TO: ALL HOLDERS OF NOSE LANDING GEAR COMPONENT ASSEMBLY COMPONENT MAINTENANCE MANUAL 32-21-43

REVISION NO. 48 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
701,708	Added clarifications and updated callouts.
709-711	Added more stencil data.

BOEING

COMPONENT
MAINTENANCE MANUAL

NOSE LANDING GEAR COMPONENT ASSEMBLY

PART NUMBERS 162T1100-6 THRU -10,-12, -13,-17,-19,-20, -21,-23,-29,-30, -32 THRU -38

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

100278

BOEING
COMPONENT
MAINTENANCE MANUAL

REVISION RECORD

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

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

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR B10353	OCT 10/83
		PRR B10354	OCT 10/83
		PRR B10398	OCT 10/83
		PRR B10402	OCT 10/83
		PRR B10502	OCT 10/83
		PRR B10851	OCT 10/83
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32-0037		MC B1322-001K	JAN 10/86
		PRR B11410	JAN 10/86
32-0073		PRR B11850	APR 01/90
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		PRR B11970	JAN 01/90
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INTRODUCTION

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

This manual is divided into separate sections:

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

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

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

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

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

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

Verification:

Disassembly -- OCT 14/91
Assembly -- OCT 14/91

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.

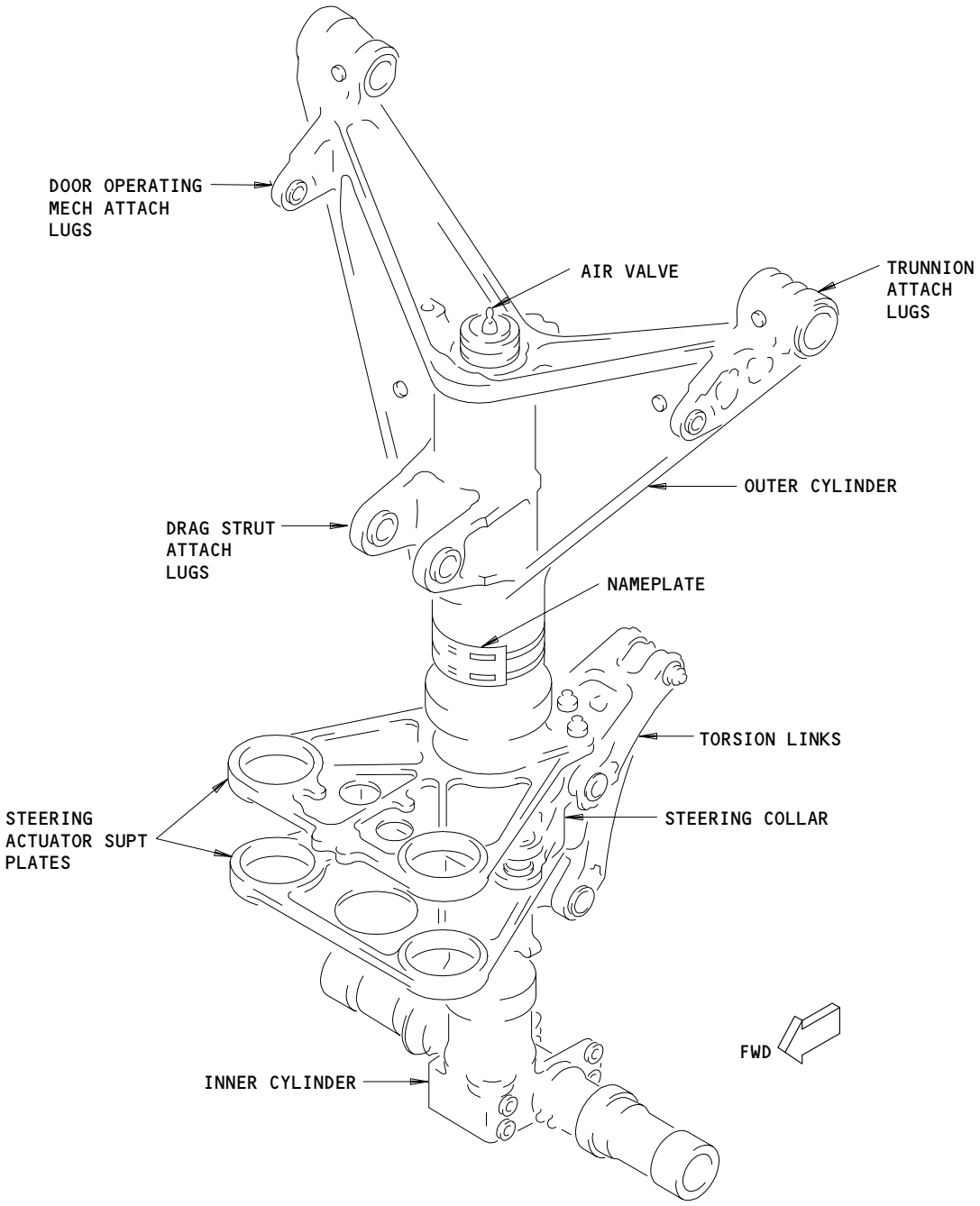
   C. The trunnion mounting components allow the shock strut to be attached to airplane through the trunnions.

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) -- 875 lbs
   Weight (dry) -- 858 lbs
   Operating Medium -- Hydraulic fluid MIL-H-6083 and/or MIL-H-5606 (fluid color red), and pressurized dry air or nitrogen
   Fluid Capacity -- 560 cubic inches (9.7 quarts/9.2 liters)



Nose Landing Gear Component Assembly
Figure 1

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)

2. Prepare for Test

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

B. Remove air valve (510) 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 (550) and fill to overflowing with 525 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 (555). Fully extend inner cylinder and replace valve cap (550).

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 lb-ft.

TROUBLE	PROBABLE CAUSE	CORRECTION
Leakage at air valve (510)	Defective air valve	Disassemble and replace air valve (par. 4.A., 4.B.)
	Defective seal surface on support tube (820)	Disassemble and replace support tube (par. 4.B.)
Leakage at support washer (535)	Defective T-ring (545)	Disassemble and replace T-ring (par. 4.B.)
	Defective seal surface on support tube (820)	Disassemble and replace or repair part (par. 4.B.)
	Defective seal surface on outer cylinder (625)	Disassemble and replace or repair part (par. 4.C.)
Leakage at oil charging valve (555)	Defective O-ring (560)	Disassemble and replace O-ring (par. 4.D.)
	Defective seal surface on outer cylinder (625)	Disassemble and replace or repair part (par. 4.C.)
Leakage at gland nut (715)	Defective T-rings (730,750)	Disassemble and replace T-rings (par. 4.E.)
	Defective seal surface on inner cyl (700)	Disassemble and replace or repair part (par. 4.F.)
	Defective seal surface on outer cyl (625)	Disassemble and replace or repair part (par. 4.C.)
Leakage at drain hole (bottom of inner cylinder (700), forward of axle)	Defective T-ring (850)	Disassemble and replace T-ring (par. 4.G.)
	Defective seal surface on inner cylinder (700)	Disassemble and replace or repair part (par. 4.F.)

Trouble Shooting Chart
Figure 101

4. Corrective Procedures

A. Air valve (510) replacement.

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

B. T-ring (545) or support tube (820) 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 (625) 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 (560) 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 (730, 750) 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 (700) 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 (850) 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 -- A32029-50

   D. Steering Nut Wrench Adapter -- A32034-1

   E. Retainer Ring Adapter -- A32047-7

   F. Orifice Plate Wrench Assembly -- A32047-2

   G. Retainer Nut Wrench Assembly -- A32047-4

   H. Orifice Nut Wrench Adapter -- A32047-3

   I. Retainer Ring Adapter Assembly -- A32047-6

   J. Orifice Tube Adapter Assembly -- A32047-5

   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 (40, 305, 426, 475, 795)

   B. Nuts (55, 100, 429N, 495)

C. Backup rings (540, 725, 745)

D. Packings (545, 560, 635, 730, 750, 760, 765)

3. Disassembly

WARNING: DO NOT START DISASSEMBLY UNTIL ALL AIR IS REMOVED FROM THE SHOCK STRUT TO PREVENT INJURY TO PERSONNEL OR DAMAGE TO PARTS.

A. Release air pressure from shock strut by turning swivel nut on air valve (510) 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 (510) and tag (505).

D. Drain hydraulic oil and remove oil charging valve cap (550), valve (555) and packing (560).

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. USE CARE WHEN REMOVING OR INJURY TO PERSONNEL AND DAMAGE TO PARTS MAY RESULT.

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

H. Remove rivets (210, 215, 240, 245) and bracket assemblies (205, 235).

I. Remove bolt (340), washer (345) and lockplates (350, 355).

J. Unscrew gland nut assembly (705) using wrench adapter A32021-1 and remove excluder (720). Extend inner cylinder to provide clearance for lower bearing seal retainer puller A32029-50 and remove lower bearing (755), seal adapter (740) and lower cam (770, 786).

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

L. Remove packing (635), upper bearing halves (645, 650), recoil valve (655), upper cam (660), dowels (855) and circlip (665).

M. Remove lower cam (770, 786), lower bearing (755) and seal adapter (740), excluder (720) and gland nut (705) from inner cylinder.

N. Remove headed pins (735), seals (730, 750, 760, 765), backup rings (725, 745), rivets (775, 787), dowel retaining pin (783) and dowels (780, 788).

O. Remove metering pin (860)

(1) Slide retainer ring adapter A32047-6 into inner cylinder assembly (675) and remove metering pin nut (830) with retainer nut wrench A32047-4.

(2) With retainer ring adapter inside inner cylinder (675), remove retainer ring (825) by pulling metering pin (860). Slide retainer ring adapter and metering pin from inner cylinder.

(3) Remove seal (850) and backup rings (845). Remove plug (835) only if repair or replacement is necessary.

P. Remove axle spacers (670), which are a shrink fit on the axle.

Q. Remove steering nut (360), lower plate (375) and steering collar (390).

R. Remove bolts (265), washers (270), plates (275, 277), cotter pins (426), nuts (429N), washers (429) and bolts (427, 428). Remove support torque tube (430).

S. Remove cotter pins (305), nuts (325), washers (315, 320), bolt (310), caps (330) and steering collar pins (335A).

CAUTION: USE EXTREME CARE WHEN REMOVING ORIFICE SUPPORT NUT (530) AND ORIFICE SUPPORT TUBE (820) OR DAMAGE TO INNER WALL OF OUTER CYLINDER MAY RESULT.

T. Remove orifice support tube (820).

(1) Install orifice tube adapter A32047-5 in outer cylinder (575) and remove bolts (515), washers (520) and lockplate (525).

(2) Remove orifice support nut (530) using orifice nut wrench A32047-3. Remove support washer (535) and install guide bushing A32047-16 and guide shaft A32047-15.

(3) Carefully slide orifice support tube (820) from outer cylinder (575) and remove packing (545) and backup rings (540).

U. Remove cotter pin (795), nut (810), washer (805) and bolt (800). Remove orifice plate (815) using wrench adapter A32047-2 . Remove piston ring (790).

V. Remove cotter pins (475), nuts (495), washers (485, 490), bolts (480) and trunnion pins (500).

W. Remove seals (565), straps (570) and nameplate (865).

X. If applicable, remove nut (672) and plate (673) from inner cylinder bushing (682).

CLEANING

1. Clean all parts but charging valve (555) by standard industry practices and the instructions in SOPM 20-30-03.

2. Clean charging valve (555) 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, 45, 290, 335A, 427, 428, 500)

   B. Axle spacer (670)

   C. Cylinders (625, 700)

   D. Torsion links (80, 200)

   E. Lower plate (385)

   F. Steering collar (425)

   G. Nuts (370, 530, 715, 840)

   H. Lockplate (350, 355, 525)

   I. Orifice plate (815)

   J. Centering cam (660)

   K. Retainer ring (825)

   L. Dowel (780, 788, 855)

   M. Circlip (665)

   N. Plunger (150)

   O. Cap (130)

   P. Washers (115, 135)

Q. Spring (145)

R. Lockplate (140)

S. Support tube (445)

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

A. Brackets (230, 260)

B. Plate (275)

C. Cap (330)

D. Support tube (820)

E. Metering pin (860)

F. Bearings (640, 755)

G. Centering cam (785, 789)

H. Recoil valve (655)

I. Washer (535)

J. Seal adapter (740)

K. Piston ring (790)

L. Sleeve (155)

4. Spring (145)

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

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

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

D. Approximate spring free length is 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
162T1111	CYLINDER, OUTER	1-1, 1-2, 1-3
162T1113	CYLINDER, INNER	2-1, 2-2, 2-3, 2-4
162T1404	COLLAR, STEERING	3-1, 3-2
162T1114	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	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 ASSY	20-1
162T1501	PIN, METERING	21-1

2. Standard Practices

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

20-10-00 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
20-42-02 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 Steel Landing Gear Parts

3. Materials

NOTE: Equivalent substitutes can be used.

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

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

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

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

E. Grease -- BMS 3-33 or MIL-G-23827 (Ref SOPM 20-60-03)

F. Mylar Tape -- Scotch 5421, Y8412 or 8412 (replaces Mystik 7355) (Ref SOPM 20-60-04)

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

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

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

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

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

L. Adhesive -- Type 93 (Ref 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

162T1111-1

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

1. Bushing and Bearing Replacement (Fig. 601)

   A. Remove the old bushings and bearings.

   B. If you find defects on lug faces or hole surfaces, refer to REPAIR 1-2 for repair instructions.

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

   D. Install replacement bearings and roller swage them (SOPM 20-50-03).

   E. Bearing check:

      (1) Apply axial load of 2370 pounds. 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.

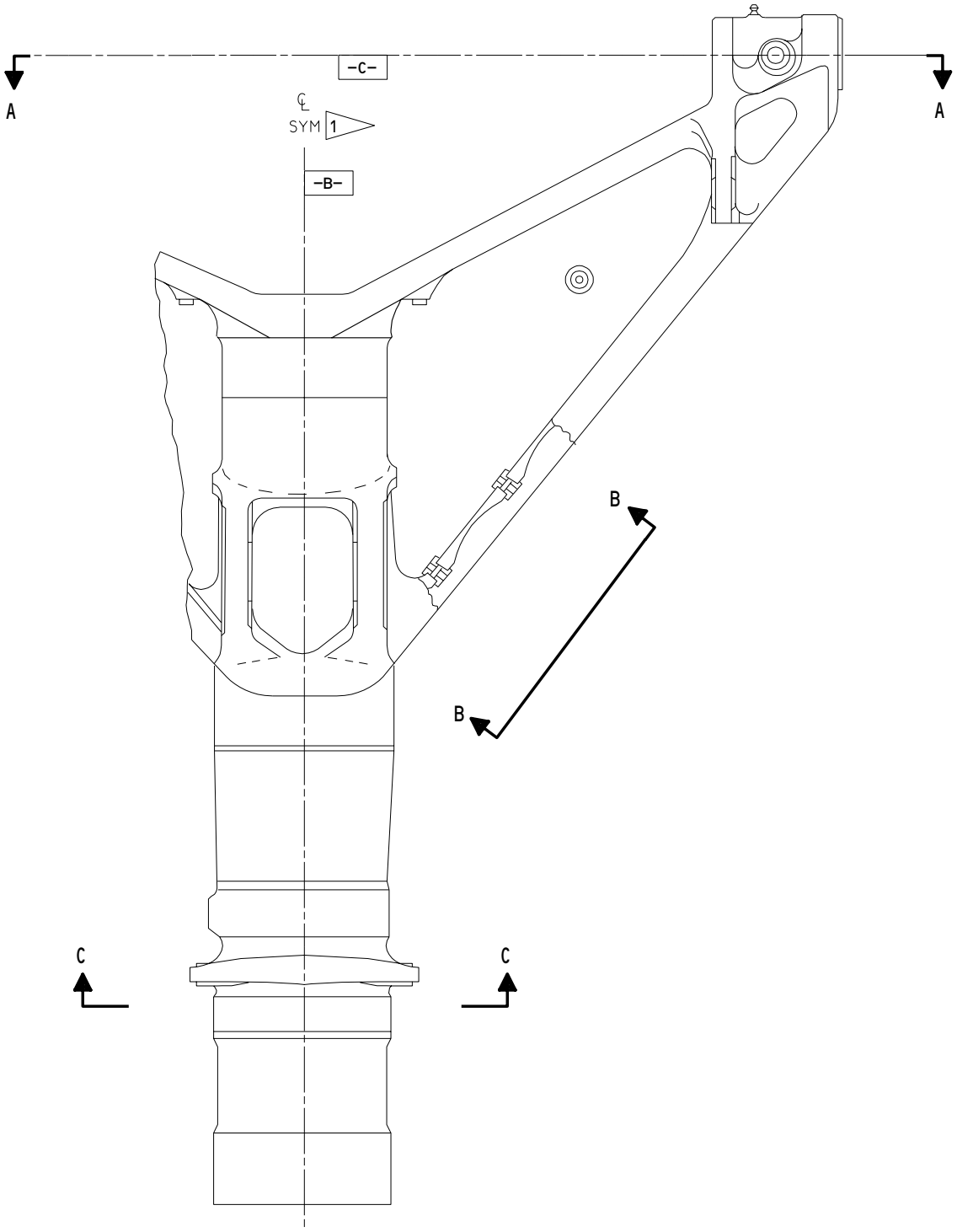
      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

   G. Seal bushings and bearings as noted.

   H. Apply grease at the lube fittings until you see the grease on the ball of the bearing.

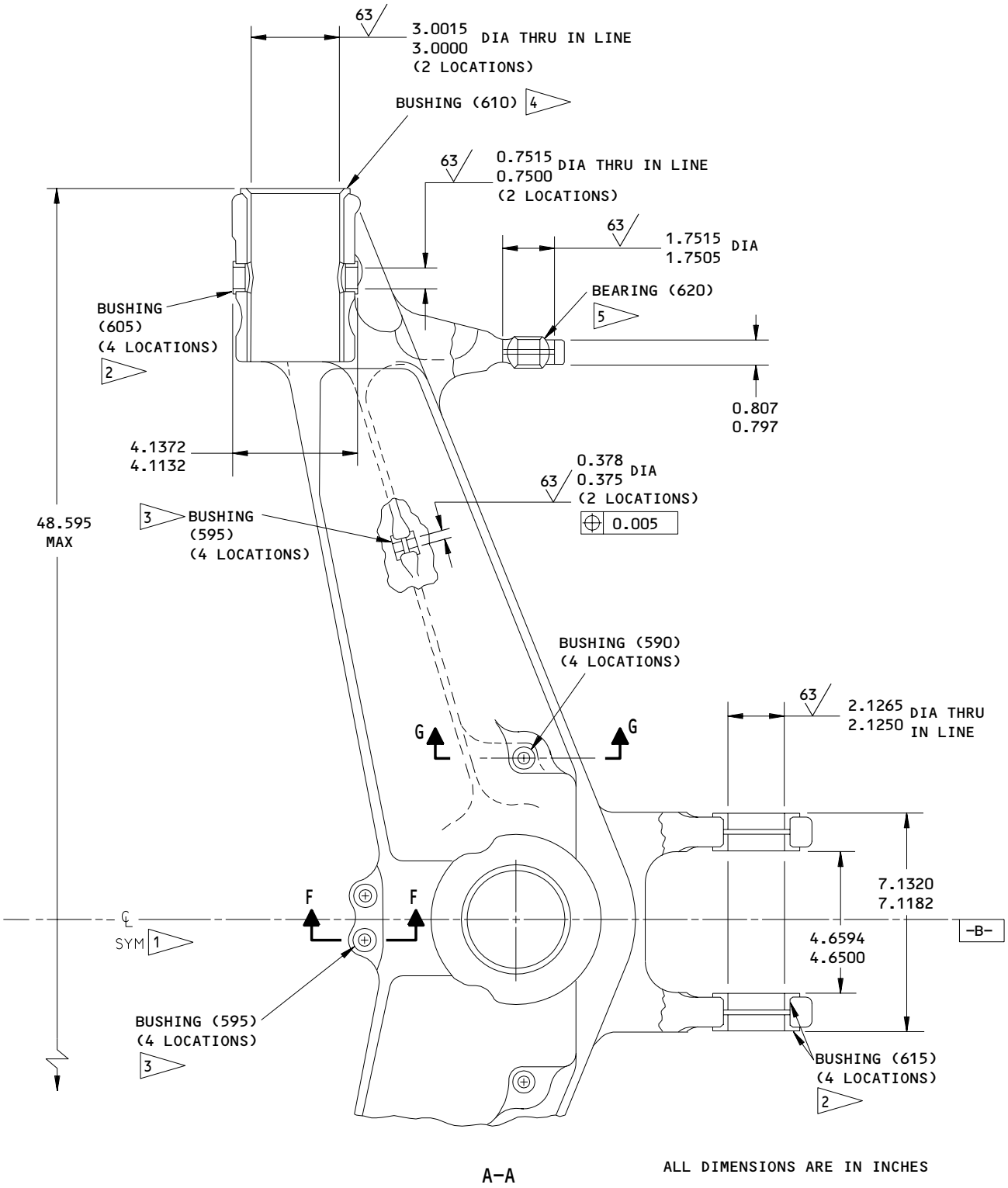
2. Lube Fitting Replacement

   A. Replace lube fittings (580, 585) per CMM 32-00-03.



162T1111-1
Bushing and Bearing Replacement
Figure 601 (Sheet 1)

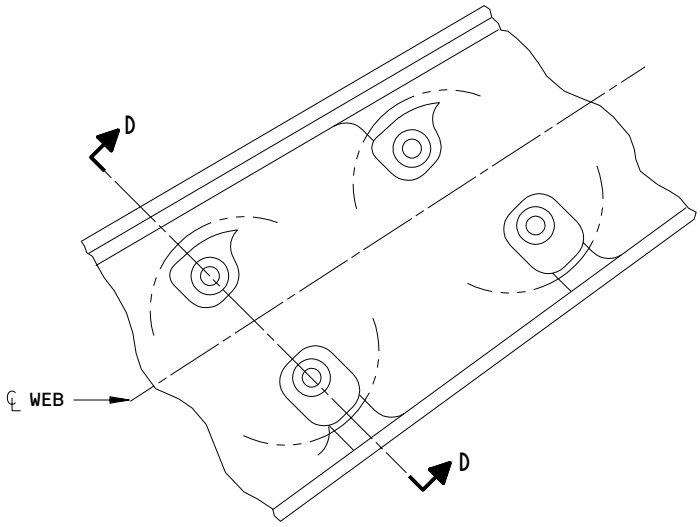
4273



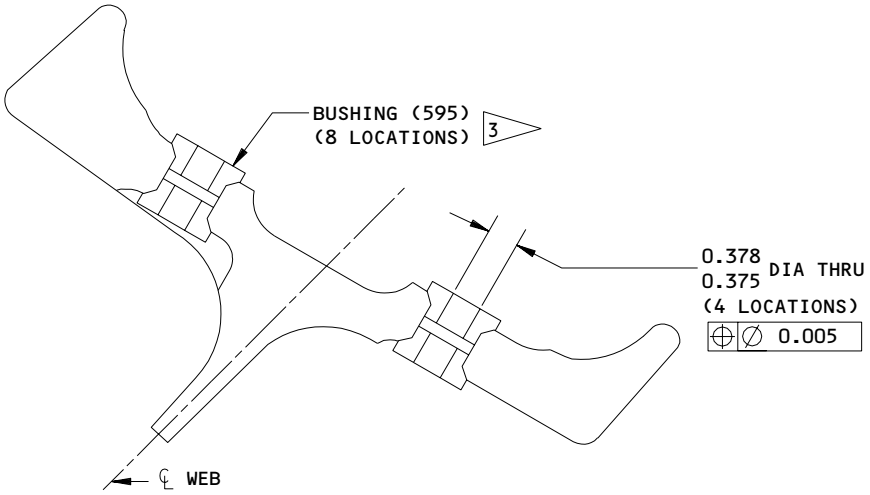
A-A

ALL DIMENSIONS ARE IN INCHES

162T1111-1
Bushing and Bearing Replacement
Figure 601 (Sheet 2)



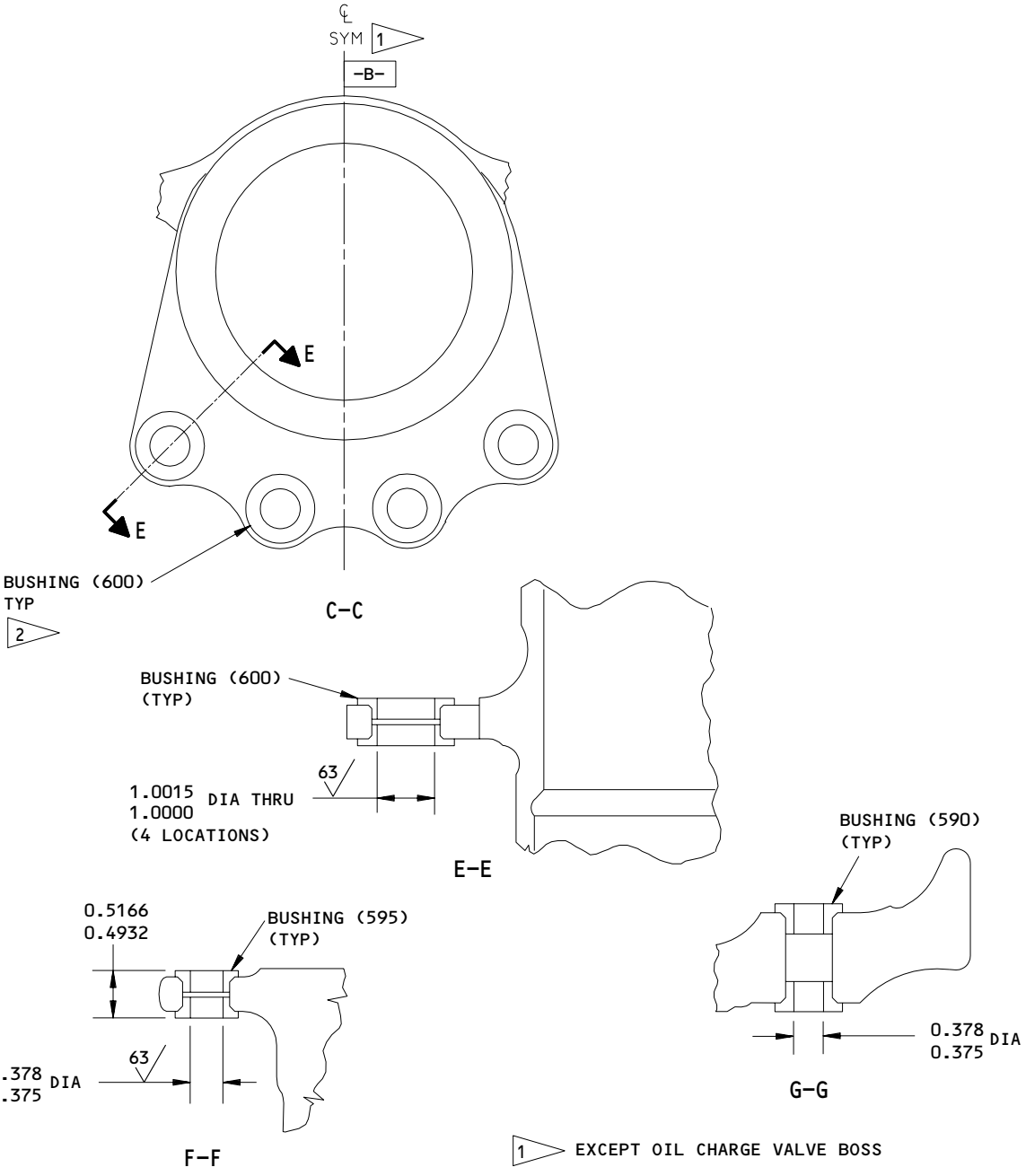
B–B



D–D

ALL DIMENSIONS ARE IN INCHES

162T1111-1
Bushing and Bearing Replacement
Figure 601 (Sheet 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

ALL DIMENSIONS ARE IN INCHES

REFINISH

FOR REFINISH INSTRUCTIONS
REF REPAIR 1-3

162T1111-1
Bushing and Bearing Replacement
Figure 601 (Sheet 4)

CYLINDER, OUTER - REPAIR 1-2

162T1111-2

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may require only 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, to remove defects.

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

(3) Make bushings (Fig. 603), as required, to make allowance for amount of material removed in step (1).

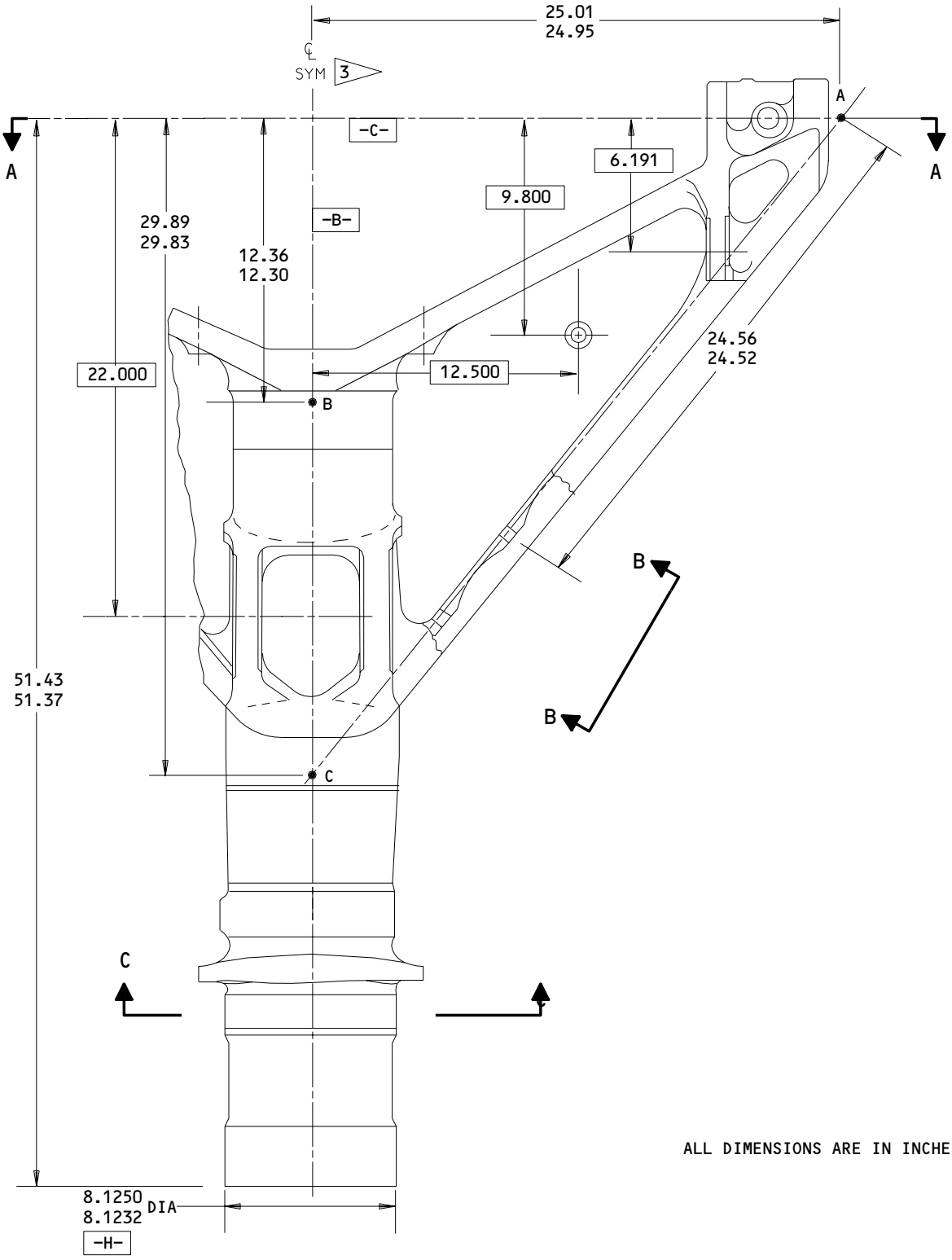
(4) Install bushings per REPAIR 1-1.

C. Method 3 -- Door Attach Lug Holes

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

(2) Shot peen as indicated.

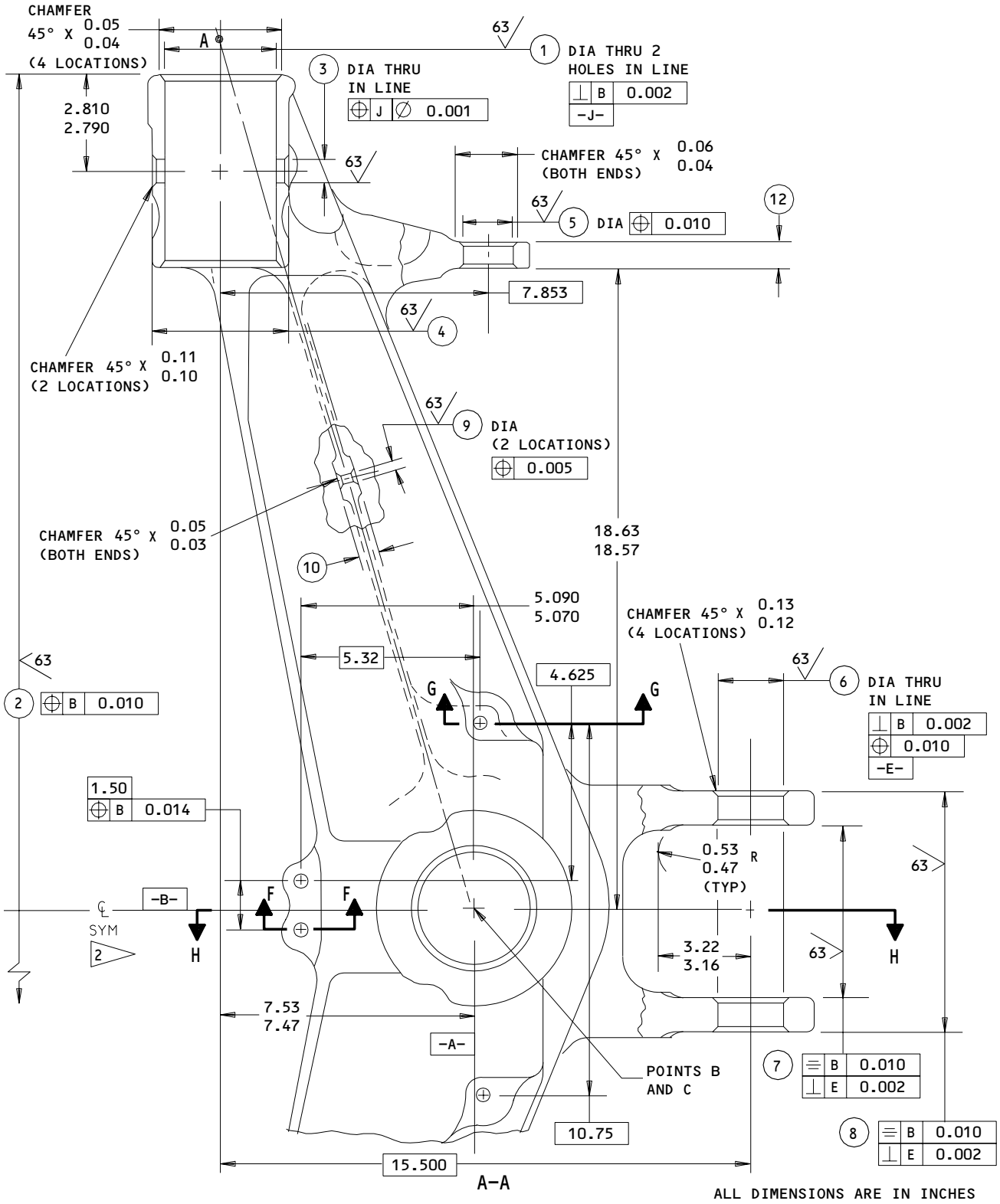
(3) Build up the hole with nickel plate and machine to design dimensions and finish.



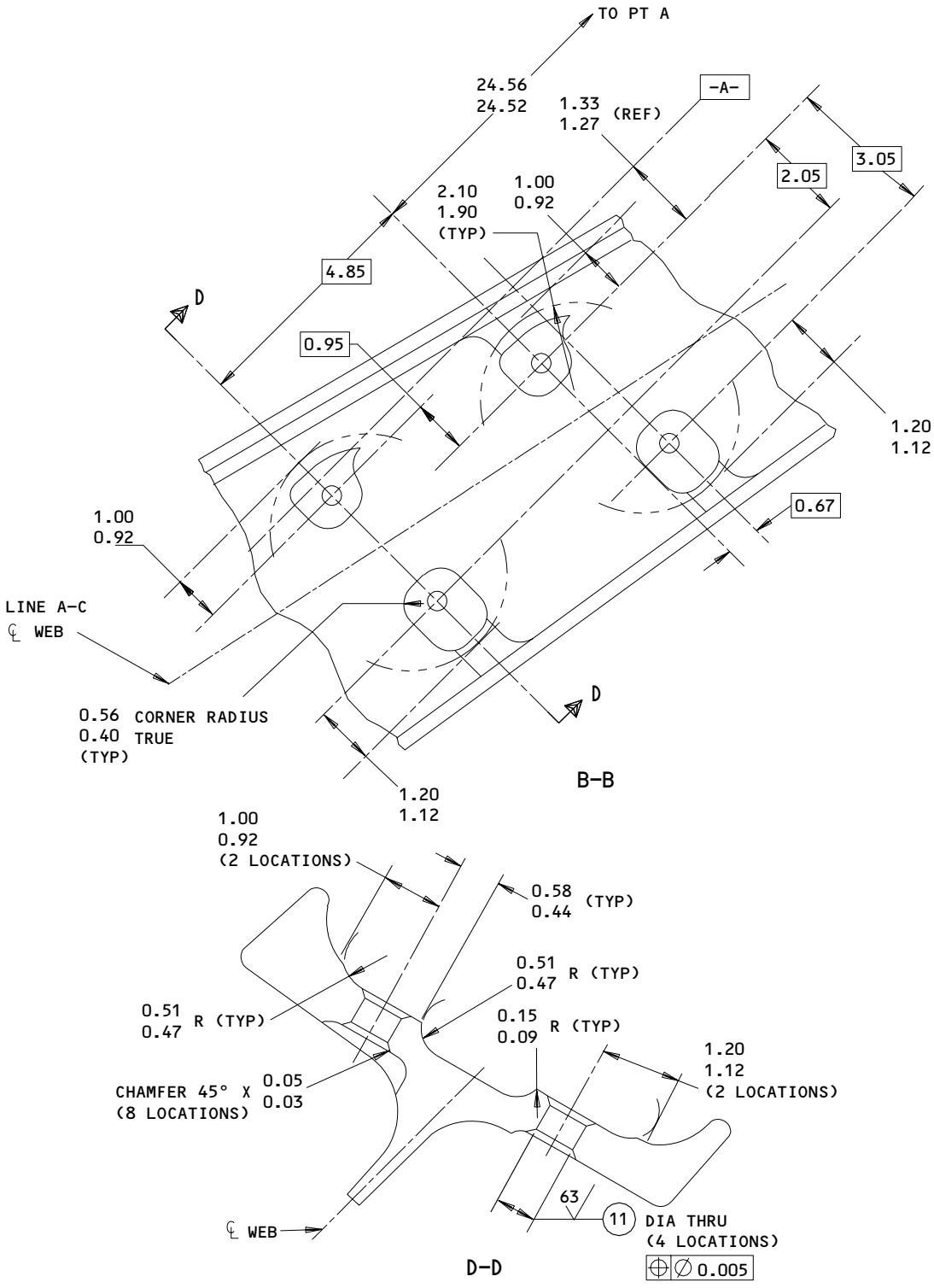
ALL DIMENSIONS ARE IN INCHES

162T1111-2
Lug Face and Hole Repair
Figure 601 (Sheet 1)

4274

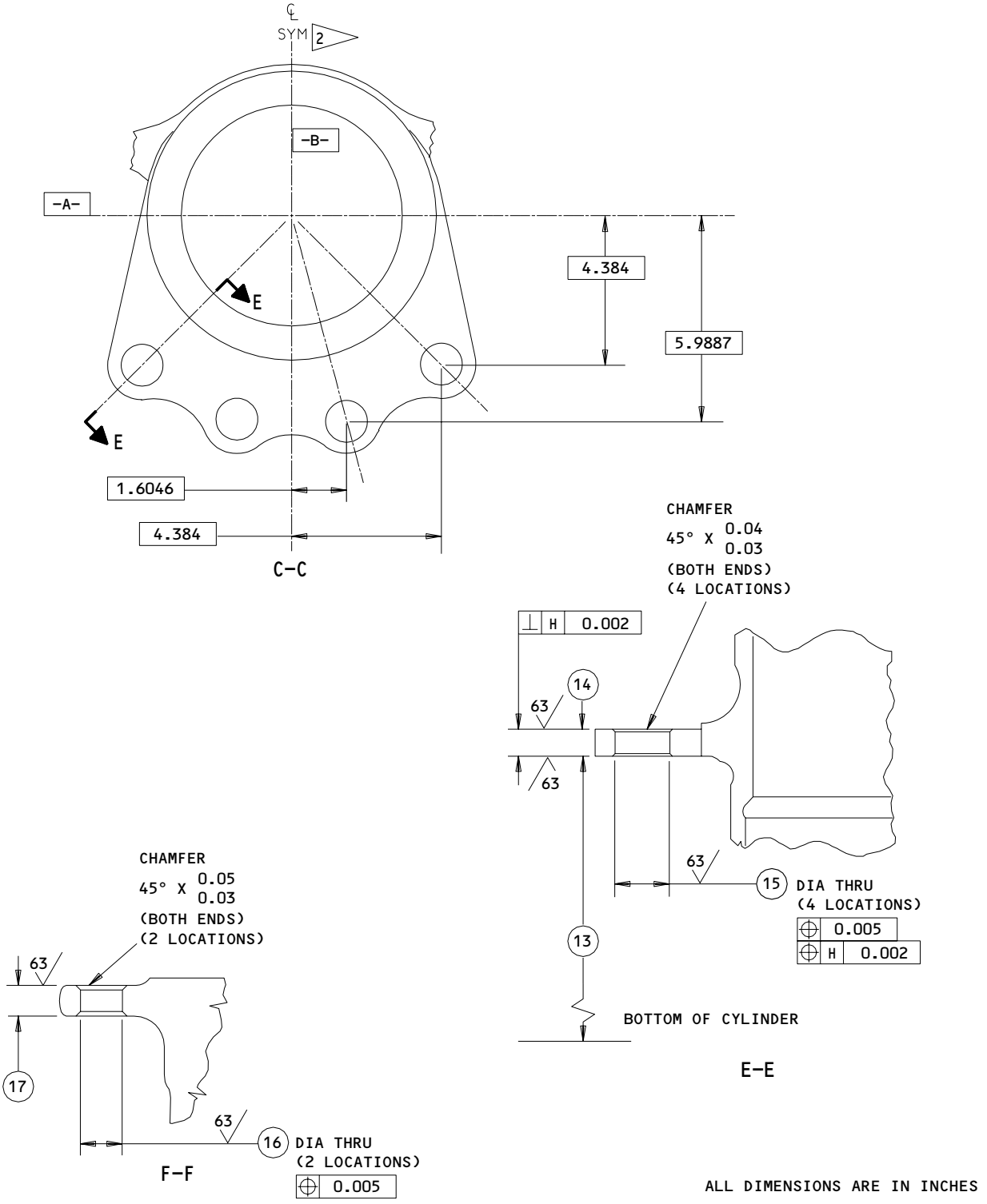


162T1111-2
Lug Face and Hole Repair
Figure 601 (Sheet 2)



ALL DIMENSIONS ARE IN INCHES

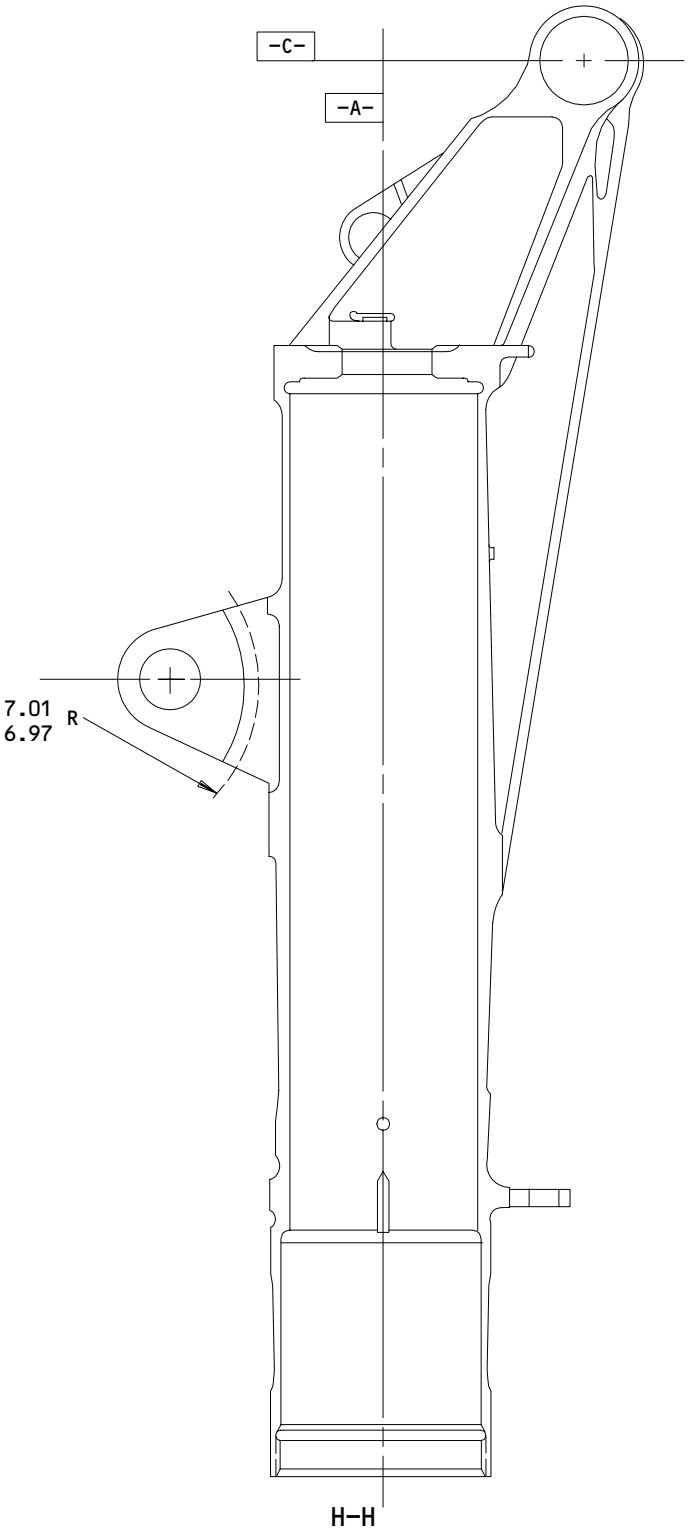
162T1111-2
Lug Face and Hole Repair
Figure 601 (Sheet 3)



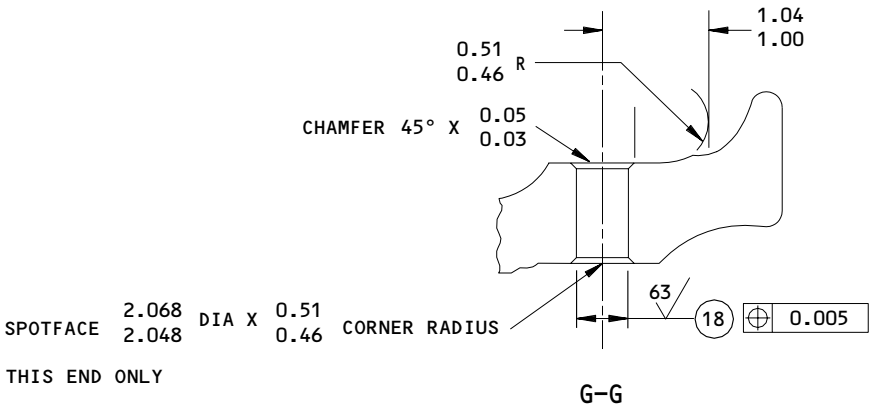
ALL DIMENSIONS ARE IN INCHES

162T1111-2
Lug Face and Hole Repair
Figure 601 (Sheet 4)

4256



162T1111-2
Lug Face and Hole Repair
Figure 601 (Sheet 5)



G-G

	(1)	(2) ▷2	(3)	(4) ▷2	(5)	(6)	(7) ▷2	(8) ▷2	(9)	(10) ▷2
DESIGN DIM	3.2415 3.2400	48.3890 48.3840	0.8765 0.8750	4.010 3.990	1.7515 1.7505	2.2865 2.2850	4.7816 4.7766	7.005 6.995	0.5015 0.5000	0.510 0.490
REPAIR LIMIT	3.3015 ▷1	48.3540 ▷1	0.9365 ▷1	3.950 ▷1	1.810 ▷5	2.3465 ▷1	4.8116 ▷1	6.965 ▷1	0.5615 ▷1	0.460 ▷1

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
DESIGN DIM	0.5015 0.5000	0.807 0.797	10.070 10.050	0.635 0.615	1.1265 1.1250	0.5015 0.5000	0.390 0.370	0.5015 0.5000
REPAIR LIMIT ▷1	0.5615	---	10.085	0.585	1.1865	0.5615	0.340	0.5615

162T1111-2
Lug Face and Hole Repair
Figure 601 (Sheet 6)

4259

REFINISH

FOR REFINISH INSTRUCTIONS, REFER TO REPAIR 1-3.

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 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 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 MACHINING TO DESIGN DIMENSIONS AND FINISH

REPAIR

REF 1 2 4 5

125 ALL MACHINED SURFACES EXCEPT AS NOTED

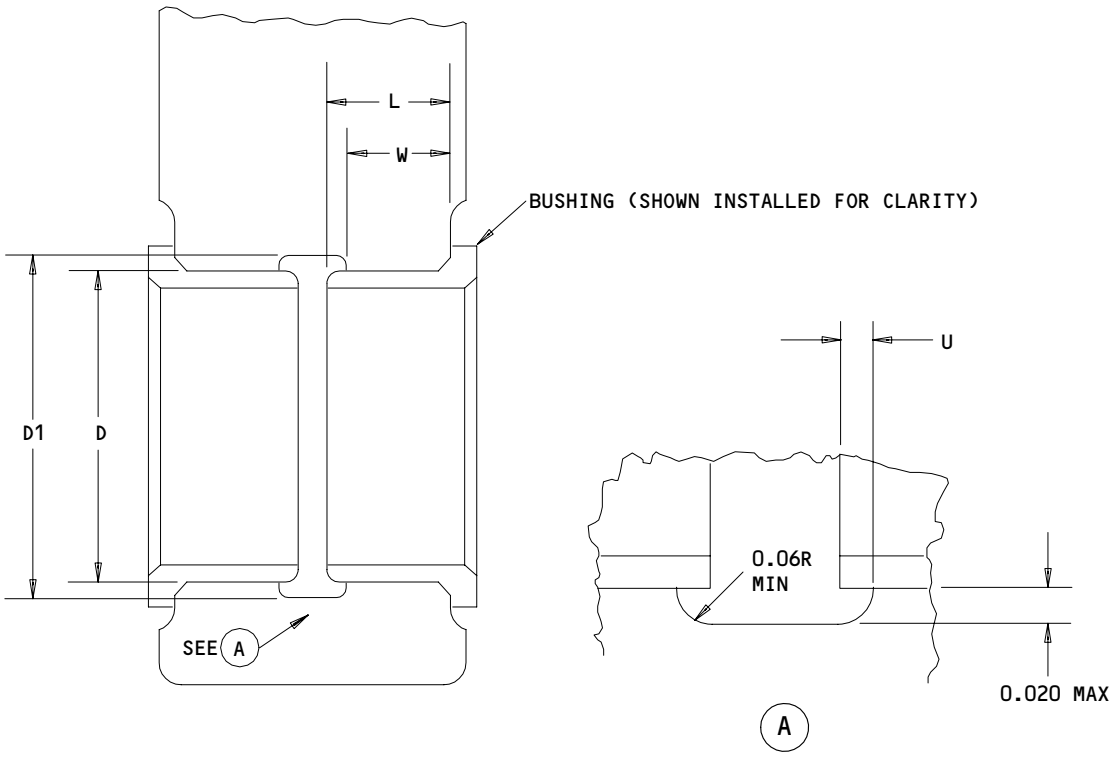
BREAK SHARP EDGES 0.06R

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

162T1111-2
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)

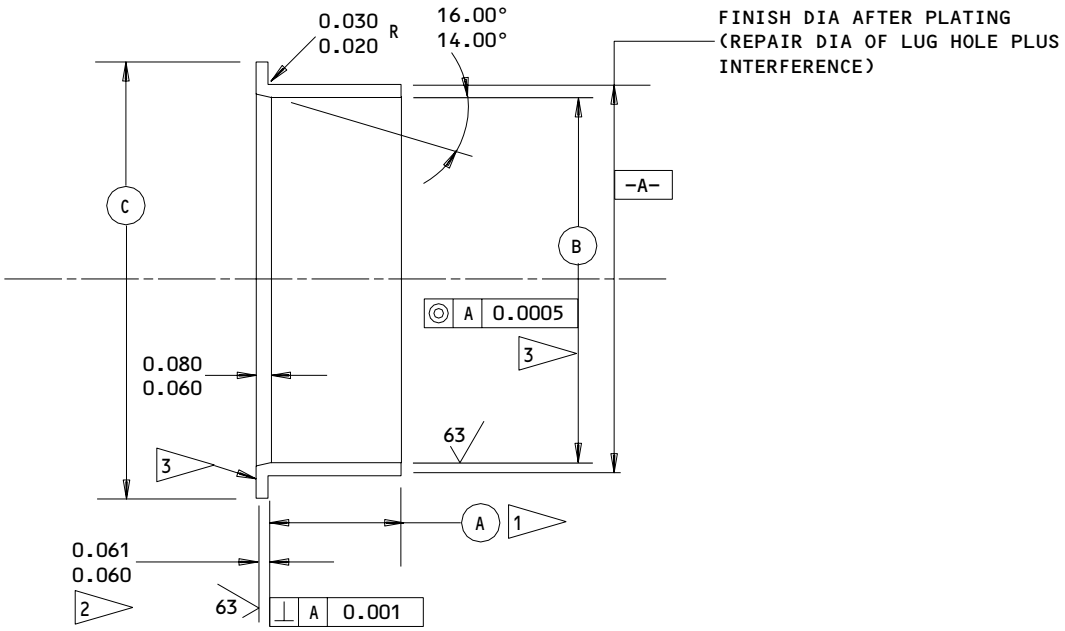
L = LENGTH OF BUSHING (SEE FIG. 603)

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)	A 1	B	C	INTER-FERENCE
3	0.360 0.340	0.7545 0.7530	1.16 1.10	0.0036 0.0006
11 18	0.260 0.240	0.3794 0.3779	0.78 0.72	0.0034 0.0004

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01-0.02R

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

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

ALL DIMENSIONS APPLY BEFORE PLATING

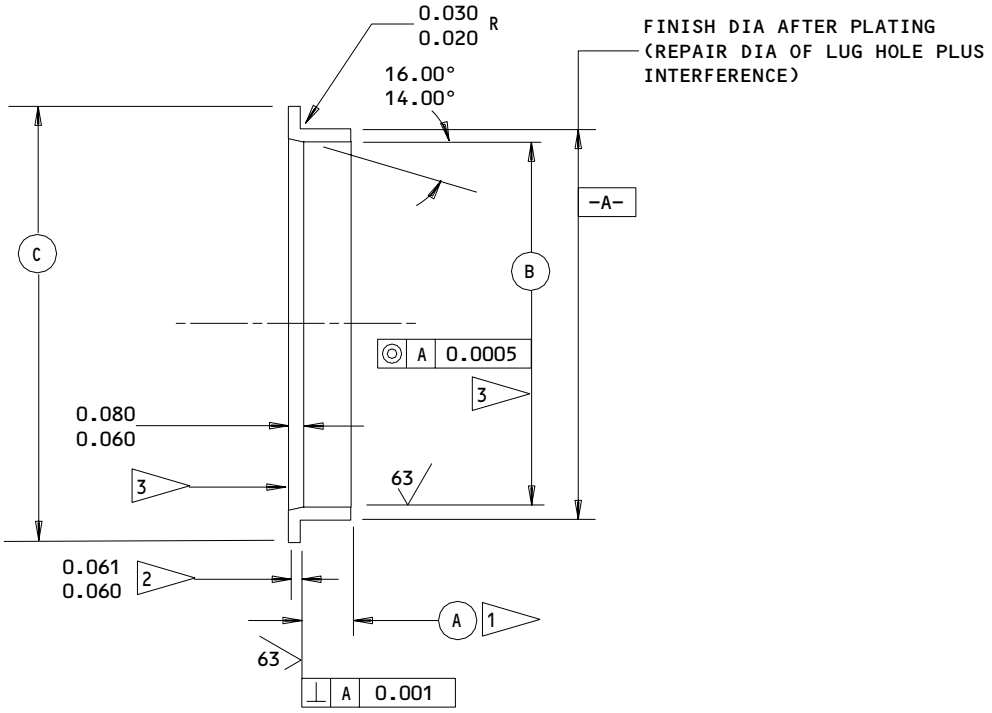
ALL DIMENSIONS ARE IN INCHES

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

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

Oversize Bushing Details
Figure 603



HOLE LOCATION (FIG. 601)	A 1	B	C	INTER-FERENCE
15	0.290 0.270	1.0046 1.0031	1.48 1.42	0.0037 0.0007
9 16	0.160 0.140	0.3794 0.3779	0.78 0.72	0.0034 0.0004

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01-0.02R

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

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

ALL DIMENSIONS APPLY BEFORE PLATING

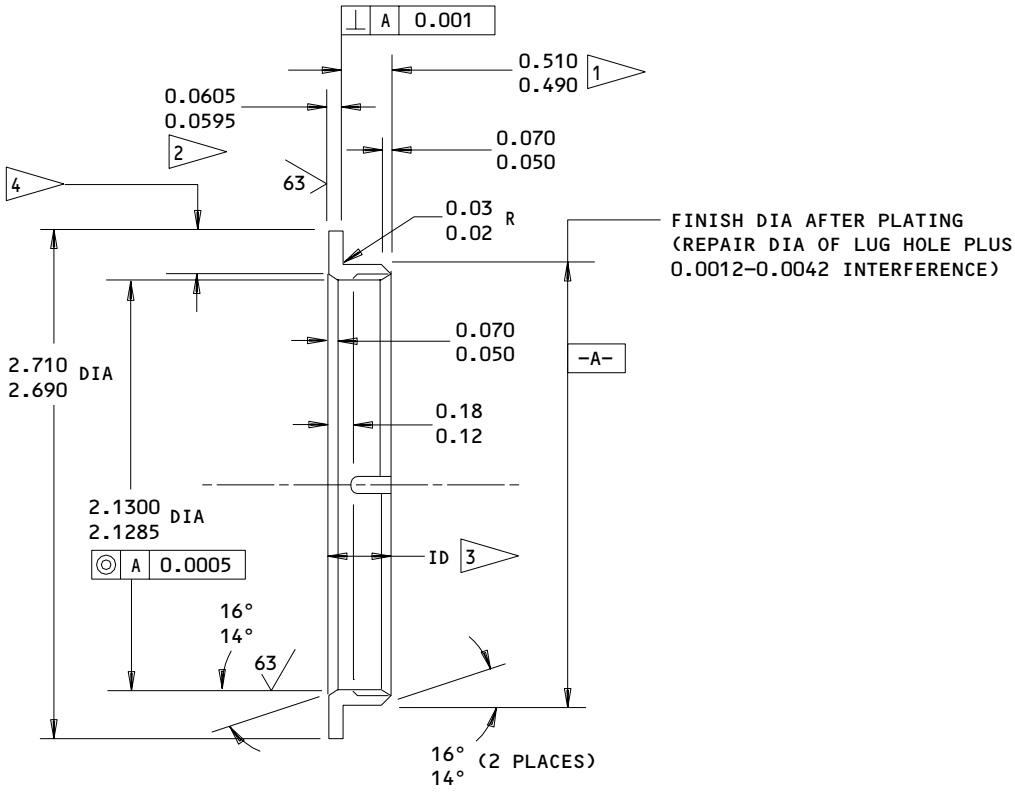
ALL DIMENSIONS ARE IN INCHES

1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

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

Oversize Bushing Details
Figure 604



125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02R

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

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

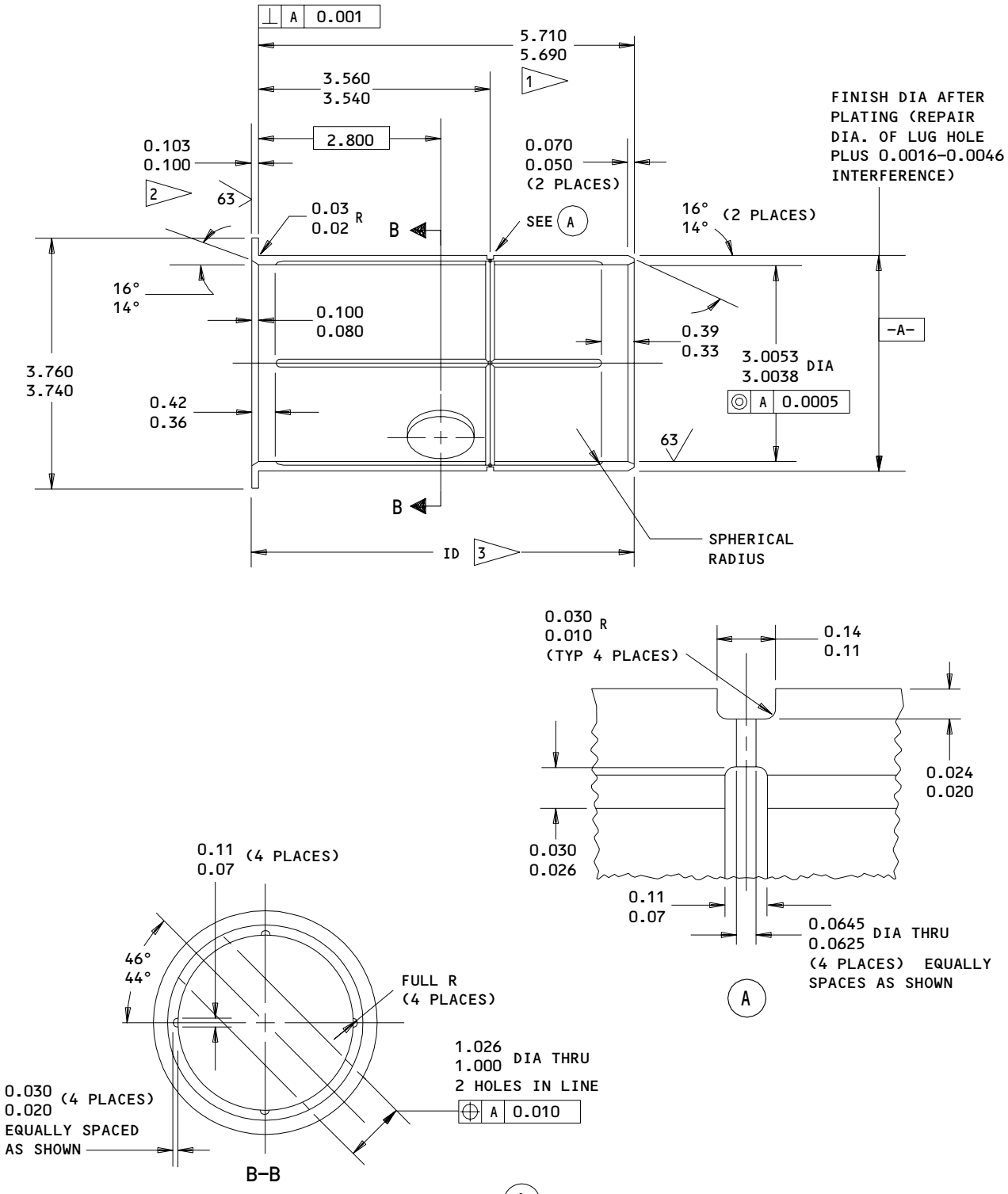
ALL DIMENSIONS APPLY BEFORE PLATING

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
4. FLASH CHROME (0.0003–0.0005 THICK) PER 20–42–03 ON BUSHING FACE. OPTION – THIN DENSE CHROME PER BMS 10–70.

