

SERVICE INFORMATION NO. SI 40-037

NOTE: SI's are used **only**:

- 1) To distribute information from DAI to our customers.
- 2) To distribute applicable information / documents from our suppliers to our customers with additional information.

Typically there is no revision service for SI's. Each new information or change of that will be send along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

All DA 40 and DA 40 F aircraft

1.2 Subject:

FAA AD 2006-12-07 and ECI SB for
Replacement of classic cast cylinders
ATA-Code: 72-00

1.3 Reason:

FAA has issued an Airworthiness Directive requiring the replacement of some classic cast cylinders installed in Lycoming engines.

1.4 Information:

For detailed technical information see FAA Airworthiness Directive which is applicable without any further additions or restrictions.

II. OTHERS

The FAA Airworthiness Directive No.: 2006-12-07 and ECI SB No 05-8 rev. 2 are attached to this SI.

In case of doubt contact Diamond Aircraft Industries.

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

www.faa.gov/aircraft/safety/alerts/

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2006-12-07 Engine Components Incorporated (ECi): Amendment 39-14632. Docket No. FAA-2005-22358; Directorate Identifier 2005-NE-20-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective July 11, 2006.

Affected ADs

- (b) This AD supersedes 2005-26-10, Amendment 39-14431.

Applicability

(c) This AD applies to Lycoming Engines (formerly Textron Lycoming) models 320, 360, and 540 series, parallel valve, reciprocating engines:

- (1) Specified in Table 1 of this AD; and
- (2) With ECi cylinder assemblies, part number (P/N) AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1; and
- (3) With serial numbers (SNs) 1 through 9879 (SN may have an "L" prefix for a long reach spark plug), (sold from January 1997 to September 2001) installed.
- (4) The set of numbers appearing on the cylinder, below and to the left of the SN, in the form of "12345-67" is not used for determining applicability.

TABLE 1.—ENGINE MODELS

Cylinder head part No.	Installed on engine models
AEL65102–NST04	O–320–A1B, A2B, A2C, A2D, A3A, A3B, B2B, B2C, B2D, B2E, B3B, B3C, C2B, C2C, C3B, C3C, D1A, D1AD, D1B, D1C, D1D, D1F, D2A, D2B, D2C, D2F, D2G, D2H, D2J, D3G, E1A, E1B, E1C, E1F, E1J, E2A, E2B, E2C, E2D, E2E, E2F, E2G, E2H, E3D, E3H. IO–320–A1A, A2A, B1A, B1B, B1C, B1D, B1E, B2A, D1A, D1AD, D1B, D1C, E1A, E1B, E2A, E2B. AEIO–320–D1B, D2B, E1A, E1B, E2A, E2B. AIO–320–A1A, A1B, A2A, A2B, B1B, C1B. LIO–320–B1A.
AEL65102–NST05	IO–320–C1A, C1B, C1F, F1A. LIO–320–C1A.
AEL65102–NST06	O–320–A1A, A2A, A2B, A2C, A3A, A3B, A3C, E1A, E1B, E2A, E2C, (also, an O–320 model with no suffix). IO–320–A1A, A2A.

Cylinder head part No.	Installed on engine models
AEL65102-NST07	IO-320-B1A, B1B. LIO-320-B1A.
AEL65102-NST08	O-320-B1A, B1B, B2A, B2B, B3A, B3B, B3C, C1A, C1B, C2A, C2B, C3A, C3B, C3C, D1A, D1B, D2A, D2B, D2C.
AEL65102-NST10	O-360-A1A, A1C, A1D, A2A, A2E, A3A, A3D, A4A, B1A, B1B, B2A, B2B, C1A, C1C, C1G, C2A, C2B, C2C, C2D, D1A, D2A, D2B. IO-360-B1A, B1B, B1C. HO-360-A1A, B1A, B1B. HIO-360-B1A, B1B. AEIO-360-B1B. O-540-A1A, A1A5, A1B5, A1C5, A1D, A1D5, A2B, A3D5, A4A5, A4B5, A4C5, A4D5, B1A5, B1B5, B1D5, B2A5, B2B5, B2C5, B2C5D, B4A5, B4B5, B4B5D, D1A5, E1A, E4A5, E4B5, E4C5, F1A5, F1B5, G1A5, G2A5. IO-540-C1B5, C1C5, C2C, C4B5, C4B5D, C4C5, D4A5, D4B5, N1A5, N1A5D.
AEL65102-NST12	O-360-A1A, A1AD, A1D, A1F, A1F6, A1F6D, A1G, A1G6, A1G6D, A1H, A1H6, A1J, A1LD, A1P, A2A, A2D, A2F, A2G, A2H, A3A, A3AD, A3D, A4A, A4AD, A4D, A4G, A4J, A4JD, A4K, A4M, A4N, A4P, A5AD, B1A, B2C, C1A, C1C, C1E, C1F, C1G, C2A, C2B, C2C, C2D, C2E, C4F, C4P, D2A, F1A6, G1A6. HO-360-C1A. LO-360-A1G6D, A1H6. HIO-360-B1A, B1B, G1A. LTO-360-A1A6D. TO-360-A1A6D. IO-360-B1B, B1BD, B1D, B1E, B1F, B1F6, B1G6, B2E, B2F, B2F6, B4A, E1A, L2A, M1A, M1B. AEIO-360-B1B, B1D, B1E, B1F, B1F6, B1G6, B1H, B2F, B2F6, B4A, H1A, H1B. O-540-A4D5, B2B5, B2C5, B2C5D, B4B5, B4B5D, E4A5, E4B5, E4B5D, E4C5, G1A5, G1A5D, G2A5, H1A5, H1A5D, H1B5, H1B5D, H2A5, H2A5D, H2B5D. IO-540-C4B5, C4B5D, C4D5, C4D5D, D4A5, D4B5, D4C5, N1A5, N1A5D, T4A5D, T4B5, T4B5D, T4C5D, V4A5, V4A5D. AEIO-540-D4A5, D4B5, D4C5, D4D5.
AEL65102-NST26	IO-540-J4A5, R1A5. TIO-540-C1A, E1A, G1A, H1A.
AEL65102-NST38	IO-360-F1A. TIO-540-AA1AD, AB1AD, AB1BD, AF1A, AG1A, AK1A, C1A, C1AD, K1AD. LTIO-540-K1AD.
AEL65102-NST43	O-360-J2A. O-540-F1B5, J1A5D, J1B5D, J1C5D, J1D5D, J2A5D, J2B5D, J2C5D, J2D5D, J3A5, J3A5D, J3C5D. IO-540-AB1A5, W1A5, W1A5D, W3A5D.
AEL65102-NST44	O-540-L3C5D.

