



# SERVICE LETTER

No. 755C

Piper Aircraft Corporation

Vero Beach, Florida, U.S.A.

FAA Approved

November 4, 1985

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(This Service Letter supersedes and voids Service Letter 755B dated March 3, 1980.)

SUBJECT:

Landing Gear Lock Actuator Rod  
and Rod End Bearing Inspection/  
Replacement.

REASON FOR REVISION:

Add Models affected, revise  
Purpose, Sketches, and instructions,  
add Part II and Part III.

NOTE: This Service Letter is divided into three parts; refer to each part to determine specific subject, models and serial numbers affected, compliance time, purpose, and instructions.

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PART I

SUBJECT:

Landing Gear Lock Actuator Rod and  
Rod End Bearing Assemblies  
Inspection and Lubrication.

MODELS AFFECTED:

PA-31, PA-31-300, PA-31-325 Navajo  
PA-31-350 Chieftain  
PA-31-350 T-1020

PA-31P Pressurized Navajo  
PA-31T Cheyenne, Cheyenne II  
PA-31T1 Cheyenne I  
PA-31T2 Cheyenne II XL  
PA-31T3 T-1040  
PA-42 Cheyenne III

SERIAL NUMBERS AFFECTED:

31-2 through 31-8212031  
31-5001 through 31-8252064  
31-8253001 through 31-8253003,  
31-8253006 through 31-8253010,  
31-8253012  
31P-1 through 31P-7730012  
31T-7400002 through 31T-8120104  
31T-7804001 through 31T-8104101  
31T-8166001 through 31T-1166006  
31T-8275001 through 31T-5575001  
42-7800001 through 42-8001105

COMPLIANCE TIME:

1. For PA-31, PA-31-300, PA-31-325, PA-31-350, PA-31-350 T-1020 and PA-31P:

Recommended within the next fifty (50) hours of operation and at each fifty (50) hours of operation thereafter and whenever landing gear and wheel areas have been washed.

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COMPLIANCE TIME: (CONT'D)

NOTE: On PA-31, PA-31-300, PA-31-325, PA-31-350, PA-31-350 T-1020, this repetitive fifty hour inspection recommendation for the lock actuator rods is relieved by compliance with PART II of this Service Letter.

2. For PA-31T, PA-31T1, PA-31T2, PA-31T3 T-1040, and PA-42:

Recommended at next regularly scheduled inspection/maintenance event and at each inspection/maintenance event thereafter and whenever landing gear and wheel areas have been washed.

PURPOSE: Piper Service Letter No. 755 and 755A were published to reiterate the necessity of regular inspection of the nose and main landing gear lock actuator rod assemblies and to provide detailed inspection and maintenance information with special emphasis on the actuator rod end bearing to ensure serviceability (i.e.: proper ball rotation, absence of corrosion, etc.) of the rod end bearing.

Service Letter No. 755B was a revised issue of the above referenced release. It has been determined that the location of the exhaust outlets on the PA-31, PA-31-300, PA-31-325, PA-31-350, and PA-31P aircraft are such that an increased frequency of inspection and lubrication is recommended. It is also recommended that the inspection and lubrication includes downlock latch and pivot bolt.

NOTE: It has been found that rod end bearings race damage - incurred during maintenance/rigging activity - has resulted in landing gear system difficulties and/or premature rod end bearing replacements. This Service Release also provides a recommended method for backholding the bearing assembly while adjusting the adjacent jam nut to prevent bearing race damage (refer to attached instruction data for details).

PART I of Service Letter No. 755C includes additional models affected by the inspection and lubrication recommendations and provides revised lubricant specifications.

Failure to comply with the inspection and/or maintenance, as outlined in PART I of this Service Release, may result in landing gear system retraction and extension difficulties.

INSTRUCTIONS: Refer to attachments for detailed inspection and maintenance guidelines applicable to main and nose landing gear lock actuator rod/rod end bearing assemblies.

MATERIAL REQUIRED: Refer to applicable model parts catalog for material identification if inspection indicates actuator rod(s)/rod end bearing(s) should be replaced.

AVAILABILITY OF PARTS: Your Piper Field Service Facility

EFFECTIVITY DATE: This Service Letter is effective upon receipt.

