TO: ALL HOLDERS OF ELEVATOR CONTROL FEEL AND CENTERING UNIT ASSEMBLY COMPONENT MAINTENANCE MANUAL 27-31-09

REVISION NO. 14 DATED MAR 01/04

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.

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BOEING

COMPONENT
MAINTENANCE MANUAL

ELEVATOR CONTROL
FEEL AND CENTERING UNIT ASSEMBLY

PART NUMBERS 251T2210-7,-8,-10 THRU -18

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

24442

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
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		PRR B 11017	Oct 10/83
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		PRR B 13260	Mar 01/04

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TABLE OF CONTENTS

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

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

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

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

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

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

Verification:

Testing/TS: June 12, 1987
Disassembly: June 12, 1987
Assembly: June 12, 1987

ELEVATOR FEEL AND CENTERING UNIT ASSEMBLY

DESCRIPTION AND OPERATION

1. The elevator feel and centering unit assembly is a hydro-mechanical mechanism consists of a centering unit assembly and a feel actuator assembly.

2. The feel and centering unit assembly provides centering force for the elevator and artificial feel of the elevator movement for the pilot and first officer. The stick nudger mechanism provides a 25 lbs. forward column force when actuated by the stall warning system. The assembly works independently with each of the pilot and first officer control column for fail-safe operation.

3. Leading Particulars (Approximate)
   Length -- 16 inches
   Width -- 9 inches
   Height -- 17 inches
   Weight -- 25 lbs.

TESTING/TROUBLE SHOOTING

1. Equipment and Material

NOTE: Equivalent substitutes may be used.

A. Test Equipment -- A27041-170

B. X-Y plotter (Hewlett Packard Co., Model HP7045B , Allen Datagraph, Model 925E or equivalent) with provisions for recording:

(1) Angular displacement up to 35 degrees in both directions.

(2) Torque from 0-1900 lb-in.

C. Test box assembly -- A27081-3

D. Cable assemblies -- A27081-7, -9

E. Breakout box -- A27063-2

F. Cable assembly - A27063-29

G. AC power supply -- 115v ac, 50-400 Hz

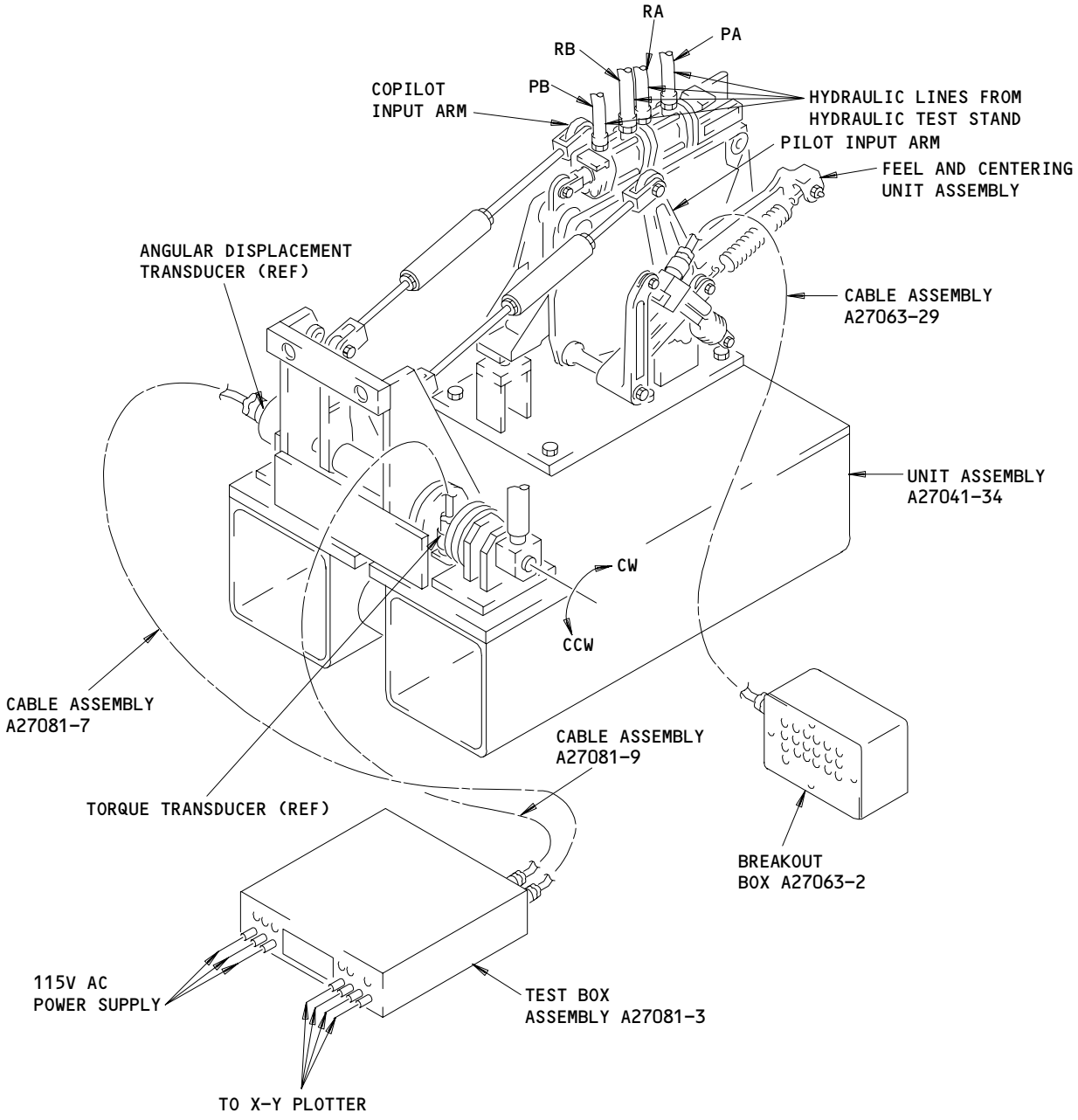
H. DC power supply -- 26v dc

I. Hydraulic test stand capable of delivering BMS 3-11 hydraulic fluid at a constant pressure of 165-185 psig and 2050-2150 psig.

J. Digital Voltmeter -- 8050A

2. Preparation for Test (Fig. 101)

A. Mount unit in unit assembly A27041-170 and connect hydraulic lines to unit.



Functional Test Setup
Figure 101

B. Connect instruments.

(1) Connect cable assembly A27081-7 to connector J1 of test box assembly A27081-3 and to angular displacement transducer of test equipment A27041-170. Connect cable assembly A27081-9 to connector J2 of test box assembly A27081-3 and to torque transducer of test equipment A27041-170.

(2) Connect ac power supply to test box assembly A27081-3. Connect X-Y plotter to test box assembly A27081-3.

(3) Connect cable assembly A27063-29 to breakout box A27063-2 and to receptacle of actuator (285).

(4) Turn POWER switch of test box assembly A27081-3 to ON and set DIGITAL COUNTER/PLOTTER switch to DIGITAL COUNTER.

(5) Connect digital voltmeter to DIGITAL COUNTER output jacks.

C. Attach linkage to unit.

(1) Adjust distance between bolt hole centerline of turnbuckle assembly A27041-38 to 22.65-22.71 inches for pilot input side.

(2) Check that stick nudger actuator (285, IPL Fig. 3) is in fully retract position by applying dc power to pins 2 and 3 of breakout box A27063-2.

(3) Adjust length of the actuator (285) as required, to align centerline of spring attachment clevis of crank assembly (190) with centerline of shaft (565) within 0.03 inch.

(4) Attach adjusted turnbuckle assembly A27041-38 to pilot input arm and to test stand assembly A27041-37.

(5) Apply 1450-1550 hydraulic pressure to the unit. Apply a clockwise rotation to pilot input arm and slowly release to a stopping point. Note the output voltage reading on the digital voltmeter. Apply a counterclockwise rotation to pilot input arm and slowly release to a stopping point. Note the output voltage and remove hydraulic pressure.

(6) Center the pilot input arm using the average of the two output voltage readings. Check that cam and cam follower are centered.

(7) Adjust turnbuckle assembly A27041-38 to be used on the first officer side such that bolts can be easily inserted without any movement of the input arm. Attach turnbuckle assembly to first officer input arm and recheck the output voltage from pilot input arm to ensure that no movement has occurred.

D. Set DIGITAL COUNTER/PLOTTER switch to PLOTTER and remove digital voltmeter.

3. Test Feel and Centering Unit Assembly 251T2210-7, -8

A. With feel actuator ports open, cycle unit a minimum of five times.

B. Rotate input crank clockwise and check that breakout torque is 21-34 lb-ins.

C. Rotate input crank counterclockwise and check that breakout torque is 28-41 lb-ins.

D. If torque values are below limits in step B and C., increase spring tension by decreasing number of washers (625B, IPL Fig. 3) between housing assembly (869) and clevis assembly (630).

E. If torque values are above limits in step B and C., decrease spring tension by increasing number of washers between housing assembly (869) and clevis assembly (630).

F. Recheck per par. B and C.

G. Rotate input crank clockwise and counterclockwise through full travel and plot the value of shaft angular displacement vs. torque. The resulting curve shall be smooth and continuous and fall entirely within the boundaries shown in Fig. 102.

H. Connect hydraulic pressure supply to feel actuator pressure ports "A" and "B". Leave return port open.

I. Apply 165-185 psig hydraulic pressure simultaneously to pressure ports "A" and "B".

J. Rotate input crank clockwise and counterclockwise and check that total clockwise and counterclockwise breakout torque is 88 lb-ins. maximum.

K. With 165-185 psig applied simultaneously to pressure ports "A" and "B" rotate input crank at a rate of 1-10 degrees per second, through a complete cycle, starting from zero in a clockwise direction.

L. Plot input torque vs. shaft rotation. Check that the resultant curve is continuous and smooth and falls entirely within the boundaries specified in Fig. 103.

M. Check angular travel:

CAUTION: TORQUE VALUE AT CONTACT POINTS SHALL NOT EXCEED 1400 LB-IN.

(1) Check that angular travel in the clockwise direction to reach internal stop is 31.5 degrees minimum.

(2) Check that angular travel in the counterclockwise direction to reach internal stop is 24.5 degrees minimum.

N. Test stick nudger operation.

(1) Apply 165-185 psig hydraulic pressure simultaneously to pressure ports "A" and "B" and extend stick nudger actuator (285) by applying DC power to pins 1 and 3 of breakout box A27063-2.

(2) Rotate input crank slowly and smoothly starting clockwise thru neutral to stops then counter clockwise thru stops and return to the equilibrium position. Plot the value of angular displacement vs torque. Check that the resulting plot is smooth and continuous and falls entirely within the boundaries shown in Fig. 105. Adjust tension of spring (5) as required.

(3) Retract stick nudger actuator by applying DC power to pins 2 and 3 of breakout box A27063-2 and check that centerline of spring attachment clevis of crank assembly (190) is aligned with centerline of shaft assembly (565) within 0.03 inch.

O. Repeat step K., L. and M. with 165-185 psig applied at port "A" only.

P. Repeat step K., L and M. with 165-185 psig applied at port "B" only.

Q. Apply 2050-2150 psig simultaneously to pressure ports "A" and "B". Rotate input crank at a rate of 1-10 degrees per second ±6 degrees, starting from zero in a clockwise direction.

R. Plot input torque versus shaft rotation. Check that the resultant curve is smoothly continuous and falls entirely within the boundaries specified in Fig. 104.

S. Repeat step Q. and R. with 2050-2150 psig hydraulic pressure applied to port "A" only.

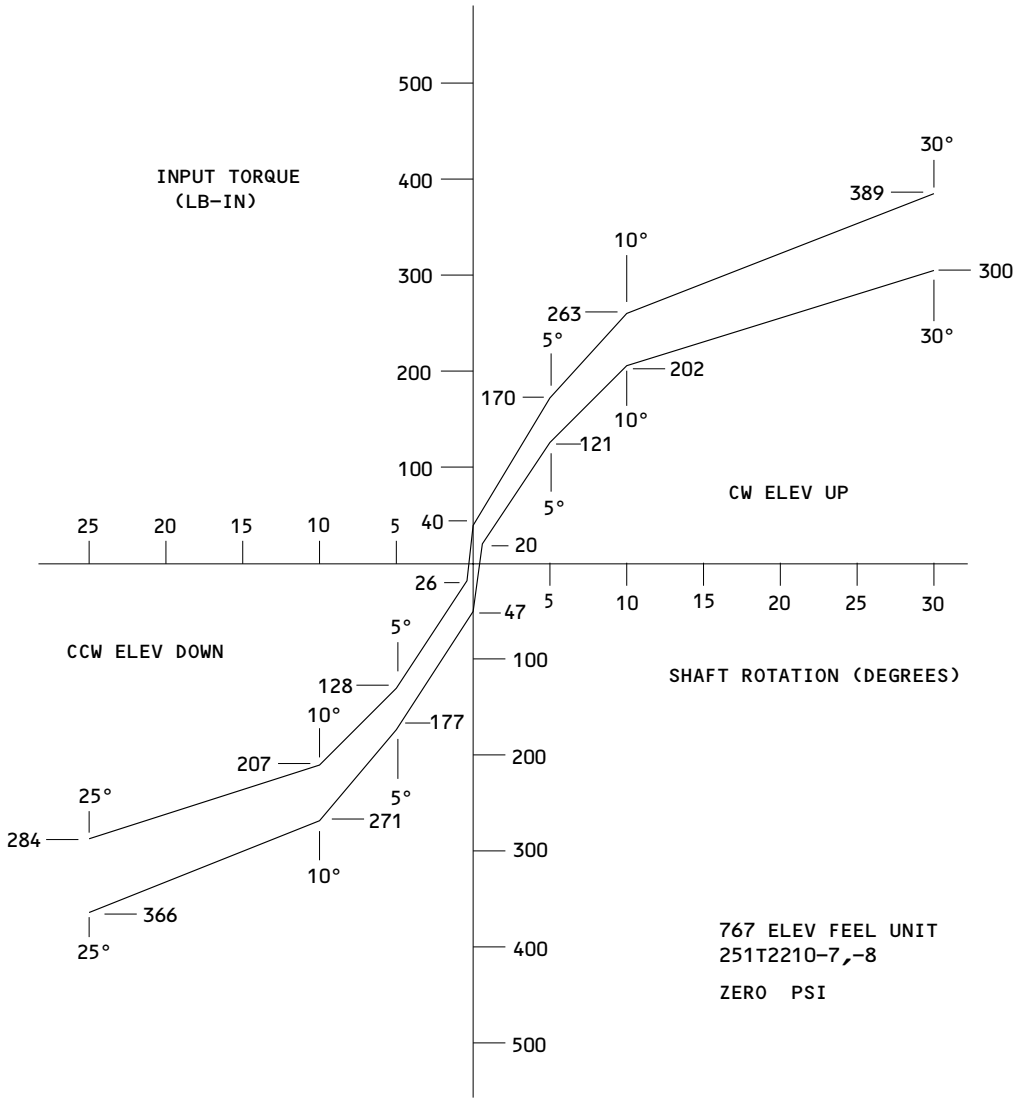
T. Repeat step Q. and R. with 2050-2150 psig hydraulic pressure applied to port "B" only.

U. Disconnect the first officer linkage rod from the test rig shaft arm and connect to ground point. Apply 480-520 psig hydraulic pressure simultaneously to pressure ports "A" and "B" and perform the following test:

(1) Rotate input crank through a complete cycle and check for any sign of binding, rough spots or excessive friction at any point of travel.

(2) Rotate input crank clockwise from zero and check that torque is 210-300 lb-in. when passing thru 20 degrees.

(3) Rotate input crank counterclockwise from zero and check that torque is 210-300 lb-in. when passing thru 20 degrees.



Input Torque vs Shaft Rotation - Zero PSI
Figure 102

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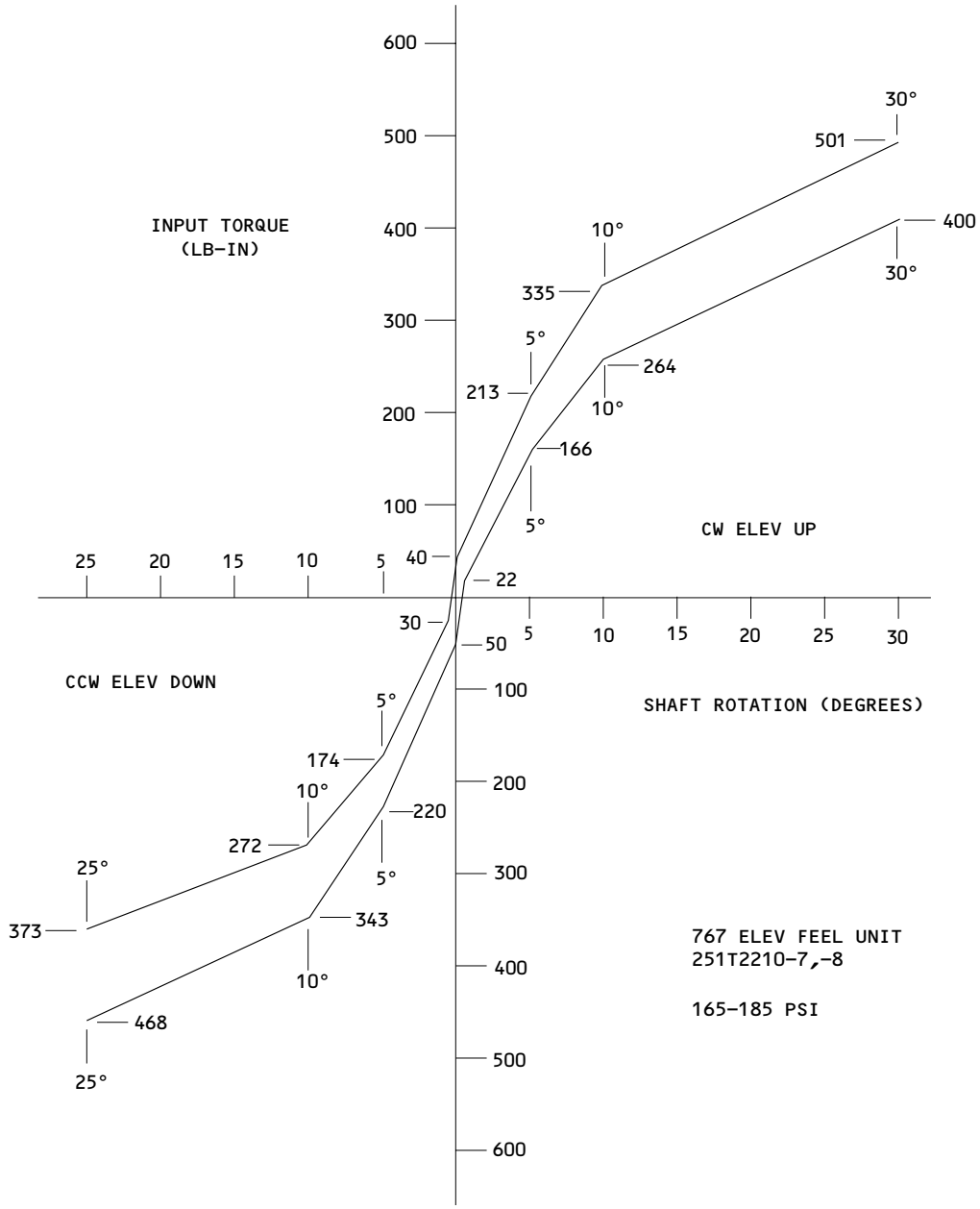
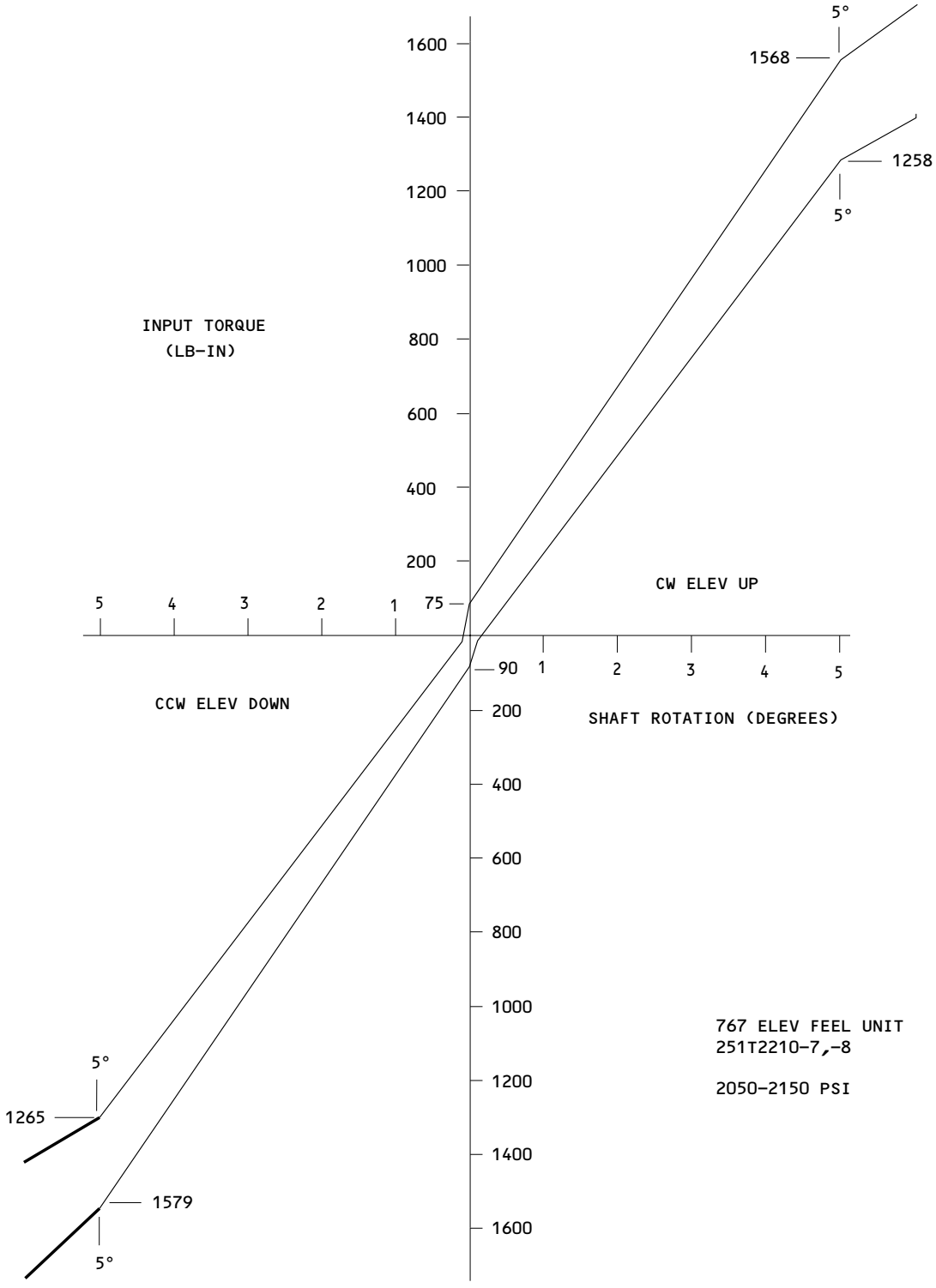


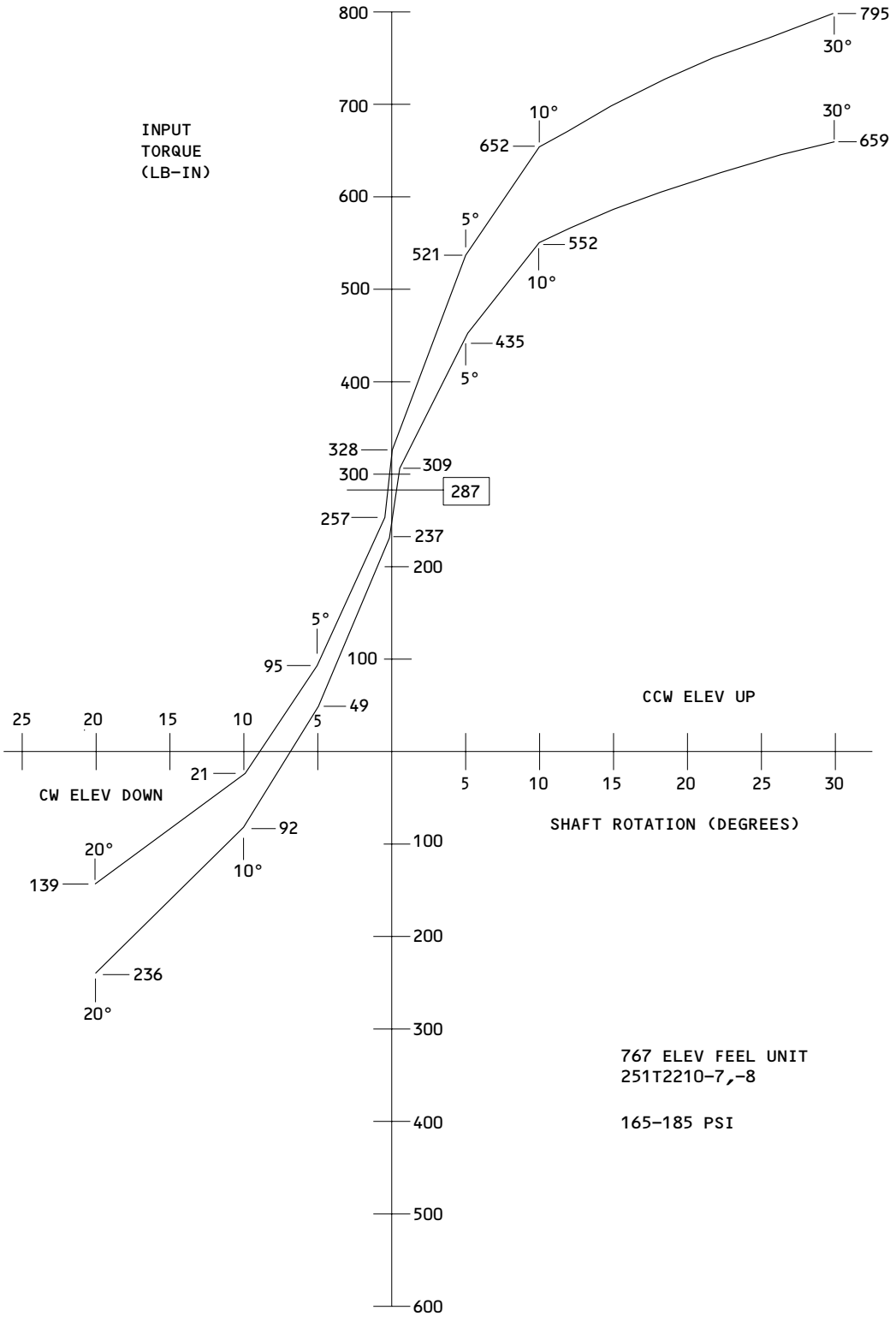
Input Torque vs Shaft Rotation - 175 PSI
Figure 103

24447



Input Torque vs Shaft Rotation - 2100 PSI
Figure 104

24448



Stick Nudger Operation
Figure 105

100409

4. Test Feel and Centering Unit Assembly 251T2210-10, -11, -12, -13, -14, -15, -16, -17, -18

A. Test unit without hydraulic pressure.

(1) With feel actuator ports open, cycle unit a minimum of five times.

(2) Rotate input crank clockwise and check that breakout torque is 21-34 lb-ins.

(3) Rotate input crank counterclockwise and check that breakout torque is 28-41 lb-ins.

(4) If torque values are below limits in step (2) and (3), increase spring tension by removing washers (625B, IPL Fig. 3) between housing assembly (870) and clevis assembly (630).

(5) If torque values are above limits in step (2) and (3), decrease spring tension by adding washers (625) between housing assembly (870) and clevis assembly (630).

(6) Recheck per step (2) and (3).

(7) Rotate input crank clockwise and counterclockwise through full travel and plot the value of shaft angular displacement vs. torque. The plot shall be smooth and continuous and fall entirely within the boundaries shown in Fig. 106 for assemblies -10, -11, -12 or Fig. 110 for assemblies -13, -14, -15, -16, -17 or Fig. 114 for assembly -18.

B. Test unit with 140-160 psig hydraulic pressure.

(1) Connect hydraulic pressure supply to feel actuator pressure ports "A" and "B". Leave return ports open.

(2) Apply 140-160 psig hydraulic pressure simultaneously to pressure ports "A" and "B".

(3) Rotate input crank clockwise and counterclockwise and check that total clockwise and counterclockwise breakout torque is 88 lb-ins. maximum for assemblies -10, -11, -12, -13, -14, -15, -16, -17 or 78 lb-ins maximum for assembly -18.

(4) With 140-160 psig hydraulic pressure applied simultaneously at pressure ports "A" and "B", rotate input crank at a rate of 1-10 degrees per second, through a complete cycle, starting from zero in a clockwise direction.

(5) Plot input torque vs. shaft rotation. Check that the curve is smooth and continuous and falls entirely within boundaries specified in Fig. 107 for assemblies -10, -11, -12 or Fig. 111 for assemblies -13, -14, -15, -16, -17 or Fig. 115 for assembly -18.

(6) Check angular travel:

CAUTION: TORQUE VALUE AT CONTACT POINTS SHALL NOT EXCEED 1400 LB-INS.

(a) Check that angular travel in the clockwise direction to reach internal stop is 31.5 degrees minimum.

(b) Check that angular travel in the counterclockwise direction to reach internal stop is 24.5 degrees minimum.

(7) Test stick nudger operation.

NOTE: Stick nudger testing does not apply to 251T2245-17, -18.

(a) Apply 140-160 psig hydraulic pressure to feel actuator pressure ports "A" and "B" simultaneously and extend the stick nudger actuator (285) by applying DC power to pins 1 and 3 of breakout box A27063-2.

(b) Rotate input crank slowly and smoothly, starting clockwise through neutral to the stops, then counterclockwise to the stops and return to the equilibrium position. Plot the value of angular displacement vs. torque. Check that the resulting plot is smooth and continuous and falls entirely within the boundaries shown in Fig. 109 for assemblies -10, -11, -12 or Fig. 113 for assemblies -13, -14, -15, -16. Adjust tension of spring (5) as required.

(c) Retract stick nudger actuator by applying DC power to pins 2 and 3 of breakout box A27063-2 and check that centerline of spring attachment clevis of crank assembly (190A) is aligned with the centerline of shaft assembly (565) within 0.03 inch.

(8) Repeat test steps (4), (5) and (6) with 140-160 psig applied to port "A" only.

(9) Repeat test steps (4), (5) and (6) with 140-160 psig applied to port "B" only.

C. Test unit with 1175-1225 psi hydraulic pressure.

(1) Apply 1175-1225 psig hydraulic pressure simultaneously to pressure ports "A" and "B".

(2) Rotate input crank ±6° at a rate of 1-10 degrees per second starting from zero in a clockwise direction.

(3) Plot input torque vs. shaft rotation. Check that the resultant curve is smooth and continuous and falls entirely within the boundaries shown in Fig. 108 for assemblies -10, -11, -12 or Fig. 112 for assemblies -13, -14, -15, -16, -17 or Fig. 116 for assembly -18.

(4) Repeat test step (1), (2) and (3) except apply 1175-1225 psig hydraulic pressure to port "A" only.

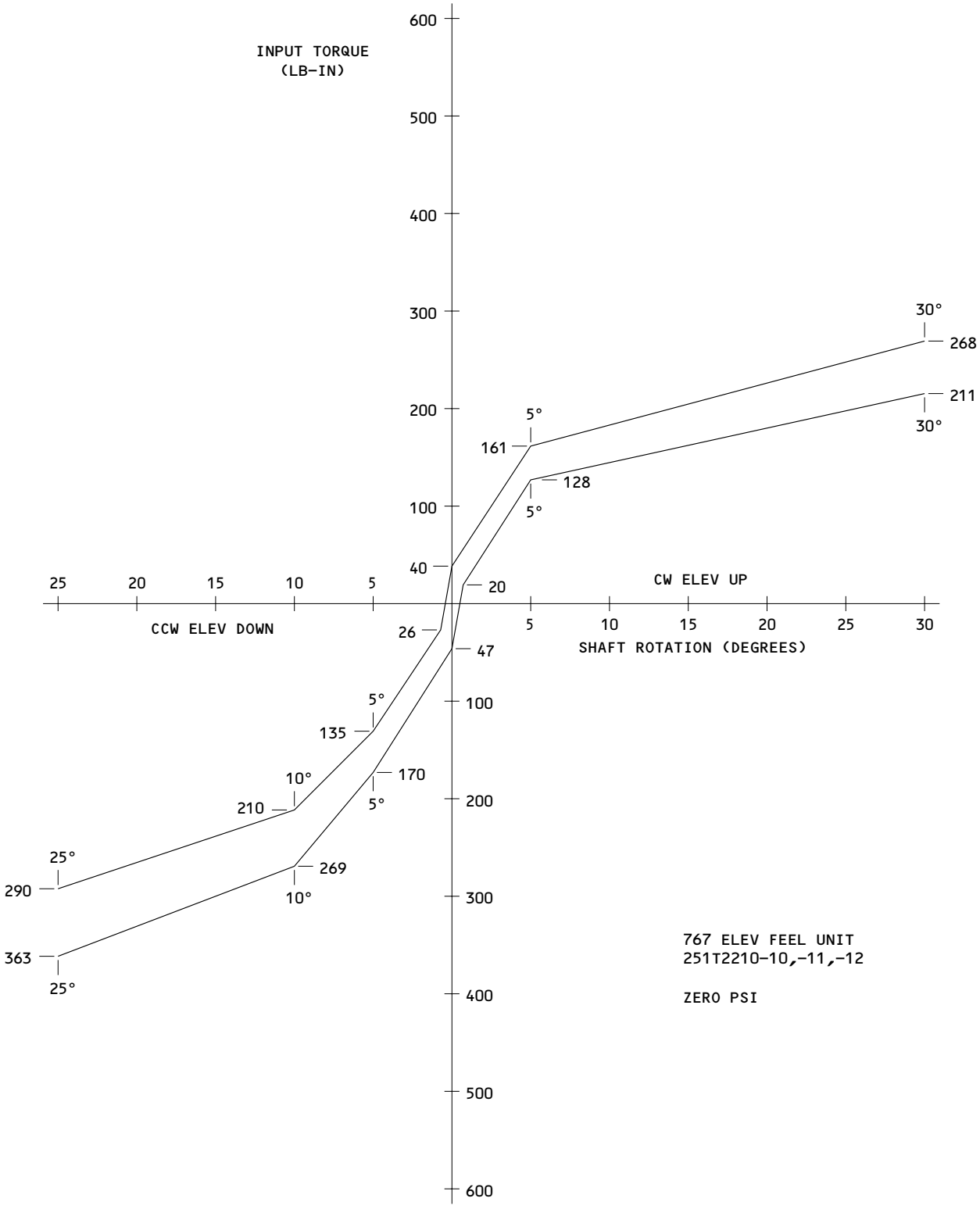
(5) Repeat test step (1), (2) and (3) except apply 1175-1225 psig hydraulic pressure to port "B" only.

D. Disconnect the first officer linkage rod from the test rig shaft arm and connect to ground point. Apply 480-520 psig hydraulic pressure simultaneously to pressure ports "A" and "B" and test as follows:

(1) Rotate input crank through a complete cycle and check for any sign of binding, rough spots or excessive friction at any point of travel.

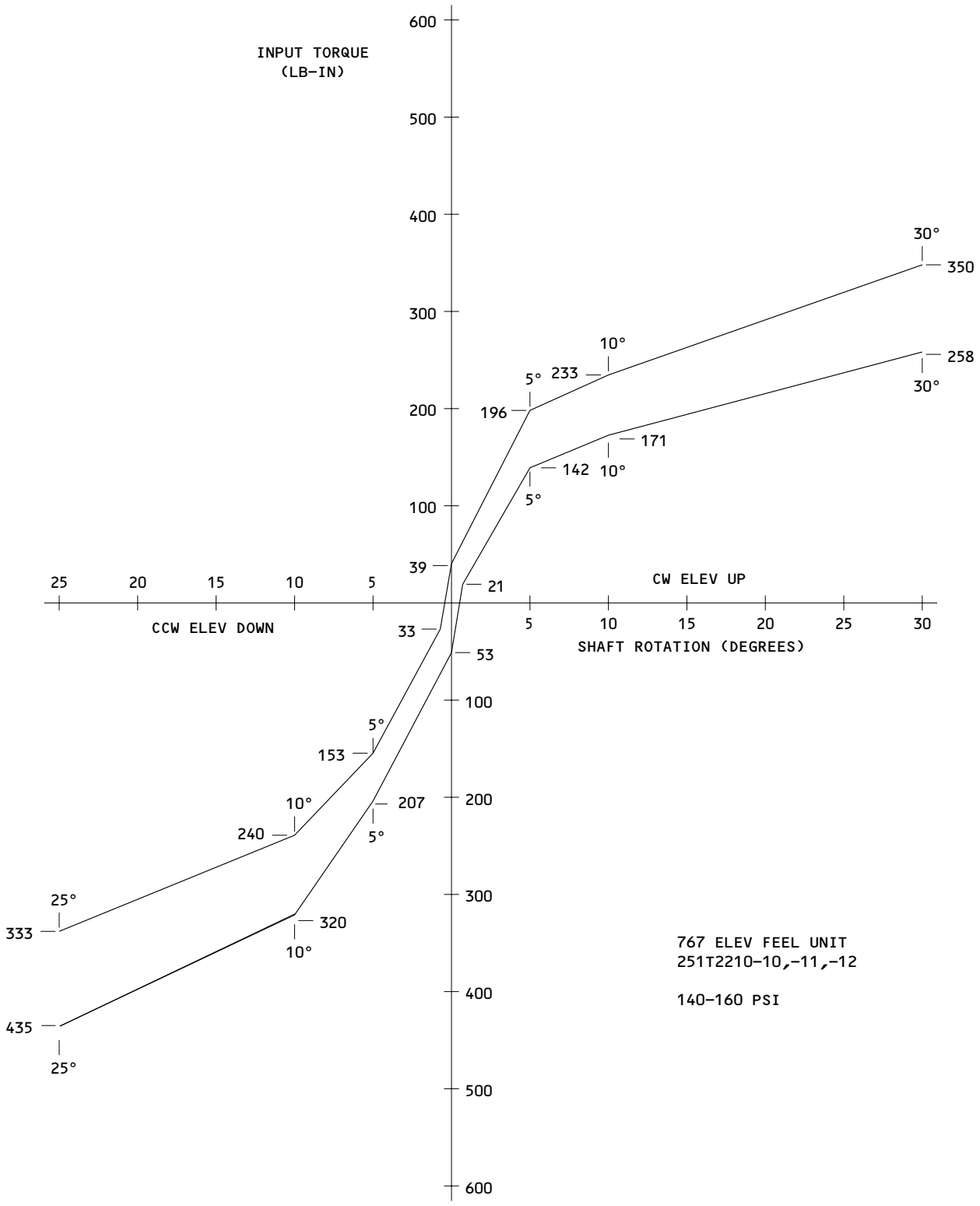
(2) Rotate input crank clockwise and check that torque is 195-315 lb-ins. when passing thru 20 degrees.

(3) Rotate input crank counterclockwise and check that torque is 195-315 lb-ins. when passing thru 20 degrees.