For information, the subject engines are installed on, but not limited to, the aircraft listed in the following Table 2:

TABLE 2.—ENGINES INSTALLED ON, BUT NOT LIMITED TO

O-320-A1A	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Apache (PA-23), Pawnee (PA-25).
	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
	Mooney Aircraft: Mark (20A).
	Dinfia: Ranquel (1A-46).
	Simmering-Graz Pauker: Flamingo (SGP-M-222).
	Aviamilano: Scricciolo (P-19).
	Vos Helicopter Co.: Spring Bok.
O-320-A1B	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Apache (PA-23).
	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
	S.O.C.A.T.A.: Horizon (Gardan).
O-320-A2A	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Agriculture (PA-18A "150") Super Cub (PA-18 "150"), Caribbean (PA-22 "150"), Pawnee (PA-25).
	Intermountain Mfg. Co.: Call Air Texas (A-5, A-5T).
	Lake Aircraft: Colonial (C-1).
	Rawdon Bros.: Rawdon (T-1, T-15, T-15D).
	Shinn Engineering: Shinn (2150-A).
	Dinfia: Ranquel (1A-46).
	Neiva: (1PD-5802).
	Sud: Gardan-Horizon (GY-80).
	LaVerda: Falco (F8L Series II, America).
	Malmo: Vipar (MF1-10).
	Kingsford Smith: Autocrat (SCRM-153).
Aero Commander: 100.	
O-320-A2B	Piper Aircraft: Tri-Pacer (PA-22 "150", PA-22S "150"), Cherokee (PA-28 "150"), Super Cub (PA-18 "150").
	Champion Aircraft: Challenger (7GCA, 7GCB, 7KC), Citabria (7GCAA, 7GCRC), Agriculture (7GCBA).
	Beagle: Pup (150).
	Artic: Interstate S1B2.
	Robinson: R-22.
	Varga: Kachina 2150A.
O-320-A2C	Robinson: R-22.
	Cicare: Cicare AG.
	Bellanca Aircraft: Citabria 150 (7GCAA), Citabria 150S (7GCBC).
O-320-A2D	Piper Aircraft: Apache (PA-23).
O-320-A3A	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
	Corben-Fettes: Globe Special (Globe GC-1B).
O-320-A3B	Piper Aircraft: Apache (PA-23).
	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
	Teal II: TSC (1A2).
O-320-B1A	Piper Aircraft: Apache (PA-23 "160").
	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
	Malmo: Vipar (MF1-10).
O-320-B1B	Piper Aircraft: Apache (PA-23 "160").
	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B)

