

Sears

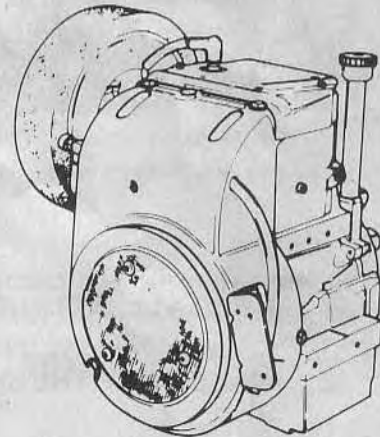
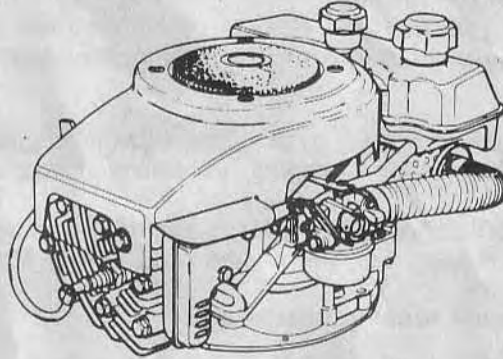
Lauson

owners manual

CRAFTSMAN ENGINES

Spark Plug Allstate No 60130 or
Equivalent.

MODEL NUMBER:
43.629012
0 H.P.



CAUTION

Read Instructions
carefully

Assembly
Operating
Repair Parts

SEARS, ROEBUCK AND CO. U.S.A.
SIMPSONS - SEARS LIMITED, CANADA

Printed in U.S.A.

another free manual from www.searstractormanuals.com



Be Sure To Observe Safety Precautions To Prevent Accidents

1. **Stop the engine** whenever you leave the equipment, even for a moment. Make sure blades and all moving parts have stopped, disconnect the spark plug wire from the plug and keep wire away from plug to prevent accidental starting before cleaning, making any adjustments, inspecting or repairing.
2. **Check fuel** before each using. Do not fill gasoline tank when engine is running or while engine is hot. Wipe off any spilled gasoline before starting engine - - gasoline is highly flammable - always handle with care.
3. **Do not run engine indoors**, exhaust gases contain carbon monoxide which is odorless and deadly poison. If for some reason engine must be run indoors, open all doors and windows to provide sufficient ventilation.
4. **For engines equipped with a No Pull Starter**, be sure and read the handling and safety precautions in your engine manual.
5. **Disengage self propelling unit or drive clutch** on units so equipped before starting engine - - Keep guards in place.
6. **Don't change governor settings or overspeed the engine.** The governor controls the speed and protect the engine from damaging, excessive speeds. Excessive speeds are dangerous.
7. **Don't store equipment with fuel in the tank inside a building** where fumes may reach an open flame or spark. Let the engine cool before storing in any enclosure.
8. **Never leave engine running unattended.**
9. **Keep all screws, nuts and bolts tight** to be sure equipment is in safe operating condition. Keep equipment clean at all times.
10. **If your equipment should start vibrating**, stop the engine and check for damage or loose parts. Vibration generally is a warning of trouble.

IMPORTANT

1. **READ ALL INSTRUCTIONS CAREFULLY BEFORE OPERATING THIS ENGINE.**
2. **MAKE ONLY THE SIMPLE ADJUSTMENTS AS OUTLINED IN THIS BOOK.**
3. **FOR ANY MAJOR ADJUSTMENTS OR REPAIRS CONTACT YOUR NEAREST SEARS, ROEBUCK AND CO. OR SIMPSON-SEARS RETAIL, MAIL ORDER OR CATALOG SALES OFFICE STORE.**
4. **KEEP THIS BOOK HANDY AT ALL TIMES FOR FUTURE REFERENCE. READ IT CAREFULLY AND FAMILIARIZE YOURSELF WITH THE OPERATING AND MAINTENANCE INSTRUCTIONS. THIS BOOK ALSO CONTAINS A COMPLETE PARTS LISTING.**

CRAFTSMAN QUALITY ENGINE

GUARANTEE

We guarantee all Craftsman Engines to be free from defects in material and workmanship. When properly used, cared for, and maintained, we will replace at our option and install, without cost to you, for a period of one (1) year from date of sale, any part which proves, upon our examination, to be defective under normal use.

This guarantee does not cover adjustments to carburetors, ignition points, replacement of spark plugs, cleaning, sharpening of blades, or any service or adjustment made necessary by normal use and wear nor does it cover any failures which are a result of improper care, negligence, abuse, failure to lubricate properly or use of contaminated fuels or lubricants.

Damage resulting from striking solid or foreign objects (rocks, tree roots, sprinkler heads, iron pipe, walk edge, etc.) is not covered by this guarantee.

Equipment used for rental or commercial purposes is guaranteed only for thirty (30) days.

