

\$1.50

RAPTOR II RACING ENGINES

Illustrated Parts List Motorsports Model Series



133230

TYPE NUMBER
8014.



WARNING:



- **MODEL 133230-8014-01 IS A RACING ENGINE**
- **SPECIAL SKILLS AND KNOWLEDGE ARE REQUIRED TO PREPARE THE ENGINES FOR COMPETITIVE USE. IF YOU ARE NOT FAMILIAR WITH THE PROPER TECHNIQUES AND PROCEDURES, HAVE QUALIFIED INDIVIDUALS DO THE WORK FOR YOU**
- **THE ENGINES DO NOT HAVE GOVERNORS. ANY THROTTLE MECHANISM MUST HAVE A RETURN-TO-IDLE SPRING SO THE ENGINE WILL RETURN TO IDLE SPEED WHEN THE THROTTLE PEDAL IS RELEASED**

**FAILURE TO FOLLOW THESE WARNINGS COULD
RESULT IN SERIOUS PERSONAL INJURY OR DEATH**

TO FIND THE CORRECT NUMBER OF THE PART YOU NEED: FOLLOW THE INSTRUCTIONS ON THE REVERSE SIDE

- Refer to Engine Model, Type and Code Number that is stamped on the blower housing of engine. Engine type numbers such as 0123 01 are listed only as 0123 in most instances. The two digits (01 or 02, etc.) to the right of the space may be required for more accurate parts identification in some instances. Select the Illustrated Parts List covering the correct Model Series and Type Number.
- Refer to the Illustrations and compare the original part with Illustration. The number next to the illustration is the Reference Number. Assemblies include all parts shown in frames. All parts shown in assembly frames having individual reference numbers can be purchased separately.
- After the Reference Number has been identified, refer to the Numerical text, where Reference and Primary Part Number are listed. **THE PRIMARY PART IS USED ON ALL TYPE NUMBERS EXCEPT THOSE TYPE NUMBERS UNDER "NOTE."**
- If a "Note" appears below the Primary Part Number, it means that this part differs from the Primary Part for certain types. If your Type number is listed under "Note," order the part referred to at the "Note."
- If your Engine Type Number does not appear after any part number listed under "Note," use the Primary Part Number.
- For Engine Type Numbers not covered by this book, check other Parts Lists having the same engine model or contact your source of supply.

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In the Interest of Safety



This safety alert symbol indicates that this message involves personal safety. The words “danger”, “warning” and “caution” indicate degree of hazard. Death, personal injury and/or property damage may occur unless instructions are followed carefully.



You are not ready to operate this engine if you have not read and understood the following safety items. Read the entire owner's manual and the operating instructions of the equipment this engine powers.

The Briggs & Stratton engine is made of the finest material in a state-of-the-art manufacturing facility. Please understand that Briggs & Stratton sells engines to original equipment manufacturers. It also sells to others in the distribution chain who may sell to the ultimate consumer, an equipment manufacturer, another distributor or a dealer. As a result, Briggs & Stratton does not necessarily know the application on which the engine will be placed. For that reason, carefully read and understand the operating instructions of the equipment before you repair or operate it.

You should also understand that there are equipment applications for which Briggs & Stratton does not approve the use of its engines. Briggs & Stratton engines are not to be used on vehicles with less than 4 wheels. They include motor bikes, aircraft products and All Terrain Vehicles. Moreover, Briggs & Stratton does not approve of its engines being used in competitive events. FOR THAT REASON, BRIGGS & STRATTON ENGINES ARE NOT AUTHORIZED FOR ANY OF THESE APPLICATIONS. Failure to follow this warning could result in death, serious injury (including paralysis) or property damage.



DO NOT run engine in an enclosed area. (Exhaust gases contain carbon monoxide, an odorless and deadly poison.)

DO NOT remove fuel tank cap nor fill fuel tank while engine is hot or running. DO NOT refuel indoors or in an unventilated area. (Allow engine to cool 2 minutes before refueling.)

DO NOT place hands or feet near moving or rotating parts.

DO NOT store, spill, or use gasoline near an open flame, nor near an appliance like a stove, furnace, or water heater that uses a pilot light or can create a spark.

DO NOT refuel indoors or in an unventilated area.

DO NOT operate or tip engine/equipment at such a severe angle that causes gasoline spillage.

DO NOT operate engine if gasoline is spilled or when smell of gasoline is present or other explosive conditions exist. (Move equipment away from spill and avoid any ignition until gasoline has evaporated.)

DO NOT transport engine with fuel in tank or fuel shut-off valve open.

DO NOT choke carburetor to stop engine, especially in an enclosed vehicle. (Whenever possible, gradually reduce engine speed before stopping.)

DO NOT tamper with governor springs, links or other parts to increase engine speed. (Run engine at speed set for equipment manufacturer.)

