TO: ALL HOLDERS OF CENTER OVERHEAD STOWAGE BIN UPPER ARM TORQUE TUBE ASSEMBLY COMPONENT MAINTENANCE MANUAL 25-28-02

REVISION NO. 6 DATED JUL 01/01

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
301	Updated the list of suppliers.
REPAIR 5-1	
601-603	
1002-1005,1007,	
1009-1015	

CENTER OVERHEAD STOWAGE BIN UPPER ARM TORQUE TUBE ASSEMBLY

PART NUMBERS 413T1045-11 THRU -32, -35 THRU -46

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

REVISION RECORD

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

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

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
SB 25-0102		PRRB11795	OCT 01/91
			JAN 01/92
		PRRB12900-161	JUL 01/98
		PRRB13115-94	NOV 01/00
		PRRB13303	NOV 01/00

PAGE	DATE	CODE
25-28-02		
TITLE PAGE		
1	JUL 01/98	01.1
2	BLANK	
REVISION RECORD		
1	APR 10/86	01
2	BLANK	
TR & SB RECORD		
1	NOV 01/00	01.1
2	BLANK	
LIST OF EFFECTIVE PAGES		
*1	JUL 01/01	01
THRU LAST PAGE		
CONTENTS		
1	APR 10/86	01
2	BLANK	
INTRODUCTION		
1	APR 10/86	01
2	BLANK	
DESCRIPTION & OPERATION		
1	APR 10/86	01
2	BLANK	
DISASSEMBLY		
*301	JUL 01/01	01.1
302	BLANK	
CHECK		
501	OCT 01/91	01.1
502	BLANK	
REPAIR-GENERAL		
601	OCT 01/91	01.1
602	APR 10/86	01
603	APR 10/86	01

PAGE	DATE	CODE
REPAIR-GENERAL		CONT.
604	BLANK	
REPAIR 1-1		
601	OCT 01/91	01.1
602	OCT 01/91	01.1
603	OCT 01/91	01.1
604	BLANK	
REPAIR 1-2		
601	APR 10/86	01
602	APR 10/86	01
603	APR 10/86	01
604	BLANK	
REPAIR 1-3		
601	OCT 01/91	01.1
602	OCT 01/91	01.1
603	OCT 01/91	01.1
604	BLANK	
REPAIR 2-1		
601	OCT 01/91	01.1
602	OCT 01/91	01.1
603	OCT 01/91	01.1
604	BLANK	
REPAIR 2-2		
601	APR 10/86	01
602	OCT 01/91	01.1
603	APR 10/86	01
604	BLANK	
REPAIR 2-3		
601	OCT 01/91	01.1
602	OCT 01/91	01.1
603	OCT 01/91	01.1
604	BLANK	
REPAIR 3-1		
601	APR 10/86	01
602	BLANK	

* = REVISED, ADDED OR DELETED

PAGE	DATE	CODE
REPAIR 4-1		
601	APR 10/86	01
602	APR 10/86	01
REPAIR 5-1		
*601	JUL 01/01	01.1
*602	JUL 01/01	01.1
*603	JUL 01/01	01.1
604	BLANK	
ILLUSTRATED PARTS LIST		
1001	APR 10/86	01
*1002	JUL 01/01	01.1
*1003	JUL 01/01	01.1
*1004	JUL 01/01	01.1
*1005	JUL 01/01	01.1
1006	BLANK	
*1007	JUL 01/01	01.1
*1008	JUL 01/01	01.1
*1009	JUL 01/01	01.1
*1010	JUL 01/01	01.1
*1011	JUL 01/01	01.1
*1012	JUL 01/01	01.1
*1013	JUL 01/01	01.1
*1014	JUL 01/01	01.1
*1015	JUL 01/01	01.1
1016	BLANK	

PAGE	DATE	CODE

* = REVISED, ADDED OR DELETED

TABLE OF CONTENTS

Paragraph Title	Page
Description and Operation	1
Testing and Trouble Shooting (not applicable)	
Disassembly	301
Cleaning	*[1]
Check	501
Repair	601
Assembly	*[2]
Fits and Clearances (not applicable)	
Special Tools (not applicable)	
Illustrated Parts List	1001

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

*[2] Refer to REPAIR procedures for installation of component parts.

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

CENTER OVERHEAD STOWAGE BIN UPPER ARM TORQUE TUBE ASSEMBLY

DESCRIPTION AND OPERATION

1. The center overhead stowage bin upper arm torque tube assembly consists of two aluminum arms bonded to a graphite tube. The assembly supports framework holding the stowage bin in the airplane interior. Spring-loaded deadbolts facilitate installation and removal of the bins.

2. Leading particulars (approximate)

   Length -- 16 inches
   Width -- 21-43 inches
   Height -- 6 inches
   Weight -- 2 pounds

DISASSEMBLY

NOTE: Disassemble this component only as necessary to complete fault isolation, determine the serviceability of parts, perform required repairs and restore the unit to serviceable condition. Refer to IPL Fig. 1 for item numbers.

1. Arms (10, 20) or (15, 25) are bonded to tube (110, 111). Do not separate unless necessary for repair or replacement. Refer to REPAIR 5-1 for further information.

2. Arm (10, 20) or (15, 25) components: Parts are bonded in place. Refer to REPAIR for further information.

NOTE: Arms need not be separated from tube (110, 111) in order to accomplish replacement of arm components.

CHECK

1. Check all parts for obvious defects in accordance with standard industry practices.

2. Magnetic particle check deadbolt (55) per 20-20-01.

3. Penetrant check sleeve (30), cap (50), arms (90, 95, 100, 105) per 20-20-02.

4. Compress spring (60) to 0.457-0.601 length. Load shall be 9.31 pounds. Approximate free length is 1.25 inches.

REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
413T1033	UPPER ARM	1-1, 1-2, 1-3
413T1034	UPPER ARM	2-1, 2-2, 2-3
413T1036-3	DEADBOLT	3-1
413T1036-4	END CAP	4-1
413T1045	UPPER ARM TORQUE TUBE ASSEMBLY	5-1

2. Standard Practices

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

20-30-02 Stripping of Protective finishes
20-41-01 Decoding Table for Boeing Finish Codes
20-43-01 Chromic Acid Anodizing
20-50-03 Bearing Installation and Retention
20-50-12 Application of Adhesives

3. Materials

Note: Equivalent substitutes may be used.

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

B. Primer -- BMS 10-83, Type 1 (Ref 20-60-02)

C. Enamel -- BMS 10-83, Type 2 (Ref 20-60-02)

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

E. Adhesive -- Type 44 (Ref 20-50-12)

F. Adhesive -- Type 60 (Ref 20-50-12)

G. Adhesive -- Type 70 (Ref 20-50-12)

H. Compound, thread locking -- Loctite 277 or 290 (Ref 20-60-04)

I. Solvent -- BMS 3-2 (Ref 20-60-01)

4. Dimensioning Symbols

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

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

EXAMPLES

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

True Position Dimensioning Symbols
Figure 601

207735

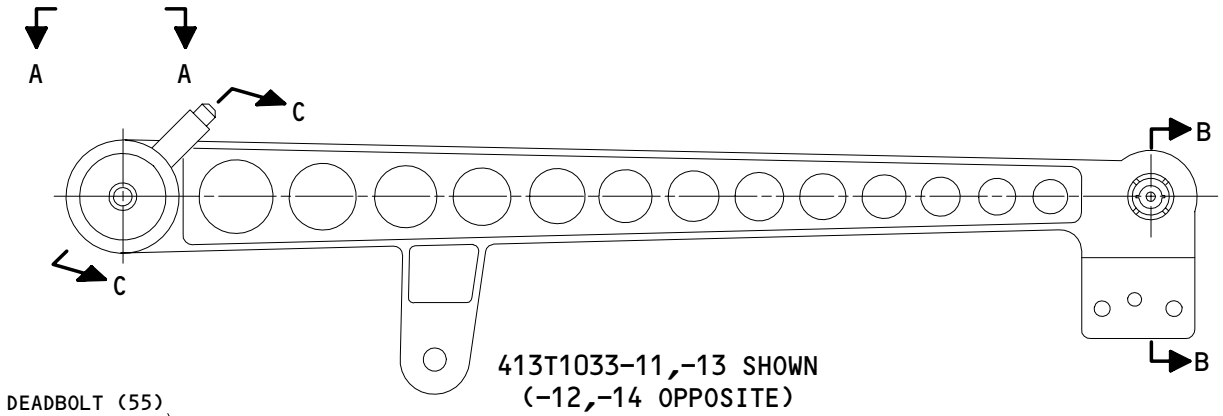
UPPER ARM ASSEMBLY - REPAIR 1-1

413T1033-11, -12, -13, -14

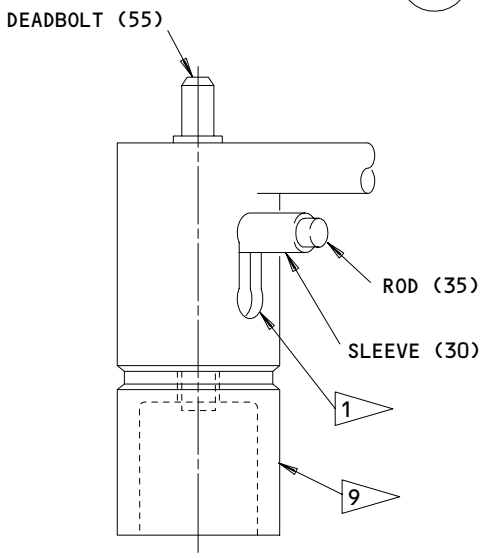
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may require only restoration of original finish, refer to Refinish instructions, REPAIR 1-2.

1. Parts Replacement (Fig. 601)

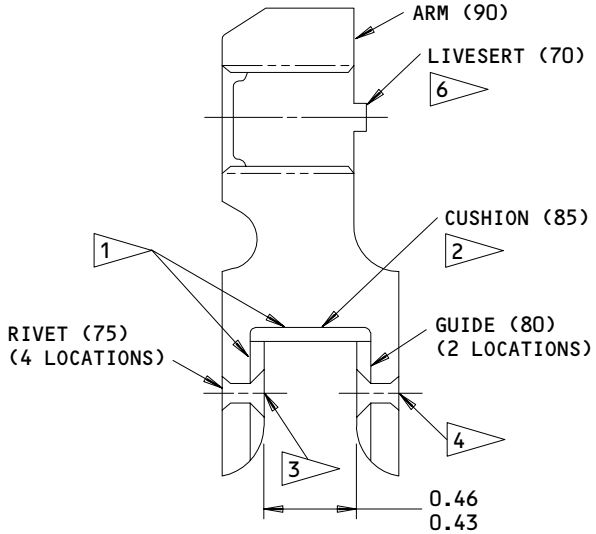
A. Replace upper arm component parts as shown.