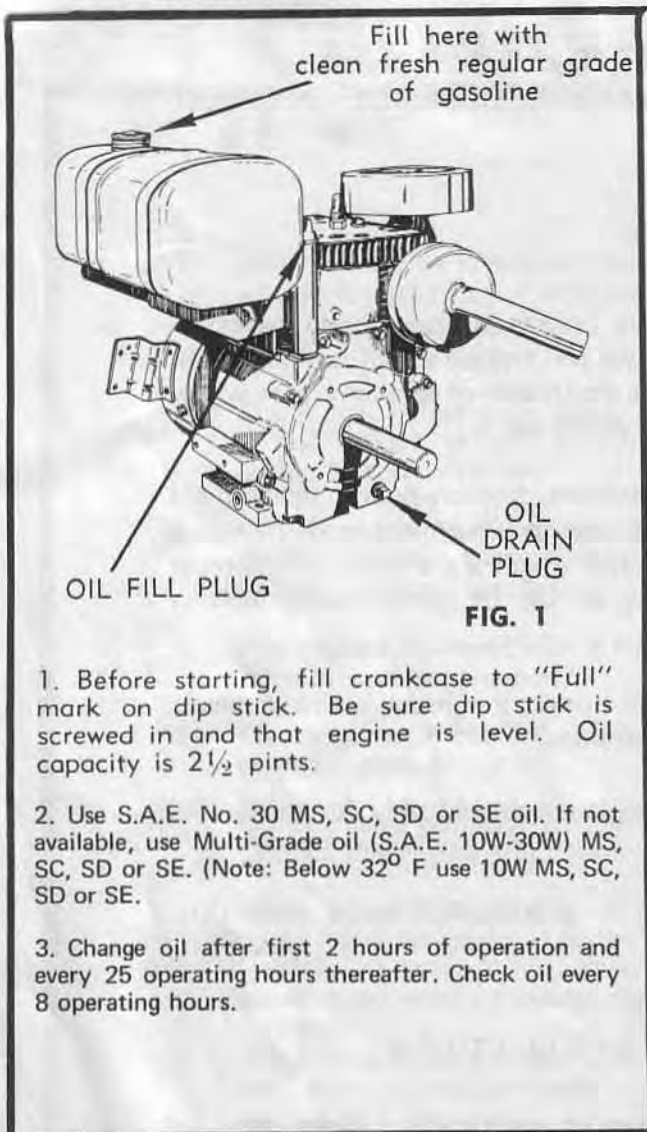
SEARS, ROEBUCK AND CO.

CUSTOMER'S RESPONSIBILITIES

Always use care when operating mechanical or powered equipment. Keep clear of moving parts, belts or chains. Do not work on equipment with the engine running. Avoid striking or running into solid objects or debris in the area to be worked. Clear the area of foreign objects such as: sticks, stones, wire, etc. Keep your equipment clean and check for loose bolts, nuts and fasteners. Check the engine oil regularly and change it as outlined in your engine manual.

Your guarantee is intended to provide you with adequate protection against failures due to defects in material or workmanship but it does not cover adjustments or replacement of parts due to normal wear or use nor does it cover damage that may result in use.

BEFORE STARTING ENGINE



TO START ENGINE

(NOTE: Key, choke, throttle located on dashboard of tractor)

- 1 Open gasoline shut-off valve located under gas tank.
- 2 Position throttle to about half-throttle.
- 3 Pull choke all the way out.
- 4 Turn key all the way in clockwise direction.
- 5 After engine starts, push choke lever in slowly. (If engine is warm, do not choke to start.)

TO STOP ENGINE

- 1 Turn key in counterclockwise direction.



SERVICE INSTRUCTIONS

To obtain longest life and trouble free use of your engine, certain normal maintenance must be performed as outlined below:

Disconnect spark plug wire at spark plug before performing any maintenance to prevent accidental starting of engine.

CHANGE OIL

- 1 Change oil in engine crankcase after first two hours of operation. Unscrew oil drain plug located on end of engine base. (See Fig. 1).
- 2 Replace oil drain plug and refill engine crankcase with oil as per instructions in Fig. 1.
- 3 Thereafter check oil level often, before each using, at each eight hours of operation and add oil if necessary to bring up to proper level. (See Fig. 1)
- 4 Change oil at each 25 hours of operation.

PROPER FUEL

- 1 Use a good grade of fresh CLEAN Regular gasoline.

CLEAN ENGINE

- 1 Wipe off all spilled fuel and oil.
- 2 Keep engine clean of foreign matter at all times. Be sure air fins on Cylinder are kept clean to permit proper ventilation. Remember, this is an air cooled engine and free air flow is important for proper engine performance and life.

SERVICE AIR CLEANER

Your engine is equipped with a dry type air cleaner and must be periodically removed and cleaned to maintain maximum engine performance.

To clean, loosen thumb screw that holds air filter cover to bracket. Lift cover from bracket, then proceed as follows:

- 1 Pull element from bracket.
- 2 Tap element lightly to dislodge accumulated dirt and brush dirt from element. Do not wash element in gasoline or other solvent.
- 3 Clean the cover and bracket with gasoline or any solvent.
- 4 Reassemble.
 - (a) Insert element on bracket.
 - (b) Place cover on bracket and tighten thumb screw.
- 5 It is recommended that a new air cleaner element be purchased and installed at beginning of each mowing season. This is your best protection against excessive engine wear.

NEVER RUN YOUR ENGINE WITHOUT AIR CLEANER COMPLETELY ASSEMBLED.

