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# Sky-Tec Flyweight™ Starters & Solenoids Aircraft Fit Guide

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# Caution:

## Please Read Before Using This Guide

1. This document is NOT the FAA-approved Applicable Models List. Matters of certification eligibility can be found at [www.skytecair.com/eligibility.htm](http://www.skytecair.com/eligibility.htm)
2. This document is simply intended as a **guide** for fitting most aircraft by type. However, due to variances between aircraft due to manufacturing changes, modifications, cumulative years of maintenance and/or conversion, **it is nearly impossible to definitively recommend the correct starter for any particular aircraft based on make/model alone.** So please only use this document *AS A GUIDE ONLY*. When in doubt, call the Sky-Tec factory for confirmation. **Installation of the wrong starter will void the factory warranty.** Sky-Tec will not warrant starter wear or damage on starters (or engines) where a starter is installed incorrectly (including wrong ring gear teeth or wrong voltage, etc.) or is used in an inappropriate application.
3. There may still be a starter to fit an aircraft whose entry shows “no starter available”. Many older aircraft have been converted and upgraded. Confirm the engine make/model before determining a Sky-Tec is or is not applicable.
4. Please note the use of ring gear tooth count (on Lycoming engines) and aircraft voltage in the model numbers of all Sky-Tec starters. If your aircraft ring gear teeth and/or voltage do not match the numbers in the model recommended for your aircraft, DO NOT ORDER THE STARTER without first contacting Sky-Tec or adjusting your model number accordingly.
5. Recommendations are suggested for aircraft with factory standard equipment. Factory or after-market installed options such as air conditioning may affect the applicability of the Recommended Starter. Piper singles with air conditioning must utilize the NL-series starters.
6. Please do not assume ring gear tooth count (on Lycoming engines). Through the years, mechanics have been known to replace ring gears with whatever model they had laying around their shops at the time the work was performed. Therefore it is imperative that the installer CONFIRM RING GEAR TOOTH COUNTS ON ALL LYCOMING INSTALLATIONS.
7. IF YOU ARE UNSURE WHETHER THE STARTER YOU RECEIVE IS CORRECT, PLEASE DO NOT MOUNT IT. Call the factory first. Mounting the starter will preclude you from returning the starter to Sky-Tec as new/unused. Mounting the starter places ‘bite marks’ around the mounting holes and will have to be treated as *used* starters (no new exchange will be permitted).
8. Never use a XLT, PM or LS (permanent magnet) starter on a helicopter. Sky-Tec ONLY recommends HT starters for use on helicopters.
9. And finally, this list is only as comprehensive as we could attempt to make it. We realize there are omissions and variances. We’ve done our best to include the majority of general aviation aircraft models. If you cannot find what you are looking for (or what you are looking for is not where you’d expect it), we encourage you to speak with the factory to find the best starter for your particular application.

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## WARRANTY

Sky-Tec Partners, Ltd. ("Sky-Tec") warrants its starters to be free from defects in materials and workmanship for a period of two years from the latter of:

1. the date of purchase by the end user (as supported by an invoice copy or similar document), or
2. the date of initial first installation on an aircraft (a copy of the logbook entry showing the installation date req'd).

What *is* covered:

- Factory repair or factory's replacement of any starter Sky-Tec determines has failed under the terms of this warranty if and only if the original starter is sent to Sky-Tec for evaluation.

DO **NOT** PURCHASE A REPLACEMENT STARTER FROM A DEALER. Sky-Tec will not offer warranty credit for replacement starters purchased through a dealer. All warranty claims must be handled directly with Sky-Tec. Labor expenses to remove and replace the starter are **not** covered by this warranty. Before returning any starter to Sky-Tec for warranty consideration, first consult the Aircraft Troubleshooting Guide supplied (also available online).

To return a starter to Sky-Tec for service, first obtain a return authorization electronically online at [www.skytecair.com/obtain\\_ra.htm](http://www.skytecair.com/obtain_ra.htm). Starters returned to the factory via UPS with a valid Return Authorization number are typically repaired or replaced the same day they are received. Other carriers and/or circumstances may increase turn-around to 1-2 days.

Alternatively, Sky-Tec may offer a warranty exchange program to any customer requiring expedited replacement. The customer will be responsible for purchasing a replacement starter directly from Sky-Tec and returning their original starter directly to Sky-Tec for evaluation. If the starter is found to have failed under the terms of this warranty, appropriate credit will be given to the customer for the value of the starter plus domestic UPS Ground shipping charges. Customers will be responsible for any additional expedited shipping charges. Alternatively, a customer may receive core credit regardless of warrantability of the returned starter.

Sky-Tec makes no warranty as to suitability of its products for the intended application.

## WARRANTY DETAILS

What is **not** covered:

- Labor to Remove & Replace the starter;
- Any additional expense(s) including labor, inconvenience, transportation or loss of business due to any starter failure;
- Damage to any other engine or aircraft components;
- Additional costs born by purchases from any third party, agent or distributor besides Sky-Tec to replace any failed starter;
- Damages resulting from a starter being used in any improper application;
- Damages resulting from improper installation. Ring gear/starter mismatches are the sole responsibility of the installing mechanic and/or aircraft owner;
- Starters serviced in the field by removing or replacing any components not specifically instructed, permitted and supplied by Sky-Tec;
- Starters damaged by impact, shock, excessive shaking or other physical abuse (physical evidence: dents to starter components, loose or stripped connection terminals, and bent components not caused by defects in components, design or workmanship);
- Starters determined to have failed by application of *voltage* in excess of amount specified on starter name plate (physical evidence: armature will be splayed and/or exploded due to the forces of over-rotation and the associated centripetal force WITHOUT discoloration of commutator bars or heat warping of brush insulator);
- Starters determined to have failed by application of voltage in excess of cranking *time* specified on the **starter tag** that ships with all starters (physical evidence: copper armature bars discolored to white/purple hues, brush wires are discolored similarly, brush insulator is warped or scorched, smell of burnt metal evident, etc.);
- Starters containing any foreign substance or debris including motor oil, cleaning agents or foreign particles not found in the starter's normal composition (physical evidence: presence of substance within starter causing solenoids or motor brush assemblies to wear prematurely and/or function improperly);
- Starters within specifications that operate normally (i.e. the starter is good). Warranty applies to starters with defects, not good starters. Starter will be returned to customer. If refused, core credit may be given to the customer should the core be determined to be rebuildable at Sky-Tec's sole discretion; or
- Starters determined to have failed by a counter-rotational force caused by the engine's ignition system failing to retard all sparks at or past piston TDC during the cranking period aka "kickback" (physical evidence: bent or broken mount, broken or displaced magnets, broken or chipped brush assemblies, broken drive components and/or excessively worn or damaged drive gear teeth). Exceptions: Starters which feature Sky-Tec's exclusive Kickback Protection System (KPS®) which includes NL, HT & ST2 models.

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# Starter Model Cross Reference by OEM Manufacturer

## PLEASE READ THIS CAUTION BEFORE USING THE TABLE BELOW!

THE PRIMARY SOURCE OF FIT DATA IS THE AIRCRAFT FIT GUIDE THAT BEGINS ON THE NEXT PAGE. USE THIS CROSS REFERENCE TABLE ONLY IF NO OTHER AIRFRAME DATA IS AVAILABLE OR TO REPLACE LISTED MANUFACTURER'S STARTER WITH A SKY-TEC. AS WITH ALL STARTER MODEL RECOMMENDATIONS IN THIS GUIDE, PLEASE FAMILIARIZE YOURSELF WITH NUMBERED ITEMS ON PAGE 2 OF THIS FIT GUIDE. THESE RECOMMENDATIONS ARE ONLY A GUIDE. THE INSTALLING MECHANIC HAS ULTIMATE RESPONSIBILITY FOR ENSURING THAT THE STARTER IS FULLY COMPATIBLE WITH THE AIRFRAME AND ENGINE BEFORE INSTALLING THE STARTER.

