TO: ALL HOLDERS OF NOSE WHEEL STEERING CENTERING SPRING AND RUDDER INTERCONNECT MECHANISM ASSY COMPONENT MAINTENANCE MANUAL 32-51-30.

REVISION NO. 2 DATED DEC 01/95

HIGHLIGHTS

All data formerly in manual 32-51-31 is included in this manual 32-51-30.

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
TITLE PAGE 1 1001,1003-1006, 1011-1019	Added mechanism assemblies 257T4200-10, -11 with changed fairlead details.
REPAIR-GEN 601 REPAIR 4-1 601	Added clarification to details.
REPAIR-GEN 602-603	Changed the standard location of the datum letters.

NOSE WHEEL STEERING CENTERING SPRING AND RUDDER INTERCONNECT MECHANISM ASSEMBLY

PART NUMBER 257T4200-5,-7,-10,-11

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

REVISION RECORD

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

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

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR B10182 PRR B10517	JUL 10/81 JUL 10/82

PAGE	DATE	CODE
32-51-30		
TITLE PAGE		
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501	JAN 01/90	01.1
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*601	DEC 01/95	01.1
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FITS AND CLEARANCES		
801	OCT 01/87	01
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ILLUSTRATED PARTS LIST		
*1001	DEC 01/95	01.1
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*1019	DEC 01/95	01.1
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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 & Service Bulletin Record
4. List of Effective Pages
5. Table of Contents
6. Introduction
7. Procedures & IPL Sections

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

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

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

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

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

NOSE WHEEL STEERING CENTERING SPRING AND RUDDER INTERCONNECT MECHANISM ASSEMBLY

DESCRIPTION AND OPERATION

1. Description

   A. The centering spring and rudder interconnect assembly consists of an aluminum quadrant, housing, input arm, and spring arms with CRES striker plates.

2. Operation

   A. The centering spring and rudder interconnect assembly is part of the nose wheel steering system. The input arm connects through linkages to the rudder pedals. The quadrant connects to the steering cable main loop. The entire assembly performs three major functions:

      (1) Centers the steering when the tiller is released. For tiller steering input, the quadrant moves while the input arm remains static. When the tiller is released, the springs pull the steering back to center.

      (2) Provides for rudder pedal input. The input arms drive through the springs to the quadrant.

      (3) Allows for rudder pedal travel when the nose wheel steering system is locked out. With the quadrant static, the input arm simply pushes against the springs.

3. Leading Particulars (Approximate)

   Length -- 13 inches
   Height -- 5 inches
   Width -- 14 inches
   Weight -- (TBP)

TESTING/TROUBLE SHOOTING

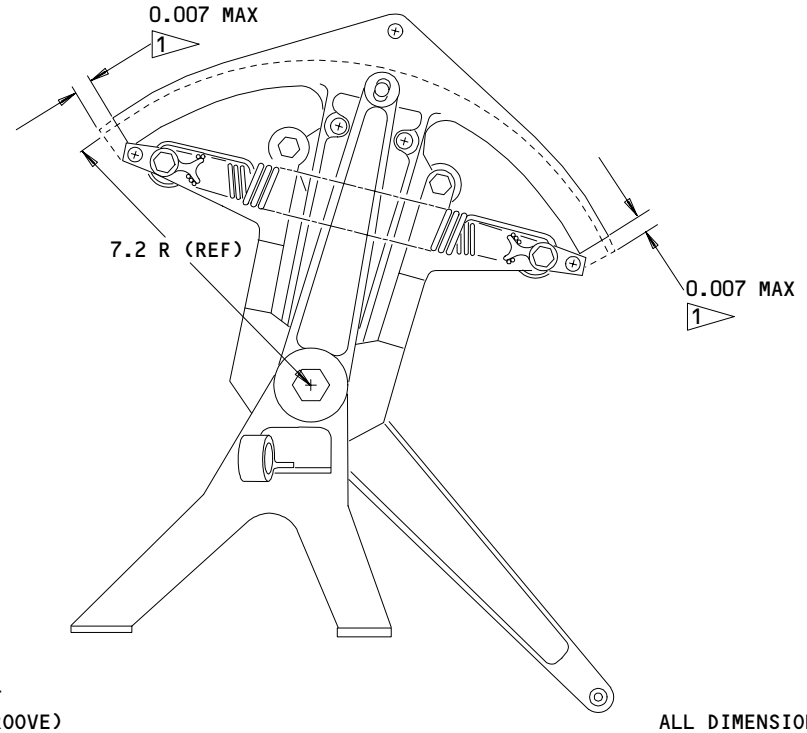
1. Preparation for Test

   A. With input arm assembly (200A) in a free position, lock input arm into a stationary position.

2. Test (Fig. 101)

   A. Check for backlash (freeplay) of quadrant assembly (160A) per Fig. 101. Movement of the quadrant assembly shall not exceed 0.007 inch in either direction.

   B. If backlash exceeds 0.007 inch, check components for wear and/or deformities. Replace defective components.



1 MEASUREMENT MADE AT 7.2 R (BOTTOM OF GROOVE)

ALL DIMENSIONS ARE IN INCHES

Backlash Measurement
Figure 101

44848

DISASSEMBLY

1. Remove nuts (85), washers (80), spacers (75) and screws (70).

2. Carefully remove spring assemlby (145) and spring (140) by removing nuts (110), spacers (100), bushings (105), washers (95) and bolts (90).

3. Remove nut (60), washer (55A) and bolt (45) and carefully slide bearings (120, 130, 190, 205), quadrant assembly (160A), input arm assembly (200A) from housing assembly (65A).

   NOTE: Do not remove and disassemble fairlead assembly (66) unless repair or replacement is necessary.

4. Remove screw (5), spacers (10), washers (15) and nut (20) from quadrant (195).

5. Remove bolts (25), bushings (30), washers (35) and nuts (40) from support arm assembly (115).

6. Remove striker plate (165A) by removing bolts (170), spacers (175), washers (180) and nuts (185).

   NOTE: Do not remove striker plate (210A) unless repair or replacement is necessary.

CLEANING

1. Clean all parts, except bearings (120, 130, 190, 205), using standard industry practices (Ref 20-30-03).

CAUTION: BEARINGS (120, 130, 190, 205) HAVE SEALS. CLEAN ONLY PER MANUFACTURER'S INSTRUCTIONS.

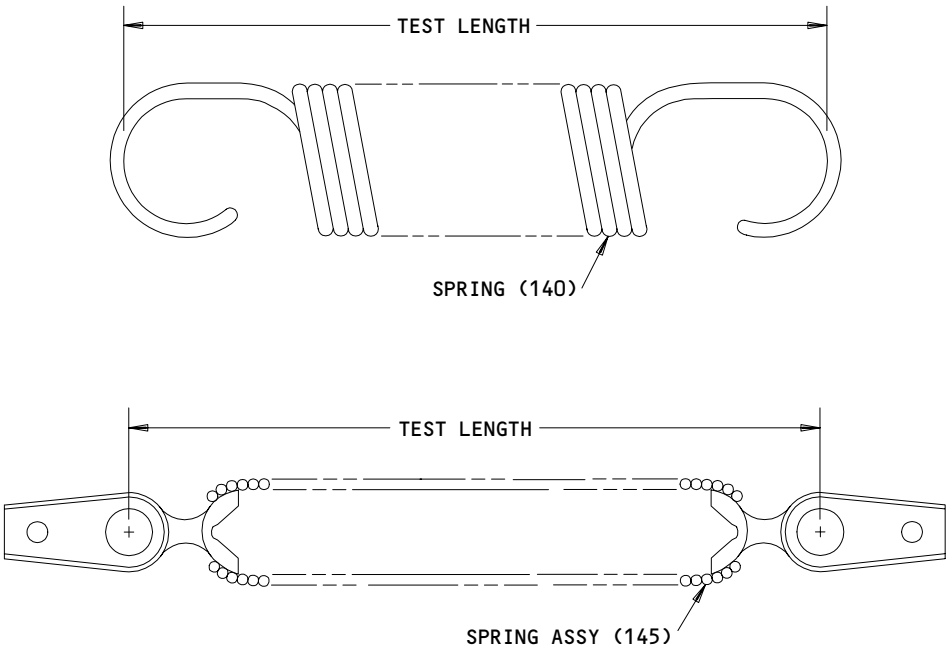
2. Clean bearings (120, 130, 190, 205) per manufacturer's instructions.