O-320-B2A	Piper Aircraft: Tri-Pacer (PA-22 "160", PA-22S "160").
O-320-B2B	Piper Aircraft: Tri-Pacer (PA-22 "160", PA-22S "160"). Beagle: Airedale (D5-160). Fuji-Heavy Industries: Fuji (F-200). Uirapuru: Aerotec 122.
O-320-B2C	Robinson: R-22.
O-320-B2D	Maule: MX-7-160.
O-320-B2E	Lycon.
O-320-B3A	Piper Aircraft: Apache (PA-23 "160"). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B).
O-320-B3B	Piper Aircraft: Apache (PA-23 "160"). Doyn Aircraft: Doyn-Cessna (170, 170A, 170B). Sud: Gardan (GY80-160).
O-320-C1A	Piper Aircraft: Apache (PA-23 "160"). Riley Aircraft: Rayjay (Apache).
O-320-C1B	Piper Aircraft: Apache (PA-23 "160").
O-320-C3A	Piper Aircraft: Apache (PA-23 "160").
O-320-C3B	Piper Aircraft: Apache (PA-23 "160").
O-320-D1A	Sud: Gardan (GY-80). Gyroflug: Speed Cancard. Grob: G115.
O-320-D1F	Slingsby: T67 Firefly.
O-320-D2A	Piper Aircraft: Cherokee (PA-28S "160"). Robin: Major (DR400-140B), Chevalier (DR-360), (R-3140). S.O.C.A.T.A.: Tampico TB9. Slingsby: T67C Firefly. Daetwyler: MD-3-160. Nash Aircraft Ltd.: Petrel. Aviolight: P66D Delta. General Avia: Pinguino.
O-320-D2B	Beech Aircraft: Musketeer (M-23). Piper Aircraft: Cherokee (PA-28 "160").
O-320-D2J	Cessna Aircraft: Skyhawk 172.
O-320-D3G	Piper Aircraft: Warrior II, Cadet (PA-28-161).
O-320-E1A	Grob: G115.
O-320-E1C	M.B.B. (Messerschmitt-Boelkow-Blohm): Monsun (BO-209-B).
O-320-E1F	M.B.B.: Monsun (BO-209-B).
O-320-E2A	Piper Aircraft: Cherokee (PA-28 "140", PA-28 "150"). Robin: Major (DR-340), Sitar, Bagheera (GY-100-135). S.O.C.A.T.A.: Super Rallye (MS-886), Rallye Commodore (MS-892). Siai-Marchetti: (S-202). F.F.A.: Bravo (AS-202/15). Partenavia: Oscar (P66B), Bucker (131 APM). Aeromot: Paulistina P-56. Pezetel: Koliber 150.
O-320-E2C	Beech Aircraft: Musketeer III (M-23III). M.B.B.: Monsun (BO-209-B).
O-320-E2D	Cessna Aircraft: Cardinal (172-I, 177).
O-320-E2F	M.B.B.: Monsun (BO-209-B), Wassmer Pacific (WA-51).
O-320-E2G	American Aviation Corp.: Traveler.

O-320-E3D	Piper Aircraft: Cherokee (140). Beech Aircraft: Sport.
IO-320-B2A	Piper Aircraft: Twin Comanche (PA-30).
IO-320-B1C	Hi. Shear: Wing.
IO-320-B1D	Ted Smith Aircraft: Aerostar.
IO-320-C1A	Piper Aircraft: Twin Comanche (PA-30 Turbo).
IO-320-D1A	M.B.B.: Monsun (BO-209-C).
IO-320-D1B	M.B.B.: Monsun (BO-209-C).
IO-320-E1A	M.B.B.: Monsun (BO-209-C).
IO-320-E1B	Bellanca Aircraft.
IO-320-E2A	Champion Aircraft: Citabria.
IO-320-E2B	Bellanca Aircraft.
IO-320-F1A	CAAR Engineering: Carr Midget.
LIO-320-B1A	Piper Aircraft: Twin Comanche (PA-39).
LIO-320-C1A	Piper Aircraft: Twin Comanche (PA-39).
AIO-320-B1B	M.B.B.: Monsun (BO-209-C).
AEIO-320-D1B	Slingsby: T67M Firefly.
AEIO-320-D2B	Hundustan Aeronautics Ltd.: HT-2.
AEIO-320-E1A	Bellanca Aircraft. Champion Aircraft.
AEIO-320-E1B	Bellanca Aircraft. Champion Aircraft: Decathalon (8KCAB-CS).
AEIO-320-E2B	Bellanca Aircraft. Champion Aircraft: Decathalon (8KCAB).
O-320-A1A	Riley Aircraft: Riley Twin.
O-360-A1A	Beech Aircraft: Travel Air (95, B-95). Piper Aircraft: Comanche (PA-24). Intermountain Mfg. Co.: Call Air (A-6). Lake Aircraft: Colonial (C-2, LA-4, 4A or 4P). Doyn Aircraft: Doyn-Cessna (170B, 172, 172A, 172B). Mooney Aircraft: Mark "20B"(M-20B). Earl Horton: Pawnee (Piper PA-25). Dinfia: Ranquel (1A-51). Neiva: (1PD-5901). Regente: (N-591). Wassmer: Super 4 (WA-50A), Sancy (WA-40), Baladou (WA-40), Pariou (WA-40). Sud: Gardan (GY-180). Bolkow: (207). Partenavia: Oscar (P-66). Siai-Marchetti: (S-205). Procaer: Picchio (F-15-A). S.A.A.B.: Safir (91-D). Malmo: Vipan (MF-10B). Aero Boero: AB-180. Beagle: Airedale (A-109). DeHavilland: Drover (DHA-3MK3). Kingsford-Smith: Bushmaster (J5-6). Aero Engine Service Ltd.: Victa (R-2).
O-360-A1AD	S.O.C.A.T.A.: Tabago TB-10.

