

**N557TB TB20 TRINIDAD NORMAL PROCEDURES**

**N557TB TB20**

**EMERGENCY PROCEDURES**

**PREFLIGHT (CABIN)**

Inspections.....CURRENT  
 AROWS documents...ON BOARD  
 Compass corr. card.....LEGIBLE  
 Hobbs.....RECORD  
 Fuel selector.....LEFT or RIGHT  
 Rudder trim.....TAKE-OFF  
 Pitch trim.....TAKE-OFF  
 Mixture.....IDLE CUT-OFF  
 Electrical switches.....OFF  
 Landing gear lever.....DOWN  
 Control lock.....REMOVE  
 Flight controlsFREE & CORRECT  
 Parking brake.....SET  
 Ignition.....OFF  
 Circuit breakers.....IN  
 Fire ext.....CHECK PRESSURE  
 Windows.....CLEAN  
 Main switch.....ON  
 Electric fuel pump.....CHECK  
 Landing gear pos. ind.....CHECK  
 Advisory panel.....TEST  
 Engine monitor cluster.....TEST  
 Fuel quantity gauges.....CHECK  
 External lights.....CHECK  
 Stall warning.....CHECK  
 Pitot heat.....CHECK  
 Flaps.....LDG  
 Electrical switches (ex. Main)OFF  
 Main switch.....OFF

**PREFLIGHT (EXTERIOR)**

Left flap, aileron, wing.....CHECK  
 Tie-down & chocks.....REMOVE  
 Pitot head.....CHECK  
 Left fuel tank sump.....DRAIN  
 Fuel quantity.....CHECK  
 Fuel tank vent.....CHECK  
 Left main gear/tire..64psi/CHECK  
 Left main gear strut.....CHECK  
 Gear door/m.switches.....CHECK  
 Left air inlet.....CLEAR  
 Windshield.....CLEAN  
 Oil level.....9 QTS.  
 Oil pump breather.....CLEAR  
 Propeller & spinner.....CHECK  
 Air inlets/Filter.....CHECK  
 Nose wheel tire/gear57psi/CHECK  
 Nose gear strut.....CHECK  
 Gear door/m.switches.....CHECK  
 Exhaust pipe.....CHECK  
 Right air inlet.....CHECK  
 Fuel filter sump.....DRAIN  
 Right fuel tank sump.....DRAIN  
 Fuel quantity.....CHECK  
 Fuel tank vent.....CHECK  
 Right main gear/tire64psi/CHECK

Right main gear strut.....CHECK  
 Gear door/m.switches.....CHECK  
 Tie-down & chocks.....REMOVE  
 Right flap, aileron, wing.....CHECK  
 Right side of fuselage.....CHECK  
 Air conditioner vent.....CLEAR  
 Right static port.....CLEAR  
 Antennae.....SECURE  
 Empennage.....CHECK  
 Tail tie-down.....REMOVE  
 Left side of fuselage.....CHECK  
 Left static port.....CLEAR  
 Baggage.....SECURED  
 Baggage door.....LOCKED  
 General insp. ....WALK AROUND

**BEFORE ENGINE START**

Crew & passengers.....BRIEF  
 Seats.....ADJUST & LOCK  
 Seat belts & harnesses..FASTEN  
 Doors.....CLOSED & LATCHED  
 Fuel selector.....DESIRED TANK  
 Air conditioning.....OFF  
 Radio master.....OFF  
 Alternate air.....PUSHED  
 Parking brake.....SET  
 Alternate static source..PUSHED  
 Emerg. Idg. gear control PUSHED  
 Circuit breakers.....IN

**STARTING ENGINE**

Propeller.....FULL INCREASE  
 Throttle.....1/4 OPEN  
 (FLOODED START.....CLOSED)  
 Main switch.....ON  
 Tail strobe.....ON  
 Electric fuel pump.....ON  
 (FLOODED START.....OFF)  
 Mixture...RICH (3-5 sec) then ICO  
 (HOT START RICH 1 sec then ICO)  
 (FLOODED START.....ICO)

Electric fuel pump.....OFF  
 Propeller area.....CLEAR  
 Starter.....ENGAGE  
 Mixture.....RICH

