

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A1EA
Revision 15
PIPER

PA-30
PA-39
PA-40

October 1, 1997

TYPE CERTIFICATE DATA SHEET NO. A1EA

This data sheet, which is a part of Type Certificate No. A1EA, prescribes conditions and limitations under which the product, for which the type certificate was issued, meets the airworthiness requirements of the Civil Air Regulations and the Federal Aviation Regulations.

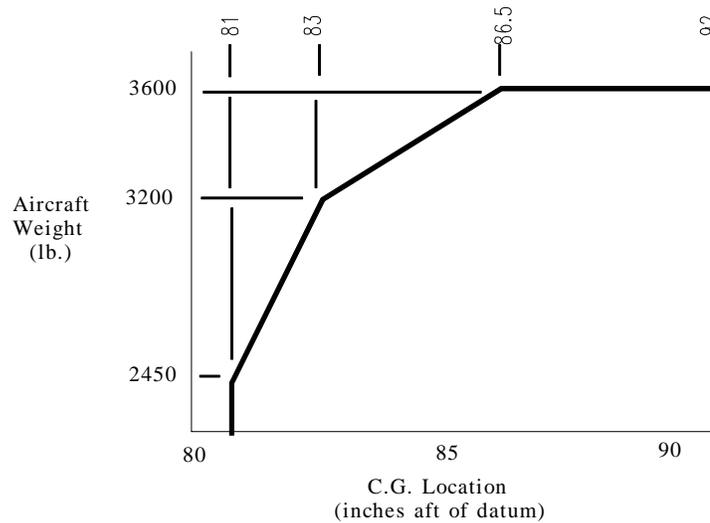
Type Certificate Holder The New Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida 32960

I - Model PA-30, 4 PCLM (Normal Category), Approved February 5, 1963, or 6 PCLM (Normal Category), Approved May 28, 1965 (See NOTE 4 for 6 PCLM Limitations).

- Engines 2 Lycoming IO-320-B1A
See NOTE 5 for optional engines.
- Fuel 91/96 minimum grade aviation gasoline
- Engine Limits For all operations 2700 r.p.m. (160 hp)
(See Maneuvers under Limitations Section of AFM)
- Propellers and Propeller Limits 2 Hartzell, Hub Model HC-E2YL-2, -2A, -2B, -2BS, -2C, -2D or -2BSF
(-2BS and -2BSF not to be intermixed with other propellers listed)
Blades Model 7663-4 or F7663-4 *
Pitch: High 78°, Low 12° at 30 in. station.
Diameter: Not over 72 inches, not under 70 inches.
No further reduction permitted.
- * Blades prefixed by an "F" may be used only on propeller hubs
suffixed by an "F".
- Governors 2 Hartzell hydraulic governors, Model F-6, F-6-3, F-6-3S or F-6-3A
- Airspeed Limits V_{ne} Never Exceed 230 mph (200 Knots)
(CAS) V_{no} Maximum Structural Cruise 194 mph (168 Knots)
V_p Maneuvering (3600 lb.) 162 mph (141 Knots)
V_{fe} Flaps Extended 125 mph (108 Knots)
V_{lo} Landing Gear Operating 150 mph (130 Knots)
V_{le} Landing Gear Extended 150 mph (130 Knots)
V_{mc} Minimum Control Speed 90 mph (78 Knots)

Page No.	1	2	3	4	5	6	7	8	9
Revision No.	15	11	15	11	15	15	15	15	15

Center of Gravity (C.G.) Range
(Gear Extended)



C. G. Range (+86.5) to (+92) at 3600 lb.
 (+83.0) to (+92) at 3200 lb.
 (+81.0) to (+92) at 2450 lb. or less
 Straight line variation between points given.
 Moment change due to retracting landing gear (770 in.- lb.)

Empty Weight C. G. Range None

Datum 79 inch ahead of the wing leading edge at Wing Station 97.
 (First leading edge skin lap outboard of engine nacelle)

Leveling Means Level from two rivnuts located right side above baggage door (Serial Nos. 30-1 through 30-852 and 30-854 through 30-901. On Serial Nos. 30-853 and 30-902 and up still on right side fuselage, but baggage door moved to left side of fuselage).

Maximum Weight 3600 lb.