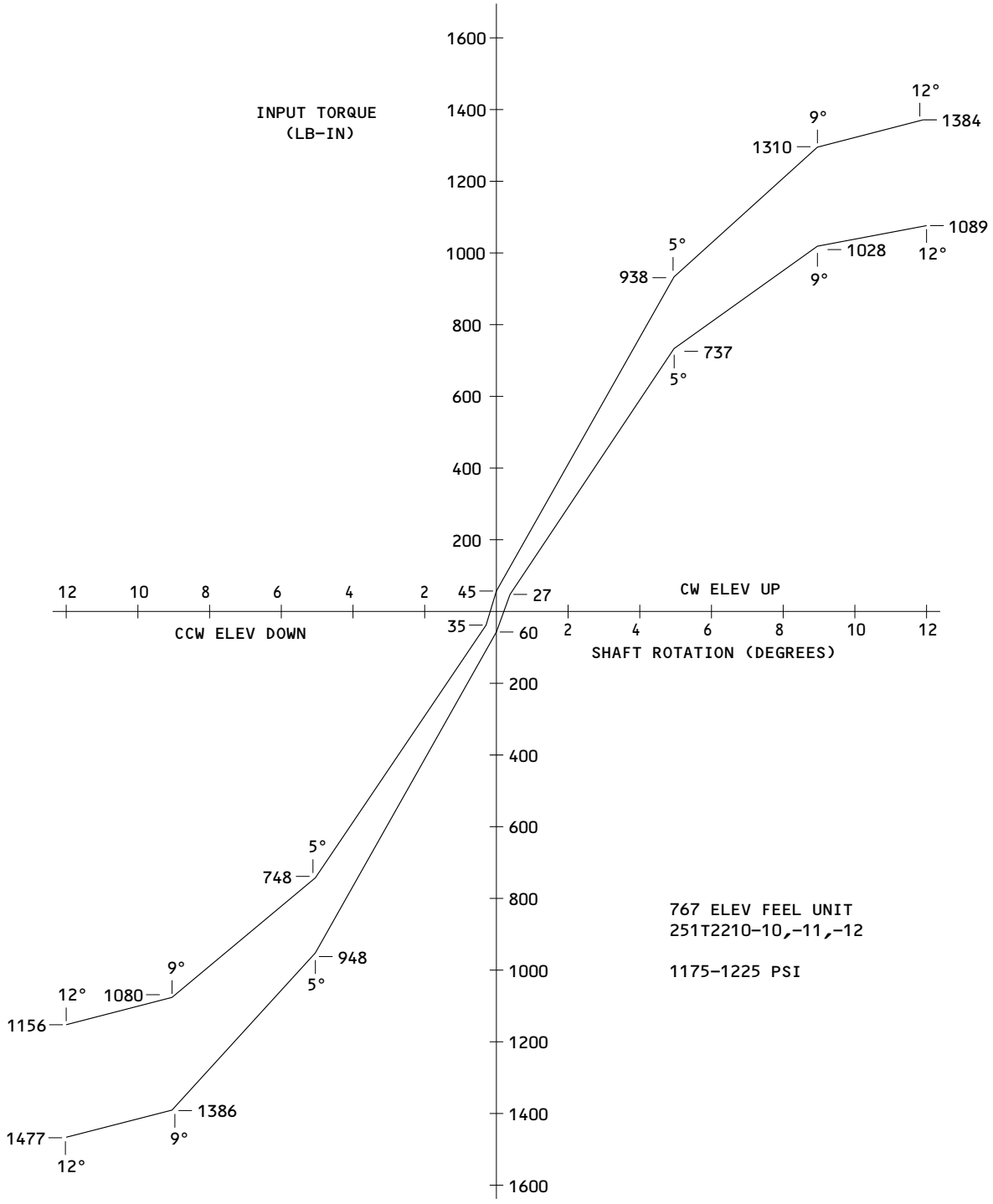
Input Torque vs Crank Rotation - Zero PSI
Figure 106

100392



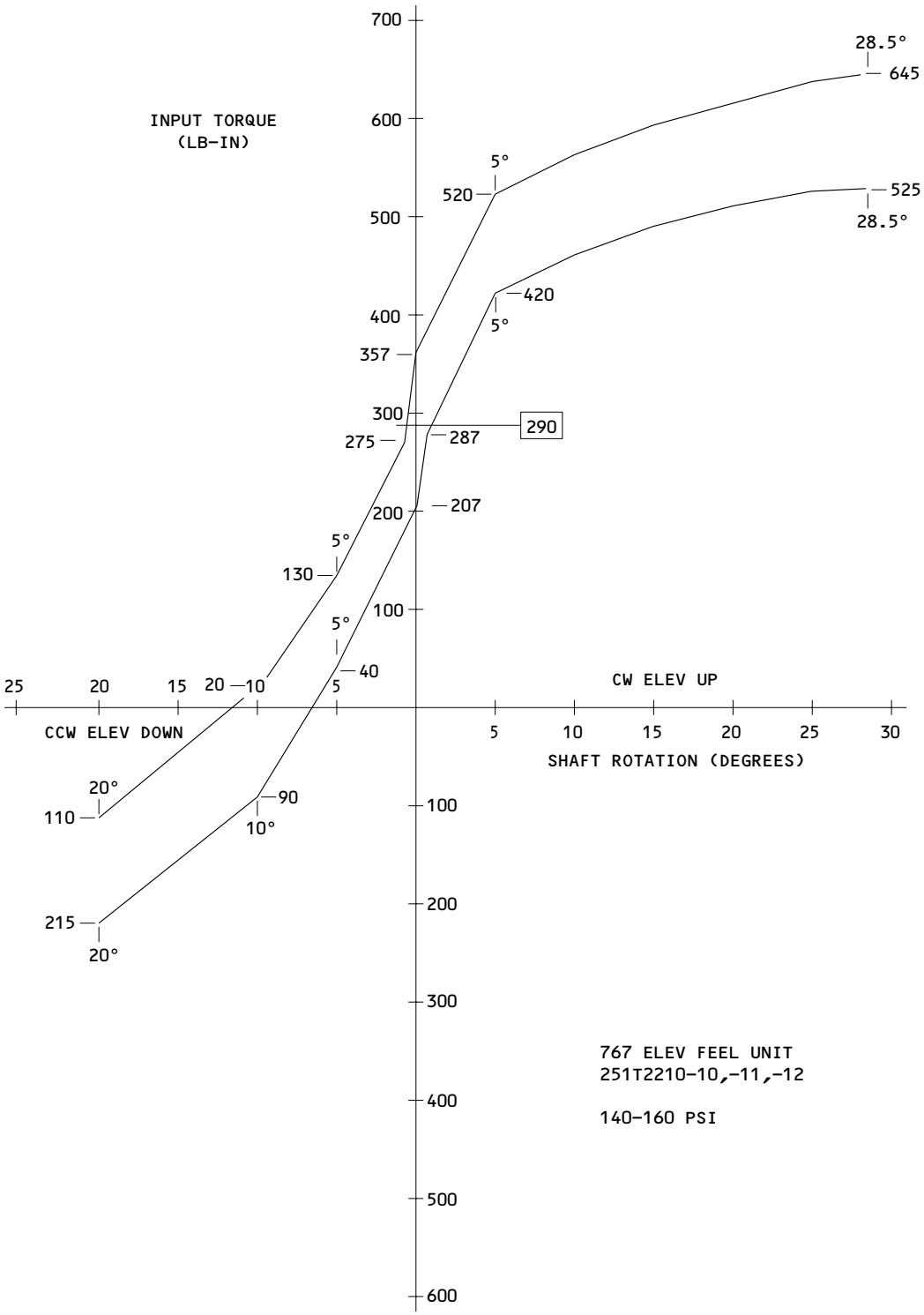
Input Torque vs Crank Rotation - 150 PSI
Figure 107

100393



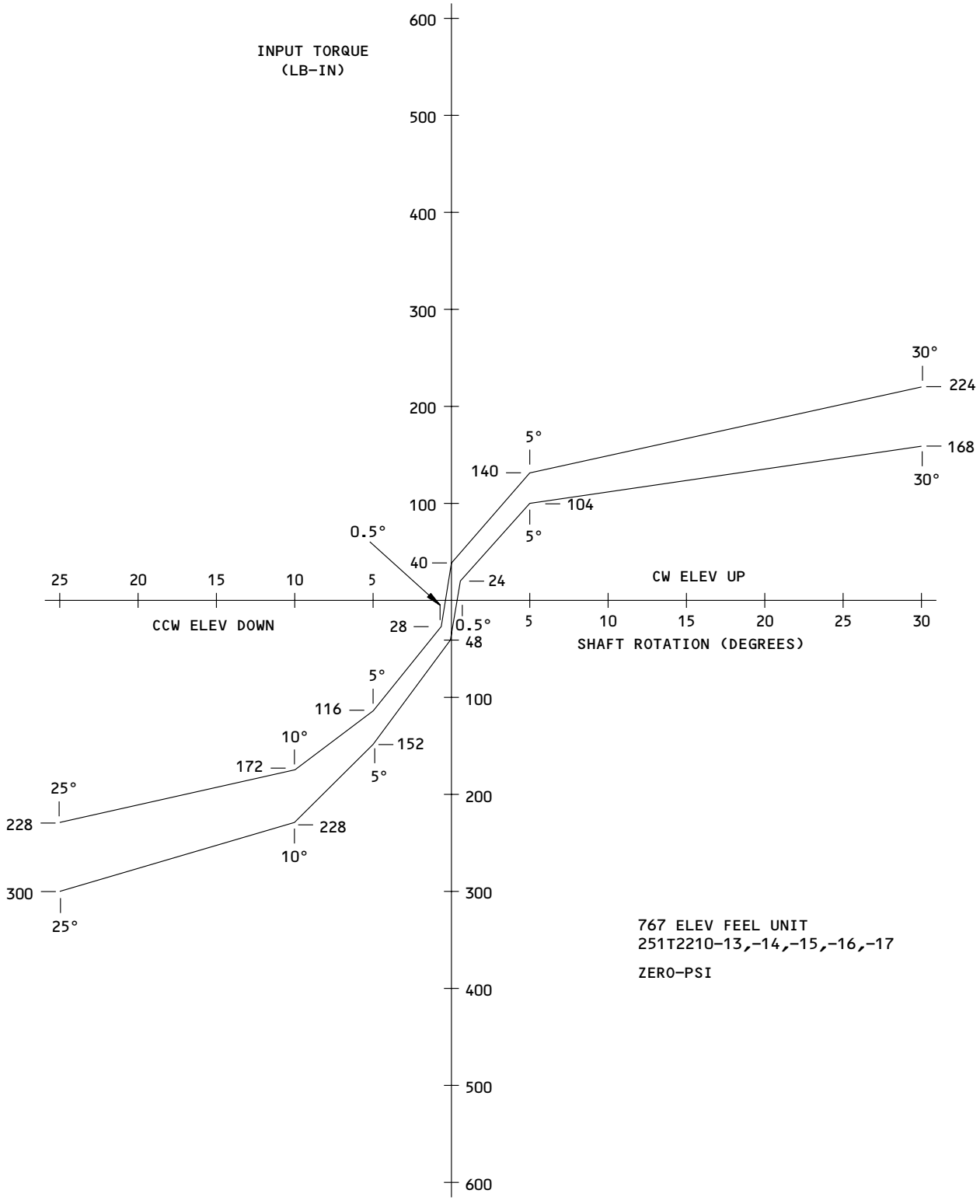
Input Torque vs Crank Rotation - 1200 PSI
Figure 108

100399



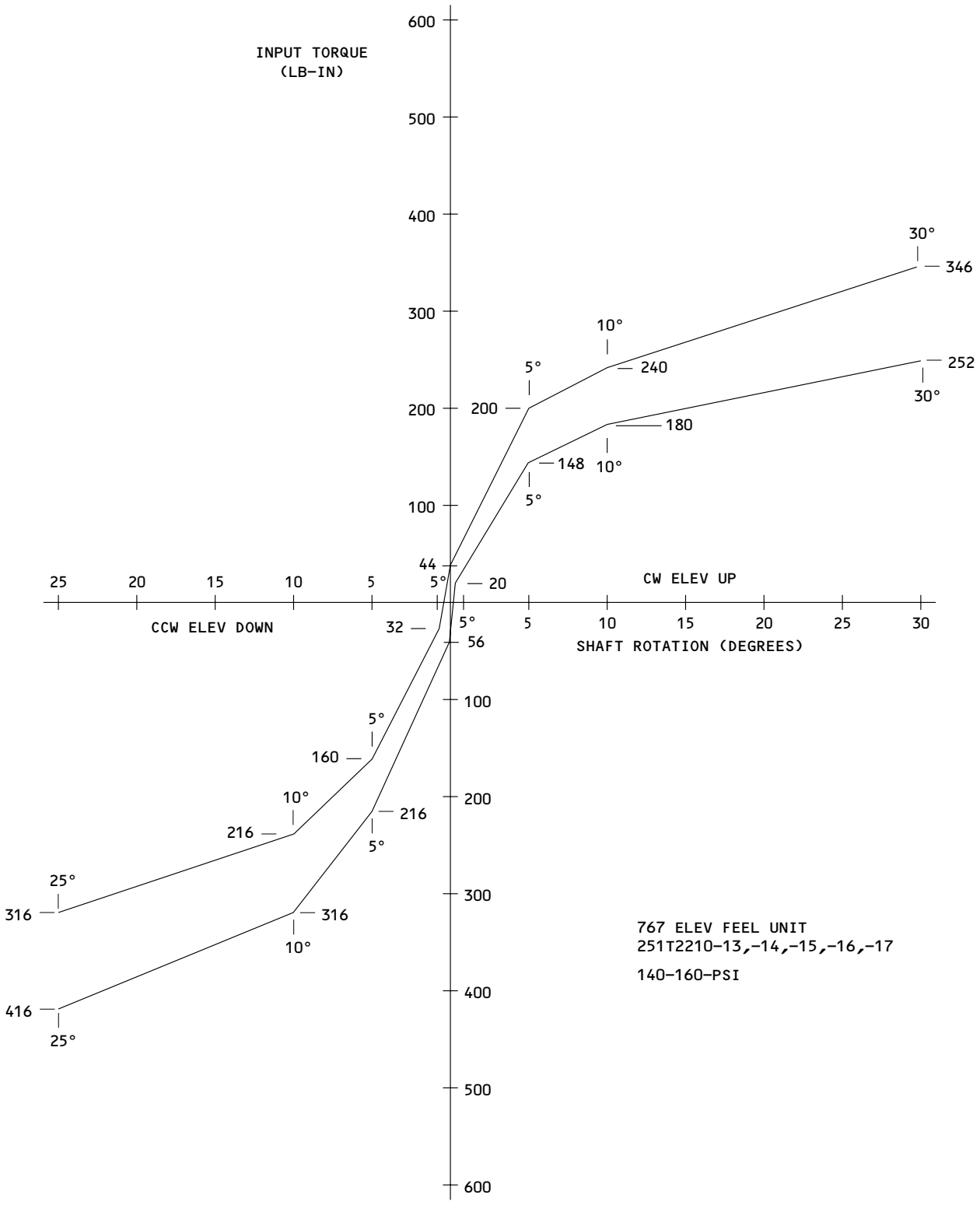
Stick Nudger Operation
Figure 109

100403



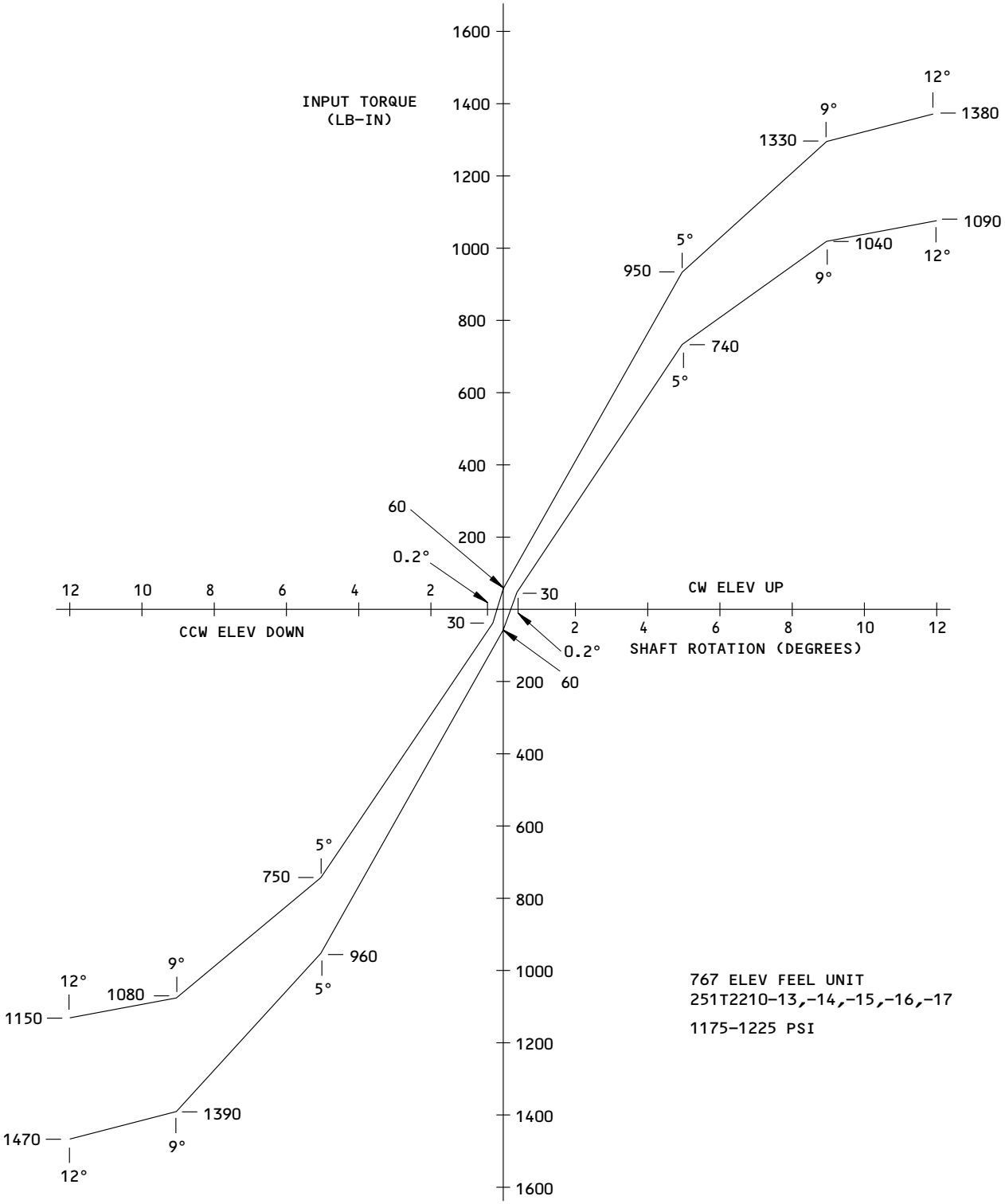
Input Torque vs Crank Rotation - Zero PSI
Figure 110

B72739



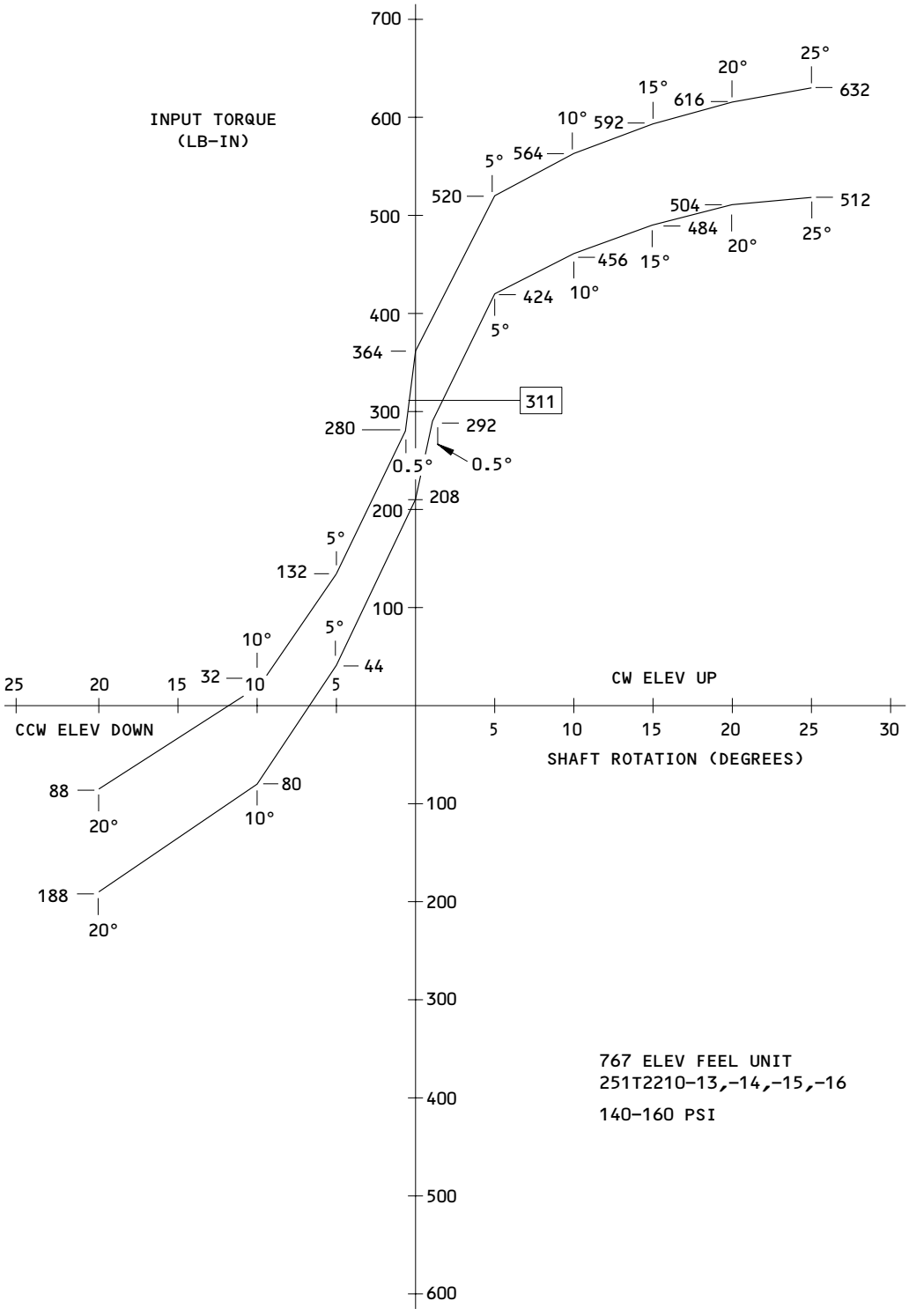
Input Torque vs Crank Rotation - 150 PSI
Figure 111

B72740



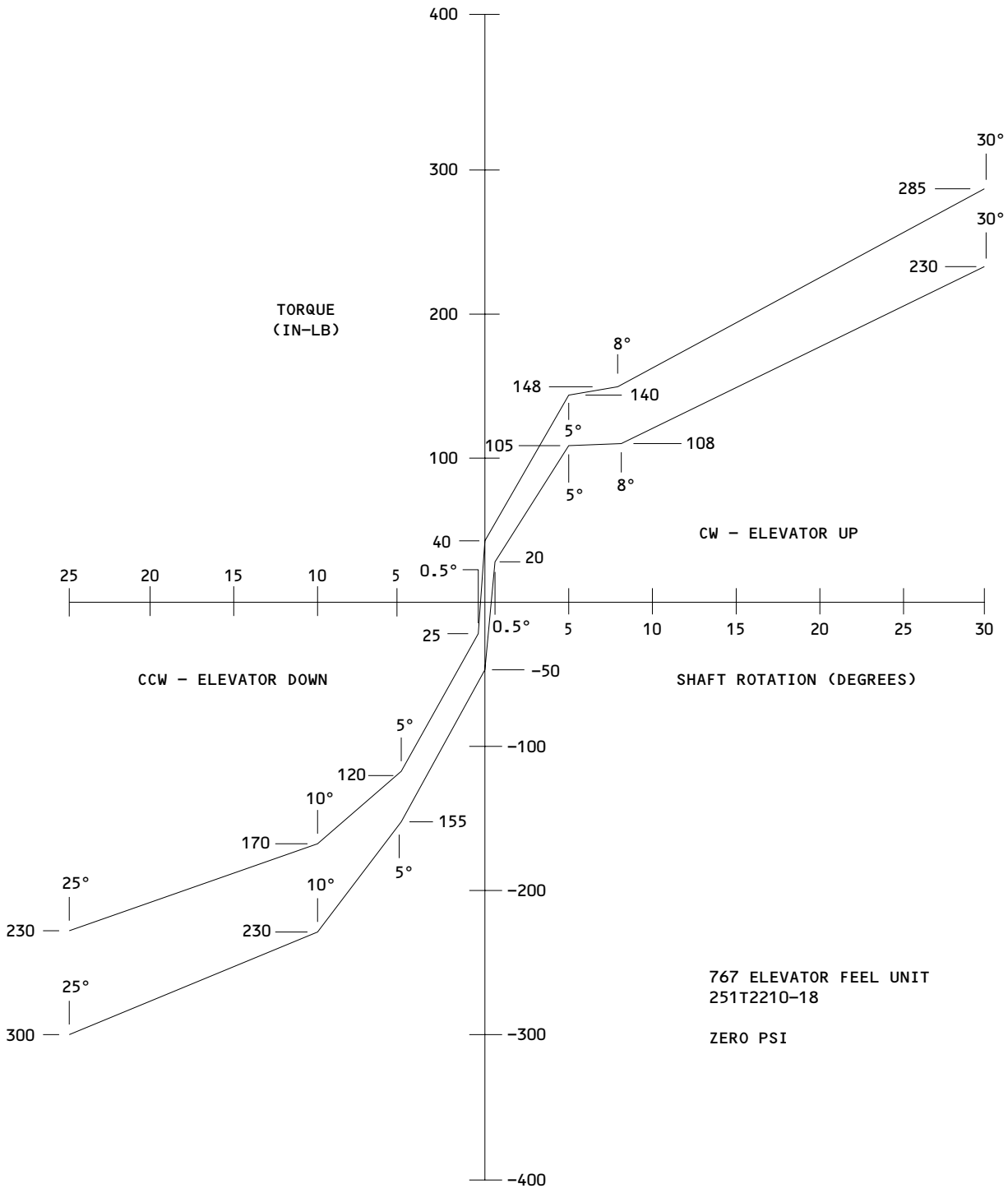
Input Torque vs Crank Rotation - 1200 PSI
Figure 112

B72741



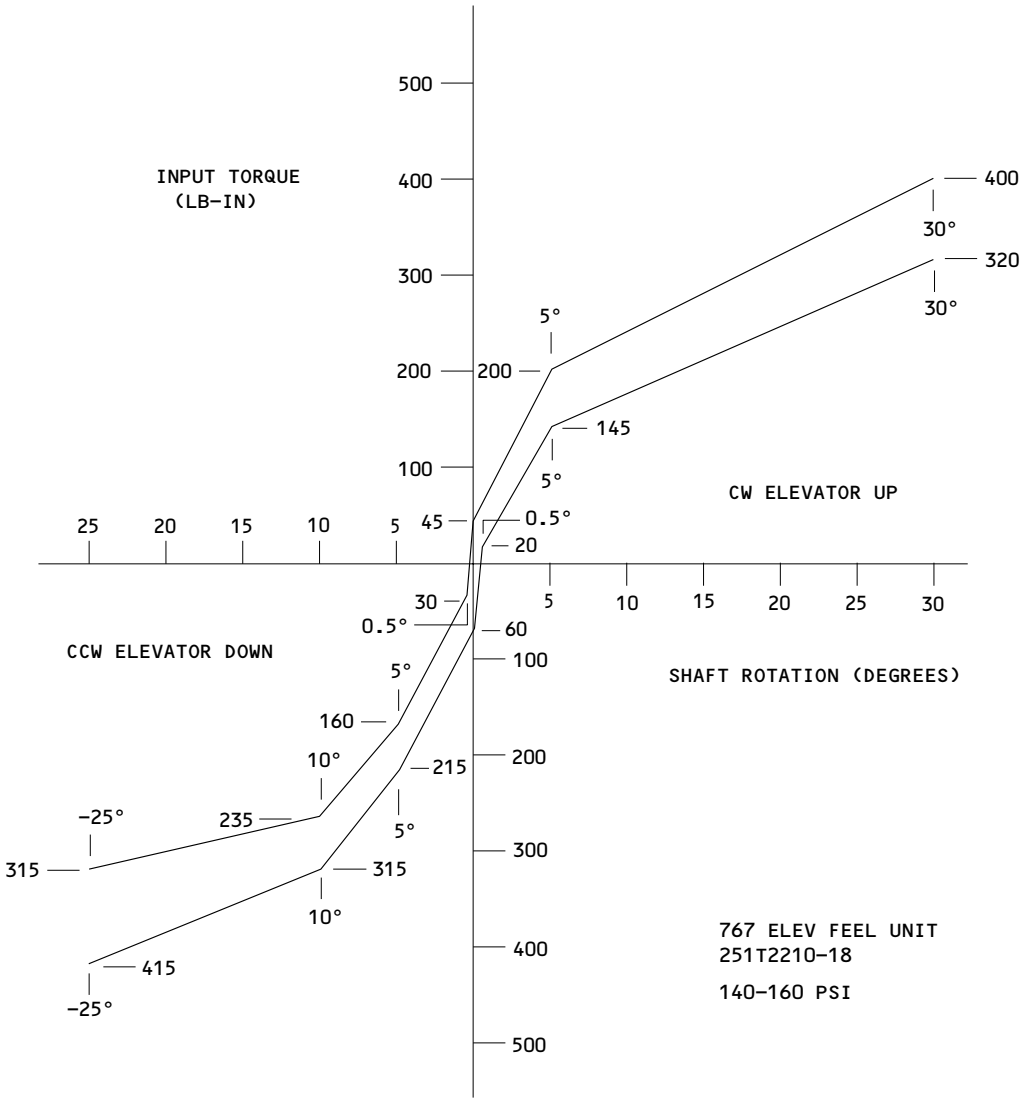
Stick Nudger Operation
Figure 113

B72784



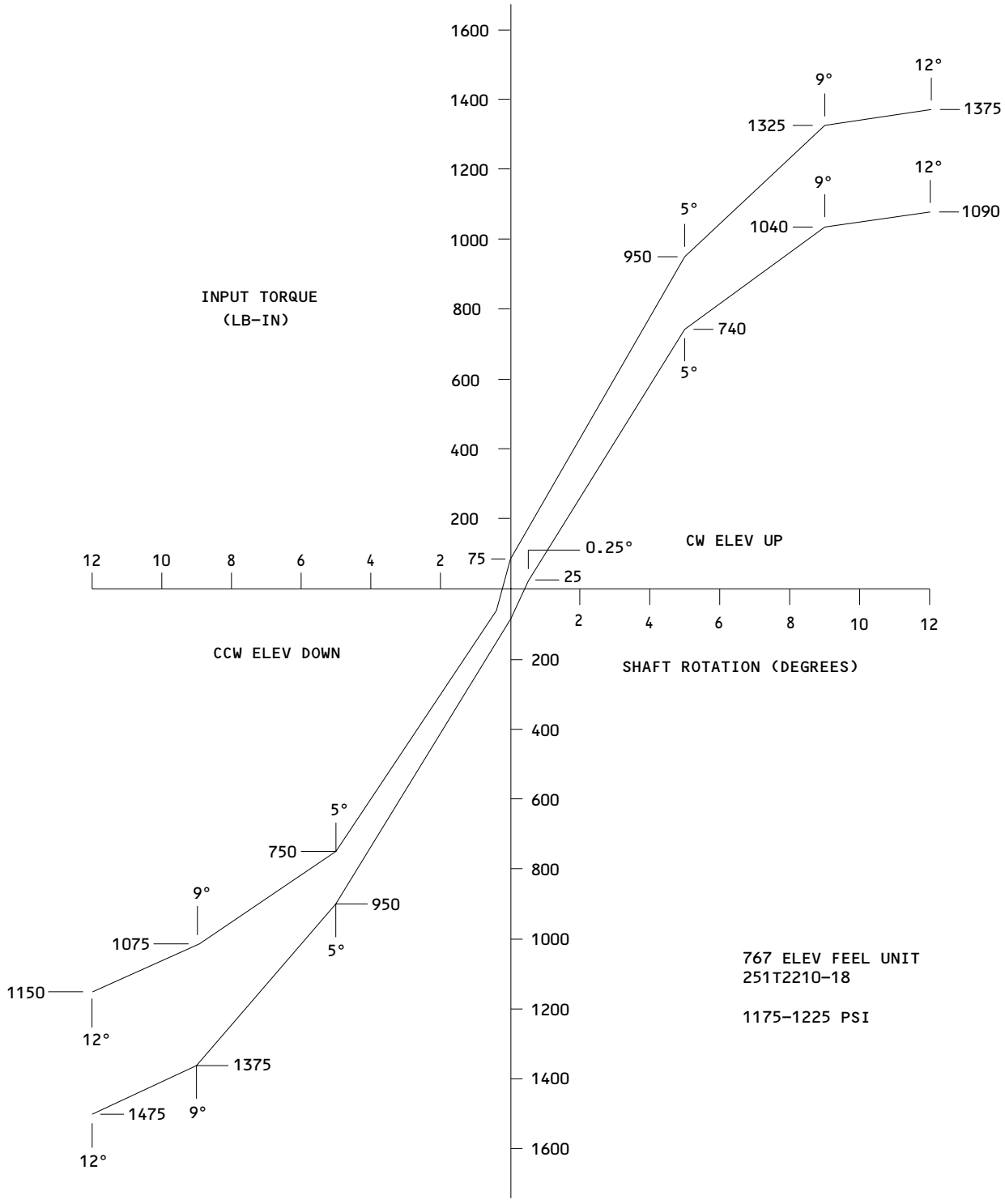
Input Torque vs Crank Rotation - Zero PSI
Figure 114

W77143



Input Torque vs Crank Rotation - 150 PSI
Figure 115

W77358



Input Torque vs Shaft Rotation - 2100 PSI
Figure 116

W77359

TROUBLE	PROBABLE CAUSE	CORRECTION
Input torque vs shaft rotation plot fallout side envelope in Fig. 102,103,104.	Defective feel and centering unit (110, IPL Fig. 1)	Disassemble and repair per steps 5.A., 5.B., 5.D.
	Defective cylinder assembly (100, IPL Fig. 1)	Disassemble and repair per steps 5.A., 5.C., 5.D.

Trouble Shooting Chart
Figure 117

5. Corrective Procedures

A. Separate cylinder assembly (100, IPL Fig. 1) from center unit assembly 110) per DISASSEMBLY par. 2.A.(1) thru 2.A.(5).

B. Disassembly centering unit (110C) per DISASSEMBLY par. 2.B.(1) thru 2.B.(19) and replace or repair defective parts. Reassemble per ASSEMBLY par. 4.A. thru 4.V.

C. Refer to CMM 27-31-15 for Testing/Trouble Shooting and repair of cylinder assembly (100).

D. Assemble centering unit assembly (110C) and cylinder assembly (100) per ASSEMBLY par.5.A. thru 5.E.

E. Retest unit per par. 3.

F. Refer to ASSEMBLY par. 5 for storage of this component.

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. Parts Replacement

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

A. Lockwire

2. Disassembly

A. Disassemble feel actuator and centering unit (IPL Fig. 1).

(1) Remove nut (20B), washer (5), bushing (10) and remove slider block (25) from retainer in cylinder assembly (100).

(2) Remove bolt (30), washer (65), and nut (90A) which secure retainer (105) to centering unit assembly (110C).

(3) Remove nuts (90A, 95A), washers (65, 75) and remove bolt assembly (35), spacer (15), bushing (85) and retainer (105).

NOTE: Do not disassemble bolt assembly (35) unless repair or replacement is necessary.

(4) Remove nuts (90A, 95A), washers (70, 80) and remove bolt assembly (50) and separate cylinder assembly (100) from centering unit assembly (110C).

(5) Remove caps (117, 127, 137), unions (115A, 125A, 130) and packings (120, 135) from cylinder assembly (100).

NOTE: Refer to CMM 27-31-15 for disassembly and repair of feel actuator cylinder assembly (100).

B. Disassemble centering unit assembly (IPL Fig. 3).

CAUTION: DO NOT DISASSEMBLE ALL BONDED ASSEMBLIES OR DAMAGE TO PARTS MAY RESULT.

(1) On items 1, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, remove stick nudger mechanism as follows:

(a) Loosen nut (10A) to release spring (5) force.

(b) Remove bolt (120), washer (125A), nut (130A) and separate link assembly (115) with attached spring (5) from crank assembly (190). Separate spring (5) from link assembly (130).

(c) Remove nut (10A), washer (15A) and link (20). Remove spring (5) from link (20).

(d) Remove nut (145) and washer (150).

(e) Remove bolt (165), washers (170A, 175), nut (180A), bushing (185) and separate crank assembly (190) and actuator (285).

(f) Remove nut (275A), washer (280) and actuator (285) from shaft (300).

(g) Remove crank assembly (190) from shaft (265). Remove bearing (155) and spacer (160) from crank assembly (190).

NOTE: Do not disassemble crank assembly (190) unless necessary for repair or replacement.

(h) On items (1, 1A, 1C), remove bolts (30), washers (35A), nuts (40A) and remove crank assembly (95) with attached spring arm assembly (60) from output shaft assembly (565). Remove bolt (45), washer (50A), nut (55A), shim (90) and separate spring arm assembly (60) from crank assembly (95).

NOTE: Do not disassemble spring arm assembly (60) or crank assembly (95) unless necessary for repair or replacement. Note thickness of shim (90) to facilitate assembly.

(i) On items (1B, 1D, 1E, 1F, 1G, 1H, 1J), remove bolts (32, 33A), washers (35A), nuts (40A) and separate crank assembly (111) from output shaft assembly (565). Remove nuts (92A), washers (93A) bearing (93G) and link (94) from crank assembly (111).

NOTE: Do not disassemble crank assembly (111) unless necessary for repair or replacement.

(j) Secure shaft (265) and remove nut (255) and washer (260B). Remove shaft (265) from housing assembly (893).

(2) Remove nuts (605A, 615A) and washers (610, 620, 625B) and free clevis assembly (630) from housing assembly (869 or 870).

NOTE: Note numbers of washer (625B) to facilitate assembly.

(3) Remove nuts (655A, 665A), washers (650, 660), bushing (670), bolt assembly (635), spring retainer (675) and springs (690, 695) from clevises (680, 685).

(4) Remove springs (690, 695) from arm assembly (370). Separate springs.

(5) On items 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, restrain shafts (300, 305) and remove nuts (290, 295). Remove shafts (300, 305), bearing housing assemblies (310), spacer (350), shim (355), arm assembly (370) and fitting (430).

(6) On item 1K, 1L, restrain shaft (305) and remove nuts (290, 295) and shaft (303). Remove shaft (305), bearing housing assemblies (310), spacer (350), shim (395), arm assembly (370) and bushing (435).

(7) Remove bolt assemblies (375), washers (390, 400), nuts (395, 405), bushing (410), spring retainer (420) and bearing (415) from arm (425).

(8) Remove nuts (40A, 450A), washers (35A, 445A), bolts (30, 440) and remove crank assembly (97) and cam assembly (455) from output shaft assembly (540).

NOTE: Do not disassemble crank assembly (97) or cam assembly (455) unless necessary for repair or replacement.

(9) Remove housing assemblies (869 or 870, 893).

(a) Remove bolts (700, 705), washers (710, 730) and nuts (735A).

(b) Remove bolts (210), washers (215A), nuts (220A) and fitting assembly (225) from housing assemblies (869 or 870, 893).

(c) On reworked centering unit assemblies (1, 1A, 1C, 1D), remove bolt (230), washer (235A), nut (250A), bushings (240, 245) and plates (275).

(d) On 251T2245-8 assembly (1B), remove bolt (858), bushing (861), washer (864A) and nut (867A).

(e) Remove bolts (851, 857), bushings (860 or 861), washers (863A), nuts (866A) and spacer (854).

(f) Remove inner shafts (750, 755) from outer shafts (740, 745). Remove washers (720, 725).

NOTE: Inner and outer shafts (740 thru 755) are left-hand threaded.

(g) Remove housing assembly (869 or 870) and bushings (715).

(h) Relieve spring (809) force by pulling lever assemblies (770, 812) outward and remove housing assembly (893) and outer shafts (740, 745). Remove outer shafts (740, 745) and bushings (715) from housing assembly (893).

(10) Remove spring (809). Remove bolts (795), washers (800A), nuts (803A) and bearings (806) from lever assemblies (770, 812).

(11) Remove collars (530 thru 534), bolts (465), nuts (535A), hollow bolts (470), bushings (480, 485) and separate lever assemblies (770, 812) from link assemblies (827, 830).

(12) Remove bearing (760), bushings (765) from lever assemblies (770, 812).

NOTE: Do not disassemble lever assemblies (770, 812) unless necessary for repair or replacement.

(13) Remove collars (530 thru 534), bolts (490, 495, 496, 497), nuts (535A), hollow bolts (500, 505), bushings (520, 525) and link assemblies (827, 830).

(14) Remove collars (530), bolts (490, 495, 496, 497), nuts (535A), hollow bolts (500, 505), bushings (515, 520), washers (510) and tie assemblies (845, 848).

(15) Separate shaft assemblies (540, 565) and shaft (560).

CLEANING

1. Clean all parts except teflon sealed bearings using standard industry practices and information contained in 20-30-03.

2. Clean teflon sealed bearings per manufacturer's instruction.

CHECK

1. Check all parts for obvious defects in accordance with standard industry practices. Refer to FITS AND CLEARANCES for design dimensions and wear limits.

2. Magnetic particle check per 20-20-01 the following listed parts:

   A. Spacer (15, IPL Fig. 1)

   B. Shafts (265, 300, 303, 305, 740, 745, 750, 755 IPL Fig. 3)

   C. Cam assembly (455)

   D. Tie assemblies (845, 848)

   E. Springs (5, 690, 695, 809)

   F. Links (20, 80 or 94)

3. Penetrant check per 20-20-02 the following listed parts:

   A. Hollow bolts (45, 60, IPL Fig. 1; 385, 470, 500, 505, 645, IPL Fig. 3)

   B. Housing assembly (340)

   C. Retainer (420)

   D. Crank (110, 114G, 205)

   E. Bonded assemblies (555, 595, 790, 824, 839, 842)

   F. Shaft (560)

   G. Fitting (430)

   H. Spring arm (85)

4. Check springs per Fig. 501.

ITEM NO. IPL FIG. 3	TEST LENGTH (INCHES)	ALLOWABLE LOAD LIMIT (POUNDS)
5, 5A, 5B (251T2152-1, -2)	6.5 9.21	41.08 - 49.08 129.63 - 149.63
690 (251T2283-1)	7.06 9.06	7.2 - 8.8 54 - 66
690A, 690B (251T2342-1)	7.06 9.06	7.2 - 8.8 37.7 - 45.9
695 (251T2282-1)	7.46 9.46	11 - 13 81 - 99
695A, 695B, 695C, 695D (251T2343-1, -2)	7.46 9.46	10.8 - 13.2 70.8 - 86.6
809 (251T2127-1)	7.96 11.25	9 - 11 71 - 87
809A (251T2344-1)	8.25 11.25	23.7 - 26.3 52.5 - 57.5

Spring Check Chart
Figure 501

REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
251T2240	SHAFT, OUTPUT	1-1
251T2241	SHAFT, OUTPUT	2-1
251T2244	HOUSING, BEARING	3-1
251T2247-1, -3	HOUSING	4-1
251T2247-10	HOUSING	5-1
251T2252	CAM	6-1
251T2255	CRANK	7-1
251T2263	ARM	8-1
251T2265	LEVER	9-1
- - -	DELETED	10-1
251T2270	SHAFT	11-1
251T2271	LEVER	12-1
251T2277	LINK	13-1
251T2285	SHAFT, OUTER	14-1
251T2286	SHAFT, INNER	15-1

P/N	NAME	REPAIR
251T2146-1	SHAFT	16-1
251T2146-2,-3	SHAFT	17-1
251T2148	CRANK	18-1
251T2149	ARM	19-1
251T2156	CRANK	20-1
251T2247-11	HOUSING	21-1
69B83099	LINK	22-1
69B83132	LINK	23-1
- - -	MISC PARTS REFINISH	24-1
BAC27TCT0007	MARKER	25-1

2. Standard Practices

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

20-10-04 Grinding of Chrome Plated Parts
20-30-02 Stripping of Protective Finishes
20-41-01 Decoding Table for Boeing Finish Codes
20-42-01 Low Hydrogen Embrittlement Cadmium Plating
20-42-03 Hard Chrome Plating
20-42-05 Bright Cadmium Plating
20-43-01 Chromic Acid Anodizing
20-50-03 Bearing Installation and Retention

3. Materials

NOTE: Equivalent substitutes may be used.

