

LUFTVÄRDIGHETSDIREKTIV (LVD)

Sektion 2. Utlandstillverkad flygmateriel

Denna LVD har utfärdats för att omfatta alla de nationella luftfartyg som inte regleras av EASA utan av det svenska regelverket BCL-M.

TITEL:	Inspektion/byte av vissa cylinder på Lycoming kolvmotorer modell 320, 360 och 540 serier.
GÄLLER:	Lycoming Motorer modeller 320, 360 och 540 serier, "Parallel Valve" kolvmotorserier listat i tabell 1 av FAA AD 2008-19-05, med ECI med cylinder, Part Nummer (P/N) AEL65102 serier "Titan", och med cylinder huvud, P/N AEL 85099 installerad.
REVISION:	-
ÅTGÄRD:	Utför åtgärder i enlighet med bifogad FAA AD 2008-19-05. Refererad AD finns även tillgänglig på följande internetadress: www.airweb.faa.gov
TID FÖR ÅTGÄRD:	Enligt FAA AD 2008-19-05, men med denna LVD:s beslutsdatum som utgångspunkt.
UNDERLAG:	Enligt FAA AD 2008-19-05, ECI Mandatory Service Bulletin No 08-1, Revision 3, daterad August 19, 2008 information relaterad till den SB kan man få via Peter W.Hakala, Aerospace Engineer, Special Certification office e-mail: www.airweb.faa.gov .
	För alternativa underlag/förfaringssätt att uppfylla denna LVD, se "Alternative Methods of Compliance" i refererad FAA AD 2008-19-05.
REFERENS:	FAA AD 2008-19-05
BESLUTSDATUM:	08 april 2011
BESLUT:	TSL 2011-465

Åtgärder enligt LVD utgör nödvändig förutsättning för ifrågavarande flygmateriels luftvärdighet. Referens BCL M 1.11.
Anteckning om åtgärd, som vidtagits i enlighet med LVD, skall införas i teknisk journal för berörd flygmateriel med hänvisning till ifrågavarande LVD-nummer. Angivet underlag refererar till senast gällande revision/utgåva.

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www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2008-19-05 Engine Components, Inc. (ECi): Amendment 39-15672. Docket No. FAA-2008-0052; Directorate Identifier 2008-NE-01-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective October 20, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the Lycoming Engines (formerly Textron Lycoming) models 320, 360, and 540 series, "Parallel Valve", reciprocating engines listed in Table 1 of this AD, with ECi cylinder assembly, part number (P/N) AEL65102 series "Titan", and with cylinder head, P/N AEL85099, installed.

(1) The applicable cylinder assembly serial numbers (SNs) are SN 1138-02 through SN 35171-22, (referred to in this AD as Group "A" cylinder assemblies); and

(2) SN 35239-01 through SN 37016-28 (referred to in this AD as Group "B" cylinder assemblies).

(3) Note that the cylinder assembly P/N is at the crankcase end of the cylinder assembly, and might be difficult to see. As a guide in determining if your cylinder assemblies are affected, all affected cylinder assemblies have cylinder head P/N AEL85099. The cylinder head P/N is at the top of the cylinder head, near the intake and exhaust valve springs, and is easier to locate than the cylinder assembly P/N.

(4) Note that the set of numbers appearing on the cylinder, above and to the left of the SN, in the form of "123456" is not used for determining applicability.

Table 1—Engine Models

Cylinder Assembly Part Number:	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
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 Lycoming Engines (formerly Textron Lycoming) models 320, 360, and 540 series, "Parallel Valve", reciprocating 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

Engine Models:	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: Vipan (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")
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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
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Cicare: Cicare AG

Bellanca Aircraft: Citabria 150 (7GCAA), Citabria 150S (7GCBC)

O-320-A2D	Piper Aircraft: Apache (PA-23)
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O-320-A3A	Doyn Aircraft: Doyn-Cessna (170, 170A, 170B)
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Corben-Fettes: Globe Special (Globe GC-1B)

O-320-A3B	Piper Aircraft: Apache (PA-23)
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Doyn Aircraft: Doyn-Cessna (170, 170A, 170B)

Teal II: TSC (1A2)

O-320-B1A	Piper Aircraft: Apache (PA-23 "160")
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Doyn Aircraft: Doyn-Cessna (170, 170A, 170B)

Malmo: Vipan (MF1-10)

O-320-B1B	Piper Aircraft: Apache (PA-23 "160")
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Doyn Aircraft: Doyn-Cessna (170, 170A, 170B)

O-320-B2A	Piper Aircraft: Tri-Pacer (PA-22 "160", PA-22S "160")
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O-320-B2B	Piper Aircraft: Tri-Pacer (PA-22 "160", PA-22S "160")
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Beagle: Airedale (D5-160)

Fuji-Heavy Industries: Fuji (F-200)

Uirapuru: Aerotec 122

O-320-B2C	Robinson: R-22
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O-320-B2D	Maule: MX-7-160
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O-320-B2E	Lycon
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O-320-B3A	Piper Aircraft: Apache (PA-23 "160")
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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	Hindustan Aeronautics Ltd.: HT-2
AEIO-320-E1A	Bellanca Aircraft Champion Aircraft
AEIO-320-E1B	Bellanca Aircraft Champion Aircraft: Decathlon (8KCAB-CS)
AEIO-320-E2B	Bellanca Aircraft Champion Aircraft: Decathlon (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: Vipan (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: Aiglon (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 Decathlon (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: Corioeca (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
IO-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: (WA4-21) 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 45 failures with head separations of ECi cylinder assemblies. We are issuing this AD to prevent loss of engine power due to cracks at the head-to-barrel interface in the cylinder assemblies and possible engine failure caused by separation of a cylinder head, which could result in loss of control of the aircraft.