### Lycoming Engines

Manufacturer	Mfr PN	Lycoming PN	Volts	Pitch	Weight	Installed On	Replace With	Weight
Prestolite, Electrosystems, Kelly Aerospace, Hartzell Engine Technologies	31A21210	31A21210	12V.	10/12	11.4	320, 360, 540, 235, 540	122-NL	9.3
	ERB-8011	N/A	24V.	12/14	9.5	235,290,320,340,360,540	149-NL/ec	9.3
	ERB-8012	N/A	24V.	10/12	9.5	320, 340, 360, 540	122-NL/ec	9.3
	ERZ-8011	N/A	12V.	12/14	9.5	235,290,320,340,360,540	149-NL	9.3
	ERZ-8012	N/A	12V.	10/12	9.5	320, 340, 360, 540	122-NL	9.3
	MHB-4001	76212	24V.	12/14	18.3	320, 340, 360, 540	149-NL/ec	9.3
	MHB-4002	75700	24V.	12/14	18.3	TIO-541-E	149-24HT/ec	8.9
	MHB-4003	76214	24V.	12/14	18.3	360	149-NL/ec	9.3
	MHB-4005	78791	24V.	12/14	18.3	TIGO-541	149-24HT/ec	8.9
	MHB-4007	LW-11936	24V.	12/14	18.3	540	149-NL/ec	9.3
	MHB-4008	LW-12023	24V.	12/14	18.3	TVO-435, VO-435	149-24HT/ec	8.9
	MHB-4009	LW-12159	24V.	12/14	18.3	LTIO-540	149-NLR/ec	9.3
	MHB-4010	LW-14208	24V.	12/14	18.3	320, 340, 360, 540	149-NL/ec	9.3
	MHB-4011	LW-14212	24V.	12/14	18.3	TIO-541-E	149-24HT/ec	8.9
	MHB-4012	LW-14210	24V.	12/14	18.3	360	149-NL/ec	9.3
	MHB-4013	LW-14213	24V.	12/14	18.3	540	149-NL/ec	9.3
	MHB-4014	LW-14214	24V.	12/14	18.3	LTIO-540	149-NLR/ec	9.3
	MHB-4015	LW-15483	24V.	10/12	18.3	235	122-NL/ec	9.3
	MHB-4016	LW-15572	24V.	12/14	18.3	320, 340, 360, 540	149-NL/ec	9.3
	MHB-4016A	31B22462	24V.	10/12	18.3	720	122-NL/ec	9.3
	MHB-4016A	31B22462	24V.	10/12	18.3	720	122-NL/ec	9.3
	MHB-4017	LW-15576	24V.	12/14	18.3	TIO-541-E	149-24HT/ec	8.9
	MHB-4018	LW-15577	24V.	12/14	18.3	540	149-NL/ec	9.3
	MHB-4019	LW-15574	24V.	12/14	18.3	360	149-NL/ec	9.3
	MHB-4020	LW-18990	24V.	12/14	18.3	360	149-NL/ec	9.3
	MHB-6014	31B22477	24V.	12/14	8.3	540	149-NL/ec	9.3
	MHB-6016	31B22474	24V.	12/14	8.3	720	149-NL/ec	9.3
	MHB-6018	31B22476	24V.	12/14	8.3	235	149-NL/ec	9.3
	MHB-EO-26102	LW-14447	24V.	12/14	18.3	360	149-NL/ec	9.3
	MHI-4004	77879	24V.	10/12	18.3	720	122-NL/ec	9.3
	MHI-4005	LW-12787	24V.	10/12	18.3	720	122-NL/ec	9.3
	MMU-4001	LW-16207	24V.	10/12	18.3	235	122-XLT	9.3
	MMU-6001	31B22475	24V.	10/12	8.3	320, 340, 360, 540	122-NL/ec	9.3
	MZ-4204	76210	12V.	10/12	18.3	235, 290, 320	122-NL	9.3
	MZ-4205	76213	12V.	12/14	18.3	360	149-NL	9.3
	MZ-4206	76211	12V.	12/14	18.3	235,290,320,340,360,540	149-NL	9.3
	MZ-4207	75699	12V.	12/14	18.3	TIO-541-A	149-24HT/ec	8.9
	MZ-4216	LW-10556	12V.	12/14	18.3	LIO-320,LIO-360,LIO-360	149-NLR	9.3
	MZ-4217	LW-14209	12V.	12/14	18.3	360	149-NL	9.3
	MZ-4218	LW-14207	12V.	12/14	18.3	235,290,320,340,360,540	149-NL	9.3
	MZ-4219	LW-14211	12V.	12/14	18.3	TIO-541-A	149-24HT/ec	8.9
	MZ-4220	LW-14215	12V.	12/14	18.3	LIO-320,LIO-360,LIO-360	149-NLR	9.3
MZ-4221	LW-15573	12V.	12/14	18.3	360	149-NL	9.3	
MZ-4222	LW-15571	12V.	12/14	18.3	235,290,320,340,360,540	149-NL	9.3	
MZ-4223	LW-15575	12V.	12/14	18.3	TIO-541-A	149-24HT/ec	8.9	
MZ-4224	LW-16460	12V.	12/14	18.3	320	149-NL	9.3	
MZ-4225	LW-18047	12V.	12/14	18.3	360	149-NL	9.3	
MZ-4226	LW-18989	12V.	12/14	18.3	360	149-NL	9.3	
MZ-6204	31A22473	12V.	10/12	8.3	235, 290, 320	149-NL	9.3	
MZ-6220	31A22472	12V.	12/14	8.3	LIO-320,LIO-360,LIO-360	149-NLR	9.3	
MZ-6222	31A22470	12V.	12/14	8.3	235,290,320,340,360,540	149-NL	9.3	
MZ-6224	31A22471	12V.	12/14	8.3	320	149-NL	9.3	
SRB-9021	N/A	24V.	12/14	7.6	235,290,320,340,360,540	149-24LS	8.3	
SRB-9022	N/A	24V.	10/12	7.6	320, 340, 360, 540	122-NL/ec	9.3	
SRB-9031	N/A	24V.	12/14	7.6	235,290,320,340,360,540	149-24PM	8.3	
SRB-9032	N/A	24V.	10/12	7.6	320, 340, 360, 540	122-NL/ec	9.3	
SRZ-9021	N/A	12V.	12/14	7.6	235,290,320,340,360,540	149-12LS	8.3	
SRZ-9022	N/A	12V.	10/12	7.6	235, 290, 320	122-NL	9.3	
SRZ-9031	N/A	12V.	12/14	7.6	235,290,320,340,360,540	149-12PM	8.3	
SRZ-9032	N/A	12V.	10/12	7.6	235, 290, 320	122-NL	9.3	

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## Lycoming Engines (cont.)

Manufacturer	Mfr PN	Lycoming PN	Volts	Pitch	Weight	Installed On	Replace With	Weight
Delco-Remy	1109669	69953	24V.	10/12	18.3	235, 290, 320	122-NL/ec	9.3
	1113471	72279	12V.	10/12	18.3	720	122-NL	9.3
Lycoming	31A21198	31A21198	12V.	12/14	11.4	235, 320	149-NL	9.3
	31B21064	31B21064	24V	12/14	11.4	360, 540	149-NL/ec	9.3
	31B21211	31B21211	12V.	10/12	11.4	235, 320	122-NL	9.3
	PM1201	31A22206	12V.	12/14	11.5	320, 360, 540	149-NL	9.3
Lamar	PM1203	31A22361	12V.	10/12	11.5	235, 320	122-NL	9.3
	PM2401	31B22207	24V.	12/14	11.5	320, 360, 540	149-NL/ec	9.3
	PM2403	31B22362	24V.	10/12	11.5	235,320	122-NL/ec	9.3
	PM2404	31B22553	24V.	12/14	11.5	LTIO-540	149-NLR/ec	9.3
	PM1204	31A22552	12V.	12/14	11.5	320, 360, 540	149-NL	9.3

## Continental Engines

Manufacturer	Mfr PN	Volts	If Installed On:	Then	Wt.
Delco-Remy	1109471	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	1109681	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	1109684	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	1108249	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	646275	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
IO-520 through TSIO-550			C12ST5	9.3	
1108234	24V.	0300-D through IO360	C24ST3	6.5	
		0-470 through IO470	C24ST4	7.6	
		IO-520 through TSIO-550	C24ST5	9.3	
Lamar	XT-1207	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	CT-2407	24V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3

Manufacturer	Mfr PN	Volts	If Installed On:	Then	Wt.
Teledyne	537241	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
Continental	535856	12V.	IO-520 through TSIO-550	C12ST5	9.3
			0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	539910	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	626960	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	627842	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	628482	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	629176	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	637847	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	634592	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	646236	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	646238	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	655565	12V.	0300-D through IO360	C12ST3	6.5
			0-470 through IO470	C12ST4	7.6
			IO-520 through TSIO-550	C12ST5	9.3
	627841	24V.	0300-D through IO360	C24ST3	6.5
			0-470 through IO470	C24ST4	7.6
			IO-520 through TSIO-550	C24ST5	9.3
	634433	24V.	0300-D through IO360	C24ST3	6.5
			0-470 through IO470	C24ST4	7.6
			IO-520 through TSIO-550	C24ST5	9.3
	655566	24V.	0300-D through IO360	C24ST3	6.5
			0-470 through IO470	C24ST4	7.6
			IO-520 through TSIO-550	C24ST5	9.3
	656181	24V.	0300-D through IO360	C24ST3	6.5
			0-470 through IO470	C24ST4	7.6
			IO-520 through TSIO-550	C24ST5	9.3