**AFTER ENGINE START**

Throttle.....1100 RPM  
 Oil pressure.....CHECK  
 "ALTr" warning light.....ON  
 Voltmeter.....>24  
 Alternator.....ON  
 "ALTr" warning light.....OFF  
 Voltmeter.....24 < V < 29  
 Flaps.....RETRACT  
 Air conditioning...AS REQUIRED  
 Mixture.....AS REQUIRED

Vacuum.....CHECK  
 Engine start time.....RECORD  
 Radio master.....ON  
 Autopilot master.....ON  
 JPI 730 fuel quantity.....SET  
 G500.....ERECT  
 GTN750.....CHECK  
 G500 Autopilot test.....FD OFF  
 Autopilot test.....OK  
 ATIS/Clearance.....RECORD  
 Flight instruments...SET/CHECK

**TAXIING**

Parking brake.....RELEASE  
 Brakes.....CHECK  
 Flight instruments.....CHECK

**ENGINE RUNUP**

Parking brake.....SET  
 Check area.....CLEAR  
 Mixture.....RICH  
 Propeller.....FULL INCREASE  
 Fuel selector.....SWITCH TANK  
 Throttle.....2000 RPM  
 Magnetos...max 175 drop/50 diff.  
 Engine gauges.....CHECK  
 Vacuum.....CHECK  
 Alternator.....CHECK  
 Propeller.....EXERCISE  
 (max drop 500 RPM)  
 Governor.....CHECK  
 Alternate air.....CHECK  
 Throttle.....IDLE/CHECK  
 Throttle.....1100 RPM

**BEFORE TAKEOFF**

Seat backs.....ADJUSTED  
 Seat belts & harnesses..FASTEN  
 Fuel selector.....PROPER TANK  
 Rudder and pitch trim.....SET  
 Mixture.....SET  
 Propeller.....SET  
 Flaps.....TAKEOFF  
 Alternate air.....CLOSED  
 Flight controlsFREE & CORRECT  
 Magnetos.....BOTH  
 Alternate static source..PUSHED  
 Emerg. Idg. gear control PUSHED  
 Circuit breakers.....IN  
 Window.....CLOSED  
 Advisory panel.....TEST/CHECK  
 Engine gauges.....CHECK  
 Flight instruments.....CHECK  
 G500.....NO ALERTS  
 Avionics / Transponder.....SET  
 Autopilot.....SET  
 Cabin doors.....LATCHED  
 Takeoff briefing.....GIVEN

**HOLDING SHORT / LINEUP**

Mixture.....SET  
 Flaps.....SET  
 Fuel pump / lights.....ON  
 Pitot heat.....AS REQUIRED  
 Air conditioning.....OFF  
 Transponder.....ALT  
 Window/Doors.....CLOSED  
 Takeoff Time.....NOTED

**AFTER TAKEOFF / CLIMB**

300 ft AGL  
 Gear.....UP  
 Flaps.....UP  
 Engine gauges.....CHECK

1000 ft AGL  
 Fuel pump.....OFF  
 Fuel pressure.....CHECK  
 Lights.....AS REQUIRED  
 Air conditioning...AS REQUIRED

**CRUISE CHECK**

Power.....SET  
 Mixture.....ADJUST  
 Landing light.....OFF  
 Rudder trim.....SET

**PRE-MANEUVER CHECK**

Altitude.....CHECK  
 Fuel pump / landing light.....ON  
 Mixture.....RICH  
 Magnetos.....BOTH  
 Fuel selector.....PROPER TANK  
 Seat belts & harnesses..FASTEN  
 Cockpit area.....SECURED  
 Clearing turns.....EXECUTE

**POST-MANEUVER CHECK**

Landing light.....OFF  
 Fuel pump.....OFF  
 Mixture.....SET

**APPROACH & LANDING**

ATIS.....RECORD  
 Approach briefing.....GIVEN  
 Seat backs.....ADJUSTED  
 Fuel pump.....ON  
 Landing light.....ON  
 Air conditioning.....OFF  
 (G)Fuel selector...PROPER TANK  
 (U)Gear.....DOWN  
 (M)Mixture.....SET  
 (P)Propeller.....SET  
 (S)Seat belts & harnessesFASTEN

