

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 57895 No. 209 10/29/98]

Docket No. 96-CE-09-AD; Amendment 39-10864; AD 97-01-01 R1

RIN 2120-AA64

Airworthiness Directives; The New Piper Aircraft, Inc. PA-24, PA-28R, PA-30, PA-32R, PA-34, and PA-39 Series Airplanes

PDF Copy (If Available):

▼ Preamble Information

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule

SUMMARY: This amendment revises Airworthiness Directive (AD) 97-01-01, which currently requires repetitively inspecting the main gear sidebrace studs for cracks on The New Piper Aircraft, Inc. (Piper) Models PA-24, PA-28R, PA-30, PA-32R, PA-34, and PA-39 series airplanes, and replacing any main gear sidebrace stud found cracked. The Federal Aviation Administration (FAA) has approved certain alternative methods of compliance (AMOC) for AD 97-01-01, and has determined that these AMOC's should be incorporated into the AD. This AD will retain all the actions of AD 97-01-01, and will incorporate certain AMOC's as a way of accomplishing the actions specified in AD 97-01-01. The actions specified by this AD are intended to prevent a main landing gear collapse caused by main gear sidebrace stud cracks, which could result in loss of control of the airplane during landing operations.

EFFECTIVE DATE: December 8, 1998.

ADDRESSES: This information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 96-CE-09-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mr. William O. Herderich, Aerospace Engineer, FAA, Atlanta Certification Office, One Crown Center, 1895 Phoenix

Boulevard, suite 450, Atlanta, Georgia 30349; telephone: (770) 703-6084; facsimile: (770) 703-6097.

SUPPLEMENTARY INFORMATION:

Events Leading to the Issuance of This AD

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to Piper Models PA-24, PA-28R, PA-30, PA-32R, PA-34, and PA-39 series airplanes was published in the **Federal Register** as a notice of proposed rulemaking (NPRM) on May 22, 1998 (63 FR 28294). The NPRM proposed to supersede AD 97-01-01, Amendment 39-9872 (62 FR 10, January 2, 1997), which currently requires repetitively inspecting the main gear sidebrace studs for cracks on the above-referenced airplanes, and replacing any main gear sidebrace stud found cracked. The NPRM proposed to retain all the actions of AD 97-01-01, and incorporate certain alternative methods of compliance (AMOC's) as a way of accomplishing the actions specified in AD 97-01-01.

The NPRM was the result of the FAA approving AMOC's for modifying the existing bracket assembly as terminating action for the repetitive inspection requirement of that AD.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposed rule or the FAA's determination of the cost to the public.

The FAA's Determination

After careful review of all available information related to the subject presented above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. The FAA has determined that these minor corrections will not change the meaning of the AD and will not add any additional burden upon the public than was already proposed.

Cost Impact

The cost impact of this AD will be the same as is currently required by AD 97-01-01. As a courtesy, the FAA is reprinting that cost information in the following paragraphs.

The FAA estimates that 13,200 airplanes in the U.S. registry will be affected by this AD, that it will take approximately 5 workhours per airplane to accomplish the initial inspection, and that the average labor rate is approximately \$60 an hour. Based on these figures, the total cost impact of the inspection on U.S. operators is estimated to be \$3,960,000. This figure represents the total cost of the initial inspection, and does not reflect costs for any of the repetitive inspections or possible replacements. The FAA has no way of determining how many main gear side brace studs may need replacement or how many repetitive inspections each owner/operator may incur over the life of the airplane.

In addition, this AD will require the same inspections required by AD 95-20-07 (which was superseded by AD 97-01-01). The only difference between this AD and AD 95-20-07 is the addition of an inspection-terminating modification option and the elimination of (from the "Applicability" section of the AD) certain airplanes that incorporate a certain main side brace stud assembly. This AD will also not provide any additional cost impacts over that already required by AD 95-20-07.

Regulatory Impact

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13, is amended by removing Airworthiness Directive (AD) 97-01-01, Amendment 39-9872 (62 FR 10, January 2, 1997), and by adding a new AD to read as follows:

▼ Regulatory Information

97-01-01 R1 THE NEW PIPER AIRCRAFT, INC.: Amendment 39-10864; Docket No. 96-CE-09-AD.

