

**290400 to 290499**

**SERVICE ENGINE**



**SALES MANUAL**

**MODEL 290400 SERIES ENGINES REPLACED WITH  
 STANDARD SERVICE ENGINES**

In most cases, the Original Type numbers shown may be replaced by a Service Type Number without making any changes. Necessary changes of engine parts such as crankshafts, reduction parts, blower housings, etc., are noted. Other differences, such as mufflers, elbows, deflectors, etc., are not listed but are very important for safety and engine performance. Be sure the exhaust system on the replacement engine duplicates the system originally selected by the equipment manufacturer. Parts that are suitable for additional use should be transferred. Before making any conversion, check the data shown in the column labeled "REMOVE, ADD and NOTE." See if the changes, which are shown, are actually necessary on the application in question. Often a standard service engine will be a WORKABLE replacement without converting to such things as a special fuel tank or starter position.

If the crankshaft number does not appear in the "Original Engine" column, consult the Illustrated Parts List for the correct service replacement crankshaft number.

**Engine Replacement Notes:**

- NOTE 15:** For all Go-Karts use only a Model 136200 series engine as a replacement, regardless of the original Model.
- NOTE 41:** Original engine was equipped for or with a 12 volt or 120 volt Gear Drive Starter and/or with alternator only. Transfer all related parts as required.
- NOTE 69:** Transfer Blower Housing, Flywheel and Booster Fan Group to replacement engine.
- NOTE 70:** Transfer Booster Fan and/or Stub Shaft Assembly to the replacement engine.
- NOTE 72:** Transfer Exhaust Ducting and/or Muffler Assembly from original engine to replacement engine.
- NOTE 108:** Transfer the Muffler and/or Spark Arrester Assembly from the original engine if suitable for additional service, or add new parts as required. In some cases it maybe necessary to transfer the Oil Filter Adapter to the replacement engine.

**Short Block Notes:**

The SHORT BLOCK part number shown, is the assembly which can be used to rebuild the Original Type Number. If a letter appears after the short block number, it indicates the short block must be modified. The change denoted by each letter is as follows:

**290400 to 290499**

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0021	290447	807590	305447	0077					15 69 108		01 02	3600 3600	494056	
0022	290447	807588	305447	0078					15 69 108		01 02	3750 3750	494055	
0023	290442	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0024	290447	807589	305447	0079					15 69 108		01 02	3600 3600	494054	
0026	290447	807589	305447	0075					15 69 108		All	3600	494054	
0027	290447	807745	305447	0078	1	805453	1	805451	15 69 108		01 02	3150 3150	494055	
					1	805460	1	805456						
0028	290447	807745	305447	0078					15 69 108		01 02	3750 3750	494055	
0029	290447	807589	305447	0079					15 69 108		01 02	3600 3600	494054	
0030	290447	807589	305447	0079					15 69 108		01 02	3600 3600	494054	

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0031	290442	807589	305442	0027					15 69 108		01 02	3600 3600	494054	
0032	290447	807589	305447	0023					15 69 108		01 02	3600 3600	494054	
0033	290447	807590	305447	0023	1	692161	1	692162	15 69 108		01 02	3600 3600	494056	
0034	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0035	290447	807588	305447	0023	1	692161	1	692163	15 69 108		01	3150		
					1	805453	1	805451						
					1	805460	1	805456						
0040	290442	807589	305442	0027					15 69 108		01 02	3600 3600	494054	
0041	290447	807590	305447	0077					15 69 108		01	3600	494055	
0042	290447	807745	305447	0078					15 69 108		01 02	3750 3750	494055	
0043	290442	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0044	290442	807745	305447	0078					15 69 108		01 02	3750 3750	494055	
0046	290447	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0047	290442	807589	305442	0027					15 69 108		01 02	3600 3600	494054	
0048	290447	807589	305447	0068					15 69		01 02	3600 3600	494054	
0049	290447	807590	305447	0023	1	692161	1	692162	15 69 108		01 02	3600 3600	494056	
0051	290447	807590	305447	0077					15 69 108		01 02	3600 3600	494056	
0052	290447	807745	305447	0078					15 69 108		01 02	3600 3600	494055	
0053	290442	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0056	290447	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0057	290442	807589	305442	0027					15 69 108		01 02	3600 3600	494054	
0058	290447	807589	305447	0023					15 69 108		01 02	3600 3600	494054	