HOLE LOCATION (6) FIG. 601

Oversize Bushing Details
Figure 605



HOLE LOCATION (1) FIG. 601

Oversize Bushing Details
Figure 606 (Sheet 1)

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01-0.02R

CADMIUM PLATE (F-15.06, 0.0003 MIN 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

HOLE LOCATION (1)

Oversize Bushing Details
Figure 606 (Sheet 2)

CYLINDER, OUTER - REPAIR 1-3

162T1111-2

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 design dimensions and finish. Chrome plate thickness must not be more than 0.010 inch after grinding.

   C. Deleted

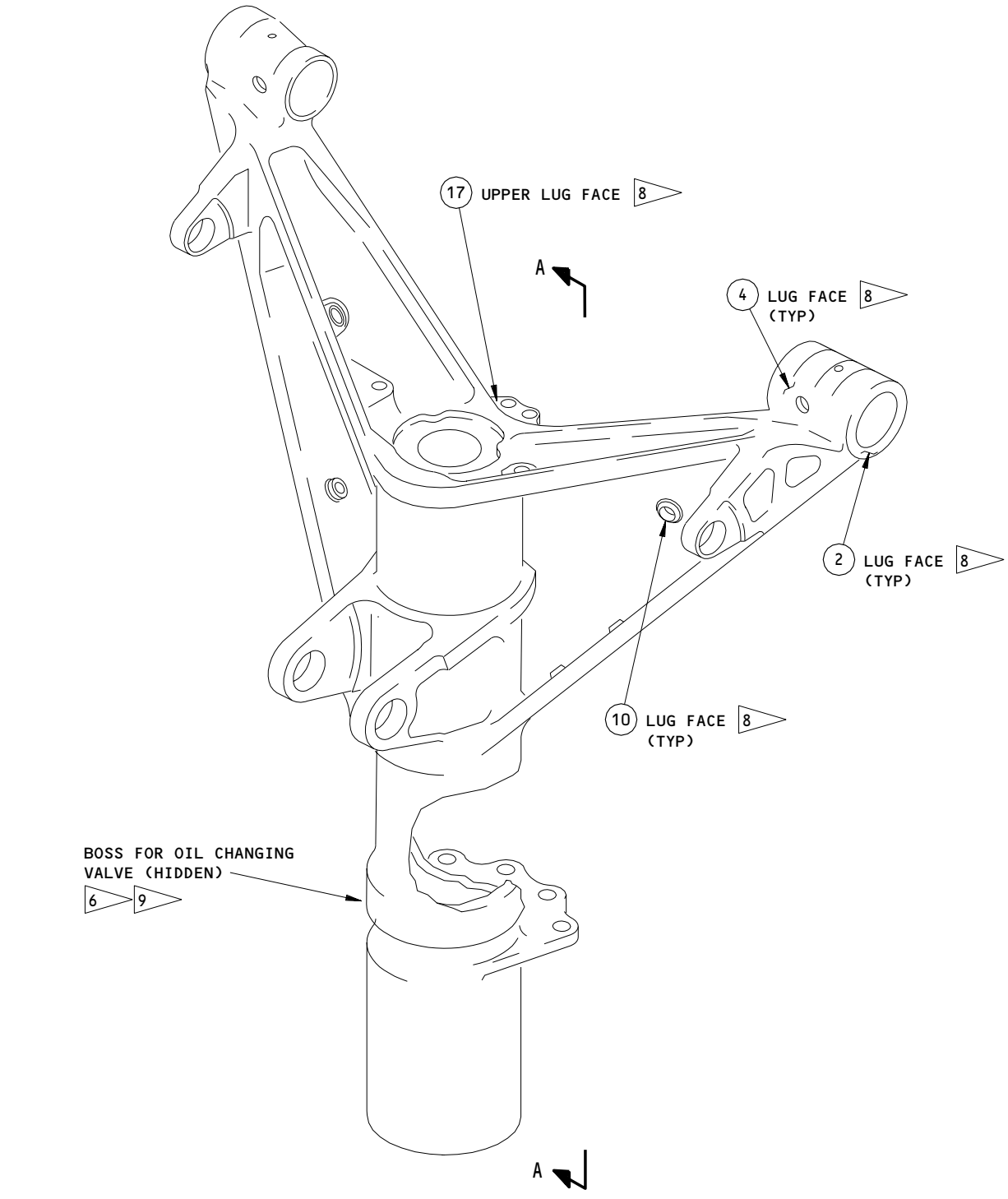
2. Threads for Gland Nut (Fig. 601)

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

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

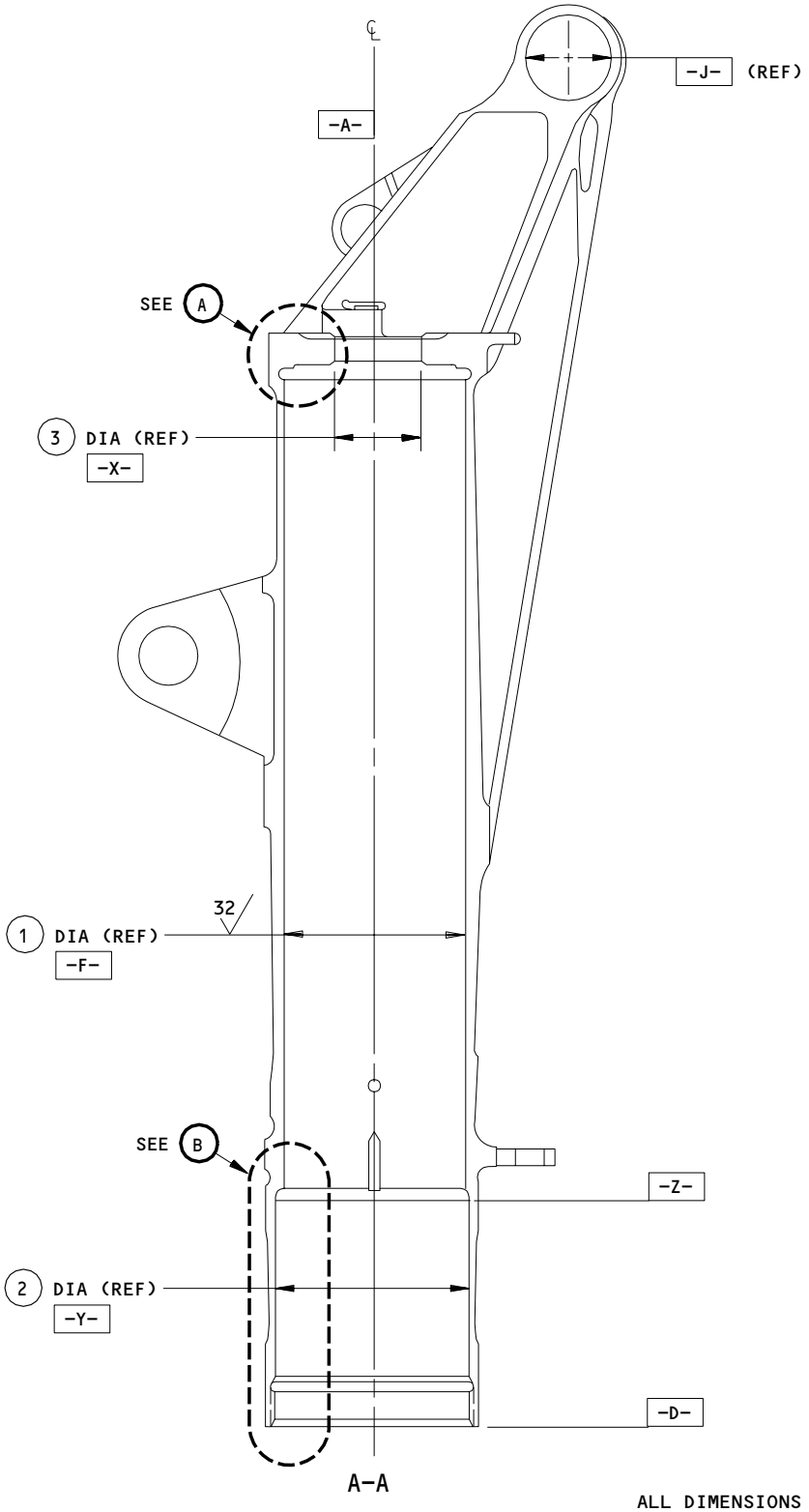
   C. Make an oversize gland nut per REPAIR 13-1, Fig. 601.

   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.



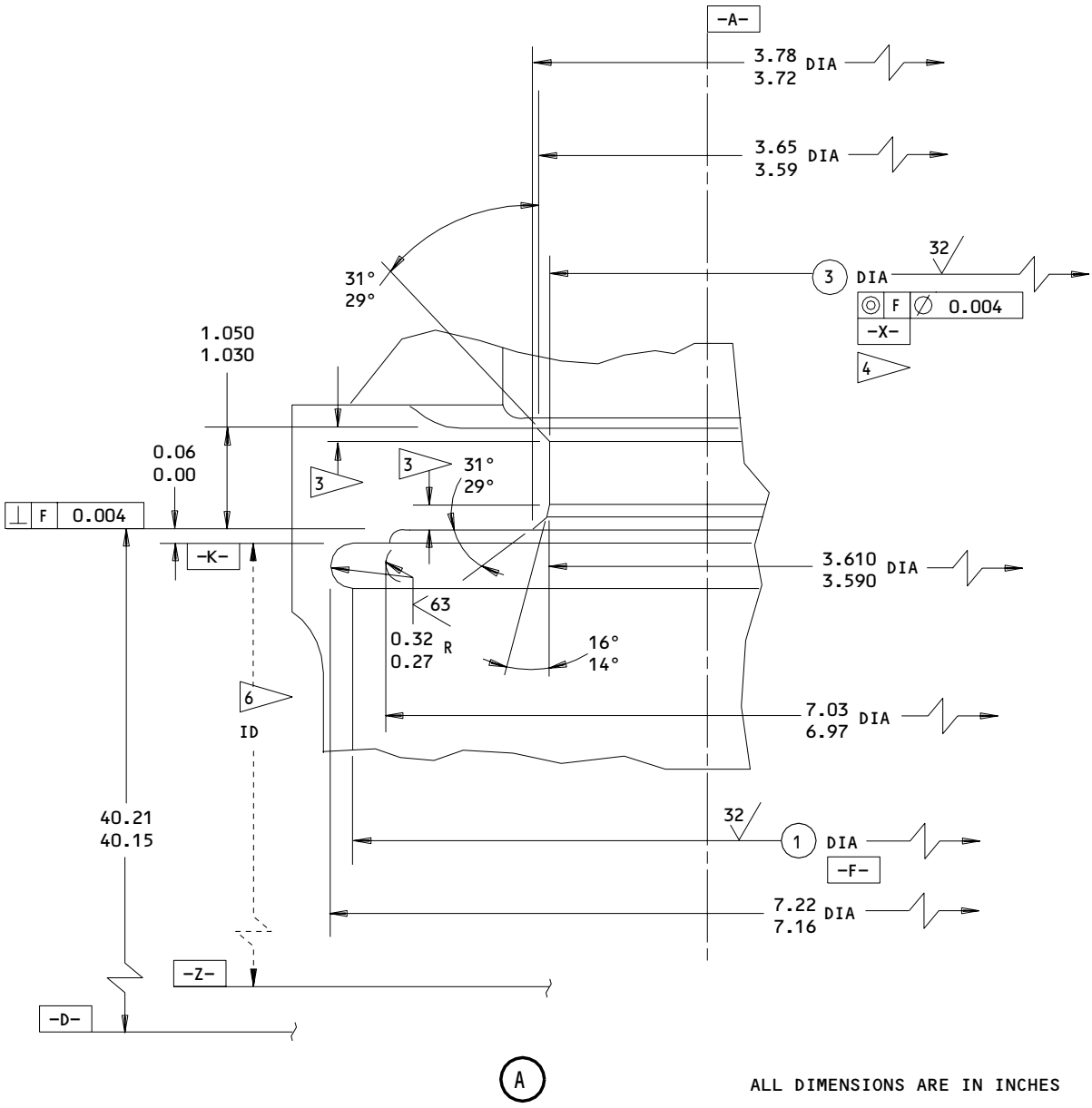
162T1111-2
Outer Cylinder Repair and Refinish
Figure 601 (Sheet 1)

E75888



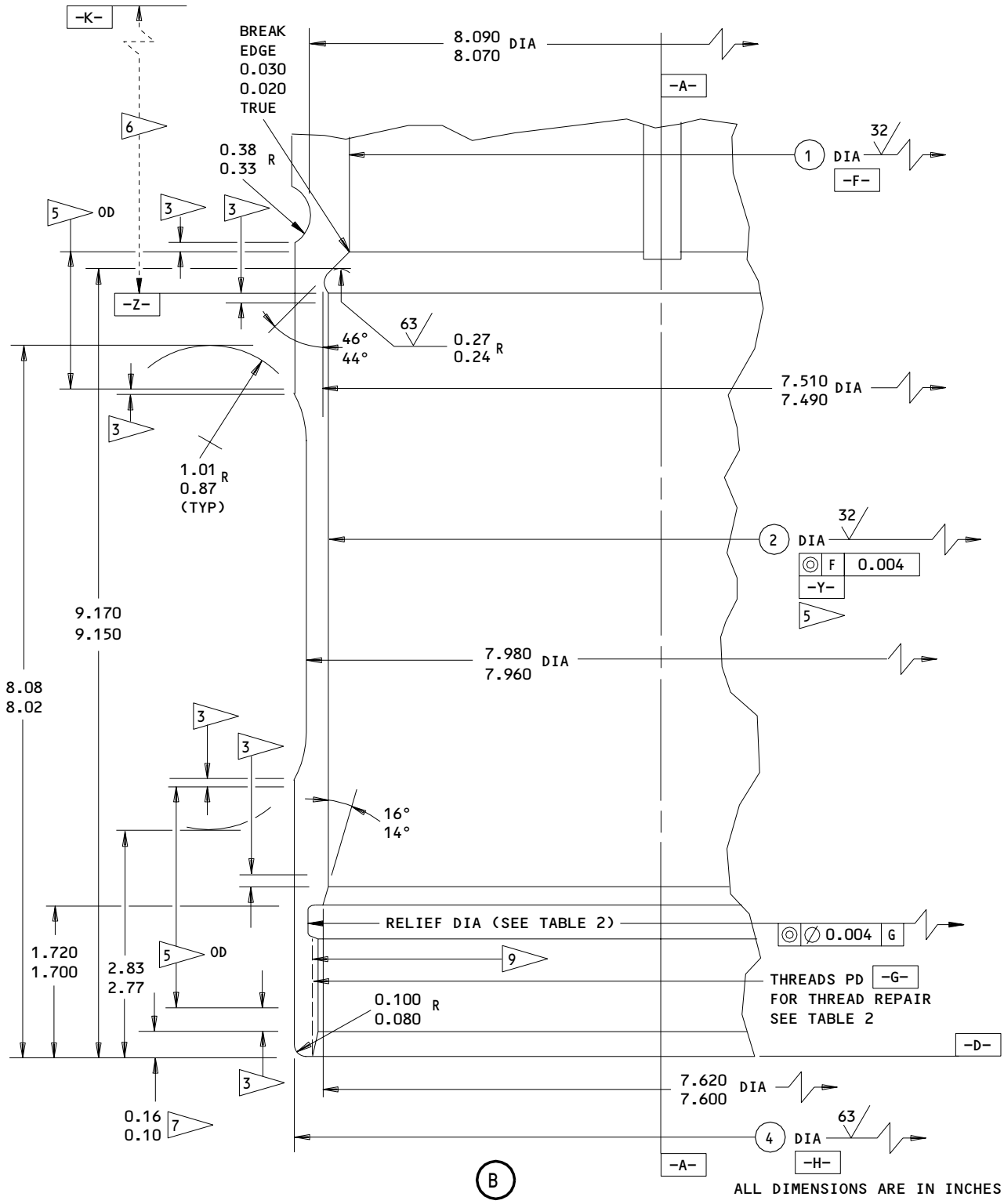
ALL DIMENSIONS ARE IN INCHES

162T1111-2
Outer Cylinder Repair and Refinish
Figure 601 (Sheet 2)



162T1111-2
Outer Cylinder Repair and Refinish
Figure 601 (Sheet 3)

4333



162T1111-2
Outer Cylinder Repair and Refinish
Figure 601 (Sheet 4)

4334

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	3.550 ▷2	8.1032 ▷1

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

162T1111-2
Outer Cylinder Repair and Refinish
Figure 601 (Sheet 5)

REFINISH

CADMIUM-TITANIUM PLATE (0.0005-0.0007 THICK) (F-15.32) LUBE HOLES AND THREADS AT BOTTOM OF CYLINDER. NICKEL PLATE PER 4 DIA -X-. CHROME PLATE PER 5 DIA -Y-, AND LOWER BARREL OD AS NOTED. CADMIUM-TITANIUM PLATE (0.0005-0.0007 THICK)(F-15.32) AND APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02) TO HOLES FOR BUSHINGS, LUG FACES (4) 8, (10) 8, UPPER LUG FACE (17) 8, AND THE OUTER FACES OF LUGS (2) 8. CADMIUM-TITANIUM PLATE (0.0005 MIN THICK)(F-15.01) AND APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02) TO ALL OTHER SURFACES BUT 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, BEARINGS, LUBE FITTINGS, ID AS NOTED, AND OIL CHARGING VALVE HOLE.

REPAIR

REF 1 2 9

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

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-15.04), 0.003 MIN THICK

6 NO PRIMER OR ENAMEL

7 NO CHROME PLATE

8 THESE LOCATION NUMBERS REFER TO REPAIR 1-2, FIG. 601

9 DO NOT SHOT PEEN THREADS OR OIL CHARGING VALVE HOLE

162T1111-2
Outer Cylinder Repair and Refinish
Figure 601 (Sheet 6)

CYLINDER ASSEMBLY, INNER - REPAIR 2-1

162T1113-3, -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 new bushings by the shrink-fit method per 20-50-03.

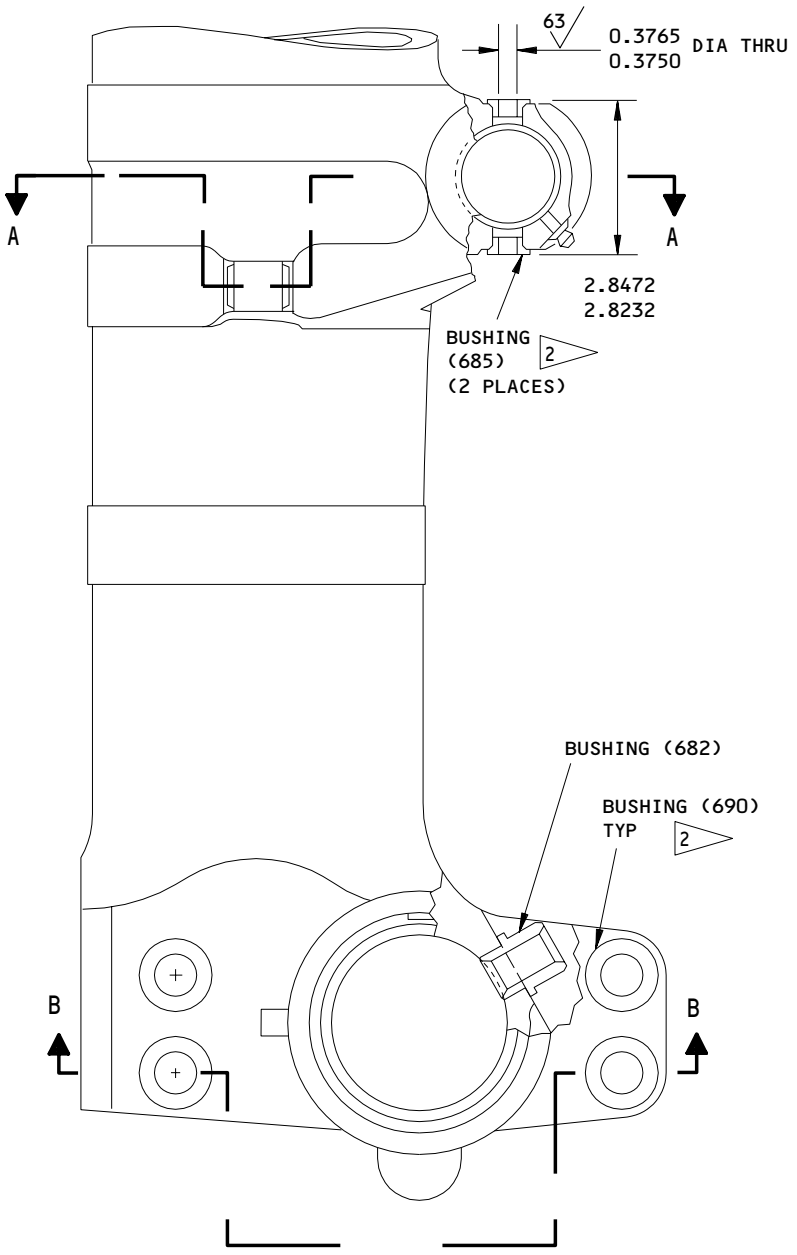
   D. Make a check of the dimensions and machine them as necessary.

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

   F. Seal bushings as noted.

2. Lube Fitting Replacement

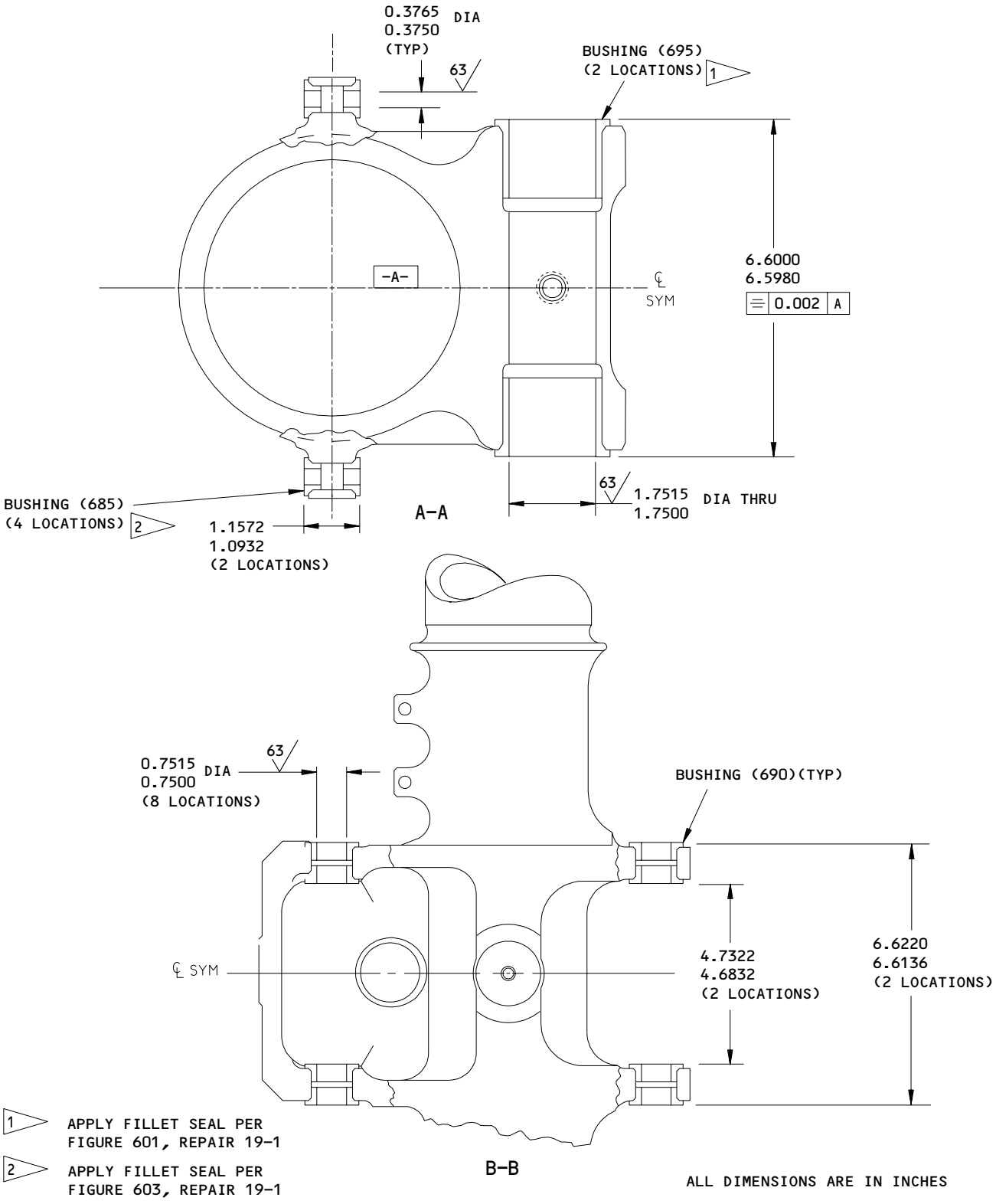
   A. Replace lube fitting (680) per CMM 32-00-03.



ALL DIMENSIONS ARE IN INCHES

162T1113-3,-5
Bushing Replacement
Figure 601 (Sheet 1)

4337



162T1113-3,-5
Bushing Replacement
Figure 601 (Sheet 2)

CYLINDER, INNER - REPAIR 2-2

162T1113-2, -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 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) Install bushings per REPAIR 2-1.

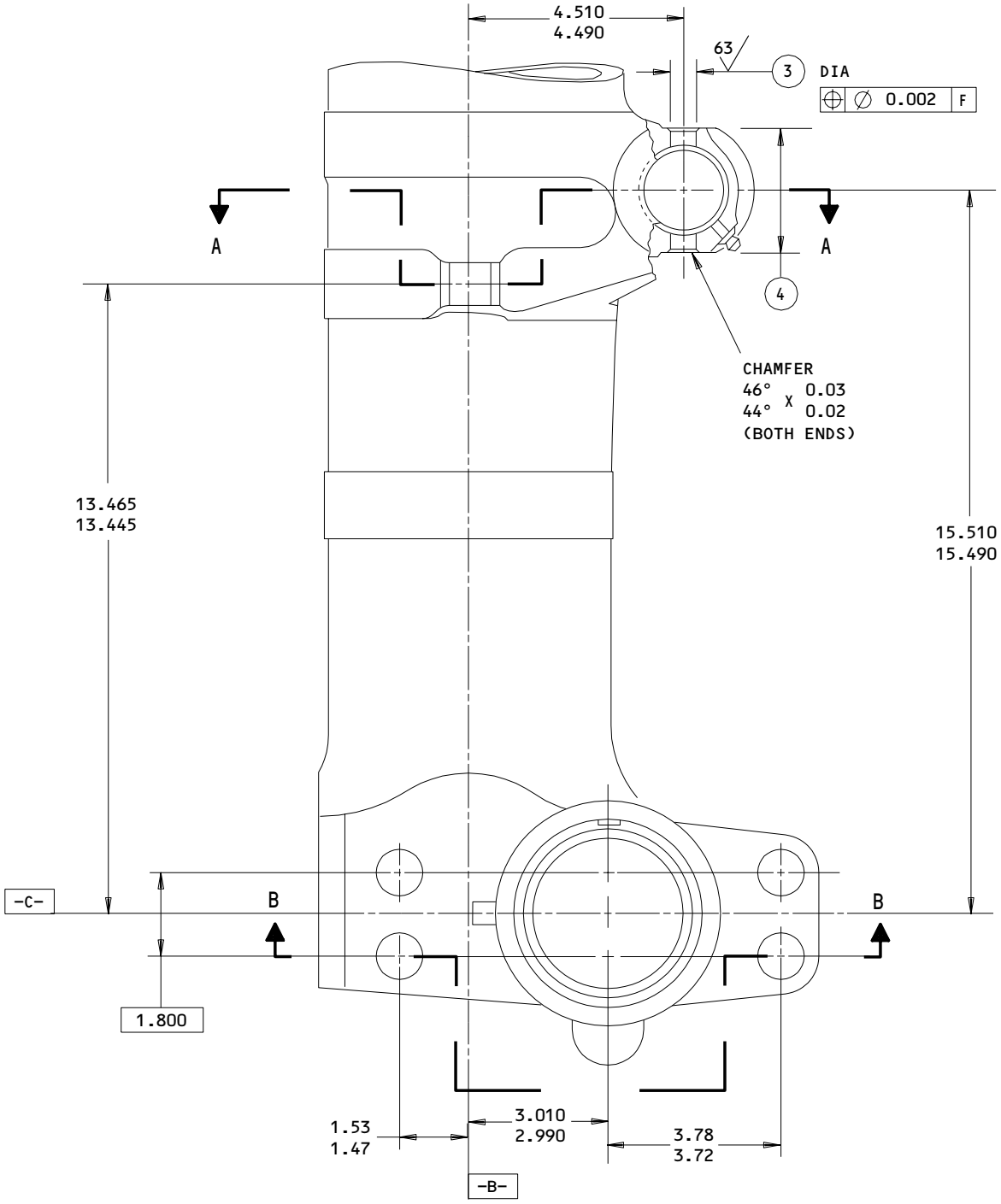
   B. Method 2 -- Installation of Oversize Bushings

      (1) Machine as required, within repair limits, 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).

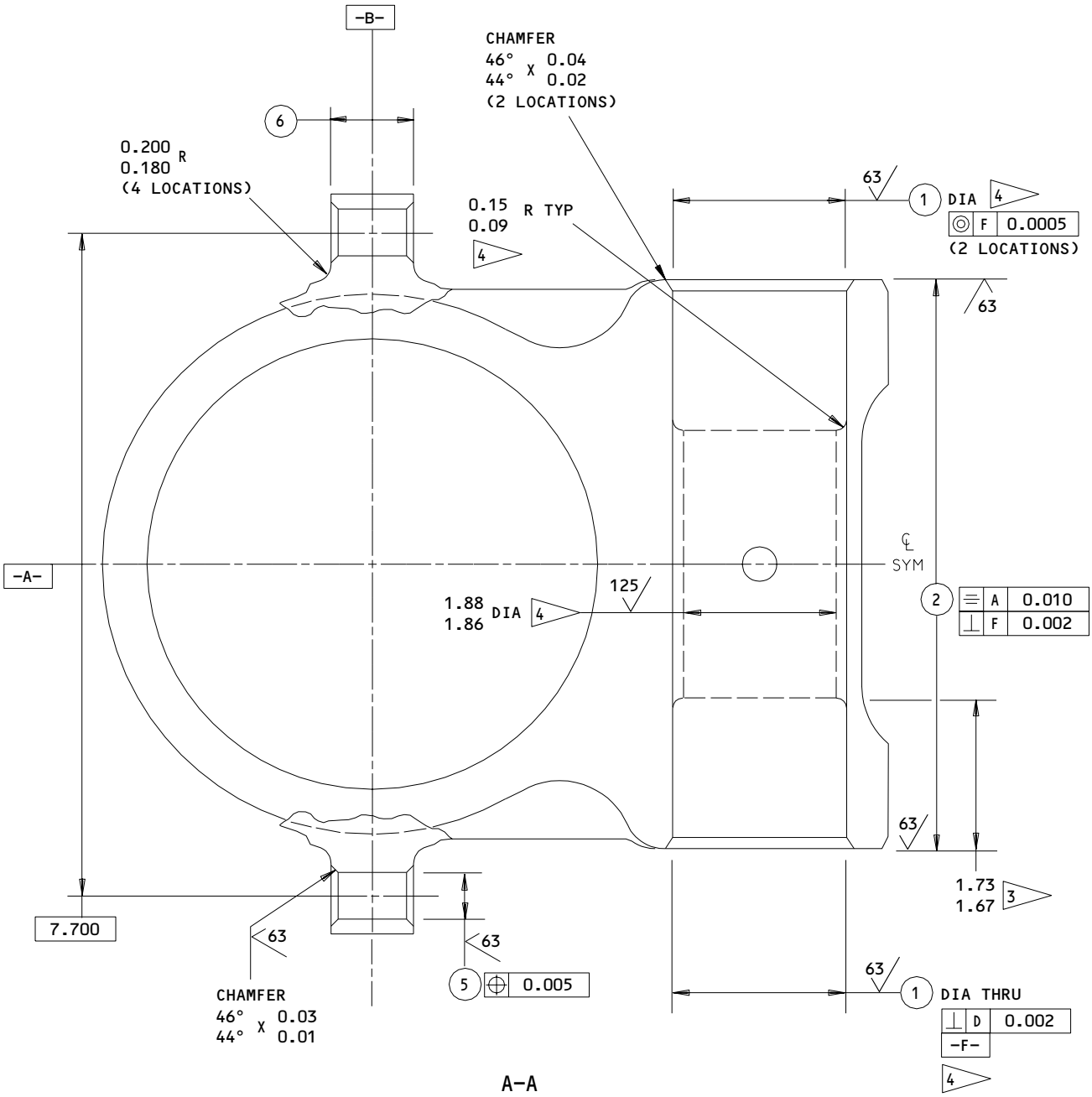
      (4) Install bushings per REPAIR 2-1.



ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Lug Face and Hole Repair
Figure 601 (Sheet 1)

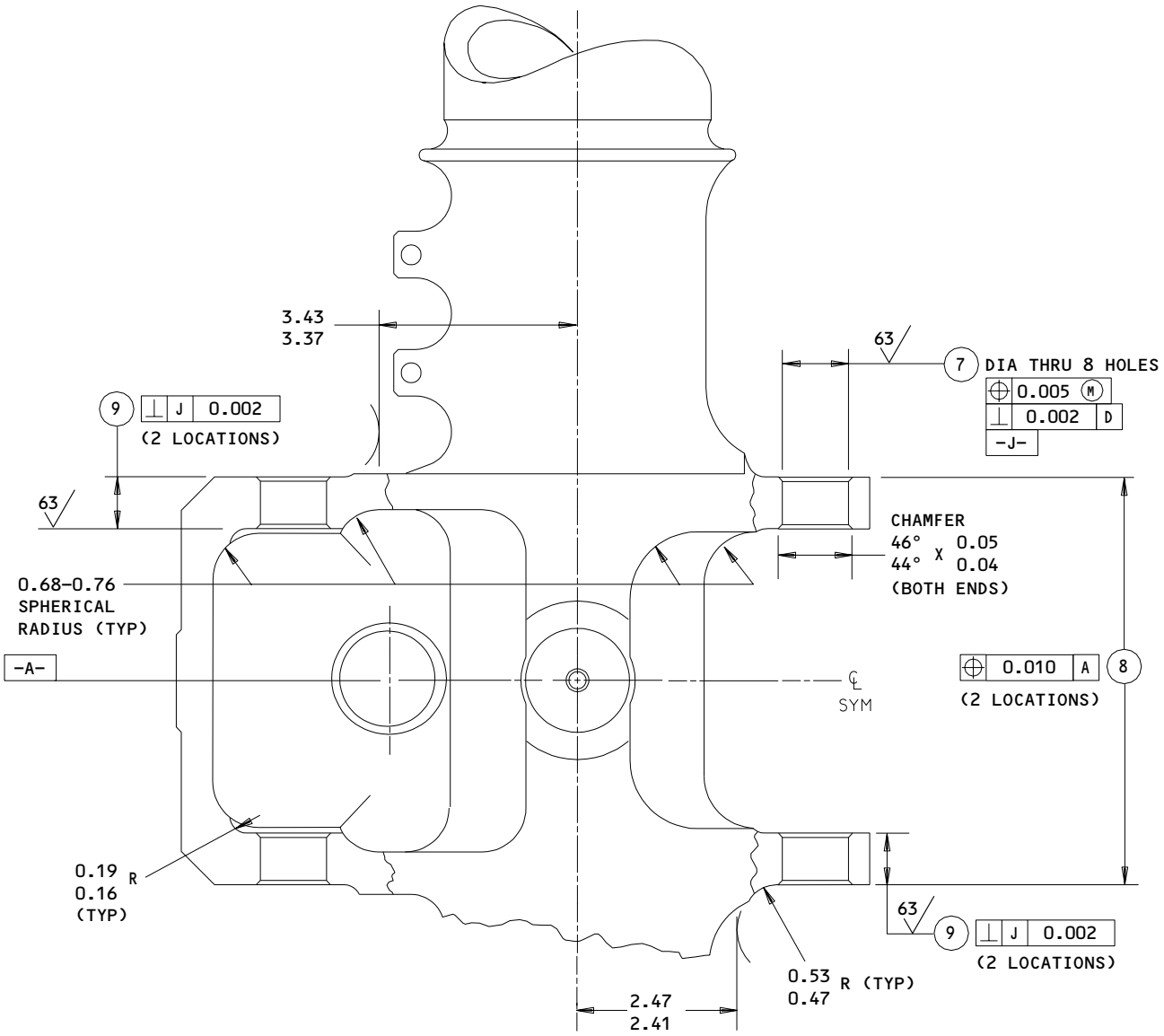
4444



A-A

ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Lug Face and Hole Repair
Figure 601 (Sheet 2)



B–B

ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Lug Face and Hole Repair
Figure 601 (Sheet 3)

4445

	(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	1.0200	6.4604	0.790

REFINISH

FOR REFINISH INSTRUCTIONS REF
REPAIR 2-3

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

162T1113-2,-4
Lug Face and Hole Repair
Figure 601 (Sheet 4)

4495

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.

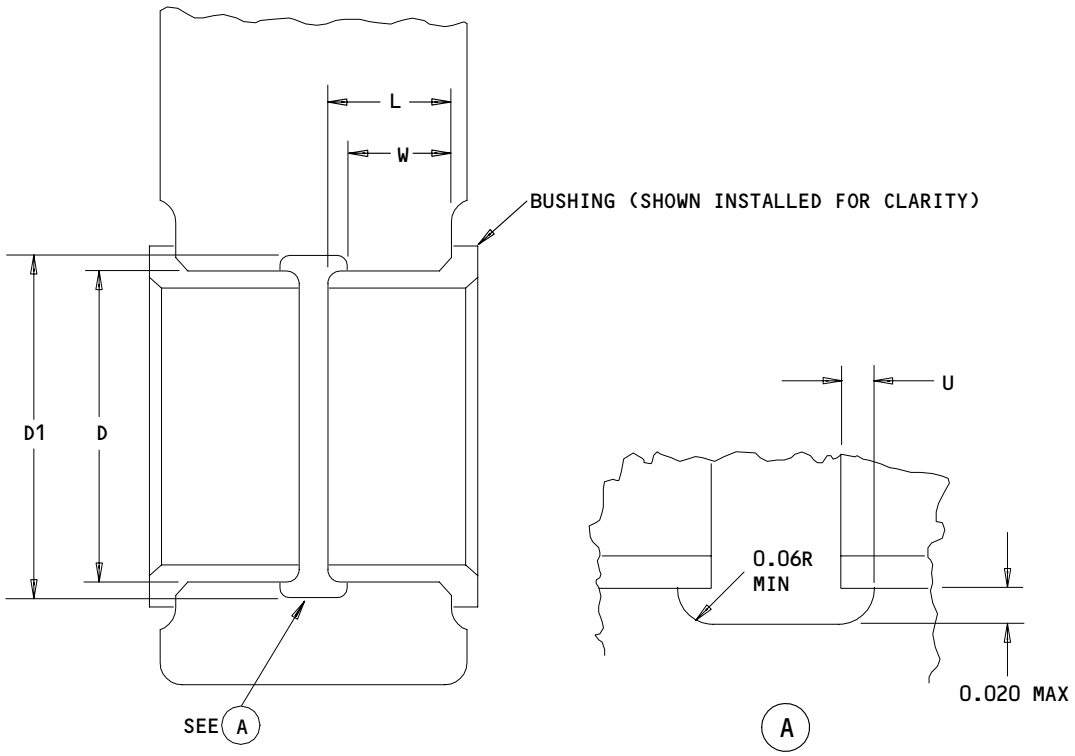
2. FLAT SURFACE MUST BE MINIMUM OF 0.02 LARGER THAN FLANGE DIA OF BUSHING TO BE INSTALLED.

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 OPTIONAL MACHINING PROFILE; DESIGNATED BY DOTTED LINES.

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

162T1113-2,-4
Lug Face and Hole Repair
Figure 601 (Sheet 5)



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

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

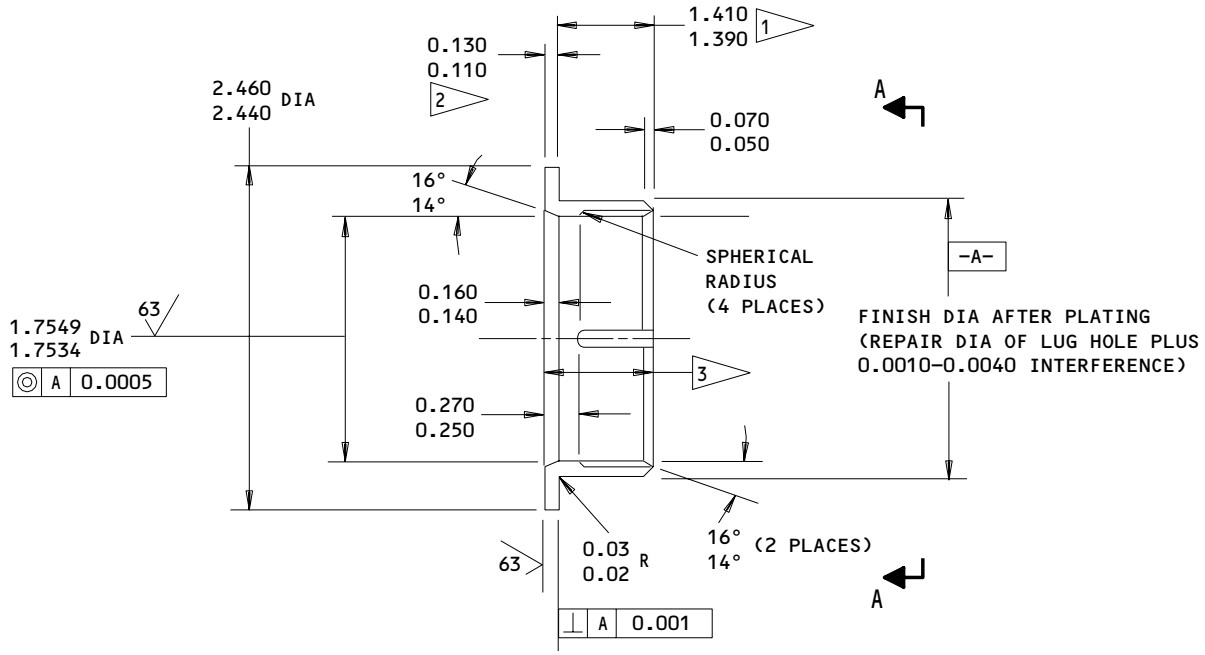
L = LENGTH OF BUSHING (SEE FIG. 603)

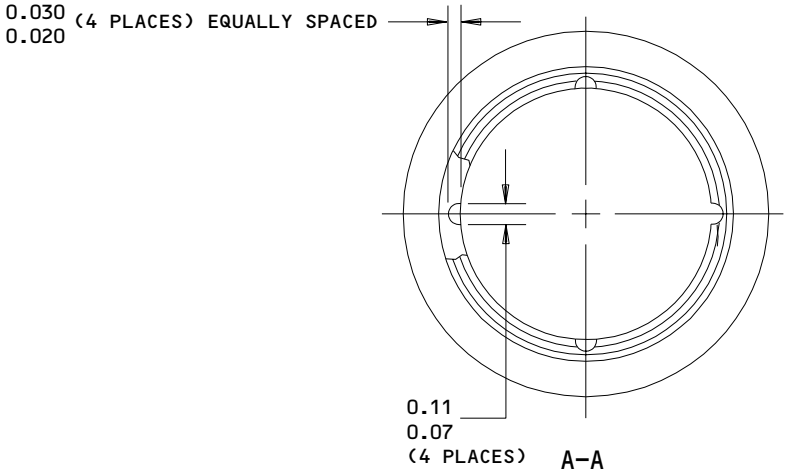
U = UNDERCUT = (L X 0.1) (0.06 MAX)

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





1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE ID

ALL DIMENSIONS ARE IN INCHES

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02R

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

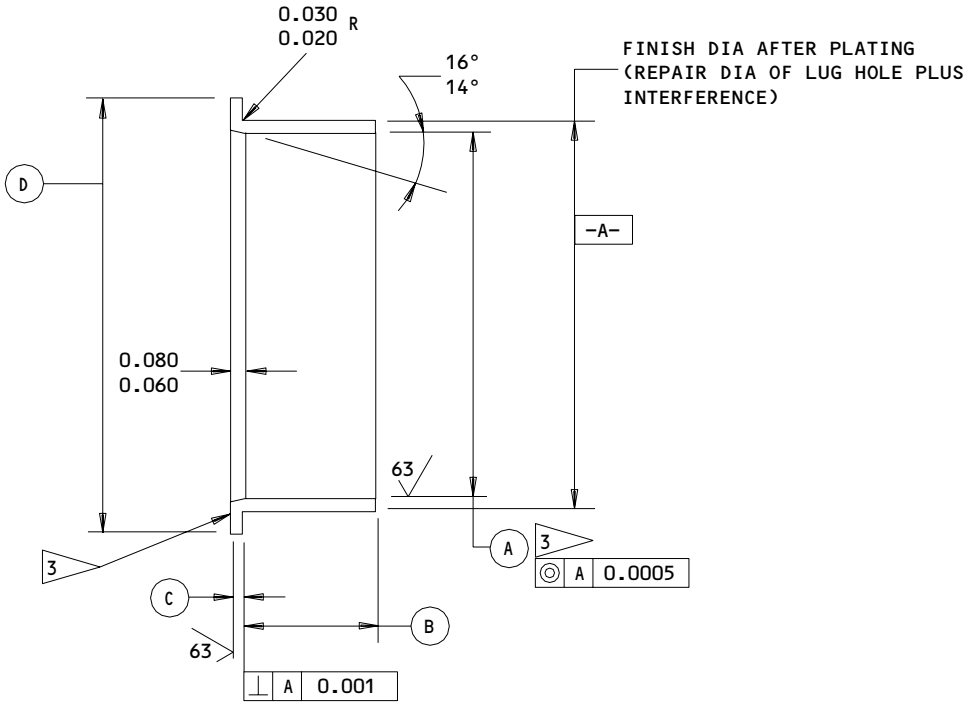
MATERIAL: AL-NI-BRZ PER AMS 4640 OR 4880

ALL DIMENSIONS APPLY BEFORE PLATING

HOLE LOCATION (1) FIG. 601

Oversize Bushing Details
Figure 603

4271



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 0.01-0.02R

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

Oversize Bushing Details
Figure 604

4272

CYLINDER, INNER - REPAIR 2-3

162T1113-2, -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, 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.

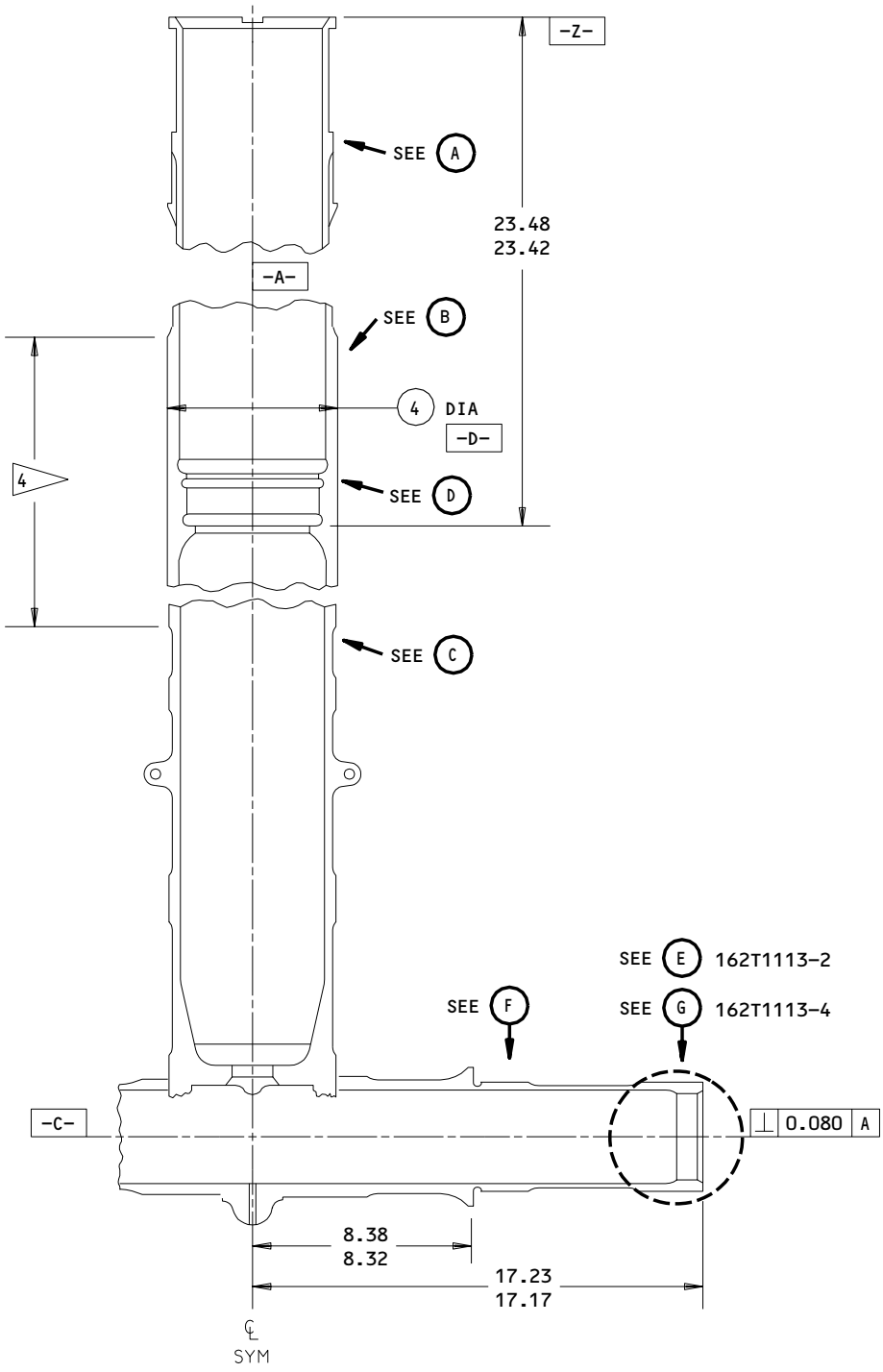
4. Threads on inner cylinder 162T1113-2 (Fig. 601)

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

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

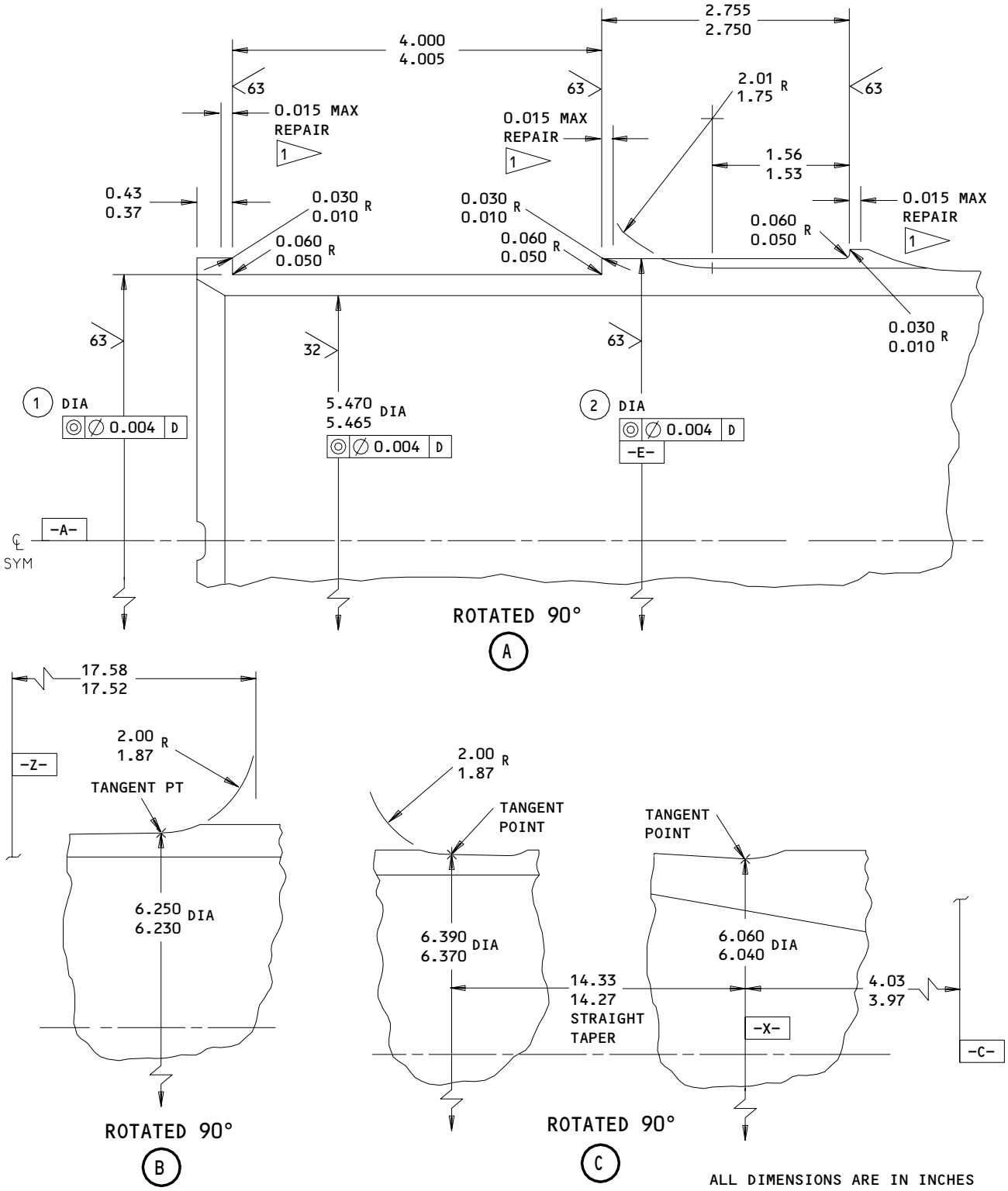
C. Make an oversize nut (CMM 32-21-21, REPAIR 12-1).