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

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

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

4. Dimensioning Symbols

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

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

EXAMPLES

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

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

True Position Dimensioning Symbols
Figure 601

242346

SHAFT ASSEMBLY, OUTPUT - REPAIR 1-1

251T2240-5, -7, -9

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of bond assembly which may consist of stripping and restoration of original finish, refer to Refinish instructions, Fig. 601

Item numbers refer to IPL Fig. 3

1. Bearings (575), Sleeves (570) Replacement (Fig. 601)

   A. Remove bearings and sleeves.

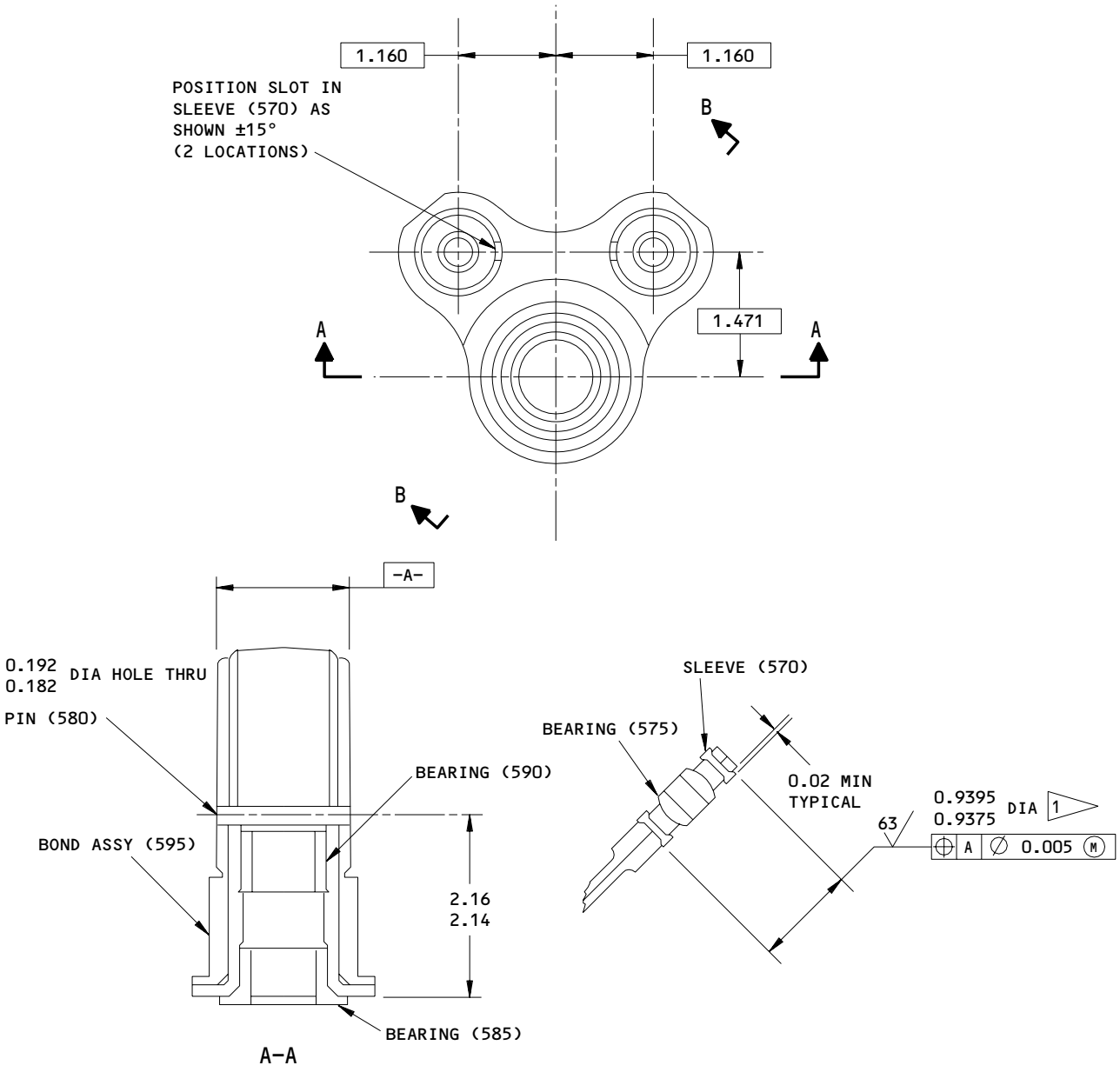
   B. Install replacement bearings and sleeves per 20-50-03. Position sleeves as shown and roller swage per 20-50-03.

2. Bearings (585, 590), Pin (580) Replacement (Fig. 601)

   A. Remove pin and bearings.

   B. Drill 0.182-0.192-inch diameter thru bond assembly at dimension shown and break edges 0.008 radius, as applicable.

   C. Install replacement bearings per 20-50-03 and install pin. Check that pin is flush within +0.000/-0.030 both sides.



REFINISH

BOND ASSY (595):

CHROMIC ACID ANODIZE (F-17.04) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ON ALL MACHINED SURFACES EXCEPT AS NOTED IN 1

1 OMIT PRIMER THIS SURFACE

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

251T2240-5,-7,-9
Bearing Replacement and Shaft Refinish
Figure 601

24452

SHAFT ASSEMBLY, OUTPUT - REPAIR 2-1

251T2241-1, -3, -5

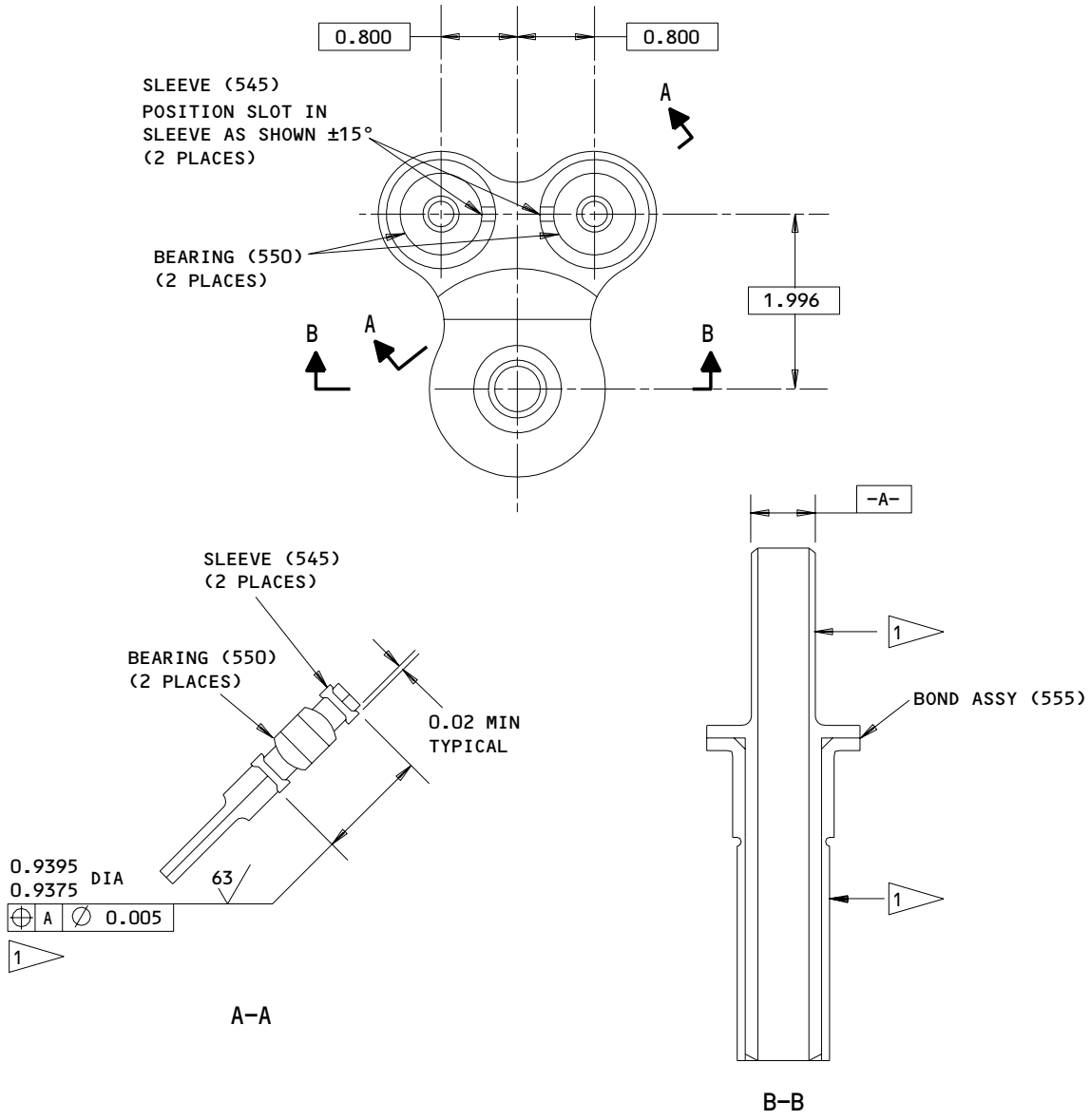
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of bond assembly which may consist of stripping and restoration of original finish, refer to Refinish instructions, Fig. 601

Item numbers refer to IPL Fig. 3.

1. Bearings (550), Sleeves (545) Replacement (Fig. 601)

   A. Remove bearings and sleeves.

   B. Install replacement bearings and sleeves per 20-50-03. Position slot in sleeves as shown and roller swage per 20-50-03.



REFINISH

BOND ASSY (555):

CHEMICAL TREAT (F-17.15) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ON ALL MACHINED SURFACES EXCEPT AS NOTED BY 1

1 OMIT PRIMER THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 3

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

Bearing Replacement and Shaft Refinish
Figure 601

24467

HOUSING ASSEMBLY, BEARING - REPAIR 3-1

251T2244-1

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

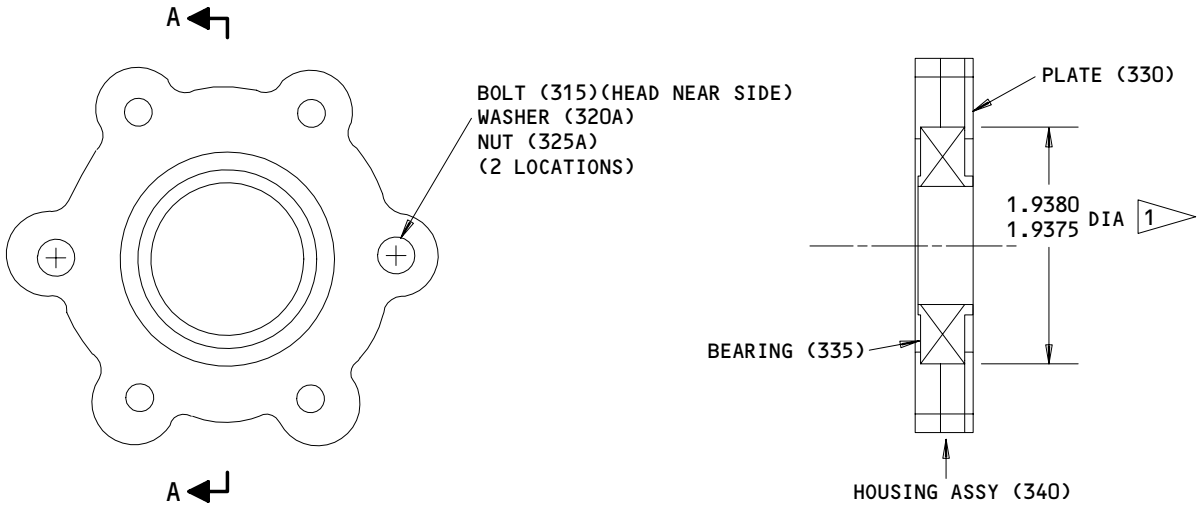
Item numbers refer to IPL Fig. 3

1. Bearing (335) Replacement (Fig. 601)

A. Remove bolts (315), washers (320A), nuts (325A) and plate (330) and press out bearing (335).

B. Install replacement bearing per 20-50-03 except use wet primer.

C. Install plate (330) and bolts (315), washers (320A), nuts (325A). Install bolts in the direction shown.



REFINISH

HOUSING ASSY (340):
CHEMICAL TREAT (F-17.10) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ON ALL MACHINED SURFACES EXCEPT OMIT PRIMER IN AREA INDICATED BY 1

ITEM NUMBERS REFER TO IPL FIG. 3
MATERIAL: AL ALLOY
ALL DIMENSIONS ARE IN INCHES

Bearing Replacement
Figure 601

24474

HOUSING ASSEMBLY - REPAIR 4-1

251T2247-1, -3

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

Item numbers refer to IPL Fig. 3.

1. Bearing (887) Replacement (Fig. 601)

   A. Remove rivets (881) and retainer (884) then press out bearing (887).

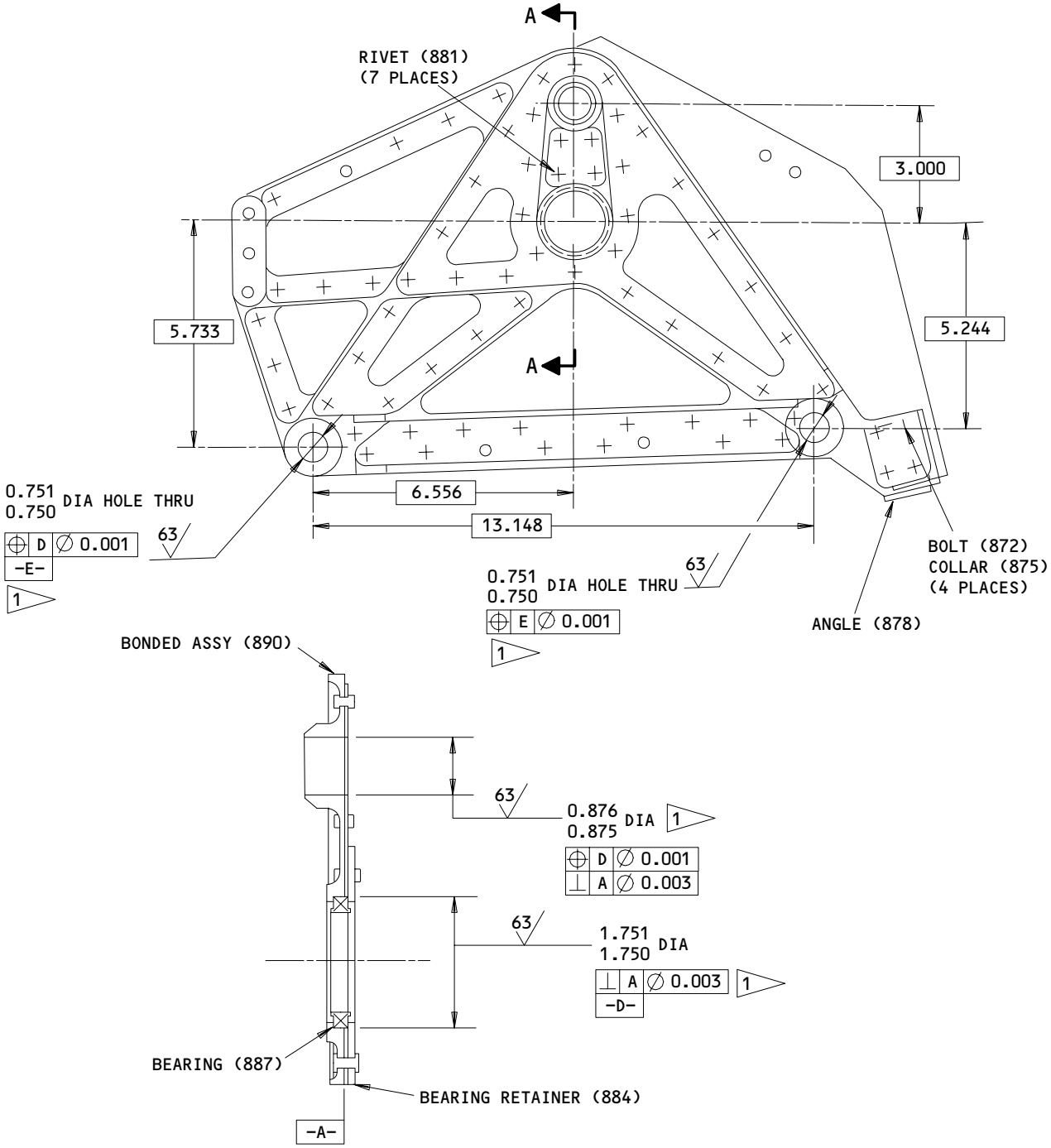
   B. Install replacement bearing per 20-50-03.

   C. Install retainer (884) and secure with rivets (881).

2. Angle (878) Replacement (Fig. 601)

   A. Remove bolts (872) and collars (875) and angle (878).

   B. Install angle (878) and secure with bolts (872) and collars (875).



A-A

REFINISH

CHROMIC ACID ANODIZE (F-17.04) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ON ALL MACHINED SURFACES EXCEPT OMIT PRIMER ON AREA INDICATED BY 1

ITEM NUMBERS REFER TO IPL FIG. 3

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

251T2247-1,-3

Parts Replacement and Housing Refinish
Figure 601

HOUSING ASSEMBLY - REPAIR 5-1

NO ASSIGNED P/N (REWORKED FROM 251T2247-9)

251T2247-10

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

Item numbers refer to IPL Fig. 3.

1. Bearing (902) Replacement (FIg. 601)

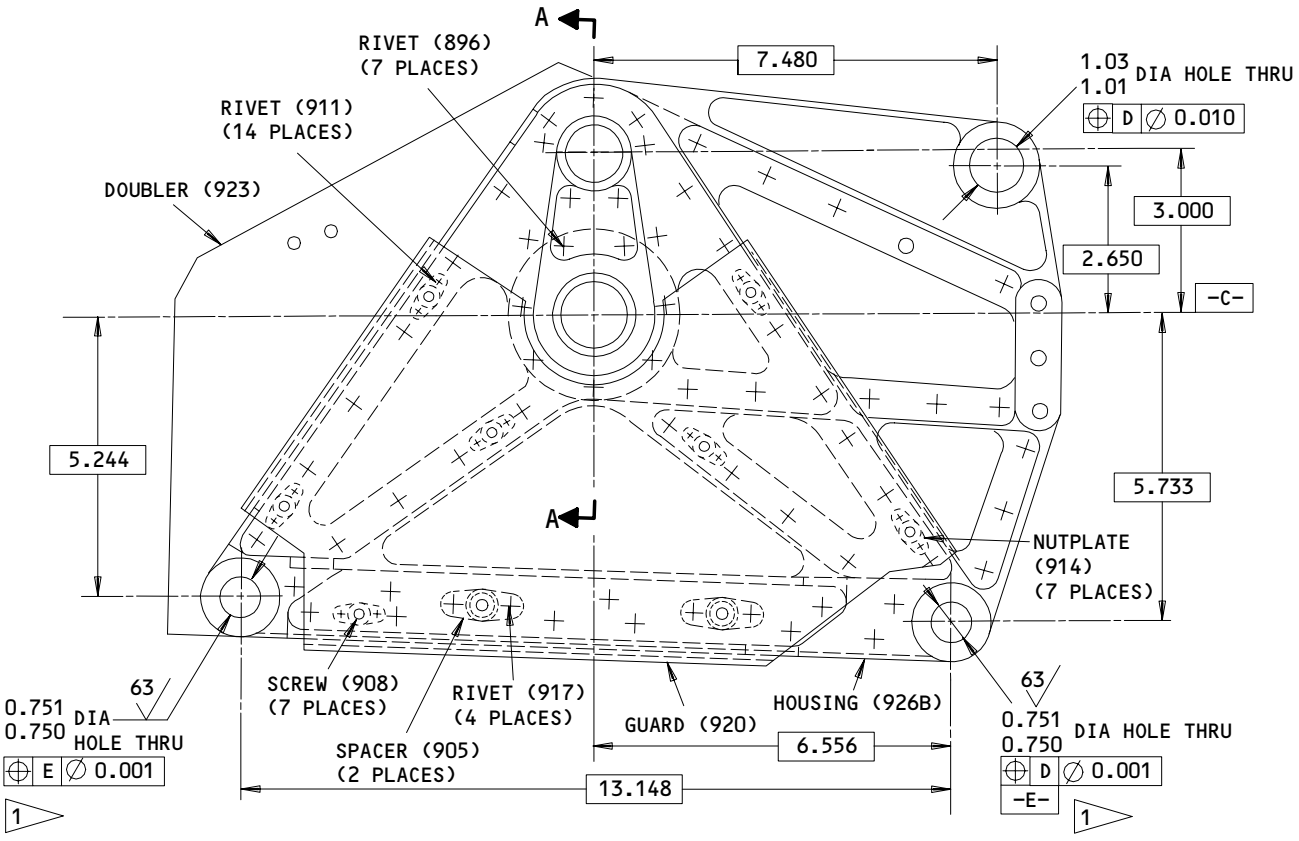
   A. Remove screws (908) and guard (920).

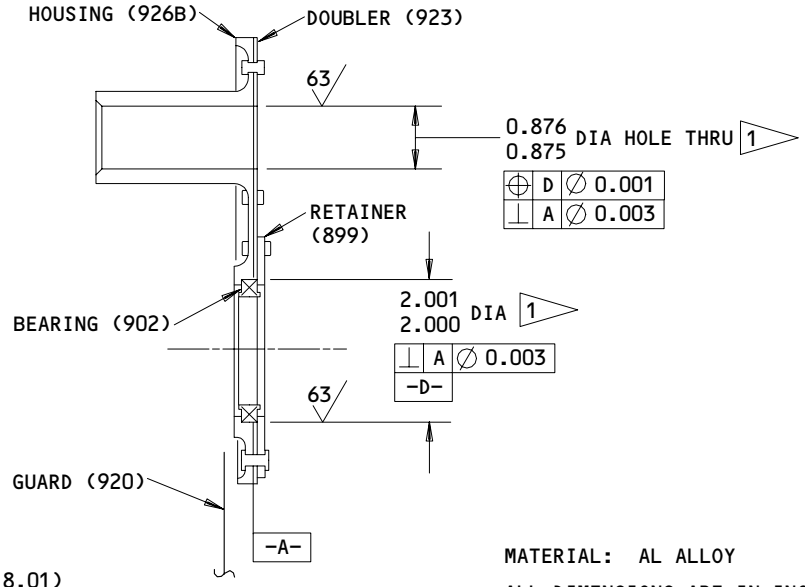
   B. Remove rivets (896) and retainers (899). Press out bearing (902).

   C. Install replacement bearing per 20-50-03.

   D. Install retainer (899) and rivets (896).

   E. Install guard (920) and secure with screws (908).





A-A

REFINISH

TOUCH UP WITH BRUSH ALODINE
AND APPLY 1 COAT OF PRIMER, (F-18.01)
ON ALL MACHINED SURFACES EXCEPT OMIT
PRIMER IN AREA INDICATED BY 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

ITEM NUMBERS REFER TO IPL FIG. 3

NO ASSIGNED P/N (REWORKED FROM 251T2247-9
251T2247-10
Bearing Replacement and Housing Refinish
Figure 601

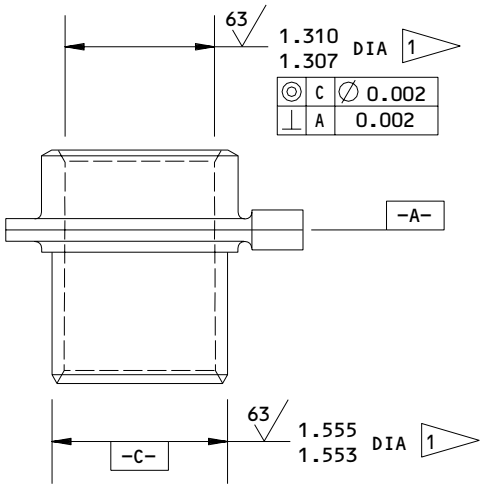
24499

CAM ASSEMBLY - REPAIR 6-1

251T2252-1, -3, -5, -6, -7, -8

1. Plating Repair

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



REFINISH

PASSIVATE (F-17.09) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ALL OVER EXCEPT AS NOTED

1 NO PRIMER THIS SURFACE

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Cam Refinish
Figure 601

CRANK ASSEMBLY - REPAIR 7-1

251T2255-1, -3

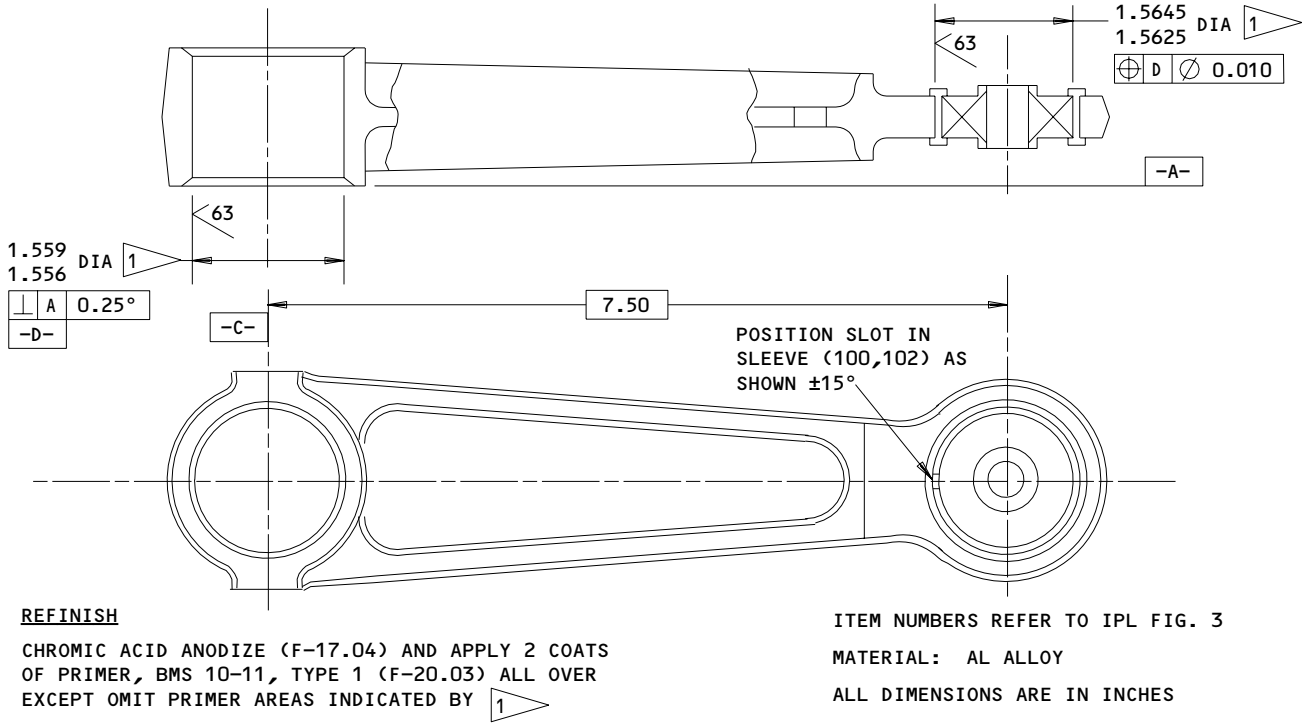
NOTE: Refer to REPAIR-GEN for list of appicable standard practices. For repair of crank which may only consist of stripping and restoration of original finish, refer to Refinish instructions, Fig. 601.

Item numbers refer to IPL Fig. 3.

1. Bearing (105, 107), Sleeve (100, 102) Replacement (Fig. 601)

   A. Remove bearing and sleeve.

   B. Install replacement bearing and sleeve as shown and roller swage per 20-50-03.



Bearing Replacement and Crank Refinish
Figure 601

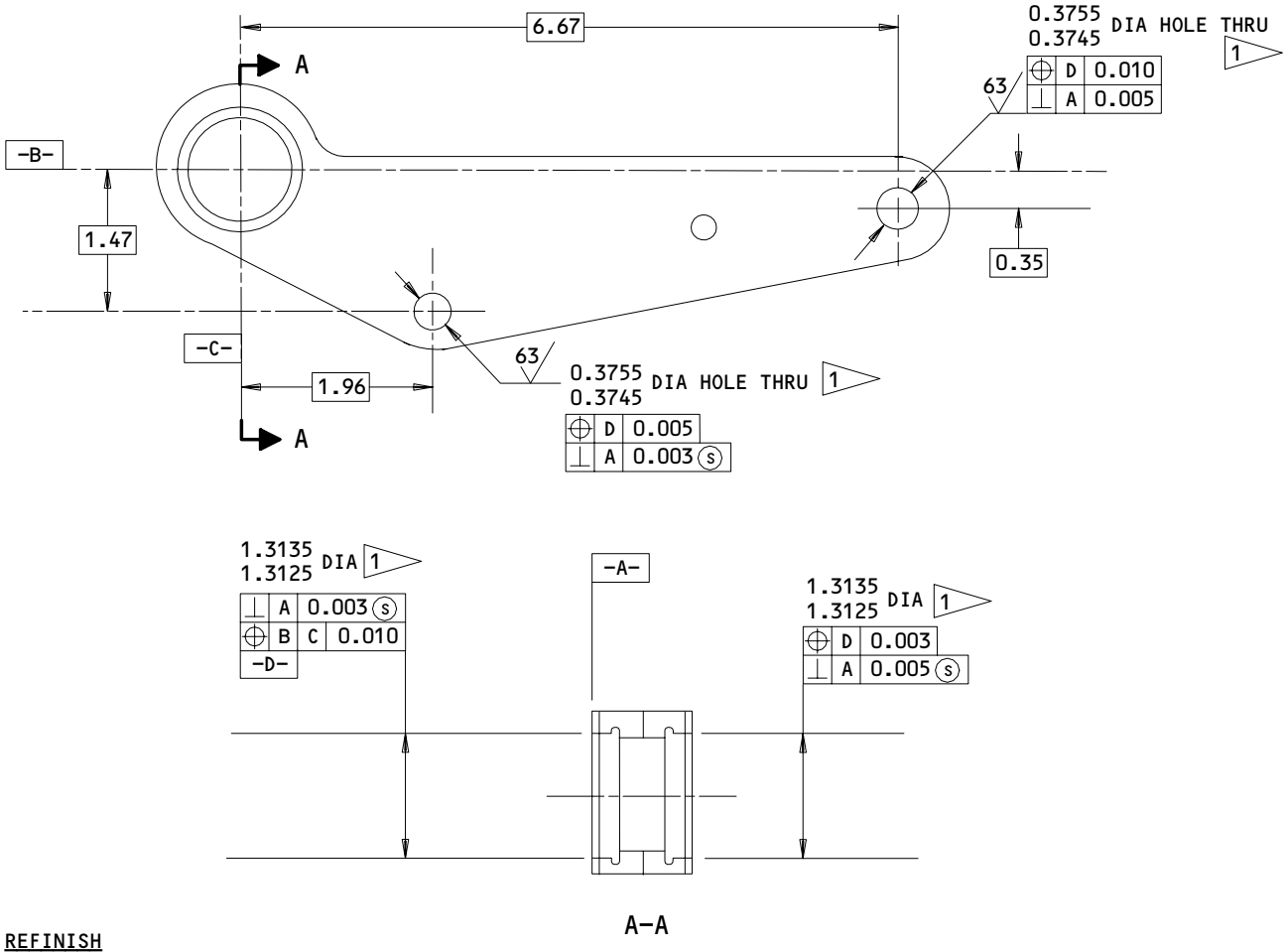
24518

ARM - REPAIR 8-1

251T2263-2, -5

1. Plating 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

REFINISH

CHROMATE ACID ANODIZE (F-17.04) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ALL OVER EXCEPT AS NOTED

1 OMIT PRIMER THIS SURFACE

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

Arm Refinish
Figure 601

24527

LEVER ASSEMBLY - REPAIR 9-1

251T2265-1, -2, -15

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

Item numbers refer to IPL Fig. 3.

1. Bearing (780), Sleeve (775) Replacement (Fig. 601)

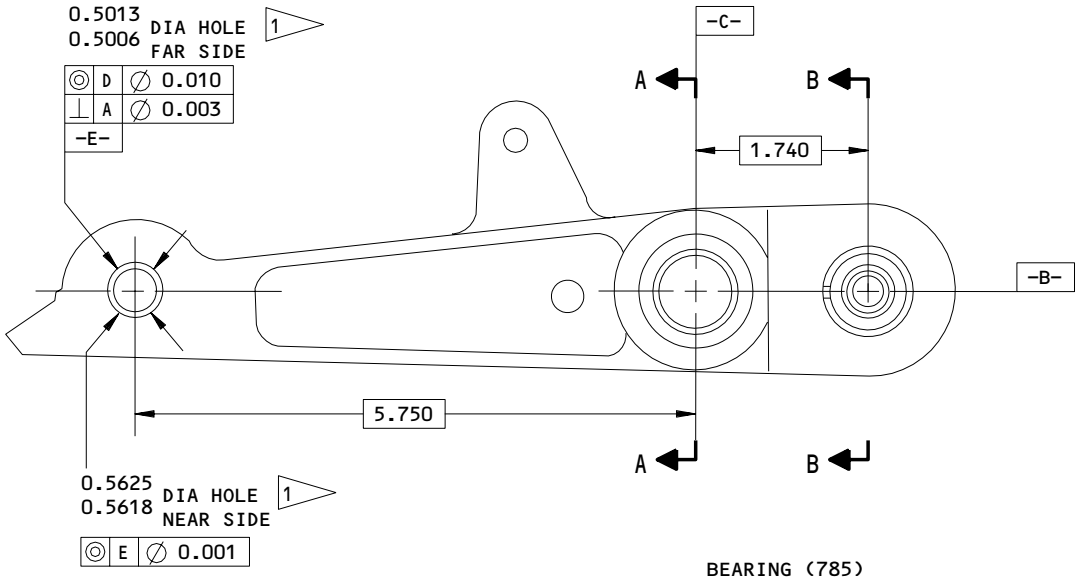
   A. Remove bearing and sleeve.

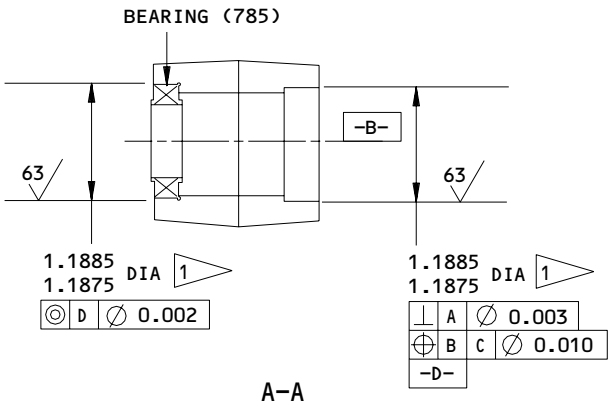
   B. Install replacement bearing and sleeve per 20-50-03. Roller swage sleeve per 20-50-03.

2. Bearing (785) Replacement (Fig. 601)

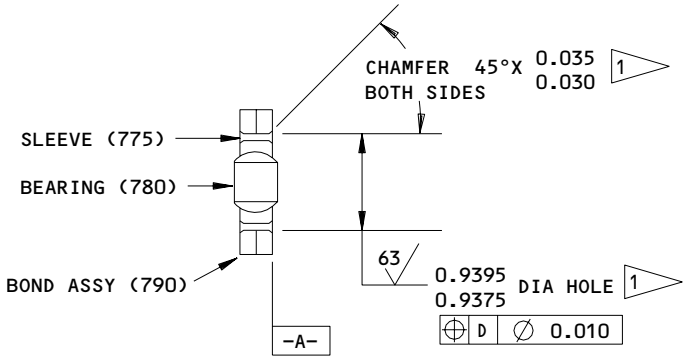
   A. Remove bearing.

   B. Install replacement bearing and roller swage per 20-50-03.





A-A



B-B

REFINISH

BOND ASSEMBLY (790):

CHROMATE ACID ANODIZE (F-17.04) AND APPLY 1 COAT OF PRIMER, BMS 10-11, TYPE 1 (F-20.02) ALL OVER EXCEPT AS NOTED

1 OMIT PRIMER THIS SURFACE

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

256T2265-1,-2,-15
Bearing Replacement and Lever Refinish
Figure 601

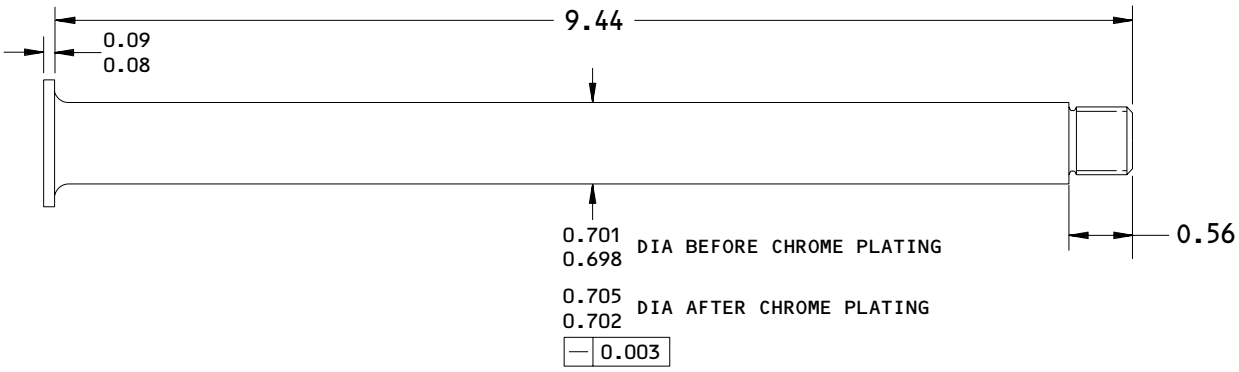
24536

SHAFT - REPAIR 11-1

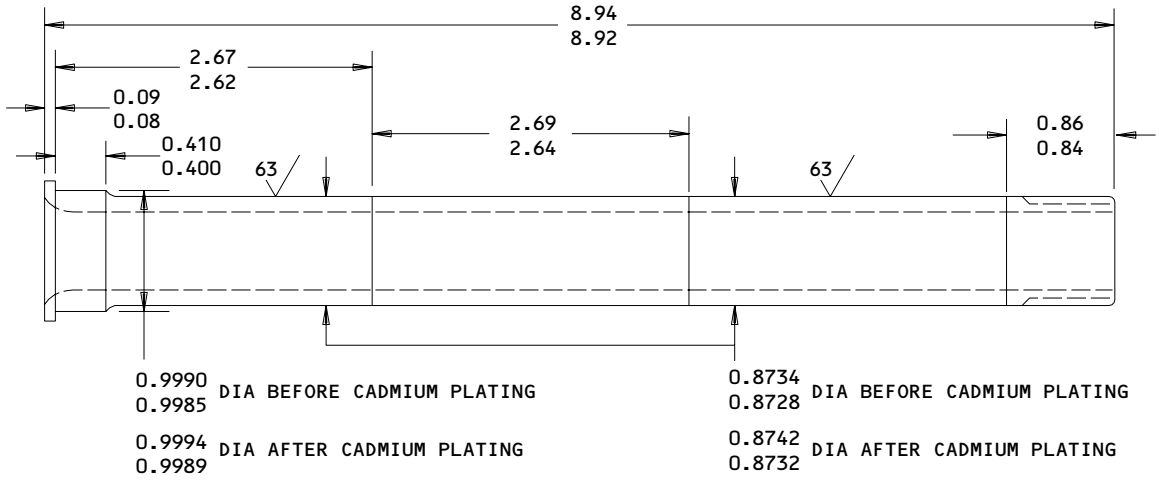
251T2270-1, -2

1. Plating 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.



251T2270-1



251T2270-2

REFINISH

251T2270-1 - PASSIVATE (F-17.09), APPLY CHROME PLATE (F-15.03)

251T2270-2 - CADMIUM PLATE (F-15.02)

125 ALL MACHINED SURFACES EXCEPT AS NOTED

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Shaft Refinish
Figure 601

24571

LEVER ASSEMBLY - REPAIR 12-1

251T2271-1, -2, -5

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

Item numbers refer to IPL Fig. 3.

1. Bearing (818), Sleeve (815) Replacement (Fig. 601)

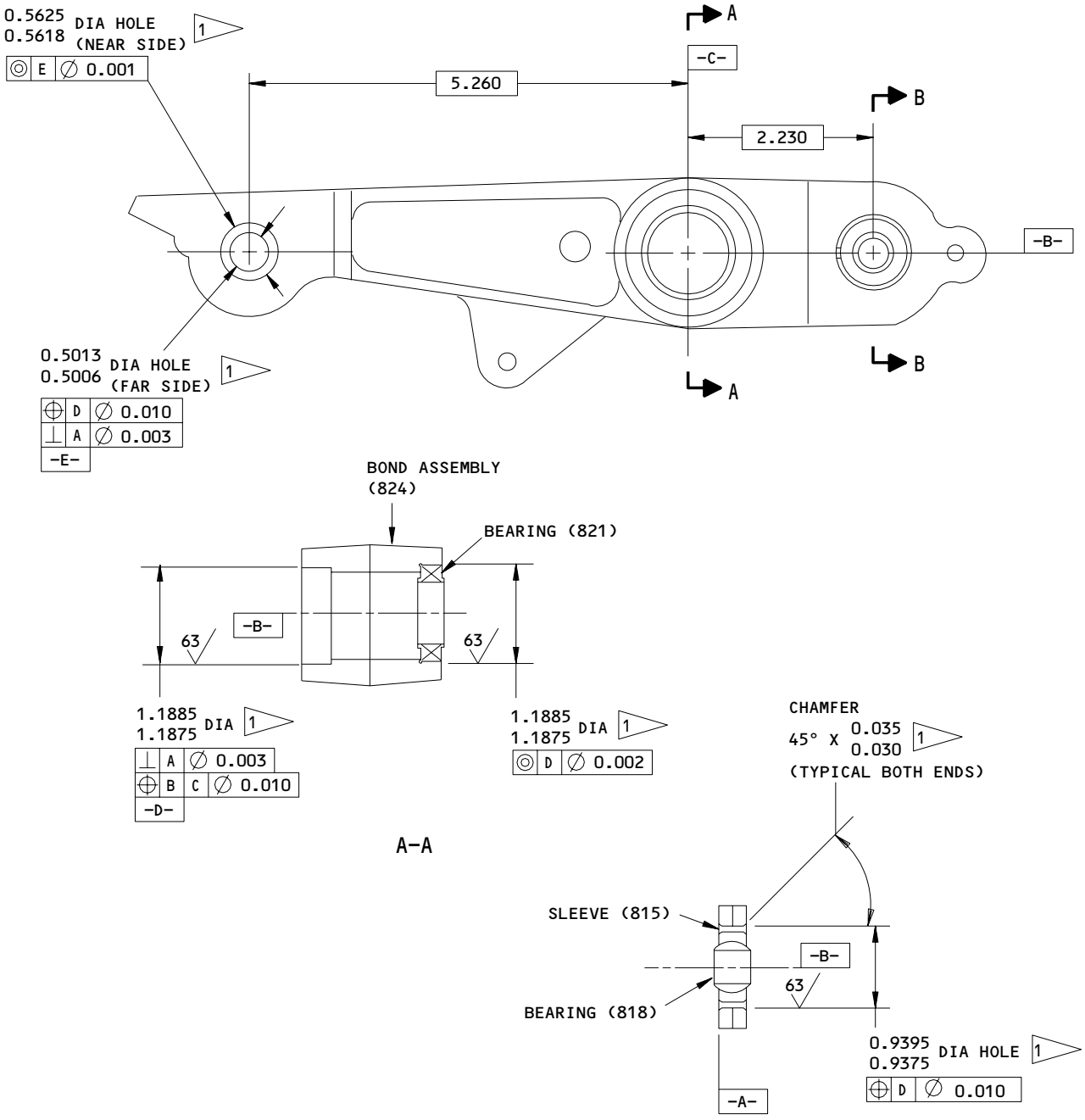
   A. Remove bearing and sleeve.

