

**\$1.50**

# THE WORLD FORMULA RACING ENGINE

## Illustrated Parts List Motorsports

**Model Series**  
**124335**



**TYPE NUMBER**  
**8101.**

### **WARNING**

**TO REDUCE THE RISK OF DEATH, SERIOUS INJURY AND PROPERTY DAMAGE, AT ALL TIMES:**

- **INSTALL A RETURN TO IDLE SPRING!** This engine does not have a GOVERNOR. Before operating this engine a RETURN TO IDLE SPRING MUST BE ATTACHED to the throttle linkage and/or cable.
- **USE AN APPROPRIATE FLYWHEEL!** This engine is equipped with a stock flywheel. If the engine is MODIFIED, the STOCK FLYWHEEL MUST BE REPLACED with one appropriate for your modified engine.
- **FOLLOW BRIGGS & STRATTON REPAIR MANUAL P/N 272147 INSTRUCTIONS!** When removing and installing the flywheel and for all repairs, follow instructions and use only proper tools.
- Special skills and knowledge are required to prepare the engine for competitive events and Sanctioned Racing. Only qualified persons should perform this work.
- **READ AND FOLLOW OWNER'S MANUAL.**

*This is a racing engine. Engines used in competitive racing or on commercial or rental tracks are not covered under warranty. Similarly there is no warranty for engines that have been altered or modified.*

### **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.

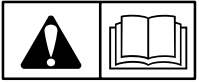
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## BEFORE OPERATING ENGINE

- Read entire Operating & Maintenance Instructions AND the instructions for the equipment this engine powers.\*
- Failure to follow instructions could result in serious injury or death.

## THESE INSTRUCTIONS CONTAIN SAFETY INFORMATION TO

- Make you aware of hazards associated with engines
- Inform you of the risk of injury associated with those hazards, and
- Tell you how to avoid or reduce the risk of injury.

The safety alert symbol () is used to identify safety information about hazards that can result in personal injury.

A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.



### DANGER

Indicates a hazard which, if not avoided, **will result in death or serious injury.**



### WARNING

Indicates a hazard which, if not avoided, **could result in death or serious injury.**



### CAUTION

Indicates a hazard which, if not avoided, **might result in minor or moderate injury.**

**CAUTION**, when used **with-out** the alert symbol, indicates a situation that **could result in damage to 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.

## HAZARD SYMBOLS AND MEANINGS



Fire



Explosion



Toxic Fumes



Hot Surface



Moving Parts



Kickback



Shock

## THE INTERNATIONAL SYMBOLS USED ON THE ENGINE OR IN THIS MANUAL INCLUDE:



Safety Alert



Read Owner's Manual



Fuel



Fuel Shutoff



Oil



Choke



Stop



On Off



## WARNING



Engines give off carbon monoxide, an odorless, colorless, poison gas.

Breathing carbon monoxide can cause nausea, fainting or death.

- Start and run engine outdoors.
- Do not start or run engine in enclosed area, even if doors or windows are open.



## WARNING



Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go.

Broken bones, fractures, bruises or sprains could result.

- When starting engine, pull cord slowly until resistance is felt, then pull rapidly.
- Remove all external equipment/engine loads before starting engine.
- Direct coupled equipment components such as, but not limited to, blades, impellers, pulleys, sprockets, etc., must be securely attached.

\* Briggs & Stratton does not necessarily know what equipment this engine will power. For that reason, you should carefully read and understand the operating instructions for the equipment on which your engine is placed.



## **WARNING**



Gasoline and its vapors are extremely flammable and explosive.

Fire or explosion can cause severe burns or death.

### **WHEN ADDING FUEL**

- Turn engine OFF and let engine cool at least 2 minutes before removing gas cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. Fill tank to approximately 1-1/2 inches below top of neck to allow for fuel expansion.
- Keep gasoline away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.

### **WHEN STARTING ENGINE**

- Make sure spark plug, muffler, fuel cap and air cleaner are in place.
- Do not crank engine with spark plug removed.
- If fuel spills, wait until it evaporates before starting engine.
- If engine floods, set choke to OPEN/ RUN position, place throttle in FAST and crank until engine starts.

### **WHEN OPERATING EQUIPMENT**

- Do not tip engine or equipment at angle which causes gasoline to spill.
- Do not choke carburetor to stop engine.

### **WHEN TRANSPORTING EQUIPMENT**

- Transport with fuel tank EMPTY or with fuel shut-off valve OFF.

### **WHEN STORING GASOLINE OR EQUIPMENT WITH FUEL IN TANK**

- Store away from furnaces, stoves, water heaters or other appliances that have pilot light or other ignition source because they can ignite gasoline vapors.