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.

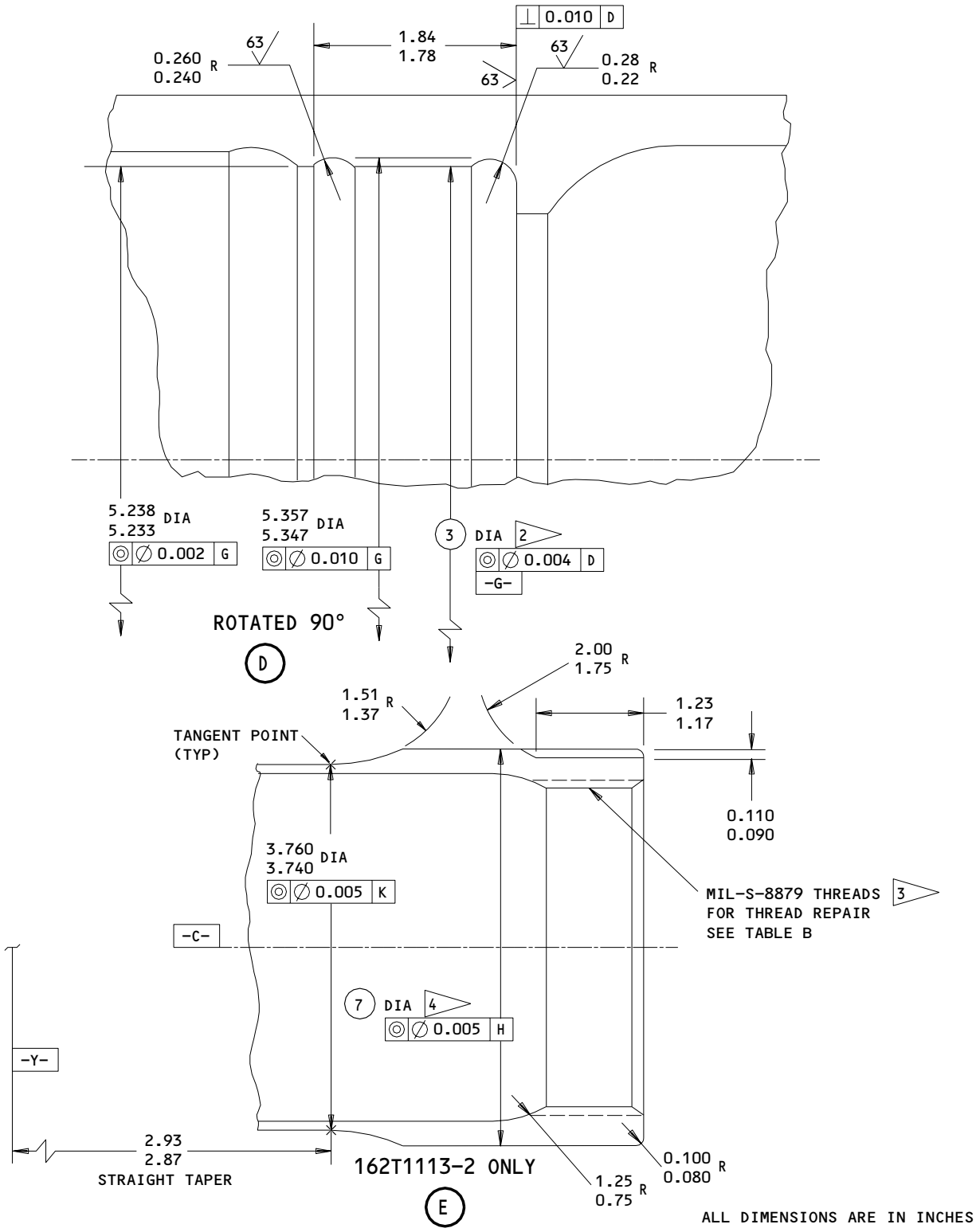


ALL DIMENSIONS ARE IN INCHES

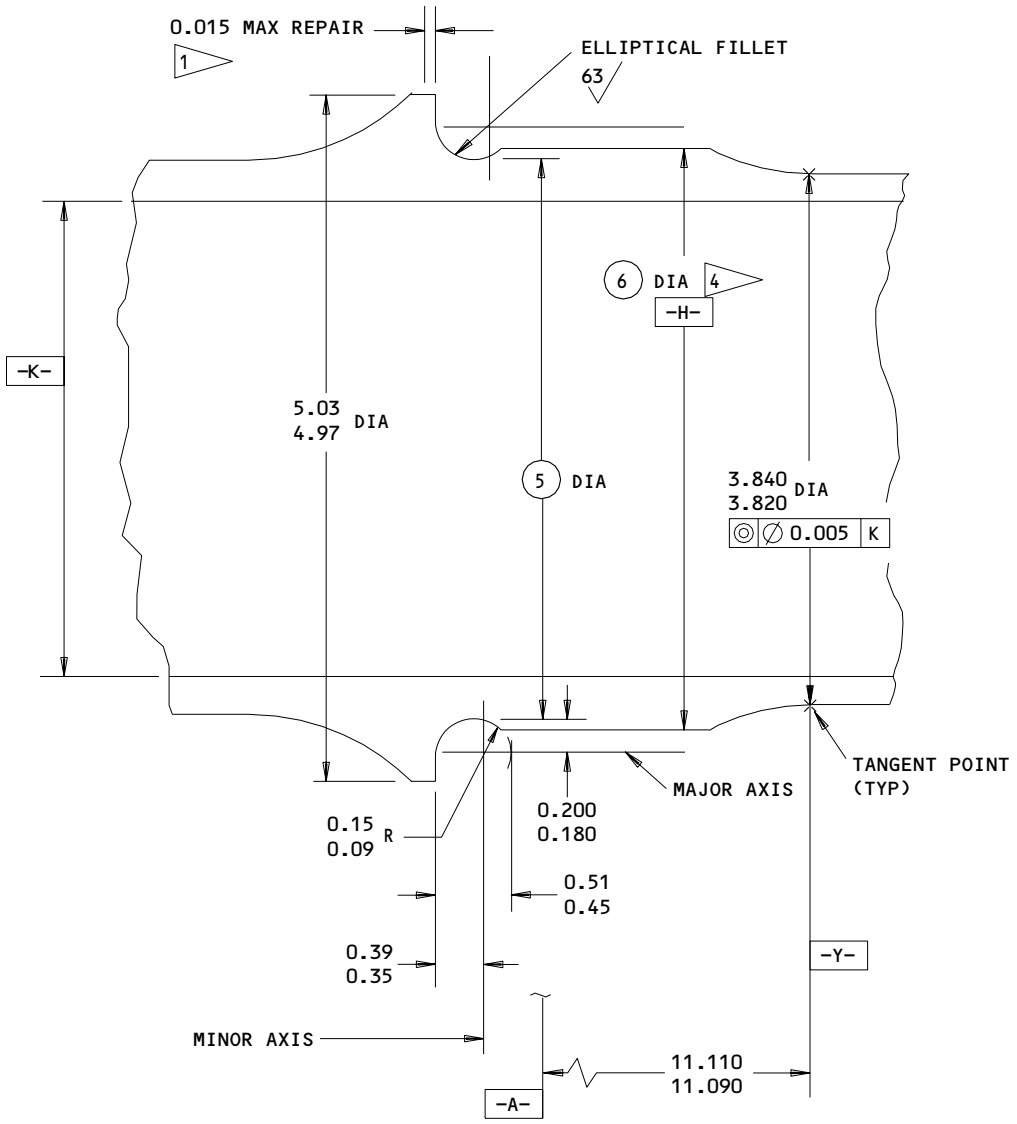
162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 1)



162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 2)



162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 3)

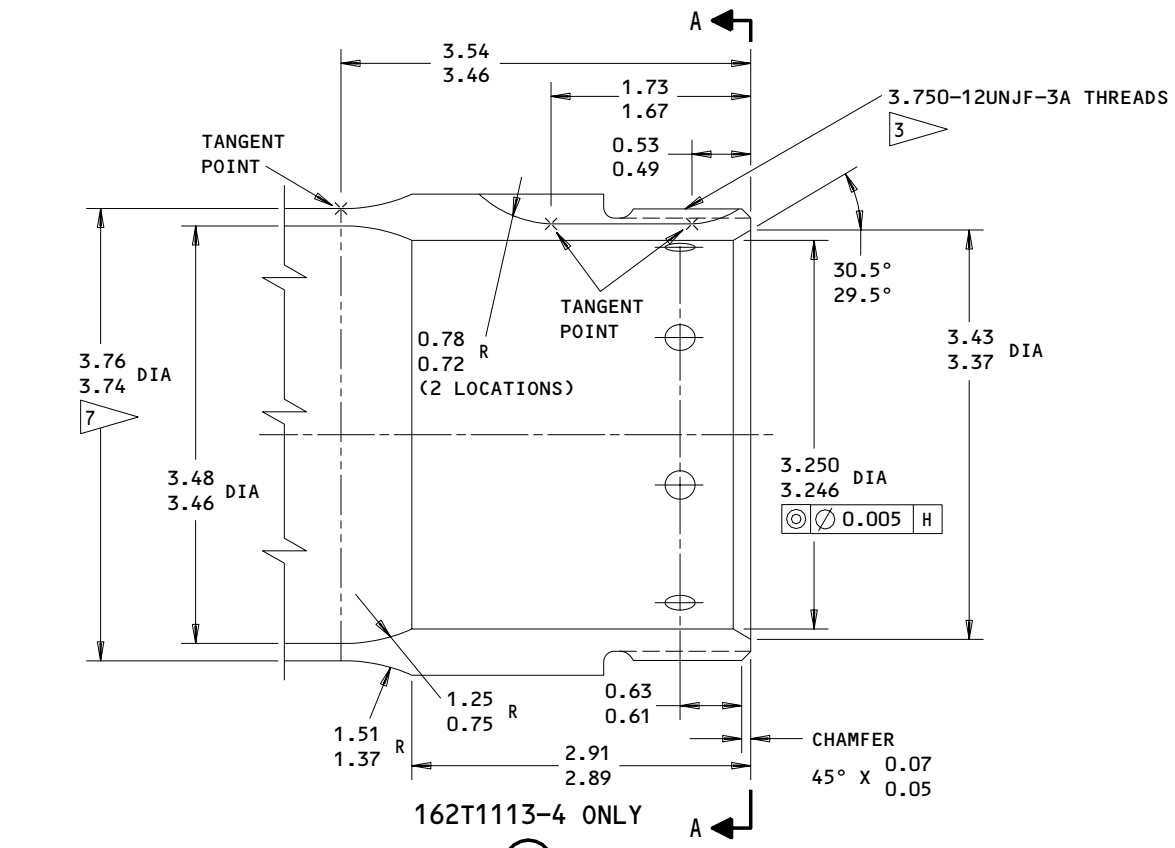


F

ALL DIMENSIONS ARE IN INCHES

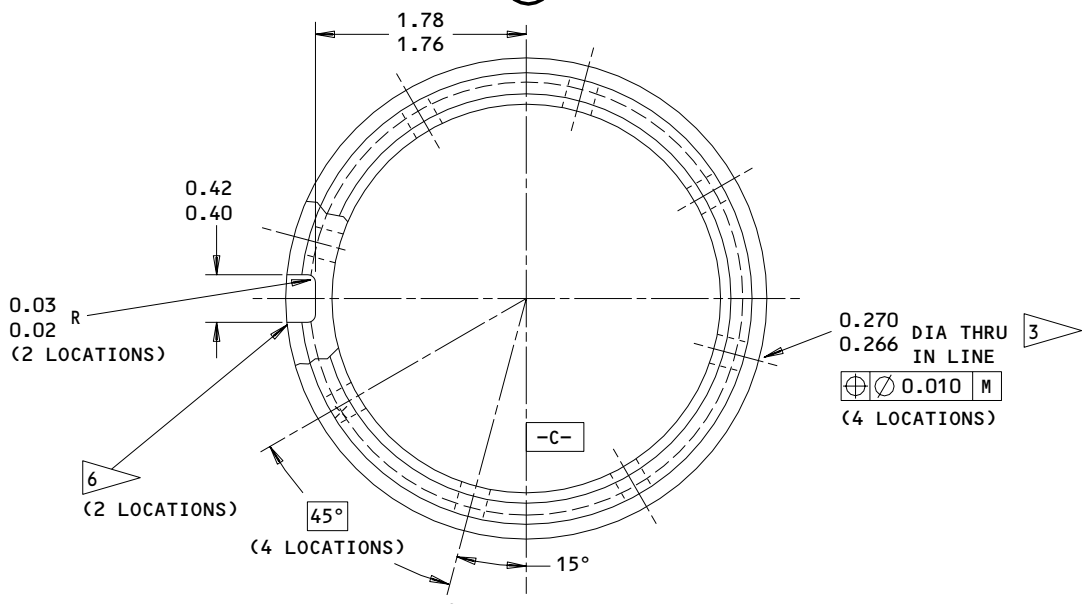
162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 4)

4505



162T1113-4 ONLY

G



162T1113-4 ONLY
A-A

162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 5)

817340

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
DESIGN DIM	5.9112 5.9087	6.307 6.302	5.227 5.224	6.497 6.494	4.200 4.180	4.2106 4.2096	3.999 3.998
REPAIR LIMIT	5.8887 ▷1	6.282 ▷1	5.247 ▷1	6.474 ▷1	4.160 ▷5	4.1896 ▷1	3.968 ▷1

TABLE A

162T111-2 ONLY 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	3.4993 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	---	---	---	---

TABLE B

162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 6)

4864

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 0.03-0.04 R
7. BEFORE PLATING
8. AFTER PLATING

REPAIR

REF 1 5

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
(UNLESS SHOWN BY 3)

MATERIAL: 4340M STEEL, 275-300 KSI

ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Barrel Repair
Figure 601 (Sheet 7)

H97152

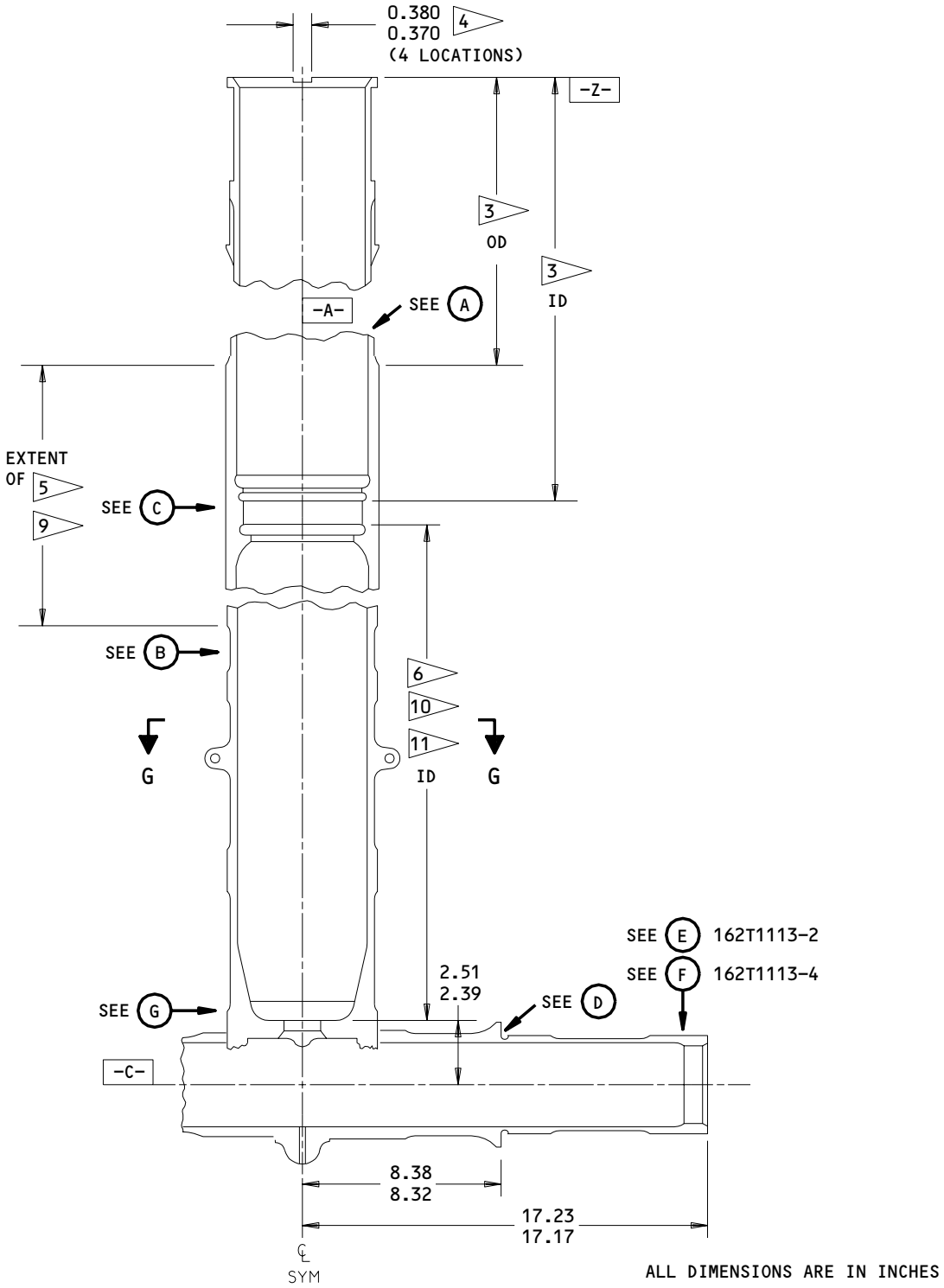
CYLINDER, INNER - REPAIR 2-4

162T1113-2, -4

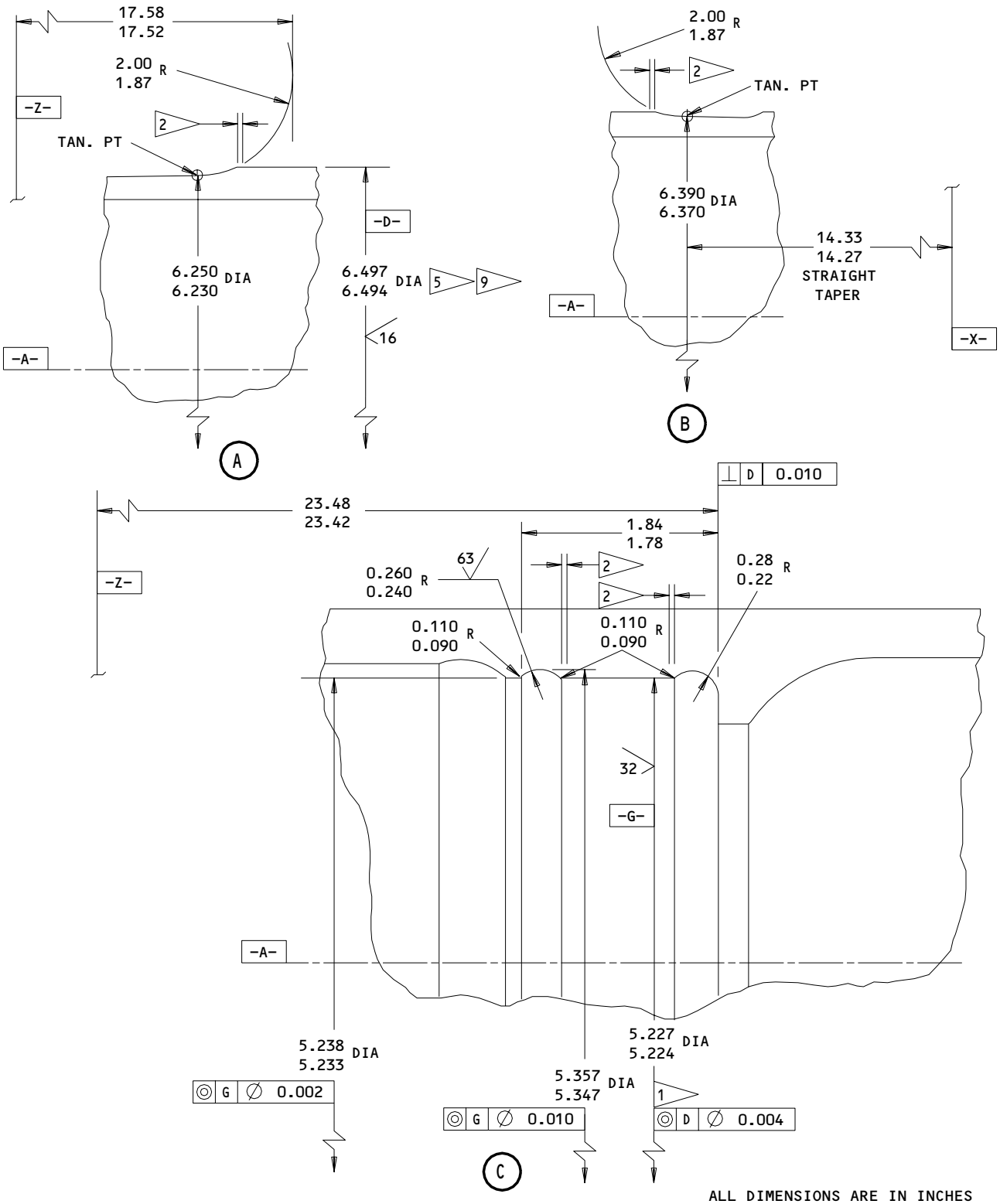
1. Plating and Coating Repair (Fig. 601)

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.

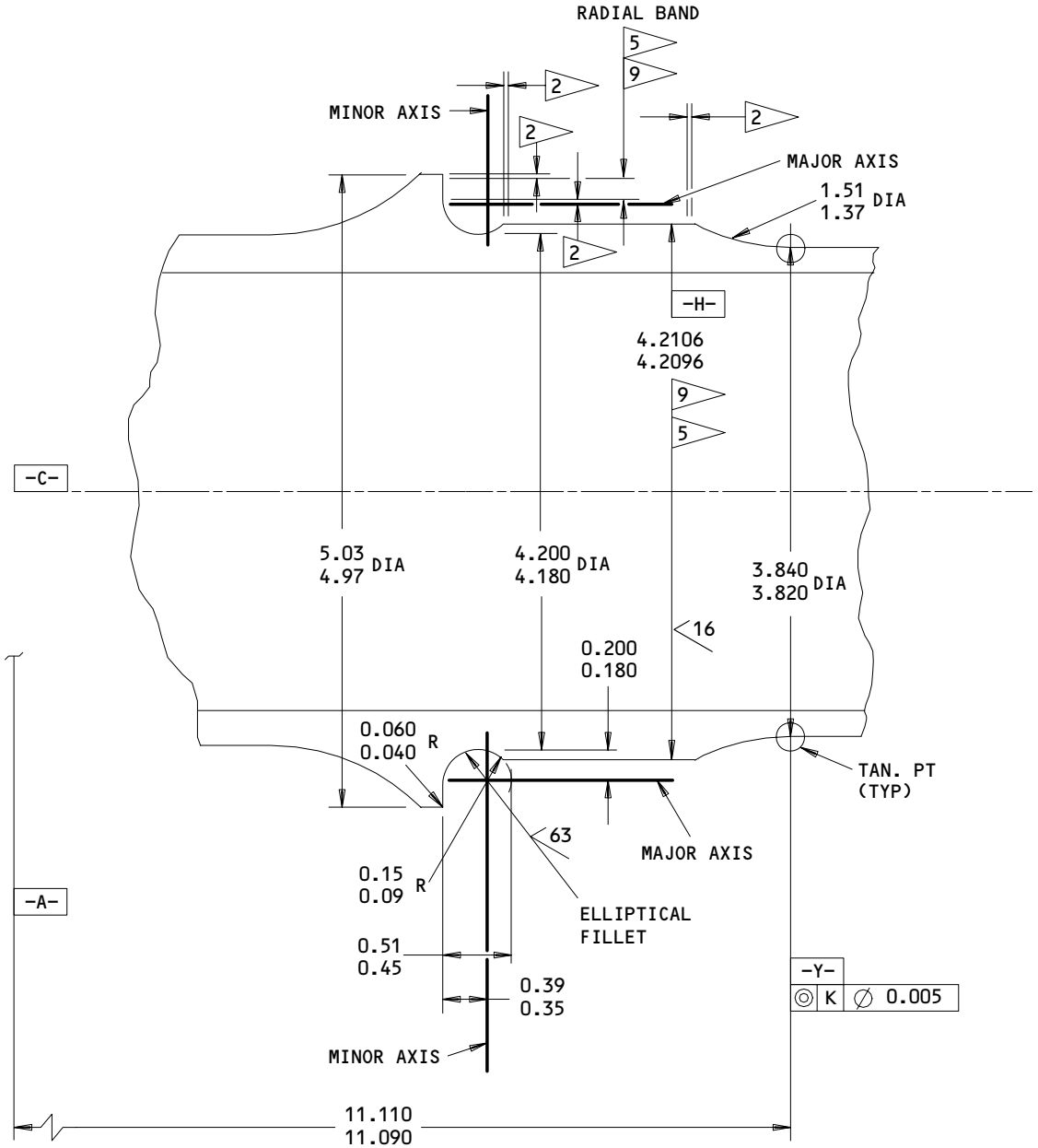


162T1113-2,-4
Refinish Details
Figure 601 (Sheet 1)



ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Refinish Details
Figure 601 (Sheet 2)

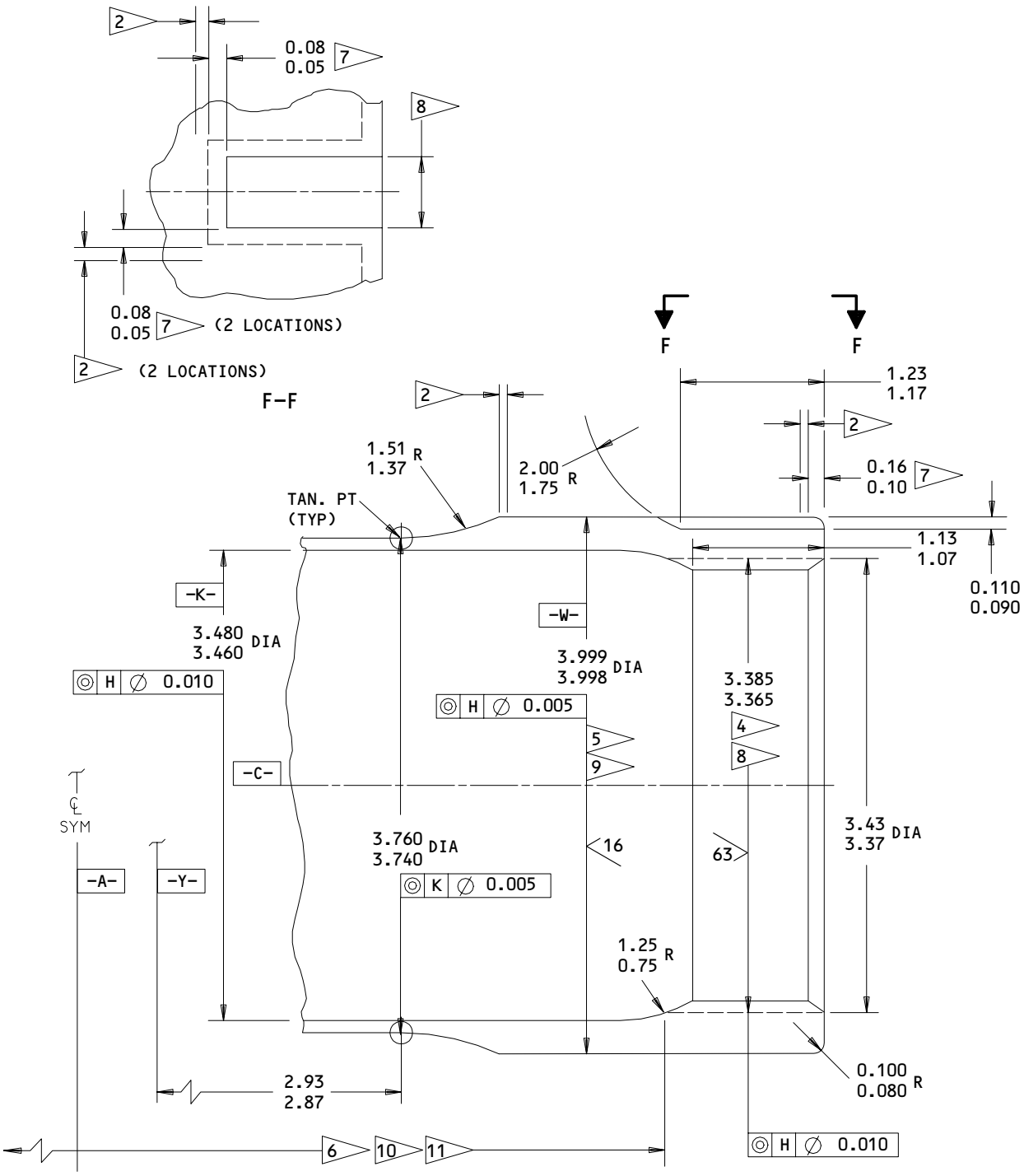


D

ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Refinish Details
Figure 601 (Sheet 3)

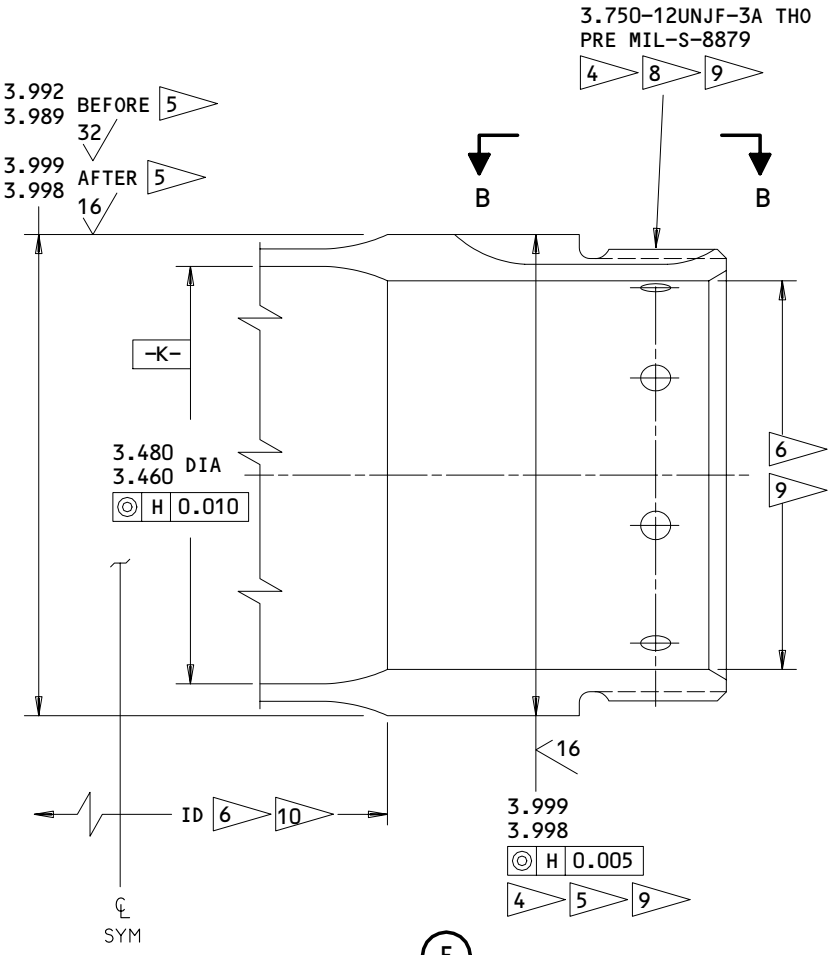
4521



ALL DIMENSIONS ARE IN INCHES

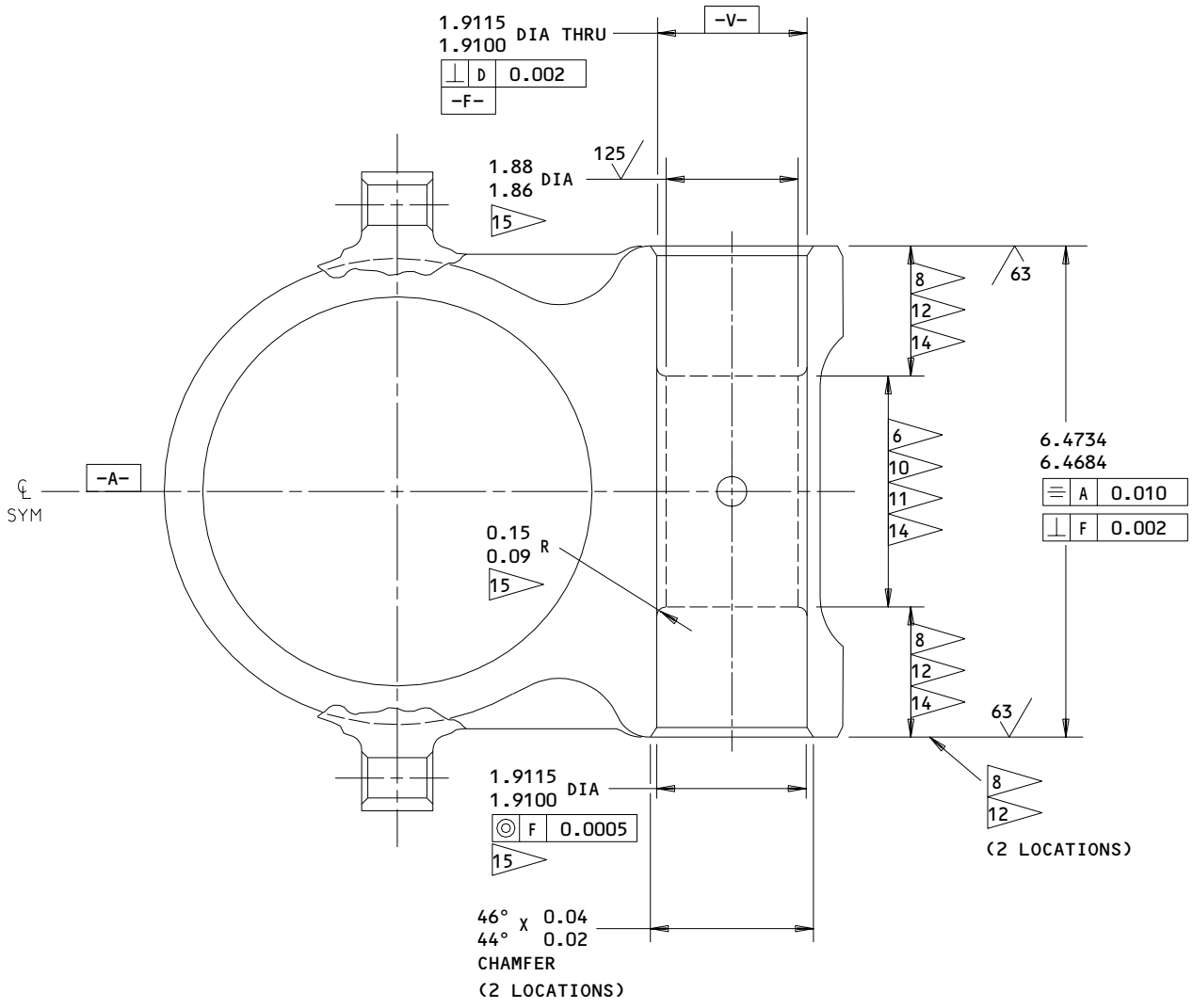
(E)

162T1113-2,-4
Refinish Details
Figure 601 (Sheet 4)



162T1113-2,-4
Refinish Details
Figure 601 (Sheet 5)

817347

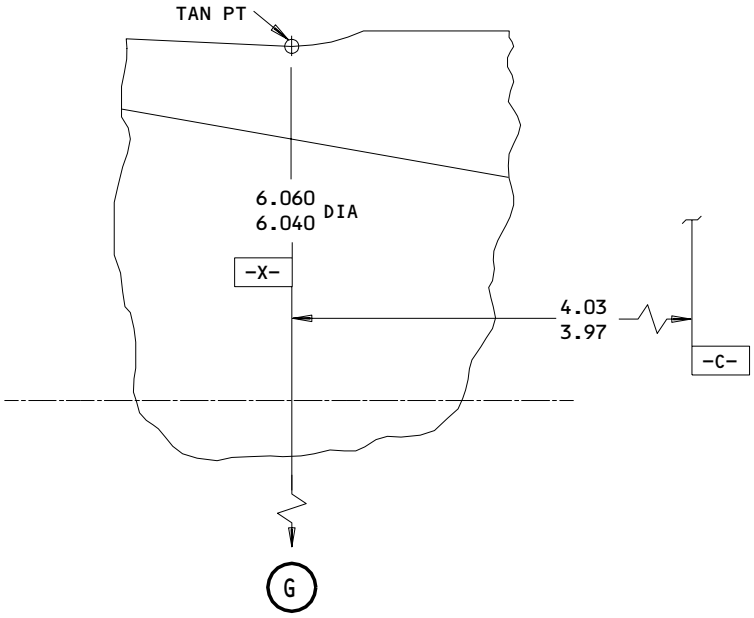


G-G

ALL DIMENSIONS ARE IN INCHES

162T1113-2,-4
Refinish Details
Figure 601 (Sheet 6)

13644



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.

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

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

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 (SRF-14.9813)

14 ID ONLY, THIS LENGTH

15 OPTIONAL MACHINING PATTERN (DASHED LINES)

162T1113-2,-4
Refinish Details
Figure 601 (Sheet 7)

COLLAR ASSEMBLY, STEERING - REPAIR 3-1

162T1404-5

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 3-2 for repair instructions.

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

   D. Check dimensions and machine as necessary.

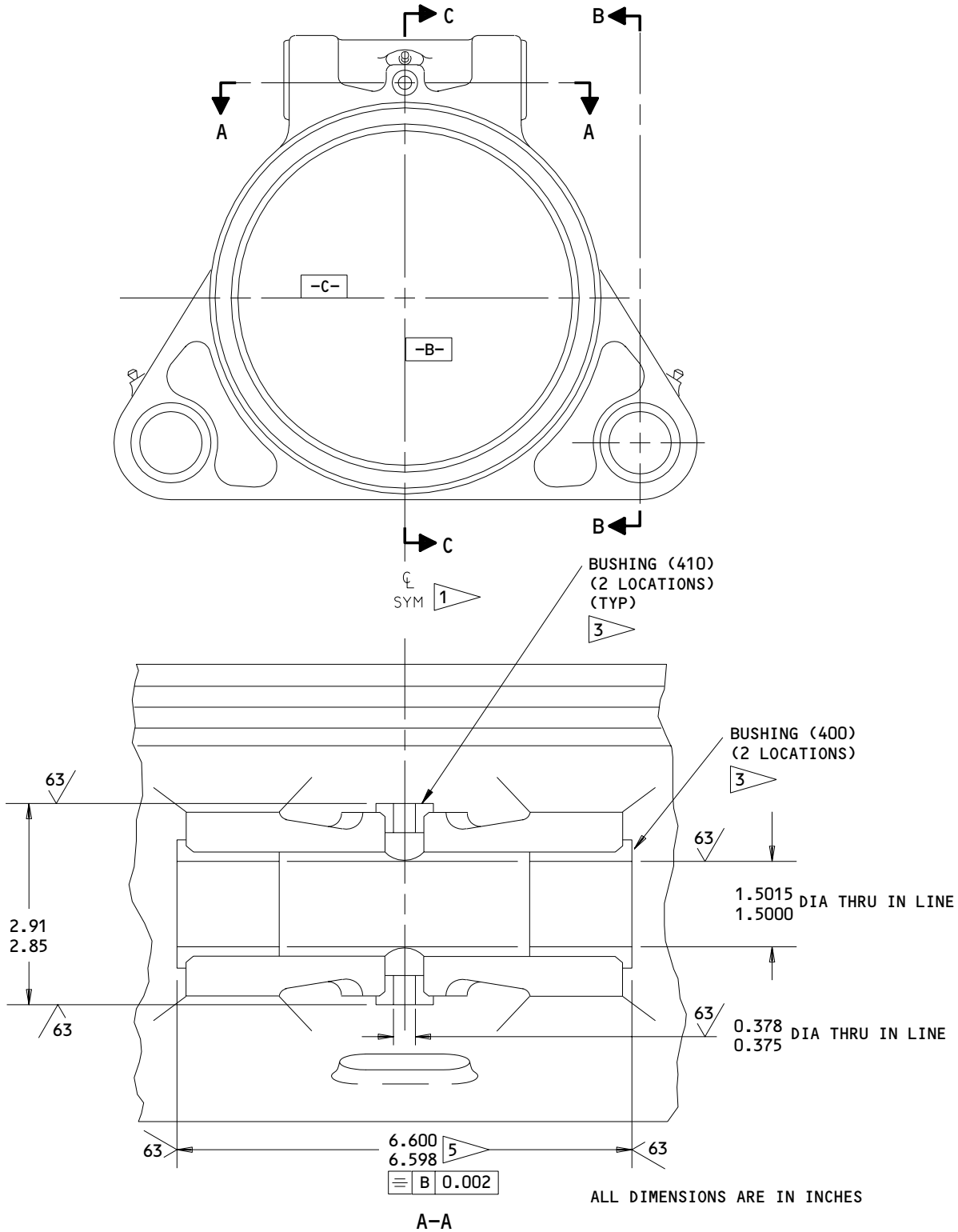
      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

   E. Seal bushings as noted.

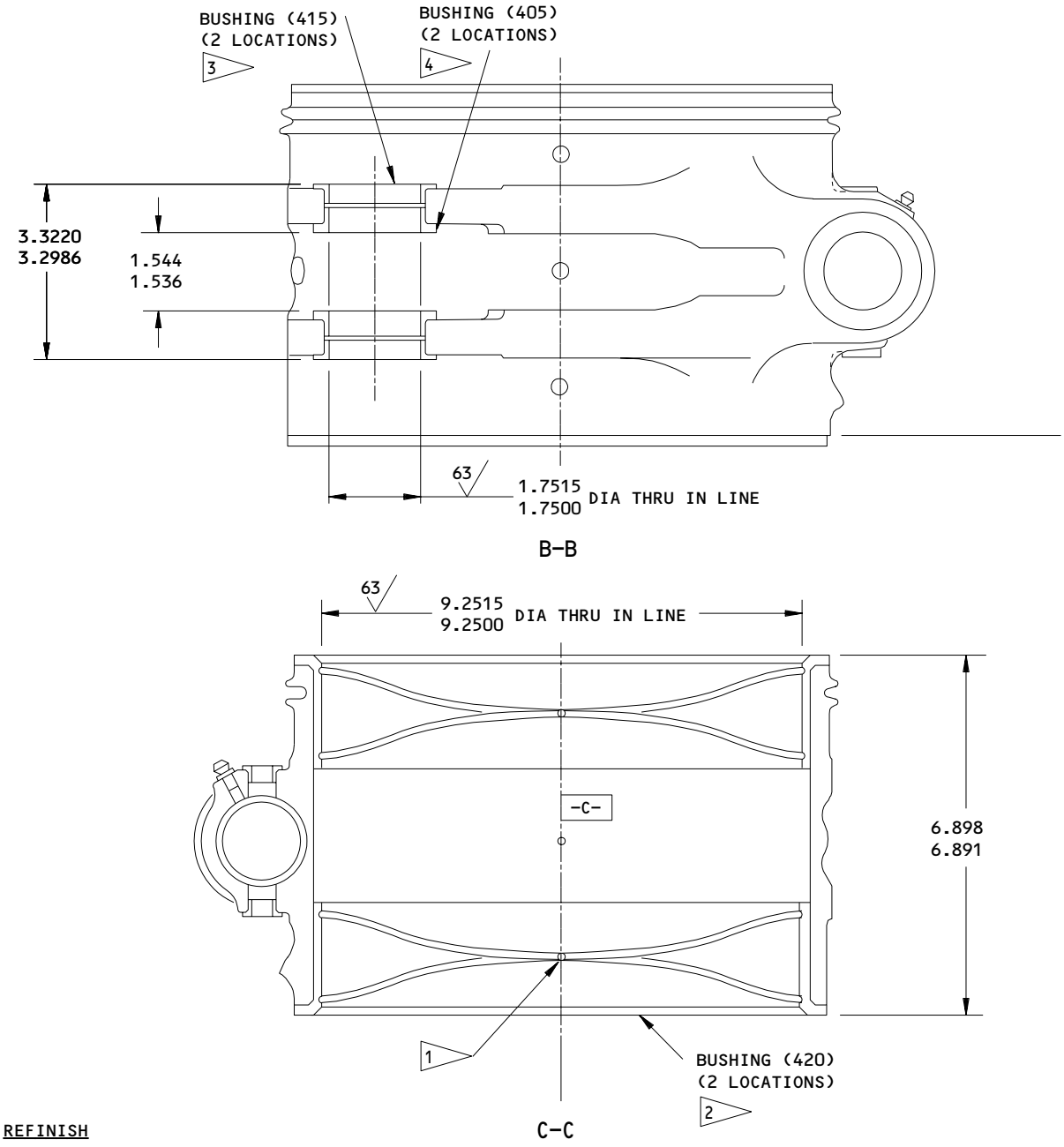
   F. Apply grease at the lube fittings until the grease comes out on the ID of the bushings.

2. Lube Fitting Replacement

   A. Replace lube fittings (395) per CMM 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
4. DO NOT APPLY FILLET SEAL
5. IF OPTIONAL CHROME PLATED BUSHINGS ARE USED, REMOVE MATERIAL FROM THE BACK SIDE OF THE BUSHING FLANGES AS NECESSARY TO GET THIS DIMENSION.

ALL DIMENSIONS ARE IN INCHES

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

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.

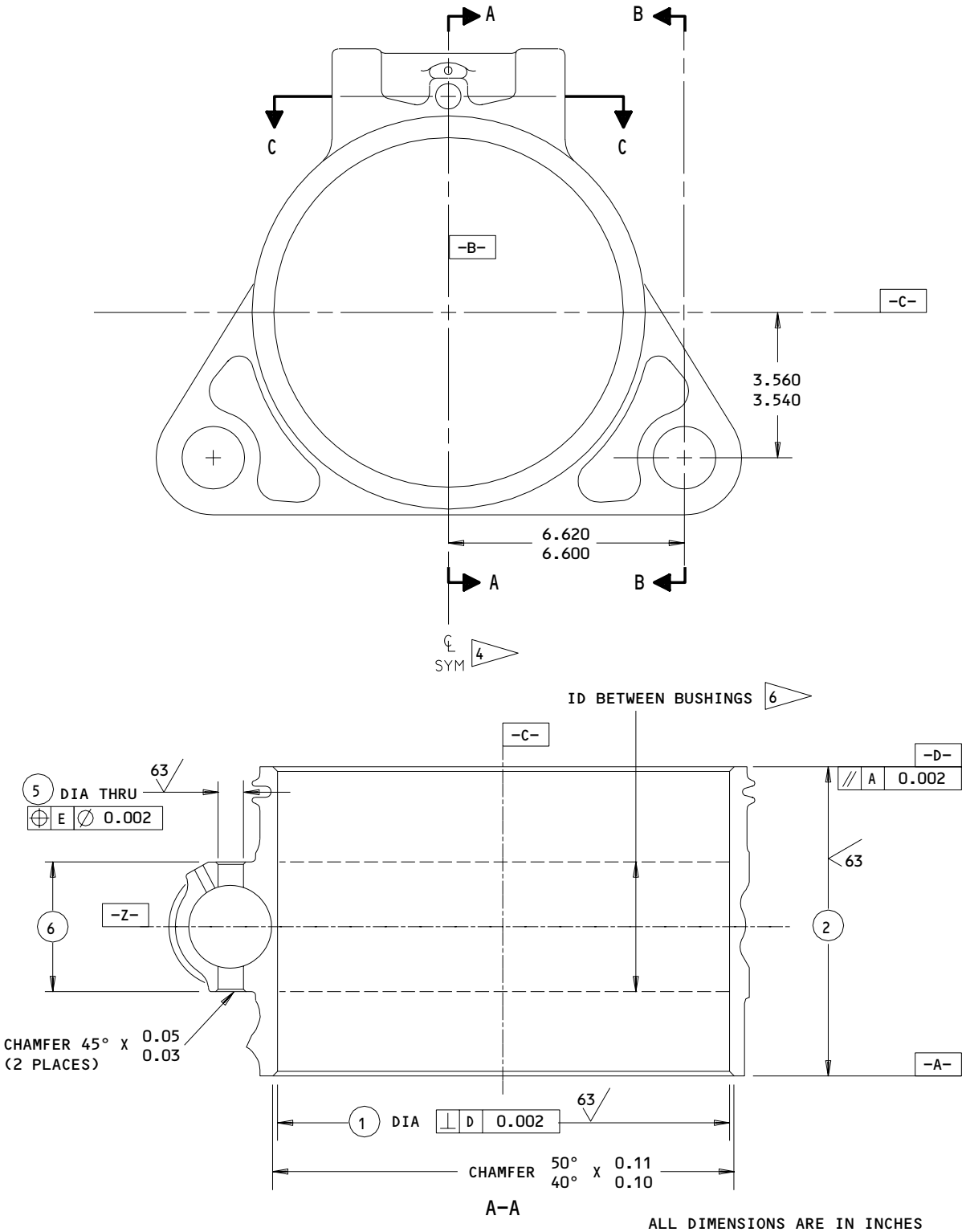
   B. Method 2 -- Installation of oversize Bushings

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

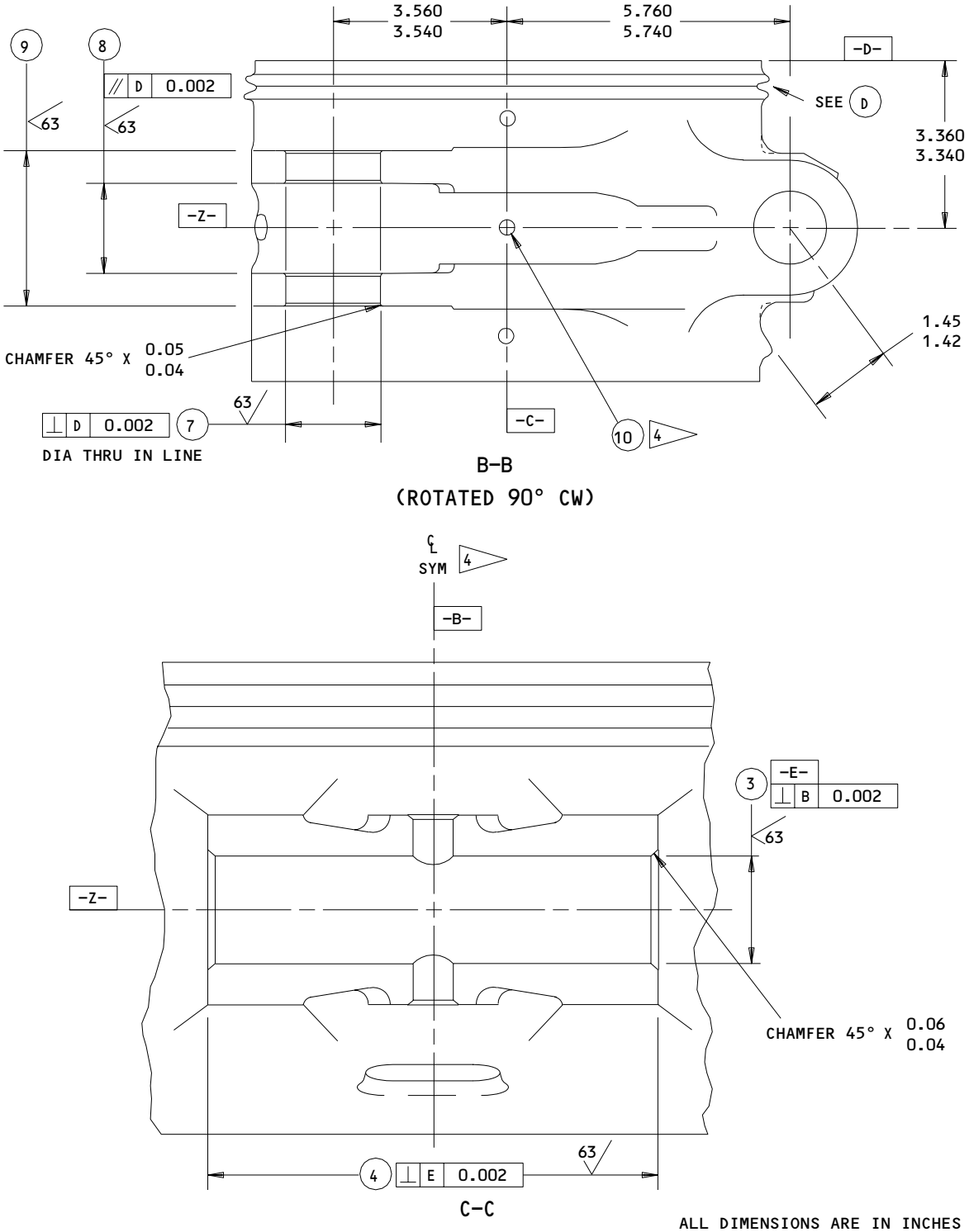
      (2) Shot peen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

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

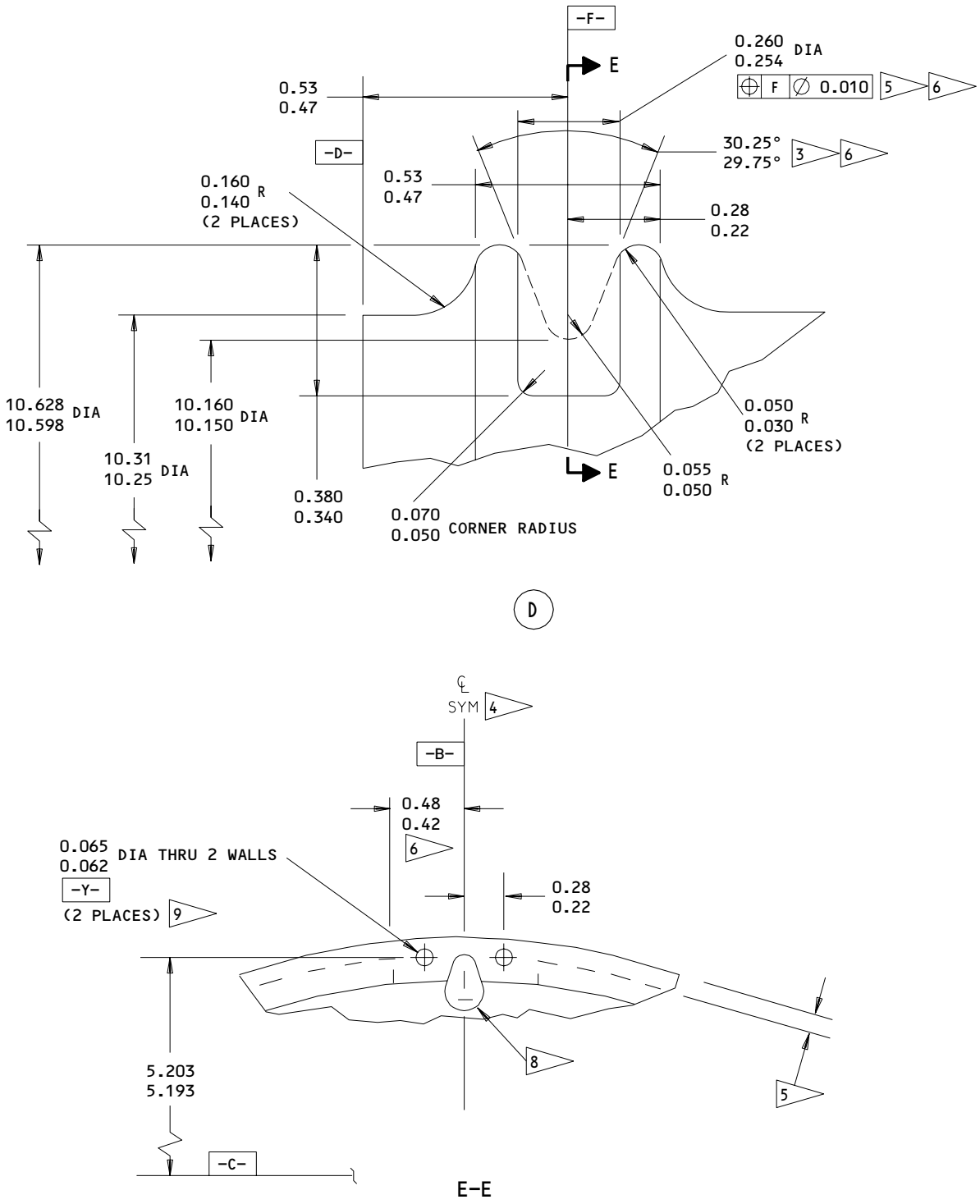
      (4) Install bushings per REPAIR 3-1.