   B. Install replacement bearing and sleeve per 20-50-03. Roller swage sleeve per 20-50-03.

2. Bearing (821) Replacement (Fig. 601)

   A. Remove bearing.

   B. Install replacement bearing and roller swage per 20-50-03.



REFINISH

BOND ASSEMBLY (824) -- CHROMIC ACID ANODIZE (F-17.04) AND APPLY 1 COAT OF PRIMER (F-20.02) ON MACHINED SURFACES EXCEPT AS NOTED

1 OMIT PRIMER THIS SURFACE

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG 3

ALL DIMENSIONS ARE IN INCHES

251T2271-1,-2,-5
Bearing Replacement and Lever Refinish
Figure 601

24574

LINK ASSEMBLY - REPAIR 13-1

251T2277-1, -2

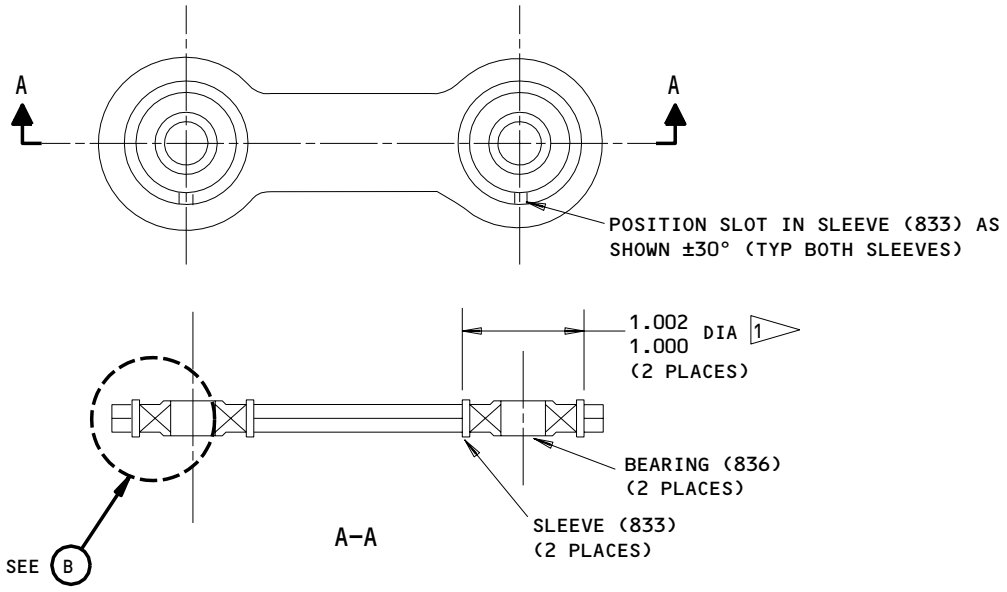
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of bond assembly which may only consist of stripping and restoration of original finish refer to Refinish instruction, Fig. 601.

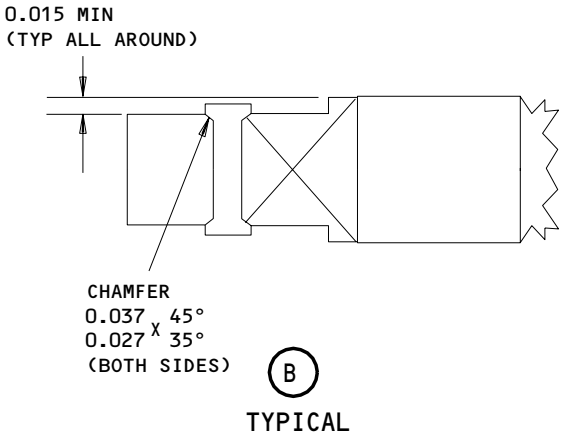
Item numbers refer to IPL Fig. 3.

1. Bearings (836), Sleeves (833) Replacement

A. Remove bearings and sleeves.

B. Install replacement bearings and sleeves per 20-50-03. Position slot in sleeves as shown and roller swage sleeves per 20-50-03.





REFINISH

BOND ASSY (839,842):

CHROMIC ACID ANODIZE (F-17.04) AND APPLY 2 COATS OF PRIMER, BMS 10-11, TYPE 1 (F-20.03) EXCEPT AS NOTED

1 OMIT PRIMER THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 3

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

251T2277-1,-2
Bearing Replacement and Link Refinish
Figure 601

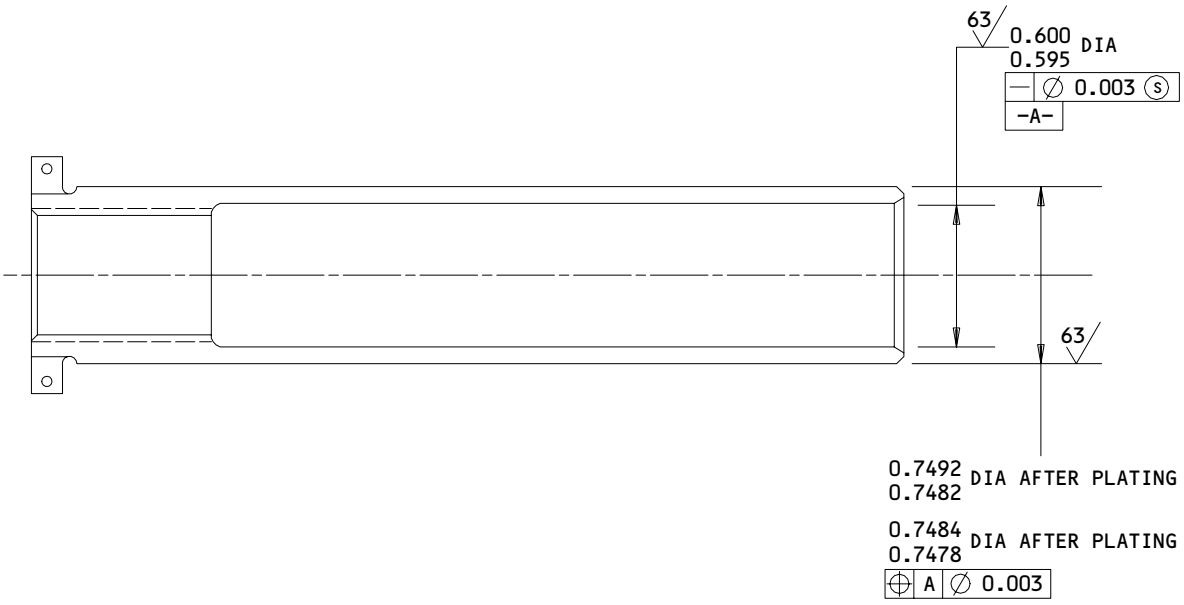
24582

SHAFT, OUTER - REPAIR 14-1

251T2285-1, -2

1. Plating 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.



REFINISH

PASSIVATE (F-17.09) AND CADMIUM PLATE (F-15.02) ALL OVER

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Shaft Refinish
Figure 601

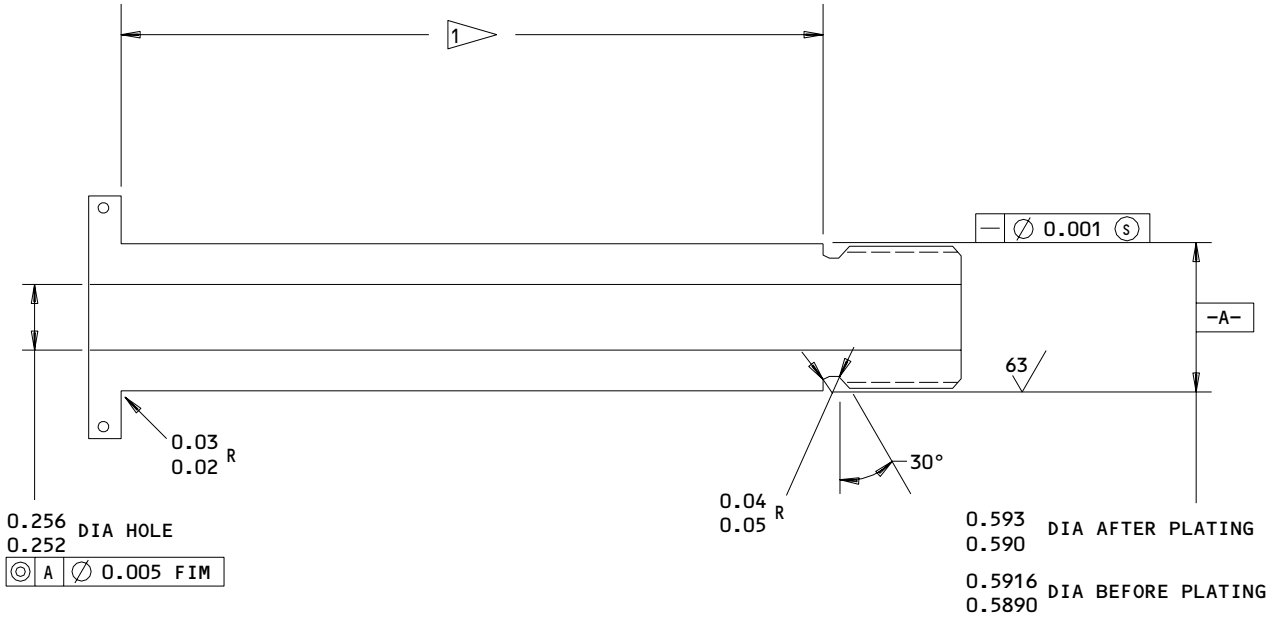
24584

SHAFT, INNER - REPAIR 15-1

251T2286-1, -2, -4, -5

1. Plating 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.



REFINISH

PASSIVATE (F-17.09) ALL OVER AND CHROME PLATE PER 1

1 CHROME PLATE (F-15.03) 0.0005-0.0007 IN. THICK THIS SURFACE

125 ALL MACHINED SURFACES EXCEPT AS NOTED

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Shaft Refinish
Figure 601

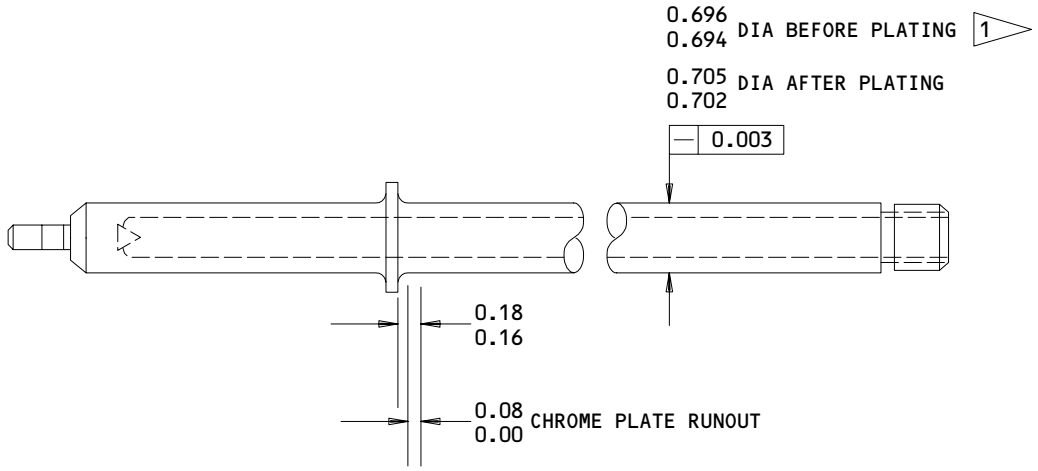
24586

SHAFT - REPAIR 16-1

251T2146-1

1. Plating Repair

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



REFINISH

PASSIVATE (F-17.09) ALL OVER EXCEPT AS NOTED BY 1

1 CHROME PLATE (F-15.03) THIS SURFACE

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Shaft Refinish
Figure 601

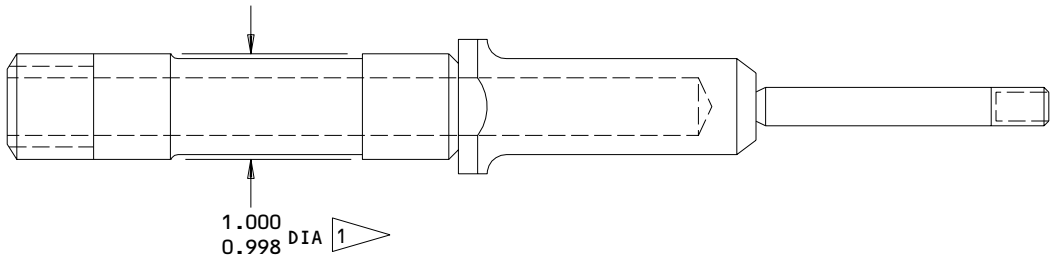
100727

SHAFT - REPAIR 17-1

251N2146-2, -3

1. Plating Repair

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



REFINISH

PASSIVATE (F-17.09) ALL OVER EXCEPT AS NOTED IN 1

1 CADMIUM PLATE (F-15.02) THIS SURFACE

(OPTIONAL: CADMIUM PLATE (F-15.02) ALL OVER EXCEPT ON THREADS AND ID)

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Shaft Refinish
Figure 601

100729

CRANK ASSY - REPAIR 18-1

251T2148-1, -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. Item numbers refer to IPL Fig. 3.

1. Bearing (200) Replacement (Fig. 601)

   A. Remove bearing.

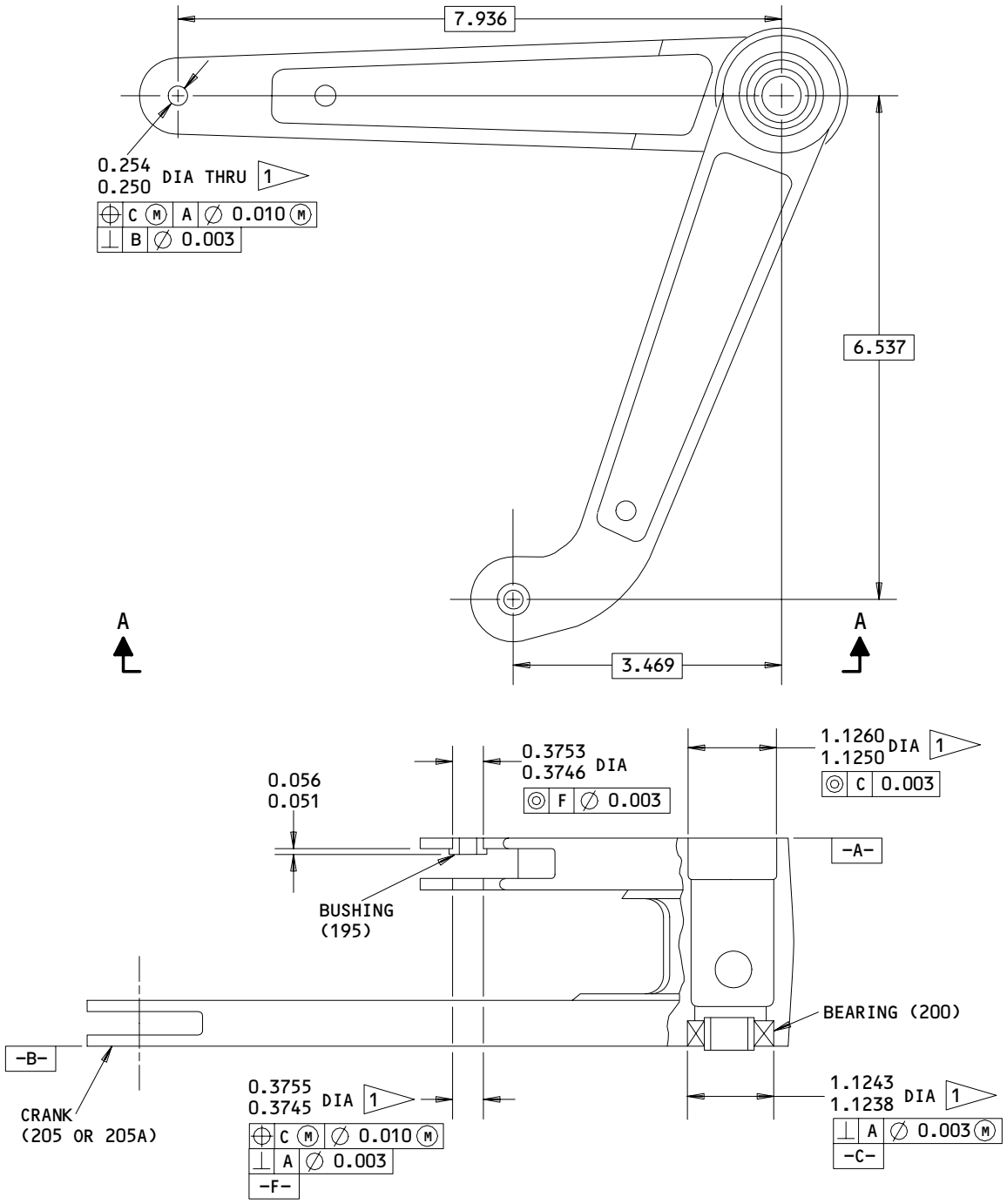
   B. Install replacement bearing and roller swage housing per 20-50-03 except install bearing with sealant BMS 5-95.

2. Bushing (140) Replacement (Fig. 601)

   A. Remove bushing.

   B. Install replacement bushing per 20-50-03 except use wet sealant, BMS 5-95.

   C. Machine bushing flange to dimension indicated.



A-A

REFINISH

CRANK (205 OR 205A) -- CHROMIC ACID ANOIDZE (F-17.04) AND APPLY 2 COATS OF PRIMER (F-20.03) ALL OVER EXCEPT AS NOTED IN 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

1 OMIT PRIMER THIS SURFACE

251T2148-1,-3
Parts Replacement and Crank Refinish
Figure 601

SPRING ARM ASSY - REPAIR 19-1

251T2149-1

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. Item numbers refer to IPL Fig. 3.

1. Parts Replacement (Fig. 601)

A. Remove nuts (65) and washers (70A).

B. Remove link (80) by pushing out of 0.7495-0.7505 dia. hole with bearing (75). Remove bearing (75) from link (80).

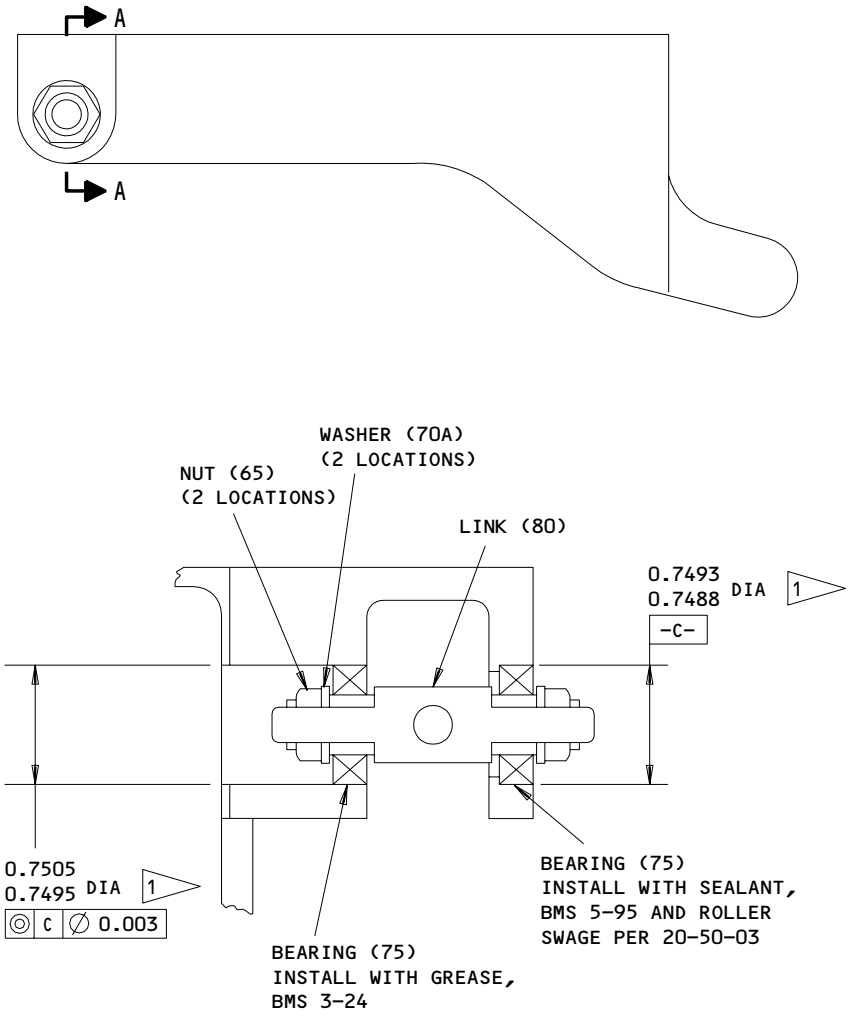
C. Swage-in bearing (75) replacement.

(1) Remove bearing.

(2) Install replacement bearing and roller swage per 20-50-03 except install bearing with wet sealant, BMS 5-95.

D. Coat O.D. of bearing (75) with grease, BMS 3-24 and install link (80) and bearing (75) in spring arm (85).

E. Secure link (85) with washers (70A) and nuts (65).



A-A

REFINISH

SPRING ARM (85) -- CHROMIC ACID ANODIZE
(F-17.04) AND APPLY 2 COATS OF PRIMER (F-20.03)
ALL OVER EXCEPT AS NOTED IN 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

1 NO FINISH THIS SURFACE

251T2149-1
Parts Replacement and Spring Arm Refinish
Figure 601

CRANK ASSY - REPAIR 20-1

251T2156-1

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require restortion of original finish, refer to Refinish instructions, Fig. 601. Item numbers refer to IPL Fig. 3.

1. Bearing (112H) and Sleeve (111G) Replacement (Fig. 601)

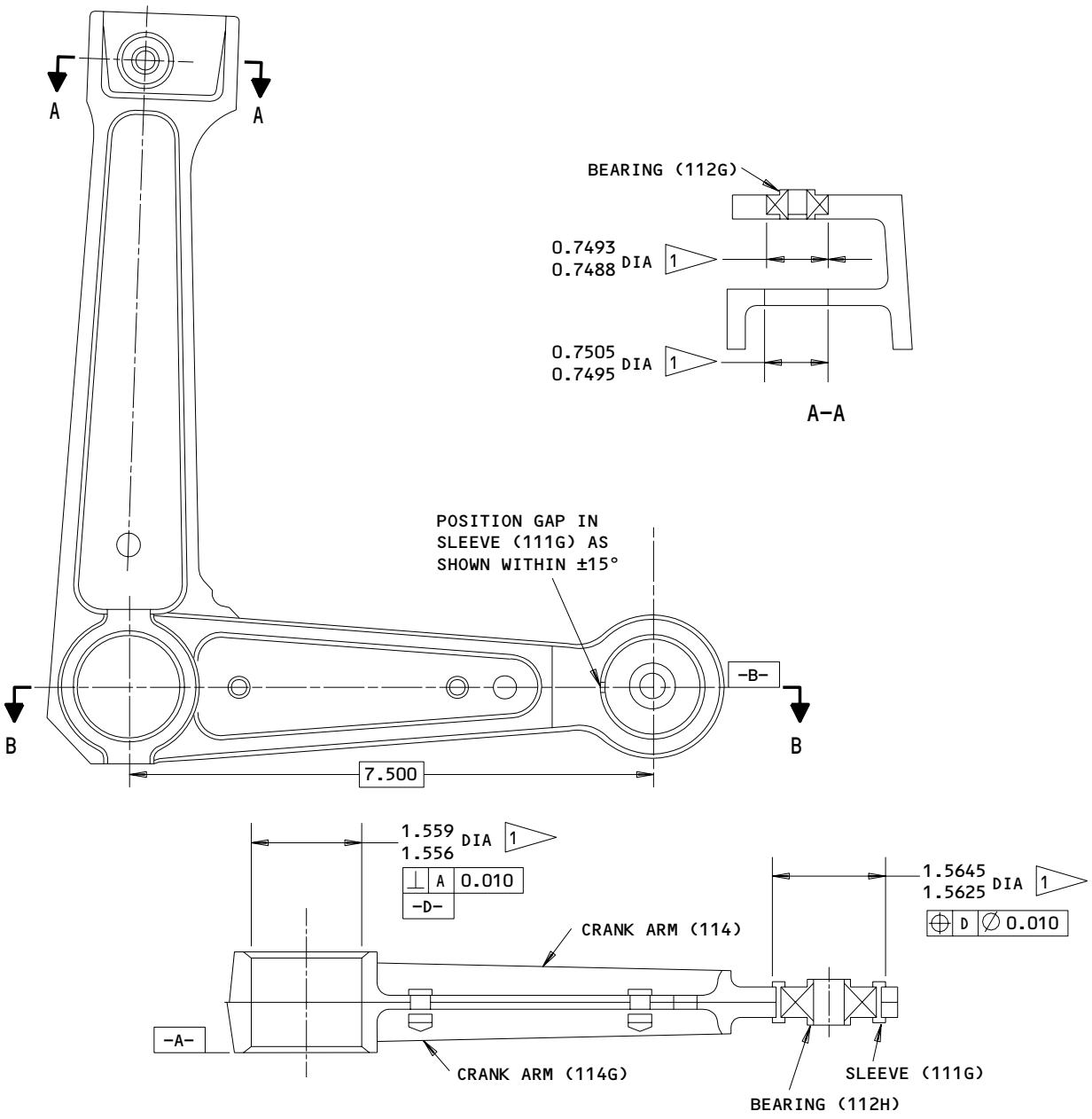
   A. Remove bearing and sleeve.

   B. Install replacement bearing and sleeve per 20-50-03 with gap in sleeve oriented as shown and roller swage sleeve per 20-50-03.

2. Bearing (112G) Replacement (Fig. 601).

   A. Remove bearing.

   B. Install replacement bearing and roller swage per 20-50-03.



REFINISH

CRANK ARM (114,114G) -- CHROMIC ACID ANODIZE (F-17.04) AND APPLY 2 COATS OF PRIMER (F-20.03) ALL OVER EXCEPT AS NOTED IN 1

CRANK ASSY (111) -- TOUCH UP WITH BRUSH ALODINE AND APPLY 1 COAT OF PRIMER (F-18.01) EXCEPT AS NOTED IN 1

1 NO FINISH THIS SURFACE

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

ITEM NUMBERS REFER TO IPL FIG. 3

251T2156-1
Bearing Replacement and Crank Arm Refinish
Figure 601

100742

HOUSING ASSY - REPAIR 21-1

251T2247-11

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. Bearing Replacement (Fig. 601)

   A. Remove rivets, retainer and bearing.

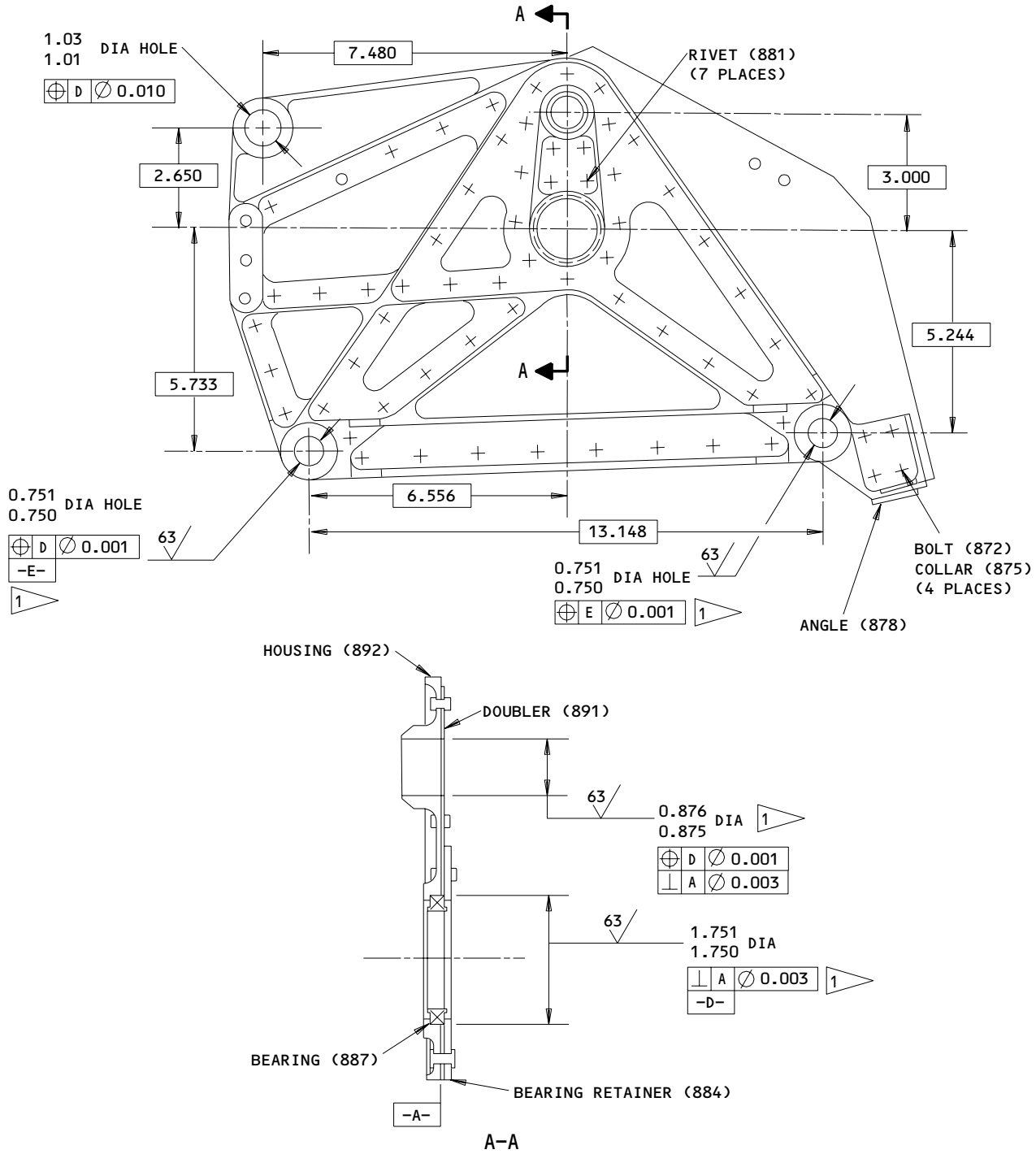
   B. Install replacement bearing per 20-50-03.

   C. Install retainer and secure with rivets.

2. Angle Replacement (Fig. 601)

   A. Remove bolts, collars and angle.

   B. Install replacement angle and secure with bolts and collars.



A-A

REFINISH

TOUCH UP WITH BRUSH ALODINE AND APPLY 1 COAT OF PRIMER (F-18.01) ON ALL MACHINED SURFACES EXCEPT OMIT PRIMER ON AREA INDICATED BY 1

ITEM NUMBERS REFER TO IPL FIG. 3

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

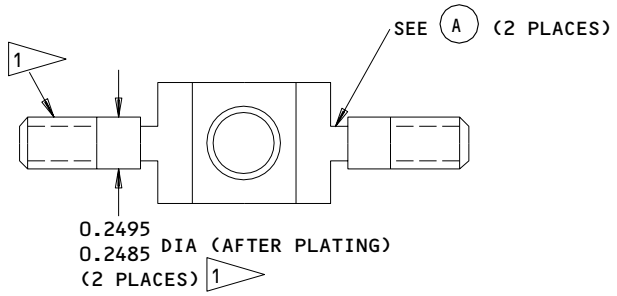
251T2247-11
Parts Replacement and Housing Refinish
Figure 601

LINK - REPAIR 22-1

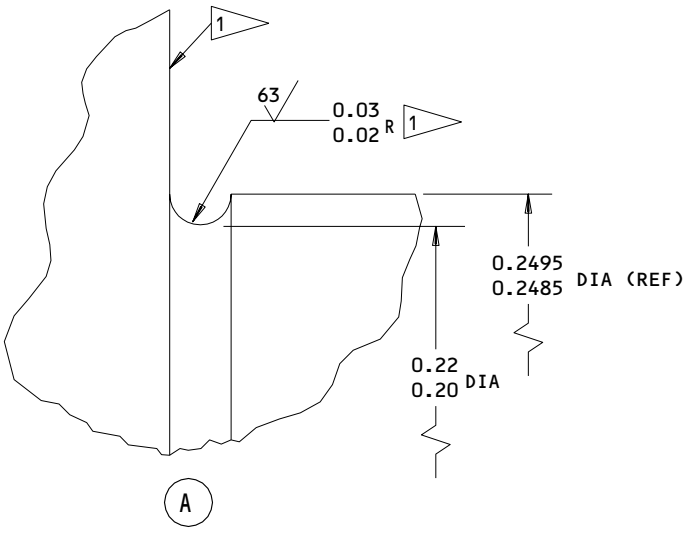
69B80399-1, -2

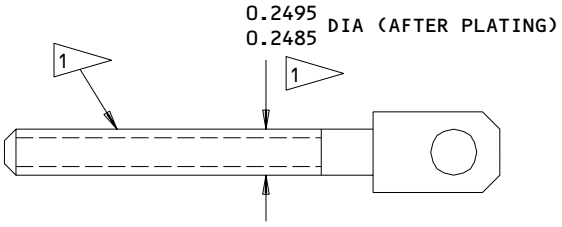
1. Plating Repair

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



69B83099-1





69B83099-2

REFINISH

CADMIUM PLATE AND APPLY 1 COAT OF PRIMER (F-16.02) ALL OVER EXCEPT OMIT PRIMER IN AREA INDICATED BY 1

MATERIAL: 4340 STEEL, 160-180 KSI

ALL DIMENSIONS ARE IN INCHES

Link Refinish
Figure 601

100745

LINK ASSY - REPAIR 23-1

69B83132-3

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. Item numbers refer to IPL Fig. 3.

1. Bearing Replacement

A. Remove bearing.

B. Install replacement bearing and roller swage both sides per 20-50-03 except install bearing with wet sealant, BMS 5-95.

2. Refinish

A. Link (115) -- Cadmium plate and apply 1 coat of primer (F-16.02) all over except omit primer in bore for bearing. Material: 4340 steel, 150-170 ksi.

B. Link (115A) -- Passivate (F-17.09). Material: 17-4PH CRES 180-200 ksi.

MISCELLANEOUS PARTS REFINISH - REPAIR 24-1

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

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Retainer (105)	631 CRES, 180-200 ksi	Cadmium plate (F-15.06) all over.
Fig. 3		
Fitting assembly (225,), angle (878), retainers (884,899)	Al alloy	Chromic acid anodize and apply 1 coat of primer, BMS 10-11, type 1 (F-18.13) all over.
Retainer (420)	Al-Ni-Br per AMS 4640	Cadmium plate (F-15.06) all over.
Shaft (560), Guard (920)	Al alloy	Chromic acid anodize (F-17.04) and apply 1 coat of primer, BMS 10-11, type (F-20.02) all over.
Clevises (680,685)	15.5 PH CRES, 180-200 ksi	Passivate (F-17.09).
Springs (690,695, 809)	17-7 PH CRES	Passivate (F-17.09)
Tie assemblies (839,842)	17-7 PH CRES, 150-170 ksi	Passivate (F-17.09)
Spring (5)	9254 Wire	Apply 2 coats of primer (F-20.03) all over.
Fitting (430)	Al alloy	Chromic acid anodize (F-17.04) and apply 2 coats of primer (F-20.03) all over except omit primer in bores.
Plate (270)	Al alloy	Chromic acid anodize (F-17.04) and apply 2 coats of primer (F-20.03) all over.

Refinish Details
Figure 601

MARKER - REPAIR 25-1

BAC27TCT0007

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

1. Marker Replacement

   A. Install replacement marker per 20-50-05 and edge seal with top coating type 41.

ASSEMBLY

1. Materials

   NOTE: Equivalent substitutes may be used.

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

   B. Alodine -- 1200S (Ref 20-43-03)

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

2. Equipment

   NOTE: Equivalent substitutes may be used.

   A. Jig Equipment -- A27058-60

3. Preassembly Check

   NOTE: This procedure is required only if combinations of new and existing crank assemblies (97, 95 or 111), cam assembly (455), shaft assemblies (540, 565) and shaft (560) are used in assembling centering unit.

   A. If combinations of new and existing crank assemblies (97, 95 or 111), cam assembly (455), shaft assemblies (540, 565) and shaft (560) are used in assembling centering unit (Ref IPL Fig. 3), check existing bolt hole dimensions in existing parts as follows:

      (1) For bolts (25, 30, 32, 33A) hole diameter should be 0.2495-0.2505 inch for standard size bolt and 0.2807-0.2817 inch for oversize bolt.

      (2) For bolt (440) hole diameter should be 0.1895-0.1905 inch for standard size bolt and 0.2182-0.2192 inch for oversize bolt.

   B. If hole size corresponds to standard size bolt, drill oversize bolt holes and secure parts using oversize bolt during assembly step 4.P.

   C. If hole size corresponds to oversize bolt, replace existing parts with new parts and drill standard size bolt holes during assembly step 4.P.

4. Assemble Feel and Centering Unit (IPL Fig. 3, Fig. 701, 702)

NOTE: Install bearings per 20-50-03.

A. Assemble shaft assemblies (540, 565), tie assemblies (845, 848) and link assemblies (827, 830).

CAUTION: INSTALL FASTENERS (490 THRU 535) AND TIE ASSEMBLIES (845, 848) IN THE DIRECTIONS INDICATED IN FIG. 701 AND IPL FIG. 3 OR BINDING MAY RESULT.

(1) Position tie assemblies (848), washers (510) and bushing (515) on shaft assembly (540) as shown in Fig. 701 and IPL Fig. 3. Install bolts (490, 500) with boltheads opposite to each other and install nuts (535A). Tighten nuts to 85-100 lb-ins. Install collars (530, 531, 532, 533, 534).

(2) Check that all tie assemblies (848) are free to rotate with no evidence of interference. Check the position of washers (510) and bushings (515) if interference is found.

(3) Position link assembly (827) and bushings (525) between tie assemblies (848) and install bushings (520), bolts (490, 500) with bolt heads opposite each other. Install nut (535A) and tighten to 85-100 lb-ins. Install collars (530, 531, 532, 533, 534).

(4) Position tie assemblies (845), washers (510) and bushings (515) on shaft assembly (565) as shown in Fig. 701. Install bolts (495, 496, 497, 505) with bolt (495) heads inside bolt (505) heads. Install nuts (535A) and tighten to 85-100 lb-ins. Install collars (530, 531, 532, 533, 534).

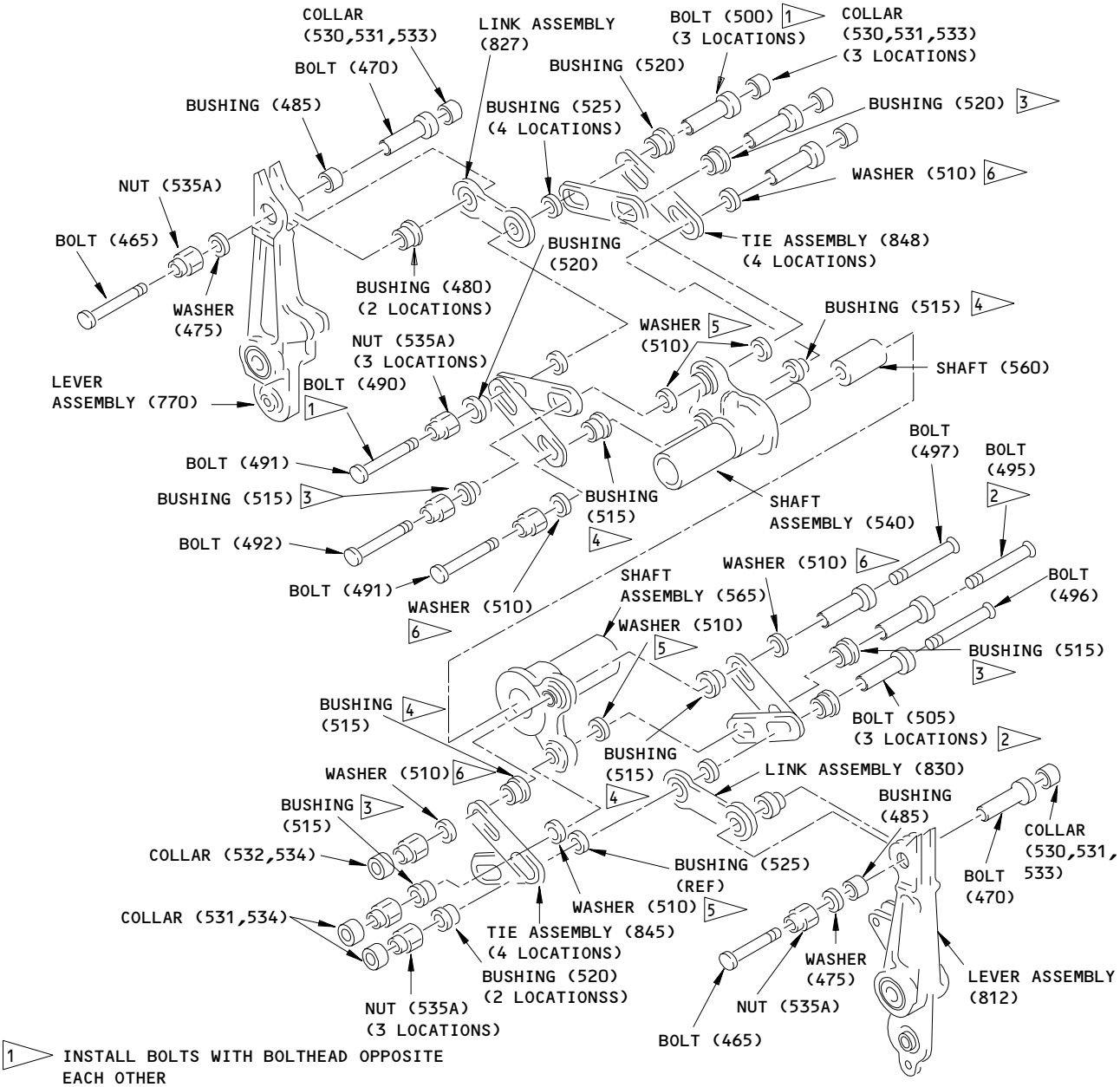
(5) Check that tie assemblies (845) rotate freely without any interference. Check position of washers (510) and bushings (515) if interference is found.