## **WARNING**



Unintentional sparking can result in fire or electric shock.

Unintentional start-up can result in entanglement, traumatic amputation, or laceration.

### **BEFORE PERFORMING REPAIRS OR ADJUSTMENTS**

- Disconnect spark plug wire and keep it away from spark plug.
- Disconnect battery at negative terminal (only engines with electric start).

### **WHEN TESTING FOR SPARK**

- Use approved spark plug tester.
- Do not check for spark with spark plug removed.

## **WARNING**



Running engines produce heat. Engine parts, especially muffler, become extremely hot.

Severe thermal burns can occur on contact.

Combustible debris, such as leaves, grass, brush, etc. can catch fire.

- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated combustibles from muffler area and cylinder area.
- Install and maintain in working order a spark arrester before using equipment on forest-covered, grass-covered, brush-covered unimproved land. The state of California requires this (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.

## **WARNING**



Rotating parts can contact or entangle hands, feet, hair, clothing, or accessories.

Traumatic amputation or severe laceration can result.

- Operate equipment with guards in place.
- Keep hands and feet away from rotating parts.
- Tie up long hair and remove jewelry.
- Do not wear loose-fitting clothing, dangling drawstrings or items that could become caught.

## **WARNING**



Starting engine creates sparking.

Sparking can ignite nearby flammable gases.

Explosion and fire could result.

- If there is natural or LP gas leakage in area, do not start engine.
- Do not use pressurized starting fluids because vapors are flammable.

## **WARNING**

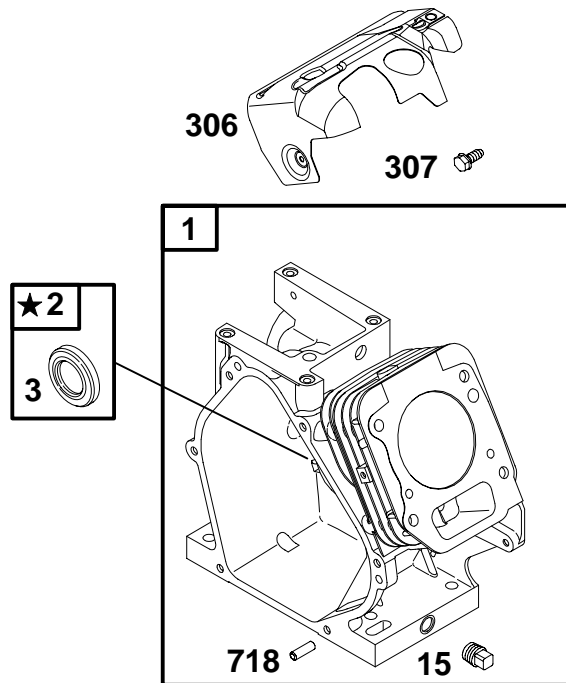


Replacement parts for fuel system (cap, hoses, tanks, filters, etc.) must be the same as original parts, otherwise fire can occur.

## **WARNING**

**DO NOT** strike the flywheel with a hammer or hard object because the flywheel may later shatter during operation.



**124300**

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

**1019 LABEL KIT**

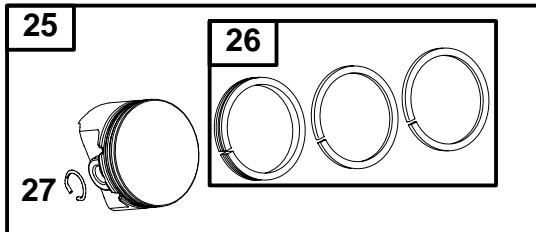
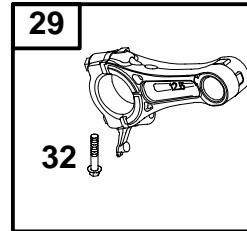
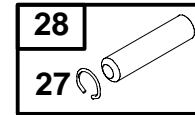
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>1</b>	<b>555633</b>	Cylinder Assembly	<b>3</b>	★ <b>555071</b>	Seal—Oil (Magneto Side)	<b>307</b>	<b>699483</b>	Screw (Cylinder Shield)
<b>2</b>	<b>555140</b>	Kit—Bushing/Seal (Magneto Side)	<b>15</b>	<b>555079</b>	Plug—Oil Drain	<b>718</b>	<b>555579</b>	Pin—Locating
			<b>306</b>	<b>557037</b>	Shield—Cylinder	<b>1019</b>	<b>555577</b>	Kit—Label

★ Included in Engine Gasket Set—Ref No. 358.