**AFTER LANDING**

Flaps.....RETRACT  
 Fuel pump / pitot heat.....OFF

Lights.....AS REQUIRED  
 Air conditioning...AS REQUIRED

**ENGINE SHUTDOWN**

Flight time (GTN 750).....NOTE  
 Radio master.....OFF  
 Autopilot master.....OFF  
 Propeller.....FULL INCREASE  
 Throttle.....CLOSED  
 Mixture.....IDLE CUT-OFF  
 All electrical switches.....OFF  
 Magnetos.....OFF  
 Engine stop time.....RECORD

**PARKING**

Hobbs.....RECORD  
 Control wheel.....SECURED  
 Window.....CLOSED  
 Master switch.....OFF  
 Doors.....LOCKED  
 Tie-downs/chocks.....SECURE

**EMERGENCIES**

**FIRES**

**ENGINE FIRE - STARTING**

Mixture.....IDLE CUT-OFF  
 Starter.....CRANK (max 10 sec)  
 Throttle.....FULL OPEN  
 Fuel selector.....OFF

**If fire goes on:**

Main switch.....OFF  
 Magnetos.....OFF  
 Evacuate passengers and  
 extinguish fire using all available  
 means (fire extinguisher if  
 installed)

**ENGINE FIRE - FLIGHT**

Fuel selector.....OFF  
 Mixture.....IDLE CUT-OFF  
 Throttle.....FULL OPEN  
 Fuel pump.....CHECK OFF  
 Cooling and demisting.....OFF

**After engine has stopped:**

Magneto selector.....OFF  
 ALTr FLD switch-breaker.....OFF  
 Forced landing.....EXECUTE  
 DO NOT ATTEMPT TO RESTART  
 THE ENGINE AFTER A FIRE

**ELECTRICAL FIRE**

**IN ENGINE COMPARTMENT:**  
 Main switch.....OFF  
 Cooling and demisting.....OFF  
 Land as soon as possible.

**IN CABIN:**  
 Main switch.....OFF  
 ALTr FLD switch-breaker.....OFF  
 All electrical switches(ex Mag)OFF  
 Cooling and demisting.....OFF  
 Fire extinguisher.....ACTIVATE

**If fire is out:**  
 Main switch.....ON  
 Circuit breakers .CHECK/DO NOT  
 .....RESET  
 Radio/electrical switches.....ON  
 .....one at a time  
 Cabin air cooling.....OPEN

**CABIN FIRE**

Main switch.....OFF  
 Cooling and demisting.....OFF  
 Fire extinguisher.....ACTIVATE  
 Cabin.....VENTILATE

**WING FIRE**

Navigation lights.....OFF  
 Taxi and landing lights.....OFF  
 Wing strobe lights.....OFF  
 Pitot heat.....OFF  
 Land as soon as possible

**EMERGENCY DESCENT**

Throttle.....IDLE AS REQUIRED  
 Airspeed.....129 KIAS  
 Landing gear lever.....DOWN  
 Descent at V<sub>LE</sub>.....139 KIAS  
 After a prolonged descent with  
 reduced power, apply  
 power with caution due to low  
 cylinder head temperature.

**RADIO MASTER SWITCH FAILURE**

When radio navigation equipment  
 cannot be set under voltage due to  
 RADIO MASTER switch  
 malfunction.  
 R.M. SWITCH CB.....OPEN  
 Radio navigation are supplied  
 again and flight can go on  
 normally.

**PROPELLER GOVERNOR FAILURE**

In case of oil pressure drop in the  
 governor system or pitch control  
 failure, the propeller moves to low  
 pitch.

Oil pressure.....CHECKED  
 Oil temperature.....CHECKED  
 Throttle.....AS REQUIRED  
 Airspeed.....REDUCED  
 Avoid rapid application of power.  
 CAUTION : MAX RPM : 2575