Number of Seats Serial Nos. 30-1 through 30-589:
 4 (2 at +85, 2 at +118.5)
 Serial Nos. 30-590 through 30-852 and 30-854 through 30-901:
 4 (2 at +85, 2 at +120.5)
 Serial Nos. 30-853 and 30-902 and up:
 6 (2 at +85, 2 at +120.5, 2 at +148)
 See NOTE 4 for weight limitations at Sta. 148.

Maximum Baggage Serial Nos. 30-1 through 30-852 and 30-854 through 30-901:
 200 lb. (Rear compartment) (+142)
 Serial Nos. 30-853 and 30-902 and up:
 250 lb. (Rear compartment) (+142)
 See NOTE 4 for weight limitations.

Fuel Capacity 90 gallons: 60 gallons (2 wing tanks) (+90)
 30 gallons (2 wing tanks) (+95)
 See NOTE 1 for unusable fuel data.

Oil Capacity 4 gallons (2 gallons each engine -2 quarts unusable each engine) (+51)

<u>Control Surface Movements</u>	Ailerons	19°	Up	15°	Down
	Stabilator (T.E.)	15½°	Up	4½°	Down
	Rudder	27°	Right	27°	Left
	Anti-Servo Tab (with stabilator in neutral)	9°	Up	9°	Down
	Flaps			27°	Down

When a PA-30 has been modified in accordance with Piper Service Letter No. 558, the following control travel apply:

Ailerons	19° (+ 1°)	Up	15° (± 1°)	Down
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NOTE: Neutral is rigged as follows: The angle between the airplane leveling lugs and the upper surface of the aileron, parallel with and next to the rib rivets, 6½ inches from the inboard end of the aileron is 12°.

Stabilator (T.E.)	8½° (+ 0°, -1°)	Up	4½° (± 1°)	Down
Rudder	27° (+ 1°, -0°)	Right	25° (+ 1°, -0°)	Left

NOTE: With rudder pedals aligned laterally rig rudder 1° right of the airplane centerline line, then rig to the above limits in normal manner.

Stabilator Trim Tab	9° (± 1°)	Up	9° (± 1°)	Down
Flaps			27° (± 1°)	Down

Serial Numbers Eligible 30-1 through 30-2000

II - Model PA-39, 6 PCLM (Normal Category), Approved December 3, 1969.

Engines 1 Lycoming IO-320-B1A (Left)
1 Lycoming LIO-320-B1A (Right)

Fuel 100/130 minimum grade aviation gasoline

Engine Limits For all operations, 2700 r.p.m. (160 hp)
(See Maneuvers under Limitations Section of AFM)

Propellers and Propeller Limits 1 Hartzell, Hub Model HC-E2YL-2B or -2BF (Left)
1 Hartzell, Hub Model HC-E2YL-2BL or -2BLF (Right)
or
1 Hartzell, Hub Model HC-E2YL-2BS or -2BSF * (Left)
1 Hartzell, Hub Model HC-E2YL-2BLS or -2BLSF * (Right)

Blades Model 7663-4 or F7663-4 ** (Left)
J7663-4 or FJ7663-4 ** (Right)

Pitch Setting: High 78°, Low 12° at 30 inch station.

Diameter: Not over 72 inches, not under 70 inches

No further reduction permitted.

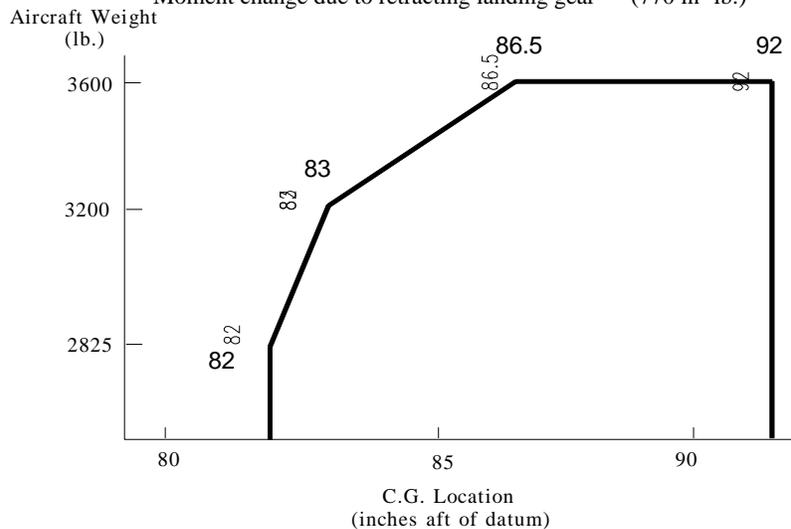
* The -2BS, -2BSF, -2BLS and -2BLSF propellers not to be intermixed with other propellers listed.