△ Included in Valve Gasket Set—Ref No. 1095.

● Included in Carburetor Overhaul Kit—Ref No. 121.



**124300**

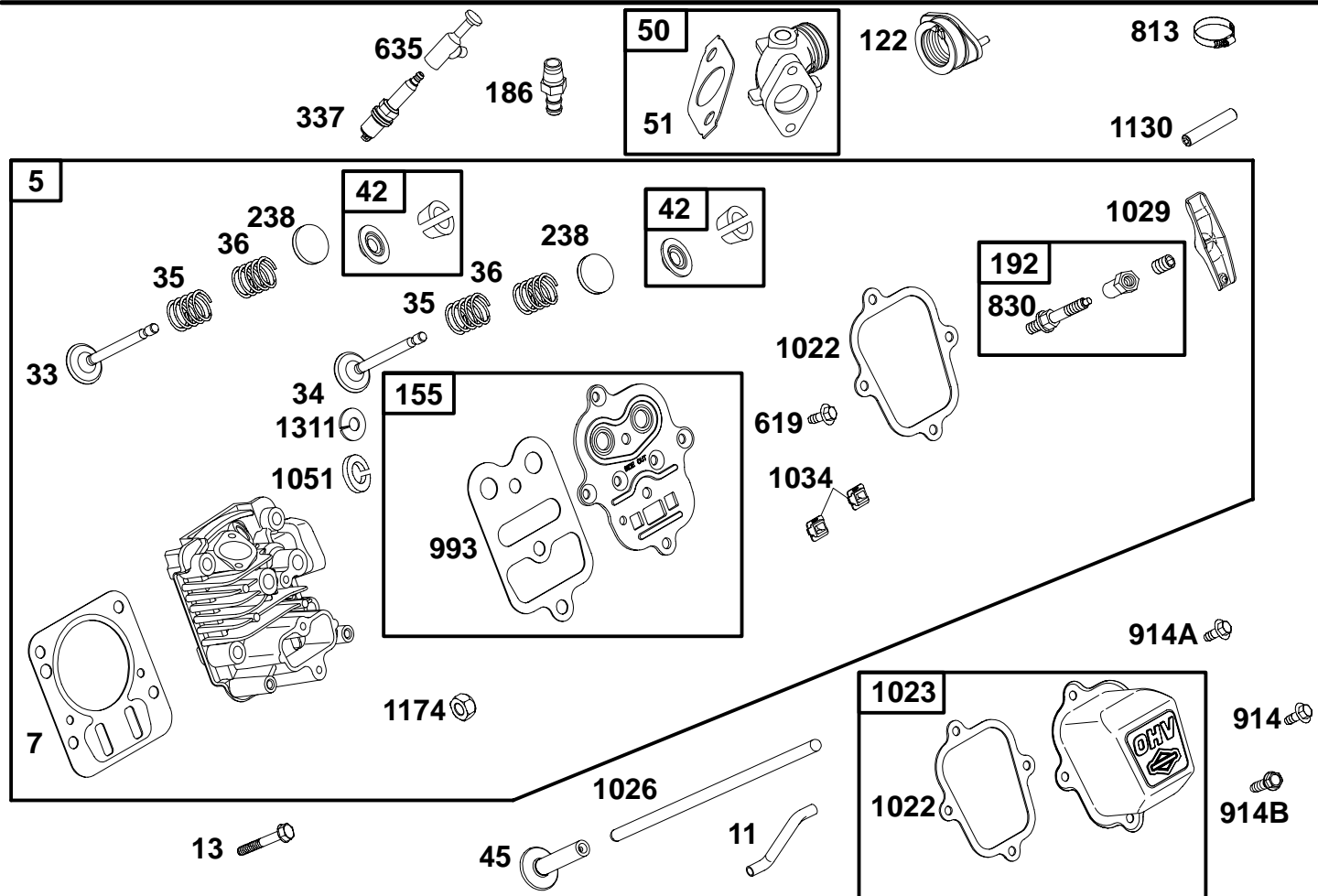
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>25</b>	<b>557001</b>	Piston Assembly (Standard) —— <b>Note</b> —— <b>557002</b> Piston Assembly (.010" Oversize) <b>557003</b> Piston Assembly (.020" Oversize) <b>557004</b> Piston Assembly (.030" Oversize)	<b>26</b>	<b>555514</b>	Ring Set (Standard) —— <b>Note</b> —— <b>555515</b> Ring Set (.010" Oversize) <b>555516</b> Ring Set (.020" Oversize) <b>555517</b> Ring Set (.030" Oversize)	<b>27</b>	<b>555521</b>	Lock—Piston Pin
						<b>28</b>	<b>555520</b>	Pin—Piston
						<b>29</b>	<b>557005</b>	Rod—Connecting
						<b>32</b>	<b>557078</b>	Screw (Connecting Rod)

