

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-4256; AD 81-13-10 R1

TELEDYNE CONTINENTAL MOTORS Model IO-360, TSIO-360, and LTSIO-360
Series Engines

PDF Copy (If Available):

▼ Preamble Information

DATES: Effective November 20, 1981.

▼ Regulatory Information

81-13-10 R1 TELEDYNE CONTINENTAL MOTORS: Amendment 39-4140 as amended by Amendment 39-4256. Applies to the following Teledyne Continental Motors IO-360, TSIO-360, and LTSIO-360 series engines:

IO-360-C, IO-360-D, IO-360-G, IO-360-H, and IO-360-J, all serial numbers;

IO-360-K, all serial numbers, unless AD 80-07-03 already complied with;

IO-360-AB, all serial numbers;

IO-360-CB, all serial numbers through serial number 350075;

IO-360-DB, all serial numbers through serial number 351368;

IO-360-GB, all serial numbers through serial number 352894;

IO-360-HB, all serial numbers through serial number 353350 (except 353075);

IO-360-JB, all serial numbers; IO-360-KB, all serial numbers through serial number

56721 (except 356652, 356672, 356674, 356675, and 356706 through 356719) unless AD 80-07-03 has been complied with;

TSIO-360-A, TSIO-360-B, TSIO-360-C, TSIO-360-D, TSIO-360-E, TSIO-360-F, TSIO-360-H and TSIO- 300DB, all serial numbers;

TSIO-360-CB, all serial numbers through 300667 (except 300658, 300659, 300662, 3000663, and 3000666);

TSIO-360-EB, all serial numbers through serial number 311689 (except 311528, 311538 through 311543, 311546 through 311555, 311656, and 311658 through 311660);

TSIO-360-FB, all serial numbers through serial number 310610 (except 310469, 310507 through 310520, 310606, and 310607);

TSIO-360-GB, all serial numbers through serial number 309582 (except 309436, 309437, 309439, 309440, 309446 through 309453, 309455, 309457 through 309461, 309565, 309566, 309570 through 309574);

TSIO-360-HB, all serial numbers through serial number 308127; IO-360-JB, all serial numbers through serial number 313015;

TSIO-360-KB, all serial numbers through serial number 315050;

LTSIO-360-E, all serial numbers, LTSIO-360-EB, all serial numbers through serial number 312680 (except 312567 through 312569, 312571, 312574, 312577 through 312587, 312632, 312634 through 312639);

LTSIO-360-KB, all serial numbers through serial number 314048 (except 314028); and the following rebuilt engines.

IO-360A, all serial numbers through 20128R;

IO-360C, all serial numbers through 60516R and 60519R;

IO-360D, all serial numbers through 628823R (except 628818R and 628821R);

IO-360G, all serial numbers through 224840R;

IO-360H, all serial numbers through 226506R;

IO-360J, all serial numbers through 238702R;

IO-360CB, all serial numbers through 236502R;

IO-360DB, all serial numbers through 239608R;

IO-360GB, all serial numbers through 236604R;

IO-360KB, all serial numbers through 235811R;

TSIO-360A, all serial numbers through 197085R;

TSIO-360C, all serial numbers through 23698R;

TSIO-360E, all serial numbers through 225076R;

TSIO-360F, all serial numbers through 232759R;

TSIO-360H, all serial numbers through 233252R;

TSIO-360AB, all serial numbers through 237609R;

TSIO-360CB, all serial numbers through 236022R (except 236012R, 236015R, 236016R and 236019R);

TSIO-360DB, all serial numbers through 238401R;

TSIO-360EB, all serial numbers through 234613R (except 234611R and 234612R);

TSIO-360FB, all serial numbers through 237331R;

TSIO-360GB, all serial numbers through 237403R;

TSIO-360HB, all serial numbers through 239956R;

LTSIO-360E, all serial numbers through 225076R;

LTSIO-360EB, all serial numbers through 233818R (except 233812R, 233813R, 233814R, and 233816R);

Compliance is required within the next twenty-five (25) hours time in service after the effective date of this AD unless already accomplished. To prevent engine oil pump drive shaft failure and subsequent engine failure due to oil pressure loss, accomplish the

following:

(a) Remove tach drive cover or tach drive adapter, as applicable, from the crankcase cover assembly.

(b) Measure the breakaway torque on the oil pump drive gear nut or the tach drive connector.

NOTE: The oil pump drive gear, P/N 640926, used on the LTSIO-360 engines incorporates a left- hand thread. Thus, the breakaway torque must be measured on LTSIO-360 engines in a clockwise direction; the tightening torque must be applied in a counter-clockwise direction.

(c) If the breakaway torque is between 200 inch-pounds and 350 inch-pounds, retorque the oil pump drive gear nut or the tach drive connector, whichever is applicable, to 280-300 inch-pounds. Reinstall the tach drive cover or the tach drive adapter and make the appropriate entry in the engine maintenance records, indicating compliance with this AD.

(d) If the breakaway torque is less than 200 inch-pounds or greater than 350 inch-pounds, prior to further flight, accomplish either of the following:

(1) Replace the TCM oil pump drive gear, P/N 632550, 634010, or 640926, whichever is applicable, with a like serviceable part of the same part number. Omit the Woodruff Key, P/N M535756-1 or P/N 633342-1. (Refer to TCM Manuals Numbers X-30030A and X30031A), or

(2) Perform a magnetic particle inspection of the oil pump drive gear, P/N 632550, 634010, or 640926, whichever is applicable, in accordance with Section VI of the TCM Overhaul Manual Number X- 30030A. Give particular attention to the Woodruff key slot and threaded area. If the oil pump gear is found cracked, damaged, or worn beyond limits, replace with a serviceable part of the same part number. Omit the Woodruff Key, P/N M535756-1 or P/N 633342-1. (Refer to TCM Manuals Numbers X-30030A and X30031A.)

(e) Install the oil pump drive gear nut or the tach drive connector, as applicable, and torque to 280-300 inch-pounds. Reinstall the tach drive cover or the tach drive adapter and make the appropriate entry in the engine maintenance records.

(f) For all oil pump drive gears found with less than 200 or more than 350 inch-pounds of torque during compliance with this AD, within 10 days mail a written report containing the Engine Model, Serial Number, time in service, and measured torque and results of drive gear inspection to: Federal Aviation Administration, ASO- 214, Engineering and Manufacturing Branch, P.O. Box 20636, Atlanta, Georgia 30320. (Reporting approved by the Office of Management and Budget under OMB No. 04-R0174.)

An equivalent method of complying with this AD may be approved by the Chief, Engineering and Manufacturing Branch, Federal Aviation Administration, Southern Region, P.O. Box 20636, Atlanta, Georgia 30320.

Amendment 39-4140 became effective June 30, 1981.

This amendment 39-4256 becomes effective November 20, 1981.

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▼ Comments

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