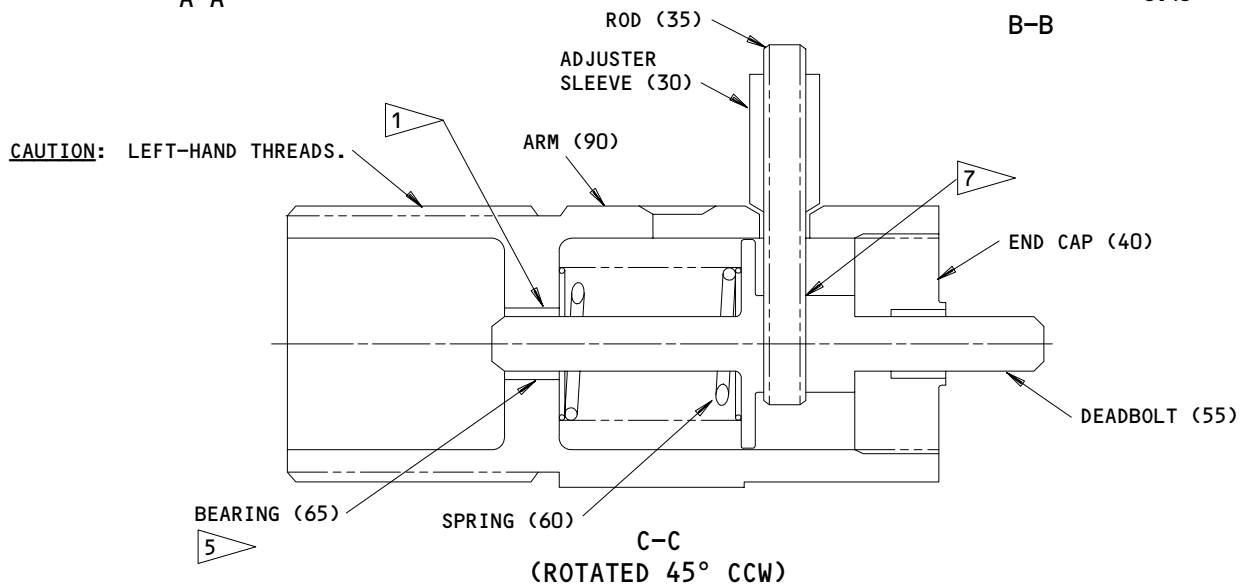
413T1033-11,-13 SHOWN
(-12,-14 OPPOSITE)



A-A



B-B



C-C
(ROTATED 45° CCW)

413T1033-11,-12,-13,-14
Upper Arm Parts Replacement
Figure 601 (Sheet 1)

207951

REFINISH

(REF REFINISH INSTRUCTIONS, REPAIR 1-2)

REPAIR

REF 1 THRU 8

ALL DIMENSIONS ARE IN INCHES

1. THIS AREA MASKED BEFORE APPLYING PRIMER AND ENAMEL (F-22.05) PER REPAIR 1-2
2. BOND WITH TYPE 60 ADHESIVE
3. RIVET HEAD SHALL BE 0.010 BELOW SURFACE OF GUIDE
4. (OPTIONAL) COUNTERSINK 0.06-0.10 OVER HOLE DIA. UPSET HEAD DIA 0.120 MIN, AND SHAVE FLUSH TO 0.010 ABOVE SURFACE
5. INSTALL BEARING WITH WET SEALANT BMS 5-95
6. INSTALL INSERT FLUSH TO 0.02 BELOW SURFACE. DRIVE LOCKING KEYS FLUSH AND REMOVE ANY BURRS THAT EXTEND ABOVE SURFACE
7. BOND WITH TYPE 44 ADHESIVE
8. UPSET THREADS TO PREVENT ROD FROM GOING BEYOND 0.50 THRU DEADBOLT
9. OMIT BMS 10-11 PRIMER ON THREADED AREA

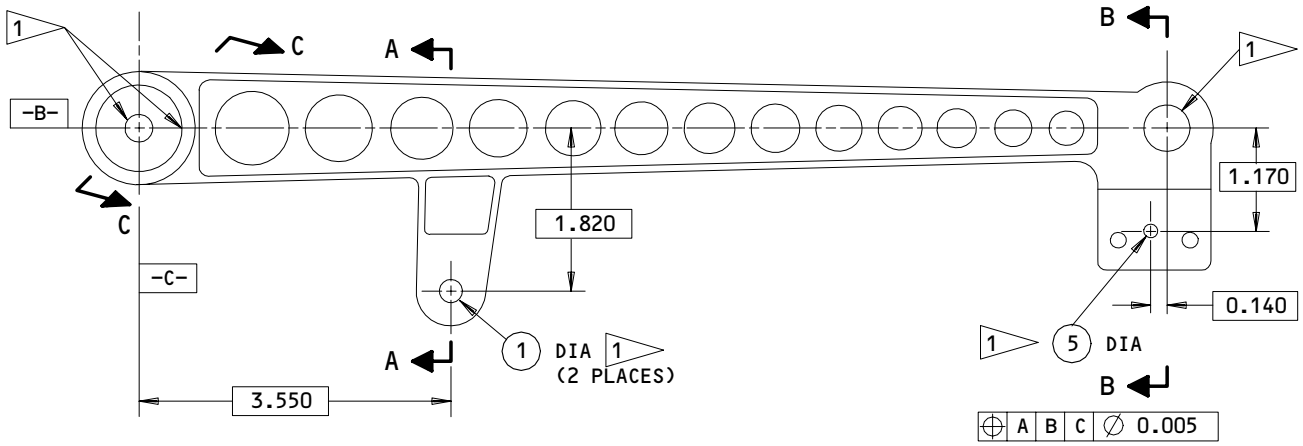
413T1033-11 THRU -14
Upper Arm Parts Replacement
Figure 601 (Sheet 2)

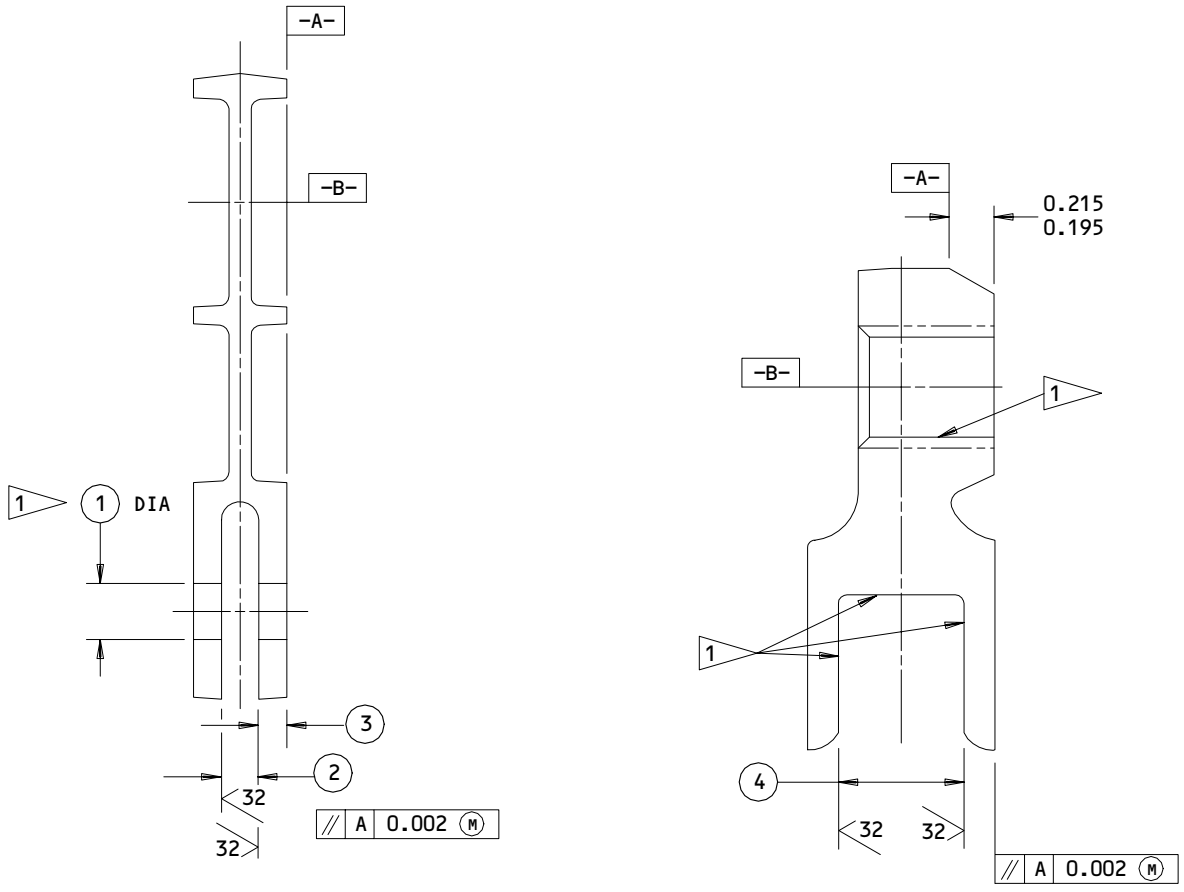
ARM - REPAIR 1-2

413T1033-9, -10

1. Coating Repair

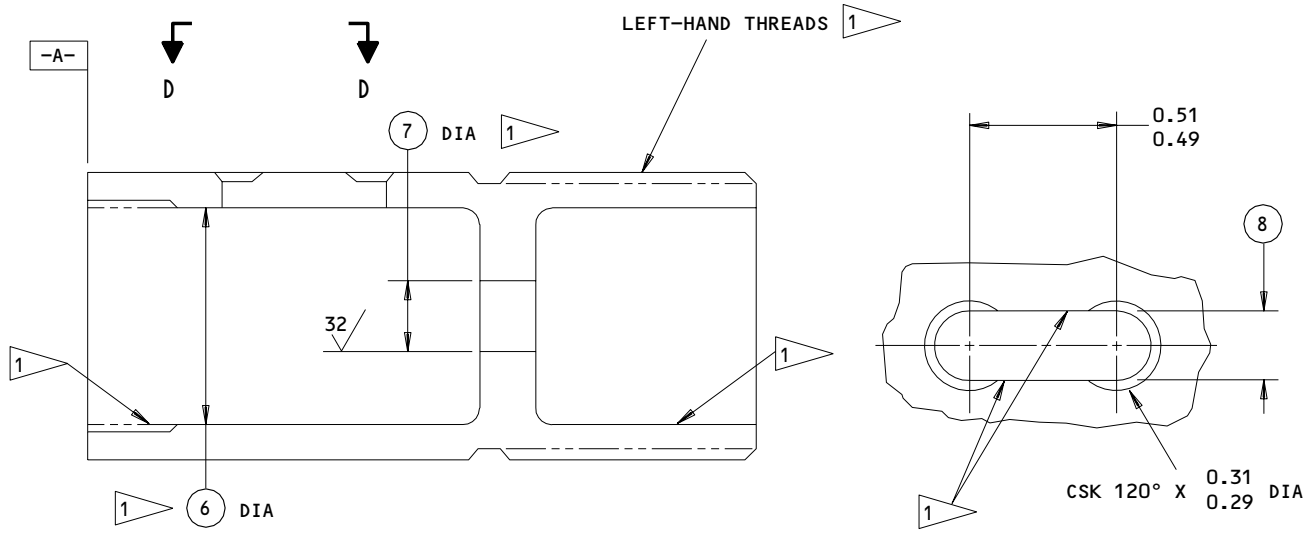
NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601 and to REPAIR-GEN for list of applicable standard practices.





