



SERVICE MANUAL

Franklin

AIRCRAFT ENGINE

Models

6A4-150-B3

6A4-165-B3

FRANKLIN ENGINE COMPANY, INC.

SYRACUSE 8, NEW YORK, U.S.A.

VII – RECOMMENDED TIGHTENING TORQUE VALUES

NAME	SIZE OF THREADS	TORQUE VALUE FOR TIGHTENING (INCH-LBS.) MINIMUM-MAXIMUM
	Standard Studs, Screws & Nuts	
Stud	1/4-20	25-60
Stud	5/16-18	50-90
Stud	3/8-16	75-170
Stud	7/16-14	95-195
Screw	1/4-20	60-75
Screw	5/16-18	105-120
Screw	3/8-16	120-145
Nut	1/4-28	60-75
Nut	5/16-24	110-130
Nut	3/8-24	300-360

Special Applications

Oil Pump Attaching Screw	1/4-20	55-60
Crankcase Cover Screw	5/16-18	
Oil Pan Holding Screw	5/16-18	60-75
Cylinder Hold-Down Nut	3/8-24	240-300
Cylinder Hold-Down Nut	7/16-20	300-330
Crankcase Tie Bolt Nut	5/16-24	
Camshaft Bearing Stud Nut	5/16-24	145-180
Mounting Bracket Stud Nut	5/16-24	
Distributing Zone to Manifold Bolt	5/16-24	
Starter Mounting Nut	3/8-24	145-180
Spark Plugs	14 MM	180-240
Magneto Nut	7/16-20	240-300

VIII – OVERHAUL PERIODS AND PERIODIC INSPECTIONS

TOP OVERHAUL

The time at which a top overhaul will be necessary will vary considerably with the type of operation and the care taken of the engine generally. Proper inspections performed at the specified periods (See inspection check list) will reveal the necessity of a top overhaul. If a top overhaul is not required at 300 hours, the rubber magneto and generator drive shock absorber cushions should be inspected at this time. Any worn cushions should be replaced.

MAJOR OVERHAUL

No definite period is set for a major overhaul. Most engines will require an overhaul after 600 to 700 hours of operation. The periodic inspections and general operating characteristics will indicate the necessity of a major overhaul if one is needed sooner.

PERIODIC INSPECTIONS CHECK LIST **COVERING MODEL 6A4-150-B31, 6A4-150-B3 and 6A4-165-B3 ENGINES**

	Pre-flight and Daily	25 Hour	50 Hour	100 Hour
Propeller Blades (Visual)	x			
Ignition Wires & Terminals (Visual)	x			
Accessible Nuts, Cap Screws & Fasteners (Visual)	x			
Fuel and Oil Level	x	x	x	x
Engine Controls (Free Movement & Full Range)	x	x	x	x
Oil Leaks	x	x	x	x
Fuel Leaks	x	x	x	x
Propeller Bolts (Check for Tightness & Safetying)		x	x	x
Ignition Wires & Terminals (Check for Tightness, Chafing & Soldered Connections—Clean)		x	x	x
Accessible Nuts, Cap Screws & Fasteners (Check for Tightness & Safetying)		x	x	x
Engine Controls (Check Free Movement, Full Range & Linkage System, Lubricate)		x	x	x
Oil Change (More Often if Operating Conditions Warrant)		x	x	x
Propeller Track		x	x	x
Exhaust System (Check for Leaks & Tightness)		x	x	x
Drain Plugs & Filler Caps (Check for Tightness, Safetying & Gasket Condition)		x	x	x
Cooling Air Baffles (Check for Obstructions & Leaks)		x	x	x
Filters, Strainers & Sumps (Inspect & Clean)		x	x	x
Compression Check (Check all cylinders by pulling through Propeller)		x	x	x
Manifold Equalizer Pipe Hose Connection (Check condition of Hose and Tightness of Clamps)		x	x	x
Magneto Breaker Points & Distributor (Check condition of rotor & Distributor & Point Condition & Gap)				x
Magneto Timing & Synchronization				x
Spark Plugs (Clean & Regap)				x
Cylinder Fins (Check for Breaks—Clean)				x
Carburetor (Clean & Drain)				x
Fuel Lines (Check for Chafing—Blow Out)				x
Engine Mounts (Check for Tightness & Wear)				x
Generator (Check Connections, Charging Rate)				x
Starter (Check Connections & Operation of Bendix Drive)				x
Valve Clearance (Check & Adjust)	Every 200 Hours Minimum			
Magneto & Generator Shock Absorber Drives (Replace worn absorbers)	Every 300 Hours Minimum			