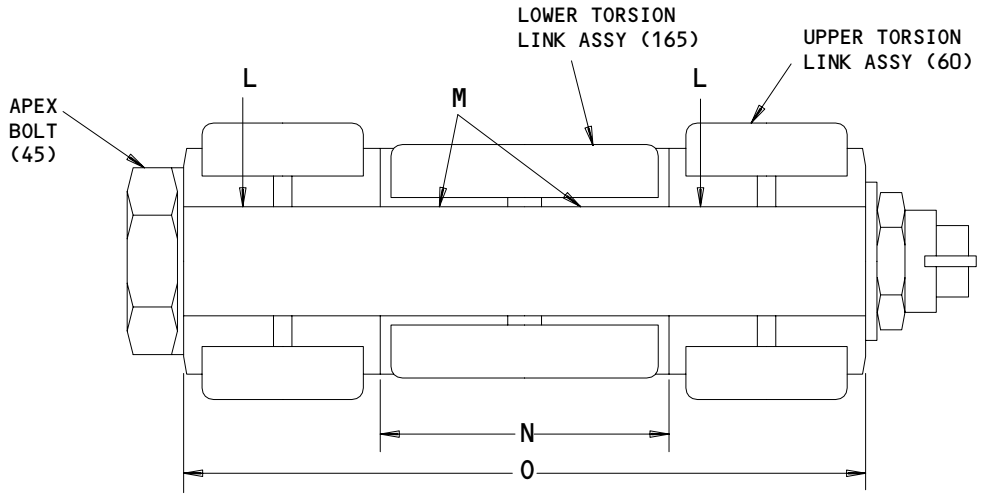
A–A

Fits and Clearances
Figure 801 (Sheet 2)

182139

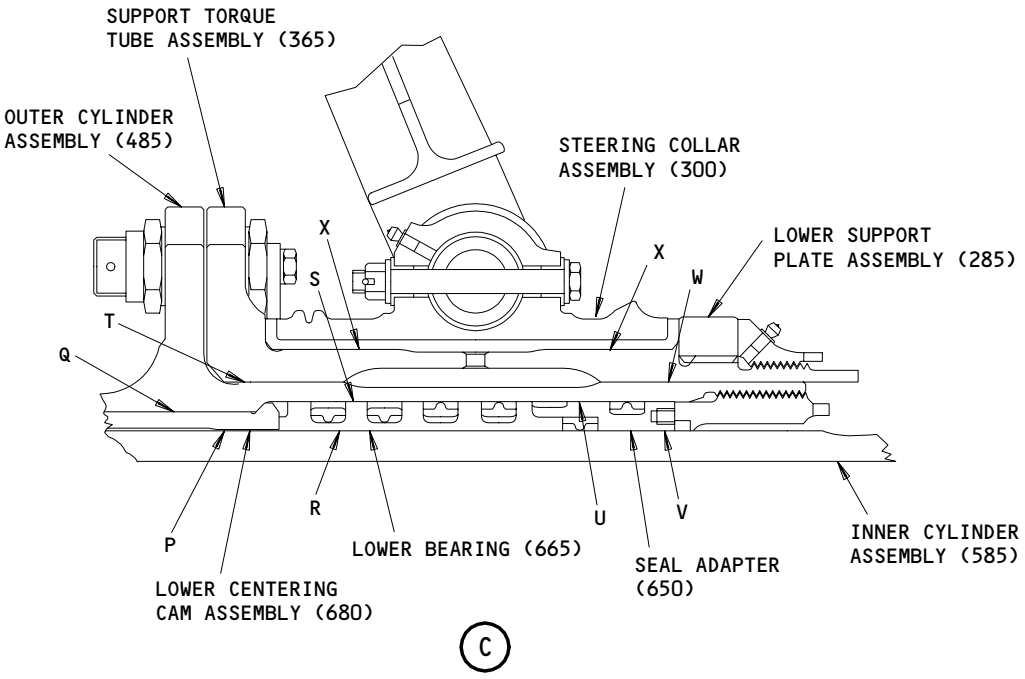


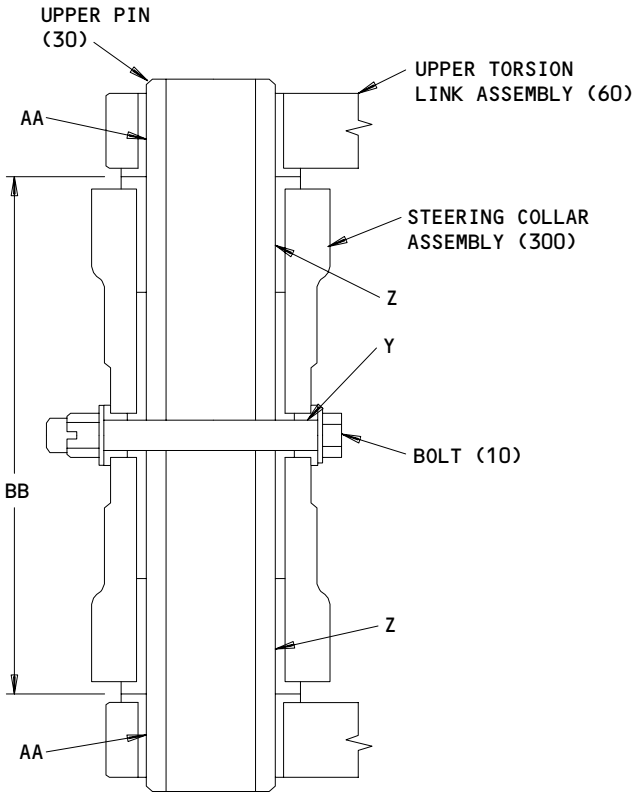
B



B–B

Fits and Clearances
Figure 801 (Sheet 3)

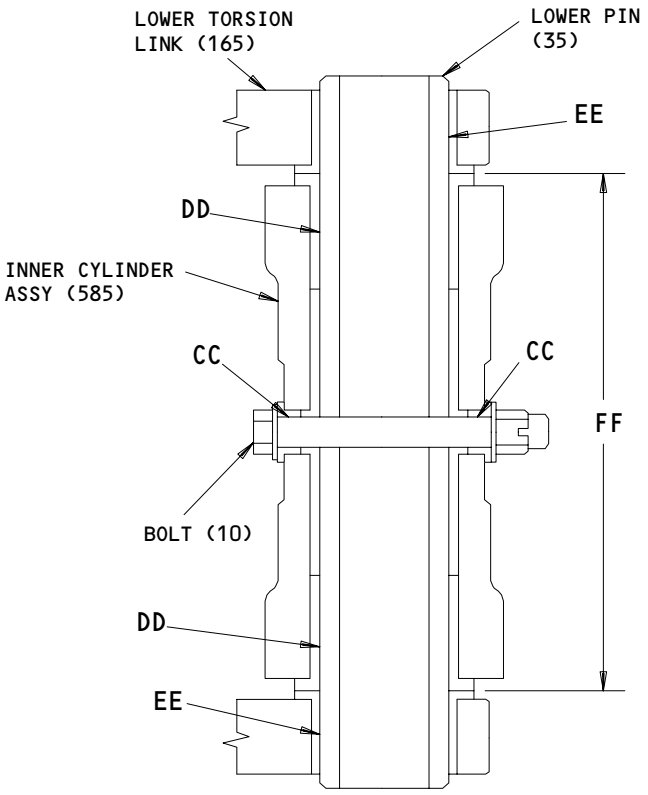




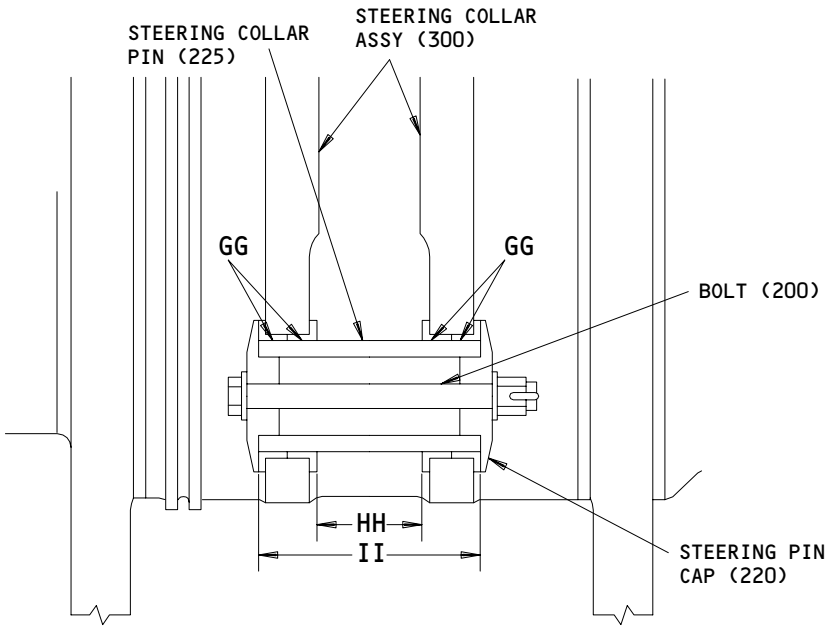
C-C

Fits and Clearances
Figure 801 (Sheet 4)

182141

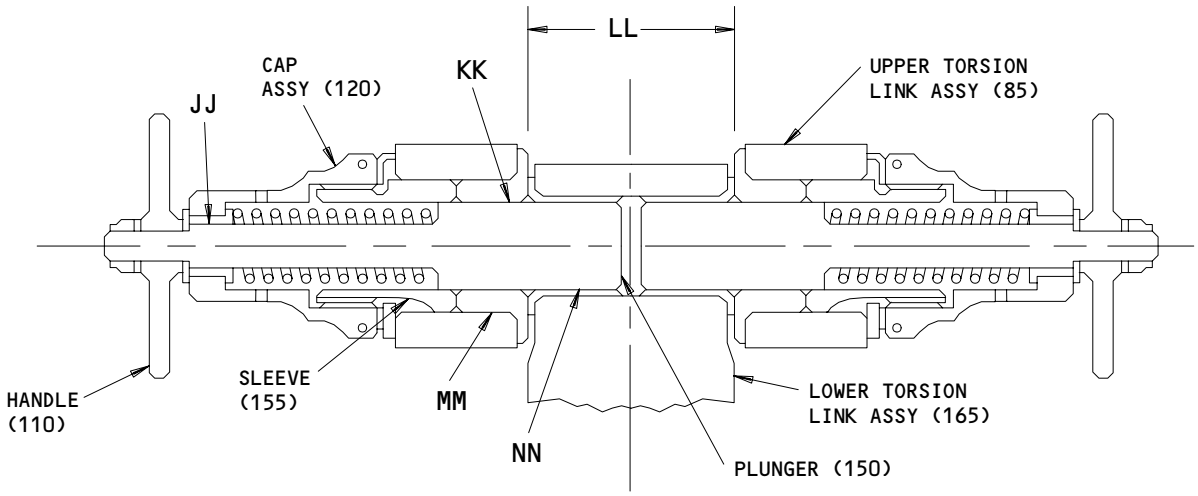


D–D



D

Fits and Clearances
Figure 801 (Sheet 5)



E-E

Fits and Clearances
Figure 801 (Sheet 6)