Applicability: The following airplane models and serial numbers, certificated in any category:

1. All serial numbers of Models PA-24, PA-24-250, PA-24-260, PA-24-400, PA-30, and PA-39 airplanes;

2. The following model and serial number airplanes that are not equipped with a Piper part number (P/N) 78717-02 (or FAA-approved equivalent part number) main gear sidebrace stud in both right and left main gear sidebrace bracket assemblies:

Model	Serial Numbers
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PA-28R-180	28R-30002 through 28R-31135, and 28R-7130001 through 28R-7130013
PA-28R-200	28R-35001 through 28R-35820, and 28R-7135001 through 28R-7635539
PA-28R-201	28R-7737002 through 28R-7737096
PA-28R-201T	28R-7703001 through 28R-7703239
PA-32R-300	32R-7680001 through 32R-7780444
PA-34-200	all serial numbers
PA-34-200T	34-7570001 through 34-7770372

NOTE 1: P/N 78717-02 sidebrace stud was installed at manufacture on Piper Model PA-34-200T airplanes, serial numbers 34-7670325 through 34-7770372.

NOTE 2: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required initially as follows, and thereafter as specified in the body of this AD:

1. For the affected Models PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-32R-300, PA-34-200, and PA-34-200T airplanes: Within the next 100 hours time-in-service (TIS) after the effective date of this AD; or, if the main gear sidebrace stud has already been inspected or replaced as specified in this AD, within 500 hours TIS after the last inspection or replacement; whichever occurs later.

2. For the affected Models PA-24, PA-24-250, PA-24-260, PA-24-400, PA-30, and PA-39 airplanes: Within the next 100 hours TIS after the effective date of this AD; or, if the main gear sidebrace stud has already been inspected or replaced as specified in this AD, within 1,000 hours TIS after the last inspection or replacement; whichever occurs later.

To prevent main landing gear (MLG) collapse caused by main gear sidebrace stud cracks, which could result in loss of control of the airplane during landing operations, accomplish the following:

NOTE 3: The paragraph structure of this AD is as follows:

Level 1:	(a), (b), (c), etc.
Level 2:	(1), (2), (3), etc.
Level 3:	(i), (ii), (iii), etc.
Level 4:	(A), (B), (C), etc.

Level 2, Level 3, and Level 4 structures are designations of the Level 1 paragraph they immediately follow.

(a) Remove both the left and right main gear sidebrace studs from the airplane in accordance with the instructions contained in the Landing Gear section of the maintenance manual, and inspect each main gear sidebrace stud for cracks, using Type I (fluorescent) liquid penetrant or magnetic particle inspection methods. Figure 1 of this AD depicts the area of the sidebrace stud shank where the sidebrace stud is to be inspected.

NOTE 4: All affected Models PA-24 and PA-24-250 airplanes were equipped at manufacture with P/N 20829-00 main gear sidebrace studs. All affected Models PA-24-260, PA-24-400, PA-30, and PA-39 airplanes were equipped at manufacture with P/N 22512-00 main gear sidebrace studs. The Appendix included with this AD contains information on determining the P/N of the bracket assembly (which contains the main gear side brace stud) on the affected PA-28R, PA-32R, and PA-34 series airplanes.

(1) For any main gear sidebrace stud found cracked, prior to further flight, replace the cracked stud with an FAA-approved serviceable part (part numbers referenced in the table in paragraph (b) of this AD or FAA-approved equivalent part number) in accordance with the instructions contained in the Landing Gear section of the applicable maintenance manual, and accomplish one of the following, as applicable:

(i) Reinspect (and replace as necessary) as specified in paragraph (b) of this AD; or

(ii) For the affected Models PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-32R-300, PA-34-200, and PA-34-200T airplanes, the 9/16-inch main gear sidebrace studs (P/N 95299-00, 95299-02, or P/N 67543, as applicable) are no longer manufactured. Install a new main gear sidebrace stud bracket assembly, P/N 95643-06, P/N 95643-07, P/N 95643-08, or P/N 95643-09, as applicable. No repetitive inspections will be required by this AD for these affected airplane models when this bracket assembly is installed on both the left and right sides; or