(6) Position link assembly (830) and washers (525) between tie assemblies (845) and install bushings (520) and bolts (495, 496, 497, 505) with bolt (495, 496, 497) head inside bolt (505) head. Install nut (535A) and tighten to 85-100 lb-ins. Install collars (530, 531, 532, 533, 534).

(7) Assemble shaft assemblies (540, 565) with attached parts and shaft (560).

(8) Check that all parts are free to rotate with no evidence of interference.

CAUTION: INSTALL PARTS AS SHOWN OR INTERFERENCE OR BINDING MAY RESULT.



1 INSTALL BOLTS WITH BOLTHEAD OPPOSITE EACH OTHER

2 INSTALL BOLTS WITH BOLTHEAD IN THE SAME DIRECTION

3 INSTALL BUSHINGS WITH FLANGES FACING AWAY FROM SHAFT ASSEMBLIES (540,565)

4 INSTALL BUSHINGS WITH FLANGES IN CONTACT WITH BEARING ON SHAFT ASSEMBLIES (540,565)

5 INSTALL WASHERS BETWEEN TIE ASSEMBLIES AND SHAFT ASSEMBLIES

6 INSTALL WASHERS BETWEEN TIE ASSEMBLIES AND BOLTS/NUTS

ITEM NUMBERS REFER TO IPL FIG. 3

Assembly Details
Figure 701

B. Install bearings (806), fasteners (795, 800A, 803A), bearings (760) and spacers (765) on lever assemblies (770, 812).

CAUTION: INSTALL BUSHINGS (480, 485) AND FASTENERS (465, 470, 475, 530, 531, 533, 535A) IN THE DIRECTIONS INDICATED IN FIG. 701 OR INTERFERENCE MAY RESULT.

C. Install bushings (480, 485) on lever assembly (770) as shown in Fig. 701. Position link assembly (827) on lever assembly. Install hollow bolt (470), washer (475) and nut (535A). Tighten nut to 85-100 lb-ins. Install bolt (465) thru hollow bolt with bolt heads in the opposite direction and install collars (530, 531, 533).

CAUTION: INSTALL BUSHINGS (480, 485) AND FASTENERS (465, 470, 475, 530, 531, 533, 535A) IN THE DIRECTIONS INDICATED IN FIG. 701 OR INTERFERENCE MAY RESULT.

D. Install bushings (480, 485) on lever assembly (812) as shown in Fig. 701. Position link assembly (830) on lever assembly. Install hollow bolt (470), washer (475), nut (535A) and tighten nut to 85-100 lb-ins. Install bolt (465) thru hollow bolt with bolt heads in the opposite direction and install collar (530, 531, 533).

E. Install housing assemblies (869 or 870, 893) (Fig. 702).

(1) Install outer shafts (740, 745) and bushings (715) on housing assembly (893).

(2) Install shaft assembly (565) with attached parts on housing assembly (893) with lever assemblies (770, 812) mate with shafts (745, 740).

(3) Hook spring (809) to bearings (806) on lever assemblies (770, 812).

(4) Install housing assembly (869 or 870) on shaft assembly (540).

(5) Install washer (720) on inner shaft (755) and install inner shaft thru housing assembly (869 or 870) into outer shaft (745). Tighten shaft (755) to 40-60 lb-ins. Install bolt (710), washers (710, 730) and nut (735A).

NOTE: Shafts (745, 755) are left-hand threaded.

(6) Install washer (725) on inner shaft (750) and install inner shaft thru housing assembly (869 or 870) into outer shaft (740). Tighten shaft (750) to 40-60 lb-ins. Install bolt (705), washers (710, 730) and nut (735A).

NOTE: Shafts (740, 750) are left-hand threaded.

(7) On 251T2245-8, -9, -10, -11, -12, -13, -14 assemblies (1B, 1E, 1F, 1G, 1H, 1J, 1K) position fitting assembly (225) between housing assemblies (870, 893A) and secure fitting assembly to housing assembly with bolts (210A), washers (215A) and nuts (220A).

(8) On reworked centering unit assemblies (1, 1A, 1C, 1D), position plates (270), bushings (240), and fitting assembly (225) on housing assemblies (869, 893) and secure parts with bolts (210, 230), washers (215A, 235A) and nuts (220A, 250A).

(9) Position spacer (854) between housing assemblies (869 or 870, 893) and secure with bolts (851), washers (863A) and nuts (866A).

(10) Position bushings (860 or 861) between housing assemblies (869 or 870, 893) and install bolts (857), washers (863A) and nuts (866A).

(11) On 251T2245-8, -9, -10, -11, -12, -13, -14, -15 assembies (1B, 1E, 1F, 1G, 1H, 1J, 1K, 1L), position bushing (861) between housing assemblies (870, 893A) and install bolt (858), washer (864A), nut (867A).

F. Install cam assembly (455) and crank assemblies (97, 95 or 111).

NOTE: If cam assembly (455), shaft assemblies (540, 565) or shaft (560) were replaced, refer to par. Q. for assembly procedures.

(1) Align bolt holes in shaft assembly (540) and shaft (560). Install cam assembly (455) and crank assembly (97) on shaft assembly (540) and secure with bolts (25, 440), washers (35A, 445A) and nuts (40A, 450A).

(2) On reworked centering unit assemblies (1, 1A, 1C), install crank assembly (95) and spring arm assembly (60) as follows:

(a) Install spacer (600) on shaft assembly (565).

(b) Install crank assembly (95) on shaft assembly (565) and position spring arm assembly (60) on crank assembly (95). Secure parts with bolts (30), washers (35A) and nuts (40A).

(c) Install bolt (45), washer (50A), nut (55A) and shim (90). Adjust shim thickness as required to obtain 0.005 inch maximum pull up. If crank assembly was replaced, drill 0.250-0.254 inch dia. hole thru crank assembly using bolt hole in spring arm assembly (60) to locate hole location.

(3) On items (1B, 1D, 1E, 1F, 1G, 1H, 1J), install link (94), bearing (93G) on crank assembly (111) and secure with washers (92A) and nuts (93A). Install spacer (600) and crank assembly (111) on shaft assembly (565) and secure crank assembly with bolts (32, 33A), washers (35A) and nuts (40A).

(4) On centering unit assembly (1K, 1L), install crank assembly (95) as follows:

(a) Install spacer (600) on shaft assembly (565).

(b) Install crank assembly (95) on shaft assembly (565). Secure parts with bolts (30A), washers (35A) and nuts (40A).

G. Assemble arm assembly (370) and springs (690, 695).

(1) Apply a liberal coating of grease to contacting surfaces between bushing (410) and spring retainer (420). Install bushing (410) in spring retainer (420) and install springs (690, 695) on spring retainer (420) with spring hooks facing each other.

CAUTION: DO NOT RETIGHTEN NUTS (405).

(2) Apply a liberal coating of grease to contacting surfaces between spring retainer (420) and arm (425). Position bearing (415) and spring retainer (420) with attached springs on arm (425) and install bolt assemblies (375). Install washers (400) and nuts (405A) and tighten nuts to 85-100 lb-ins. Then install washers (390) and nuts (395A) and tighten nuts to 30-35 lb-ins. Wipe away visible grease using clean cloth.

NOTE: If bolt assembly (375) was disassembled, assemble with sealant on bolt head faying surfaces.

H. Install bearing (360) and bushing (365) in arm assembly (370).

I. Assemble clevis assembly (630).

(1) Apply a liberal coating of grease to contacting surfaces between bushing (670) and retainer (675). Install bushing (670) in retainer (675) and attach springs (690, 695) to retainer (675).

(2) Insert inner clevis (680) into outer clevis (685). Apply a liberal coating of grease to contacting surfaces between retainer (675) and inner clevis (680). Install retainer (675) and secure with bolt assembly (635), washers (650, 660) and nuts (655A, 665A). Wipe away visible grease using clean cloth.

NOTE: If inner or outer clevis (680, 685) were replaced, drill 0.357-0.379 in. diameter hole thru using existing holes as pilot holes. If bolt assembly (635) was disassembled, assemble with sealant on bolt head faying surfaces.

J. On items 1, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, position fitting (430) between housing assemblies (869 or 870, 893). On reworked centering unit assembly, fill cavity inside fitting (430) with grease. Install bearing housing assembly (310) on outer shaft (305) and install outer shaft thru housing assemblies (869 or 870, 893) and fitting (430).

K. On item 1K, 1L, position bushing (435) between housing assemblies (870, 893). Install bearing housing assembly (310) on outer shaft (305) and install outer shaft through housing assemblies (870, 893) and bushing (435).

L. Install arm assembly (370), shim (355), spacer (350), and bearing housing assembly (310) on outer shaft (305). Install shim with solid face of shim against bearing (360) in arm assembly (370). Install nut (295) and tighten to 180-200 lb-ins.

M. Check dimension between bearing housing assemblies (310) per Fig. 702. Remove parts and delaminate shim as required to obtain dimension shown. Reinstall parts per step L.

N. Install shaft (265) to secure free end of fitting (430) and install washer (260B) and nut (255A). Tighten nut finger tight. On reworked units (1, 1A, 1C, 1D) fill cavity between fitting and shaft with grease.

CAUTION: DO NOT RETIGHTEN NUT (615).

O. Install washers (625A) and clevis assembly (630) on housing assembly (869 or 870). Install washer (620) and nut (615A). Tighten nut (615A) to 85-100 lb-ins. Then install washer (610) and nut (605A). Tighten nut (605A) to 30-35 lb-ins. Do not re-tighten nut (615A).

NOTE: Use the same amount of washers (265) as noted during disassembly.

P. Check crank assemblies (95 or 111, 97) position.

(1) Install unit in jig assembly A27058-61 and attach pull actuator assembly A27058-2 to arm assemblies (770, 812).

CAUTION: DO NOT APPLY FORCE GREATER THAN 1600 LBS OR DAMAGE TO PART MAY RESULT.

(2) Apply force of 300-1600 lbs. using pull actuator assembly A27058-2 to arm assemblies (770, 812) in the direction indicated in Fig. 702.

(3) Center link assembly (827).

NOTE: Shaft (265) and nut (255) may be removed and fitting (430) may be rotated to the other side to gain access to link assembly. Reinstall shaft (265) after centering of link assembly is completed.

(a) Apply enough clockwise force to link assembly (827) to cause movement in shaft assembly (540). Release force and allow link assembly to rebound. Note location of link assembly (827).

(b) Repeat step (a) with force applied in the counterclockwise direction and note location of link assembly (827).

(c) Center link assembly (827) between the two end rebound locations.

(4) Center link assembly (830).

(a) Apply enough clockwise force to link assembly (830) to cause movement in shaft assembly (565). Release force and allow link assembly to rebound. Note location of link assembly (830).

(b) Repeat step (a) with counterclockwise force and note location of link assembly (830).

(c) Center link assembly (830) between the two end rebound locations.

(5) Check that arm assembly (370) seats in the detent of cam assembly (455). Check that crank assemblies (97, 95 or 111) are in positions shown in Fig. 702 by inserting L pins thru bearing bore in arm assemblies (97, 95 or 111) and holes in jig assembly A27058-61. L-pins must be easily inserted and removed without any interference.

(6) Deactivate pull actuator assembly A27058-2 to remove force and remove pull actuator assembly A27058-2 from arm assemblies (770, 812). Remove unit from jig assembly A27058-61.

(7) If arm assembly (370) is not seated on cam assembly (455) or crank assemblies (97, 95 or 111) are not in positions indicated, completely disassemble unit and replace cam assembly (455), shaft assemblies (540, 565) and shaft (560).

Q. If cam assembly (455), shaft assemblies (540, 565) and shaft (560) are replaced, assemble cam assembly (455) and crank assemblies (97, 95 or 111) using the following procedures. If parts used are combinations of new and existing parts, drill oversize bolt holes and secure parts using oversize bolts. If existing parts already have oversize bolt holes, replace existing parts with new parts, drill standard size holes and use bolts as specified in IPL Fig. 3.

(1) Install cam assembly (455) and crank assembly (97) on shaft assembly (540) and install spacer (600) and crank assembly (95 or 111) on shaft assembly (565).

(2) Install parts per step J. thru O.

(3) Install unit in jig assembly A27058-61 and attach pull actuator assembly A27058-2 to arm assemblies (770, 812). Insert L-pins thru jig assembly A27058-61 and bearing bore in crank assemblies (97, 95 or 111) to locate crank assemblies in positions shown in Fig. 702. Install bushing block, A27058-90 or A27058-114 on jig assembly A27058-61.

(4) Check that arm assembly (370) seats on cam assembly (455) detent.

(5) Center link assemblies (827, 830) per step P.(3) and P.(4).

(6) Clamp up bearing in housing assemblies (869 or 870) against shoulder of shaft assemblies (540, 565) by tighten hand knob on jig assembly A27058-61.

(7) With 300-1600 lbs force applied to arm assemblies (770, 812) and arm assembly (370) seated in cam assembly (455) detent, drill holes as follows:

(a) Using bushings ST20-16-0.1590 and ST20-16-0.1895 as guides, drill 0.1895-0.1905 diameter hole thru cam assembly (455), shaft assembly (540) and shaft (560). On unit which requires oversize fasteners, use bushings ST24-16-0.1935 and ST24-16-0.2182 and drill 0.2182-0.2192 diameter hole thru.

(b) Using bushings S32-28-0.2188 and S32-28-0.2495 as guide, drill 0.2495-0.2505 diameter holes thru crank assembly (97), cam assembly (455), shaft assembly (540) and shaft (560) and thru crank assembly (95 or 111) and shaft assembly (565). On unit which requires oversize fasteners, use bushings S32-28-0.2500 and S32-28-0.2807 and drill 0.2807-0.2817 diameter holes thru.

(8) Deactivate and remove pull actuator assembly A27058-2 and remove unit from jig assembly A27058-61.

(9) Remove crank assembly (97) and cam assembly (455). Spot face cam assembly (455) as indicated.

(10) Reinstall cam assembly (455) on shaft assembly (540) and secure with bolt (440), washer (445A) and nut (450A). Install crank assembly (97) on cam assembly (455) and secure with bolts (25), washers (35A) and nuts (40A). On unit with oversize bolt hole, use bolt NAS6603-24Y in place of bolt (440) and bolts NAS6604-35Y in place of bolts (25).

(11) On items (1B, 1D, 1E, 1F, 1G, 1H, 1J), secure crank assembly (111) to shaft assembly (565) with bolts (32, 33A), washers (35A) and nuts (40A). Install link (94), bearing (93G) on crank assembly (111) and secure with washers (93A) and nuts (92A). On unit with oversize bolt hole, use bolt NAS6604-35Y in place of bolt (32) and bolt BACB30LU4-45Y in place of bolt (33A).

(12) On reworked centering unit assemblies (1, 1A, 1C), install spring arm assembly (60) as follows:

(a) Position spring arm assembly (60) on crank assembly (95) and secure with bolts (30), washers (35A) and nuts (40A). On unit with oversize bolt hole, use bolts BACB30NF4-39Y in place of bolts (30).

(b) Drill 0.250-0.254 inch dia. hole thru crank assembly (95) using bolt hole in spring arm assembly (60) to locate hole and install bolt (45), washer (50A), nut (55A) and shim (90). Adjust shim thickness as required to obtain 0.005 maximum pull up.

(13) On centering unit assembly (1K), install crank assembly (95) as follows:

(a) Install spacer (600) on shaft assembly (565).

(b) Install crank assembly (95) on shaft assembly (565). Secure parts with bolts (30A), washers (35A) and nuts (40A). On units with oversize bolt hole, use bolts NAS6604-33Y in place of bolts (30A).

(14) Recheck unit per step P.

R. On items 1, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1J, tighten nut (255) to 400-500 lb-in.

CAUTION: DO NOT RETIGHTEN NUT (295).

S. On items 1, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, check that nut (295) is tightened to 180-200 lb-in. Install inner shaft (300) thru outer shaft (305) and secure with nut (290). Tighten nut (290) to 90-110 lb-in. Do not retighten nut (295).

T. On item 1K, 1L, check that nut (295) is tightened to 180-200 lb-in. Install inner shaft (303) through outer shaft (305) and secure with nut (290). Tighten nut (290) to 90-110 lb-in. Do not retighten nut (295).

U. Install stick nudger assembly (on items 1, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J) as follows:

(1) Install spacer (160) and bearing (155) on crank assembly (190). Install link assembly (115) on crank assembly (190) and secure with bolt (120), washer (125A) and nut (130A).

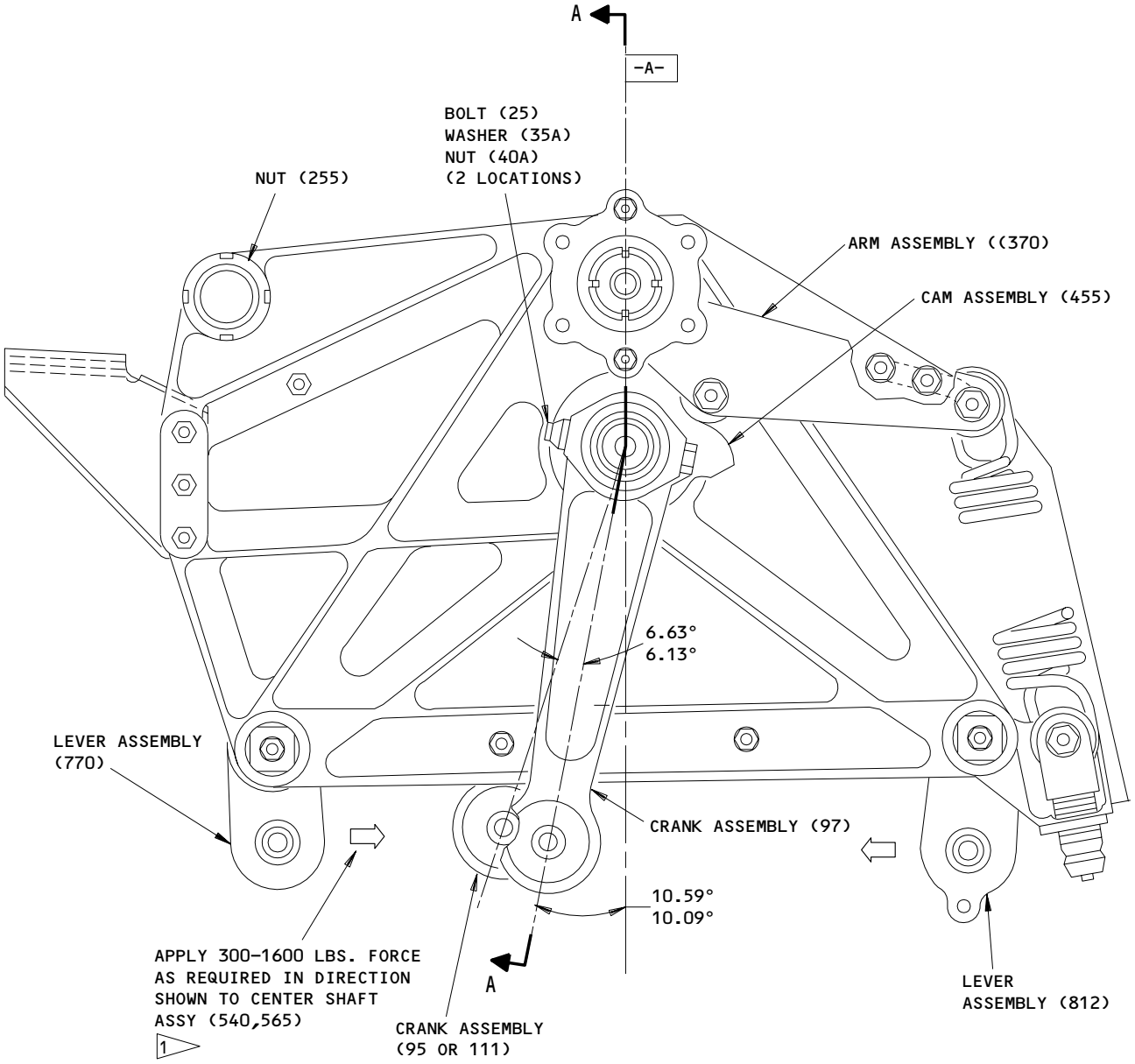
(2) Install crank assembly (190) on shaft (265) and secure with washer (150) and nut (145).

(3) Install actuator (285) on inner shaft (300) and secure with washer (280), and nut (275A).

(4) Position free end of actuator assembly (285) on crank assembly (190) and secure with bolt (165), washer (170A) and nut (180A).

(5) Hook spring (5) to link assembly (115) and link (20). Install link (20) thru link (80 or 94) and install washer (15A) and nut (10A). Tighten nut (10A) until centerline of bolt (120) aligns to centerline of shaft assembly (565) within 0.03 inch.

V. Lockwire shafts (740, 745) to housing assembly (869 or 870) using double twist method per 20-50-02.

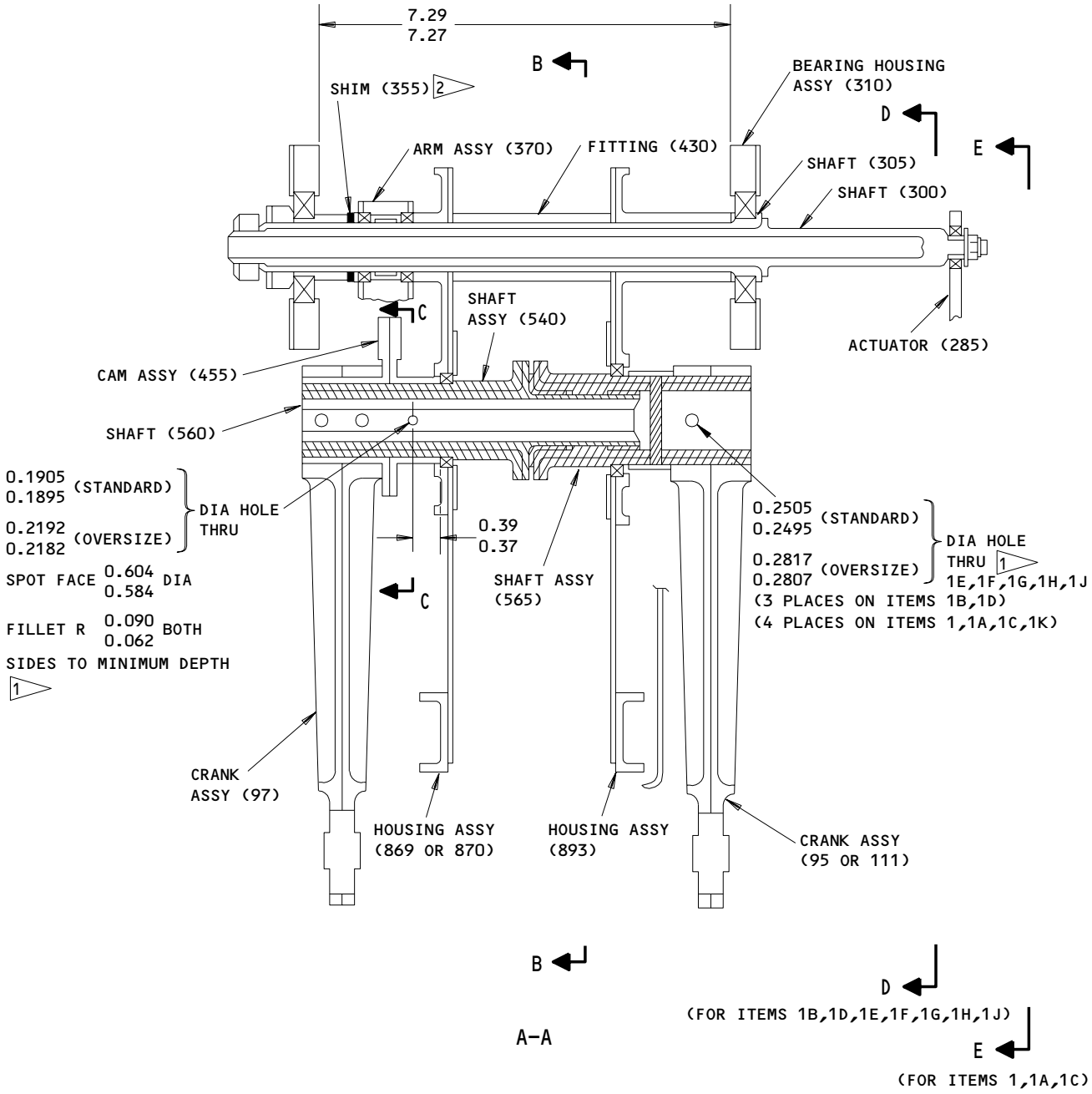


FRONT VIEW
251T2245-8 ASSY SHOWN

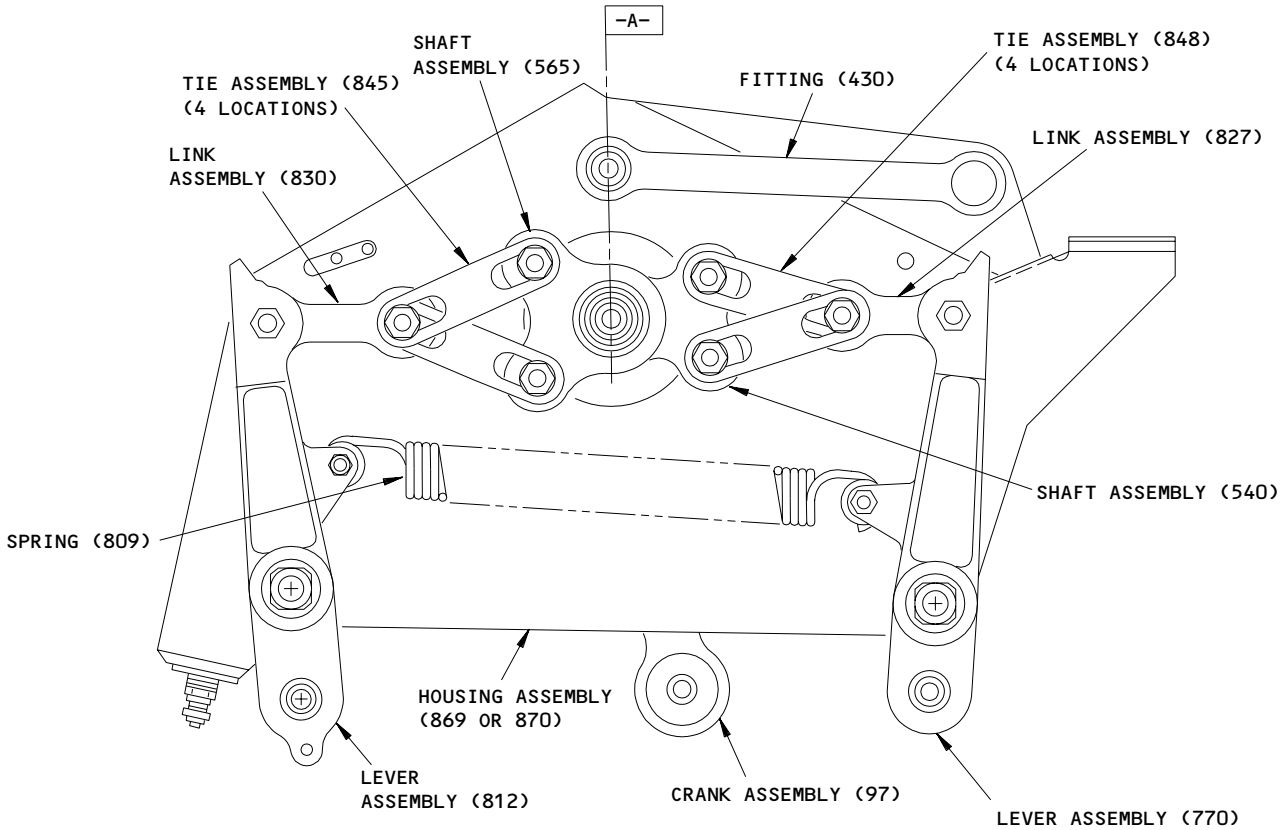
ITEM NUMBERS REFER TO IPL FIG. 3

Assembly Details
Figure 702 (Sheet 1)

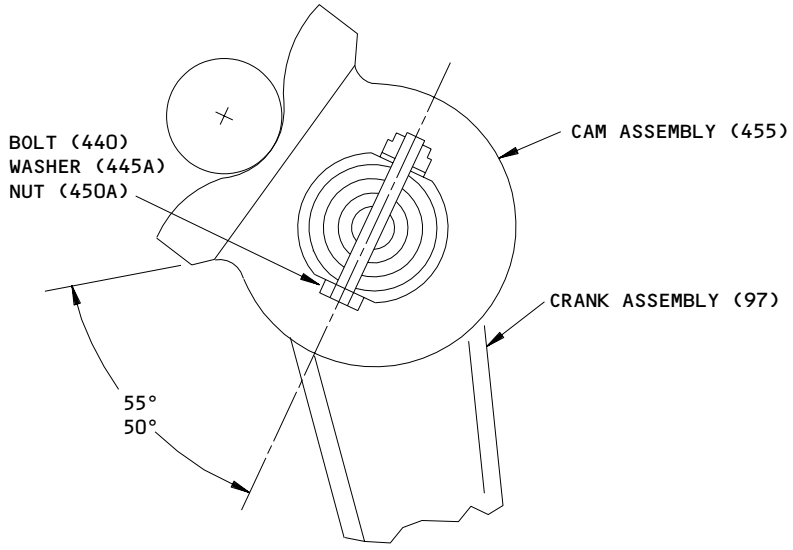
24596



Assembly Details
Figure 702 (Sheet 2)



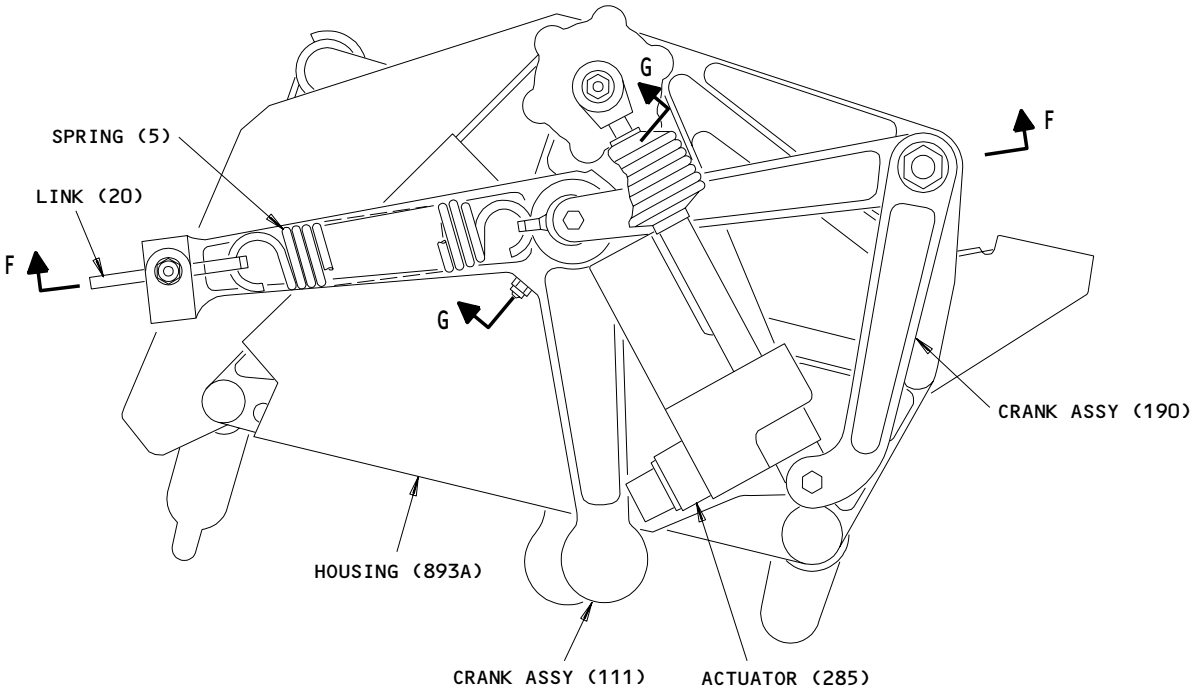
B-B



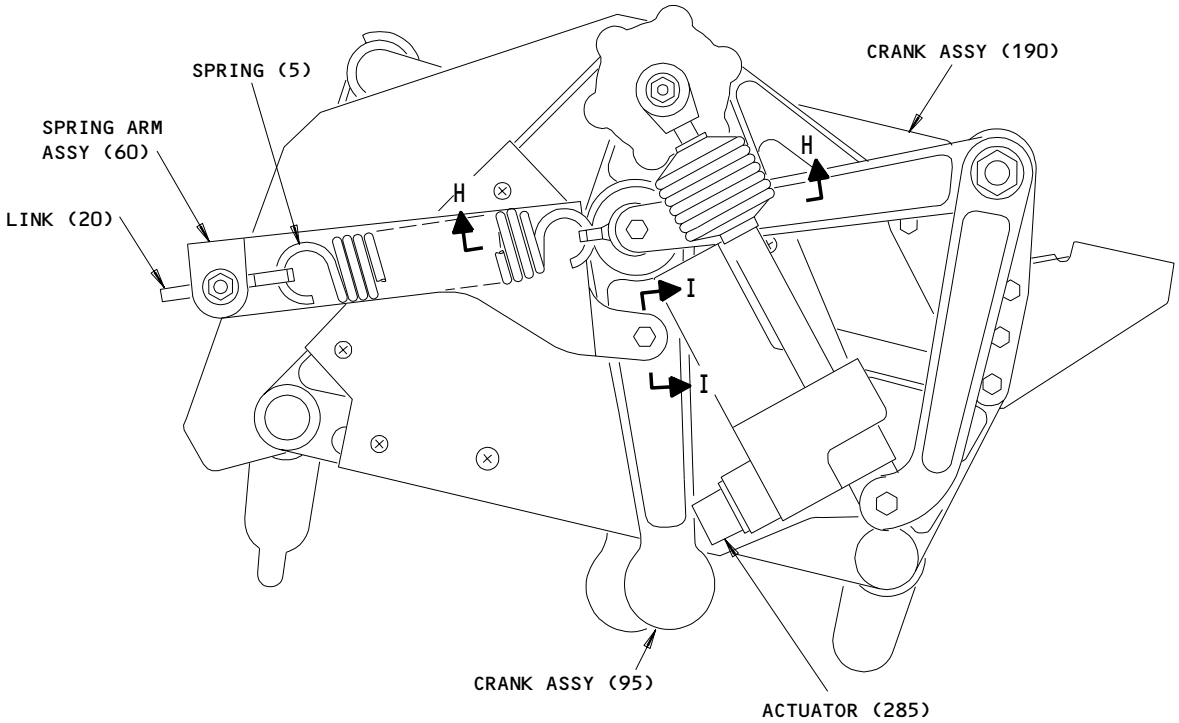
ARM ASSEMBLY (370) OMITTED FOR CLARITY
C-C

ITEM NUMBERS REFER TO IPL FIG. 3

Assembly Details
Figure 702 (Sheet 3)



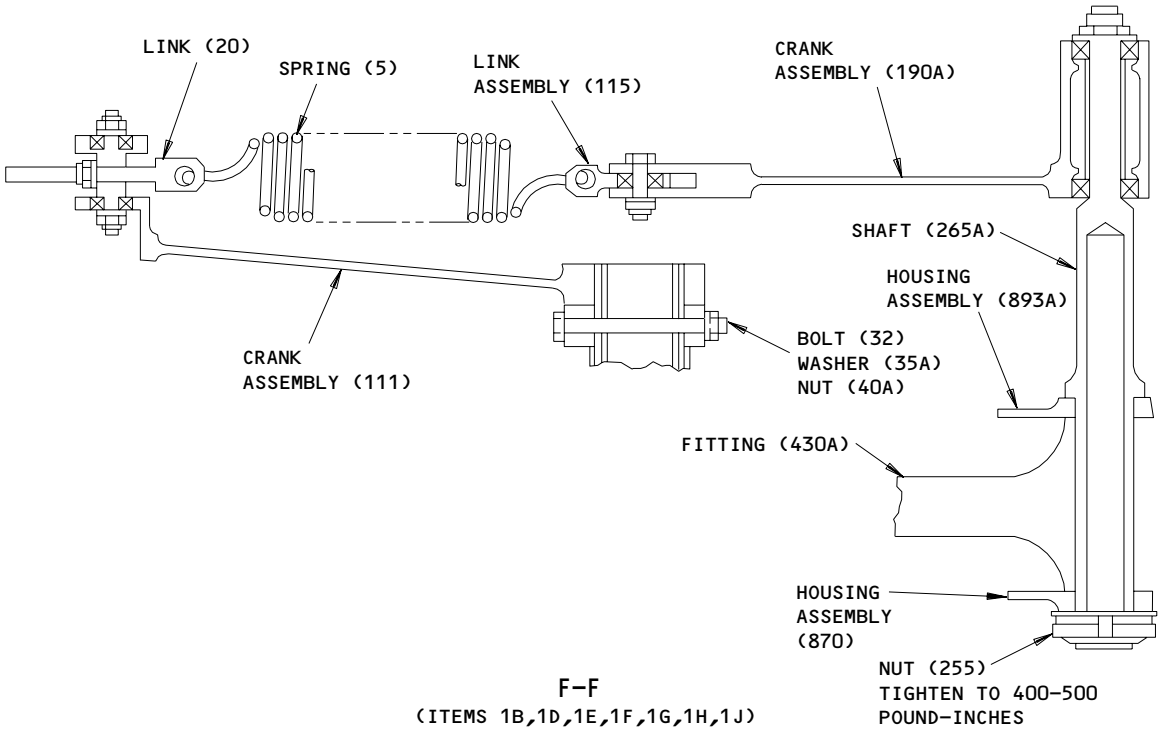
D–D
(ITEMS 1B,1D,1E,1F,1G,1H,1J)



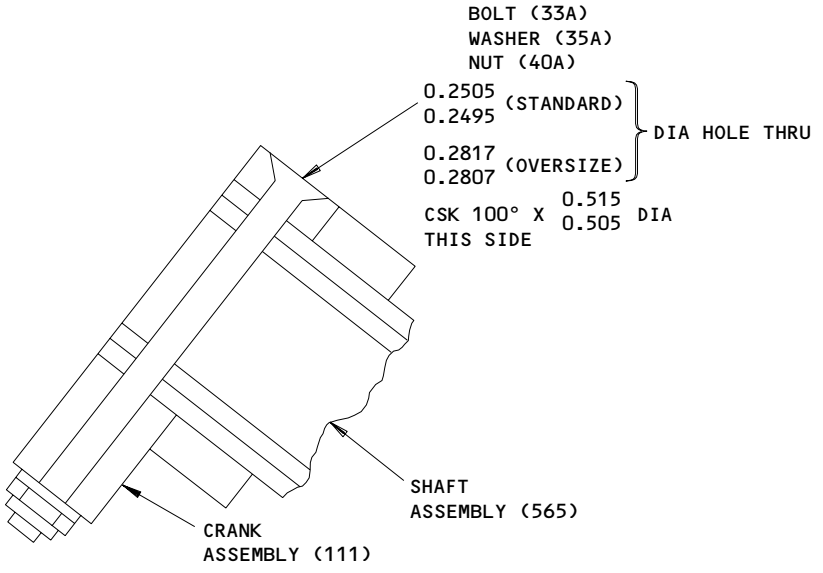
E–E
(ITEMS 1,1A,1C)

ITEM NUMBERS REFER TO IPL FIG. 3

Assembly Details
Figure 702 (Sheet 4)

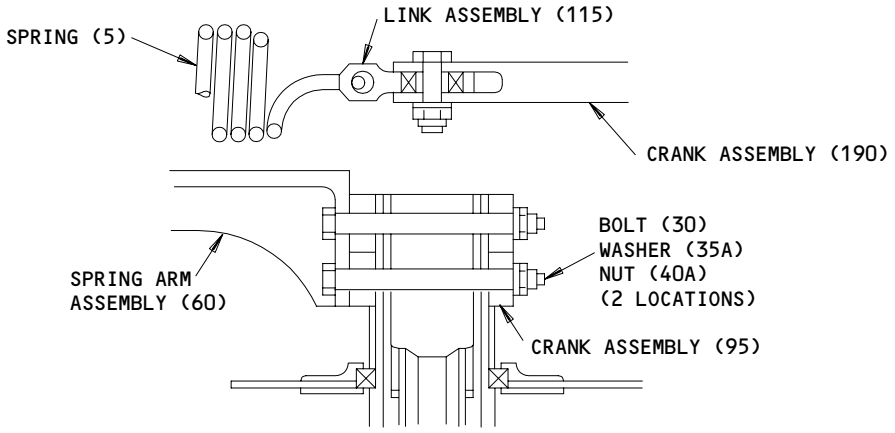


F-F
(ITEMS 1B,1D,1E,1F,1G,1H,1J)

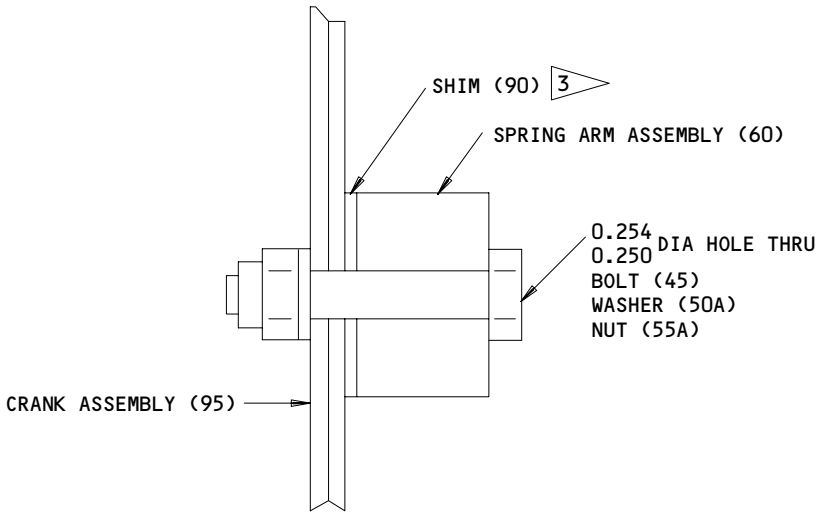


G-G
(ITEMS 1B,1D,1E,1F,1G,1H,1J)

Assembly Details
Figure 702 (Sheet 5)



H-H
(ITEMS 1,1A,1C)



I-I
(ITEMS 1,1A,1C)

1 APPLY FORCE AS INDICATED AND CLAMP UP BEARING AGAINST SHOULDERS OF SHAFT ASSYS (540,565) BEFORE DRILLING

2 REMOVE LAMINATION FROM SHIM (355) AS REQUIRED TO MAINTAIN SPECIFIED DIMENSION BETWEEN BEARING HOUSING ASSYS (310). INSTALL SHIM WITH SOLID FACE AGAINST BEARING

3 REMOVE LAMINATION OF SHIM (90) AS REQUIRED TO OBTAIN 0.005 MAX PULLUP

ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

Assembly Details
Figure 702 (Sheet 6)

5. Assemble Feel and Centering Unit (IPL Fig. 1)

A. Install unions (115A, 125A), reducer (130), packings (120, 135) and caps (117, 127, 137) on cylinder assembly (100).

B. Position cylinder assembly (100) under centering unit assembly (110C) with hydraulic ports facing down.

CAUTION: DO NOT RETIGHTEN NUT (95).

