

Sears

**owners
manual**

**MODEL NO.
247.88090**

CAUTION:
Read **SAFETY
RULES** and
INSTRUCTIONS
carefully



**18" — Two Cycle Rotary Mower
Fuel Mixture 20:1**

18" ROTARY MOWER

- **Assembly**
- **Operating**
- **Maintenance**
- **Repair Parts**

Sold by **SEARS, ROEBUCK AND CO.**, Chicago, Ill. 60684 U.S.A.
and **SIMPSONS-SEARS LIMITED**, Toronto, Ontario, Canada

I M P O R T A N T

SAFE OPERATION PRACTICES FOR WALK-BEHIND MOWERS

TRAINING

1. Read the Operating and Service Instruction Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
2. Never allow children to operate a power mower.
3. Keep the area of operation clear of all persons, particularly small children and pets.

PREPARATION

1. Thoroughly inspect the area where the equipment is to be used and remove all stones, sticks, wire, bones and other foreign objects.
2. Do not operate equipment when - barefoot or wearing open sandals. Always wear substantial footwear.
3. Check the fuel before starting the engine. Do not fill the gasoline tank indoors, when the engine is running, or while the engine is still hot. Wipe off any spilled gasoline before starting the engine.
4. Disengage the self-propelled mechanism or drive clutch on units so equipped before starting the engine (motor).
5. Never attempt to make a wheel adjustment while the engine (motor) is running.
6. Mow only in daylight or in good artificial light.
7. Never operate the equipment in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk, never run.

OPERATION

1. Do not change the engine governor settings or overspeed the engine.
2. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
3. Stop the blade(s) when crossing gravel drive, walks or roads.
4. After striking a foreign object, stop the engine (motor), remove the wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower.

5. If the equipment should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
6. Stop the engine (motor) whenever you leave the equipment, before cleaning the mower housing, and when making any repairs or inspections.
7. When cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.
8. Do not run the engine indoors.
9. Shut the engine (motor) off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging chute.
10. Mow across the face of slopes, never up-and-down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes.
11. Always disconnect electric mowers (line operated) before cleaning, repairing or adjusting.
12. Never operate mower without proper guards, plates or other safety protective devices in place.
13. Keep washout ports and other mower-housing service openings closed when mowing.

MAINTENANCE AND STORAGE

1. Check the blade and engine mounting bolts at frequent intervals for proper tightness.
2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
3. Never store the equipment with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
4. To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.
5. Check the grass catcher bag frequently for wear or deterioration. Replace with new bag for safety protection.

SEARS 18" ROTARY MOWER

SEARS FULL 90-DAY WARRANTY ON PUSH ROTARY MOWER

If this 18" rotary mower fails to perform properly due to defects in material or workmanship, we will repair it free of charge within 90 days, date of purchase.

This warranty service is available by any of our stores or service centers throughout United States.

Sears, Roebuck and Co.

MAINTENANCE AGREEMENT

THE SEARS WARRANTY PLUS A MAINTENANCE AGREEMENT PROVIDE MAXIMUM VALUE FOR PRODUCT. CONTACT YOUR NEAREST SEARS STORE FOR DETAILS.

CUSTOMERS RESPONSIBILITIES

ALWAYS USE CARE WHEN OPERATING THE ROTARY MOWER. KEEP CLEAR OF MOVING PARTS. DO NOT WORK ON ROTARY MOWER WITH ENGINE RUNNING. AVOID STRIKING OR RUNNING INTO SOLID OBJECTS OR DEBRIS IN THE AREA TO BE WORKED. READ AND OBSERVE THE RULES FOR SAFE OPERATION. KEEP THE ROTARY MOWER CLEAN. FOLLOW A REGULAR MAINTENANCE AND CHECK SCHEDULE TO PROVIDE EFFICIENT AND SAFE OPERATION. A WELL-CARED FOR ROTARY MOWER WILL LAST LONGER AND OPERATE MORE EFFICIENTLY. ALWAYS BE CAREFUL FOR YOURSELF AND FOR OTHERS.

SET UP INSTRUCTIONS

IT IS SUGGESTED THAT THIS MANUAL BE READ IN ITS ENTIRETY BEFORE ATTEMPTING TO ASSEMBLE OR OPERATE THE ROTARY MOWER.

THE SEARS ROTARY MOWER HAS BEEN COMPLETELY ASSEMBLED AT THE FACTORY, EXCEPT FOR THE HANDLE WHICH HAS BEEN LEFT UNASSEMBLED FOR SHIPPING PURPOSES. ALL PARTS SUCH AS NUTS, WASHERS, BOLTS, ETC., NECESSARY TO COMPLETE ASSEMBLY OF THE HANDLE HAVE BEEN PRE-INSERTED IN THE PLACES THEY ARE TO BE USED OR PLACED IN A PLASTIC BAG.

ASSEMBLE THE UNIT AS OUTLINED. REFER TO ILLUSTRATIONS FOR ASSEMBLY ASSISTANCE.

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ASSEMBLY INSTRUCTIONS

Refer to figure 1 for tools required and contents in hardware pack.

List of contents in hardware pack.

- (6) Hex Screw 1/4-20 x 1 1/4
- (6) Hex Center Locknut 1/4-20
- (2) Hair Pin Cotter 5/16" Dia.

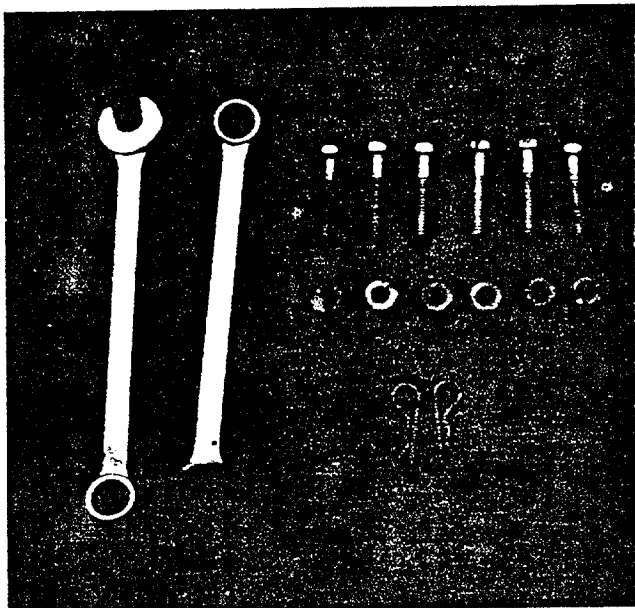


FIGURE 1.