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## Recommended Starter/Solenoids by Aircraft Manufacturer

### Aero Commander

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
500	LYC O-540-A2B	149-Tooth Ring Gear	24	149-NL/ec			
560	LYC GO-480			No fit			
100 DARTER	LYCOMING O-320-A2B	149-Tooth Ring Gear	12	149-NL			
100 LARK	LYCOMING O-360-A2F	149-Tooth Ring Gear	12	149-NL			
500A	CONT IC-470-M	CONT Starter Adapter	24	C24ST4			
700 (Fuji Commander)	LYC TIO-540	149-Tooth Ring Gear	24	149-NL/ec			

### Aeronca

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
11AC CHIEF	CONT A65-8				No fit unless upgraded to -12 Engine		
11BC CHIEF	CONT C-85				No fit unless upgraded to -12 Engine		
11CC SUPER CHIEF	CONT C85-8F				No fit unless upgraded to -12 Engine		
15AC SEDAN	CONT O-300	Pull-Start	12	KCST2	15		
65TC	CONT A65-7				No fit unless upgraded to -12 Engine		
7AC CHAMP	CONT A65-8				No fit unless upgraded to -12 Engine		
7AC CHAMPION	CONTINENTAL				No fit unless upgraded to -12 Engine		
7AC CHAMPION	CONTINENTAL				No fit unless upgraded to -12 Engine		
7ACA	FRANKLIN 2A-120	No fit					
7BCM CHAMP	CONT C-85				No fit unless upgraded to -12 Engine		
7CCM CHAMP	CONT C90-12	Pull-Start	12	KCST2	15		
7DC CHAMP	CONT C85-8				No fit unless upgraded to -12 Engine		
7EC CHAMP	CONT C-90-12F	Pull-Start	12	KCST2	15		
C-2	CONT?				No fit unless upgraded to -12 Engine		
K SCOUT	CONT?				No fit unless upgraded to -12 Engine		

### Aerostar Aircraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
601P	LYC IO-540-S1A5	149-Tooth Ring Gear	24	149-NL/ec			
700P - Left Engine	LYC LTIO-540-U2A	149-Tooth Ring Gear	24	149-NLR/ec			
700P - Right Engine	LYC TIO-540-U2A	149-Tooth Ring Gear	24	149-NL/ec			

### American Champion

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
ADVENTURE 7GCAA	LYC O-320-B2B	122-Tooth Ring Gear	12	122-12XLT	1		
AER FC-90 TRI-TRAVELER	CONT C-90	Pull-Start	12	KCST2	15		
AERONCA 7EC TRAVELER	CONT C-90	Pull-Start	12	KCST2	15		
AURORA 7ECA	LYC O-235-K2C	122-Tooth Ring Gear	12	122-12XLT	1		
CITABRIA 7GCAA	LYC O-320-B2B	149-Tooth Ring Gear	12	149-12XLT	1		
CITABRIA 7KCAB	LYC IO-320	149-Tooth Ring Gear	12	149-12XLT	1		
EXPLORER 7GCBC	LYC O-320	149-Tooth Ring Gear	12	149-12XLT	1		
SCOUT 8GCBC	LYC O-360-C2E	149-Tooth Ring Gear	12	149-NL			

### American General

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
AG5B TIGER	LYC O-360-A4K	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	

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## Aviat Aircraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
EAGLE II	LYC AEIO-360	149-Tooth Ring Gear	12	149-12LS or 149-12XLT			
A-1 HUSKY	LYC O-360-C1G	149-Tooth Ring Gear	12	149-12PM	1	A22NM	
A-1B HUSKY	LYC O-360-A1P	149-Tooth Ring Gear	12	149-12PM	1		
PITTS S-1-11B	LYC IO-540	149-Tooth Ring Gear	12	149-NL		A8SO	
PITTS S-1S	LYC AEIO-360	149-Tooth Ring Gear	12	149-12LS or 149-12XLT			
PITTS S-2C	LYC AEIO-540	149-Tooth Ring Gear	12	149-NL			
PITTS S-1	LYC AEIO-360-A1E	149-Tooth Ring Gear	12	149-12LS or 149-12XLT			
PITTS S-2	LYC AEIO-540-D4A5	149-Tooth Ring Gear	12	149-NL			

## Beechcraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
19A	LYC O-320	149-Tooth Ring Gear	12	149-NL			
B19	LYC O-320	149-Tooth Ring Gear	12	149-NL			
23 Musketeer	LYC O-320	149-Tooth Ring Gear	12	149-NL			
A23 Musketeer II	CONT IO-346-A	Cont Starter Adapter	12	C12ST3			
A23A Musketeer II	CONT IO-346-A	Cont Starter Adapter	12	C12ST3			
A23-19	LYC O-320	149-Tooth Ring Gear	12	149-NL			
A23-24 Super Musketeer III	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
B23	LYC O-360	149-Tooth Ring Gear	12	149-NL			
C23 Sundowner	LYC O-360	149-Tooth Ring Gear	12	149-NL			
A24	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
A24R	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
B24R Sierra 200	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
C24R Sierra 200	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
35-C33, E33, F33	CONT IO-470-K	CONT Starter Adapter	V	CvST4		A12, M12, S12 or A24, M24, S24	
35-C33A, E33A, E33C	CONT IO-520	CONT Starter Adapter	12	C12ST5		A12, M12, S12	
G33 Bonanza	CONT IO-470-N	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
35-33 Debonair	CONT IO-470-J	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
35-A33 Bonanza	CONT IO-470-J	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
35-B33 Bonanza	CONT IO-470-K	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
H35 Bonanza	CONT O-470-G	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
J35 Bonanza	CONT IO-470-C	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
K35, M35	CONT IO-470-C	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
N35	CONT IO-470-N	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
P35	CONT IO-470-N	CONT Starter Adapter	12	C12ST4		A12, M12, S12	
S35	CONT IO-520B or BA	CONT Starter Adapter	12	C12ST5		A12, M12, S12	
V35, V35A, V35B	CONT IO-520B or BA or BB	CONT Starter Adapter	V	CvST5		A12, M12, S12 or A24, M24, S24	
36, A36	CONT IO-520 or IO-550	CONT Starter Adapter	V	CvST5		A12, M12, S12 or A24, M24, S24	
A36TC Bonanza	TSIO-520-U or TSIO-520-UB	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
B36TC Bonanza	CONT TSIO-520-UB	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
G36 Bonanza	CONT IO-550-B	CONT Starter Adapter	24	C24ST3		A24, M24, S24	

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## Beechcraft (cont)

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
50 B50 TWIN BONANZA	LYC GO-435				No Fit		
50 C50 TWIN BONANZA	LYC GO-480				No Fit		
50 D50 A,B,C,E	LYC GO-480				No Fit		
50 E50, F50, G50	LYC GSO-480				No Fit		
50 H50 & J50	LYC IGSO-480				No Fit		
95 TRAVEL AIR	LYC O-360	122-Tooth Ring Gear	24	122-NL/ec		A24, M24, S24	
95 B95 TRAVEL AIR	LYC O-360-A1A	122-Tooth Ring Gear	24	122-NL/ec		A24, M24, S24	
95 B95A,D95A	LYC IO-360-B1A	122-Tooth Ring Gear	24	122-NL/ec		A24, M24, S24	
95 E95 TRAVEL AIR	LYC IO-360-B1B	122-Tooth Ring Gear	24	122-NL/ec		A24, M24, S24	
95-C55 BARON	CONT IO-520	CONT Starter Adapter	24	C24ST4		A24, M24, S24	
D55 BARON	CONT IO-520	CONT Starter Adapter	24	C24ST4		A24, M24, S24	
95-C55A BARON	CONT IO-520	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
D55A BARON	CONT IO-520	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
E55 BARON	CONT IO-520	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
E55A BARON	CONT IO-520	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
58, 58A BARON	CONT IO-520 OR IO-550	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
58P BARON	TSIO-520-L or TSIO-520-LB	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
58PA BARON	TSIO-520-L or TSIO-520-LB	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
58TC BARON	TSIO-520-L or TSIO-520-LB	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
58TCA BARON	TSIO-520-L or TSIO-520-LB	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
60 A60 B60 DUKE	LYC TIO-541	149-Tooth Ring Gear	24	149-24HT/ec			
65, A65, 65N QUEEN AIR	LYC IGSO-480, -540				No Fit		
76 DUCHESS L Engine	LYC O-360-A1G6D	149-Tooth Ring Gear	V		149-NL if 12V, or 149-NL/ec if 24V		
76 DUCHESS R Engine	LYC LO-360-A1G6D	149-Tooth Ring Gear	V		149-NLR if 12V, or 149-NLR/ec if 24V		
77 SKIPPER	LYC O-235-L2C	122-Tooth Ring Gear	12	122-XLT			
T-34 MENTOR	CONT O-470	CONT Starter Adapter	V	C(V)ST4			
T-34 MENTOR	CONT IO-520	CONT Starter Adapter	V	C(V)ST5			