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REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
5	557101	Head-Cylinder	42	557025	Keeper-Valve	914	555614	Screw
7	★Δ555621	Gasket-Cylinder Head	45	557098	Tappet-Valve			(Rocker Cover)
11	692600	Tube-Breather	50	557009	Manifold-Intake			(Center)
13	699482	Screw	51	557044	Gasket-Intake	914A	555542	Screw
		(Cylinder Head)	122	557050	Spacer-Carburetor			(Rocker Cover)
33	557018	Valve-Exhaust	155	555547	Plate-Cylinder Head			(Top)
34	557017	Valve-Intake	186	557054	Connector-Hose	914B	699481	Screw
35	557024	Spring-Valve	192	555548	Adjuster-Rocker Arm			(Rocker Cover)
		(Intake)	238	557016	Cap-Valve			(Bottom)
36	557024	Spring-Valve	337	557039	Plug-Spark	993	★Δ555554	Gasket-Cylinder Head
		(Exhaust)	619	699230	Screw			Plate
					(Cylinder Head Plate)	1022	★Δ555523	Gasket-Rocker Cover
			635	555162	Boot-Spark Plug	1023	555528	Cover-Rocker
			813	557051	Clamp	1026	555531	Rod-Push
					(Intake Manifold)	1029	557015	Arm-Rocker
			830	555549	Stud	1034	555555	Guide-Push Rod
					(Rocker Arm)	1051	557026	Ring-Retaining
						1130	557108	Stud
								(Intake Manifold)
						1174	557102	Nut
								(Intake Manifold)
						1311	557099	Washer
								(Intake Manifold)

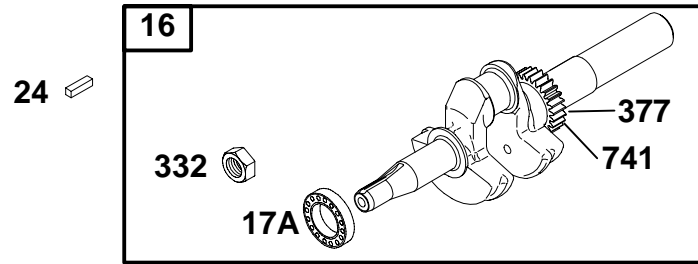
★ Included in Engine Gasket Set-Ref No. 358.

Δ Included in Valve Gasket Set-Ref No. 1095.

● Included in Carburetor Overhaul Kit-Ref No. 121.



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REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
16	555622	Crankshaft	332	699359	Nut (Flywheel)	377	555049	Key-Woodruff
17A	555573	Bearing-Ball				741	555574	Gear-Timing
24	555054	Key-Flywheel						

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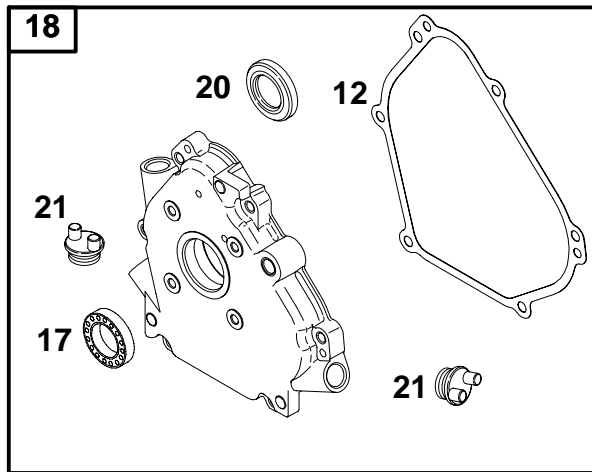
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Assemblies include all parts shown in frames.

