



# SERVICE BULLETIN

No. 280

Piper Aircraft Corporation  
F.A.A. DOA EA-1 Approved

Lock Haven, Pennsylvania, U.S.A.  
July 10, 1968

Subject:

Case leakage of R. C. Allen 3" Artificial Horizon  
(See attached R. C. Allen Inc., Service Bulletin No. 1.)

Models Affected:

PA-24-260 Comanche  
PA-23-250 Aztec C  
PA-30 Twin Comanche  
PA-31, PA-31-300 Navajo

(Artificial Horizon, R. C. Allen Inc., Model No. RCA-21 standard non-AutoPilot instrument only.)

Serial Numbers Affected:

PA-24-260, Serial Nos. 24-4720 to 24-4749 incl.,  
24-4751 to 24-4755 incl., 24-4757 to 24-4759 incl.,  
24-4761 to 24-4772 incl., 24-4774, 24-4776 to 24-4777  
incl., 24-4780 to 24-4782 incl., and 24-4784.

PA-23-250, Serial Nos. 27-3548 to 27-3944 incl.

PA-30, Serial Nos. 30-1656 to 30-1681 incl., 30-1683 to  
30-1700, 30-1702 to 30-1704 incl., 30-1706 to 30-1710  
incl., 30-1712 to 30-1714 incl., 30-1716, 30-1718, 30-  
1720, 30-1721, 30-1725 to 30-1729 incl., and 30-1732.

PA-31, PA-31-300, Serial Nos. 31-2 to 31-246 incl.,  
31-254 and 31-255.

NOTE

These aircraft serial numbers encompass factory instal-  
lations plus possible field replacements. (Reference  
Instructions for positive instrument verification.)

Compliance Time:

See attached R. C. Allen Inc., Service Bulletin No. 1

Purpose:

To provide distribution and insure compliance with R. C.  
Allen Inc., Service Bulletin No. 1

Instructions:

It is recommended that the following procedure be used  
to verify applicability of the attached R. C. Allen Inc.,  
Service Bulletin No. 1.

(over)

Service Bulletin No. 280 (Continued)

Instructions: (Continued)

Using an inspection mirror, look for a metal tag imprinted with the letters R.C.A. attached to the rear of the instrument. If such a tag is attached, check the instrument case at the mounting flange to determine if tape has previously been applied. If tape is not present, the instrument must be removed and tape applied according to the attached R. C. Allen Inc., Service Bulletin No. 1.

Material Required:

See attached R. C. Allen Inc., Service Bulletin No. 1

Availability of Parts:

See attached R. C. Allen Inc., Service Bulletin No. 1

Labor Allowance:

Two (2) hours

Labor Allowance

Termination Date:

January 31, 1969

SERVICE BULLETIN  
FOR  
ARTIFICIAL HORIZON  
MODEL RCA 21

REASON FOR THIS SERVICE BULLETIN

Some deterioration of the gasket used to seal the case to the bezel has been experienced. Such deterioration may occur due to the action of ozone and/or the action of certain solvents to which the gasket may have been exposed. If not corrected, the deterioration may result in leaks which can lead to reduction of vacuum system pressure, sluggish horizon performance and eventually complete failure of the gyro system.

RECOMMENDED PREVENTIVE ACTION

In order to protect the gasket from deterioration and to provide a back-up seal, it is recommended that the procedure described herein be accomplished within the next 25 hours of operation of the aircraft. If reduced vacuum gage readings or sluggish performance of the horizon is noted, inspect for gasket failure immediately.

This bulletin applies to all Model RCA 21 Artificial Horizons with serial numbers as listed below:

7179 through 11236  
12507 through 13727  
13799 through 13865  
14025 through 14310  
14375 through 14629

INSTRUCTIONS

NOTE

All horizons in stock, should be treated in accordance with following paragraphs 2 and 3 immediately.

1. Remove the horizon from the instrument panel in accordance with the aircraft manufacturers instructions. If possible, avoid disconnecting the vacuum hoses.

CAUTION

Do not push on the bezel glass during the removal process.

The horizon must be clean and dry and the temperature should be between 50 and 100 degrees F before proceeding to the next step.

2. Refer to Figure 1 and apply one wrap of pressure sensitive tape, 3/4 inch wide, around the horizon as shown in Area "A". Pull the tape as it is being applied so that a slight amount of stretching occurs. The edge of the tape must butt against the rear surface of the bezel assembly and lay firmly against the cover. Overlap the tape approximately two inches.