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block		
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes	
0059	290442	807745	305447	0078	1	805450	1	805451	15		01	3150	494055		
					1	805455	1	805456	69						
									108						
0060	290442	807745	305447	0078	1	805450	1	805451	15		01	3150	494055		
					1	805455	1	805456	69		02	3150			
									108						
0061	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055		
					1	805453	1	805451	69						
					1	805460	1	805456	108						
0062	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055		
					1	805453	1	805451	69		02	3250			
					1	805460	1	805456	108						
0063	290442	807589	305447	0075					15		01	3600	494054		
									69						
									108						
0064	290447	807589	305447	0079	1	805460	1	805461	15		All	3300	494054		
									69						
									108						
0070	290442	807589	305442	0027					15		01	3600	494054		
									69		02	3600			
									108						
0073	290447	807745	305447	0023	1	692161	1	692163	15		01	3150	494055		
					1	805453	1	805451	69						
					1	805460	1	805456	108						
0074	290447	807745	305447	0078	1	805451	1	805451	15		01	3150	494055		
					1	805456	1	805456	69						
									108						
0075	290447	807589	305447	0075					15		All	3600	494054		
									69						
									108						
0076	290447	807589	305447	0023					15		01	3600	494054		
									69						
									108						
0078	290447	807745	305447	0078					15		01	3800	494055		
									69						
									108						
0082	290447	807745	305447	0078	1	805450	1	805451	15		01	3150	494055		
					1	805455	1	805456	69						
									108						
0084	290442	807745	305447	0078	1	805450	1	805451	15		01	3150	494055		
					1	805455	1	805456	69						
									108						
0085	290442	807745	305442	0027	1	692161	1	692163	15		All	3150	494055		
					1	805453	1	805451	69						
					1	805460	1	805456	108						
0120	290447	807589	305447	0079					15		01	3600	494054		
									69						
									108						
0121	290447	807589	305447	0079					15		01	3600	494054		
									69						
									108						
0122	290442	807745	305447	0078	1	805450	1	805451	15		01	3200	494055		
					1	805455	1	805456	69						
									108						
0123	290442	807589	No Replacement Repair With Short Block and/or Individual Parts									01	3800	494054	

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0124	290446	807806	305447	0023	1	692161	1	692165	15 41 69 108		01	3600		
0125	290447	807589	305447	0079					15 69 72 108		01	3600	494054	
0307	290442	807589	305442	0027					15 69 108		01	3600	494054	
0311	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805450	1	805451						
					1	805455	1	805456						
0314	290447	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456						
0316	290447	807589	305447	0023	1	805456	1	805523	15 69 108		01	4000	494054	
0318	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456						
0320	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451			03	3150		
					1	805460	1	805456						
0326	290447	807589	305447	0075	1	805453	1	805454	15 69 108		01	3600	494054	
					1	805460	1	805459						
0327	290447	807745	305447	0023	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0328	290447	807589	305447	0023					15 69 108		01	3600	494054	
0329	290442	807745	305442	0023	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0330	290442	807589	305442	0027					15 69 108		01	0370	494054	
0340	290442	807589	305442	0027					15 69 108		01	3600	494054	
											02	3600		
0341	290447	807590	305447	0077					15 69 108		01	3600	494056	
											02	3600		
0342	290447	807745	305447	0078					15 69 108		01	3750	494055	
											02	3750		
0343	290442	807589	305447	0075					15 69 108		01	3600	494054	
											02	3600		
0344	290442	807745	305447	0078					15 69 108		01	3750	494055	

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0346	290447	807589	305447	0075					15 69 108		All	3600	494054	
0347	290442	807589	305442	0027					15 69 108		All	3600	494054	
0348	290447	807589	305447	0068					15 69 108		All	3600	494054	
0349	290447	807590	305447	0023	1	692161	1	692162	15 69 108		01 02	3600 3600	494056	
0350	290442	807745	305442	0027	1	692161	1	805451	15 69 108		01	3150	494055	
					1	805453	1	805456						
					1	805460	1	808419						
0351	290447	807590	305447	0077					15 69 108		01 02	3600 3600	494056	
0352	290447	807745	305447	0078					15 69 108		01 02	3750 3750	494055	
0353	290442	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0354	290447	807745	305447	0023	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0355	290447	807589	305447	0023					15 69 108		01	3600	494054	
0356	290447	807589	305447	0075					15 69 108		01 02	3600 3600	494054	
0357	290442	807589	305442	0027					15 69 108		01 02	3600 3600	494054	
0358	290447	807589	305447	0023					15 69 108		01 02	3600 3600	494054	
0359	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01 02	3150 3150	494055	
					1	805455	1	805456						
0360	290442	807745	305447	0078	1	805450	1	805451	15 69 108		All	3150	494055	
					1	805455	1	805456						
0361	290442	807745	305442	0027	1	692161	1	692163	15 69 108		All	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0362	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01 02	3150 3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0363	290442	807589	305447	0075					15 69 108		01	3600	494054	
0364	290447	807589	305447	0079	1	805460	1	805461	15 69 108		All	3300	494054	