Ref Letter Fig.801	Mating IPL Fig. No. 1 Item No.	Design Dimensions				Service Wear Limits		
		Dimensions		Assembly Clearance		Dimensions		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 565 OD 585	6.309 6.302	6.311 6.307	0.002	0.009	6.296	6.321	0.014
B	ID 485 OD 545	7.150 7.137	7.153 7.140	0.010	0.016	7.132	7.161	0.021
C	ID 545 OD 585	5.9120 5.9087	5.9150 5.9112	0.0008	0.0063	5.9000	5.9220	0.0111
D	ID 485 OD 730	3.492 3.486	3.495 3.488	0.004	0.009	3.482	3.500	0.013
E	ID 445 OD 730	3.122 3.119	3.125 3.121	0.001	0.006	3.115	3.130	0.009
F	*[1] 545 *[2] 585	3.995 4.001	4.000 4.006	0.001	0.011			
G	ID 485 OD 445	3.492 3.486	3.495 3.488	0.004	0.009	3.482	3.500	0.013
H	ID 485 OD 410	3.0000 2.9980	3.0015 2.9990	0.0010	0.0035	2.9940	3.0059	0.0070
I	ID 485 OD 390	0.7500 0.7485	0.7515 0.7490	0.0010	0.0030	0.7460	0.7537	0.0047
J	ID 410 OD 390	0.7500 0.7485	0.7515 0.7490	0.0010	0.0030	0.7460	0.7530	0.0047
K	ID 585 OD 765	4.868 4.860	4.870 4.862	0.006	0.010	4.856	4.876	0.014
L	ID 60 OD 45	0.8750 0.8730	0.8765 0.8740	0.0010	0.0035	0.8711	0.8793	0.0054
M	ID 165 OD 45	0.8750 0.8730	0.8765 0.8740	0.0010	0.0035	0.8711	0.8793	0.0054
N	*[3] 165 *[4] 60	2.1116 2.1200	2.1200 2.1298	0.0000	0.0182			

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 7)

Ref Letter Fig.801	Mating Item No. IPL Fig.	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
O	*[3] 60	5.125	5.132					
P	ID 680 OD 585	6.519 6.494	6.521 6.497	0.022	0.027	6.489	6.529	0.032
Q	ID 485 OD 680	7.150 7.145	7.153 7.148	0.002	0.008	7.139	7.161	0.013
R	ID 665 OD 585	6.501 6.494	6.503 6.497	0.004	0.009	6.489	6.511	0.014
S	ID 485 OD 665	7.474 7.465	7.477 7.468	0.006	0.012	7.459	7.485	0.017
T	ID 365 OD 485	8.1260 8.1232	8.1278 8.1250	0.0010	0.0046	8.1175	8.1353	0.0103
U	ID 485 OD 650	7.474 7.465	7.477 7.470	0.004	0.012	7.459	7.487	0.017
V	ID 650 OD 585	6.503 6.494	6.506 6.497	0.006	0.012	6.488	6.514	0.017
W	ID 365 OD 485	8.1260 8.1232	8.1278 8.1250	0.0010	0.0046	8.1175	8.1350	0.0103
X	ID 300 OD 365	9.2500 9.2475	9.2515 9.2490	0.0010	0.0040	9.2410	9.2590	0.0100
Y	ID 300 OD 10	0.3750 0.3740	0.3780 0.3745	0.0005	0.0040	0.3728	0.3797	0.0052
Z	ID 300 OD 30	1.5000 1.4980	1.5015 1.4990	0.0010	0.0035	1.4950	1.5049	0.0059
AA	ID 60 OD 30	1.5000 1.4980	1.5015 1.4990	0.0010	0.0035	1.4950	1.5040	0.0059

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 8)

182146

Ref Letter Fig.801	Mating Item No. IPL Fig.1	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
BB	4 60 3 300	6.6005 6.5980	6.6025 6.6000	0.0005	0.0045	6.5904	6.6121	0.0096
CC	ID 585 OD 10	0.3750 0.3740	0.3780 0.3745	0.0005	0.0040	0.3728	0.3797	0.0052
DD	ID 585 OD 35	1.7500 1.7480	1.7515 1.7490	0.0010	0.0035	1.7450	1.7550	0.0061
EE	ID 165 OD 35	1.7500 1.7480	1.7515 1.7490	0.0010	0.0035	1.7450	1.7550	0.0061
FF	4 165 3 585	6.6005 6.5980	6.6025 6.6000	0.0005	0.0045	6.5904	6.6121	0.0096
GG	ID 300 OD 225	1.7500 1.7468	1.7515 1.7480	0.0020	0.0047	1.7440	1.7550	0.0073
HH	4 300	1.536	1.544					
II	3 300	3.2986	3.3220					
JJ	ID 120 OD 150	0.5000 0.4900	0.5015 0.4950	0.0050	0.0115	0.4886	0.5079	0.0129
KK	ID 155 OD 150	0.8750 0.8730	0.8765 0.8740	0.0010	0.0035	0.8711	0.8793	0.0054
LL	3 165A	2.1116	2.1200					
MM	ID 85 OD 155	1.3125 1.3148	1.3140 1.3163	−0.0038 5	−0.0008 5	1.3125	1.3177	0.0015
NN	ID 165A OD 150	0.8750 0.8730	0.8765 0.8740	0.0010	0.0035	0.8711	0.8793	0.0054

ALL DIMENSIONS ARE IN INCHES

1 LENGTH OF UPPER BEARING (64O)
2 LENGTH OF INNER CYLINDER BEARING GROOVE
3 DIMENSION ACROSS OUTER FLANGES OF BUSHING
4 DIMENSION BETWEEN INNER FLANGES OF BUSHINGS
5 NEGATIVE VALUES ARE AN INTERFERENCE FIT

Fits and Clearances
Figure 801 (Sheet 9)

FOR TORQUE VALUES OF STANDARD FASTENERS, REFER TO 20-50-01			
ITEM NO. IPL FIG. 1	NAME	TORQUE	
		POUND-INCHES	POUND-FEET
55	NUT	60-95	
725	ORIFICE PLATE		230-280
440	ORIFICE SPRT NUT		50-75
270	STEERING NUT		75-100
740	METERING PIN NUT		75-100
615	GLAND NUT		125-150
465	CHARGING VALVE *[1]		22-25
420	AIR VALVE *[2]		11-14
420	AIR VALVE *[3]		5-7
120	CAP		30-40

*[1] CHARGING VALVE BODY

*[2] AIR VALVE BODY

*[3] AIR VALVE SWIVEL NUT

Torque Table
Figure 802

182148

SPECIAL TOOLS, FIXTURES AND EQUIPMENT

NOTE: Equivalent substitutes may be used.

1. A32057-1 or -40 -- Buildup Stand
2. A32021-1 -- Gland Nut Wrench Adaptor
3. A32029-48 -- Lower Bearing Seal Retainer Puller
4. A32034-1 -- Steering Nut Wrench Adaptor
5. A32047-40 -- Retainer Ring Adapter
6. A32047-30 -- Orifice Plate Wrench Assembly
7. A32047-31 -- Retainer Nut Wrench Assembly
8. A32047-3 -- Orifice Nut Wrench Adaptor
9. A32047-39 -- Retainer Ring Adapter Assembly
10. A32047-32 -- Orifice Tube Adapter Assembly
11. A32047-16 -- Guide Bushing
12. A32047-15 -- Guide Shaft
13. A32036-43 -- Sling Assembly

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

S0352 NIPPON MINIATURE BEARING CO LTD
TOKYO, JAPAN

00266 ACME STEEL COMPANY
13500 SOUTH PERRY AVENUE
RIVERDALE, ILLINOIS 60627-1182
FORMERLY INTERLAKE INC

01673 AIRDROME PARTS CO
3251 AIRPORT WAY PO BOX 1867
LONG BEACH, CALIFORNIA 90801

02758 NETWORKS ELECTRONIC CORP U S BEARING DIV
9750 DE SOTO AVENUE
CHATSWORTH, CALIFORNIA 91311-4409
FORMERLY U S BEARING DIV NETWORKS ELEC CORP

15653 FAIRCHILD FASTENERS KAYNAR PRODUCTS DIV
800 S STATE COLLEGE BLVD
FULLERTON, CALIFORNIA 92831-3001
FORMERLY VK6405 MICRODOT AEROSP LTD; FORMERLY KAYNAR TECH
KAYNAR DIV

15860 NEW HAMPSHIRE BALL BEARINGS, INCORPORATED ASTRO DIVISION
155 LEXINGTON AVENUE
LACONIA, NEW HAMPSHIRE 03246-2937
FORMERLY ASTRO BEARING CORP, LOS ANGELES, CALIF.

16746 SPECLINE INCORPORATED
2230 MOUTON DR
CARSON CITY, NV 89706
FORMERLY IN SUN VALLEY, CAIFORNIA

39661 MENASCO INC CALIFORNIA DIV SUB OF COLT IND INC
1ST & CEDAR STREET PO BOX 7071
BURBANK, CALIFORNIA 91510
FORMERLY V75662
FORMERLY HOWMET CORP AEROSYSTEMS

5F573 GREENE TWEED AND CO INC
2075 DETWILER RD P.O. BOX 305
KULPSVILLE, PENNSYLVANIA 19443-0305

50808 UNITED SUPPLY CO INC
3676 S BROADWAY PLACE
LOS ANGELES, CALIFORNIA 90007-4432

VENDORS

56644 AURORA BEARING CO
970 SOUTH LAKE STREET
AURORA, ILLINOIS 60506-5929

56878 SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV
HIGHLAND AVENUE
JENKINTOWN, PENNSYLVANIA 19046
FORMERLY STANDARD PRESSED STEEL

72962 HARVARD INDUSTRIES INC
3 WERNER WAY SUITE 210
LEBANON, NEW JERSEY 08833
FORMERLY AMERACE CORP ESNA DIV
FORMERLY ELASTIC STOP NUT IN UNION, NJ

73134 IMO INDUSTRIES INC HEIM BEARINGS DIV
60 ROUND HILL ROAD PO BOX 430
FAIRFIELD, CONNECTICUT 06430
FORMERLY INCOM INTL INC HEIM DIV; FORMERLY HEIM UNIVERSAL
CORP INCOM INTL INC; FORMERLY HEIM DIV INCOM INTL

85495 BRILES MFG CO SEE OMARK INDUSTRIES
PRECISION FASTENING SUB OF OMARK IND INC SEE DEUTSCH
OMARK INDUSTRIES SEE PRECISION FASTENING
FASTENER CORP V08524

95879 ALEMITE DIVISION OF STEWART WARNER CORP
1826 DIVERSEY PARKWAY
CHICAGO, ILLINOIS 60614-1540

97613 SARGENT CONTROLS & AEROSPACE/KAHR BEARING DIV
5675 W BURLINGAME RD
TUCSON, ARIZONA 85743
FORMERLY AETNA STEEL PROD KAHR BEARING DIV V96579
FORMERLY SARGENT IND KAHR BEARING DIV, BURBANK, CALIFORNIA

97820 BUSAK AND SHAMBAN INC BEARING DIV
711 MITCHELL ROAD PO BOX 665
NEWBURY PARK, CALIFORNIA 91320-2214
FORMERLY IN CULVER CITY, CALIF; FORMERLY SHAMBAN W S & CO