O-360-A1D	Piper Aircraft: Comanche (PA-24). Lake Aircraft: Colonial (LA-4, 4A or 4P). Doyn Aircraft: Doyn-Beech (Beech 95). Mooney Aircraft: Master "21"(M-20E), Mark "20B", "20D", (M20B, M20C), Mooney Statesman (M-20G). Dinfia: Querandi (1A-45). Wassmer: (WA-50). Malmo: Vipar (MF1-10). Cessna Aircraft: Skyhawk. Doyn Aircraft: Doyn-Piper (PA-23 "160").
O-360-A1F6	Cessna Aircraft: Cardinal.
O-360-A1F6D	Cessna Aircraft: Cardinal 177. Teal III: TSC (1A3).
O-360-A1G6	Aero Commander.
O-360-A1G6D	Beech Aircraft: Duchess 76.
O-360-A1H6	Piper Aircraft: Seminole (PA-44).
O-360-A1LD	Wassmer: Europa WA-52.
O-360-A1P	Aviat: Husky.
O-360-A2A	Center Est Aeronautique: Regente (DR-253). S.O.C.A.T.A.: Rallye Commodore (MS-893). Societe Aeronautique Normande: Mousquetaire (D-140). Bolkow: Klemm (K1-107C). Partenavia: Oscar (P-66). Beagle: Husky (D5-180) (J1-U).
O-360-A2D	Piper Aircraft: Comanche (PA-24), Cherokee "C"(PA-28 "180"). Mooney Aircraft: Master "21"(M-20D), Mark "21"(M-20E).
O-360-A2E	Std. Helicopter.
O-360-A2F	Aero Commander: Lark (100). Cessna Aircraft: Cardinal.
O-360-A2G	Beech Aircraft: Sport.
O-360-A3A	C.A.A.R.P.S.A.N.: (M-23III). Societe Aeronautique Normande: Jodel (D-140C). Robin: Regent (DR400/180), Remorqueur (DR400/180R). R-3170. S.O.C.A.T.A.: Rallye 180GT, Sportavia Sportsman (RS-180). Norman Aeroplance Co.: NAC-1 Freelance. Nash Aircraft Ltd.: Petrel.
O-360-A3AD	S.O.C.A.T.A.: TB-10. Robin: Aiglou (R-1180T).
O-360-A4A	Piper Aircraft: Cherokee "D"(PA-28 "180").
O-360-A4D	Varga: Kachina.
O-360-A4G	Beech Aircraft: Musketeer Custom III.
O-360-A4K	Grumman American: Tiger. Beech Aircraft: Sundowner 180.
O-360-A4M	Piper Aircraft: Archer II (PA-28 "18"). Valmet: PIK-23.
O-360-A4N	Cessna Aircraft: 172 (Optional).
O-360-A4P	Penn Yan: Super Cub Conversion.
O-360-A5AD	C. Itoh and Co.: Fuji FA-200.
O-360-B2C	Seabird Aviation: SB7L.
O-360-C1A	Intermountain Mfg. Co.: Call Air (A-6).

O-360-C1E	Bellanca Aircraft: Scout (8GCBC-CS).
O-360-C1F	Maule: Star Rocket MX-7-180.
O-360-C1G	Christen: Husky (A-1).
O-360-C2B	Hughes Tool Co.: (269A).
O-360-C2D	Hughes Tool Co.: (269A).
O-360-C2E	Hughes Tool Co.: (YHO-2HU) Military. Bellanca Aircraft: Scout (8GCBC FP).
O-360-C4F	Maule: MX-7-180A.
O-360-C4P	Penn Yan: Super Cub Conversion.
O-360-F1A6	Cessna Aircraft: Cutlass RG.
O-360-J2A	Robinson: R22.
IO-360-B1A	Beech Aircraft: Travel-Air (B-95A). Doyn Aircraft: Doyn-Piper (PA-23 "200").
IO-360-B1B	Beech Aircraft: Travel-Air (B-95B). Doyn Aircraft: Doyn-Piper (PA-23 "200"). Fuji: (FA-200).
IO-360-B1D	United Consultants: See-Bee.
IO-360-B1E	Piper Aircraft: Arrow (PA-28 "180R").
IO-360-B1F	Utva: 75.
IO-360-B2E	C.A.A.R.P. C.A.P. (10).
IO-360-B1F6	Great Lakes: Trainer.
IO-360-B1G6	American Blimp: Spector 42.
IO-360-B2F6	Great Lakes: Trainer.
LO-360-A1G6D	Beech Aircraft: Duchess.
LO-360-A1H6	Piper Aircraft: Seminole (PA-44).
IO-360-E1A	T.R. Smith Aircraft: Aerostar.
IO-360-L2A	Cessna Aircraft: Skyhawk C-172.
IO-360-M1A	Diamond Aircraft: DA-40.
IO-360-M1B	Vans Aircraft: RV6, RV7, RV8 Lancair: 360.
AEIO-360-B1F	F.F.A.: Bravo (200). Grob: G115/Sport-Acro.
AEIO-360-B1G6	Great Lakes.
AEIO-360-B2F	Mundry: CAP-10.
AEIO-360-B4A	Pitts: S-1S.
AEIO-360-H1A	Bellanca Aircraft: Super Decathalon (8KCAB-180).
AEIO-360-H1B	American Champion: Super Decathalon.
VO-360-A1A	Brantly Hynes Helicopter: (B-2).
VO-360-A1B	Brantly Hynes Helicopter: (B-2, B2-A). Military (YHO-3BR).
VO-360-B1A	Brantly Hynes Helicopter: (B-2, B2-A).
IVO-360-A1A	Brantly Hynes Helicopter: (B2-B).
HO-360-B1A	Hughes Tool Co.: (269A).
HO-360-B1B	Hughes Tool Co.: (269A).
HO-360-C1A	Schweizer: (300C).
HIO-360-B1A	Hughes Tool Co.: Military (269-A-1) (TH-55A).
HIO-360-B1B	Hughes Tool Co.: (269A).
HIO-360-G1A	Schweizer: (CB).
O-540-A1A	Rhein-Flugzeugbau: (RF-1).