DO NOT check for spark with spark plug removed. (Use an approved tester.)

DO NOT run engine without blower housing or other safety shields removed when doing repairs.

DO NOT crank engine with spark plug removed. (If engine is flooded, place throttle in FAST and crank until engine starts.)

DO NOT strike flywheel with a hammer or hard object as this may cause flywheel to shatter in operation. (To remove flywheel, use Briggs & Stratton approved tools and procedures only.)

DO NOT operate engine without a muffler. (Inspect periodically and replace if worn or leaking. If engine is equipped with muffler deflector, inspect periodically and replace if necessary. Replacement parts must be same as on original equipment.)

DO NOT operate engine with an accumulation of grass, leaves or other combustible material in muffler area.

DO NOT use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on muffler. The spark arrester must be maintained in working order by the owner and/or operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

DO NOT touch hot muffler, cylinder, or fins which can cause burns.

DO NOT start engine with air cleaner or air cleaner cover removed (or cover over carburetor air intake, if Sno/Gard engine).

DO NOT attempt to start engine with cutting blade loose or removed. (Blade must be tight, otherwise a kickback may occur.)



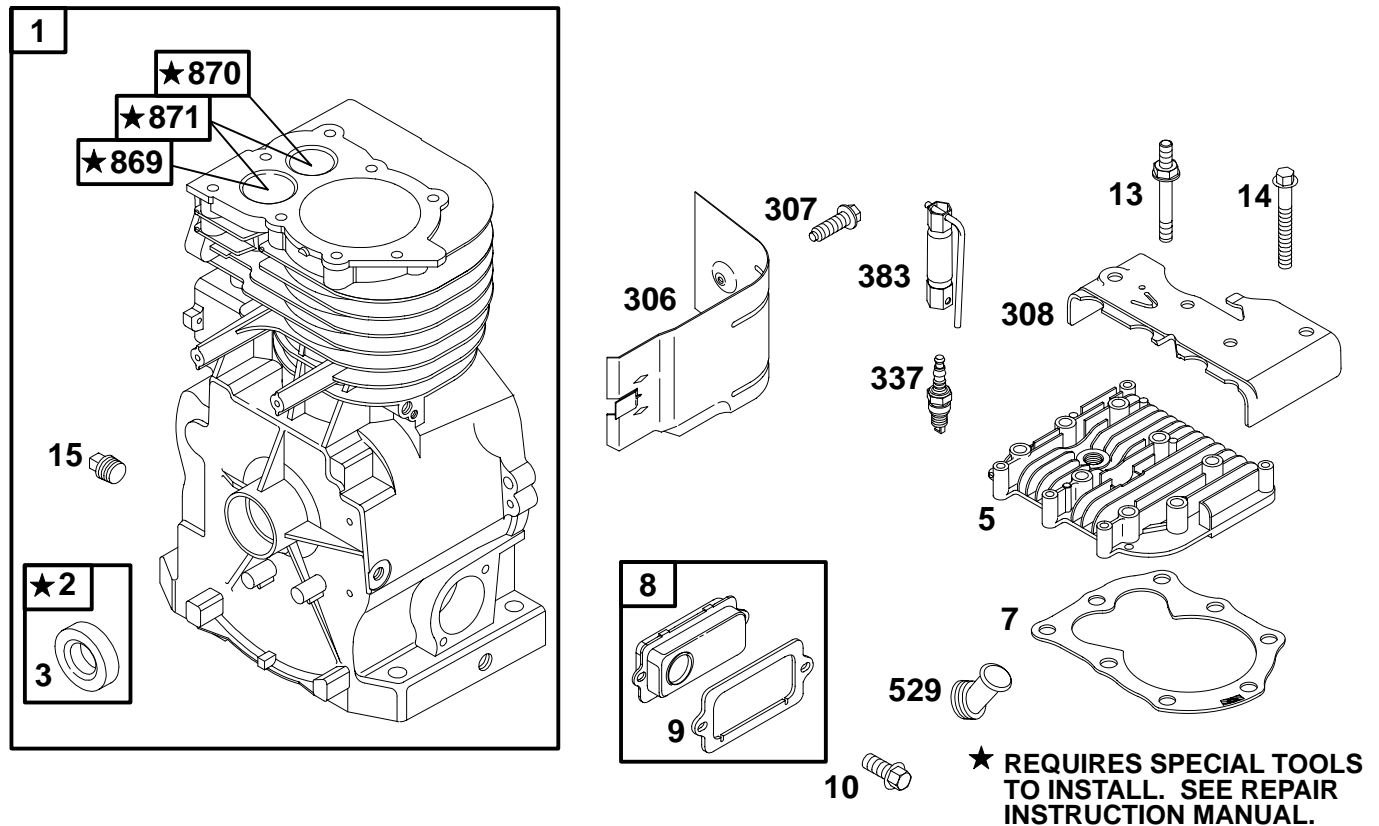
- ✓ Prior to work, read and understand the section(s) of this manual that pertain to the job. Follow all safety warnings.
- ✓ PULL starter cord slowly until resistance is felt. Then pull cord rapidly to avoid kickback and prevent hand or arm injury.
- ✓ WEAR suitable eye protection (safety glasses, goggles or face shield when performing repair procedures.
- ✓ PREVENT ACCIDENTAL STARTING by removing spark plug wire from spark plug when servicing engine or equipment. Disconnect negative wire from battery terminal if equipped with electric starting system.
- ✓ REMOVE blower housing periodically and clean engine. Keep cylinder fins and governor parts free of dirt, grass and other debris which can affect engine speed.
- ✓ USE fresh gasoline. Stale fuel can gum carburetor and cause leakage.
- ✓ CHECK fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
- ✓ USE ONLY Genuine Briggs & Stratton Parts or their equivalent. The use of replacement parts which are not of equivalent quality may damage the engine.