SUMMARY: Proper and thorough inspection and maintenance of main and nose landing gear lock actuator rod and rod end bearing assemblies are an important part of your aircraft inspection/maintenance program. The objective of PART I of this Service Release is to provide detailed data to help maintain trouble-free function of your aircraft's landing gear retraction system and maximize the service life of the components thereof.

Please contact your Piper Field Service Facility to make arrangements for compliance with PART I of this Service Release in accordance with the compliance time indicated.

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PART II

SUBJECT: Landing Gear Lock Actuator Rod Replacement.

MODELS AFFECTED:

PA-31, PA-31-300, PA-31-325 Navajo  
PA-31-350 Chieftain  
PA-31-350 T-1020

PA-31P Pressurized Navajo  
PA-31T Cheyenne, Cheyenne II  
PA-31T1 Cheyenne I  
PA-31T2 Cheyenne II XL  
PA-31T3 T-1040  
PA-42 Cheyenne III

SERIAL NUMBERS AFFECTED:

31-2 through 31-8212031  
31-5001 through 31-8252064  
31-8253001 through 31-8253003,  
31-8253006 through 31-8253010,  
31-8253012  
31P-1 through 31P-7730012  
31T-7400002 through 31T-8120104  
31T-7804001 through 31T-8104101  
31T-8166001 through 31T-1166006  
31T-8275001 through 31T-5575001  
42-7800001 through 42-8001105

COMPLIANCE TIME:

1. For PA-31, PA-31-300, PA-31-325, PA-31-350, PA-31-350 T-1020 and PA-31P:

Recommended within the next fifty (50) hours of operation and at each fifth (50) hours of operation thereafter and whenever landing gear and wheel areas have been washed.

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INSTRUCTIONS: All instructions required are included in Lock Actuator Rod Kit, Piper Part Number 764 958L.

MATERIAL REQUIRED: One (1) each Lock Actuator Rod Replacement Kit, Piper Part Number 764 958L, per aircraft.

AVAILABILITY OF PARTS: Your Piper Field Service Facility.

EFFECTIVITY DATE: This Service Letter is effective upon receipt.

SUMMARY: PART II of this Service Letter relieves the fifty (50) hour repetitive inspection of the lock actuator rod. It does not relieve the need to inspect and lubricate the lock pivot bolts and rod ends in accordance with the appropriate programmed inspection/100 hour inspection report.

Please contact your Piper Field Service Facility to make arrangements for compliance with PART II of this Service Letter in accordance with the compliance time indicated.

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PART III

SUBJECT: Installation of Anti-Rotation Stops

MODELS AFFECTED: SERIAL NUMBERS AFFECTED:

PA-31, Navajo, and  
PA-31-325 Navajo C/R  
PA-31-350 Chieftain

PA-31-350 T-1020  
PA-31T1 Cheyenne IA  
PA-31P-350 Mojave

31-8212032 through 31-8312017  
31-8252065 through 31-8352039,  
31-8352041 and 31-8352042  
31-8353001 through 31-8353007  
31T1-8304001 through 31T1-1104017  
31P-8414001 through 31P-8414048

COMPLIANCE TIME: Recommended within the next one hundred (100) hours of operation or at the next scheduled maintenance event, whichever occurs first.

PURPOSE: Above affected models and serial numbers of aircraft were delivered with the new landing gear uplock and downlock cable assemblies. Installation of these stops between the retraction arm and clevis bolt will prevent possible rotation of the downlock cables and insure safe gear indications.

INSTRUCTIONS:

NOTE: Refer to Sketch D, Section A-A of this Service Letter for anti-rotation stop installation.

INSTRUCTIONS: (CONT'D)

1. Remove nut and washer from the clevis bolt (fork) connecting the down-lock cable to the retraction arm.
2. Pull out the clevis bolt and install Stop, Piper Part Number 73344-02 (left side) and 73344-03 (right side) over the bolt and reinsert bolt through the retraction arm.
3. Install washer and nut and torque 80 to 100 inch pounds.
4. Repeat procedure on the opposite gear.
5. Make proper logbook entry of compliance with PART III of this Service Letter.

MATERIAL REQUIRED: One (1) each Stop, Piper Part Number 73344-02 (left), and one (1) each Stop, Piper Part Number 73344-03 (right), per aircraft.

AVAILABILITY OF PARTS: Your Piper Field Service Facility.