CAUTION

Please note that the chute deflector on mower is in an upright position. It is held in that position by a shipping block. This block is used for shipping purposes only. It MUST be removed and discarded before mower is put into operation. See figure 2.

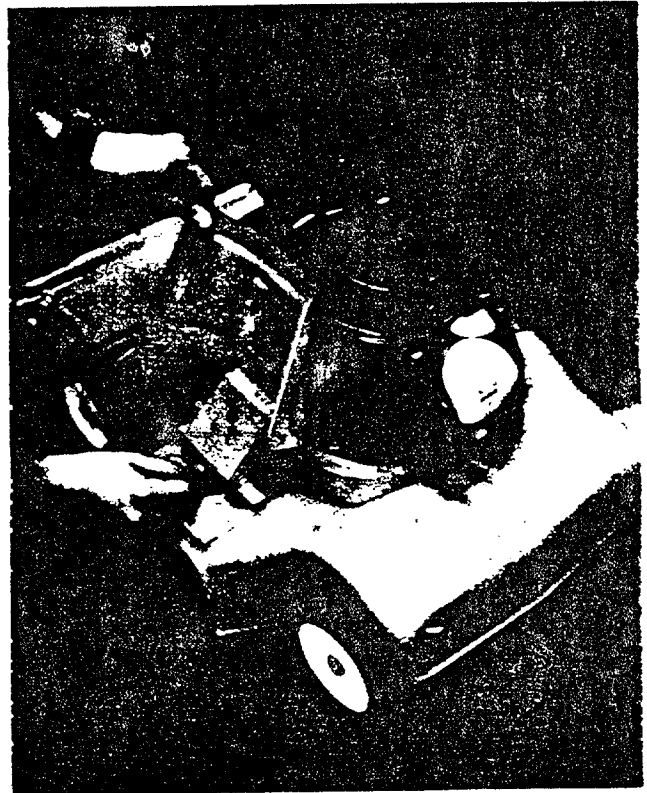


FIGURE 2.

1. Position the lower handle over studs on deck. Secure with two hair pin cotters. See figure 3.

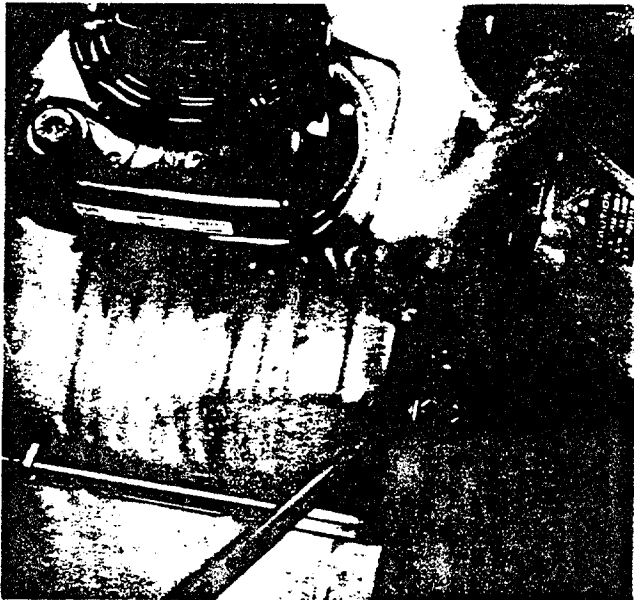


FIGURE 3.

2. Assemble the two upper handle halves together with two hex screws and locknuts, only finger tight.
3. Place the upper handle over the lower handle and start the four remaining screws and nuts. After all six screws and nuts are hand tight, tighten with two 7/16" wrenches. See figure 4.

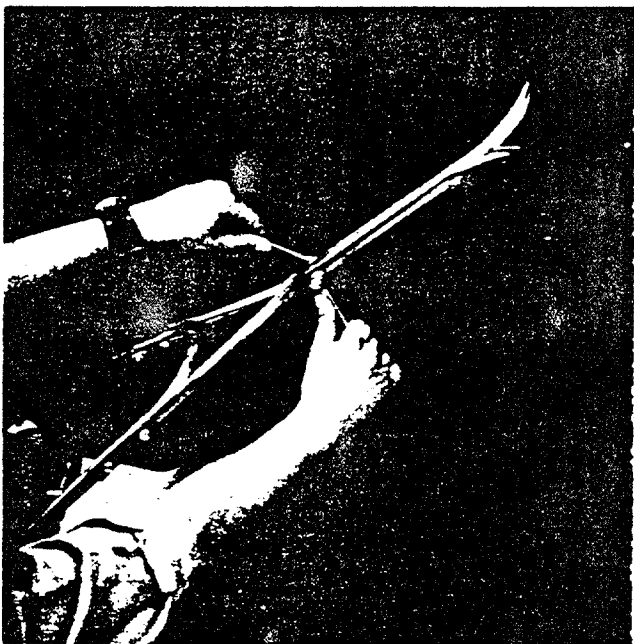


FIGURE 4.

OPERATION

For shipping purposes, the wheels are set in the upper mounting holes. Relocating the wheels to the second hole from the bottom will give better mowing results in most cases. When changing wheel positions, be sure belleville washers are assembled properly. See illustration on page 10.

1. This mower has a two cycle engine. It **MUST** use a gasoline-oil mixture of 20:1. See figure 5.
2. Mix in a clean container one half (½) pint of SAE 30 or 40 oil per one (1) gallon of regular gasoline. (NOT NO LEAD GASOLINE.) This mixture assures positive lubrication. Do not use 10W-30 type oils. See figure 5.