WARNING:



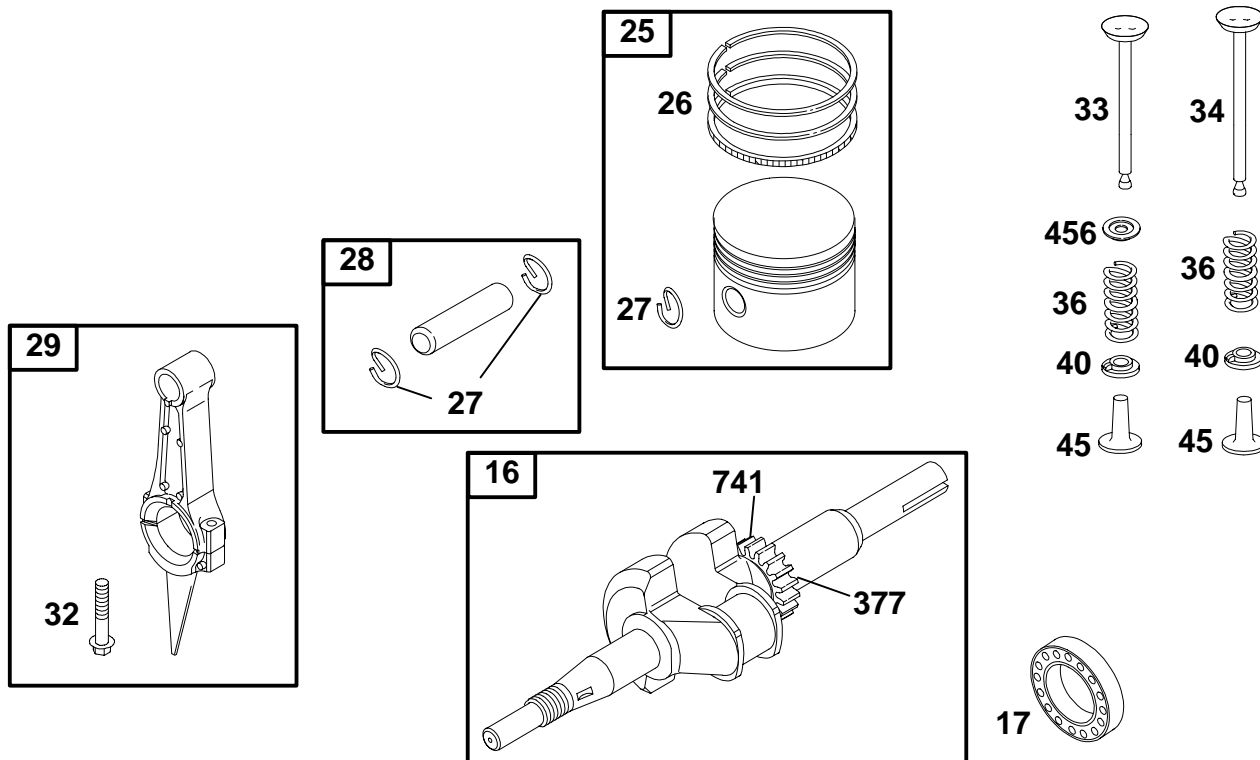
The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	555206	Cylinder Assembly	306	555057	Shield-Cylinder	871	555214	Bushing-Guide Exhaust Valve)
2	555140	Bushing	307	555046	Screw (Cylinder Shield)			(Sintered Bronze)
3	★555071	Seal-Oil	308	555056	Cover-Cylinder Head	OR		
5	555257	Head-Cylinder	337	555132	Plug-Spark	555158		Bushing-Guide Exhaust Valve)
7	★555187	Gasket-Cylinder Head	383	89838	Wrench-Spark Plug			(Sintered Iron)
8	555073	Breather Assembly	529	555074	Grommet			Note
9	★555036	Gasket-Breather	869	555136	Seat-Intake Valve	555139		Bushing-Guide Intake Valve)
10	555043	Screw (Breather)	870	555137	Seat-Exhaust Valve			
13	555082	Stud-Cylinder Head						
14	555045	Screw Cylinder Head (2 15/32" Long)						
15	555079	Plug-Oil Drain						

★ Included in Gasket Set-Part No. 555210.