** Blades prefixed by an "F" may be used only on propeller hubs suffixed by an "F".

Governors 1 Hartzell hydraulic governor, Model F-6-3A (Left)
1 Hartzell hydraulic governor, Model F-6-3AL (Right)

<u>Airspeed Limits</u> (CAS)	V_{ne}	Never Exceed	230 mph	(200 Knots)
	V_{no}	Maximum Structural Cruise	194 mph	(168 Knots)
	V_p	Maneuvering (3600 lb.)	162 mph	(141 Knots)
	V_{fe}	Flaps Extended	125 mph	(108 Knots)
	V_{lo}	Landing Gear Operating	150 mph	(130 Knots)
	V_{le}	Landing Gear Extended	150 mph	(130 Knots)
	V_{mc}	Minimum Control Speed	80 mph	(69 Knots)

C. G. Range (Gear Extended) (+86.5) to (+92) at 3600 lb.
 (+83.0) to (+92) at 3200 lb.
 (+82.0) to (+92) at 2825 lb. or less
 Straight line variation between points given.
 Moment change due to retracting landing gear (770 in -lb.)



Empty Weight C. G. Range None

Datum 79 inches ahead of the wing leading edge at Wing Station 97
 (First leading edge skin lap outboard of engine nacelle.)

Leveling Means Level from two rivnuts located right side fuselage at window level

Maximum Weight 3600 lb.

Number of Seats 6 (2 at +85, 2 at +120.5, 2 at +148)
 See NOTE 4 for Weight Limitations at Station 148.

Maximum Baggage 250 lb. (Rear compartment) (+142)
 See NOTE 4 for Weight Limitations.

Fuel Capacity 90 gallons: 60 gallons (2 wing tanks) (+90)
 30 gallons (2 wing tanks) (+95)
 See NOTE 1 for unusable fuel data.

Oil Capacity 4 gallons (2 gallons each engine -2 quarts unusable each engine) (+51)

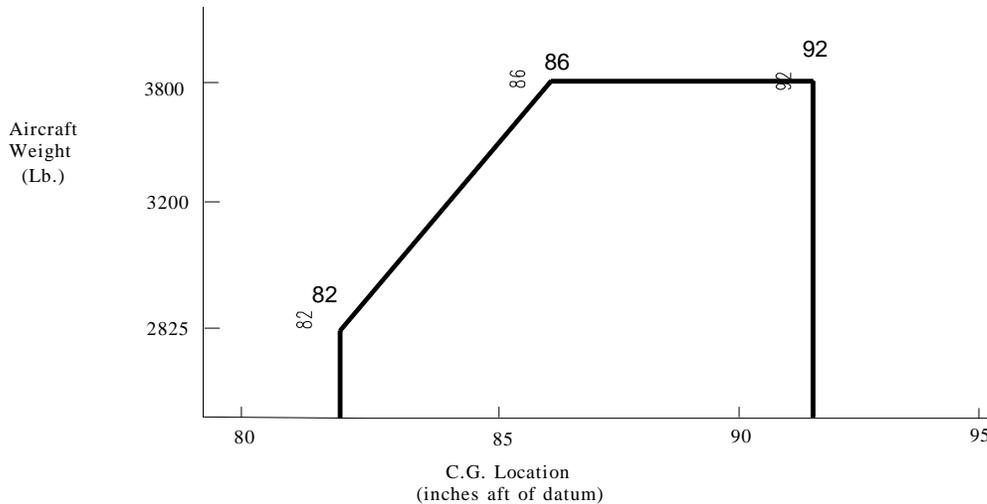
<u>Control Surface Movements</u>	Ailerons	19° (± 1°)	Up	15° (± 1°)	Down
	Stabilator (T.E.)	15½° (+ 1, -1½°)	Up	5½° (+1°, -0°)	Down
	Rudder	27° (± 1°)	Right	27° (± 1°)	Left
	Anti-Servo Tab (with stabilator in neutral)	9° (± 1°)	Up	9° (± 1°)	Down
	Flaps			27° (± 1°)	Down
<u>Serial Numbers Eligible</u>	39-1 through 39-162				

III - Model PA-40, 4 PCLM (Normal Category), Approved July 18, 1974.

