

SERVICE INSTRUCTION

DATE: July 9, 2002

Service Instruction No. 1042X
(Supersedes Service Instruction No. 1042W)
Engineering Aspects are
FAA Approved

SUBJECT: Approved Spark Plugs

This publication lists spark plugs that are approved and not approved by Lycoming for its piston aircraft engines. Lycoming advises that only those spark plugs listed as approved be used.

CAUTION

DO NOT DEPEND ON ENGINE MODEL DESIGNATION FOR SPARK PLUG APPLICATION. THE SAME ENGINE MODEL MAY USE SHORT OR LONG REACH SPARK PLUGS. ENGINES WITH LONG REACH SPARK PLUGS ARE IDENTIFIED BY YELLOW PAINT ON THE CYLINDER FINS BETWEEN THE SPARK PLUG HOLE AND THE ROCKER COVERS. ENGINES WITH SHORT REACH SPARK PLUGS HAVE NO IDENTIFYING COLOR. SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1181. THE REACH CAN ALSO BE DETERMINED BY MEASURING THE DEPTH OF THE THREADED INSERT. LONG REACH THREADED DEPTH IS APPROXIMATELY 5/8", SHORT REACH THREADED DEPTH IS APPROXIMATELY 3/8".

To use the charts on the following pages, first determine the spark plug reach and connector-wire size of your engine. The table below provides a quick reference for locating a chart that lists a specific spark plug reach/connector-wire configuration.

CHART I, Page 2 – Short reach, 5/8-24 wire end
CHART II, Page 3 – Short reach, 3/4-20 wire end
CHART III, Page 3 – Long reach, 5/8-24 wire end
CHART IV, Page 4 – Long reach, 3/4-20 wire end

The letter "A" indicates spark plugs approved for models shown. A dash (-) signifies that spark plugs are neither recommended nor approved by Lycoming for the model.

NOTE

Spark plug gage must be set at .016-.022 inch. Installation torque for all spark plugs is 420 inch-pounds (35 foot-pounds). Installation torque for 5/8-24 lead nuts is 80-90 in. lbs. and 110-120 in. lbs. for 3/4-20 lead nuts. Always use new gaskets (P/N STD-295) when reinstalling spark plugs.

Lycoming reserves the right to substitute an equivalent plug whenever the plug ordered is not available.

Unison Industries, Inc. has acquired the Autolite aircraft spark plug line. This publication lists the new Unison part numbers.

CHART I

SHORT REACH 5/8-24 ENGINE MODEL	MASSIVE									FINE WIRE		
	CHAMPION			SL AUBURN			UNISON			CHAM- PION	SL AUBURN	
	REM 40E	REM 38E	REM 37BY	SR88	SR87	SR86	UREM 40E	UREM 38E	UREM 37BY	REM38S	SR93	SR83P
O-235-C,-E,-H	A	A	A	A	A	-	A	-	A	A	A	A
O-235-N,-P	A	A	A	-	A	-	A	A	A	A	A	A
O-235-K,-L,-M	A	A	A	-	A	-	A	A	A	A	A	A
O-235-F,-G,-J	-	-	-	-	-	A	-	-	-	A	A	A
O-290	A	A	A	A	A	-	A	-	A	A	A	A
O-320-A,-C,-E IO-320-A,-E AEIO-320-E	A	A	A	A	A	-	A	-	A	A	A	A
O-320-B,-D IO-320-B,-C,-D AEIO-320-A,-B,-C, -D LIO-320-B	A	A	A	-	A	A	A	A	A	A	A	A
O-360-B,-D	A	A	A	A	A	-	A	-	A	A	A	A
VO-360-A,-B HIO-360-A,-B HO-360-B	A	A	A	-	A	A	A	A	A	A	A	A
*O-360-A,-C,-F,-J *IO-360-B,-E,-F,-H, -L,-M AEIO-360-B,-H *LO-360-A,-C HO-360-A,-C	A	A	A	-	A	A	A	A	A	A	A	A
*IO-360-A,-C,-D,-J LIO-360-C AIO-360-A,-B *AEIO-360-A	-	A	A	-	A	A	A	A	A	A	A	A
HIO-360-C,-D LHIO-360-C	-	A	-	-	A	A	-	A	-	A	A	A
*GO-435-C VO-435-A *GO-480-B,-D *GO-480-F GSO-480-A,-B IGSO-480	A	A	-	-	A	A	A	A	-	A	A	A
*O-540-B	A	A	-	A	A	-	A	-	-	A	A	A
*O-540-A *IO-540-C,-J	A	A	-	A	A	A	A	-	-	A	A	A
*O-540-E,-F,-G,-H *IO-540-D,-N,-T AEIO-540-D	A	A	-	-	A	A	A	A	-	A	A	A
*IO-540-K,-L *AEIO-540-L	-	A	-	-	A	A	A	A	-	A	A	A
*IO-540-A,-B,-E, -G,-AB	-	A	-	-	A	A	A	A	-	A	A	A
VO-540-C2A	-	A	-	-	A	-	-	A	-	-	-	-