CARBURETOR ADJUSTMENT

Do not make unnecessary adjustments. Factory settings are correct for most applications. If adjustments are needed proceed as follows:

- 1 After making initial adjustments as shown below (Fig. 3) start engine.
- 2 Turn "High Speed Adjusting Needle" forward or back $\frac{1}{8}$ turn at a time until engine runs smoothly. If engine tends to stall when unit is in use open needle $\frac{1}{8}$ turn.
- 3 Hold throttle lever in idle position.
- 4 Turn "Idle Adjusting Needle" forward or back $\frac{1}{8}$ turn at a time until engine runs smoothly.
- 5 Allow several seconds between each adjustment for engine carburetor to react to the new setting.

IDLE ADJUSTING NEEDLE
Close FINGER TIGHT only and then re-open two and one-half turns.

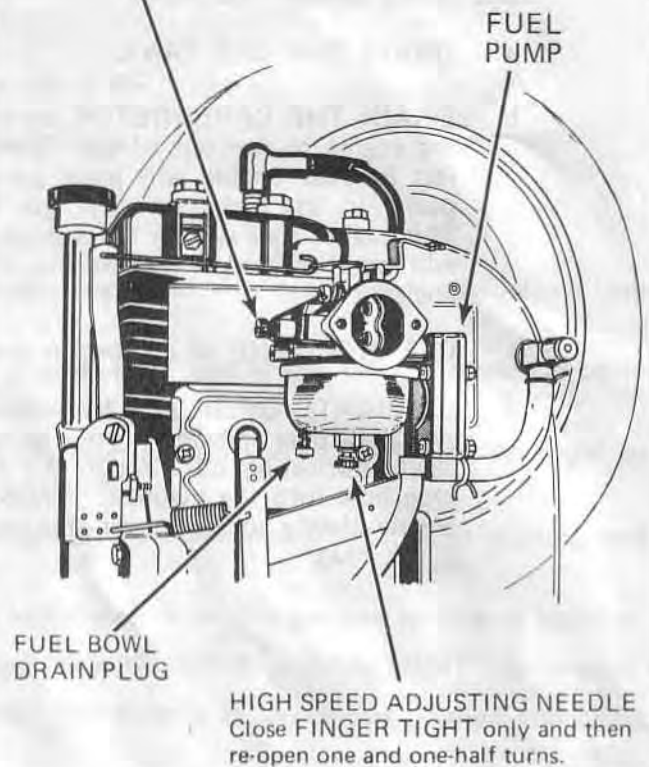


FIGURE 3

CAUTION: Never attempt to change maximum engine speed. This is preset at factory and can only be changed by a qualified Service repairman who has the necessary equipment.

CHECK SPARK PLUG

- 1 Remove the spark plug each time you change oil and inspect it.
 - a. The electrodes should be kept clean and free of carbon. The presence of carbon or excess oil will greatly deter proper engine performance.
 - b. If possible, check the spark plug gap (area between electrodes) using a wire feeler gauge. This specification should be .030.
- 2 If you need a new Spark Plug refer to the parts list for the proper replacement Spark Plug.
- 3 Before installing Spark Plug coat threads lightly with Graphite Grease if possible to insure easy removal next time the Spark Plug needs inspection.

STORAGE INSTRUCTIONS

1

If you are going to store your engine for any length of time (30 days or longer or at the end of the season) you must:

- a. DRAIN THE GAS TANK.
- b. DRAIN THE CARBURETOR by allowing engine to run out of gas. Gasoline left in your engine will leave gum deposits in the carburetor and gas tank. This makes fuel system inoperative and will result in hard or non-starting of the engine.
- c. CLEAN ENGINE of all foreign matter.
- d. LUBRICATE CYLINDER by removing the spark plug and pouring one ounce of clean lubricating oil through the spark plug hole into the cylinder. Crank the engine slowly to spread oil and replace Spark Plug.

GENERAL

1

Just as your automobile needs professional mechanical maintenance from time to time, so does your air cooled engine. Cleaning and adjusting of the Carburetor and periodic replacement of the Spark Plug and Ignition Points is made necessary by NORMAL use.

2

Professional Air Cooled Engine Service is as close as your nearest Sears Store.

3

A yearly check-up or tune-up by Sears is a good idea to avoid breakdowns or delay... do it at the end of the season, then you're ready for the next. We even prepare it for storage for you.

SERVICE TIPS

REFERENCE TO THIS SECTION MAY HELP AVOID A DELAY IN YOUR WORK OR SAVE THE EXPENSE OF A SERVICE CALL.

Q The engine won't start or is hard to start. What can I do?