A-A B-B

413T1033-9,-10
Upper Arm Repair and Refinish
Figure 601 (Sheet 1)



C-C D-D

	1	2	3	4	5	6	7	8
DESIGN DIM	0.254 0.250	0.163 0.145	0.128 0.119	0.580 0.560	0.145 0.140	0.9531 0.9460	0.3125 0.3115	0.229 0.218

REFINISH

CHEMICAL TREAT OR ANODIZE AND APPLY PRIMER, BMS 10-11, TYPE 1 (F-18.05) ALL OVER. APPLY PRIMER BMS 10-83 TYPE 1 FOLLOWED BY ENAMEL, BMS 10-83 TYPE 2 (F-22.05-7362)

1 MASK THESE AREAS BEFORE APPLYING PRIMER & ENAMEL PER F-22.05.

REPAIR

(SAME AS REFINISH)

125 MACHINE FINISH EXCEPT AS NOTED

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

413T1033-9,-10
Upper Arm Repair and Refinish
Figure 601 (Sheet 2)

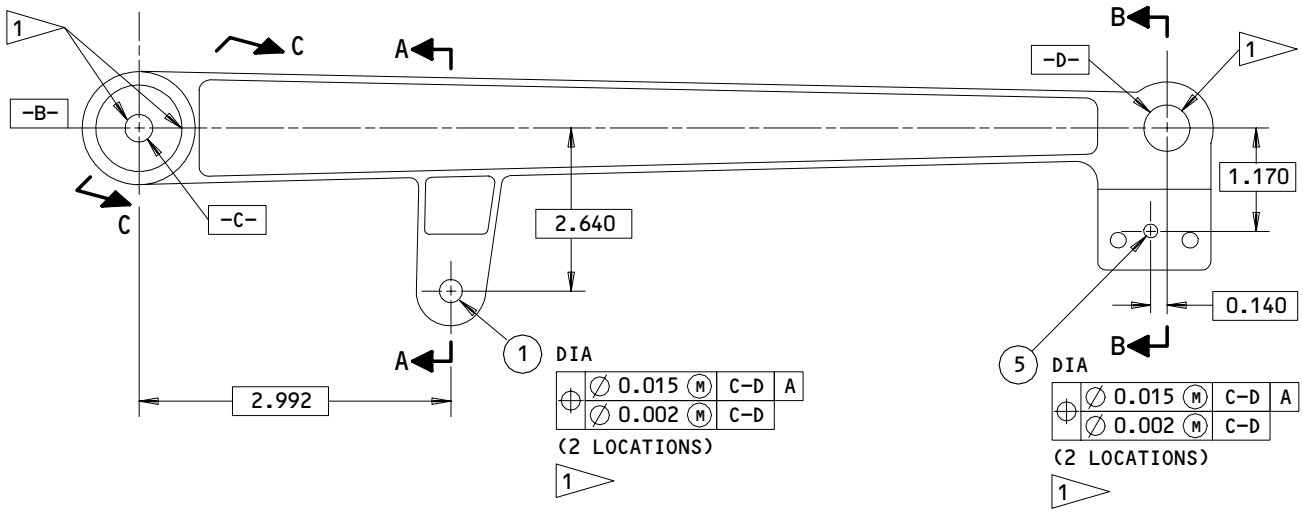
207953

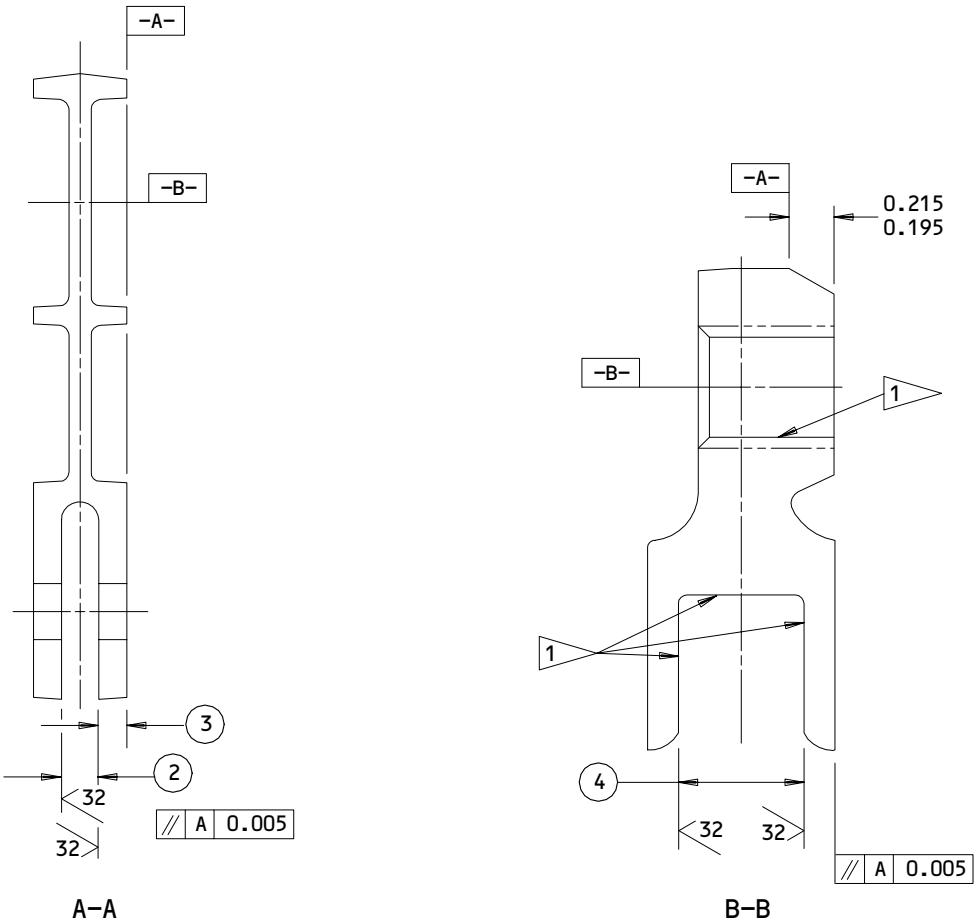
ARM - REPAIR 1-3

413T1033-15, -16, -19, -20

1. Coating Repair

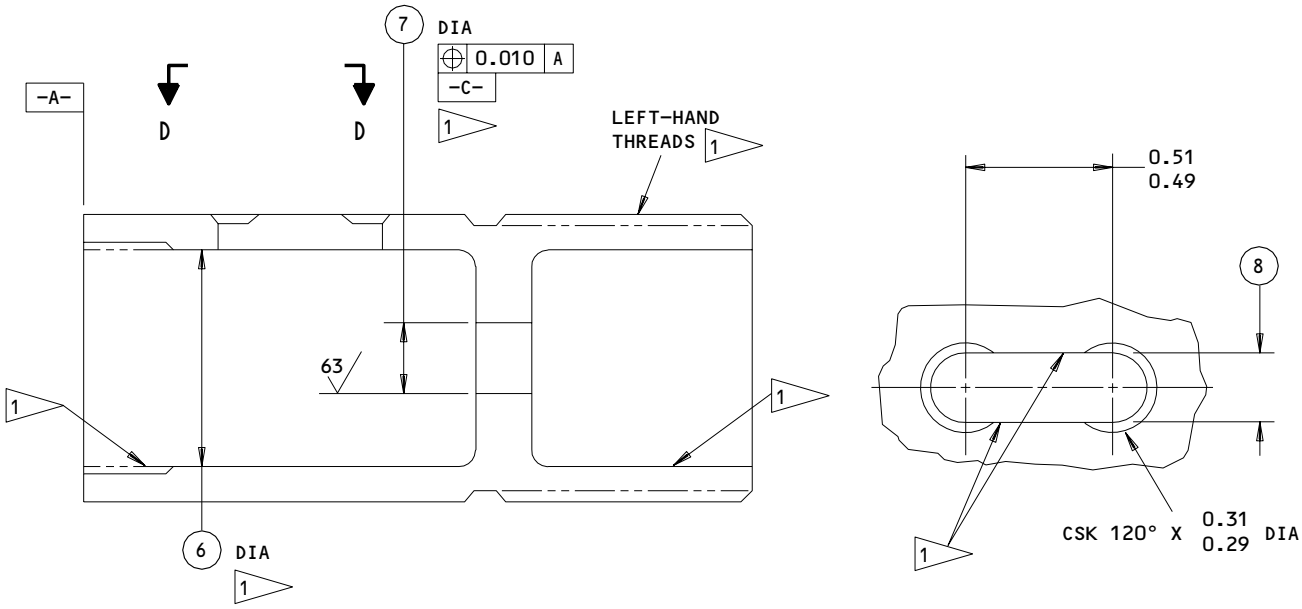
NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601 and to REPAIR-GEN for list of applicable standard practices.





A–A B–B

413T1033-15,-16,-19,-20
Upper Arm Repair and Refinish
Figure 601 (Sheet 1)



C-C D-D

	1	2	3	4	5	6	7	8
DESIGN DIM	0.254 0.250	0.163 0.145	0.128 0.119	0.580 0.560	0.145 0.140	0.9531 0.9460	0.3125 0.3115	0.229 0.218

REFINISH

CHEMICAL TREAT OR ANODIZE AND APPLY PRIMER, BMS 10-11, TYPE 1 (F-18.05) ALL OVER. APPLY PRIMER BMS 10-83 TYPE 1 FOLLOWED BY ENAMEL, BMS 10-83 TYPE 2 (F-22.05-7362)

1 MASK THESE AREAS BEFORE APPLYING PRIMER & ENAMEL PER F-22.05.

REPAIR

(SAME AS REFINISH)

125 MACHINE FINISH EXCEPT AS NOTED

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

413T1033-15,-16,-19,-20
Upper Arm Repair and Refinish
Figure 601 (Sheet 2)

962882

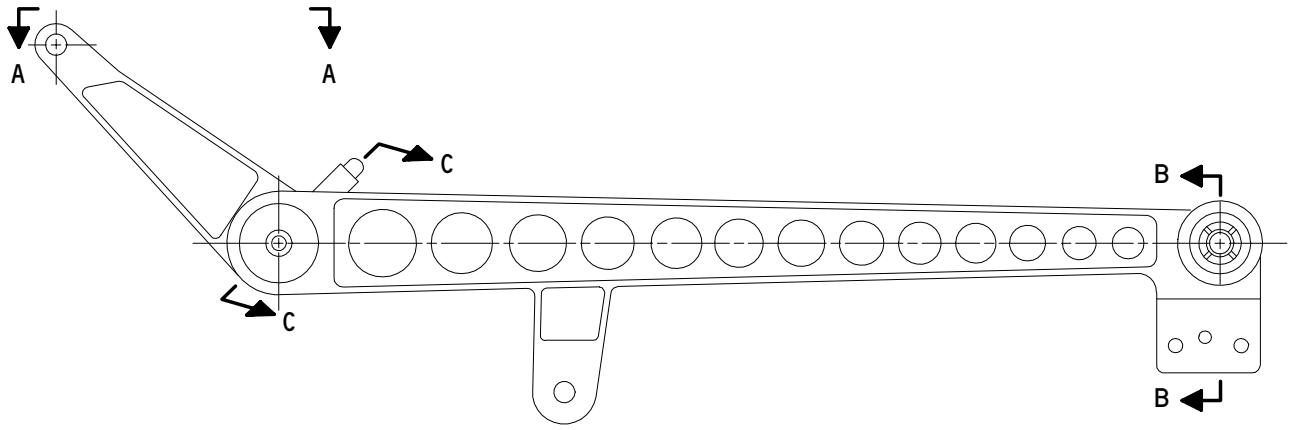
UPPER ARM ASSEMBLY - REPAIR 2-1

413T1034-11, -12, -13, -14

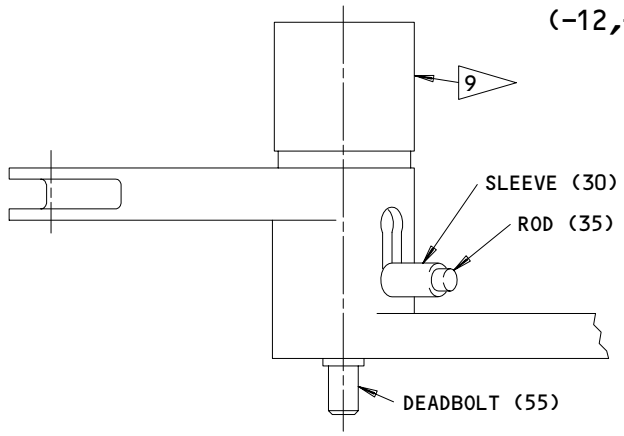
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may require only restoration of original finish, refer to Refinish instructions, REPAIR 2-2.