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 Cylinder Assemblies Not Replaced Since New

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

Engines Overhauled or Cylinder Assemblies Replaced Since New

(g) If your engine was overhauled or had a cylinder assembly replaced since new, do the following:

(1) Before further flight, inspect the maintenance records and engine logbook to determine if the overhaul or repair facility used ECi cylinder assemblies, P/N AEL65102, with cylinder head, PN AEL85099, with a SN 1138-02 through SN 35171-22, or a SN 35239-01 through SN 37016-28, installed.

(2) If the cylinder assemblies are not ECi, P/N AEL65102, no further action is required.

(3) If the cylinder assemblies are ECi, P/N AEL65102, and if the serial number is not listed in this AD, no further action is required.

(4) If the cylinder assemblies are ECi, P/N AEL65102, and if the serial number is listed in this AD, do the following:

Group "A" Cylinder Assemblies

(i) For Group "A" cylinder assemblies:

(A) Perform an initial visual inspection as specified in paragraphs (h) through (j) of this AD, and an initial compression test as specified in paragraphs (k) through (o) of this AD, within the next 10 operating hours time-in-service (TIS), if the cylinder assembly has 350 or more operating hours TIS on the effective date of this AD, but fewer than 2,000 operating hours TIS.

(B) Perform an initial visual inspection as specified in paragraphs (h) through (j) of this AD, and an initial compression test as specified in paragraphs (k) through (o) of this AD, before exceeding 350 operating hours TIS, if the cylinder assembly has fewer than 350 operating hours TIS on the effective date of this AD.

(C) Replace cylinder assemblies installed in helicopter engines within the next 25 operating hours TIS after the effective date of this AD if the cylinder assembly has 1,500 operating hours TIS or more on the effective date of this AD.

(D) Replace cylinder assemblies installed in airplane engines within the next 25 operating hours TIS after the effective date of this AD if the cylinder assembly has 2,000 operating hours TIS or more on the effective date of this AD.

(E) Perform repetitive visual inspections as specified in paragraphs (h) through (j) of this AD, and repetitive compression tests as specified in paragraphs (k) through (o) of this AD, within every 50 operating hours TIS.

(F) Replace cylinder assemblies installed in helicopter engines that pass the visual inspections and compression tests, no later than 1,500 operating hours TIS after the effective date of this AD.

(G) Replace cylinder assemblies installed in airplane engines that pass the visual inspections and compression tests, no later than 2,000 operating hours TIS after the effective date of this AD.

Group "B" Cylinder Assemblies

(ii) For Group "B" cylinder assemblies:

(A) Perform an initial visual inspection as specified in paragraphs (h) through (j) of this AD, and initial compression test as specified in paragraphs (k) through (o) of this AD, within an additional 10 operating hours TIS.

(B) Replace the cylinder assembly within the next 25 operating hours TIS after the effective date of this AD if the cylinder assembly has 350 or more operating hours TIS on the effective date of this AD.

(C) Replace cylinder assemblies that pass the initial visual inspections and compression tests, before exceeding 350 operating hours TIS after the effective date of this AD.

Visual Inspection

(h) Visually inspect around the exhaust valve side, for cracks or any signs of black or white residue of combustion leakage from cracks.

(i) Replace cracked cylinder assemblies before further flight.

(j) Information on cylinder assembly visual inspection can be found in ECI Mandatory Service Bulletin (MSB) No. 08-1, Revision 3, dated August 19, 2008.

Cylinder Assembly Compression Test

(k) Compression test the cylinder assembly.

(l) Information on cylinder assembly compression testing can be found in ECI MSB No. 08-1, Revision 3, dated August 19, 2008.

(m) During the compression test, if the cylinder pressure gauge reads below 70 pounds-per-square-inch, apply a water and soap solution to the side of the leaking cylinder, near the head-to-barrel interface.

(n) Replace the cylinder assembly before further flight, if air leakage and bubbles are observed on the side of the cylinder assembly, near the head-to-barrel interface.

(o) Repair or replace the engine cylinder assembly before further flight if the cause of the low gauge reading in paragraph (m) of this AD is from leaking intake or exhaust valves, or from leaking piston rings.

Prohibition of ECI Cylinder Assemblies Affected by This AD

(p) After the effective date of this AD, do not install any ECI cylinder assembly, P/N AEL65102, with cylinder head, P/N AEL85099, and with SN 1138-02 through SN 35171-22, or SN 35239-01 through SN 37016-28, onto any engine, and do not attempt to repair or reuse these ECI cylinder assemblies.

Alternative Methods of Compliance

(q) 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.

Special Flight Permits

(r) Under 14 CFR 39.23, we will not approve special flight permits for this AD for engines that have failed the visual inspection or the cylinder assembly compression test required by this AD.

Related Information

(s) ECI Mandatory Service Bulletin No. 08-1, Revision 3, dated August 19, 2008, pertains to the subject of this AD.

(t) Contact Peter W. Hakala, Aerospace Engineer, Special Certification Office, FAA, Rotorcraft Directorate, 2601 Meacham Blvd., Fort Worth, TX 76193; e-mail: peter.w.hakala@faa.gov; telephone (817) 222-5145; fax (817) 222-5785, for more information about this AD.

Issued in Burlington, Massachusetts, on September 5, 2008.

Peter A. White,

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

[FR Doc. E8-21125 Filed 9-12-08; 8:45 am]