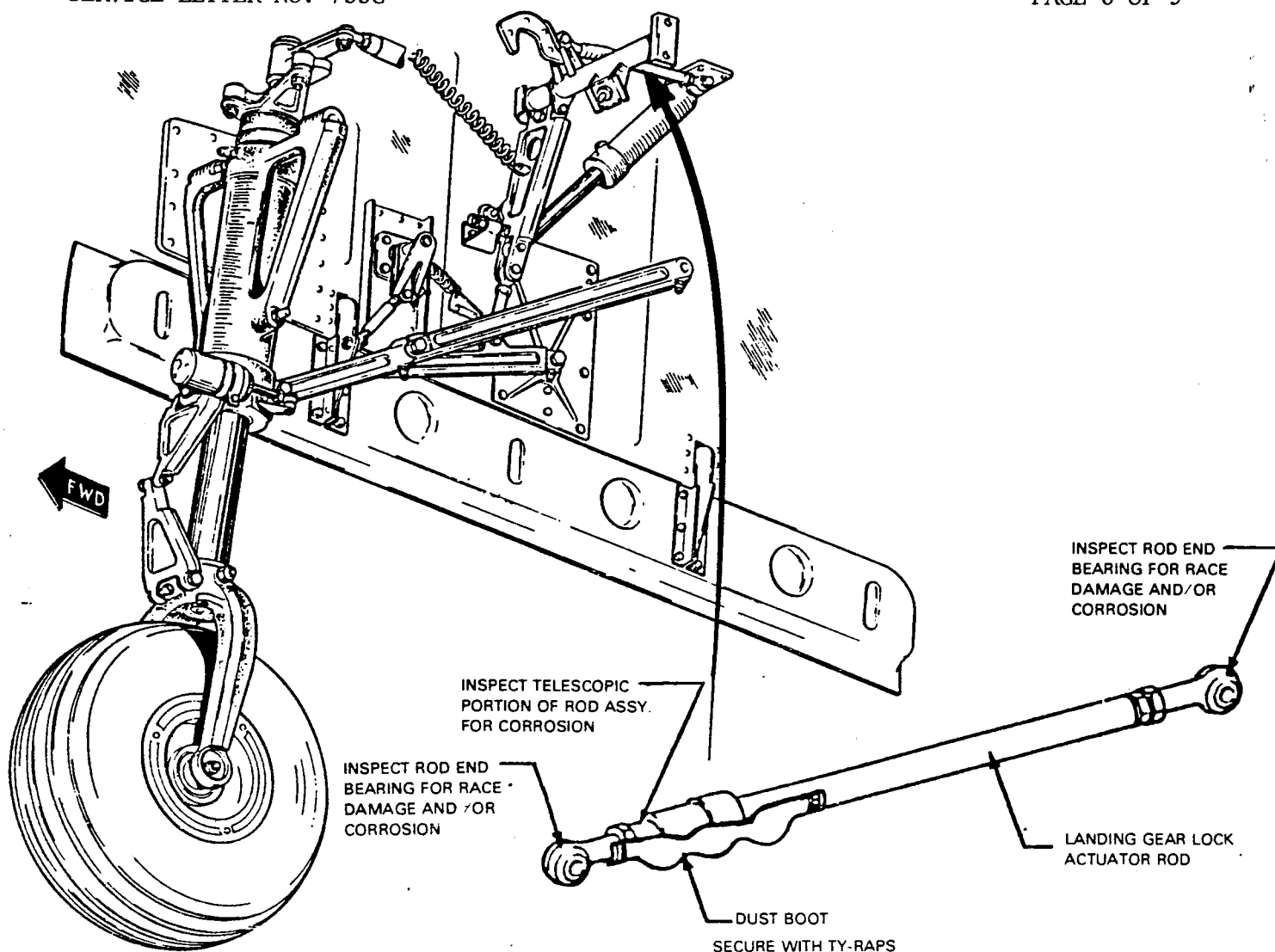
EFFECTIVITY DATE: This Service Letter is effective upon receipt.

SUMMARY: Please contact your Piper Field Service Facility to make arrangements for compliance with PART III of this Service Release in accordance with the Compliance Time indicated above.

Factory Participation will remain in effect for a period of time not to exceed 180 days from date of this Service Letter.

If you are no longer in possession of this aircraft, please forward this information to the present owner.