CHECK

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

2. Check springs (140, 140A, 145) for load limits per Fig. 501.

ITEM NO. IPL FIG. 1	TEST LENGTH (INCHES)	ALLOWABLE LOAD LIMIT (POUNDS)
140	9.26-9.28 10.80-10.82	14.3-17.3 20.5-25.5
140A	9.26-9.28 10.80-10.82	19.3-23.3 28.0-34.0
145	8.66-8.68 10.20-10.22	14.3-17.3 20.5-25.5



Spring Check Details
Figure 501

3972

REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
257T4201	QUADRANT	1-1
257T4202	ARM, SPRING	2-1
257T4203	ARM, INPUT	3-1
- -	MISCELLANEOUS PARTS REFINISH	4-1
257T4216	CONTROL ROD	5-1
251T0100	CONTROL ROD	6-1

2. Standard Practices

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

20-30-02 Stripping of Protective Finishes
20-30-03 General Cleaning Procedures
20-41-01 Decoding Table for Boeing Finish Codes
20-42-05 Bright Cadmium Plating
20-43-01 Chromic Acid Anodizing
20-50-03 Bushing Installation
20-60-02 Finishing Materials
20-60-03 Lubricants
20-60-04 Miscellaneous Materials

3. Materials

NOTE: Equivalent substitutes can be used.

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

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

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

D. Corrosion Preventive Compound -- BMS 3-23 (Ref 20-60-02)

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
[⊥ | 0.002 | B]	PERPENDICULAR TO B WITHIN 0.002
[// | 0.002 | A]	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
[⌒ | 0.006 | A]	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
[⌓ | 0.020 | A]	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.02 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
[◎ | ∅ 0.0005 | C]	CONCENTRIC TO C WITHIN 0.0005 DIAMETER
[≡ | 0.010 | A]	SYMMETRICAL WITH A WITHIN 0.010
[∠ | 0.005 | A]	ANGULAR TOLERANCE 0.005 WITH A
[⌖ | ∅ 0.002 Ⓢ | B]	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
[⊥ | ∅ 0.010 Ⓜ | A] [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	THEORETICALLY EXACT DIMENSION IS 2.000

NOTE: DATUM MAY APPEAR AT EITHER SIDE OF TOLERANCE FRAME [0.020 | A] [A | 0.020]

True Position Dimensioning Symbols
Figure 601

QUADRANT ASSEMBLY - REPAIR 1-1

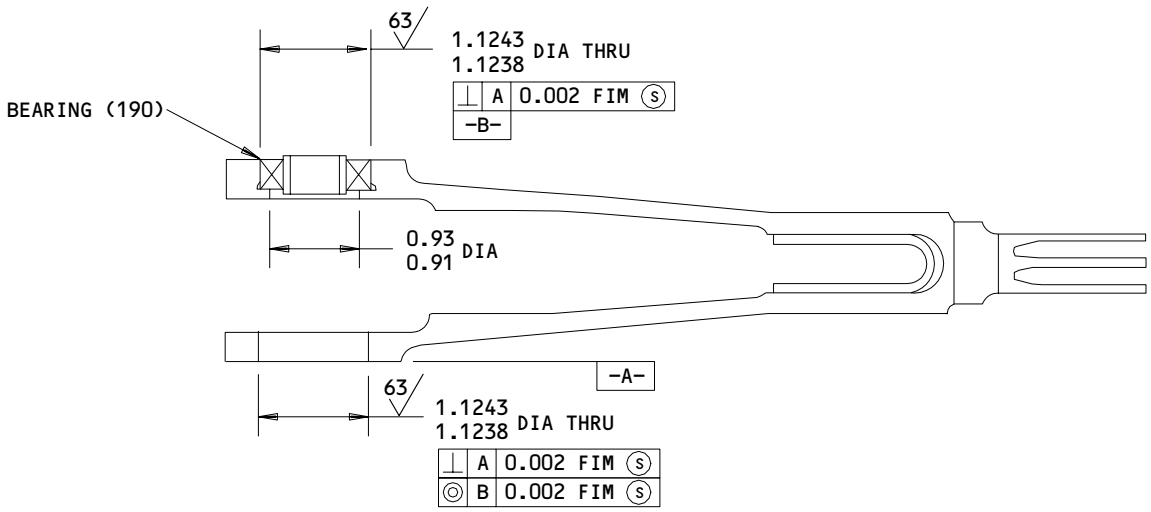
257T4201-4

1. Bearing Replacement (Fig. 601)

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require restoration of original finish, refer to Refinish instructions, Fig. 601, REPAIR 4-1.

A. Remove bearing.

B. Install new bearing per 20-50-03 except use wet primer instead of MIL-G-23827 grease, and secure by roller swaging.



257T4201-4
Bearing Replacement
Figure 601

3970

SPRING ARM ASSEMBLY - REPAIR 2-1

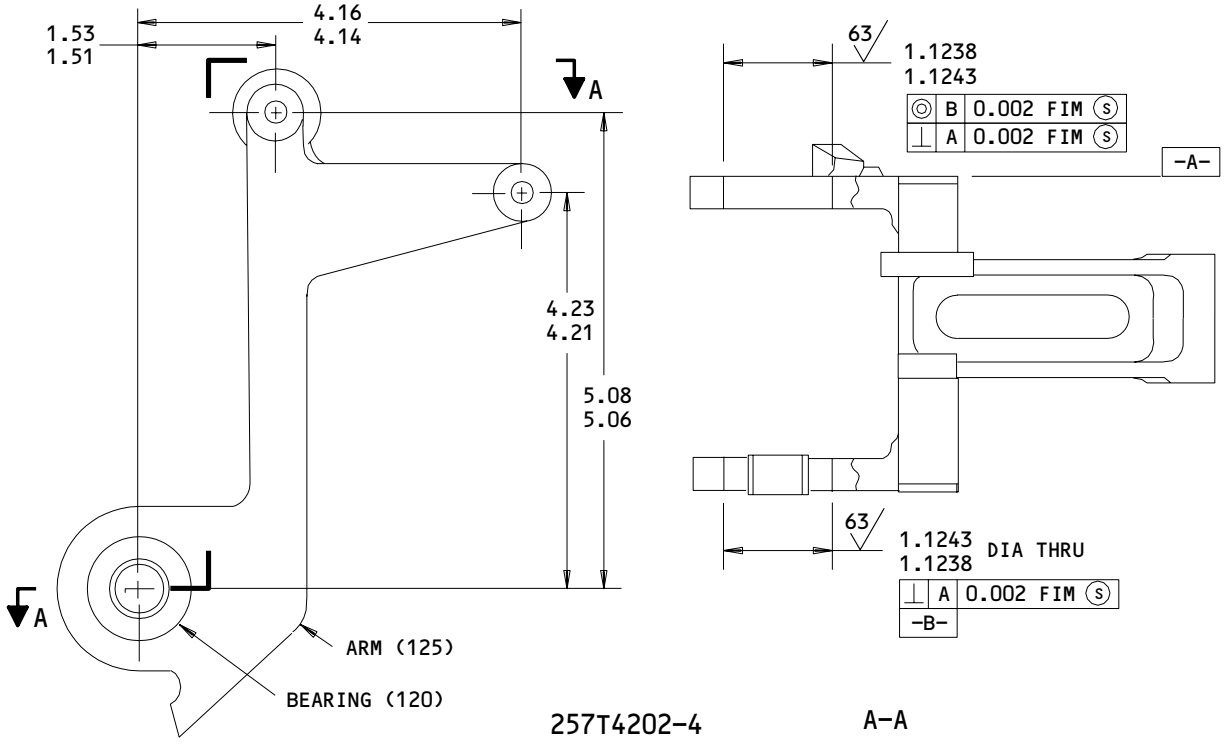
257T4202-4

1. Bearing Replacement (Fig. 601)

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require restoration of original finish, refer to Refinish instructions, Fig. 601, REPAIR 4-1.

