

Comparison

Electrical Life	Virtually the same. The 709 served as the minimum benchmark for 509 electrical life. Typical electrical life is 10 million operations at full load (size 1).
Mechanical Life	Virtually the same. The 709 served as the minimum benchmark for 509 mechanical life as well. Typical is 20 million operations (size 1).
Coil	The best features of the 709 coil were retained, those primarily being the hot pressure molding process to protect the windings from damage, plus the color coded coil markings, and easy changeability. The 509 has some newer advantages, the primary one being thermal coil cut-out protection. This activates should an incorrect voltage be applied, and prevents overheating of the coil and starter. Another improvement is the replacement of paper insulation between the winding layers with modern elastomer insulation on the coil wires themselves.
Contacts	Contact size and material is virtually the same, weld resistant Silver- Cadmium Oxide. A big improvement is the ability to change contacts much easier without having to completely disassemble the starter (although, the contacts will likely never need to be replaced).
Magnet Structure	The magnets between 509 and 709 are nearly identical in design (but not interchangeable). Both use laminations that are epoxied, in addition to being riveted together, for long life and quiet operation. Both have a permanent air gap to avoid sticking closed due to residual magnetism. The gap is designed so it is unaffected by pole face wear. Laminations are treated to prevent corrosion on both. Both utilize vertical lift-gravity dropout operation for simplicity and long life
Overload protection	The same time-proven design concepts were retained. Eutectic alloy overload protection (class 20) with interchangeable heater elements was used. This type of protection has the advantage of being highly resistant to shock and vibration (as compared to bimetal designs), and has high accuracy and repeatability.
Short Circuit Withstand	protection when using recommended fusing or circuit breaker protection. The 709 was not tested or certified for these high ratings.
Dimensions	The 509 is narrower, a bit taller from line to load terminals and slightly deeper. Volume is essentially the same. Mounting dimensions are necessarily different.

General Cross Reference Guide

Size of Starter	Bulletin 709 Catalog Number starting with (** indicates coil voltage code)	Equivalent Bulletin 509 Starter Cat. No. starting with ... (** indicates coil voltage code)
0	709-TO*	509-TO*
	709-TO*103	509-TO*
	709-TA* - (other options may follow)	509-TA* - (other options may follow)
0	709-AO*	509-AO*
	709-AO*103	509-AO*
	709-AA* - (other options may follow)	509-AA* - (other options may follow)
	709-AJ* - (other options may follow)	509-AJ* - (other options may follow)
	709-AC* - (other options may follow)	509-AC* - (other options may follow)
	709-AS* - (other options may follow)	509-AS* - (other options may follow)
	709-AE* - (other options may follow)	509-AH* - (other options may follow)
	709-AG* - (other options may follow)	509-AH* - (other options may follow)
	709-AU* - (other options may follow)	509-AU* - (other options may follow)

Size of Starter	Bulletin 709 Catalog Number starting with (** indicates coil voltage code)	Equivalent Bulletin 509 Starter Cat. No. starting with ... (** indicates coil voltage code)
1	709-BO* - (other options may follow)	509-BO* - (other options may follow)
	709-BA* - (other options may follow)	509-BA* - (other options may follow)
	709-BJ* - (other options may follow)	509-BJ* - (other options may follow)
	709-BC* - (other options may follow)	509-BC* - (other options may follow)
	709-BS* - (other options may follow)	509-BS* - (other options may follow)
	709-BE* - (other options may follow)	509-BH* - (other options may follow)
	709-BG* - (other options may follow)	509-BH* - (other options may follow)
	709-BU* - (other options may follow)	509-BU* - (other options may follow)

General Cross Reference Guide (continued)

