



8301 Imperial Dr.  
Waco, Texas 76712

# SERVICE BULLETIN

## NO. A2764-71-1

POWER PLANT - FAN COWLING - HOLD OPEN ROD  
REPLACEMENT OF ROD END BEARING

### I PLANNING INFORMATION

#### A. Effectivity

##### (1) Component Affected

This Service Bulletin affects hold open rods NORCO Part No. A2764-3 (Per Boeing Specification Part No. S314T220-5) that are in service installed on Boeing manufactured aircraft.

##### (2) Spares Affected

This Service Bulletin affects those Part No. A2764-3 units that are in airline spares.

#### B. Reason

The incorporation of this Service Bulletin will replace the rod end bearing with a stronger one having a larger diameter bolt shank and make this hold open rod equivalent to the new S314T220-16 rod.

#### C. Description

This Service Bulletin is to inform all users of the procedures and the detailed instructions required for reworking Norco strut assembly A2764-3 to make it equivalent to S314T220-16. The rework requires replacing the rod end bearing and outer tube.

#### D. Approval

This Service Bulletin has been reviewed by Federal Aviation Administration (FAA). The repair and modifications herein comply with the applicable Federal Aviation Regulations (FARs) and are approved by FAA and The Boeing Company.

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E. Manpower

Required to remove Strut Assembly from Aircraft	.5 hrs.
Replace Rod End Bearing and Outer Tube	2.0 hrs.
Replace Strut Assembly in Aircraft	.5 hrs.
<b>TOTAL</b>	<b>3.0 hrs.</b>

F. Material Cost and Availability

The parts identified in Section III, A. may be obtained form NORCO, INC. as follows:

<u>Part No.</u>	<u>Description</u>	<u>Availability</u>	<u>Price</u>
RW2764-3	Rework Kit, Hold Open Rod	30 days	\$180.00

**DIRECT PURCHASE ORDER TO:** MarathonNorco Aerospace, Inc.  
8301 Imperial Dr.  
Waco, Texas 76712  
254-776-0650 Main Line  
254-776-6558 Fax

G. Tooling - Cost and Availability

Not applicable.

H. Weight and Balance

Incorporation of this Service Bulletin will increase the weight of the Strut Assembly from 3.8 lbs. to 3.9 lbs. The effect on balance is negligible.

I. Other Publications Affected

Component Maintenance Manual No. 71-10-36 for Hold Open Rod, Part No. A2764-3 to be changed accordingly.

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## II. ACCOMPLISHMENT INSTRUCTIONS

### A. Disassembly (See Figure 1)

- (1) Loosen nut (4) on rod end bearing (5) by rotating counterclockwise.
- (2) Remove rod end bearing (5) by rotating counterclockwise. Locking device (10) will come off with rod end bearing (5).
- (3) Remove couplex lock assembly (15) by unthreading in a counterclockwise direction from the inner tube (50). Apply heat (350°F) to loosen thread adhesive.

**CAUTION:** WHEN REMOVING COUPLEX LOCK ASSEMBLY (15) FROM INNER TUBE (50) CARE SHOULD BE EXERCISED NOT TO DAMAGE INNER TUBE (50).

- (4) Using a 5/32 inch (4 mm) diameter drill, remove rivet (20) by drilling off head and driving out remainder of rivet.
- (5) Using a 3/16 inch (4.75 mm) diameter drill, remove rivet (25) 2 places by drilling off head and driving out remainder of rivet.
- (6) Remove end fitting (30), compression spring (35) and damper (40) from outer tube (45).
- (7) Remove inner tube (50) from assembly by sliding out the back of the outer tube (45) [rod end bearing side]. When inner tube (50) is removed the lock collar assembly (55), locking dogs (60), compression spring (65) and washer (70) will also become free and can be removed from the front of the intermediate tube (75).
- (8) Remove intermediate tube (75) from assembly by sliding out the back of the outer tube (45) [rod end bearing side]. When intermediate tube (75) is removed, the lock collar assembly (80), locking dogs (85), compression spring (90) and washer (95) will also become free and can be removed from the front of the outer tube (45).

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- (9) The following is a summary of parts to be scrapped. The remainder of the parts should be saved for reuse.

