PROPELLERS

The A-26 has Hamilton Standard hydromatic propellers. They are 3-bladed, constant-speed, full-feathering propellers with a diameter of 12 feet 7 inches. There are three fundamental forces affecting the operation of these propellers. If you understand these forces and the mechanism that controls them, you know all you need to know about your propellers.

First Force is a twisting movement that takes place when the rotating blades turn toward the least wind resisting angle. This is high rpm and causes the piston in the propeller dome to be pushed to the back side of the dome. The blade angle depends entirely upon the position of the piston in the dome.

Second Force is the engine oil pressure that is conducted from the engine to the forward side of the piston through the hollow piston shaft. This force aids the first force in pushing the piston toward the back of the dome. The piston turns the blades toward high rpm by a cam and gear assembly.

Third Force is supplied by a special engine-driven pump. You regulate the pressure from this pump in the cockpit by the prop controls. Therefore, the prop is held at a constant speed by balancing the first two forces from the forward side of the piston by an equal amount of force on the back side of the piston.