(iii) For the affected Models PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-32R-300, PA-34-200, and PA-34-200T airplanes, ream the existing two-piece bushings to an inside diameter of .624-inch to .625-inch, chamfer the head side of the bushing to accommodate the radius in the shank of the main gear sidebrace stud, and install the 5/8-inch stud, P/N 78717-02. No repetitive inspections will be required by this AD when this action is accomplished on both the left and right bracket assemblies. If the bushings cannot be reamed while installed in the bracket (i.e., the bushings are loose), then install a main gear sidebrace bracket assembly, P/N 95643-06, P/N 95643-07, P/N 95643-08, or P/N 95643-09, as applicable. Models PA-28R-180 and PA-28R-200 with serial numbers as specified in the Appendix to this AD may be equipped with a bracket casting identified with casting number 67073-2 or 67073-3 and may require the following modification to P/N 78717-02 for proper installation:

(A) Reduce the length of the stud to 1.688 ± 0.15 inches;

(B) Add additional rolled threads to 1.125 ± .015 inches from the flange. Note that the stud is heat treated to 180 to 200 ksi; and

(C) Drill an additional roll pin hole 90 degrees to the existing hole, and approximately 1.480 inches from the flange.

(iv) No repetitive inspections will be required by this AD when a P/N 78717-02 (or FAA-approved equivalent part number) main gear sidebrace stud is installed in the existing bracket assembly on both the left and right sides; or when a bracket assembly, P/N 95643-06 (or FAA-approved equivalent part number), P/N 95643-07 (or FAA-approved equivalent part number), P/N 95643-08 (or FAA-approved equivalent part number), or P/N 95643-09 (or FAA-approved equivalent part number), as applicable, is installed on both the left and right sides.

(2) For any main gear sidebrace stud not found cracked, prior to further flight, reinstall the uncracked stud in accordance with the instructions contained in the Landing Gear section of the applicable maintenance manual, and reinspect and replace (as necessary) as specified in paragraph (b) of this AD.

(b) Reinspect both the left and right main gear sidebrace studs, using Type I (fluorescent) liquid penetrant or magnetic particle inspection methods. Replace any cracked stud or reinstall any uncracked stud as specified in paragraphs (a)(1) and (a)(2) of this AD, respectively:

Part Number Installed	TIS Inspection Interval	Model Airplanes Installed on
20829-00 (Piper parts) or FAA-approved equivalent part number	1,000 hours	PA-24 and PA-24-250
22512-00 (Piper parts) or FAA-approved equivalent part number	1,000 hours	PA-24-260, PA-24-400, PA-30, and PA-39
95299-00 or 95299-02 (Piper parts) or FAA-approved equivalent part number	500 hours	PA-28R-180 and PA-28R-200 not equipped with casting number 67073-2 or 67073-3, PA-28R-201, PA-28R-201T, PA-32R-300, PA-34-200, and PA-34-200T
67543 (Piper parts) or FAA-approved equivalent part number	500 hours	PA-28R-180 and PA-28R-200 equipped with casting number 67073-02 or 67073-03

NOTE 5: Accomplishing the actions of this AD does not affect the requirements of AD 77-13-21, Amendment 39-3093. The tolerance inspection requirements of that AD still apply for Piper PA-24, PA-30, and PA-39 series airplanes.

(c) Owners/operators of the affected Models PA-28R-180, PA-28R-200, PA-28R-201, PA-28R-201T, PA-32R-300, PA-34-200, and PA-34-200T airplanes may accomplish one of the following at any time to terminate the repetitive inspection requirement of this AD:

(1) Install a main gear sidebrace bracket assembly, P/N 95643-06 (or FAA-approved equivalent part number), P/N 95643-07 (or FAA-approved equivalent part number), P/N

95643-08 (or FAA-approved equivalent part number), or P/N 95643-09 (or FAA-approved equivalent part number), as applicable, which contains the 5/8-inch diameter main gear sidebrace stud, P/N 78717-02 (or FAA-approved equivalent part number), and the one-piece bushing, P/N 67026-12 (or FAA-approved equivalent part number). Accomplish these installations in accordance with the instructions contained in the Landing Gear section of the applicable maintenance manual; or