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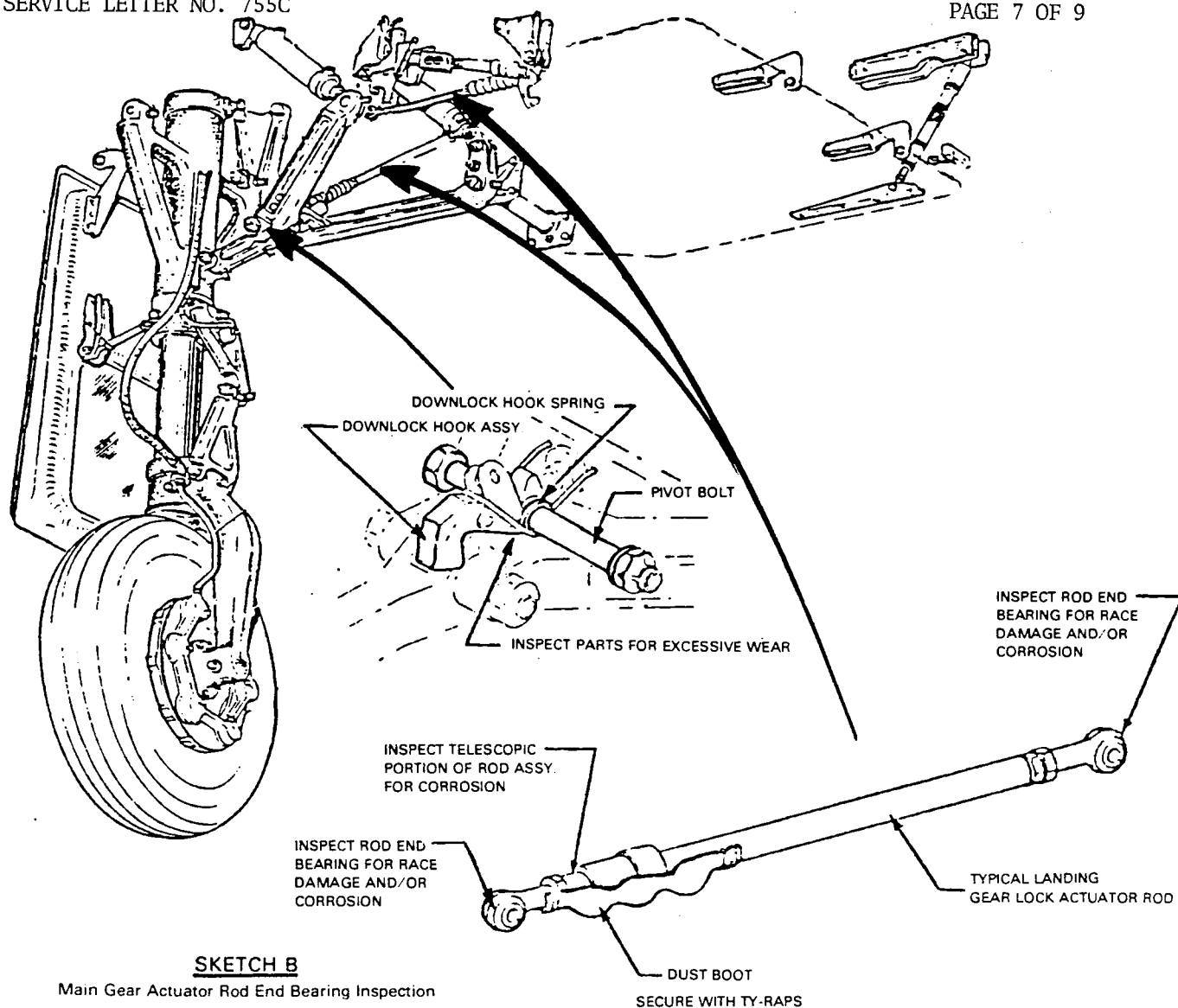