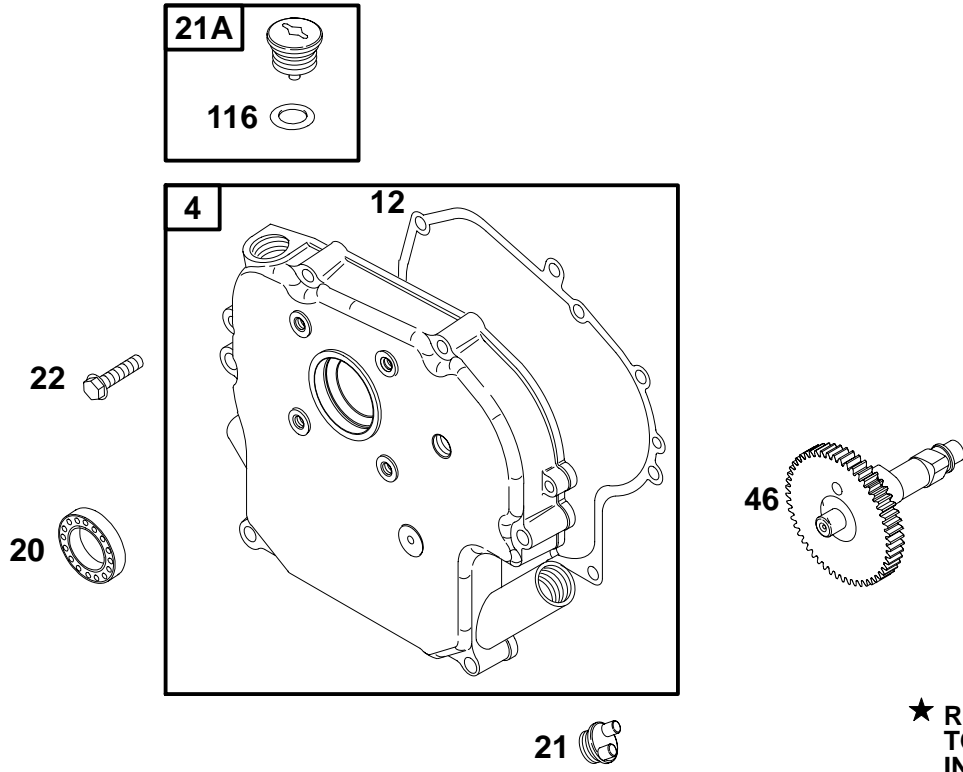
● Included in Carburetor Kit-Part No. 555130.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
16	555204	Crankshaft	27	555035	Lock-Piston Pin	40	555039	Retainer-Spring
17	555050	Bearing-Ball	28	555058	Pin-Piston (Standard)	45	555061	Tappet-Valve
25	555092	Piston Assembly			Note	377	555049	Key-Woodruff
		Note			555059	555147	555147	Retainer-Spring
		555093			Pin-Piston (.005" O.S.)	741	555235	Gear-Timing (Tempered)
		555094	29	555207	Rod-Connecting (Standard)			
		555095			Note			
26	555088	Ring Set (Standard)			555208			
		Note	32	555070	Rod-Connecting (.020" Undersize)			
		555089			Screw-Connecting Rod			
		555090	33	555077	Valve-Exhaust			
		555091	34	555062	Valve-Intake			
		555091	36	555076	Spring-Valve			

★ Included in Gasket Set-Part No. 555210.

● Included in Carburetor Kit-Part No. 555130.