A. Remove bearing.

B. Install new bearing per 20-50-03 except use wet primer instead of MIL-G-23827 grease, and secure by roller swaging.



257T4202-4 A-A

Bearing Replacement
Figure 601

3957

INPUT ARM ASSEMBLY - REPAIR 3-1

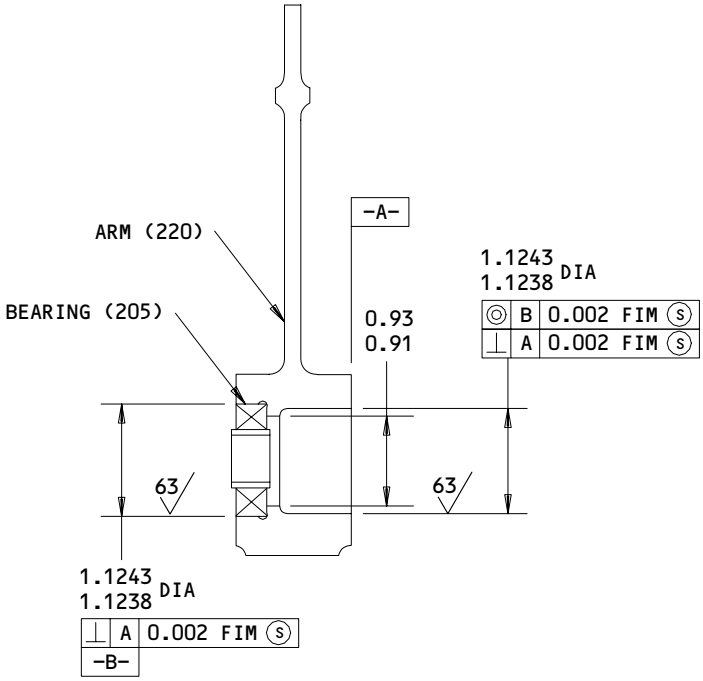
257T4203-4

1. Bearing Replacement (Fig. 601)

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require restoration of original finish, refer to Refinish instructions, Fig. 601, REPAIR 4-1.

A. Remove bearing.

B. Install new bearing per 20-50-03 except use wet primer instead of MIL-G-23827 grease, and secure by roller swaging.



257T4203-4
Bearing Replacement
Figure 601

3960

MISCELLANEOUS PARTS REFINISH - REPAIR 4-1

1. Repair of parts in Fig. 601 is only replacement of the original finish.

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Quadrant (195)	Al alloy	Anodize (F-17.05) all over. Apply two coats BMS 10-11, type 1 primer (F-20.03) all over, except on ID of bearing holes.
Arms (125, 220)	Al alloy	Anodize (F-17.05) all over. Apply BMS 10-11, type 1 primer (F-20.02) all over, except on ID of bearing holes.
Housing (69)	Al alloy	Anodize (F-17.05). Apply BMS 10-11, type 1 primer (F-20.02) all over, but no primer in holes.
Striker plate (165A)	15-5PH CRES, 180-200 ksi	Cadmium plate and apply BMS 10-11, type 1 primer (F-16.01) all over, but no primer in holes.
Striker plate (210A)	17-7PH CRES, 180-200 ksi	Cadmium plate and apply BMS 10-11, type 1 primer (F-16.01) all over.
Spring (140)	17-7PH CRES, CH900	Passivate (F-17.09) all over.
Terminal (150)	15-5PH CRES, 180-200 ksi	Passivate (F-17.09) all over.
Spring (155)	17-7PH CRES CH900	Passivate (F-17.09) all over.

Refinish Details
Figure 601 (Sheet 1)

CONTROL ROD ASSEMBLY - REPAIR 5-1

257T4216-1

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

1. Parts Replacement (Fig. 601)

   A. Drill out rivets (270, 285) from tube (290). Remove bearing (280), collar (275) and extender assy (250) from tube (290). Replace as required.

   B. Loosen nut (245) and remove sleeve (265) and extender assy (250) from collar (275). Replace parts as required.

   C. Apply wet sealant on contact surface of bearing (280), collar (275) and tube (290).

   D. Install bearing (280) into tube (290). Position bearing centerline 0.62-0.64 inch from edge of tube. Drill holes thru existing holes into bearing (280). Install rivets (285) with wet sealant into tube.

   E. Install new collar (275) into tube (290). Position end of collar 7.69 - 7.67 inch from centerline of bearing. Drill holes thru existing holes into collar (275). Install rivets (270) with wet sealant into tube.

   F. Apply grease to threaded areas and install sleeve (265) and extender assy (250) into collar (275). Centerline of bearings (255, 280) must be measured 10.04 - 10.02 inch. Tighten nut (245) to 30 - 50 lb-in.

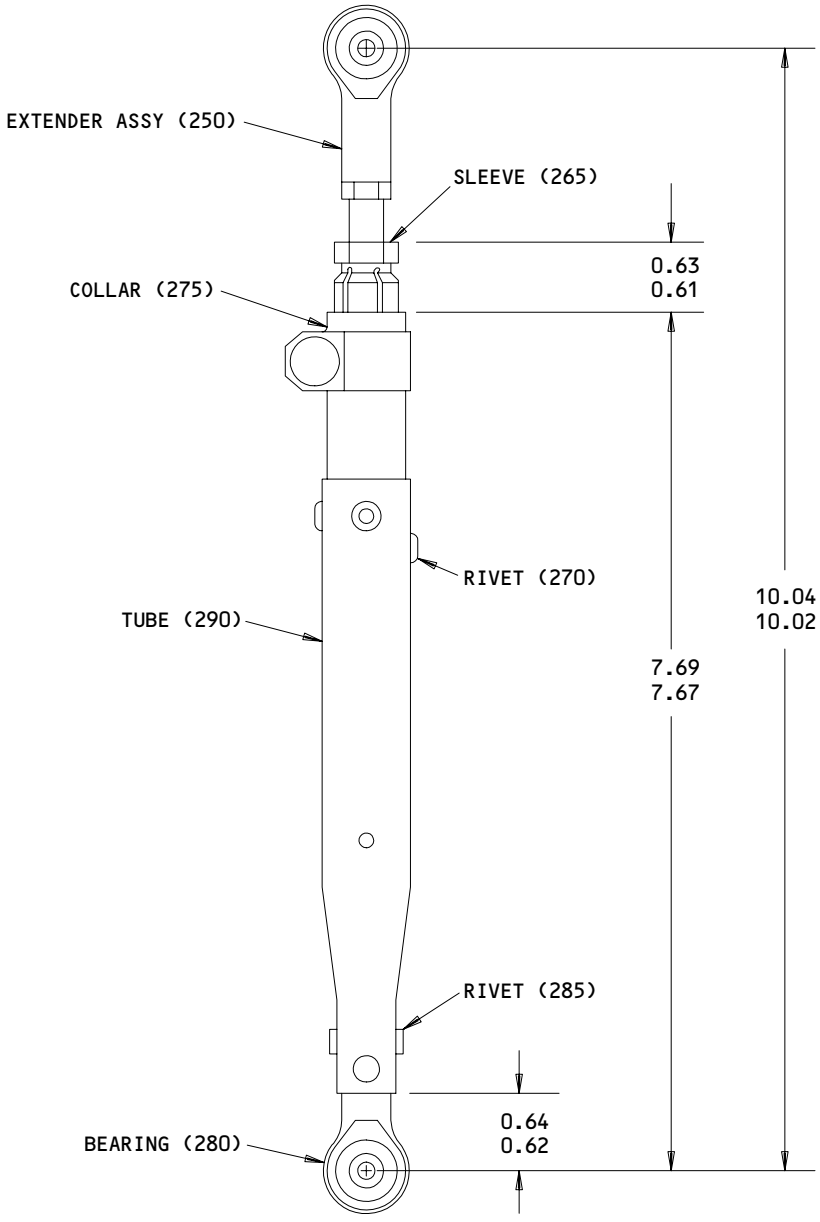
2. Refinish

   A. Extender (260) -- Cadmium plate (F-15.02) 0.0002-0.0004 inch thick all over. Material: 4340 Steel, 150-170 ksi.

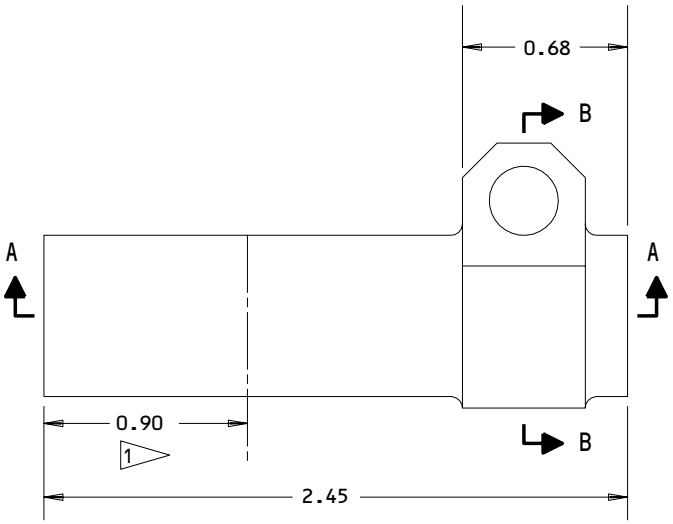
   B. Sleeve (265) -- Chromic acid anodize (F-17.04). Material: Al alloy.

