

FAA APPROVED AIRPLANE FLIGHT MANUAL SUPPLEMENT

TO

PIPER MODEL PA 34-200

REGISTRATION No. 41875

SERIAL No. 34-7450156

THE INFORMATION IN THIS DOCUMENT IS FAA APPROVED MATERIAL WHICH, TOGETHER WITH THE BASIC AIRPLANE FLIGHT MANUAL IS APPLICABLE AND MUST BE CARRIED IN THE BASIC MANUAL WHEN THE AIRPLANE IS MODIFIED BY THE INSTALLATION OF RAJAY TURBOCHARGED ENGINES IN ACCORDANCE WITH SUPPLEMENTAL TYPE CERTIFICATE SA2937WE.

THE INFORMATION IN THIS DOCUMENT SUPERCEDES THE BASIC MANUAL ONLY WHERE COVERED IN THE ITEMS CONTAINED HEREIN. FOR LIMITATIONS, PROCEDURES AND PERFORMANCE NOT CONTAINED IN THIS SUPPLEMENT, CONSULT THE MANUAL PROPER.

1. OPERATING LIMITATIONS

THE FOLLOWING LIMITATIONS MUST BE OBSERVED IN THE OPERATION OF THIS AIRPLANE:

ENGINE LIMITS - TURBOCHARGED: TAKE OFF AND MAX. CONTINUOUS 28.5 IN. MP @ 2700 RPM TO 20,000 FT.
DO NOT OPERATE TURBOCHARGERS BELOW 3500 FEET
MAX CONTINUOUS ABOVE 20,000 FT.
25.0 IN MP @ 2700 RPM

AIRSPED LIMITATIONS

REDUCE VNE 5 MPH (4.3 KNOTS) PER 1,000 FEET ABOVE 19,200 FEET.

MINIMUM SPEED AT MAXIMUM TURBOCHARGED POWER - 112 MPH IAS PLUS 1 MPH PER 1000 FEET ABOVE 10,000 FEET.

ALTITUDE LIMITATIONS

MAXIMUM OPERATING ALTITUDE 25,000 FEET

2. OPERATING PROCEDURES

A. NORMAL PROCEDURES

2.A. ALTERNATE AIR INSTALLATION

ALTERNATE AIR IS AVAILABLE AUTOMATICALLY IN THE EVENT OF INLET FILTER STOPPAGE. ALTERNATE AIR IS EFFECTIVE ONLY FOR NATURALLY ASPIRATED OPERATION.

IN CONDITIONS OF SUSPECTED INDUCTION SYSTEM ICING, DURING NON-TURBOCHARGED OPERATION, THE TURBOCHARGER AIR SOURCE MAY BE USED AS AN ADDITIONAL HEAT SOURCE BY:

1. RETARD THROTTLE TO 15 IN. MP.
2. ENGAGE TURBOCHARGER CONTROL TO FULL "ON".
3. ADVANCE THROTTLE TO OBTAIN DESIRED PRESSURE.

CAUTION: MONITOR MANIFOLD PRESSURE GAGE CLOSELY TO PREVENT OVER-BOOST DURING THROTTLE ADVANCE AND/OR DESCENDING TO LOWER ALTITUDES.

4. UPON APPROACHING POINT OF INTENDED LANDING OR EXITING ICING CONDITIONS, RETURN TURBOCHARGER CONTROLS AND THROTTLES TO NORMAL OPERATING SETTINGS. (SEE OPERATING LIMITATIONS AND LANDING)

CAUTION: RETURN TO NORMAL OPERATING PROCEDURES IS REQUIRED IN NON-ICING CONDITIONS TO PREVENT EXCESSIVE INDUCTION AIR TEMPERATURES.

TURBOCHARGER INSTALLATION

BEFORE STARTING ENGINES

1. TURBOCHARGER CONTROLS - PULL "OFF" (SEE LANDING)

ENGINE RUNUP PROCEDURE - TURBOCHARGER CHECK

1. CHECK TURBOCHARGER OPERATION BY INCREASING ENGINE SPEED TO 2200 RPM, PUSH TURBOCHARGER CONTROL TOWARD ON UNTIL A POSITIVE INDICATION OF BOOST IS NOTED (AN INCREASE IN MP ON GAUGE). DO NOT EXCEED 28.5 IN. MP. PULL TURBOCHARGER CONTROL OFF. REPEAT FOR EACH ENGINE.
(SEE TAKE-OFF)