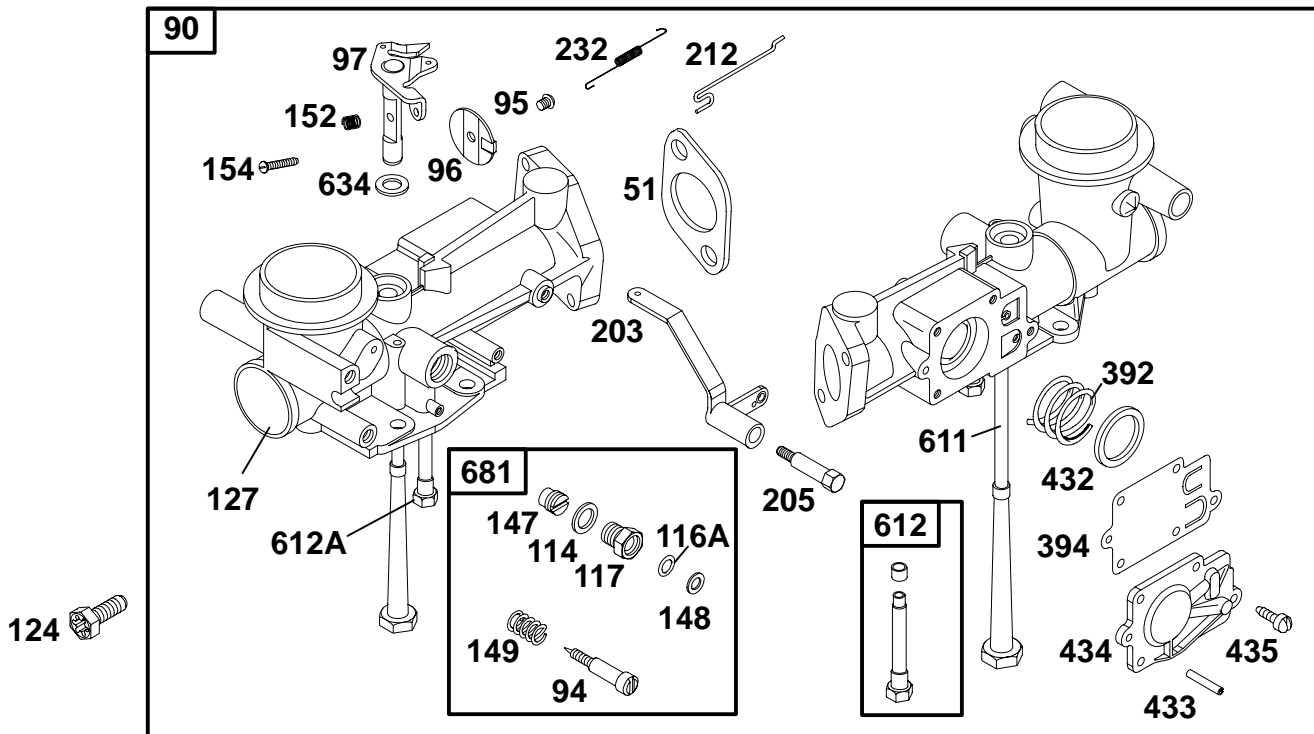


★ **REQUIRES SPECIAL TOOLS TO INSTALL. SEE REPAIR INSTRUCTION MANUAL.**

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
4	555209	Cover-Crankcase	20	★555087	Seal-Oil	46	555052	Gear-Cam (Machined Lobes)
12	★555191	Gasket-Crankcase (.015" Thick, Std.)	21	555037	Plug-Oil Fill			Note
	★555064	Gasket-Crkcase (.005" Thick)	21A	555138	Plug-Oil Fill			555000 Gear-Cam (Unmachined Lobes)
	★555065	Gasket-Crkcase (.009" Thick)	22	555047	Screw-Hex.	116	★555135	Ring-Oil Retainer

★ Included in Gasket Set-Part No. 555210.

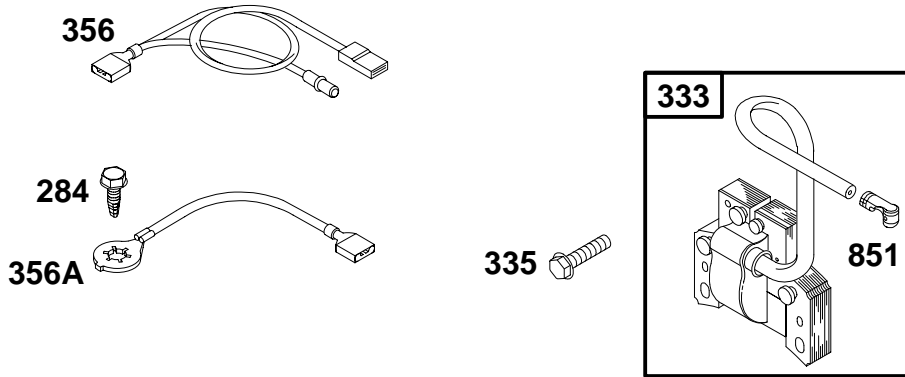
● Included in Carburetor Kit-Part No. 555130.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
51	★555078	Gasket-Intake Elbow	127	555105	Plug-Welch	394	●555119	Diaphragm-Carburetor
90	555129	Carburetor	147	●555114	Seat-Needle Valve	432	555113	Cap-Spring
94	●555124	Valve-Idle Adjustment	148	●555125	Washer-Needle Valve	433	555108	Pin-Roll
95	555232	Screw-Hex.	149	●555123	Spring-Needle Valve	434	555112	Cover-Diaphragm
96	555109	Valve-Throttle	152	555101	Spring-Adjustment	435	555107	Screw-Hex.
97	555100	Shaft-Throttle	203	555104	Crank-Bell	611	555103	Tube-Pick-up
114	●555106	Gasket-Valve	205	555110	Screw-Shoulder	612	555128	Tube-Pick-up
116A	●555122	Packing-Valve	212	555116	Link-Throttle	612A	555120	Tube-Pick-up
117	●555126	Nut-Needle Valve	232	555117	Spring-Link	634	555118	Washer-Shaft
124	555238	Screw-Carburetor Mounting	392	555115	Spring-Diaphragm	681	●555127	Valve-Needle Kit

★ Included in Gasket Set-Part No. 555210.