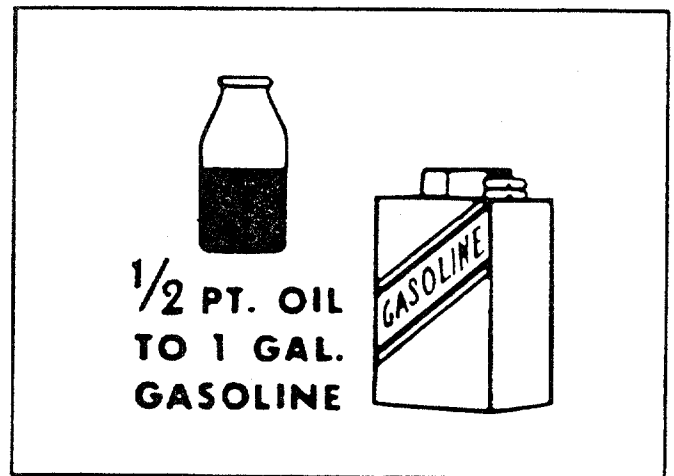


FIGURE 5.

3. Place choke lever, located beneath fuel tank in choke position. See figure 6.
4. Standing on the left side of the unit, grasp the starter rope handle, placing one foot on the mower deck and pull to start. See figure 7. **NOTE:** Left side of unit is determined from behind the unit (in the operator's position).

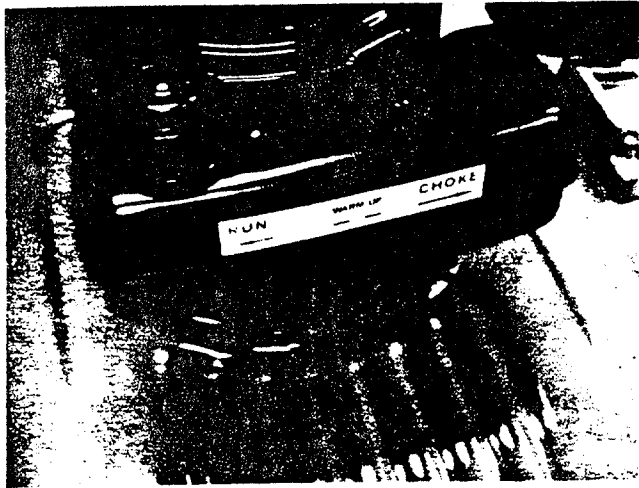


FIGURE 6.



FIGURE 7.



FIGURE 8.

5. To stop the engine push the shorting clip. See figure 8.

ADJUSTMENTS

CAUTION

Do not at any time make any adjustments to lawn mower without first stopping engine and disconnecting spark plug wire.

CUTTING HEIGHT

Adjustment may be made by removing and moving wheel axle bolts to desired position. Cutting heights will be raised as wheel axle bolts are moved to a lower hole and lowered as wheel axle bolts are moved to a higher hole in the deck. All wheel axle bolts must be mounted in a relative position to the deck.

LUBRICATION

IMPORTANT: Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on lawn mower.

Wheels—Wheel bearings are of self-lubricating Fortiflex™. They require no lubrication. If your unit is provided with optional ball bearing wheels, lubricate at least once a season with light oil.

Protective Shield—The pivot points on the protective shield should be lubricated periodically with light oil to prevent any rust or binding.

Chute Deflector—The torsion spring and pivot point should be lubricated periodically with light oil to prevent any rust or binding. Deflector must work freely.

MAINTENANCE

Cutting Blade

The blade may easily be removed for grinding or replacement as follows:

1. Remove bolt and lockwasher holding blade and blade adapter to engine crankshaft.
2. Remove blade and blade adapter from engine crankshaft.
3. Remove two bolts, lockwashers and nuts holding blade to blade adapter (if necessary).

When sharpening blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds and may cause damage to the mower.

To insure safe operation of your unit, ALL nuts and bolts must be checked periodically for correct tightness.

Deck—The underside of mower deck should be cleaned after each period of use as grass clippings, leaves, dirt and other matter will accumulate. This accumulation of grass clippings, etc., is undesirable as it will invite rust and corrosion and may cause an uneven discharge of grass clippings at the next cutting.

The deck may be cleaned by tilting the mower forward or on its side and scraping clean with a suitable tool or by washing with a stream of water from a garden hose.

CAUTION

Do not direct the stream of water at a hot engine as damage to the engine may result.

STORAGE

The following steps should be taken to prepare lawn mower for storage.

1. Clean and lubricate mower thoroughly as described in the preceding instructions.
2. Coat mower's cutting blade with chassis grease to prevent rusting.
3. Place blocks under deck to raise tires clear of floor.
4. Store mower in a dry, clean area.

USING YOUR ROTARY MOWER

For best results do not cut wet grass because it tends to stick to the underside of the mower, thus preventing proper discharge of grass clippings. If wet grass must be cut, reduce walking speed to help distribute the clippings more effectively.

New grass should be treated as wet grass, otherwise a normal walking speed is about the right pace for efficient mowing.

The best mowing pattern is one that allows the clippings to discharge towards the uncut part of the lawn. This permits recutting of the clippings to further pulverize them. When cutting high weeds, discharge towards cut portion then recut at right angles to first direction.

Lawn should be cut in the fall as long as there is growth.

ENGINE MAINTENANCE

Air Cleaner

A dirty or clogged air filter can reduce your engine's performance capabilities and could seriously damage internal components. Check filter regularly for dirt and remove grass clippings and leaves as they accumulate. After each 10 hours of operation, **or more often if necessary**, disassemble filter and clean.

If equipped with filter shown in figure 9 proceed as follows:

1. Remove front cover: clean housing.
2. Clean element by washing in strong solution of water and household detergent. Squeeze out all liquid. Cover the ends and sides of element with same oil used in fuel mix, knead element between fingers to insure completed distribution of oil throughout the element, and to squeeze out excess.
3. Reassemble in sequence shown in figure 9.