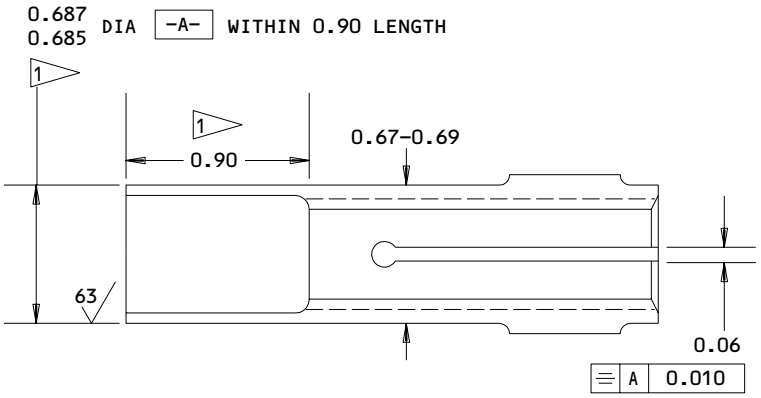
   C. Tube (290) -- Chemical treat and apply one coat of BMS 10-11, type 1, primer (F-18.07). Apply corrosion preventive compound (F-19.26) except no primer or corrosion preventive compound on 0.434-0.435 inch dia.

   D. Collar (275) -- refer to Fig. 602.

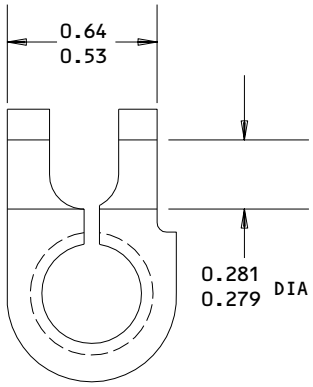


257T4216-1
Rod End Assembly
Figure 601





A-A



B-B

REFINISH

CADMIUM PLATE (F-15.02) 0.0002-0.0004 IN THICK ALL OVER. APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-20.02) EXCEPT AS NOTED BY 1.

MATERIAL: 4340 STEEL, 150-170 KSI

ALL DIMENSIONS ARE IN INCHES

1 OMIT PRIMER

257T4219-1
Collar Repair
Figure 602

CONTROL ROD ASSEMBLY - REPAIR 6-1

251T0100-201

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

1. Bearing Replacement

   A. Drill out rivets (315) from tube (310). Remove bearing (305).

   B. Loosen nut (295) and unscrew bearing (300) from tube (310).

   C. Install new bearing (305) on tube (310). Position bearing 0.50 - 0.52 inch from edge of tube. Drill holes thru existing holes into bearing (305). Install rivets with wet sealant into tube (310).

   D. Install new bearing (300) on tube (310). Adjust bearing (305) centerline to measured 10.0 - 10.02 from bearing (300) centerline. Tighten nut.

2. Refinish

   A. Tube (310) -- Chemical treat and apply one coat of BMS 10-11, type 1, primer (F-18.07). Apply corrosion preventive compound (F-19.26) except no primer or corrosion preventive compound on 0.430 - 0.434 inch dia.

ASSEMBLY

1. Install striker plate (165A) and secure with parts (170-185). Install striker plate (210A) and secure with rivets (215).

2. Install bolts (25), bushings (30), washers (35), and nuts (40) on support arm assembly (115).

3. Install screw (5), spacers (10), washer (15) and nut (20) on quadrant (195).

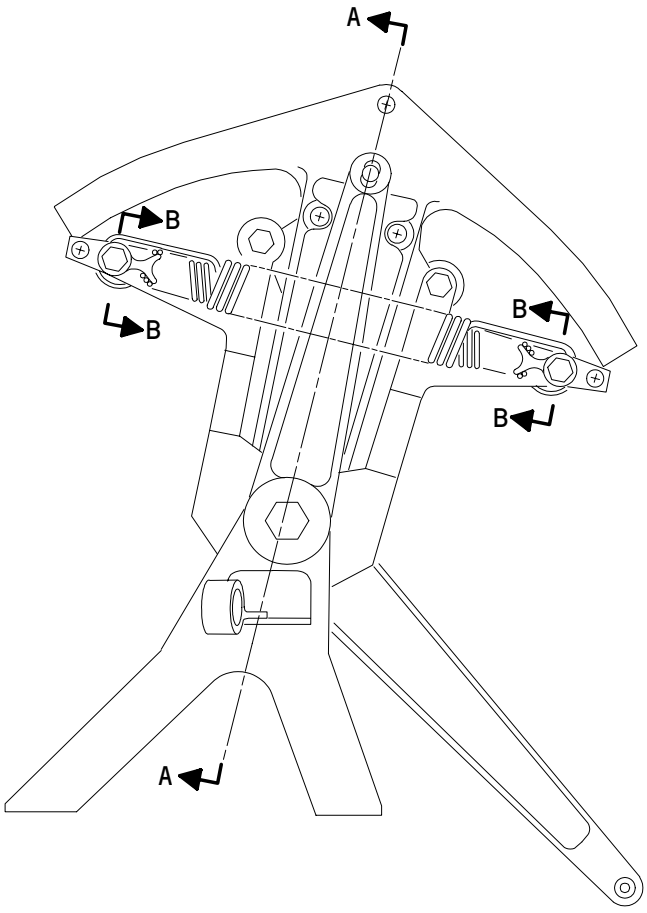
4. Install fairlead (68G) with rivets (66G, 67), washers (67G) and bracket (68).

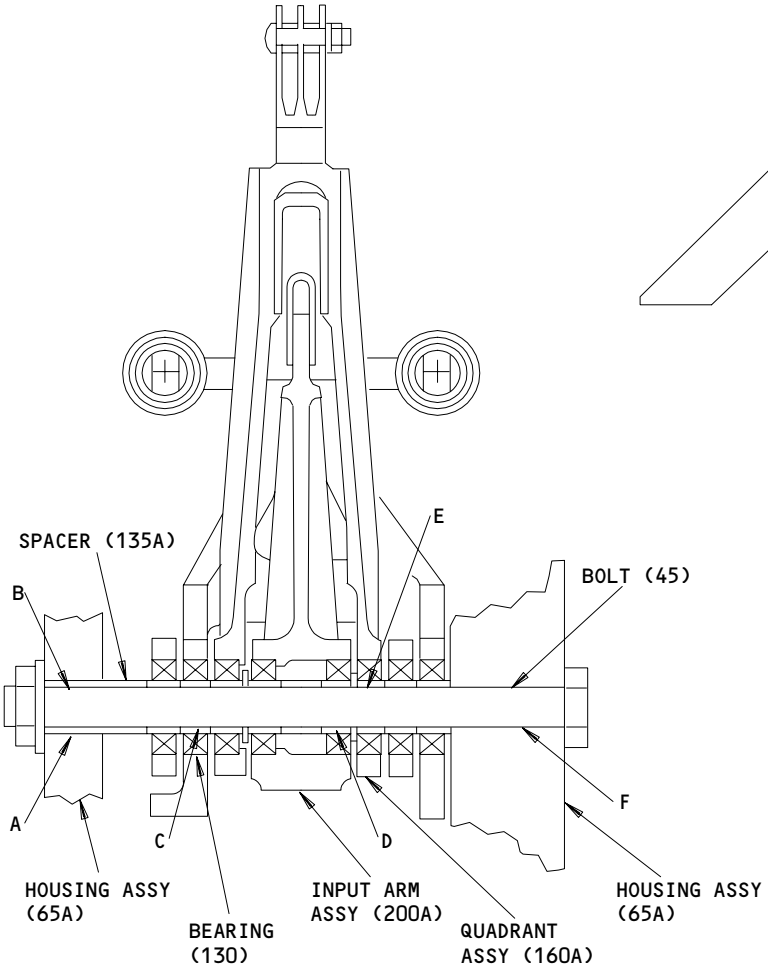
5. Install quadrant (160A), input arm (200A) and support arm (115) in housing (65A) with bolt (45), bearings (130), washers (55A), bushing (50), spacer (135A) and nut (60) using BMS 3-24 grease. Tighten nut to 95-150 in-lb.