SKETCH A

## Nose Gear Actuator Rod and Rod End Bearing Inspection

## INSTRUCTIONS

1. Locate and remove the nose gear lock actuator rod assembly from aircraft as shown.
2. Loosen the clamp attaching the dust boot to the landing gear lock actuator rod. Slide the dust boot back to expose the telescopic portion of the actuator rod assembly.
3. Inspect the telescopic portion of the landing gear lock actuator rod for evidence of corrosion.
  - a. If corrosion is evident, the landing gear lock actuator rod assembly should be replaced.
  - b. If no corrosion exists, lubricate the telescopic portion with MIL-G-81322, 81827 or MIL-G-21164C lubricant.
4. Reposition and secure dust boot on each landing gear lock actuating rod assembly.
5. Inspect each rod end bearing for evidence of race damage and/or corrosion.
  - a. If corrosion is evident and/or ball and race of bearing shows evidence of damage (ball must rotate freely in race), it will be necessary to replace that bearing.
  - b. If existing bearings show no evidence of corrosion or damage, lubricate bearings with MIL-L-7870 lubricant.
6. If a new main gear lock actuator rod assembly (assemblies) is being installed, lubricate the telescopic portion as described in 3b above, and the rod end bearings with MIL-L-7870 lubricant. Install existing dust boot on actuator rod assembly as shown.
7. Reinstall the nose gear actuator rod assembly on aircraft. Check system function and rigging; adjust as necessary using the appropriate Navajo Service Manual. Refer to Sketch "C" for the correct method of adjusting rod end bearings.
8. Reinstall the downlock hook assembly, spring and pivot bolt on aircraft. Lubricate pivot bolt and hook with MIL-G-81322, 81827 or MIL-G-21164C Lubricant.
9. Reinstall the main gear lock actuator rod assemblies on aircraft. Check system function and rigging; adjust as necessary using the appropriate Navajo Service Manual. Refer to Sketch "C" for the correct method of adjusting rod end bearings.

