TO: ALL HOLDERS OF NOSE LANDING GEAR SPRING CARTRIDGE ASSEMBLY OVERHAUL MANUAL, 32-22-32

REVISION NO. 2, DATED NOV 1/02

HIGHLIGHTS

DESCRIPTION OF CHANGE	TOPICS AFFECTED												
	D & O	D / Assy	Cleaning	Insp/Chk	Repair	Assy	F/C	Test	T/Shooting	S/Tools	Storage	IPL	L/Overhaul
Added clarifications and upgraded callouts	X	X		X	X	X		X				X	

NOSE GEAR SPRING CARTRIDGE ASSEMBLY

32-22-32

BOEING P/N 65-80930-1

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
		PRR 32000	Dec 25/72

LIST OF EFFECTIVE PAGES

* Indicates pages revised, added or deleted in latest revision
F Indicates foldout pages - print one side only

	PAGE	DATE	PAGE	DATE	PAGE	DATE
	32-22-32					
	T-1	Dec 25/72				
	T-2	BLANK				
*	LEP-1	Nov 1/02				
	LEP-2	BLANK				
*	T/C-1	Nov 1/02				
	T/C-2	BLANK				
*	1	Nov 1/02				
*	2	Nov 1/02				
*	3	Nov 1/02				
*	4	Nov 1/02				
*	5	Nov 1/02				
	6	Dec 25/72				
*	7	Nov 1/02				
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*[1] Special instructions are not required. Use standard industry practices.

*[2] Not applicable.

NOSE GEAR SPRING CARTRIDGE ASSEMBLY

1. DESCRIPTION AND OPERATION

   A. The nose gear spring cartridge assembly includes a tube with two compression springs inside with a fixed rod end at one end of the tube and a sliding shaft with a rod end at the other end.

   B. A load applied at the rod ends to either extend or retract the cartridge will compress the internal springs. When the load is removed, the cartridge will return to neutral position.

2. DISASSEMBLY (Fig. 3)

   WARNING: THE INSTALLED SPRINGS ARE COMPRESSED WITH A FORCE OF APPROXIMATELY 90 POUNDS. BE SURE TO HOLD SLIDES (65) BEFORE YOU REMOVE THE RIVETS THAT HOLD STOP (60) OR INJURY TO PERSONNEL COULD OCCUR.

   A. To remove spring assembly (45) from tube assembly (25), clamp slides (65) in vise and compress springs (70, 75) to release the load on stop (60). Remove rivets (50).

3. INSPECTION/CHECK (Fig. 3)

A. Examine all parts for defects by standard industry practices.

B. Magnetic particle check (SOPM 20-20-01) -- springs (70, 75) and rod end (20).

C. Penetrant inspect (SOPM 20-20-02) -- rod (80).

D. Spring Check -- See Fig. 1.

ITEM NO. FIGURE	TEST LENGTH (INCHES)	ALLOWABLE LOAD LIMIT (POUNDS)
70	6.20 11.10	48.4-53.6 4.1-6.1
75	5.94 8.94	33.3-36.9 5.5-7.5

Spring Check Data
Figure 1

4. REPAIR

A. Repair small defects by standard industry practices.

B. Refinish

NOTE: Refer to SOPM 20-30-02 for stripping of protective finishes. Refer to SOPM 20-41-01 for explanation of F and SRF finish codes.

(1) Rod end (20) -- Cadmium plate (F-15.02) and apply BMS 10-11, Type 1 primer (F-20.02) but no primer on threads. Material: 4340 steel, 125-145 ksi.