02/09/2004



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REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
12	★699485	Gasket-Crankcase	20	★555529	Seal-Oil (PTO Side)	22	699478	Screw (Crankcase Cover/Sump)
17	555527	Bearing-Ball	21	555037	Cap-Oil Fill			
18	557103	Cover-Crankcase						

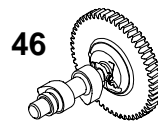
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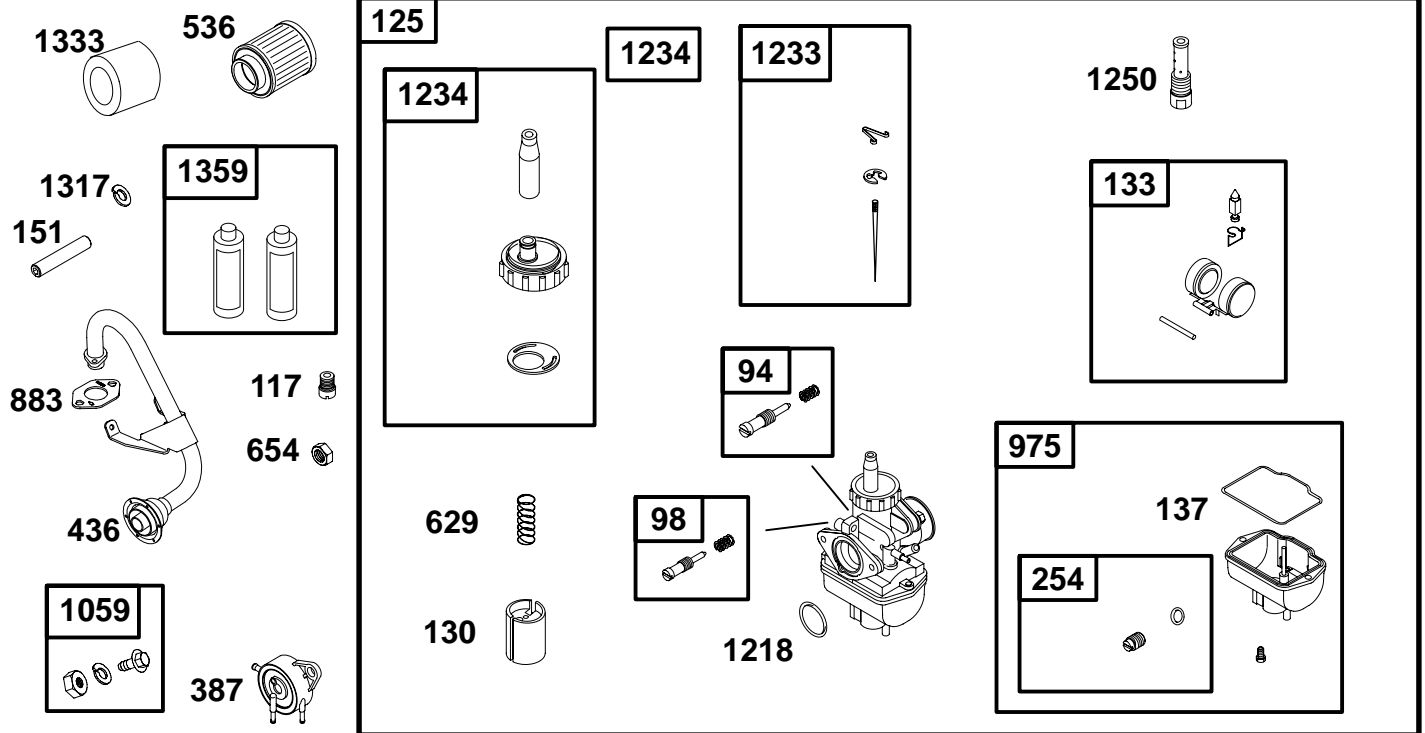


REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>46</b>	<b>557041</b>	Camshaft						

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**124300**

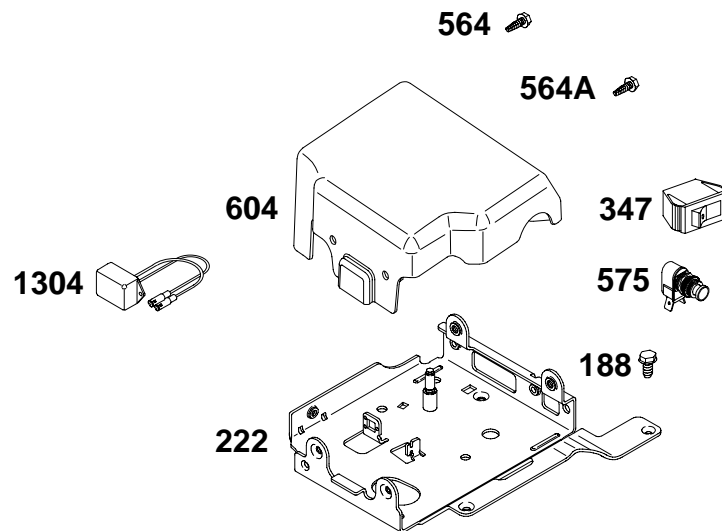
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
94	557085	Kit-Idle Speed	133	557080	Float-Carburetor	975	557008	Bowl-Float
98	557084	Kit-Idle Mixture	137	●557082	Gasket-Float Bowl	1059	557105	Kit-Screw/Washer
117	557012	Jet-Main (Gasoline) (Contains 7 Different Sizes)	151	557097	Stud (Exhaust Manifold)	1218	●557007	Seal-O Ring (Carburetor)
125	557006	Carburetor	254	557079	Drain-Carburetor Bowl	1233	557081	Jet-Needle (Gasoline)
130	557083	Valve-Throttle	387	557033	Pump-Fuel	1234	557088	Cap-Throttle Cable
			436	557045	Manifold-Exhaust	1250	557086	Tube-Emulsion
			536	557043	Cleaner-Air	1317	557099	Washer (Exhaust Manifold)
			629	557087	Spring-Throttle Return	1333	557096	Cover-A/C Water Repellant
			654	555323	Nut (Carburetor)	1359	100094	Kit-Filter Recharging (Includes 2)
			883	★557047	Gasket-Exhaust			