*(CONTINUED)*

Airspeeds	V <sub>BEST GLIDE</sub> .....92	V <sub>X</sub> (GEAR DOWN).....67	V <sub>FE</sub> (T/O).....129	V <sub>ENRTE CLIMB</sub> .....95	V <sub>APP</sub> (NORM&SH.FIELD).....73
KIAS	V <sub>S0</sub> .....59	V <sub>X</sub> (GEAR UP).....81	V <sub>FE</sub> (LDG).....103	V <sub>A</sub> .....129	V <sub>APP</sub> (FLAPS UP).....90
	V <sub>S1</sub> .....70	V <sub>Y</sub> (GEAR DOWN).....73	V <sub>LO</sub> .....129	V <sub>NO</sub> .....150	
	V <sub>R</sub> .....68	V <sub>Y</sub> (GEAR UP).....95	V <sub>LE</sub> .....139	V <sub>NE</sub> .....187	Max. crosswind: 25 kts
					Usable Fuel: Full tanks: 2 x 43.1 gal = 86.2 gal Max. gross weight: 3,086 lbs Max. baggage weight: 143 lbs

**ENGINE FAILURES**

**ENGINE FAILURE TAKE-OFF RUN**

Throttle..... IDLE  
 Brakes ..... APPLY  
 Mixture ..... IDLE CUT-OFF  
 Magneto selector ..... OFF  
 Main switch..... OFF  
 Fuel selector..... OFF

**ENGINE FAILURE IMMEDIATELY AFTER TAKE-OFF**

Airspeed..... 70-76 KIAS  
 Mixture ..... FULL RICH  
 Fuel selector ..... SWITCH TANKS  
 Fuel pump..... ON

**If engine does not start:**

Mixture ..... IDLE CUT-OFF  
 Fuel selector..... OFF  
 Fuel pump..... OFF  
 Landing gear leverAS REQUIRED  
 Land ..... STRAIGHT AHEAD  
 Ignition ..... OFF  
 Main switch..... OFF

**ENGINE FAILURE IN FLIGHT**

Airspeed..... 92 KIAS  
 Mixture ..... FULL RICH  
 Fuel gauges ..... CHECK  
 Fuel selector ..... SWITCH TANKS  
 Ignition switch..... BOTH  
 Fuel pump..... ON  
 Alternate air ..... FULLY PULLED

**If the engine does not start:**

Mixture ..... IDLE CUT-OFF  
 Throttle..... 1/2 OPEN  
 StarterENGAGE (if prop stopped)  
 When the engine runs  
 (windmilling):  
 Mixture ..... SLOWLY ENRICH  
 ..... UNTIL RE-START

**If power is restored:**

Alternate air ..... AS REQUIRED  
 Fuel pump..... OFF  
 If power is not restored, proceed with emergency landing without engine power.

**ENGINE VIBRATION**

Engine vibration is generally due to defective spark plugs or too rich a mixture.  
 Mixture..... RESET  
 If vibration persists:  
 RPM SET FOR MINIMUM  
 VIBRATION RANGE  
 Land as soon as possible.

**FORCED LANDINGS**

NOTE: It is recommended that the wheels be up if landing on an unprepared surface.

**EMERGENCY LANDING WITHOUT ENGINE POWER**

Glide speed..... 92 KIAS  
 Propeller..... FULL BACK  
 Radio ..... TRANSMIT MAYDAY on 121.5 MHz or on the appropriate frequency giving location and intentions

Seats..... ADJUSTED  
 Seat belts & harnesses.. SECURE  
 Landing gear leverAS REQUIRED  
 Mixture ..... IDLE CUT-OFF  
 Fuel selector..... OFF  
 Magneto selector ..... OFF  
 Flaps..... AS REQUIRED

**When the landing is secured:**

Flaps..... LANDING  
 Approach speed..... 70-76 KIAS  
 Main switch..... OFF  
 Doors..... UNLATCH & WEDGE

**PRECAUTIONARY LANDING WITH ENGINE POWER**

Flaps..... LANDING  
 Approach speed..... 70-76 KIAS  
 Radio ..... ADVISE ATC OF INTENTIONS

Seats..... ADJUSTED  
 Seat belts & harnesses.. SECURE  
 Field ..... FLY OVER selected field  
 Landing gear leverAS REQUIRED  
 Main switch..... OFF  
 Doors..... UNLATCH & WEDGE

Touch-down..... FLARE OUT  
 ..... and keep nose high

**DITCHING**

RadioMAYDAY on 121.5 MHz or on the appropriate frequency giving location and intentions

Landing gear lever ..... UP  
 Flaps..... LANDING  
 Seats..... ADJUSTED  
 Seat belts & harnesses.. SECURE  
 Airspeed..... 70-76 KIAS  
 Flight path..... Parallel to swells

