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To: Pilots Rated for Instrument Flight Rules (IFR)

This letter is a follow-up of our June 2001 letter mailed to IFR pilots. In that letter Parker Airborne, a manufacturer of air pumps which power air driven gyros, communicated important SAFETY WARNING information related to flying under Instrument Flight Rules. (If you would like to receive a complete duplicate set of the SAFETY WARNING information, please call Airborne's Technical Service Hotline at 1-800-382-8422.)

The purpose of this letter is to inform IFR Pilots about a letter of May 2002 that was mailed to Owners/Operators of Single-Engine and Multi-Engine Piston Aircraft. This letter communicated several Airborne Service Letters dealing with **mandatory** inspection intervals and **mandatory** replacement times for various Airborne air pumps and other Airborne components used in pneumatic systems that power air driven gyros.

Attached is a copy of the latest update of the **SUMMARY OF MANDATORY SERVICE INSTRUCTIONS FOR AIRBORNE PNEUMATIC COMPONENTS**. As provided with our letter of June 2001 to IFR Pilots, enclosed is another copy of PILOT SAFETY WARNING – IFR FLIGHT. This warning summarizes and identifies, for IFR pilots, safety information related to flight in conditions other than daytime Visual Flight Rules (VFR).

We ask that you, as an IFR Pilot:

- Check with the owners and mechanics of the aircraft you fly to be sure that the aircraft is properly maintained and is compliant with the Airborne **mandatory** inspection intervals and Airborne **mandatory** replacement times.
- Understand how the gyro instruments are powered in the aircraft you fly.
- Understand how to recognize when gyro instruments fail.
- Check the aircraft you fly to be sure it contains either a back-up pneumatic power source for the air driven gyros or a back-up electric attitude gyro instrument.
- Maintain partial panel proficiency.
- Obtain IFR pilot safety training in spatial disorientation.

Additional copies of the enclosed Summary, along with specific copies of the referenced Airborne Service Letters, can be printed using the Airborne Website www.parker.com/airborne, or ordered at no-charge by calling our Technical Service Hotline 1-800-382-8422.

Parker Airborne's primary concern is safety and it should be yours for yourself and your passengers.

Failure to follow these warnings and mandates may result in death, bodily injury or property damage.

Enclosures:

- **SUMMARY OF MANDATORY SERVICE INSTRUCTIONS FOR AIRBORNE PNEUMATIC COMPONENTS** (SI300-17, Rev. A, September 2002)
- PILOT SAFETY WARNING – IFR FLIGHT, SI300-18 dated June 2001 (reprinted February 2003)



PILOT SAFETY WARNING - IFR FLIGHT

“Partial panel” instruments (e.g., turn coordinator, altimeter, magnetic compass, air speed indicators) may not provide sufficient redundancy for pneumatically powered gyroscopic instruments during Instrument Flight Rules (IFR) flight. For your safety and your occupants’ safety, if you fly in conditions other than daytime Visual Flight Rules (VFR):

- 1) YOU **MUST** HAVE A BACK-UP PNEUMATIC POWER SOURCE FOR THE AIR DRIVEN GYROS, OR A BACK-UP ELECTRIC ATTITUDE GYRO INSTRUMENT;
- 2) YOU **MUST** HAVE THE PNEUMATIC SYSTEM PROPERLY MAINTAINED SO THAT IT WILL PERFORM ADEQUATELY AND PREVENT THE NEED TO FLY “PARTIAL PANEL” IN INSTRUMENT METEOROLOGICAL CONDITIONS (IMC); AND
- 3) YOU **MUST** UNDERGO FREQUENT RECURRENT TRAINING TO MAINTAIN INSTRUMENT PROFICIENCY, TO PROMPTLY RECOGNIZE GYRO INSTRUMENT SYSTEM COMPONENT FAILURES AND TO TRANSITION TO REMAINING INSTRUMENTS IN ORDER TO MAINTAIN CONTROL OF THE AIRCRAFT.

