

# SERVICE



# LETTER

Service Letter No. 330

May 5, 1960

TO: All Distributors, Dealers, Piper Certified Service Centers and Owners

SUBJECT: South Wind Service Bulletin dated February 22, 1960

MODEL AFFECTED: PA-23 Apaches Equipped with South Wind Heaters  
Model D-12, Serial Nos. 1272 to 1321 inclusive  
Model B-12, Serial Nos. 1663 to 1722 inclusive

We are attaching to this Service Letter a Service Bulletin recently released by South Wind Division of Stewart-Warner. This is self-explanatory. However, in addition to checking spare parts stock as directed by the bulletin, we feel that the blower wheels in the heaters installed in the aircraft listed above by serial number should be replaced.

In order to expedite this replacement, we have arranged an exchange program with South Wind Division of Stewart-Warner for the replacement of the subject blower wheels affected. We recommend these blower wheels be replaced no later than the next 100 hour inspection. The new blower wheels may be ordered from your Piper distributor under part number 751 776.

Credit will be issued for the returned blower wheels upon receipt of a duly executed Warranty and Credit Claim.

We are also enclosing Lycoming Service Instruction No. 1002 as we feel this inspection, in the interest of longer service life, should be followed closely.

Very truly yours,

PIPER AIRCRAFT CORPORATION

*Wes Holmes*  
Wes Holmes  
Service Manager

WH:pz

Enclosures

PIPER AIRCRAFT CORPORATION, LOCK HAVEN, PA., U. S. A.

# South Wind

A DIVISION OF  
STEWART-WARNER CORPORATION

1514 DROVER STREET ★ INDIANAPOLIS 7, INDIANA

MELROSE 2-8411

\* \* \* \* SERVICE BULLETIN \* \* \* \*

TO: All South Wind Authorized Installing Agencies.

DATE: February 22, 1960

SUBJECT: Combustion Blower Wheel (P/N G- 484046) Used in the 940 Light Aircraft Heaters

We wish to inform you that Model 940 B-24 heaters, Serial No. 283 through 799, Model 940 D-12 heaters, Serial No. 1272 through 1321, and Model 940B-12 heaters, Serial No. 1663 through 1722, were manufactured using blower wheels which may cause heater malfunction after 150 to 300 hours of heater operation.

We are attaching a sketch to enable you to readily determine which wheels are potential failures. The defect is one which will become progressively worse under operating conditions, until a blade separates from the wheel and catches in the housing, thus effectively stopping the heater operation.

Please check your spare parts stock. We will replace, at no cost, any defective blower wheel, P/N G- 484046, returned to our factory for replacement.



C. B. Gillen.  
Field Service Representative



LOOK TO STEWART-WARNER FOR THESE FINE PRODUCTS: SOUTH WIND Heat Exchange Products and Automotive Heaters; WINKLER, SAF-AIRE and STEWART-WARNER Heating and Air Conditioning Equipment; STEWART-WARNER Electronics Devices; STEWART-WARNER Speedometers and Instruments; ALEMITE Lubrication Equipment, Lubricants and Oils; BASSICK Casters, Wheels and Materials Handling Devices; HOBBS Clock-Type Hour Meters and Automotive Accessories; STEWART Die Castings; BASSICK-SACK Furniture Hardware and Giftware.

(over)

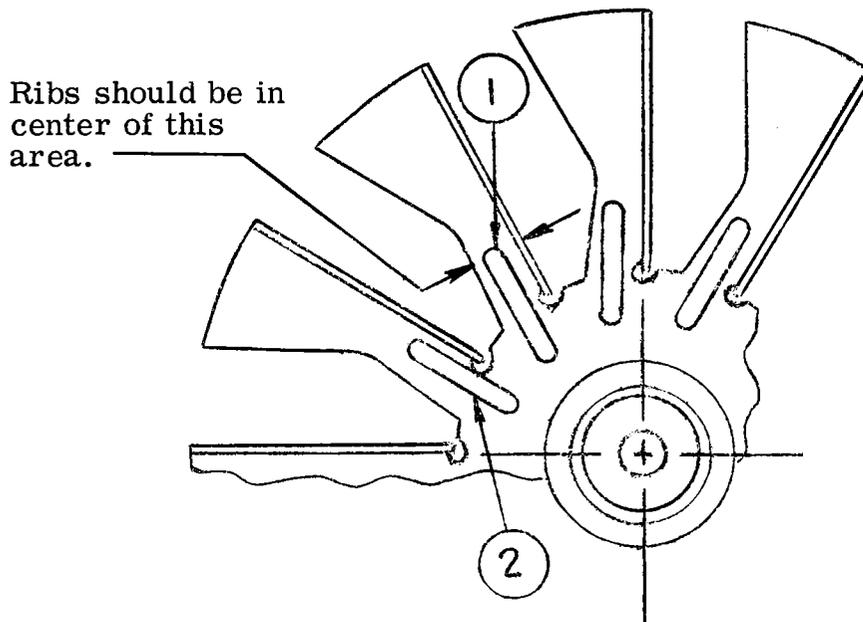
## MODEL 940 COMBUSTION BLOWER WHEEL

P/N G - 484046

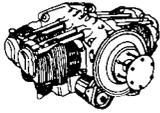
This illustration is intended to be a guide in determining defective blower wheels as indicated in the Service Bulletin dated 3 February, 1960.

Item 1 of the drawing indicates the proper location of the strengthening rib in the center of the blades.

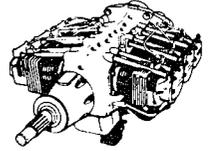
Item 2 of the drawing indicates the location of the strengthening ribs on the blower wheels which are considered to be defective.