97928 HUCK INTL INC
3969 PARAMOUNT BLVD
LAKEWOOD, CALIFORNIA 90712-4193

VENDORS

99240 CRISSAIR, INCORPORATED
38905 10TH STREET EAST
PALMDALE, CALIFORNIA 93550-3415
FORMERLY IN EL SEGUNDO, CALIFORNIA

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AG12V31C		1	530	2
		1	530	2
AN6230-30		1	540	1
AP1008-4		1	460	1
ASBFH12VC		1	530	2
BACB10FH12GC		1	530	2
BACB30NL12DU68		1	390	2
BACC14AD4		1	460	1
BACN10JC10		1	55	1
BACN10JC12		1	405	2
BACN10JC16		1	360	4
BACN10JC5CD		1	100A	2
BACN10WW10C		1	780	1
BACP20AX15DA		1	180A	1
BACP20AX15DAP		1	185A	1
BACS11AK1		1	475	2
BACS38E8-25		1	480	2
BACW10BN10UP		1	50A	1
BACW10BP12ACU		1	395	2
BACW10BP12APU		1	400	2
BACW10BP16APU		1	355	4
BACW10BP4APU		1	255	1
		1	430	2
		1	715	1
BACW10BP6ACU		1	15	2
		1	205	2
BACW10BP6APU		1	20	3
		1	210	2
BMN4122AD3-10		1	55	1
BMN4122AD3-12		1	405	2
BMN4122AD3-16		1	360	4

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BMN4122A10		1	55	1
BMN4122A16		1	360	4
BWG12A110C		1	530	2
HU12-204VC		1	530	2
H10-10BAC		1	55	1
H10-12BAC		1	405	2
H10-1612BAC		1	360	4
KWB12-61		1	530	2
LHB12ENGC		1	530	2
MMS122		1	415	1
MS14144L6		1	25	2
		1	215	2
MS14145L4		1	720	1
MS20392-1C7		1	645	3
MS20615-3M6		1	685	2
MS20615-3M7		1	685A	2
MS24665-153		1	705	1
MS24665-304		1	5	2
		1	40	1
		1	195	2
MS24665-374		1	340	3
MS24665-376		1	385	2
MS28775-252		1	540A	1
MS28778-5		1	470	1
MS28889-2		1	420	1
MS35333-75		1	235	4
NAS1149C0563R		1	105A	2
NAS6604H2		1	425	2
NAS6605H2		1	230	4
NAS6606DH61		1	200A	2
NAS6704D8		1	710	1
NAS6704H7		1	250	1
NAS6706D46		1	10	2
RMLH9074-10		1	55	1
RMLH9074-12		1	405	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
RMLH9074-16		1	360	4
S32925-55G5		1	630	1
US2103-4		1	460	1
WC12G3C		1	530	2
015T0525-5		1	680C	1
015T1448-3		1	245T	1
015T1448-4		1	245U	1
015T1448-5		1	245V	1
015T1448-6		1	245W	1
015T1448-7		1	245X	1
015T1448-8		1	245Y	1
015T1448-9		1	245Z	1
161T1210-1		1	320A	2
		1	500A	12
		1	595	6
161T1210-11		1	315A	4
161T1210-16		1	325A	4
161T1210-17		1	375	4
161T1210-2		1	505A	16
161T1210-3		1	510A	8
161T1210-4		1	515A	4
161T1210-59		1	125A	2
161T1210-60		1	177	2
161T1210-9		1	600	16
161U0002-2		1	645A	3
		1	647	3
162T0002-1		1	765D	1
162T1101-1		1	410	2
162T1102-1		1	580	2
162T1103-1		1	770	1
162T1103-2		1	770A	1
		1	770B	1
162T1116-2		1	80	1
		1	160	1
162T1116-3		1	60	1
162T1116-4		1	85	1
162T1116-5		1	85A	1
162T1118-1		1	30	1
162T1119-2		1	35A	1

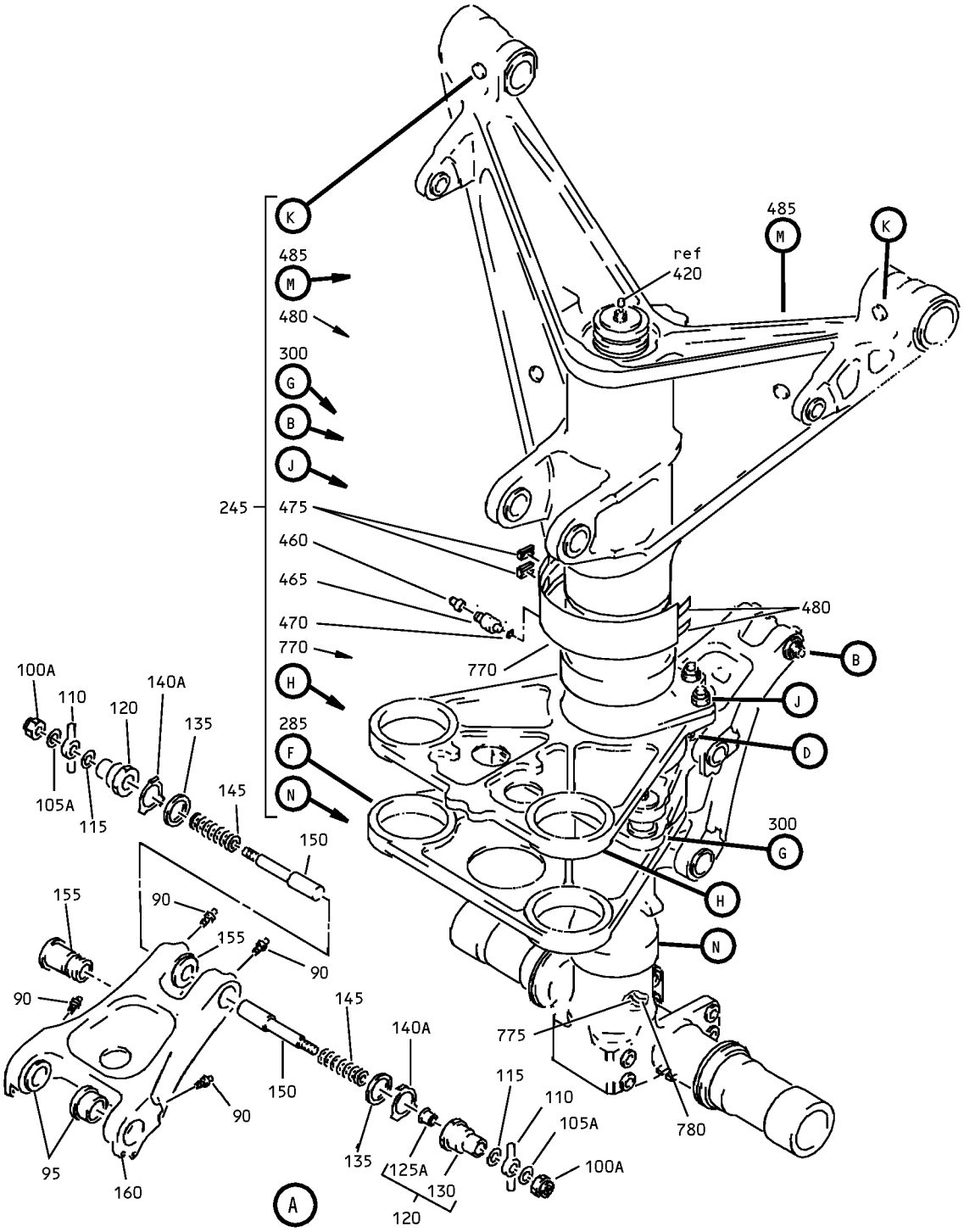
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1120-1		1	45	1
162T1121-1		1	520	2
162T1122-1		1	525	4
162T1123-2		1	178	2
162T1124-2		1	605	2
162T1125-2		1	70	2
		1	95	2
162T1126-1		1	75	4
162T1136-001		1	1	RF
162T1136-002		1	1A	RF
162T1136-003		1	1B	RF
162T1136-004		1	1C	RF
162T1136-005		1	1D	RF
162T1136-006		1	1E	RF
162T1136-007		1	1F	RF
162T1136-008		1	1G	RF
162T1136-009		1	1H	RF
162T1136-010		1	1J	RF
162T1136-011		1	1K	RF
162T1136-012		1	1L	RF
162T1136-013		1	1M	RF
162T1136-014		1	1N	RF
162T1136-015		1	642	1
162T1136-016		1	642A	1
162T1136-017		1	1P	RF
162T1136-018		1	1Q	RF
162T1136-019		1	1R	RF
162T1136-020		1	1S	RF
162T1136-021		1	1T	RF
162T1136-022		1	1U	RF
162T1136-030		1	2B	RF
162T1136-033		1	2E	RF
162T1136-035		1	2G	RF
162T1136-038		1	2K	RF
162T1136-040		1	2M	RF
162T1136-041		1	2N	RF
162T1136-042		1	2P	RF
162T1136-043		1	2Q	RF
162T1136-044		1	2R	RF
162T1136-050		1	245	1
162T1136-051		1	245A	1
162T1136-053		1	245B	1
162T1136-054		1	245C	1
162T1136-055		1	245D	1
162T1136-056		1	245E	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1136-057		1	245F	1
162T1136-058		1	245Q	1
162T1136-064		1	245M	1
162T1136-065		1	245N	1
162T1136-066		1	245P	1
162T1136-068		1	2S	RF
162T1136-069		1	2T	RF
162T1136-070		1	2U	RF
162T1136-071		1	245R	1
162T1136-072		1	2V	RF
162T1136-073		1	2W	RF
162T1136-074		1	2X	RF
162T1136-075		1	2Y	RF
162T1136-079		1	246	1
162T1136-080		1	2Z	RF
162T1136-081		1	3	RF
162T1137-1		1	485	1
162T1137-2		1	535	1
162T1138-1		1	585	1
162T1138-2		1	610	1
162T1138-3		1	585A	1
162T1138-4		1	610A	1
162T1138-5		1	585B	1
162T1138-6		1	610B	1
162T1139-1		1	607	1
162T1140-1		1	687	2
162T1140-2		1	687A	2
162T1400-1		1	365	1
162T1400-2		1	380	1
162T1400-3		1	380A	1
162T1400-4		1	380B	1
162T1402-1		1	285	1
162T1402-2		1	295	1
162T1404-4		1	335	1
162T1404-5		1	300	1
162T1406-1		1	270	1
162T1406-2		1	280	1