One of the following tapes must be used:

- 3M no. 33 (Minnesota Mining & Mfg. Co.,  
St. Paul, Minnesota)
- 3M No. 472 (Minnesota Mining & Mfg. Co.,  
St. Paul, Minnesota)
- Tuck No. 330 (Technical Tape Corp.,  
New Rochelle, New York)
- Slipnot No. 7 (Plymouth Rubber Co.,  
Boston, Massachusetts)

3. Again refer to Figure 1 and apply one additional wrap of the tape over that just applied as shown in Area "B". Apply this wrapping so that the edge of the tape is flush with the front surface of the bezel assembly. Stretch as required so that the tape lays smoothly around the irregular corners of the bezel. Overlap the tape approximately two inches.

4. Reinstall the horizon in the aircraft instrument panel. If the vacuum hoses were disconnected during removal, reconnect them to the horizon.

5. Perform a ground check of the horizon to insure proper operation.

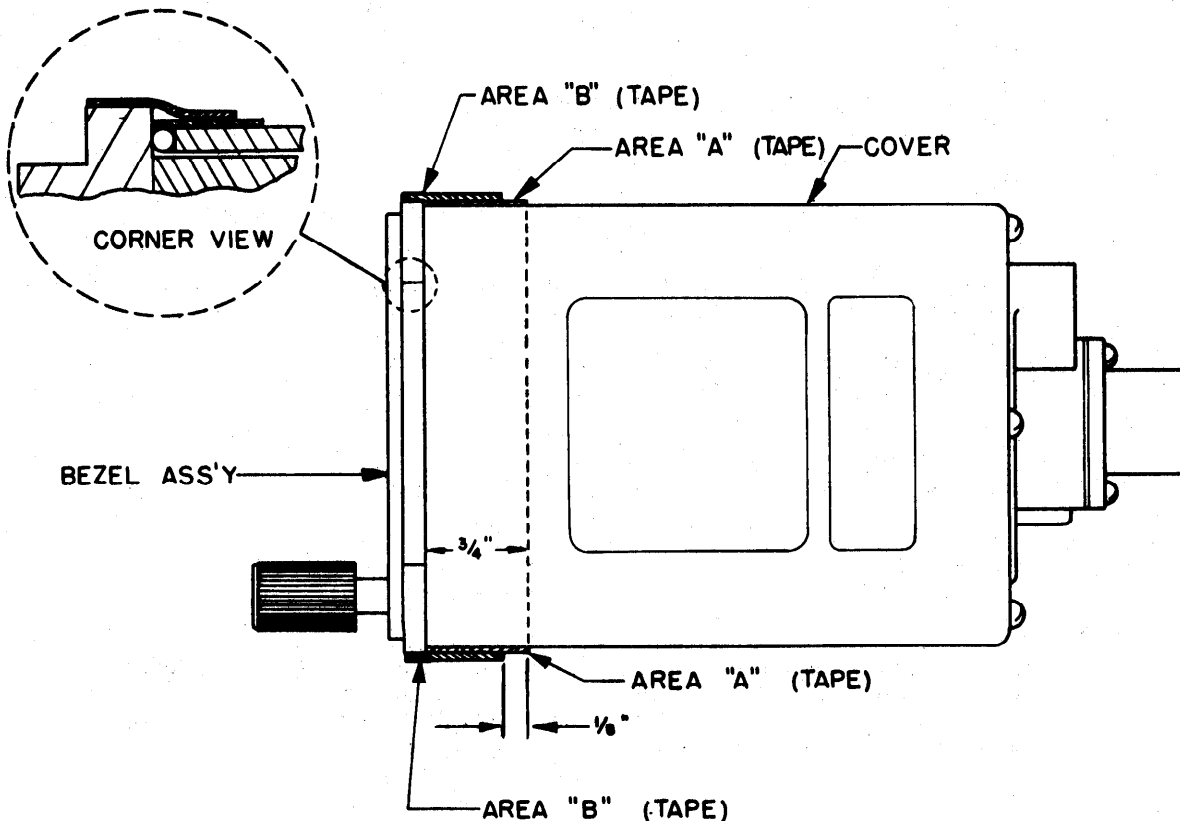


Figure 1. Application of Pressure Sensitive Tape.