In addition to the rib being too close to the fold of the blade, inspection will in most cases reveal the presence of a crack in the portion of the fold nearest the hub of the wheel. After operation, an additional crack may develop in the radius of the fold in a direction generally perpendicular to the hub, and continued operation and the associated vibration after this second crack develops will lead to the breaking off of the particular blade.



# LYCOMING Service Instruction



**LYCOMING DIVISION - WILLIAMSPORT, PA., U.S.A.**

DATE: March 4, 1960

SUBJECT: Proper Maintenance of Carburetor Air Filters

MODELS AFFECTED: All Lycoming Opposed Series Aircraft Engines

TIME OF COMPLIANCE: Daily Inspection

Service Instruction No 1002  
Approved by FAA

It has become increasingly evident that operators are not adhering to carburetor air filter maintenance instructions as set forth by aircraft manufacturers. This shows up in complaints on parts removed from service before their normal service life has expired. In practically all of those cases analyzed by our laboratories, deposits have been found which conclusively prove the engine has been operated after dirt has entered the engine through the carburetor.

The purpose of the carburetor air filter is to remove dirt and abrasive particles from the air before it enters the carburetor. When the carburetor air filter has not been properly maintained, the result is the same as operating without a filter. The most common result of dirt entering the engine is worn piston rings and excessive ring groove wear. As ring groove wear progresses, ring breakage will eventually result.

Too much emphasis can not be put on the importance of keeping ground operation at a minimum. On some installations the air coming into the carburetor completely by-passes the carburetor air filter when the carburetor air heat is turned on. The only time the

carburetor air heat should be used in this type of installation, is when icing conditions encountered on the ground might affect take-off. If the hot air duct to the carburetor is fitted with a filter, this too must be maintained in the same manner and with the same frequency as the carburetor air filter. It is recommended the operator run up his engine on a hard surface ramp or where dirt is at a minimum.

It is also imperative that the carburetor air filter be properly installed. If it fits loosely so that the air passes around rather than through the mesh, unfiltered dirty air will enter the carburetor. If there are any leaks in the induction system between the air filter and the carburetor the same problem will exist.

There are two types of carburetor air filters in use in installations which use Lycoming engines. These are a dry type paper filter and an oil wetted type mesh filter. The two types are serviced in a different manner, and the following procedure is a general recommendation. The airframe manufacturer should be consulted for specific recommendations.

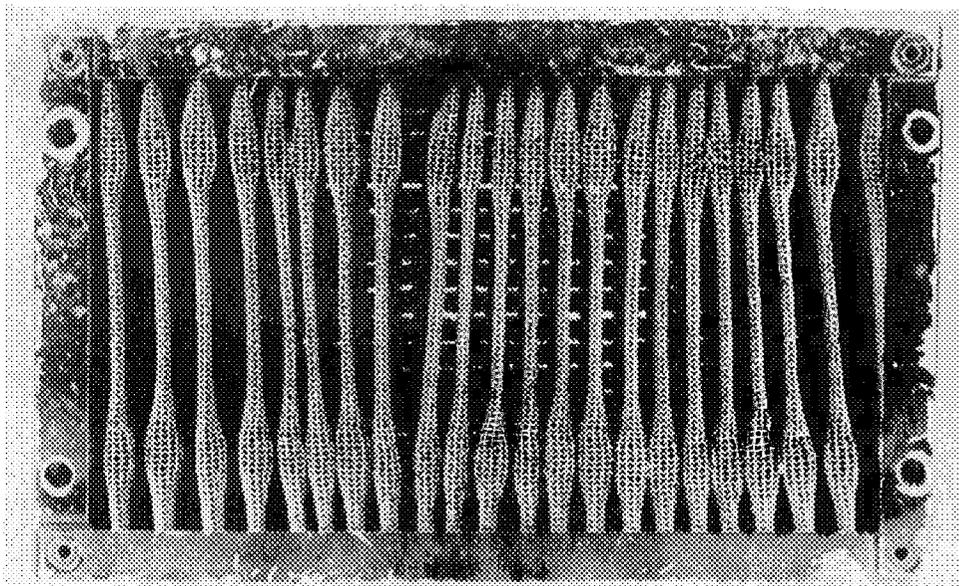


Figure 1. Example of Deteriorated Carburetor Air Filter

**DRY FILTERS:**

a. The filter must be cleaned daily when operating in dusty conditions. When operating in other than dusty conditions, inspect the filter daily and clean when required. If any holes or tears are noticed, the filter must be replaced immediately. The required maximum time for servicing these filters is 25 hours.

b. Remove the filter element and shake off loose dirt by rapping on a hard flat surface, being especially careful not to crease or dent the sealing ends.

**CAUTION**

Never wash the filter element in any liquid, or soak it in oil. Never attempt to blow off dirt with compressed air.

c. The filter housing can be cleaned by wiping with a cloth soaked in gasoline. When the housing is dry, reinstall and seal the filter element.

**OIL WETTED TYPE FILTER:**

The filter must be inspected daily for dirt accumulation and proper oiling. When dirt is found the filter should be cleaned (recommended daily when operating in dusty conditions); or if the filter requires oiling, the following procedure should be followed:

a. Thoroughly wash the filter in petroleum solvent. Make certain all dirt is removed from the filter, and the filter unit is in serviceable condition.

b. Dry the filter at room temperature making certain it is thoroughly dry before proceeding with the next step. If the filter is not dry, the solvent will prevent the oil from adhering to the small surfaces of the filter, and thereby decrease its efficiency.

c. Immerse the filter in the recommended grade of oil for a period of five minutes.

d. After removal of the filter from the oil, allow to drain thoroughly before installation in the aircraft.