**Before touch-down:**

Main switch..... OFF  
 Mixture ..... IDLE CUT-OFF  
 Fuel selector..... OFF  
 Magneto selector ..... OFF  
 Doors..... UNLATCH & WEDGE

Touch-down..... FLARE OUT  
 ..... and keep nose high

**LANDING GEAR MALFUNCTIONS**

**LANDING GEAR FAILS TO RETRACT**

**THE THREE GREEN LIGHTS REMAIN ON**

Landing gear lever ..... CHECK UP  
 LDG GEAR CB .. CHECK CLOSED  
 Emergency landing gear control ..... CHECK PUSHED

**If landing gear fails to retract:**

Landing gear lever ..... DOWN  
 Landing gear lights ..... CHECK  
 ..... GREEN ON  
 Continue flight with landing gear down, up to destination or toward an appropriate alternate airfield.  
 Maximum airspeed 139 KIAS

**THE RED LIGHT REMAINS ON (WITH OR WITHOUT GREEN LIGHT ON)**

LDG GEAR CB ..... OPEN  
 Landing gear lever ..... DOWN  
 LDG GEAR CB ..... CLOSE  
 Landing gear lights ..... CHECK  
 ..... GREEN ON / RED OFF  
 Continue flight with landing gear down, up to destination or toward an appropriate alternate airfield.  
 Maximum airspeed 139 KIAS

**A GREEN LIGHT REMAINS ON, RED LIGHT OFF**

Flaps ..... TAKEOFF  
 Best airspeed..... 85 KIAS  
 Maximum airspeed..... 97 KIAS  
 LDG GEAR CB ..... OPEN  
 Landing gear lever ..... DOWN  
 Emergency landing gear control ..... PULL  
 Landing gear lights ..... GREEN  
 Continue flight with landing gear down, up to destination or toward an appropriate alternate airfield.  
 Maximum airspeed 139 KIAS

As a precaution, proceed as described in procedure LANDING WITH A LANDING GEAR NOT LOCKED.

**LANDING GEAR FAILS TO EXTEND**

(ONE OR SEVERAL GREEN GEAR DOWN LIGHTS FAIL TO ILLUMINATE)  
 Main switch..... ON  
 Landing gear lever ..... DOWN  
 LDG GEAR CB .. CHECK CLOSED

Landing gear lights ..ILLUMINATE  
 ..... DURING TEST  
 Flaps ..... TAKE-OFF  
 Maximum airspeed..... 97 KIAS  
 The landing gear should extend and lock normally. If this does not happen:  
 Landing gear lever ..... UP  
 LDG GEAR CB ..... OPEN  
 Landing gear lever ..... DOWN  
 Emergency landing gear control ..... PULLED  
 Gear down (green) lights ..... ON  
 Gear in transit (red) light ..... OFF

If all electrical power has been lost, the landing gear must be extended using the above procedures. The gear position indicator lights will not illuminate. Normal landing.

**ONE OR SEVERAL LANDING GEAR (GREEN) LIGHTS FAIL TO ILLUMINATE DURING TEST CARRIED OUT IN THE PREVIOUS PROCEDURE**

Yaw/slip airplane to help lock gear down  
 Gear in transit (red) light ..... OFF  
 Gear in transit (red) light ..... ILLUMINATES DURING TEST  
 The affected indicator green light bulb should be burnt out:  
 Landing gear position..... CHECK  
 DOWN POSITION WITH THE TOWER  
 Precautionary landing

**LANDING WITH A LANDING GEAR NOT LOCKED**

Landing gear position..... CHECK  
 POSITION WITH THE TOWER  
 LANDING GEAR APPEARS DOWN AND LOCKED  
 LDG GEAR CB ..... CLOSED  
 Landing gear lever ..... DOWN  
 Emergency landing gear control ..... PUSHED  
 Precautionary landing . EXECUTE

**LANDING GEAR UP OR PARTIALLY EXTENDED**

**Nose gear not locked**  
 - In final, cut-off the engine  
 Main switch..... OFF  
 Mixture..... IDLE CUT-OFF  
 Fuel selector ..... OFF  
 Magneto selector..... OFF  
 - Landing:  
 Flaps ..... LANDING  
 Airspeed ..... 65-70 KIAS  
 Seats..... ADJUSTED

Seat belts & harnesses ..SECURE  
 - After touch-down of main landing gears:  
 Keep nose high without braking.  
 Brake smoothly as soon as nose wheel contacts ground.