C. Install bolt assembly (55) thru cylinder assembly (100) and centering unit assembly (110C) and install washer (80) and nut (95). Tighten nut to 85-100 lb-in., then install washer (70) and nut (90A) and tighten nut (90A) to 30-35 lb-in.

NOTE: If bolt assembly (55) were disassembled, assemble bolts (55, 60) with sealant on bolthead faying surfaces.

D. Position spacer (15) on cylinder assembly (100) and install bolt assembly (35) thru spacer and cylinder assembly. Install bushing (10), slider block (25), washer (5) and nut (20B) on spacer. Tighten nut to 100-150 lb-in.

NOTE: If bolt assembly (35) were disassembled, assemble bolts (40, 45) with sealant on bolthead faying surfaces.

CAUTION: DO NOT RETIGHTEN NUT (95).

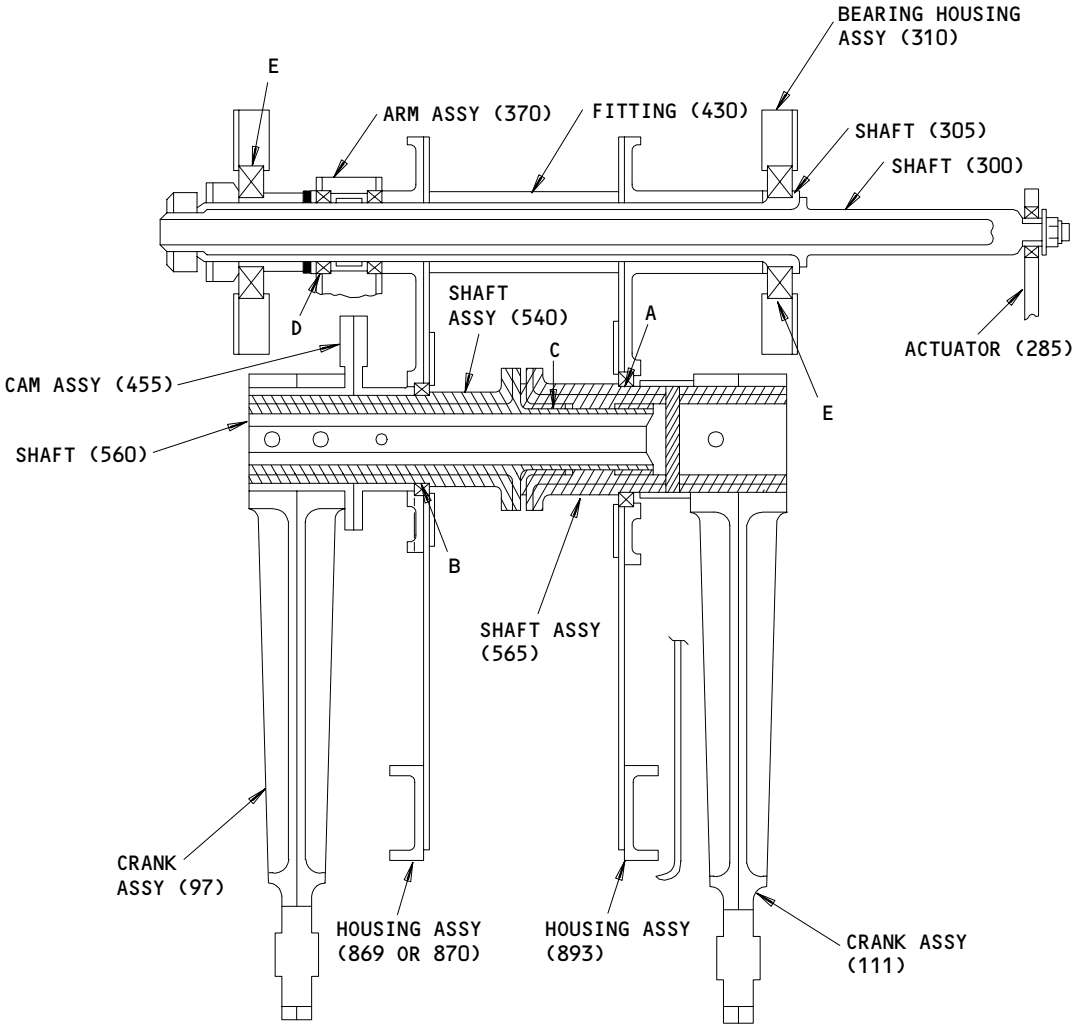
E. Install bushing (85), retainer (105), washer (75) and nut (95A) and tighten nut to 85-100 lb-in. Install washer (65) and nut (90A) and tighten nut to 30-35 lb-in. Install bolt (30), washer (65) and nut (90A).

F. Test unit per Testing/Trouble Shooting.

6. Storage instructions:

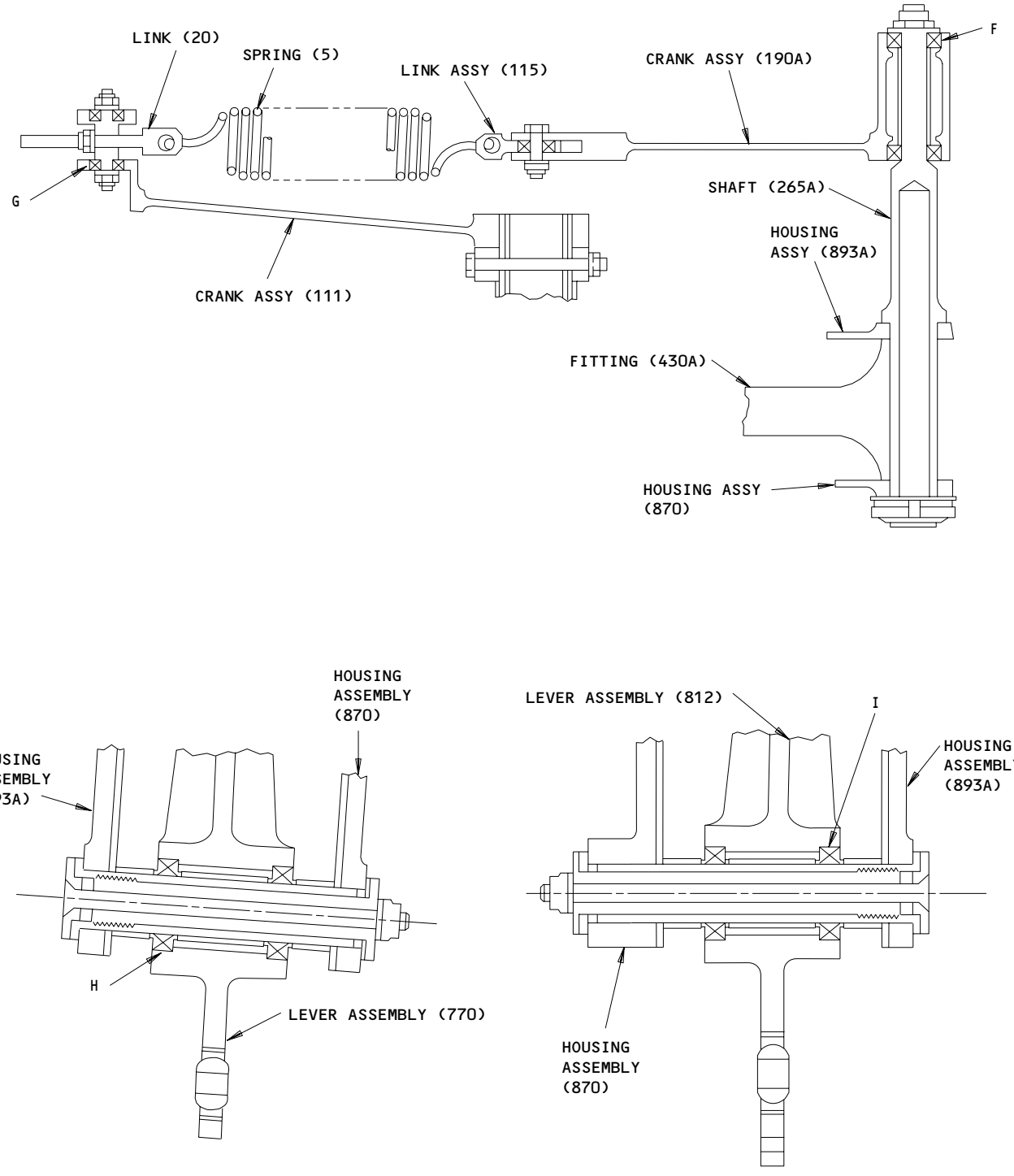
A. Refer to CMM 27-31-15 for servicing and storage instructions for cylinder assembly (100, IPL Fig. 1).

B. Use standard industry practices to store this component.



ITEM NUMBERS REFER TO IPL FIG. 3

Fits and Clearances
Figure 801 (Sheet 1)



ITEM NUMBERS REFER TO IPL FIG. 3

Fits and Clearances
Figure 801 (Sheet 2)

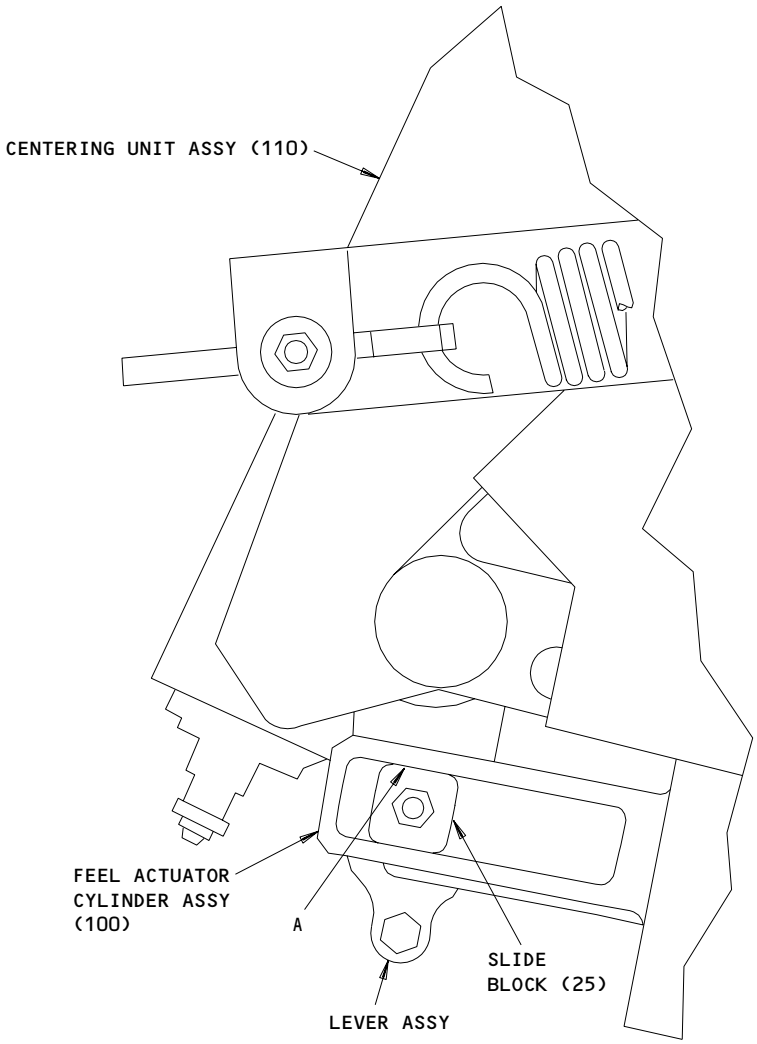
179274

Ref Letter Fig.801	Mating Item No. IPL Fig.3	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance *[1]		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 893 OD 565	1.5618 1.5608	1.5632 1.5618	0.0000	0.0024	1.5584	1.5666	0.0048
B	ID 870 OD 540	1.3118 1.3108	1.3132 1.3118	0.0000	0.0024	1.3070	1.3148	0.0048
C	ID 565 OD 540	0.8755 0.8735	0.8765 0.8745	0.0010	0.0030	0.8685	0.8805	0.0060
D	ID 370 OD 360	1.3125 1.3115	1.3135 1.3125	0.0000	0.0020	1.3085	1.3165	0.0040
E	ID 340 OD 335	1.9375 1.9365	1.9380 1.9375	0.0000	0.0015	1.9350	1.9405	0.0030
F	ID 190A OD 155	1.125 1.1245	1.126 1.1250	0.0000	0.0015	1.1230	1.1280	0.0030
G	ID 111 OD 93G	0.7495 0.7495	0.7505 0.7500	-0.0005	0.0010	0.7470	0.7530	0.0030
H	ID 770 OD 760	1.1875 1.1865	1.1885 1.1875	0.0000	0.0020	1.1845	1.1915	0.0040
I	ID 812 OD 760	1.1875 1.1865	1.1885 1.1875	0.0000	0.0020	1.1845	1.1915	0.0040
	ID 420 OD 410	0.505 0.5006	0.515 0.5013	0.0037	0.0144	0.4862	0.5301	0.0288
	ID 425A OD 375	0.3745 0.3735	0.3755 0.3745	0.0000	0.0020	0.3715	0.3785	0.0040
	ID 415 OD 375	0.3743 0.3735	0.3750 0.3745	-0.0002	0.0015	0.3720	0.3775	0.0030
	ID 675 OD 670	0.505 0.5006	0.515 0.5013	0.0037	0.0144	0.4862	0.5301	0.0288

*[1] NEGATIVE VALUES DENOTE INTERFERENCE FIT

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 3)



ITEM NUMBERS REFER TO IPL FIG. 1

Ref Letter Fig.801	Mating Item No. IPL Fig.1	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	*[1] 100	0.814	0.820	0.006	0.020		0.848	0.040
	*[2] 25	0.800	0.808			0.774		

*[1] WIDTH OF SLOT
*[2] WIDTH OF SLIDE BLOCK

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 802

231818

FOR TORQUE VALUES OF STANDARD FASTENERS, REFER TO 20-50-01			
ITEM NO. IPL FIG.	NAME	TORQUE	
		POUND-INCHES	POUND-FEET
FIG. 1			
20B	NUT	100-150	
90A	NUT	30-35	
95A	NUT	85-100	
FIG. 3			
255	NUT	400-500	
290	NUT	90-110	
295	NUT	180-200	
395A	NUT	30-35	
405A	NUT	85-100	
535A	NUT	85-100	
605A	NUT	30-35	
615A	NUT	85-100	
750	SHAFT	40-60	
755	SHAFT	40-60	

Torque Table
Figure 803

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

NOTE: Equivalent substitutes may be used.

1. Test Equipment -- A27041-170 (replaces -142)

2. Jig Equipment -- A27058-60

3. Test Box Assembly -- A27081-3 *[1]

4. Cable Assemblies -- A27081-7, -9 *[1]

5. Breakout Box -- A27063-2 *[2]

6. Cable Assembly -- A27063-29 *[2]

7. AC Power Supply -- 115v ac, 50-400 Hz

8. DC Power Supply -- 26v dc

9. Hydraulic test stand capable of delivering BMS 3-11, hydraulic fluid at a constant pressure of 165-185 psig and 2050-2150 psig.

10. X-Y Plotter -- Hewlett Packard Co., Model HP7045B, Allen Datagraph, 925E or equivalent. (Allen Datagraph, 2 Industrial Way, Salem, New Hampshire 03079, (603) 893-1983 or (800) 258-6360. www.allendatagraph.com)

11. Digital Voltmeter -- 8050A (John Fluke Manufacturing Co., Inc., 5020 148th Avenue N.E., Redmond, Washington 98052).

*[1] Part of A27081-1 Read and Control Equipment
*[2] Part of A27063-1 Breakout Box Equipment

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 Assemby
      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

01673 AIRDROME PARTS CO
3251 AIRPORT WAY
LONG BEACH, CALIFORNIA 90806

06710 VALLEY-TODECO INCORPORATED
12975 BRADLEY AVENUE
SYLMAR,CALIFORNIA 91342

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

06950 VSI CORP SCREWCORP DIV
13001 EAST TEMPLE AVENUE
CITY OF INDUSTRY, CALIFORNIA 91746

08524 DEUTSCH FASTENER CORPORATION
PO BOX 92925 7001 WEST IMPERIAL HIGHWAY
LOS ANGELES, CALIFORNIA 90045

11328 TELEDYNE LINAIR ENGINEERING
651 WEST KNOX STREET
GARDENA, CALIFORNIA 90248

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

14397 FABER ENTERPRISES, INCORPORATED
6606 VARIEL AVE
CANOGA PARK, CALIFORNIA 91303

14798 DEUTSCH CO METAL COMPONENTS DIV
14800 SOUTH FIGUEROA STREET
GARDENA, CALIFORNIA 90061

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

17446 HUCK MFG CO LOS ANGELES DIV
900 WATSON CENTER ROAD
CARSON, CALIFORNIA 90745

VENDORS

17943 FEDERAL MANUFACTURING CORPORATION
6910 FARMDALE AVENUE
NORTH HOLLYWOOD, CALIFORNIA 91605

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

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

27624 P.B. FASTENER DIV OF PAUL R BRILES INC
1700 WEST 132ND STREET
GARDENA, CALIFORNIA 90249

29666 HUCK MANUFACTURING COMPANY
2500 BELLEVUE AVENUE
DETROIT, MICHIGAN 48207

30163 DAYRON CORP.
333 MAGUIRE BLVD P.O. BOX 20394
ORLANDO, FLORIDA 32814

30974 AEROFIT PRODUCTS INCORPATED
8531 WHITAKER STREET
BUENA PARK, CALIFORNIA 90621

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

43991 FAG BEARING INCORPORATED
HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

50294 NMB CORP.
9730 INDEPENDENCE AVE
CHATSWORTH, CALIFORNIA 91311

50948 PARKER-HANNIFIN CORP HUNTSVILLE AIRCRAFT FACILITY
9400 SOUTH MEMORIAL PARKWAY
HUNTSVILLE, ALABAMA 35802

VENDORS

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

56878 SPS TECHNOLOGIES INC
HIGHLAND AVE
JENKINTOWN, PENNSYLVANIA 19046

60380 TORRINGTON CO BEARINGS DIV SUBSIDIARY OF INGERSOLL-RAND CORP
59 FIELD STREET
TORRINGTON, CONNECTICUT 06790

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

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

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

73197 HISHEAR CORPORATION
2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA 90509

76328 KIMBER OF OREGON INC
20365 S GREEN MTN RD
COLTON, OR 97017

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

88334 WEATHERHEAD GLENDALE,CALIF SEE WEATHERHEAD CLEVELAND V79470

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

92563 MCGILL MFG CO INC BEARINGS DIV
909 LAFAYETTE STREET
VALPARAISO, INDIANA 46383-4210

VENDORS

94892 MASTER MACHINE PRODUCTS CORPORATION
2069 RANDOLPH STREET
HUNTINGTON PARK, CALIFORNIA 90255

97393 SHUR-LOK CORPORATION
2541 WHITE ROAD
IRVINE, CALIFORNIA 92713

97928 LITTON FASTENING SYSTEMS DIV OF LITTON SYSTEMS INC
3969 PARAMONT BOULEVARD
LAKEWOOD, CALIFORNIA 90712

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AC69001		3	415A	1
AFP2328-6		1	130	1
AN960-416L		1	5	1
AN960B616		2	265	
		3	510	8
AN960CX416L		3	390	2
AN960C416		2	365	
		2	405	
		2	485	
		3	610	1
		3	650	1
		3	730	2
AN960C616		2	375	
		2	415	
		2	380B	
		3	620	1
		3	660	1
		3	625B	AR
AN960C616L		2	380C	
		3	625C	AR
AN960D616		2	240	
		3	475	2
AN960JD10		3	445A	1
AN960JD1616		3	260B	1
AN960JD1616L		3	260D	1
AN960JD416		3	15A	1
		3	70A	2
		3	93A	2
		3	125A	1
		3	170A	1
		3	215A	6
		3	235A	1
		3	800A	2
		3	863A	4
		3	864A	1
AN960JD616		3	625D	AR
AN960JD616L		3	625E	AR
AN960JD8L		3	320A	2
AN960JF416		3	50A	1
AN960PD10		2	190	
		3	445	
AN960PD1616		3	260	
AN960PD1616L		3	260A	

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AN960PD416		2	15	
		2	175	
		2	555	
		2	660	
		3	15	
		3	35	
		3	50	
		3	70	
		3	93	
		3	125	
		3	170	
		3	215	
		3	235	
		3	35A	4
		3	800	
		3	863	
		3	864	
AN960PD616		2	380	
		3	625	
AN960PD616L		2	380A	
		3	625A	
AN960PD8L		2	45	
		3	320	
AN960PD916		2	475	
AN960XC416		1	70	1
AN960XC416L		1	65	2
		2	115	
AN960XC616		1	80	1
AN960XC616L		1	75	1
		2	125	
		3	400	2
AN960XC916		2	480	
		3	725	1
AN970-4		3	280	1
AN970-8		3	150	1
AP10278-6		1	130	1
ATF6		2	140	
BACB10AR6		3	105	1
		3	112H	1
BACB10AS25		3	902A	1
BACB10AW16		3	335	1
BACB10A661		3	135A	1
BACB10BX4		3	75	2
		3	135	1
		3	93G	1
		3	112G	1
BACB10BX6		3	836	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACB10BX8		3	155	1
		3	200	1
BACB10CF12PP		3	760	2
		3	785	1
		3	821	1
BACB10CF14PP		3	360	2
BACB10CF21PP		3	887	1
BACB10CF25PP		3	902	1
BACB10ET06		3	415	1
BACB28AK04-015		3	185	1
BACB28AK04-025		3	185A	1
BACB28AK06-031		2	250	
		3	485	2
BACB28X4C013		3	195	1
BACB28X6C018		2	245	
		3	480	2
BACB28Y12D054		2	470	
		3	715	4
BACB28Y12D116		2	520	
		3	765	2
BACB28Y14D047		2	90	
		3	365	1
BACB28Y14D280		2	165	
		3	435	1
BACB28Y6C032		1	85	1
BACB28Y6C068		2	135	
		3	410	1
BACB28Y6E044		2	425	
		3	670	1
BACB30GP5		2	675	
		3	872	4
BACB30GP6-4		3	113	2
BACB30GW8A26		3	465	2
BACB30GW8A29		3	490	3
BACB30GY8A29		3	495	3
BACB30LH4-45		3	33A	1
BACB30LH4-63		2	455	
		3	700	1
BACB30LH4-72		2	460	
		3	705	1
BACB30LH4C26		2	105	
		3	380	1
BACB30LJ4-6		1	30	1
BACB30LJ4C22		2	395	
		3	640	1
BACB30LJ4C24		1	55	1
BACB30LJ4C32		1	40	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACB30LMC32		1	40A	
BACB30LM4C32		1	40B	1
BACB30LU2-8		2	40	
		3	315	2
BACB30LU4-57		2	652	
		3	857	2
BACB30NF4-12		3	165	1
		3	210	6
BACB30NF4-16		3	45	1
BACB30NF4-39		3	30	2
BACB30NF4-63		3	230	1
BACB30NF4-9		3	120	1
BACN10CT4		1	20	
BACN10HR4CD		1	20B	1
BACN10JC08		3	325	
BACN10JC3		3	450	
BACN10JC4		3	10	
		3	40	
		3	55	
		3	65	
		3	92	
		3	130	
		3	180	
		3	220	
		3	250	
		3	275	
		3	803	
		3	866	
		3	867	
BACN10JC4CD		3	130A	1
BACN10JC4CM		1	90	
		3	395	2
		3	605	
		3	655	
		3	735	
BACN10JC6CM		1	95	
		3	405	2
		3	535	
		3	615	
		3	665	
BACN10JC8		3	145	1
BACN10RF10		3	290	1
BACN10RF14		3	295	1
BACN10RF16		3	255	1
BACN10TL3-4		3	914	
BACN10TL3A4		3	914A	7
BACN10YR08CD		3	325A	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACN10YR3CD		3	450A	1
BACN10YR4CD		3	10A	1
		3	40A	4
		3	55A	2
		3	65A	2
		3	92A	1
		3	180A	1
		3	220A	6
		3	250A	1
		3	275A	1
		3	803A	2
		3	866A	4
		3	867A	1
BACN10YR4CM		1	90A	3
		3	395A	
		3	605A	1
		3	655A	1
		3	735A	2
BACN10YR6CM		1	95A	2
		3	405A	
		3	535A	8
		3	615A	1
		3	665A	1
BACR15BA4D		2	755A	
BACR15BA4DD		2	755	
BACR15BA5D		3	883	15
BACR15BB3D		2	745	
		3	911	14
		3	917	4
BACR15BB5D		2	690	
		2	715	
		3	881	7
		3	882	49
		3	896	7
		3	883A	15
BACR17E8-6		1	130	1
BACS40U4N5		3	90	1
BACW10BN92AP		2	475A	
		3	720	1
BACW10P28OTF		3	175	2
BAC27TCT0007		1	140	1
BAS1149C0463R		3	650A	1
BC902T4		1	115	
BC902T6		1	125	
BC916T8-6		1	130	1
BMNN10HR4		1	20A	

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BMN4122AD3-8		3	145	1
		3	145	1
BRH10-08		2	50	
BRH10-3		2	195	
BRH10-4		2	20	
		2	180	
		2	560	
		2	665	
BR1110C4M		2	120	
		2	360	
		2	410	
		2	490	
BR1110C6M		2	130	
		2	290	
		2	370	
		2	420	
BR9080-14		3	295	1
BR9080-16		3	255	1
B539-2TS		3	760	2
B539DD		2	515	
		2	540	
		2	590	
		3	760	2
		3	785	1
		3	821	1
B539DDFS428		3	760	2
B539SSG27		3	760	2
B540-2TS		3	360	2
B540DD		2	85	
		3	360	2
B540DDFS428		3	360	2
B540SSG27		3	360	2
B542-2TS		3	887	1
B542DD		2	700	
		3	887	1
B542DDFS428		3	887	1
B542SSG27		3	887	1
B543-2TS		3	902	1
B543DD		2	725	
		3	902	1
B543DDFS428		3	902	1
B543SSG27		3	902	1
DBOR17E8-6		1	130	1
ER21916T8-6		1	130	1
ER31916-8-6		1	130	1
FL4C6-2FS428		2	565	
		3	806	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
F23-8-6		1	130	1
HHMKSP6		3	105	1
HT6-101		3	780A	1
H10-8BAC		3	145	1
KP4A		3	75	2
		3	135	1
		3	93G	1
		3	112G	1
KP4AFS428		3	75	2
KP4AG27		3	75	2
KP4A2TS		3	75	2
KP6A		2	615	
		3	836	2
KP6AFS428		3	836	2
KP6AG27		3	836	2
KP6A2TS		3	836	2
KP8A		3	155	1
		3	200	1
KP8AFS428		3	155	1
KP8AG27		3	155	1
KP8A2TS		3	155	1
LLKP4A		3	75	2
LLKP6A		3	836	2
LLKP8A		3	155	1
LLMKP16BS		3	335	1
MKP16BSE9273		3	335	1
MKP16BSFS428		2	60	
		3	335	1
MKP16BSTT		3	335	1
MKP16BS2TS		3	335	1
MKSP6		2	210	
		3	105	1
		3	107	
		3	112H	1
MKSP6-2TS		3	105	1
MKSP6E9440A		3	105	1
MKSP6FS428		3	105	1
MKSP63TT		3	105	1
MS14104-6		2	305	
		2	330	
		2	535	
		2	585	
		3	550	2
		3	575	2
		3	780	1
		3	818	1
MS21D42L4		3	275B	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
MS21042L3		3	450B	1
MS21042L4		3	10B	1
		3	40B	4
		3	92B	1
		3	130B	1
		3	180B	1
		3	220B	6
		3	803B	2
		3	866B	4
		3	867B	1
MS21902-4		1	115A	2
MS21902-6		1	125A	1
MS27641-4G		3	135B	1
MS39086-164		2	335	
		3	580	1
M81934-1-14A020		2	345	
		3	590	1
M81934-2-14A020		2	340	
		3	585	1
NAS1080D5		2	680	
		3	875	4
NAS1080D6		3	113G	2
NAS1080E08		2	285	
		3	530	8
NAS1149B0663H		3	510A	8
		3	510B	8
NAS1149C0432B		1	65A	2
		3	390A	2
NAS1149C0463B		1	70A	1
NAS1149C0463R		3	610A	1
		3	610B	1
		3	730A	2
		3	730B	2
NAS1149C0632B		1	75A	1
		3	400A	2
NAS1149C0632R		3	625J	AR
NAS1149C0663B		1	80A	1
NAS1149C0663R		3	620A	1
		3	620B	1
		3	625H	AR
		3	660A	1
NAS1149C0963B		3	725A	1
		3	725B	1
NAS1149DN816J		3	320B	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
NAS1149D0463J		3	15B	1
		3	15C	1
		3	35B	4
		3	35C	4
		3	50B	1
		3	70B	2
		3	93B	2
		3	93C	2
		3	125B	1
		3	125C	1
		3	170B	1
		3	170C	1
		3	215B	6
		3	215C	6
		3	800B	2
		3	800C	2
		3	863B	4
		3	863C	4
		3	864B	1
		3	864C	1
		3	625G	AR
NAS1149D0663H		3	475A	2
NAS1149D0663J		3	475B	2
		3	625F	AR
NAS1149D1632J		3	260F	1
NAS1149D1690J		3	260C	1
NAS1149F0432P		1	5A	1
NAS11491616J		3	260E	1
NAS1449D0363J		3	445B	1
		3	445C	1
NAS1612-4		1	120	2
NAS1612-4A		1	120A	2
		1	120B	2
NAS1612-6		1	135	2
NAS1612-6A		1	135A	2
		1	135B	2
NAS42DD8-20		3	18	1
NAS42HT8-15		3	240	2
NAS42HT8-179		3	245	1
		3	860	2
NAS43DD4-179		2	655	
		3	861	3
NAS603-5P		3	908	7
NAS6603-24		2	185	
		3	440	1
NAS6604-12		2	550	
		3	795	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
NAS6604-33		3	25A	2
		3	30A	2
NAS6604-35		2	170	
		3	25	2
		3	32	1
NAS6604-46		2	640	
		3	33	
		3	851	2
NAS6604-50		2	650	
		3	858	1
NAS6604-9		2	10	
		3	210A	6
NAS73-8E200		3	160	1
NO ASSIGNED P/N		1	110C	1
		1	110D	1
		1	110F	1
		1	110G	1
		3	1	RF
		3	1A	RF
		3	1C	RF
		3	1D	RF
		3	893	1
NSA1149D0463J		3	235B	1
RMLH9074-8		3	145	1
		3	145	1
R584M54		3	285	1
SALPYEU8-24C		2	230	
SALPYEU8-26C		2	230A	
		3	465	2
SALPYEU8-27C		2	255	
		2	257	
SALPYEU8-29C		2	255A	
		3	490	3
SAL100YEU8-27C		2	257A	
SAL100YEU8-29C		2	257B	
		3	495	3
SL2822-10		2	25	
		3	290	1
SL2822-14		2	30	
		3	295	1
SL2822-16		3	255	1
YR1315		3	415A	1
		3	415B	1
2-01075T8-6		1	130	1
2LPYE6-4		3	113	2
251T2120-1		2	355	
		3	600	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T2121-1		2	145	
		3	420	1
251T2123-1		2	435	
		3	680	1
251T2124-1		2	440	
		3	685	1
251T2125-1		2	270	
		3	515	8
251T2125-2		2	275	
		3	520	4
251T2125-3		2	280	
		3	525	4
251T2126-1		2	685	
		3	878	1
251T2127-1		2	570	
		3	809	1
251T2128-1		2	385	
		3	630	1
251T2131-1		2	465	
		3	710	2
251T2146-1		3	300	1
251T2146-2		3	265	1
251T2146-3		3	265A	1
251T2147-1		3	270	2
251T2148-1		3	190	1
251T2148-2		3	205	1
251T2148-3		3	190A	1
251T2148-4		3	205A	1
251T2149-1		3	60	1
251T2149-2		3	85	1
251T2150-1		3	430	1
251T2150-2		3	430A	1
251T2152-1		3	5	1
251T2152-2		3	5A	1
		3	5B	1
251T2155-1		3	114G	1
251T2156-1		3	111	1
251T2203-1		2	645	
		3	854	1
251T2210-10		1	1E	RF
251T2210-11		1	1F	RF
251T2210-12		1	1G	RF
251T2210-13		1	1H	RF
251T2210-14		1	1J	RF
251T2210-15		1	1K	RF
251T2210-16		1	1L	RF
251T2210-17		1	1M	RF

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T2210-3		1	1	
251T2210-4		1	1A	
251T2210-5		1	1B	
251T2210-7		1	1C	RF
251T2210-8		1	1D	RF
251T2240-5		2	320	
		3	565	1
251T2240-6		2	350	
		3	595	1
251T2240-7		2	320A	
		3	565A	1
251T2240-8		2	350A	
		3	595A	1
251T2241-1		2	295	
		3	540	1
251T2241-2		2	310	
		3	555	1
251T2241-3		2	295A	
		3	540A	1
251T2241-4		2	310A	
		3	555A	1
251T2244-1		2	35	
		3	310	2
251T2245-10		1	110J	1
		3	1F	RF
251T2245-11		1	110K	1
		1	110L	1
		3	1G	RF
251T2245-12		1	110M	1
		3	1H	RF
251T2245-13		1	110N	1
		3	1J	RF
251T2245-14		1	110M	1
		3	1K	RF
251T2245-3		1	110	
		2	1	
251T2245-4		1	110A	
		2	1A	
251T2245-5		1	110B	
		2	1B	
251T2245-8		1	110E	1
		3	1B	RF
251T2245-9		1	110H	1
		3	1E	RF
251T2246-1		2	100	
		3	375	2

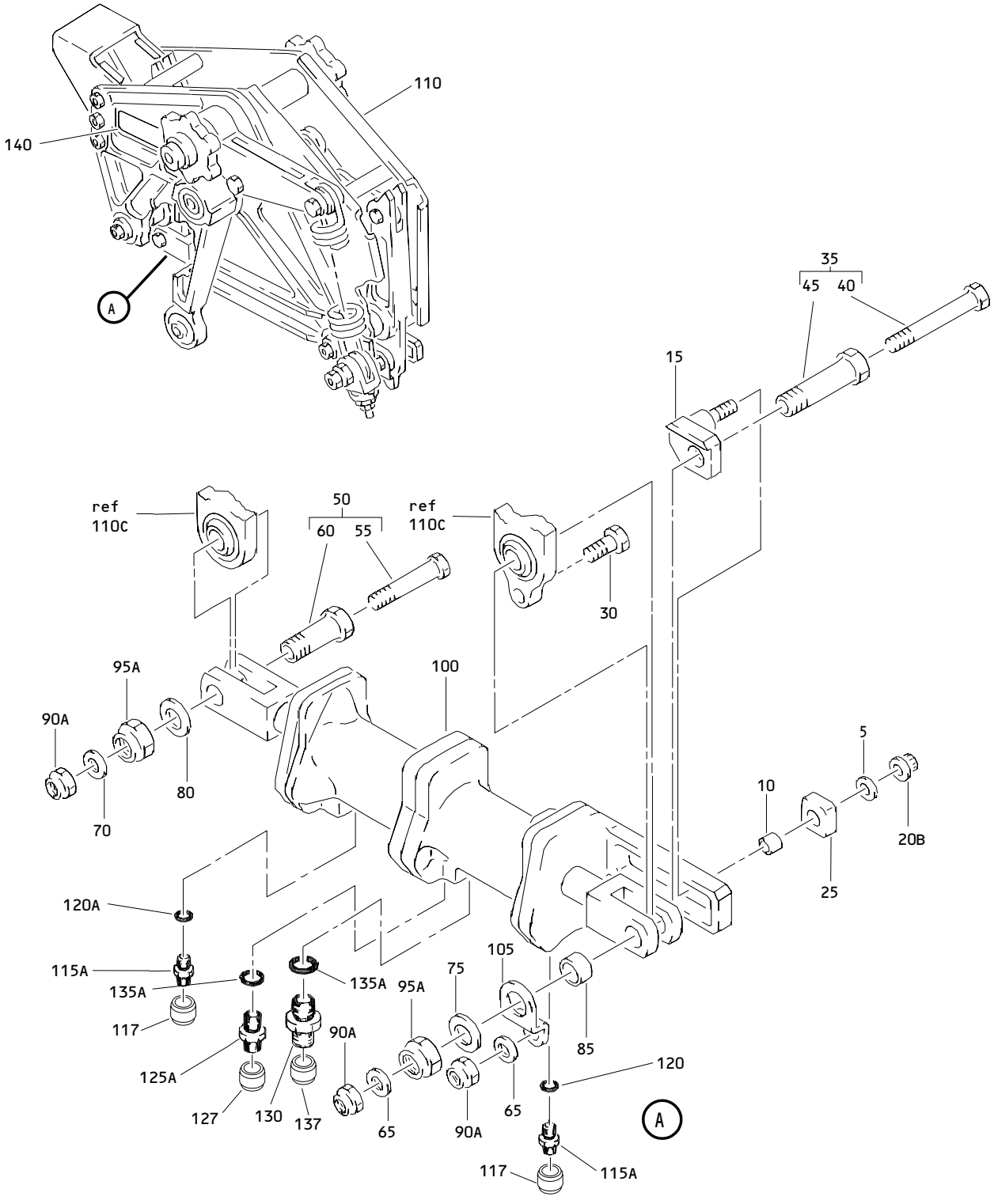
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T2246-2		2	390	
		3	635	1
251T2246-3		1	35	1
251T2246-4		1	50	1
251T2247-1		2	670	
		3	869	1
251T2247-10		3	893A	1
251T2247-11		3	870	1
251T2247-2		2	710	
251T2247-3		2	670A	
		3	869A	1
251T2247-4		2	710A	
251T2247-5		2	705	
		3	890	1
251T2247-6		2	730	
251T2247-7		2	705A	
		3	890A	1
251T2247-8		2	730A	
251T2247-9		2	710B	
251T2248-3		3	892	1
251T2249-1		2	765	
		3	926	1
251T2249-3		3	926B	1
251T2250-1		3	891	1
251T2250-2		2	695	
		3	884	1
251T2250-3		2	760	
		3	923	1
251T2250-4		2	720	
		3	899	1
251T2251-2		2	765A	
		3	926A	1
251T2252-1		2	220	
		3	455	1
251T2252-2		2	225	
		3	460	1
251T2252-3		2	220A	
		3	455A	1
251T2252-4		2	225A	
		3	460A	1
251T2252-5		2	220C	
		2	220E	
		3	455C	1
		3	455E	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T2252-6		2	220B	
		2	220D	
		3	455B	1
		3	455D	1
251T2252-7		3	455F	1
251T2255-1		2	200	
		3	95	1
		3	97	1
251T2255-2		2	215	
		3	110	1
		3	112B	
251T2255-3		2	200A	
		3	95A	1
		3	97A	1
251T2255-4		2	215A	
		3	110A	1
		3	112A	
251T2257-1		2	315	
		3	560	1
251T2260-1		2	65	
		3	340	1
251T2260-2		2	70	
		3	345	1
251T2261-1		2	80	
		3	355	1
251T2263-1		2	95	
		3	370	1
251T2263-12		3	370B	1
251T2263-2		2	150	
		3	425	1
251T2263-4		2	95A	
		3	370A	1
251T2263-5		2	150A	
		3	425A	1
251T2265-1		2	525	
		3	770	1
251T2265-2		2	525A	
		3	770A	1
251T2265-3		2	545	
		3	790	1
251T2265-4		2	545A	
		3	790A	1
251T2268-1		2	735	
251T2268-2		2	740	
		3	905	2
251T2269-1		3	114	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T2270-1		2	155	
		3	303	1
251T2270-2		2	160	
		3	305	1
251T2271-1		2	575	
		3	812	1
251T2271-2		2	575A	
		3	812A	1
251T2271-3		2	595	
		3	824	1
251T2271-4		2	595A	
		3	824A	1
251T2274-1		2	430	
		3	675	1
251T2275-1		1	105	1
251T2276-3		2	635	
251T2276-5		2	630	
		3	845	4
251T2276-7		2	635A	
		3	848	4
251T2277-1		2	600	
		3	827	1
251T2277-2		2	605	
		3	830	1
251T2277-3		2	620	
		3	839	1
251T2277-4		2	625	
		3	842	1
251T2280-1		2	5	
		3	225	1
251T2281-1		2	75	
		3	350	1
251T2282-1		2	450	
		3	695	1
251T2283-1		2	445	
		3	690	1
251T2284-1		2	55	
		3	330	1
251T2285-1		2	495	
		3	740	1
251T2285-2		2	500	
		3	745	1
251T2286-1		2	505	
		3	750	1
251T2286-2		2	510	
		3	755	1
251T2286-4		3	750A	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T2286-5		3	755A	1
251T2287-1		2	260	
		2	262	
		3	500	3
251T2287-10		1	45A	1
251T2287-11		2	262A	
		3	505	3
251T2287-2		2	110	
		3	385	1
251T2287-3		1	60	1
		2	235	
		3	470	2
251T2287-4		2	400	
		3	645	1
251T2287-5		1	45	1
251T2289-1		2	750	
251T2289-2		3	920	1
251T2342-1		3	690A	1
		3	690B	1
251T2343-1		3	695A	1
		3	695D	1
251T2343-2		3	695B	1
		3	695C	1
251T2344-1		3	809A	1
31778-8-6		1	130	1
48FT820		3	145	1
60B00178-681		3	415A	1
		3	415B	1
65-38904-2		1	25	1
65-44503-10		1	100B	1
65-44503-7		1	100	1
65-44503-8		1	100A	1
66-21297-2		1	10	1
66-22811-1		1	15	1
69-38919-18		2	205	
		3	100	1
		3	102	
		3	111G	1
69-38919-2		2	300	
		2	325	
		2	530	
		2	580	
		3	545	2
		3	570	2
		3	775	1
		3	815	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
69-38919-33		2	610	
		3	833	2
69B83099-1		3	80	1
		3	94	1
69B83099-2		3	20	1
69B83132-3		3	115	1
69B83132-4		3	140	1
69B83132-5		3	140A	1