O-540-A1A5	Piper Aircraft: Comanche (PA-24 "180"). Helio: Military (H-250). Yoeman Aviation: (YA-1).
O-540-A1B5	Piper Aircraft: Aztec (PA-23 "250"), Comanche (PA-24 "250").
O-540-A1C5	Piper Aircraft: Comanche (PA-24 "250").
O-540-A1D	Found Bros.: (FBA-2C). Dornier: (DO-28-B1).
O-540-A1D5	Piper Aircraft: Aztec (PA-23 "250"), Comanche (PA-24 "250"), Military Aztec (U-11A). Dornier: (DO-28).
O-540-A2B	Aero Commander: (500). Mid-States Mfg. Co.: Twin Courier (H-500), (U-5).
O-540-A3D5	Piper Aircraft: Navy Aztec (PA-23 "250").
O-540-B1A5	Piper Aircraft: Apache (PA-23 "235").
O-540-B1B5	Piper Aircraft: Comanche (PA-24 "250"). Doyn Aircraft: Doyn-Piper (PA-24 "250").
O-540-B1D5	Wassmer: (WA-421).
O-540-B2B5	Piper Aircraft: Pawnee (PA-25 "235"), Cherokee (PA -28 "235"), Aztec (PA-23 "235"). Intermountain Mfg. Co.: Call Air (A-9). Rawdon Bros.: Rawdon (T-1). S.O.C.A.T.A.: Rallye 235CA.
O-540-B2C5	Piper Aircraft: Pawnee (PA-25 "235").
O-540-B4B5	Piper Aircraft: Cherokee (PA-28 "235"). Embraer: Corioca (EMB-710). S.O.C.A.T.A.: Rallye 235GT, Rallye 235C Maule: Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
O-540-E4A5	Piper Aircraft: Comanche (PA-24 "260"). Aviamilano: Flamingo (F-250). Siai-Marchetti: (SF-260), (SF-208).
O-540-E4B5	Britten-Norman: (BN-2). Piper Aircraft: Cherokee Six (PA-32 "260").
O-540-E4C5	Pilatus Britten-Norman: Islander (BN-2A-26), Islander (BN-2A-27), Islander II (BN-2B-26), Islander (BN-2A-21), Trislander (BN-2A-Mark III-2).
O-540-F1B5	Omega Aircraft: (BS-12D1). Robinson: (R-44).
O-540-G1A5	Piper Aircraft: Pawnee (PA-25 "260").
O-540-H1B5D	Aero Boero: 260.
O-540-H2A5	Embraer: Impanema "AG". Gippsland: GA-200.
O-540-H2B5D	Aero Boero: 260.
O-540-J1A5D	Maule: Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
O-540-J3A5	Robin: R-3000/235.
O-540-J3A5D	Piper Aircraft: Dakota (PA-28-236).
O-540-J3C5D	Cessna Aircraft: Skylane RG.
O-540-L3C5D	Cessna Aircraft: TR-182, Turbo Skylane RG.
O-540-C1B5	Piper Aircraft: Aztec B (PA-23 "250"), Comanche (PA-24 "250").
IO-540-C1C5	Riley Aircraft: Turbo-Rocket.