<u>Item No.</u>	<u>Parts to Scrap</u>
(45)	Outer Tube
(20)	Rivet
(25)	Rivet (2)
(30)	End Fitting
(4)	Nut
(5)	Rod End Bearing
(10)	Locking Device

B. Assembly (See Figure 1)

- (1) Replace outer tube (45) with new outer tube, part number AM2764-16-2.
- (2) Two dowels or metal rods are required for use as assembly tools. These should be 4.5 inches (114.3 mm) long and the following diameter:  

Tool A:	0.930 inch (23.62 mm) diameter
Tool B:	0.695 inch (17.65 mm) diameter
- (3) Secure outer tube (45) and assembly tool A. Insert assembly tool into small diameter end of outer tube (45). Place locking dogs (85), 3 required, into slots in tube. Install washer (95), compression spring (90), and locking collar assembly (80). Hold locking collar assembly in a position so that the word "unlocked" is visible. Insert intermediate tube (75), small diameter end first, into large diameter end of tube (45). Allow intermediate tube (75) to slide through outer tube (45) pushing out assembly tool A.
- (4) Repeat the above assembly procedure to assemble the inner tube (50) to the intermediate tube (75), except use assembly tool B, locking dogs (60), washer (70), compression spring (65) and locking collar assembly (55).

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- (5) Screw couplex (15) into end of inner tube (50). Torque couplex (15) to 35 ft. lbs. Stake 4 places 90° apart at a distance of 0.25 inches from the face of the inner tube (50). Staking tool should produce an indentation, 0.060 by 0.20 inches.
- (6) Install damper into outer tube (45) "O" ring end first and align slot in damper (40) with hole in outer tube (45). Place rivet (20) through hole in outer tube (45) and slot in damper (40). Form head on rivet (20), part number MS20470-AD5-24, to retain in place.
- (7) Helical insert, part number MS124740, has been inserted into end fitting (30), part number AM2764-16-1 by Norco. (This joining of parts has the advantage of decreasing the number of loose parts in the kit and eliminating any difficulty that might be encountered in the field in performing the insert installation operation.)
- (8) Insert compression spring (35) and end fitting (30) into outer tube (45). Insert the 2 rivets (25), Part number AM1233-9-15, through outer tube and end fitting so that an approximate equal length protrudes on each side of the outer tube. Form heads on rivet using a riveting tool.
- (9) Install lock nut (4), part number AN316C8R, locking device (10), part number 108CO500-01, and lock washer, part number NAS513-8, on rod end bearing (5), part number 26CO313-10. Screw rod end bearing (5) into end fitting (30).
- (10) Set strut to its fully extended and locked position. Using a premeasured appropriately marked rod standard, adjust rod end bearing to obtain overall length of  $72.81 \pm .03$  inches. Length is measured from center of couplex (15) opening to center of rod end bearing (5) bore. Tighten lock nut (40).
- (11) Safety wire lock washer to locking device using MS20995-C47 wire.

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- (12) Clean area immediately following NORCO P/N A2764 by rubbing with wiper dampened with Aliphatic Naphtha, TT-N-94, or equivalent, until soil is removed. Do not allow solvent to evaporate. Avoid removing pretreatment or finish coating. After soil is removed, wipe the area dry with a clean dry wiper. Using rubber stamp letter size .1/8" to 3/16" and Alcosol or F-100 Stamp Pad Ink, or equivalent, apply the dash number "-3M" immediately following P/N 2764. Clean stamp with naphtha, or equivalent, as required, for marking legibility and sharpness. Allow ink to dry at least 10 minutes and overcoat with Bostik 683-3-2 or 683-3-9 or equivalent.

### III MATERIAL INFORMATION

#### A. Parts Required Per Hold Open Rod

A rework kit is available, part number RW2764-3 which contains the following parts required to rework each hold open rod, part number A2764-3.

<u>Item No.</u>	<u>P/N's Provided</u>	<u>Quantity</u>	<u>Keyword</u>
1 (45)	AM2764-16-2	1	Tube
2 (30)	AM2764-16-1	1	Fitting
3	MS124740	1	Insert
4 (5)	26CO313-10	1	Bearing
5 (4)	AN316C8R	1	Nut
6 (25)	AM1233-9-15	2	Rivet
7 (20)	MS20470-AD5-24	1	Rivet
8 (10)	NAS513-8	1	Washer
9 (10)	108CO500-01	1	Lock
10	MS20995-C47	1	Wire

Item numbers, in parenthesis correspond to those shown in Figure 1.