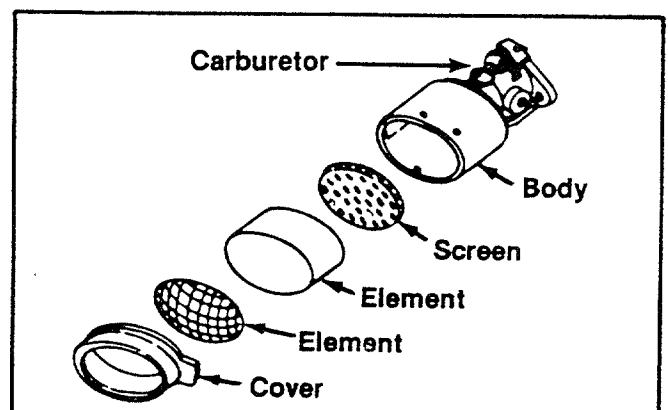


FIGURE 9.

Spark Plug

A build-up of carbon on the business end of the spark plug will cause hard starting, lack of power, and poor idling in your engine. Periodically replace the spark plug making sure it is the same as the original plug furnished with the engine. Check and set proper gap before installing. See figure 10.

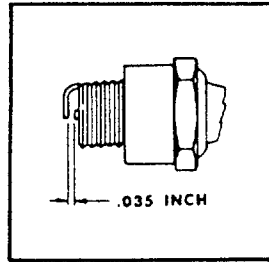


FIGURE 10

Throttle Control Linkage

For proper operation of the engine, the governor throttle control linkage and carburetor throttle shaft, air vane and spring must be kept free from grease and dirt.

Carburetor

The carburetor on your Tecumseh engine has been carefully calibrated and tested at the factory, in most instances no adjustment will be required by the operator. If you feel that adjustments are called for, follow the instructions below. **FIRST—CHECK THE CONDITION OF THE AIR FILTER**—a dirty or clogged element will restrict flow of air upsetting air/fuel mix in carburetor resulting in symptoms often mistaken for out of adjustment carburetor settings.

CAUTION

When closing adjustment screws turn finger tight only. Forcing adjustment with tool will cause serious damage to seat.

High Speed Adjustment [Figure 11]

NORMAL setting is one turn open (counter-clockwise) from closed position. (Some carburetors are not equipped with this adjusting screw.) To DECREASE the fuel supply, turn adjustment screw clockwise. DO NOT FORCE—close finger tight only or serious damage will occur. To INCREASE fuel supply, turn screw counter-clockwise.

Low Speed Adjustment—[Figure 11]

NORMAL setting is one turn open (counter-clockwise) from closed position. (Some carburetors are not equipped with this adjusting screw.)

Idle Speed—[Figure 11]

Adjust to 1800-2100 R.P.M. by manually holding throttle in closed position. Clockwise adjustment increases engine speed. (Some carburetors are not equipped with this adjustment screw.)

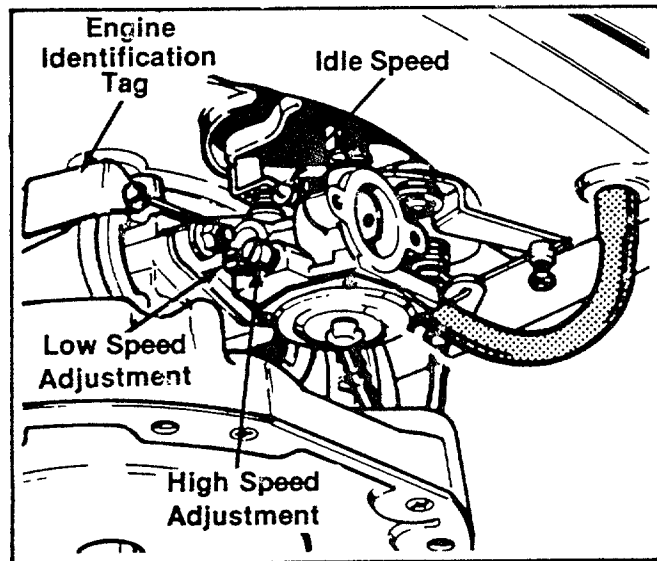
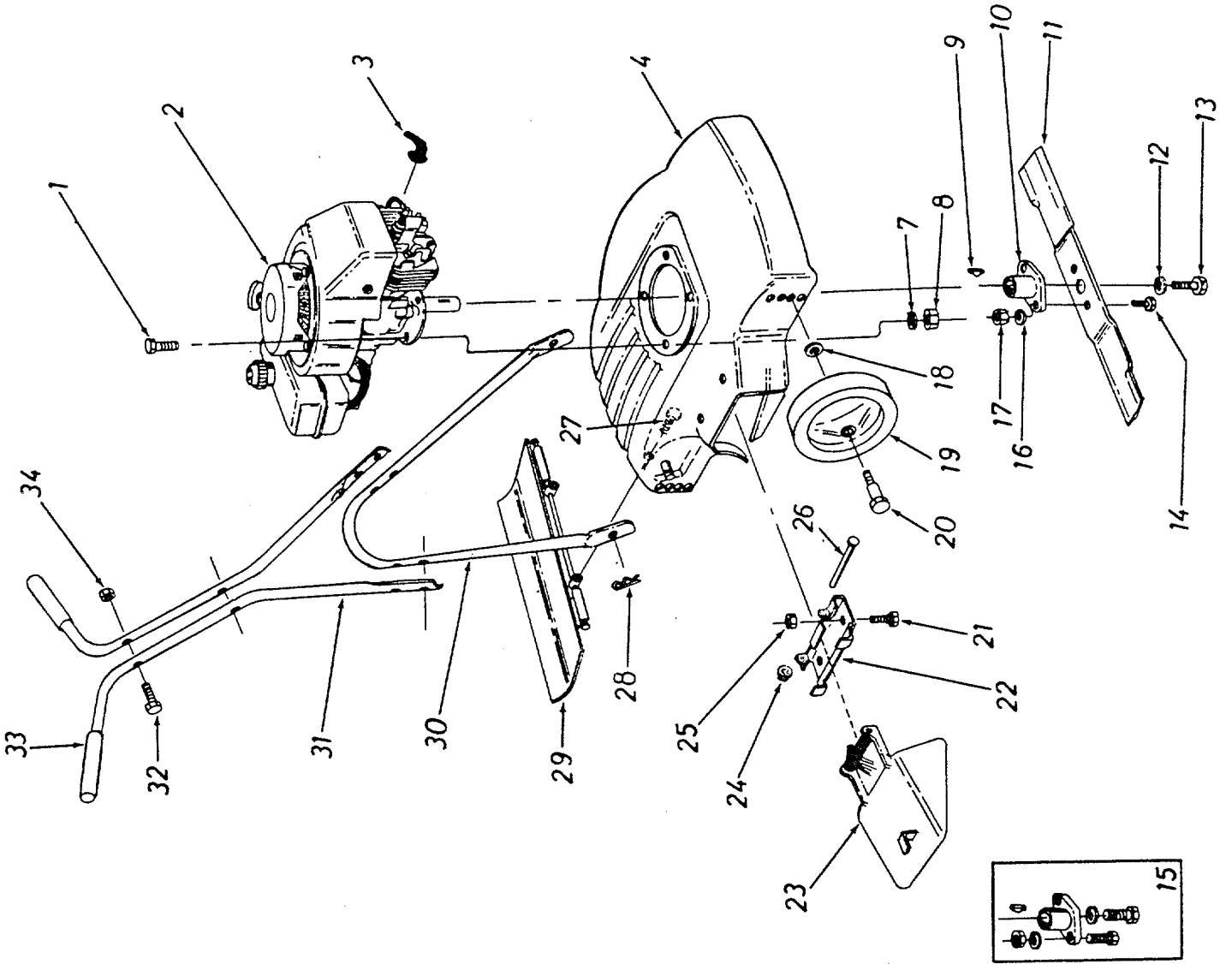