Size of Starter	Bulletin 709 Catalog Number starting with (** indicates coil voltage code)	Equivalent Bulletin 509 Starter Cat. No. starting with ... (** indicates coil voltage code)
1P	709-XO*	509-XO*
	709-XA* - (other options may follow)	509-XA* - (other options may follow)
	709-XJ* - (other options may follow)	509-XJ* - (other options may follow)
	709-XC* - (other options may follow)	509-XC* - (other options may follow)
	709-XS* - (other options may follow)	509-XS* - (other options may follow)
	709-XE* - (other options may follow)	509-XE* - (other options may follow)
	709-XG* - (other options may follow)	509-XE* - (other options may follow)
2	709-CO*	509-CO*
	709-CO*103	509-CO*
	709-CA* - (other options may follow)	509-CA* - (other options may follow)
	709-CJ* - (other options may follow)	509-CJ* - (other options may follow)
	709-CC* - (other options may follow)	509-CC* - (other options may follow)
	709-CE* - (other options may follow)	509-CE* - (other options may follow)
	709-CG* - (other options may follow)	509-CE* - (other options may follow)
	709-CU* - (other options may follow)	509-CU* - (other options may follow)
3	709-DO*	509-DO*
	709-DO*103	509-DO*
	709-DA* - (other options may follow)	509-DA* - (other options may follow)
	709-DJ* - (other options may follow)	509-DJ* - (other options may follow)
	709-DC* - (other options may follow)	509-DC* - (other options may follow)
	709-DE* - (other options may follow)	509-DE* - (other options may follow)
	709-DG* - (other options may follow)	509-DE* - (other options may follow)
	709-DU* - (other options may follow)	509-DU* - (other options may follow)
4	709-EO*	509-EO*
	709-EO*103	509-EO*
	709-EA* - (other options may follow)	509-EA* - (other options may follow)
	709-EJ* - (other options may follow)	509-EJ* - (other options may follow)
	709-EC* - (other options may follow)	509-EC* - (other options may follow)
	709-EE* - (other options may follow)	509-EE* - (other options may follow)
	709-EG* - (other options may follow)	509-EE* - (other options may follow)
	709-EU* - (other options may follow)	509-EU* - (other options may follow)

Size of Starter	Bulletin 709 Catalog Number starting with (** indicates coil voltage code)	Equivalent Bulletin 509 Starter Cat. No. starting with ... (** indicates coil voltage code)
5	709-FO*	509-FO*
	709-FO*103	509-FO*
	709-FA* - (other options may follow)	509-FA* - (other options may follow)
	709-FJ* - (other options may follow)	509-FJ* - (other options may follow)
	709-FC* - (other options may follow)	509-FC* - (other options may follow)
	709-FE* - (other options may follow)	509-FE* - (other options may follow)
	709-FG* - (other options may follow)	509-FE* - (other options may follow)
	709-FU* - (other options may follow)	509-FU* - (other options may follow)
	6	709-GO*
709-GO*103		300-GO*9311 + 193-EEMZ + 193-CT-UL-600A
709-GA* - (other options may follow)		MIC-309-GF* - (other options may follow)
709-GJ* - (other options may follow)		MIC-309-GF* - (other options may follow)
709-GC* - (other options may follow)		MIC-309-GC* - (other options may follow)
7		709-HO*
	709-HO*103	300-HO*9311 + 193-EECP + (3) 1411-180RL-102
	709-HA* - (other options may follow)	MIC-309-HF* - (other options may follow)
	709-HJ* - (other options may follow)	MIC-309-HF* - (other options may follow)
	709-HC* - (other options may follow)	MIC-309-HC* - (other options may follow)
8	709-JO*	300-JO*9311 + 193-EECP + (3) 1411-180RL-162
	709-JO*103	300-JO*9311 + 193-EECP + (3) 1411-180RL-162
	709-JA* - (other options may follow)	MIC-309-JF* - (other options may follow)
	709-JJ* - (other options may follow)	MIC-309-JF* - (other options may follow)
	709-JC* - (other options may follow)	MIC-309-JF* - (other options may follow)
9	709-KO*	No Planned RA Replacement
	709-KO*103	No Planned RA Replacement
	709-KA* - (other options may follow)	No Planned RA Replacement
	709-KJ* - (other options may follow)	No Planned RA Replacement
	709-KC* - (other options may follow)	No Planned RA Replacement