TAKE-OFF

THE TURBOCHARGER SYSTEM MAY BE UTILIZED FOR POWER RECOVERY DURING TAKE-OFF FROM AIRFIELDS ABOVE 3,500 FEET ELEVATIONS. A RECOMMENDED AND APPROVED PROCEDURE THAT WILL PRODUCE SMOOTH POWER RESPONSE TO THROTTLE APPLICATION IS AS FOLLOWS:

AFTER THE NORMAL PRE-FLIGHT ENGINE CHECKS ARE COMPLETED, ADVANCE THE THROTTLE TO WIDE OPEN POSITION "MIXTURE FULL RICH" - PUSH TURBOCHARGER CONTROLS TOWARDS "ON" TO OBTAIN 27.5 IN MP. (USE VERNIER FEATURE FOR FINE ADJUSTMENT). AFTER MANIFOLD PRESSURE IS STABLE AT 27.5 IN., RETARD THROTTLE AS REQUIRED TO RUN ENGINE AT 1000-1200 RPM. REPEAT PROCEDURE FOR OTHER ENGINE. UPON RETURN OF THE THROTTLE CONTROLS TO THE WIDE OPEN POSITION THE MANIFOLD PRESSURE WILL RETURN TO 27.5 IN. (DURING THE TAKE-OFF ROLL, MANIFOLD PRESSURE WILL FURTHER ADVANCE TO 28.5 IN. DUE TO RAM RECOVERY).

AFTER TAKE-OFF

CLIMB POWER, UP TO MAXIMUM CONTINUOUS-MIXTURE FULL RICH.

LANDING

WHEN LANDING AT AIRFIELDS ABOVE 3,500 FEET ALTITUDE, THE TURBOCHARGER SYSTEM MAY BE PRE-SET IN THE AIR TO PROVIDE MAXIMUM POWER RECOVERY IN EVENT OF GO-AROUND. A RECOMMENDED AND APPROVED PROCEDURE THAT WILL PRODUCE SMOOTH POWER RESPONSE TO THROTTLE APPLICATION IS AS FOLLOWS:

DURING THE APPROACH TO A LANDING AT AN AIRFIELD ABOVE 3,500 FEET GROUND ELEVATION, ESTABLISH LEVEL FLIGHT AT AN ALTITUDE 1,000 FEET ABOVE THE AIRFIELD OF INTENDED LANDING; ADVANCE PROPELLER CONTROLS TO MAXIMUM RPM; ADVANCE THROTTLE CONTROLS TO WIDE OPEN POSITION; ADJUST TURBOCHARGER CONTROLS TO OBTAIN 27.5 IN. MANIFOLD PRESSURE; LEAVE TURBOCHARGER CON-

TROLS IN THIS POSITION FOR THE APPROACH AND LANDING. MANIPULATE THROTTLES IN NORMAL MANNER TO CONTINUE THE APPROACH AND LANDING. IN EVENT EXECUTION OF A GO-AROUND IS REQUIRED, ADVANCE THE THROTTLE LEVERS TO OBTAIN DESIRED MANIFOLD PRESSURE.

NOTE: THE TURBOCHARGER CONTROLS MAY BE LEFT IN THIS PRE-SET POSITION FOR DEPARTURE FROM THIS AIRPORT OF ARRIVAL WHEN THE AMBIENT TEMPERATURE AND PRESSURE REMAIN WITHIN $\pm 10^{\circ}\text{F}$ AND $\frac{1}{2}$ IN. HgA AND THERE HAS BEEN NO POSSIBILITY OF INADVERTENT MOVEMENT OF THE TURBOCHARGER CONTROLS. (REFER TO "TAKE OFF" FOR GROUND PRE-SETTING).

B. EMERGENCY PROCEDURES

INLET ICING

SEE 2.A. ALTERNATE AIR INSTALLATION, ABOVE.

TURBOCHARGER BOOST FAILURE

IN EVENT LOSS OF TURBOCHARGER BOOST OCCURS DURING TAKE-OFF, CLIMB OR CRUISE, LOSS OF POWER ON THE EFFECTED ENGINE WILL OCCUR. PULL TURBOCHARGER CONTROL OFF AND LEAN MIXTURE AS REQUIRED FOR NATURALLY ASPIRATED OPERATION. THE FLIGHT MAY BE CONTINUED WITH THE EFFECTED ENGINE OPERATING AT NORMAL POWER. (MONITOR OIL PRESSURE AND TEMPERATURE)

EMERGENCY DESCENT

IDLE POWER, IAS 150 MPH, GEAR DOWN

3. PERFORMANCE

UNDER TURBOCHARGED CONDITIONS, ALL PERFORMANCE IS AS GOOD AS OR BETTER THAN THAT SHOWN IN THE BASIC MANUAL FOR CORRESPONDING POWER SETTINGS AND ALTITUDES.

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