1. Parts Replacement (Fig. 601)

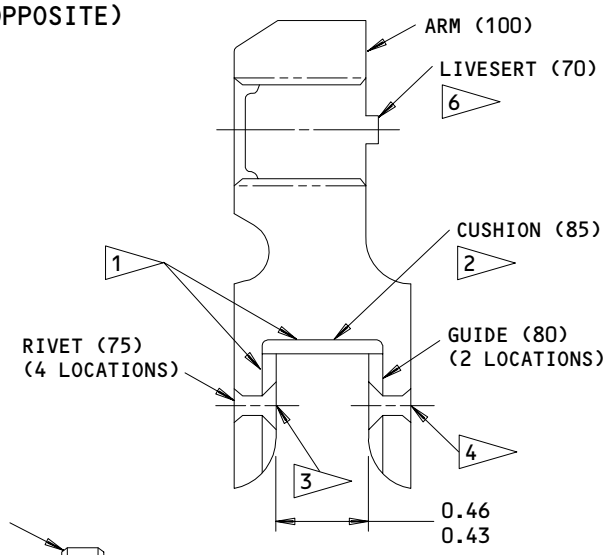
   A. Replace upper arm components as shown.



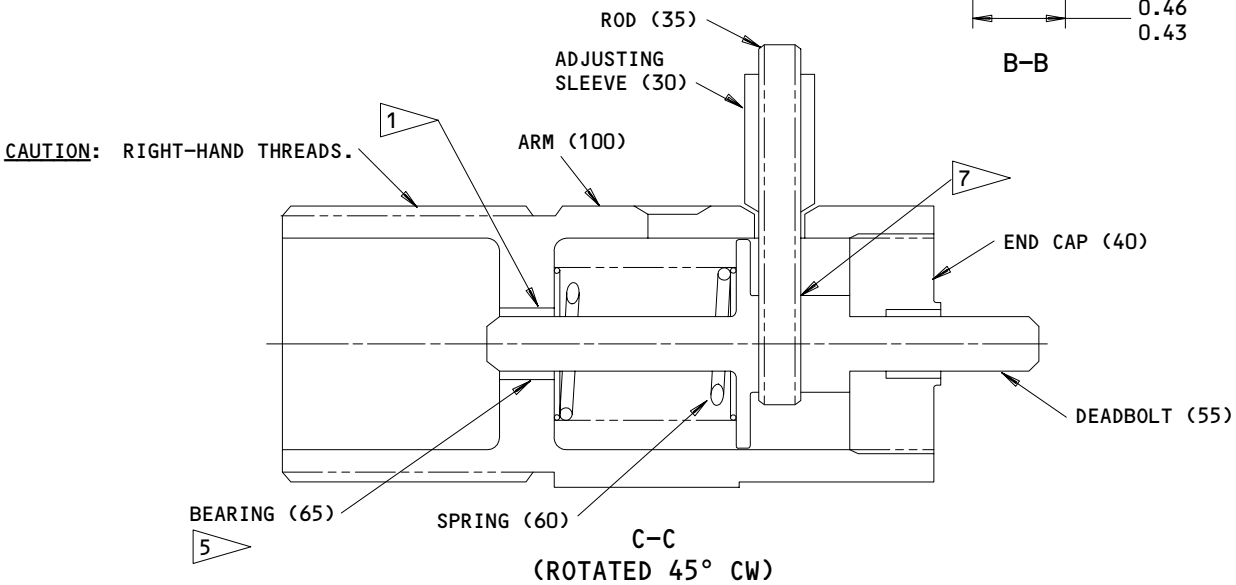
413T1034-11,-13 SHOWN
(-12,-14 OPPOSITE)



A-A



B-B



C-C
(ROTATED 45° CW)

413T1034-11,-12,-13,-14
Upper Arm Parts Replacement
Figure 601 (Sheet 1)

207955

REFINISH

(REF REFINISH INSTRUCTIONS, REPAIR 2-2)

REPAIR

REF 1 THRU 8

ALL DIMENSIONS ARE IN INCHES

1. THIS AREA MASKED BEFORE APPLYING PRIMER AND ENAMEL (F-22.05) PER REPAIR 2-2
2. BOND WITH TYPE 60 ADHESIVE
3. RIVET HEAD SHALL BE 0.010 BELOW SURFACE OF GUIDE
4. (OPTIONAL) COUNTERSINK 0.06-0.10 OVER HOLE DIA. UPSET HEAD DIA 0.120 MIN, AND SHAVE FLUSH TO 0.010 ABOVE SURFACE
5. INSTALL BEARING WITH WET SEALANT BMS 5-95
6. INSTALL INSERT FLUSH TO 0.02 BELOW SURFACE. DRIVE LOCKING KEYS FLUSH AND REMOVE ANY BURRS THAT EXTEND ABOVE SURFACE
7. BOND WITH TYPE 44 ADHESIVE
8. UPSET THREADS TO PREVENT ROD FROM GOING BEYOND 0.50 THRU DEADBOLT
9. OMIT BMS 10-11 PRIMER ON THREADED AREA

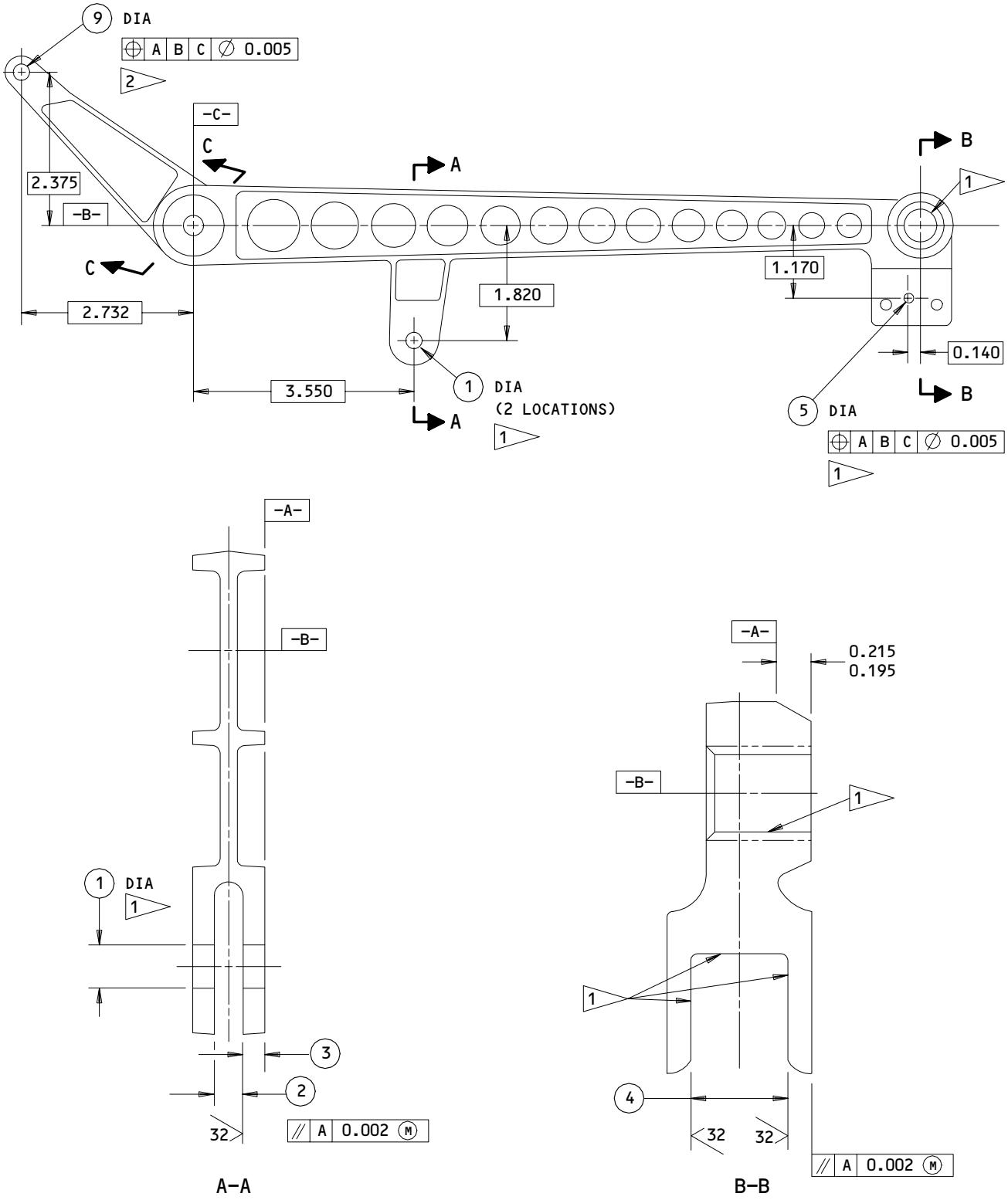
413T1034-11 THRU -14
Upper Arm Parts Replacement
Figure 601 (Sheet 2)

ARM - REPAIR 2-2

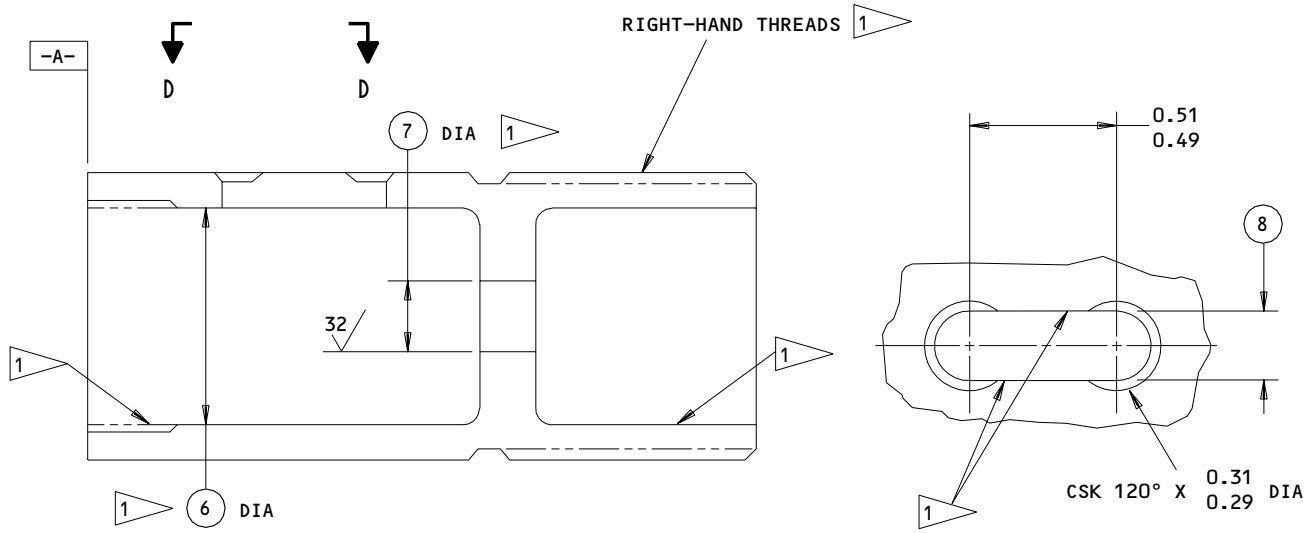
413T1034-9, -10

1. Coating Repair

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



413T1034-9,-10
Upper Arm Repair and Refinish
Figure 601 (Sheet 1)