(2) Ream the existing two-piece bushings to an inside diameter of .624-inch to .625-inch, chamfer the head side of the bushing to accommodate the radius in the shank of the main gear sidebrace stud, and install the 5/8-inch stud, P/N 78717-02 (or FAA-approved equivalent part number). No repetitive inspections will be required by this AD when this action is accomplished on both the left and right bracket assemblies. If the bushings cannot be reamed while installed in the bracket (i.e., the bushings are loose), then install a main gear sidebrace bracket assembly, P/N 95643-06 (or FAA-approved equivalent part number), P/N 95643-07 (or FAA-approved equivalent part number), P/N 95643-08 (or FAA-approved equivalent part number), or P/N 95643-09 (or FAA-approved equivalent part number), as applicable. Models PA-28R-180 and PA-28R-200 with serial numbers as specified in the Appendix to this AD may be equipped with a bracket casting identified with casting number 67073-2 or 67073-3 and may require the following modification to P/N 78717-02 (or FAA-approved equivalent part number) for proper installation:

(i) Reduce the length of the stud to 1.688 ± 0.15 inches;

(ii) Add additional rolled threads to 1.125 ± .015 inches from the flange. Note that the stud is heat treated to 180 to 200 ksi; and

(iii) Drill an additional roll pin hole 90 degrees to the existing hole, and approximately 1.480 inches from the flange.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) An alternative method of compliance or adjustment of the initial or repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Atlanta Aircraft Certification Office (ACO), One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia 30349.

(1) The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

(2) Alternative methods of compliance approved in accordance with AD 97-01-01, Amendment 39-9872 (revised by this action), or AD 95-20-07, Amendment 39-9386 (superseded by AD 97-01-01), are considered approved as alternative methods of compliance with this AD.

NOTE 6: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Atlanta ACO.

(f) Information related to this AD may be inspected at the FAA, Central Region, Office of

the Regional Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri.

(g) This amendment revises AD 97-01-01, Amendment 39-9872, which superseded AD 95-20-07, Amendment 39-9386.

(h) This amendment becomes effective on December 8, 1998.

**APPENDIX TO AD 97-01-01 R1; AMENDMENT NO. 39-10864;
DOCKET NO. 96-CE-09-AD
INFORMATION TO DETERMINE MAIN GEAR SIDEBRACE STUD
ASSEMBLY PART NUMBER (P/N)**

- The P/N 95643-00/-01/-02/-03 bracket assembly contains the 9/16-inch diameter main gear sidebrace stud, P/N 95299-00/-02, and a two-piece bushing, P/N 67026-6.

- The P/N 95643-06/-07/-08/-09 bracket assembly contains the 5/8-inch diameter main gear sidebrace stud, P/N 78717-02, and a one-piece bushing, P/N 67026-12.

- Both the one-piece and the two-piece bushing have a visible portion of the bushing flange, i.e., bushing shoulder.

- Whether a one-piece or two-piece bushing is installed may be determined by measuring the outside diameter of the bushing flange with a micrometer (jaws of the caliper must be 3/32-inch or less). The two-piece bushing will have an outside diameter of 1.00 inch and the one-piece bushing will have an outside diameter of 1.128 to 1.130 inches. This measurement is not valid for the following airplanes:

Model	Serial Numbers
PA-28R-180	28R-30004 through 28-31270
PA-28R-200	28R-35001 through 28R-35820, and 28R-7135001 through 28R-7135062

The main gear sidebrace studs on these airplanes will require removal to determine the P/N installed.

- The one-piece bushing contains a visible chamfer in the center of the bushing, and the chamfer in the two-piece bushing is not visible when the stud is installed.

- If P/N 95643-00/-01/-02/-03 bracket assembly is installed or the above information cannot be utilized, the main gear sidebrace stud will need to be removed from the bracket to determine the shank diameter and main gear sidebrace stud P/N.

- P/N 95299-00 and P/N 95299-02 main gear sidebrace studs are 9/16-inch in diameter.

- P/N 78717-00 main gear sidebrace studs are 5/8-inch in diameter.

- P/N 95643-00/-01/-02/-03 bracket assembly may have been modified to accommodate the 5/8-inch diameter main gear sidebrace stud, P/N 78717-02.

- The embossed number of 95363 on the bracket forging is not the bracket assembly P/N.

- The bracket assemblies identified with casting number 67073-2 or 67073-3 contain a 9/16-inch diameter main gear sidebrace stud, P/N 67543, and two-piece bushing, P/N 67026-2 and 67026-3.