FIGURE 11.

NOTES

Repair Parts

SEARS 18" ROTARY MOWER MODEL 247.88090



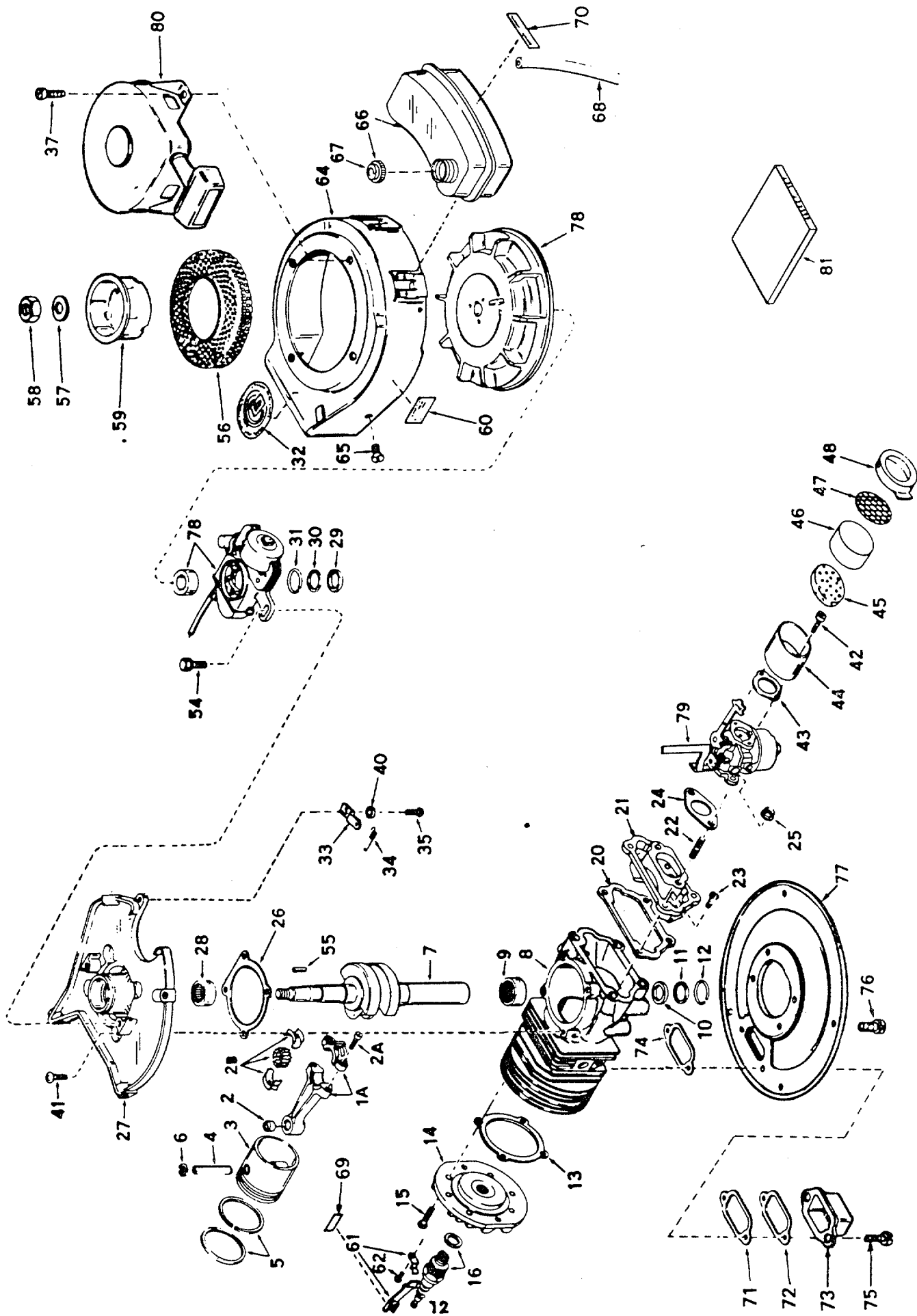
SEARS 18" ROTARY MOWER MODEL 247.88090

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	710-0237	Hex Scr. 5/16-24 x .62" Lg.*	18	736-0105	Belleville Wash.
2	752-0448	Two Cycle Engine AV520-670-72B	19	08306-501	Wheel Ass'y.
3	735-0639	Spark Plug Boot	20	738-0213	Axle Bolt
4	11402-458	18" Deck Ass'y.	21	710-0289	Hex Scr. 1/4-20 x .50" Lg.*
5	770-6014	Owners Manual (Not Illustrated)	22	11130-458	Adapter Plate
6	775-1121	Model Plate (Not Illustrated)	23	11681-458	Chute Deflector Ass'y.
7	736-0119	L-Wash. 5/16" Scr.*	24	726-0106	Push On Flange Palnut 1/4" Rod
8	712-0123	Hex Nut 5/16-24 Thd.*	25	712-0107	Hex Cent. L-Nut 1/4-20 Thd.
9	714-0365	#6 HI-Pro Key 5/32" x 5/8" Dia.	26	711-0555	Pivot Pin
10	748-0189	Blade Adapter	27	710-0567	Hex Scr. 1/4-28 x .62" Lg.
11	742-0121	18" Blade	28	714-0104	Hair Pin Cotter for 5/16" Rod
12	736-0217	L-Wash. 3/8" Scr: H.D.	29	11190-458	Rear Protective Shield Ass'y.
13	710-0459	Hex Scr. 3/8-24 x 1 1/2" Lg.	30	07038	Handle—Lower
14	710-0117	Hex Scr. 5/16-24 x 1" Lg.	31	09364	Handle—Upper (2-Req'd.)
15	10769	Blade Adapter Kit	32	710-0106	Hex Scr. 1/4-20 x 1.25" Lg.*
16	736-0119	L-Wash. 5/16" Scr.*	33	07071	Grip
17	712-0123	Hex Nut 5/16-24 Thd.*	34	712-0107	Hex Cent. L-Nut 1/4-20 Thd.

*Standard Hardware Items—May Be Purchased Locally.