C-C

D-D

	1	2	3	4	5	6	7	8	9
DESIGN DIM	0.254 0.250	0.163 0.145	0.128 0.119	0.580 0.560	0.145 0.140	0.9531 0.9460	0.3125 0.3115	0.229 0.218	0.254 0.250

REFINISH

CHEMICAL TREAT OR ANODIZE AND APPLY PRIMER, BMS 10-11, TYPE 1 (F-18.05) ALL OVER EXCEPT AS NOTED BY 6. APPLY PRIMER BMS 10-83 TYPE 1 FOLLOWED BY ENAMEL, BMS 10-83 TYPE 2 (F-22.05-7362)

1 MASK THESE AREAS BEFORE APPLYING PRIMER & ENAMEL PER F-22.05.

2 HARD ANODIZE (F-17.06).

REPAIR

(SAME AS REFINISH)

125 MACHINE FINISH EXCEPT AS NOTED

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

413T1034-9,-10
Upper Arm Repair and Refinish
Figure 601 (Sheet 2)

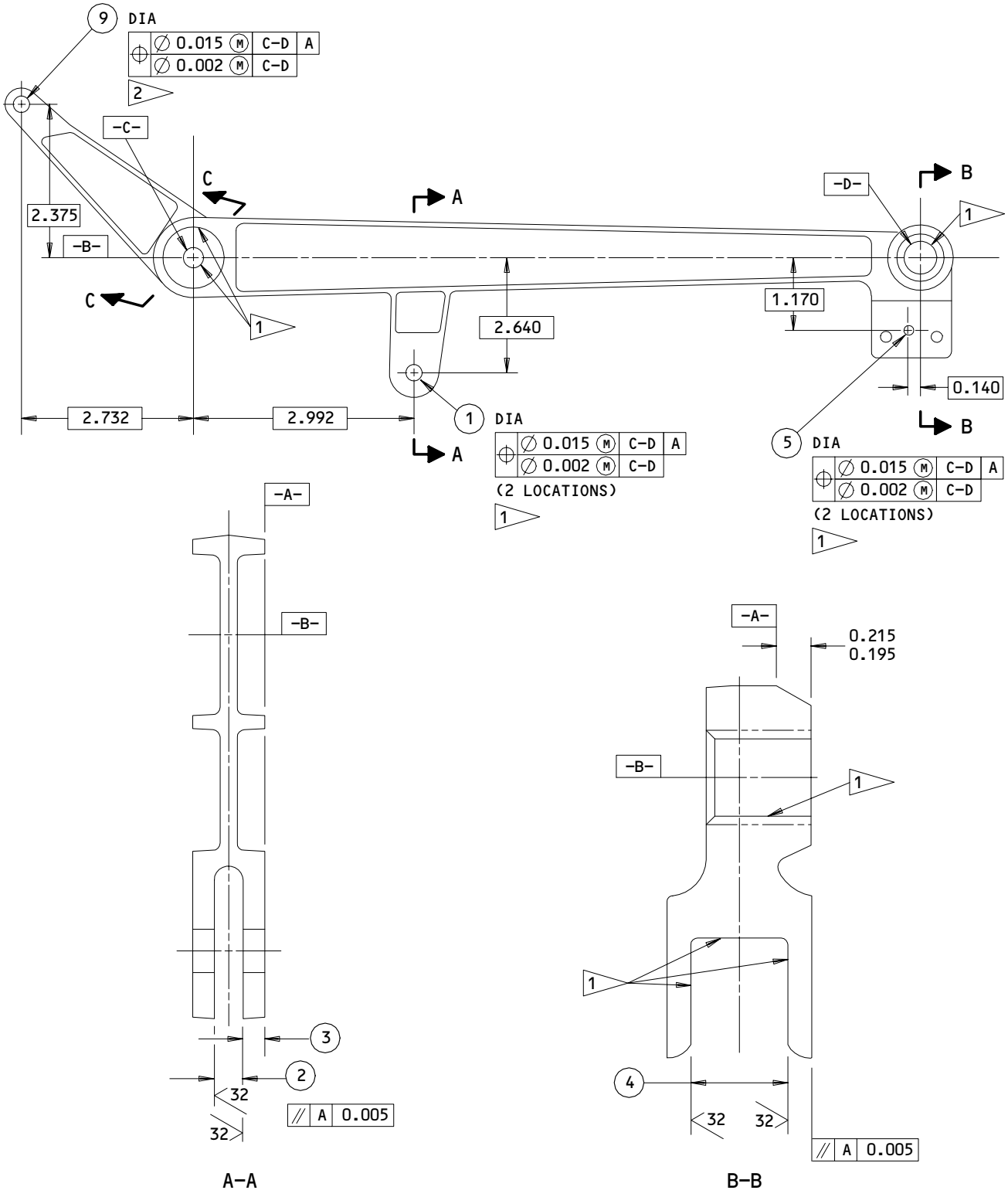
207954

ARM - REPAIR 2-3

413T1034-15, -16, -19, -20

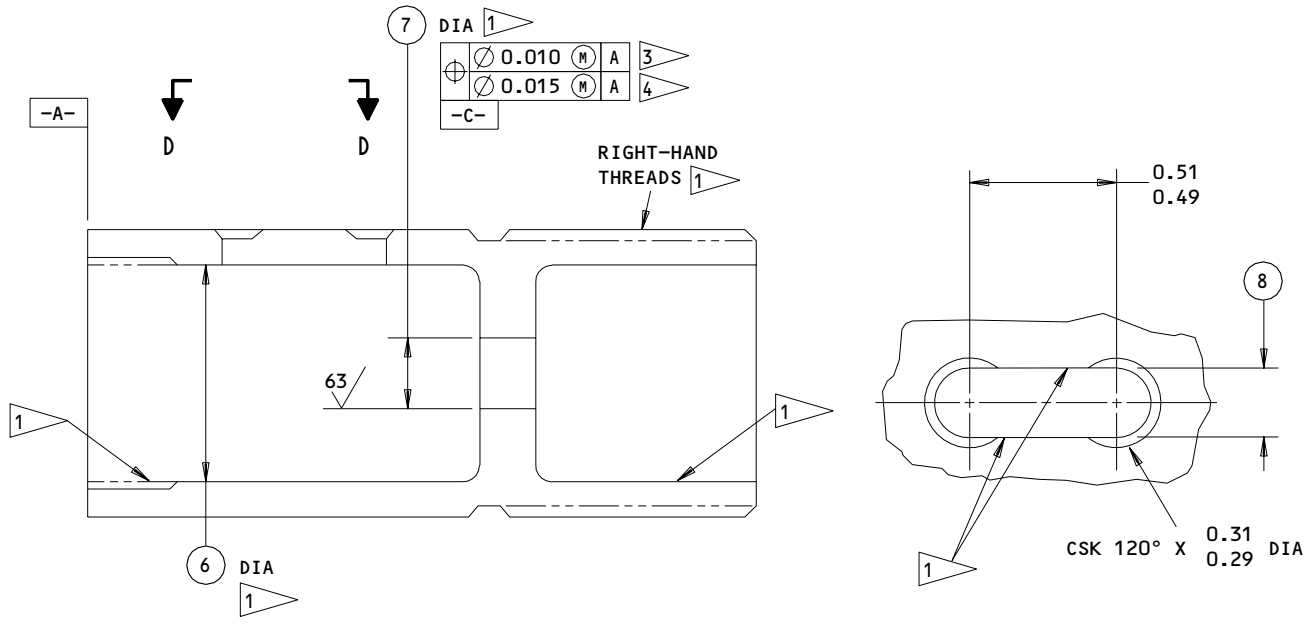
1. Coating Repair

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



413T1034-15,-16,-19,-20
Upper Arm Repair and Refinish
Figure 601 (Sheet 1)

962851



C-C D-D

	1	2	3	4	5	6	7	8	9
DESIGN DIM	0.254 0.250	0.163 0.145	0.128 0.119	0.580 0.560	0.145 0.140	0.9531 0.9460	0.3125 0.3115	0.229 0.218	0.254 0.250

REFINISH

CHEMICAL TREAT OR ANODIZE AND APPLY PRIMER, BMS 10-11, TYPE 1 (F-18.05) ALL OVER EXCEPT AS NOTED BY 6. APPLY PRIMER BMS 10-83 TYPE 1 FOLLOWED BY ENAMEL, BMS 10-83 TYPE 2 (F-22.05-7362)

1. MASK THESE AREAS BEFORE APPLYING PRIMER & ENAMEL PER F-22.05.
2. HARD ANODIZE (F-17.06).
3. 413T1304-15,-16
4. 413T1304-19,-20

REPAIR

(SAME AS REFINISH)

125 MACHINE FINISH EXCEPT AS NOTED

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

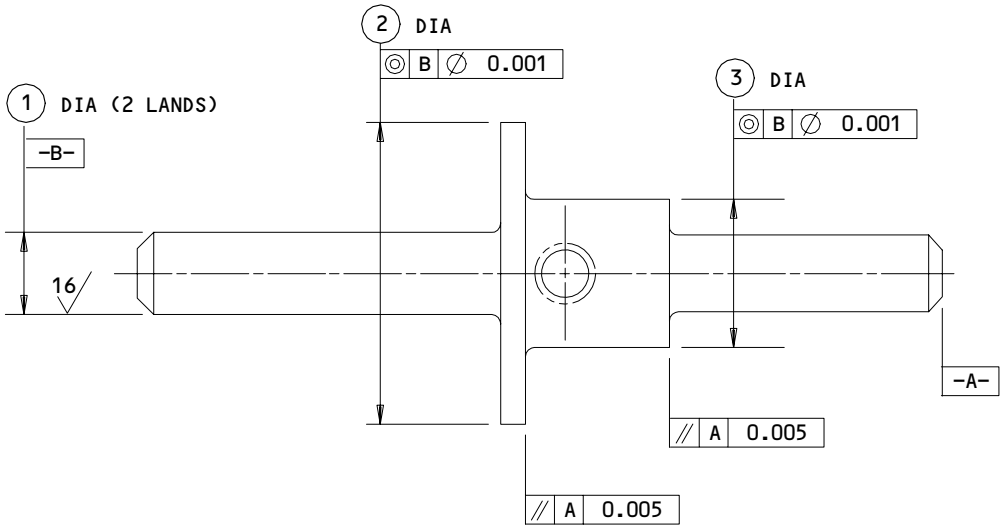
413T1034-15,-16,-19,-20
Upper Arm Repair and Refinish
Figure 601 (Sheet 2)

962859

DEADBOLT - REPAIR 3-1

413T1036-3

NOTE: Repair consists of replacement of defective or worn deadbolt. Refer to REPAIR-GEN for list of applicable standard practices.