Elevator Control Feel and Centering Unit Assembly
Figure 1

T58278

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	251T2210-3		DELETED		
-1A	251T2210-4		DELETED		
-1B	251T2210-5		DELETED		
-1C	251T2210-7		UNIT ASSY-ELEV CONT FEEL AND CENTERING (PRE SB 27-22)	A	RF
-1D	251T2210-8		UNIT ASSY-ELEV CONT FEEL AND CENTERING (PRE SB 27-22)	B	RF
-1E	251T2210-10		UNIT ASSY-ELEV CONT FEEL AND CENTERING	C	RF
-1F	251T2210-11		UNIT ASSY-ELEV CONT FEEL AND CENTERING (POST SB 27-22)	D	RF
-1G	251T2210-12		UNIT ASSY-ELEV CONT FEEL AND CENTERING	E	RF
-1H	251T2210-13		UNIT ASSY-ELEV CONT FEEL AND CENTERING	F	RF
-1J	251T2210-14		UNIT ASSY-ELEV CONT FEEL AND CENTERING	G	RF
-1K	251T2210-15		UNIT ASSY-ELEV CONT FEEL AND CENTERING	H	RF
-1L	251T2210-16		UNIT ASSY-ELEV CONT FEEL AND CENTERING	J	RF
-1M	251T2210-17		UNIT ASSY-ELEV CONT FEEL AND CENTERING	K	RF
-1N	251T2210-18		UNIT ASSY-ELEV CONT FEEL AND CENTERING	L	RF
5	AN960-416L		.WASHER (OPT ITEM 5A)		1
5A	NAS1149F0432P		.WASHER (OPT ITEM 5)		1
10	66-21297-2		.BUSHING		1
15	66-22811-1		.SUPPORT		1
20	BACN10CT4		DELETED		
20A	BMNN10HR4		DELETED		
20B	BACN10HR4CD		.NUT	KL	1
-20C	BACN10HR4		.NUT	A-J	1
25	65-38904-2		.BLOCK-SLIDE		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
30	BACB30LJ4-6		.BOLT (V06710) (SPEC BACB30LJ4-6) (V06725) (V06950) (V08524) (V17943) (V80539) (V27624) (V92215) (V97928)		1
35	251T2246-3		.BOLT ASSY		1
40	BACB30LJ4C32		..BOLT (V06710) (SPEC BACB30LJ4C32) (V06725) (V06950) (V08524) (V17943) (V80539) (V27624) (V92215) (V97928) (USED WITH ITEM 45)		1
-40A	BACB30LMC32		DELETED		
-40B	BACB30LM4C32		..BOLT- (USED WITH ITEM 45A)		1
45	251T2287-5		..BOLT-HOLLOW (USED WITH ITEM 40) (OPT ITEM 45A USED WITH ITEM 40B)		1
-45A	251T2287-10		..BOLT-HOLLOW (USED WITH ITEM 40B) (OPT ITEM 45 USED WITH ITEM 40)		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
50	251T2246-4		.BOLT ASSY		1
55	BACB30LJ4C24		..BOLT		1
			(V06710)		
			(SPEC BACB30LJ4C24)		
			(V06725)		
			(V06950)		
			(V08524)		
			(V17943)		
			(V80539)		
			(V27624)		
			(V92215)		
			(V97928)		
60	251T2287-3		..BOLT-HOLLOW		1
65	AN960XC416L		.WASHER	A-F	2
-65A	NAS1149C0432B		.WASHER	G-L	2
70	AN960XC416		.WASHER	A-F	1
-70A	NAS1149C0463B		.WASHER	G-L	1
75	AN960XC616L		.WASHER	A-F	1
-75A	NAS1149C0632B		.WASHER	G-L	1
80	AN960XC616		.WASHER	A-F	1
-80A	NAS1149C0663B		.WASHER	G-L	1
85	BACB28Y6C032		.BUSHING		1
			(V23294)		
			(SPEC BACB28Y6C032)		
			(V70265)		
			(V94892)		
90	BACN10JC4CM		DELETED		
90A	BACN10YR4CM		.NUT		3
95	BACN10JC6CM		DELETED		
95A	BACN10YR6CM		.NUT	KL	2
95B	BACN10JC6CM		.NUT	A-J	2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
100	65-44503-7		.CYLINDER ASSY-FEEL ACTR (FOR DETAILS SEE 27-31-15) (OPT ITEMS 100A,100B)		1
-100A	65-44503-8		.CYLINDER ASSY-FEEL ACTR (FOR DETAILS SEE 27-31-15) (OPT ITEMS 100,100B)		1
-100B	65-44503-10		.CYLINDER ASSY-FEEL ACTR (FOR DETAILS SEE 27-31-15) (OPT ITEMS 100,100A)		1
105	251T2275-1		.RETAINER		1
110	251T2245-3		DELETED		
110A	251T2245-4		DELETED		
110B	251T2245-5		DELETED		
110C	NO ASSIGNED P/N		.UNIT ASSY-CENTERING (REWORKED FROM 251T2245-5) (FOR DETAILS SEE FIG. 3)	A	1
-110D	NO ASSIGNED P/N		.UNIT ASSY-CENTERING (REWORKED FROM 251T2245-6) (FOR DETAILS SEE FIG. 3)	B	1
-110E	251T2245-8		.UNIT ASSY-CENTERING (FOR DETAILS SEE FIG. 3)	C	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-110F	NO ASSIGNED P/N		.UNIT ASSY-CENTERING (REWORKED FROM 251T2245-6) (FOR DETAILS SEE FIG. 3)	D	1
-110G	NO ASSIGNED P/N		.UNIT ASSY-CENTERING (REWORKED FROM 251T2245-6) (FOR DETAILS SEE FIG. 3)	E	1
-110H	251T2245-9		.UNIT ASSY-CENTERING (OPT ITEMS 110J,110K) (FOR DETAILS SEE FIG. 3)	F	1
-110J	251T2245-10		.UNIT ASSY-CENTERING (OPT ITEMS 110H,110K) (FOR DETAILS SEE FIG. 3)	F	1
-110K	251T2245-11		.UNIT ASSY-CENTERING (OPT ITEMS 110H,110J) (FOR DETAILS SEE FIG. 3)	F	1
-110L	251T2245-11		.UNIT ASSY-CENTERING (FOR DETAILS SEE FIG. 3)	G	1
-110M	251T2245-12		.UNIT ASSY-CENTERING (FOR DETAILS SEE FIG. 3)	H	1
-110N	251T2245-13		.UNIT ASSY-CENTERING (FOR DETAILS SEE FIG. 3)	J	1
-110M	251T2245-14		.UNIT ASSY-CENTERING (FOR DETAILS SEE FIG. 3)	K	1
-110N	251T2245-15		.UNIT ASSY-CENTERING (FOR DETAILS SEE FIG. 3)	L	1
115	BC902T4		DELETED		
115A	MS21902-4		.UNION		2
117	BACC14AG4H		.CAP		2
-120	NAS1612-4		.PACKING (REPLD BY 120A)	A-J	2
120A	NAS1612-4A		.PACKING (REPLS 120)	A-J	2
-120B	NAS1612-4A		.PACKING	KL	2
125	BC902T6		DELETED		
125A	MS21902-6		.UNION		1
127	BACC14AG6H		.CAP		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- 130	AFP2328-6		.REDUCER (V30974) (SPEC BACR17E8-6) (OPT AP10278-6 (V01673)) (OPT BC916T8-6 (V50948)) (OPT DBOR17E8-6 (V14798)) (OPT ER21916T8-6 (V88334)) (OPT ER31916-8-6 (V88334)) (OPT F23-8-6 (V73197)) (OPT 2-01075T8-6 (V11328)) (OPT 31778-8-6 (V14397))		1
-135	NAS1612-6		.PACKING (REPLD BY 135A)	A-J	2
135A	NAS1612-6A		.PACKING (REPLS 135)	A-J	2
-135B	NAS1612-6A		.PACKING	KL	2
137	BACC14AG12H		.CAP (OPT ITEM 137A)		1
137A	BACC14AD12JL		.CAP (OPT ITEM 137)		1
140	BAC27TCT0007		.MARKER-PART NO. AND SERIAL		1

Not Used
Figure 2

100545

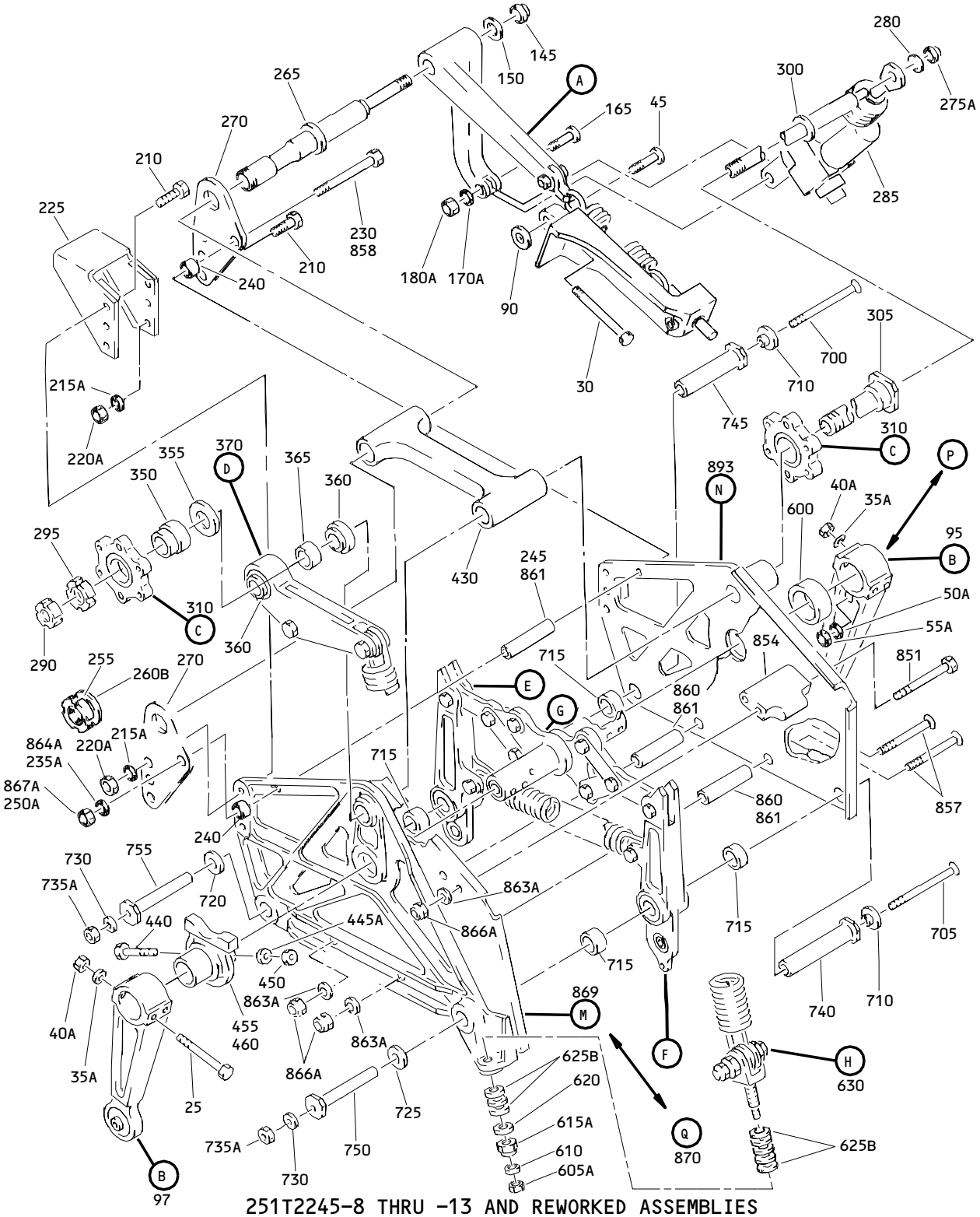
FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
-1	251T2245-3		DELETED		
-1A	251T2245-4		DELETED		
-1B	251T2245-5		DELETED		
5	251T2280-1		DELETED		
10	NAS6604-9		DELETED		
15	AN960PD416		DELETED		
20	BRH10-4		DELETED		
25	SL2822-10		DELETED		
30	SL2822-14		DELETED		
35	251T2244-1		DELETED		
40	BACB30LU2-8		DELETED		
45	AN960PD8L		DELETED		
50	BRH10-08		DELETED		
55	251T2284-1		DELETED		
60	MKP16BSFS428		DELETED		
65	251T2260-1		DELETED		
70	251T2260-2		DELETED		
75	251T2281-1		DELETED		
80	251T2261-1		DELETED		
85	B540DD		DELETED		
90	BACB28Y14D047		DELETED		
95	251T2263-1		DELETED		
-95A	251T2263-4		DELETED		
100	251T2246-1		DELETED		
105	BACB30LH4C26		DELETED		
110	251T2287-2		DELETED		
115	AN960XC416L		DELETED		
120	BR1110C4M		DELETED		
125	AN960XC616L		DELETED		
130	BR1110C6M		DELETED		
135	BACB28Y6C068		DELETED		
140	ATF6		DELETED		
145	251T2121-1		DELETED		
150	251T2263-2		DELETED		
-150A	251T2263-5		DELETED		
155	251T2270-1		DELETED		
160	251T2270-2		DELETED		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
165	BACB28Y14D280		DELETED		
170	NAS6604-35		DELETED		
175	AN960PD416		DELETED		
180	BRH10-4		DELETED		
185	NAS6603-24		DELETED		
190	AN960PD10		DELETED		
195	BRH10-3		DELETED		
200	251T2255-1		DELETED		
-200A	251T2255-3		DELETED		
205	69-38919-18		DELETED		
210	MKSP6		DELETED		
215	251T2255-2		DELETED		
-215A	251T2255-4		DELETED		
220	251T2252-1		DELETED		
-220A	251T2252-3		DELETED		
-220B	251T2252-6		DELETED		
-220C	251T2252-5		DELETED		
-220D	251T2252-6		DELETED		
-220E	251T2252-5		DELETED		
225	251T2252-2		DELETED		
-225A	251T2252-4		DELETED		
230	SALPYEU8-24C		DELETED		
230A	SALPYEU8-26C		DELETED		
235	251T2287-3		DELETED		
240	AN960D616		DELETED		
245	BACB28X6C018		DELETED		
250	BACB28AK06-031		DELETED		
255	SALPYEU8-27C		DELETED		
255A	SALPYEU8-29C		DELETED		
257	SALPYEU8-27C		DELETED		
257A	SAL100YEU8-27C		DELETED		
257B	SAL100YEU8-29C		DELETED		
260	251T2287-1		DELETED		
262	251T2287-1		DELETED		
262A	251T2287-11		DELETED		
265	AN960B616		DELETED		
270	251T2125-1		DELETED		
275	251T2125-2		DELETED		
280	251T2125-3		DELETED		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
285	NAS1080E08		DELETED		
290	BR1110C6M		DELETED		
295	251T2241-1		DELETED		
-295A	251T2241-3		DELETED		
300	69-38919-2		DELETED		
305	MS14104-6		DELETED		
310	251T2241-2		DELETED		
-310A	251T2241-4		DELETED		
315	251T2257-1		DELETED		
320	251T2240-5		DELETED		
-320A	251T2240-7		DELETED		
325	69-38919-2		DELETED		
330	MS14104-6		DELETED		
335	MS39086-164		DELETED		
340	M81934-2-14A020		DELETED		
345	M81934-1-14A020		DELETED		
350	251T2240-6		DELETED		
-350A	251T2240-8		DELETED		
355	251T2120-1		DELETED		
360	BR1110C4M		DELETED		
365	AN960C416		DELETED		
370	BR1110C6M		DELETED		
375	AN960C616		DELETED		
380	AN960PD616		DELETED		
-380A	AN960PD616L		DELETED		
-380B	AN960C616		DELETED		
-380C	AN960C616L		DELETED		
385	251T2128-1		DELETED		
390	251T2246-2		DELETED		
395	BACB30LJ4C22		DELETED		
400	251T2287-4		DELETED		
405	AN960C416		DELETED		
410	BR1110C4M		DELETED		
415	AN960C616		DELETED		
420	BR1110C6M		DELETED		
425	BACB28Y6E044		DELETED		
430	251T2274-1		DELETED		
435	251T2123-1		DELETED		
440	251T2124-1		DELETED		
445	251T2283-1		DELETED		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
450	251T2282-1		DELETED		
455	BACB30LH4-63		DELETED		
460	BACB30LH4-72		DELETED		
465	251T2131-1		DELETED		
470	BACB28Y12D054		DELETED		
475	AN960PD916		DELETED		
475A	BACW10BN92AP		DELETED		
480	AN960XC916		DELETED		
485	AN960C416		DELETED		
490	BR1110C4M		DELETED		
495	251T2285-1		DELETED		
500	251T2285-2		DELETED		
505	251T2286-1		DELETED		
510	251T2286-2		DELETED		
515	B539DD		DELETED		
520	BACB28Y12D116		DELETED		
525	251T2265-1		DELETED		
-525A	251T2265-2		DELETED		
530	69-38919-2		DELETED		
535	MS14104-6		DELETED		
540	B539DD		DELETED		
545	251T2265-3		DELETED		
-545A	251T2265-4		DELETED		
550	NAS6604-12		DELETED		
555	AN960PD416		DELETED		
560	BRH10-4		DELETED		
565	FL4C6-2FS428		DELETED		
570	251T2127-1		DELETED		
575	251T2271-1		DELETED		
-575A	251T2271-2		DELETED		
580	69-38919-2		DELETED		
585	MS14104-6		DELETED		
590	B539DD		DELETED		
595	251T2271-3		DELETED		
-595A	251T2271-4		DELETED		
600	251T2277-1		DELETED		
605	251T2277-2		DELETED		
610	69-38919-33		DELETED		
615	KP6A		DELETED		
620	251T2277-3		DELETED		

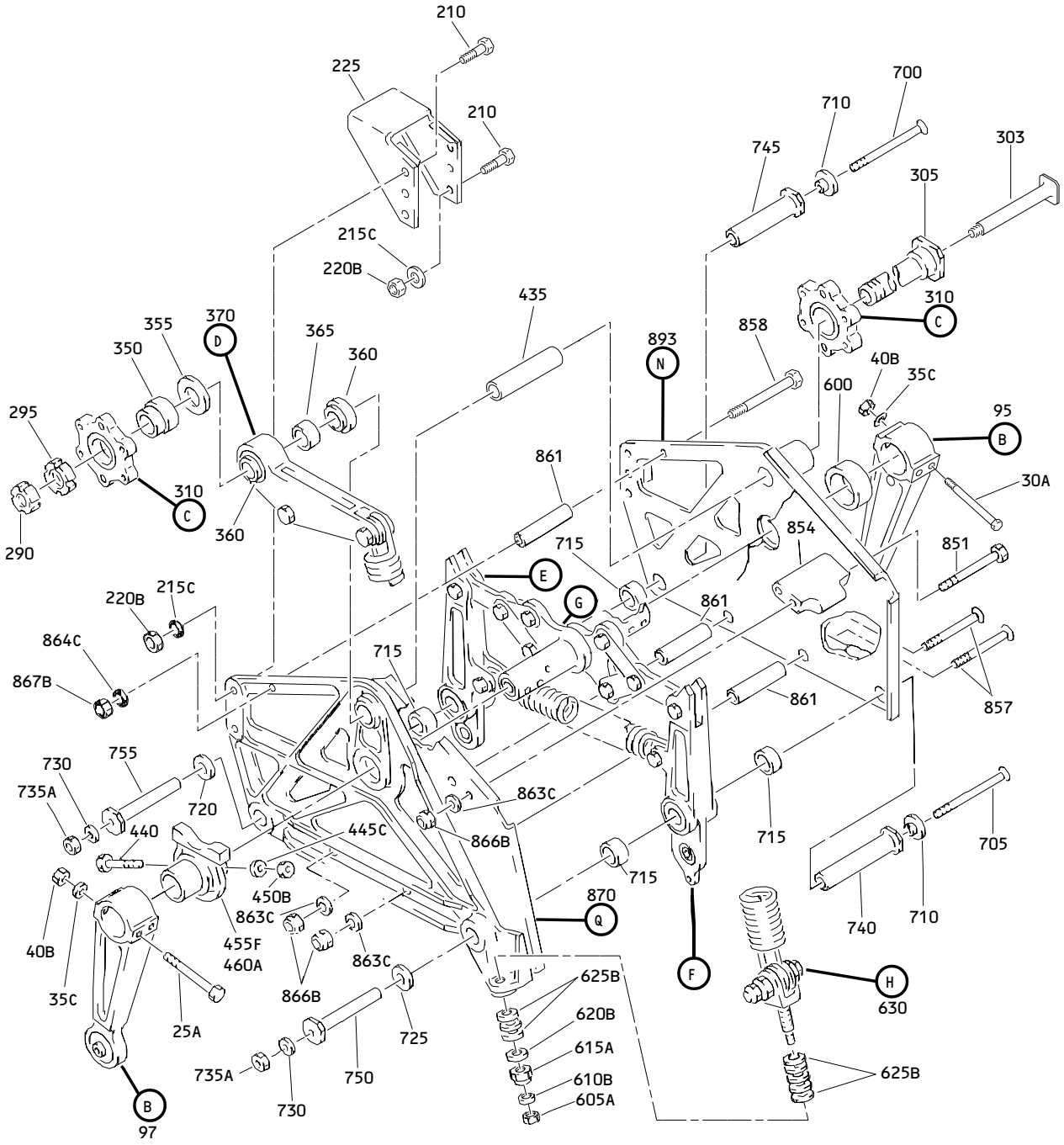
FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
625	251T2277-4		DELETED		
630	251T2276-5		DELETED		
635	251T2276-3		DELETED		
635A	251T2276-7		DELETED		
640	NAS6604-46		DELETED		
645	251T2203-1		DELETED		
650	NAS6604-50		DELETED		
652	BACB30LU4-57		DELETED		
655	NAS43DD4-179		DELETED		
660	AN960PD416		DELETED		
665	BRH10-4		DELETED		
670	251T2247-1		DELETED		
-670A	251T2247-3		DELETED		
675	BACB30GP5		DELETED		
680	NAS1080D5		DELETED		
685	251T2126-1		DELETED		
690	BACR15BB5D		DELETED		
695	251T2250-2		DELETED		
700	B542DD		DELETED		
705	251T2247-5		DELETED		
-705A	251T2247-7		DELETED		
710	251T2247-2		DELETED		
-710A	251T2247-4		DELETED		
710B	251T2247-9		DELETED		
715	BACR15BB5D		DELETED		
720	251T2250-4		DELETED		
725	B543DD		DELETED		
730	251T2247-6		DELETED		
-730A	251T2247-8		DELETED		
735	251T2268-1		DELETED		
740	251T2268-2		DELETED		
745	BACR15BB3D		DELETED		
750	251T2289-1		DELETED		
755	BACR15BA4DD		DELETED		
755A	BACR15BA4D		DELETED		
760	251T2250-3		DELETED		
765	251T2249-1		DELETED		
-765A	251T2251-2		DELETED		



251T2245-8 THRU -13 AND REWORKED ASSEMBLIES
(ITEMS 1,1A,1B,1C,1D,1E,1F,1G,1H,1J)

Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 1)

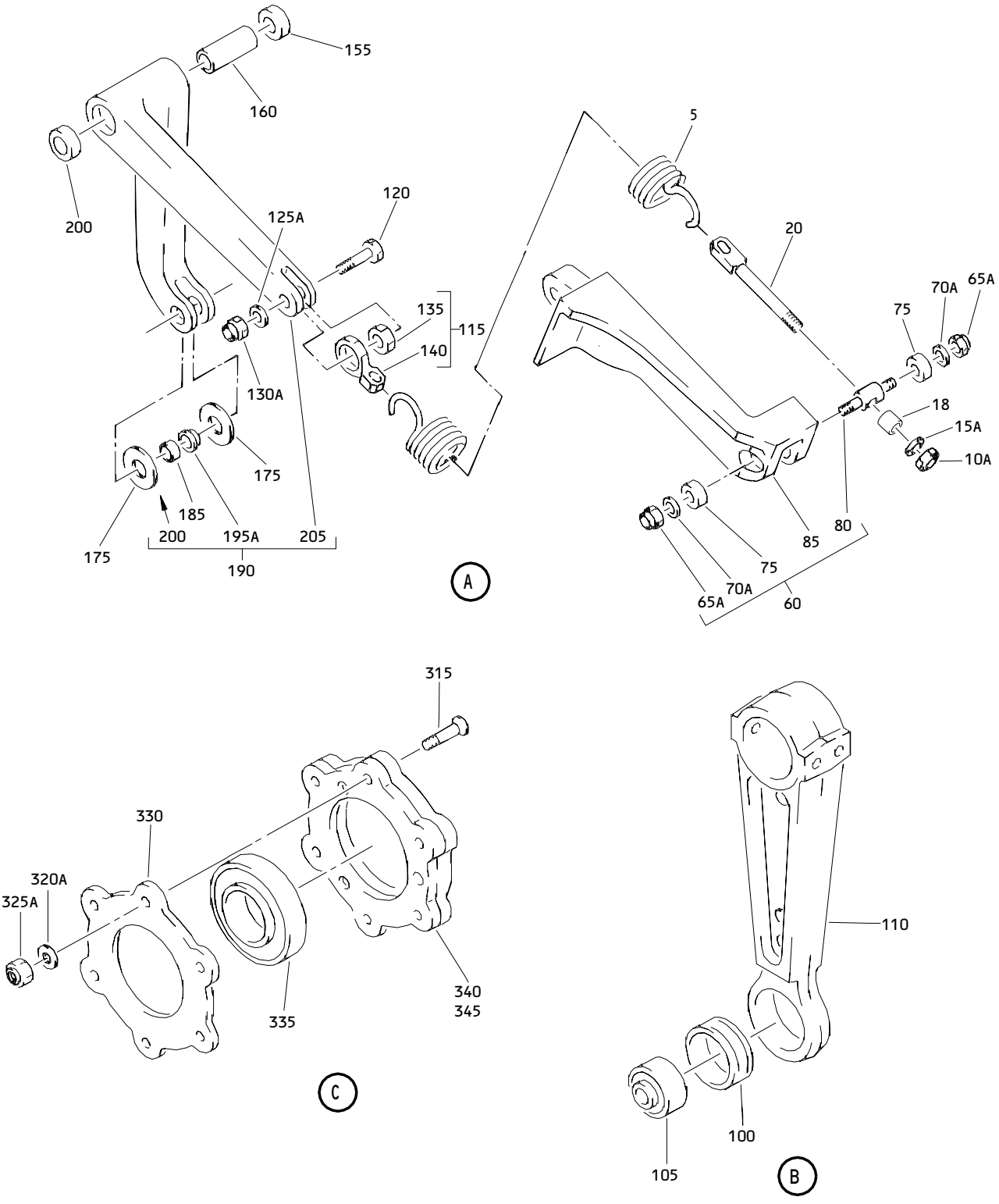
T80855



251T2245-14,-15 (ITEM 1K,1L)

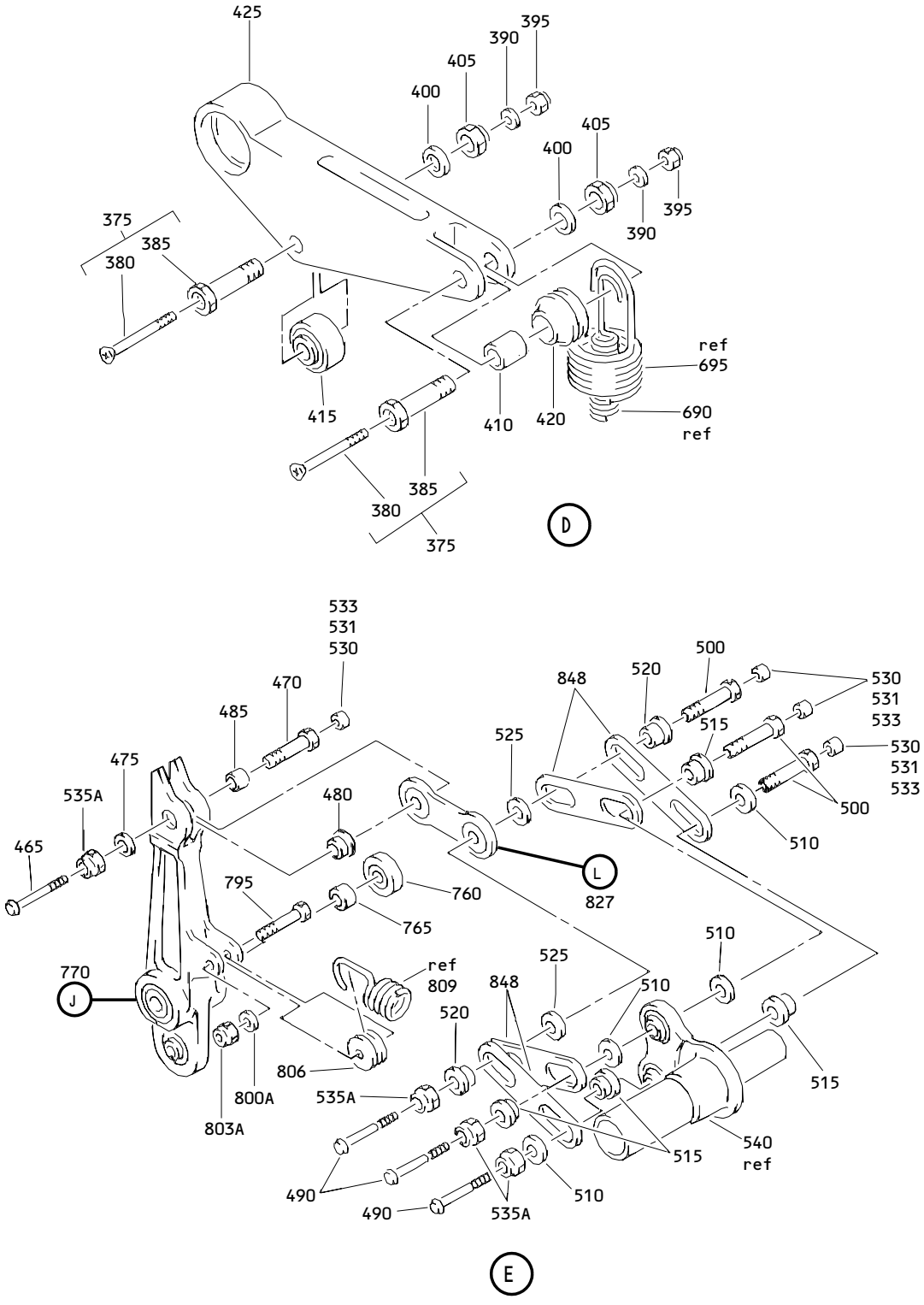
Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 2)

L05147



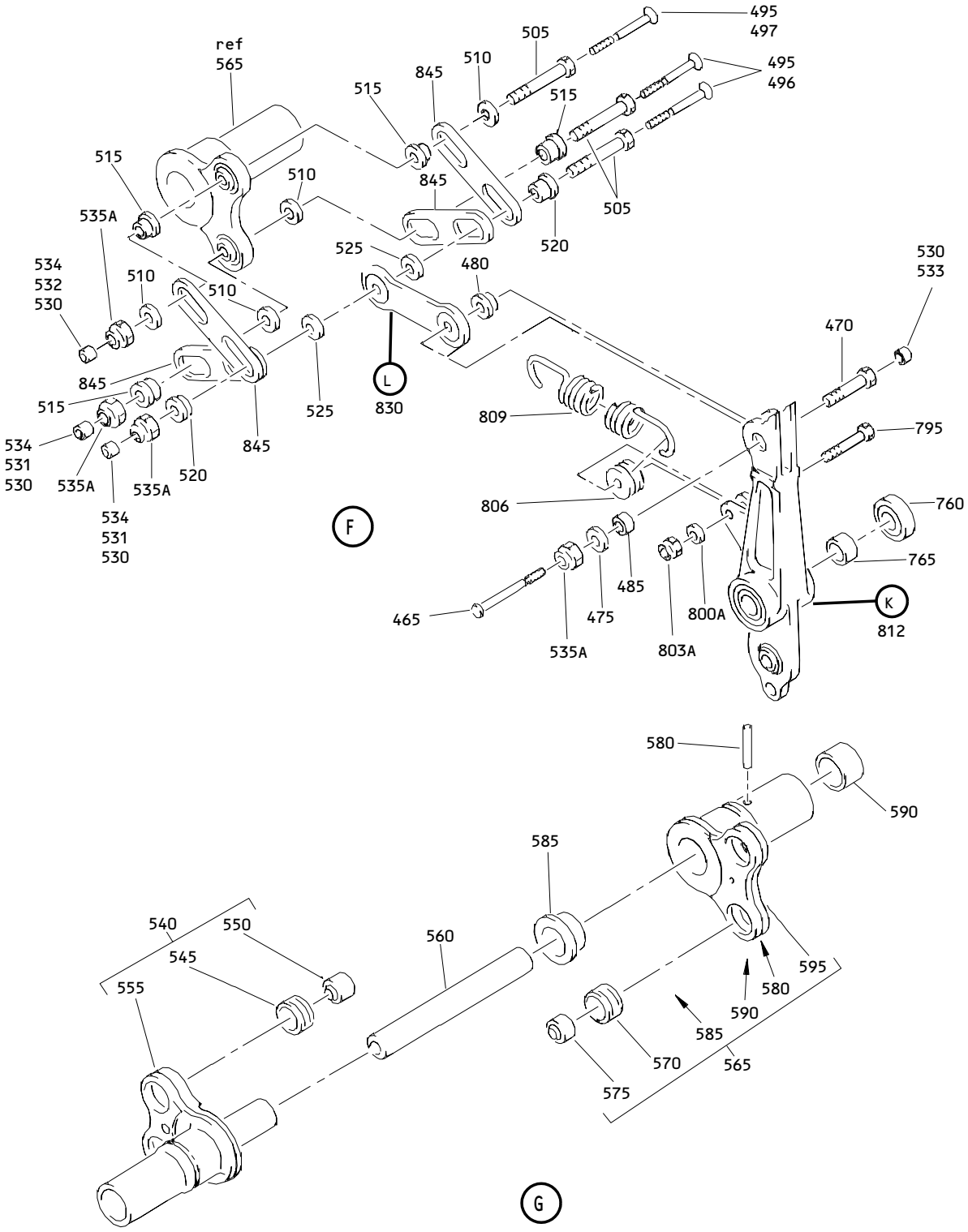
Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 3)

T80856



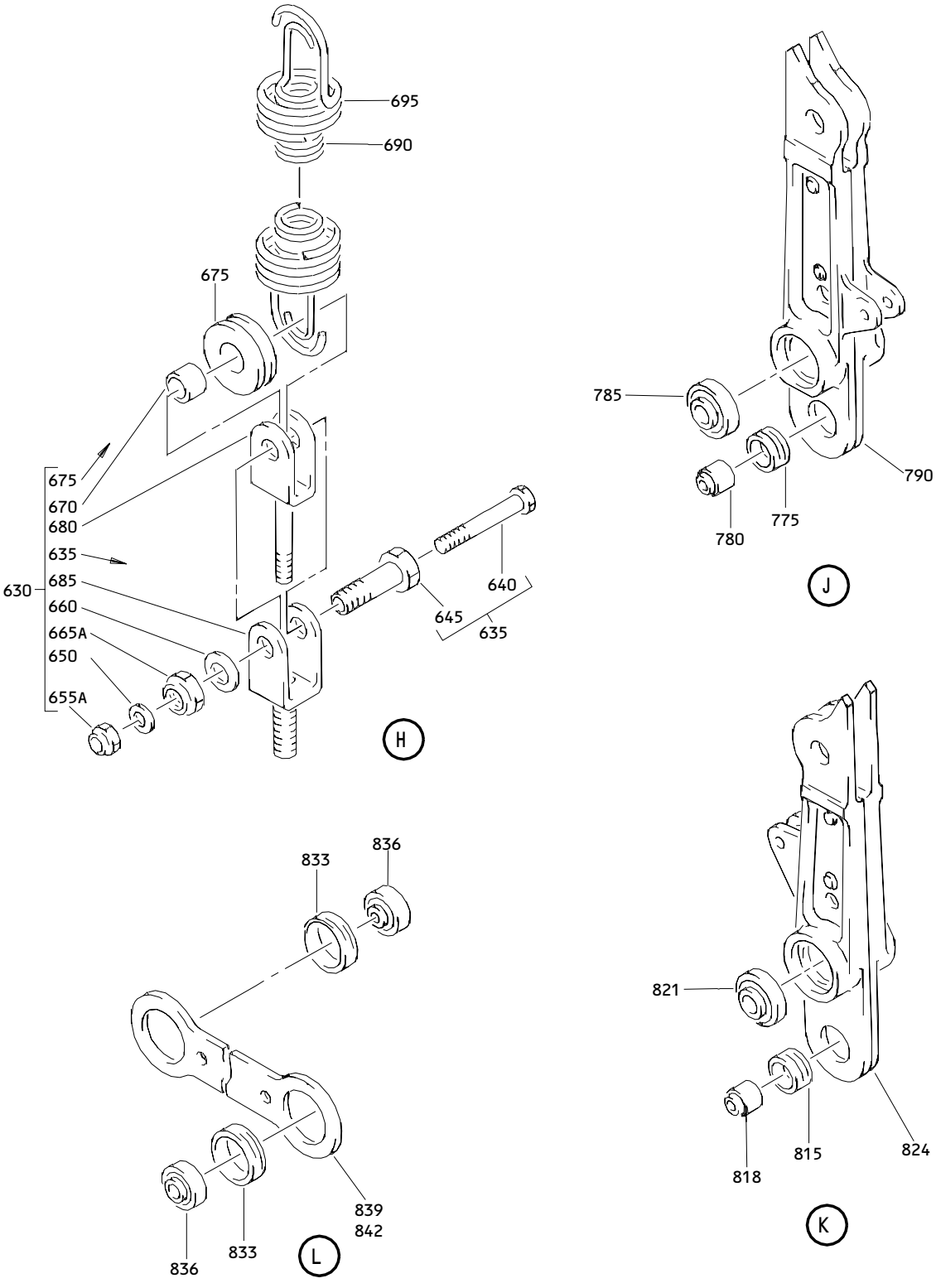
Elevator Controls Feel Centering Unit Assembly
Figure 3 (Sheet 4)

