

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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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.

MODEL A/C	NOMENCLATURE	MODEL PROP	PROP SERIAL NO.
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



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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 tolerances.

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 proceeding 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-().