* - May have 3/4-20 wire end.

CHART II

SHORT REACH 3/4-20 ENGINE MODEL	MASSIVE						FINE WIRE			
	CHAMPION		SL AUBURN			UNISON		CHAM- PION	SL AUBURN	
	RHM 40E	RHM 38E	HSR88	HSR87	HSR86	URHM 40E	URHM 38E	RHM38S	HSR93	HSR83P
O-320-H	A	A	-	A	A	A	A	A	A	A
O-360-E LO-360-E	A	A	-	A	A	A	A	A	A	A
*O-360-A,-F *LO-360-A *IO-360-B	A	A	-	A	A	A	A	A	A	A
*IO-360-A,-J LIO-360-A *AEIO-360-A	-	A	-	-	A	-	A	A	A	A
*GO-435-C *GO-480-B,-D,-F	A	A	-	A	A	A	A	A	A	A
*O-540-B	A	-	A	A	-	A	-	A	A	A
*IO-540-C	A	A	-	A	A	A	A	A	A	A
*O-540-E,-G,-H,-J *IO-540-N,-T,-V,-W	A	A	-	A	A	A	A	A	A	A
*IO-540-K,-L *AEIO-540-L	-	A	-	A	A	A	A	A	A	A
*IO-540-A,-B,-G	-	A	-	A	A	A	A	A	A	A
IO-720-A,-B,-C,-D	-	A	-	-	A	-	A	A	A	A

* - May also have 5/8-24 wire end.

