

MANDATORY

SERVICE BULLETIN

DATE: September 19, 2008
Service Bulletin No. 577A
(Supersedes Service Bulletin No. 577)
Engineering Aspects are
FAA Approved

SUBJECT: Reprint of Sky-Tec Service Bulletin No. 07-01, Rev. D (Sky-Tec PM Model Starter Replacement)

MODELS AFFECTED: Lycoming O-320; AEIO-360, IO-360, O-360; AEIO-540, IO-540, TIO-540 model engines with serial numbers listed in Table 1. Newly affected serial numbers are highlighted in gray.

Lycoming P/N 31A22100, 31B22101 and 31B22104 Sky-Tec starters sold as spares with Sky-Tec serial numbers listed in Table 2. Newly affected serial numbers are highlighted in gray.

TIME OF COMPLIANCE: Within the next 10 hours of engine operation if the starter is required for in-flight engine restarting; otherwise at the next convenient maintenance event.

Sky-Tec Service Bulletin No. 07-01, Rev. D is reprinted in its entirety as follows. Lycoming requires compliance with all elements of this Service Bulletin and with the additional notes listed below.

This reprint is current at the time Lycoming Service Bulletin No. 577A is issued. However, when complying with this Service Bulletin, insure that compliance is in accordance with the latest revision of Sky-Tec Service Bulletin No. 07-01.

NOTE 1

On Lycoming engines, the Sky-Tec starter serial number is located on the starter data plate. This data plate also lists the Sky-Tec starter model number (example: 149-24PM), voltage, and pitch. The Lycoming part number (example: P/N 31B22101) is listed on a separate tag below the starter data plate.

NOTE 2

For Lycoming engines still under warranty, contact your authorized Lycoming Distributor for further instructions regarding warranty part replacement. For Lycoming engines no longer under warranty, or for spares contact Sky-Tec. See Note 3.



General Aviation
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NOTE 3

Contact information for Sky-Tec is:

Sky-Tec

Attention: Mr. Rich Chiappe

350 Howard Clemmons Road

Granbury, Texas 76048

Phone: 800-476-7896

International: 817-573-2250

Fax: 817-573-2252

Website: www.skytecair.com

TABLE 1

Model	Engine S/N	Model	Engine S/N	Model	Engine S/N
O-320-D2A	L-20212-39E	AEIO-360-B1F	L-26380-51E	AEIO-540-D4D5	L-32189-48E
O-320-D3G	L-4313-39E	AEIO-360-B1F	L-28039-51E	AEIO-540-D4D5	L-32190-48E
O-320-D3G	L-19027-39E	AEIO-360-B1F	L-28330-51E	AEIO-540-D4D5	L-32191-48E
O-320-D3G	L-19754-39E	AEIO-360-B1F	L-28394-51E	AEIO-540-D4D5	RL-15048-48E
O-320-D3G	L-20218-39E	AEIO-360-B1F	L-28734-51E	AEIO-540-D4D5	RL-24944-48E
O-320-D3G	L-20283-39E	AEIO-360-B1F	L-28921-51E	AEIO-540-L1B5	L-33221-48E
O-320-D3G	L-20300-39E	AEIO-360-B1F	L-29277-51E	IO-540-AA1A5	L-26903-48E
O-320-D3G	L-20313-39E	AEIO-360-B1F	L-31086-51E	IO-540-AA1A5	RL-22023-48A
O-320-D3G	L-20315-39E	AEIO-360-B1F	L-8562-51E	IO-540-AC1A5	L-2353-48E
O-320-D3G	L-20316-39E	AEIO-360-B1F	RL-14209-51E	IO-540-AC1A5	L-9500-48E
O-320-D3G	L-20317-39E	AEIO-360-B1F	RL-25036-51E	IO-540-AC1A5	L-9845-48E
O-320-D3G	L-20320-39E	AEIO-360-B2F	L-33481-51E	IO-540-AC1A5	L-15620-48E
O-320-D3G	L-20321-39E	IO-360-A3B6	L-33451-51E	IO-540-AC1A5	L-19559-48E
O-320-D3G	L-20322-39E	IO-360-A3B6	L-33946-51E	IO-540-AC1A5	L-20930-48E
O-320-D3G	L-20323-39E	IO-360-C1C	L-23709-51E	IO-540-AC1A5	L-26858-48E
O-320-D3G	L-20326-39E	IO-360-C1G6	L-7247-51E	IO-540-AC1A5	L-32743-48E
O-320-D3G	L-20331-39E	O-360-A1P	L-40812-36E	IO-540-AC1A5	L-32823-48E
O-320-D3G	L-20334-39E	O-360-A1P	L-40814-36E	IO-540-AC1A5	L-32867-48E
O-320-E3D	L-34498-27E	O-360-A1P	L-40825-36E	IO-540-AC1A5	L-32878-48E
AEIO-360-B1F	L-15945-51E	O-360-A1P	L-40833-36E	IO-540-AC1A5	L-32917-48E
AEIO-360-B1F	L-17939-51E	O-360-A1P	L-40838-36E	IO-540-AC1A5	L-32944-48E
AEIO-360-B1F	L-17949-51E	O-360-A1P	L-40842-36E	IO-540-AC1A5	L-32977-48E
AEIO-360-B1F	L-18039-51E	O-360-A1P	L-40856-36E	IO-540-AC1A5	L-33002-48E
AEIO-360-B1F	L-19027-51E	AEIO-540-D4D5	L-32077-48E	IO-540-AC1A5	L-33039-48E
AEIO-360-B1F	L-20246-51E	AEIO-540-D4D5	L-32078-48E	IO-540-AC1A5	L-33211-48E
AEIO-360-B1F	L-24568-51E	AEIO-540-D4D5	L-32082-48E	IO-540-AC1A5	L-33275-48E
AEIO-360-B1F	L-24581-51E	AEIO-540-D4D5	L-32084-48E	IO-540-AC1A5	L-33310-48E
AEIO-360-B1F	L-24675-51E	AEIO-540-D4D5	L-32085-48E	IO-540-AC1A5	RL-17832-48E
AEIO-360-B1F	L-24677-51E	AEIO-540-D4D5	L-32092-48E	IO-540-AC1A5	RL-20885-48E
AEIO-360-B1F	L-24960-51E	AEIO-540-D4D5	L-32187-48E	IO-540-K1G5	L-28206-48E
AEIO-360-B1F	L-25198-51E	AEIO-540-D4D5	L-32188-48E	IO-540-K1G5	L-32122-48E

