



SERVICE *No. 805A* BULLETIN

* PIPER CONSIDERS *
* COMPLIANCE MANDATORY *

FAA Approved

Date March 14, 1986

S/M

(Service Bulletin No. 805A supersedes and voids Service Bulletin No. 805, dated May 31, 1985.)

SUBJECT:

TRW Hartzell Propeller Products
Service Bulletin No. 142B
("O" Ring Deterioration)

REASON FOR REVISION:

Revise Purpose and Instructions,
Delete Attachment #2, and add new
Attachment #2.

MODELS AFFECTED:

PA-23-250 Aztec
PA-24-260 Comanche
PA-25-260 Pawnee
PA-28R-180 Arrow
PA-28R-200 Arrow II
PA-28R-201 Arrow III
PA-28R-201T Turbo Arrow III
PA-28RT-201 Arrow IV
PA-28RT-201T Turbo Arrow IV
PA-28-235 Pathfinder
PA-28-236 Dakota
PA-28-201T Turbo Dakota
PA-30-160 Twin Comanche
PA-31 Navajo
PA-31-325 Navajo C/R

PA-31-350 Navajo Chieftain
PA-31P-350 Mojave
PA-31-350 T-1020
PA-31P-425 Pressurized Navajo
PA-32-260 Cherokee Six
PA-32-300 Cherokee Six
PA-32-301 Saratoga
PA-32-301T Turbo Saratoga
PA-32R-300 Lance

SERIAL NUMBERS AFFECTED:

27-1 through 27-8154030
24-3642, 24-4000 through 24-4804
25-4415 through 25-8156019
28R-30004 through 28R-7130013
28R-35001 through 28R-7635545
28R-7737001 through 28R-7837317
28R-7703001 through 28R-7803373
28R-7918001 through 28R-8218026
28R-7931001 through 28R-8531007
28-10166 through 28-7710089
28-7911001 through 28-8511006
28-7921001 through 28-7921091
30-1 through 30-2000
31-5 through 31-8312015
31-7400990, 31-7512006 through
31-8312019
31-5001 through 31-8452012
31P-8414001 through 31P-8414050
31-8253001 through 31-8453004
31P-1 through 31P-7730012
32-1 through 32-7800008
32-40000 through 32-7940290
32-8006001 through 32-8506010
32-8024001 through 32-8424002
32R-7680001 through 32R-7880068

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ATA: 6110

| | |
|---------------------------------|---------------------------------------|
| PA-32RT-300 Lance II | 32R-7885001 through 32R-7985105 |
| PA-32RT-300T Turbo Lance | 32R-7887001 through 32R-7987126 |
| PA-32R-301 Saratoga S.P. | 32R-8013001 through 32R-8513010 |
| PA-32R-301T Turbo Saratoga S.P. | 32R-8029001 through 32R-8529012 |
| PA-34-200 Seneca | 34-7250001 through 34-7450220 |
| PA-34-200T Seneca II | 34-7570001 through 34-8170092 |
| PA-34-220T Seneca III | 34-8133001 through 34-8533036 |
| PA-36-285 Brave | 36-7360001 through 36-7660135 |
| PA-36-300 Brave | 36-7560001 through 36-8160023 |
| PA-36-375 Brave | 36-7802001 through 36-8302025 |
| PA-39-160 Twin Comanche | 39-1 through 39-155 |
| PA-44-180 Seminole | 44-7995001 through 44-8195026 |
| PA-44-180T Turbo Seminole | 44-8107001 through 44-8207020 |
| PA-46-310P Malibu | 46-8408001 through 46-8508054 |
| PA-60-600 Aerostar 600 | 60-0001-003 through 60-0933-8161262 |
| PA-60-601 Aerostar 601 | 61-0001-004 through 61-0880-8162157 |
| PA-60-601P Aerostar 601P | 61P-0157-001 through 61P-0860-8163455 |
| PA-60-602P Aerostar 602P | 62P-0750-8165001 through 60-8365021 |
| PA-60-700P Aerostar 700P | 60-8423001 through 60-8423025 |

COMPLIANCE TIME: To coincide with the next regularly scheduled oil change interval, but not to exceed the next twenty-five (25) hours of operation; and at next propeller overhaul interval.

PURPOSE: As indicated in the attached Hartzell Service Bulletin, it has been determined that an incompatibility exists between the "O" rings used in certain constant speed propeller hubs and multigrade engine oil. This incompatibility could result in "O" ring deterioration and loss of propeller pitch control.