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



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



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 (F-14.9813) ALL OVER, EXCEPT ON BUSHINGS, LUBE FITTINGS, AND AS NOTED PER ▷6.

REPAIR

REF ▷1 ▷2

125 ALL MACHINED SURFACES

BREAK SHARP EDGES 0.06R

SHOT-PEEN: 0.016-0.033 SHOT SIZE
0.014-0.018A2 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 0.03-0.07 R.

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.

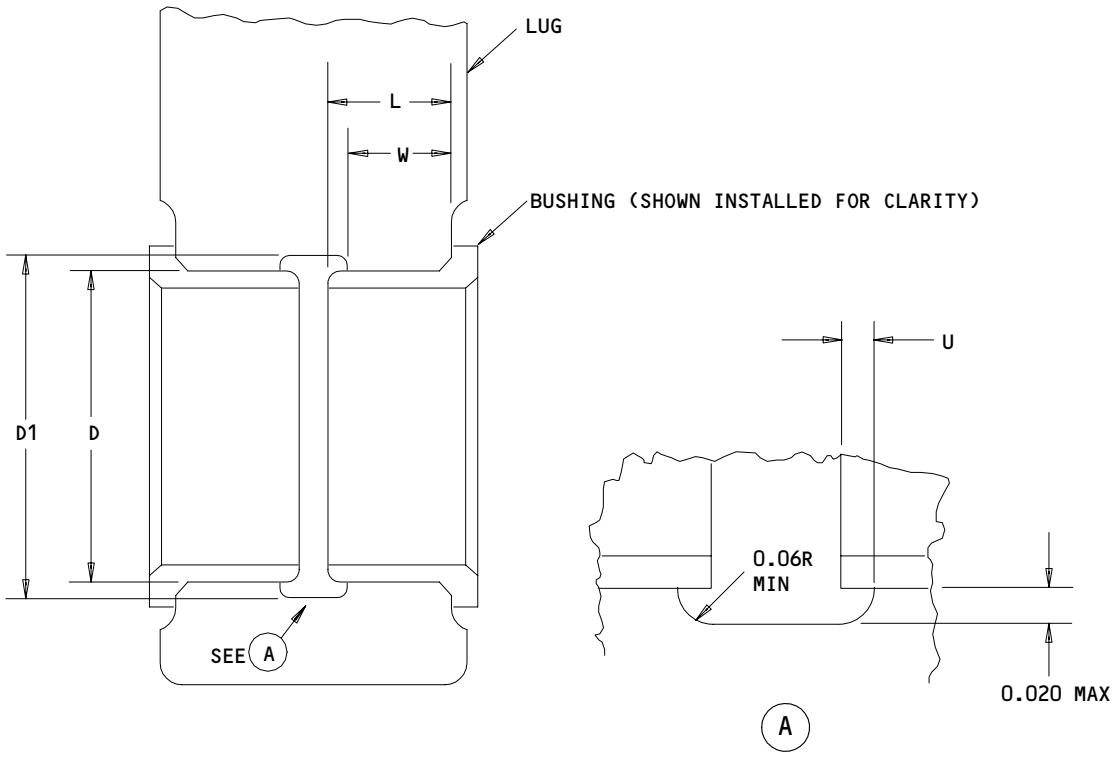
8 BREAK EDGES AROUND HOLE INTERSECTION EQUIVALENT TO 0.015R.

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

ALL DIMENSIONS ARE IN INCHES

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

4793



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

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

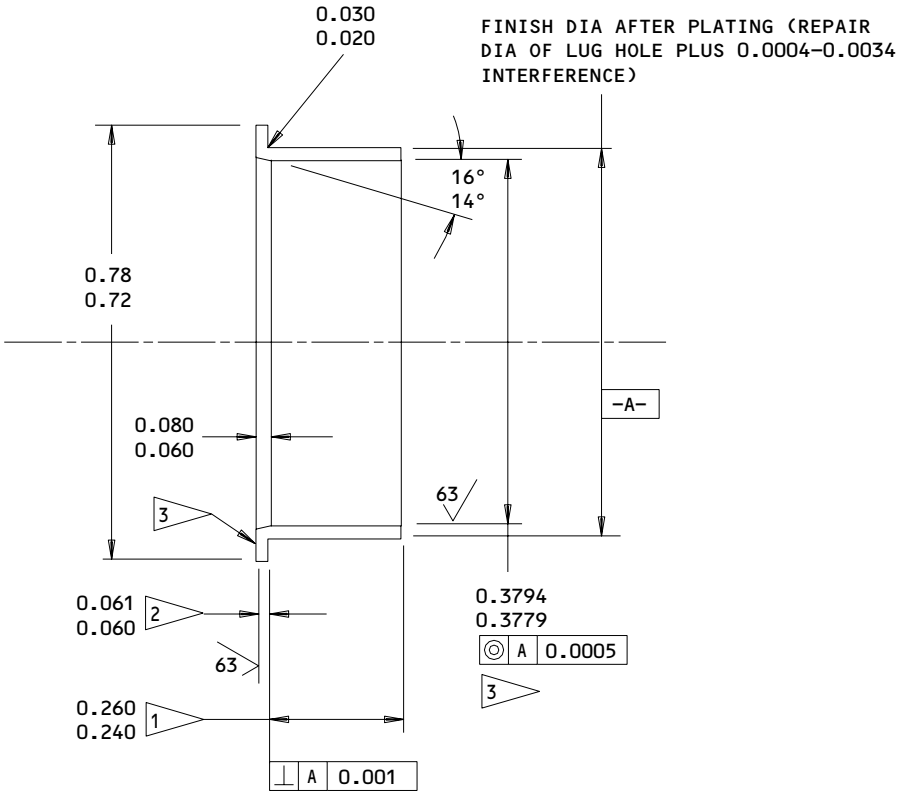
L = LENGTH OF BUSHING (SEE FIG. 603)

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 0.01–0.02R

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

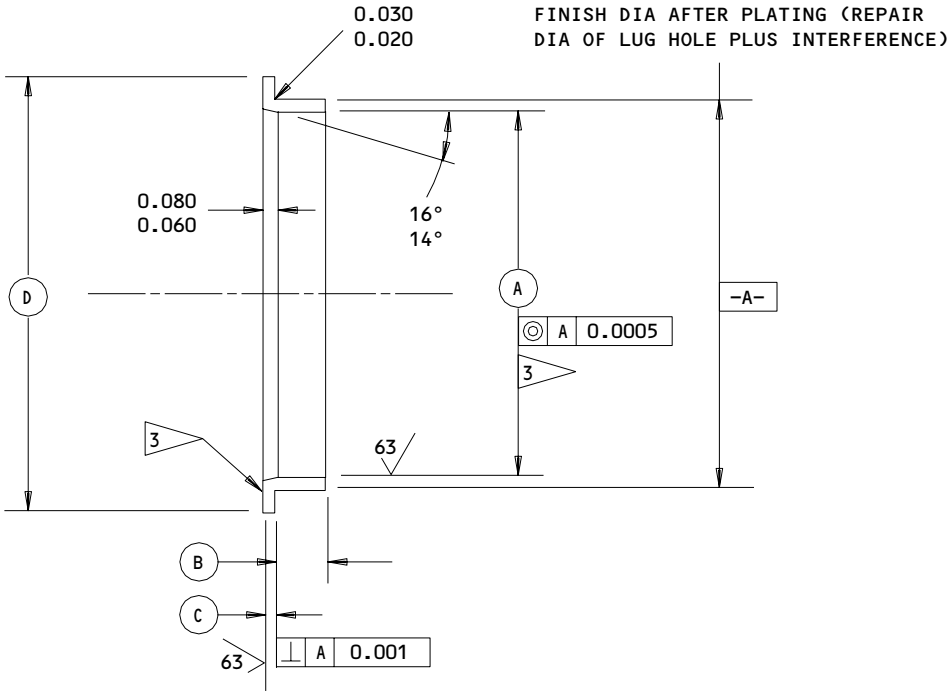
1 MINUS AMOUNT REMOVED FROM LUG FACE

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 0.01-0.02R

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

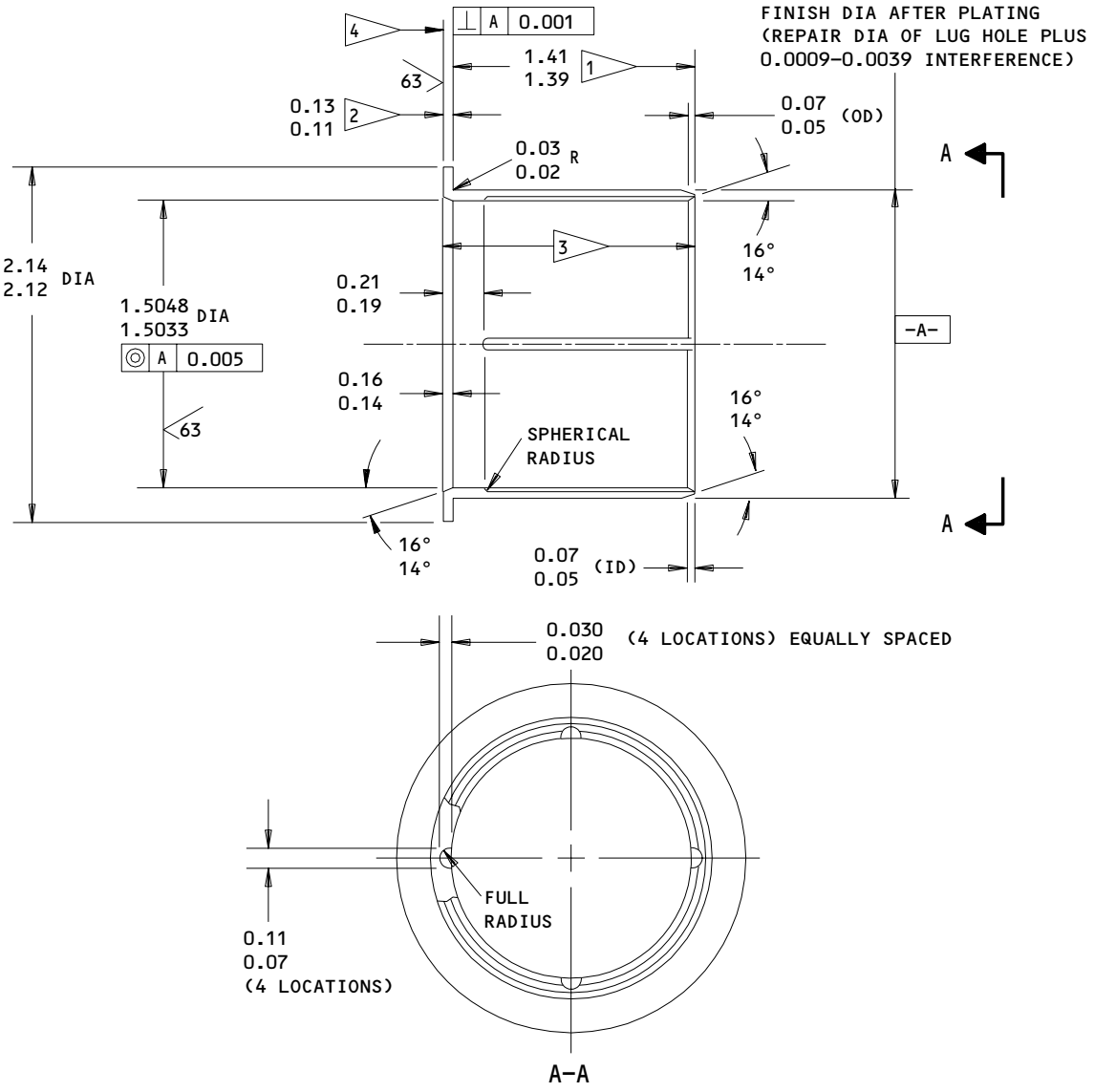
2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING I.D. OR FACE

HOLE LOCATION 7 FIG. 601

Oversize Bushing Details
Figure 604

4499



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

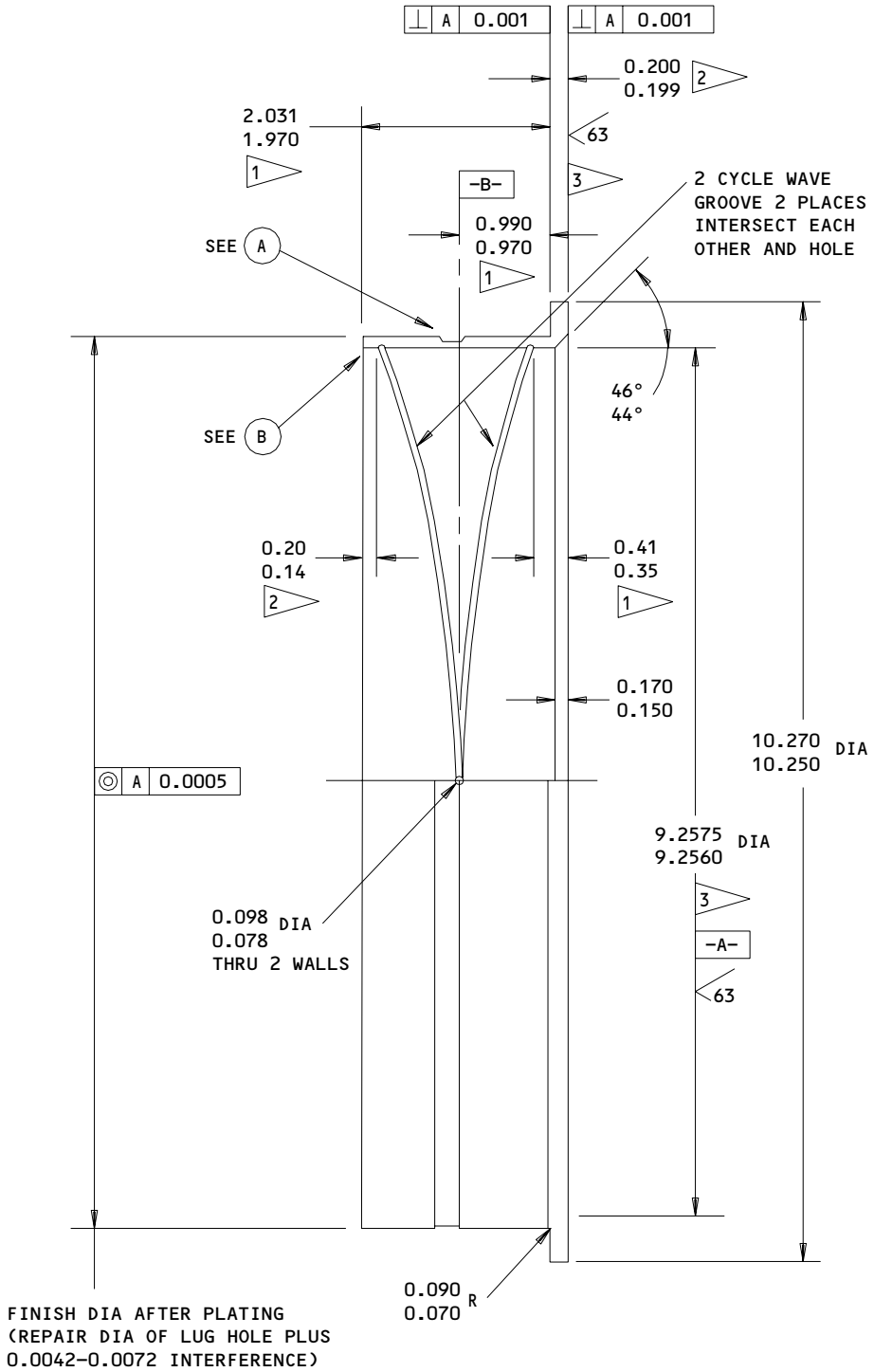
CADMIUM PLATE (F-15.02, 0.0002-0.0004 THICK) ALL OVER UNLESS SHOWN DIFFERENTLY

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

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

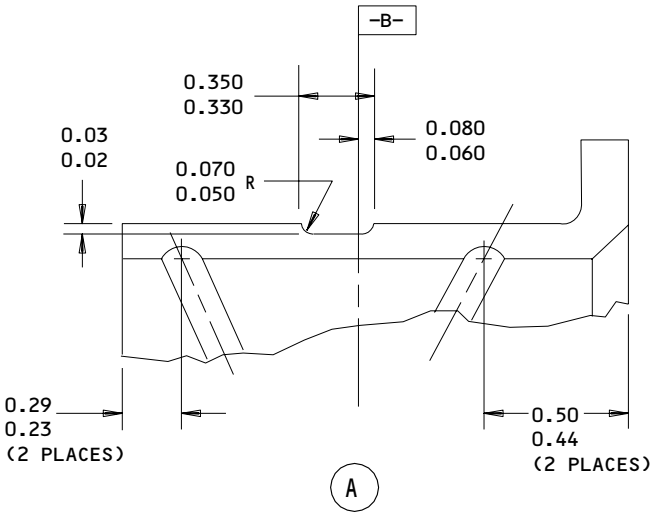
Oversize Bushing Details
Figure 605

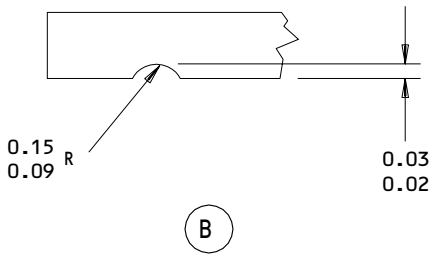


HOLE LOCATION (1) FIG. 601 ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 606 (Sheet 1)

4497





125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.010-0.030R

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)

4496

LINK ASSEMBLY, TORSION, LOWER - REPAIR 4-1

162T1114-3, -4

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 4-2 for repair instructions.

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

   D. Check dimensions and machine as necessary.

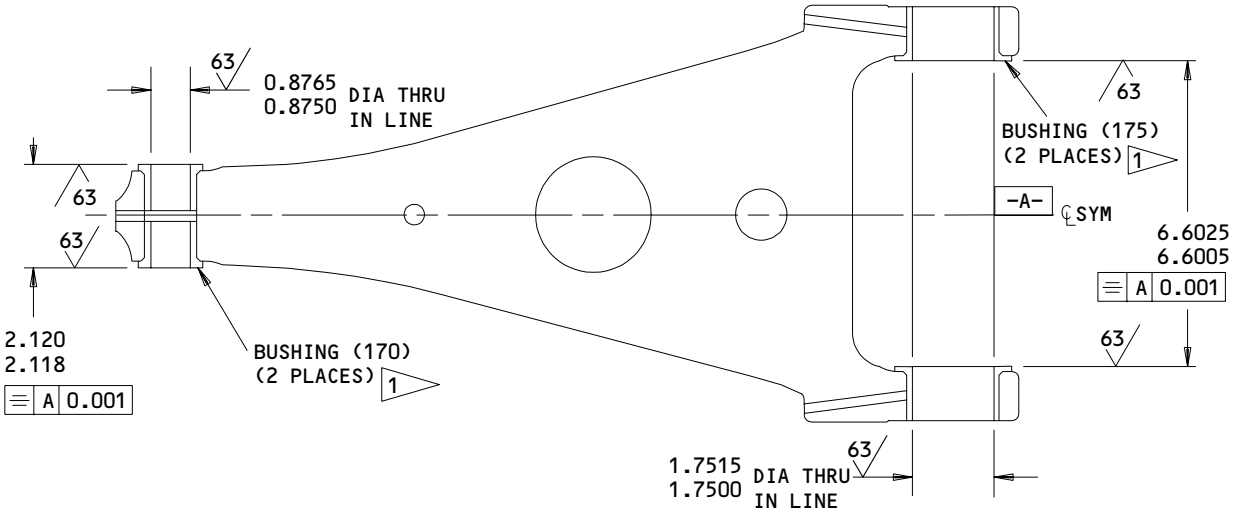
      NOTE: Machining of bushings after installation is not normally required since bushings and lug faces are premachined to provide dimensions shown.

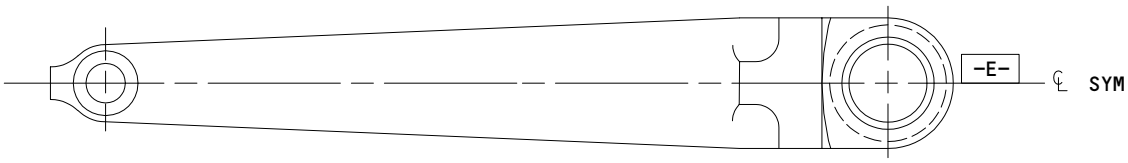
   E. Seal bushings as noted.

   F. Apply grease at the lube fittings until the grease comes out on the ID of the bushings.

2. Lube Fitting Replacement

   A. Replace lube fittings (180, 185) per CMM 32-00-03.





ALL DIMENSIONS ARE IN INCHES

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

162T1114-3,-4
Bushing Replacement
Figure 601

4868

LINK, TORSION, LOWER - REPAIR 4-2

162T1114-2

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.

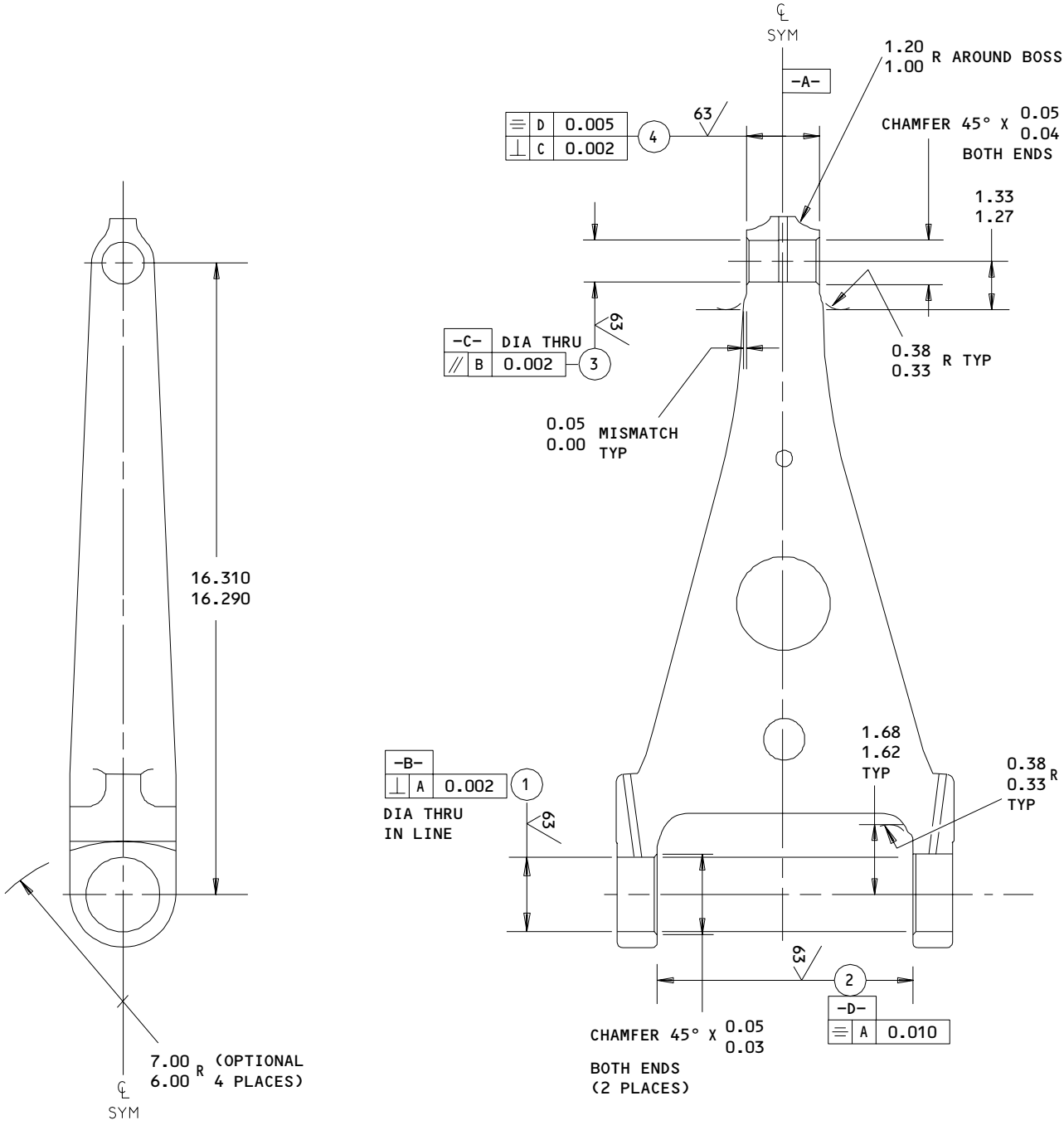
B. Method 2 -- Installation of Oversize Bushings

(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

162T1114-2
Lug Face and Hole Repair
Figure 601 (Sheet 1)

	(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	6.7616	1.0615	1.9584

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 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, EXCEPT ON BUSHINGS AND LUBE FITTINGS.

REPAIR

REF 1 2

125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES: 0.06R

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

MATERIAL: 4340M STEEL (275-300 KSI)

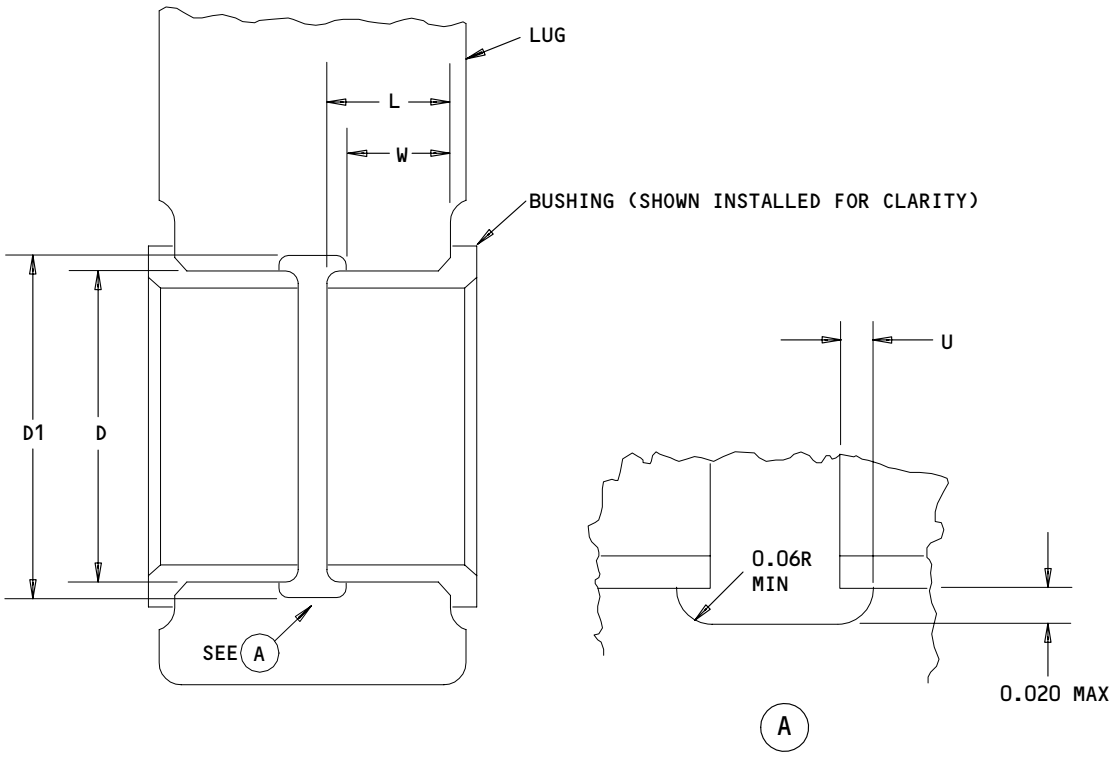
ALL DIMENSIONS ARE IN INCHES

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. BLEED 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.

162T1114-2
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)

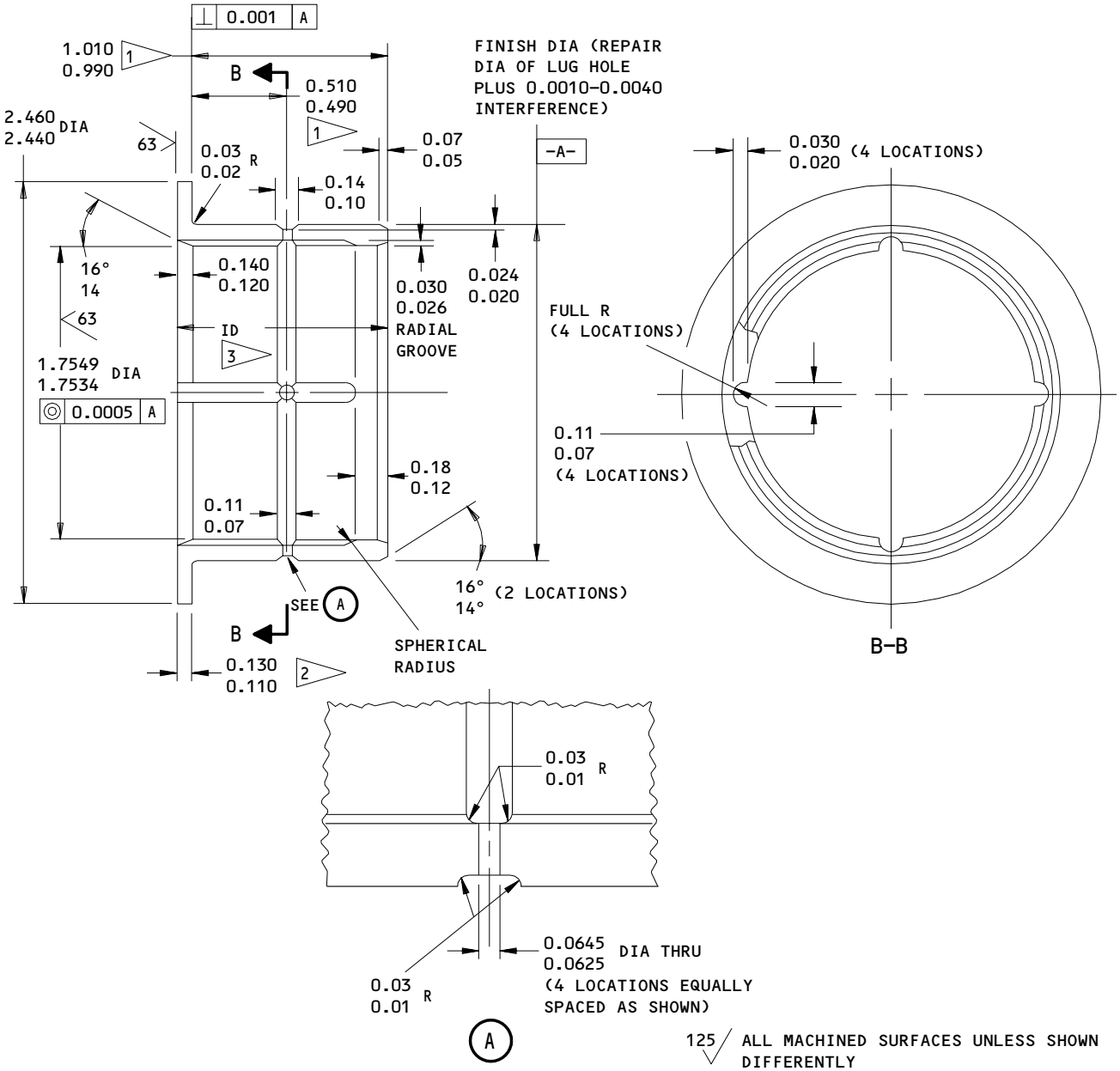
L = LENGTH OF BUSHING (SEE FIG. 603)

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

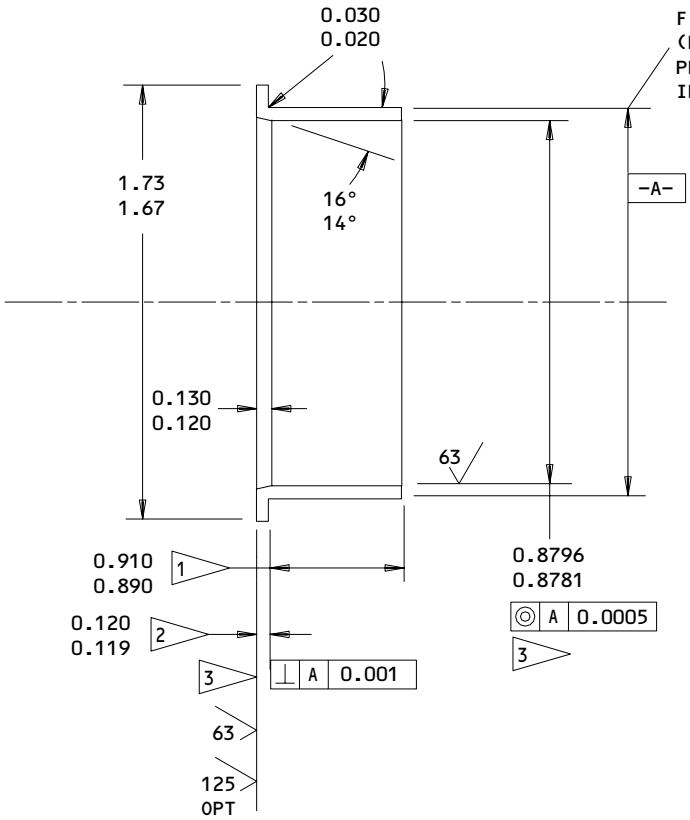
2 PLUS AMOUNT REMOVED FROM LUG FACE

3 DO NOT PLATE BUSHING ID

HOLE LOCATION (1) - REPLACES BUSHING (175) 162T1123-2

Oversize Bushing Details
Figure 603

5634



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 0.01–0.02R

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

5638

LINK ASSEMBLY, TORSION, UPPER - REPAIR 5-1

162T1116-3, -4, -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 5-2 for repair instructions.

   C. Install replacement bushings by the shrink-fit method (SOPM 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 grease at the lube fittings until the grease comes out on the ID of the bushings.

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 you find defects on lug faces or hole surfaces, refer to REPAIR 5-2 for repair instructions.

   E. Install a replacement sleeve by the shrink-fit method (SOPM 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. Put spring (145) and plunger (150) into cap assembly (120).

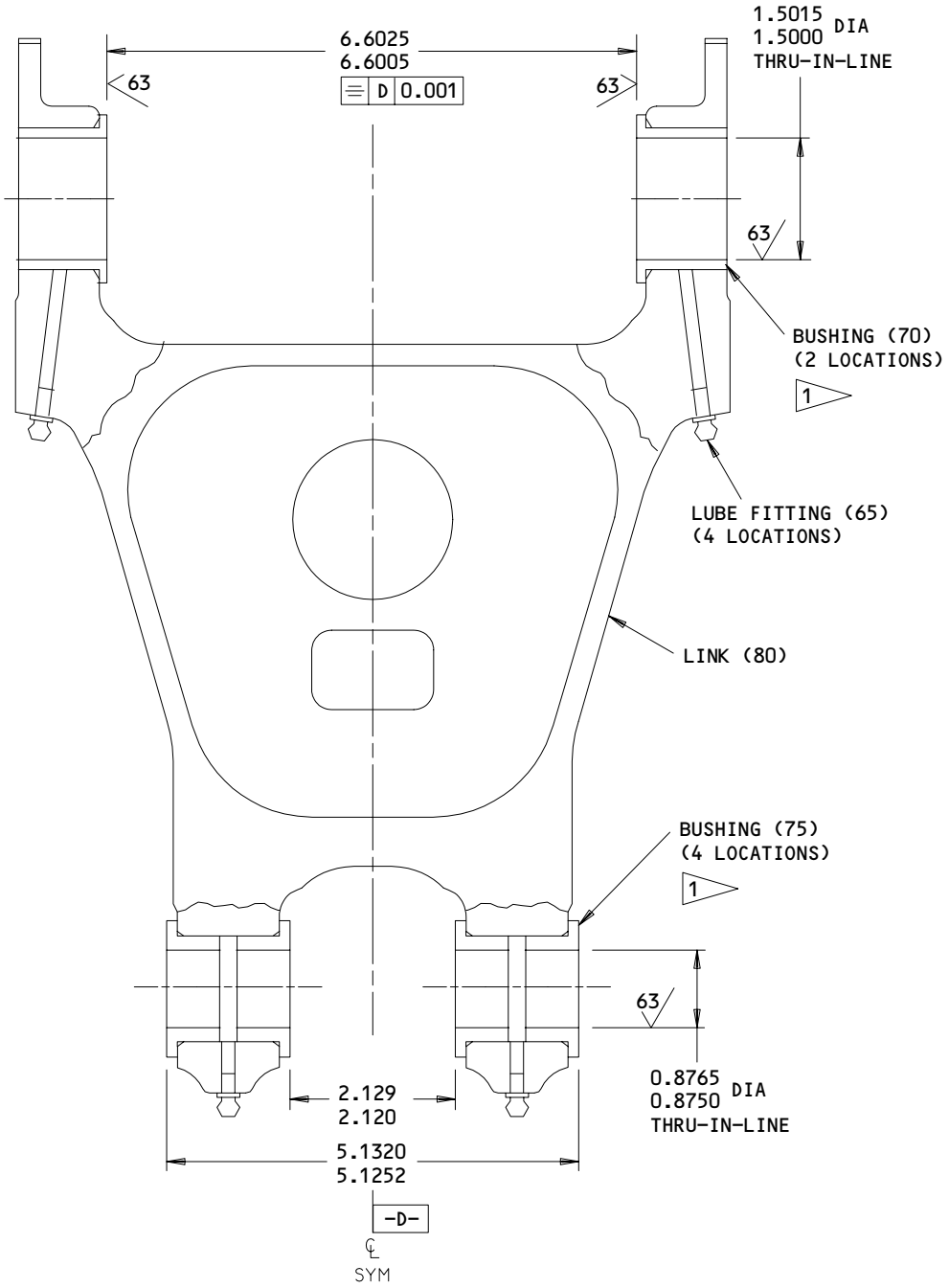
J. Install cap assembly (120) on sleeve (155) with washer (135) and lockplate (140). Tighten cap to 30-40 lb-ft.

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

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

3. Lube Fitting Replacement

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



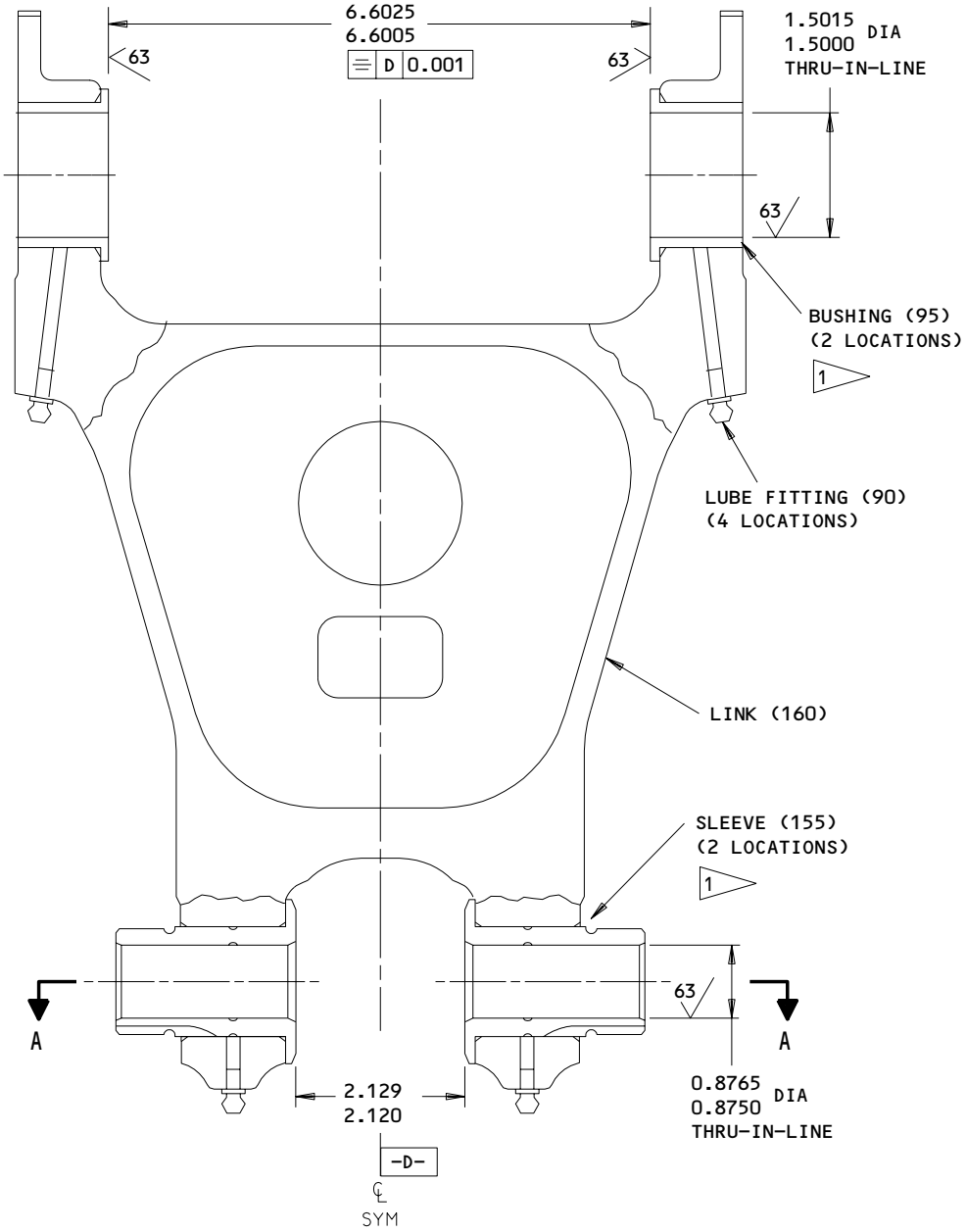
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

1 FILLET SEAL PER REPAIR 19-1 FIG. 601

162T1116-3

Upper Torsion Link Parts Replacement
Figure 601 (Sheet 1)



1 FILLET SEAL PER REPAIR 19-1 FIG. 601

NOTE: PARTS (100 THRU 150) NOT SHOWN FOR CLARITY.

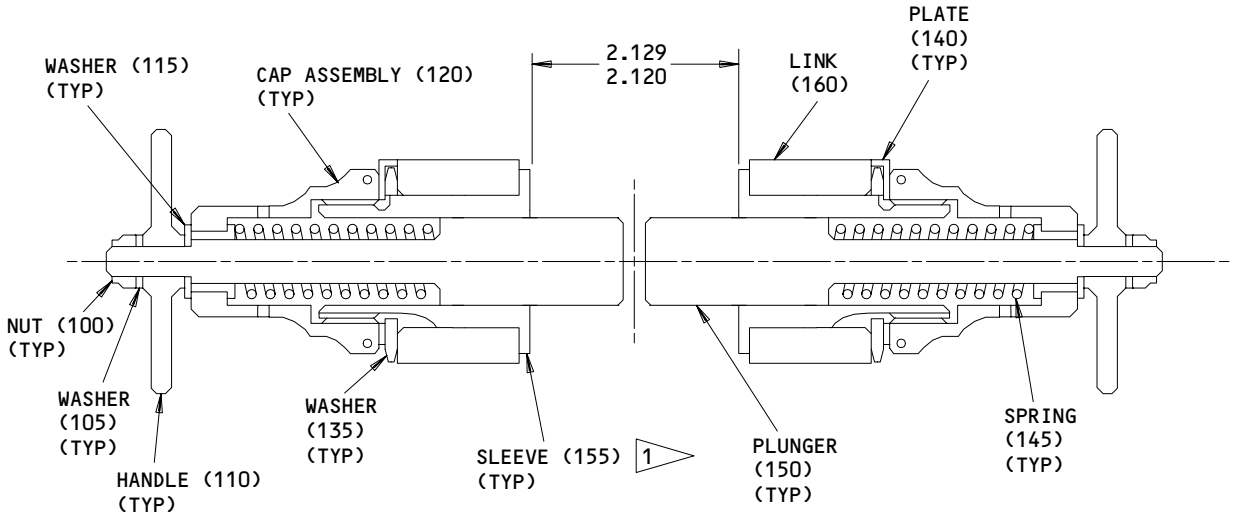
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

162T1116-4,-5

Upper Torsion Link Parts Replacement
Figure 601 (Sheet 2)

B58553



A-A

ITEM NUMBERS REFER TO IPL FIG. 1

1 FILLET SEAL PER REPAIR 19-1 FIG. 601

ALL DIMENSIONS ARE IN INCHES

162T1116-4,-5

Upper Torsion Link Parts Replacement
Figure 601 (Sheet 3)

100291

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.

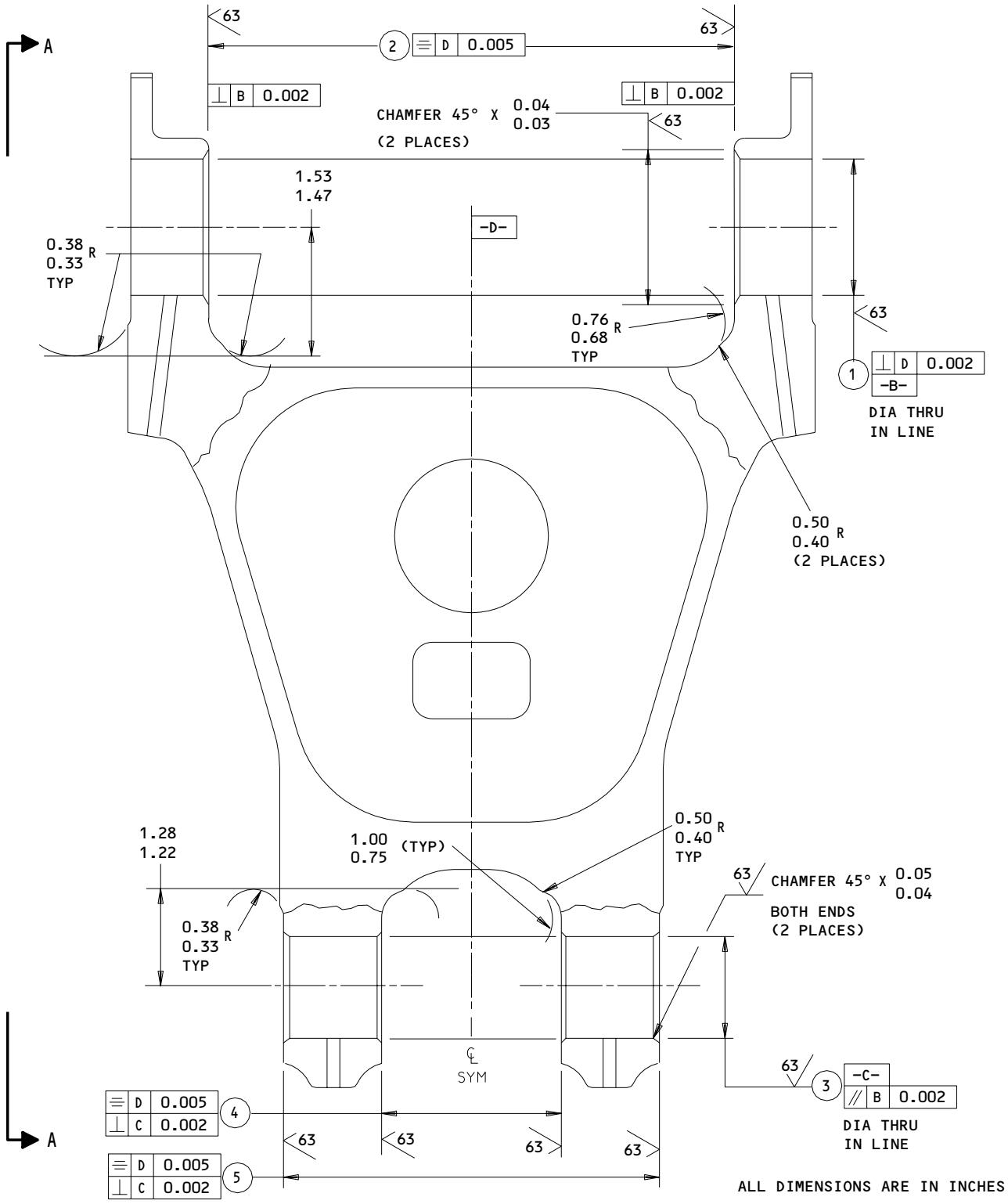
B. Method 2 -- Installation of Oversize Bushings or Sleeves

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

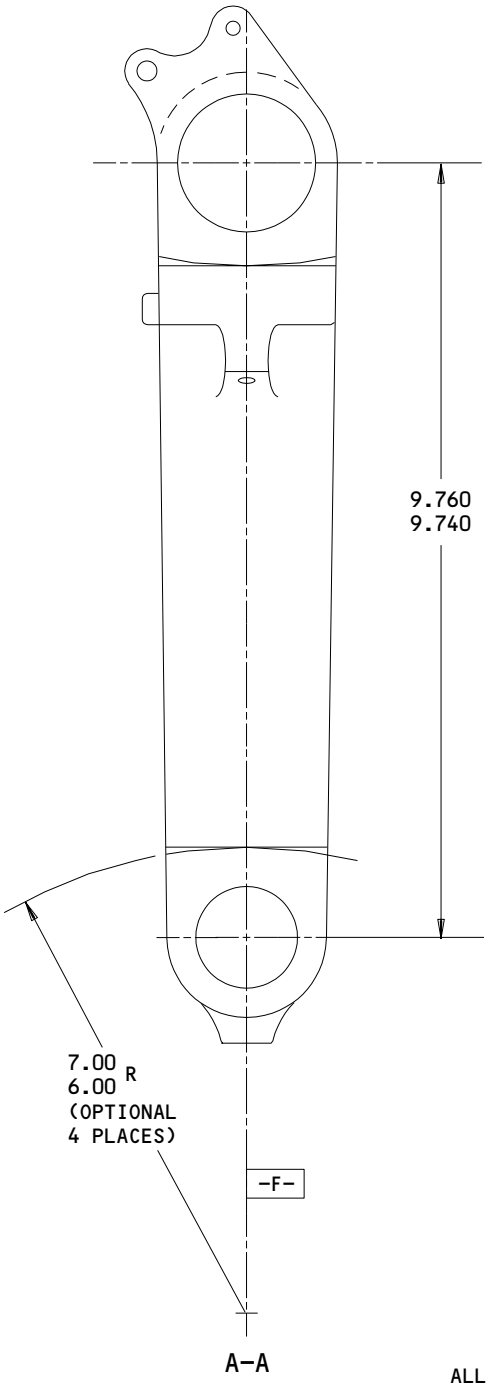
(2) Shotpeen, cadmium-titanium plate and apply primer, BMS 10-11, type 1.