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Model	Engine S/N	Model	Engine S/N	Model	Engine S/N
IO-540-K1G5	L-32167-48E	TIO-540-AJ1A	L-12932-61E	TIO-540-AJ1A	L-13077-61E
IO-540-K1G5	L-33230-48E	TIO-540-AJ1A	L-12933-61E	TIO-540-AJ1A	L-13078-61E
IO-540-K1J5	L-32861-48E	TIO-540-AJ1A	L-12940-61E	TIO-540-AJ1A	L-13089-61E
IO-540-K1J5	L-32862-48E	TIO-540-AJ1A	L-12948-61E	TIO-540-AJ1A	L-13092-61E
IO-540-K1J5	L-32863-48E	TIO-540-AJ1A	L-12954-61E	TIO-540-AJ1A	L-13093-61E
IO-540-K1J5	L-32868-48E	TIO-540-AJ1A	L-12955-61E	TIO-540-AJ1A	L-13094-61E
IO-540-K1J5	L-32869-48E	TIO-540-AJ1A	L-12961-61E	TIO-540-AJ1A	L-13101-61E
IO-540-K1J5	L-33020-48E	TIO-540-AJ1A	L-12962-61E	TIO-540-AJ1A	L-13104-61E
IO-540-K1J5	L-33051-48E	TIO-540-AJ1A	L-12964-61E	TIO-540-AJ1A	L-13105-61E
IO-540-K1J5	L-33052-48E	TIO-540-AJ1A	L-12966-61E	TIO-540-AJ1A	L-13106-61E
IO-540-K1J5	L-33106-48E	TIO-540-AJ1A	L-12968-61E	TIO-540-AJ1A	L-13107-61E
IO-540-K1J5	L-33107-48E	TIO-540-AJ1A	L-12970-61E	TIO-540-AJ1A	L-13108-61E
IO-540-K1J5	L-33164-48E	TIO-540-AJ1A	L-12973-61E	TIO-540-AJ1A	L-13116-61E
IO-540-K1J5	L-33165-48E	TIO-540-AJ1A	L-12978-61E	TIO-540-AJ1A	L-13117-61E
IO-540-K1J5	L-33169-48E	TIO-540-AJ1A	L-12979-61E	TIO-540-AJ1A	L-13133-61E
TIO-540-A2C	L-7527-61A	TIO-540-AJ1A	L-12984-61E	TIO-540-AJ1A	L-13134-61E
TIO-540-A2C	RL-5705-61A	TIO-540-AJ1A	L-12990-61E	TIO-540-AJ1A	L-13135-61E
TIO-540-A2C	RL-9420-61A	TIO-540-AJ1A	L-12994-61E	TIO-540-AJ1A	L-13136-61E
TIO-540-A2C	RL-10687-61A	TIO-540-AJ1A	L-12998-61E	TIO-540-AJ1A	L-13137-61E
TIO-540-AH1A	L-12678-61A	TIO-540-AJ1A	L-13005-61E	TIO-540-AJ1A	L-13142-61E
TIO-540-AH1A	L-12686-61A	TIO-540-AJ1A	L-13006-61E	TIO-540-AJ1A	L-13143-61E
TIO-540-AH1A	L-12687-61A	TIO-540-AJ1A	L-13012-61E	TIO-540-AJ1A	L-13144-61E
TIO-540-AH1A	L-12700-61A	TIO-540-AJ1A	L-13020-61E	TIO-540-AJ1A	L-13145-61E
TIO-540-AH1A	L-12702-61A	TIO-540-AJ1A	L-13023-61E	TIO-540-AJ1A	L-13146-61E
TIO-540-AH1A	L-12709-61A	TIO-540-AJ1A	L-13024-61E	TIO-540-AJ1A	L-13156-61E
TIO-540-AH1A	L-12727-61A	TIO-540-AJ1A	L-13027-61E	TIO-540-AJ1A	L-13157-61E
TIO-540-AH1A	L-12737-61A	TIO-540-AJ1A	L-13028-61E	TIO-540-AJ1A	L-13158-61E
TIO-540-AH1A	L-12751-61A	TIO-540-AJ1A	L-13036-61E	TIO-540-AJ1A	L-13159-61E
TIO-540-AH1A	L-12762-61A	TIO-540-AJ1A	L-13037-61E	TIO-540-AJ1A	L-13163-61E
TIO-540-AH1A	L-13017-61A	TIO-540-AJ1A	L-13039-61E	TIO-540-AJ1A	L-13165-61E
TIO-540-AH1A	L-13021-61A	TIO-540-AJ1A	L-13041-61E	TIO-540-AJ1A	L-13167-61E
TIO-540-AH1A	L-13029-61A	TIO-540-AJ1A	L-13042-61E	TIO-540-AJ1A	L-13168-61E
TIO-540-AH1A	L-13066-61A	TIO-540-AJ1A	L-13044-61E	TIO-540-AJ1A	L-13171-61E
TIO-540-AH1A	L-13084-61A	TIO-540-AJ1A	L-13045-61E	TIO-540-AJ1A	L-13174-61E
TIO-540-AH1A	L-13131-61A	TIO-540-AJ1A	L-13047-61E	TIO-540-AJ1A	L-13178-61E
TIO-540-AH1A	L-13141-61A	TIO-540-AJ1A	L-13048-61E	TIO-540-AJ1A	L-13182-61E
TIO-540-AH1A	L-13155-61A	TIO-540-AJ1A	L-13055-61E	TIO-540-AJ1A	L-13183-61E
TIO-540-AH1A	L-13177-61A	TIO-540-AJ1A	L-13058-61E	TIO-540-AJ1A	L-13189-61E
TIO-540-AH1A	L-13193-61A	TIO-540-AJ1A	L-13059-61E	TIO-540-AJ1A	L-13190-61E
TIO-540-AH1A	L-13198-61A	TIO-540-AJ1A	L-13060-61E	TIO-540-AJ1A	L-13191-61E
TIO-540-AH1A	RL-8690-61A	TIO-540-AJ1A	L-13073-61E	TIO-540-AJ1A	L-13192-61E
TIO-540-AJ1A	L-11109-61E	TIO-540-AJ1A	L-13075-61E	TIO-540-AJ1A	L-13199-61E
TIO-540-AJ1A	L-12926-61E	TIO-540-AJ1A	L-13076-61E	TIO-540-AJ1A	L-13200-61E