The above listed aircraft have, either as standard or optional equipment, Hartzell constant speed propellers which may be affected by the subject Service Bulletin. Piper considers it mandatory that until Hartzell S.B. 142B has been accomplished or confirmed, multigrade oil not be used.

INSTRUCTIONS:

1. Using the attached aircraft/propeller model and propeller serial number list, verify through the appropriate aircraft paperwork if propeller(s) are affected.

NOTE: Any propeller serial number (hub number) below those listed are affected by this Service Bulletin.

If propeller(s) have been overhauled subsequent to August 31, 1983, compliance with Hartzell Service Bulletin No. 142B or Hartzell Service Letter No. 148A should have been accomplished, verifiable by entry on the "Servicable" or "Return to Service" tag, or verification may be obtained from the overhaul facility.

2. Until compliance with Hartzell Service Bulletin No. 142B has been verified, fabricate and install, in close proximity to the oil filler in full view, a placard worded as follows:

Use of Multigrade oil is prohibited.
Refer to Hartzell S.B. 142B.

3. Maintain this Service Bulletin along with Hartzell Service Bulletin 142B with the aircraft paperwork until propeller overhaul is accomplished and compliance with Hartzell S.B. 142B is verified.
4. Make appropriate logbook entry of compliance with this Service Bulletin.

MATERIAL REQUIRED: Not applicable.

AVAILABILITY OF PARTS: Not applicable.

EFFECTIVITY DATE: This Service Bulletin is effective upon receipt.

SUMMARY: Please contact your Piper Field Service Facility to make arrangements for compliance with this Service Bulletin.

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

| <u>MODEL A/C</u> | <u>NOMENCLATURE</u> | <u>MODEL PROP</u> | <u>PROP SERIAL NO.</u> |
|------------------|---------------------|-------------------|------------------------|
| PA-23-150 | Apache | N/A | |
| PA-23-160 | Apache | N/A | |
| PA-23-235 | Apache | N/A | |
| PA-23-250 | Aztec | HC-E3YK-() | BP9702 or CJ855 |
| PA-24-180 | Comanche | N/A | |
| PA-24-250 | Comanche | N/A | |
| PA-24-260 | Comanche | HC-C2YK-() | CH27116 |
| PA-24-260 | Comanche | HC-E2YK-() | DK1708 |
| PA-24-400 | Comanche | N/A | |
| PA-25-260 | Pawnee | HC-C2YK-() | CH27116 |
| PA-28R-180 | Arrow | HC-C2YK/R-() | CH27116 |
| PA-28R-200 | Arrow II | HC-C2YK/R-() | CH27116 |
| PA-28R-201 | Arrow III | HC-C2YK/R-() | CH27116 |
| PA-28R-201T | Tubro Arrow III | BHC-C2YF-() | AM2512 |
| PA-28RT-201 | Arrow IV | HC-C2YK/R-() | CH27116 |
| PA-28RT-201T | Turbo Arrow IV | BHC-C2YF-() | AM2512 |
| | | PHC-C3YF-() | EE1473 |
| PA-28-235 | Path Finder | HC-C2YK/R-() | CH27116 |
| PA-28-236 | Dakota | HC-F2YK/R-() | CM821 |
| PA-28-201T | Turbo Dakota | BHC-C2YF-() | AM2512 |
| PA-30-160 | Twin Comanche | HC-E2YL-() | BG4677 or BP238 |
| PA-31-310 | Navajo | HC-E3YR-() | DJ7731 |
| | | HC-E2YR-() | BP9702 or CJ855 |
| PA-31-325 | Navajo C/R | HC-E3YR-() | DJ7731 |
| | | HC-E2YR-() | BP9702 or CJ855 |
| PA-31-350 | Navajo Chieftan | HC-E3YR-() | DJ7731 |
| | | HC-E2YR-() | BP9702 or CJ855 |
| PA-31P-350 | Mojave | HC-I3YR-() | F543 |
| PA-31P-425 | "P" Navajo | HC-CEYN-() | DG625 |
| PA-32-260 | Cherokee Six | HC-C2YK-() | CH27116 |
| PA-32-300 | Cherokee Six | HC-C2YK-() | CH27116 |
| PA-32-300 | Cherokee Six | HC-E3YK-() | FM479 |
| PA-32-300 | Cherokee Six | HC-E3YR-() | FM479 |
| PA-32-301 | Saratoga | HC-C2YK/R-() | CH27116 |
| PA-32-301T | Turbo Saratoga | HC-E2YR-() | DK1708 |
| PA-32R-300 | Lance | HC-C2YR/K-() | CH27116 |
| PA-32RT-300 | Lance II | HC-C2YR/K-() | CH27116 |
| PA-32RT-300T | Turbo Lance | HC-E2YR-() | DK1708 |
| PA-32R-301 | Saratoga S.P. | HC-C3YR-() | DY1893 |
| PA-32R-301T | Turbo Saratoga S.P. | HC-E2YR-() | DJ7731 |
| | | HC-E2YR-() | DK1708 |
| PA-34-200 | Seneca | HC-C2YK/R-() | AU7489 |
| PA-34-200T | Seneca II | BHC-C2YF-() | AN6483 |
| PA-34-220T | Seneca III | PHC-C3YF-() | EB1977 |
| PA-36-285 | Brave | BHC-C2YF-() | AN6483 |
| | | HC-C3YF-() | EC1017 |
| PA-36-300 | Brave | HC-C2YK-() | CH27116 |
| | | HC-C3YR-() | DY1893 |
| PA-36-375 | Brave | HC-C3YR-() | DY1893 |
| PA-39-160 | Twin Comanche | HC-E2YL-() | BG4677 |
| PA-44-180 | Seminole | HC-C2YK-() | AU7489 BC530 |
| | | HC-C3YR/K-() | CH3435 |
| PA-44-180T | Turbo Seminole | HC-C3YR/K-() | CH3435 |
| | | HC-C2YK-() | AU7489 BC530 |