	1	2	3
DESIGN DIM	0.2495 0.2485	0.934 0.923	0.450 0.445

REFINISH

NO FINISH

REPAIR

125 MACHINE FINISH EXCEPT AS NOTED

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

ALL DIMENSIONS ARE IN INCHES

413T1036-3
Deadbolt Details
Figure 601

207957

END CAP ASSEMBLY - REPAIR 4-1

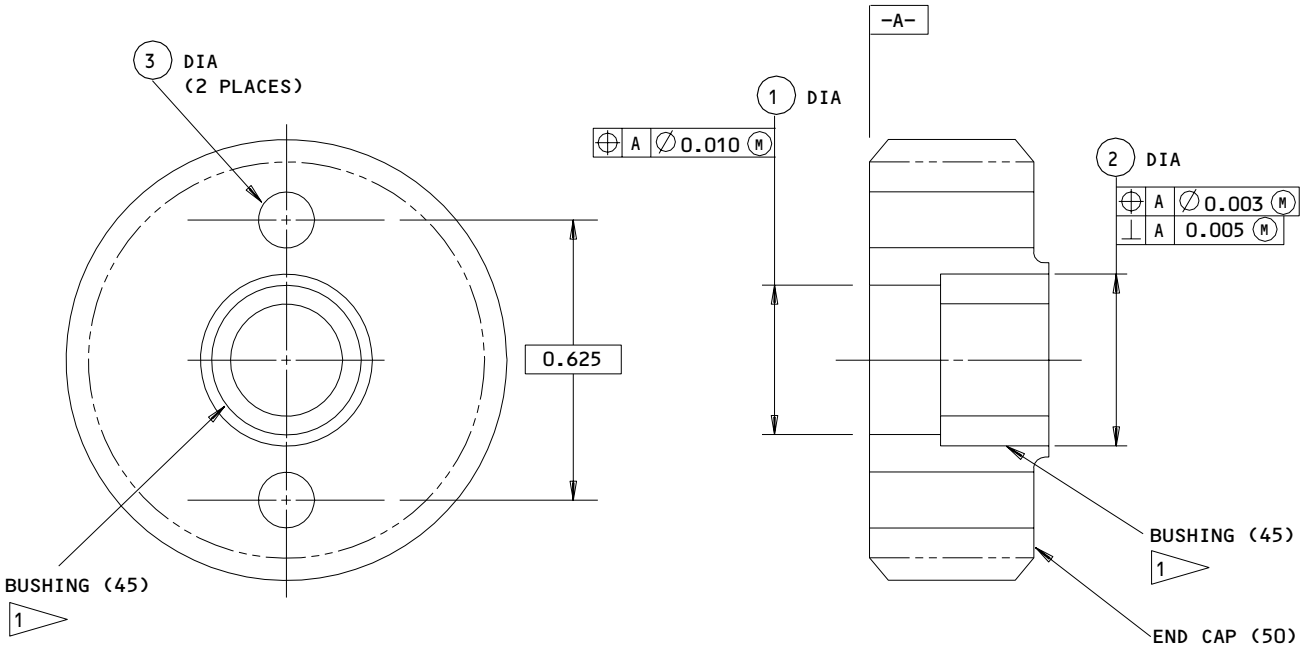
413T1036-4

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.

1. Bushing Replacement (Fig. 601)

   A. Remove bushing (45).

   B. Install replacement bushing as shown.



	1	2	3
DESIGN DIM	0.290 0.280	0.3755 0.3750	0.132 0.127

REFINISH

CAP (50): SULFURIC ACID ANODIZE (F-17.03)

REPAIR

125 MACHINE FINISH

MATERIAL: CAP (50): AL ALLOY

ALL DIMENSIONS ARE IN INCHES

1 INSTALL WITH WET SEALANT BMS 5-95. TEFLON LINING SHALL BE FREE OF SEALANT AFTER INSTL.

413T1036-4
End Cap Repair and Refinish
Figure 601

207958

UPPER ARM TORQUE TUBE ASSEMBLY - REPAIR 5-1

413T1045-11 THRU -32, -35 THRU -46

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

1. Arm Replacement (Fig. 601)

   A. Remove arm (10, 15, 20 or 25), if loose from tube (110, 111). Arms are bonded to tube, and arms (10, 15) have left-hand threads.

      CAUTION: DO NOT ALLOW SOLVENT TO CONTACT GRAPHITE SURFACE OF TUBE.

   B. Clean mating threads of arm and end fitting in tube.

      NOTE: Cured Type 70 adhesive provides a permanent bond, when properly applied. Additionally, Type 70 adhesive sets quickly. Adjust arms in Steps D and E immediately following application to threads.

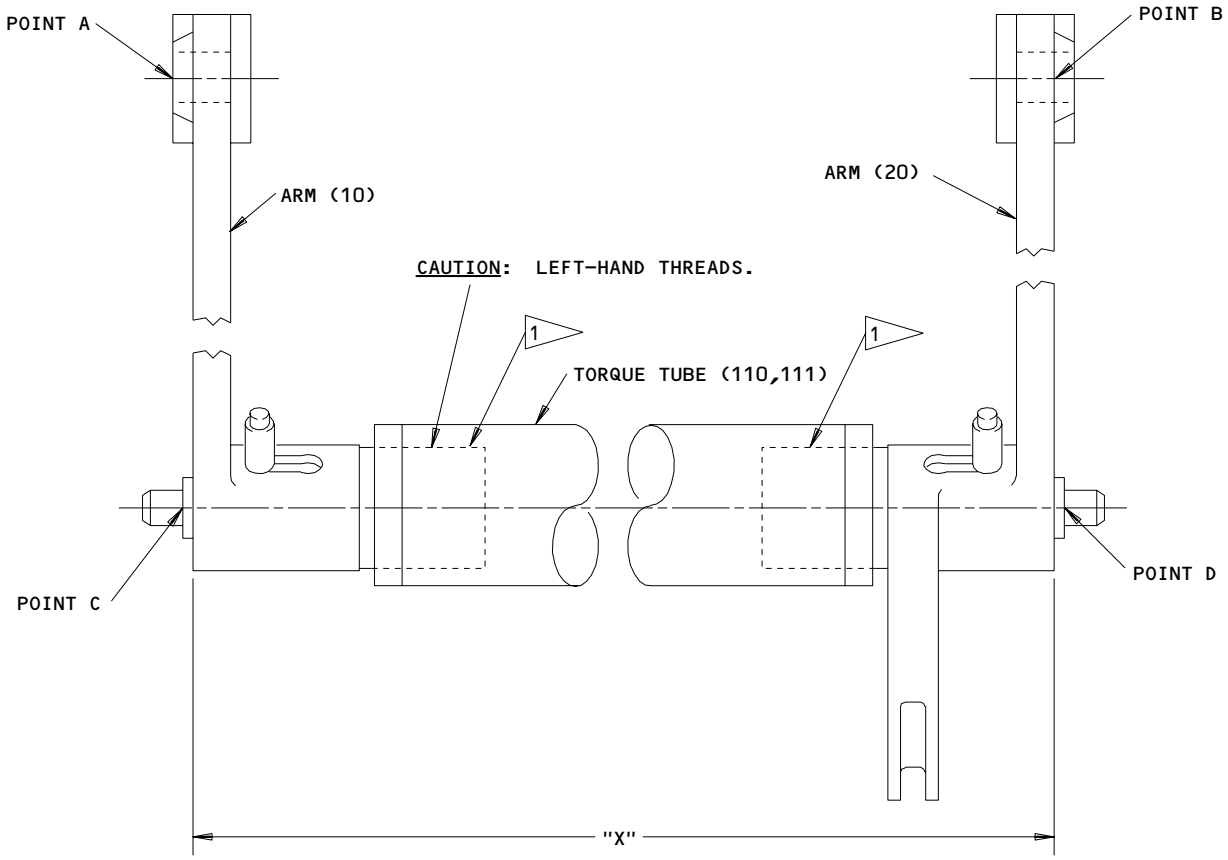
   C. Apply type 70 adhesive to threads, then screw arm fully into tube.

      NOTE: Alignment may be accomplished by utilizing a simple test fixture similar to the one shown in Fig. 602.

   D. If both arms are replaced, due to looseness or new parts, adjust arms so points A, B, C, D are in plane within 0.05 inch, then hold arms in this position and rotate tube to obtain dimension X shown.

   E. If only one arm is replaced, back out arm as necessary to obtain dimension X shown, with arms positioned so points A, B, C, D are in plane within 0.05 inch.

   F. Hold assembly in this position and cure adhesive.



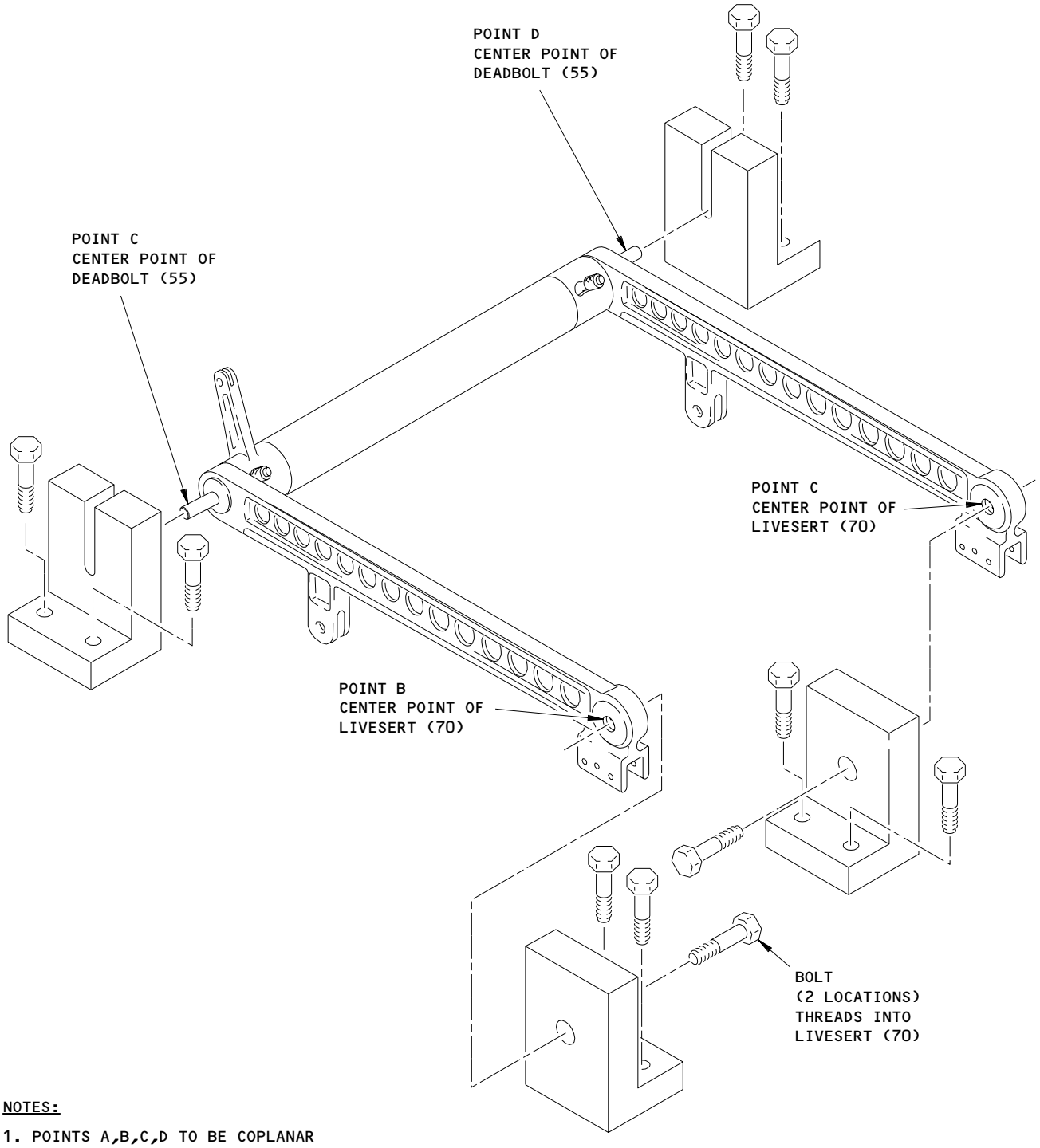
PART NUMBER	DIM "X"
413T1045-11,-12	42.63-42.65
413T1045-13,-14	20.63-20.65
413T1045-15,-16	39.78-39.80
413T1045-17,-18	31.63-31.65
413T1045-19,-20	35.63-35.65
413T1045-21,-22,-29,-30,-39,-40	42.63-42.65
413T1045-23,-24,-31,-32,-41,-42	20.63-20.65
413T1045-25,-26,-35,-36,-43,-44	31.63-31.65
413T1045-27,-28,-37,-38,-45,-46	35.63-35.65