CHART III

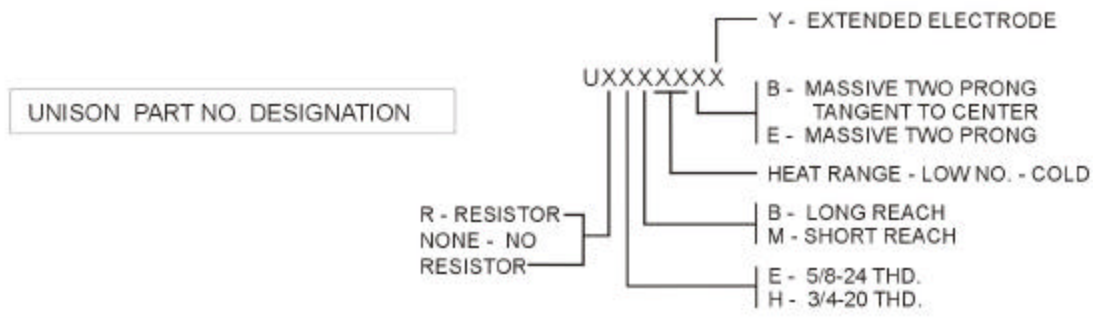
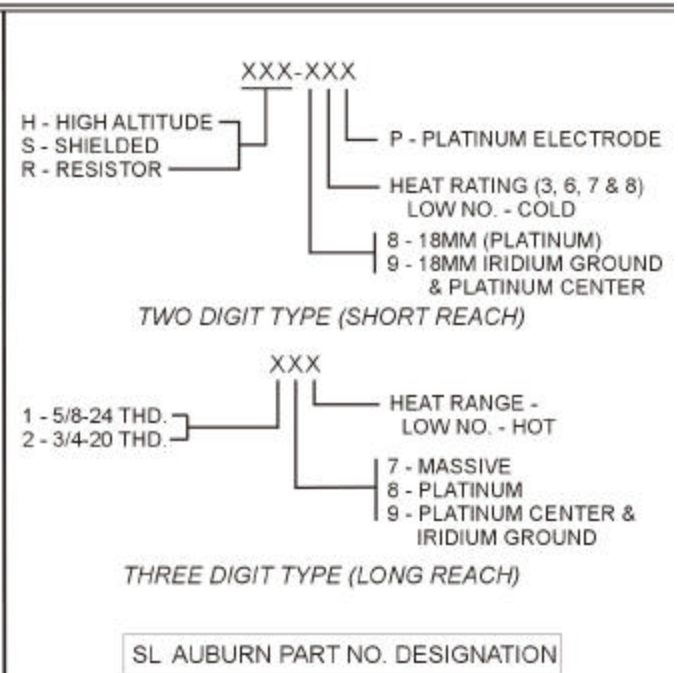
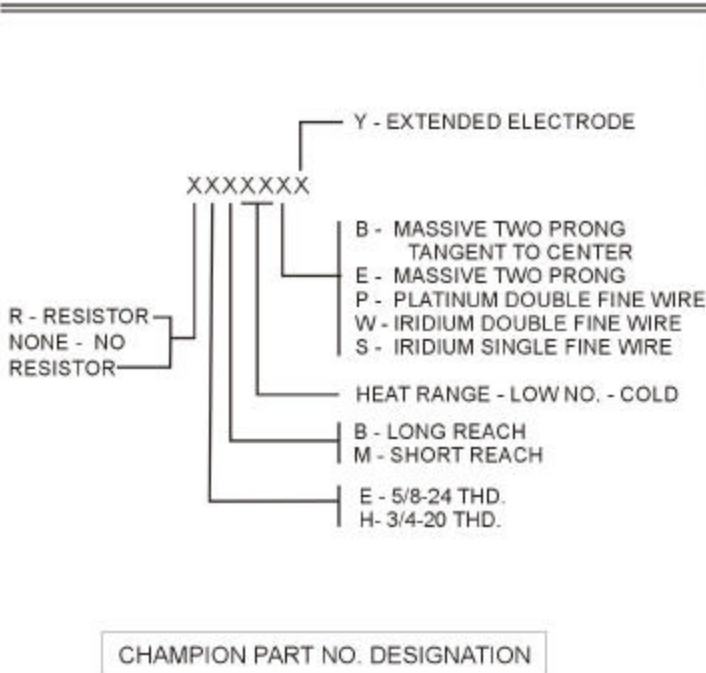
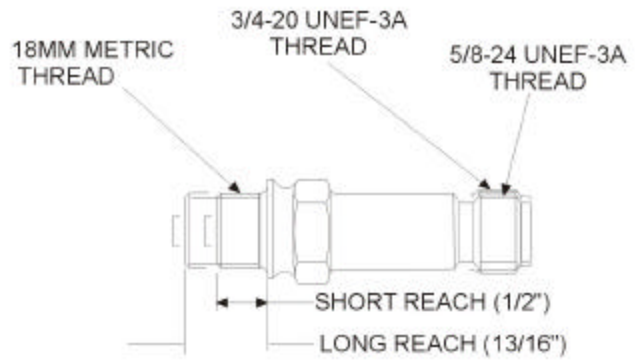
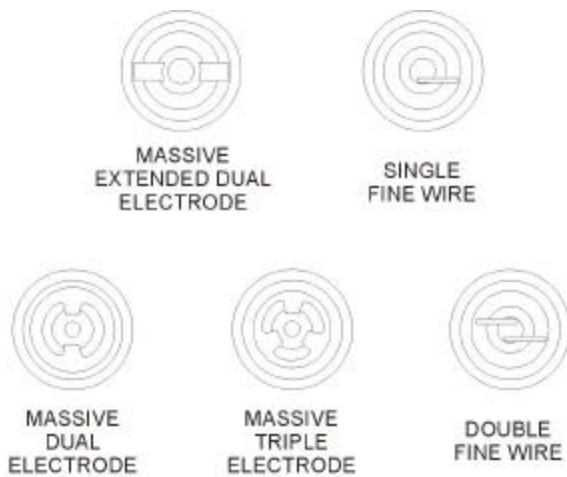
LONG REACH 5/8-24 ENGINE MODEL	MASSIVE			FINE WIRE	
	CHAMPION		SL AUBURN	UNISON	SL AUBURN
	REB37E	REB32E	171	UREB37E	181
IO-320-C1A,-C1B,-F1A LIO-320-C1A	A	-	A	A	A
IO-360-F1A	A	-	A	A	A
*IO-360-A1B6,-C1A	A	-	A	A	A
*IO-540-J *TIO-540-C1A	A	A	A	A	A
*IO-540-R	A	A	A	A	A
*TIO-540-E	A	A	A	A	A
*TIO-540-H	A	A	A	A	A
*IO-540-K *AEIO-540-L	A	A	A	A	A
*IO-540-E,-P	A	A	A	A	A

* - May also have 3/4-20 wire end.

