

RUDDER CONTROLS

A dual set of rudder pedals, mounted on a rudder bar assembly, are located immediately forward of the two front cabin seats. Each end of the rudder bar assembly, which extends across the forward cabin, is inserted into a bearing and bracket bolted to a fuselage truss member on each side of the aircraft. Two push-pull tubes are attached to the rudder bar with control arms welded to the bottom of the rudder bar. The other end of the push-pull tubes are connected to welded steel bellcranks. The bellcranks are synchronized by a transverse link rod under the cabin floor, that connects to parallel arms welded onto the lower body of the rudder actuating bellcranks. Cables from the rudder pedal bellcranks extend beneath the forward cabin floor, through pulleys and cable guards, to the rudder horn, to position the rudder when the rudder pedals are moved. Nose wheel steering is also controlled by rudder pedal movement. A rudder centering device is connected to the rudder bar and extends rearward to attachment lugs on the cabin truss tubes. Mechanical stops, located in the aft fuselage, limit rudder travel in both directions.

LANDING GEAR

The aircraft is equipped with a tricycle landing gear, and 600 x 6, four-ply tires are installed on all three landing gear wheels. An air/oil landing gear strut assembly is used on the nose gear and Fiberglas springs are employed on the main gears to absorb landing and taxiing shock loads. Main landing gear wheels are equipped with hydraulic brakes, which are operated by toe brakes located on the pilots rudder pedals.

WHEELS AND BRAKES

All landing gear wheels are equipped with 600 x 6, four-ply tube type tires, which are normally inflated to 28 pounds. The main landing gear wheel inner section consists of a brake drum that fits over the wheel brake shoes. The brake shoes are bolted to a back plate welded to the landing gear strut. The main landing gear wheel rotates on inner and outer roller bearings, which

roll on bearing races that are press-fitted into the wheel body. Each main landing gear has a streamlined wheel cover attached to the strut. The nose wheel is attached to the nose wheel fork by an axle shaft, spacers, and caps, and an axle rod which passes through the axle shaft. Wheel bearings, which are parts of the nose wheel assembly, are located on each side of the wheel. The nose wheel is secured by nuts on each side of the shaft. The nose wheel and tire are balanced assemblies and the red dot on the tire must align with the valve stem. If nose wheel shimmy is encountered on takeoff or landing and the shimmy damper is not loose, the nose wheel and tire assembly should be balanced with automotive balancing equipment.

FUEL SYSTEM

The aircraft fuel supply is contained in two welded and baffled metal tank assemblies. Each tank has a usable fuel capacity of 20 gallons and is located at the inboard end of each wing between the forward and aft wing spars. The filler neck and cap, located at the forward edge of the tank, are flush with the upper wing skin. A splash guard is installed at each filler port to prevent fuel from entering the wing cavity around the filler neck. A fuel vent line, which is common to both tanks, is routed from a tee fitting in the upper cabin panel to the left side of the aircraft where it extends overboard through the lower cabin skin. This vent line relieves excess fluid or vapors, resulting from temperature expansion, from each fuel tank. Fuel from each tank is routed to the engine through a fuel tank selector valve installed on the cabin floor between the two forward seats. The tank selector valve, which has four positions: OFF, LEFT TANK, RIGHT TANK, and BOTH, is normally in the BOTH position when the engine is operating. This permits fuel to feed to the engine through the main fuel filter, located on the lower mid-section of the engine firewall. When the fuel selector is in the BOTH position fuel is used at an equal rate from each tank. Since this is basically a gravity feed fuel system the fuel tank selector valve should be placed in the OFF position when the engine is not operating. The fuel selector valve may be positioned to use fuel from either the left or right tank. This permits the fuel load to be leveled by using fuel from only one tank. The two tanks are vented to each other; therefore, no fuel will be