

221400 to 221499**SERVICE ENGINE****SALES MANUAL****MODEL 221400 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 30: If the replacement engine supersedes to or is a Model 200000 series engine, refer to the illustrations located after the conversion data for this model series. To make the crankshaft center line the same add 695154 spacer kit, other overall dimensions which differ, are shown in the illustrations. If after making a visual inspection and it is determined the Model 200000 series engine cannot be used because of equipment interference, the original engine should be repaired with a short block and/or individual parts.

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:

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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
0111	221432	399700	205432	0036					15 30		01	3600		
0116	221452	399712	205452	0049					15 30		01	3600		
0120	221437	399700	205437	0041					15 30		01	3600		
0121	221457	399712	No Replacement Repair With Individual Parts.						15		01	3600		
0130	221437	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0131	221432	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0132	221437	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0133	221432	399700	205432	0036					15 30		01	3400		
0134	221432	398708	205432	0035					15 30		01	3950		
0135	221432	398708	205432	0035					15 30		All	3800		
0136	221437	398708	No Replacement Repair With Individual Parts.						15		01	3800		
0137	221452	399712	205452	0049					15 30		01	3600		
0138	221432	399700	205432	0036					15 30		01	3600		
0139	221432	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0140	221431	399700	205432	0036					15 30		01	3600		
0141	221432	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0142	221431	399700	205432	0036					15 30		01	3600		
0143	221432	398708	205432	0035					15 30		01	3800		

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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
0144	221435	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0145	221432	398708	205432	0035					15		01	3600		
									30		02	3600		
											03	2900		
0146	221431	399700	205432	0036					15		01	3000		
									30					
0147	221432	399700	205432	0036					15		01	3700		
									30					
0148	221432	399710	No Replacement Repair With Individual Parts.						15		All	3700		
0149	221437	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0150	221452	399712	205452	0049					15		01	3700		
									30					
0151	221437	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0152	221432	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0153	221435	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0154	221432	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0155	221432	398708	205432	0035					15		01	2900		
									30		02	3600		
											03	3600		
0156	221431	399700	205432	0036					15		01	3600		
									30					
0157	221437	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0158	221437	398708	No Replacement Repair With Individual Parts.						15		01	3800		
0159	221432	399710	No Replacement Repair With Individual Parts.						15		01	3750		
0160	221437	399710	No Replacement Repair With Individual Parts.						15		01	3750		
0161	221437	399700	205437	0041					15		01	3600		
									30					
0162	221432	399700	205432	0036					15		01	3700		
									30		02	3700		
											03	4000		
0163	221452	399712	205452	0049					15		01	3700		
									30		02	3700		
											03	4000		
0164	221432	399710	No Replacement Repair With Individual Parts.						15		01	3100		
0165	221432	399710	No Replacement Repair With Individual Parts.						15		01	3100		
0166	221437	399700	205437	0041					15		All	3700		
									30					
0167	221432	399710	No Replacement Repair With Individual Parts.						15		01	3750		
0168	221437	399700	205437	0041					15		01	3400		
									30					
0169	221437	399700	205437	0041					15		01	3400		
									30					
0170	221432	398708	205432	0035					15		All	3600		
									30					
0171	221432	399710	No Replacement Repair With Individual Parts.						15		All	3100		
0172	221435	399710	No Replacement Repair With Individual Parts.						15		01	3750		
0173	221432	398708	205432	0035					15		01	2900		
									30					
0174	221432	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0175	221432	399700	205432	0036					15		01	3600		
									30					
0176	221431	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0177	221432	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0178	221437	399710	No Replacement Repair With Individual Parts.						15		01	3800		
0179	221431	399700	205432	0036					15		01	3000		
									30					
0180	221437	399700	No Replacement Repair With Individual Parts.						15		All	3400		
0181	221437	399700	No Replacement Repair With Individual Parts.						15		01	3400		