- Model PA-28R-180 airplanes, serial numbers 28R-30004 through 28R-31270; and Model PA-28R-200 airplanes, serial numbers 28R-35001 through 28R-35820 and 28R-7135001 through 28R-7135062, are equipped from the factory with bracket assemblies identified with casting number 67073-2 and 67073-3.

- P/N 67543 main gear sidebrace studs are 9/16-inch in diameter.

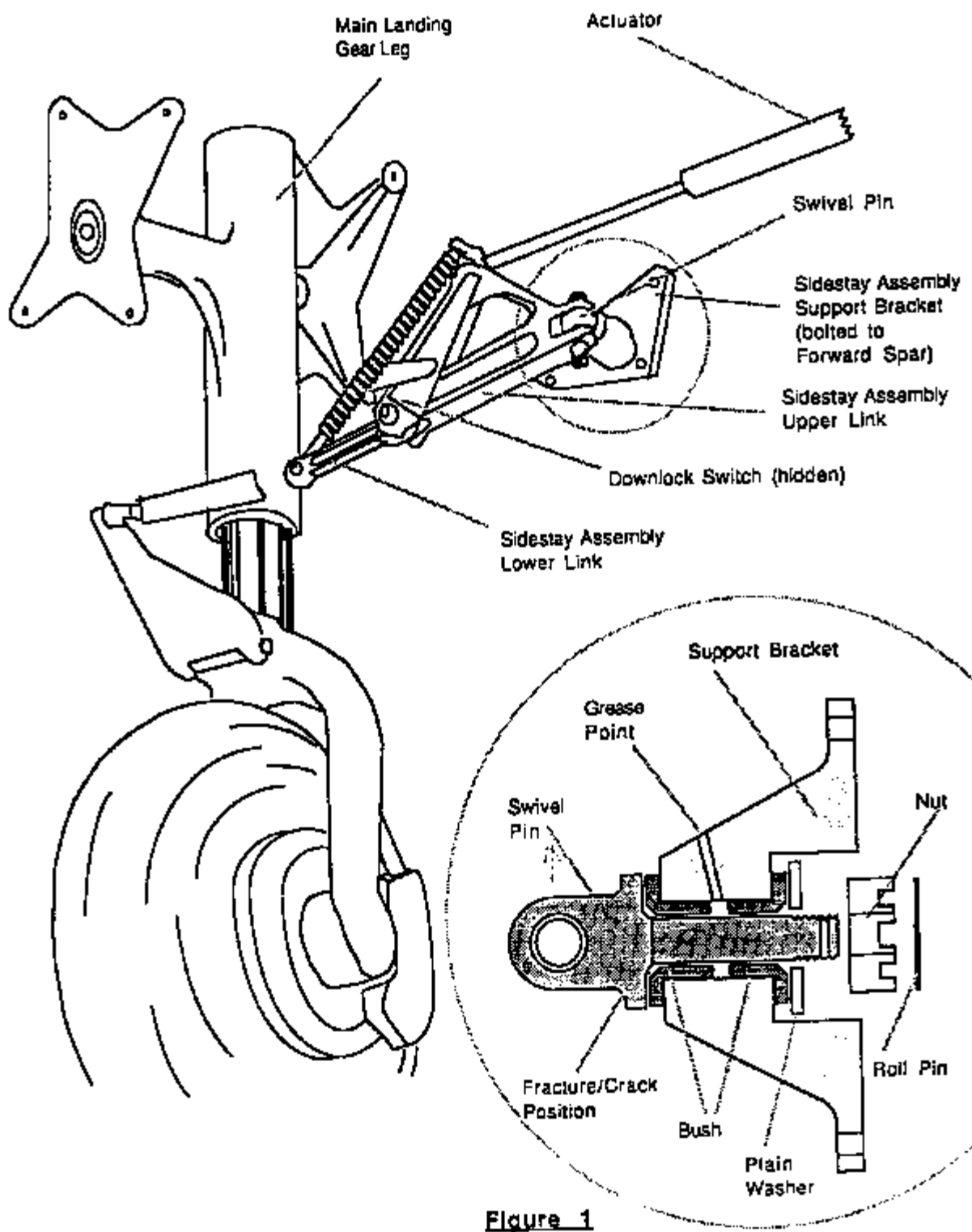


Figure 1
AD 97-01-01

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