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TIO-540-AJ1A	L-13201-61E	TIO-540-AJ1A	L-13218-61E	TIO-540-AJ1A	RL-3962-61E
TIO-540-AJ1A	L-13203-61E	TIO-540-AJ1A	L-13221-61E	TIO-540-AJ1A	RL-4610-61E
TIO-540-AJ1A	L-13204-61E	TIO-540-AJ1A	L-13225-61E	TIO-540-AJ1A	RL-6751-61E
TIO-540-AJ1A	L-13214-61E	TIO-540-AJ1A	L-13227-61E	TIO-540-AJ1A	RL-6772-61E
TIO-540-AJ1A	L-13215-61E	TIO-540-AJ1A	RL-2696-61E	TIO-540-AJ1A	RL-7157-61E
TIO-540-AJ1A	L-13216-61E	TIO-540-AJ1A	RL-2848-61E	TIO-540-AJ1A	RL-8735-61E
TIO-540-AJ1A	L-13217-61E				

TABLE 2

Lycoming P/N	Sky-Tec S/N	Lycoming P/N	Sky-Tec S/N	Lycoming P/N	Sky-Tec S/N
31A22100	F2P-040704	31B22101	F4P-100806	31B22101	F4P-150815
31B22101	F4P-010708	31B22101	F4P-100815	31B22101	F4P-150816
31B22101	F4P-010715	31B22101	F4P-110706	31B22101	F4P-150817
31B22101	F4P-010725	31B22101	F4P-110710	31B22101	F4P-190802
31B22101	F4P-010728	31B22101	F4P-110816	31B22101	F4P-190805
31B22101	F4P-010730	31B22101	F4P-110817	31B22101	F4P-190807
31B22101	F4P-010737	31B22101	F4P-110819	31B22101	F4P-190810
31B22101	F4P-010740	31B22101	F4P-110820	31B22101	F4P-190814
31B22101	F4P-010744	31B22101	F4P-110822	31B22101	F4P-190819
31B22101	F4P-010746	31B22101	F4P-110825	31B22101	F4P-190820
31B22101	F4P-010750	31B22101	F4P-110827	31B22101	F4P-190821
31B22101	F4P-020810	31B22101	F4P-130809	31B22101	F4P-190822
31B22101	F4P-020816	31B22101	F4P-130810	31B22101	F4P-190825
31B22101	F4P-020820	31B22101	F4P-130811	31B22101	F4P-220831
31B22101	F4P-040816	31B22101	F4P-130812	31B22101	F4P-390702
31B22101	F4P-040818	31B22101	F4P-130813	31B22101	F4P-390706
31B22101	F4P-040819	31B22101	F4P-130816	31B22101	F4P-390719
31B22101	F4P-050803	31B22101	F4P-130817	31B22101	F4P-430717
31B22101	F4P-050809	31B22101	F4P-130820	31B22101	F4P-430722
31B22101	F4P-060701	31B22101	F4P-130824	31B22101	F4P-430724
31B22101	F4P-060714	31B22101	F4P-130825	31B22101	F4P-430729
31B22101	F4P-060717	31B22101	F4P-150805	31B22101	F4P-470710
31B22101	F4P-060721	31B22101	F4P-150812	31B22101	F4P-470711
31B22101	F4P-060734	31B22101	F4P-150813	31B22104	F4P-060714
31B22101	F4P-080806				

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Service Bulletin

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Record of Revision

Rev. A – Additional Affected Serial Numbers Added 5/1/2007

Rev. B – Additional Affected Serial Numbers Added 5/1/2007

Rev. C – Additional Affected Serial Numbers Added 5/3/2007

Rev. D – Additional Affected Serial Numbers Added 8/26/2008, Reason(s), and Corrective Actions

TITLE

SKY-TEC PM MODEL STARTER REPLACEMENT

EFFECTIVITY

Lycoming 540 series engines fitted with the following starter units:

Model	Serial Numbers	
149-12PM	F2P-020701 thru – 020710	10pcs
	Added w/Rev. B: F2P-040701 thru – 040715	15pcs
	F2P-110715 thru – 110724	10pcs
	F2P-150701 thru – 150706	6pcs
149-24PM	F4P-010701 thru – 010750	50pcs
	Added w/Rev. A: F4P-060701 thru – 060735	35pcs
	F4P-110705 thru – 110729	25pcs
	F4P-120701 thru – 120702	2pcs
	F4P-130709 thru – 130718	10pcs
	F4P-150701 thru – 150717	17pcs
	Added w/Rev. C: F4P-040701 thru – 040712	12pcs
	Added w/Rev. D: F4P-040701 thru – 040712	12pcs
	F4P-390701 thru – 390722	22pcs
	F4P-400701 thru – 400711	11pcs
	F4P-430701 thru – 430729	29pcs
	F4P-440701 thru – 440703	3pcs
	F4P-450701 thru – 450705	5pcs
	F4P-470701 thru – 470711	11pcs
	F4P-490701 thru – 490712	12pcs
	F4P-500701 thru – 500712	12pcs
	F4P-010801 thru – 010811	11pcs
	F4P-020801 thru – 020820	20pcs
	F4P-040801 thru – 040822	22pcs
	F4P-050801 thru – 050809	9pcs
	F4P-060801 thru – 060814	14pcs
	F4P-070801 thru – 070810	10pcs
	F4P-080801 thru – 080814	14pcs
	F4P-100801 thru – 100815	15pcs
	F4P-110801 thru – 110838	38pcs
	F4P-130801 thru – 130829	29pcs
	F4P-140801 thru – 140812	12pcs
	F4P-150801 thru – 150825	25pcs
	F4P-180801 thru – 180803	3pcs
	F4P-190801 thru – 190843	43pcs

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	F4P-200801 thru – 200812	12pcs
	F4P-220811 thru – 220818	8pcs
	F4P-220820 thru – 220840	21pcs
	F4P-230801 thru – 230813	13pcs
122-12PM	C2P-030701 thru – 030705	5pcs
	C2P-050701 thru – 050719	19pcs
	C2P-100701 thru – 100708	8pcs
	C2P-110701 thru – 110706	6pcs
	C2P-120701 thru – 120706	6pcs
	C2P-140701 thru – 140706	6pcs
	C2P-150701 thru – 150703	3pcs
122-24PM	C4P-100701 thru –100703	3pcs
	C4P-120701 thru –120702	2pcs
	C4P-150701 thru –150707	<u>7pcs</u>

707 pcs Total

All affected units were manufactured and sold in 2007 and 2008. This bulletin does not apply to any other PM model units manufactured/sold. This applies only to PM model starters. No other Sky-Tec starter models are affected.

REASON

On some Lycoming 540 series engine powered aircraft fitted with affected starters listed, the cast aluminum starter mount housing can crack causing failure of the starter assembly.



- Picture 1 -
Mount Castings on Affected Starters Have 1) Sharper Radii Geometry Around Nose Opening Cutout and 2) Little/No Edge Distance Between Timing Mark and Nose Opening Cutout



- Picture 2 -
Unaffected Mount Castings Have 1) More Generous Radii Geometry Around Nose Opening Cutout and 2) Significantly More Edge Distance Between Timing Mark and Nose Opening Cutout

Reason for failure appears to be a combination of the location and depth of the timing mark hole and improper metallurgy on the mount castings on affected units. It appears that on some units, the timing mark hole was machined too deeply while metallurgy variances increased brittleness possibly allowing cracks to initiate in the mount casting.

Corrective action is twofold:

1. Manufacturer has implemented mandatory lot inspection for proper metallurgical characteristics of mount casting materials.
2. Manufacturer will modify design of casting to use larger radii geometry, increased wall thickness and additional strengthening features (more similar to previously unaffected units such as shown in Picture 2) to lessen chances of crack initiation.

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COMPLIANCE

Recommended: should be accomplished at next convenient maintenance opportunity.

ACCOMPLISHMENT INSTRUCTIONS

Contact Sky-Tec via phone or e-mail at 800-476-7896 or info@skytecair.com with serial number of affected unit. Sky-Tec will ship a replacement unit. Ship affected unit to Sky-Tec at the following address once replacement is accomplished:

RE: SB 07-01
 Sky-Tec Repair Station
 350 Howard Clemmons Rd
 Granbury, Texas 76048

Ship affected unit via UPS using receiver account number E3542E.

QUESTIONS AND COMMENTS

Contact Rich Chiappe at Sky-Tec. 800-476-7896 or richc@skytecair.com.

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