   NOTE: Two washers (55B) plus one washer (55A) may be used, in place of two washers (55A), if needed to align input arm (200A) into quadrant (160A).

6. Carefully install spring (145) and spring (140) with bolts (90), washers (95), bushings (105), spacers (100) and nuts (110) using BMS 3-24 grease.

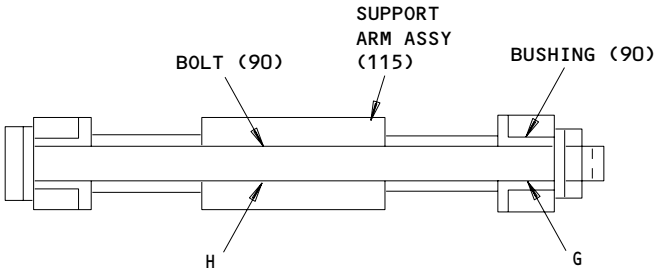
7. Install screws (70), spacers (75), washers (80) and nuts (85).





A–A

Fits and Clearances
Figure 801 (Sheet 1)



B-B

Ref Letter Fig.801	Mating Item No. IPL Fig.	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 65A OD 135A	0.6870 0.6860	0.6920 0.6865	0.0005	0.006	0.6843	0.6941	0.0076
B	ID 135A OD 45	0.5000 0.4985	0.5005 0.4995	0.0005	0.002	0.4971	0.5029	0.0034
C	ID 130 OD 45	0.4995 0.4985	0.5000 0.4995	0.0	0.0015	0.4970	0.5024	0.0029
D	ID 200A OD 45	0.4995 0.4985	0.5000 0.4995	0.0	0.0015	0.4970	0.5024	0.0029
E	ID 160A OD 45	0.4995 0.4985	0.5000 0.4995	0.0	0.0015	0.4970	0.5024	0.0029
F	ID 65A OD 45	0.5000 0.4985	0.5050 0.4995	0.0005	0.0065	0.4970	0.5074	0.0079
G	ID 105 OD 90	0.2500 0.2485	0.2515 0.2495	0.0005	0.0030	0.2475	0.2535	0.0040
H	ID 115 OD 90	0.2500 0.2485	0.2540 0.2495	0.0005	0.0055	0.2435	0.2560	0.0065

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 2)

44852

FOR TORQUE VALUES OF STANDARD FASTENERS, REFER TO 20-50-01			
ITEM NO. IPL FIG. 1	NAME	TORQUE	
		POUND-INCHES	POUND-FEET
60	NUT	95 - 150	

Torque Table
Figure 802

VENDORS

K8455 RHP BEARINGS PLC RHP AEROSPACE
OLDENDS LANE
STONEHOUSE GL10 3RM UK

S0352 NIPPON MINIATURE BEARING CO LTD
TOKYO, JAPAN

08524 DEUTSCH FASTENER CORP SEE CODE V97928

11815 CHERRY AEROSPACE FASTENERS DIV OF TEXTRON
1224 EAST WARNER AVENUE PO BOX 2157
SANTA ANA, CALIFORNIA 92707-0157

15653 KAYNAR TECHNOLOGY KAYNAR DIV
800 SOUTH STATE COLLEGE BLVD PO BOX 3001
FULLERTON, CALIFORNIA 92634-3001

21335 TORRINGTON CO FAFNIR BEARING DIV
59 FIELD STREET
TORRINGTON, CONNECTICUT 06790-4942

30163 VALENTEC DAYRON INC
333 MAGUIRE BLVD PO BOX 140394
ORLANDO, FLORIDA 32814-0394

38443 MRC BEARINGS
402 CHANDLER STREET
JAMESTOWN, NEW YORK 14701-3802

40920 MPB MINIATURE PRECISION BEARING DIV
PRECISION PARK PO BOX 547
KEENE, NEW HAMPSHIRE 03431

43991 FAG BEARING INCORPORATED
118 HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

VENDORS

50294 NEW HAMPSHIRE BALL BEARINGS INC
9730 INDEPENDENCE AVENUE PO BOX 2515
CHATSWORTH, CALIFORNIA 91311-4323

52828 REPUBLIC FASTENER MFG CORP
1300 RANCHO CONEJO BLVD
NEWBURY PARK, CALIFORNIA 91320-1405

56878 SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV
HIGHLAND AVENUE
JENKINTOWN, PENNSYLVANIA 19046

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

72962 ELASTIC STOP NUT A DIV OF HARTFORD INDUSTRIES INC
2330 VAUXHALL ROAD
UNION, NEW JERSEY 07083-5038

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

83086 NEW HAMPSHIRE BALL BEARINGS, INCORPORATED
ROUTE 202
PETERBOROUGH, NEW HAMPSHIRE 03458

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

92215 FAIRCHILD IND INC FAIRCHILD AEROSP FASTNR DIV DESIGN & ENGRG
3000 WEST LOMITA BLVD
TORRANCE, CALIFORNIA 90505-5102

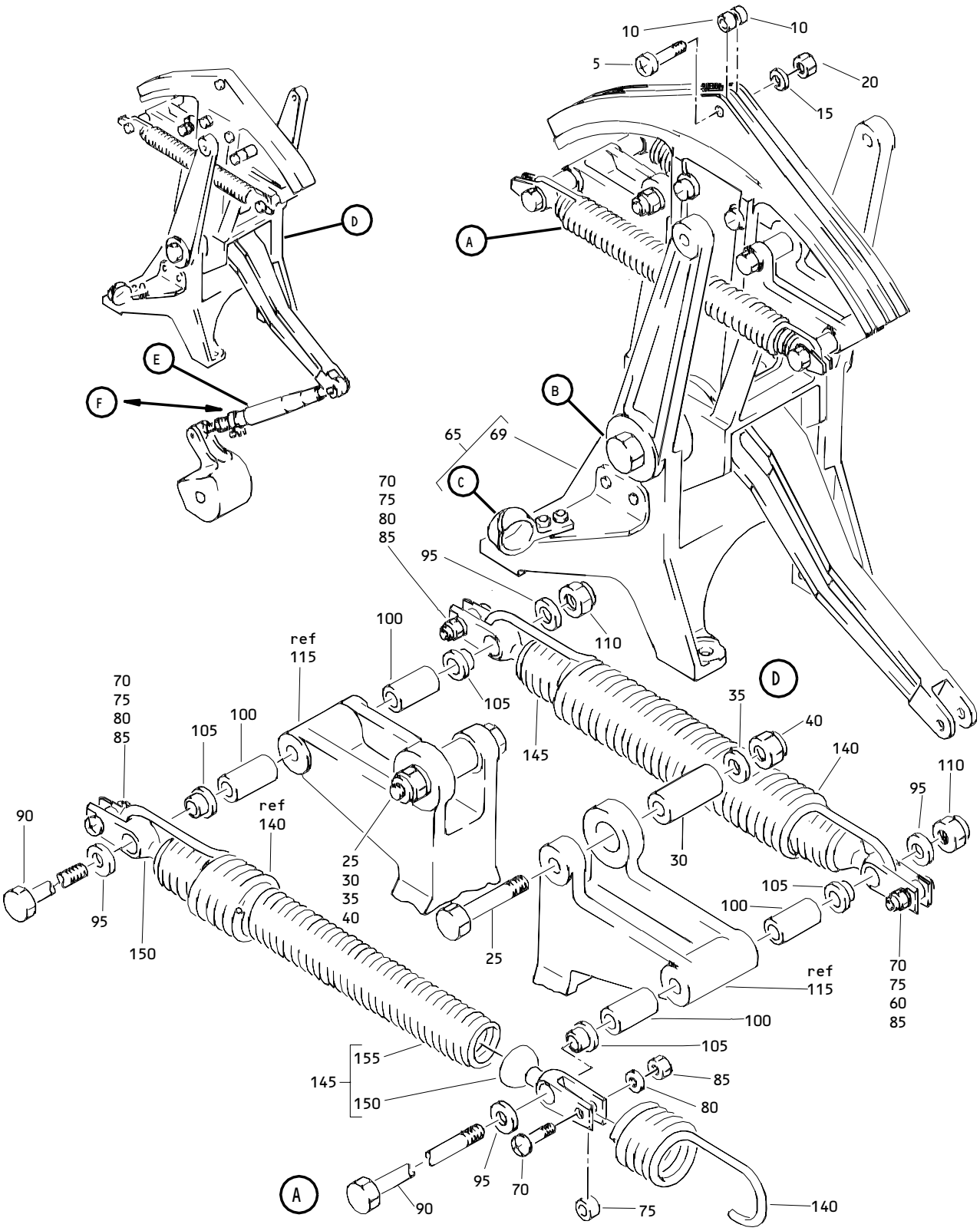
97928 DEUTSCH FASTENER CORP
3969 PARAMONT BOULEVARD
LAKEWOOD, CALIFORNIA 90712-4193

