



8301 Imperial Dr.  
Waco, Texas 76712

# SERVICE BULLETIN

## NO. A361-71-1

POWER PLANT - FAN COWLING - HOLD OPEN ROD  
INSTALL SECONDARY LOCK

### I PLANNING INFORMATION

#### A. Effectivity

##### (1) Component Affected

This Service Bulletin affects hold open rods NORCO Part No. A361-3C that are in service.

##### (2) Spares Affected

This Service I  
airline spares

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. A361-3C units in

#### B. Reason

The incorporation of this Service Bulletin will install a secondary lock to prevent inadvertent unlocking of the hold open rod in the extended and locked position. An extended length end plug adapter is also introduced to provide improved inner rod location when the hold open rod is in the stowed position.

#### C. Description

This Service Bulletin is to inform all users of the procedures and the detailed instructions required for reworking Norco part number A361-3C to make it equivalent to P/N A361-6. The rework requires replacing the release collar and outer tube. The new release collar will have a secondary locking arm and the new outer tube will have a red safety band to indicate an unlocked condition. The existing end plug adapter located in the base of the outer tube is replaced with an increased length plug.

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D. Approval

The repair and modifications herein comply with the applicable Federal Aviation Regulations (FARs) and are approved by Rolls-Royce plc June 11/92.

E. Manpower

Required to remove Strut Assembly from Aircraft	.5 hrs.
Install Secondary Lock and Outer Tube	2.5 hrs.
Replace Strut Assembly in Aircraft	.5 hrs.
<b>TOTAL</b>	<b>3.5 hrs.</b>

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F. Material Cost

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>
RW361-3C	Rework Kit, Hold Open Rod	30 days	\$240.00

DIRECT PURCHASE ORDER TO: NORCO, INC.  
P.O. BOX 405  
GEORGETOWN, CT 06829  
203-544-8301  
203-544-7121 FAX

G. Tooling - Cost and Availability

Not applicable.

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### H. Weight and Balance

Individual Hold Open Rod Weight Change	Plus 0.095 kg (0.21 lbs)
Cumulative Effect Per Engine (2 Hold Open Rods Per Door, 2 Doors Per Engine) Weight Change	Plus 0.38 kg (0.84 lbs)
Moment Arm	17.8 mm (0.7 in) Rearwards
Datum	Engine Front Mount Centerline Power Plant Station (PPS) 100

### I. Other Publications Affected

Component Maintenance Manual No. 71-10-47 for Hold Open Rod, Part No. A361-3C to be changed accordingly.

## II. ACCOMPLISHMENT INSTRUCTIONS

### A. Disassembly (See Figure 1)

- (1) Remove universal assembly (3). Remove rivet (14) and roll pin (13) from inner tube (12). Rivet head should be drilled out using a .125 inch (3.17 mm) drill. Remove rivet (14) and roll pin (13) with a .125 inch (3.17 mm) punch. Remove lock assembly (17), plug adapter (16) and spacer (15) from inner tube (12).
- (2) Extend inner tube (12) to its fully locked position. Cut off outer tube (7) at a distance of 4 inches (102 mm) from the end with the end plug adapter (5).
- (3) Pull release collar (11) and push inner tube (12) out through end of outer tube (7). Dogs (8) will fall out of release collar (11). Remove release collar (11), spring (10), and washer (9) from outer tube (7).

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(4) The following is a list of parts that should be discarded.

<u>ITEM NO.</u>	<u>P/N</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
5	AM361-3-18	END PLUG ADAPTER	1
6	2-114	"O" RING	1
7	AM361-3-2	TUBE, OUTER	1
8	111A0919-01	LOCKING DOGS	3
11	AM361-2-5	COLLAR, RELEASE	1
13	G200-4C-937	ROLL PIN	1
14	MS20470AD4-20	RIVET	1

