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

SERVICE BULLETIN No. 1026

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:	SERIAL NUMBERS AFFECTED:
PA-18/18-150 Super Cub	18-8020 through 18-9004
	18- 7309016 through 18-8309025
PA-18-150 Super Cub	1809001 through 1809113
PA-22-108 Colt	22-8000 through 22-9848
PA-23-250 Aztec	27-549 through 27-4866
	27-7304917 through 27-8154030
PA-24-180/250 Comanche	24-2176 through 24-3687
PA-24-260 Comanche	24-3642, 24-4000 through 24-5028
PA-24-400 Comanche	26-2 through 26-148
PA-28-140 Cherokee	28-20000 through 28-7725290
PA-28-150/160/180 Cherokee	28-1 through 28-7505259 & 28-E13
PA-28-151 Warrior	28-7415001 through 28-7715314
PA-28-161 Warrior II	28-7716002 through 28-8616057
	2816001 through 2816119
PA-28-161 Cadet	2841001 through 2841365
PA-28-161Warrior III	2842001 through 2842036
PA-28-181 Archer II	28-7690001 through 28-8690056
	2890001 through 2890205
PA-28-181 Archer III	2890206 through 2890231
	2843001 through 2843129
	2843131 through 2843184
PA-28-235 Cherokee	28-10001 through 28-7710089 & 28-E11
PA-28-236 Dakota	28-7911001 through 28-8611008
	2811001 through 2811050
PA-28-201T Turbo Dakota	28-7921001 through 28-7921091
PA-28R-180 Arrow	28R-30001 through 28R-7130013
PA-28R-200 Arrow/Arrow II	28R-35001 through 28R-7635462
PA-28R-201 Arrow III	28R-7737001 through 28R-7837319
PA-28R-201 Arrow	2837001 through 2837061
	2844001 through 2844013
PA-28R-201T Turbo Arrow III	28R-7703001 through 28R-7803374
PA-28R-201T Turbo Arrow	2803001 through 2803012
PA-28RT-201 Arrow IV	28R-7918001 through 28R-8218026
PA-28RT-201T Turbo Arrow IV	28R-7931001 through 28R-8631005
	2831001 through 2831038

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MODELS AFFECTED: (Cont'd)	SERIAL NUMBERS AFFECTED: (Cont'd)
PA-30-Twin Comanche	30-1 through 30-2000
PA-31/300/325 Navajo/Navajo CR	31-2 through 31-861
	31-7300901 through 31-8312019
PA-31-350 Chieftain	31-5001 through 5004
	31-7305005 through 31-8452021
PA-31-350 T1020	31-8253001 through 31-8553002
PA-32-260 Cherokee Six	32-1 through 32-7800008
PA-32-300 Cherokee Six	32-40000 through 32-7940290
PA-32-301 Saratoga	32-8006001 through 32-8606023
	3206001 through 3206088
PA-32RT-300T Turbo Lance II	32R-7887001 through 32R-7987126
PA-32R-300 Lance	32R-7680001 through 32R-7880068
PA-32RT-300 Lance II	32R-7885001 through 32R-7985105
PA-32R-301 Saratoga SP	32R-8013001 through 32R-8613006
	3213001 through 3213041
PA-32R-301 Saratoga II HP	3213029, 3213042 through 3213103
	3246001 through 3246120
PA-32R-301T Turbo Saratoga SP	32R-8029001 through 32R-8629006
	3229001 through 3229003
PA-32R-301T Saratoga II TC	3257001 through 3257063
PA-34-200 Seneca	34-7250001 through 34-7450220
PA-34-200T Seneca II	34-7570001 through 34-8170092
PA-34-220T Seneca III (28V)	3448001 through 3448035
PA-34-220T Seneca III	34-8133001 through 34-8633031
	3433001 through 3433170
PA-34-220T Seneca IV	3448038 through 3448079
	3447001 through 3447029
PA-38-112 Tomahawk	38-78A0002 through 38-82A0124
PA-39-Twin Comanche	39-1 through 39-155
PA-44-180 Seminole	44-7995001 through 44-8195026, 4495001 through 4495013, 4496001 through 4496020,
PA-44-180T Seminole	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.

Item	Part Number (P/N)	Serial Number (S/N)
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

Parker Aerospace

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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.

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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.

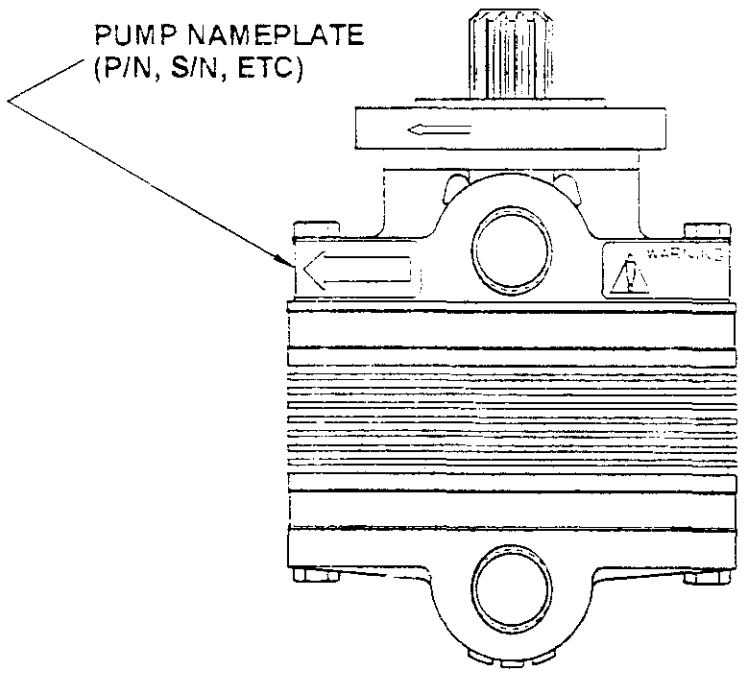


FIGURE 1

Parker Aerospace

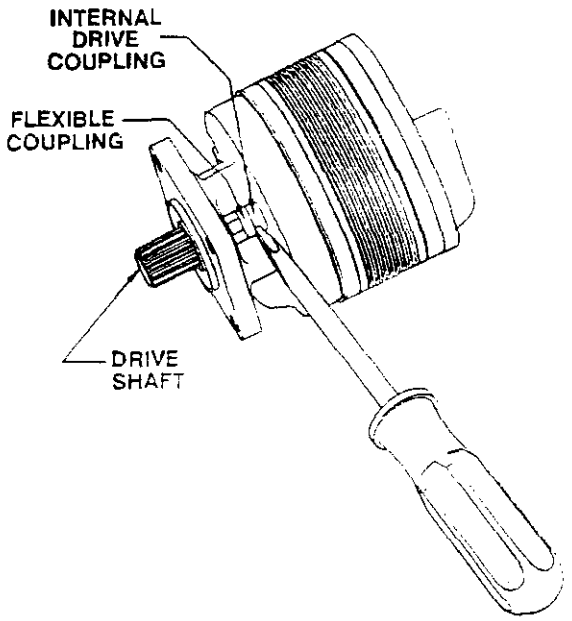
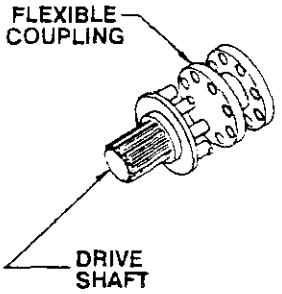


FIGURE 2



Flexible Coupling Assembly

FIGURE 3