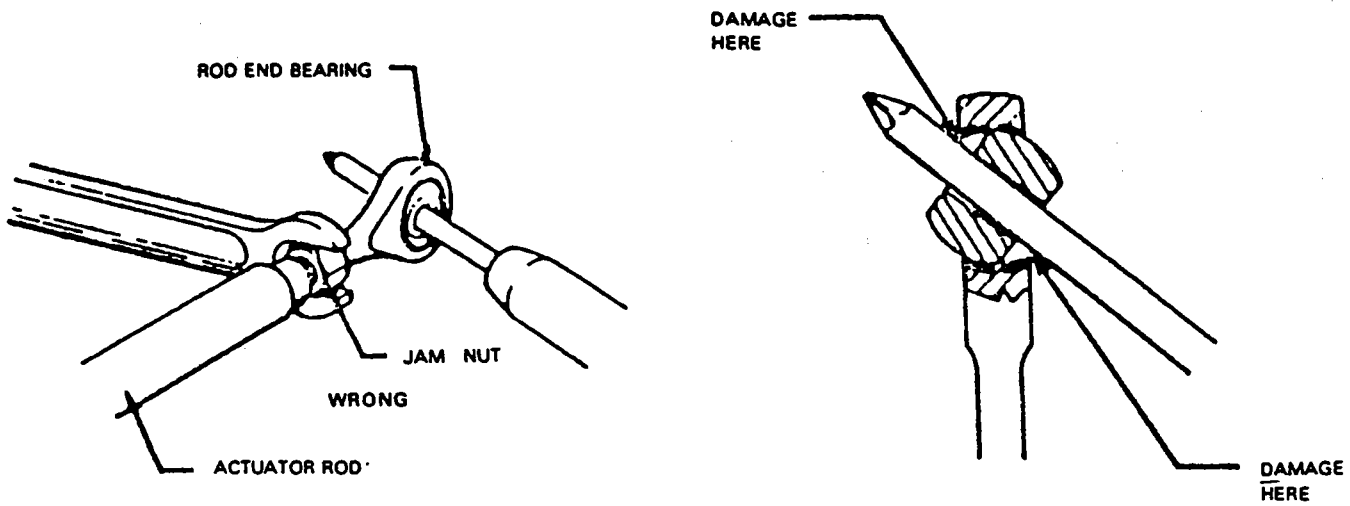
**SKETCH B**

Main Gear Actuator Rod End Bearing Inspection

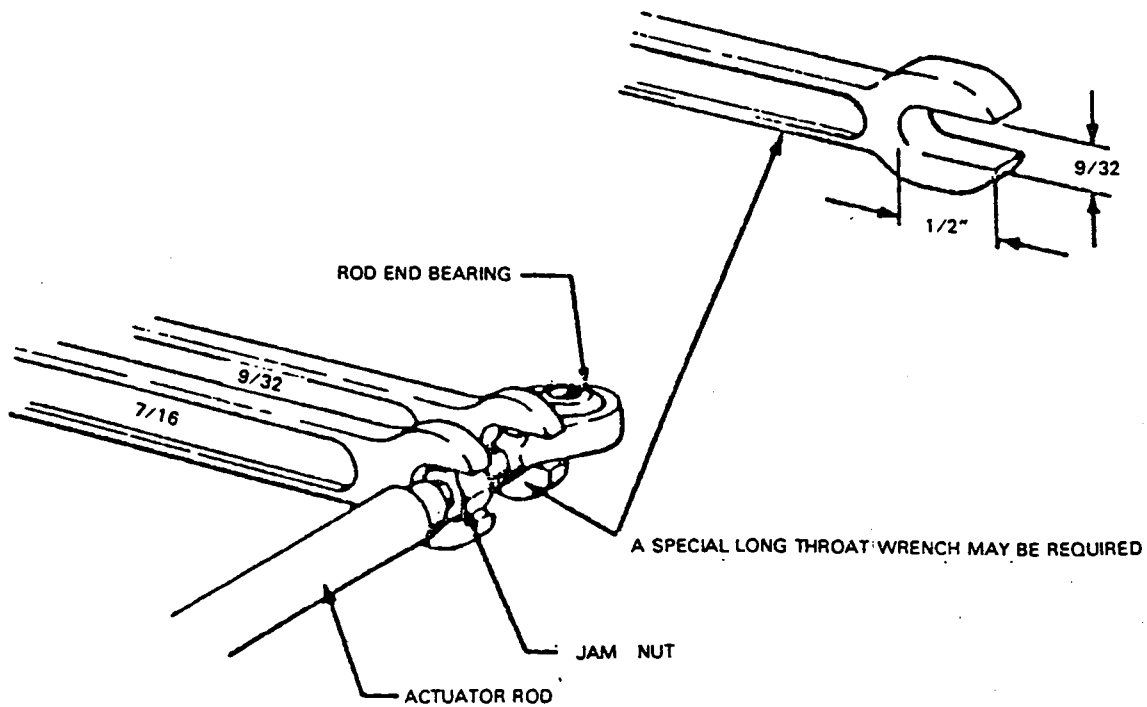
**INSTRUCTIONS**

1. Locate and remove the main gear lock actuator rod assemblies from aircraft as shown. Accomplish on left and right main gear assemblies.
2. Loosen the clamp attaching the dust boot to the landing gear lock actuator rod assembly. Slide the dust boot back to expose the telescopic portion of the actuator rod assembly.
3. Inspect the telescopic portion of each landing gear lock actuator rod assembly for evidence of corrosion.
  - a. If corrosion is evident, the landing gear lock actuator rod assembly should be replaced.
  - b. If no corrosion exists, lubricate the telescopic portion with MIL-G-81322, 81827 or MIL-G-21164C lubricant.
4. Reposition and secure the dust boot on each landing gear lock actuating rod assembly.
5. Inspect each rod end bearing for evidence of race damage and/or corrosion.
  - a. If corrosion is evident and/or ball and race of bearing shows evidence of damage (ball must rotate freely in race), it will be necessary to replace that bearing.
  - b. If existing bearings show no evidence of corrosion or damage, lubricate bearings with MIL-L-7870 lubricant.
6. If a new main gear lock actuator rod assembly (assemblies) is being installed, lubricate the telescopic portion as described in 3b above, and the rod end bearings with MIL-L-7870 lubricant. Install existing dust boot on actuator rod assembly as shown.
7. Remove the main gear downlock hook assembly. Thoroughly clean the downlock hook assembly, downlock hook spring and pivot bolt and inspect each part for evidence of excessive wear. If any part or parts show excessive wear, those parts should be replaced.
8. Reinstall the downlock hook assembly, spring and pivot bolt on aircraft. Lubricate pivot bolt and hook with MIL-G-81322, 81827 or MIL-G-21164C Lubricant.
9. Reinstall the main gear lock actuator rod assemblies on aircraft. Check system function and rigging; adjust as necessary using the appropriate Navajo Service Manual. Refer to Sketch "C" for the correct method of adjusting rod end bearings.