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| <u>MODEL A/C</u> | <u>NOMENCLATURE</u> | <u>MODEL PROP</u> | <u>PROP SERIAL NO.</u> |
|------------------|---------------------|-------------------|------------------------|
| PA-46-310P | Malibu | BHC-C2YF-() | AM2512 |
| PA-31-350 | T1020 | same as PA-31-350 | |
| PA-28-R300 | T-35 | HC-C3YR-() | CH3435 |
| PA-60-600 | Aerostar 600 | HC-C3YR-() | CH3435 |
| PA-60-601 | Aerostar 601 | HC-C3YR-() | CH3435 |
| PA-60-601P | Aerostar 601P | HC-C3YR-() | CH3435 |
| PA-60-602P | Aerostar 602P | HC-C3YR-() | CH3435 |
| PA-60-700P | Aerostar 700P | HC-C3YR-() | CH3435 |



Hartzell Propeller Products
TRW Aircraft
Components Group

P. O. Box 1458
1800 Covington Avenue
Piqua, Ohio 45356
513.778.4200
Telex 288039

SERVICE BULLETIN

BULLETIN NO. 142B

11 NOVEMBER 1985

SUBJECT:

Oil Leakage and Subsequent Pitch Control Difficulty
May Develop on Reciprocating Engine Installations and
Hartzell Aluminum Hub Propellers Model Number ()HC-
() ()Y ()-().

Example: HC-C2YK-1BF/F7666A-2

DISCUSSION:

As the accumulation of service hours increase on Hartzell propellers, there may be a number of conditions which may contribute to an oil leak.

Field experience has shown that one of these conditions is the use of multigrade oils. Oil leaks attributable to multigrade oils, which have superior flow characteristics at lower temperatures tend to appear earlier in operation. This may lead to sluggish operation in pitch change and or external indications of oil leakage.

Consideration when defining oil leaks are technique of assembly and wear tolerences.

On 31 August 1983, Service Letter No. 148 was published. At that time an "O" ring was introduced which is compatible for use with any known reciprocating aircraft piston engine.

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ACTION:

Should the conditions described in the preceding discussion exist, we recommend the following action be completed.

- A. It is recommended that all non-color coded O'rings be replaced at next overhaul or prior to that time should any propeller operational conditions be suspect or an oil leak appears.
- B. For those aircraft with engine and propellers being operated with multigrade oils we recommend that the non-color coded O'ring be replaced at the operators earliest convenience.

Sluggish or unusual propeller operation is a prime indication of oil leakage. Any evidence of the above conditions should be thoroughly evaluated, and, if necessary, immediate disassembly and change to the latest style "O" rings. This disassembly and change must be accomplished by a qualified propeller repair person. Operators should check with the last overhaul agency to determine if "O" rings of the new compound were installed in the propeller(s).

The latest color coded piston and pitch change rod "O" rings are identified in Service Letter No. 148A.

As Hartzell no longer stocks the old "O" ring compound (nor do Hartzell distributors), this problem will be alleviated at next overhaul.

It is NOT advisable for propellers operating with factory installed "O" rings prior to 31 August 1983, to be operated with multigrade oils.

**PUBLICATIONS
AFFECTED:**

This information is now considered part of overhaul manuals No. 113-() and No. 117-().