



The New Piper Aircraft, Inc.  
2926 Piper Drive  
Vero Beach, Florida, U.S.A. 32960

# SERVICE No. 1026 BULLETIN

## PIPER CONSIDERS COMPLIANCE MANDATORY

DATE: November 5, 1998 (S/M)

**SUBJECT:**

Distribution of Parker Hannifin Airborne  
Service Letter 48, "Inspection/Replacement  
of dry air pump flexible couplings".

**MODELS AFFECTED:**

PA-18/18-150 Super Cub

PA-18-150 Super Cub  
PA-22-108 Colt  
PA-23-250 Aztec

PA-24-180/250 Comanche  
PA-24-260 Comanche  
PA-24-400 Comanche  
PA-28-140 Cherokee  
PA-28-150/160/180 Cherokee  
PA-28-151 Warrior  
PA-28-161 Warrior II

PA-28-161 Cadet  
PA-28-161 Warrior III  
PA-28-181 Archer II

PA-28-181 Archer III

PA-28-235 Cherokee  
PA-28-236 Dakota

PA-28-201T Turbo Dakota  
PA-28R-180 Arrow  
PA-28R-200 Arrow/Arrow II  
PA-28R-201 Arrow III  
PA-28R-201 Arrow

PA-28R-201T Turbo Arrow III  
PA-28R-201T Turbo Arrow  
PA-28RT-201 Arrow IV  
PA-28RT-201T Turbo Arrow IV

**SERIAL NUMBERS AFFECTED:**

18-8020 through 18-9004  
18- 7309016 through 18-8309025  
1809001 through 1809113  
22-8000 through 22-9848  
27-549 through 27-4866  
27-7304917 through 27-8154030  
24-2176 through 24-3687  
24-3642, 24-4000 through 24-5028  
26-2 through 26-148  
28-20000 through 28-7725290  
28-1 through 28-7505259 & 28-E13  
28-7415001 through 28-7715314  
28-7716002 through 28-8616057  
2816001 through 2816119  
2841001 through 2841365  
2842001 through 2842036  
28-7690001 through 28-8690056  
2890001 through 2890205  
2890206 through 2890231  
2843001 through 2843129  
2843131 through 2843184  
28-10001 through 28-7710089 & 28-E11  
28-7911001 through 28-8611008  
2811001 through 2811050  
28-7921001 through 28-7921091  
28R-30001 through 28R-7130013  
28R-35001 through 28R-7635462  
28R-7737001 through 28R-7837319  
2837001 through 2837061  
2844001 through 2844013  
28R-7703001 through 28R-7803374  
2803001 through 2803012  
28R-7918001 through 28R-8218026  
28R-7931001 through 28R-8631005  
2831001 through 2831038

(OVER)  
ATA: 3711

**MODELS AFFECTED:** (Cont'd)

PA-30-Twin Comanche  
PA-31/300/325 Navajo/Navajo CR

PA-31-350 Chieftain

PA-31-350 T1020  
PA-32-260 Cherokee Six  
PA-32-300 Cherokee Six  
PA-32-301 Saratoga

PA-32RT-300T Turbo Lance II  
PA-32R-300 Lance  
PA-32RT-300 Lance II  
PA-32R-301 Saratoga SP

PA-32R-301 Saratoga II HP

PA-32R-301T Turbo Saratoga SP

PA-32R-301T Saratoga II TC  
PA-34-200 Seneca  
PA-34-200T Seneca II  
PA-34-220T Seneca III (28V)  
PA-34-220T Seneca III