IO-540-C4B5	Piper Aircraft: Aztec C (PA-23 "250"), Aztec F. Wassmer: (WA-421). Avions Pierre Robin: (HR100/250). Bellanca Aircraft: Aries T-250. Aerofab: Renegade 250.
IO-540-C4D5	S.O.C.A.T.A.: TB-20.
IO-540-C4D5D	S.O.C.A.T.A.: Trinidad TB-20.
IO-540-D4A5	Piper Aircraft: Comanche (PA-24 "260"). Siai-Marchetti: (SF-260).
IO-540-D4B5	Cerva: (CE-43 Guepard).
IO-540-J4A5	Piper Aircraft: Aztec (PA-23 "250").
IO-540-R1A5	Piper Aircraft: Comanche (PA-24).
IO-540-T4A5D	General Aviation: Model 114.
IO-540-T4B5	Commander: 114B.
IO-540-T4B5D	Rockwell: 114.
IO-540-T4C5D	Lake Aircraft: Seawolf.
IO-540-V4A5	Maule: MT-7-260, M-7-260. Aircraft Manufacturing Factory.
IO-540-V4A5D	Brooklands: Scoutmaster.
IO-540-W1A5	Maule: MX-7-235, MT-7-235, M7-235.
IO-540-W1A5D	Maule: Star Rocket (MX-7-235), Super Rocket (M-6-235), Super Std. Rocket (M-7-235).
IO-540-W3A5D	Schweizer: Power Glider.
AEIO-540-D4A5	Christen: Pitts (S-2S), (S-2B). Siai-Marchetti: SF-260. H.A.L.: HPT-32. Slingsby: Firefly T3A.
AEIO-540-D4B5	Moravan: Zlin-50L. H.A.L.: HPT-32.
AEIO-540-D4D5	Burkhart Grob: Grob G, 115T Aero.
TIO-540-C1A	Piper Aircraft: Turbo Aztec (PA-23-250).
TIO-540-K1AD	Piper Aircraft.
TIO-540-AA1AD	Aerofab Inc.: Turbo Renegade (270).
TIO-540-AB1AD	S.O.C.A.T.A.: Trinidad TC TB-21.
TIO-540-AB1BD	Schweizer.
TIO-540-AF1A	Mooney Aircraft: "TLS" M20M.
TIO-540-AG1A	Commander Aircraft: 114TC.
TIO-540-AK1A	Cessna Aircraft: Turbo Skylane T182T.
LTIO-540-K1AD	Piper Aircraft.

Unsafe Condition

(d) This AD results from reports of applicability errors found in AD 2005-26-10. We are issuing this AD to prevent loss of engine power due to cracks in the cylinder assemblies and possible engine failure caused by separation of a cylinder head.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Engines Not Overhauled or Repaired Since New

(f) If your engine has not been overhauled or had any major repair since new, no further action is required.

Engines Overhauled or Repaired Since New

(g) If your engine was overhauled or repaired since new, do the following:

(1) Determine if ECI cylinder assemblies, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1 and SNs 1 through 9879 (SN may have an "L" prefix for a long reach spark plug) are installed on your engine, as follows:

(i) Inspect the engine log books and maintenance records for reference to the subject ECI cylinder assemblies.

(ii) If the engine log books and maintenance records did not record the P/N and SN of the cylinder assemblies, visually inspect the cylinder assemblies and verify the P/N and SN of the cylinder assemblies.

(2) If the cylinder assemblies are not ECI, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1, no further action is required.

(3) If any cylinder assembly is an ECI P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1 and a SN 1 through 9879 (SN may have an "L" prefix for a long reach spark plug), do the following:

(i) If the cylinder assembly has fewer than 800 operating hours-in-service (HIS) on the effective date of this AD, replace the cylinder assembly at no later than 800 operating HIS. No action is required until the operating HIS reaches 800 hours.

(ii) If the cylinder assembly has 800 operating HIS or more on the effective date of this AD, replace the cylinder assembly within 60 operating HIS after the effective date of this AD.

Definition of a Replacement Cylinder Assembly

(h) For the purpose of this AD, a replacement cylinder assembly is defined as follows:

(1) A serviceable cylinder assembly made by Lycoming Engines.

(2) A serviceable FAA-approved, Parts Manufacturer Approval cylinder assembly from another manufacturer.

(3) A serviceable ECI cylinder assembly, P/N AEL65102 series, "Titan", having casting P/N AEL85099.

(4) A serviceable ECI cylinder assembly, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1, that has a SN 9880 or higher (SN may have an "L" prefix for a long reach spark plug).

Prohibition of Cylinder Assemblies, P/N AEL65102 Series "Classic Cast", Having Casting Head Markings EC 65099-REV-1 and SNs 1 Through 9879

(i) After the effective date of this AD, do not install any ECI cylinder assembly, P/N AEL65102, having casting head markings EC 65099-REV-1 that has a SN 1 through 9879 (SN may have an "L" prefix for a long reach spark plug), onto any engine.

Alternative Methods of Compliance

(j) The Manager, Special Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) ECI Service Bulletin No. 05-08, Revision 2, dated February 28, 2006, pertains to the subject of this AD.

Issued in Burlington, Massachusetts, on May 31, 2006.

Thomas A. Boudreau,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

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Mandatory Service Bulletin

ENGINE COMPONENTS, INC.