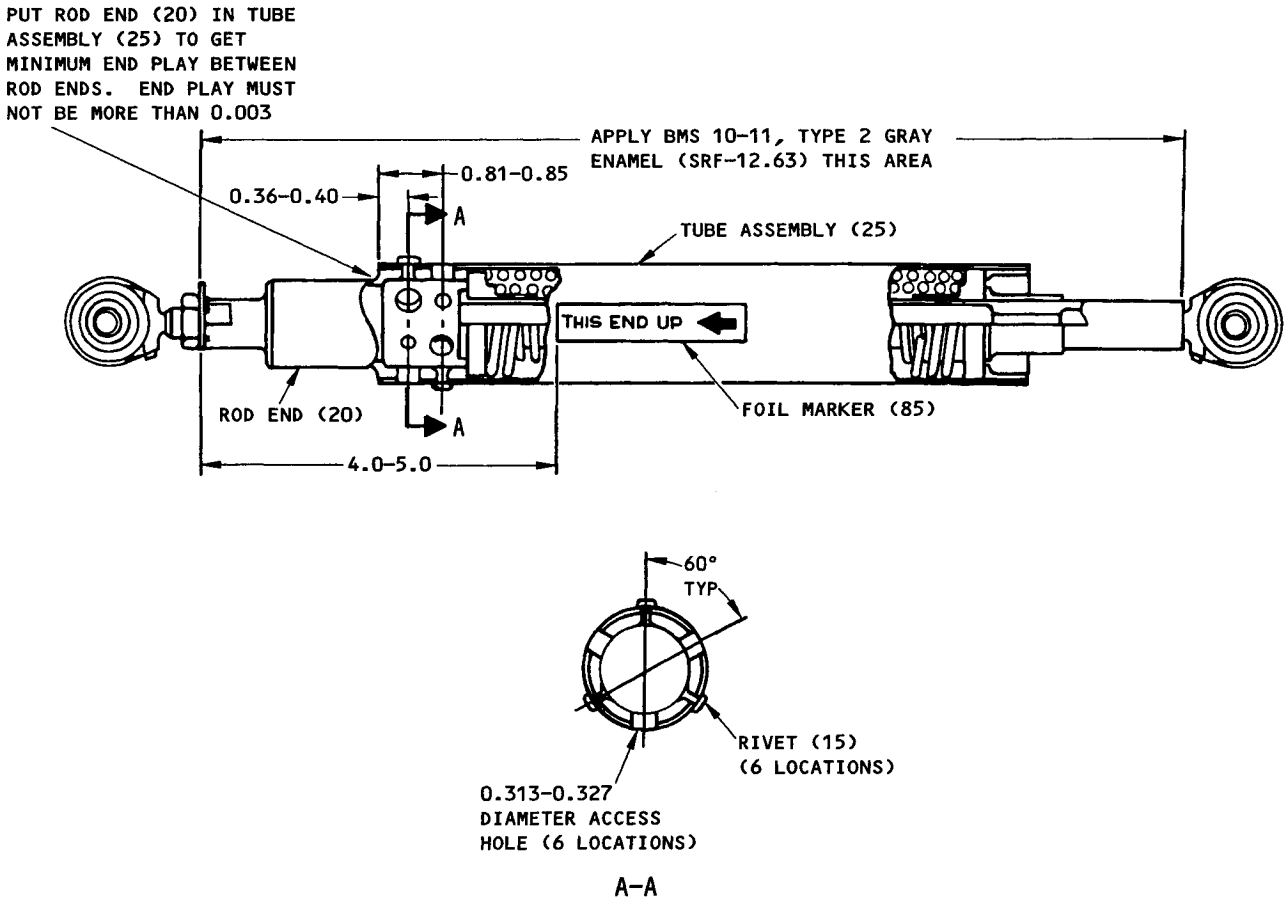
(2) Stop (35), rod (80) -- Chemical treat and apply BMS 10-11, Type 1 primer (F-18.05) all over. Material: Al alloy.

(3) Tube (40) -- Chemical treat and apply BMS 10-11, Type 1 primer (SRF-2.30) all over. Material: Al alloy.