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
ABR3F2G		1	255	1
ABR3H101		1	280	1
		1	300	1
ABR3M3G		1	295	1
AN316-6R		1	290	1
AN960-816		1	54	1
		1	55A	2
AN960-816L		1	55B	2
AN960PD10		1	15	1
		1	180	2
AN960PD4L		1	67G	2
AN960PD416		1	35	2
AN960PD416L		1	240	1
AN960PD8		1	80	4
AN960XC416		1	95	4
BACB10AD4		1	295	1
BACB10AE3		1	255	1
BACB10AE8A		1	280	1
		1	300	1
BACB10BX8		1	120	2
		1	130	4
		1	190	1
		1	205	1
BACB28AK08-144		1	50	1
BACB28X4M036		1	105	4
BACB28Z4-110		1	30	2
BACB30NF4-10		1	235	1
BACB30NF4-22		1	25	2
BACB30NF4-60		1	90	2
BACB30NF8-98		1	45	1
BACB30NR8K98		1	45A	1
BACN10JC08		1	85	4
BACN10JC3		1	20	1
		1	185	2
BACN10JC4		1	40	2
		1	110	2
		1	245	1
BACN10JC8		1	60	1
BACR15BB4B		1	67	2
BACR15BB5B		1	66G	2
BACR15FT4KE		1	285	2
BMN4122AD3-8		1	60	1
BMN4122A8		1	60	1
BRH10A08		1	85	4

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BRH10A3		1	20	1
		1	185	2
BRH10A4		1	40	2
		1	110	2
		1	245	1
CS208E		1	120	2
		1	130	4
		1	190	1
		1	205	1
HHREB3N2-1		1	255	1
HHRE3H5-1		1	280	1
		1	300	1
HHRE3M6A1		1	295	1
H10-08BAC		1	85	4
H10-3BAC		1	20	1
		1	185	2
H10-4BAC		1	40	2
		1	110	2
		1	245	1
H10-8BAC		1	60	1
KP8A		1	120	2
		1	130	4
		1	190	1
		1	205	1
KP8AFS428		1	120	2
		1	130	4
		1	190	1
		1	205	1
KP8AG27		1	120	2
		1	130	4
		1	190	1
		1	205	1
KP8A2TS		1	120	2
		1	130	4
		1	190	1
		1	205	1
KP8BLY196		1	120	2
		1	130	4
		1	190	1
		1	205	1

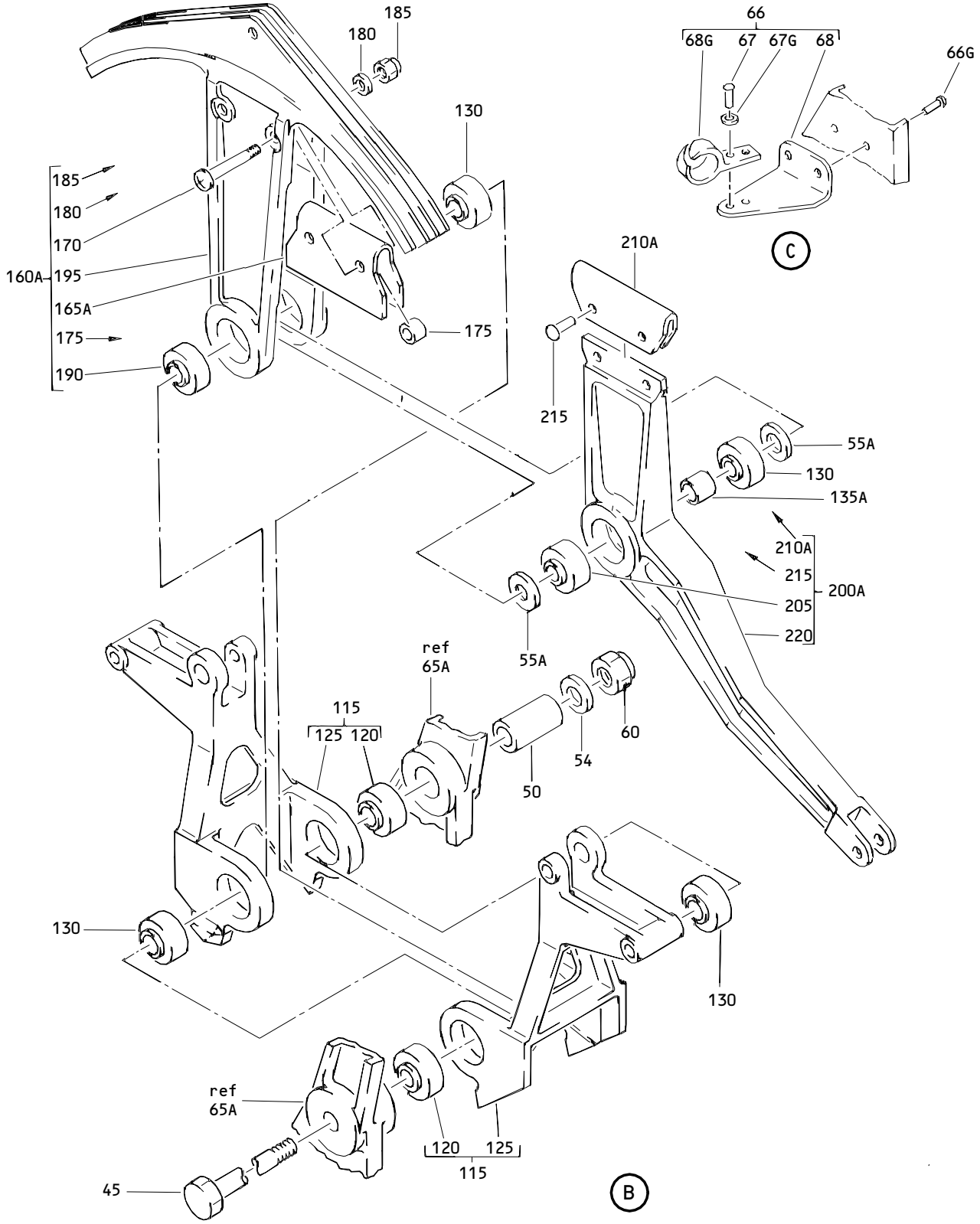
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
KP8BSD610		1	120	2
		1	130	4
KP8BSD610		1	190	1
		1	205	1
LLKP8A		1	120	2
		1	130	4
		1	190	1
		1	205	1
MS20615-5M		1	215	2
NAS1398D4A2		1	270	4
NAS42DD6-13		1	10	2
NAS43DD3-13		1	75	4
NAS43DD4-50		1	100	4
NAS43HT3-58		1	175	2
NAS43HT8-33		1	135A	1
NAS623-2-6		1	70	4
NAS623-3-10		1	5	1
NAS623-3-21		1	170	2
NS202101-02		1	20	1
		1	185	2
NS202101-048		1	40	2
		1	110	2
		1	245	1
NS202101-82		1	85	4
REPB3N2-3		1	255	1
REPB3N2E9171		1	255	1
REPB3N2FS428		1	255	1
REP3H5E9171A		1	280	1
		1	300	1
REP3H5FS436		1	280	1
		1	300	1
REP3M6AE6531		1	295	1
RMLH9074-8		1	60	1
RMLH9075-3W		1	20	1
		1	185	2
RMLH9075-4W		1	40	2
		1	110	2
		1	245	1
RMLH9075-82W		1	85	4
T6S1032J		1	20	1
		1	185	2
T6S428J		1	40	2
		1	110	2
		1	245	1
T6S832J		1	85	4
VN303A02		1	20	1
		1	185	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
VN303A048		1	40	2
		1	110	2
		1	245	1
VN303A82		1	85	4
251T0100-201		1	230	RF
251T0101-201		1	305	1
255T4183-1		1	68H	1
257T4200-10		1	1C	RF
257T4200-11		1	1D	RF
257T4200-5		1	1A	RF
257T4200-7		1	1B	RF
257T4201-2		1	195	1
257T4201-4		1	160A	1
257T4202-4		1	115	2
257T4202-5		1	125	2
257T4203-2		1	220	1
257T4203-4		1	200A	1
257T4204-1		1	69	1
257T4204-3		1	65A	1
257T4204-5		1	65B	1
257T4204-8		1	69A	1
257T4210-3		1	165A	1
257T4210-4		1	210A	1
257T4211-1		1	140	2
257T4212-1		1	145	2
257T4212-2		1	155	2
257T4213-1		1	150	4
257T4214-1		1	66	1
257T4214-2		1	68	1
257T4214-8		1	66A	1
257T4214-9		1	68A	1
257T4215-1		1	140A	2
257T4216-1		1	225	RF
257T4217-1		1	250	1
257T4217-2		1	260	1
257T4218-1		1	265	1
257T4219-1		1	275	1
48FT820		1	60	1
69B81855-2		1	68G	1
96-02		1	20	1
		1	185	2
96-048		1	40	2
96-048		1	110	2
		1	245	1
96-82		1	85	4