SEARS 2-CYCLE ENGINE

TYPE NUMBER: 670-72B



SEARS 2-CYCLE ENGINE

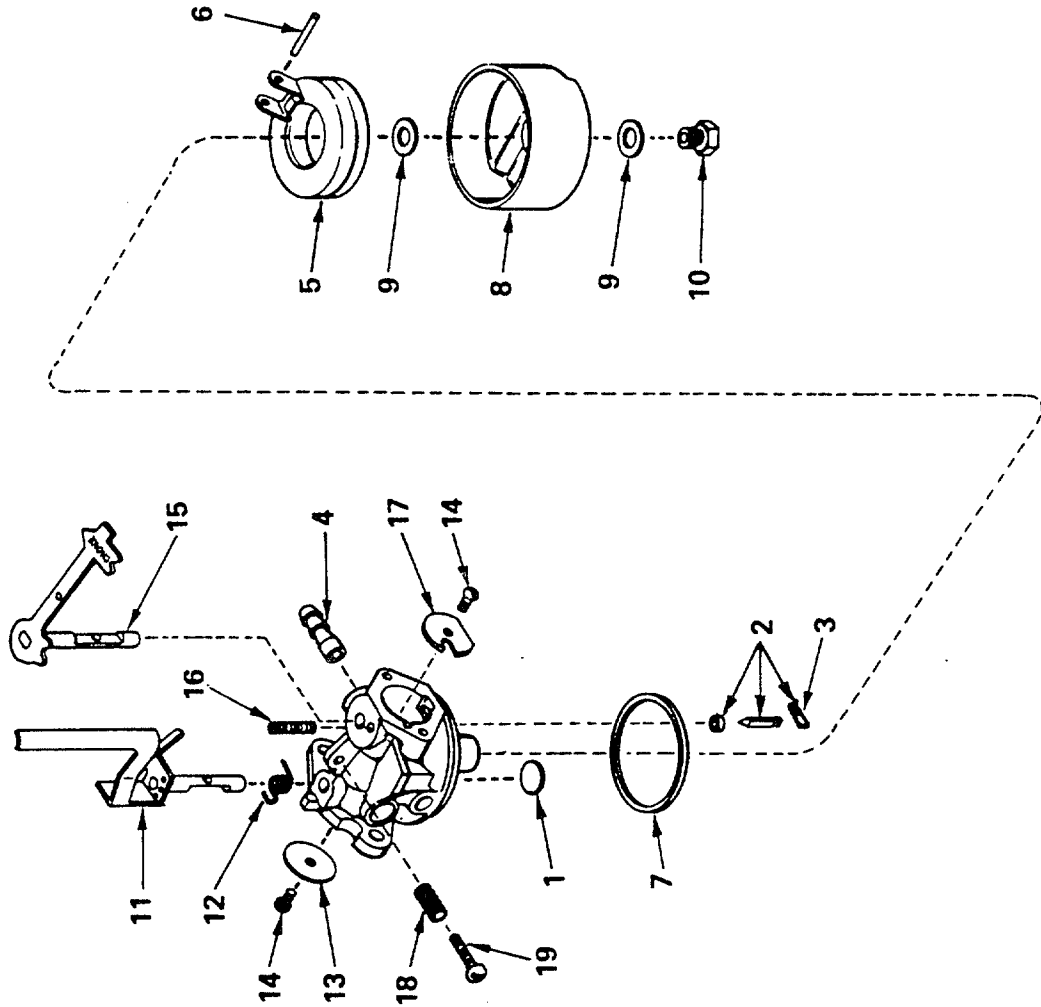
TYPE NUMBER: 670-72B

Ref. No.	Part No.	Part Name	Ref. No.	Part No.	Part Name	Ref. No.	Part No.	Part Name
1A	310247	Rod Assy., Connecting (Incl. Nos. 2, 2A & 2B)	31	510109	Spring, Crankshaft seal retainer	70	550198	Decal, Choke
2	530104A	Bearing, Cartridge	32	550194	Decal, Name	71	*510272	Gasket, Exhaust (1/8" thick)
2A	650633	Screw, Connecting rod	33	570335	Lever, Adjustment	72	*510257	Gasket, Exhaust (1/32" thick)
2B	530150	Bearing & Liner Set, Needle	34	570417	Spring, Governor	73	390276	Muffler
3	310230	Piston	35	650579	Screw, Pan flex hd., 10-24 x 1/2	74	*510245	Gasket, Exhaust (3/32" thick)
4	310178	Pin, Piston	37	**650499	Screw, Pan hd. Sems, 1/4-28 x 3/8	75	650477	Screw, Pan flex hd. self-locking, 1/4-20 x 3/4
5	310190	Ring Set, Piston	40	650147	Washer, Flat No. 10	76	650603	Screw, Phil. fil. hd. Sems, 5/16-18 x 5/8
6	310167	Ring, Piston pin retaining	41	650497	Screw, Pan flex hd., 1/4-20 x 5/8	77	330172B	Ring, Adapter (8" B.C.)
7	290464	Crankshaft	42	650431	Screw, Rd. hd. Sems, 10-32 x 5/8	78	610794	Magneto (The complete magneto is not available as an assembly. The magneto number is shown for reference purposes only. Order component parts individually, as shown in parts list.)
8	250266	Block Assy., Cylinder (Incl. Nos. 9 thru 12)	43	510206	Gasket, Filter base	79	631889	Carburetor (Incl. No. 24)
9	530143	Bearing, Needle	44	450232	Body, Air filter	80	**590420	Starter, Rewind
10	510145	Seal, Crankshaft	45	29962	Screen, Air filter	81	510313	Gasket Set (Incl. items marked *)
11	510143	Retainer, Crankshaft seal	46	450215	Element, Air filter			
12	510142	Spring, Crankshaft seal retainer	47	450205	Element, Air filter			
13	*510274	Gasket, Cylinder head	48	450216	Cover, Air filter			
14	250262	Head, Cylinder	54	650747	Screw, Hex washer hd., 1/4-20 x 3/4			
15	650477	Screw, Pan flex hd. self-locking, 1/4-20 x 3/4	55	650496	Key, Flywheel			
16	33636	Plug, Spark (J17LM or equivalent)	56	590417	Screen, Air			
20	*510282	Gasket, Reed plate	57	650201	Washer, Lock 7/16			
21	470149	Plate Assy., Reed (Incl. No. 22)	58	650390	Nut, Flywheel			
22	650700	Stud, Carburetor	59	590416	Cup, Starter			
23	650579	Screw, Pan flex hd., 10-24 x 1/2	60	550193	Decal, Instruction			
24	*510110	Gasket, Carburetor	61	610796	Lever Assy., Stop			
25	650457	Nut, Hex whiz-lock, 1/4-28	62	650737	Screw, Hex washer hd., 1/4-20 x 1/2			
26	*510292	Gasket, Shroud base	64	**350373	Shroud, Air			
27	350383	Base Assy., Shroud (Incl. Nos. 28 thru 31)	65	650356	Screw, Pan flex hd., 1/4-20 x 3/8			
28	530105	Bearing, Needle	66	410232	Tank, Fuel (Incl. No. 67)			
29	510105	Seal, Crankshaft	67	410144B	Cap, Fuel tank			
30	510106	Retainer, Crankshaft seal	68	29774	Line, Fuel			
			69	550197	Decal, Stop			

*Indicates Parts Included in Gasket Set, Ref. No. 81.

**On production models, the rewind starter is riveted to the air shroud. If either the starter or the shroud requires replacement, both will have to be ordered. Also order four screws illustrated to attach replacement starter to replacement shroud.

