

5. ENGINE INSTALLATION

- 5.1 Check that all parts for the installation are ready and at hand.
- 5.2 Lift the engine carefully as shown in Figure 3.
Remove the shipping legs and their brackets.
Install the engine mounting legs to the engine mounting ring with the proper hardware.

NOTE: If installing a new engine or an engine that has been preserved for storage, the following steps must be taken:

- a. It is recommended to restore the engine to working order at an ambient temperature of at least 50°F (10°C). If conditions are such that the engine is below these temperatures, then it is recommended to heat the engine up to at least 100° F (40°C) and maintain it at this temperature for at least one hour.
- b. Clean the exterior with kerosene, mineral spirits or similar solvent. Avoid wetting the ignition wires, the inside the engine or the flexible lines to the magneto or the generator.
- c. Remove the tachometer transducer and wash the gear cavity with kerosene, mineral spirits or similar solvent and dry it with compressed air.
- d. Replace the gear cover.

WARNING: Do not rotate the propeller shaft before cleaning the magneto and removing the dust caps from the AK-50A air compressor, or it may result the damage of the magnetos or compressor coupling.

- e. It is necessary to internal clean the magnetos.

First remove the cover and the distributor cap by removing the four attachment screws at the side of the magneto that attach the harness to the magneto.

Next remove the three screws that hold the cover to the magneto.

Carefully lift the fibre distributor cap, without damaging the high voltage terminal and the insulation.

Lift the contact arm away from the cam disk and take out the paper or fabric grease band that protects the cam from corrosion.

Do not rotate the rotor of the magneto before removing this band.

Clean the cam and the parts of the breaker mechanism with a lint free cloth or chamois leather.

Lightly oil the cam surface and the contact points axle with a light oil.

Caution do not let any oil get on the platinum contact points as this will cause premature failure of the points.

If the magnetos have been stored for more than two years, then place a drop oil on the wick coming from the cam oiler.

Carefully wipe the platinum contact points with lint free cloth or a chamois leather soaked in alcohol.

DO NOT wash the breaker mechanism or cam with gasoline or solvents that leave a residue.

Check for the presence of corrosion on the axle of the contact breaker and the cam. If corrosion is noted then these parts shall be replaced. Replace the magneto cover. Use caution to align the high-tension transfer rod when replacing the fibre distributor cap. Safety the screws.

- f. Remove the exhaust caps and the dehydrator plugs from the spark plug holes.
Remove the drain plugs from the inlet tubes on cylinders #4, 5 and 6.
Remove the chip detector assembly from the nose case.
- g. Cleaning the air compressor:
Remove the outlet valve assembly.
Remove the safety lock, the metal screen over the inlet filter, the fabric filter and the second screen.
Clean the external surfaces and the flange of the compressor with kerosene, mineral spirits or similar solvent gasoline.
Drain the storage oil from the compressor by rotating the propeller shaft clockwise (front view). Rotate the shaft by using a special wrench or the propeller until all the oil is removed from the cylinder of the compressor.
Clean the filter in gasoline and dry it in air blast
Assemble the screen, the filter and the second screen back in place and install the spring lock.
Install the outlet valve assembly.
- h. Remove the preservative oil from the cylinders by using a suction pump or compressed air while each piston is in the TDC position.
- i. Clean the chip detector assembly install it on the nose case.
- j. Install the spark plugs.
- k. Install the drain plugs in the inlet tubes and safety wire.
- l. Install the generator or alternator.
- m. Refer to the internal returning to service from storage of the AK-14P carburetor is made in section 9.
- n. Drain the oil from the 702ML fuel pump by installing a fuel line on the inlet side of the pump and rotate the propeller shaft until the preservative oil is completely removed and only pure fuel is exiting the pump. After draining the pump, connect the fuel line to the carburetor and the line to the fuel pressure transducer. Safety wire all the fittings.
- o. Enter the date of preparation for service in the engine logbook.

- 5.3 Installation of the engine on the airplane
 - a. Check the engine logbook and record the serial numbers of all the accessories.
 - b. Hoist the engine by means of the steel cable attached to the ring from the propeller shaft as per fig.3.
 - c. Attach the engine legs to the airframe using the proper hardware.
 - d. Connect the oil, fuel and air lines to the airframe.
 - e. Connect the lines to the oil and fuel pressure transducers on the airframe.
 - f. Connect and adjust the rod to the carburettor. The throttle control lever can be set at angles in multiples of 5°.
 - g. Connect and adjust the rods and the cables of the propeller governor control.
 - h. Torque of the propeller governor attachment nuts to 130 ±25 in-lb (1.5 ± 0.3 Kgfm)
 - i. Install the Tachometer sending unit
 - j. Install the oil inlet temperature sending unit.
 - k. Connect the wires to the generator and the chip detector
 - l. Install the spark plugs and connect the ignition leads
 - m. Install the carburettor heat air horn
 - n. Install the exhaust system
 - o. Install the propeller
 - p. Fill the aircraft oil tank and compressed air bottle

- 5.4 After the engine is installed on the airplane
 - a. Run the engine for 10-15 minutes at 1300 to 1700 r.p.m. and bring the oil temperature by at least 100° F (40°C), in order to remove the remaining storage oils.
 - b. Drain and replace with new the oil from tank and engine
 - c. Check the security of all fluid connections, the exhaust fittings and electrical connections.
 - d. Visually inspect and wash the chip detector the oil screen.
 - e. Check for any oil leaks or fuel leaks
 - f. Replace the oil screens and safety them