PA-34-220T Seneca IV

PA-38-112 Tomahawk  
PA-39-Twin Comanche  
PA-44-180 Seminole

PA-44-180T Seminole

**SERIAL NUMBERS AFFECTED:** (Cont'd)

30-1 through 30-2000  
31-2 through 31-861  
31-7300901 through 31-8312019  
31-5001 through 5004  
31-7305005 through 31-8452021  
31-8253001 through 31-8553002  
32-1 through 32-7800008  
32-40000 through 32-7940290  
32-8006001 through 32-8606023  
3206001 through 3206088  
32R-7887001 through 32R-7987126  
32R-7680001 through 32R-7880068  
32R-7885001 through 32R-7985105  
32R-8013001 through 32R-8613006  
3213001 through 3213041  
3213029, 3213042 through 3213103  
3246001 through 3246120  
32R-8029001 through 32R-8629006  
3229001 through 3229003  
3257001 through 3257063  
34-7250001 through 34-7450220  
34-7570001 through 34-8170092  
3448001 through 3448035  
34-8133001 through 34-8633031  
3433001 through 3433170  
3448038 through 3448079  
3447001 through 3447029  
38-78A0002 through 38-82A0124  
39-1 through 39-155  
44-7995001 through 44-8195026, 4495001  
through 4495013, 4496001 through 4496020,  
44-8107001 through 44-8207020

**COMPLIANCE TIME:**

Prior to next flight in IFR conditions, but all flight operations not to exceed the next ten (10) hours or sixty days time in service, whichever comes first.

**APPROVAL:**

The technical contents of this Service Bulletin have been approved by the F.A.A.

**PURPOSE:**

We have been notified by Parker Hannifin Airborne that a condition exists where the flexible coupling connecting the vacuum pump may fail prematurely. As a result, Parker Hannifin Airborne has issued Service Letter 48 "Inspection/Replacement of dry air pump flexible couplings", which is being distributed as part of this Service Bulletin. Left uncorrected, the vacuum pump may fail causing a loss of vacuum/pressure with the resultant loss of vacuum/pressure instruments and other appliances.

This Service Bulletin provides for the distribution of Parker Hannifin Airborne Service Letter 48 "Inspection/Replacement of dry air pump flexible couplings" and requires the compliance with the instructions contained therein.

**INSTRUCTIONS:****Note:**

Check Parker Hannifin Airborne Service Letter 48 carefully to assure applicability before removing vacuum pumps. (Check all pumps on all affected aircraft.) Vacuum pump assemblies may be affected due to the installation of flexible coupling kits delivered by Piper or Airborne. Some aircraft may not be equipped with vacuum systems as they were offered as optional equipment at the time of original manufacture. While listed in the Piper Service Bulletin as affected, some serial number aircraft may not be affected due to optional equipment being installed at the factory or as an after factory modification (i.e. pneumatic deice system, etc.).

1. Read Parker Hannifin Airborne Service Letter 48 prior to starting these instructions. (The Parker Hannifin Airborne publication is included with this Service Bulletin, see Attachment "A".)
2. This service bulletin affects aircraft which have defective vacuum pump flexible couplings installed as original equipment and aircraft which may have vacuum pump flexible couplings installed as service spares. Check aircraft applicability per the Model and Serial Number Affected section above.
3. Gain access to the engine(s) by removing the cowlings as necessary to access the vacuum pump(s).
4. Remove the vacuum pump in accordance with the appropriate section or chapter of the applicable Service or Maintenance Manuals. Inspect pump prior to installing a new coupling for condition and replace if required.
5. Comply fully with the instructions contained in Parker Hannifin Airborne Service Letter 48 by installing coupling kit, Piper Part number 753-910, as required.
6. Install a repaired or new vacuum pump as required by inspection and perform an engine run to verify proper operation of the vacuum system in accordance with the appropriate section or chapter of the applicable Service or Maintenance Manuals.
7. Upon compliance with the Parker Hannifin Airborne Service Letter 48 and completion of these instructions, make an appropriate airframe logbook entry of compliance with this Service Bulletin.

**MATERIAL REQUIRED:** As required by inspection, one (1) or two (2) each, Coupling Kit, Vacuum Pump, Piper Part Number 753-910 as applicable, per aircraft.

**AVAILABILITY OF PARTS:** Your Piper Field Service Facility.

**EFFECTIVITY DATE:** This Service Bulletin is effective upon receipt.

**SUMMARY:** Factory Participation is limited to **New Aircraft** in warranty and **New Piper Parts** in warranty. This participation will remain in effect for a period of time **not to exceed 180 days** from the date of this Service Bulletin.

Please contact your Factory Piper Field Service Facility to make arrangements for compliance with this Service Bulletin in accordance with the compliance time indicated.