- A**
1. You're not out of gas are you? It happens sometimes.
 2. Is the spark plug wire attached to the plug?
 3. Check the spark plug porcelain, maybe it is cracked.
 4. The spark plug may be fouled; clean the electrodes and reset the plug gap; instructions are under "CHECK SPARK PLUG" in this manual.
 5. Is the gas line obstructed? Remove fuel line at carburetor and check for obstruction. Drain gas tank and replace with clean, fresh gasoline.
 6. Is the fuel clean? You didn't use a dirty or rusty gas can did you? If you did, it might be better to let Sears check the fuel system and carburetor.
 7. Stale gas that has set around and lost its strength is a trouble maker . . . hard starting and loss of power results.
 8. Maybe there is water in the gas. Condensation in the tank or in your gas can sometimes happens.
 9. Carburetor could be out of adjustment . . . check "CARBURETOR ADJUSTMENT" in manual.
 10. Maybe you over-choked and flooded the engine. Put throttle in run or fast position and crank several times to clear out the excess gas.
 11. Your throttle control may be set so that it does not fully close the choke.
 12. Dirty or plugged air cleaner? See "SERVICE INSTRUCTIONS" in this manual.

Q My engine misses or lacks-power under load. What might cause this?

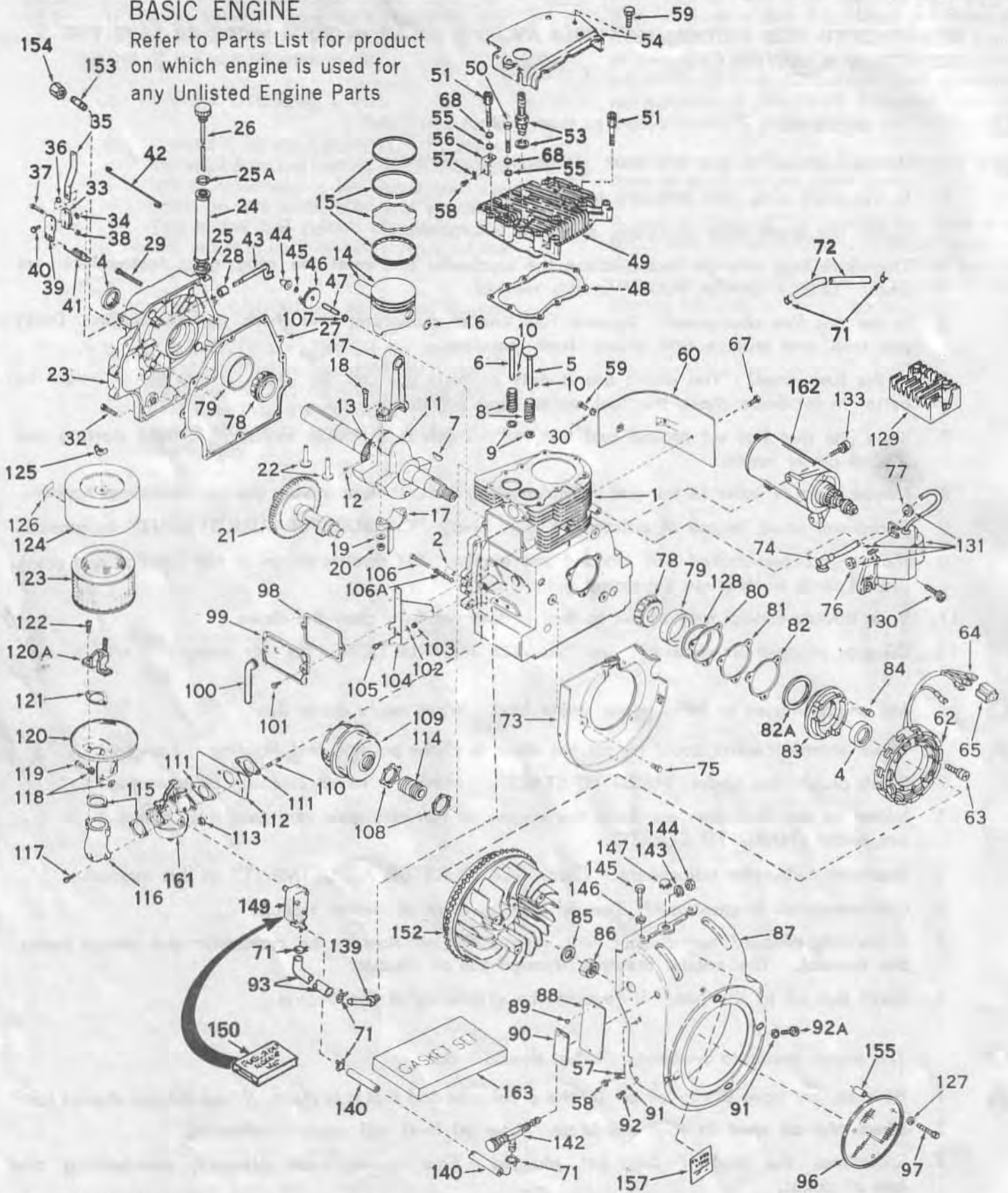
- A**
1. Your throttle control could be set too close to choke position and flooding the engine.
 2. Spark plug? See under "HARD TO START". Maybe it needs cleaning or replacing.
 3. Water in the fuel does not help the engine to run very good and robs it of power. See under "HARD TO START".
 4. Improper carburetor adjustment. Check "CARBURETOR ADJUSTMENT" in this manual.
 5. Got enough oil in crankcase? Low oil level or dirty oil makes trouble.
 6. A partially plugged air cleaner will restrict the air flow to the carburetor and reduce power. See manual. The engine breathes through the air cleaner.
 7. Don't put oil in the gas. It reduces the efficiency of the engine.