(413T1045-11,-13,-15,-17,-19,-21,-23,-25,-27,-29,-31,-35,-37,-39,-41,-43,-45 SHOWN; -12,-14,-16,-18,-20,-20,-22,-24,-26,-28,-30,-32,-36,-38,-40,-42,-44,-46 OPPOSITE)

1 BOND WITH TYPE 70 ADHESIVE

413T1045-11 THRU -28
Arm Replacement
Figure 601

207959



NOTES:

1. POINTS A,B,C,D TO BE COPLANAR
2. NOT TO SCALE
3. MOUNT BLOCKS ON ANY FLAT SURFACE

413T1045
Arm Alignment Test Fixture
Figure 602

H46543

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

K8856 BP ADVANCED MATERIALS LTD
AVONMOUTH ROAD
AVONMOUTH, BRISTOL BS11 9DU, ENGLAND
FORMERLY BRISTOL COMPOSITE MATERIALS ENGINEERING LTD

0PD08 CCDI COMPOSITES INC
72 FAIRBANKS
IRVINE, CALIFORNIA 92718

01TQ0 CALIFORNIA COMPOSITE DESIGN INC
1935 E OCCIDENTAL ST
SANTA ANA, CALIFORNIA 92705

26390 TRIDAIR IND SEE FAIRCHILD IND V29372

70417 CHRYSLER CORP AMPLEX DIV
6565 EAST EIGHT MILE ROAD
WARREN, MICHIGAN 48091-2949
FORMERLY IN DETROIT, MICHIGAN

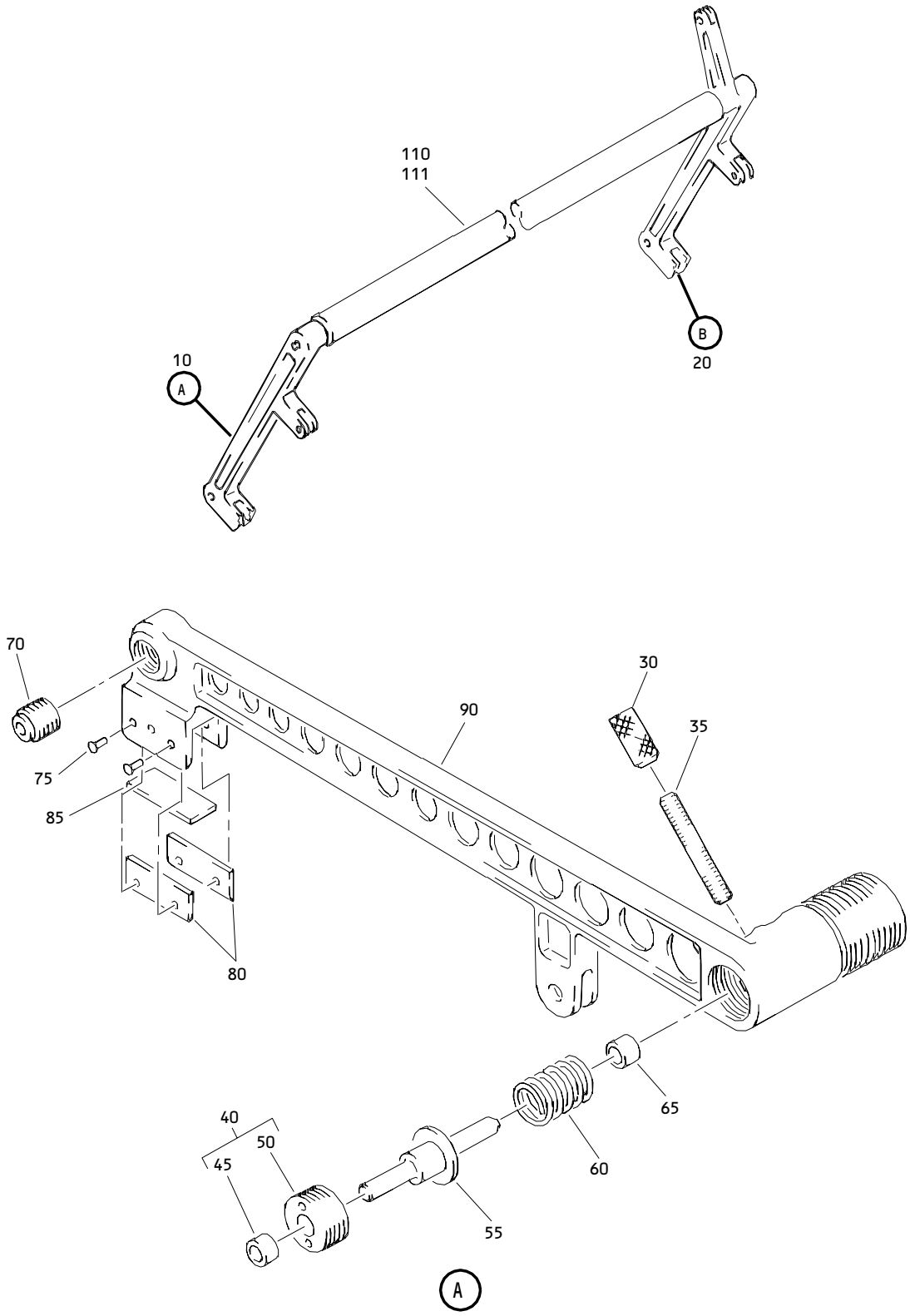
77896 REXNORD INC BEARING OPERATION
2400 CURTIS STREET
DOWNERS GROVE, ILLINOIS 60515-4005
FORMERLY SHAEFER BEARING DIV REX CHAINBELT
FORMERLY REX CHAINBELT INC BEARING DIV.

86831 KAISER ELECTRO PRECISION AEROSPACE AND ELECTRONIC CO
17000 SOUTH RED HILL AVENUE
IRVINE, CALIFORNIA 92714-5626
FORMERLY RUCKER PRECISION A DIV OF THE RUCKER CO SANTA ANA
FORMERLY ROYLYN DIV OF THE RUCKER CO GLENDALE, CALIFORNIA

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AA397-1		1	65	2
BACR15BA3AD		1	75	8
CA18062		1	70	2
MS24585C471		1	60	2
NAS1454-3-0110		1	35	2
S413T101-1		1	110A	1
S413T101-14		1	110E	1
S413T101-15		1	110D	1
S413T101-18		1	110F	1
S413T101-2		1	110C	1
S413T101-31		1	110X	1
S413T101-33		1	110Y	1
S413T101-34		1	110Z	1
S413T101-35		1	111	1
S413T101-8		1	110	1
S413T101-9		1	110B	1
125-0337-1		1	110A	1
125-0337-2		1	110C	1
125-0337-3		1	110E	1
125-0374-1		1	110	1
125-0374-2		1	110B	1
125-0374-3		1	110D	1
125-0374-4		1	110F	1
125-0374-5		1	110P	1
2633-1		1	110R	1
2633-10		1	110Y	1
2633-11		1	110Z	1
2633-12		1	111	1
2633-2		1	110V	1
2633-3		1	110U	1
2633-4		1	110Q	1
2633-9		1	110X	1
413T1033-10		1	95	1
413T1033-11		1	10	1
413T1033-12		1	15	1
413T1033-13		1	10A	1
413T1033-14		1	15A	1
413T1033-15		1	90A	1
413T1033-16		1	95A	1
413T1033-19		1	90B	1
413T1033-20		1	95B	1
413T1033-9		1	90	1
413T1034-10		1	105	1
413T1034-11		1	20	1
413T1034-12		1	25	1

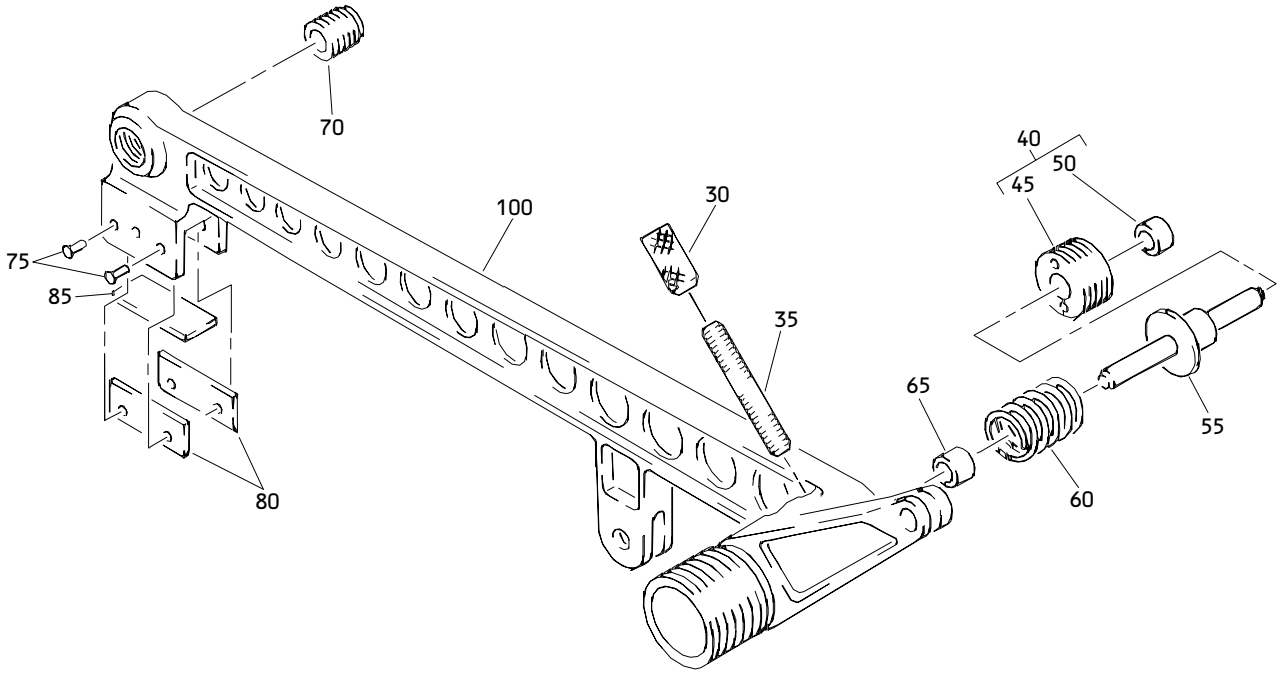
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
413T1034-13		1	20A	1
413T1034-14		1	25A	1
413T1034-15		1	100A	1
413T1034-16		1	105A	1
413T1034-19		1	100B	1
413T1034-20		1	105B	1
413T1034-21		1	100C	1
413T1034-22		1	105C	1
413T1034-9		1	100	1
413T1036-3		1	55	2
413T1036-4		1	40	2
413T1036-5		1	50	2
413T1036-6		1	30	2
413T1045-11		1	1	RF
413T1045-12		1	5	RF
413T1045-13		1	1A	RF
413T1045-14		1	5A	RF
413T1045-15		1	1B	RF
413T1045-16		1	5B	RF
413T1045-17		1	1C	RF
413T1045-18		1	5C	RF
413T1045-19		1	1D	RF
413T1045-20		1	5D	RF
413T1045-21		1	1E	RF
413T1045-22		1	5E	RF
413T1045-23		1	1F	RF
413T1045-24		1	5F	RF
413T1045-25		1	1G	RF
413T1045-26		1	5G	RF
413T1045-27		1	1H	RF
413T1045-28		1	5H	RF
413T1045-29		1	1J	RF
413T1045-30		1	5J	RF
413T1045-31		1	1K	RF
413T1045-32		1	5K	RF
413T1045-35		1	1L	RF
413T1045-36		1	5L	RF
413T1045-37		1	1M	RF
413T1045-38		1	5M	RF
413T1045-39		1	1N	RF
413T1045-40		1	5N	RF
413T1045-41		1	1P	RF
413T1045-42		1	5P	RF
413T1045-43		1	1Q	RF
413T1045-44		1	5Q	RF

