

TM 55-1510-208-10

ARMY MODEL T-42A AIRCRAFT (BEECH MODEL B55B)



OPERATORS MANUAL

reset for an economy mixture. (This is the lower portion of the fuel pressure range specified for the power being used.)

3. When an economy setting (Step 2) is in use and a change in power is to be made, it is recommended that the mixture control be returned by gage to approximately best power setting before changing the throttle or propeller setting.

The fuel selector valves may be positioned to use fuel as desired while normal cruising operations are continued. However, since your take-offs, climbs and landings must be made using the main fuel cells only, a sufficient reserve for a safe landing at your destination must be maintained. Providing the length of a flight will allow enough fuel for this reserve, the main cells only may be used for this operation. Otherwise, you should switch to the auxiliary fuel cells when you have established your cruising altitude. Also remember that the auxiliary fuel and crossfeed systems may be used in level flight only. When one selector valve is positioned on crossfeed, both engines are using fuel from a cell indicated by the remaining selector valve. Normal operation allows fuel to be consumed from the cell as indicated by the fuel selector valves.

Normal cruise control should be used for all flying when weather and distance are well within the normal operating limitations of the airplane and its pilot. The power settings used, however, will be governed basically by the objective of the flight — high speed, economy, or comfort. In general your climb operation should not exceed 80% power. Level flight cruise operations should be at the lowest power that will satisfy the speed requirements. Observing these limits will normally result in the optimum balance between airplane performance and over-all operation economy.

Cruise control for maximum range differs from that for maximum endurance chiefly in the airspeeds used. Range increases with increased airspeed due to the improvement in aerodynamic efficiency until the speed reaches a point where the increased drag and the proportionally higher fuel requirements of the engines begin to offset the aerodynamic improvement. Conversely, a speed below this point also will result in fewer miles per gallon and longer flight time, due to