Q The engine seems to overheat. What should I do?

- A**
1. Be sure you have plenty of oil in the crankcase and that it is clean. When did you change last?
 2. Check the oil level in your crankcase. Low oil level will cause overheating.
 3. Sometimes the muffler can get plugged. This causes back pressure, over-heating and loss of power.

BASIC ENGINE

Refer to Parts List for product on which engine is used for any Unlisted Engine Parts



Revised 10-29-71

PARTS LIST

CRAFTSMAN 4-CYCLE ENGINE

MODEL NUMBER: 143.629012

Ref. No.	Part No.	Part Name
1	33039	Cylinder Assy. (Incl. Nos. 2, 4, 47 & 110)
2	27652	Pin, Dowel
4	31950	Seal, Oil
5	31940	Valve, Intake (Standard)
5	31941	Valve, Intake (1/32" oversize) (Incl. No. 9)
6	31942	Valve, Exhaust (Standard)
6	31943	Valve, Exhaust (1/32" oversize)(Incl. No. 9)
7	650592	Key, Flywheel
8	31944	Spring, Valve
9	31945	Cap, Lower valve spring (Std.)
9	31946	Cap, Lower valve spring (1/32" oversize)
10	20810	Pin, Valve spring retaining
11	33391	Crankshaft Assy. (Incl. Nos. 12, 13, 78 & 79)
12	29783	Pin, Crankshaft gear
13	31931	Gear, Crankshaft
14	32001A	Piston & Pin Assy. (Incl. 2 of No. 16) (Standard)
14	32002	Piston & Pin Assy. (Incl. 2 of No. 16) (.010 oversize)
14	32003	Piston & Pin Assy. (Incl. 2 of No. 16) (.020 oversize)
14	32619	Piston & Pin Assy. (Incl. 2 of No. 16) (.030 oversize)
14	32620	Piston & Pin Assy. (Incl. 2 of No. 16) (.040 oversize)
15	32004	Ring Set, Piston (Standard)
15	32005	Ring Set, Piston (.010 oversize)
15	32006	Ring Set, Piston (.020 oversize)
15	32623	Ring Set, Piston (.030 oversize)
15	32624	Ring Set, Piston (.040 oversize)
16	31919	Ring, Piston pin retaining
17	33093A	Rod Assy., Connecting (Incl. Nos. 18, 19 & 20)
18	32077	Bolt, Connecting rod
19	26073	Washer, Connecting rod
20	28264	Nut, Lock
21	32150	Camshaft (Mech. Comp. Release)
22	31939	Lifter, Valve
23	32685	Cover, Cylinder (Incl. Nos. 4, 25, 28, 34 & 43)
24	32908	Tube, Oil filler
25	*29673	Gasket, Oil fill tube
25A	29985	"O" Ring
26	33055	Dipstick, Oil (Incl. No. 25A)
27	*31956	Gasket, Cylinder cover
28	32426	Spacer, Governor rod
29	650588	Screw, Hex hd. Sems, 1/4-20 x 2

Ref. No.	Part No.	Part Name
30	28537	Washer
32	30564	Screw & Lockwasher, Hex hd cap, 1/4-20 x 1
33	31964	Clamp, Governor lever
34	29193	Ring, Retaining
35	31963	Lever, Governor adjusting
36	650518	Lockwasher, No. 10 E.T.
37	650428	Screw, Fil. flex hd. self-locking., 10-24 x 7/8
38	7975	Nut, Square, 10-24
39	31965	Plate, Governor spring
40	30312	Screw, Hex slotted washer hd. Sems, 10-32 x 1/2
41	31967	Spring, Governor
42	31968	Link, Governor
43	32425	Rod Assy., Governor
44	31948	Spool, Governor
45	29193	Ring, Retaining
46	31947	Gear Assy., Governor
47	31930	Shaft, Mech. Governor
48	*32000A	Gasket, Cylinder head
49	33034	Head, Cylinder
50	650711	Screw, Hex hd. cap, 5/16-18 x 1-5/8
51	650714	Screw, Special hex hd. cap, 5/16-18 x 1-5/8
53	21943	Plug, Spark (Allstate No.60130 or equivalent)
54	33035	Cover, Cylinder head
55	650691	Washer, Flat
56	31990	Bracket, Choke control
57	27793	Clip, Conduit
58	28942	Screw, Hex hd. slotted Sems, 10-32 x 3/8
59	650128	Screw, Fil. slotted hd. Sems, 10-24 x 1/2
60	31976	Extension, Blower housing
62	610747	Coil Assy., Alternator
63	650416	Screw, Rd. hd. Sems, 10-32 x 1
64	610820	Terminal
65	610819	Connector, Pyramid
67	30688	Screw, Hex hd. cap Sems, 1/4-20 x 1/2
68	650690	Washer, Belleville
71	26460	Clamp, Fuel line
72	32342	Line, Fuel
73	32579	Baffle, Blower housing
74	610118	Spark Plug Cover
75	650561	Screw Phil. Hex hd. Sems, 1/4-20 x 5/8
76	650124	Nut, Hex, 10-32
77	610750	Grommet, Lead wire
78	31932	Bearing, Tapered roller
79	31928	Cup, Bearing

*Indicates Parts Included in Gasket Set, Ref. No. 163.