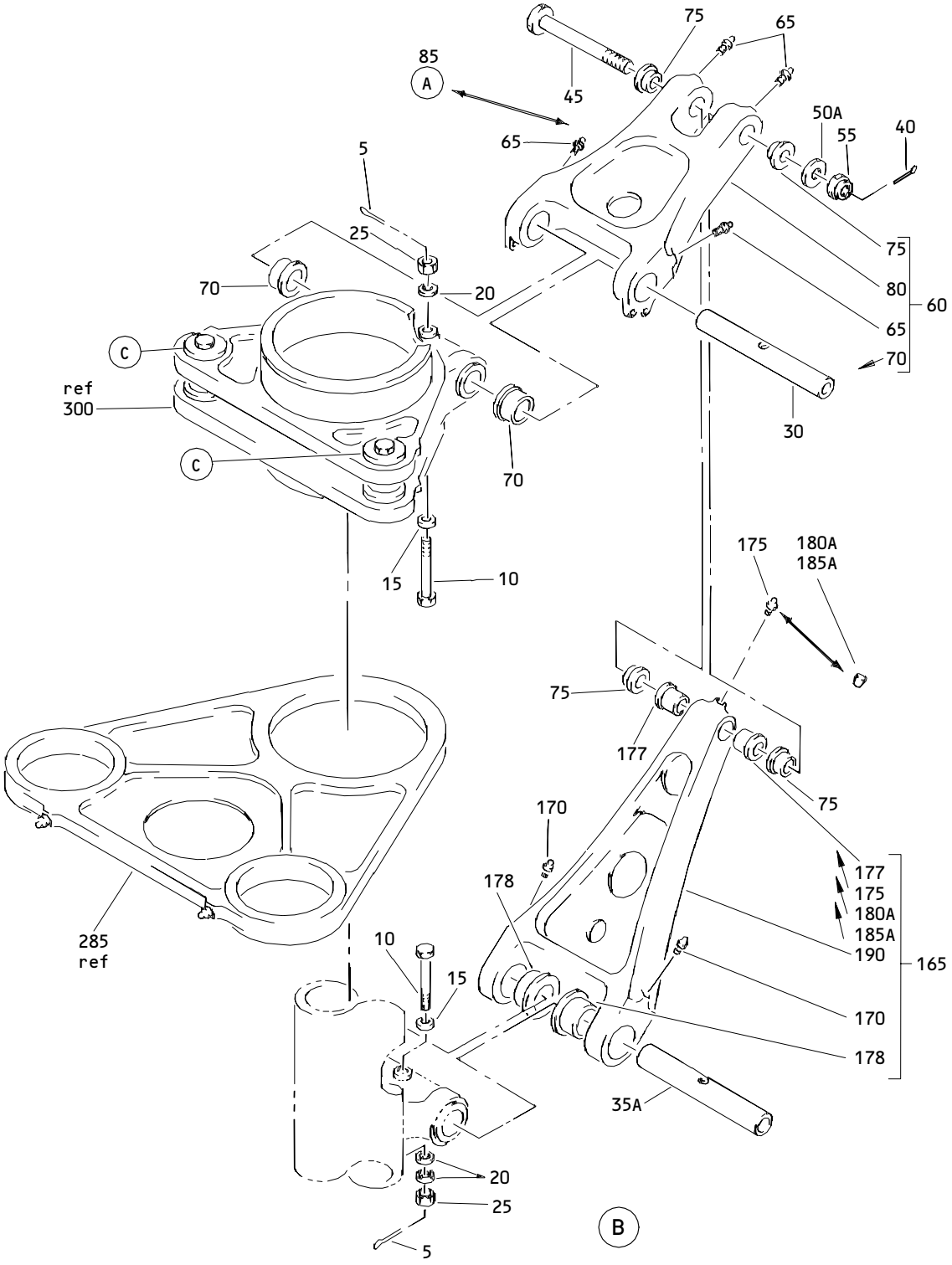
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1407-1		1	330	2
162T1408-2		1	225A	2
162T1408-3		1	225B	2
162T1409-1		1	345	3
162T1409-3		1	350	1
162T1411-1		1	260	1
162T1412-3		1	240	1
		1	242	1
162T1412-4		1	240A	1
162T1412-5		1	242A	1
162T1413-1		1	220	4
162T1414-2		1	310	2
162T1504-4		1	545	1
162T1504-5		1	550	1
162T1504-6		1	555	1
162T1505-1		1	665	1
162T1505-2		1	665A	1
162T1506-2		1	565	1
162T1507-1		1	680	1
162T1507-2		1	695	1
162T1507-3		1	680A	1
162T1507-4		1	695A	1
162T1507-5		1	680B	1
162T1507-6		1	695B	1
162T1508-2		1	560	1
162T1509-1		1	440	1
162T1510-1		1	445	1
162T1511-1		1	650	1
162T1511-2		1	650A	1
162T1512-3		1	615	1
162T1512-4		1	625	1
162T1516-2		1	435	1
162T1517-1		1	575	2
162T1517-2		1	690	2
162T1517-3		1	692	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1518-1		1	745	1
162T1519-1		1	570	1
162T1520-1		1	265	1
162T1521-1		1	765	1
162T1521-2		1	765B	1
162T1521-3		1	765C	1
162T1522-1		1	730	1
162T1522-2		1	730A	1
162T1523-1		1	725	1
162T1523-2		1	725A	1
162T1524-1		1	735	1
162T1525-1		1	740	1
162T1525-2		1	750	1
162T1526-1		1	700	1
162T1605-1		1	150	2
162T1605-2		1	150A	2
162T1606-1		1	155	2
162T1607-1		1	120	2
162T1607-2		1	130	2
162T1608-1		1	110	2
162T1609-2		1	135	2
162T1610-1		1	145	2
162T1611-2		1	140A	2
162T1615-1		1	115	2
162T1617-1		1	165	1
162T1617-2		1	190	1
162T1617-3		1	165A	1
162T5051-1		1	775	1
1646B		1	490	2
1728B		1	65	4
		1	90	2
		1	170	2
		1	175	1
		1	275	1
		1	290	2
		1	305	10
		1	370	2
		1	495	4
		1	590	1

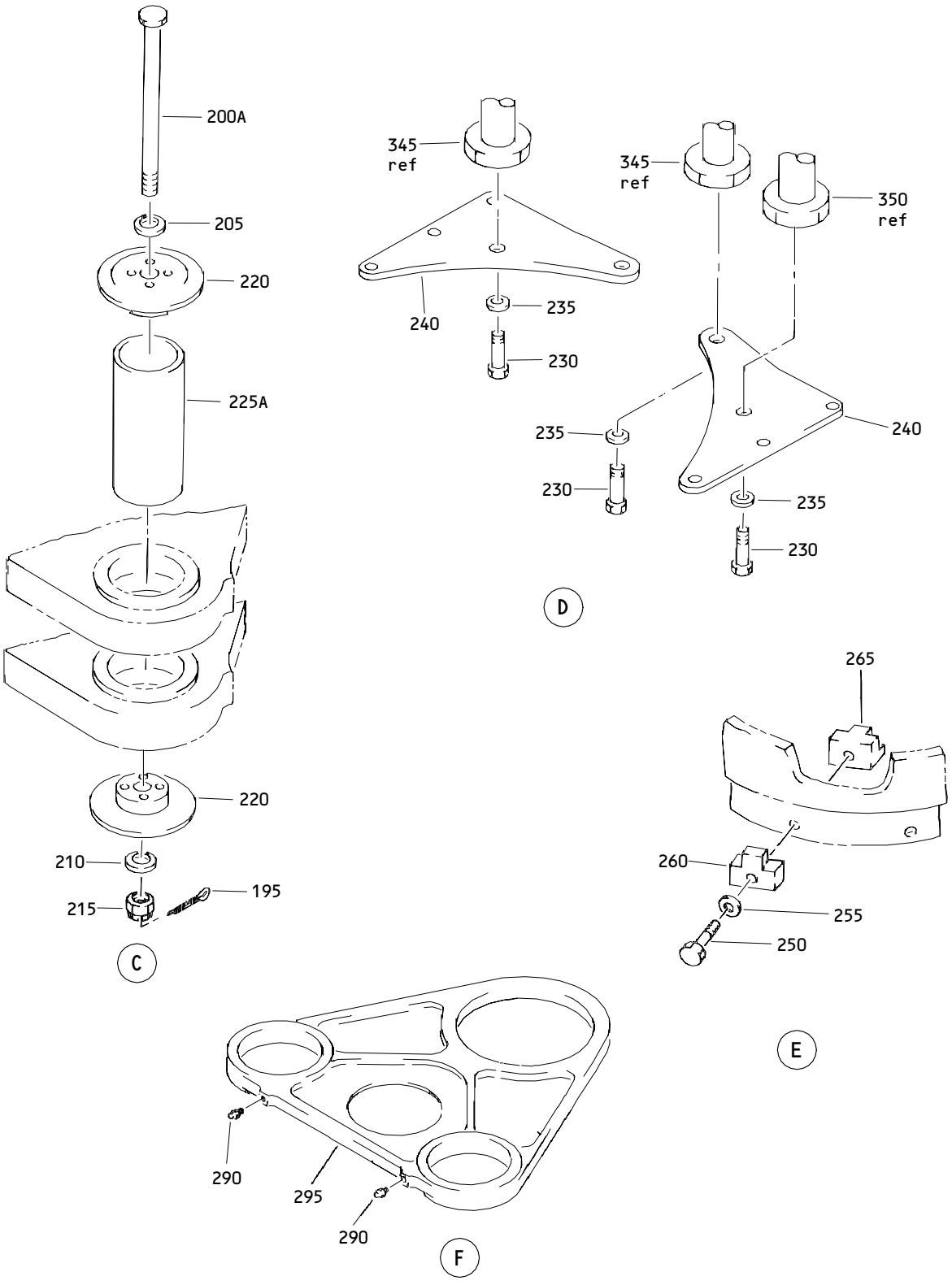
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
1992B		1	620	1
2C9342		1	465	1
42-134-4201		1	475	2
44PB134-4441		1	475	2
48FT1018		1	55	1
48FT1216		1	405	2
48FT1612		1	360	4
7338MTE987		1	455	1
7338MT2N		1	450	2
7349MT2N		1	755A	2
7349MT987		1	760A	1
7439FT4780		1	667	2
7439FT972		1	668	3
7441MT2N		1	635	2
7441MT987		1	640	1
		1	670	2