S.B. No.: 05-8

Page: 1 of 2

Title: REPLACEMENT OF CLASSIC CAST CYLINDERS IN COMPLIANCE WITH AIRWORTHINESS DIRECTIVE 2005-26-10

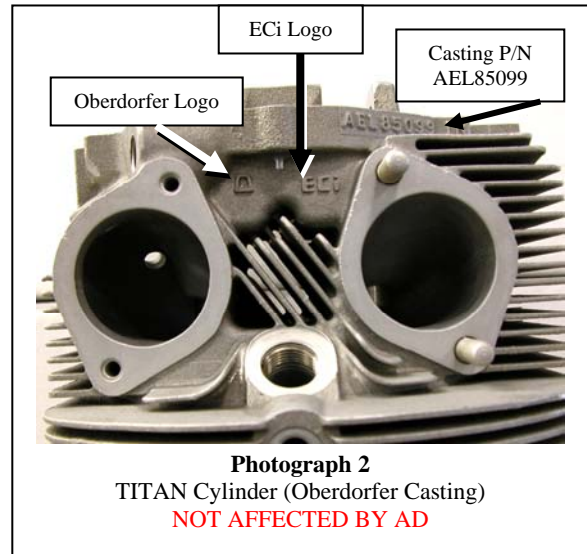
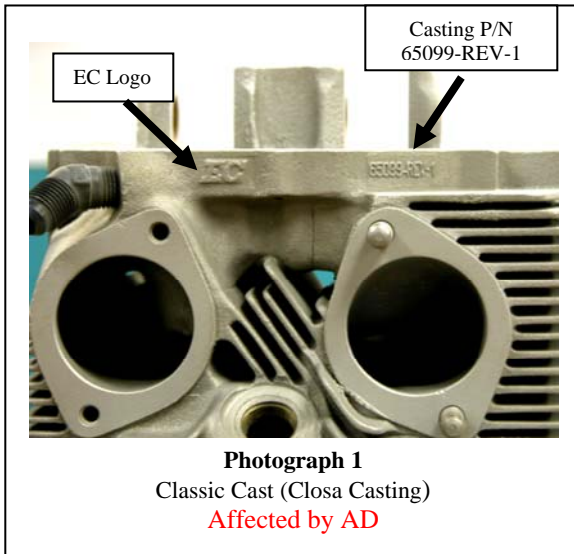
Issued: 09/01/05

Revision: 2 (02/28/06)

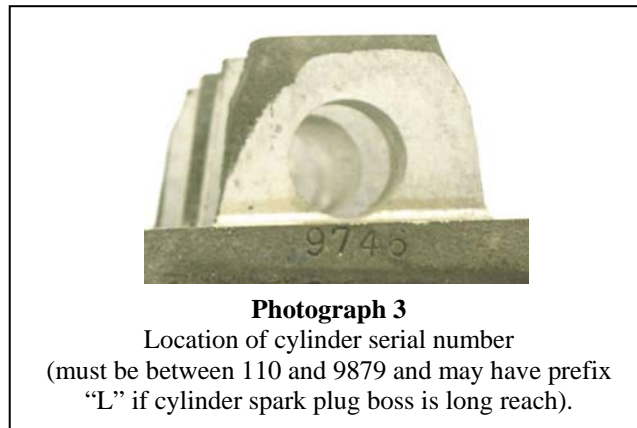
NOTE: The Subject Matter of This Service Bulletin Is Incorporated In Whole Or In Part in an FAA Airworthiness Directive. Technical Portions are FAA DER Approved.