(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)



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 0.06R

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

MATERIAL: 4340M STEEL (275-300 KSI)

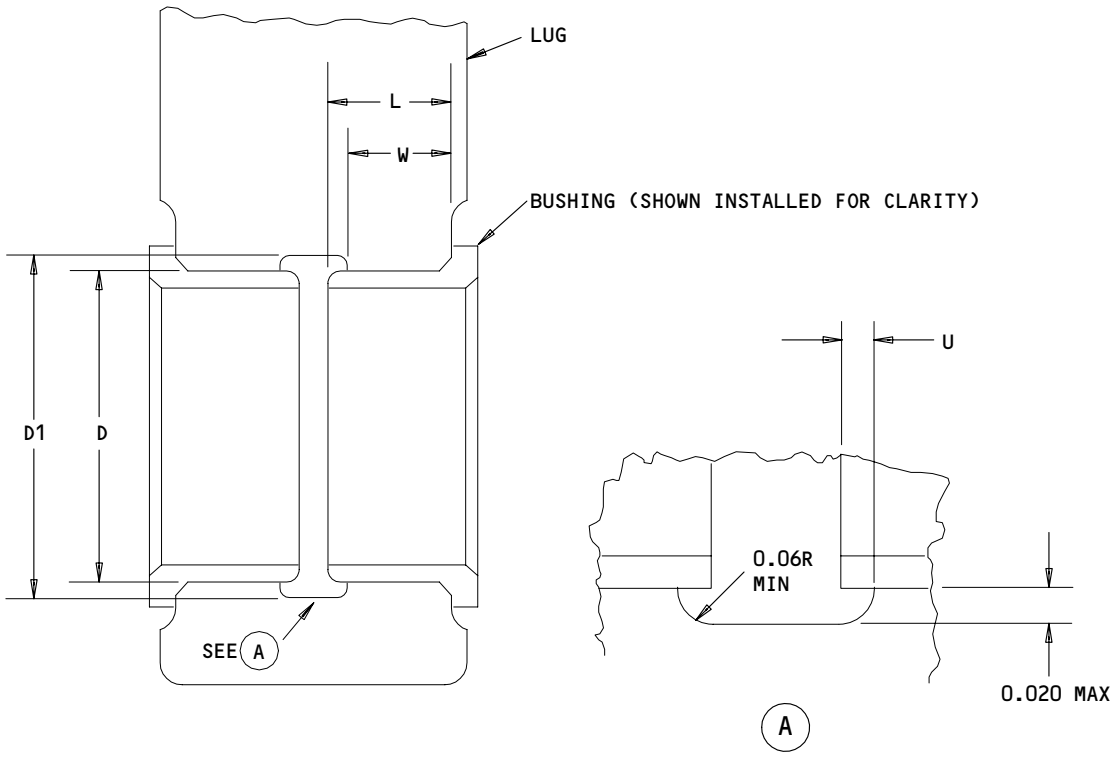
ALL DIMENSIONS ARE IN INCHES

▷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)

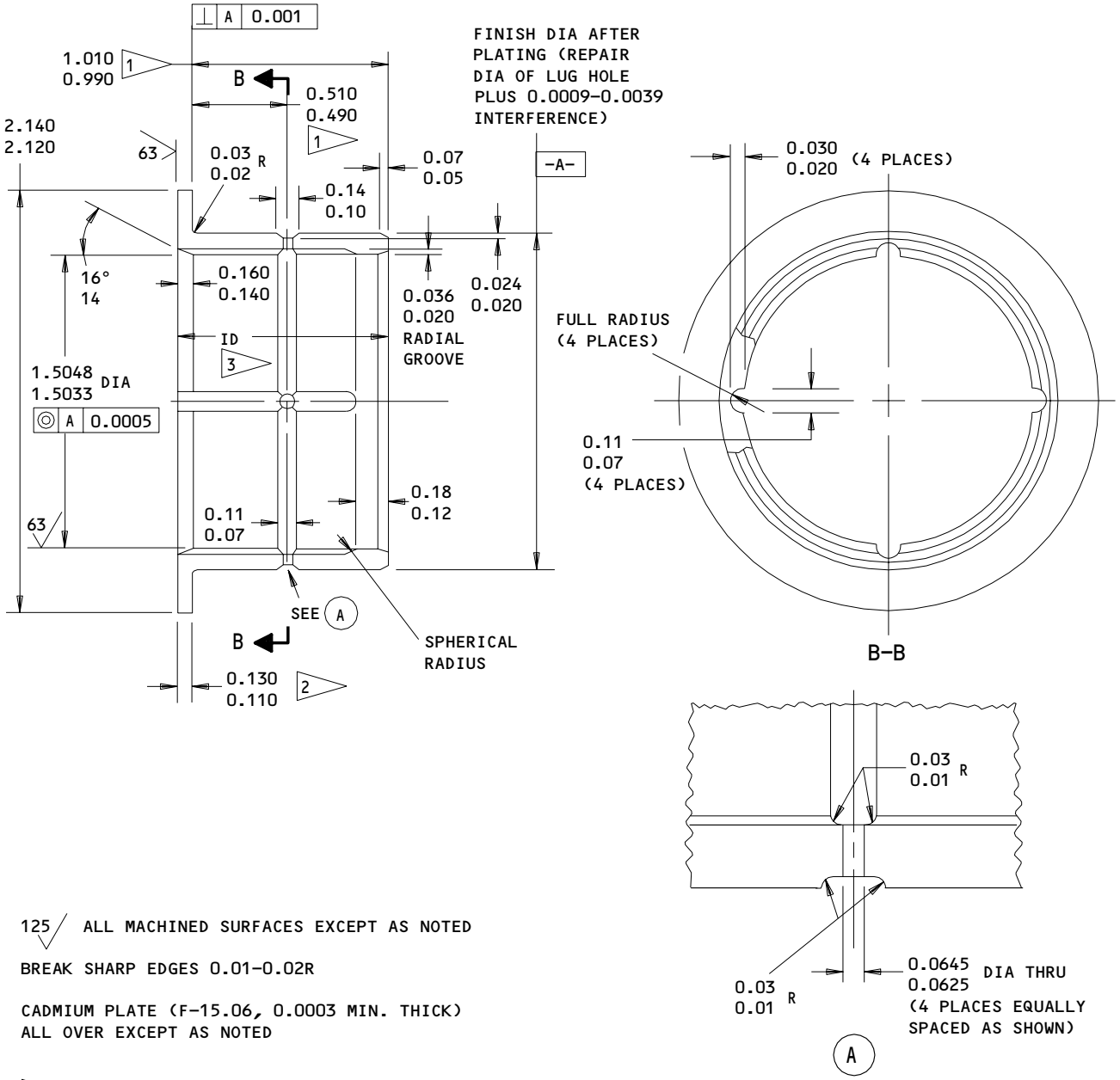
L = LENGTH OF BUSHING (SEE FIG. 603)

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 0.01-0.02R

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

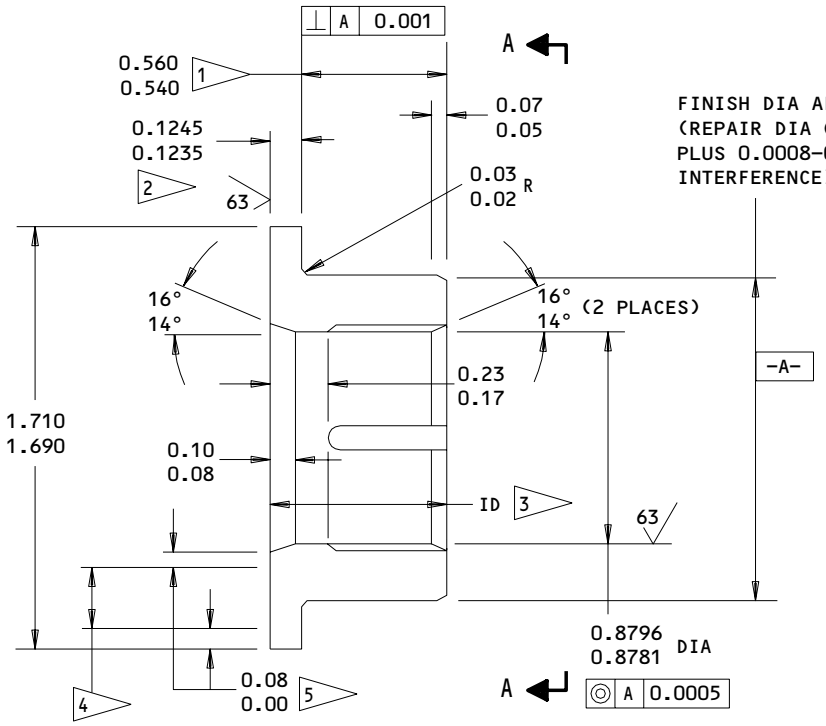
ALL DIMENSIONS APPLY BEFORE PLATING

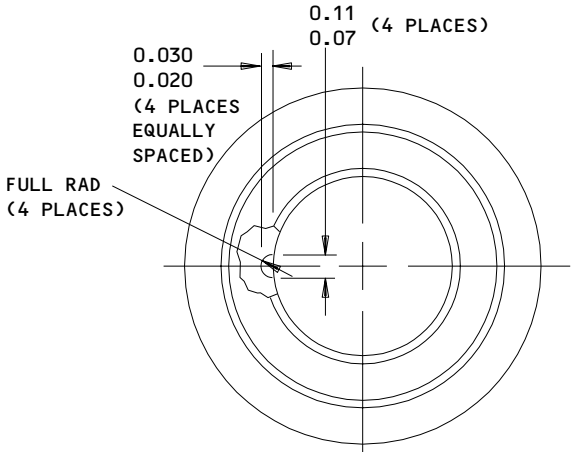
ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (1)

Oversize Bushing Details
Figure 603

5665





125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES 0.01–0.02R

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

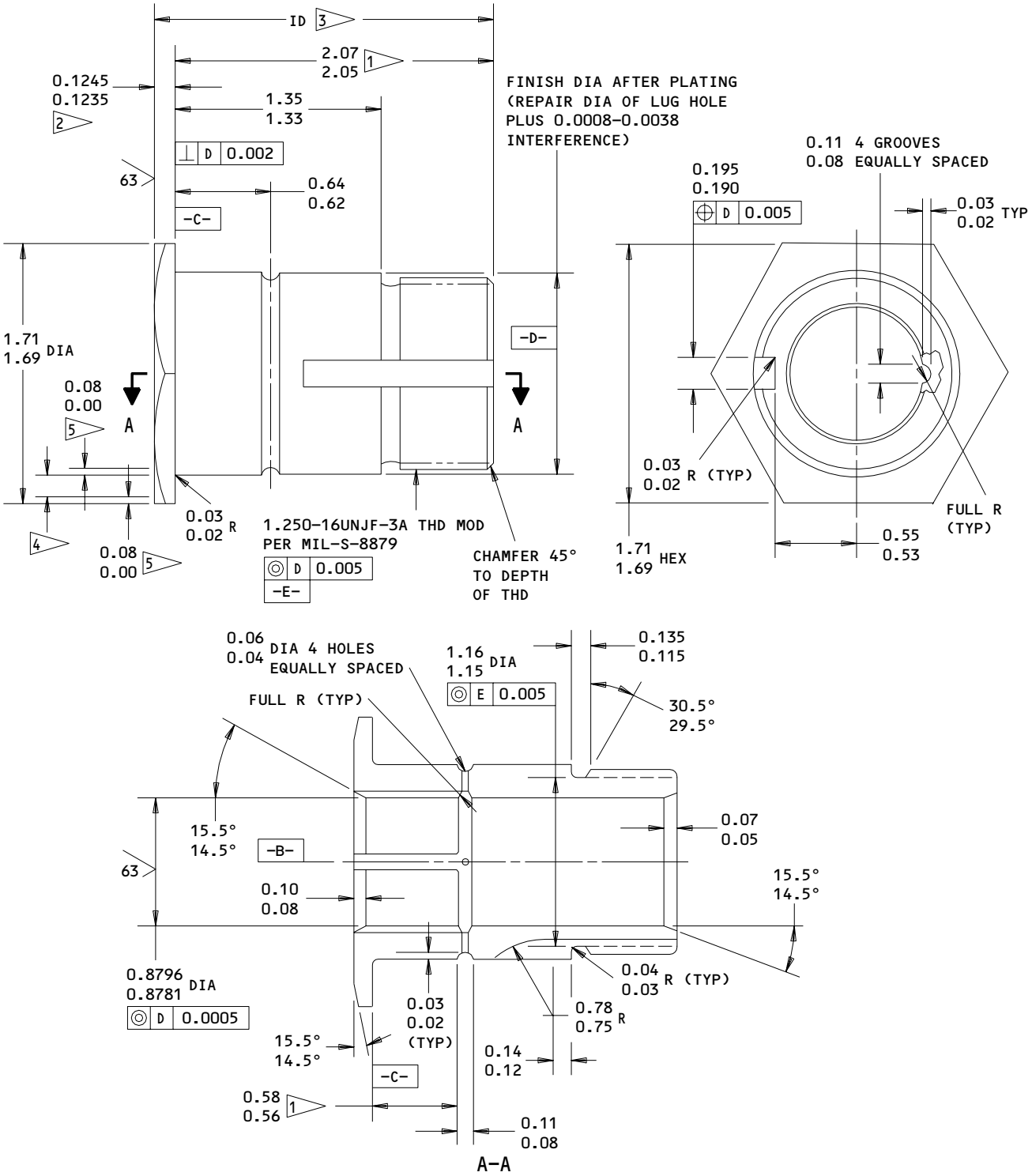
3 DO NOT PLATE ID (F-25.01)

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)

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.

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, UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRZ, AS GIVEN IN 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)

SUPPORT ASSEMBLY, TORQUE TUBE - REPAIR 6-1

162T1400-1

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 6-2 for repair instructions.

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

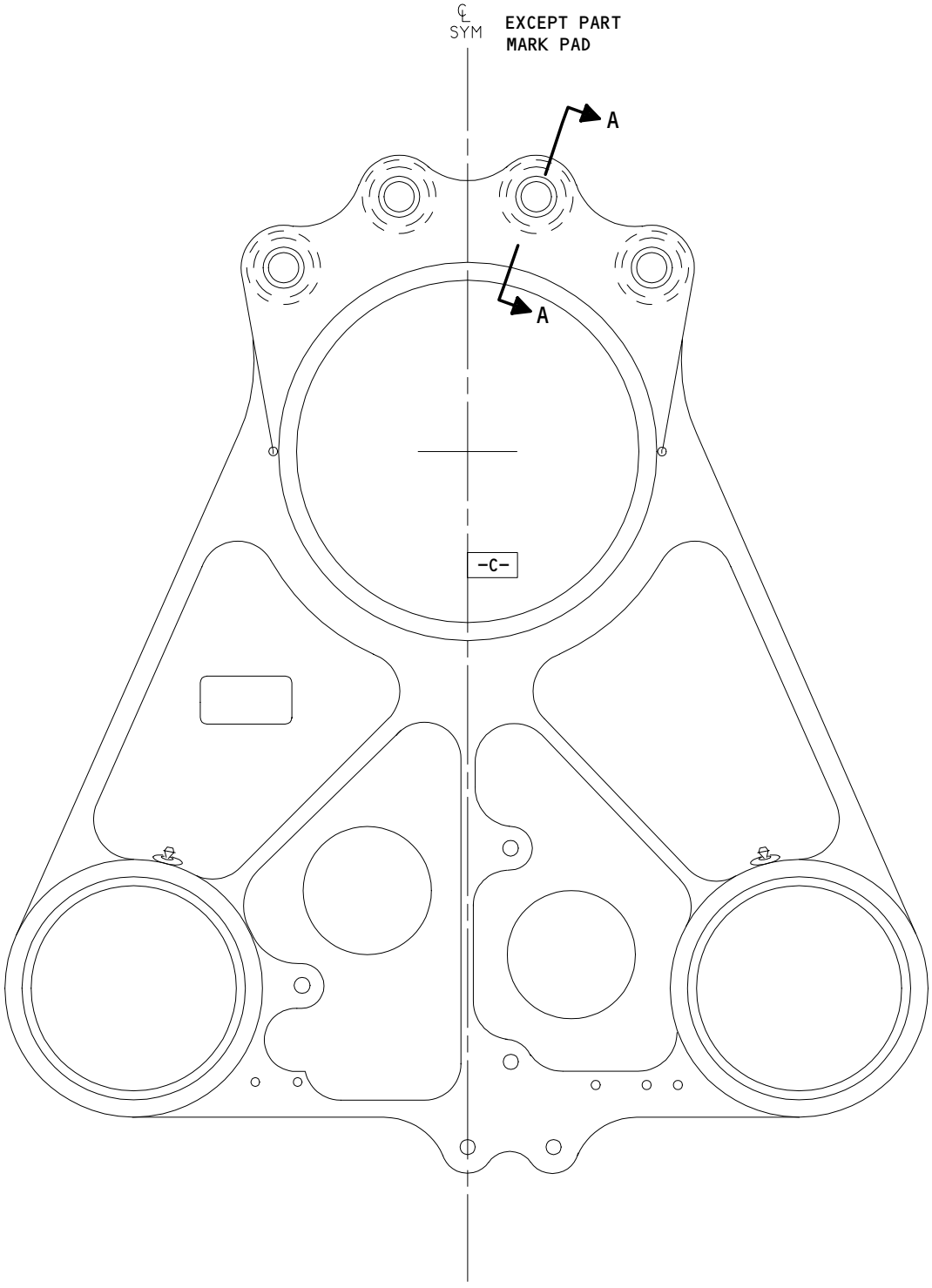
   D. Check dimensions and machine as necessary.

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

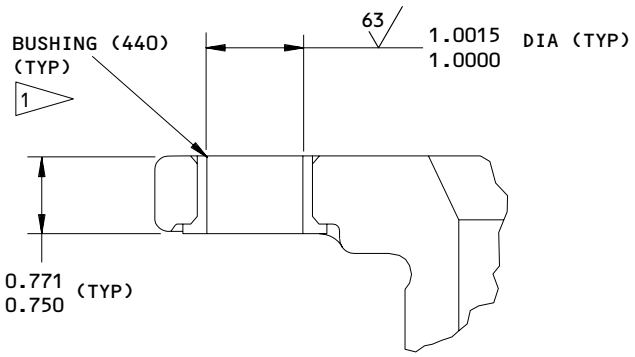
   E. Seal bushings as noted.

2. Lube Fitting Replacement

   A. Replace lube fittings (435) per CMM 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)

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.

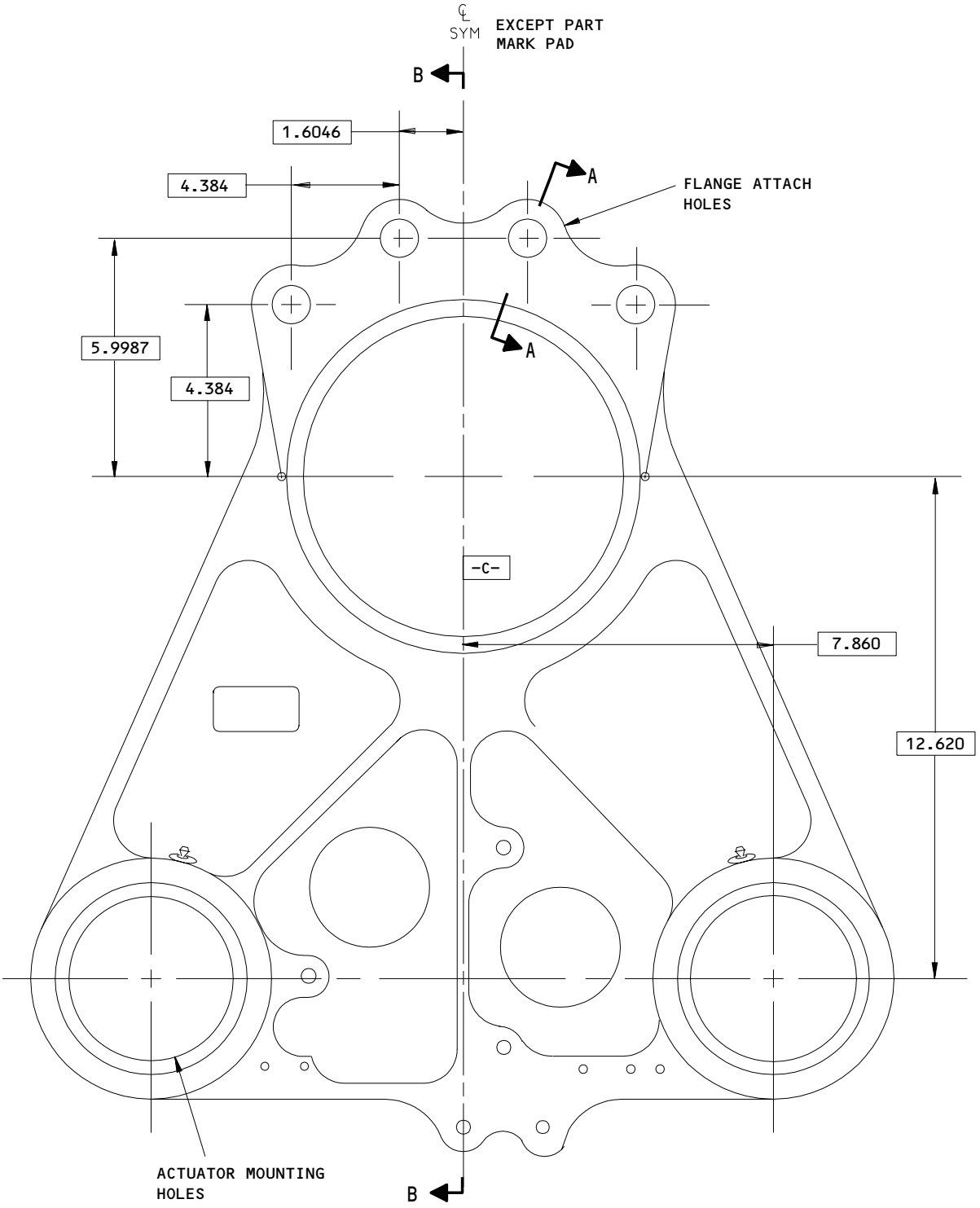
(3) Make bushings (Fig. 602), as required, to adjust for the amount of material removed in step (1).

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

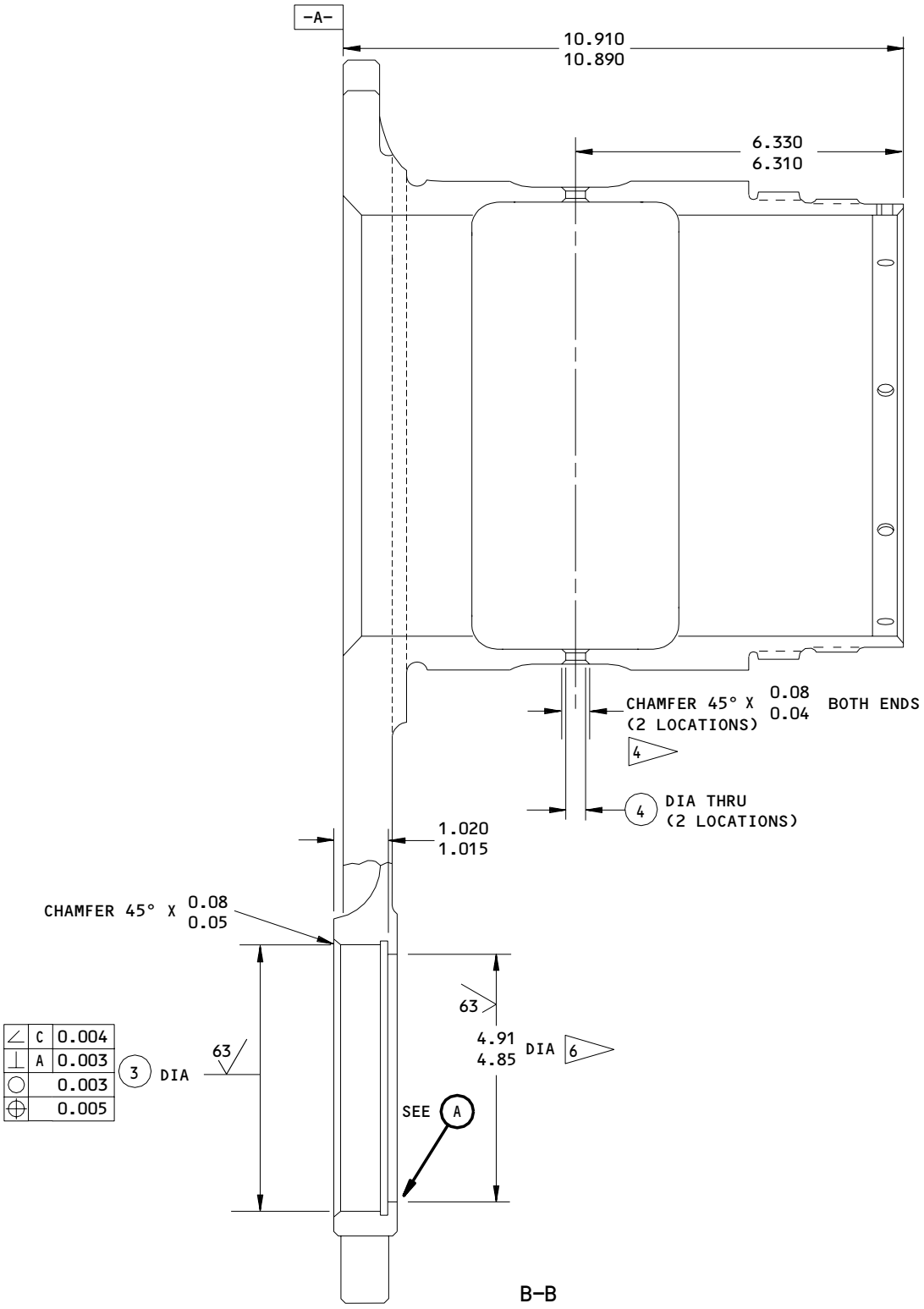
B. Actuator Mounting Holes -- Chrome Plate Repair (Fig. 601)

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

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

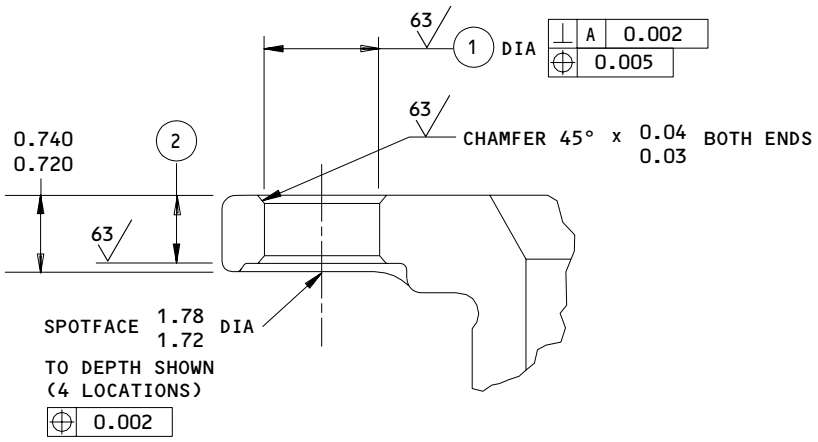


162T1400-2,-3,-4
Lug Face and Hole Repair
Figure 601 (Sheet 1)

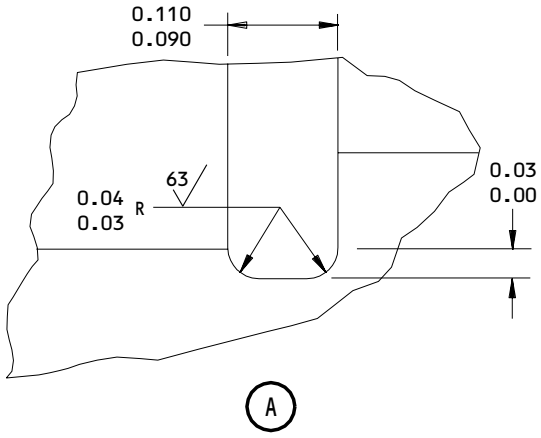


162T1400-2,-3,-4
Lug Face and Hole Repair
Figure 601 (Sheet 2)

4667



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

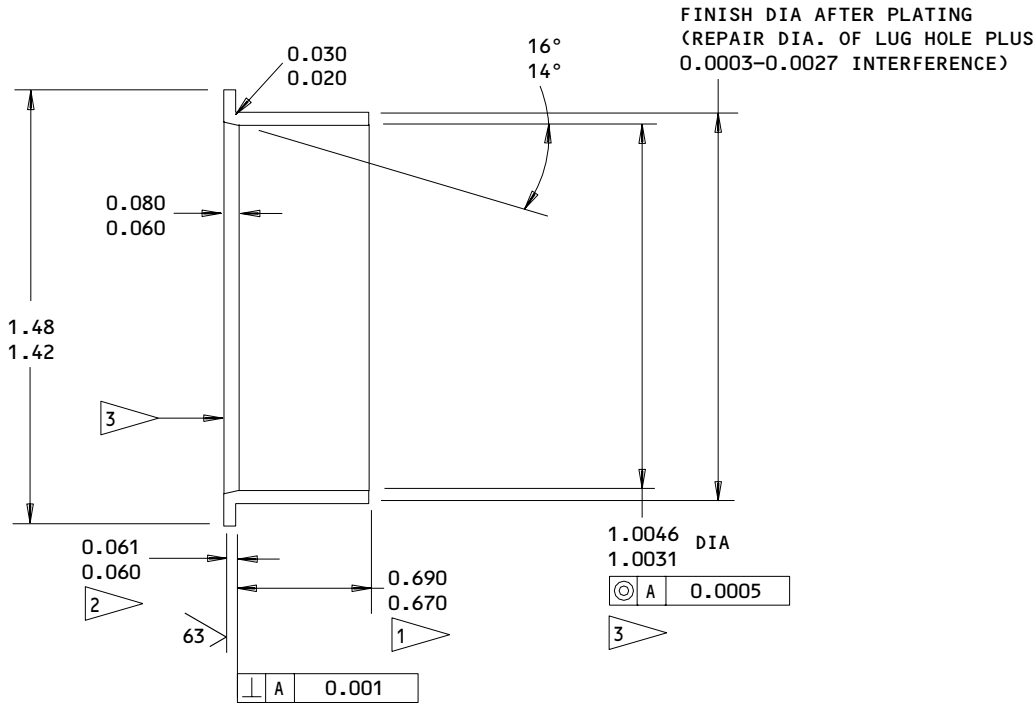
SHOT PEEN: 0.017-0.033 SHOT SIZE
0.012 A2 INTENSITY

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)

4477



125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES: 0.01–0.02R

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

4678

SUPPORT, TORQUE TUBE - REPAIR 6-3

162T1400-2, -3, -4

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

1. 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)

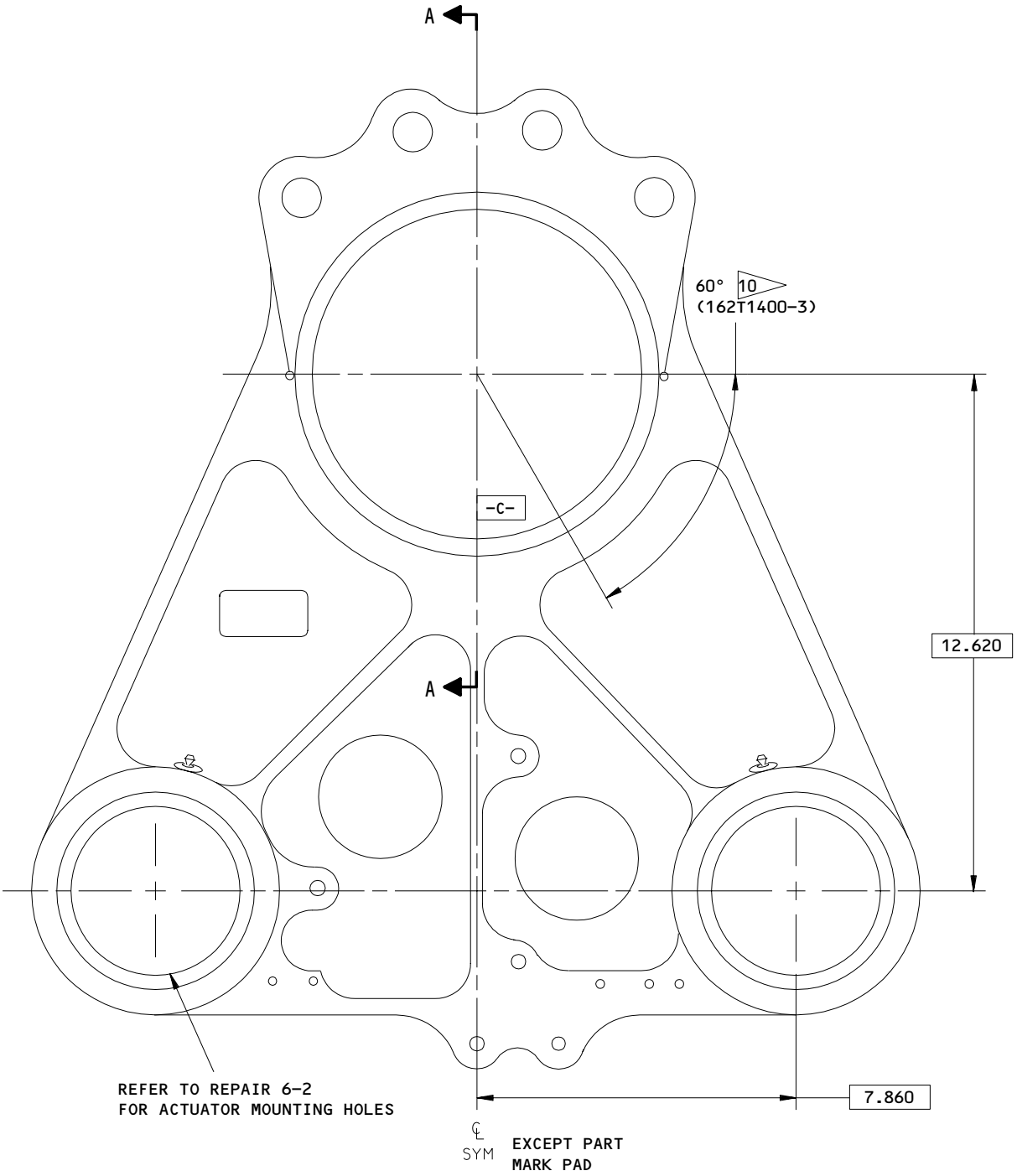
   A. Machine as required, within repair limits, to remove defects. Blend into relief groove if necessary.

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

4. Relief Grooves (Fig. 601)

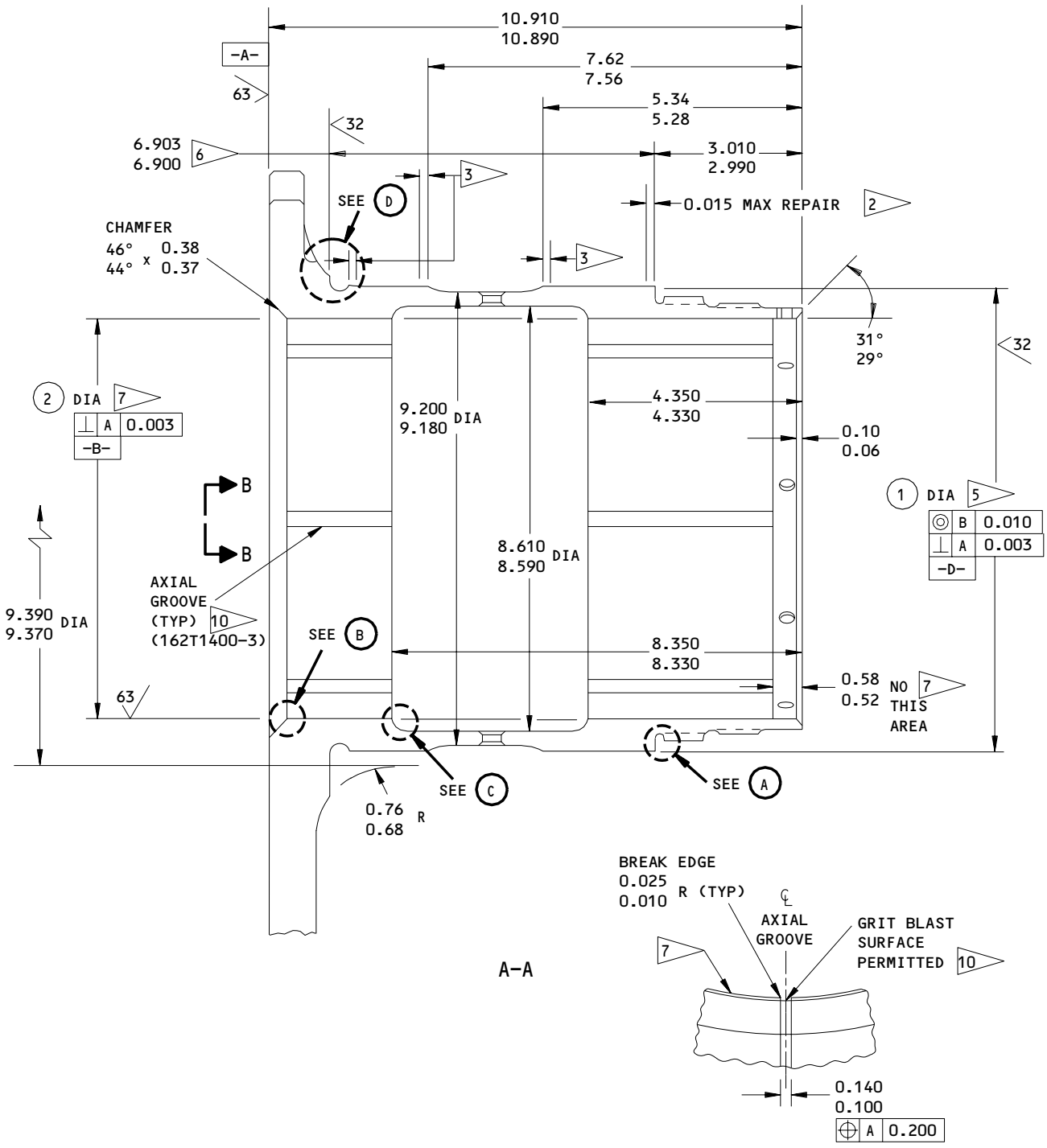
   A. Machine as required, within repair limits, to remove defects. If necessary to adjust grip length, machine shoulder at thread relief.

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

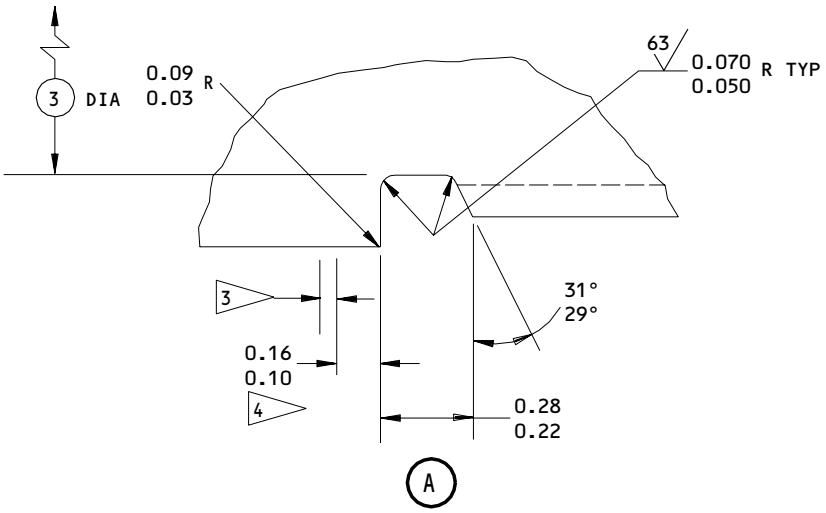


162T1400-2,-3,-4
Support Repair and Refinish
Figure 601 (Sheet 1)

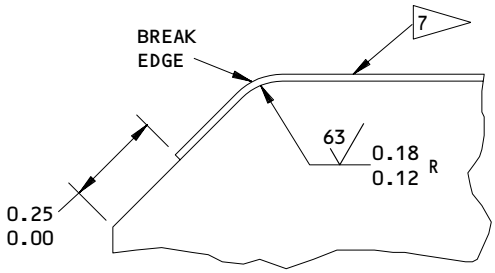
4697



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

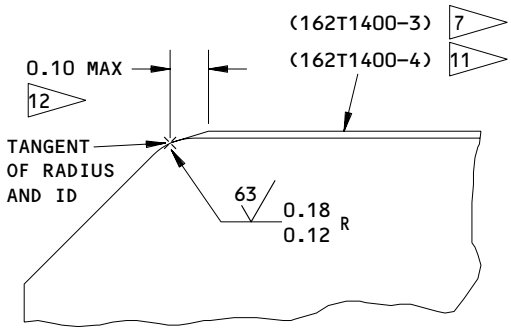


A



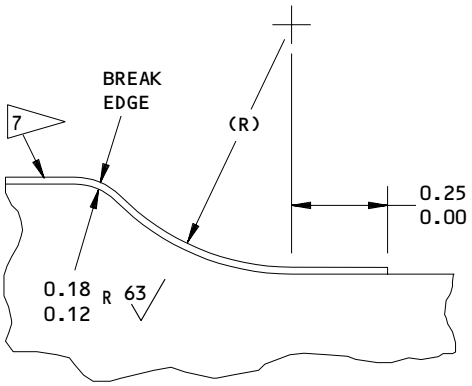
162T1400-2

B



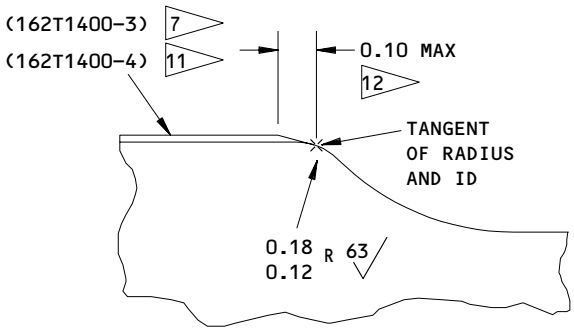
162T1400-3,-4

B



162T1400-2
(2 LOCATIONS)

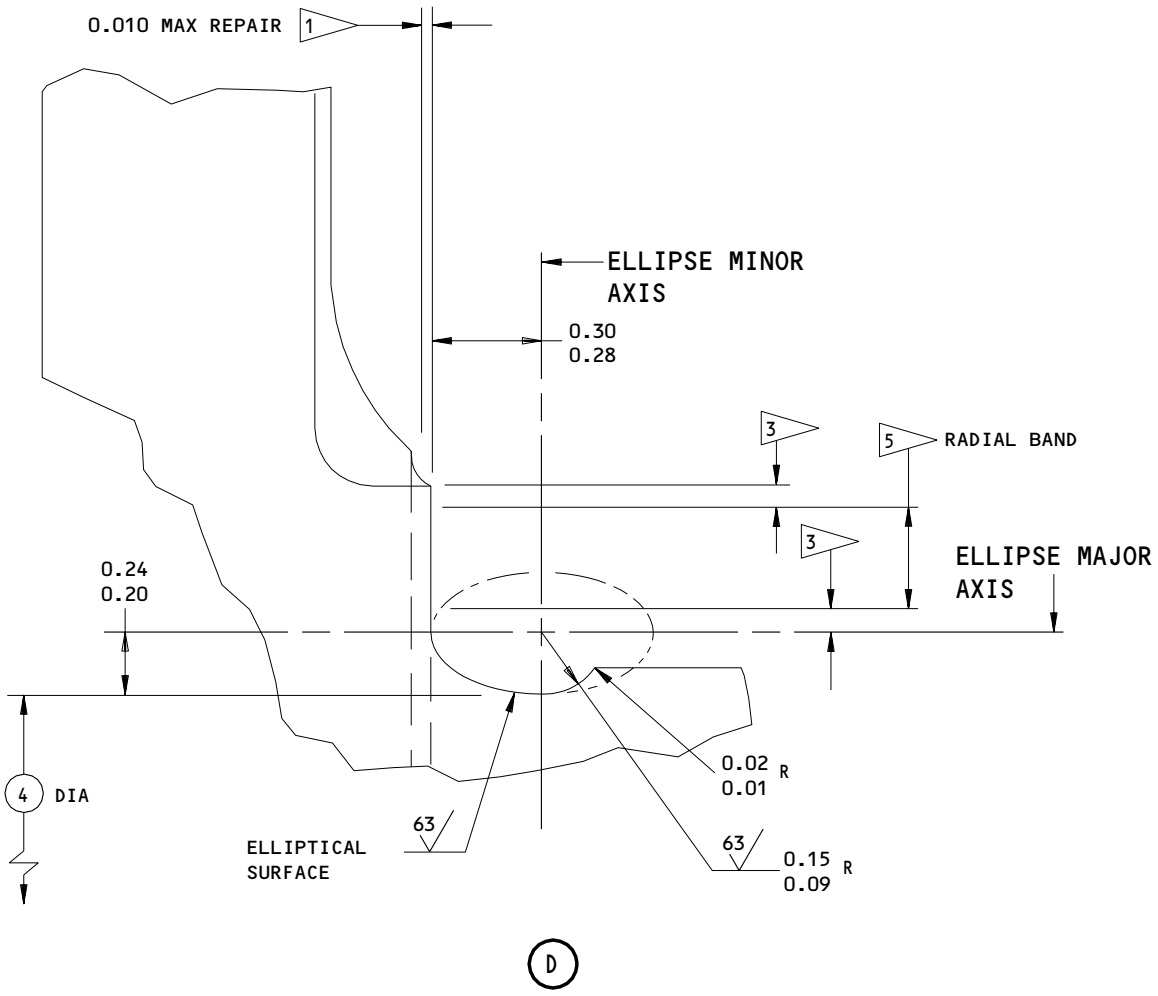
C



162T1400-3,-4
(2 LOCATIONS)

C

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



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

	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)

4753

LOWER SUPPORT PLATE ASSEMBLY - REPAIR 7-1

162T1402-1

NOTE: Refer to REPAIR - GENERAL 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)

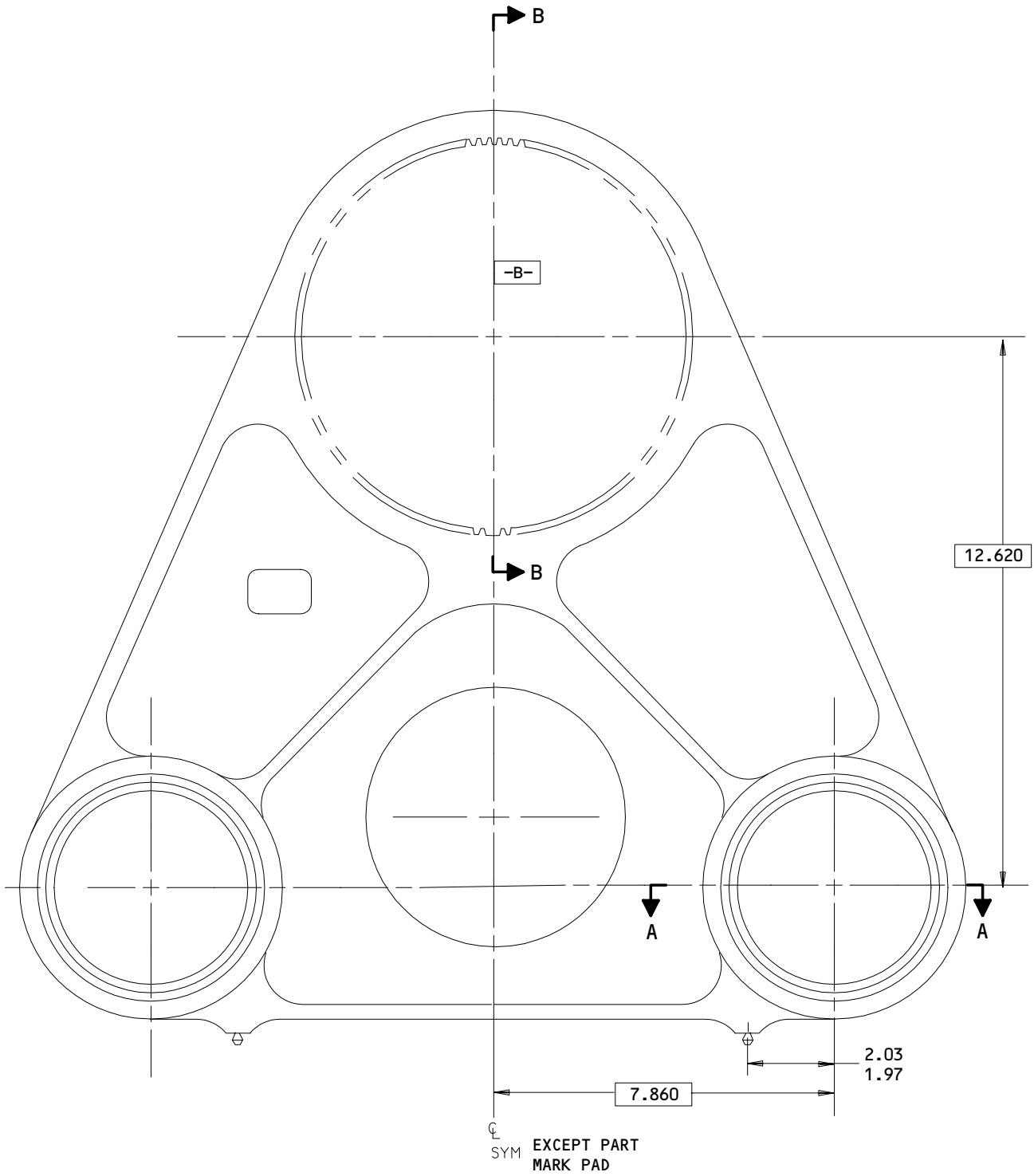
   A. Chrome Plate Buildup

      (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.

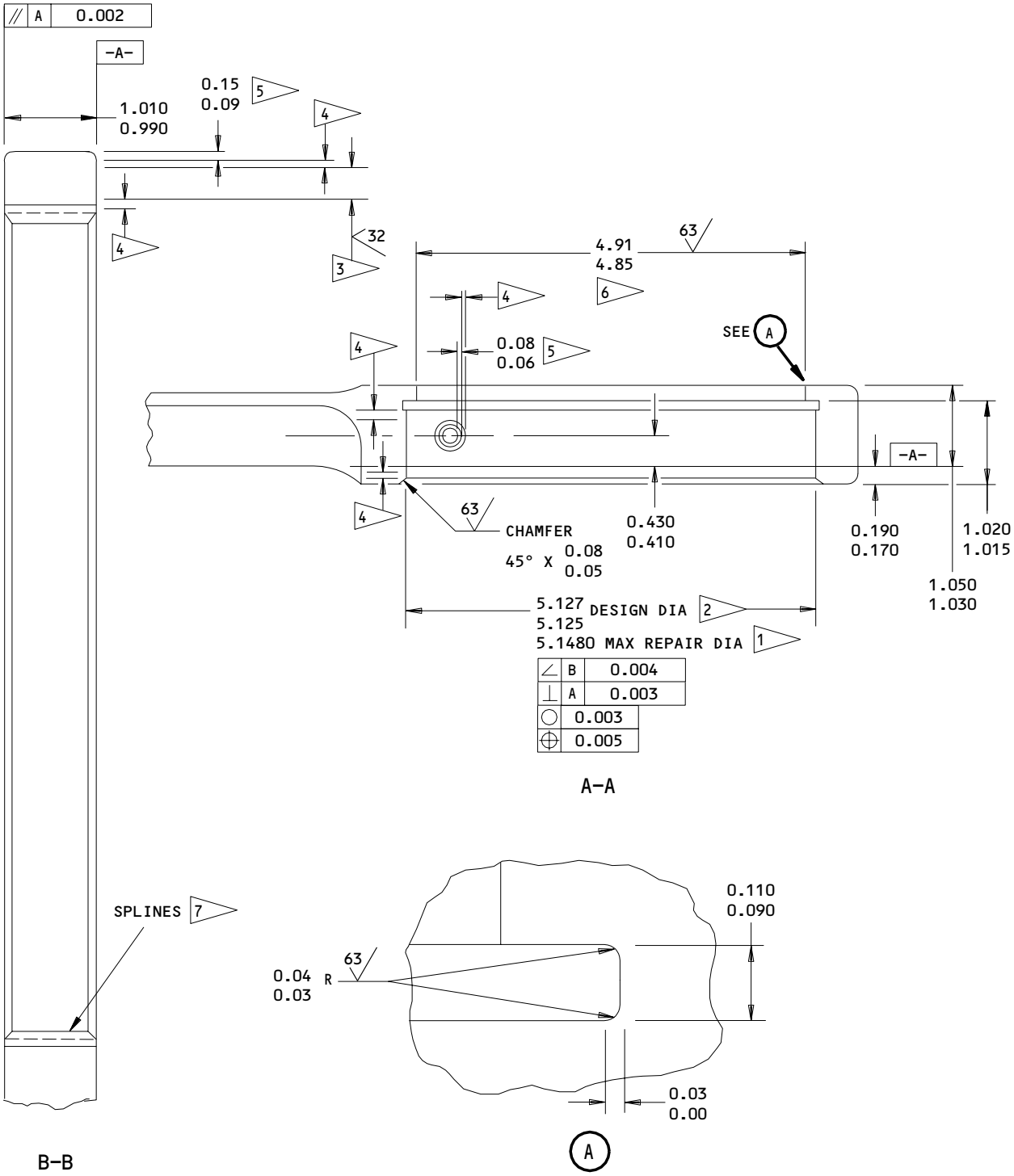
2. Lube Fitting Replacement

   A. Replace lube fittings (380) per CMM 32-00-03.



ALL DIMENSIONS ARE IN INCHES

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



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

4858

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

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
0.012A2 INTENSITY

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

ALL DIMENSIONS ARE IN INCHES

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 0.02-0.03R 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).

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

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 (480) (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.

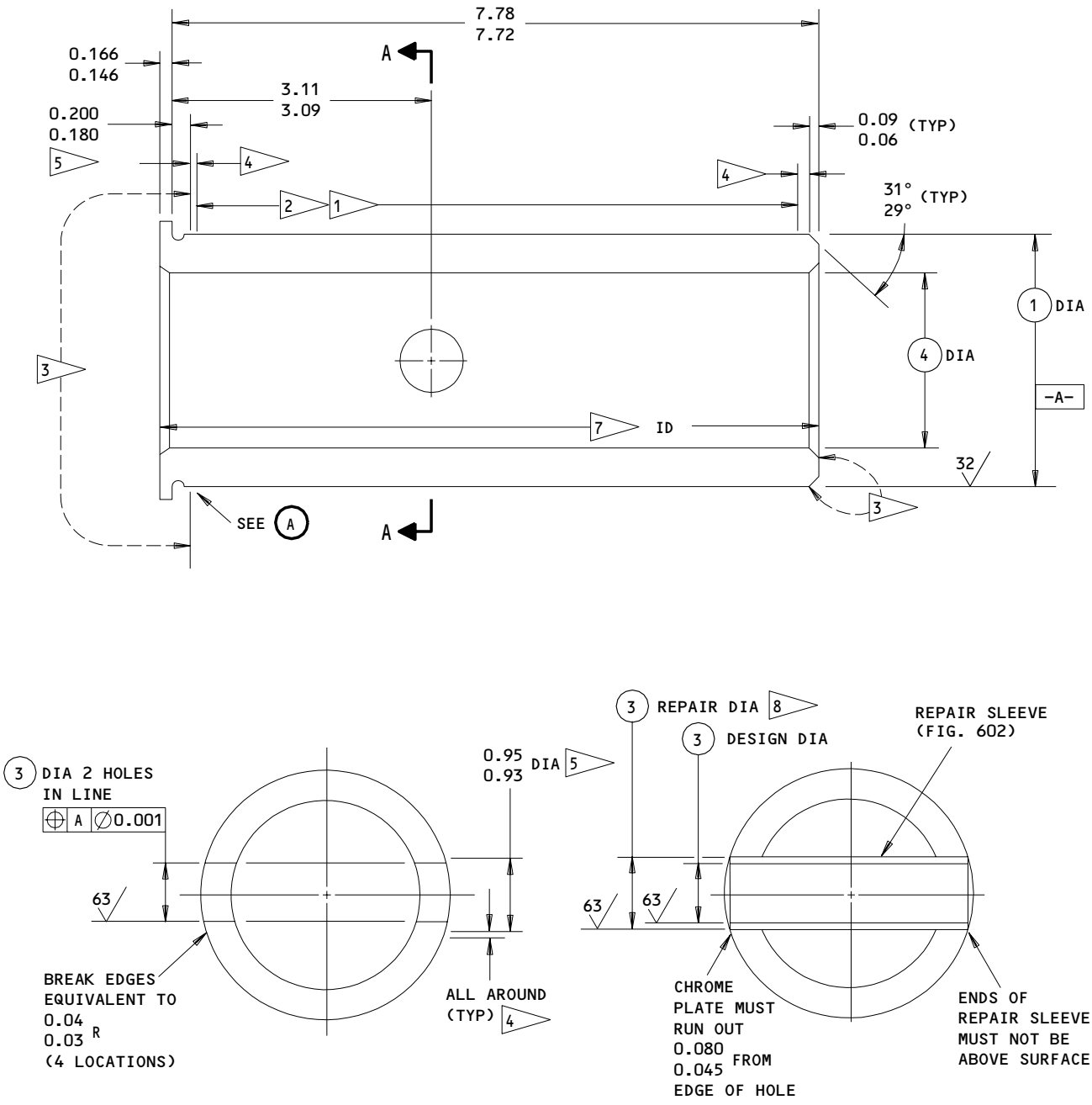
   B. Shot peen as indicated. Cadmium-titanium plate the hole.

   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".



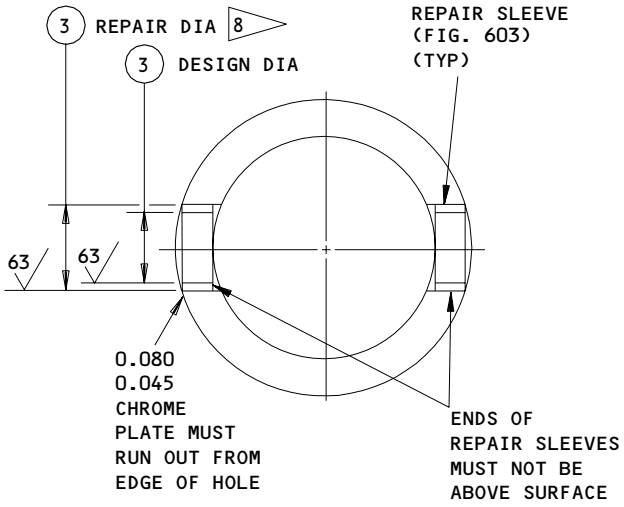
ORIGINAL CONFIGURATION

A-A

REPAIR SLEEVE INSTALLED
(RIGHT-SIDE PINS)

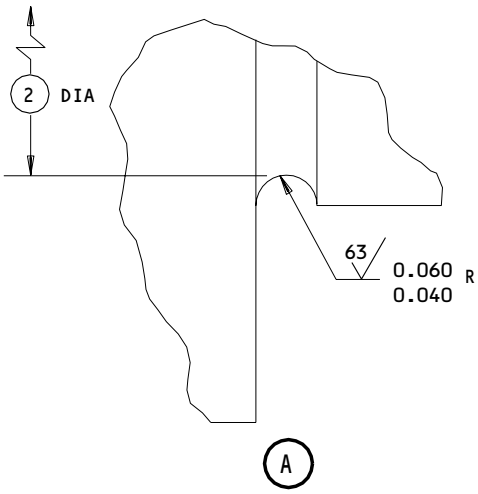
ALL DIMENSIONS ARE IN INCHES

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



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 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

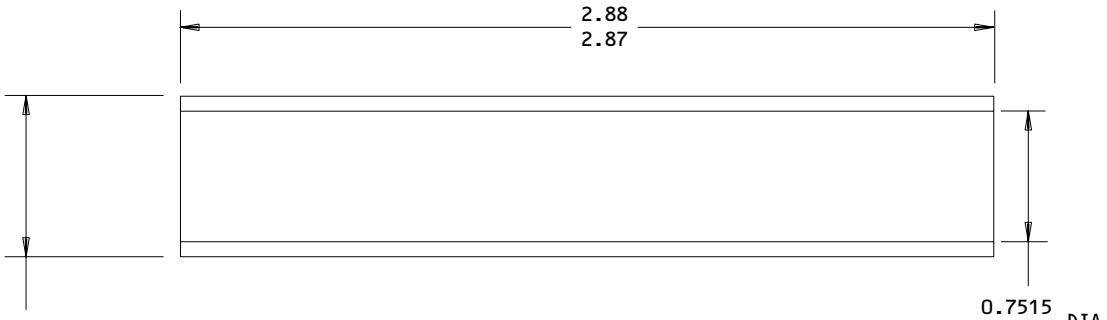
MATERIAL: 4340M STEEL (275 - 300 KSI)

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)

4768



FINISH

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

REPAIR

125 ALL MACHINED SURFACES

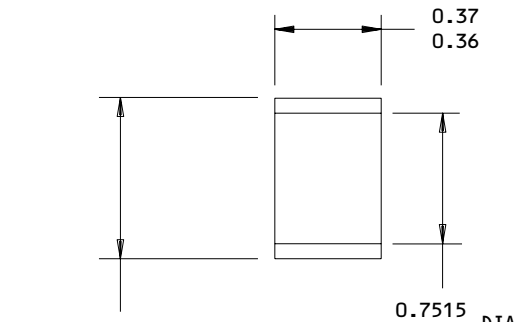
BREAK SHARP EDGES 0.01–0.02 R

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



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

C76558

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 not to 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 not to exceed 0.010 after grinding.