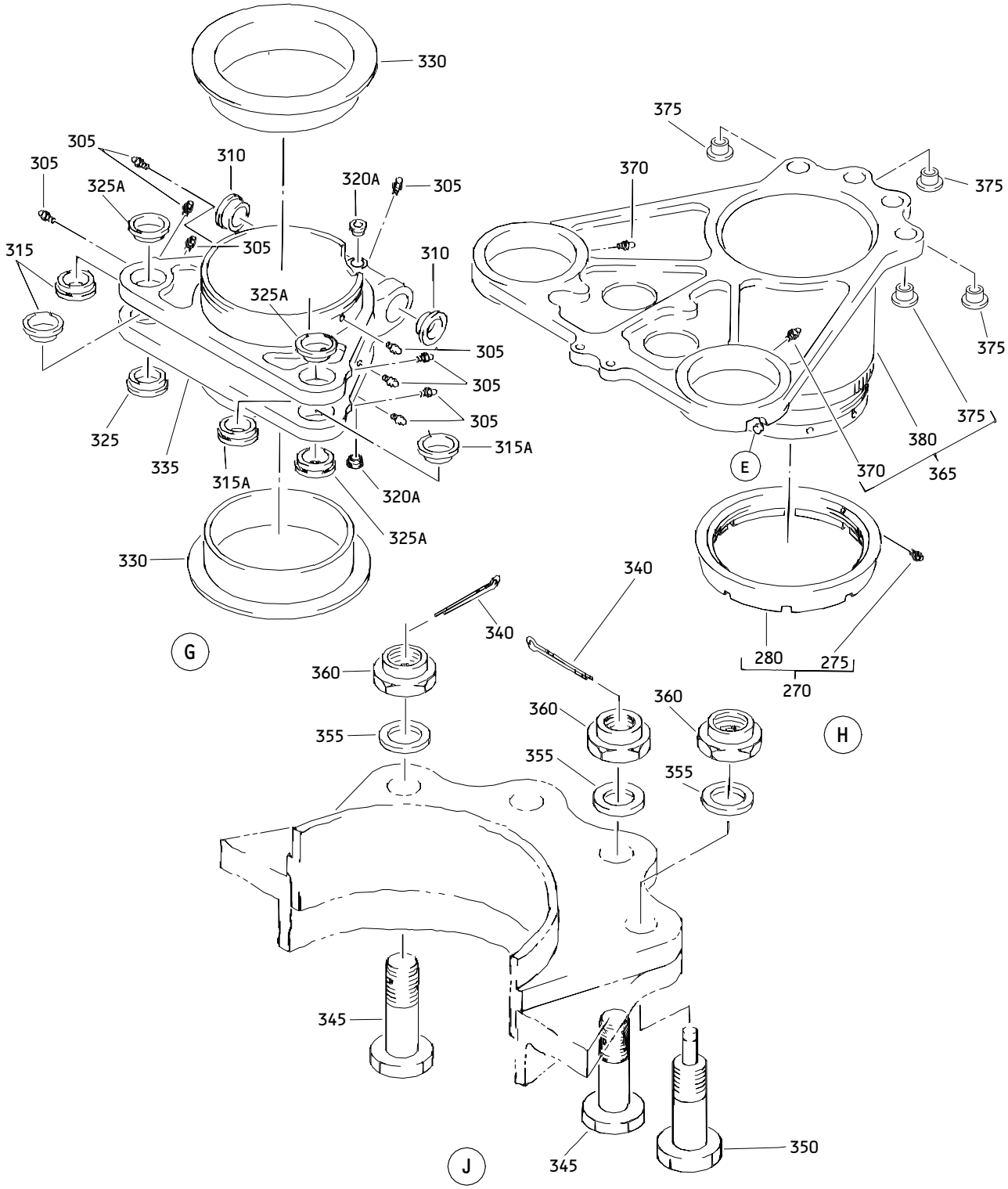
Nose Landing Gear Component Assembly
Figure 1 (Sheet 1)



Nose Landing Gear Component Assembly
Figure 1 (Sheet 2)

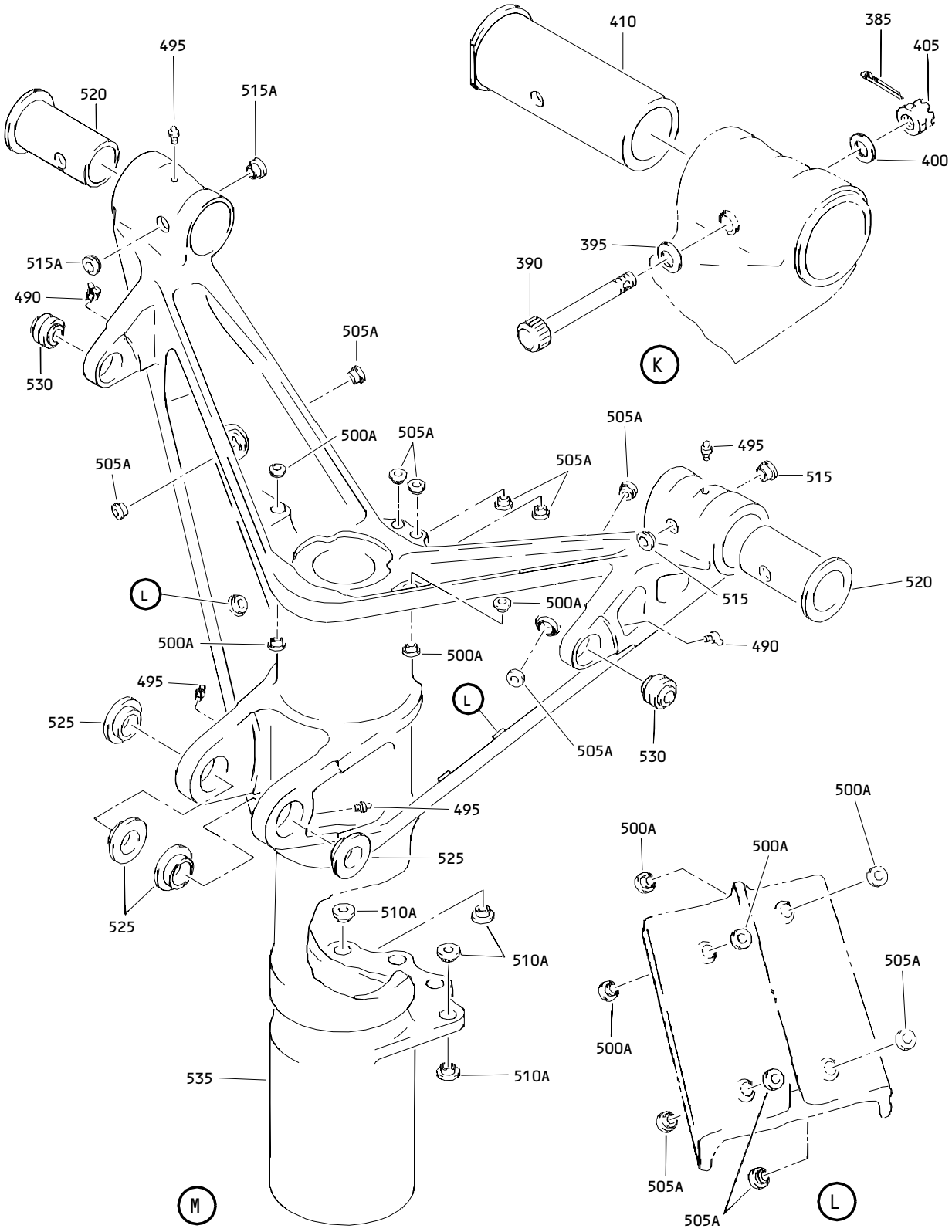


Nose Landing Gear Component Assembly
Figure 1 (Sheet 3)



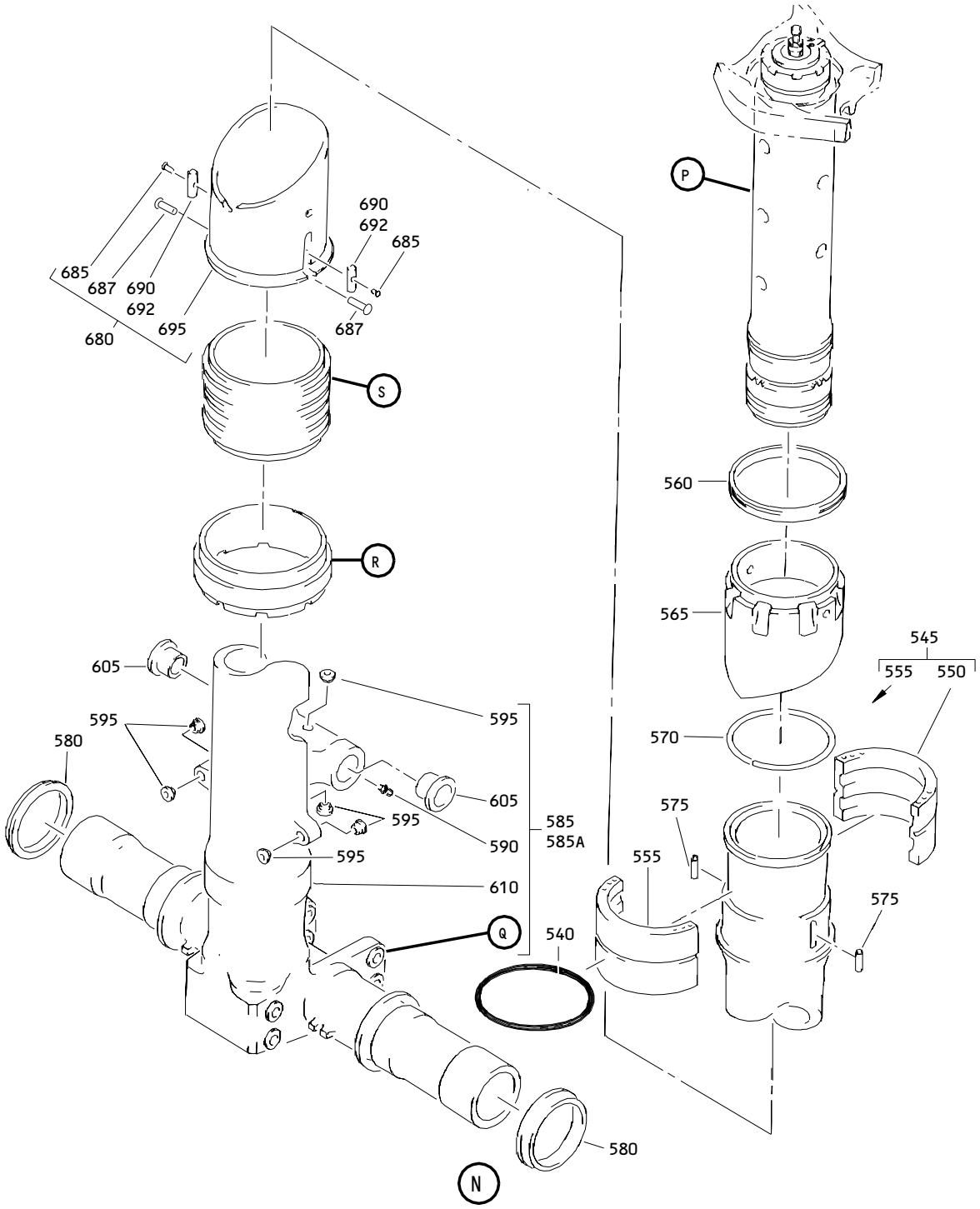
Nose Landing Gear Component Assembly
Figure 1 (Sheet 4)