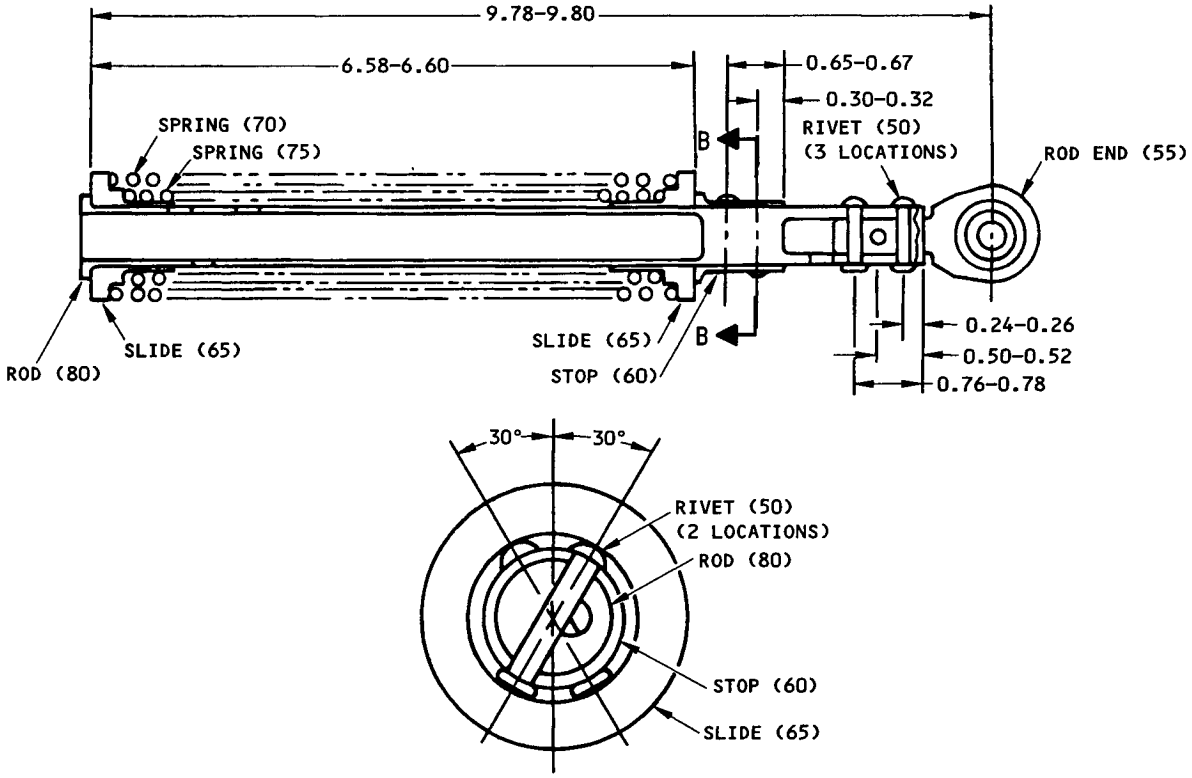
(4) Stop (60) -- Chromic acid anodize and apply BMS 10-11, Type 1 primer (F-18.13) all over. Material: Al alloy.

(5) Springs (70, 75) -- Cadmium plate and apply BMS 10-11, Type 1 primer (F-16.03) all over. Material: Music wire QQ-W-470.

(6) Spring cartridge assembly 65-80930-1 -- Apply enamel as shown in Fig. 2.