CHART IV

LONG REACH 3/4-20 ENGINE MODEL	MASSIVE						FINE WIRE				
	CHAMPION		SL AUBURN		UNISON		CHAMPION		SL AUBURN		
	RHB 37E	RHB 32E	271	273	URHB 37E	URHB 32E	RHB 36S	RHB 32S	281	291	283
IVO-360	A	-	A	A	A	-	A	-	A	A	-
HIO-360-F											
LHIO-360-F	A	A	-	A	A	A	-	A	-	-	A
HIO-360-E	A	A	-	A	A	A	-	A	-	-	A
TO-360-E											
LTO-360-E	A	A	A	A	A	-	A	-	A	A	-
*IO-360-A,-C	A	A	A	A	A	A	A	A	A	A	A
*TIO-360-A	A	A	-	A	A	A	A	A	A	A	A
TO-360-C,-F											
TIO-360-C	A	A	-	A	A	A	A	A	A	A	A
TVO-435-A,-B,-C,-D, -E,-G,	A	A	A	A	A	A	A	A	A	A	A
VO-435-A											
TVO-435-F	A	A	A	A	A	-	A	A	A	A	A
VO-435-B	A	A	A	A	A	-	A	A	A	A	A
GO-480-G2	A	A	-	A	A	-	A	A	A	A	A
GO-480-G1	A	A	-	A	A	-	A	A	A	A	A
IGO-480-A	A	A	-	A	A	-	A	A	A	A	A
GSO-480											
IGSO-480	A	A	-	A	A	-	A	A	A	A	A
TIO,LTIO-540-U,-V	A	A	-	A	A	A	A	A	A	A	A
TIO-540-G,-AE	A	A	-	A	A	-	A	A	A	A	A
O-540-L	A	A	A	A	A	-	A	A	A	A	A
*IO-540-J											
*TIO-540-C,-K,-W, -AA,-AB,-AF,-AG, -AH,-AJ,-AK	A	A	A	A	A	-	A	A	A	A	A
*IO-540-R	A	A	A	A	A	-	A	A	A	A	A
*TIO-540-E	A	A	A	A	A	A	A	A	A	A	A
*IO-540-AA,-AC	A	A	-	A	A	A	A	A	A	A	A
*TIO-540-H	A	A	A	A	A	A	A	A	A	A	A
*IO-540-K,-M,-U,-S	A	A	A	A	A	A	A	A	A	A	A
*AEIO-540-L											
TIO-540-S	A	A	A	A	A	A	A	A	A	A	A
*IO-540-E,-G,-P	A	A	A	A	A	A	A	A	A	A	A
TIO-540-A	A	A	-	A	A	A	A	A	A	A	A
TIO,LTIO-540-F	A	A	-	A	A	A	A	A	A	A	A
TIO,LTIO-540-J,-N, -R	A	A	-	A	A	A	A	A	A	A	A
TIO-540-T	A	A	-	A	A	A	A	A	A	A	A
O-540-9											
VO-540-A,-B,-C											
IVO-540-A	A	-	A	A	A	-	A	A	A	A	A
TIVO-540-A	A	A	A	A	A	A	A	A	A	A	A
IGO-540-A,-B	A	A	A	A	A	A	A	A	A	A	A
IGSO-540-A,-B	A	A	-	A	A	A	A	A	A	A	A
TIO-541-A,-E	A	A	-	A	A	A	A	A	A	A	A
TIGO-541-E	A	A	-	A	A	A	A	A	A	A	A
IO-720-A,-B	A	A	-	A	A	A	A	A	A	A	A
IO-720-D	A	A	-	A	A	A	A	A	A	A	A

* - May also have 5/8-24 wire end.



NOTE: Revision "X" adds [AEIO-540-L](#) approved for long reach charts, and adds new engine model [TIO-540-AK1A](#).