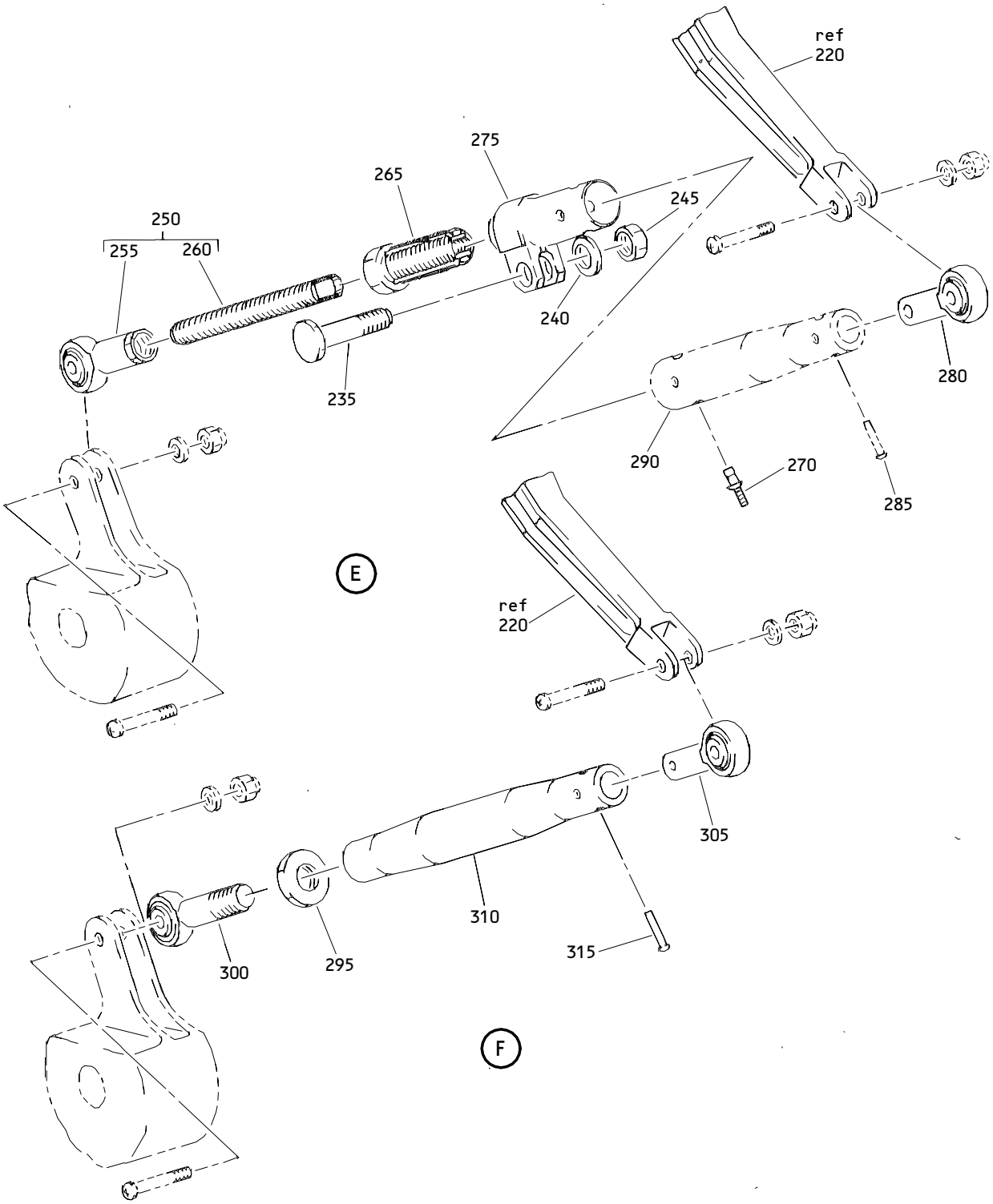
Nose Wheel Steering Centering Spring and Rudder Interconnect Mechanism Assembly
Figure 1 (Sheet 1)

T87916



Nose Wheel Steering Centering Spring and Rudder Interconnect Mechanism Assembly
Figure 1 (Sheet 2)

T40546



Nose Wheel Steering Centering Spring and Rudder Interconnect Mechanism Assembly
Figure 1 (Sheet 3)

119927

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1A	257T4200-5		MECHANISM ASSY-NOSE WHL STEERING CENTERING SPR AND RUD INTERCONNECT	A	RF
-1B	257T4200-7		MECHANISM ASSY-NOSE WHL STEERING CENTERING SPR AND RUD INTERCONNECT	B	RF
-1C	257T4200-10		MECHANISM ASSY-NOSE WHL STEERING CENTERING SPR AND RUD INTERCONNECT	C	RF
-1D	257T4200-11		MECHANISM ASSY-NOSE WHL STEERING CENTERING SPR AND RUD INTERCONNECT	D	RF
5	NAS623-3-10		.SCREW		1
10	NAS42DD6-13		.SPACER		2
15	AN960PD10		.WASHER		1
20	H10-3BAC		.NUT- (V15653) (SPEC BACN10JC3) (OPT NS202101-02 (V80539)) (OPT RMLH9075-3W (V72962)) (OPT T6S1032J (V71087)) (OPT VN303A02 (V92215)) (OPT 96-02 (V80539)) (OPT BRH10A3 (V52828))		1
25	BACB30NF4-22		.BOLT		2
30	BACB28Z4-110		.BUSHING		2
35	AN960PD416		.WASHER		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
40	H10-4BAC		.NUT-		2
			(V15653)		
			(SPEC BACN10JC4)		
			(OPT NS202101-048		
			(V80539))		
			(OPT RMLH9075-4W		
			(V72962))		
			(OPT T6S428J		
			(V71087))		
			(OPT VN303A048		
			(V92215))		
			(OPT 96-048		
			(V80539))		
			(OPT BRH10A4		
			(V52828))		
45	BACB30NF8-98		.BOLT-		1
			(OPT ITEM 45A)		
-45A	BACB30NR8K98		.BOLT-		1
			(OPT ITEM 45)		
50	BACB28AK08-144		.BUSHING		1
54	AN960-816		.WASHER		1
55A	AN960-816		.WASHER-*(1)		2
-55B	AN960-816L		.WASHER-*(1)		2
60	H10-8BAC		.NUT-		1
			(V15653)		
			(SPEC BACN10JC8)		
			(OPT BMN4122A8		
			(V85495))		
			(OPT RMLH9074-8		
			(V72962))		
			(OPT 48FT820		
			(V56878))		
			(OPT BMN4122AD3-8		
			(V08524))		
			(OPT BMN4122AD3-8		
			(V97928))		
65A	257T4204-3		.HOUSING ASSY	A,B	1
-65B	257T4204-5		.HOUSING ASSY	C,D	1
66	257T4214-1		..FAIRLEAD ASSY	A,B	1
-66A	257T4214-8		..FAIRLEAD ASSY	C,D	1
			ATTACHING PARTS		
66G	BACR15BB5B		..RIVET-		2
			(SIZE DETERMINE ON INST)		
			-------*-------		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
67	BACR15BB4B		...RIVET- (SIZE DETERMINE ON INST)		2
67G	AN960PD4L		...WASHER		2
68	257T4214-2		...BRACKET	A,B	1
-68A	257T4214-9		...BRACKET	C,D	1
68G	69B81855-2		...FAIRLEAD	A,B	1
-68H	255T4183-1		...FAIRLEAD	C,D	1
69	257T4204-1		..HOUSING	A,B	1
-69A	257T4204-8		..HOUSING	C,D	1
70	NAS623-2-6		.SCREW		4
75	NAS43DD3-13		.SPACER		4
80	AN960PD8		.WASHER		4
85	H10-08BAC		.NUT- (V15653) (SPEC BACN10JC08) (OPT NS202101-82 (V80539)) (OPT RMLH9075-82W (V72962)) (OPT T6S832J (V71087)) (OPT VN303A82 (V92215)) (OPT 96-82 (V80539)) (OPT BRH10A08 (V52828)) (OPT T6S832J (V11815))		4
90	BACB30NF4-60		.BOLT		2
95	AN960XC416		.WASHER		4
100	NAS43DD4-50		.SPACER		4
105	BACB28X4M036		.BUSHING		4