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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
0182	221437	399710	No Replacement Repair With Individual Parts.						15		All	3750		
0183	221431	399700	205432	0036					15		01	3600		
									30					
0184	221437	399700	No Replacement Repair With Individual Parts.						15		01	3900		
0185	221432	399710	No Replacement Repair With Individual Parts.						15		01	3100		
0186	221437	399700	No Replacement Repair With Individual Parts.						15		01	4000		
0187	221437	399710	No Replacement Repair With Individual Parts.						15		All	3600		
0188	221432	399710	No Replacement Repair With Individual Parts.						15		All	3750		
0189	221431	399700	205432	0036					15		01	3600		
									30					
0190	221437	399700	205437	0041					15		01	3600		
									30					
0191	221432	398708	205432	0035					15		01	3600		
									30					
0192	221435	399710	No Replacement Repair With Individual Parts.						15		01	3750		
0193	221437	399700	205437	0041					15		01	4000		
									30					
0194	221432	399700	205432	0036					15		01	3700		
									30					
0195	221437	399700	205437	0041					15		01	3700		
									30					
0196	221432	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0197	221435	399700	205437	0041					15		01	3800		
									30					
0198	221432	398708	205432	0035					15		All	3800		
									30					
0199	221437	399700	205437	0041					15		01	3600		
									30					
0200	221432	399710	No Replacement Repair With Individual Parts.						15		01	3600		
0201	221436	399700	205437	0041					15		01	3600		
									30					
0202	221437	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0203	221437	399700	205437	0041					15		01	4000		
									30					
0204	221452	399712	205452	0049					15		01	4000		
									30					
0205	221432	399700	No Replacement Repair With Individual Parts.						15		01	3100		
0206	221432	399700	205432	0036					15		All	3600		
									30					
0207	221432	399700	205432	0036					15		01	3600		
									30					
0208	221432	399710	No Replacement Repair With Individual Parts.						15		01	3600		
											02	3100		
0209	221437	399700	No Replacement Repair With Individual Parts.						15		01	3700		
0210	221437	399710	No Replacement Repair With Individual Parts.						15		01	3150		
0211	221432	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0212	221437	399710	No Replacement Repair With Individual Parts.						15		01	3700		
0213	221432	399700	205432	0036					15		01	4000		
									30					
0300	221432	491640	No Replacement Repair With Individual Parts.						15		01	3600		
0301	221432	491639	205432	0035					15		01	3600		
									30					
0302	221432	491636	No Replacement Repair With Individual Parts.						15		01	3600		
0303	221452	491637	205452	0049					15		01	3600		
									30					
0304	221432	491640	No Replacement Repair With Individual Parts.						15		01	3600		
0305	221457	491637	No Replacement Repair With Individual Parts.						15		01	3600		

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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
0310	221432	491639	205432	0035					15 30		01	3950		
0311	221437	491640	No Replacement Repair With Individual Parts.						15		01	3700		
0312	221432	491639	205432	0035					15 30		01	3600		
0313	221437	491636	No Replacement Repair With Individual Parts.						15		01	3600		
0314	221432	491640	205432	0036					15 30		01	4000		
0315	221432	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0316	221437	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0317	221432	491636	No Replacement Repair With Individual Parts.						15		01	3150		
0318	221432	491640	205432	0036					15 30		01	3600		
0319	221431	491640	205432	0036					15 30		01	3600		
0320	221437	491639	No Replacement Repair With Individual Parts.						15		01	3800		
0321	221432	491639	205432	0035					15 30		01	3800		
0322	221432	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0323	221435	491640	205437	0041					15 30		01	3800		
0324	221437	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0325	221435	491640	205437	0041					15 30		01	3800		
0326	221432	491640	No Replacement Repair With Individual Parts.						15		01	3100		
0327	221432	491639	205432	0035					15 30		01	3600		
0328	221437	491636	No Replacement Repair With Individual Parts.						15		01	3150		
0329	221432	491636	No Replacement Repair With Individual Parts.						15		01	3100		
0330	221432	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0331	221437	491640	205437	0041					15 30		01	4000		
0332	221433	491640	No Replacement Repair With Individual Parts.						15		All	3800		
0333	221432	491636	No Replacement Repair With Individual Parts.						15		01	3150		
0334	221432	491639	205432	0035					15 30		01	3600		
0335	221432	491640	205432	0036					15 30		01	3600		
0336	221431	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0337	221432	491640	No Replacement Repair With Individual Parts.						15		99	3600		
0338	221437	491640	205437	0041					15 30		01	3600		
0339	221431	491640	205432	0036					15 30		01	3700		
0340	221437	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0341	221437	491636	No Replacement Repair With Individual Parts.						15		01	3700		
0342	221432	491640	No Replacement Repair With Individual Parts.						15		01	3600		
0343	221432	491640	205432	0036					15 30		01	3600		
0344	221437	491640	No Replacement Repair With Individual Parts.						15		01	3700		
0345	221432	491639	No Replacement Repair With Individual Parts.						15		01	3950		
0346	221432	399749	No Replacement Repair With Individual Parts.						15		01	3600		
0347	221437	399749	No Replacement Repair With Individual Parts.						15		01	3600		
0348	221437	399640	No Replacement Repair With Individual Parts.						15		01	3700		
0349	221432	491636	No Replacement Repair With Individual Parts.						15		01	3150		
0350	221432	491640	205432	0036					15 30		01	3600		