CRAFTSMAN 4-CYCLE ENGINE

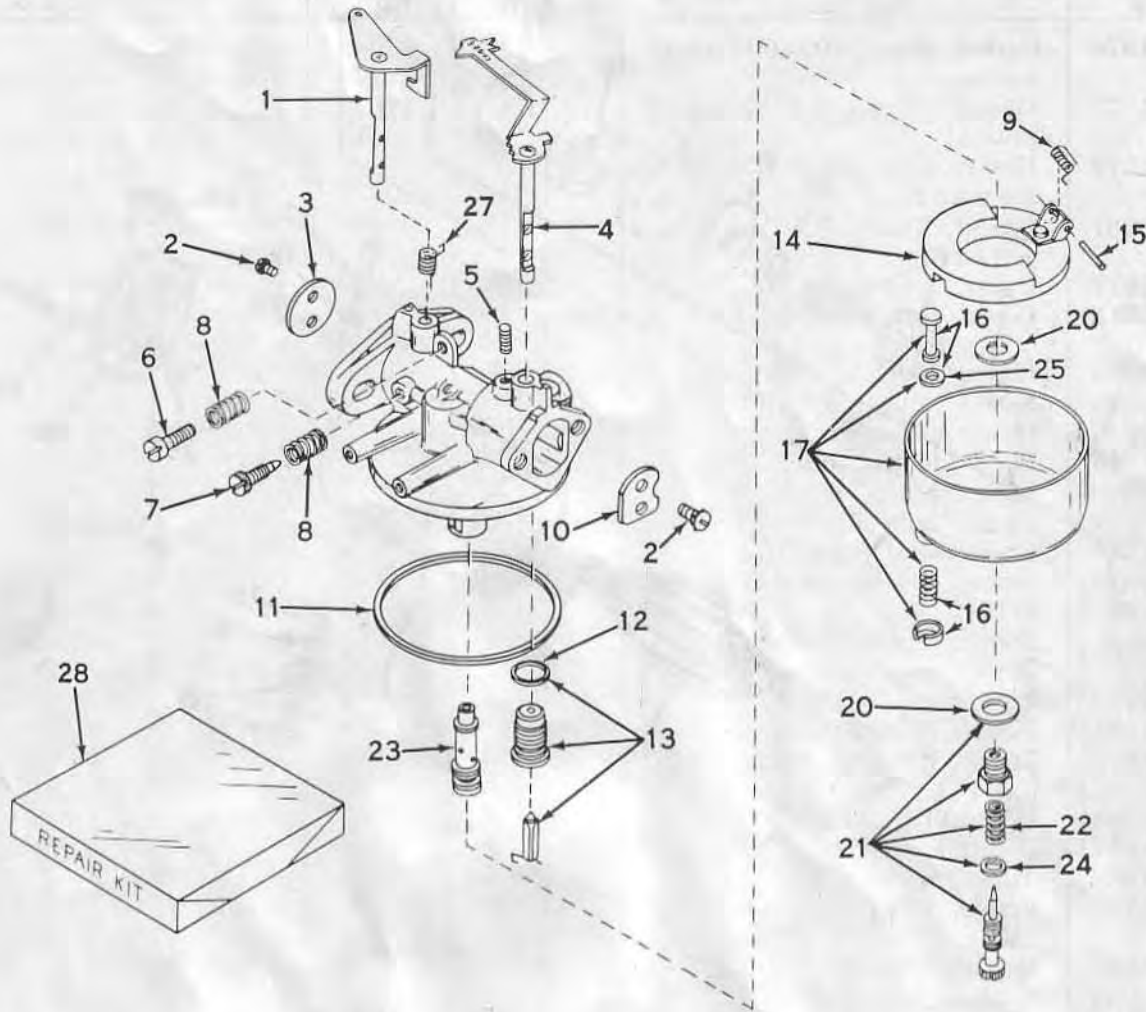
MODEL NUMBER: 143.629012

Ref. No.	Part No.	Part Name
80	*31970	Gasket, Shim (.003/.004 thick, see note 1)
81	*31971	Gasket, Shim (.0035 thick, see note 1)
82	*31972	Gasket, Shim (.005/.007 thick, see note 1)
82A	32031	Spacer, Steel (.010 thick, see note 1)
83	32577	Cover, Cylinder
84	650512	Screw, Hex hd. Sems, 5/16-18 x 7/8
85	650666	Washer, Lock
86	650594	Nut, Flywheel, 3/4-16
87	33044	Housing, Blower
88	31345	Plate, Identification
89	29309	Stud, Drive
90	30592	Decal, Name & Instruction
91	8274	Lockwasher, Split, 5/16"
92	650624	Screw, Hex hd. cap, 5/16-24 x 9/16
92A	650595	Screw, Hex hd. cap, 5/16-24 x 3/8
93	29774	Line, Fuel
96	31991	Screen, Starter pulley
97	650670	Screw, Truss hd. mach. 1/4-20 x 3/4
98	*31958	Gasket, Breather
99	31957	Breather Assembly
100	27627	Tube, Breather
101	650128	Screw, Fil. slotted hd. Sems, 10-24 x 1/2
102	28558	Washer, Wave
103	31966	Bushing, Governor lever
104	31984A	Lever, Control
105	650597	Screw, Hex washer hd. mach., 10-24 x 5/8
106	650591	Screw, slotted Fil. hd. mach., 10-24 x 2
106A	33099	Spring
107	30590A	Washer, Flat
108	650590	Nut, Conduit
109	32043A	Muffler
110	650587	Stud, Carburetor
111	*31960	Gasket, Carburetor (2 req.)
112	31959	Baffle, Air
113	29752	Nut, Hex, 1/4-28