## B. Assembly

- (1) Install Helical insert (29) in release collar (11). Slide clamp (20) over end of release collar (11). Align hole in clamp (20) with threaded hole in release collar (11). Install torsion spring (21) between two holes of clamp (20). Position spring (21) so that the two end arms point toward the small end of the outer tube (7).
- (2) Align I.D. of spring (21) with holes of clamp (20) using a .125 inch (3.17 mm) pin or nail. Remove the pin and place locking arm (22) over clamp (20). Insert rivet (19) and check for proper spring action of locking arm (22). Spin or set rivet (19) head.
- (3) Place washer (9) over the small end of the outer tube (7) and move along tube until it seats on taper. Place spring (10) over small end of outer tube (7) with end against the flat washer.
- (4) A dog installation tool is required to install the three locking dogs (8). The dog installation tool consists of a 0.992 inch (25.2 mm) diameter steel or aluminum rod 10 inches (25 cm.) long. A circular groove having a .100 inch (2.54 mm.) radius should be machined at the center of the rod to a depth of .071 inch (1.80 mm).

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- (5) Put the dog installation tool into the small end of the outer tube (7). Align the groove in the dog installation tool with the three dog slots in the outer tube (7). Insert the three locking dogs into the slots in the outer tube (7). Push the dogs all the way into the groove in the dog installation tool. Slip the release collar (11) over the locking dogs (8) and over the spring (10). Push the release collar (11) all the way back to the unlocked position.
- (6) The end of the outer tube should extend approximately .25 inch (.63 mm) past the end of the release collar. The words "unlocked" should appear on the red release band. Put the small end of the inner tube (12) into the large end of the outer tube (7). Push the dog installation tool out through the small end of the outer tube (7). The release collar (11) will automatically lock in place at the extended and locked position of the inner tube (12).
- (7) Align the holes in the clamp (20) and release collar (11) with axial slot in outer tube (7). Install pan head screw (18) by turning clockwise. Check release collar (11) and locking arm (22) for proper release and locking.
- (8) Install "O" ring (6) in groove of end plug adaptor (5). Apply Loctite 222 to threads of end plug adaptor (5) and screw into end of outer tube (7). Stake outer tube (7) to end plug adaptor (5) in 3 places around circumference.
- (9) Place spacer (15) on end of inner tube (12) and align rivet hole. Put plug adaptor (16) into end of inner tube (12) and align rivet holes. Insert lock assembly (17) into plug adaptor (16) and align rivet holes. Install rivet (14) and set head. Press roll pin (13) into hole in inner tube (12) with ends flush to surface of inner tube (12).

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- (10) Thread universal (3) into end of plug adaptor (5). Adjust universal (3) to obtain extended and locked length of 44.85 inches (1139.2 mm.). Measure length from the face of the lock assembly (17) to the second swivel rivet from end of outer tube (7). Tighten jam nut against face of end plug adaptor (5).
- (11) Clean surface of outer tube (7) with lint-free cloth moistened with dry cleaning solvent 1-1-1 trichloroethane or equivalent. Allow to air dry 10 minutes. Apply "No Step" label to center of outer tube (7).
- (12) Renumber the Hold Open Rod.

<u>Existing</u>	<u>Rework</u>
A361-3C	A361-3CK

### III MATERIAL INFORMATION

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

A rework kit is available, part number RW361-3C, which contains the following parts required to rework hold open rod P/N A361-3C.

<u>Item No.</u>	<u>P/N's Provided</u>	<u>Quantity</u>	<u>Keyword</u>
5	AM361-6-3	1	Plug
6	67Q0612-01	1	"O" Ring
7	AM361-6-2	1	Tube
8	111CO777-01	3	Dog
11	AM361-5-3	1	Collar
13	G200-4C-937	1	Pin
14	MS20470AD4-20	1	Rivet
18	AM361-5-10	1	Screw
19	AM2785-1-10	1	Rivet
20	AM361-5-9	1	Clamp
21	S381	1	Spring

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<u>Item No.</u>	<u>P/N's Provided</u>	<u>Quantity</u>	<u>Keyword</u>
22	AM361-6-4	1	Lock
27	80A0005-04	1	Label
29	4184-4CN-4.0	1	Insert

Item numbers correspond to those shown in Figures 1 and 2.