<u>Engines</u>	1 Lycoming IO-320-B1A (Left) 1 Lycoming LIO-320-B1A (Right)			
<u>Fuel</u>	100/130 minimum grade aviation gasoline			
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (160 hp) (See Maneuvers under Limitations Section of AFM)			
<u>Propellers and Propeller Limits</u>	1 Hartzell, Hub Model HC-E2YL-2BSF or HC-E2YL-2BS	(Left)		
	1 Hartzell, Hub Model HC-E2YL-2BLSF or HC-E2YL-2BLS	(Right)		
	Blades Model F7663-4R or 7663-4	(Left)		
		FJ7663-4R or J7663-4	(Right)	
	Pitch Setting: High 77° to 76°, Low 12° at 30 inch station.			
	Diameter: Not over 72 inches, not under 70 inches			
	No further reduction permitted.			
<u>Governors</u>	1 Hartzell hydraulic governor, Model F-6-3A (Left) 1 Hartzell hydraulic governor, Model F-6-3AL (Right)			
<u>Airspeed Limits (CAS)</u>	V _{ne}	Never Exceed	* 230 mph	(200 Knots)
	V _{no}	Maximum Structural Cruise	194 mph	(168 Knots)
	V _p	Maneuvering (3800 lb.)	166 mph	(145 Knots)
	V _{fe}	Flaps Extended	125 mph	(108 Knots)
	V _{lo}	Landing Gear Operating	150 mph	(130 Knots)
	V _{le}	Landing Gear Extended	170 mph	(148 Knots)
	V _{mc}	Minimum Control Speed	80 mph	(69 Knots)

* Above 18,000 feet reduce V_{ne} 2 mph per every 1000 feet.

C. G. Range (Gear Extended) (+86.0) to (+92) at 3800 lb.
 (+82.0) to (+92) at 2825 lb. or less
 Straight line variation between points given.
 Moment change due to retracting landing gear (770 in. -lb.)



Empty Weight C.G. Range None

Datum 79 inches ahead of the wing leading edge at Wing Station 143.
 (First leading edge skin lap outboard of fuel filler neck.)
 Level from two rivnuts located right side fuselage at window level.

Maximum Weight 3800 lb.

Number of Seats 4 (2 at +85, 2 at +120.5)
 See NOTE 4 for Weight Limitations.

Fuel Capacity 120 gallons (2 wing tanks) (+92.5)
 See NOTE 1 for unusable fuel data.

Oil Capacity 14 quarts (7 quarts each engine -2 quarts unusable each engine) (+51)

<u>Control Surface</u>	Ailerons	19° (± 1°)	Up	15° (± 1°)	Down
<u>Movements</u>	Stabilator (T.E.)	12° (± 1°)	Up	8° (± 1°)	Down
	Rudder	27° (± 1°)	Right	27° (± 1°)	Left
	Anti-Servo Tab	4½° (± .5°)	Up	8° (± .5°)	Down
	(with stabilator in neutral)				
	Flaps			27° (± 1°)	Down

Serial Numbers Eligible 40-7400002

DATA PERTINENT TO ALL MODELS

Certification Basis CAR 3 effective May 15, 1956, through Amendment 3-6 effective September 13, 1961, and Par. 3.705(a) of Amendment 3-7 effective May 3, 1962. Also, FAR 23.1577(e)(1) of Amendment 23-7 effective September 14, 1969.

In addition, for Model PA-40, FAR 23.1041 of Amendment 23-11 effective August 11, 1971, and FAR 23.145, 23.161 and 23.175 of Amendment 23-14 effective December 20, 1973.

Certification Basis (cont.) Type Certificate No. A1EA issued February 5, 1963, and reissued December 3, 1969 to include Model PA-39 under Delegation Option Authorization of Federal Aviation Regulations Part 21.
Date of Application for Type Certificate March 1, 1962.

Production Basis Approved for manufacture of spare parts only under Production Certificate No. 206.