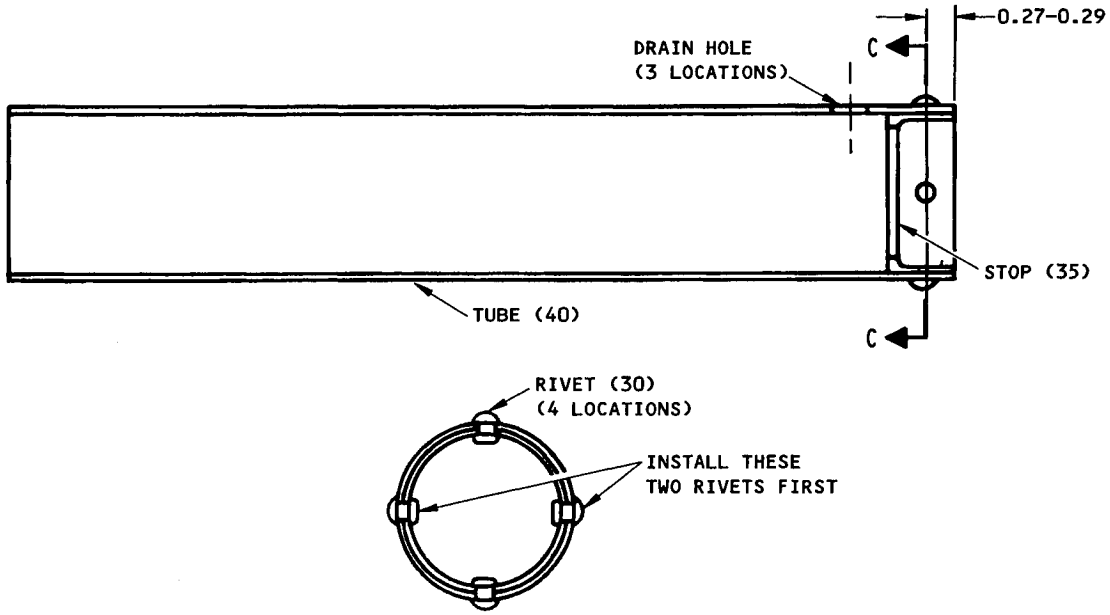


Spring Cartridge Assembly Details
Figure 2 (Sheet 1)



B-B

SPRING ASSEMBLY (45)



C-C

ALL DIMENSIONS ARE IN INCHES

TUBE ASSEMBLY (25)
Spring Cartridge Assembly Details
Figure 2 (Sheet 2)

N47273

5. ASSEMBLY (Fig. 3)

A. Use standard industry practices and these steps.

B. If you install a new stop (35) or tube (40), install the parts with their rivet holes as shown in Fig. 2. Bond with Type 38 adhesive (SOPM 20-50-12). Pressure on the bond is not necessary. Install rivets, as shown, after bond is cured.

WARNING: COMPRESSED SPRINGS HAVE A FORCE OF APPROXIMATELY 90 POUNDS.

C. Assemble two slides (65) and springs (70, 75) over rod (80) and compress sufficiently to let you install stop (60) with rivets (50).

D. If you install a new stop (60), rod (80) or rod end (55), install the parts with their rivet holes as shown in Fig. 2.

E. If you install a new rod end (20), tube assembly (25) or foil marker (85), install the parts with their rivet holes as shown in Fig. 2. Install rod end (20) with wet primer, BMS 10-11, Type 1.

F. Install rod end (1) with MIL-C-16173 corrosion preventive compound on threads. Adjust the centerline distance between rod ends (1, 55) to approximately 14.35 inches.

NOTE: Final adjustments will be made when the cartridge assembly is installed in the airplane.

6. TESTING (Fig. 3)

A. With spring assembly (45) in neutral position, make sure the breakout load (both extend and retract) is 76 to 96 pounds.