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0366	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
0370	290442	807589	305442	0027					15		01	3600	494054	
									69		02	3600		
									108					
0371	290442	807589	305447	0075					15		01	3600	494054	
									69		02	3600		
									108					
0372	290442	807589	305442	0027					15		01	3600	494054	
									69					
									108					
0373	290447	807745	305447	0023	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
0374	290447	807745	305447	0078	1	805451	1	805451	15		01	3150	494055	
					1	805456	1	805456	69					
									108					
0375	290447	807589	305447	0079					15		All	3600	494054	
									69					
									108					
0376	290447	807589	305447	0023					15		01	3600	494054	
									69					
									108					
0377	290447	807745	305447	0078	1	805450	1	805451	15		01	3150	494055	
					1	805455	1	805456	69					
									108					
0378	290447	807745	305447	0078					15		01	3750	494055	
									69					
									108					
0382	290447	807745	305447	0078	1	805450	1	805451	15		01	3150	494055	
					1	805455	1	805456	69					
									108					
0384	290442	807745	305447	0078	1	805450	1	805451	15		01	3150	494055	
					1	805455	1	805456	69					
									108					
0385	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
0390	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69		02	3150		
					1	805460	1	805456	108					
0391	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
0392	290447	807745	305447	0078	1	805450	1	805451	15		01	3150	494055	
					1	805455	1	805456	69		02	3150		
									108					
0394	290447	807745	305447	0023	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
0395	290442	807589	305442	0027					15		01	3600	494054	
									69					
									108					
0398	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69		02	3150		
					1	805460	1	805456	108					

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0402	290442	807589	305447	0075					15 69 108		ALL	3600	494054	
0405	290442	807589	305442	0027					15 69 108		01	3600	494054	
0406	290447	807589	305447	0079					15 69 72 108		01	3600	494054	
0407	290446	807806	305447	0023	1	692161	1	808421	15 69 108		01	3600		
0408	290442	807745	305447	0075	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0409	290442	807589	305447	0075					15 69 108		01	3800	494054	
0410	290446	807589	305447	0075					15 69 108		01	3600	494054	
0411	290447	807589	305447	0079					15 69 72 108		01	3600	494054	
0412	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456						
0413	290447	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456						
0414	290446	807849	No Replacement Repair With Individual Parts.						15		01	3100		
0415	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456						
0416	290442	807745	305447	0078	1	805451	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456			02	3150		
0417	290447	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055	
					1	805455	1	805456			02	3150		
0418	290447	807589	305447	0023	1	805456	1	805464	15 69 108		01	2600	494054	
0419	290447	807745	305447	0023	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0420	290447	807589	305447	0079					15 69 70 108		01	3600	494054	
0421	290446	807806	305447	0023	1	692161	1	808421	15 69 108		01	3600		
0422	290442	807589	305442	0027					15 69 72 108		01	3600	494054	

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0423	290447	807589	305447	0023					15 69 72 108		01	3600	494054	
0425	290447	807589	305447	0075	1	805453	1	805451	15 69 108		01	3200	494054	
					1	805460	1	805456						
0426	290442	807589	305442	0027					15 69 108		01	3600	494054	
0427	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0428	290447	807589	305447	0023					15 69 108		01	3600	494054	
0429	290446	807806	305447	0075	1	692161	1	692165	15 69 108		01	2650		
					1	805460	1	805464						
0430	290446	807589	305447	0075					15 69 108		01	3600	494054	
0431	290447	807589	305447	0079					15 69 72 108		01	3600	494054	
0432	290446	807589	305442	0027					15 41 69 108		01	3600	494054	
0433	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805450						
					1	805460	1	805455						
0434	290446	807589	305447	0075					15 69 108		01	3600	494054	
0435	290446	807589	305447	0075					15 69 108		01	3600	494054	
0436	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805451						
					1	805460	1	805456						
0437	290447	807589	305447	0023					15 69 70 108		01	3600	494054	
0438	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055	
					1	805453	1	805450						
					1	805460	1	805455						
0439	290447	807589	305447	0023					15 69 108		01	3600	494054	
0440	290447	807589	305447	0023					15 69 108		01	3600	494054	
0441	290447	807589	305447	0023	1	805460	1	805463	15 69 108		01	3000	494054	