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

1. (a) Stall warning indicator installation in accordance with Piper Dwg. 23945 and 23700 for Model PA-30, Serial Nos. 30-1 through 30-1716 and 30-1718 through 30-1744.
(b) Stall warning indicator installation in accordance with Piper Dwg. 26658 and 26651 for Model PA-30, Serial Nos. 30-1717 and 30-1745 through 30-2000.
(c) Stall warning indicator installation in accordance with Piper Dwg. 26651 for Model PA-39, Serial Nos. 39-1 through 39-162.
2. (a) FAA-DOA approved Airplane Flight Manual Report 1269 for Model PA-30, Serial Nos. 30-1 through 30-1716 and 30-1718 through 30-1744, dated February 5, 1963, reissued November 15, 1969, and FAA-DOA approved Flight Manual Supplements.
(b) FAA-DOA approved Airplane Flight Manual Report 1515 for Model PA-30, Serial Nos. 30-1717 and 30-1745 through 3-2000, dated February 5, 1963, reissued November 15, 1969 and FAA-DOA approved Flight Manual Supplements.
(c) FAA-DOA approved Airplane Flight Manual Report 1605 for Model PA-39, Serial No. 39-1 through 39-162, dated November 28, 1969 and FAA-DOA approved Flight Manual Supplements.
(d) FAA-DOA approved Airplane Flight Manual Report 1840 for Model PA-40, Serial No. 40-7400002, dated July 18, 1974, and FAA-DOA approved Flight Manual Supplements.

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include for PA-30 and PA-39 unusable fuel of 36 lb. at (+90) and 2 quarts unusable oil each engine at (+51), for PA-40 unusable fuel of 31.2 lb. at (+90) and 2 quarts unusable to each engine at (+51).

NOTE 2. All placards required in the approved airplane flight manual and approved airplane flight manual supplements must be installed in the appropriate location.

The following placards must be displayed:

1. On pedestal in full view of the pilot for Model PA-30, Serial Nos. 30-1 through 30-1716 and 30-1718 through 30-1744.
On instrument panel for Model PA-30, Serial Nos. 30-1717 and 30-1745 through 30-2000; Model PA-39, Serial Nos. 39-1 through 39-162; and Model PA-40, Serial No. 40-7400002.

"THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE AIRPLANE FLIGHT MANUAL. ACROBATICS MANEUVERS (INCLUDING SPINS) PROHIBITED"

NOTE 2. 2. In view of the pilot on aircraft equipped with alternate instrument static source in accordance with Piper Drawing No. 25237 for Model PA-30 of Piper Drawing No. 26722 for Models PA-30, PA-39 and PA-40.

(a) "INSTRUCTIONS FOR USE OF ALTERNATE STATIC SOURCE"

- (1) IN CASE OF STATIC PRESSURE TUBE MALFUNCTION DUE TO ICE OR OTHER OBSTRUCTIONS CLOSE WINDOW AND ACTUATE ALTERNATE STATIC SOURCE VALVE.
- (2) THE FOLLOWING AIRSPEEDS APPLY WHEN ALTERNATE STATIC SOURCE IS USED ON MODELS PA-30 AND PA-39.

<u>INDICATOR READS</u>	<u>ACTUAL</u>
104 MPH IAS	100 MPH CAS
140 MPH IAS	130 MPH CAS
163 MPH IAS	150 MPH CAS
185 MPH IAS	170 MPH CAS

- (3) THE FOLLOWING AIRSPEEDS APPLY WHEN ALTERNATE STATIC SOURCE IS USED ON MODEL PA-40.

<u>INDICATOR READS</u>	<u>ACTUAL</u>
100 MPH IAS	96 MPH CAS
120 MPH IAS	114 MPH CAS
160 MPH IAS	151 MPH CAS
200 MPH IAS	187 MPH CAS

- (b) (1) On instrument panel above alternate static source actuating valve on Model PA-30, Serial Nos. 30-1 through 30-1716 and 30-1718 through 30-1744:
" ↓ ALTERNATE STATIC SOURCE PULL AFT TO OPEN"
- (2) On left side control quadrant on Model PA-30, Serial Nos. 30-1717 and 30-1745 through 30-2000; Model PA-39, Serial Nos. 39-1 through 39-162; and Model PA-40, Serial No. 40-7400002.