B. Parts Required to Modify Spares

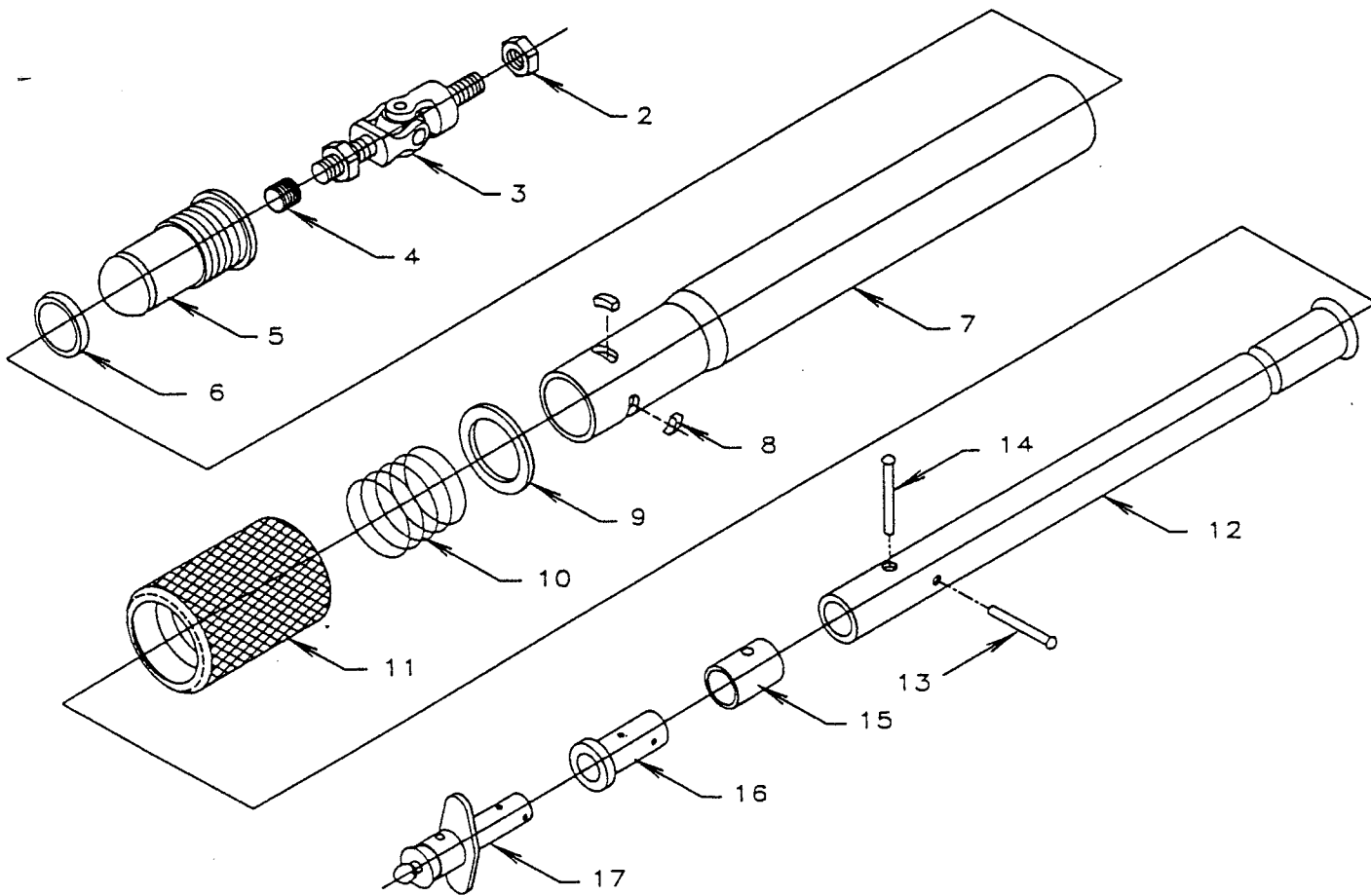
(If applicable) Same parts as items III.A. above.