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
413T1045-45		1	1R	RF
413T1045-46		1	5R	RF
413T1060-1		1	80	4
413T1060-2		1	85	2
501-0404-008		1	45	2



Center Overhead Stowage Bin Torque Tube Upper Arm Assembly
Figure 1 (Sheet 1)

U8010



Center Overhead Stowage Bin Torque Tube Upper Arm Assembly
Figure 1 (Sheet 2)

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	413T1045-11		ARM ASSY-44-INCH BIN, TORQUE TUBE/ (PRE SB 25-0102)	A	RF
-1A	413T1045-13		ARM ASSY-22-INCH BIN TORQUE TUBE/	C	RF
-1B	413T1045-15		ARM ASSY-41-INCH BIN TORQUE TUBE/	E	RF
-1C	413T1045-17		ARM ASSY-33-INCH BIN TORQUE TUBE/	G	RF
-1D	413T1045-19		ARM ASSY-37-INCH BIN TORQUE TUBE/	J	RF
-1E	413T1045-21		ARM ASSY-44 INCH BIN TORQUE TUBE/ (POST SB 25-0102)	L	RF
-1F	413T1045-23		ARM ASSY-22 INCH BIN TORQUE TUBE/	M	RF
-1G	413T1045-25		ARM ASSY-33 INCH BIN TORQUE TUBE/	N	RF
-1H	413T1045-27		ARM ASSY-37 INCH BIN, (REVISED GEOMETRY) TORQUE TUBE/	P	RF
-1J	413T1045-29		ARM ASSY-44" BIN, STANDARD, TORQUE TUBE/(LH)	U	RF
-1K	413T1045-31		ARM ASSY-22" BIN, STANDARD, TORQUE TUBE/(LH)	V	RF
-1L	413T1045-35		ARM ASSY-33" BIN, STANDARD, TORQUE TUBE/(LH)	W	RF
-1M	413T1045-37		ARM ASSY-37" BIN, STANDARD, TORQUE TUBE/(LH)	X	RF
-1N	413T1045-39		ARM ASSY-44" BIN, FIRST CLASS, TORQUE TUBE/(LH)	Y	RF
-1P	413T1045-41		ARM ASSY-22" BIN, FIRST CLASS, TORQUE TUBE/(LH)	Z	RF
-1Q	413T1045-43		ARM ASSY-33" BIN, FIRST CLASS, TORQUE TUBE/(LH)	AA	RF
-1R	413T1045-45		ARM ASSY-37" BIN, FIRST CLASS, TORQUE TUBE/(LH)	AB	RF

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-5	413T1045-12		ARM ASSY-44-INCH BIN TORQUE TUBE/ (PRE SB 25-0102)	B	RF
-5A	413T1045-14		ARM ASSY-22-INCH BIN TORQUE TUBE/	D	RF
-5B	413T1045-16		ARM ASSY-41-INCH BIN TORQUE TUBE/	F	RF
-5C	413T1045-18		ARM ASSY-33-INCH BIN TORQUE TUBE/	H	RF
-5D	413T1045-20		ARM ASSY-37-INCH BIN TORQUE TUBE/	K	RF
-5E	413T1045-22		ARM ASSY-44 INCH BIN, (REVISED GEOMETRY) TORQUE TUBE/ (POST SB 25-0102)	Q	RF
-5F	413T1045-24		ARM ASSY-22 INCH BIN, (REVISED GEOMETRY) TORQUE TUBE/	R	RF
-5G	413T1045-26		ARM ASSY-33 INCH BIN, (REVISED GEOMETRY) TORQUE TUBE/	S	RF
-5H	413T1045-28		ARM ASSY-37 INCH BIN, (REVISED GEOMETRY) TORQUE TUBE/	T	RF
-5J	413T1045-30		ARM ASSY-44" BIN, STANDARD, TORQUE TUBE/(RH)	AC	RF
-5K	413T1045-32		ARM ASSY-22" BIN, STANDARD, TORQUE TUBE/(RH)	AD	RF
-5L	413T1045-36		ARM ASSY-33" BIN, STANDARD, TORQUE TUBE/(RH)	AE	RF
-5M	413T1045-38		ARM ASSY-37" BIN, STANDARD, TORQUE TUBE/(RH)	AF	RF
-5N	413T1045-40		ARM ASSY-44" BIN, FIRST CLASS, TORQUE TUBE/(RH)	AG	RF
-5P	413T1045-42		ARM ASSY-22" BIN, FIRST CLASS, TORQUE TUBE/(RH)	AH	RF
-5Q	413T1045-44		ARM ASSY-33" BIN, FIRST CLASS, TORQUE TUBE/(RH)	AJ	RF
-5R	413T1045-46		ARM ASSY-37" BIN, FIRST CLASS, TORQUE TUBE/(RH)	AK	RF
10	413T1033-11		.ARM ASSY	A,C,E,G,J,U-X	1
-10A	413T1033-13		.ARM ASSY	L-P,Y-AB	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-15	413T1033-12		.ARM ASSY	B,D,F,H,K,AC-AF	1
-15A	413T1033-14		.ARM ASSY	Q-T,AG-AK	1
20	413T1034-11		.ARM ASSY	A,C,E,G,J,U-X	1
-20A	413T1034-13		.ARM ASSY	L-P,Y-AB	1
-25	413T1034-12		.ARM ASSY	B,D,F,H,K,AC-AF	1
-25A	413T1034-14		.ARM ASSY	Q-T,AG-AK	1
30	413T1036-6		..SLEEVE-ADJUSTER		1
35	NAS1454-3-0110		..ROD		1
40	413T1036-4		..CAP ASSY-END		1
45	501-0404-008		...BUSHING- (V77896)		1
50	413T1036-5		...CAP		1
55	413T1036-3		..DEADBOLT		1
60	MS24585C471		..SPRING		1
65	AA397-1		..BEARING-OILITE SLEEVE (V70417)		1
70	CA18062		..LIVESERT- (V26390)		1
75	BACR15BA3AD		..RIVET- (SIZE DETERMINE ON INST)		4

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
80	413T1060-1		..GUIDE-CONTACT		2
85	413T1060-2		..CUSHION		1
90	413T1033-9		..ARM- (USED ON ITEM 10)	A,C,E ,G,J, U-X	1
-90A	413T1033-15		..ARM- (OPT ITEM 90B) (USED ON ITEM 10A)	L-P, Y-AB	1
-90B	413T1033-19		..ARM- (OPT ITEM 90A) (USED ON ITEM 10A)	L-P, Y-AB	1
-95	413T1033-10		..ARM- (USED ON ITEM 15)	B,D,F ,H,K, AC-AF	1
-95A	413T1033-16		..ARM- (OPT ITEM 95B) (USED ON ITEM 15A)	Q-T,A G-AK	1
-95B	413T1033-20		..ARM- (OPT ITEM 95A) (USED ON ITEM 15A)	Q-T,A G-AK	1
100	413T1034-9		..ARM- (OPT ITEM 100C) (USED ON ITEM 20)	A,C,E ,G,J, U-X	1
-100A	413T1034-15		..ARM- (OPT ITEM 100B) (USED ON ITEM 20A)	L-P, Y-AB	1
-100B	413T1034-19		..ARM- (OPT ITEM 100A) (USED ON ITEM 20A)	L-P, Y-AB	1
-100C	413T1034-21		..ARM- (OPT ITEM 100) (USED ON ITEM 20)	A,C,E ,G,J, U-X	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-105	413T1034-10		..ARM- (OPT ITEM 105C) (USED ON ITEM 25)	B,D,F,H,K,AC-AF	1
-105A	413T1034-16		..ARM- (OPT ITEM 105B) (USED ON ITEM 25A)	Q-T,AG-AK	1
-105B	413T1034-20		..ARM- (OPT ITEM 105A) (USED ON ITEM 25A)	Q-T,AG-AK	1
-105C	413T1034-22		..ARM- (OPT ITEM 105) (USED ON ITEM 25)	B,D,F,H,K,AC-AF	1
110	125-0374-1		.TUBE ASSY- (VK8856) (SPEC S413T101-8) (OPT ITEMS 110A, 110R)	A,B	1
110A	125-0337-1		.TUBE ASSY- (VK8856) (SPEC S413T101-1) (OPT ITEMS 110, 110R)	A,B	1
-110B	125-0374-2		.TUBE ASSY- (VK8856) (SPEC S413T101-9) (OPT ITEMS 110C, 110V)	C,D	1
-110C	125-0337-2		.TUBE ASSY- (VK8856) (SPEC S413T101-2) (OPT ITEMS 110B, 110V)	C,D	1
-110D	125-0374-3		.TUBE ASSY- (VK8856) (SPEC S413T101-15) (OPT ITEM 110E)	E,F	1
-110E	125-0337-3		.TUBE ASSY- (VK8856) (SPEC S413T101-14) (OPT ITEM 110D)	E,F	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-110F	125-0374-4		.TUBE ASSY- (VK8856) (SPEC S413T101-18) (OPT ITEM 110U)	G,H,N,S	1
-110G	S413T101-20		DELETED		
-110H	125-0374-1		.TUBE ASSY- (VK8856) (SPEC S413T101-8)	L,Q	1
-110J	125-0374-2		.TUBE ASSY- (VK8856) (SPEC S413T101-9) (OPT ITEM 110W)	M,R	1
-110K	S413T101-31		DELETED		
-110L	S413T101-33		DELETED		
-110M	S413T101-34		DELETED		
-110N	S413T101-35		DELETED		
-110P	125-0374-5		.TUBE ASSY- (V86831) (SPEC S413T101-20) (OPT ITEM 110Q)	J,K,P,T	1
-110Q	2633-4		.TUBE ASSY- (VOPD08) (OPT ITEM 110P)	J,K,P,T	1
-110R	2633-1		.TUBE ASSY- (VOPD08) (OPT ITEMS 110, 110A)	A,B	1
110S	125-0374-1		.TUBE ASSY- (VK8856) (SPEC S413T101-8) (OPT ITEM 110T)	L,Q	1
-110T	2633-1		.TUBE ASSY- (VOPD08) (OPT ITEM 110S)	L,Q	1
-110U	2633-3		.TUBE ASSY- (VOPD08) (OPT ITEM 110F)	L,Q	1
-110V	2633-2		.TUBE ASSY- (VOPD08) (OPT ITEMS 110B, 110C)	C,D	1
-110W	2633-2		.TUBE ASSY- (VOPD08) (OPT ITEM 110J)	M,R	1
R -110X	2633-9		.TUBE ASSY- (V01TQ0) (SPEC S413T101-31)	U,Y,AC,AG	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	-110Y	2633-10		.TUBE ASSY- (V01TQ0) (SPEC S413T101-33)	X,AB, AF,AK	1
R	-110Z	2633-11		.TUBE ASSY- (V01TQ0) (SPEC S413T101-34)	W,AA, AE,AJ	1
R	-111	2633-12		.TUBE ASSY- (V01TQ0) (SPEC S413T101-35)	V,Z,A D,AH	1
R				BOEING LETTER HISTORY		

- Item Not Illustrated