U1703



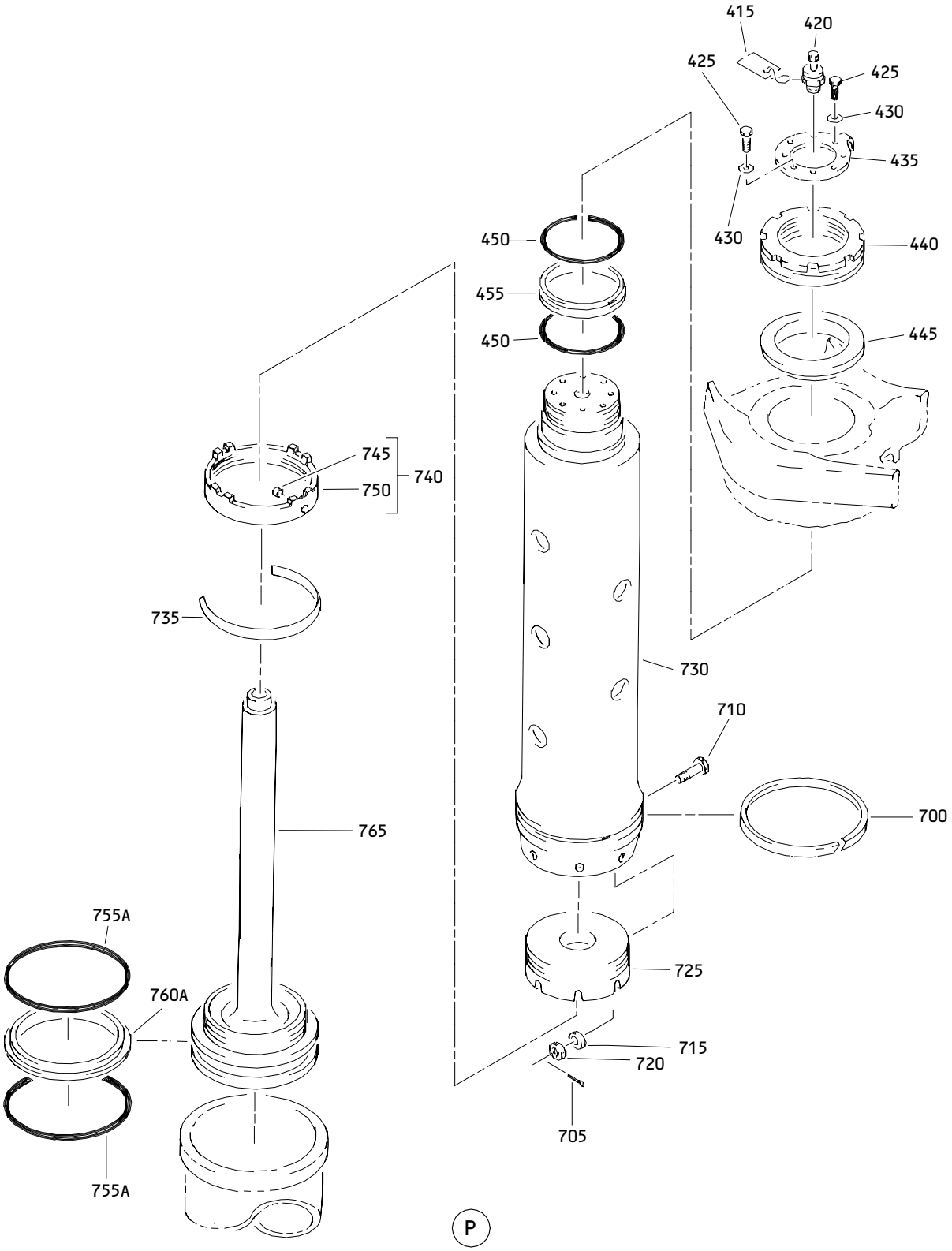
Nose Landing Gear Component Assembly
Figure 1 (Sheet 5)

U1704

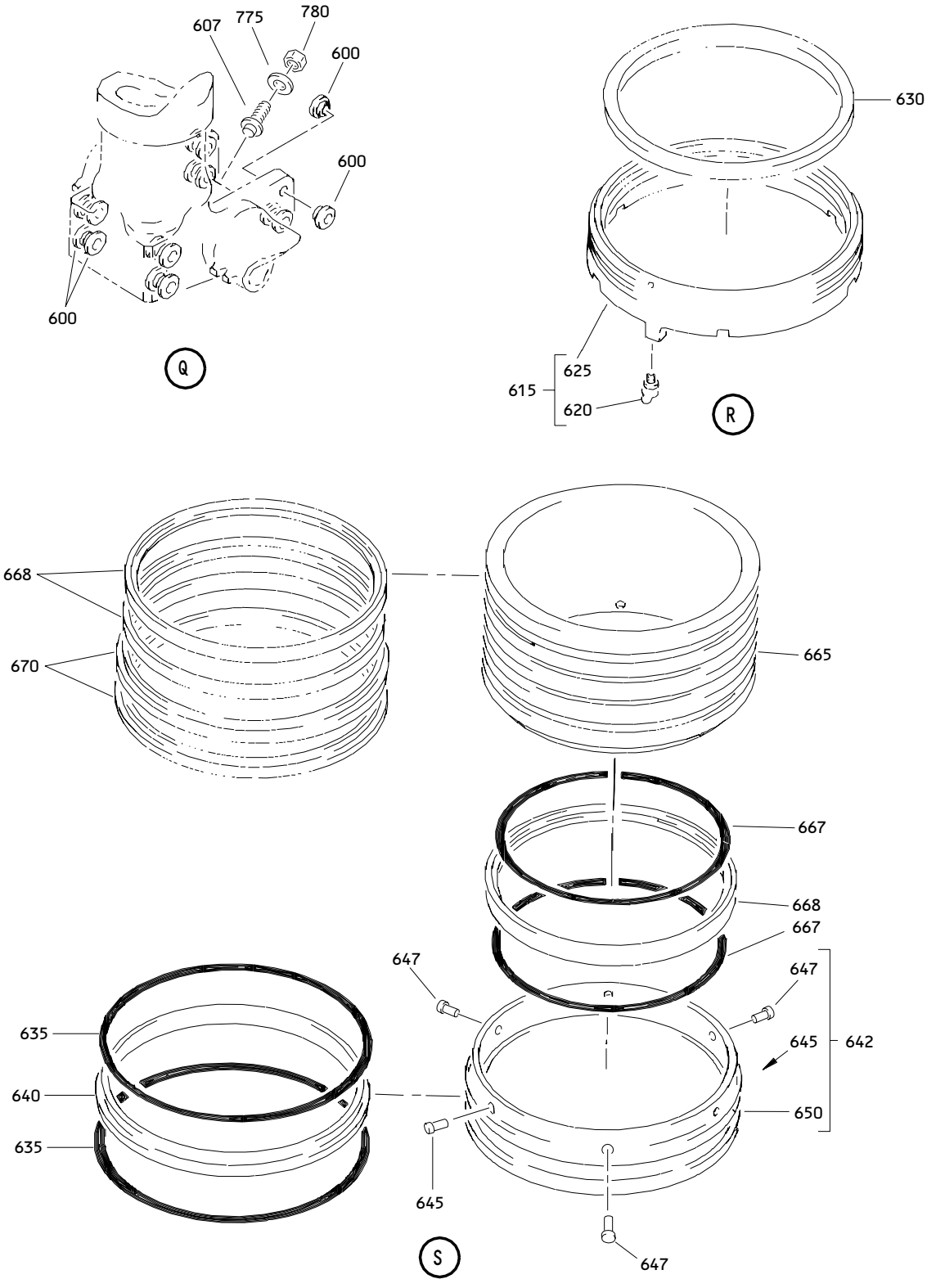


Nose Landing Gear Component Assembly
Figure 1 (Sheet 6)

U1705



Nose Landing Gear Component Assembly
Figure 1 (Sheet 7)



Nose Landing Gear Component Assembly
Figure 1 (Sheet 8)

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	162T1136-001		COMPONENT ASSY-NLG	A	RF
-1A	162T1136-002		COMPONENT ASSY-NLG	B	RF
-1B	162T1136-003		COMPONENT ASSY-NLG	C	RF
-1C	162T1136-004		COMPONENT ASSY-NLG	D	RF
-1D	162T1136-005		COMPONENT ASSY-NLG	E	RF
-1E	162T1136-006		COMPONENT ASSY-NLG	F	RF
-1F	162T1136-007		COMPONENT ASSY-NLG	G	RF
-1G	162T1136-008		COMPONENT ASSY-NLG	H	RF
-1H	162T1136-009		COMPONENT ASSY-NLG	J	RF
-1J	162T1136-010		COMPONENT ASSY-NLG	K	RF
-1K	162T1136-011		COMPONENT ASSY-NLG	L	RF
-1L	162T1136-012		COMPONENT ASSY-NLG	M	RF
-1M	162T1136-013		COMPONENT ASSY-NLG	N	RF
-1N	162T1136-014		COMPONENT ASSY-NLG	P	RF
-1P	162T1136-017		COMPONENT ASSY-NLG	AP	RF
-1Q	162T1136-018		COMPONENT ASSY-NLG	AQ	RF
-1R	162T1136-019		COMPONENT ASSY-NLG	AR	RF
-1S	162T1136-020		COMPONENT ASSY-NLG	AS	RF
-1T	162T1136-021		COMPONENT ASSY-NLG	AT	RF
-1U	162T1136-022		COMPONENT ASSY-NLG	V	RF
-1V	162T1136-023		DELETED		
-1W	162T1136-024		DELETED		
-1X	162T1136-025		DELETED		
-1Y	162T1136-026		DELETED		
-1Z	162T1136-027		DELETED		
-2	162T1136-028		DELETED		
-2A	162T1136-029		DELETED		
-2B	162T1136-030		COMPONENT ASSY-NLG	Y	RF
-2C	162T1136-031		DELETED		
-2D	162T1136-032		DELETED		
-2E	162T1136-033		COMPONENT ASSY-NLG	AB	RF
-2F	162T1136-034		DELETED		
-2G	162T1136-035		COMPONENT ASSY-NLG	AD	RF
-2J	162T1136-037		DELETED		
-2K	162T1136-038		COMPONENT ASSY-NLG	AG	RF
-2L	162T1136-039		DELETED		
-2M	162T1136-040		COMPONENT ASSY-NLG	AJ	RF
-2N	162T1136-041		COMPONENT ASSY-NLG	AK	RF
-2P	162T1136-042		COMPONENT ASSY-NLG	AL	RF
-2Q	162T1136-043		COMPONENT ASSY-NLG	AM	RF
-2R	162T1136-044		COMPONENT ASSY-NLG	AN	RF
-2S	162T1136-068		COMPONENT ASSY-NLG	Q	RF
-2T	162T1136-069		COMPONENT ASSY-NLG	R	RF
-2U	162T1136-070		COMPONENT ASSY-NLG	S	RF
-2V	162T1136-072		COMPONENT ASSY-NLG	T	RF