## Bell

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
214B	LYC T-550-8D				No Fit		
214B-1	LYC T-550-8D				No Fit		
47G2	LYC VO-435-A1B				No Fit		
47G2A	LYC VO-435-A1E				No Fit		
47G2A1	LYC VO-435-A1E				No Fit		
47G3B1	LYC TVO-435-G1A				No Fit		
47G3B2	LYC TVO-435-G1A				No Fit		
47G3B2A	LYC TVO-435-G1A				No Fit		
47G4, 4A	LYC VO-540-B1B3				No Fit		
47G5, 5A	LYC VO-435-B1A				No Fit		
47J2	LYC VO-540-B1B				No Fit		
47J2A	LYC VO-540-B1B3				No Fit		

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## Bellanca

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
14-12-F3 CRUISAIR	FRANK 6AC264F3		12	F12ST1			
14-13 CRUISEMASTER	FRANK 6A4-150-B3		12	F12ST1			
14-19 CRUISEMASTER	LYC O-435-A			No Fit			
14-19-2 CRUISEMASTER	CONT O-470-K	CONT Starter Adapter	12	C12ST4			
14-19-3,A 260A,B,C.	CONT IO-470-F	CONT Starter Adapter	12	C12ST4			
17-30 VIKING	CONT IO-520-K	CONT Starter Adapter	12	C12ST5		M12, S12	
17-30A/B SUPR VIKING	CONT IO-520-K	CONT Starter Adapter	12	C12ST5			
17-31A	LYC IO-540-K1E5	149-Tooth Ring Gear	12	149-NL			
17-31ATC	LYC IO-540-K1E5	149-Tooth Ring Gear	12	149-NL			
17-31TC	LYC IO-540-K1E5	149-Tooth Ring Gear	12	149-NL			
7ACA CHAMP	FRANKLIN 2A-120-B			No Fit			
7ECA	LYC O-235-C1	122-Tooth Ring Gear	12	122-12XLT			
7GCAA	LYC O-320-A2D	149-Tooth Ring Gear	12	149-12XLT			
7GCBC	LYC O-320-A2D	149-Tooth Ring Gear	12	149-12XLT			
7KCAB	LYC A/IO-320-E2B	149-Tooth Ring Gear	12	149-12XLT			
8GCBC F/P SCOUT	LYC O-360-C2E	149-Tooth Ring Gear	12	149-12XLT			
8KCAB 150 DECATHALON	LYC IO-320-E2B	149-Tooth Ring Gear	12	149-12XLT			
8KCAB 180 DECATHALON	LYC AEIO-360-H1A	149-Tooth Ring Gear	12	149-12PM			
SUPR DECATHALON 8KCAB	LYC AEIO-360-H1B	149-Tooth Ring Gear	12	149-12PM			
T250 ARIES	LYC IO-540-C4B5	149-Tooth Ring Gear	V	149-NL			

## Brittain-Norman

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
ISLANDER (BN2B-20)	(2) LYC IO-540-K1B5	149-Tooth Ring Gear	24	149-NL/ec			
ISLANDER (BN2B-26)	(2) LYC O-540-E4C5	149-Tooth Ring Gear	24	149-NL/ec			
TRI ISLANDER	(3) LYC O-540-E4C5	149-Tooth Ring Gear	24	149-NL/ec			

## Cessna

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
120 ('46-'49)	CONT C85-12	Pull-Start	12	KCST2	15		
140 ('46-'51)	CONT C85-12	Pull-Start	12	KCST2	15		
150 ('59-'67)	CONT O-200-A	Pull-Start	12	KCST2	15		
150 ('69-'77)	CONT O-200-A	Key-Start	12	C12ST2		A12, M12	
152 ('78-'85)	LYC O-235	122-Tooth Ring Gear	24	122-NL/ec		A24, M24, S24	
170 ('48-'56)	CONT C-145	Pull-Start	12	KCST2	15	A12, M12	
172 ('55-'59)	CONT O-300-A or O-300-B	Pull-Start	12	KCST2	15	A12, M12	
172A ('60) thru 172B ('61)	CONT O-300-C	Pull-Start	12	KCST2	15	A12, M12	
172C ('62) thru 172H ('67)	CONT O-300-D	CONT Starter Adapter	12	C12ST3			
172D Powermatic '63	CONT GO-300	CONT Starter Adapter	12	C12ST3			
172I ('68)	LYC O-320	149-Tooth Ring Gear	12	149-NL			
172J – Never introduced – Became the 177 (a little trivia for you)							
172K ('69-'70)	LYC O-320	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
172L ('71-'72)	LYC O-320	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
172M ('73-'76)	LYC O-320	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
172N ('77-'80)	LYC O-320	149-Tooth Ring Gear	V	149-NL		A12, M12, S12, M24, S24	
R172K XP ('77-'81)	CONT IO-360	CONT Starter Adapter	V	C(V)ST3		A12, M12, S12	
172P ('81-'86)	LYC O-320	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	

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**Cessna (Cont.)**

172Q ('83-'85)	LYC O-360	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24
172RG ('80-'85)	LYC O-360	149-Tooth Ring Gear	24	149-NL/ec		A12, M12 (!?)
172R ('95-current)	LYC IO-360	149-Tooth Ring Gear	24	149-NL/ec	1, 14	
172S ('98-current)	LYC IO-360	149-Tooth Ring Gear	24	149-NL/ec	1, 14	
175 ('58-'62)	CONT GO-300-A	Pull-Start-CR Starter	12	KCST2/SR	15	A12, M12
177 ('68-'78)	LYC O-320 or LYC O-360	149-Tooth Ring Gear	12	149-NL		A12, M12, S12
177RG ('71-'78)	LYC IO-360	149-Tooth Ring Gear	12	149-NL		A12, M12, S12
180 ('53-'69)	CONT O-470	CONT Starter Adapter	12	C12ST4		A12, M12, S12
180 ('70-'81)	CONT O-470	CONT Starter Adapter	V	C12ST4 if 12V		A12, M12, S12, A24, M24, S24
182 ('56-'69)	CONT O-470	CONT Starter Adapter	12	C12ST4		A12, M12, S12, A12, M12, S12, A24, M24, S24
182N ('70-'86)	CONT O-470	CONT Starter Adapter	V	C12ST4 if 12V		A12, M12, S12, A24, M24, S24
T182 ('81-'85)	LYC O-540	149-Tooth Ring Gear	V	149-NL if 12V		A12, M12, S12, A24, M24, S24
R182 RG ('78-'86)	LYC O-540	149-Tooth Ring Gear	24	149-NL/ec	5	A24, M24, S24
182S ('96-2000)	LYC IO-540	149-Tooth Ring Gear	24	149-NL/ec	1, 14	
182T (2001-current)	LYC IO-540	149-Tooth Ring Gear	24	149-NL/ec	1, 14	
T182T (2001-current)	LYC IO-540	149-Tooth Ring Gear	24	149-NL/ec	1, 14	
185 ('61-'66)	CONT IO-470	CONT Starter Adapter	12	C12ST4		A12, M12, S12
185E '66	CONT IO-520	CONT Starter Adapter	12	C12ST5		A12, M12, S12
A185 ('67-'85)	CONT IO-520	CONT Starter Adapter	V	C12ST5 C24ST3		A12, M12, S12, A24, M24, S24
185F '84	CONT IO-520	CONT Starter Adapter	V	C12ST5 C24ST3		A12, M12, S12, A24, M24, S24
188 ('66-'79)	CONT 470 & CONT 520	CONT Starter Adapter	V	C12ST5 C24ST3		A12, M12, S12, A24, M24, S24
190 '47-'53	CONT W-670-23	No Fit				A12, M12
205 ('63-'64)	CONT IO-470	CONT Starter Adapter	12	C12ST4		A12, M12, S12
206 ('64-'77)	CONT IO-520	CONT Starter Adapter	12	C12ST5		A12, M12, S12
206H (see T206H)	LYC 540	149-Tooth Ring Gear	24	149-24PM	1	
P206 ('65-'70)	CONT IO-520	CONT Starter Adapter	12	C12ST5		A12, M12, S12
207 ('69-'84)	CONT IO-520	CONT Starter Adapter	V	C12ST5 C24ST3		A12, M12, S12, A24, M24, S24
210 ('60-'86)	CONT IO-470	CONT Starter Adapter	V	C12ST4 C24ST4		A12, M12, S12, A24, M24, S24
P210 ('78-'86)	CONT TSIO-520	CONT Starter Adapter	24	C24ST5		A24, M24, S24
303 CRUSADER	CONT L/TSIO-520-AE	CONT Starter Adapter	V	C(V)ST5		
310 ('55-'75)	CONT O-470 & 520	CONT Starter Adapter	V	C(V)ST4		
320	CONT TSIO-470	CONT Starter Adapter	V	C(V)ST4		
335 '80	CONT TSIO-520-EB	CONT Starter Adapter	V	C(V)ST5		
336 SKYMASTER SL	CONT IO-360	CONT Starter Adapter	V	C(V)ST5		
337 ('66-'71+)	CONT IO-360	CONT Starter Adapter	24	C24ST3		A24, M24, S24
340	CONT TSIO-520-NB	CONT Starter Adapter	V	C(V)ST5		
400	CONT TSIO-550-C	CONT Starter Adapter	24	C24ST5		
401A,B	CONT TSIO-520-E	CONT Starter Adapter	V	C(V)ST5		
402 ('69-'71)	CONT TSIO-520	CONT Starter Adapter	V	C(V)ST5		
404 TITAN	CONT GTSIO-520	CONT Starter Adapter	24	C24ST5		
411A '67&'68	CONT GTSIO-520	CONT Starter Adapter	24	C24ST5		
414 ('77-'85)	CONT TSIO-520	CONT Starter Adapter	24	C24ST5		
421 ('67-'81)	CONT GTSIO-520	CONT Starter Adapter	24	C24ST5		
T206	LYC O-540-series	149-Tooth Ring Gear	24	149-24PM	1	
T207 ('69-'84)	CONT TSIO-520	CONT Starter Adapter	V	C(V)ST5		A12, M12, S12
T210 ('66-'86)	CONT TSIO-520	CONT Starter Adapter	V	C(V)ST5		A12, M12, S12, A24, M24, S24
T310 ('69-'75)	CONT TSIO-520	CONT Starter Adapter	24	C24ST5		
T337B ('67-'69+)	CONT TSIO-360	CONT Starter Adapter	24	C24ST5		A24, M24, S24
TP206 ('66-'70)	CONT IO-520	CONT Starter Adapter	V	C(V)ST5		A12, M12, S12
TR182 RG ('79-'86)	LYC O-540	149-Tooth Ring Gear	V	149-NL/ec		
TU206A ('66-'86)	CONT TSIO-520	CONT Starter Adapter	12	C12ST5		A12, M12, S12
U206 ('65-'86)	CONT IO-520	CONT Starter Adapter	12	C12ST5		A12, M12, S12
400 CORVALIS	CONT IO-550	CONT Starter Adapter	24	C24ST5		