Ref. No.	Part No.	Part Name
114	32042	Nipple, Pipe
115	*27272	Gasket, Air cleaner (2 req.)
116	32920	Elbow, Air cleaner
117	650416	Screw, Rd. hd. Sems, 10-32 x 1
118	30771	Washer, Flat
119	28788	Screw, Fil. hd. self-tap, 8-32 x 1/2
120	32919	Bracket, Air cleaner
120A	32377	Bracket, Air cleaner
121	30767	Spacer, Cleaner
122	650399	Screw, Fil. hd. Sems, 10-32 x 5/8
123	31925	Element, Air cleaner
124	31926	Cover, Air cleaner
125	650513	Nut, Wing, 1/4-20
126	31752	Decal, Air cleaner
127	8345	Washer, Flat
128	32599	"O" Ring
129	610749	Rectifier, Regulator
130	650661	Screw, Phil. Fil. hd. Sems, 1/4-20 x 3/4
131	610748	Magneto, Solid state (Incl. Nos. 74, 76 & 77)
133	650660	Screw, Hex hd. cap, Sems, w/flatwasher, 5/16-18 x 13/16
139	32958	Fitting, Fuel
140	32341	Line, Fuel
142	32961	Valve, Shutoff
143	32960	Washer, Lock
144	8140	Nut
145	650713	Screw, Hex hd. cap, 5/16-18 x 5/8
146	26073	Washer
147	33038	Plug, Button
149	32959	Pump, Fuel
150	33010	Fuel Pump Repair Kit
152	610746	Flywheel
153	32673	Nipple, Pipe (oil drain)
154	32154	Cap, Nipple
155	32426	Spacer, Screen
157	32730	Decal, Composite
161	631304A	Carburetor
162	32817	Motor, Electric starter
163	33237	Gasket Set (Incl. items marked*)
	692701	Owners Manual

*Indicates Parts Included in Gasket Set, Ref. No. 163.

Note 1: Use of gaskets must be limited to a combined total maximum of .010 thick. Steel spacers must be used as required to allow maximum crankshaft end play tolerance of .002 to .003 to be maintained.