★ Included in Engine Gasket Set-Ref No. 358.

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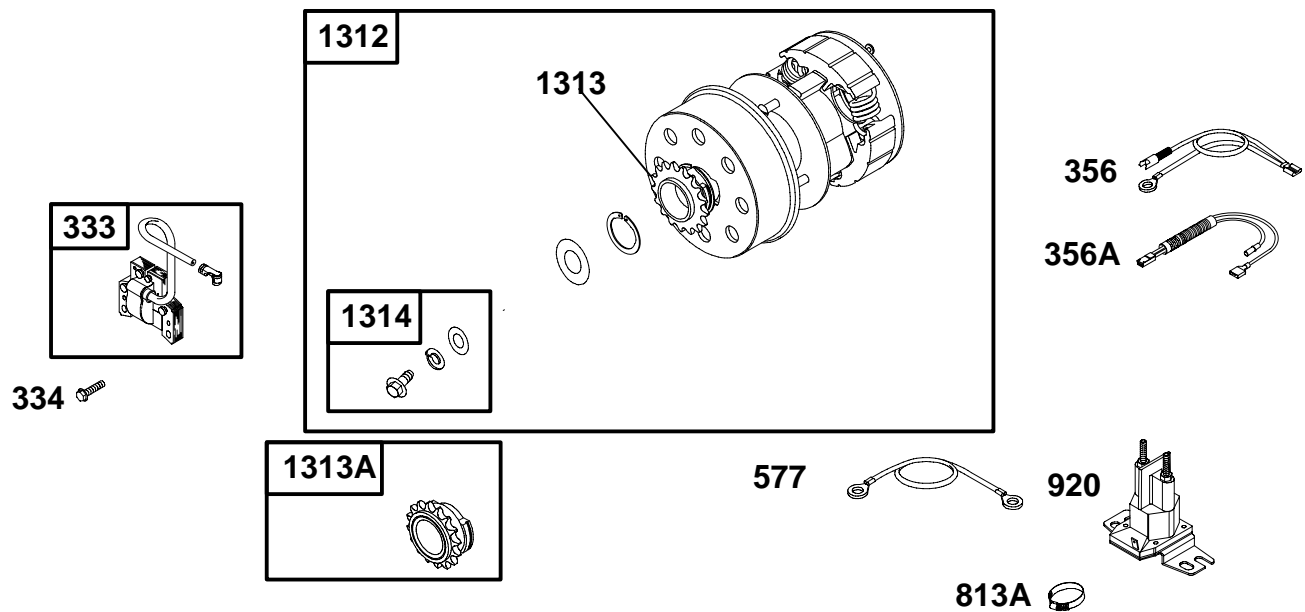
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
188	699593	Screw (Control Bracket)	564	699492	Screw (Control Cover)	604	557048	Cover-Control (Includes Rev Limiter)
222	555627	Bracket-Control	564A	557104	Screw (Control Cover)	1304	557000	Limiter-Rev
347	555564	Switch-Rocker	575	557028	Switch-Starting			
536	557043	Cleaner-Air						

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REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
333	557040	Armature-Magneto	356	557031	Wire-Stop	1313A	557020	Gear-Clutch (17 Teeth)(219 Chain)
334	699477	Screw (Magneto Armature)	356A	557032	Wire-Stop			<b>Note</b>
			577	555373	Cable-Starter			557091 Gear-Clutch (18 Teeth)(219 Chain)
			813A	555382	Clamp (Solenoid Mounting)			557092 Gear-Clutch (19 Teeth)(219 Chain)
			920	557067	Starter-Solenoid			
			1312	557023	Clutch-Centrifugal	1314	557019	Hardware-Mounting (Centrifical Clutch)
			1313	557021	Gear-Clutch (16 Teeth)(219Chain)			