T80857



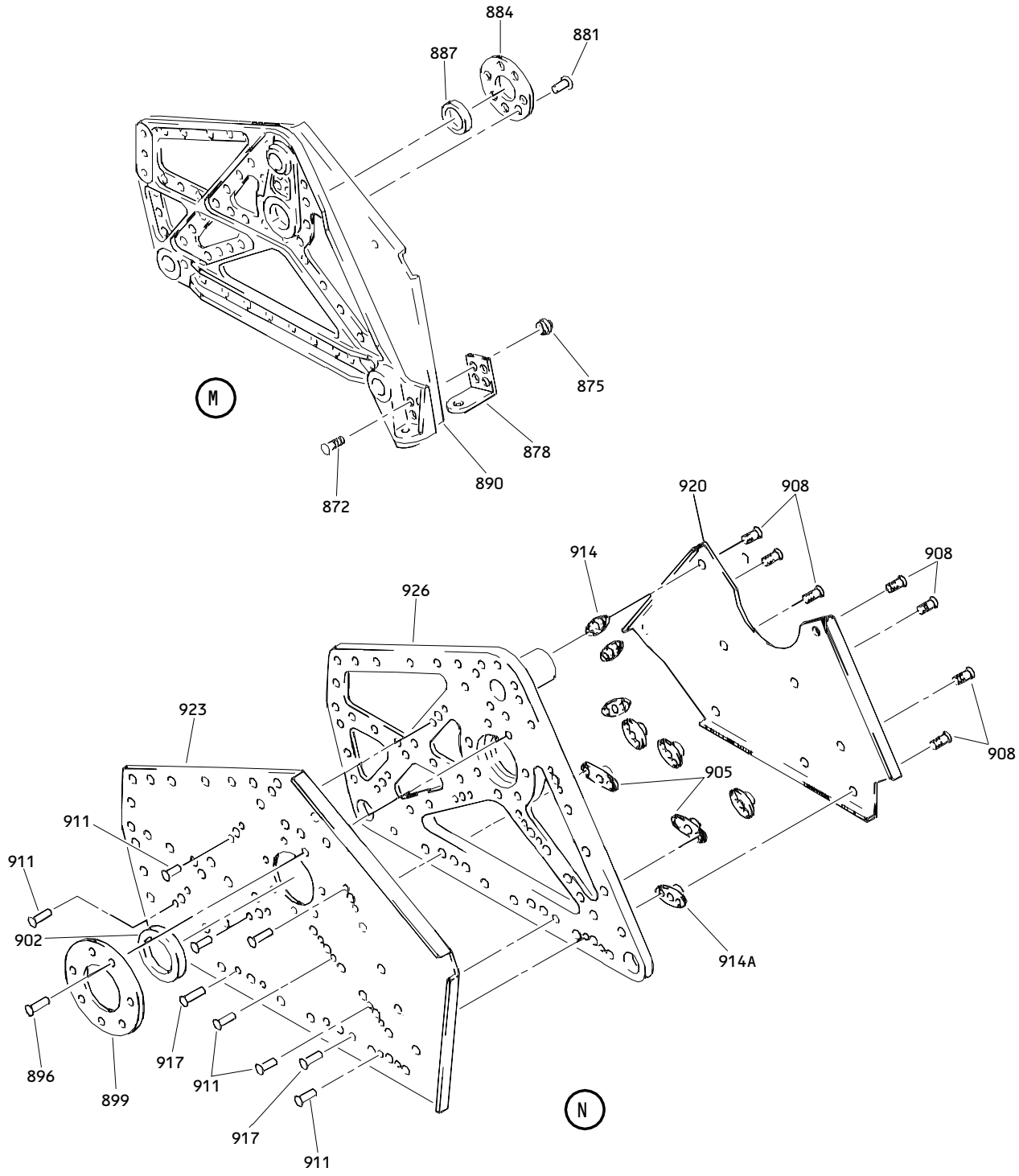
Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 5)

T80858



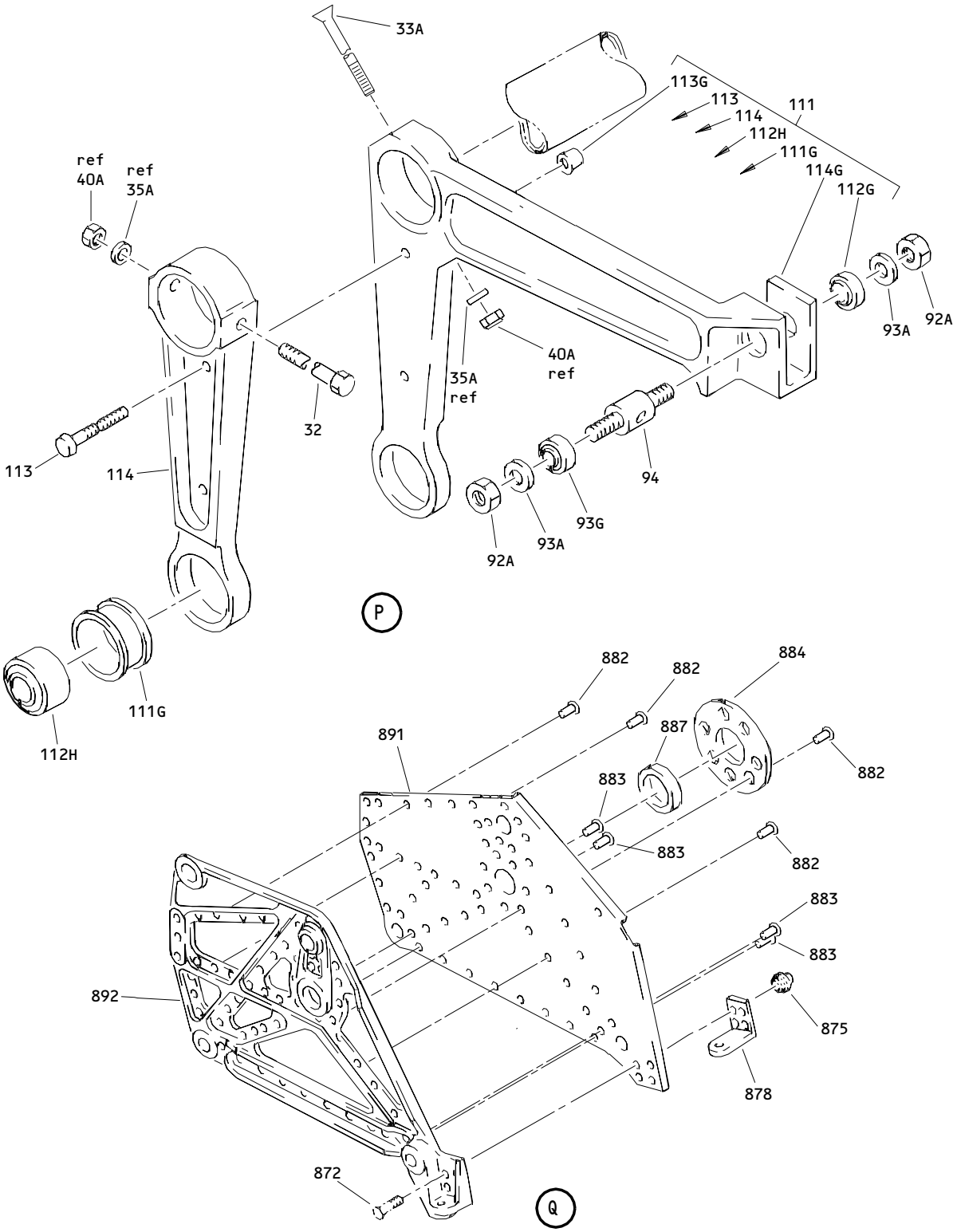
Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 6)

T80859



Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 7)

T80860



Elevator Controls Feel and Centering Unit Assembly
Figure 3 (Sheet 8)

T80861

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
-1	NO ASSIGNED P/N		UNIT ASSY-ELEV CONT FEEL AND CENTERING (REWORKED FROM 251T2245-5) (PRE SB 27-22) (USED ON 251T2210-7)	A	RF
-1A	NO ASSIGNED P/N		UNIT ASSY-ELEV CONT FEEL AND CENTERING (REWORKED FROM 251T2245-6) (PRE SB 27-22) (USED ON 251T2210-8)	B	RF
-1B	251T2245-8		UNIT ASSY-ELEV CONT FEEL AND CENTERING (POST SB 27-22)	C	RF
-1C	NO ASSIGNED P/N		UNIT ASSY-ELEV CONT FEEL AND CENTERING (REWORKED FROM 251T2245-6) (USED ON 251T2210-11) (POST SB 27-22)	D	RF
-1D	NO ASSIGNED P/N		UNIT ASSY-ELEV CONT FEEL AND CENTERING (REWORKED FROM 251T2245-6) (USED ON 251T2210-12)	E	RF
-1E	251T2245-9		UNIT ASSY-ELEV CONT FEEL AND CENTERING	F	RF
-1F	251T2245-10		UNIT ASSY-ELEV CONT FEEL AND CENTERING	G	RF
-1G	251T2245-11		UNIT ASSY-ELEV CONT FEEL AND CENTERING	H	RF
-1H	251T2245-12		UNIT ASSY-ELEV CONT FEEL AND CENTERING	J	RF
-1J	251T2245-13		UNIT ASSY-ELEV CONT FEEL AND CENTERING	K	RF
-1K	251T2245-14		UNIT ASSY-ELEV CONT FEEL AND CENTERING	L	RF
-1L	251T2245-15		UNIT ASSY-ELEV CONT FEEL AND CENTERING	M	RF

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
5	251T2152-1		.SPRING	A-H	1
			(OPT ITEM 5A)		
-5A	251T2152-2		.SPRING	A-H	1
			(OPT ITEM 5)		
-5B	251T2152-2		.SPRING	JK	1
10	BACN10JC4		DELETED		
10A	BACN10YR4CD		.NUT	A-F	1
-10B	MS21042L4		.NUT	G-K	1
15	AN960PD416		DELETED		
15A	AN960JD416		.WASHER	A-G	1
			(OPT ITEM 15B)		
-15B	NAS1149D0463J		.WASHER	A-G	1
			(OPT ITEM 15A)		
-15C	NAS1149D0463J		.WASHER	H-K	1
18	NAS42DD8-20		.SPACER	G-K	1
20	69B83099-2		.LINK	A-K	1
25	NAS6604-35		.BOLT		2
			(USED ON 251T2255-1)		
-25A	NAS6604-33		.BOLT		2
			(USED ON 251T2255-3)		
30	BACB30NF4-39		.BOLT	ABD	2
30A	NAS6604-33		.BOLT	LM	2
32	NAS6604-35		.BOLT	CE-K	1
33	NAS6604-46		DELETED		
33A	BACB30LH4-45		.BOLT	CE-K	1
35	AN960PD416		DELETED		
35A	AN960PD416		.WASHER	A-G	4
			(OPT ITEM 35B)		
-35B	NAS1149D0463J		.WASHER	A-G	4
			(OPT ITEM 35A)		
-35C	NAS1149D0463J		.WASHER	H-M	4
40	BACN10JC4		DELETED		
40A	BACN10YR4CD		.NUT	A-FLM	4
-40B	MS21042L4		.NUT	G-K	4

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
R	45	BACB30NF4-16		.BOLT-	ABD	1
				(V06710)		
				(SPEC BACB30NF4-16)		
				(V06725)		
				(V06950)		
				(V08524)		
				(V17943)		
				(V27624)		
				(V56878)		
				(V80539)		
				(V92215)		
				(V97928)		
	50	AN960PD416		DELETED		
	50A	AN960JF416		.WASHER	ABD	1
				(OPT ITEM 50B)		
	-50B	NAS1149D0463J		.WASHER	ABD	1
				(OPT ITEM 50A)		
	55	BACN10JC4		DELETED		
	55A	BACN10YR4CD		.NUT	ABD	2
	60	251T2149-1		.ARM ASSY-SPR	ABD	1
	65	BACN10JC4		DELETED		
	65A	BACN10YR4CD		..NUT		2
	70	AN960PD416		DELETED		
|	70A	AN960JD416		..WASHER		2
				(OPT ITEM 70B)		
|	-70B	NAS1149D0463J		..WASHER		2
				(OPT ITEM 70A)		
	75	KP4A		..BEARING		2
				(V38443)		
				(SPEC BACB10BX4)		
				(OPT KP4AFS428		
				(V21335))		
				(OPT KP4A2TS		
				(V43991))		
				(OPT LLKP4A		
				(V38443))		
				(OPT KP4AG27		
				(V30163))		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
80	69B83099-1		..LINK		1
85	251T2149-2		..ARM		1
90	BACS40U4N5		.SHIM	ABD	1
92	BACN10JC4		DELETED		
92A	BACN10YR4CD		.NUT	CEF	1
-92B	MS21042L4		.NUT	G-K	1
93	AN960PD416		DELETED		
93A	AN960JD416		.WASHER	CEFG	2
			(OPT ITEM 93B)		
-93B	NAS1149D0463J		.WASHER	CEFG	2
			(OPT ITEM 93A)		
-93C	NAS1149D0463J		.WASHER	H-KLM	2
93G	KP4A		.BEARING	CE-K	1
			(V38443)		
			(SPEC BACB10BX4)		
			(REFER TO ITEM 75 FOR OPT PARTS)		
94	69B83099-1		.LINK	CE-K	1
95	251T2255-1		.CRANK ASSY-	ABDLM	1
			(OPT ITEM 95A)		
-95A	251T2255-3		.CRANK ASSY-	ABDLM	1
			(OPT ITEM 95)		
97	251T2255-1		.CRANK ASSY-		1
			(OPT ITEM 97A)		
-97A	251T2255-3		.CRANK ASSY-		1
			(OPT ITEM 97)		
100	69-38919-18		..SLEEVE-BRG		1
-102	69-38919-18		DELETED		
105	MKSP6		..BEARING		1
			(V38443)		
			(SPEC BACB10AR6)		
			(OPT HHMKSP6 (V38443))		
			(OPT MKSP6-2TS (V43991))		
			(OPT MKSP6E9440A (V21335))		
			(OPT MKSP6FS428 (V21335))		
			(OPT MKSP63TT (V43991))		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
-107	MKSP6		DELETED		
110	251T2255-2		..CRANK		1
			(USED ON ITEMS 97)		
-110A	251T2255-4		..CRANK		1
			(USED ON ITEMS 97A)		
111	251T2156-1		.CRANK ASSY	CE-K	1
111G	69-38919-18		..SLEEVE-BRG		1
-112A	251T2255-4		DELETED		
-112B	251T2255-2		DELETED		
112G	KP4A		..BEARING		1
			(V38443)		
			(SPEC BACB10BX4)		
			(REFER TO ITEM 75		
			FOR OPT PARTS)		
112H	MKSP6		..BEARING		1
			(V38443)		
			(SPEC BACB10AR6)		
			(REFER TO ITEM 105		
			FOR OPT PARTS)		
113	2LPYE6-4		..BOLT		2
			(V11815)		
			(SPEC BACB30GP6-4)		
			(V17446)		
113G	NAS1080D6		..COLLAR		2
114	251T2269-1		..ARM-CRANK		1
114G	251T2155-1		..ARM-CRANK		1
115	69B83132-3		.LINK ASSY	A-K	1
			ATTACHING PARTS		
120	BACB30NF4-9		.BOLT-	A-K	1
			(V06710)		
			(SPEC BACB30NF4-9)		
			(V06725)		
			(V06950)		
			(V08524)		
			(V17943)		
			(V27624)		
			(V56878)		
			(V80539)		
			(V92215)		
			(V97928)		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
125	AN960PD416		DELETED		1
125A	AN960JD416		.WASHER (OPT ITEM 125B)	A-G	1
125B	NAS1149D0463J		.WASHER (OPT ITEM 125A)	A-G	1
125C	NAS1149D0463J		.WASHER	H-K	1
130	BACN10JC4		DELETED		
130A	BACN10JC4CD		.NUT	A-F	1
130B	MS21042L4		.NUT -------*-------	G-K	1
135	KP4A		..BEARING- (V38443) (SPEC BACB10BX4) (REFER TO ITEM 75 FOR OPT PARTS) (OPT ITEM 135A,135B)		1
-135A	BACB10A661		..BEARING- (OPT ITEM 135,135B)		1
-135B	MS27641-4G		..BEARING- (OPT ITEM 135,135A)		1
140	69B83132-4		..LINK (OPT ITEM 140A)		1
140A	69B83132-5		..LINK (OPT ITEM 140)		1
145	H10-8BAC		.NUT- (V15653) (SPEC BACN10JC8) (OPT RMLH9074-8 (V72962)) (OPT BMN4122AD3-8 (V08524)) (OPT RMLH9074-8 (V72962)) (OPT 48FT820 (V56878)) (OPT BMN4122AD3-8 (V08524))	A-K	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
150	AN970-8		.WASHER	A-K	1
155	KP8A		.BEARING-	A-K	1
			(V38443)		
			(SPEC BACB10BX8)		
			(OPT KP8AFS428		
			(V21335))		
			(OPT KP8A2TS		
			(V43991))		
			(OPT LLKP8A		
			(V38443))		
			(OPT KP8AG27		
			(V30163))		
160	NAS73-8E200		.SPACER	A-K	1
165	BACB30NF4-12		.BOLT-	A-K	1
			(V06710)		
			(SPEC BACB30NF4-12)		
			(V06725)		
			(V06950)		
			(V08524)		
			(V17943)		
			(V27624)		
			(V56878)		
			(V80539)		
			(V92215)		
			(V97928)		
170	AN960PD416		DELETED		
170A	AN960JD416		.WASHER	A-G	1
			(OPT ITEM 170B)		
170B	NAS1149D0463J		.WASHER	A-G	1
			(OPT ITEM 170A)		
170C	NAS1149D0463J		.WASHER	H-K	1
175	BACW10P280TF		.WASHER	A-K	2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
180	BACN10JC4		DELETED		
180A	BACN10YR4CD		.NUT	A-F	1
180B	MS21042L4		.NUT	G-K	1
185	BACB28AK04-015		.BUSHING- (V23294) (SPEC BACB28AK04-015) (V70265) (V94892)	ABDE	1
-185A	BACB28AK04-025		.BUSHING- (V23294) (SPEC BACB28AK04-025) (V70265) (V94892)	CF-K	1
190	251T2148-1		.CRANK ASSY (OPT ITEM 190A)	ABDE	1
-190A	251T2148-3		.CRANK ASSY (OPT ITEM 190)	C-K	1
195	BACB28X4C013		..BUSHING (V23294) (SPEC BACB28X4C013) (V70265) (V94892)		1
200	KP8A		..BEARING (V38443) (SPEC BACB10BX8) (REFER TO ITEM 155 FOR OPT PARTS)		1
205	251T2148-2		..CRANK (USED ON ITEM 190)		1
-205A	251T2148-4		..CRANK (USED ON ITEM 190A)		1
210	BACB30NF4-12		.BOLT- (V06710) (SPEC BACB30NF4-12) (V06725) (V06950) (V08524) (V17943) (V27624) (V56878) (V80539) (V92215) (V97928)	ABDE	6

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
-210A	NAS6604-9		.BOLT	CF-M	6
215	AN960PD416		DELETED		
215A	AN960JD416		.WASHER (OPT ITEM 215B)	A-G	6
215B	NAS1149D0463J		.WASHER (OPT ITEM 215A)	A-G	6
215C	NAS1149D0463J		.WASHER	H-M	6
220	BACN10JC4		DELETED		
220A	BACN10YR4CD		.NUT	A-FLM	6
220B	MS21042L4		.NUT	G-K	6
225	251T2280-1		.FITTING ASSY		1
230	BACB30NF4-63		.BOLT	ABDE	1
235	AN960PD416		DELETED		
235A	AN960JD416		.WASHER (OPT ITEM 235B)	ABDE	1
235B	NSA1149D0463J		.WASHER (OPT ITEM 235A)	ABDE	1
240	NAS42HT8-15		.SPACER	ABDE	2
245	NAS42HT8-179		.SPACER	ABDE	1
250	BACN10JC4		DELETED		
250A	BACN10YR4CD		.NUT	ABDE	1
255	SL2822-16		.NUT- (V97393) (SPEC BACN10RF16) (OPT BR9080-16 (V72962))	A-K	1
260	AN960PD1616		DELETED		
-260A	AN960PD1616L		DELETED		
260B	AN960JD1616		.WASHER (OPT ITEM 260C)	ABDE	1
-260C	NAS1149D1690J		.WASHER (OPT ITEM 260B)	ABDE	1
-260D	AN960JD1616L		.WASHER (OPT ITEM 260E)	CFG	1
-260E	NAS11491616J		.WASHER (OPT ITEM 260D)	CFG	1
-260F	NAS1149D1632J		.WASHER	H-K	1
265	251T2146-2		.SHAFT	ABDE	1
-265A	251T2146-3		.SHAFT	CF-K	1
270	251T2147-1		.PLATE	ABDE	2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
275	BACN10JC4		DELETED		
275A	BACN10YR4CD		.NUT	A-F	1
275B	MS21D42L4		.NUT	G-K	1
280	AN970-4		.WASHER	A-K	1
285	R584M54		.ACTUATOR- (V81039)	A-K	1
290	SL2822-10		.NUT- (V97393) (SPEC BACN10RF10)		1
295	SL2822-14		.NUT- (V97393) (SPEC BACN10RF14) (OPT BR9080-14 (V72962))		1
300	251T2146-1		.SHAFT	A-K	1
303	251T2270-1		.SHAFT	LM	1
305	251T2270-2		.SHAFT-OUTER		1
310	251T2244-1		.HOUSING ASSY-BRG		2
315	BACB30LU2-8		..BOLT		2
320	AN960PD8L		DELETED		
320A	AN960JD8L		..WASHER (OPT ITEM 320B)		2
320B	NAS1149DN816J		..WASHER (OPT ITEM 320A)		2
325	BACN10JC08		DELETED		
325A	BACN10YR08CD		..NUT		2
330	251T2284-1		..PLATE		1
335	MKP16BSFS428		..BEARING- (V21335) (SPEC BACB10AW16) (OPT MKP16BSE9273 (V21335)) (OPT MKP16BSTT (V43991)) (OPT MKP16BS2TS (V43991)) (OPT LLMKP16BS (V38443))		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
340	251T2260-1		..HOUSING ASSY		1
345	251T2260-2		...BOND ASSY-HSG		1
350	251T2281-1		.SPACER		1
355	251T2261-1		.SHIM		1
360	B540DD		.BEARING- (V38443) (SPEC BACB10CF14PP) (OPT B540-2TS (V43991)) (OPT B540DDFS428 (V21335)) (OPT B540SSG27 (V30163))		2
365	BACB28Y14D047		.BUSHING- (V23294) (SPEC BACB28Y14D047) (V70265) (V94892)		1
370	251T2263-1		.ARM ASSY (OPT ITEM 370A)	A-J	1
-370A	251T2263-4		.ARM ASSY (OPT ITEM 370)	A-J	1
-370B	251T2263-12		.ARM ASSY	KLM	1
375	251T2246-1		..BOLT ASSY		2
380	BACB30LH4C26		...BOLT (V06710) (SPEC BACB30LH4C26) (V06725) (V08524) (V17943) (V27624) (V80539) (V92215) (V97928)		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
385	251T2287-2		...BOLT-HOLLOW		1
390	AN960XC416L		..WASHER		2
			(OPT ITEM 390A)		
390A	NAS1149C0432B		..WASHER		2
			(OPT ITEM 390)		
395	BACN10JC4CM		..NUT		2
395A	BACN10YR4CM		DELETED		
400	AN960XC616L		..WASHER		2
			(OPT ITEM 400A)		
400A	NAS1149C0632B		..WASHER		2
			(OPT ITEM 400)		
405	BACN10JC6CM		..NUT		2
405A	BACN10YR6CM		DELETED		
410	BACB28Y6C068		..BUSHING		1
			(V23294)		
			(SPEC BACB28Y6C068)		
			(V70265)		
			(V94892)		
415	BACB10ET06		..BEARING	A-J	1
			(OPT ITEM 415A)		
-415A	YR1315		..BEARING	A-J	1
			(OPT ITEM 415)		
			(V92563)		
			(SPEC 60B00178-681)		
			(OPT AC69001		
			(V76328))		
-415B	YR1315		..BEARING	KLM	1
			(V92563)		
			(SPEC 60B00178-681)		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
420	251T2121-1		..RETAINER-SPR		1
425	251T2263-2		..ARM- (USED ON ITEM 370)		1
-425A	251T2263-5		..ARM- (USED ON ITEMS 370A, 370B)		1
430	251T2150-1		.FITTING	ABDE	1
-430A	251T2150-2		.FITTING	CF-K	1
435	BACB28Y14D280		.FITTING	LM	1
440	NAS6603-24		.BOLT		1
445	AN960PD10		DELETED		
445A	AN960JD10		.WASHER (OPT ITEM 445B)	A-G	1
445B	NAS1449D0363J		.WASHER (OPT ITEM 445A)	A-G	1
445C	NAS1449D0363J		.WASHER	H-M	1
450	BACN10JC3		DELETED		
450A	BACN10YR3CD		.NUT	A-FLM	1
450B	MS21042L3		.NUT	G-K	1
455	251T2252-1		.CAM ASSY- (OPT ITEM 455B)	A	1
-455A	251T2252-3		.CAM ASSY- (OPT ITEM 455B)	A	1
-455B	251T2252-6		.CAM ASSY- (OPT ITEMS 455, 455A, 455C)	A	1
-455C	251T2252-5		.CAM ASSY- (OPT ITEM 455B)	A	1
-455D	251T2252-6		.CAM ASSY- (OPT ITEM 455E)	B	1
-455E	251T2252-5		.CAM ASSY- (OPT ITEM 455D)	B	1
-455F	251T2252-7		.CAM ASSY-	C-L	1
-455G	251T2252-8		.CAM ASSY-	M	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
460	251T2252-2		..BOND ASSY- (USED ON ITEMS 455, 455C, 455E, 455F, 455G)		1
-460A	251T2252-4		..BOND ASSY- (USED ON ITEMS 455A 455C, 455E, 455F)		1
465	SALPYEU8-26C		.BOLT (V11815) (SPEC BACB30GW8A26) (V29666)	A-J	2
-465A	BACB30VT8K26		.BOLT	KL	2
-465B	BACB30VT8K26		.BOLT (OPT ITEM 456C)	M	2
-465C	BACB30VT8K26		.BOLT (OPT ITEM 456B)	M	2
470	251T2287-3		.BOLT-HOLLOW		2
475	AN960D616		.WASHER (OPT ITEM 475A)	A-G	2
475A	NAS1149D0663H		.WASHER (OPT ITEM 475)	A-G	2
475B	NAS1149D0663J		.WASHER	H-M	2
480	BACB28X6C018		.BUSHING (V23294) (SPEC BACB28X6C018) (V70265) (V94892)		2
485	BACB28AK06-031		.BUSHING (V23294) (SPEC BACB28AK06-031) (V70265) (V94892)		2
490	SALPYEU8-29C		.BOLT (V11815) (SPEC BACB30GW8A29) (V29666)	A-K	3
-490A	BACB30VT8K29		.BOLT (REPS ITEM 490)	K	3
-490B	BACB30VT8K29		.BOLT	L	3
-490C	BACB30VT8K29		.BOLT (OPT ITEM 490D)	M	3
-490D	BACB30VT8K29		.BOLT (OPT ITEM 490C)	M	3

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
495	SAL100YEU8-29C		.BOLT (V11815) (SPEC BACB30GY8A29) (V17446)	CF-K	3
-495A	BACB30XT8K29		.BOLT (REPLS ITEM 495)	CF-K	3
-495B	BACB30XT8K29		.BOLT	LM	3
496	SAL100YEU8-29C		.BOLT (V11815) (SPEC BACB30GY8A29) (V17446)	ABDE	2
-496A	BACB30XT8K29		.BOLT (REPLS ITEM 496)	ABDE	2
497	SAL100YEU8-27C		.BOLT (V11815) (SPEC BACB30GY8A27) (V17446)	ABDE	1
500	251T2287-1		.BOLT-HOLLOW		3
505	251T2287-11		.BOLT-HOLLOW		3
510	AN960B616		.WASHER	A-G	8
			(OPT ITEM 510A)		8
510A	NAS1149B0663H		.WASHER (OPT ITEM 510)	A-G	8
510B	NAS1149B0663H		.WASHER	H-M	8
515	251T2125-1		.BUSHING		8
520	251T2125-2		.BUSHING		4
525	251T2125-3		.BUSHING		4
530	NAS1080E08		.COLLAR	A-K	8
531	NAS1080E08		.COLLAR	ABDE	7
532	BACC30BS8		.COLLAR, SHEAR- (REPLS ITEM 530)	ABDE	1
533	BACC30BS8		.COLLAR, SHEAR- (REPLS ITEM 530)	CF-K	5
-533A	BACC30BS8		.COLLAR, SHEAR-	L	5
-533B	BACC30BS8		.COLLAR, SHEAR- (OPT ITEM 533C)	M	5
-533C	BACC30BS8		.COLLAR, LOCKBOLT- (OPT ITEM 533B)	M	5
534	BACC30BS8		.COLLAR, LOCKBOLT- (REPLS ITEM 530)	CF-K	3
-534A	BACC30BS8		.COLLAR, LOCKBOLT-	LM	3
535	BACN10JC6CM		DELETED		
535A	BACN10YR6CM		.NUT		8
540	251T2241-1		.SHAFT ASSY-OUTPUT (OPT ITEM 540A)	A-M	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
-540A	251T2241-3		.SHAFT ASSY-OUTPUT (OPT ITEMS 540,540A)	A-M	1
-540B	251T2241-5		.SHAFT ASSY-OUTPUT (OPT ITEM 540)	M	1
545	69-38919-2		..SLEEVE-BRG		2
550	MS14104-6		..BEARING (USED ON ITEMS 540,540A)		2
-550A	MS14104-6PK		..BEARING (USED ON ITEM 540B)		2
555	251T2241-2		..BONDED ASSY- (USED ON ITEM 540)		1
-555A	251T2241-4		..BONDED ASSY- (USED ON ITEM 540A)		1
560	251T2257-1		.SHAFT		1
565	251T2240-5		.SHAFT ASSY-OUTPUT (OPT ITEM 565A)	A-M	1
-565A	251T2240-7		.SHAFT ASSY-OUTPUT (OPT ITEM 565)	A-M	1
-565B	251T2240-9		.SHAFT ASSY-OUTPUT (OPT ITEMS 565,565A)	M	1
570	69-38919-2		..SLEEVE-BRG		2
575	MS14104-6		..BEARING (USED ON ITEMS 565,565A)		2
-575A	MS14104-6PK		..BEARING (USED ON ITEM 565B)		2
580	MS39086-164		..PIN-SPR		1
585	M81934-2-14A020		..BEARING- (V21335)		1
590	M81934-1-14A020		..BEARING- (V21335)		1
595	251T2240-6		..BONDED ASSY- (USED ON ITEM 565)		1
-595A	251T2240-8		..BONDED ASSY- (USED ON ITEM 565A)		1
-595B	251T2240-10		..BONDED ASSY- (USED ON ITEM 565B)		1
600	251T2120-1		.SPACER		1
605	BACN10JC4CM		DELETED		1
605A	BACN10YR4CM		.NUT		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
610	AN960C416		.WASHER	A-G	1
			(OPT ITEM 610A)		
610A	NAS1149C0463R		.WASHER	A-G	1
			(OPT ITEM 610)		
610B	NAS1149C0463R		.WASHER	H-M	1
615	BACN10JC6CM		DELETED		
615A	BACN10YR6CM		.NUT		1
620	AN960C616		.WASHER	A-G	1
			(OPT ITEM 620A)		1
620A	NAS1149C0663R		.WASHER	A-G	1
			(OPT ITEM 620)		
620B	NAS1149C0663R		.WASHER	H-M	1
625	AN960PD616		DELETED		
625A	AN960PD616L		DELETED		
625B	AN960C616		.WASHER		AR
-625C	AN960C616L		.WASHER		AR
-625D	AN960JD616		.WASHER		AR
-625E	AN960JD616L		.WASHER		AR
-625F	NAS1149D0663J		.WASHER		AR
-625G	NAS1149D0616J		.WASHER		AR
-625H	NAS1149C0663R		.WASHER		AR
-625J	NAS1149C0632R		.WASHER		AR
630	251T2128-1		.CLEVIS ASSY		1
635	251T2246-2		..BOLT ASSY		1
640	BACB30LJ4C22		...BOLT		1
			(V06710)		
			(SPEC BACB30LJ4C22)		
			(V06725)		
			(V06950)		
			(V08524)		
			(V17943)		
			(V80539)		
			(V27624)		
			(V92215)		
			(V97928)		
645	251T2287-4		...BOLT-HOLLOW		1
650	AN960C416		..WASHER		1
			(OPT ITEM 650A)		
650A	NAS1149C0463R		..WASHER		1
655	BACN10JC4CM		DELETED		
655A	BACN10YR4CM		.NUT		1
660	AN960C616		..WASHER		1
			(OPT ITEM 660A)		
660A	NAS1149C0663R		..WASHER		1
			(OPT ITEM 660)		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
665	BACN10JC6CM		DELETED		
665A	BACN10YR6CM		.NUT		1
670	BACB28Y6E044		..BUSHING		1
			(V23294)		
			(SPEC BACB28Y6E044)		
			(V70265)		
			(V94892)		
675	251T2274-1		..RETAINER-SPR		1
680	251T2123-1		..CLEVIS-INNER		1
685	251T2124-1		..CLEVIS-OUTER		1
690	251T2283-1		.SPRING	A-E	1
			(OPT ITEM 690B)		
-690A	251T2342-1		.SPRING	F-M	1
-690B	251T2342-1		.SPRING	A-E	1
			(OPT ITEM 690)		
695	251T2282-1		.SPRING	A-E	1
			(OPT ITEM 695D)		
-695A	251T2343-1		.SPRING	FGH	1
			(OPT ITEM 695B)		
-695B	251T2343-2		.SPRING	FGH	1
			(OPT ITEM 695A)		
-695C	251T2343-2		.SPRING	J-M	1
-695D	251T2343-1		.SPRING	A-E	1
			(OPT ITEM 695)		
700	BACB30LH4-63		.BOLT-		1
			(V06710)		
			(SPEC BACB30LH4-63)		
			(V06725)		
			(V06950)		
			(V08524)		
			(V17943)		
			(V27624)		
			(V80539)		
			(V92215)		
			(V97928)		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
705	BACB30LH4-72		.BOLT-		1
			(V06710)		
			(SPEC BACB30LH4-72)		
			(V06725)		
			(V06950)		
			(V08524)		
			(V17943)		
			(V27624)		
			(V80539)		
			(V92215)		
			(V97928)		
710	251T2131-1		.WASHER		2
715	BACB28Y12D054		.BUSHING-		4
			(V23294)		
			(SPEC BACB28Y12D054)		
			(V70265)		
			(V94892)		
720	BACW10BN92AP		.WASHER		1
725	AN960XC916		.WASHER	A-G	1
			(OPT ITEM 725A)		1
725A	NAS1149C0963B		.WASHER	A-G	1
			(OPT ITEM 725)		
725B	NAS1149C0963B		.WASHER	H-M	1
730	AN960C416		.WASHER	A-G	2
			(OPT ITEM 730A)		
730A	NAS1149C0463R		.WASHER	A-G	2
			(OPT ITEM 730)		
730B	NAS1149C0463R		.WASHER	H-M	2
735	BACN10JC4CM		DELETED		
735A	BACN10YR4CM		.NUT		2
740	251T2285-1		.SHAFT-OUTER		1
745	251T2285-2		.SHAFT-OUTER		1
750	251T2286-1		.SHAFT-INNER	A-G	1
750A	251T2286-4		.SHAFT-INNER	H-M	1
755	251T2286-2		.SHAFT-INNER	A-G	1
755A	251T2286-5		.SHAFT-INNER	H-M	1
760	B539DD		.BEARING		2
			(V38443)		
			(SPEC BACB10CF12PP)		
			(OPT B539-2TS		
			(V43991))		
			(OPT B539DDFS428		
			(V21335))		
			(OPT B539SSG27		
			(V30163))		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
765	BACB28Y12D116		.SPACER (V23294) (SPEC BACB28Y12D116) (V70265) (V94892)		2
770	251T2265-1		.LEVER ASSY- (OPT ITEM 770A)	A-K	1
-770A	251T2265-2		.LEVER ASSY- (OPT ITEM 770)	A-K	1
-770B	251T2265-15		.LEVER ASSY- (OPT ITEMS 770C,770D)	LM	1
-770C	251T2265-1		.LEVER ASSY- (OPT ITEMS 770B,770D)	LM	1
-770D	251T2265-2		.LEVER ASSY- (OPT ITEMS 770B,770C)	LM	1
775	69-38919-2		..SLEEVE-BRG		1
780	MS14104-6		..BEARING (OPT ITEM 780A) (USED ON ITEMS 770,770A)		1
-780A	HT6-101		..BEARING (V50294) (OPT ITEM 780) (USED ON ITEMS 770,770A)		1
-780B	MS14104-6PK		..BEARING (USED ON ITEM 770B)		1
785	B539DD		..BEARING (V38443) (SPEC BACB10CF12PP) (REFER TO ITEM 760 FOR OPT PARTS)		1
790	251T2265-3		..BONDED ASSY- (USED ON ITEM 770		1
-790A	251T2265-4		..BONDED ASSY- (USED ON ITEM 770A)		1
-790B	251T2265-16		..BONDED ASSY- (USED ON ITEM 770B)		1
795	NAS6604-12		.BOLT		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
800	AN960PD416		DELETED		
800A	AN960JD416		.WASHER	A-G	2
			(OPT ITEM 800B)		
800B	NAS1149D0463J		.WASHER	A-G	2
			(OPT ITEM 800A)		
800C	NAS1149D0463J		.WASHER	H-M	2
803	BACN10JC4		DELETED		2
803A	BACN10YR4CD		.NUT	A-FLM	2
803B	MS21042L4		.NUT	G-K	2
806	FL4C6-2FS428		.BEARING		2
			(V21335)		
809	251T2127-1		.SPRING	A-E	1
809A	251T2344-1		.SPRING	F-M	1
812	251T2271-1		.LEVER ASSY		1
			(OPT ITEM 812A)		
-812A	251T2271-2		.LEVER ASSY-		1
			(OPT ITEM 812)		
-812B	251T2271-5		.LEVER ASSY-		1
			(OPT ITEMS 812,812A)		
815	69-38919-2		..SLEEVE-BRG		1
818	MS14104-6		..BEARING		1
-818A	MS14104-6PK		..BEARING		1
821	B539DD		..BEARING		1
			(V38443)		
			(SPEC BACB10CF12PP)		
			(REFER TO ITEM 760 FOR OPT PARTS)		
-821A	BACB10FU12J		..BEARING		1
824	251T2271-3		..BONDED ASSY-		1
			(USED ON ITEM 812)		
-824A	251T2271-4		..BONDED ASSY-		1
			(USED ON ITEM 812A)		
-824B	251T2271-6		..BONDED ASSY-		1
			(USED ON ITEM 812B)		
827	251T2277-1		.LINK ASSY		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
830	251T2277-2		.LINK ASSY		1
833	69-38919-33		..SLEEVE-BRG		2
836	KP6A		..BEARING (V38443) (SPEC BACB10BX6) (OPT KP6AFS428 (V21335)) (OPT KP6A2TS (V43991)) (OPT LLKP6A (V38443)) (OPT KP6AG27 (V30163))		2
839	251T2277-3		..BOND ASSY- (USED ON ITEM 827)		1
842	251T2277-4		..BOND ASSY- (USED ON ITEM 605)		1
845	251T2276-5		.TIE ASSY		4
848	251T2276-7		.TIE ASSY		4
851	NAS6604-46		.BOLT		2
854	251T2203-1		.SPACER		1
857	BACB30LU4-57		.BOLT		2
858	NAS6604-50		.BOLT	CF-M	1
860	NAS42HT8-179		.SPACER	ABDE	2
861	NAS43DD4-179		.SPACER	CF-K	3
-861A	NAS43DD4-179FC		.SPACER	LM	3
863	AN960PD416		DELETED		
863A	AN960JD416		.WASHER (OPT ITEM 863B)	A-G	4

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
863B	NAS1149D0463J		.WASHER (OPT ITEM 863A)	A-G	4
863C	NAS1149D0463J		.WASHER	H-M	4
864	AN960PD416		DELETED		
864A	AN960JD416		.WASHER (OPT ITEM 864B)	CFG	1
864B	NAS1149D0463J		.WASHER (OPT ITEM 864A)	CFG	1
864C	NAS1149D0463J		.WASHER	H-M	1
866	BACN10JC4		DELETED		
866A	BACN10YR4CD		.NUT	A-FLM	4
866B	MS21042L4		.NUT	G-K	4
867	BACN10JC4		DELETED		
867A	BACN10YR4CD		.NUT	CFLM	1
867B	MS21042L4		.NUT	G-K	1
869	251T2247-1		.HOUSING ASSY (OPT ITEM 869A)	ABDE	1
-869A	251T2247-3		.HOUSING ASSY (OPT ITEM 869)	ABDE	1
870	251T2247-11		.HOUSING ASSY	CF-M	1
872	BACB30GP5		..BOLT		4
875	NAS1080D5		..COLLAR		4
878	251T2126-1		..ANGLE		1
881	BACR15BB5D		..RIVET	ABDE	7
882	BACR15BB5D		..RIVET	CF-M	49
883	BACR15BA5D		..RIVET (REPLD BY ITEM 883A)	CF-M	15
883A	BACR15BB5D		..RIVET (REPLS ITEM 883)	CF-M	15
884	251T2250-2		..RETAINER-BRG		1
887	B542DD		..BEARING (V38443) (SPEC BACB10CF21PP) (OPT B542-2TS (V43991)) (OPT B542DDFS428 (V21335)) (OPT B542SSG27 (V30163))		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-					
890	251T2247-5		..BONDED ASSY (USED ON ITEM 869)	ABDE	1
-890A	251T2247-7		..BONDED ASSY (USED ON ITEM 869A)	ABDE	1
891	251T2250-1		..DOUBLER	CF-M	1
892	251T2248-3		..HOUSING	CF-M	1
893	NO ASSIGNED P/N		.HOUSING ASSY (REWORKED FROM 251T2247-9)	ABDE	1
-893A	251T2247-10		.HOUSING ASSY	CF-M	1
896	BACR15BB5D		..RIVET		7
899	251T2250-4		..RETAINER-BRG		1
902	B543DD		..BEARING (OPT ITEM 902A) (V38443) (SPEC BACB10CF25PP) (OPT B543-2TS (V43991)) (OPT B543DDFS428 (V21335)) (OPT B543SSG27 (V30163))		1
902A	BACB10AS25		..BEARING (OPT ITEM 902)		1
905	251T2268-2		..SPACER		2
908	NAS603-5P		..SCREW		7
911	BACR15BB3D		..RIVET		14
914	BACN10TL3-4		DELETED		
914A	BACN10TL3A4		..NUTPLATE		7
917	BACR15BB3D		..RIVET		4
920	251T2289-2		..GUARD-ANTIJAM		1
923	251T2250-3		..DOUBLER	ABDE	1
-923A	251T2250-3		..DOUBLER (OPT ITEM 923B)	CF-M	1
-923B	251T2250-5		..DOUBLER (OPT ITEM 923A)	CF-M	1
926	251T2249-1		..HOUSING (OPT ITEM 926A)	ABDE	1
-926A	251T2251-2		..HOUSING (OPT ITEM 926)	ABDE	1
-926B	251T2249-3		..HOUSING	CF-M	1
-926C	251T2249-7		..HOUSING (OPT ITEM 926B)	CF-M	1