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## Champion Aircraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
7EC	CONT C-90-12F	Pull-Start	12	KCST2	15		
7EC/FC TRAVELER	CONT C-90-12F	Pull-Start	12	KCST2	15		
7ECA CITABRIA (100)	CONT O-200	Pull-Start	12	KCST2	15		
7ECA CITABRIA (115)	LYC O-235-C1	122-Tooth Ring Gear	12	122-12XLT			
7GCAA	LYC O-320-A2D	149-Tooth Ring Gear	12	149-12XLT			
7GCB	LYC O-320-A2B	122-Tooth Ring Gear	13	122-12XLT			
7GCBC	LYC O-320-A2D	149-Tooth Ring Gear	12	149-12XLT			
7KCAB CITABRIA	LYC IO-320-E2A	149-Tooth Ring Gear	12	149-12XLT			
FC 115 TRI-TRAVELER	LYC O-235-C1	122-Tooth Ring Gear	12	122-12XLT			
LANCER	CONTINENTAL	Pull-Start	12	KCST2	15		

## Cirrus Design

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
SR 20	CONT IO-360	CONT Starter Adapter	24	C24ST5			
SRV-G2	CONT IO-360	CONT Starter Adapter	24	C24ST5			
SR 22	CONT IO-550	CONT Starter Adapter	24	C24ST5			
VK30	CONT TSIO-550	CONT Starter Adapter	24	C24ST5			

## Commander Aircraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
112	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
114	LYC IO-540	149-Tooth Ring Gear	12	149-NL			
114B	LYC IO-540-T4B5	149-Tooth Ring Gear	V	149-NL for 12V 149-NL/ec for 24V		A12, M12, S12 A24, M24, S24	
500	LYC O-540	149-Tooth Ring Gear	24	149-24HT			
520	LYC GO-435			No Fit			
560	LYC GO-480			No Fit			
685	CONT GTSIO-520-	CONT Starter Adapter	24	C24ST5			
112TC-A ALPINE	LYC TO-360	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
114A GRAN TURISMO	LYC IO-540	149-Tooth Ring Gear	V	149-NL for 12V 149-NL/ec for 24V		A12, M12, S12 A24, M24, S24	
114TC	LYC TIO-540	149-Tooth Ring Gear	V	149-NL for 12V 149-NL/ec for 24V		A12, M12, S12 A24, M24, S24	
500A	CONT IO-470	CONT Starter Adapter	24	C24ST4			
500B	LYC IO-540	149-Tooth Ring Gear	24	149-NL/ec			
500S SHRIKE	LYC IO-540	149-Tooth Ring Gear	24	149-NL/ec			
500U, 560A-F, 680, 720				No Fit			

## Culver

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
LAR 90 CADET/LARK	FRANKLIN 4AC199E3			No Fit			
LCA CADET	CONT A75-8			No fit unless upgraded to -12 Engine			
V 2	CONT C85-12J	Pull-Start	12	KCST2	15		

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## Diamond Aircraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
DA20-C1	CONT IO-240-B		12	C12ST2/S			
DA40-180	LYC IO-360-MIA	149-Tooth Ring Gear	24	149-24LS	1		

## Enstrom

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
280	LYC HIO-360	149-Tooth Ring Gear	V	149-12HT for 12V 149-24HT for 24V			
F28	LYC HIO-360	149-Tooth Ring Gear	V	149-12HT for 12V 149-24HT for 24V			

## Ercoupe

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
415	CONT C-75			No Fit			
415C	CONT A-65-8			No Fit			
415 C-D	CONT C-85-12	Pull-Start		KCST2	15		
415D	CONT C-75-12F	Pull-Start		KCST2	15		
415G	CONT C-85-12F	Pull-start		KCST2	15		
ALON A-2	CONT C-90-16F	Pull-start		KCST2	15		
F-1 FORNEY	CONT C-90-12F	Pull-start		KCST2	15		
MOONEY M-10 CADET	CONT C-90	Pull-start		KCST2	15		

## Extra

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
200	LYC AEIO-360	149-Tooth Ring Gear	12	149-NL	1		
300	LYC AEIO-540	149-Tooth Ring Gear	12	149-NL	1		
80 CANUCK	CONT C-85-12F	Pull-start		KCST2	15		
AIRSHARK I (AMPHIB)	LYC IO-360	149-Tooth Ring Gear	12	149-NL			
B (B85C)	CONT C-85-12F	Pull-start		KCST2	15		

## Found

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
BUSH HAWK	LYC IO-540	149-Tooth Ring Gear	24	149-NL/ec			

## Grob

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
115 BAVARIAN	LYC O-320-D2A	149-Tooth Ring Gear	24	149-24PM	1		

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## Grumman American

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
AA1 YANKEE	LYC O-235-C2C	122-Tooth Ring Gear	12	122-12XLT		A12, M12, S12	
AA1A	LYC O-235-C2C	122-Tooth Ring Gear	12	122-12XLT		A12, M12, S12	
AA1B	LYC O-235-C2C	122-Tooth Ring Gear	12	122-12XLT		A12, M12, S12	
AA1C LYNX	LYC O-235-L2C	122-Tooth Ring Gear	12	122-12XLT		A12, M12, S12	
AA1C T-CAT	LYC O-235-L2C	122-Tooth Ring Gear	12	122-12XLT		A12, M12, S12	
AA5 TRAVELER	LYC O-320-E2G	149-Tooth Ring Gear	12	149-12XLT		A12, M12, S12	
AA5A CHEETAH	LYC O-320-E2G	149-Tooth Ring Gear	12	149-12XLT		A12, M12, S12	
AA5B TIGER	LYC O-360-A4K	149-Tooth Ring Gear	12	149-12LS		A12, M12, S12	
TR2 AA1B	LYC O-235-C2C	122-Tooth Ring Gear	12	122-12XLT		A12, M12, S12	
GA7 COUGAR	LYC O-320-D1D	149-Tooth Ring Gear	12	149-NL		A12	
AG5B TIGER	LYC O-360-A4K	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	