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STRUT ASSEMBLY EXPLODED VIEW A361-3C

FIGURE 1

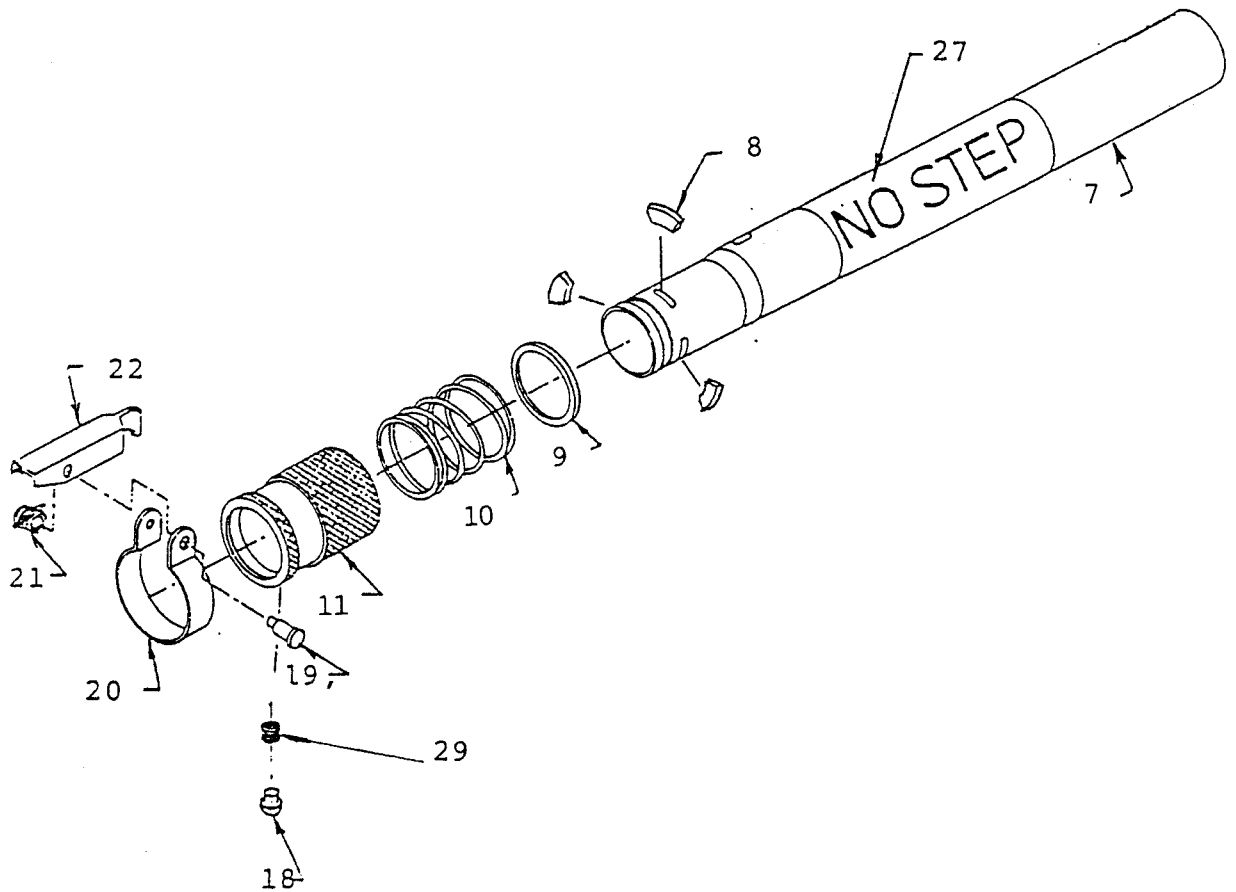
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OUTER TUBE EXPLODED VIEW A361-3CK

FIGURE 2

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