**NOTE:** If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify the factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections/Changes should be directed to:

The New Piper Aircraft, Inc.  
ATTN: Customer Services  
2926 Piper Drive  
Vero Beach, FL 32960

# Airborne

Air & Fuel Products

# Service Letter

**Service Letter Number:** 48

**Date:** 10/20/98

**Subject:** Inspection/Replacement of dry air pump flexible couplings.

**Applicability:** Airborne dry air pumps, conversion kits and flexible coupling kits with the following part numbers/serial numbers which have not been inspected per this service letter as identified in step number seven of the procedure listed below. These components were shipped from Airborne between 1/1/98 and 10/13/98. Refer to Figure 1 for location of part number/serial number nameplate.

<u>Item</u>	<u>Part Number (P/N)</u>	<u>Serial Number (S/N)</u>
Dry Air Pump	211CC	2AP1 thru 10AP319
Dry Air Pump	211CC-9	1AP1 thru 2AP5
Dry Air Pump	E211CC	11AN543 thru 11AN642 and 2AP1 thru 7AP442
Dry Air Pump	212CW	2AP1 thru 7AP286
Dry Air Pump	E212CW	1AP1 thru 7AP492
Dry Air Pump	215CC	12AN719 thru 12AN940 and 1AP1 thru 9AP3510
Dry Air Pump	215CC-9	2AP1 thru 7AP95
Dry Air Pump	216CW	12AN521 thru 12AN660 and 1AP1 thru 10AP2695
Conversion Kit	300-1	4AP120 thru 4AP122 and 8AP256 thru 8AP258
Conversion Kit	300-2	2AP30 thru 2AP43, 4AP134, 4AP136 and 4AP137
Conversion Kit	300-3	1AP1 thru 1AP3
Coupling Kit	350	1AP thru 9AP and N/A

(Page 1 of 4)



**Parker Hannifin Corporation • Airborne Division**

711 Taylor Street • Elyria, Ohio 44035 • 440 937-1315 • Fax: 440 937-5409

Technical Service Hotline: 1-800-382-8422 • E-mail: airborne.tech@Parker-H.com • www.parker.com/airborne

**Service Letter Number:** 48 (Continued)

## **Background:**

It has been determined that the flexible coupling installed in the components listed above may be prone to premature failure. Replacement of these couplings is necessary in order to preclude any early failures of these components.

## **Recommendation:**

Prior to IFR flight or within the next sixty days, whichever occurs first, inspect/replace the dry air pump flexible coupling per the following procedure on any aircraft which: a) has any of the above dry air pumps installed, b) has any of the above conversion kits installed or c) has had the dry air pump flexible coupling replaced using any of the above coupling kits.

- 1) Remove dry air pump from engine accessory pad per instructions provided by the airframe manufacturer in the appropriate maintenance publication.
- 2) Insert a screwdriver or similar tool between the flexible coupling assembly (2-piece) and the pump's internal drive coupling. Remove the flexible coupling assembly from pump, taking care not to damage any of the eight drive pins. Refer to Figure 2.
- 3) Once the flexible coupling assembly is removed from pump, separate the flexible coupling and drive shaft by inserting a screwdriver or similar tool between the two components. Refer to Figure 3.
- 4) Inspect both ends of flexible coupling for presence of a date code. If the format of date code resembles that of a "clockface" and indicates a manufacture date of either 12/97 or 5-6/98, return the flexible coupling assembly to Airborne's Service Department (711 Taylor Street, Elyria, OH, 44035) and then proceed to step number five of this procedure. If date code indicates any other manufacture date, reinstall drive shaft onto flexible coupling by aligning drive pins/holes and pushing the two components together. Then, proceed to step number six of this procedure.
- 5) Obtain a replacement flexible coupling kit (Airborne P/N 350) at no-charge from the authorized Airborne distributor from which the dry air pump was purchased or by contacting Airborne Customer Support as follows:

Toll Free Number: 800-382-8422

Direct Phone Number: 440-937-1315

Fax Number: 440-937-5409

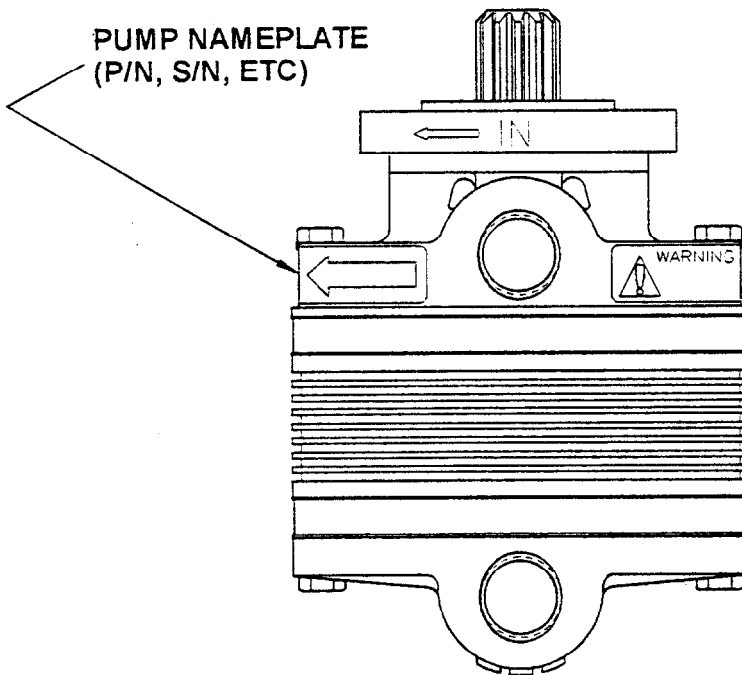
E-Mail: airborne.tech@Parker-H.com

- 6) Reinstall the replacement/inspected flexible coupling assembly onto air pump by pushing it over the drive pins of the pump's internal drive coupling as far as it will go. Do not tap coupling assembly with any device as the pump's bearing may be damaged.

**Service Letter Number:** 48 (Continued)

- 7) Identify this dry air pump as having been inspected per this service letter by permanently marking (ink stamp, magic marker, etc.) the number of this service letter ("48") on the backflange of the pump near the discharge port.
- 8) Reinstall dry air pump onto engine accessory pad per instructions provided by the airframe manufacturer in the appropriate maintenance publication.
- 9) Check for proper operation of aircraft pneumatic system per instructions provided by the airframe manufacturer in the appropriate maintenance publication.

**NOTE:** A flexible coupling that has already sheared should not be replaced since this may indicate a pneumatic system problem which may have caused internal pump damage. The pump should be returned through normal distribution channels for warranty consideration.



**FIGURE 1**

(Page 3 of 4)

Service Letter Number: 48 (Continued)

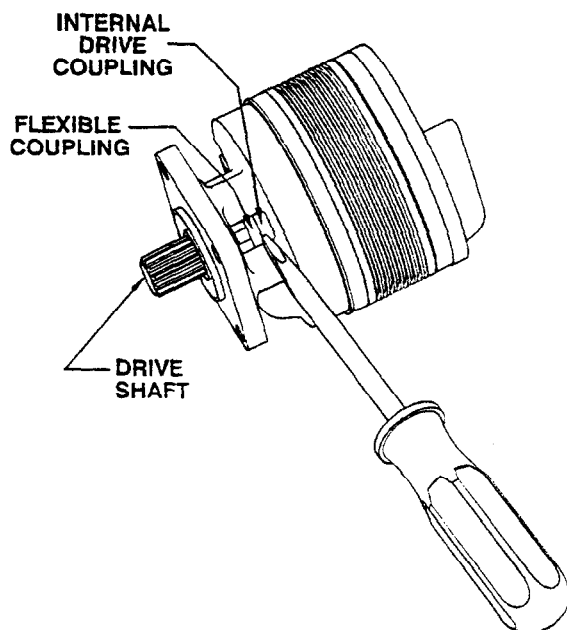
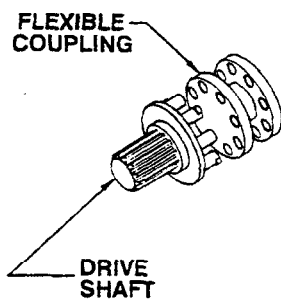


FIGURE 2



Flexible Coupling Assembly

FIGURE 3