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-2W	162T1136-073		COMPONENT ASSY-NLG	U	RF
-2X	162T1136-074		COMPONENT ASSY-NLG	W	RF
-2Y	162T1136-075		COMPONENT ASSY-NLG	X	RF
-2Z	162T1136-080		COMPONENT ASSY-NLG	Z	RF
-3	162T1136-081		COMPONENT ASSY-NLG	AA	RF
5	MS24665-304		.PIN-COTTER		2
10	NAS6706D46		.BOLT		2
15	BACW10BP6ACU		.WASHER		2
20	BACW10BP6APU		.WASHER		3
25	MS14144L6		.NUT		2
30	162T1118-1		.PIN-UPR		1
35	162T1119-1		DELETED		
35A	162T1119-2		.PIN-LWR		1
40	MS24665-304		.PIN-COTTER	A,C,E,G,J,L,N,P,T-X,Z AB,AD,AJ,AL,AM,AQ,AR,AT	1
45	162T1120-1		.BOLT-APEX	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-50	BACW10BP10UP		DELETED		
50A	BACW10BN10UP		.WASHER	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	1
55	BMN4122AD3-10		.NUT- (V97928) (SPEC BACN10JC10) (OPT BMN4122A10 (V85495)) (OPT H10-10BAC (V15653)) (OPT RMLH9074-10 (V72962)) (OPT 48FT1018 (V56878))	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	1
60	162T1116-3		.LINK ASSY-TORSION	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-65	1728B		..FITTING-LUBE (V95879)	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	4
70	162T1125-2		..BUSHING	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	2
75	162T1126-1		..BUSHING	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	4
80	162T1116-2		..LINK	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-85	162T1116-4		.LINK ASSY-TORSION	B,D,F,H,K,M,X,Y,AG,AK AN,AP,AS	1
	-85A	162T1116-5		.LINK ASSY-TORSION	Q-S,W,X,AA	1
	90	1728B		..FITTING-LUBE (V95879)	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	2
	95	162T1125-2		..BUSHING	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	2
	100	BACN10JC5		DELETED		
R	100A	BACN10JC5CD		..NUT	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	2
	105	AN960C516		DELETED		
R	105A	NAS1149C0563R		..WASHER	B,D,F,H,K,M,Q-S,W-Y,AA,AG	2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-				AK,AN,AP,AS	
	110	162T1608-1		..HANDLE	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	2
	115	162T1615-1		..WASHER	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	2
	120	162T1607-1		..CAP ASSY	B,D,F,H,K,M,Q-S,W-Y,AA,AG AA,AN,AP,AS	2
	125	162T1210-59		DELETED		
R	125A	161T1210-59		...BUSHING	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
130	162T1607-2		...CAP	B,D,F,H,K,M,Q-S,W-Y,AA,AGAK,AN,AP,AS	1
135	162T1609-2		..WASHER	B,D,F,H,K,M,Q-S,W-Y,AA,AGAK,AN,AP,AS	2
140	162T1611-1		DELETED		
140A	162T1611-2		..PLATE-LOCK	B,D,F,H,K,M,Q-S,W-Y,AA,AGAK,AN,AP,AS	2
145	162T1610-1		..SPRING	B,D,F,H,K,M,Q-S,W-Y,AA,AGAK,AN,AP,AS	2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-150	162T1605-1		..PLUNGER (USED ON ITEM 85)	B,D,F,H,K,M,X,Y,AG,AK,AN,AP	2
-150A	162T1605-2		..PLUNGER (USED ON ITEM 85A)	Q-S,W,X,AA	2
155	162T1606-1		..SLEEVE	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	2
160	162T1116-2		..LINK	B,D,F,H,K,M,Q-S,W-Y,AA,AG AK,AN,AP,AS	1
165	162T1617-1		.LINK ASSY-TORSION	A,C,E,G,J,L,N,P,T-V,Z,AB AD,AJ,AL,AM,AQ,AR,AT	1
-165A	162T1617-3		.LINK ASSY-TORSION	B,D,F,J,K,M,W-Y,AA,AG,AK AN,AP,AS	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
170	1728B		..FITTING-LUBE (V95879)		2
175	1728B		..FITTING-LUBE (V95879)	A,C,E,G,J,L,N,Q-V,AB,ADAJ,AM,AQ,AR,AT	1
177	161T1210-60		..BUSHING		2
178	162T1123-2		..BUSHING		2
180	PLGA2185010		DELETED		
180A	BACP20AX15DA		..PLUG	B,D,F,H,K,M,W-Y,AA,AG,AKAN,AP,AS	1
185	PLGA2184010		DELETED		
185A	BACP20AX15DAP		..PIN	B,D,F,H,K,M,W-Y,AA,AG,AKAN,AP,AS	1
190	162T1617-2		..LINK		1
195	MS24665-304		.PIN-COTTER		2
200	NAS6606HD61		DELETED		
200A	NAS6606DH61		.BOLT		2
205	BACW10BP6ACU		.WASHER		2
210	BACW10BP6APU		.WASHER		2
215	MS14144L6		.NUT		2
220	162T1413-1		.CAP-STEERING PIN		4
225	162T1408-1		DELETED		
225A	162T1408-2		.PIN-STEERING COLLAR	A-Q,V,AK-AT	2
-225B	162T1408-3		.PIN-STEERING COLLAR	R-U,W-AB,AD,AG,AJ	2
230	NAS6605H2		.BOLT		4

