

# Ayres Corporation

custom kit No. CK-AG-20

P.O. BOX 3090 ALBANY, GEORGIA 31706-3090 PHONE 229/883-1440 FAX 229/439-9790

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Custom Kit CK-AG-20  
December 13, 1989

## POWER PLANT CONVERSION – PISTON TO TURBINE

**MODELS AFFECTED:** MODEL S-2R, S/N 1416R and subsequent, Model S-2R-R1820, S/N R1820-001DC and subsequent; Model S-2R-1340, S/N R1340-001 and subsequent, S/N R-1340-001DC and subsequent.

**REASON FOR PUBLICATION:** This kit will provide operators with the factory drawings and assemblies required to convert a piston powered airplane of the Model S2R Series to a PT6A-34AG/PT6A-15AG turbine power plant.

**COMPLIANCE:** At owner's discretion

**APPROVAL:** FAA Approved

**BY WHOM WORK WILL BE ACCOMPLISHED:** A & P Mechanic or equivalent

**ESTIMATED MAN HOURS:** 200

**PARTS DATA:** Parts required to comply with this Custom Kit may be obtained from your nearest Ayres Turbo Thrush Dealer or from the Ayres Factory. A kit consists of a ready to install, build up, firewall forward Q.E.C. plus new instrument panels, engine controls and placard and a replacement AFM.

<u>KIT NO.</u>	<u>ENGINE MODEL</u>
19870-1	PT6A-34AG
19870-101	PT6A-15AG

**DRAWING LIST:** Drawings necessary to accomplish the conversion are listed as follows:

**AYRES**  
**DRAWING NO.**

**TITLE**

19870A	PT6A-34 Engine Installation
9043G	Turbine Electrical System Schematic
9045 Sheet 2	Instrument Panel Assy. L/H
9046 Sheet 2	Instrument Panel Assy. R/H
19871	High Pressure Bleed Air Instl.
19823	Low Pressure Bleed Air Instl.
19811	Fuel System Top View
19812	Oil Cooler System Instl.
19858	Filter Assy
19832	Battery Plate & Relay Instl.
19837	Cowling Top Drawing 510 Gal.
19844	Cowling Top Drawing 400 Gal.
19305	Engine Controls Inst.
19804	Alt. Torquemeter Installation

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Remove all nacelle components forward of the firewall.
2. Remove all oil system components aft of the firewall.
3. Remove both instrument panels.
4. Remove throttle and mixture control systems. Save hardware and brackets.
5. Install the firewall forward Q.E.C. Kit. The top of the drawing is 19870. Where the new cowling overlays the firewall:
  - Trim off the excess skin material to obtain the original amount of skin overlap.
  - Back drill the old hole pattern into the new skins using existing firewall camloc receptacles for control.
6. Install new instrument panels, engine control systems, the fuel, oil and electrical systems in accordance with the drawings supplied with the kit.
7. Install placards in accordance with the drawings and the FAA approved airplane flight manual supplied with the kit.

**WEIGHT AND BALANCE:**

Weigh aircraft after conversion and compute empty weight and CG. Using factory weighing forms compute loaded CG with full oil and fuel, pilot and hopper load for 6000 lb gross weight. Add sufficient lead shot to the airplane ballast tank to keep the loaded CG within the aft CG limit published in the AFM for the particular model turbine powered airplane. Record the amount of ballast utilized.

**PUBLICATIONS AFFECTED:** Replace the original piston aircraft AFM with the turbine airplane AFM supplied with the kit. Write the aircraft ORIGINAL MODEL NO. and SERIAL NO. on the new AFM.

**RECORD COMPLIANCE:** Make appropriate entry in airplane maintenance records as follows: Custom Kit No. CK-AG-20 dated December 13, 1989, entitled "Power Plant Conversion-Piston to Turbine", accomplished (date) by \_\_\_\_\_.

The ballast weight installed is \_\_\_\_\_ LB.

The empty weight and CG with Ballast is \_\_\_\_\_ / \_\_\_\_\_.  
WEIGHT (LB) CG (IN)

The Datum is the leading edge of the wing.