4. Relief Grooves

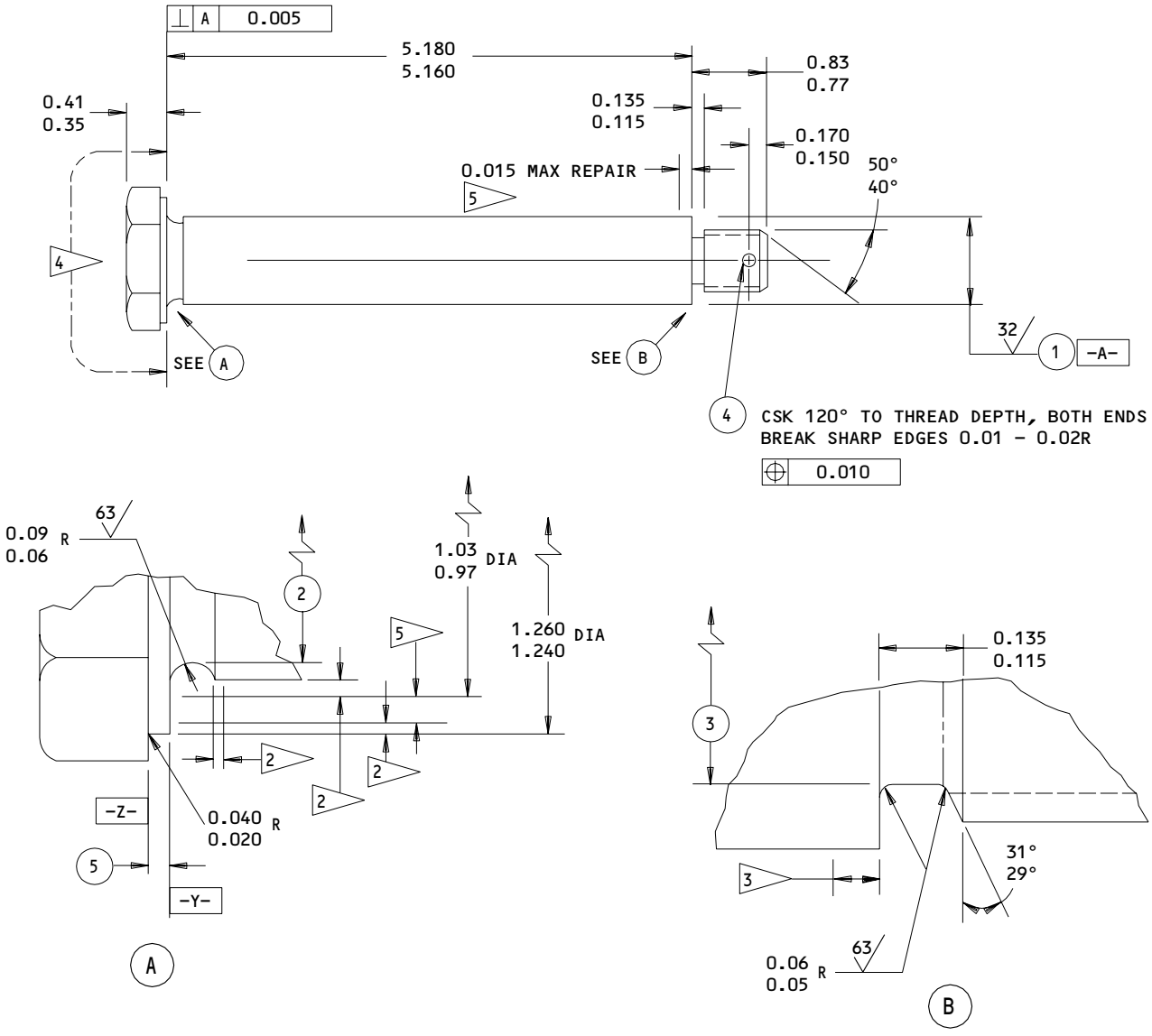
   A. Machine as required, within repair limits, to remove defects. If necessary to adjust grip length, machine shoulder at thread relief.

   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)

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 0.06R

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

4767

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

162T1118-1
162T1119-1, -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. Shank Repair - OD (Fig. 601)

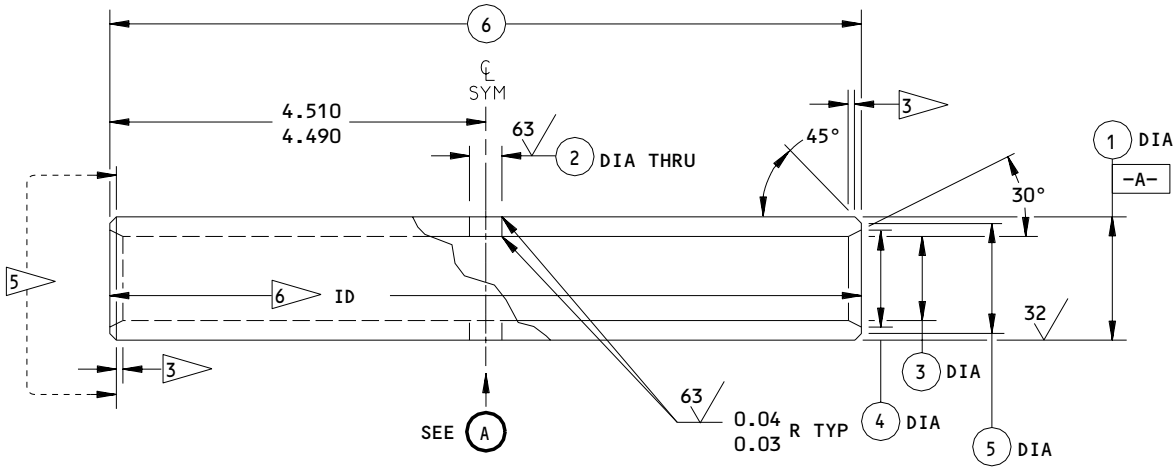
   A. Machine as required, within repair limits, to remove defects.

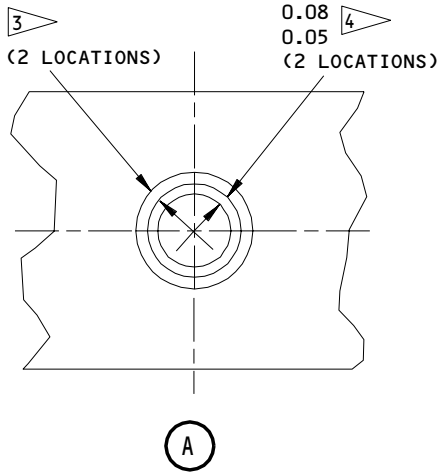
   B. Shot peen, chrome plate and grind to design dimensions and finish. Chrome plate not to exceed 0.010 after grinding.

2. Pin Retention Holes

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

   B. Cadmium-titanium plate. Apply primer.





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

		(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	--	--	--	--
162T1119-1	DESIGN DIM	1.7490 1.7480	0.379 0.375	1.240 1.220	1.360 1.340	1.65 1.59	9.01 8.99
	REPAIR LIMIT	1.7280 ▷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	--	--	--	--

REFINISH

CHROME PLATE (F-15.34, 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 0.06 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 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 THIS 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
162T1119-1,-2
Pin Repair and Refinish
Figure 601 (Sheet 2)

PIN, STEERING COLLAR - REPAIR 11-1

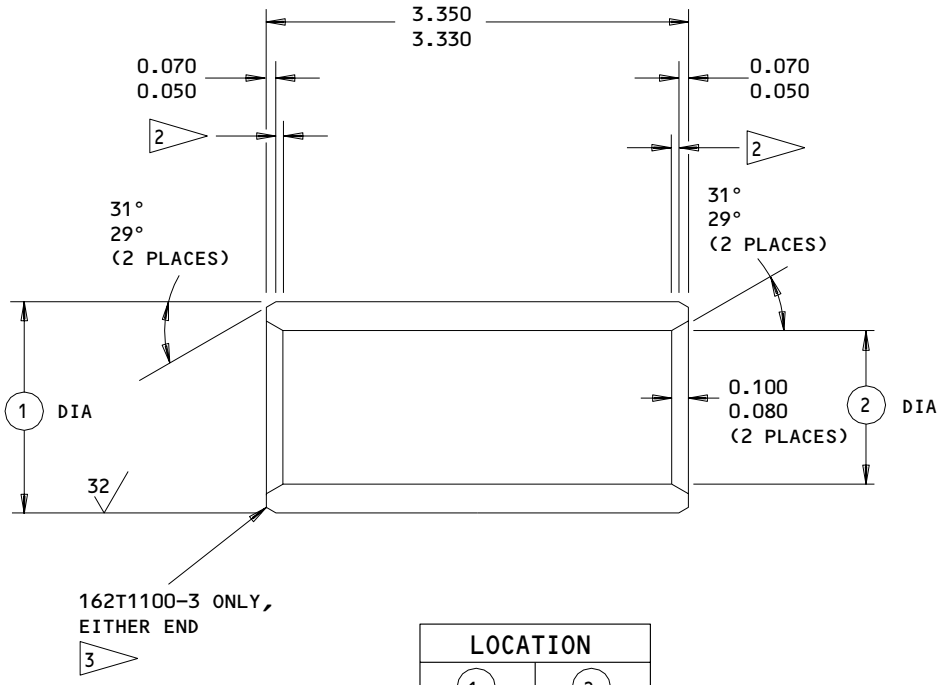
162T1408-2, -3

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 (F-19.03)

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
0.014-0.016A2 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 not to 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)

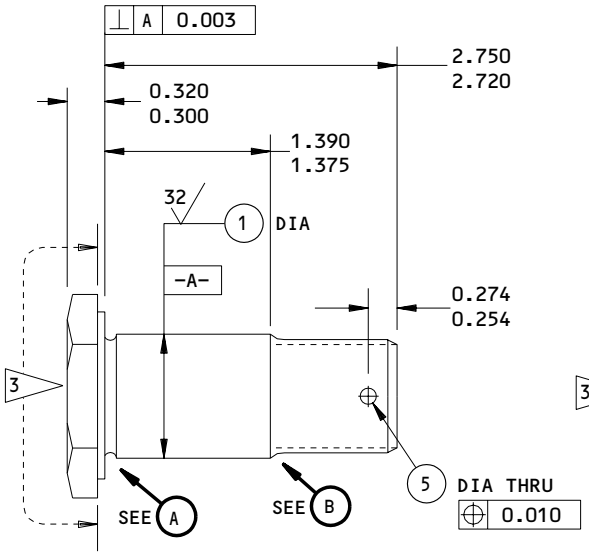
   A. Machine as required, within repair limits, to remove defects, surface denoted by datum -Y-.

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

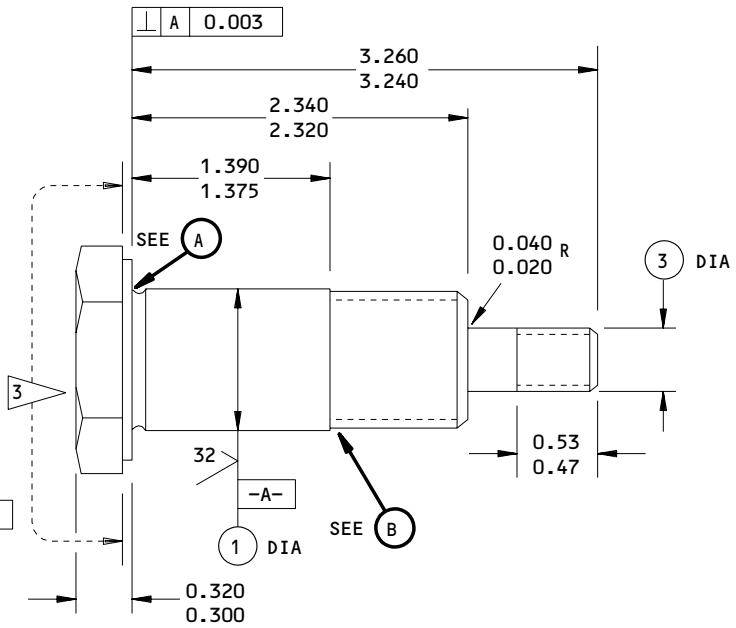
4. Relief Grooves

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

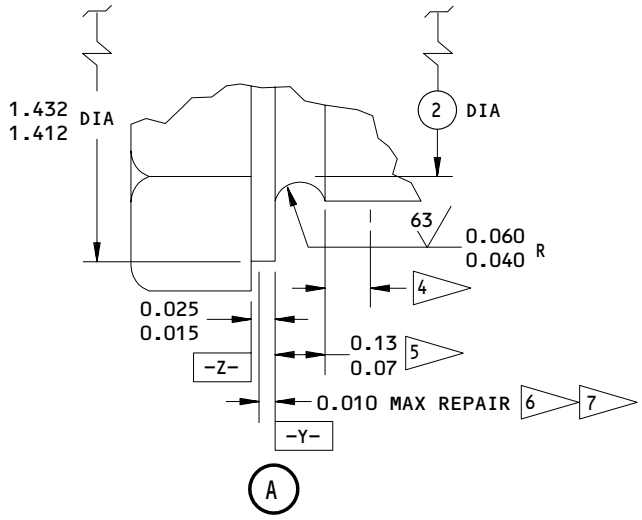
   B. Shot peen and apply cadmium-titanium plate followed by primer.



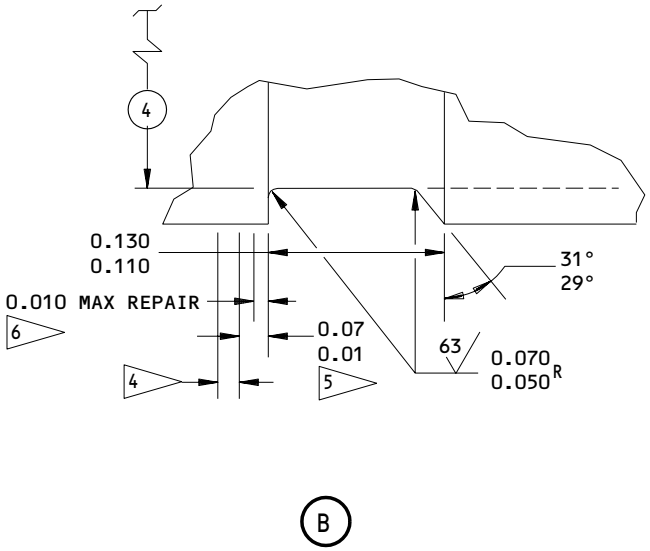
162T1409-1



162T1409-3



A



B

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 DIMENSIONS NOT REQUIRED

▷3◁ 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) 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 0.06R

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

162T1512-1, -3, -5

NOTE: Refer to REPAIR - GENERAL 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 (710) 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.

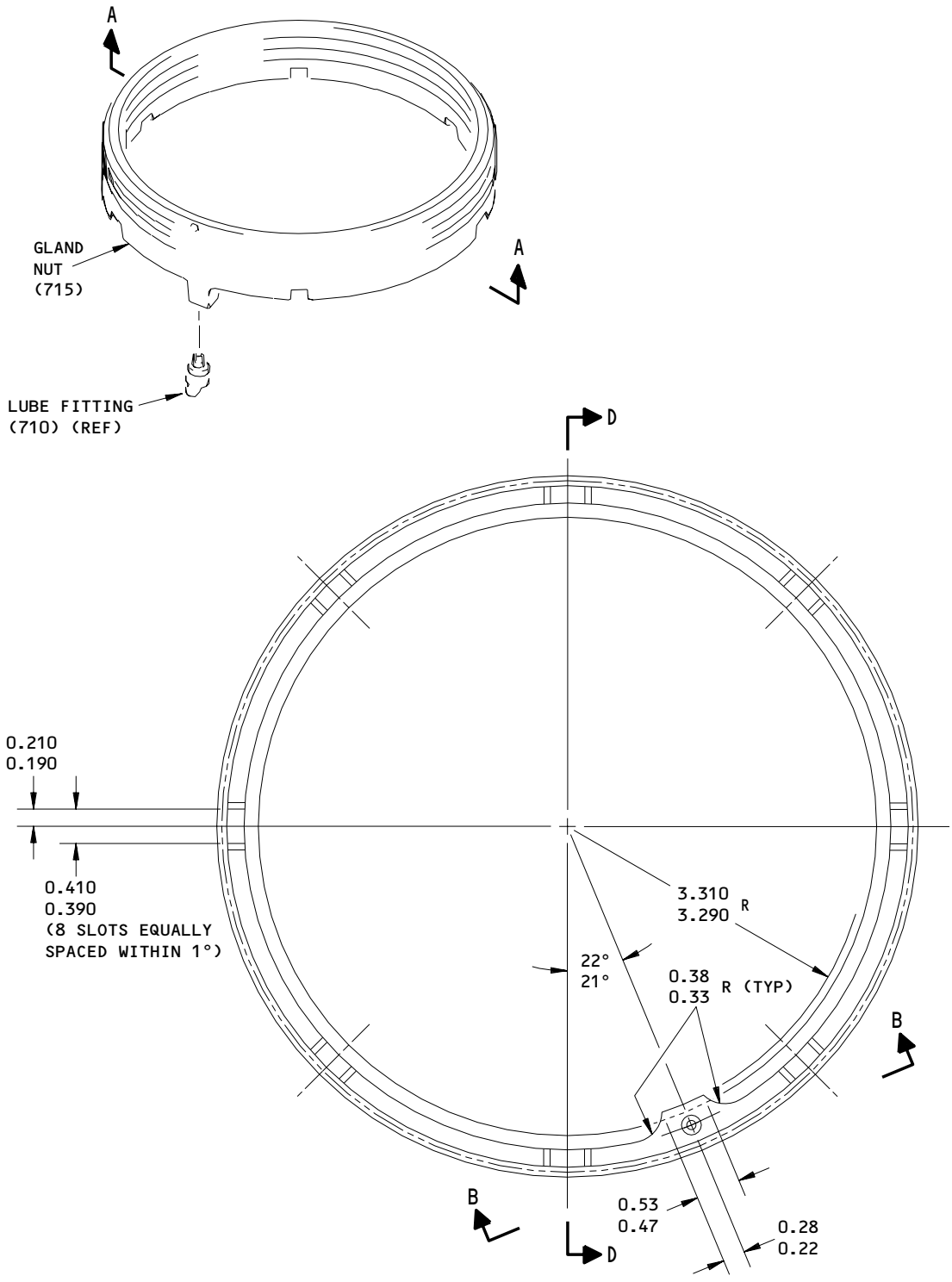
   B. Clean and degrease the gland nut. This includes the bore for the lube fitting and the lube passage.

   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.

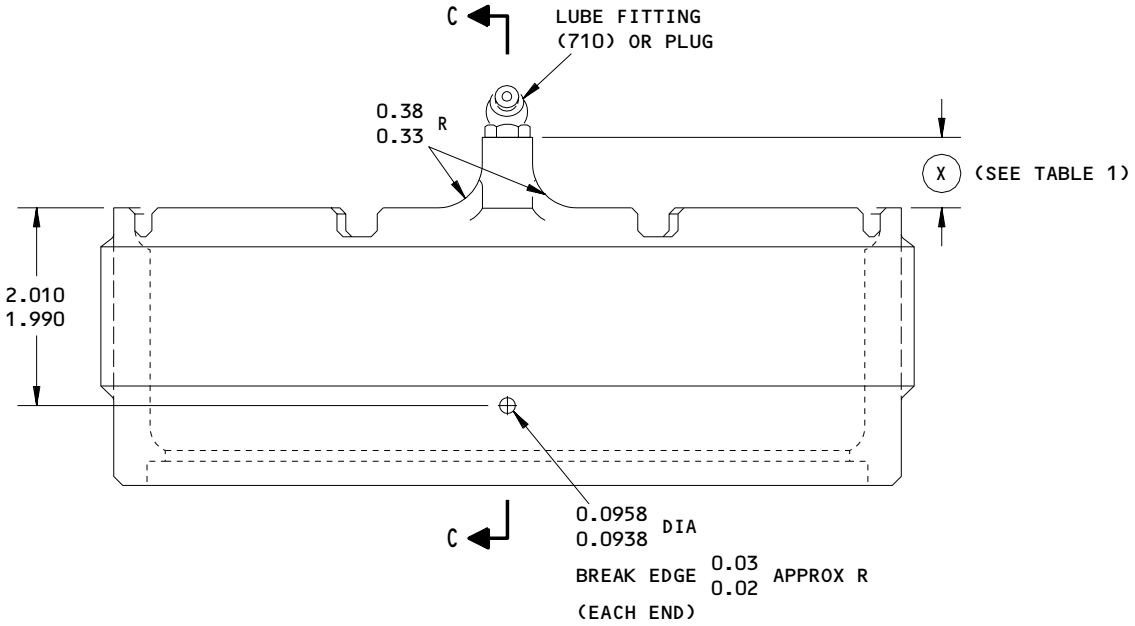
   E. Apply a layer of BMS 10-11, Type 1 primer to the rivet head.

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

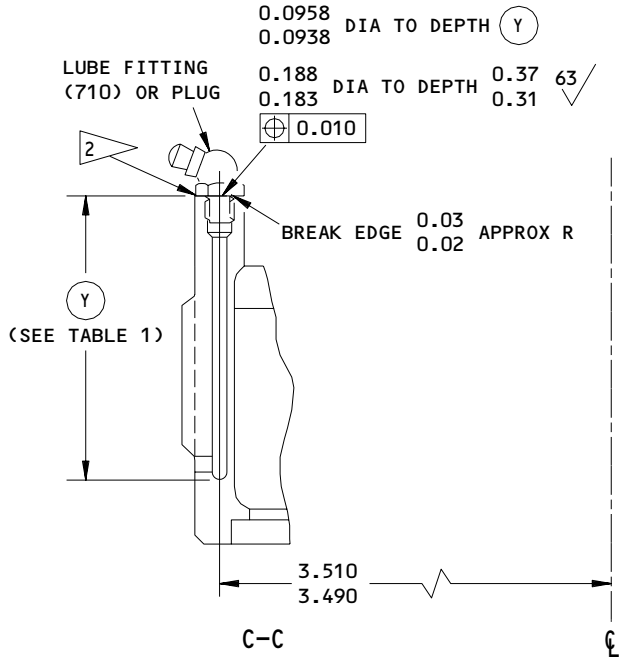


A-A

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



B-B

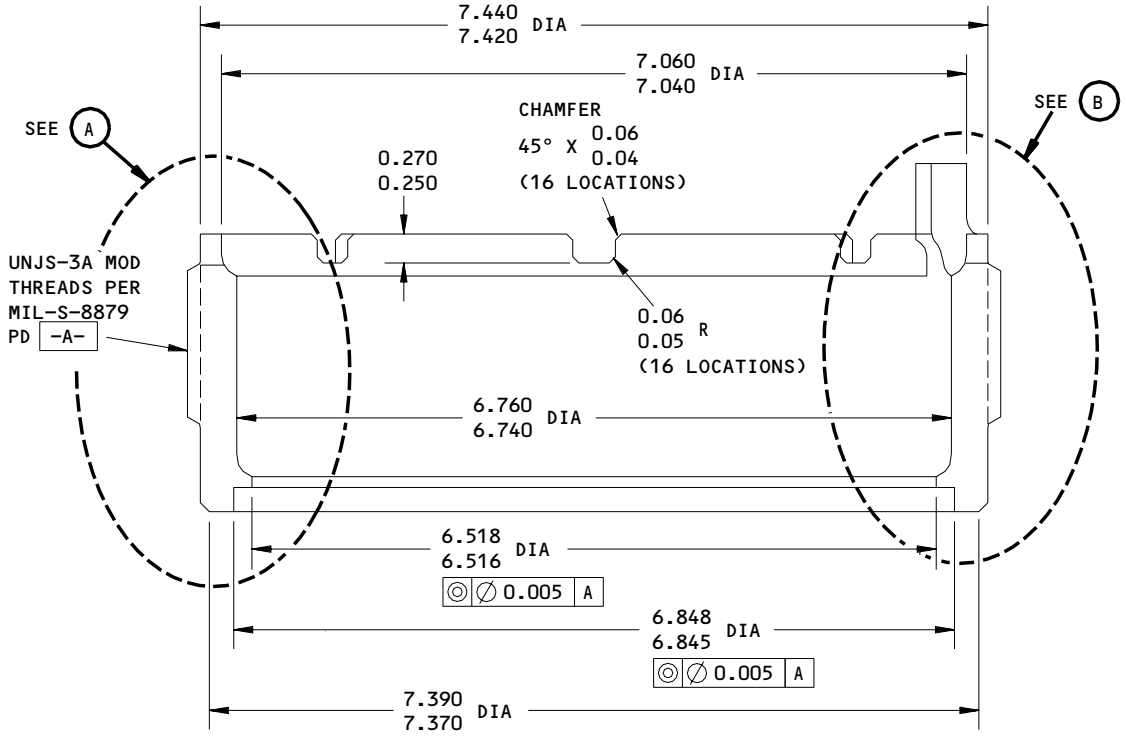


GLAND NUT (715) PART NUMBER	X	Y
162T1512-2	0.72 0.66	2.86 2.80
162T1512-4,-6	0.37 0.31	2.53 2.47

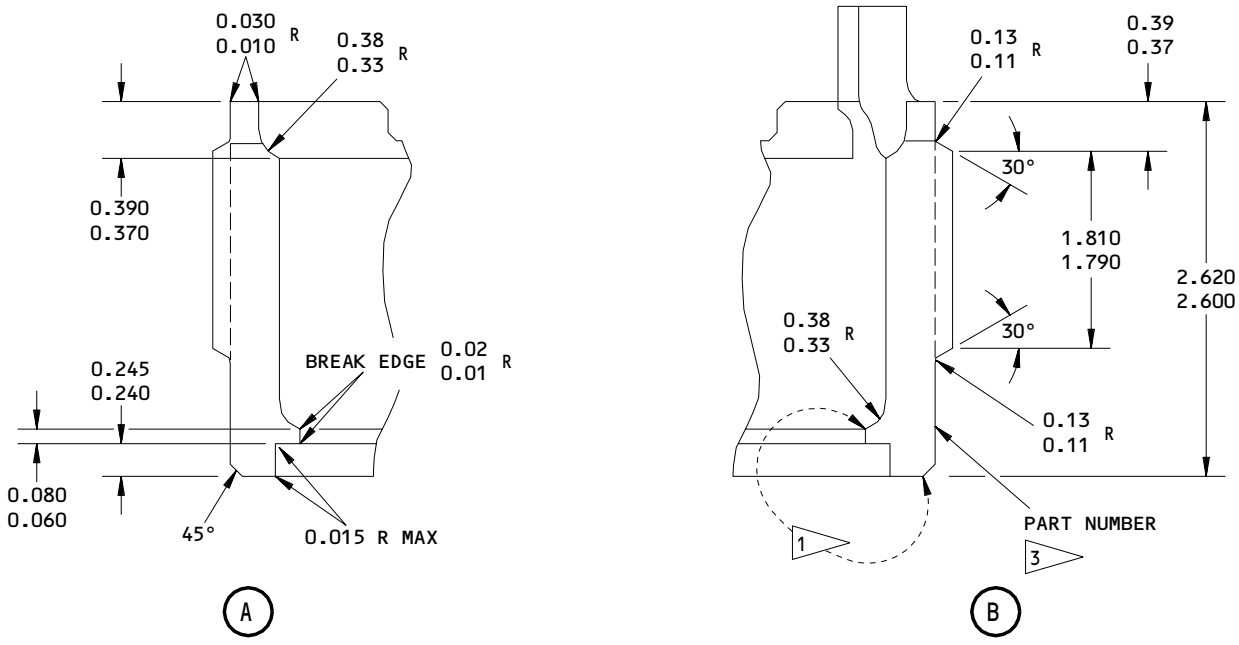
TABLE 1

162T1512-1,-3,-5
Gland Nut Repair and Refinish
Figure 601 (Sheet 2)

G76047



D-D



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

G76048

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 (710) 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

162T1512-1,-3,-5
Gland Nut Repair and Refinish
Figure 601 (Sheet 4)

G76049

STEERING NUT ASSEMBLY - REPAIR 14-1

162T1406-1

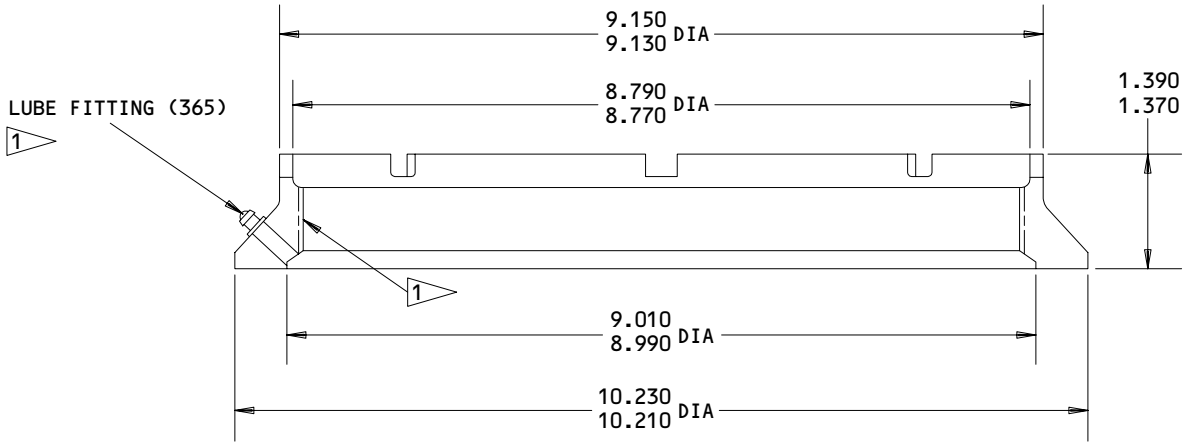
NOTE: Repair consists of restoration of original finish. Refer to REPAIR-GEN for list of applicable standard practices, and to IPL Fig. 1 for item numbers.

1. Refinish (Fig. 601)

   A. Remove lube fitting (365).

   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 (365) per 32-00-03.



1 NO PRIMER OR PAINT

MATERIAL: 4340 STEEL (180-200 KSI)

ALL DIMENSIONS ARE IN INCHES

Nut Repair
Figure 601

100290

PLUNGER - REPAIR 15-1

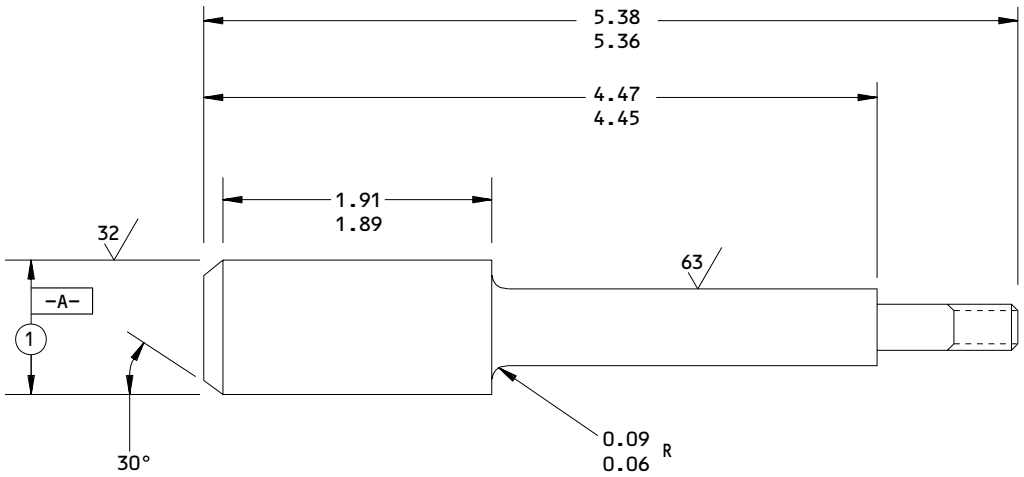
162T1605-1, -2

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 not to 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 MINIMUM THICK. PASSIVATE (F-17.09) OTHER SURFACES

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

REPAIR

REF 1

BREAK SHARP EDGES 0.02-0.03R

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

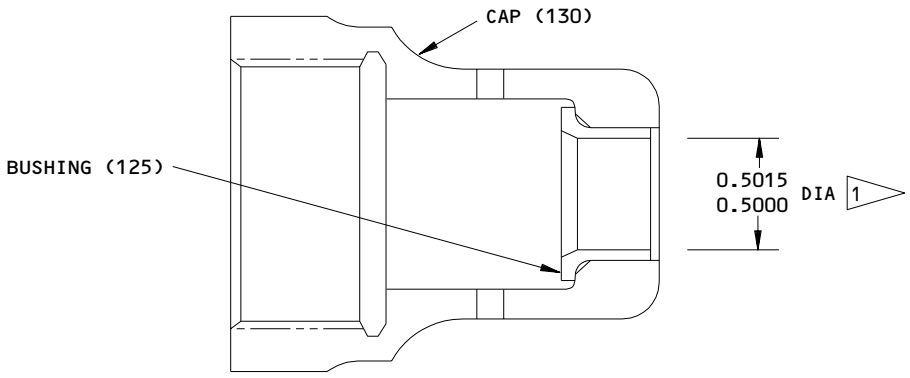
1. Bushing Replacement (Fig. 601)

   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

30733

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)

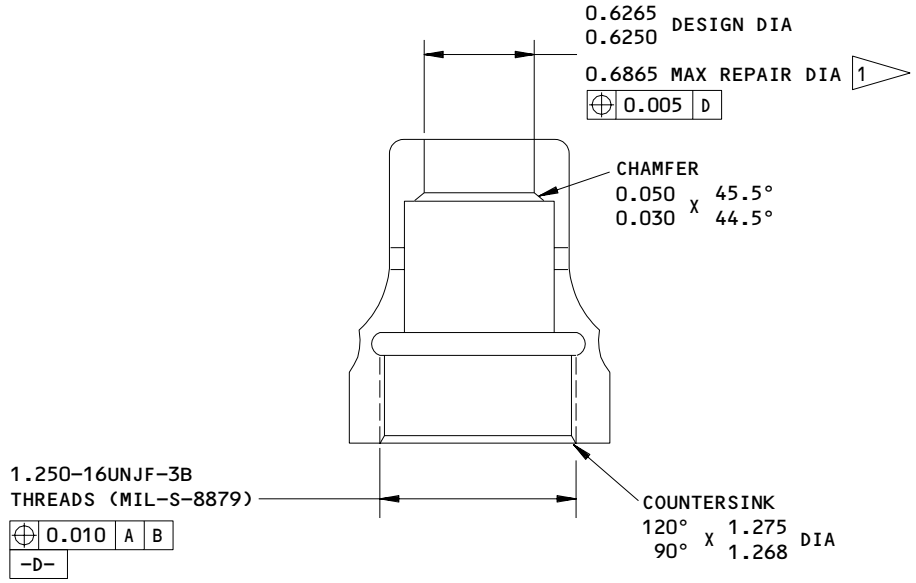
2. Installation of Oversize Bushings

   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 bushings per REPAIR 16-1.



REFINISH

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

1 LIMIT FOR INSTALLATION OF OVERSIZE BUSHING

REFINISH

REF 1

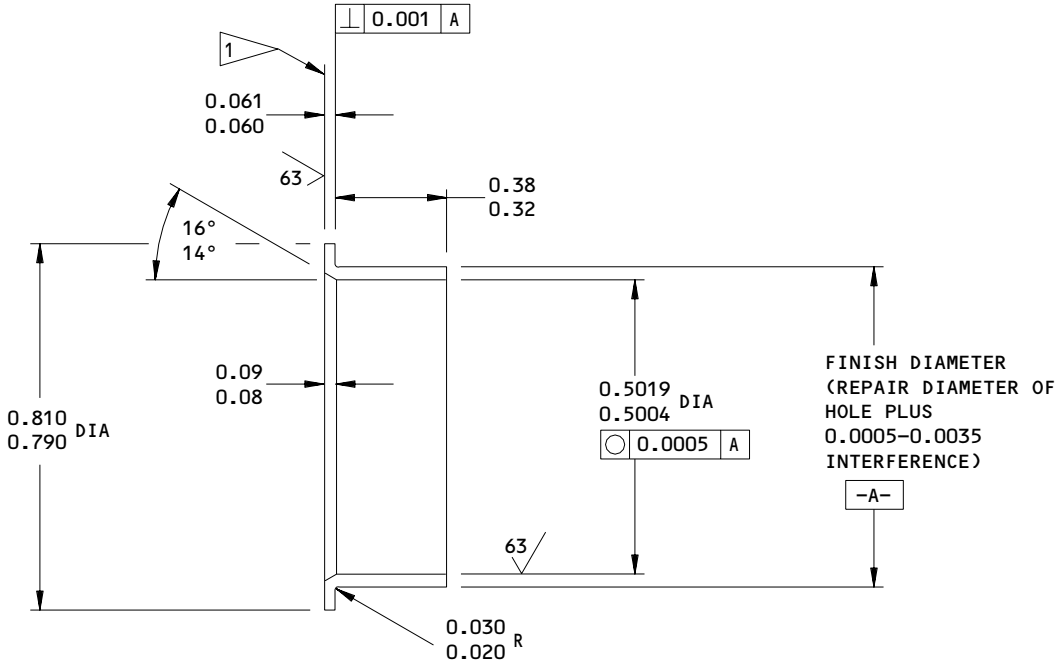
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

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

ALL DIMENSIONS ARE IN INCHES

162T1607-2
Cap Repair
Figure 601

W25211



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

W25226

NAMEPLATE - REPAIR 17-1

162T1103-1

1. Nameplate Replacement (Fig. 601)

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

A. Steel stamp shock strut assembly identification information on nameplate with 0.12 high characters.

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

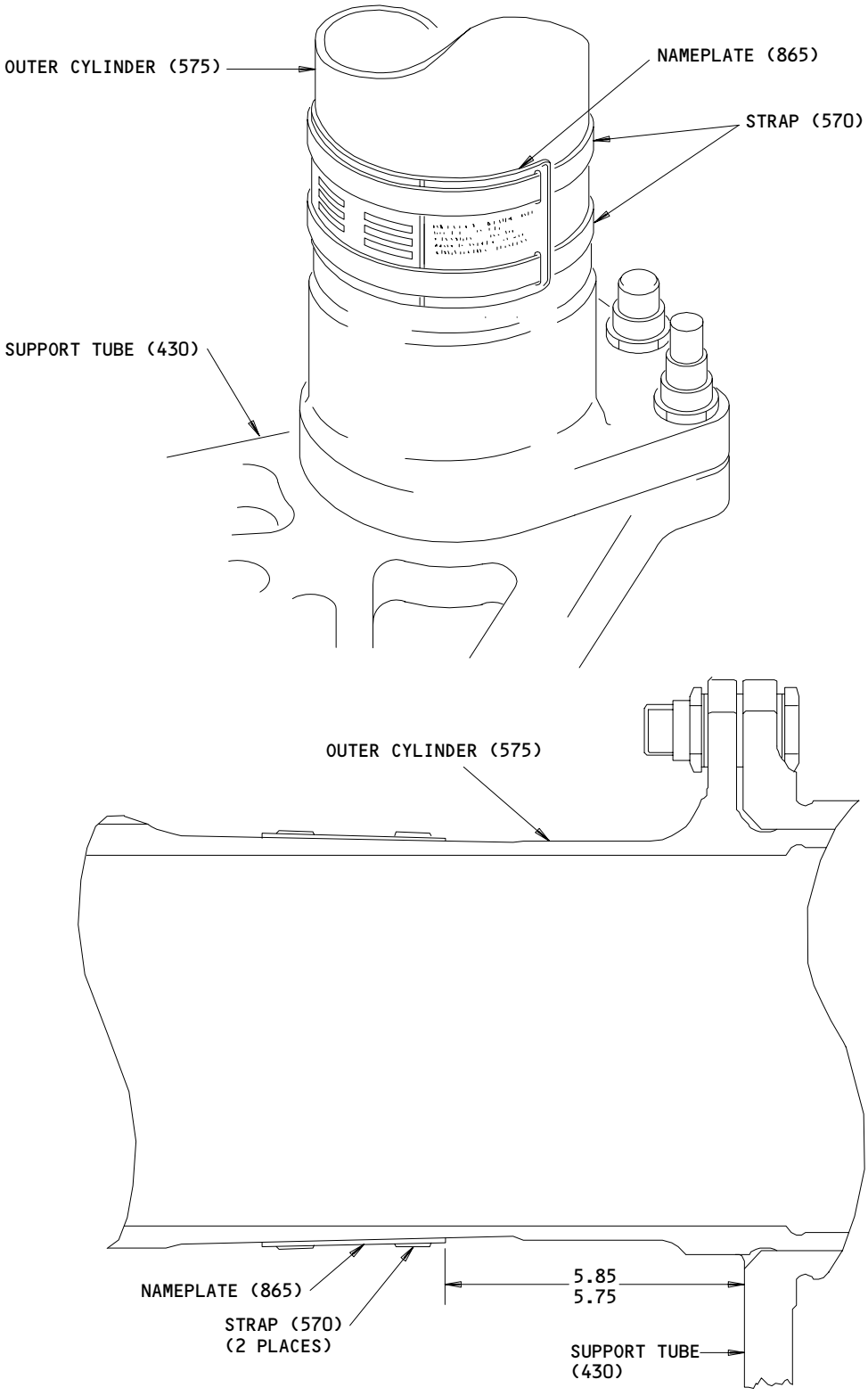
C. Clean the painted surface with naphtha. Then and install one wrap mylar tape at each strap location. Overlap the ends of the tape approximately one inch.

D. With seals (565) and straps (570), install nameplate (865) with type 93 adhesive per 20-50-12.

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

F. Prepare Type 41 protective finish per SOPM 20-44-01.

G. Apply this mixture by brush to all of the nameplate surface, the fillets, and the straps.



162T1103-1
ALL DIMENSIONS ARE IN INCHES

Nameplate Installation
Figure 601

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		
Spacer (670)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-15.06) all over.
Target (225,255)	4130 Steel 125-145 ksi	Cadmium plate and apply BMS 10-11, Type 1 primer (F-16.01) all over.
Bracket (230,260)	Al alloy	Chromic acid anodize (F-17.04) all over. Apply BMS 10-11, Type 1 primer (F-20.02) all over, but not in holes.
Bracket assembly (205,235)		Apply BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813) all over.
Lockplate (525)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-15.06) all over.
Cap (330)	Al alloy	Chromic acid anodize (F-17.04) and 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 (820)	Al alloy	Chromic acid anodize (F-17.04) all over.
Plate (682)	301 CRES	Passivate (F-17.25, which replaces F-17.09).

Refinish Details
Figure 601 (Sheet 1)

IPL FIG. & ITEM	MATERIAL	FINISH
Nut (530)	4340 Steel, 180-200 ksi	Cadmium plate and apply BMS 10-11, Type 1 primer (F-16.01) and apply BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813) all over except do not apply primer or enamal on threads or faying surface.
Washer (535)	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 (780,788, 855)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25, which replaces F-17.09) all over.
Circlip (665)	17-7PH CRES, CH900 HT TR	Passivate (F-17.25, which replaces F-17.09) all over.
Lockplate (350)	15-5PH CRES, 180-200 ksi 17-4PH CRES (optional)	Passivate (F-17.25, which replaces F-17.09) all over.
Plate (275,277)	Al alloy	Chromic acid anodize (F-17.04) all over. Apply BMS 10-11, Type 1 primer (F-20.02) and by 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) all over.

Refinish Details
Figure 601 (Sheet 2)

IPL FIG. & ITEM	MATERIAL	FINISH
Washers (115,135)	15-5PH CRES 180-200 ksi	Passivate (F-17.25, which replaces F-17.09) all over.
Lockplate (81,140)	17-4PH CRES 150-170 ksi	Passivate (F-17.25, which replaces F-17.09) all over.
Spring (145)	17-7PH CRES Wire	Passivate (F-17.25, which replaces F-17.09) all over.
Ring (825)	4340 steel 180-200 ksi	No finish.

Refinish Details
Figure 601 (Sheet 3)

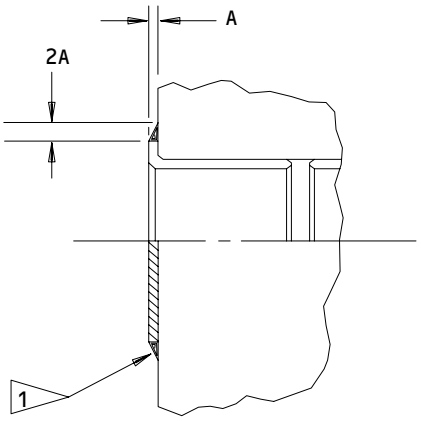
SEALING - REPAIR 19-1

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.

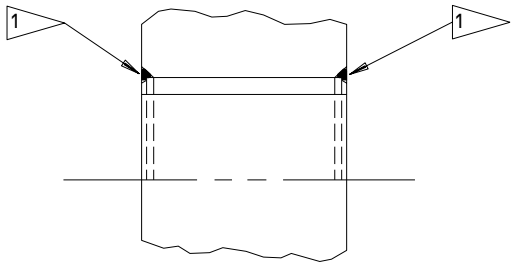
4. Apply BMS 10-60 gray gloss enamel (SRF-14.9813) over sealant and areas around sealant. Apply protective finish per 20-50-05. Use care not to apply overcoat to bushing faces or bolthead faces.



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

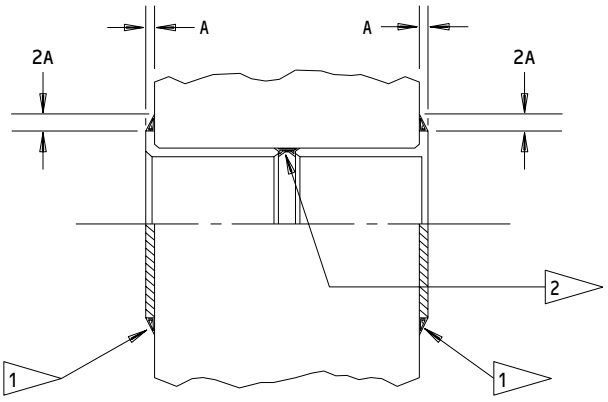
Bushing Sealing Details
Figure 601

5823



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

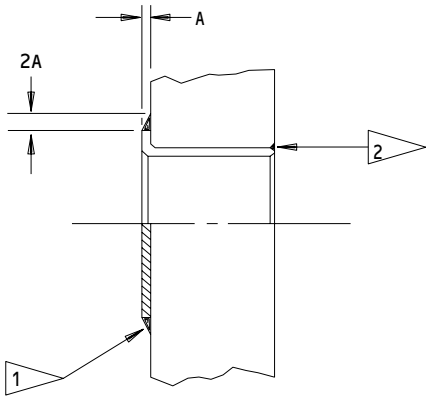
Bushing Sealing Details
Figure 602



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.

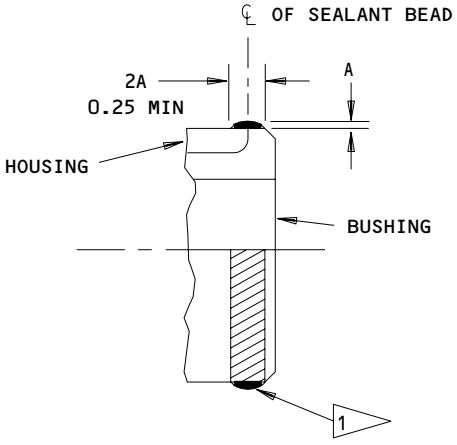
Bushing Sealing Details
Figure 603



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.

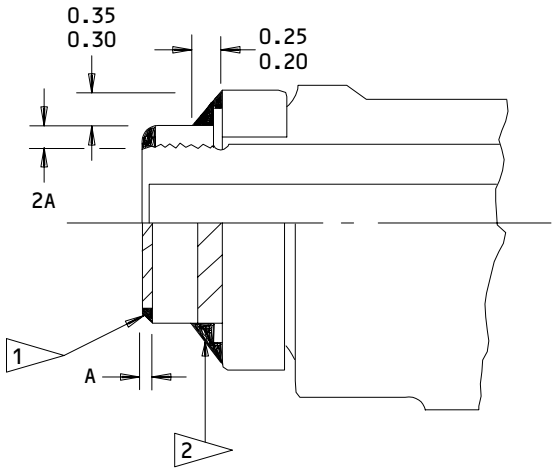
Bushing Sealing Details
Figure 604



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 CENTER 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 (775 or 777) and remove defective dowel (780 or 782).

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

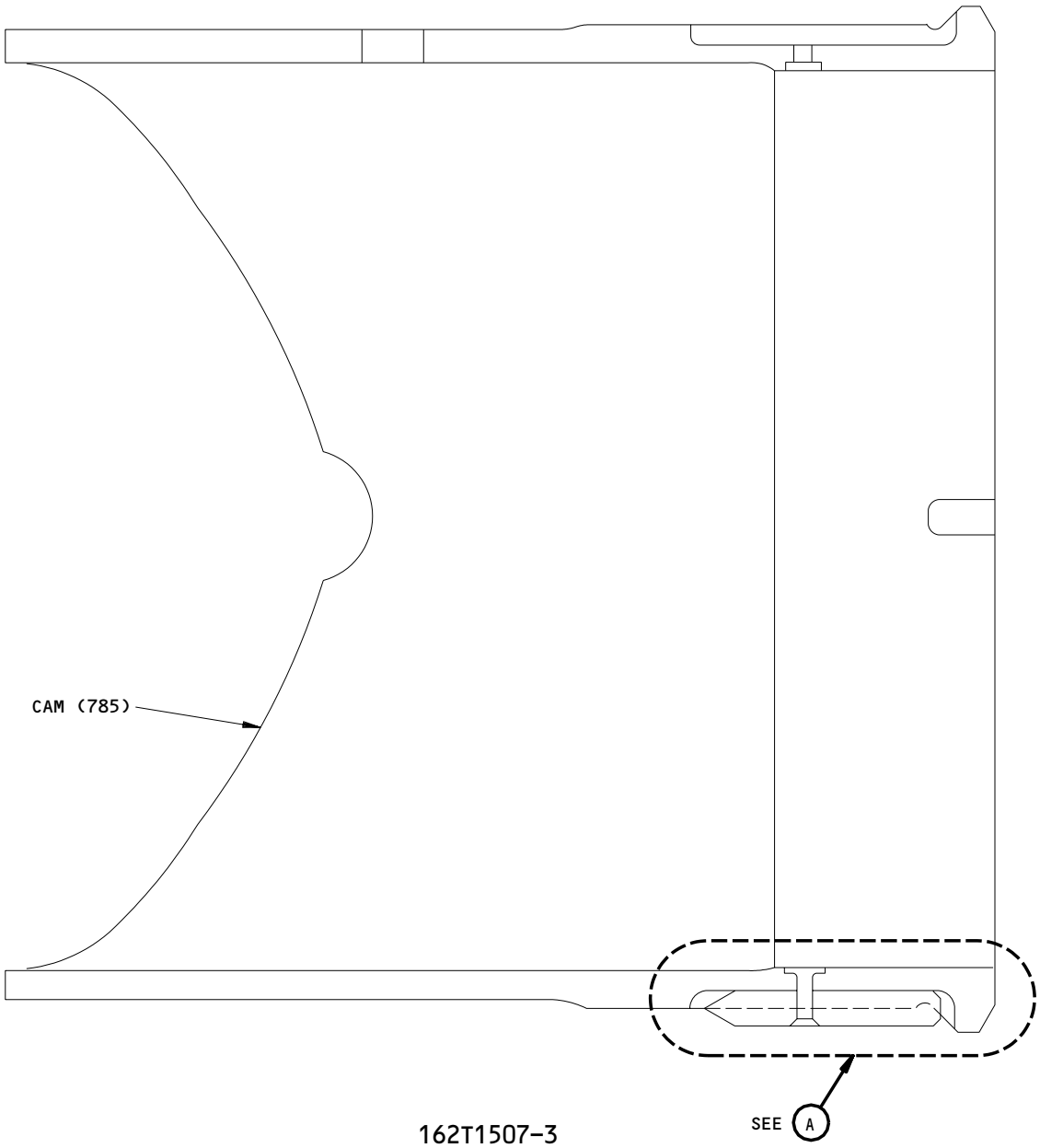
   B. Install replacement dowel (780 or 782) and a new rivet (775 or 777). Hand-swage the rivet until the dowel is anchored but still can move in any direction 0.01-0.02 inch. Make sure the swaged end is flush with or below the dowl contour.

2. Pin (779) 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.

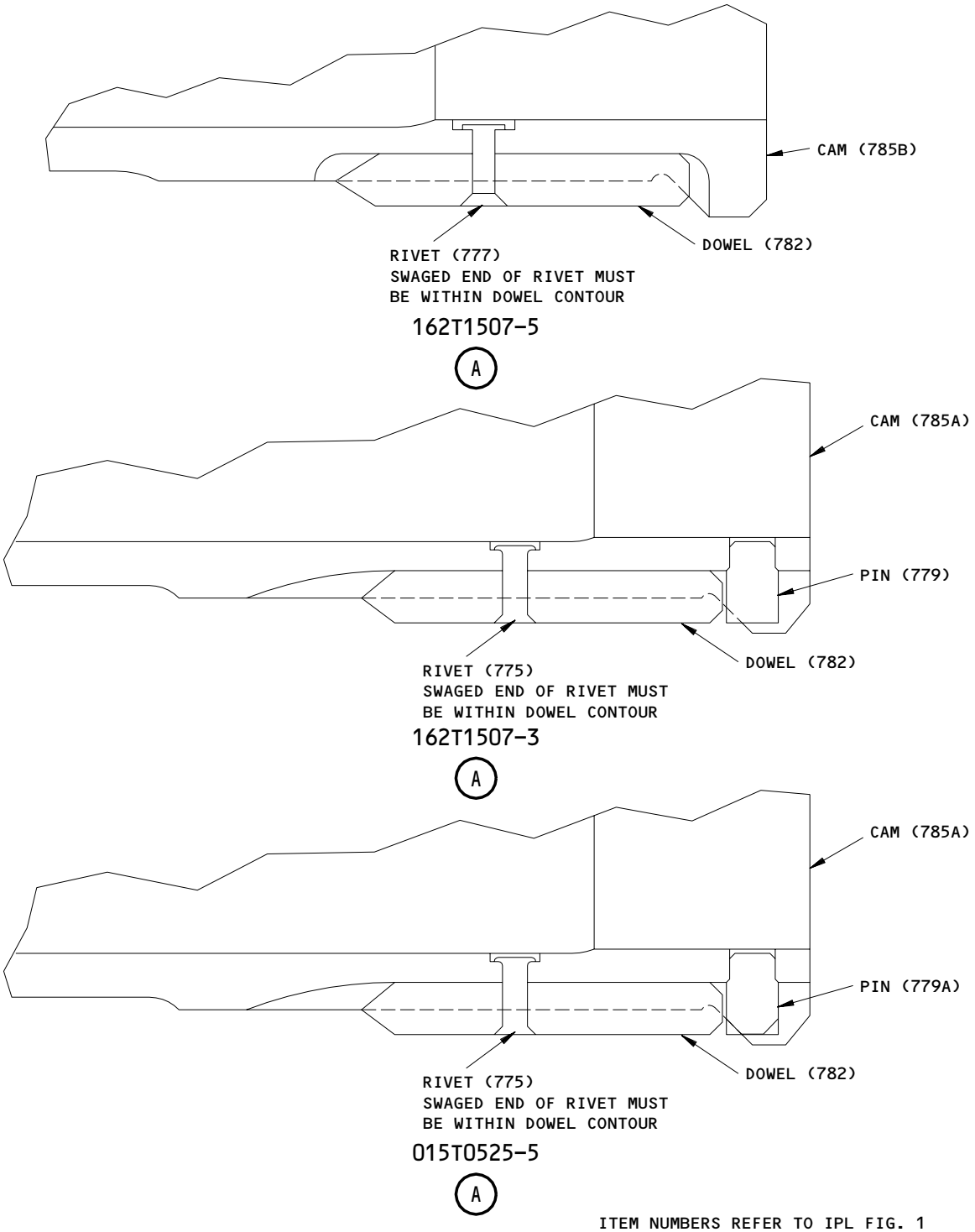
   A. Remove defective pin (779) from cam (785A). Interference fit is 0.0003-0.0028 inch.

   B. Install a replacement pin by the shrink-fit method. We recommend you use shorter pin (779A) to prevent possible damage to the outer cylinder.



162T1507-3
162T1507-5 SHOWN

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



ITEM NUMBERS REFER TO IPL FIG. 1

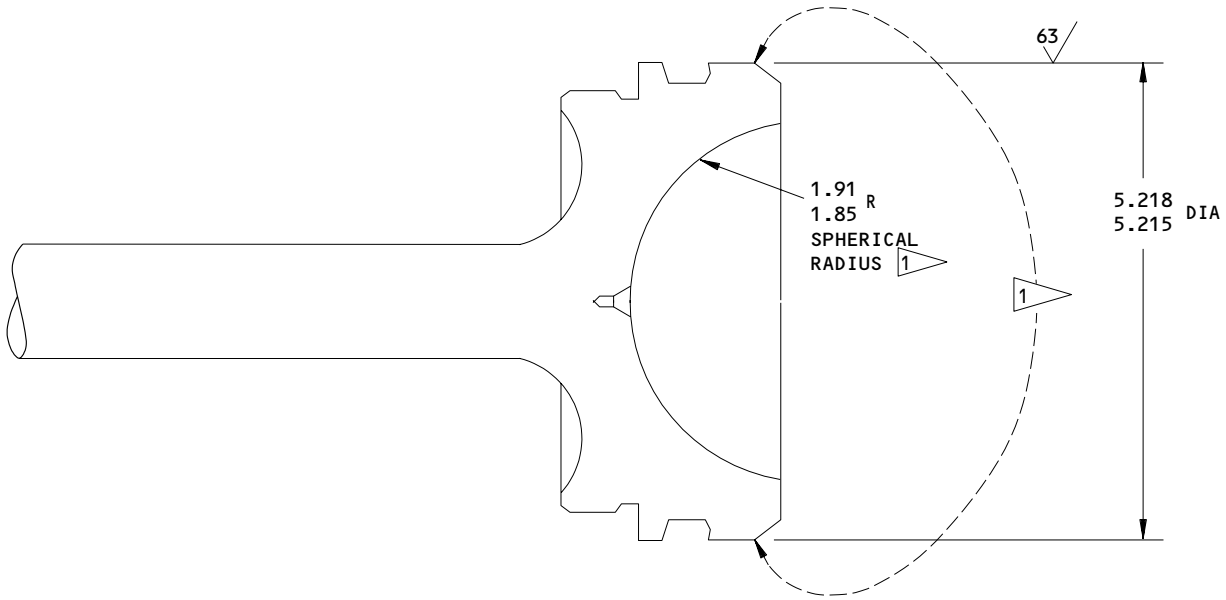
162T1507-3,-5
015T0525-5
Lower Centering Cam Assembly
Figure 601 (Sheet 2)

PIN, METERING - REPAIR 21-1

162T1501-1

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

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

162T1501-1

Metering Pin Repair and Refinish
Figure 601

K26756

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes can be used.