## Hiller

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
UH12E & E4	LYC VO-540-C2A	149-Tooth Ring Gear	V	149-(V)HT			
UH12L4	LYC TIVO-540-A2A	149-Tooth Ring Gear	V	149-(V)HT			

## Lake

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
C-1 AMPHIBIAN	LYC O-320-A2A	149-Tooth Ring Gear	12	149-NL			
CIV AMPHIBIAN	LYC O-360-A1A	149-Tooth Ring Gear	12	149-NL			
LA-4	LYC O-360-A1A	149-Tooth Ring Gear	12	149-NL			
LA-4 200 BUCCANEER	LYC IO-360-A1B	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)			
LA-4 200EP BUCCANEER	LYC IO-360-A1B	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)			
LA-4 250 RENEGADE	LYC IO-540-C4B5	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)			
LA-4 TURBO LAKE	LYC IO-360-A1B6	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)			
LA-4-180	LYC O-360-A1A	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)			

## Lancair Columbia

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
LC40, LC41, LC42, T240	CONT IO-550	CONT Starter Adapter	24	C24ST5			

## Luscombe Aircraft Co.

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
8, 8A, 8C, 8D	CONT A-50, A-65-8, A-75			No Fit			
8E	CONT C-85-12	Pull-Start		KCST2	15		
8F	CONT C-90-12F	Pull-Start		KCST2	15		
11A SEDAN '48-'50	CONT C-165	Pull-Start		KCST2/SR	15		
SPARTAN 185 11-E	CONT IO-360-ES	CONT Starter Adapter	V	C(V)ST3			

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## Maule

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
M4 JETESON '62-'67	CONT O-300-A	Pull-start	12	KCST2	15	A12, M12, S12	
M4-180 ASTRO ROCKET	FRANK 6A-335-B1	Franklin	12	F12ST1		A12, M12, S12	
M4-210 ROCKET	CONT IO-360-A	CONT Starter Adapter	12	C12ST3		A12, M12, S12	
M4-220 STRATA ROCKET	FRANK 6A-350-C1	Franklin	12	F12ST1		A12, M12, S12	
M5-180C	CONT O-360-C1F	CONT Starter Adapter	12	C12ST3		A12, M12, S12	
M5-210 LUNAR ROCKET	CONT IO-360-D	CONT Starter Adapter	12	C12ST3		A12, M12, S12	
M5-210TC	LYC TO-360-C1A6D	149-Tooth Ring Gear	12	149-12LS		A12, M12, S12	
M5-220C	FRANK 6A350C1	Franklin	12	F12ST1		A12, M12, S12	
M5-235C	LYC O-540-J1A5D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M6-235 SUPER ROCKET	LYC IO-540-J1A5D	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
M7-235/MT7-235	LYC IO-540-J1A5D	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
M7-260C ORION	LYC IO-540-V4A5	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
MX7-160	LYC O-320-B20	?-Tooth Ring Gear	V	149-12XLT if 12V 149-24XLT if 24V		A12, M12, S12, A24, M24, S24	
MX7-180	LYC O-360-C1F	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
MX7-235	LYC O-540-J1A5D	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
MX7-260	LYC IO-540-V4A5	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
MXT7-180	LYC O-360-C1F	149-Tooth Ring Gear	12	149-12LS		A12, M12, S12, A24, M24, S24	

## Meyers

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
200A	CONT IO-470-D	CONT Starter Adapter	12	C12ST4			
200B	CONT IO-470-D	CONT Starter Adapter	12	C12ST4			
200D	CONT IO-520-A	CONT Starter Adapter	12	C12ST5			
MICCO SP20	LYC IO-360-CIE6	149-Tooth Ring Gear	V	149-NL			

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## Mooney

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
201 M20J	LYC IO-360-A3B6D	149-Tooth Ring Gear	V	149-NL			
A2A CADET	CONT C-90-16F	Pull-Start	12	KCST2	15		
M10 CADET	CONT C-90-16F	Pull-Start	12	KCST2	15		
M18 MITE	LYC O-145-B2	No Fit					
M20 '55-'57	LYC O-320	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
M20A	LYC O-360-A1A	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
M20B MARK 21	LYC O-360-A1A	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
M20C MARK 21	LYC O-360-A1D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20C RANGER	LYC O-360-A1D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20D	LYC O-360-A1D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20E CHAPARRAL	LYC IO-360-A1A	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20E SUPER 21	LYC IO-360-A1A	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20F EXECUTIVE 21	LYC IO-360-A1A	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20G STATESMAN	LYC O-360-A1D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
M20J MSE	LYC IO-360-A3B6D	149-Tooth Ring Gear	V	149-NL if 12V 149-NL/ec if 24V		A12, M12, S12, A24, M24, S24	
M20K 231	CONT TSIO-360-GBA	CONT Starter Adapter	V	C12ST3 if 12V C24ST3 if 24V		A12, M12, S12, A24, M24, S24	
M20K 252 TSE	CONT TSIO-360-MB1	CONT Starter Adapter	24	C24ST3		A24, M24, S24	
M20M TLS BRAVO	LYC TIO-540-AF1A	149-Tooth Ring Gear	24	149-24LS	1	A24, M24, S24	
M20R OVATION	CONT IO-550-G	CONT Starter Adapter	24	C24ST4		A24, M24, S24	
M20S EAGLE	CONT IO-550-G	CONT Starter Adapter	24	C24ST4		A24, M24, S24	

## Navion

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
G/G-1	CONT IO-470-H	CONT Starter Adapter	12	C12ST4			
H RANGEMASTER	CONT IO-520-B	CONT Starter Adapter	12	C12ST5			
NAVION D	CONT O-470	CONT Starter Adapter	12	C12ST4			

## Partenavia

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
P68B	LYC IO-360-A1B6	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	
P68C	LYC IO-360-A1B6	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	
P68C OBSERVER	LYC IO-360-A1B6	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	
P68C TC	LYC TIO-360-C1A6D	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	

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# Piper

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
J3 CUB	CONT A-65-8			No Fit			
J4-A CUB COUPE	CONT A-65			No Fit			
J4-CUB	CONT A-50-1			No Fit			
J4-E	CONT A-75			No Fit			
J4-F	LYC O-145	Pull-Start		C12ST2/SR			
J5A-75	CONT A75-8			No Fit			
PA11	CONT C-90	Pull-Start	12	KCST2	15		
PA11 CUB SPECIAL	CONT A-65			No Fit			
PA12 CRUISER	LYC O-235	122-Tooth Ring Gear	12	122-NL			
PA12 SUPER CRUISER	LYC O-235-C	122-Tooth Ring Gear	12	122-NL			
PA14 CRUISER	LYC O-235-C1	122-Tooth Ring Gear	12	122-NL			
PA15 VAGABOND	LYC O-145-B2	122-Tooth Ring Gear	12	122-NL			
PA16 CLIPPER	LYC O-235-C1	122-Tooth Ring Gear	12	122-NL			
PA17 VAGABOND	CONT A-65-8			No Fit			
PA18-108	LYC O-235-C1	122-Tooth Ring Gear	12	122-NL			
PA18-125 SUPER CUB	LYC O-290-D	122-Tooth Ring Gear	12	122-NL			
PA18-135 SUPER CUB	LYC O-290-D2	122-Tooth Ring Gear	12	122-NL			
PA18-150 SUPER CUB	LYC O-320-A2A	122-Tooth Ring Gear	12	122-NL			
PA18-90 SUPER CUB	CONT C-90-F	Pull-Start	12	KCST2	15		
PA20-125 PACER	LYC O-290-D	122-Tooth Ring Gear	12	122-NL			
PA20-135 PACER	LYC O-290-D2	122-Tooth Ring Gear	12	122-NL			
PA22 TRI-PACER	LYC O-290-D	122-Tooth Ring Gear	12	122-NL			
PA22-108 COLT	LYC O-235-C1B	122-Tooth Ring Gear	12	122-NL			
PA22-125	LYC O-290-D	122-Tooth Ring Gear	12	122-NL			
PA22-135 TRI-PACER	LYC O-290-D2	122-Tooth Ring Gear	12	122-NL			
PA22-150 TRI-PACER	LYC O-320-A1A	122-Tooth Ring Gear	12	122-NL			
PA22-160 TRI-PACER	LYC O-320-B2A	122-Tooth Ring Gear	12	122-NL			
PA23-150 APACHE	LYC O-320	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA23-160G&H APACHE	LYC O-320-B3B	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA23-235 APACHE	LYC O-540	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23-23B AZTEC	LYC O-540-A1B5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23C AZTEC	LYC IO-540-C4B5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23C&D TURBO AZTEC	LYC IO-540-J4A5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23D&E AZTEC	LYC IO-540-C4B5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23E TURBO AZTEC	LYC TIO-540-C1A	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23F AZTEC	LYC IO-540	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA23F TURBO AZTEC	LYC TIO-540-C1A	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA24 260 T COMANCHE	LYC IO-540-N1A5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA24-180 COMANCHE	LYC O-360-A1A	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
PA24-250 COMANCHE	LYC O-540-A1A5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA24-260B COMANCHE	LYC O-540-D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA24-260C COMANCHE	LYC IO-540-N	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA24-260TC COMANCHE	LYC IO-540-N1A5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA24-400 COMANCHE	LYC IO-720-A1A	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA25 235 C,D. PAWNEE	LYC O-540-B2B5	149-Tooth Ring Gear	12	149-NL			
PA25 260C,D PAWNEE	LYC O-540-G1A5	149-Tooth Ring Gear	12	149-NL			
PA25-150 PAWNEE	LYC O-320-A2A	122-Tooth Ring Gear	12	122-NL			

