

SECTION VI

INSTALLATION IN AIRPLANE AND REMOVAL

6-1. MOUNTING THE ENGINE

It will be assumed that all parts shipped loose with the engine except propeller attaching parts, have been installed and that any aircraft equipment, such as cylinder baffles, has been attached to the assembly. It will be necessary to have an adapter hook which will pass through the engine lifting eye, with a loop of sufficient diameter to admit the hoist hook. Proceed as follows:

- a. If the engine is mounted on a rotating assembly stand, turn the engine to the flight position, and take up the engine weight on the hoist. If the engine rests on a fixed stand with crankshaft vertical, attach the hoist to the lifting eye, and lift the engine manually, or by means of the crankshaft lifting eye and another hoist, and swing the engine to the flight position as the lifting eye is raised.
- b. Raise the engine to the level required to align the crankcase mounting arm holes with bolt holes in the aircraft mounting.
- c. If the engine is a -8 or -12 model, install the rubber cone bushings in front and rear seats of the mounting arm holes. Place a steel washer on each mounting bolt, and push the bolts through the engine mount bosses from the rear.
- d. Place the number of steel washers required (for correct C. G. location) between the aircraft mount and the rear engine rubber bushings.
- e. Move the engine rearward carefully so that the mount bolts will enter the rubber bushing holes without tearing them.
- f. Place a steel washer (supplied with engine) on each bolt end.
- g. Install a slotted nut on each mount bolt, and tighten all nuts to 60-80 inch pounds torque. This is very important, since insufficient tightness will allow excessive vibration, whereas too much tightening will deform the rubber bushings.
- h. Install cotter pins.
- i. If the engine is a C90-14, -16 or O-200 model, place a Lord mount bushing in the rear counterbore of each engine mount arm, and place a cupped steel washer on the rear side of each bushing. Push the engine carefully onto the mount bolts. Center one of the rubber hose snubbers on each of the four steel tubes supplied with the equipment, and push the tube over the end of each bolt. Install the front Lord bushings in the front mount arm counterbores and the last four cupped washers over them. Install slotted nuts on the mount bolts, and tighten each nut to 180-190 inch pounds torque. Install cotter pins.
- j. Remove protective covering from the crankshaft taper, and remove tape which secures the shaft key, if a tapered shaft is installed.
- k. Remove exhaust port covers and spacers, carburetor fuel inlet plug, oil pressure gauge line plug (in front of lower right mount arm), primer jet plug (left side of intake manifold), tachometer housing cover nut, and crankcase breather elbow cover, unless these were removed earlier, and install fittings for connection of aircraft parts where necessary.
- l. Connect the following aircraft parts:
 - (1) Magneto switch wires.
 - (2) Throttle control cable.
 - (3) Carburetor mixture control cable.
 - (4) Carburetor air heat control.
 - (5) Oil temperature gauge.