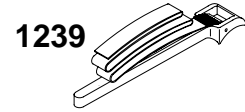
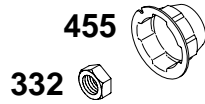
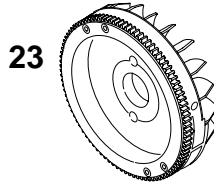
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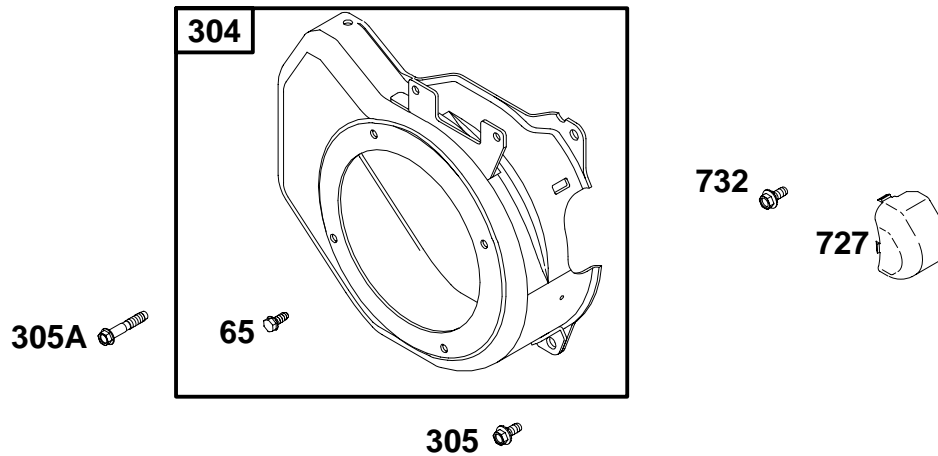


REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>23</b>	<b>557030</b>	Flywheel	<b>332</b>	<b>699359</b>	Nut (Flywheel)	<b>455</b>	<b>555518</b>	Cup-Flywheel
			<b>363</b>	<b>19069</b>	Puller-Flywheel	<b>1239</b>	<b>19433</b>	Wrench-Flywheel

★ Included in Engine Gasket Set-Ref No. 358.  
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● Included in Carburetor Overhaul Kit-Ref No. 121.



**124300**

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
65	557107	Screw (Rewind Starter)	305	555629	Screw (Blower Housing)	305A	557042	Screw (Blower Housing)
304	557109	Housing-Blower				727	557066	Cover-Starter Drive
						732	557106	Screw (Starter Drive Cover)

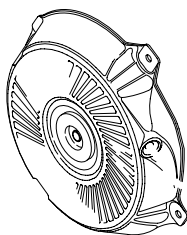
★ Included in Engine Gasket Set-Ref No. 358.  
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**124300**

**608**



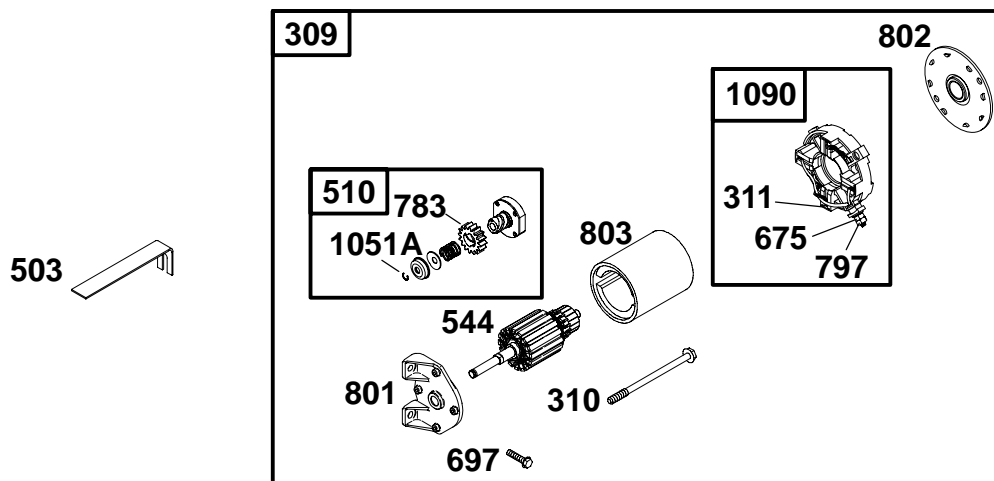
**65** 

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>65</b>	<b>557107</b>	Screw			(Rewind Starter)	<b>608</b>	<b>555576</b>	Starter–Rewind

★ Included in Engine Gasket Set–Ref No. 358.  
 △ Included in Valve Gasket Set–Ref No. 1095.