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
235	MS35333-75		.WASHER		4
240	162T1412-3		.PLATE-SENSOR MTG	A,B, D-F, H-K, M-T, V-AB AD,AG ,AK-A M,A P-AS	1
-240A	162T1412-4		.PLATE-SENSOR MTG	C,G,L ,U,AJ ,AM,A T	1
242	162T1412-3		.PLATE-SENSOR MTG	A,B, D-F, H-K, M-P,T ,V-AB AD,AG ,AK-A M,A P-AS	1
-242A	162T1412-5		.PLATE-SENSOR MTG	C,G,L ,U,AJ ,AM,A T	1
245	162T1136-050		.STRUT ASSY-SHOCK (162T1136-051 T/W 2EA 162T1621-1 AND ATTACHING HARDWARE MAY REPLACE -050 OR -054 T/W 2EA 162T1602-1, 2EA 162T1603-1, 4EA NAS6705-7, 4EA BACW10BP5APU AND 4EA BACN10JC5, FOR CUST. NOT USING TPIS WITH CUST. APPROVAL. CUST. USING TPIS MUST USE 162T1136-051.) (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	A-C	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -245A	162T1136-051		.STRUT ASSY-SHOCK (162T1136-051 T/W 2EA 162T1621-1, 2EA 162T1622-1 AND ATTACHING HARDWARE MAY REPLACE -050 OR -054 T/W 2EA 162T1602-1, 2EA 162T1603-1, 4EA NAS6705-7, 4EA BACW10BP5APU AND 4EA BACN10JC5, FOR CUST. NOT USING TPIS WITH CUST. APPROVAL. CUST. USING TPIS MUST USE 162T1136-051.) (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	D	1
-245B	162T1136-053		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	H,N,V	1
-245C	162T1136-054		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	E-G	1
-245D	162T1136-055		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	J-L,AM	1
-245E	162T1136-056		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	M,P,Q,AP,AQ,AR,AT	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-245F	162T1136-057		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	Q,AS	1
-245G	162T1136-059		DELETED		
-245H	162T1136-060		DELETED		
-245J	162T1136-061		DELETED		
-245K	162T1136-063		DELETED		
-245L	162T1136-062		DELETED		
-245M	162T1136-064		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	Q-S,Y ,AB	1
-245N	162T1136-065		.STRUT ASSY-SHOCK (PRE SB 767-32-0131) (REWORKED BY SB 767-32-0073)	S,AD, AG,AJ	1
-245P	162T1136-066		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	AK,AL ,AN	1
-245Q	162T1136-058		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	Q-U,W ,X	1
-245R	162T1136-071		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	T,U,W ,X	1
-245S	162T1136-071		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	Q-S,Y ,AB,A D,AG, AJ	1
-245T	015T1448-3		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	A-C	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-245U	015T1448-4		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	D	1
-245V	015T1448-5		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	H,N,V	1
-245W	015T1448-6		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	E-G	1
-245X	015T1448-7		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	J-L	1
-245Y	015T1448-8		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	M,P,AP,AR	1
-245Z	015T1448-9		.STRUT ASSY-SHOCK (POST SB 767-32-0131) (REWORKED BY SB 767-32-0073)	AR-AT	1
-246	162T1136-079		.STRUT ASSY-SHOCK	Z,AA	1
250	NAS6704H7		..BOLT		1
255	BACW10BP4APU		..WASHER		1
260	162T1411-1		..PLATE-LOCK		1
265	162T1520-1		..PLATE-LOCK		1
270	162T1406-1		..NUT ASSY-STEERING		1
275	1728B		...FITTING-LUBE (V95879)		1
280	162T1406-2		...NUT		1
285	162T1402-1		..PLATE ASSY-LWR SPRT		1
290	1728B		...FITTING-LUBE (V95879)		2
295	162T1402-2		...PLATE		1
300	162T1404-5		..COLLAR ASSY-STEERING		1
305	1728B		...FITTING-LUBE (V95879)		10
310	162T1414-2		...BUSHING		2
315	162T1210-11		DELETED		
315A	161T1210-11		...BUSHING		4
320	162T1210-1		DELETED		
320A	161T1210-1		...BUSHING		2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	325	162T1210-16		DELETED		
	325A	161T1210-16		...BUSHING		4
	330	162T1407-1		...BUSHING		2
	335	162T1404-4		...COLLAR		1
	340	MS24665-374		..PIN-COTTER		3
	345	162T1409-1		..BOLT-SPRT TORQUE TUBE		3
	350	162T1409-3		..BOLT-SPRT TORQUE TUBE		1
	355	BACW10BP16APU		..WASHER		4
	360	H10-1612BAC		..NUT- (V15653) (SPEC BACN10JC16) (OPT BMN4122A16 (V85495)) (OPT RMLH9074-16 (V72962)) (OPT 48FT1612 (V56878)) (OPT BMN4122AD3-16 (V97928))		4
	365	162T1400-1		..TUBE ASSY-SPRT TORQUE		1
	370	1728B		...FITTING-LUBE (V95879)		2
	375	161T1210-17		...BUSHING		4
	380	162T1400-2		...TUBE- (OPT ITEMS 380A, 380B)		1
R	-380A	162T1400-3		...TUBE- (OPT ITEMS 380, 380B)		1
R	-380B	162T1400-4		...TUBE- (OPT ITEMS 380, 380A)		1
	385	MS24665-376		..PIN-COTTER		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
390	BACB30NL12DU68		..BOLT		2
395	BACW10BP12ACU		..WASHER		2
400	BACW10BP12APU		..WASHER		2
405	H10-12BAC		..NUT- (V15653) (SPEC BACN10JC12) (OPT RMLH9074-12 (V72962)) (OPT 48FT1216 (V56878)) (OPT BMN4122AD3-12 (V97928))		2
410	162T1101-1		..PIN-TRUNNION		2
415	MMS122		..TAG- (V39661)		1
420	MS28889-2		..VALVE		1
425	NAS6604H2		..BOLT		2
430	BACW10BP4APU		..WASHER		2
435	162T1516-2		..PLATE-LOCK		1
440	162T1509-1		..NUT-ORIFICE SPRT		1
445	162T1510-1		..WASHER-SPRT		1
450	7338MT2N		..RING-T-BACKUP (V5F573)		2
455	7338MTE987		..SEAL-T RING (V5F573)		1
460	AP1008-4		..CAP- (V01673) (SPEC BACC14AD4) (OPT US2103-4 (V50808))		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
465	2C9342		..VALVE-OIL CHARGE (V99240)		1
470	MS28778-5		..PACKING		1
475	44PB134-4441		..SEAL- (V00266) (SPEC BACS11AK1) (OPT 42-134-4201 (V00266))		2
480	BACS38E8-25		..STRAP		2
485	162T1137-1		..CYLINDER ASSY-OUTER		1
490	1646B		...FITTING-LUBE (V95879)		2
495	1728B		...FITTING-LUBE (V95879)		4
500	162T1210-1		DELETED		
500A	161T1210-1		...BUSHING		12
505	162T1210-2		DELETED		
505A	161T1210-2		...BUSHING		16
510	162T1210-3		DELETED		
510A	161T1210-3		...BUSHING		8
515	162T1210-4		DELETED		
515A	161T1210-4		...BUSHING		4
520	162T1121-1		...BUSHING		2
525	162T1122-1		...BUSHING		4
530	LHB12ENGC		...BEARING- (V73134) (SPEC BACB10FH12GC) (OPT AG12V31C (V15860)) (OPT AG12V31C (V15860)) (OPT ASBFH12VC (VS0352)) (OPT BWG12A110C (V16746)) (OPT HU12-204VC (V02758)) (OPT KWB12-61 (V97613)) (OPT WC12G3C (V56644))		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
535	162T1137-2		...CYLINDER		1
540	AN6230-30		..SEAL-		1
			(OPT ITEM 540A)		
-540A	MS28775-252		..PACKING-		1
			(OPT ITEM 540)		
545	162T1504-4		..BEARING ASSY		1
550	162T1504-5		...BEARING HALF		1
555	162T1504-6		...BEARING HALF		1
560	162T1508-2		..VALVE-RECOIL		1
565	162T1506-2		..CAM-UPR CENTERING		1
570	162T1519-1		..CIRCLIP		1
575	162T1517-1		..DOWEL-ORF SPRT		2
580	162T1102-1		..SPACER-AXLE		2
585	162T1138-1		..CYLINDER ASSY-INNER	A-C,	1
			(162T1138-3 T/W 2EA	E-G,	
			162T1621-1, 2EA	J-L,A	
			162T1622-1, 4EA	K-AN	
			NAS6704-11, 8EA		
			AN960JD416 OR		
			NAS1149D0463J, AND 4EA		
			MS21042L4 ARE I/W		
			162T1138-1 T/W 2 EA		
			162T1602-1, 2EA		
			162T1603-1, 4EA		
			NAS6705-7, 8EA		
			BACW10BP5APU AND 4EA		
			BACN10JC5 FOR CUSTOMERS		
			NOT USING TIRE PRESSURE		
			INDICATOR SYSTEM (TPIS)		
			WITH CUSTOMER APPROVAL)		
			(USED ON ITEMS 245, 245C		
			245D, 245J, 245N, 245W		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
585A	162T1138-3		..CYLINDER ASSY-INNER (162T1138-3 T/W 2EA 162T1621-1, 2EA 162T1622-1, 4EA NAS6704-11, 8EA AN960JD416 OR NAS1149D0463J, AND 4EA MS21042L4 ARE I/W 162T1138-1 T/W 2 EA 162T1602-1, 2EA 162T1603-1, 4EA NAS6705-7, 8EA BACW10BP5APU AND 4EA BACN10JC5 FOR CUSTOMERS NOT USING TIRE PRESSURE INDICATOR SYSTEM (TPIS) WITH CUSTOMER APPROVAL) (USED ON ITEMS 245A, 245B, 245E, 245F, 245M, 245N, 245R, 245S, 245U, 245Y, 245Z)	D,H,M,N,P-AB,AD AG,AJ,AP-AT	1
585B	162T1138-5		..CYLINDER ASSY-INNER (USED ON ITEM 246)		1
590	1728B		...FITTING-LUBE (V95879)		1
595	161T1210-1		...BUSHING		6
600	161T1210-9		...BUSHING		16
605	162T1124-2		...BUSHING		2
607	162T1139-1		...BUSHING-(AXLE PENETRATION FOR TPIS) (USED ON ITEM 585A)	D,H,M,N,P-AB,AD,AG AJ,AG P-AT	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
610	162T1138-2		...CYLINDER- (USED ON ITEM 585)	A-C, E-G, J-L,A K-AN	1
-610A	162T1138-4		...CYLINDER- (USED ON ITEM 585A)	D,H,M ,N, P-AB, AD,AG AJ,AG P-AT	1
610B	162T1138-6		...CYLINDER- (USED ON ITEM 585B)		1
615	162T1512-3		..NUT ASSY-GLAND		1
620	1992B		...FITTING-LUBE (V95879)		1
625	162T1512-4		...NUT		1
630	S32925-55G5		..EXCLUDER- (V97820)		1
635	7441MT2N		..RING-BACKUP (V5F573)		2
640	7441MT987		..SEAL-T RING (V5F573)		1
642	162T1136-015		..BEARING ASSY-LWR (OPT ITEM 642A) (USED ON ITEMS 245, 245T)	A-C	1
-642A	162T1136-016		..BEARING ASSY-LWR (OPT ITEM 642) (USED ON ITEMS 245 245T)	A-C	1
-642B	162T1136-015		..BEARING ASSY-LWR (USED ON ITEMS 245A, 245U)	D	1
-642C	162T1136-016		..BEARING ASSY-LWR (USED ON ITEMS 245B 245C, 245D, 245E, 245F 245S, 245V, 245W, 245X 245Y, 245Z)	E-AB, AD,AG ,AJ-A T	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
645	MS20392-1C7		...PIN- (USED ON ITEM 642)	A-D	3
-645A	161U0002-2		...PIN-STRAIGHT HEADED (USED ON ITEM 642A)	A-C, E-P,V ,Y,AB ,AD,A G AJ-AT	3
647	161U0002-2		...PIN-STRAIGHT HEADED (USED ON ITEM 642A)	A-C, E-P,V ,Y,AB ,AD,A G AJ-AT	3
650	162T1511-1		...ADAPTER-SEAL (USED ON ITEM 642)	A-D	1
-650A	162T1511-2		...ADAPTER-SEAL (USED ON ITEM 642A)	A-C, E-P,V ,Y,AB ,AD,A G AJ-AT	1
655	7439FT4780		DELETED		
660	7439FT972		DELETED		
665	162T1505-1		...BEARING-LWR (162T1505-1 T/W 1EA 162T1511-1 AND 3EA MS20392-1C7 I/W 162T1505-2 T/W 1EA 162T1511-2 AND 6EA 161U0002-2) (USED ON ITEM 642)	A-D	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-665A	162T1505-2		...BEARING-LWR (162T1505-1 T/W 1EA 162T1511-1 AND 3EA MS20392-1C7 I/W 162T1505-2 T/W 1EA 162T1511-2 AND 6EA 161U0002-2) (USED ON ITEM 642A)	A-C, E-P,V ,Y,AB ,AD,A G AJ-AT	1
667	7439FT4780		..RING-BACKUP (V5F573)		2
668	7439FT972		..SEAL-T RING (V5F573)		3
670	7441MT987		..SEAL-T RING (V5F573)		2
680	162T1507-1		..CAM ASSY-LWR CENTERING (USED ON ITEMS 245, 245A, 245B, 245C, 245T 245U, 245V, 245W) (PRE SB 767-32-0073)	A-H,N ,V	1
-680A	162T1507-3		..CAM ASSY-LWR CENTERING (USED ON ITEMS 245D, 245E, 245F, 245M, 245R, 245S, 245V, 245W, 245X, 245Y, 245Z) (PRE SB 767-32-0073)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	1
-680B	162T1507-5		..CAM ASSY-LWR CENTERING (OPT ITEM 680C) (USED ON ITEMS 245D, 245E, 245F, 245M, 245R 245S, 245V, 245W, 245X 245Y, 245Z)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	1
-680C	015T0525-5		..CAM ASSY-LWR CENTERING (POST SB 767-32-0073)	J-Y,A B,AD, AG,A J-AT	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-685	MS20615-3M6		...RIVET (USED ON ITEMS 680A, 680C)		2
-685A	MS20615-3M7		...RIVET- (USED ON ITEM 680B)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	2
687	162T1140-1		...PIN- (USED ON ITEM 680A) (PRE SB 767-32-0073)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	2
-687A	162T1140-2		...PIN- (USED ON ITEM 680C) (POST SB 767-32-0073)	J-M, P-U, W-Y,AB,AD, AG,AJ AK-AT	2
690	162T1517-2		...DOWEL- (USED ON ITEM 680) (PRE SB 767-32-0073)	A-H,N ,V	2
692	162T1517-3		...DOWEL- (USED ON ITEMS 680A, 680B,680C) (POST SB 767-32-0073)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	2
695	162T1507-2		...CAM- (USED ON ITEM 680) (PRE SB 767-32-0073)	A-H,N ,V	1
-695A	162T1507-4		...CAM- (USED ON ITEM 680A, 680C) (POST SB 767-32-0073)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	1
-695B	162T1507-6		...CAM- (USED ON ITEM 680B)	J-M, P-U, W-AB, AD,AG ,AJ AK-AT	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
700	162T1526-1		..RING-PISTON		1
705	MS24665-153		..PIN-COTTER		1
710	NAS6704D8		..BOLT		1
715	BACW10BP4APU		..WASHER		1
720	MS14145L4		..NUT		1
725	162T1523-1		..PLATE-ORF (USED ON ITEMS 245, 245A, 245B, 245C, 245D 245E, 245F, 245T, 245U 245V, 245W, 245X, 245Y 245Z)	A-Q,AK-AT	1
-725A	162T1523-2		..PLATE-ORF (USED ON ITEMS 245M, 245N, 245R, 245S)	R-U, W-AB, AD,AG ,AJ	1
730	162T1522-1		..TUBE-ORF SPRT (USED ON ITEMS 245 245A, 245B, 245C, 245D 245E, 245F, 245T, 245U 245V, 245W, 245X, 245Y 245Z)	A-S,AK-AT	1
-730A	162T1522-2		..TUBE-ORF SPRT (USED ON ITEM 245M, 245N, 245R, 245S)	Y,AB, AD,AG ,AJ	1
735	162T1524-1		..RING-RTNR		1
740	162T1525-1		..NUT ASSY-METERING PIN		1
745	162T1518-1		...PLUG-LOCK (MFD FROM NYLON ROD 6/6 L-P-410 STOCK 0.38 DIA 0.32 IN.)		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	750	162T1525-2		...NUT		1
	755	7425MT2N		DELETED		
	755A	7349MT2N		..RING-BACKUP (V5F573)		2
	760	7425MT987		DELETED		
	760A	7349MT987		..SEAL-T RING (V5F573)		1
	765	162T1521-1		..PIN-METERING (USED ON ITEMS 245 245A, 245B, 245C, 245D 245E, 245F)	A-P,V ,AK-A T	1
	-765A	162T1521-1		DELETED		
	-765B	162T1521-2		..PIN-METERING (USED ON ITEMS 245M, 245N)	Q,R,S ,Y,AB ,AD,A G,AJ	1
	-765C	162T1521-3		..PIN-METERING (USED ON ITEMS 245R, 245S, 245T, 245U, 245V 245W, 245X, 245Y, 245Z)	T,U,W ,X	1
R	-765D	162T0002-1		..PIN-METERING	Z,AA	1
	770	162T1103-1		..NAMEPLATE (USED ON ITEMS 245-245Q, 245T-245Z)		1
	-770A	162T1103-2		..NAMEPLATE (OPT) (USED ON ITEMS 245R, 245S)		1
	-770B	162T1103-2		..NAMEPLATE (USED ON ITEM 246)		1
	775	162T5051-1		..PLATE	Q-S,Y ,AB,A D,AG, AJ,A P-AT	1
	780	BACN10WW10C		..NUT	Q-AB, AD,AE ,AG-A J	1

- Item Not Illustrated