290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block		
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes	
0442	290447	807589	305447	0023					15 69 108		01	3600	494054		
0443	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055		
					1	805455	1	805456							
0444	290447	807589	305447	0023					15 69 108		01	3600	494054		
0445	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055		
					1	805455	1	805456							
0446	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055		
					1	805455	1	805456							
0447	290442	807745	305447	0078	1	805450	1	805451	15 69 108		01	3150	494055		
					1	805455	1	805456							
0448	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055		
					1	805453	1	805450							
					1	805460	1	805456							
0449	290442	807589	305442	0027					15 69 108		01	3600	494054		
0450	290447	807589	305447	0079					15 69 70 108		01	3600	494054		
0451	290446	807806	305447	0075	1	692161	1	692165	15 69 108		01	3200			
					1	805453	1	805451							
					1	805460	1	805456							
0452	290447	807745	305447	0023	1	692161	1	692163	15 69 108		01	3150	494055		
					1	805453	1	805451							
					1	805460	1	805456							
0453	290447	807589	305447	0023					15 69 72 108		01	3600	494054		
0454	290442	807589	305442	0027					15 69 72 108		01	3600	494054		
0457	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055		
					1	805453	1	805451							
					1	805460	1	805456							
0458	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055		
					1	805453	1	805451							
					1	805460	1	805456							
0460	290447	807745	305447	0023	1	692161	1	692163	15 69 108		01	3150	494055		
					1	805453	1	805451							
					1	805460	1	805456							
0461	290442	807745	305442	0027	1	692161	1	692163	15 69 108		01	3150	494055		
					1	805453	1	805451							
					1	805460	1	805456							
0500	290442	808000	No Replacement Repair With Individual Parts.							15		01	3400		

**290400 to 290499**

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
0501	290442	807745	305447	0078	1	805450	1	805451	15		01	3150	494055	
					1	805455	1	805456	69					
									108					
0502	290447	807745	305447	0023	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805450	69					
					1	805460	1	805455	108					
0503	290442	807589	305442	0027					15		01	3600	494054	
									69					
									108					
0504	290447	807589	305447	0079					15		01	3600	494054	
									69					
									72					
									108					
0505	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
0506	290442	807745	305442	0027	1	692161	1	692163	15		01	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
1066	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
1072	290442	807589	305442	0027					15		A1	3600	494054	
									69					
									108					
1073	290447	807745	305447	0023	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
1074	290447	807589	305447	0023					15		A1	3600	494054	
									69					
									108					
1075	290447	807589	305447	0075					15		A1	3600	494054	
									69					
									108					
1076	290447	807589	305447	0023					15		A1	3600	494054	
									69					
									108					
1077	290447	807745	305447	0078	1	805450	1	805451	15		A1	3150	494055	
					1	805455	1	805456	69					
									108					
1094	290447	807745	305447	0023	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
1106	290447	807589	305447	0079					15		A1	3600	494054	
									69					
									70					
									72					
									108					
1114	290446	807849	305447	0023	1	692161	1	692163	15		A1	3100		
					1	805453	1	805451	69					
					1	805460	1	805456	108					
					1	807628	1	807884						
1133	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					

290400 to 290499

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
1134	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1135	290442	807590	305442	0027	1	692161	1	692162	15		A1	3600	494056	
									69					
									108					
1136	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1137	290447	807745	305447	0023	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1146	290442	807745	305447	0078	1	805450	1	805451	15		A1	3150	494055	
						1	805455	1	805456	69				
									108					
1147	290442	807590	305447	0023	1	692161	1	692162	15		A1	3600	494056	
									69					
									108					
1148	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1149	290447	807589	305447	0079					15		A1	3600	494054	
									69					
									72					
									108					
1152	290447	807745	305447	0023	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1153	290447	807590	305447	0023	1	692161	1	692162	15		A1	3600	494056	
									69					
									108					
1154	290447	807589	305447	0079					15		A1	3600	494054	
									69					
									72					
									108					
1157	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1158	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1159	290442	807589	305442	0023					15		A1	3600	494054	
									69					
									108					
1160	290447	807745	305447	0023	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1161	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
						1	805453	1	805451	69				
						1	805460	1	805456	108				
1163	290446	807849	305447	0023	1	692161	1	692163	15		A1	3000		
						1	805453	1	805451	69				
						1	805460	1	805459	108				
						1	807628	1	807884					

**290400 to 290499**

Original Engine			Make From		Remove		Add		Note	Change to Type	Trim	RPM	Short Block	
Type	Model	Crank	Model	Type #	Qty	Part #	Qty	Part #					Part #	Notes
1191	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
1205	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					
1206	290442	807745	305442	0027	1	692161	1	692163	15		A1	3150	494055	
					1	805453	1	805451	69					
					1	805460	1	805456	108					