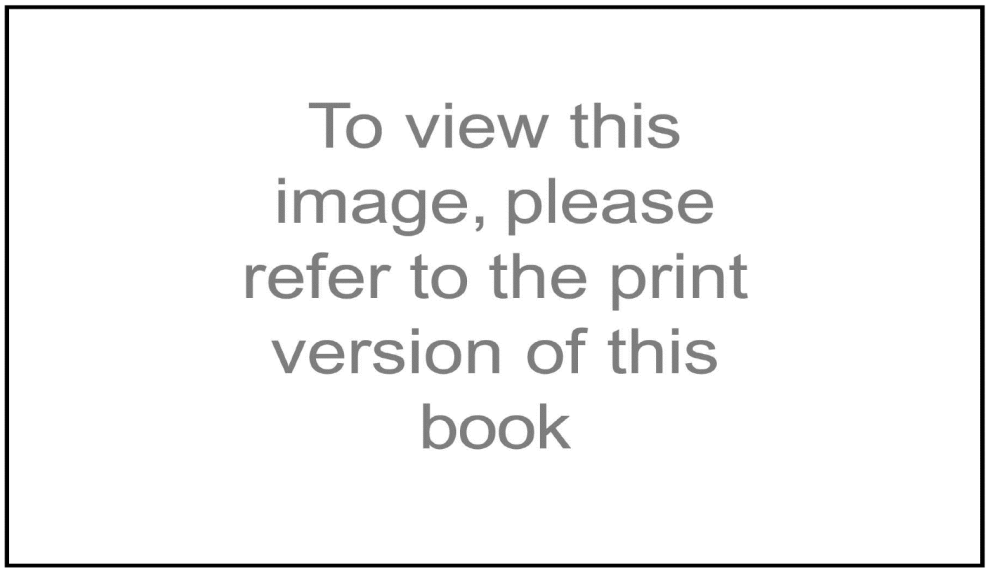

Fig. 6-4. *Beech Baron B55 fuel system schematic.*

ment than virtually any single-engine airplane built. The drawback of increased fuel system complexity is the potential for increased fuel mismanagement. In some multiengine aircraft, for instance, it is possible to unintentionally cause an unstable balance situation by burning fuel from tanks in the wrong sequence. Each aircraft has its own peculiarities, and good operating practice dictates a thorough understanding of system procedures.

Fuel Tanks

Fuel tanks come in all shapes, sizes, and locations. Integral fuel tanks are those that are permanently built into each wing. Tip tanks can be attached to the wing tip and often contain auxiliary fuel, while fuselage tanks may be located almost anywhere in the body of the airplane.

Temporary, portable fuel tanks can be located in the cockpit to provide supplementary fuel for extended flights, such as ferrying aircraft over water, but they present a considerable fire and noxious gas hazard. All tanks must be protected from vibration, a principle cause of deterioration and leakage, and must be able to handle fuel expansion as a result of heat.

Another consideration is surging, which may cause a fuel interruption resulting from fuel flowing toward the wing tip during turning maneuvers. The problem can be reduced by placing baffles inside the fuel tank, which will slow lateral fuel movement. Tank design must also include a method for the pilot to check for fuel quantity and quality during the preflight.

Most fuel tanks are made of either preshaped, riveted aluminum alloy or synthetic rubber. The aluminum "wet-wing" tanks use a sealant along their seams to prevent fuel