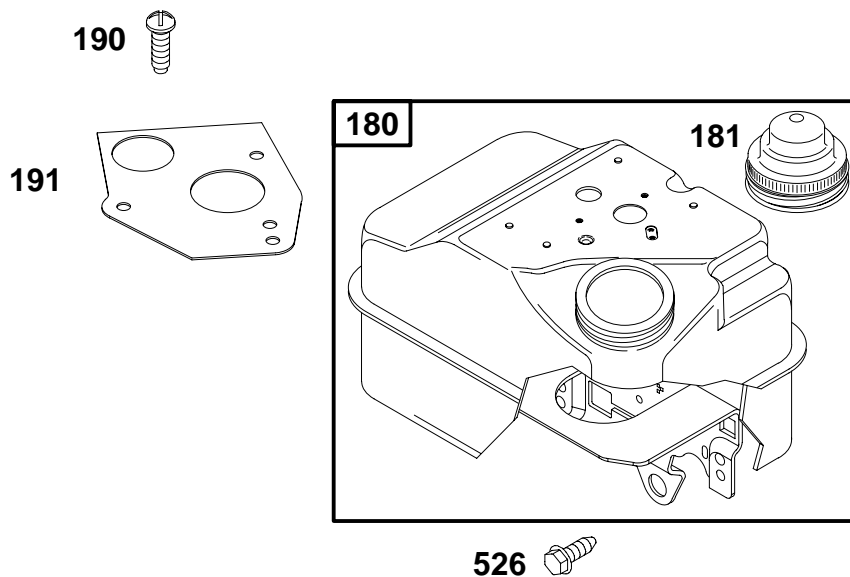
● Included in Carburetor Kit-Part No. 555130.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
284	555080	Screw-Hex.	356	555086	Wire-Stop (Armature to Switch)	356A	555099	Wire-Stop (Stop Switch to Ground)
333	555075	Armature-Magneto				851	555072	Terminal-Cable
335	555040	Screw-Hex.						

★ Included in Gasket Set-Part No. 555210.

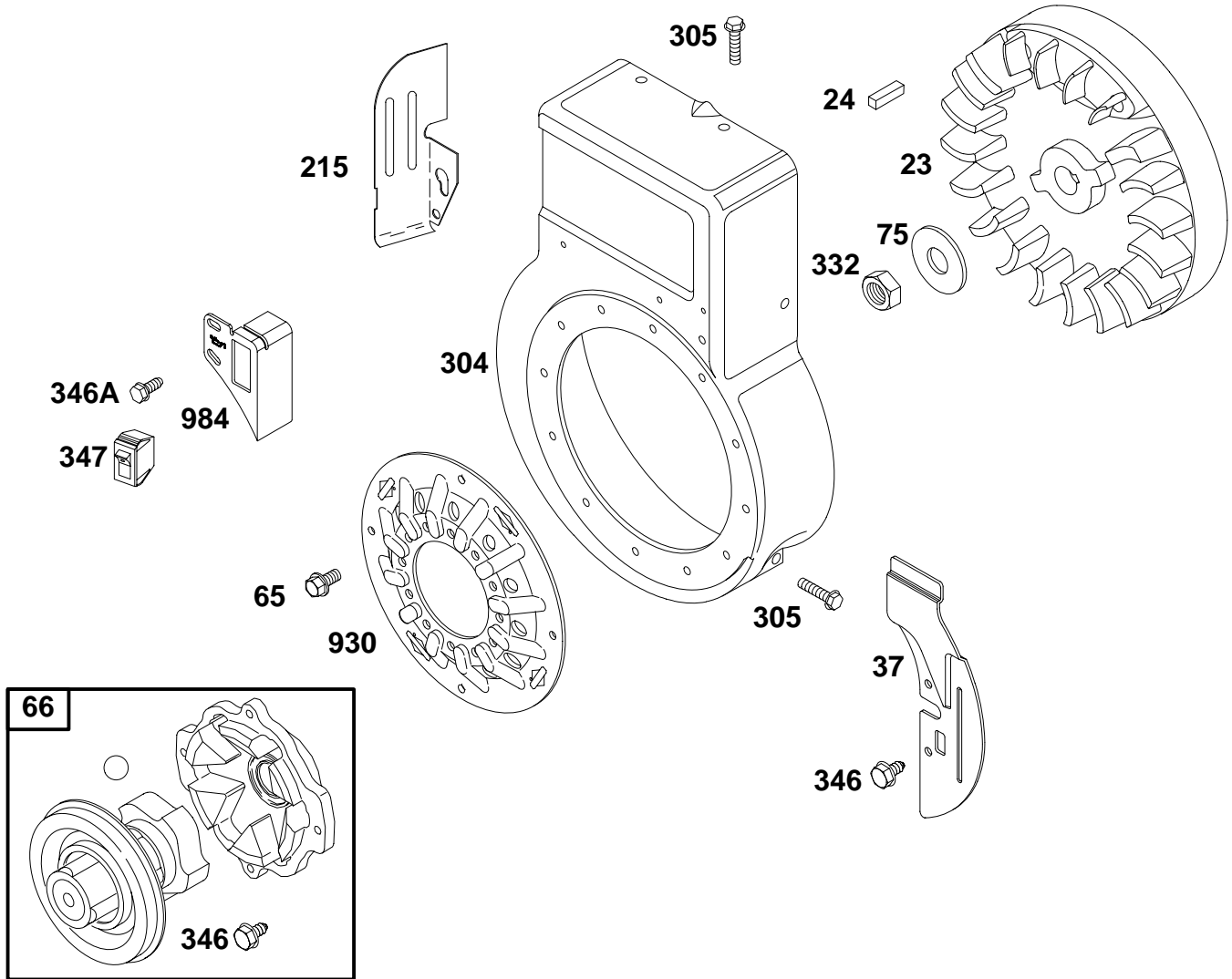
● Included in Carburetor Kit-Part No. 555130.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
180	555192	Tank-Fuel	190	555048	Screw-Hex.	526	555044	Screw-Hex.
181	555085	Cap-Fuel Tank	191	★555084	Gasket-Tank Mtg.			