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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	
0351	221432	491636	No Replacement Repair With Individual Parts.								01	3750			
0352	221432	491639	205432	0035					15 30		01	3600			
0353	221432	491640	205432	0036					15 30		01	3600			
1345	221432	491649	No Replacement Repair With Individual Parts.							15		All	3950		
1353	221432	491640	205432	0036					15 30		01	3600			
2035	221432	261497	205432	0036					15 30		All	3600			
2037	221432	261509	205432	0035					15 30		All	3600			
2045	221437	261497	205437	0041					15 30		All	3600			
2049	221452	261521	205452	0049					15 30		All	3600			
2050	221457	261521	No Replacement Repair With Individual Parts.							15		All	3600		
2070	221432	261510	No Replacement Repair With Individual Parts.							15		01 02 03 04	3700 3700 3700 3150		
2073	221437	261510	No Replacement Repair With Individual Parts.							15		All	3700		
2135	221432	491640	205432	0036					15 30		All	3600			
2136	221432	491640	205432	0036					15 30		All	3600			
2137	221432	491639	205432	0035					15 30		All	3600			
2138	221432	491639	205432	0035					15 30		01	3600			
2145	221437	491640	205437	0041					15 30		All	3600			
2146	221437	491640	205437	0041					15 30		All	3600			
2148	221452	491637	205452	0049					15 30		01	3600			
2149	221452	491637	205452	0049					15 30		All	3600			
2150	221457	491637	No Replacement Repair With Individual Parts.							15		All	3600		
2170	221432	491636	No Replacement Repair With Individual Parts.							15		02 03 04	3700 3700 3150		
2171	221432	491636	No Replacement Repair With Individual Parts.							15		01	3750		
2173	221437	491636	No Replacement Repair With Individual Parts.							15		All	3700		
2174	221432	491640	No Replacement Repair With Individual Parts.							15		01	3100		
4001	221435	491640	205437	0041					15 30		All	3800			
4003	221437	491636	No Replacement Repair With Individual Parts.							15		01 02	3800 3150		
4005	221437	491639	No Replacement Repair With Individual Parts.							15		01	3800		
4006	221432	491639	205432	0035					15 30		01	3800			
4007	221437	491636	No Replacement Repair With Individual Parts.							15		01	3800		
4035	221432	491640	205432	0036					15 30		All	3600			
4037	221432	491639	205432	0035					15 30		All	3600			

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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
4045	221437	491640	205437	0041					15 30		01	3600		
4049	221452	491637	205452	0049					15 30		All	3600		
4050	221457	491637	No Replacement Repair With Individual Parts.						15		All	3600		
4070	221432	491636	No Replacement Repair With Individual Parts.						15		01 02 03 05	3800 3150 3150 3800		
4090	221432	491640	No Replacement Repair With Individual Parts.						15		01	3600		
5001	221435	491640	No Replacement Repair With Individual Parts.						15		02	3800		
5035	221432	491640	205432	0036					15 30		All	3600		
5037	221432	491639	No Replacement Repair With Individual Parts.						15		All	3600		
5038	221457	491637	No Replacement Repair With Individual Parts.						15		01	3600		
5045	221437	491640	No Replacement Repair With Individual Parts.						15		01	3600		
5049	221452	491637	205452	0049					15 30		All	3600		
5070	221432	491636	No Replacement Repair With Individual Parts.						15		01	3800		

MODEL 200000