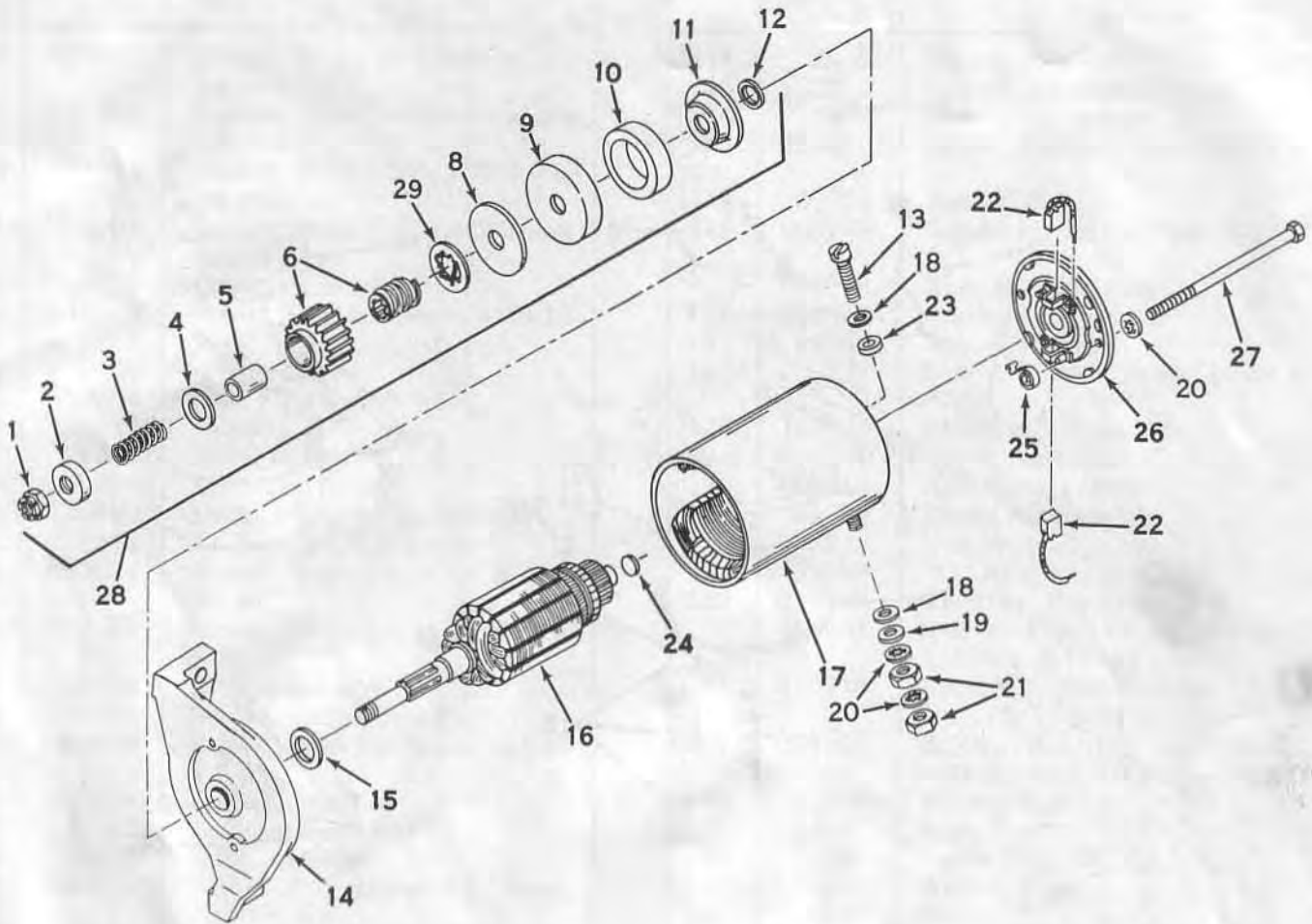


Ref. No.	Part No.	Part Name
	631304A	Carburetor
1	31994	Shaft & Lever Assy., Throttle
2	630606	Screw, Pan hd. Sems, 4-40 x 1/4
3	31995	Shutter, Throttle
4	631499	Shaft & Lever Assy., Choke
5	27113	Spring, Choke stop
6	630605	Screw, Throttle adjusting
7	*27112	Needle, Idle adjusting
8	27114	Spring, Adjusting needle
9	31503	Spring, Float shaft
10	30927	Shutter, Choke
11	*27109	Gasket, Bowl-to-body
12	32628	Gasket, Valve seat
13	*32411A	Valve, Seat, Gasket & Spring Assembly (Incl. Nos. 9 & 12)

Ref. No.	Part No.	Part Name
14	27105	Float
15	*27106	Shaft, Float
16	27136A	Stem Assy., Bowl drain (Incl. No. 25)
17	29170	Bowl & Drain Assembly (Incl. No. 16)
20	*27110	Gasket, Bowl-to-body
21	*28945	Needle Assy., Power adjusting (Incl. Nos. 20, 22 & 24)
22	630786	Spring, Adjusting needle
23	30355	Nozzle, Main
24	27544	"O" Ring
25	*27554	Gasket, Drain stem
27	32096	Spring, Throttle return
28	32412A	Repair Kit (Incl. items marked *)

ELECTRIC STARTER MOTOR NO. 32817

another free manual from www.searctractormanuals.com



Ref. No.	Part. No.	Part Name
	32817	Motor, Electric Starter
1	32483	Nut, Hex
2	32820	Stop, Pinion
3	32821	Spring, Anti-drift
4	32822	Washer, Pinion
5	32487	Sleeve, Anti-drift
6	32823A	Gear & Screw Shaft Assy.
8	32825	Washer, Thrust
9	32826	Cup, Cushion
10	32827	Cushion, Rubber
11	32828	Washer, Thrust
12	32829	Bushing, Thrust
13	32499	Bolt, Terminal
14	32830	Cap Assy., Drive end (Incl. bearing)
15	32831	Washer, Spacing (.039 thick)
15	32832	Washer, Spacing (.008 thick)
16	32833	Armature

Ref. No.	Part No.	Part Name
17	32834	Housing Assy. (Incl. pole shoes, field coils, terminal post, straight mounting bracket, Nos. 18 thru 21)
18	32500	Washer, Insulating
19	650168	Washer, Plain
20	650131	Washer, Lock
21	28710	Nut, Hex
22	32838	Brush & Spring Kit
23	32501	Bushing, Insulating
24	32509	Washer, Spacing
25	32837	Spring, Brush
26	32835	End cap Assy., Commutator
27	32836	Bolt, Thru
28	32819	Drive Assy., Complete (Incl. Nos. 1 thru 12 & 29)
29	32896	Stopper, Screw

Sears

owners manual

CRAFTSMAN ENGINES

HOW TO ORDER REPAIR PARTS

**SEARS SERVICE
IS AT YOUR SERVICE
WHEREVER YOU LIVE
OR MOVE IN
THE U.S.A.**

The Model Number shown on the cover page will be found on a plate attached to the cylinder. Always mention the model number in all correspondence regarding the Craftsman engine.

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

1. The PART NUMBER.
2. The PART NAME.
3. The MODEL NUMBER OF THE ENGINE.
4. The NAME OF ITEM—Engine

Your Sears Merchandise takes an added value when you discover that Sears has over 2,000 Service Units throughout the country. Each is staffed by Sears-trained, professional technicians using Sears approved parts and methods.

**SEARS, ROEBUCK AND CO. U.S.A
SIMPSONS - SEARS LIMITED, CANADA**