



AIRWORTHINESS DIRECTIVE  
AIR SAFETY DIVISION  
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DEPARTMENT OF AVIATION  
THAILAND

DOA AD No. 36/2538 R1

By virtue of Section 35 of Air Navigation Act B.E. 2497 and the Announcement of Department of Aviation on the Delegation of Authority issued on June 12, 1989. Air Safety Division has classified compliance with the document specified below as mandatory for aircraft operated on the Thai Register of Civil Aircraft with consideration of the prescribed effective date and special conditions.

EFFECTIVE DATE : UPON RECEIPT

APPLIES TO : ALL PISTON ENGINES

DOCUMENT IDENTIFICATION : NONE

ISSUED BY : D.O.A. (THAILAND)

SPECIAL CONDITIONS : NONE

SUBJECT : OVERHAUL AND IN-SERVICE MAINTENANCE REQUIREMENTS FOR AIRCRAFT PISTON ENGINES AND ACCESSORIES.

TO ENSURE THE CONTINUING AIRWORTHINESS OF THE AIRCRAFT,  
UNLESS ACCOMPLISHED PREVIOUSLY.

1. OVERHAUL PERIOD

1.1 THE HOURS IN SERVICE BETWEEN COMPLETE OVERHAUL FOR PISTON ENGINES, AND THOSE ACCESSORIES NECESSARY FOR THE OPERATION OF THE ENGINE, SHALL NOT EXCEED THE HOURS IN SERVICE OVERHAUL PERIODS PUBLISHED BY THE ENGINE MANUFACTURER.

1.2 THE ACCESSORIES CONSIDERED AS BEING NECESSARY FOR THE NORMAL OPERATION OF THE ENGINE SHALL INCLUDE, BUT NOT BE LIMITED TO : THE PROPELLER GOVERNOR AND UNFEATHERING ACCUMULATOR, ENGINE DRIVEN FUEL PUMPS, CARBURETTORS, FUEL CONTROL UNITS AND INJECTORS, FUEL MANIFOLD AND DISTRIBUTION VALVES, MAGNETOS, IGNITION HARNESS, GEAR DRIVEN ALTERNATORS STARTER MOTORS, TURBOCHARGERS AND TURBOCHARGER CONTROL VALVES.

NOTE : CALENDER OVERHAUL PERIODS RECOMMENDED BY THE MANUFACTURER ARE NOT CONSIDERED MANDATORY.

## 2. OVERHAUL PROCEDURES

2.1 THE COMPLETE OVERHAUL OF ENGINES AND THOSE ACCESSORIES NECESSARY FOR THE NORMAL OPERATION OF THE ENGINE SHALL BE CARRIED OUT BY AN ORGANISATION APPROVED FOR THOSE PURPOSE, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENGINE AND ACCESSORY MANUFACTURER'S PUBLISHED OVERHAUL PROCEDURE.

2.2 UNLESS SPECIFIED BY THE ENGINE MANUFACTURER, THE FOLLOWINGS ENGINE MAJOR FERROUS COMPONENTS HAVE TO BE INSPECTED FOR CRACKS BY MAGNETIC PARTICLE INSPECTION.

- (a) CRANKSHAFTS
- (b) PROPELLER SHAFTS
- (c) CAMSHAFTS
- (d) MASTER AND CONNECTING RODS.
- (e) MASTER AND CONNECTING ROD BOLTS.
- (f) PISTON PINS AND WRIST PINS
- (g) REDUCTION, CAM AND SUPERCHARGER DRIVE GEARS.

2.3 FOLLOWING THE OVERHAUL OF THE ACCESSORIES REFERRED IN PARAGRAPH 1.2, THOSE ACCESSORIES SHALL BE TESTED/INSPECTED IN ACCORDANCE WITH SCHEDULES AND REQUIREMENTS PUBLISHED BY THE ACCESSORY MANUFACTURER.

2.4 FOLLOWING OVERHAUL OR REASSEMBY AFTER A BULKSTRIP, ENGINE SHALL BE TEST IN A TEST CELL OR A TEST STAND CONSTRUCTED FOR THAT PURPOSE, USING A DYNAMOMETER OR A CALIBRATED CLUB PROPELLER OR AN EQUIVALENT METHOD FOR MEASURING POWER ABSORPTION, THE INSTRUMENTATION AND OPERATION OF WHICH IS IN ACCORDANCE WITH THAT ENGINE MANUFACTURERS TEST SCHEDULES, INSTRUCTIONS AND REQUIREMENTS. ALTERNATE PROCEDURES WHICH PROVIDE AN EQUIVALENT LEVEL OF SAFETY MAY BE USED WHEN APPROVED BY THAI DOA.

2.5 AFTER TESTING, ENGINES AND ACCESSORIES THAT ARE TO BE STORED SHALL BE INHIBITED IN ACCORDANCE WITH PROCEDURES PUBLISHED BY THE MANUFACTURER

### 3. IN-SERVICE MAINTENANCE

3.1 WITHIN 30 DAYS, THE AIRCRAFT HAS TO BE FLOWN FOR AT LEAST 30 MINUTES OR GROUND RUN HAS TO BE MADE LONG ENOUGH TO PRODUCE AN OIL TEMPERATURE WITHIN THE LOWER GREEN ARC RANGE.

3.2 WITHIN 4 MONTHS, THE OIL CHANGE AND FILTER REPLACEMENT OR SCREEN CLEANING HAS TO BE MADE IN ACCORDANCE WITH PROCEDURES DETAILED IN THE APPLICABLE APPROVED MAINTENANCE MANUAL.

3.3 WITHIN 110 HOURS TIME IN SERVICE OR 1 CALENDER YEAR WHICHEVER OCCURS FIRST, AN ENGINE CONDITION CHECK HAS TO BE CARRIED OUT, RECORDED AND CERTIFIED. THE ENGINE CONDITION CHECK SHALL CONSIST OF, BUT NOT BE LIMITED TO:

(a) AN ENGINE PERFORMANCE GROUND RUN. PARAMETERS RECORDED SHALL BE VERIFIED AGAINST THE PARAMETERS DETAILED IN THE LIMITATIONS SECTION OF THE APPLICABLE APPROVED AIRPLANE FLIGHT MANUAL, AND

(b) A CYLINDER COMPRESSION CHECK BY BOTH DIRECT COMPRESSION CHECK AND DIFFERENTIAL PRESSURE COMPRESSION CHECK METHODS IN ACCORDANCE WITH THE PROCEDURES DETAILED IN LASTEST REVISION OF FEDERAL AVIATION ADMINISTRATION, FAA, ADVISORY CIRCULAR 43.13-1A. THE RESULT AND INTERPRETATION OF EACH AND EVERY CYLINDER COMPRESS CHECK ARE TO BE RECORDED INTO THE ENGINE LOG BOOK.

THIS AIRWORTHINESS DIRECTIVE SUPERSEDES AD.36/2538

(MR.BUNLOP BOONJIMAWAT)  
FOR DIRECTOR OF AIR SAFETY DIVISION

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