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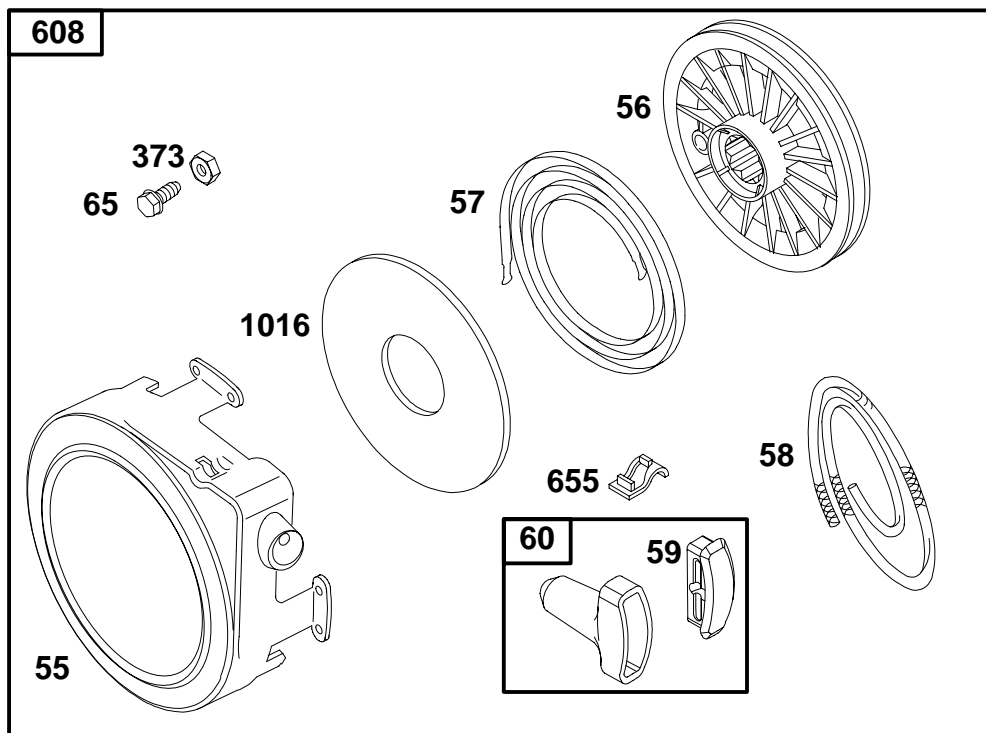


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REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
23	555067	Flywheel	215	555055	Guide-Air	346A	555081	Screw-Hex.
24	555054	Key-Flywheel	304	555256	Housing-Blower	347	555098	Switch-Stop
37	555053	Guard-Flywheel	305	555051	Screw-Hex.	930	555255	Guard-Finger
65	555211	Screw-Torx®	332	555038	Nut-Hex.	984	555097	Bracket-Indicator Light
66	555171	Clutch-Starter	346	555046	Screw-Hex.			
75	555083	Washer-Flywheel						

★ Included in Gasket Set-Part No. 555210.