Annual maintenance and Federal Aviation Administration (FAA) minimum training and experience requirements do not guarantee safe flight in Instrument Meteorological Conditions (IMC). For many aircraft, only “partial panel” instruments are provided for pneumatic instrument redundancy. However, accident investigations and experience have shown that many pilots experience spatial disorientation and lose control of the aircraft upon an unannounced loss of their air driven gyro instruments. In other words:

Despite minimum standard training, many pilots are not able to recognize the gyro instrument loss, transition to “partial panel” instruments and then safely fly the aircraft in IMC.

In the current fleet of single-engine general aviation aircraft in the United States, approximately 80 percent do not have the above described back-up equipment for their pneumatic driven gyro instruments. Also, some twin-engine general aviation aircraft lack this back-up equipment.

Aircraft without a back-up pneumatic power source for the air driven gyros, or a back-up electric attitude gyro instrument, should only be flown in daytime VFR conditions.

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SI300-18, June 2001 (reprinted February 2003)



SUMMARY OF MANDATORY SERVICE INSTRUCTIONS FOR AIRBORNE PNEUMATIC COMPONENTS

Airborne has published various Service Letters defining the **mandatory** inspection intervals and **mandatory** replacement times for its pneumatic components used in single-engine and multi-engine piston aircraft pneumatic gyro flight instrument systems and de-ice systems. The purpose of this document is to provide a summary reference for these **mandatory** service instructions and to identify the specific detailed Service Letter documents which can be printed from Airborne's website or ordered from Airborne. The Airborne Service Letters (latest revision) identified in this summary are as follows:

<u>Service Letter No.</u>	<u>Service Letter Subject</u>
38A	Mandatory Replacement of Airborne Engine-Driven Air Pumps That Have Been Subjected to Sudden Engine Stoppage
39A	Mandatory Inspection Intervals and Replacement Times for Airborne Check Valve Manifolds, Check Valves and Regulator Check Valve Manifolds
43A	Mandatory Inspection Intervals for Airborne Air Pumps for Oil Contamination and Mandatory Replacement of Oil Contaminated Airborne Air Pumps
53C	Mandatory Inspection Intervals and Replacement Times for Airborne Model 28C444CW-4 and 28C444CW-6 Engine-Driven Clutch-Operated Air Pumps (Piper PA-46-310P Aircraft)
54D	Mandatory Inspection Intervals and Replacement Times for Airborne Model 28C214CW-2 Engine-Driven Clutch-Operated Air Pumps (Mooney M20M and M20R Aircraft)
57	Revision of Installation and Maintenance Instructions Manuals and Associated Aircraft Flight Manual Supplements for Installation of Airborne Auxiliary Air Pump System Kits
58	Mandatory Replacement Times for Airborne Air Pumps
59A	Mandatory Replacement Times for Airborne Air Filters and Air Filter Elements

Airborne Model Number	Mandatory Inspection Intervals*	Mandatory Replacement Times*	Service Letter No.
Engine-Driven Air Pumps			
• Any model no. beginning with 200 through 216	-	500 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	58
• E211CC or E212CW	-	500 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	58
• Any model no. beginning with 220 through 242	-	500 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	58
• Any model no. beginning with 28C214 (clutch-operated)	Every 100 aircraft hrs. for 28C214CW-2	500 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	54D, 58
• Any model no. beginning with 28C444 (clutch-operated)	Every 50 aircraft hrs. for 28C444CW-4 and -6	500 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	53C, 58
• Any model no. beginning with 420 through 442	-	400 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	58
• 832CW or 842CW	-	300 aircraft hrs. or 6 yrs. from date of manufacture, whichever comes first	58
• Any model subjected to sudden engine stoppage	-	Before next flight	38A
• Any model (inspection for oil contamination)	100 aircraft hrs. or annually, whichever comes first	-	43A
• Any model subjected to oil contamination	-	Before next flight	43A

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SI300-17 (Rev. A) September 2002



SUMMARY OF MANDATORY SERVICE INSTRUCTIONS FOR AIRBORNE PNEUMATIC COMPONENTS (continued)