● Included in Carburetor Overhaul Kit–Ref No. 121.



**124300**

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
309	557068	Motor-Starter	675	691261	Washer (Brush Retainer)	797	555380	Nut (Brush Retainer)
310	557077	Screw (Starter Motor)	697	699200	Screw (Starter Motor)	801	557076	Cap-Drive
311	497608	Brush Set	783	557071	Gear-Pinion	802	557074	Cap-End
503	555376	Strap-Starter				803	557072	Housing-Starter
510	557069	Drive-Starter				1051A	557070	Ring-Retainer
544	557075	Starter-Armature				1090	557073	Retainer-Brush

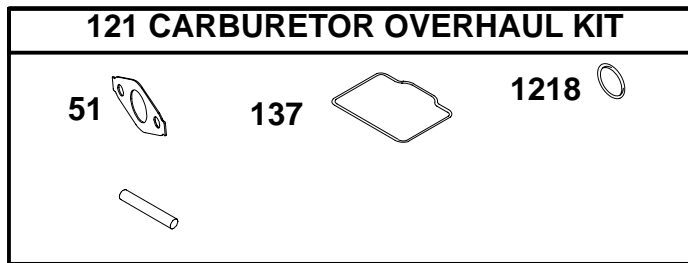
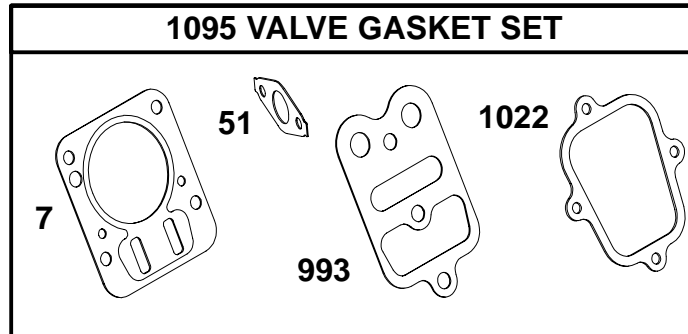
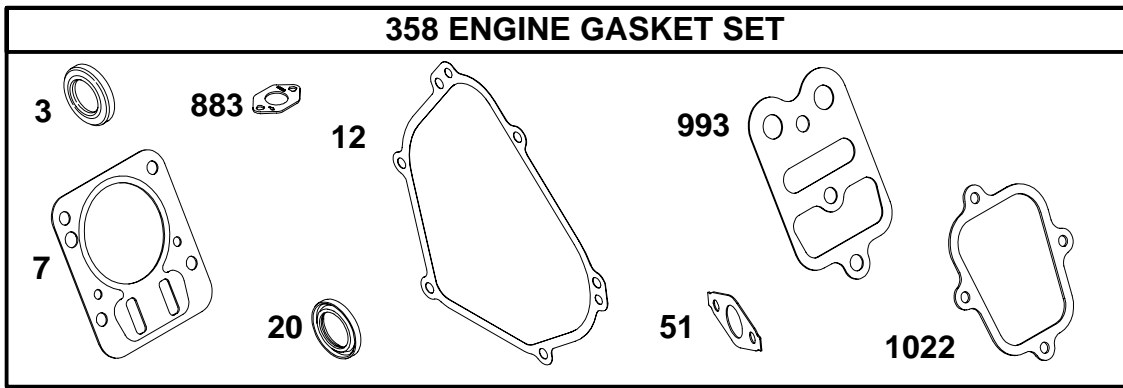
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● Included in Carburetor Overhaul Kit-Ref No. 121.



**124300**



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
3	★555071	Seal—Oil (Magneto Side)	121	557089	Kit—Carburetor Overhaul	993	★Δ555554	Gasket—Cylinder Head Plate
7	★Δ555621	Gasket—Cylinder Head	137	●557082	Gasket—Float Bowl	1022	★Δ555523	Gasket—Rocker Cover
12	★699485	Gasket—Crankcase	358	557110	Gasket Set—Engine	1095	557027	Gasket Set—Valve
20	★555529	Seal—Oil (PTO Side)	883	★557047	Gasket—Exhaust	1218	●557007	Seal—O Ring (Carburetor)
51	★Δ557044	Gasket—Intake						

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