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**Piper (cont.)**

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
PA28-140 CHEROKEE	LYC O-320-E2A	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA28-140 CRUISER	LYC O-320-E2D	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA28-140B,C,D,E.	LYC O-320-E2A	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA28-150 CHEROKEE	LYC O-320-A2B	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA28-150C CHEROKEE	LYC O-320-A2B	122-Tooth Ring Gear	12	122-NL		A12, M12, S12	
PA28-151 WARRIOR	LYC O-320-D3D	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
PA28-160 CHEROKEE	LYC O-320-B2B	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
PA28-160C CHEROKEE	LYC O-320-B2B	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
PA28-161 WARRIOR II	LYC O-320-D3D	?-Tooth Ring Gear	12	?-12XLT		A12, M12, S12	
PA28-180 ARCHER	LYC O-360-A4M	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
PA28-180 D,E,F,G	LYC O-360-A3A	?-Tooth Ring Gear	12	?-NL		A12, M12, S12	
PA28-180 R&RB ARROW	LYC IO-360-BE	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28B&C-180 CHEROKEE	LYC O-360-A3A	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)	18	A12, M12, S12	
PA28-181 ARCHER II	LYC O-360-A4M	149-Tooth Ring Gear	V	149-NL (12V) 149-NL/ec (24V)	18	A12, M12, S12	
PA28-181 ARCHER III	LYC IO-360-A4M	149-Tooth Ring Gear	24	149-NL/ec	18	A12, M12, S12	
PA28-200R ARROW II	CONT TSIO-360-F	CONT Starter Adapter	V	C(V)ST3		A12, M12, S12	
PA28-200R&RB ARROW	LYC IO-360-C1C	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28-201T T DAKOTA	CONT TSIO-360-FB	CONT Starter Adapter	V	C(V)ST3		A12, M12, S12	
PA28-235 CHARGER	LYC O-540-B4B5	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28-235 PATHFINDER	LYC O-540-B4B5	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28-235B CHEROKEE	LYC O-540-B4B5	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28-235 C,D,E,F.	LYC O-540-B4B5	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28-236 DAKOTA	LYC O-540-J3A5D	149-Tooth Ring Gear	V	149-NL	18	A12, M12, S12	
PA28R ARROW III,IV	LYC IO-360-C1C6	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28R-201T T ARROW 3	CONT TSIO-360-F	CONT Starter Adapter	12	C12ST3	18	A12, M12, S12	
PA28RT-201 ARROW IV	LYC IO-360-C1C6	149-Tooth Ring Gear	12	149-NL	18	A12, M12, S12	
PA28RT-201T ARROW3/4	CONT TSIO-360-FB	CONT Starter Adapter	12	C12ST3	18	A12, M12, S12	
PA30B TURBO TWIN CO	LYC IO-320-C1A	149-Tooth Ring Gear	12	149-12XLT			
PA30B TWIN COMMANCHE	LYC IO-320-B1A	149-Tooth Ring Gear	12	149-12XLT			
PA30C TURBO TWIN CO	LYC IO-320-C1A	149-Tooth Ring Gear	12	149-12XLT			
PA30C TWIN COMMANCHE	LYC IO-320-B1A	149-Tooth Ring Gear	12	149-12XLT			
PA31-300 NAVAJO	LYC IO-540-M1A5	149-Tooth Ring Gear	24	149-NL/ec	10	A24, M24, S24	
PA31-310 B&C NAVAJO	LYC TIO-540-A2C	149-Tooth Ring Gear	24	149-NL/ec	10	A24, M24, S24	
PA31-310 NAVAJO TURB	LYC TIO-540-A1A	149-Tooth Ring Gear	24	149-NL/ec	10	A24, M24, S24	
PA31-325 NAVAJO (Left Engine)	LYC TIO-540-F2BD	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	
PA31-325 NAVAJO (Right Engine)	LYC LTIO-540-F2BD	149-Tooth Ring Gear	24	149-NLR/ec	10	A24, M24, S24	
PA31-350 CHIEFTAN (Left Engine)	LYC TIO-540-J2BD	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	

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## Piper (cont.)

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
PA31-350 CHIEFTAN (Right Engine)	LYC LTIO-540-J2BD	149-Tooth Ring Gear	24	149-NLR/ec	10	A24, M24, S24	
PA31P-350 MOJAVE (Left Engine)	LYC TIO-540	149-Tooth Ring Gear	24	149-NL/ec		A24, M24, S24	
PA31P-350 MOJAVE (Right Engine)	LYC L/TIO-540	149-Tooth Ring Gear	24	149-NLR/ec	10	A24, M24, S24	
PA32-260 '74-'78 Cherokee 6	LYC O-540-E4B5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32-260C,D,E Cherokee 6	LYC O-540-E4B5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32-300 '73&'74 6 (Lance)	LYC IO-540-K1G5D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32-300B,C,D,E. 6 (Lance)	LYC IO-540-K1G50	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32-301 SARATOGA	LYC IO-540-K1G5	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32-301T SARATOGA	LYC TIO-540-S1AD	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32R TURBO LANCE	LYC IO-540-S1AD	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32R&RT LANCE II	LYC IO-540-K1G5D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32R-300 LANCE	LYC IO-540-K1G5D	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA32R-301 SARATOGA SP	LYC IO-540-K1G5D	149-Tooth Ring Gear	V	149-NL		A12, M12, S12, A24, M24, S24	
PA32R-301T SARATOGA	LYC TIO-540-S1AD	149-Tooth Ring Gear	V	149-NL		A12, M12, S12, A24, M24, S24	
PA34 200 SENECA I (Left Engine)	LYC IO-360-C1E6	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA34 200 SENECA I (Right Engine)	LYC L/IO-360-C1E6	149-Tooth Ring Gear	12	149-NLR		A12, M12, S12	
PA34-200T SENECA II	CONT LT/TSIO-360-E	CONT Starter Adapter	12	C12ST3		A12, M12, S12	
PA34-220T SENECA III	CONT LT/TSIO-360-KB	CONT Starter Adapter	12	C12ST3		A12, M12, S12	
PA36-300 BRAVE	LYC IO-540-K1G5	149-Tooth Ring Gear	V	149-NL			
PA36-375 BRAVE	LYC IO-720-D1CD	?-Tooth Ring Gear	V	?-NL			
PA38 TOMAHAWK	LYC O-235-L2C	122-Tooth Ring Gear	12	122-12XLT			
PA39 TWIN COMANCHE (Left Eng)	LYC IO-320	149-Tooth Ring Gear	12	149-NL			
PA39 TWIN COMANCHE (Rt Eng)	LYC LIO-320	149-Tooth Ring Gear	12	149-NLR			
PA44-180 SEMINOLE (Left Eng)	LYC TO-360	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
PA44-180 SEMINOLE (Rt Eng)	LYC LTO-360	149-Tooth Ring Gear	12	149-NLR		A12, M12, S12	
PA46 MALIBU MIRAGE	LYC TIO-540-AE2A	149-Tooth Ring Gear	24	149-NL/ec	13	A24, M24, S24	
PA46-310P MALIBU	CONT TSIO-520-B	CONT Starter Adapter	24	C24ST5		A24, M24, S24	
PA60-60X AEROSTAR	LYC IO-540 -series	149-Tooth Ring Gear	24	149-NL/ec			
PA60-700P AEROSTAR (L Engine)	LYC LTIO-540	149-Tooth Ring Gear	24	149-NLR/ec			
PA60-700P AEROSTAR (R Engine)	LYC TIO-540	149-Tooth Ring Gear	24	149-NL/ec			