- 1.0 PURPOSE:** To announce a replacement program for Engine Components, Inc. (ECi®) Classic Cast™ cylinders (P/N AEL65102) manufactured using Closa Foundry head castings for Lycoming parallel valve engines, in accordance with the FAA's Airworthiness Directive (AD) 2005-26-10 which became effective January 31, 2006.
- 2.0 BACKGROUND:** ECi produced and sold Classic Cast cylinders addressed in this Mandatory Service Bulletin and FAA's Airworthiness Directive beginning in January 1997 through September 2001. These cylinders were the subject of a Special Airworthiness Information Bulletin No. NE-01-32 issued July 18, 2001. Subsequent to the issuance of the SAIB, the FAA and ECi have continued to receive reports of cracks in these cylinders.
- 3.0 TIME OF COMPLIANCE:** If the cylinder assemblies are identified as being affected by this AD per sections 4.0 and 5.0 of this Mandatory Service Bulletin, then:
- 3.1 If the cylinder assembly has fewer than 800 operating hours-in-service (HIS) on the effective date of the AD, replace the cylinder at no later than 800 operating hours-in-service. No action is required until the affected cylinders reach 800 operating HIS.
- 3.2 If, on the effective date of this AD, the cylinder assembly has 800 operating HIS or more, replace the cylinder assembly within 60 operating HIS after the effective date of the AD.
- 4.0 MODELS AFFECTED:** The Classic Cast replacement cylinders to be replaced are eligible for installation on the following engines:
- O-320-A1A, A1B, A2A, A2B, A2C, A2D, A3A, A3B, A3C, B1A, B1B, B2A, B2B, B2C, B3A, B3B, B3C, C1A, C1B, C2A, C2B, C2C, C3A, C3B, C3C, D1A, D1AD, D1B, D1C, D1D, D1F, D2A, D2B, D2C, D2F, D2G, D2H, D2J, D3G, E1A, E1B, E1C, E1F, E1J, E2A, E2B, E2C, E2D, E2E, E2F, E2G, E2H, E3D, E3H; IO-320-A1A, A2A, B1A, B1B, B1C, B1D, B1E, B2A, C1A, C1B, C1F, D1A, D1AD, D1B, D1C, E1A, E1B, E2A, E2B, F1A; AIO-320-A1A, A1B, A2A, A2B, B1B, C1B; AEIO-320-D1B, D2B, E1A, E1B, E2A, E2B; LIO-320-B1A, C1A; O-360-A1A, A1AD, A1C, A1D, A1F, A1F6, A1F6D, A1G, A1G6, A1G6D, A1H, A1H6, A1J, A1LD, A2A, A2D, A2E, A2F, A2G, A2H, A3A, A3AD, A3D, A4A, A4AD, A4D, A4G, A4J, A4JD, A4K, A4M, A4N, A5AD, B1A, B2A, B2B, C1A, C1C, C1E, C1F, C1G, C2A, C2B, C2C, C2D, C2E, D1A, D2A, D2B, F1A6, G1A6; LO-360-A1G6D, A1H6; IO-360-B1A, B1B, B1BD, B1C, B1D, B1E, B1F, B1F6, B2E, B2F, B2F6, B4A, E1A; TO-360-A1G6D; LTO-360-A1G6D; HO-360-A1A, B1A, B1B, C1A; O-540-A1A, A1A5, A1B5, A1C5, A1D, A1D5, A2B, A3D5, A4A5, A4B5, A4C5, A4D5, B1A5, B1B5, B1D5, B2A5, B2B5, B2C5, B2C5D, B4A5, B4B5, B4B5D, D1A5, E1A, E4A5, E4B5, E4B5D, E4C5, F1A5, F1B5, G1A5, G1A5D, G2A5, H1A5, H1A5D, H1B5, H1B5D, H2A5, H2A5D, H2B5D, J1A5D, J1B5D, J1C5D, J1D5D, J3A5, J3A5D, J3C5D; IO-540- A1A, C1B5, C1C5, C2C, C4A5, C4B5, C4B5D, C4C5, C4D5D, D4A5, D4B5, D4C5, J4A5, N1A5, N1A5D, R1A5, T4A5, T4A5D, T4B5D, T4C5D, V4A5D, W1A5D, W3A5D; LTIO-540-K1AD**
- 5.0 CYLINDER IDENTIFICATION:** The ECi Classic Cast cylinders that are affected by this AD are identified through several unique features. The primary identification feature is the casting part number, 65099-REV-1, which is cast into the cylinder rocker flange above the exhaust port as shown in Photograph 1 (next page.) Classic Cast replacement cylinders for Lycoming parallel valve engines have this unique number while the TITAN® brand cylinders, which are **NOT** the subject of this Mandatory Service Bulletin, have casting number AEL85099 (See photograph 2 next page.)

The “EC” logo on the Classic Cast heads is also on the rocker flange toward the intake port side of the cylinder head (Photograph 1), whereas the TITAN cylinder has the Oberdorfer logo as well as the ECi logo, instead of just “ECi” (Photograph 2.)



The cylinder serial number is marked on the side of the cylinder below the rocker cover flange on the intake side. Cylinders with part number 65099-REV-1 as described in Photograph 1 (above) **AND** with serial numbers that are between 110 and 9879 (and may have prefix “L” if cylinder spark plug boss is long reach) are affected by this service bulletin and AD 2005-26-10. Photograph 3 (below) describes the location of the serial number which must be 9879 or lower. Cylinders with serial numbers 9880 or higher are not affected.



6.0 REPLACEMENT PROGRAM: ECi will exchange each Classic Cast cylinder returned under this program with a new TITAN cylinder complete assembly at a special lower exchange price. The discount will be based on the higher of either 800 HIS or actual hours in service for the cylinder(s). ECi will also provide pro-rated labor reimbursement for removal and installation. Owners or operators that wish to exchange their cylinders should contact ECi Customer Service to obtain a Returned Material Authorization (RMA) number and a completed Warranty Application (Form T800.1a). The customer can then ship the Classic Cast cylinders to ECi (freight pre-paid), and then ECi will ship the new replacement cylinders ground-freight prepaid. **NOTE: To receive proper discount and labor credit, cylinders MUST be in an “as-removed” condition. Do not send piston pins or rocker arms.**

ⁱ Classic Cast and TITAN brand cylinders are trademarks of Engine Components, Inc.