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
110	H10-4BAC		.NUT-		2
			(V15653)		
			(SPEC BACN10JC4)		
			(OPT NS202101-048		
			(V80539))		
			(OPT RMLH9075-4W		
			(V72962))		
			(OPT T6S428J		
			(V71087))		
			(OPT VN303A048		
			(V92215))		
			(OPT 96-048		
			(V80539))		
			(OPT BRH10A4		
			(V52828))		
115	257T4202-4		.ARM ASSY-SPR		2
120	KP8AFS428		..BEARING-		1
			(V21335)		
			(SPEC BACB10BX8)		
			(OPT KP8A2TS		
			(V43991))		
			(OPT LLKP8A		
			(V38443))		
			(OPT KP8AG27		
			(V30163))		
			(OPT KP8A		
			(V38443))		
			(OPT KP8BLY196		
			(V40920))		
			(OPT KP8BSD610		
			(V83086))		
			(OPT CS208E		
			(VK8455))		
125	257T4202-5		..ARM		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
130	KP8AFS428		.BEARING-		4
			(V21335)		
			(SPEC BACB10BX8)		
			(OPT KP8A2TS		
			(V43991))		
			(OPT LLKP8A		
			(V38443))		
			(OPT KP8AG27		
			(V30163))		
			(OPT KP8A		
			(V38443))		
			(OPT KP8BLY196		
			(V40920))		
			(OPT KP8BSD610		
			(V83086))		
			(OPT CS208E		
			(VK8455))		
135A	NAS43HT8-33		.SPACER		1
140	257T4211-1		.SPRING	A,C	2
-140A	257T4215-1		.SPRING	B,D	2
145	257T4212-1		.SPRING ASSY		2
150	257T4213-1		..FITTING-TERM.		2
155	257T4212-2		..SPRING		1
160A	257T4201-4		.QUADRANT ASSY		1
165A	257T4210-3		..PLATE-STRIKER		1
			ATTACHING PARTS		
170	NAS623-3-21		..SCREW		2
175	NAS43HT3-58		..SPACER		2
180	AN960PD10		..WASHER		2
185	H10-3BAC		..NUT-		2
			(V15653)		
			(SPEC BACN10JC3)		
			(OPT NS202101-02		
			(V80539))		
			(OPT RMLH9075-3W		
			(V72962))		
			(OPT T6S1032J		
			(V71087))		
			(OPT VN303A02		
			(V92215))		
			(OPT 96-02		
			(V80539))		
			(OPT BRH10A3		
			(V52828))		
			-------*-------		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
190	KP8AFS428		..BEARING-		1
			(V21335)		
			(SPEC BACB10BX8)		
			(OPT KP8A2TS		
			(V43991))		
			(OPT LLKP8A		
			(V38443))		
			(OPT KP8AG27		
			(V30163))		
			(OPT KP8A		
			(V38443))		
			(OPT KP8BLY196		
			(V40920))		
			(OPT KP8BSD610		
			(V83086))		
			(OPT CS208E		
			(VK8455))		
195	257T4201-2		..QUADRANT		1
200A	257T4203-4		.ARM ASSY-INPUT		1
205	KP8AFS428		..BEARING-		1
			(V21335)		
			(SPEC BACB10BX8)		
			(OPT KP8A2TS		
			(V43991))		
			(OPT LLKP8A		
			(V38443))		
			(OPT KP8AG27		
			(V30163))		
			(OPT KP8A		
			(V38443))		
			(OPT KP8BLY196		
			(V40920))		
			(OPT KP8BSD610		
			(V83086))		
			(OPT CS208E		
			(VK8455))		
210A	257T4210-4		..PLATE-STRIKER		1
			ATTACHING PARTS		
215	MS20615-5M		..RIVET-		2
			(SIZE DETERMINE ON INST)		
			-------*-------		
220	257T4203-2		..ARM		1
			INSTALLATION PARTS		
-225	257T4216-1		ROD ASSY-CONT		RF
			(OPT ITEM 230)		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-230	251T0100-201		ROD ASSY-CONT (OPT ITEM 225)		RF
235	BACB30NF4-10		.BOLT- (USED ON ITEM 225)		1
240	AN960PD416L		.WASHER- (USED ON ITEM 225)		1
245	H10-4BAC		.NUT- (V15653) (SPEC BACN10JC4) (OPT NS202101-048 (V80539)) (OPT RMLH9075-4W (V72962)) (OPT T6S428J (V71087)) (OPT VN303A048 (V92215)) (OPT 96-048 (V80539)) (OPT BRH10A4 (V52828)) (USED ON ITEM 225)		1
250	257T4217-1		.EXTENDER ASSY- (USED ON ITEM 225)		1
255	ABR3F2G		..BEARING- (VS0352) (SPEC BACB10AE3) (OPT REPB3N2-3 (V38443)) (OPT REPB3N2E9171 (V21335)) (OPT REPB3N2FS428 (V21335)) (OPT REPB3N2FS428 (V21335)) (OPT HHREB3N2-1 (V38443))		1
260	257T4217-2		..EXTENDER		1
265	257T4218-1		.SLEEVE- (USED ON ITEM 225)		1
270	NAS1398D4A2		.RIVET- (USED ON ITEM 225)		4
275	257T4219-1		.COLLAR- (USED ON ITEM 225)		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
280	REP3H5FS436		.BEARING- (V21335) (SPEC BACB10AE8A) (OPT ABR3H101 (VS0352)) (OPT HHRE3H5-1 (V38443)) (OPT REP3H5E9171A (V21335)) (OPT ABR3H101 (V50294)) (USED ON ITEM 225)		1
285	BACR15FT4KE		.RIVET- (SIZE DETERMINE ON INST) (USED ON ITEM 230)		2
290	AN316-6R		.NUT- (USED ON ITEM 230)		1
295	REP3M6AFS428		.BEARING- (V21335) (SPEC BACB10AD4) (OPT HHRE3M6A1 (V38443)) (OPT REP3M6AE6531 (V21335)) (OPT ABR3M3G (V50294)) (OPT ABR3M3G (VS0352)) (USED ON ITEM 230)		1
300	REP3H5FS436		.BEARING- (V21335) (SPEC BACB10AE8A) (OPT ABR3H101 (VS0352)) (OPT HHRE3H5-1 (V38443)) (OPT REP3H5E9171A (V21335)) (OPT ABR3H101 (V50294)) (USED ON ITEM 230)		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-305	251T0101-201		.TUBE-THREADED ONE END (USED ON ITEM 230)		1

*(1) USE TWO AN960-816L PLUS ONE AN960-816 WASHER IN LIEU OF TWO AN960-816 WHEN REQUIRED TO ALIGN INPUT ARM INTO QUADRANT ASSY