Airborne Model Number	Mandatory Inspection Intervals*	Mandatory Replacement Times*	Service Letter No.
Auxiliary Motor-Driven Air Pumps and Elapsed Time Indicators			
<ul style="list-style-type: none"> Any model no. beginning with 4A2 or 4A3 	Check elapsed time indicator (ETI) at 100 aircraft hrs. or annually, whichever comes first	500 pump hrs. or 10 yrs. of service, whichever comes first	57, 58
Vacuum System Air Filters			
<ul style="list-style-type: none"> B3-5-1 Garter Filter Element for Vacuum Regulator 	-	100 aircraft hrs. or annually, whichever comes first, and each pump replacement	59A
<ul style="list-style-type: none"> D9-14-3 Air Filter Element D9-14-5 Air Filter Element D9-18-1 Air Filter Element 1J10-1 Air Filter 	-	500 aircraft hrs. or annually, whichever comes first, and each pump replacement	59A
Pressure System Air Filters			
<ul style="list-style-type: none"> B3-5-1 Garter Filter Element for Inlet Filter D9-14-3 Air Filter Element D9-14-5 Air Filter Element D9-18-1 Air Filter Element 	-	100 aircraft hrs. or annually, whichever comes first, and each pump replacement	59A
<ul style="list-style-type: none"> 1J4-4 Inline Air Filter (Replaced by 2J4-4) 1J4-6 Inline Air Filter (Replaced by 2J4-6) 1J4-7 Inline Air Filter (Replaced by 2J4-7) 2J4-4 Inline Air Filter 2J4-6 Inline Air Filter 2J4-7 Inline Air Filter 	-	500 aircraft hrs. or annually, whichever comes first, and each pump replacement	59A
Check Valve Manifolds, Check Valves and Regulator Check Valve Manifolds			
<ul style="list-style-type: none"> 1H5 series (all dash numbers) 1H24 series (all dash numbers) and 2H24-8 1H37 series (all dash numbers) 2H3-39 and 2H3-47 	5 yrs. from date of manufacture, every 12 months thereafter until 10 yrs.	10 yrs. from date of manufacture	39A
<p>*NOTE: The above components must not be operated beyond the Airframe Manufacturer's specification for mandatory inspection intervals or mandatory replacement times or Airborne's mandatory inspection intervals or mandatory replacement times, whichever comes first.</p>			

The date of manufacture is encoded in the serial number located on the nameplate of Airborne Air Pumps, Check Valve Manifolds, or Regulator Check Valve Manifolds. The date of manufacture is ink stamped on the body of Airborne Check Valves. The first numbers (1 through 12) of the serial number indicate the **month** (January through December of manufacture). The following letter combinations of the serial number indicate the **year** of manufacture:

T = 1972	E = 1979	AB = 1986	AJ = 1993	AT = 2000	BC = 2007
V = 1973	F = 1980	AC = 1987	AK = 1994	AU = 2001	BD = 2008
W = 1974	H = 1981	AD = 1988	AL = 1995	AV = 2002	BE = 2009
A = 1975	J = 1982	AE = 1989	AM = 1996	AW = 2003	BF = 2010
B = 1976	K = 1983	AF = 1990	AN = 1997	AY = 2004	BG = 2011
C = 1977	M = 1984	AG = 1991	AP = 1998	BA = 2005	BH = 2012
D = 1978	AA = 1985	AH = 1992	AR = 1999	BB = 2006	BJ = 2013

If the product nameplate has been lost, obliterated, or for any reason the date of manufacture cannot be substantiated, replace the air pump, check valve manifold, check valve, or regulator check valve manifold.

Any questions concerning this **SUMMARY OF MANDATORY SERVICE INSTRUCTIONS FOR AIRBORNE PNEUMATIC COMPONENTS** or requests for copies of the referenced Service Letters (can also be printed from Airborne's website) should be directed to Airborne's Customer Support Team as follows:

Toll Free Phone Number: 800-382-8422
 Direct Phone Number: 440-937-1315
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