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IMPROPER METHOD OF ADJUSTING ROD END BEARINGS  
(RESULTING IN LOCKED BALL)



CORRECT METHOD OF ADJUSTING ROD END BEARINGS



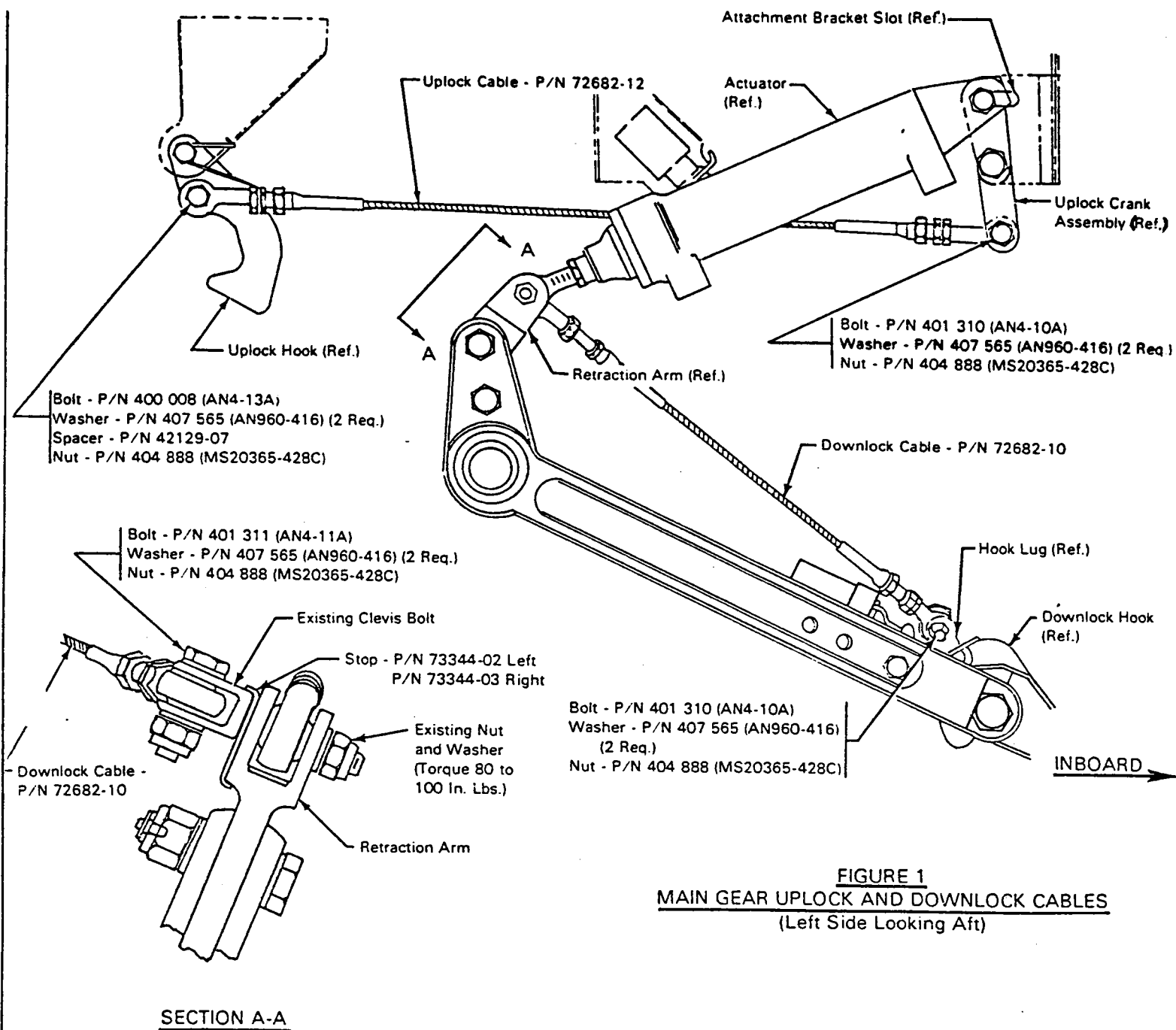


FIGURE 1  
MAIN GEAR UPLOCK AND DOWNLOCK CABLES  
(Left Side Looking Aft)

SKETCH D