## Robinson

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
R22-All	LYC O-360	149-Tooth Ring Gear	12	149-12HT-h	1, 12		
R44-Raven I	LYC O-540	149-Tooth Ring Gear	12	149-12HT-h	1, 12		
R44-Raven II	LYC IO-540	149-Tooth Ring Gear	24	149-24HT-h	1, 12		

## Rockwell

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
100 DARTER	LYC O-320-A2B	?-Tooth Ring Gear	12	?-12XLT			
100-180 LARK	LYC O-360-A2F	149-Tooth Ring Gear	12	149-12LS			
112 COMMANDER	LYC IO-360	149-Tooth Ring Gear	12	149-NL		A12, M12, S12	
114 COMMANDER	LYC IO-540	149-Tooth Ring Gear	V	149-NL		A12, M12, S12, A24, M24, S24	

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## Schweizer

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
200 (269A)	LYC HIO-360-B1A	149-Tooth Ring Gear	12	149-12HT			
300 (269B)	LYC HIO-360-A1A	149-Tooth Ring Gear	12	149-12HT			
300C (F269C)	LYC HIO-360-D1A	149-Tooth Ring Gear	24	149-24HT			

## Siai Marchetti

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
SF260D	LYC O-540-E4A5	149-Tooth Ring Gear	24	149-24HT		149-NL	

## Socata

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
RALLYE 100ST/100T	CONT O-200-A	Pull-Start	12	KCST2	15		
RALLYE 150 ST	LYC O-320-E2A	122-Tooth Ring Gear	12	122-NL			
RALLYE 180 GT	LYC O-360-A3A	149-Tooth Ring Gear					
RALLYE 235 GT/E	LYC O-540-B4B5	149-Tooth Ring Gear					
TB9 TAMPICO 12V	LYC O-320-D2A	149-Tooth Ring Gear					
TB10 TOBAGO 12V	LYC O-360-A1AD	149-Tooth Ring Gear	Some were 12V	149-NL (12V)			
TB200 TOBAGO XL 12V	LYC IO-360-A1B6	149-Tooth Ring Gear	12V				
TB20 TRINIDAD 12V	LYC IO-540-C4D5D	149-Tooth Ring Gear	-	-	17		
TB 21TC TRINIDAD 12V	LYC TIO-540-AB1AD	149-Tooth Ring Gear					
TB 10 TOBAGO 24V	LYC O-360-A1AD	149-Tooth Ring Gear	Some were 24V	149-NL/ec (24V)			
TB 200 TOBAGO XL 24V	LYC IO-360-A1B6	149-Tooth Ring Gear					
TB 20 TRINIDAD 24V	LYC IO-540-C4D5D	149-Tooth Ring Gear					
TB 21TC TRINIDAD 24V	LYC TIO-540-AB1AD	149-Tooth Ring Gear					
TB30 EPSILON	LYC AEIO-540-L1B5D	149-Tooth Ring Gear					
TB360 TANGARA	(2) LYC O-360-A1G6	149-Tooth Ring Gear					
GA-7 Cougar	LYC O-320	149-Tooth Ring Gear	12	149-NL		A12	

## Stinson

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
105	CONT A-80-6			No Fit			
108	FRANK 6A4-150-B31	Franklin	12	No Fit			
108-1 '46 & '47	FRANK 6A4-150-B23	Franklin	12	No Fit			
108-2/2 VOYAGER&S/W	FRANK 6A4-165-B3	Franklin	12	No Fit			
10A	FRANK 4AC199E2	Franklin	12	No Fit			
76/L5 SENTINEL	LYCOMING	?-Tooth Ring Gear	V	No Fit			
SR10 RELIANT	LYCOMING			No Fit			

## Taylorcraft

Aircraft Model	Engine	Start Type	Volts	Recommended Starter	Note	Eligible Solenoid(s)	Note
BC-12, BC-12D	CONT A-65, A-65-8A			No Fit			
BL65	LYC O-145-B2	Pull-Start		KCST2	15		
F19	CONT C-85	Pull-Start		KCST2	15		
F19 SPORTSMAN 100	CONT O-200A	Pull-Start		KCST2	15		
F21	LYC O-235-L2C	122-Tooth Ring Gear	12	122-12XLT			
F21B	LYC O-235-L2C	122-Tooth Ring Gear	12	122-12XLT			

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**Varga**

<u>Aircraft Model</u>	<u>Engine</u>	<u>Start Type</u>	<u>Volts</u>	<u>Recommended Starter</u>	<u>Note</u>	<u>Eligible Solenoid(s)</u>	<u>Note</u>
2180	LYC O-360-A4AD	149-Tooth Ring Gear	12	149-12LS			
2150A KACHINA	LYC O-320-A2C	?-Tooth Ring Gear	12	?-12XLT			

**Zenair**

<u>Aircraft Model</u>	<u>Engine</u>	<u>Start Type</u>	<u>Volts</u>	<u>Recommended Starter</u>	<u>Note</u>	<u>Eligible Solenoid(s)</u>	<u>Note</u>
STOL CH 801	LYC O-360	149-Tooth Ring Gear	12	149-12XLT			
TRI ZENITH CH 300	LYC O-320	?-Tooth Ring Gear	12	?-12XLT			
ZENITH CH 200/250	LYC O-320	?-Tooth Ring Gear	12	?-12XLT			
ZENITH CH 2000	LYC O-235-N2C	?-Tooth Ring Gear	12	?-12XLT			

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## Notes

1. Sky-Tec Starter is the original equipment starter
2. Modification of oil cooler bracket may be required
3. If oil cooler is in front of engine, choose PM model
4. BCE-6 (battery cable extension) may be required
5. Baffle modification required
6. Cowl bumper bracket modification required
7. If using RV-7 “Snorkel” induction, may have to use 149-12LS (was used by Van’s to form the snorkel)
8. Airframe manufacturer mounted the aircraft starter contactor (“firewall” solenoid) directly to the OEM Starter – you will need to straighten mounting tabs and relocate to suitable place on the firewall
9. Aircraft with sandcast TCM 520 engines (alternator in rear) are notoriously difficult to crank smoothly. TCM utilized a 32:1 starter Adapter on sandcast motors that no known starter is especially good at cranking. Sky-Tec makes no claims that our ST3 starter will crank sandcast TCM520 engines any better than anyone else’s starter. The ST5 series starter may do a better job if sufficient power is available to the starter.
10. PA-31 right engine installations may require the use of an installation spacer, Sky-Tec PN 25099, and may require the installer to drill-out the threads on the alternator boss of the starter. See the starter installation instructions and [http://www.skytecair.com/images/P2/PA31\\_NLR\\_Install.jpg](http://www.skytecair.com/images/P2/PA31_NLR_Install.jpg) for details and more information.
11. Some Robinson Helicopters originally configured with Prestolite starters utilized a firewall-mounted starter contactor relay. The 149-NL starter can be installed on those ships that still have the firewall-mounted starter contactor relay. Robinson Helicopters originally configured with B&C starters or Sky-Tec HT starters cannot utilize the 149-NL starter as the aircraft has no installed/certified firewall-mounted starter contactor relay and the NL starter S-terminal is not accessible for this function. However, 149-NL/ec starters (due for availability late 2007) may be used as their S-terminal is accessible for dual function as the starter contactor relay. Confused yet? Call Sky-Tec now.
12. Robinson Helicopters originally configured with B&C starters utilized a proprietary aluminum starter-alternator strap that is used only on these aircraft (Robinson PN B299-3). When replacing the B&C starter with any Sky-Tec starter, you must also order and replace the aluminum starter-alternator strap with the standard length steel starter-alternator strap P/N 74323
13. One customer has called the factory to claim the NL will not fit on his Mirage. Dozens (if not hundreds) of other Mirage owners have used the NL starter for years with no installation issues.
14. Cessna OEM production replaced the Lamar series starters with Sky-Tec starting in 2006. Via SB07-80-01, Cessna recommends purchasing MK172-80-01 or MK182-80-01, which includes all parts required to do a first class upgrade to the Sky-Tec 149-NL/ec starter. Order the starter separately.
15. The KCST2 is an STC eligible kit requiring modification to the engine & airframe for installation.
16. NO FIT on aircraft with electronic tach sensors mounted to the nose of OE Electrosystems Starter.
17. Socata changed from 14 to 28 volt electrical systems determined by serial number (applicable to all models): Serial Numbers 823 to 849 plus s/n 888 are 24Volt. All serial numbers 947 and higher are also 24Volt.
18. Air-conditioned Lycoming-powered Piper singles MUST use NL-series starters ONLY. Use 149-NL/ec for 24V aircraft.

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