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

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

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

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

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

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

G. Petrolatum -- VV-P-235 (SOPM 20-60-03)

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

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

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

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

L. Retaining Compound -- Loctite Grade No. 75 (SOPM 20-60-04)

M. Primer -- Locquic Grade T (SOPM 20-60-04)

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

O. 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 -- A32029-50

D. Steering Nut Wrench Adapter -- A32034-1

E. Retainer Ring Adapter -- A32047-7

F. Orifice Plate Wrench Assembly -- A32047-2

G. Retainer Nut Wrench Assembly -- A32047-4

H. Orifice Nut Wrench Adapter -- A32047-3

I. Retainer Ring Adapter Assembly -- A32047-6

J. Orifice Tube Adapter Assembly -- A32047-5

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 and, if necessary, apply a thin layer of petrolatum on packing and backup rings. Do not use too much. Wipe the mating surfaces during assembly with hydraulic fluid.

B. Lubricate shanks, threads and mating surfaces of bolts (30, 35, 45) and pins (335A, 500) 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 BMS 3-33 or MIL-G-23827 grease.

4. Assembly

A. With sling assembly A32036-43, put outer cylinder (575) in buildup stand A32057-1 or -40 and inner cylinder (675) in stand.

B. Install trunnion pins (500) and secure with bolts (480), washers (485, 490) and nuts (495). Tighten nuts as required for installation of cotter pins (475). Install cotter pins and spread to retain temporarily.

NOTE: Parts will be disassembled when other parts are installed on the shock strut.

C. Install piston ring (790). Install orifice plate (815) and tighten to 230-280 lb-ft using wrench A32047-2. Back off if necessary to allow lockbolt (800) to be fitted. Install lockbolt, washer (805) and nut (810). Tighten nut and install cotter pin (795).

D. Install orifice support tube (820)

(1) Install packing (545) and backup rings (540).

(2) Install guide bushing A32047-16 in top of outer cylinder assembly (575) and guide shaft A32047-15 in top of orifice support tube (820).

(3) Using orifice tube adapter A32047-5, carefully slide support tube (820) into outer cylinder using guide shaft and bushing to guide and support orifice support tube.

(4) Remove guide shaft and guide bushing and install support washer (535) and orifice support nut (530).

(5) Tighten orifice support nut (530) to 50-75 lb-ft using orifice nut wrench A32047-3 and backoff if necessary to allow vernier lockplate (525) to be fitted. Install lockplate and secure with washers (520) and bolts (515). Tighten bolts and remove orifice tube adapter assembly.

E. Install support torque tube assembly (430) and secure with bolts (427, 428), washers (429) and nuts (429N). Tighten nuts and apply sealant as shown in Fig. 701. Apply tamper-proof putty. Apply sealant and grease between torque tube support (430) and outer cylinder (575) as shown in Fig. 702.

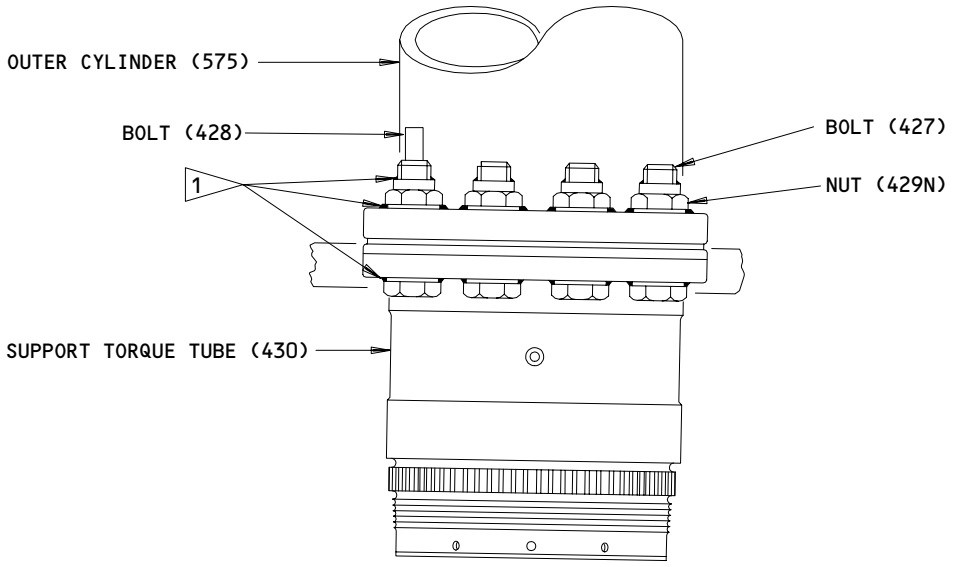
F. Attach sensor mounting plates (275, 277) with bolts (265), lockwashers (270) and sealant. Tighten bolts and install lockwire using double twist method.

G. Install steering collar (390), lower plate (375) and steering nut (360). Tighten nut to 75-100 lb-ft using adapter A32034-1 .

H. Install steering collar pins (335A) and secure with pin caps (330), bolts (310), washers (315, 320) and nuts (325). Tighten nuts as required for installation of cotter pin (305). Install cotter pin and spread to hold in place temporarily.

NOTE: Parts will be disassembled when steering actuators are installed.

I. Install axle spacers (670) 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 (672) and plate (673) in the electrical access hole.

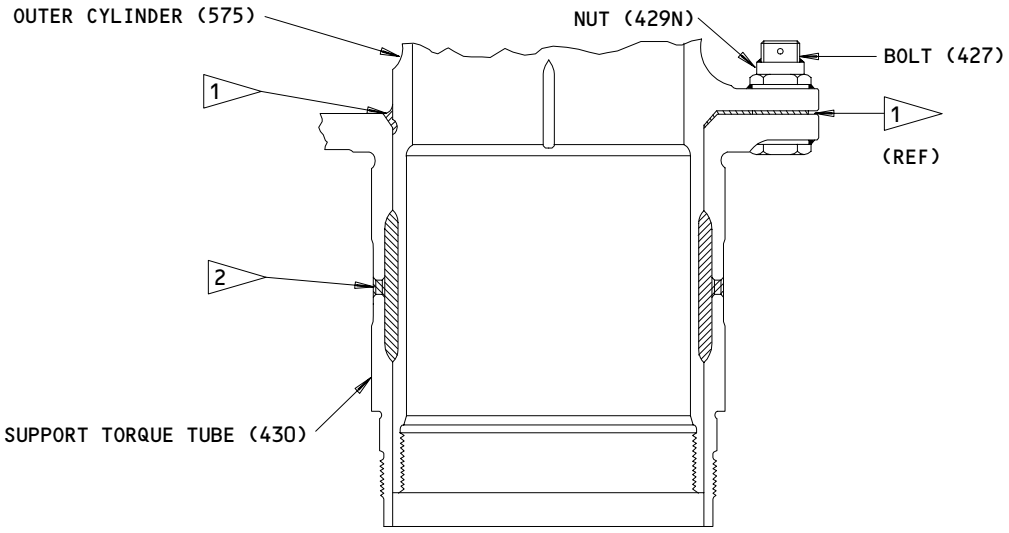


1 MAKE A FILLET WITH SEALANT AS SHOWN IN REPAIR 19-1, FIG. 606

ITEM NUMBERS REFER TO IPL FIG. 1

Torque Tube Support Bolt Sealing
Figure 701

F55764



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

5934

J. Install metering pin (860) in inner cylinder assembly (675)

(1) Install packing (850) and backup rings (845) on metering pin (860). Carefully slide metering pin into inner cylinder assembly (675).

(2) Place retainer ring (825) inside non-flanged end of retainer ring adapter A32047-6. Slide adapter into inner cylinder (675).

(3) Slide ring adapter A32047-7 inside ring adapter A32047-6. Push retainer ring (825) into place. Remove ring adapter.

(4) Using retainer nut wrench A32047-4 install metering pin nut (830) and tighten to 75-100 lb-ft. Remove ring adapter and nut wrench tools.

K. Install packings (730, 750, 760, 765) and packing backups (725, 745) in lower bearing (755) and lower bearing seal adapter (740). Connect lower bearing and seal adapter and secure with headed pins (735).

L. If the gland nut has a lube fitting, lubricate the gland nut (705) 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 down over the inner cylinder these parts, in this sequence: gland nut (705), excluder (720), lower bearing seal adapter followed by lower bearing as connected in par. 4.K. above and lower centering cam (770, 786). See Fig. 705 for excluder (720) orientation.

M. Install the following parts, in order, on the inner cylinder: circlip (665), dowels (855), upper centering cam (660), and recoil valve (655).

CAUTION: UPPER BEARING ASSEMBLY (640) IS A MATCHED SET OF HALVES (645, 650). DO NOT MIX WITH HALVES FROM ANOTHER SET OR DAMAGE TO PARTS COULD OCCUR.

N. Install upper bearing assembly (640) and packing (635).

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. Insert inner cylinder (675) into outer cylinder (575) with lower centering cam oriented to place hole in cam adjacent to oil charging valve (555) hole in outer cylinder. Install lower bearing (755), seal adapter (740), excluder (720) and gland nut (705). Tighten gland nut to 125-150 lb-ft using wrench adapter A32021-1. Back off steering nut (360) minimum amount, if necessary, to align with nearest hole. Back off gland nut (705), if necessary, to align nearest slot to the same hole.

P. Install lockplates (350, 355) using bolt (340) and washer (345). Tighten bolt, install lockwire using double twist method and apply sealing compound.

Q. Attach targets (225, 255) to brackets (230, 260) using rivets (220, 250) and wet primer per F-20.20.

R. Attach target brackets (205, 235) using rivets (210, 215, 240, 245).

S. Install lower torsion link (165) with lower pin (35). Install bolt (10), washers (15, 20) and nut (25) with sealant. Tighten nut, install cotter pin (5) and apply sealing compound.

T. 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.

U. Connect torsion links.

(1) Unit with apex bolt (45) : Install apex bolt (45) and secure with washer (50) and nut (55). Tighten nut per 20-50-01 and install cotter pin (40).

(2) Units with handles (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).

V. Install oil charging valve (555) with packing (560). Tighten valve body to 22-25 lb-ft. Install cap (550).

W. Install air valve (510).

(1) Component assembly 162T1100-6, -7, -9, -10, -12 and -13: Install air valve (510) and tighten body to 11-14 lb-ft and swivel nut to 5-7 lb-ft. Attach tag (505).

(2) Component assembly 162T1100-8 and -11:

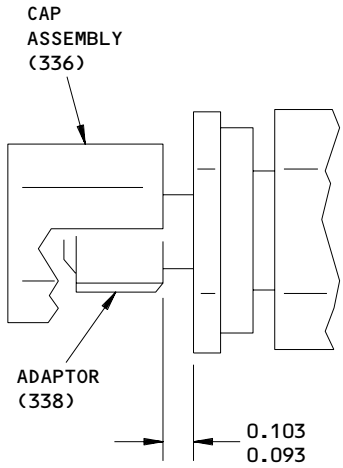
(a) Clean adapter (338) all over and valve stem threads of valve (510) with solvent and apply Locquic primer -T-.

CAUTION: APPLY RETAINING COMPOUND CAREFULLY AND SPARINGLY TO THREADED AREAS BETWEEN ADAPTER AND VALVE. AVOID SPREADING COMPOUND TO ADJACENT AREAS.

(b) Apply retaining compound to ID of adapter and install on valve (510) to dimension shown in Fig. 703. Allow at least 30 min before proceeding.

(c) Coat seal (337) with hydraulic fluid and insert into cap (337N). Install cap assembly (336) on valve (510).

(d) Install air valve (510) and tighten body to 11-14 lb-ft and swivel nut to 5-7 lb-ft. Attach tag (505).



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Air Valve Installation
Figure 703

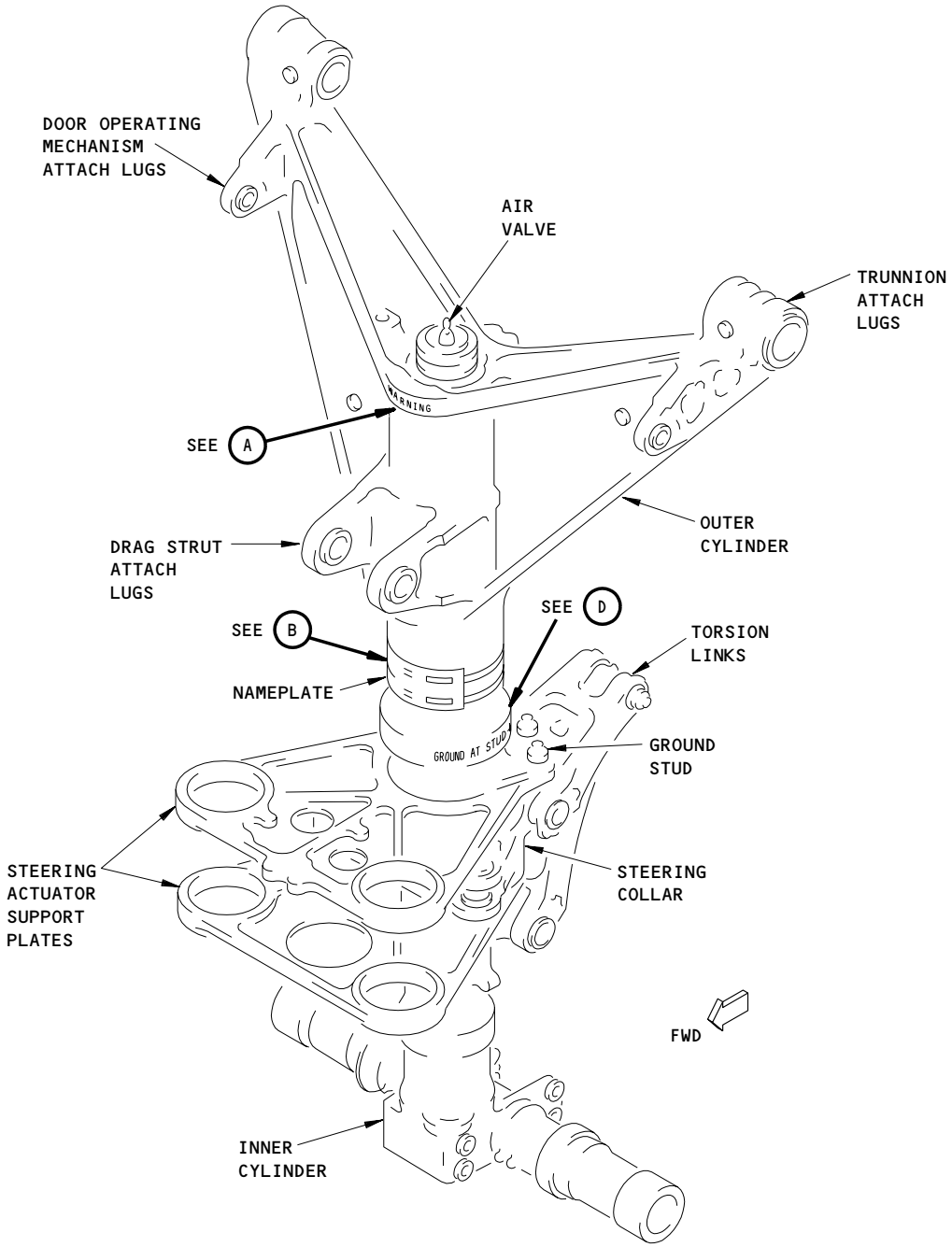
J71773

X. If applicable, install plate (673) and nut (672) on inner cylinder bushing (682) 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.

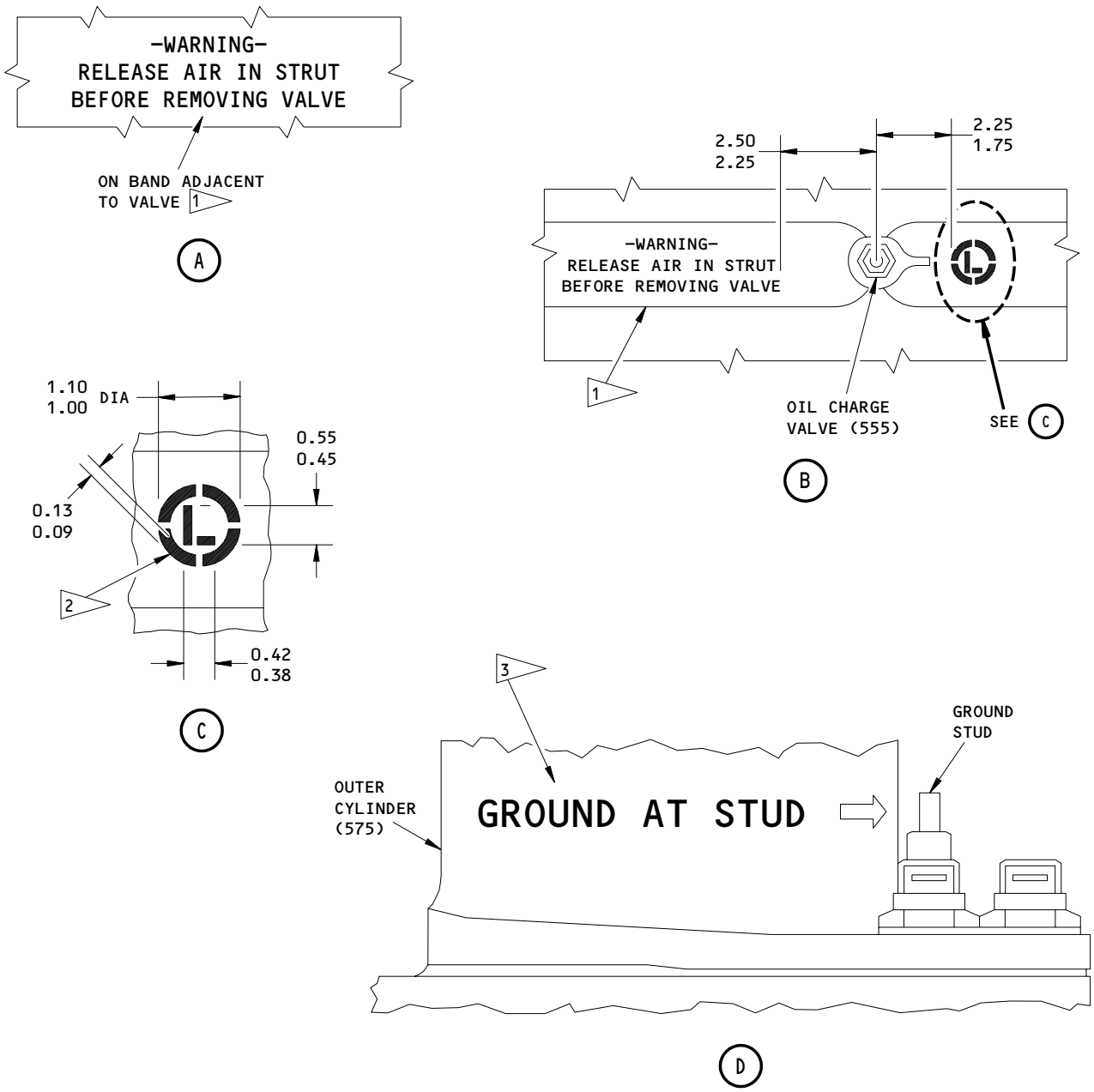
Y. Stencil markings on the shock strut (Fig. 704).

Z. Do a test of the assembled component assembly (ref TESTING/TROUBLE SHOOTING).

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



Stenciling Details
Figure 704 (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)

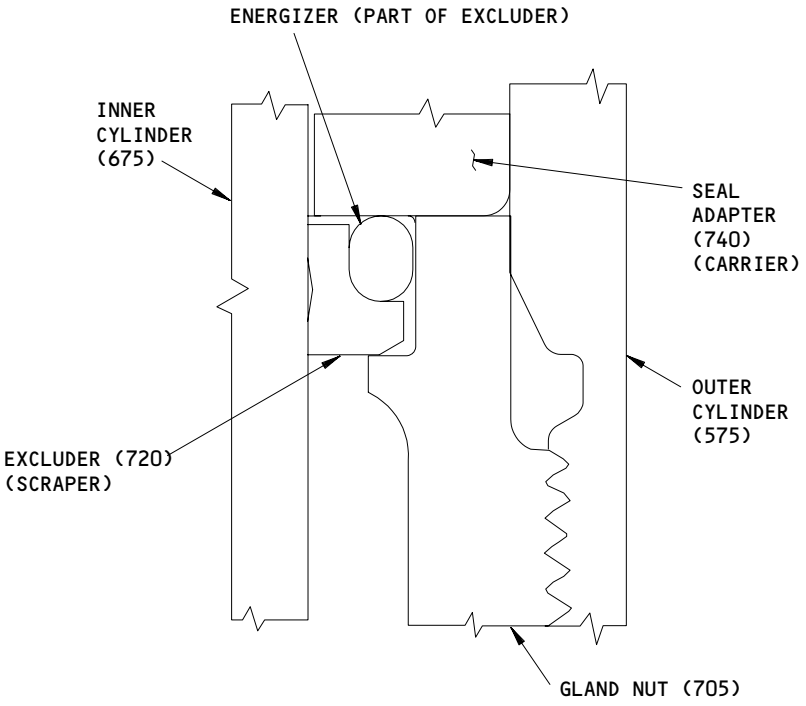
2 STENCIL (SOPM 20-50-10) THIS CIRCLE L SYMBOL WITH RED BMS 10-60 ENAMEL (F-14.9815-101, WHICH REPLACES SRF-14.9815-101)

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

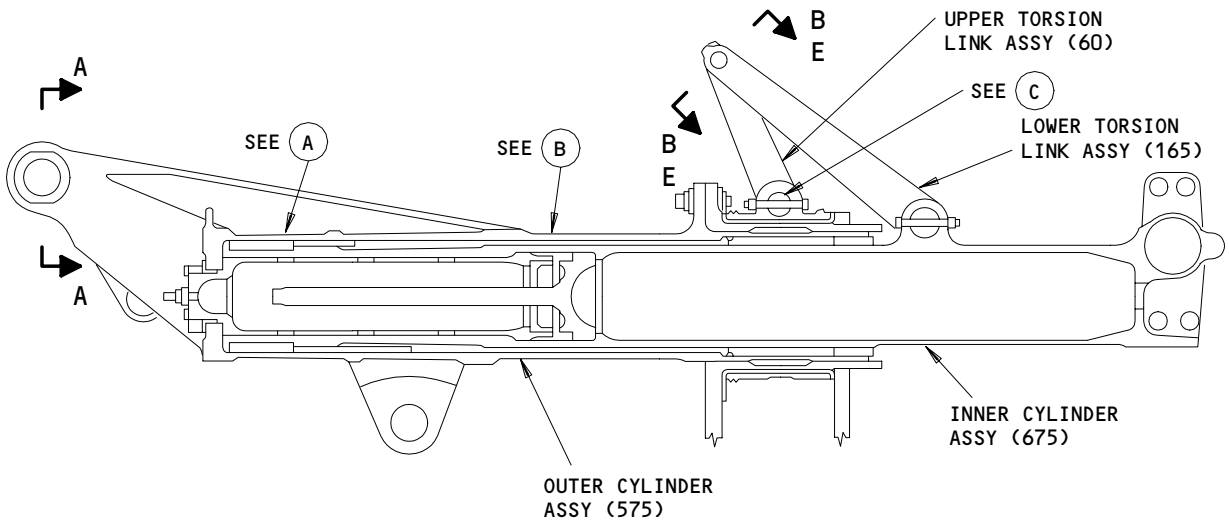
Stenciling Details
Figure 704 (Sheet 2)

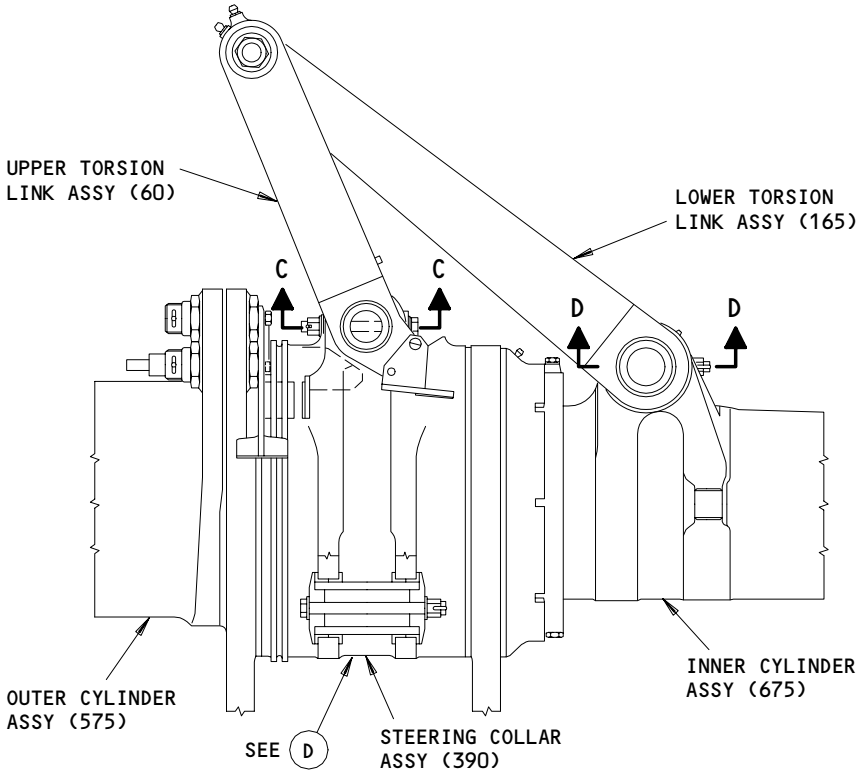


SHAMBAN S32925-55G5

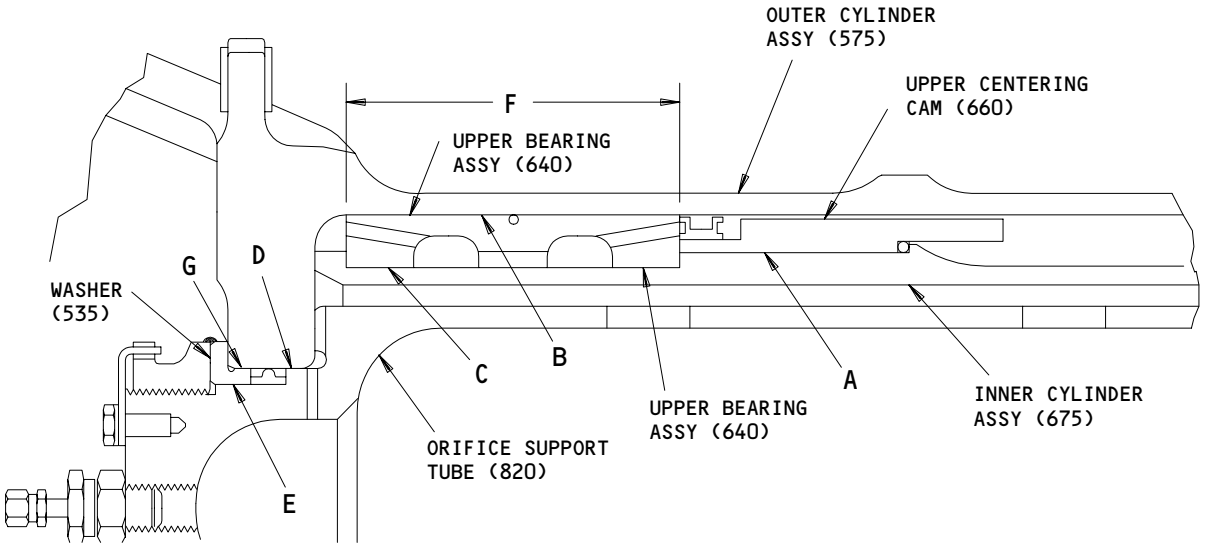
Excluder (Scraper) Installation
Figure 705

A75713

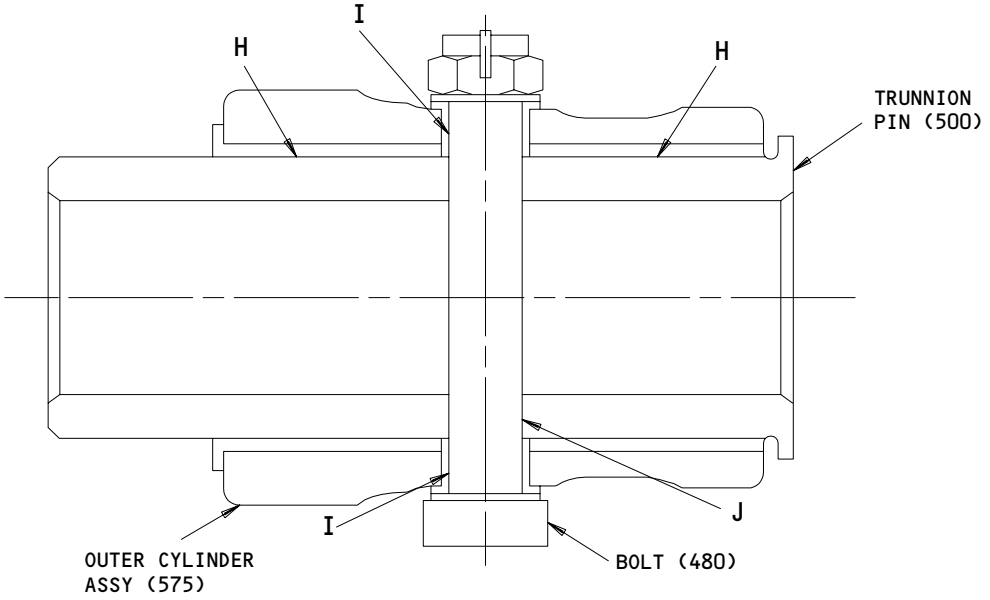




Fits and Clearances
Figure 801 (Sheet 1)

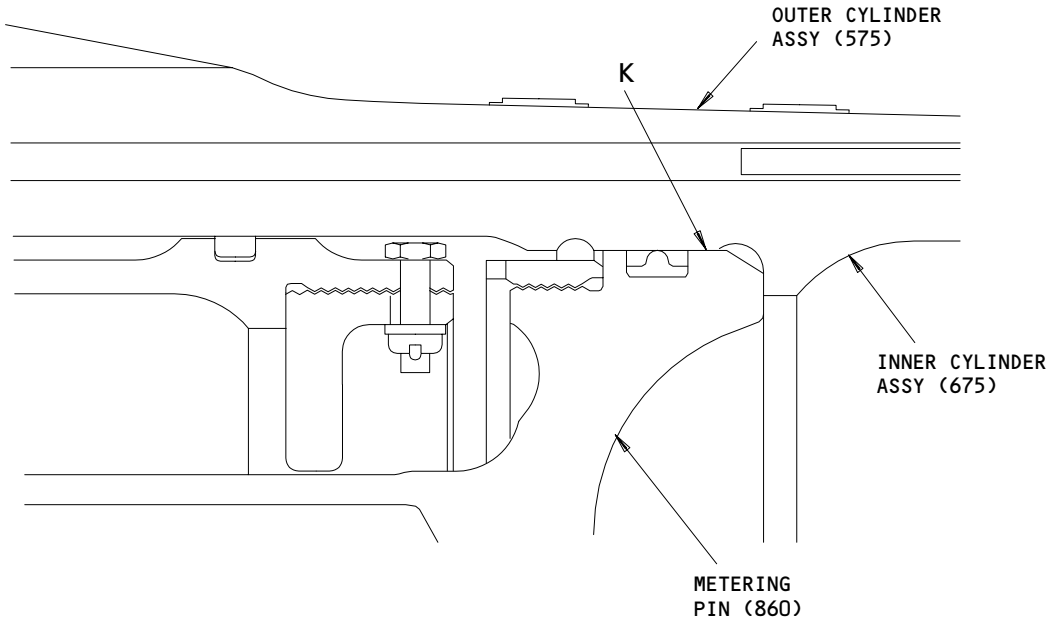


A

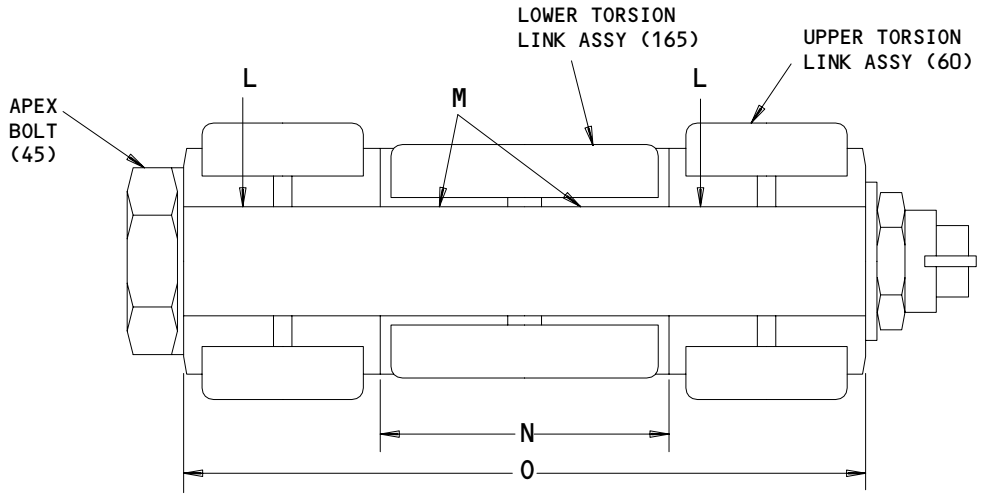


A–A

Fits and Clearances
Figure 801 (Sheet 2)

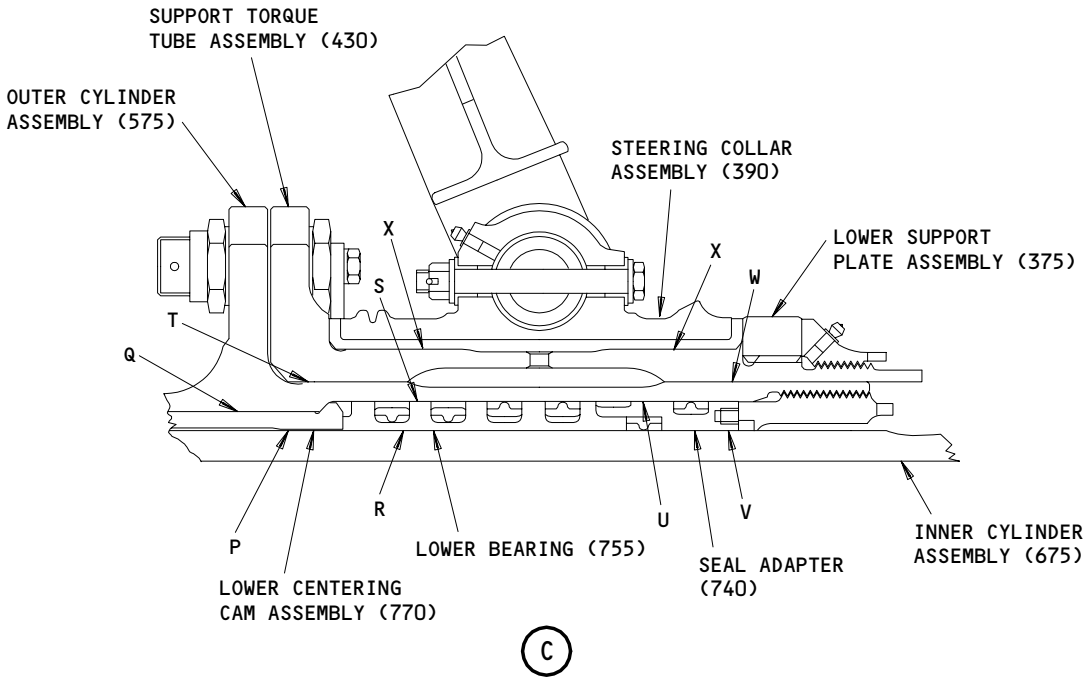


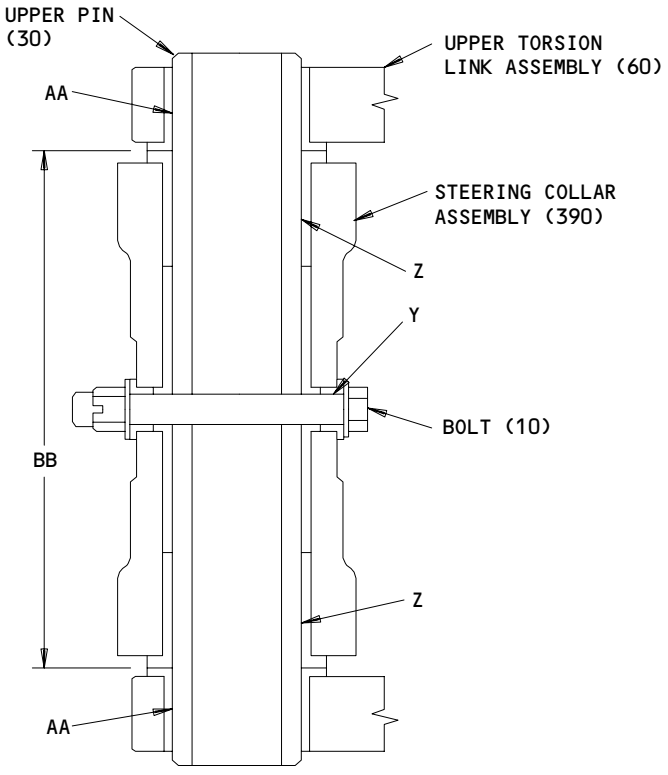
B



B–B

Fits and Clearances
Figure 801 (Sheet 3)

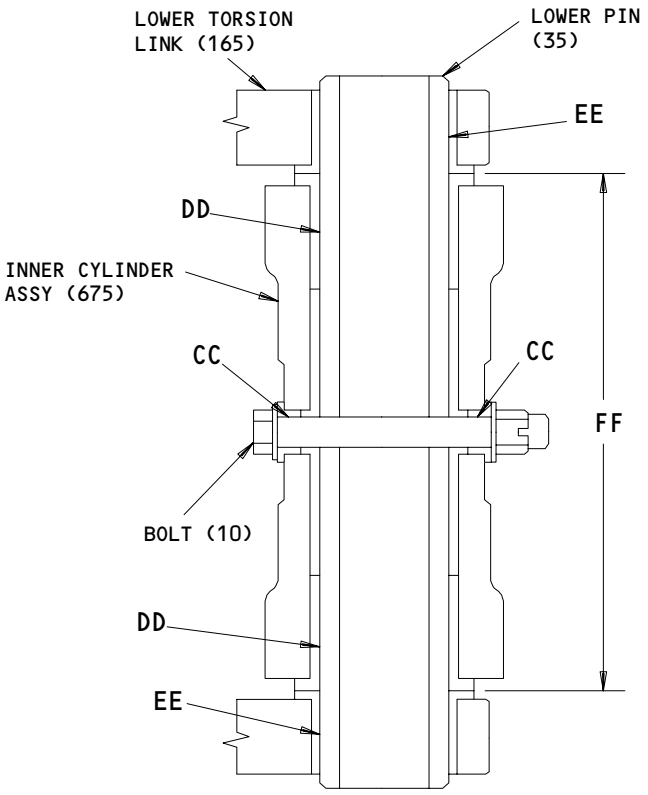




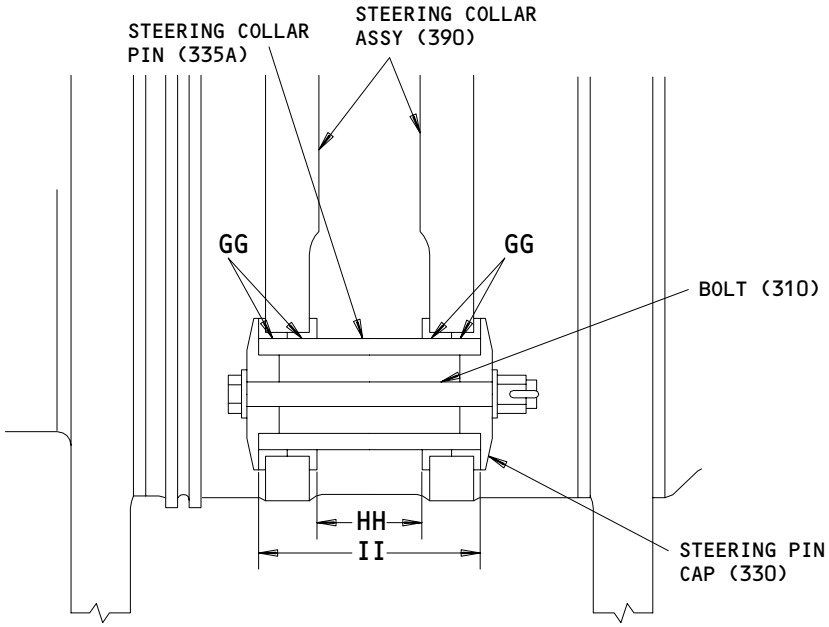
C-C

Fits and Clearances
Figure 801 (Sheet 4)

19549

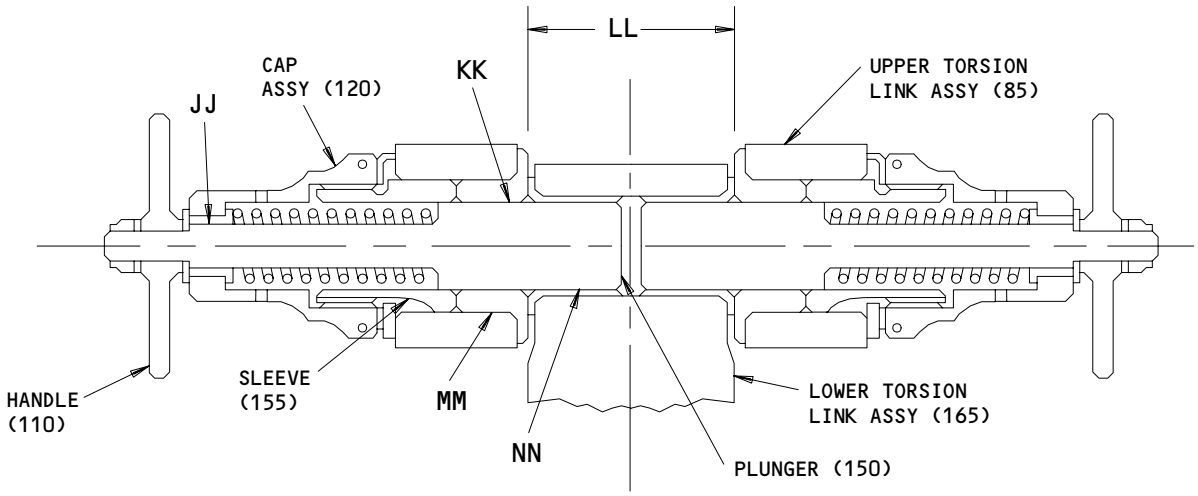


D–D



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 660 OD 675	6.309 6.302	6.311 6.307	0.002	0.009	6.296	6.321	0.014
B	ID 575 OD 640	7.150 7.137	7.153 7.140	0.010	0.016	7.132	7.161	0.021
C	ID 640 OD 675	5.9120 5.9087	5.9150 5.9112	0.0008	0.0063	5.9000	5.9220	0.0111
D	ID 575 OD 820	3.492 3.486	3.495 3.488	0.004	0.009	3.482	3.500	0.013
E	ID 535 OD 820	3.122 3.119	3.125 3.121	0.001	0.006	3.115	3.130	0.009
F	*[1] 640 *[2] 675	3.995 4.000	4.000 4.005	0.000	0.010			
G	ID 575 OD 535	3.492 3.486	3.495 3.488	0.004	0.009	3.482	3.500	0.013
H	ID 575 OD 500	3.0000 2.9980	3.0015 2.9990	0.0010	0.0035	2.9940	3.0059	0.0070
I	ID 575 OD 480	0.7500 0.7485	0.7515 0.7490	0.0010	0.0030	0.7460	0.7537	0.0047
J	ID 500 OD 480	0.7500 0.7485	0.7515 0.7490	0.0010	0.0030	0.7460	0.7530	0.0047
K	ID 675 OD 860	5.224 5.215	5.227 5.218	0.006	0.012	5.210	5.234	0.017
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	*[4] 60 *[3] 165	2.1200 2.1180	2.1298 2.1200	0.0000	0.0118	2.1062	2.1416	0.0236

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	5.1252	5.1320					
P	ID 770	6.519	6.521	0.022	0.027		6.529	0.032
	OD 675	6.494	6.497			6.489		
Q	ID 575	7.150	7.153	0.002	0.008		7.161	0.013
	OD 770	7.145	7.148			7.139		
R	ID 755	6.501	6.503	0.004	0.009		6.511	0.014
	OD 675	6.494	6.497			6.489		
S	ID 575	7.474	7.477	0.006	0.012		7.485	0.017
	OD 755	7.465	7.468			7.459		
T	ID 430	8.1260	8.1278	0.0010	0.0046		8.1353	0.0103
	OD 575	8.1232	8.1250			8.1175		
U	ID 575	7.474	7.477	0.004	0.012		7.487	0.017
	OD 740	7.465	7.470			7.459		
V	ID 740	6.503	6.506	0.006	0.012		6.514	0.017
	OD 675	6.494	6.497			6.488		
W	ID 430	8.1260	8.1278	0.0010	0.0046		8.1350	0.0103
	OD 575	8.1232	8.1250			8.1175		
X	ID 390	9.2500	9.2515	0.0010	0.0040		9.2590	0.0100
	OD 430	9.2475	9.2490			9.2410		
Y	ID 390	0.3750	0.3780	0.0005	0.0040		0.3797	0.0052
	OD 10	0.3740	0.3745			0.3728		
Z	ID 390	1.5000	1.5015	0.0010	0.0035		1.5049	0.0059
	OD 30	1.4980	1.4990			1.4950		
AA	ID 60	1.5000	1.5015	0.0010	0.0035		1.5040	0.0059
	OD 30	1.4980	1.4990			1.4950		

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 8)

19731

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	
BB	*[4] 60 *[3] 390	6.6005 6.5980	6.6025 6.6000	0.0005	0.0045	6.5935	6.6070	0.0090
CC	ID 675 OD 10	0.3750 0.3740	0.3780 0.3745	0.0005	0.0040	0.3728	0.3797	0.0052
DD	ID 675 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] 675	6.6005 6.5980	6.6025 6.6000	0.0005	0.0045	6.5935	6.6070	0.0090
GG	ID 390 OD 335	1.7500 1.7468	1.7515 1.7480	0.0020	0.0047	1.7440	1.7550	0.0073
HH	*[4] 390	1.536	1.544					
II	*[3] 390	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

*[1] LENGTH OF UPPER BEARING (640)

*[2] LENGTH OF INNER CYLINDER BEARING GROOVE

*[3] DIMENSION ACROSS OUTER FLANGES OF BUSHING

*[4] DIMENSION BETWEEN INNER FLANGES OF BUSHINGS

*[5] MINUS SIGN DENOTES INTERFERENCE FIT

ALL DIMENSIONS ARE IN INCHES

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
815	ORIFICE PLATE		230-280
530	ORIFICE SPRT NUT		50-75
360	STEERING NUT		75-100
830	METERING PIN NUT		75-100
705	GLAND NUT		125-150
555	CHARGING VALVE *[1]		22-25
510	AIR VALVE *[2]		11-14
510	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

100222

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. A32029-50 -- Lower Bearing Seal Retainer Puller
4. A32034-1 -- Steering Nut Wrench Adaptor
5. A32047-7 -- Retainer Ring Adapter
6. A32047-2 -- Orifice Plate Wrench Assembly
7. A32047-4 -- Retainer Nut Wrench Assembly
8. A32047-3 -- Orifice Nut Wrench Adaptor
9. A32047-6 -- Retainer Ring Adapter Assembly
10. A32047-5 -- 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

66958 SGS THOMSON MICROELECTRONICS CORP
1000 EAST BELL ROAD
PHOENIX, ARIZONA 85022

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

98403 AMERACE CORP CONTROL PRODUCTS DIV
1000 HICKORY STREET
GRAFTON, WISCONSIN 53024-1128
FORMERLY AGASTAT DIV OF AMERACE ESNA CORP AND ELASTIC STOP NUT CORP V0217B AND CONTROL PRODUCTS AMERACE CORP AND ENERCON INC SUB OF AMERACE CORP

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	620	2
		1	620	2
AN6230-30		1	635	1
AN960C516		1	105	2
AP1008-4		1	550	1
ASBFH12VC		1	620	2
BACB10FH12GC		1	620	2
BACB30NL12DU68		1	480	2
BACC14AD4		1	550	1
BACN10JC10		1	55	1
BACN10JC12		1	495	2
BACN10JC16		1	429N	4
BACN10JC5		1	100	2
BACN10JC5CD		1	69A	2
BACN10WW10C		1	672	1
BACP20AX15DA		1	195A	1
BACP20AX15DAP		1	190A	1
BACR15BB4DD10		1	215	1
		1	245	1
BACR15BB8DD10		1	210	1
		1	240	1
BACS11AK1		1	565	2
BACS38E8-25		1	570	2
BACW10BN10UP		1	50A	1
BACW10BP12ACU		1	485	2
BACW10BP12APU		1	490	2
BACW10BP16APU		1	429	4
BACW10BP4APU		1	345	1
		1	520	1
		1	522	2
		1	805	1
BACW10BP6ACU		1	15	2
		1	315	2
BACW10BP6APU		1	20	3
		1	320	2
BMN4122AD3-10		1	55	1
BMN4122AD3-12		1	495	2
BMN4122AD3-16		1	429N	4
BMN4122A10		1	55	1
BMN4122A16		1	429N	4
BWG12A110C		1	620	2
E9868-6		1	25A	2
		1	325A	2
HU12-204VC		1	620	2
H10-10BAC		1	55	1
H10-12BAC		1	495	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
H10-1612BAC		1	429N	4
KWB12-61		1	620	2
LCN12-624		1	25	2
		1	325	2
LCN6-428		1	810	1
LHB12ENGC		1	620	2
MMS122		1	505	1
MS20392-1C7		1	735	3
MS20426A3-8		1	220	2
		1	250	2
MS20615-3M6		1	775	2
MS20615-3M7		1	777	2
MS24665-153		1	795	1
MS24665-304		1	5	2
		1	40	1
		1	305	2
MS24665-374		1	426	3
MS24665-376		1	475	2
MS28774-338		1	540A	2
MS28775-252		1	635A	1
MS28775-338		1	545A	1
MS28778-5		1	560	1
MS28889-2		1	510	1
MS35333-75		1	270	4
NAS1149C0563R		1	68A	2
NAS6604H2		1	515	1
		1	517	2
NAS6605H2		1	265	4
NAS6606DH61		1	310A	2
NAS6704D8		1	800	1
NAS6704H7		1	340	1
NAS6706D46		1	10	2
RMLH9074-10		1	55	1
RMLH9074-12		1	495	2
RMLH9074-16		1	429N	4
RMTE9868-4		1	810C	1
S32925-55G5		1	720	1
TE9868-4		1	810A	1
US2103-4		1	550	1
WC12G3C		1	620	2
015T0525-5		1	770C	1
161T1210-1		1	410	2
		1	590	12
		1	685	6

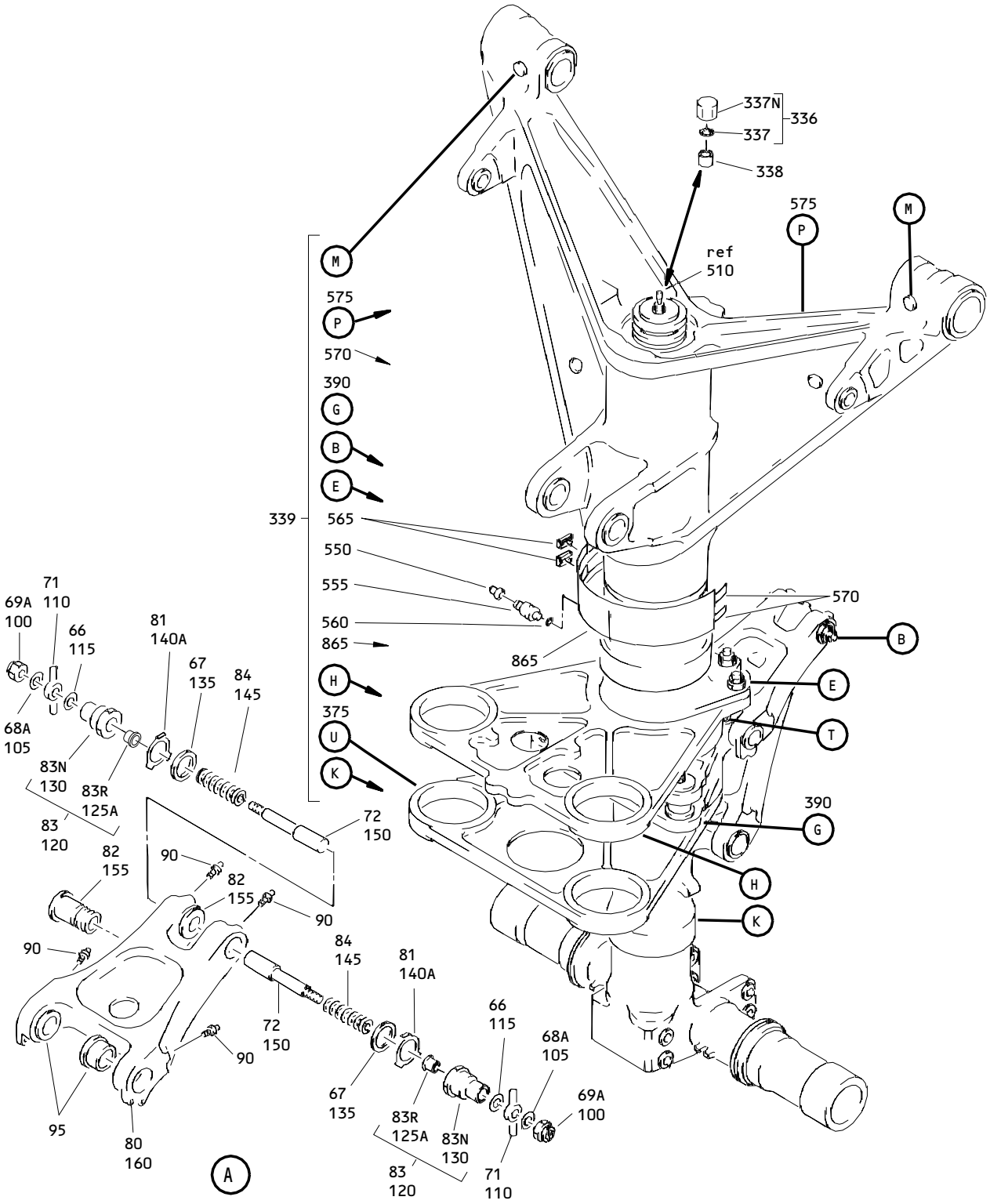
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
161T1210-11		1	405	4
161T1210-16		1	415	4
161T1210-17		1	440	4
161T1210-2		1	595	16
161T1210-3		1	600	8
161T1210-4		1	605	4
161T1210-59		1	83R	2
		1	125A	2
161T1210-60		1	170	2
161T1210-9		1	690	16
161T1224-3		1	336	1
161T1224-4		1	337	1
161U0002-2		1	735B	3
		1	737	3
161U0002-3		1	735A	3
162T1100-10		1	1D	RF
162T1100-12		1	1F	RF
162T1100-13		1	1G	RF
162T1100-14		1	339A	1
162T1100-17		1	1K	RF
162T1100-18		1	339B	1
162T1100-19		1	1L	RF
162T1100-20		1	1M	RF
162T1100-21		1	1N	RF
162T1100-22		1	339C	1
162T1100-28		1	339E	1
162T1100-29		1	1R	RF
162T1100-30		1	1S	RF
162T1100-32		1	1T	RF
162T1100-33		1	1U	RF
162T1100-35		1	1W	RF
162T1100-36		1	1X	RF
162T1100-37		1	1Y	RF
162T1100-38		1	1Z	RF
162T1100-5		1	339	1
162T1100-6		1	1	RF
162T1100-7		1	1A	RF
162T1100-8		1	1B	RF
162T1100-9		1	1C	RF
162T1101-1		1	500	2
162T1102-1		1	670	2
162T1103-1		1	865	1
162T1111-1		1	575	1
162T1111-2		1	625	1
162T1113-2		1	700	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1113-3		1	675	1
162T1113-4		1	700A	1
162T1113-5		1	675A	1
162T1114-2		1	200	1
162T1114-3		1	165	1
162T1114-4		1	165A	1
162T1116-2		1	80	1
		1	160	1
162T1116-3		1	60	1
162T1116-4		1	85	1
162T1116-5		1	60B	1
162T1118-1		1	30	1
162T1119-1		1	35	1
162T1119-2		1	35N	1
162T1120-1		1	45	1
162T1121-1		1	610	2
162T1122-1		1	615	4
162T1123-2		1	175	2
162T1124-2		1	695	2
162T1125-2		1	70	2
		1	95	2
162T1126-1		1	75	4
162T1127-3		1	230	1
162T1127-4		1	260	1
162T1127-5		1	205	1
162T1127-6		1	235	1
162T1139-1		1	682	1
162T1140-1		1	779	2
162T1140-2		1	779A	2
162T1400-1		1	430	1
162T1400-2		1	445	1
162T1400-3		1	445A	1
162T1400-4		1	445B	1
162T1402-1		1	375	1
162T1402-2		1	385	1
162T1404-4		1	425	1
162T1404-5		1	390	1
162T1406-1		1	360	1
162T1406-2		1	370	1
162T1407-1		1	420	2
162T1408-2		1	335A	2
162T1408-3		1	335B	2
162T1409-1		1	427	3
162T1409-3		1	428	1
162T1411-1		1	350	1
162T1412-2		1	275	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1412-3		1	277	2
162T1413-1		1	330	4
162T1414-2		1	400	2
162T1500-1		1	820	1
162T1501-1		1	860	1
162T1503-1		1	815	1
162T1504-4		1	640	1
162T1504-5		1	645	1
162T1504-6		1	650	1
162T1505-1		1	755	1
162T1505-2		1	755A	1
162T1506-2		1	660	1
162T1507-1		1	770	1
162T1507-2		1	785	1
162T1507-3		1	770A	1
162T1507-4		1	785A	1
162T1507-5		1	770B	1
162T1507-6		1	785B	1
162T1508-2		1	655	1
162T1509-1		1	530	1
162T1510-1		1	535	1
162T1511-1		1	740	1
162T1511-2		1	740A	1
162T1512-1		1	705	1
162T1512-2		1	715	1
162T1512-3		1	705A	1
162T1512-4		1	715A	1
162T1513-1		1	825	1
162T1514-1		1	830	1
162T1514-2		1	840	1
162T1515-1		1	790	1
162T1516-1		1	525	1
162T1516-2		1	525A	1
162T1517-1		1	855	2
162T1517-2		1	780	2
162T1517-3		1	782	2
162T1518-1		1	835	1
162T1519-1		1	665	1
162T1520-1		1	355	1
162T1605-1		1	150	2
162T1605-2		1	72	2
162T1606-1		1	82	2
		1	155	2
162T1607-1		1	83	2
		1	120	2