#### B. Parts Required to Modify Spares

(If applicable) Same parts as items III.A. above.

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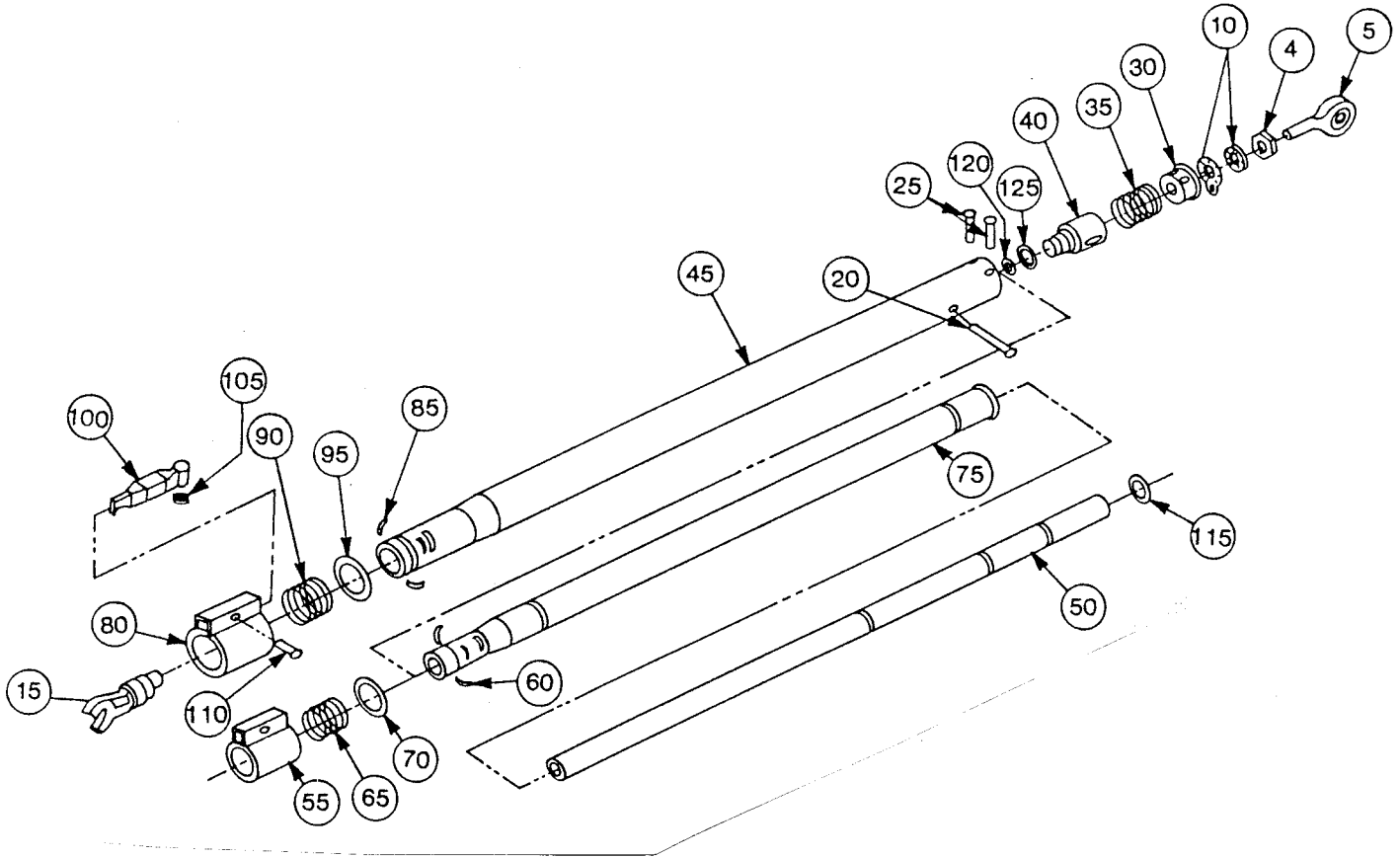


FIGURE 1 - A2764-3 STRUT ASSEMBLY  
EXPLODED VIEW

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## RECORD OF REVISIONS

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