B. Extend the cartridge assembly 2.00 inches. Make sure the load is 109-139 pounds.

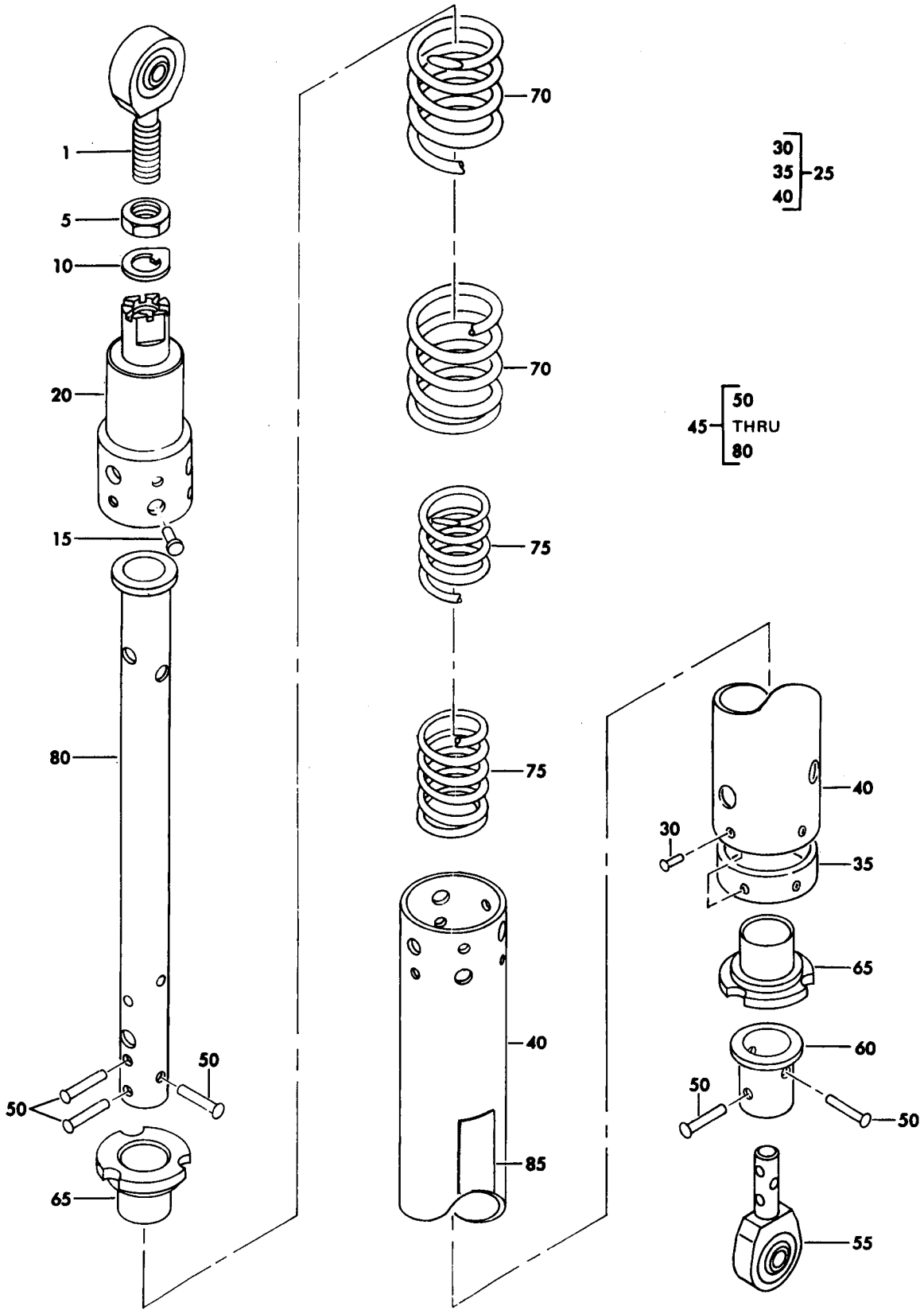
C. Retract the cartridge assembly 2.00 inches. Make sure the load is 109-139 pounds.

D. Extend the cartridge assembly and make sure the minimum travel is 2.74 inches.

E. Retract the cartridge assembly and make sure the minimum travel is 2.30 inches.

F. Make sure the cartridge extends and retracts freely and that tube assembly (25) turns freely by hand while you hold rod end (55).

7. ILLUSTRATED PARTS LIST



Nose Gear Spring Cartridge Assembly
Figure 3

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3-					
	65-80930-1		NOSE GEAR SPRING CARTRIDGE ASSY		RF
1	MK45-23EFG		. ROD END, V73134		1
5	NAS509-6		. NUT		1
10	NAS513-6		. WASHER		1
15	BACR15BA5D		. RIVET		6
20	69-62738-1		. ROD END		1
25	69-62736-1		. TUBE ASSY		1
30	BACR15BB5D		. . RIVET		4
35	66-25178-1		. . STOP		1
40	69-62736-2		. . TUBE		1
45	69-62737-1		. SPRING ASSY		1
50	BACR15BB5D		. . RIVET		5
55	M4-23AFG		. . ROD END, V73134		1
60	66-25177-1		. . STOP		1
65	69-62740-1		. . SLIDE		2
70	69-62742-1		. . SPRING		1
75	69-62741-1		. . SPRING		1
80	69-62739-1		. . ROD		1
85	BAC27DCC826		. FOIL MARKER (REPLS BACM9L10ACW)		1
85	BACM9L10ACW		. FOIL MARKER		1

VENDORS

V73134 ROLLER BEARING CO. OF AMERICA, INC., HEIM BEARING DIV., 60 ROUND HILL RD., FAIRFIELD, CONNECTICUT 06430