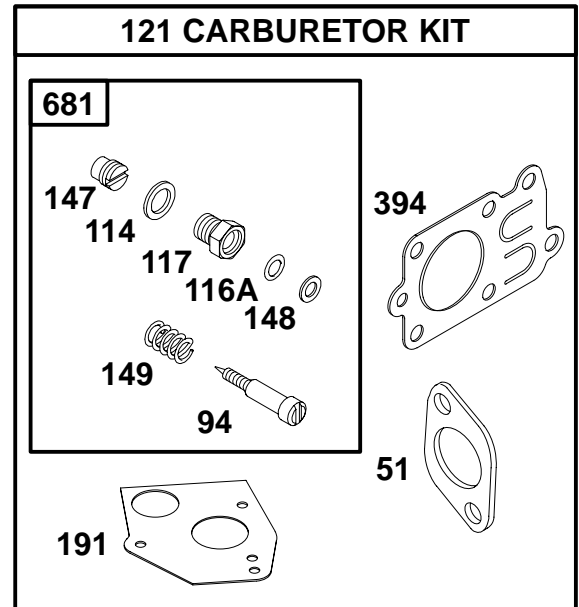
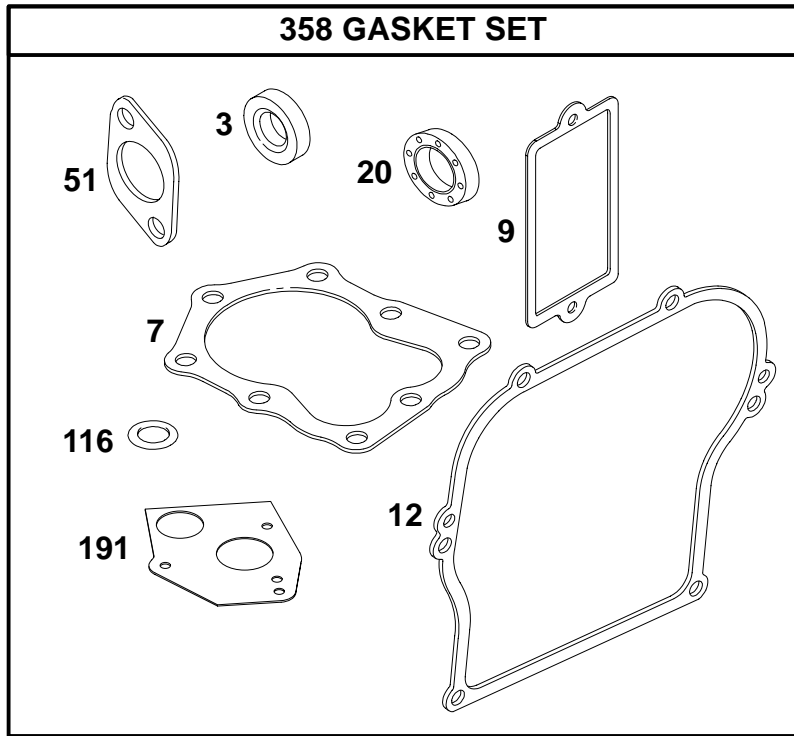
● Included in Carburetor Kit-Part No. 555130.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
55	555222	Housing-Rewind Starter	58	555221	Rope-Starter (63" Long)	373	555230	Nut-Hex.
56	555224	Pulley-Starter	59	555227	Insert-Grip	608	555165	Starter-Rewind
57	555226	Spring-Rewind Starter	60	555228	Grip-Starter Rope	655	555223	Anchor-Spring
			65	555229	Screw-Hex.	1016	555225	Spacer-Rewind

★ Included in Gasket Set-Part No. 555210.

● Included in Carburetor Kit-Part No. 555130.



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
3	★555071	Seal-Oil	20	★555087	Seal-Oil	149	●555123	Spring-Needle Valve
7	★555187	Gasket-Cylinder Head	51	★555078	Gasket-Intake Elbow	191	★●555084	Gasket-Tank Mtg.
9	★555036	Gasket-Breather	94	●555124	Valve-Idle Adjustment	358	555210	Gasket Set
12	★555191	Gasket-Crankcase (.015" Thick, Std.)	114	●555106	Gasket-Valve	394	●555119	Diaphragm-Carburetor
	★555064	Gasket-Crankcase (.005" Thick)	116	★555135	Ring-Oil Retainer	681	●555127	Valve-Needle Kit
	★555065	Gasket-Crankcase (.009" Thick)	116A	●555122	Packing Valve			
			117	●555126	Nut-Needle Valve			
			121	555130	Carburetor Kit			
			147	●555114	Seat-Needle Valve			
			148	●555125	Washer-Needle Valve			

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