**Main gear not locked**

NOTE:  
 In case only one main gear extends, minimum airplane damage will result if a gear-up landing is made.

- Retract the landing gear:  
 Emergency landing gear control ..... PUSHED  
 LDG GEAR CB ..... CLOSED  
 Landing gear lever ..... UP

- Landing on grass if possible :  
 Flaps ..... LANDING  
 Airspeed ..... 65-70 KIAS  
 Seats ..... ADJUSTED  
 Seat belts & harnesses ..SECURE  
 - Before touch-down:  
 Main switch ..... OFF  
 Mixture..... IDLE CUT-OFF  
 Fuel selector ..... OFF  
 Magneto selector ..... OFF

**ELECTRICAL FAILURES**

**ELECTRICAL EQUIPMENT FAILURE**

Check the circuit breakers panel. If the circuit breaker is open, close it once only. If it trips again, do not try to close the circuit breaker, the equipment has failed.

**ALTERNATOR FAILURE SIMPLIFIED PROCEDURE**

Voltmeter:  
 - 26 < v < 29 ...CONTINUE FLYING  
 - < 26:  
 ALTr FLD Switch-breaker ..... OFF then ON  
 If ALTr warning light remains ON:  
 ALTr FLD switch-breaker..... OFF  
 Air conditioning ..... OFF  
 Electrical load ..... SHED  
 Gear ..... DOWN below 129 KIAS

**FULL PROCEDURE**

ALTr FLD switch-breaker..... OFF  
 ALTr PCB..... PULL  
 ALTr FLD CB..... CHECK  
 ALTr FLD switch-breaker..... ON  
 ALTr PCB..... CLOSE  
 If ALTr warning light is still illuminated:  
 ALTr FLD switch-breaker..... OFF  
 ALTr PCB..... PULL

Bus 2 PCB ..... PULL  
 Bus 3 PCB ..... PULL  
 ALTr FLD switch-breaker..... ON  
 ALTr PCB..... CLOSE  
 Bus 2 PCB ..... CLOSE  
 Bus 3 PCB ..... CLOSE  
 If closing of "Bus 2" or "Bus 3" PCB makes ALTr PCB or "ALTr FLD SB open, pull faulty Bus PCB and close AL Tr FLD SB.  
 If unsuccessful, extend gear and land as soon as possible.

**BATTERY FAILURE**

Tripping of Main switch SB or BAT PCB.  
 Main switch ..... ON  
 BAT PCB..... CLOSE  
 If failure, set power >= 2500 RPM  
 If Voltmeter >26V, land as soon as possible. If Voltmeter < 26V:  
 Bus 2 PCB ..... PULL  
 Bus 3 PCB ..... PULL  
 ALTr PCB..... CHECK CLOSED  
 ALTr FLD switch-breaker..... OFF then ON  
 If Voltmeter >26V, turn electrical items ON one at a time.  
 If voltmeter <26V, land as soon as possible.

**TOTAL ELECTRICAL FAILURE**

All electrical equipment inoperative. Tripping of some CB  
 Main switch ..... OFF  
 ALTr FLD switch-breaker..... OFF  
 BAT PCB..... OPEN  
 ALTr FLD PCB..... OPEN  
 Bus 2 PCB ..... OPEN  
 Bus 3 PCB ..... OPEN  
 Main switch ..... ON  
 BAT PCB..... CLOSE  
 (1) If success,  
 ALTr FLD CB ..... CHECK  
 ALTr FLD switch-breaker..... ON  
 ALTr PCB..... CLOSE  
 (2) If success:  
 Bus 2 PCB ..... CLOSE  
 Bus 3 PCB ..... CLOSE  
 (2) If failure, proceed with ALTERNATOR FAILURE  
 (1) If failure,  
 ALTr FLD CB ..... CHECK  
 ALTr FLD switch-breaker..... ON  
 ALTr PCB..... CLOSE  
 (3) If success, proceed with BATTERY FAILURE  
 (3) If failure, TOTAL ELECTRICAL FAILURE  
 Gear..... EXTEND  
 Land as soon as possible