"ALTERNATE STATIC ON
OFF"

NOTE 3. Balance weights are required on stabilator and rudder to provide the following moments:

- (a.) Model PA-30, Serial Nos. 30-1 through 30-852, 30-854 through 30-901, 30-1717, and 30-1745 through 30-2000; and Model PA-39, Serial Nos. 39-1 through 39-162:

Stabilator	49 in. - lb.	(+0, -3 in. - lb.)	(trailing edge heavy)
Rudder	13.5 in. - lb.	(± 1 in. - lb.)	(trailing edge heavy)
- (b.) Model PA-30, Serial Nos. 30-853, 30-902 through 30-1716, and 30-1718 through 30-1744:

Stabilator	24.6 in. - lb.	(± 4 in. - lb.)	(leading edge heavy)
Rudder	13.5 in. - lb.	(± 1 in. - lb.)	(trailing edge heavy)
- (c.) Model PA-40, Serial No. 40-7400002:

Stabilator	3 in. - lb.	(± 3 in. - lb.)	(leading edge heavy)
Rudder	13.5 in. - lb.	(-0, +3 in. - lb.)	(trailing edge heavy)
Aileron	1 in. - lb.	(± 1 in. - lb.)	(leading edge heavy)

NOTE 4. Maximum baggage and/or passenger weight 250 lb. in baggage area including seats. See weight and balance.

NOTE 5. Optional engines eligible for installation and applicable limitations.

<u>Engines</u>	1 Lycoming IO-320-B1A (Left) 1 Lycoming LIO-320-B1A (Right)
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (160 hp) (See Maneuvers under Limitations Section of AFM)
<u>Propellers and Propeller Limits</u>	1 Hartzell, Hub Model HC-E2YL-2, -2A, -2B, -2C, -2D, -2BS or -2BSF (Left) * 1 Hartzell, Hub Model HC-E2YL-2BL, -2BLS, -2BLF, or -2BLSF (Right) * Blades Model 7663-4 or F7663-4 (Left) ** J7663-4 or FJ7663-4 (Right) **
	* The -2BS, -2BSF, -2BLS, and -2BLSF propellers not to be intermixed with other propellers listed. ** Blades prefixed by an "F" may be used only on propeller hubs suffixed by an "F".
<u>Governors</u>	1 Hartzell hydraulic governor, Model F-6, F-6-3, F-6-3S, or F-6-3A (Left) 1 Hartzell hydraulic governor, Model F-6-3AL (Right)
<u>Airspeed Limits (CAS)</u>	V _{mc} Minimum Control Speed 80 mph (69 Knots)
<u>C.G. Range (gear extended)</u>	(+82.0) to (+92.0) at 2825 lb. or less
<u>Equipment</u>	(a) FAA-DOA approved Airplane Flight Manual Report 1269 for Model PA-30, Serial Nos. 30-1 through 30-1716 and 30-1718 through 30-1744, dated February 5, 1963, reissued November 15, 1969 and FAA-DOA approved Flight Manual Supplements. (b) FAA-DOA approved Airplane Flight Manual Report 1515 for Model PA-30, Serial Nos. 30-1717, 30-1745 through 30-2000, dated February 5, 1963, reissued November 15, 1969 and FAA-DOA approved Flight Manual Supplements.
	The use of the optional engine installation is permitted only when installed in accordance with Piper Kit No. 760 368.

NOTE 6. Piper PA-30 Airflow Modification Kits for Model PA-30, Serial Nos. 30-1 through 30-2000:

- When Airflow Modification Kit, Part Number 760 409, is installed, the FAA-DOA approved airflow modification kit data are described in Piper Service Letter 558, dated July 1, 1970.
- When Counter-Rotating Powerplant Conversion Kit 760 368 is installed, the FAA-DOA approved counter-rotating powerplant conversion data are described in Piper Service Letter 552, dated May 1, 1970. Airflow Modification 760 409 must be removed, if installed. See Piper Service Letter 552, for new airflow kit modification requirements when counter rotating powerplant is installed.
- When Wiggins Supplemental Type Certificate SA233EA, Reservoir Type Pneumatic Wing De-Icing Kit is installed, the FAA-DOA approved Piper Air Flow Modification Kit 760 564 data are described in Piper Service Letter 558, dated July 1, 1970, Addendum No. 1 dated August 20, 1971, and in "Rubber Wing Flow Strip Installation" Instructions for Piper Kit 760 563.
- When Wiggins Supplemental Type Certificate SA233EA, Reservoir Type Pneumatic Wing De-Icing Kit, is installed with a "Counter-Rotating Powerplant Modification Propeller and Wing De-Icing Equipment" Modification, the FAA-DOA approved Piper Air Flow Modification Kit 760 562 data are described in Piper Service Letter 552, dated May 1, 1970, Addendum No. 2, dated August 20, 1971.

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