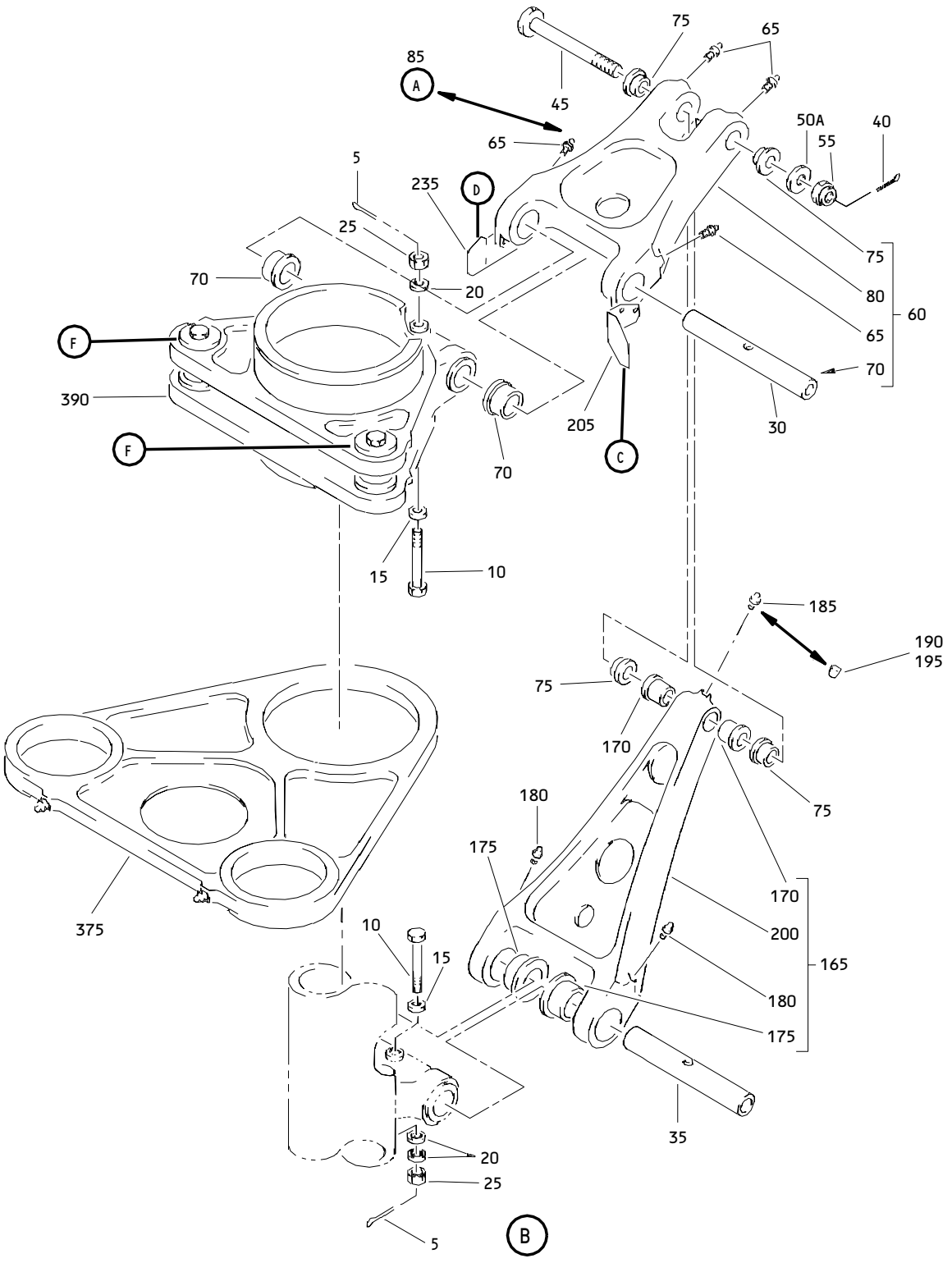
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
162T1607-2		1	83N	1
		1	130	2
162T1608-1		1	71	2
		1	110	2
162T1609-2		1	67	2
		1	135	2
162T1610-1		1	84	2
		1	145	2
162T1611-2		1	81	2
		1	140A	2
162T1615-1		1	66	2
		1	115	2
162T1617-1		1	165B	1
162T1617-2		1	200A	1
162T1617-3		1	165C	1
162T5051-1		1	673	1
1646B		1	580	2
		1	710	1
1728B		1	65	4
		1	90	4
		1	180	2
		1	185	1
		1	365	1
		1	380	2
		1	395	10
		1	435	2
		1	585	4
		1	680	1
1992B		1	710A	1
2C9342		1	555	1
284T0801-1		1	225	1
284T0801-2		1	255	1
42-134-4201		1	565	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
44PB134-4441		1	565	2
48FT1018		1	55	1
48FT1216		1	495	2
48FT1612		1	429N	4
58703-428-9		1	810B	1
58703-624-15		1	25B	2
		1	325B	2
69B83923-2		1	337N	1
69B83923-3		1	338	1
7338MTE987		1	545	1
7338MTN		1	540	2
7338MT2N		1	540B	2
7427MTN		1	845	2
7427MT2N		1	845A	2
7427MT987		1	850	1
7439FTP3		1	745	2
7439FT4780		1	745A	1
7439FT972		1	750	1
		1	765	2
7441MTN		1	725	2
7441MT987		1	730	1
		1	760	2

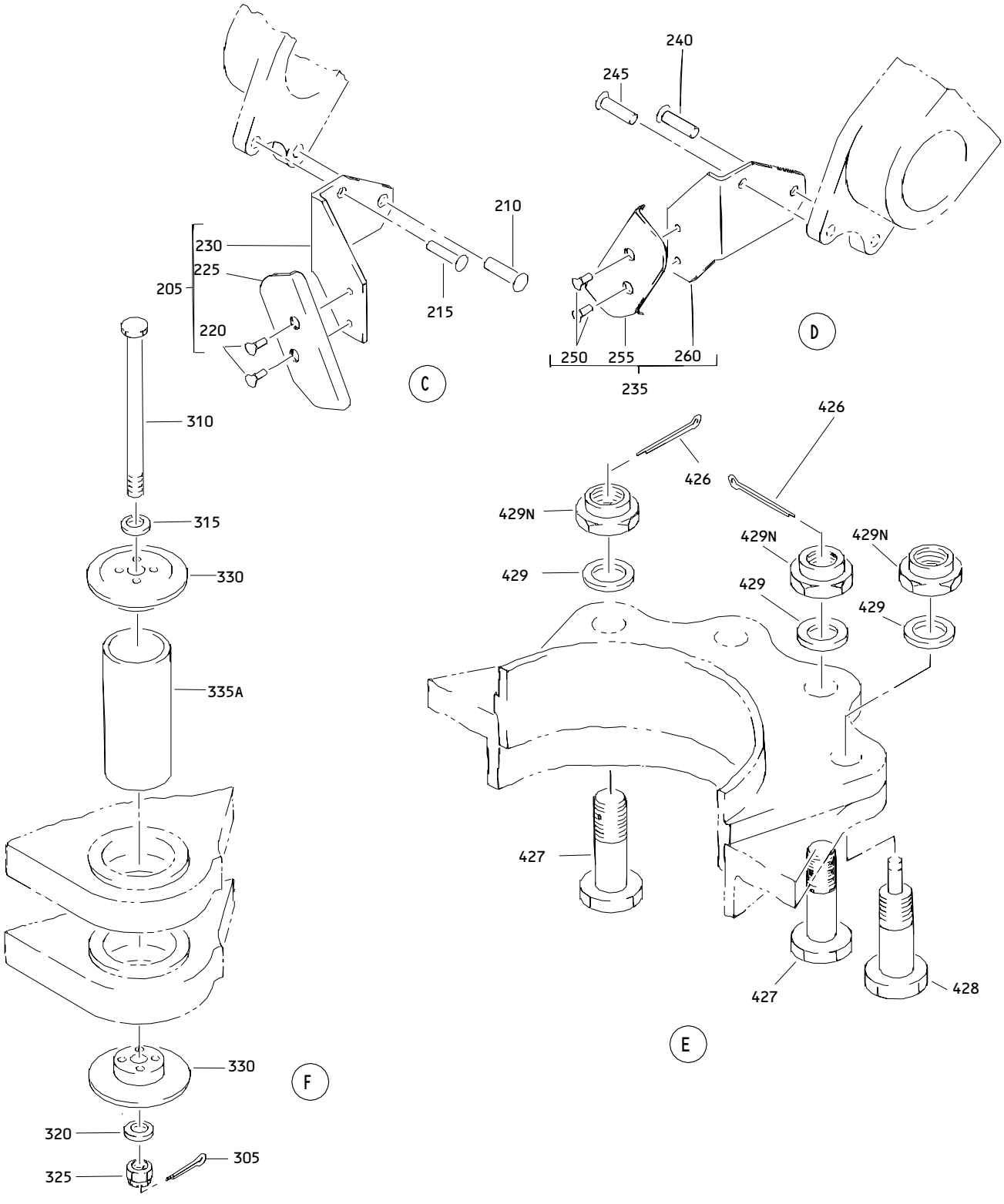


Nose Landing Gear Component Assembly
Figure 1 (Sheet 1)

U1625

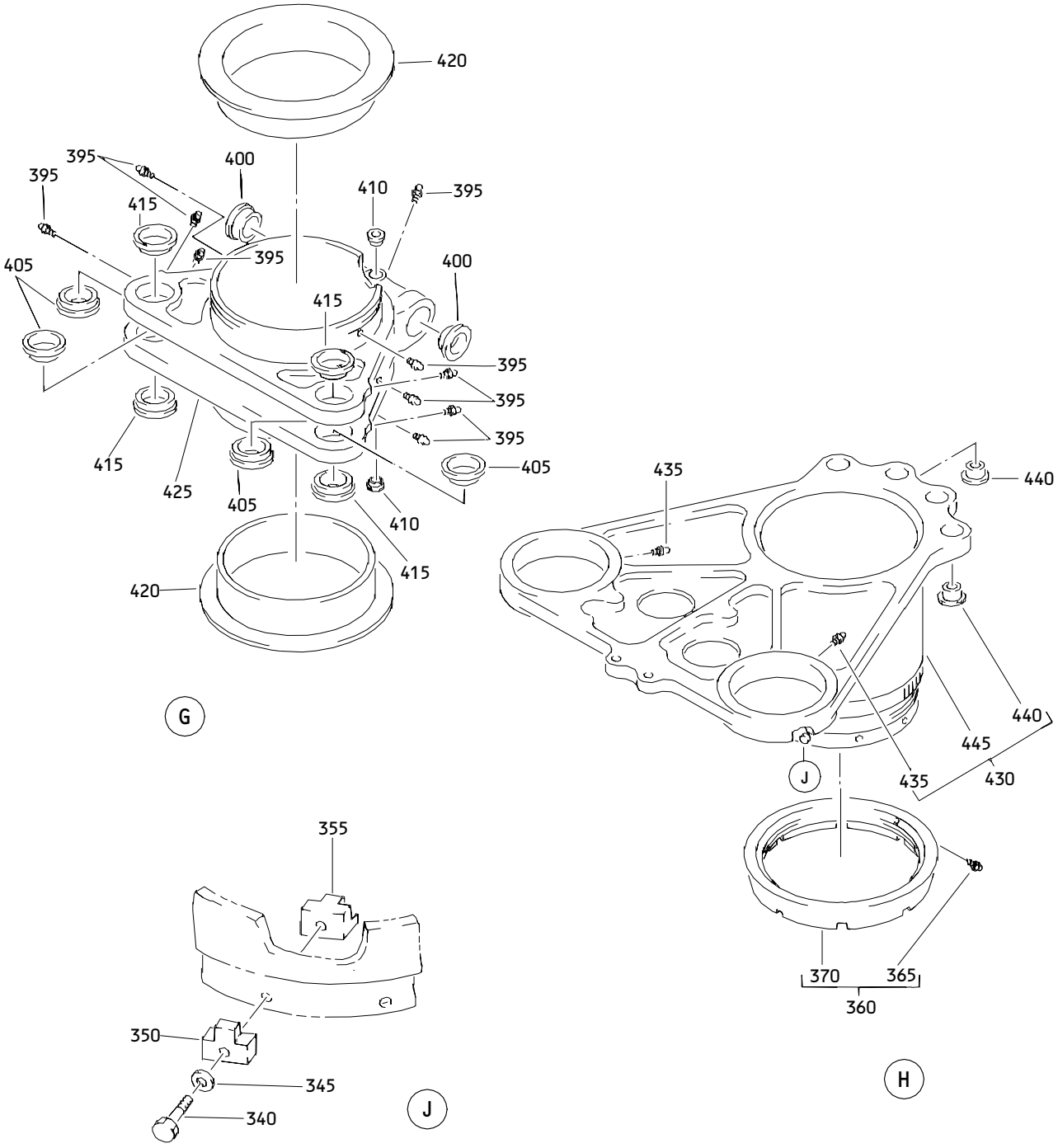


Nose Landing Gear Component Assembly
Figure 1 (Sheet 2)



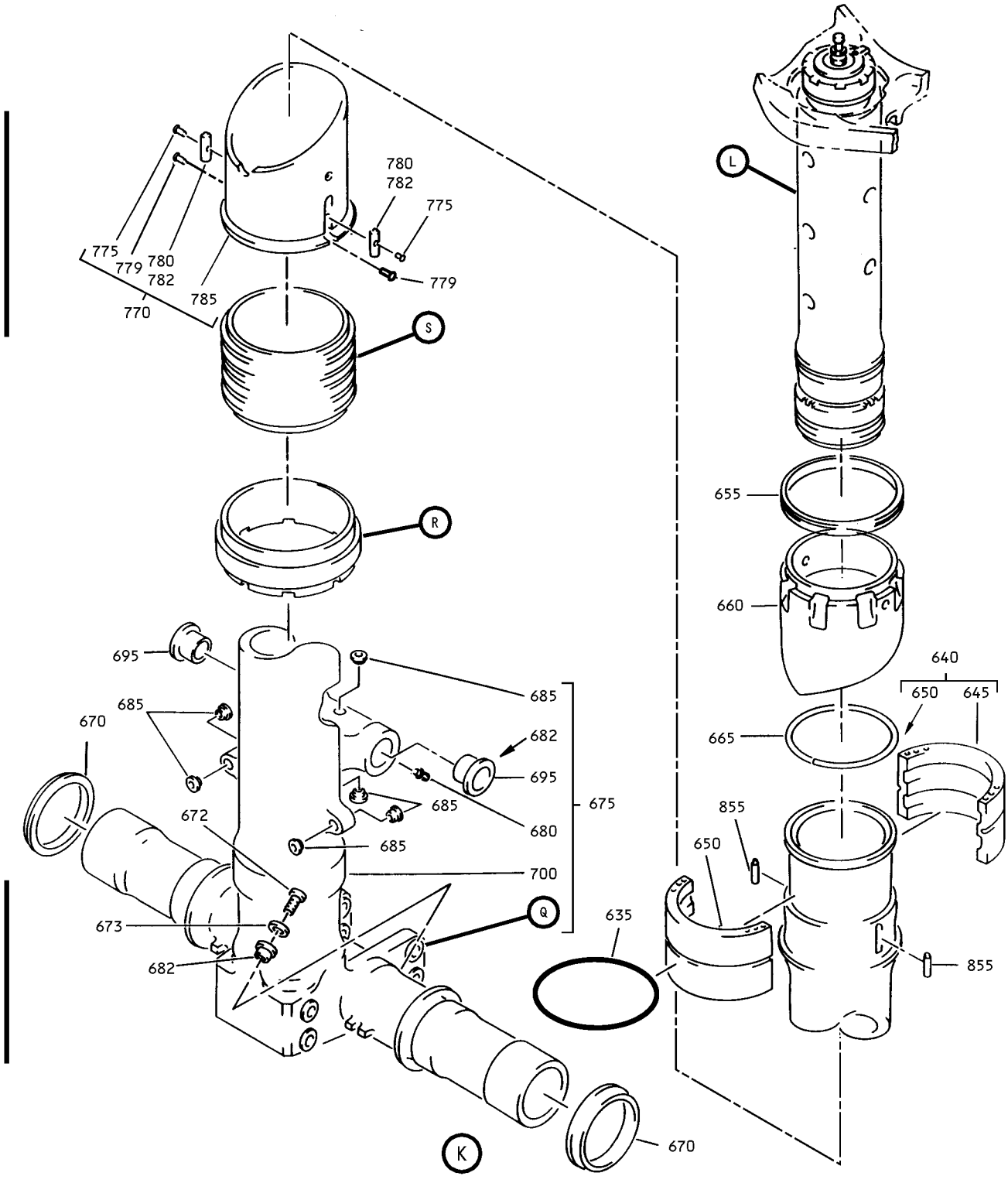
Nose Landing Gear Component Assembly
Figure 1 (Sheet 3)

T81150



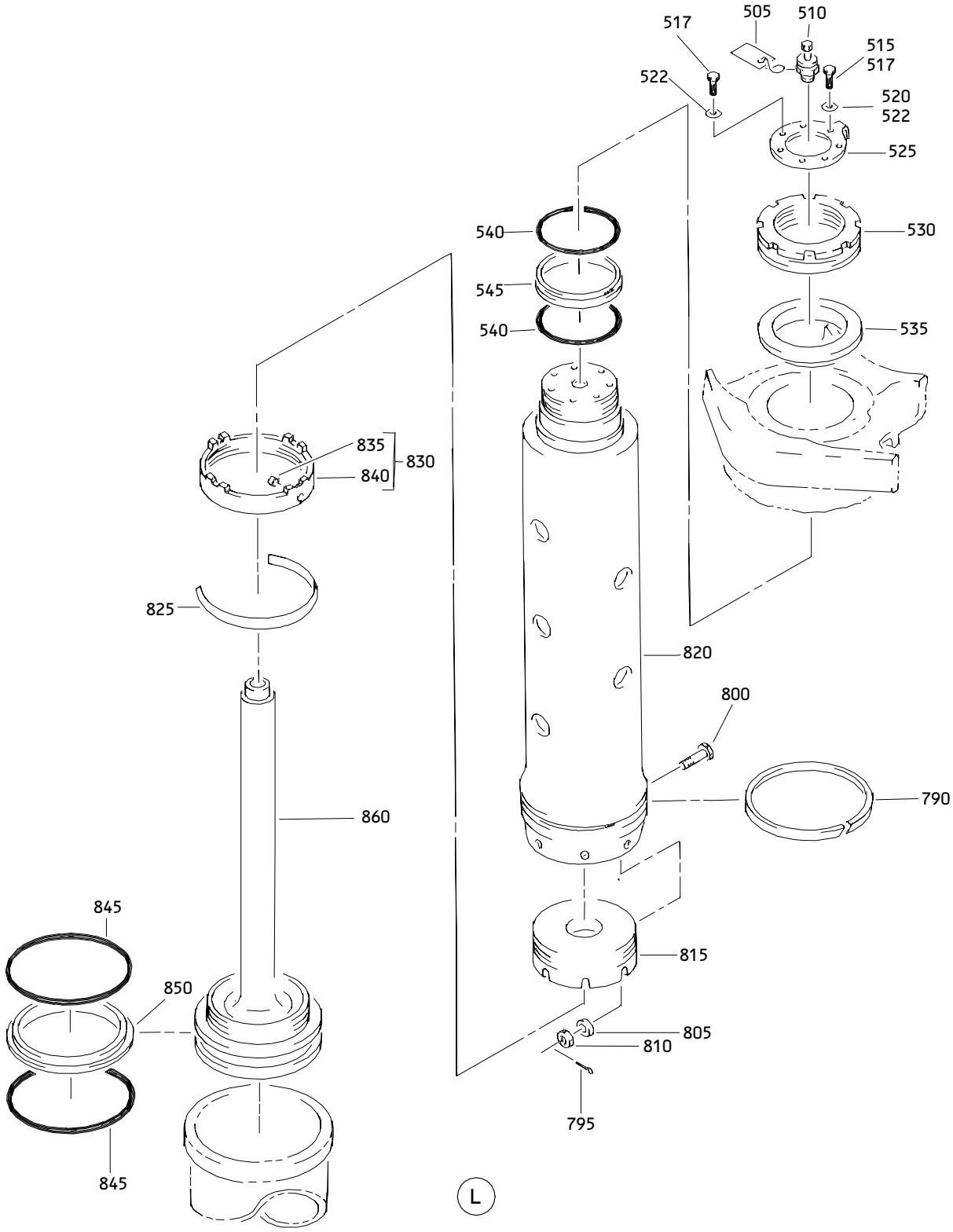
Nose Landing Gear Component Assembly
Figure 1 (Sheet 4)

T81151

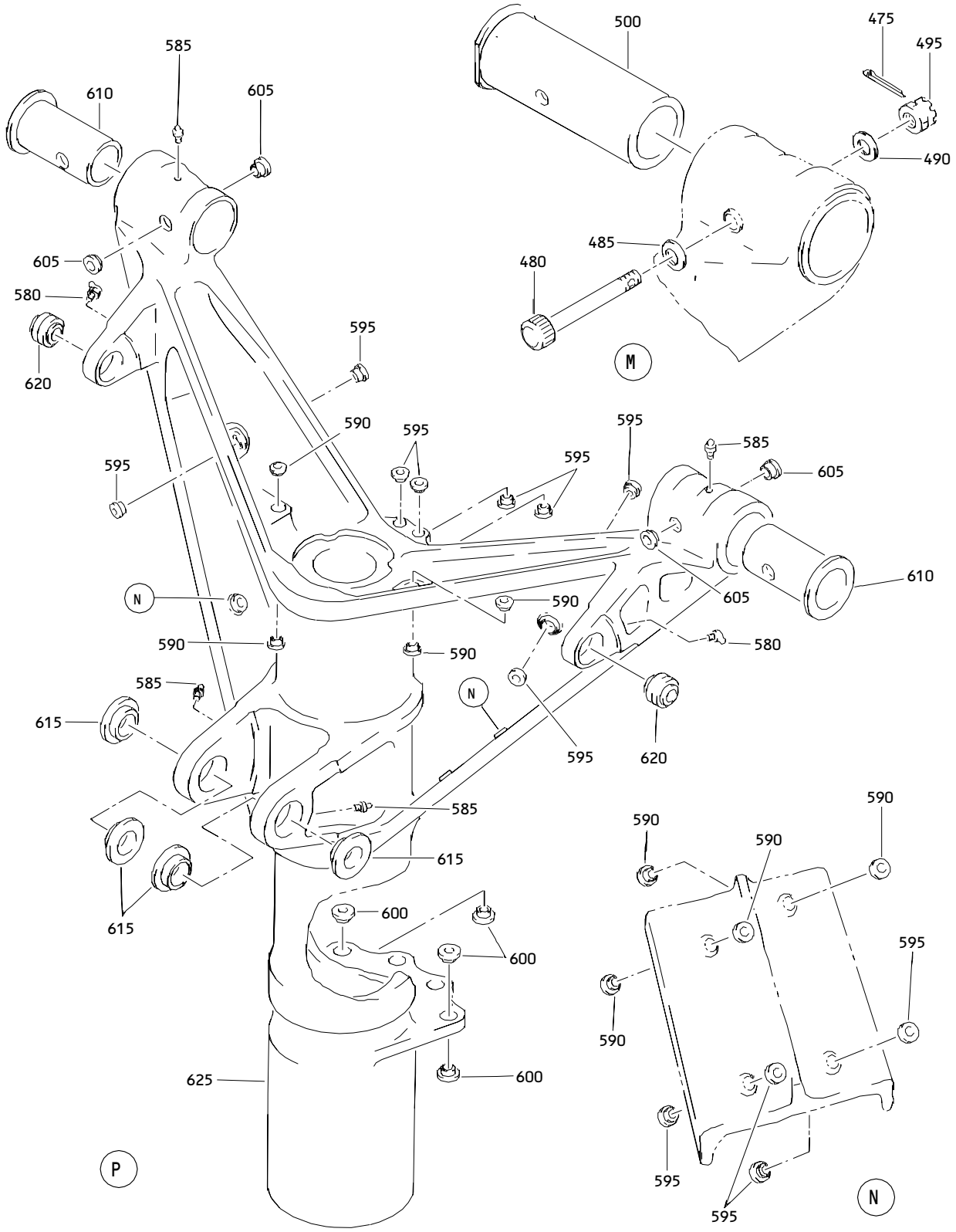


Nose Landing Gear Component Assembly
Figure 1 (Sheet 5)

T81152

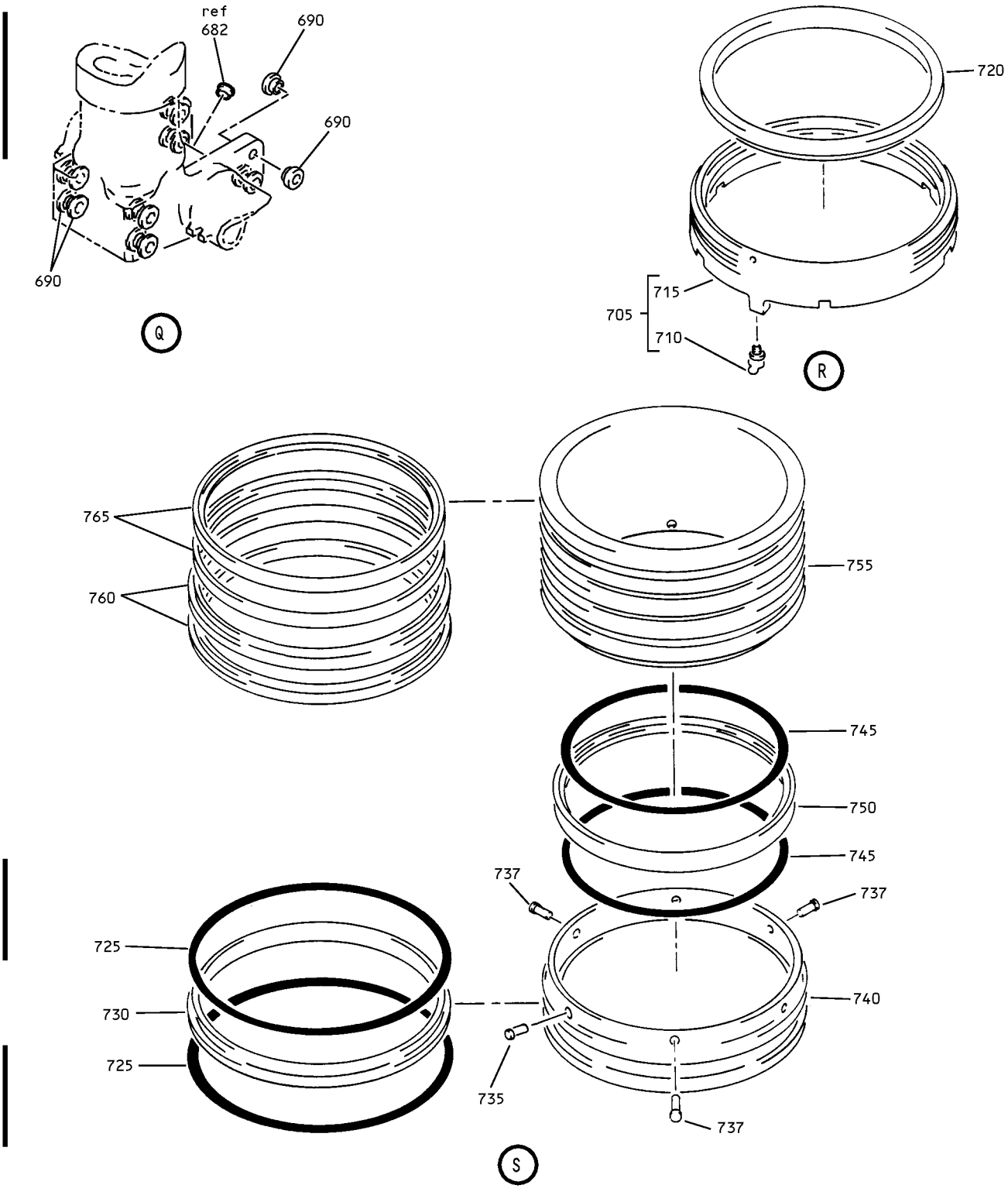


Nose Landing Gear Component Assembly
Figure 1 (Sheet 6)



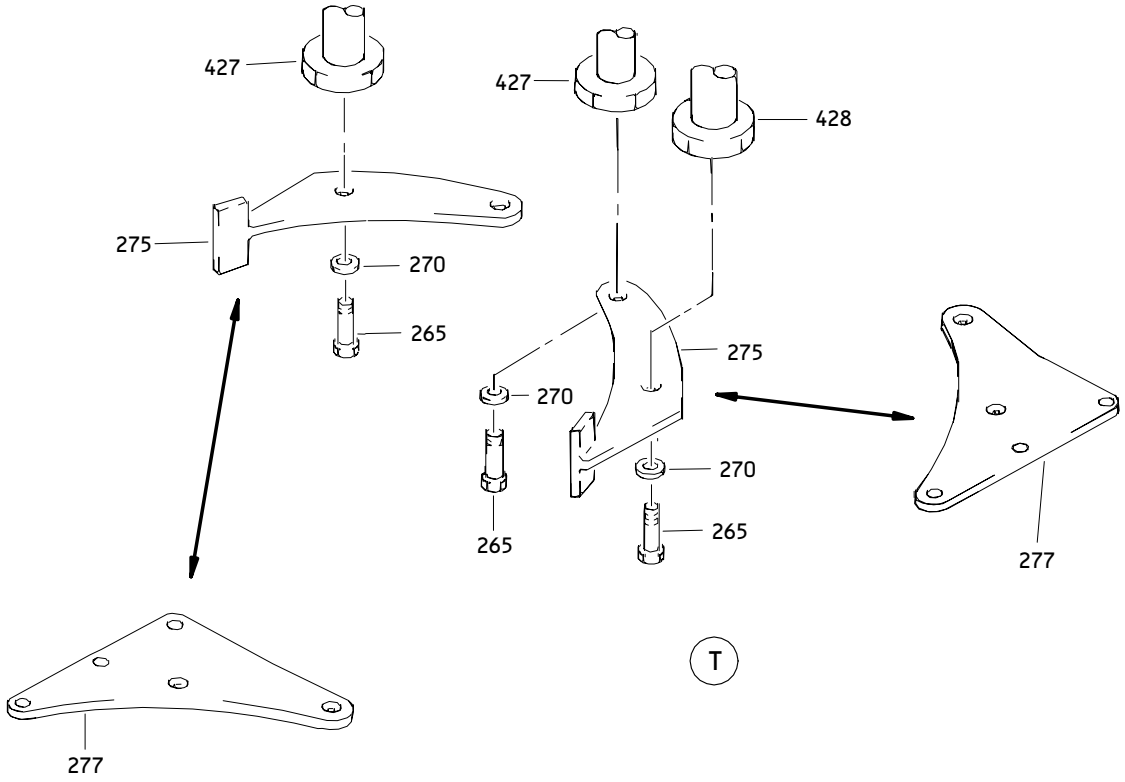
Nose Landing Gear Component Assembly
Figure 1 (Sheet 7)

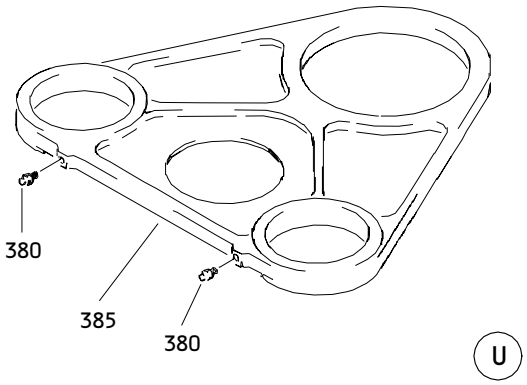
T81154



Nose Landing Gear Component Assembly
Figure 1 (Sheet 8)

T81155





Nose Landing Gear Component Assembly
Figure 1 (Sheet 9)

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	-1	162T1100-6		COMPONENT ASSY-NLG	A	RF
R	-1A	162T1100-7		COMPONENT ASSY-NLG	B	RF
R	-1B	162T1100-8		COMPONENT ASSY-NLG	C	RF
R	-1C	162T1100-9		COMPONENT ASSY-NLG	D	RF
R	-1D	162T1100-10		COMPONENT ASSY-NLG	E	RF
	-1E	162T1100-11		DELETED		
R	-1F	162T1100-12		COMPONENT ASSY-NLG	G	RF
R	-1G	162T1100-13		COMPONENT ASSY-NLG	H	RF
	-1H	162T1100-15		DELETED		
	-1J	162T1100-16		DELETED		
	-1K	162T1100-17		COMPONENT ASSY-NLG	K	RF
	-1L	162T1100-19		COMPONENT ASSY-NLG	L	RF
R	-1M	162T1100-20		COMPONENT ASSY-NLG	M	RF
	-1N	162T1100-21		COMPONENT ASSY-NLG	N	RF
	-1P	162T1100-23		DELETED		
	-1Q	162T1100-27		DELETED		
	-1R	162T1100-29		COMPONENT ASSY-NLG	J	RF
	-1S	162T1100-30		COMPONENT ASSY-NLG	Q	RF
	-1T	162T1100-32		COMPONENT ASSY-NLG	F	RF
	-1U	162T1100-33		COMPONENT ASSY-NLG	R	RF
	-1V	162T1100-34		DELETED		
	-1W	162T1100-35		COMPONENT ASSY-NLG	T	RF
	-1X	162T1100-36		COMPONENT ASSY-NLG	U	RF
	-1Y	162T1100-37		COMPONENT ASSY-NLG	V	RF
	-1Z	162T1100-38		COMPONENT ASSY-NLG	W	RF
R	5	MS24665-304		.PIN-COTTER		2
R	10	NAS6706D46		.BOLT		2
R	15	BACW10BP6ACU		.WASHER		2
R	20	BACW10BP6APU		.WASHER		3
R	25	LCN12-624		.NUT- (V56878) (OPT ITEMS 25A, 25B)		2
R	-25A	E9868-6		.NUT- (V72962) (OPT ITEMS 25, 25B)		2
R	-25B	58703-624-15		.NUT- (V56878) (OPT ITEMS 25, 25A)		2
R	30	162T1118-1		.PIN-UPR		1
R	35	162T1119-1		.PIN-LWR	A-C	1
R	-35N	162T1119-2		.PIN-LWR (OPT ITEM 35P)	D-N,Q,R,T-W	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-35P					
R	-35P	162T1119-1		.PIN-LWR (OPT ITEM 35N)	D-N,Q,R,T-W	1
R	40	MS24665-304		.PIN-COTTER	A,D,F,G,J,M,U	1
R	45	162T1120-1		.BOLT-APEX	A,D,F,G,J,M,U	1
	50	BACW10BP10UP		DELETED		
R	50A	BACW10BN10UP		.WASHER	A,D,F,G,J,M,U	1
R	55	BMN4122AD3-10		.NUT- (V97928) (SPEC BACN10JC10) (OPT BMN4122A10 (V85495)) (OPT H10-10BAC (V15653)) (OPT RMLH9074-10 (V72962)) (OPT 48FT1018 (V56878))	A,D,F,G,J,M,U	1
R	60	162T1116-3		.LINK ASSY-TORSION	A,D,F,G,J,M,U	1
R	60B	162T1116-5		.LINK ASSY-TORSION	W	1
R	65	1728B		..FITTING-LUBE (V95879)	A,D,F,G,J,M,U,W	4

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	66	162T1615-1		..WASHER	W	2
	67	162T1609-2		..WASHER	W	2
	68	AN960C516		DELETED		
R	68A	NAS1149C0563R		..WASHER	W	2
	69	BACN10JC5		DELETED		
R	69A	BACN10JC5CD		..NUT	W	2
R	70	162T1125-2		..BUSHING	A,D,F ,G,J, M,U,W	2
	71	162T1608-1		..HANDLE	W	2
R	72	162T1605-2		..PLUNGER	W	2
R	75	162T1126-1		..BUSHING	A,D,F ,G,J, M,U	4
R	80	162T1116-2		..LINK	A,D,F ,G,J, M,U,W	1
	81	162T1611-2		..PLATE	W	2
	82	162T1606-1		..SLEEVE	W	2
	83	162T1607-1		..CAP ASSY	W	2
	83N	162T1607-2		...CAP	W	1
	83Q	162T1210-59		DELETED		
R	83R	161T1210-59		...BUSHING	W	2
	84	162T1610-1		..SPRING	W	2
R	85	162T1116-4		.LINK ASSY-TORSION	B,C,E ,H,K, L,N,Q ,R,T, V	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	90	1728B		..FITTING-LUBE (V95879)	B,C,E,H,K,L,N,Q,R,T,V	4
R	95	162T1125-2		..BUSHING	B,C,E,H,K,L,N,Q,R,T,V	2
R	100	BACN10JC5		..NUT	B,C,E,H,K,L,N,Q,R,T,V	2
R	105	AN960C516		..WASHER	B,C,E,H,K,L,N,Q,R,T,V	2
R	110	162T1608-1		..HANDLE	B,C,E,H,K,L,N,Q,R,T,V	2
R	115	162T1615-1		..WASHER	B,C,E,H,K,L,N,Q,R,T,V	2
R	120	162T1607-1		..CAP ASSY	B,C,E,H,K,L,N,Q,R,T,V	2
	125	162T1210-59		DELETED		
R	125A	161T1210-59		...BUSHING	B,C,E,H,K,L,N,Q,R,T,V	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	130	162T1607-2		...CAP	B,C,E,H,K,L,N,Q,R,T,V	1
R	135	162T1609-2		..WASHER	B,C,E,H,K,L,N,Q,R,T,V	2
	140	162T1611-1		DELETED		
R	140A	162T1611-2		..PLATE	B,C,E,H,K,L,N,Q,R,T,V	2
R	145	162T1610-1		..SPRING	B,C,E,H,K,L,N,Q,R,T,V	2
R	150	162T1605-1		..PLUNGER	B,C,E,H,K,L,N,Q,R,T,V	2
R	155	162T1606-1		..SLEEVE	B,C,E,H,K,L,N,Q,R,T,V	2
R	160	162T1116-2		..LINK	B,C,E,H,K,L,N,Q,R,T,V	1
R	165	162T1114-3		.LINK ASSY-TORSION (OPT ITEM 165B)	A,D,F,G,J,M,U	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	-165A	162T1114-4		.LINK ASSY-TORSION (OPT ITEM 165C)	B,C,E,H,K,L,N,Q,R,T,V,W	1
	-165B	162T1617-1		.LINK ASSY-TORSION LWR (OPT ITEM 165)	A,D,F,G,J,M,U	1
	-165C	162T1617-3		.LINK ASSY-TORSION LWR (OPT ITEM 165A)	B,C,E,H,K,L,N,Q,R,T,V,W	1
R	170	161T1210-60		..BUSHING		2
R	175	162T1123-2		..BUSHING		2
R	180	1728B		..FITTING-LUBE (V95879)		2
R	185	1728B		..FITTING-LUBE (V95879)	A,D,F,G,J,M,U	1
	190	PLGA2184010		DELETED		
	190A	BACP20AX15DAP		..PIN-DRILL PASSAGE	B,C,E,H,K,L,N,Q,R,T,V,W	1
	195	PLGA2185010		DELETED		
	195A	BACP20AX15DA		..PLUG	B,C,E,H,K,L,N,Q,R,T,V,W	1
R	200	162T1114-2		..LINK- (USED ON ITEMS 165, 165A)		1
	-200A	162T1617-2		..LINK- (USED ON ITEMS 165B, 165C)		1
R	205	162T1127-5		.BRACKET ASSY-TARGET ATTACHING PARTS	A-C	1
R	210	BACR15BB8DD10		.RIVET	A-C	1
R	215	BACR15BB4DD10		.RIVET -------*-------	A-C	1
R	220	MS20426A3-8		..RIVET	A-C	2
R	225	284T0801-1		..TARGET	A-C	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	230	162T1127-3		..BRACKET	A-C	1
R	235	162T1127-6		.BRACKET ASSY-TARGET	A-C	1
				ATTACHING PARTS		
R	240	BACR15BB8DD10		.RIVET	A-C	1
R	245	BACR15BB4DD10		.RIVET	A-C	1
				-------*-------		
R	250	MS20426A3-8		..RIVET	A-C	2
R	255	284T0801-2		..TARGET	A-C	1
R	260	162T1127-4		..BRACKET	A-C	1
R	265	NAS6605H2		.BOLT		4
R	270	MS35333-75		.WASHER		4
R	275	162T1412-2		.PLATE-SENSOR MTG	A-C	2
R	277	162T1412-3		.PLATE-SENSOR MTG	D-N,Q ,R, T-W	2
	280	MS24665-374		DELETED		
	285	162T1409-1		DELETED		
	290	162T1409-3		DELETED		
	295	BACW10BP16APU		DELETED		
	300	BMN4122AD3-16		DELETED		
R	305	MS24665-304		.PIN		2
	310	NAS6606HD61		DELETED		
	310A	NAS6606DH61		.BOLT		2
R	315	BACW10BP6ACU		.WASHER		2
R	320	BACW10BP6APU		.WASHER		2
R	325	LCN12-624		.NUT-		2
				(V56878)		
				(OPT ITEMS 325A, 325B)		
R	-325A	E9868-6		.NUT-		2
				(V72962)		
				(OPT ITEMS 325, 325B)		
R	-325B	58703-624-15		.NUT-		2
				(V56878)		
				(OPT ITEMS 325, 325A)		

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	330	162T1413-1		.CAP-STEERING PIN		4
	-335	162T1408-1		DELETED		
R	335A	162T1408-2		.PIN-STEERING COLLAR	A-E, G-N,Q ,T-V	2
	-335B	162T1408-3		.PIN	F,R,W	2
R	336	161T1224-3		.CAP ASSY	C,L	1
R	337	161T1224-4		..SEAL	C,L	1
R	337N	69B83923-2		..CAP	C,L	1
R	338	69B83923-3		.ADAPTOR	C,L	1
R	339	162T1100-5		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	A-E	1
R	-339A	162T1100-14		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	G,H	1
	-339B	162T1100-18		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	K	1
	-339C	162T1100-22		.STRUT ASSY-SHOCK (162T1100-24 MAY REPLACE -22 FOR VF071-VF090) (REWORKED BY SB 767-32-0073)	L-N, T-V	1
	-339D	162T1100-24		DELETED		
	-339E	162T1100-28		.STRUT ASSY-SHOCK (REWORKED BY SB 767-32-0073)	F,J,Q ,R,W	1
R	340	NAS6704H7		..BOLT		1
R	345	BACW10BP4APU		..WASHER		1
R	350	162T1411-1		..PLATE-LOCK		1
R	355	162T1520-1		..PLATE-LOCK		1
R	360	162T1406-1		..NUT ASSY-STEERING		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	365	1728B		...FITTING-LUBE (V95879)		1
R	370	162T1406-2		...NUT		1
R	375	162T1402-1		..PLATE ASSY-LWR SPRT		1
R	380	1728B		...FITTING-LUBE (V95879)		2
R	385	162T1402-2		...PLATE		1
R	390	162T1404-5		..COLLAR ASSY-STEERING		1
R	395	1728B		...FITTING-LUBE (V95879)		10
R	400	162T1414-2		...BUSHING		2
R	405	161T1210-11		...BUSHING		4
R	410	161T1210-1		...BUSHING		2
R	415	161T1210-16		...BUSHING		4
R	420	162T1407-1		...BUSHING		2
R	425	162T1404-4		...COLLAR		1
R	426	MS24665-374		..PIN-COTTER		3
R	427	162T1409-1		..BOLT-SPRT TUBE		3
R	428	162T1409-3		..BOLT		1
R	429	BACW10BP16APU		..WASHER		4
R	429N	H10-1612BAC		..NUT- (V15653) (SPEC BACN10JC16) (OPT BMN4122A16 (V85495)) (OPT RMLH9074-16 (V72962)) (OPT 48FT1612 (V56878)) (OPT BMN4122AD3-16 (V97928))		4

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	430	162T1400-1		..TUBE ASSY-SPRT TORQUE		1
R	435	1728B		...FITTING-LUBE (V95879)		2
R	440	161T1210-17		...BUSHING		4
R	445	162T1400-2		...TUBE- (OPT ITEMS 445A, 445B)		1
R	-445A	162T1400-3		...TUBE- (OPT ITEMS 445, 445B)		1
R	-445B	162T1400-4		...TUBE- (OPT ITEMS 445, 445A)		1
	450	161T1224-3		DELETED		
	455	161T1224-4		DELETED		
	460	69B83923-2		DELETED		
	465	69B83923-3		DELETED		
	470	162T1100-5		DELETED		
R	475	MS24665-376		..PIN-COTTER		2
R	480	BACB30NL12DU68		..BOLT		2
R	485	BACW10BP12ACU		..WASHER		2
R	490	BACW10BP12APU		..WASHER		2
R	495	H10-12BAC		..NUT- (V15653) (SPEC BACN10JC12) (OPT RMLH9074-12 (V72962)) (OPT 48FT1216 (V56878)) (OPT BMN4122AD3-12 (V97928))		2
R	500	162T1101-1		..PIN-TRUNNION		2
R	505	MMS122		..TAG- (V39661)		1
R	510	MS28889-2		..VALVE		1
R	515	NAS6604H2		..BOLT- (USED WITH ITEM 525)		1
R	517	NAS6604H2		..BOLT- (USED WITH ITEM 525A)		2
R	520	BACW10BP4APU		..WASHER- (USED WITH ITEM 525)		1
R	522	BACW10BP4APU		..WASHER- (USED WITH ITEM 525A)		2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	525	162T1516-1		..PLATE-LOCK (OPT ITEM 525A USED WITH ITEMS 517, 522) (USED WITH ITEMS 515, 520)		1
R	-525A	162T1516-2		..PLATE-LOCK (OPT ITEM 525 USED WITH ITEMS 515, 520) (USED WITH ITEMS 517, 522)		1
R	530	162T1509-1		..NUT-ORIFICE SPRT		1
R	535	162T1510-1		..WASHER-SPRT		1
R	540	7338MTN		..RING-T BACKUP (V5F573) (OPT ITEMS 540A, 540B)		2
	-540A	MS28774-338		..RETAINER- (OPT ITEMS 540, 540B)		2
	-540B	7338MT2N		..RING-T BACKUP (V5F573) (OPT ITEMS 540, 540A)		2
R	545	7338MTE987		..SEAL-T RING (V5F573) (OPT ITEM 545A)		1
R	-545A	MS28775-338		..PACKING- (OPT ITEM 545)		1
R	550	AP1008-4		..CAP- (V01673) (SPEC BACC14AD4) (OPT US2103-4 (V50808))		1
R	555	2C9342		..VALVE-OIL CHARGE (V99240)		1
R	560	MS28778-5		..PACKING		1
R	565	44PB134-4441		..SEAL- (V00266) (SPEC BACS11AK1) (OPT 42-134-4201 (V00266))		2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	570	BACS38E8-25		..STRAP		2
R	575	162T1111-1		..CYLINDER ASSY-OUTER		1
R	580	1646B		...FITTING-LUBE (V95879)		2
R	585	1728B		...FITTING-LUBE (V95879)		4
R	590	161T1210-1		...BUSHING		12
R	595	161T1210-2		...BUSHING		16
R	600	161T1210-3		...BUSHING		8
R	605	161T1210-4		...BUSHING		4
R	610	162T1121-1		...BUSHING		2
R	615	162T1122-1		...BUSHING		4
R	620	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-					
R	625	162T1111-2		...CYLINDER		1
R	635	AN6230-30		..SEAL-		1
				(OPT ITEM 635A)		
	-635A	MS28775-252		..PACKING-		1
				(OPT ITEM 635)		
R	640	162T1504-4		..BEARING ASSY-UPR		1
R	645	162T1504-5		...BEARING HALF		1
R	650	162T1504-6		...BEARING HALF		1
R	655	162T1508-2		..VALVE-RECOIL		1
R	660	162T1506-2		..CAM-UPR CENTERING		1
R	665	162T1519-1		..CIRCLIP		1
R	670	162T1102-1		..SPACER-AXLE		2
	672	BACN10WW10C		..NUT	F,J,Q ,R,W	1
	673	162T5051-1		..PLATE	F,J,Q ,R,W	1
R	675	162T1113-3		..CYLINDER ASSY-INNER	A-E,G	1
				(162T1113-5 T/W 2EA	,H,	
				162T1621-1, 2EA	K-N,	
				162T1622-1, 4EA	T-V	
				NAS6704-11, 8EA		
				AN960JD416 OR		
				NAS1149D0463J, AND 4EA		
				MS21042L4 MAY REPLACE		
				162T1113-3 T/W 2EA		
				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)		

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	675A	162T1113-5		..CYLINDER ASSY-INNER (162T1113-5 T/W 2EA 162T1621-1, 2EA 162T1622-1, 4EA NAS6704-11, 8EA AN960JD416 OR NAS1149D0463J, AND 4EA MS21042L4 MAY REPLACE 162T1113-3 T/W 2EA 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)	F,J,Q,R,W	1
R	680	1728B		...FITTING-LUBE (V95879)		1
	682	162T1139-1		...BUSHING	F,J,Q,R,W	1
R	685	161T1210-1		...BUSHING		6
R	690	161T1210-9		...BUSHING		16
R	695	162T1124-2		...BUSHING		2
R	700	162T1113-2		...CYLINDER	A-E,G,H,K-N,T-V	1
R	-700A	162T1113-4		...CYLINDER	F,J,Q-S,W	1
R	705	162T1512-1		..NUT ASSY-GLAND (OPT ITEM 705A)		1
R	-705A	162T1512-3		..NUT ASSY-GLAND (OPT ITEM 705)		1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	710	1646B		...FITTING-LUBE (V95879) (USED ON ITEM 705)		1
R	-710A	1992B		...FITTING-LUBE (V95879) (USED ON ITEM 705A)		1
R	715	162T1512-2		...NUT- (USED ON ITEM 705)		1
R	-715A	162T1512-4		...NUT- (USED ON ITEM 705A)		1
R	720	S32925-55G5		..EXCLUDER- (V97820)		1
R	725	7441MTN		..RING-BACKUP (V5F573) (OPT ITEM 725A)		2
	-725A	7441MT2N		..RING-BACKUP (V5F573) (OPT ITEM 725)		2
R	730	7441MT987		..SEAL-T RING (V5F573)		1
R	735	MS20392-1C7		..PIN-HEADED (OPT ITEM 735A)	A-E,G,H	3
	-735A	161U0002-3		..PIN-STRAIGHT HEADED (OPT ITEM 735)	A-E,G,H	3
	-735B	161U0002-2		..PIN-STRAIGHT HEADED	F,J-N,Q,R,T-W	3
	737	161U0002-2		..PIN-STRAIGHT HEADED	F,J-N,Q,R,T-W	3

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	740	162T1511-1		..ADAPTER-SEAL	A-E,G,H	1
	-740A	162T1511-2		..ADAPTER-SEAL	F,J-N,Q,R,T-W	1
R	745	7439FTP3		..RING-BACKUP (V5F573) (OPT ITEM 745A)	A-E	2
R	-745A	7439FT4780		..RING-BACKUP (SET) (V5F573) (OPT ITEM 745)	A-E	1
	-745B	7439FT4780		..RING-BACKUP (SET) (V5F573)	G-N,T-V	1
	-745J	7439FTP3		DELETED		
R	750	7439FT972		..SEAL-T RING (V5F573)		1
R	755	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)	A-E,G,H	1
R	-755A	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)	F,J-N,Q,R,T-W	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	760	7441MT987		..SEAL-T RING (V5F573)		2
R	765	7439FT972		..SEAL-T RING (V5F573)		2
R	770	162T1507-1		..CAM ASSY-LWR CENTERING (PRE SB 767-32-0073)	A-E,G,H,K	1
	-770A	162T1507-3		..CAM ASSY-LWR CENTERING (PRE SB 767-32-0073)	F,J,L-N,Q,R,T-W	1
	-770B	162T1507-5		..CAM ASSY-LWR CENTERING (OPT ITEM 770C)	F,J,L-N,Q,R,T-W	1
	-770C	015T0525-5		..CAM ASSY-LWR CENTERING (POST SB 767-32-0073)	A-N,Q,R,T-W	1
R	775	MS20615-3M6		...RIVET- (USED ON ITEM 770A, 770C)		2
R	777	MS20615-3M7		...RIVET- (USED ON ITEM 770B)	F,J,L-R,T-W	2
	779	162T1140-1		...PIN- (USED ON ITEM 770A) (PRE SB 767-32-0073)	F,J,L-N,Q,R,T-W	2
	-779A	162T1140-2		...PIN- (USED ON ITEM 770C) (POST SB 767-32-0073)	F,J,L-N,Q,R,T-W	2
R	780	162T1517-2		...DOWEL- (USED ON ITEM 770) (PRE SB 767-32-0073)	A-E,G,H,K	2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	782	162T1517-3		...DOWEL- (USED ON ITEMS 770A, 770B,770C) (POST SB 767-32-0073)	F,J, L-N,Q ,R, T-W	2
R	785	162T1507-2		...CAM- (USED ON ITEM 770) (PRE SB 767-32-0073)	A-E,G ,H,K	1
	-785A	162T1507-4		...CAM- (USED ON ITEM 770A, 770C) (POST SB 767-32-0073)	F,J, L-N,Q ,R, T-W	1
	-785B	162T1507-6		...CAM- (USED ON ITEM 770B)	F,J, L-N,Q ,R, T-W	1
R	790	162T1515-1		..RING-PISTON		1
R	795	MS24665-153		..PIN-COTTER		1
R	800	NAS6704D8		..BOLT		1
R	805	BACW10BP4APU		..WASHER		1
R	810	LCN6-428		..NUT- (V56878) (OPT ITEMS 810A, 810B, 810C)		1
R	-810A	TE9868-4		..NUT- (V72962) (OPT ITEMS 810, 810B, 810C)		1
R	-810B	58703-428-9		..NUT- (V66958) (OPT ITEMS 810, 810A, 810C)		1
R	-810C	RMTE9868-4		..NUT- (V98403) (OPT ITEMS 810, 810A, 810B)		1
R	815	162T1503-1		..PLATE-ORIFICE		1
R	820	162T1500-1		..TUBE-ORIFICE SPRT		1
R	825	162T1513-1		..RING-RTNR		1
R	830	162T1514-1		..NUT ASSY-METERING PIN		1
R	835	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-					
R	840	162T1514-2		...NUT		1
R	845	7427MTN		..RING-BACKUP (V5F573) (OPT ITEM 845A)		2
	-845A	7427MT2N		..RING-BACKUP (V5F573) (OPT ITEM 845)		2
R	850	7427MT987		..SEAL-T RING (V5F573)		1
R	855	162T1517-1		..DOWEL-ORIFICE SPRT		2
R	860	162T1501-1		..PIN-METERING		1
R	865	162T1103-1		..NAMEPLATE		1

- Item Not Illustrated