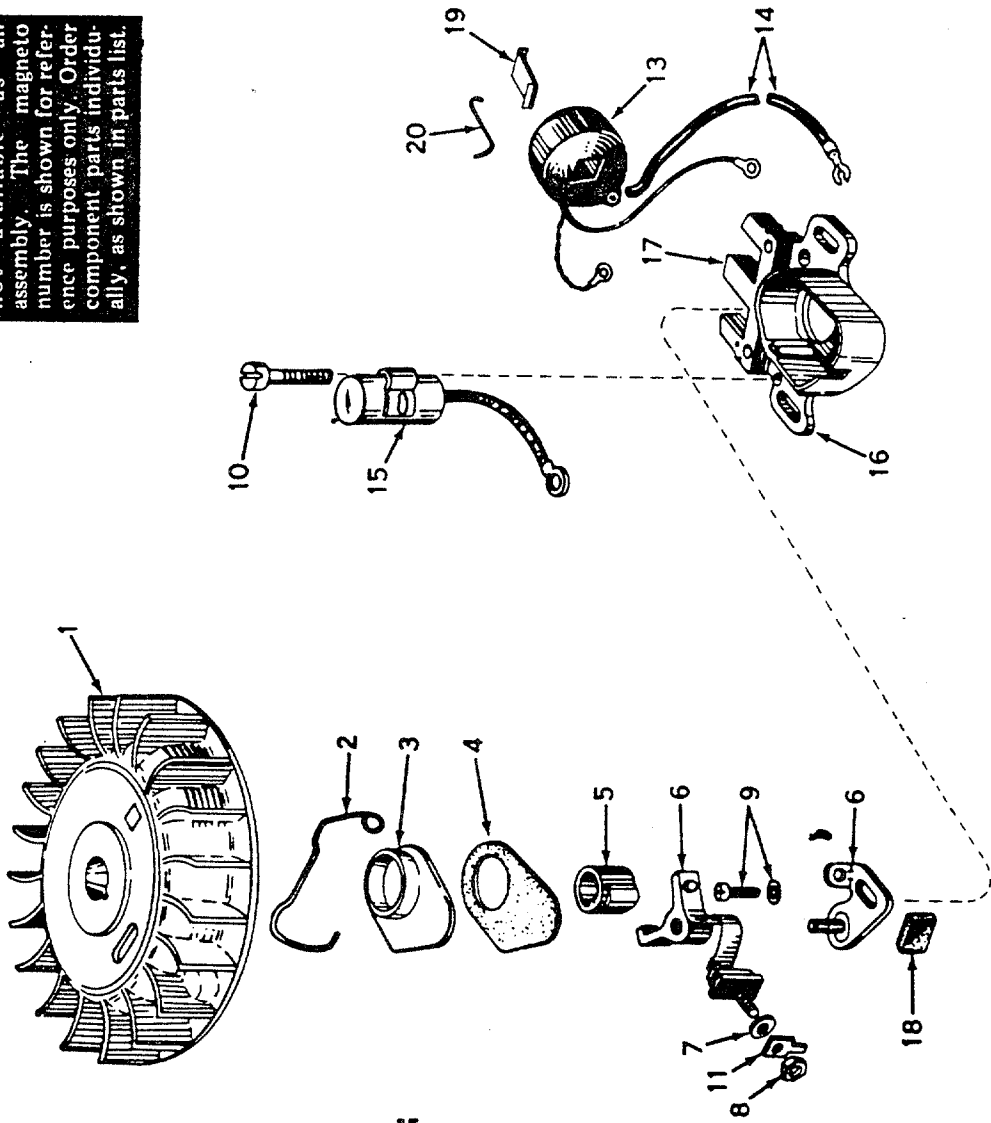
CARBURETOR NO. 631889



Ref. No.	Part No.	Part Name
1	631889	Carburetor
2	631027	Plug, Welch
3	631021	Inlet Needle, Seat & Clip Assy. (Incl. No. 3)
4	631022	Clip, Inlet needle
5	631803	Fitting, Fuel inlet
6	631023	Float, Carburetor
7	631024	Shaft, Float
8	631028	"O" Ring, Bowl-to-body
9	631700	Bowl, Float
10	631334	Gasket, Bowl-to-body
11	631617	Nut, Float bowl
12	631255	Shaft & Lever Assy., Throttle
13	630731	Spring, Throttle return
14	631616	Shutter, Throttle
15	650506	Screw, Rd. washer, hd. mach., 4-40 x 3/16
16	631520	Shaft & Lever Assy., Choke
17	630972	Spring, Idle regulating
18	631890	Shutter, Choke
19	630766	Spring, Idle regulating screw
	650417	Screw, Idle regulating

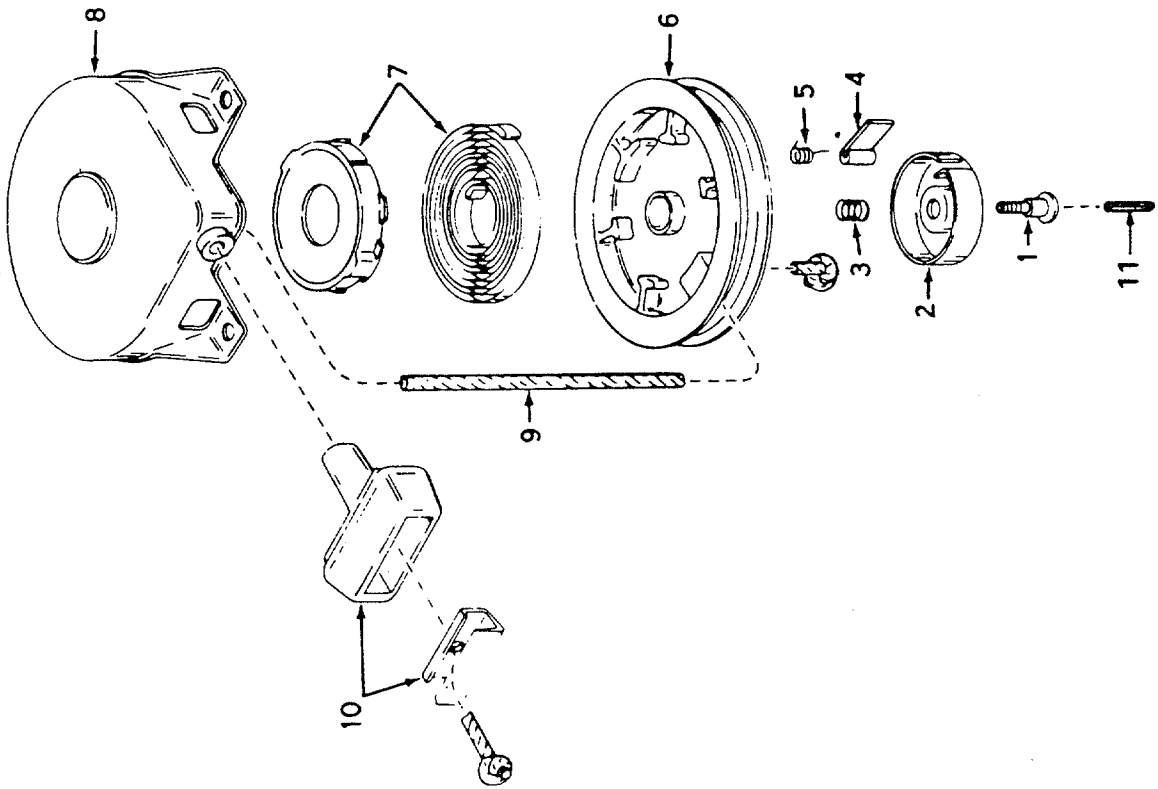
MAGNETO NO. 610794

The complete magneto is not available as an assembly. The magneto number is shown for reference purposes only. Order component parts individually, as shown in parts list.



Ref. No.	Part No.	Part Name
1	610794	Magneto
2	610781	Flywheel
3	20551	Spring, Breaker box dust cover
4	30550	Cover, Breaker box dust
5	32052	Gasket, Dust cover
6	30552	Cam, Breaker
7	30547A	Breaker Assembly
8	610385	Washer, Terminal
9	610408	Nut, Terminal
10	29181	Screw and Washer Assembly, Breaker
11	610593	Screw, Condenser fastening
12	33356	Tab, Ground terminal
13	30560A	Coil Assembly (Incl. No. 14)
14	30554	Wire, Ignition lead
15	30548A	Condenser
16	30545	Core and Plate Group
17	30561A	Stator Assembly (Incl. Nos. 2, 3, 4, 6 thru 16, 18, 19 & 20)
18	30549	Felt, Cam wiper
19	29629	Spring, Coil wedge
20	31311	Clip, Coil locking

REWIND STARTER NO. 590420



Ref. No.	Part No.	Part Name
1	590420	Starter, Rewind
2	590409	Screw, Retainer
3	590410	Retainer, R.H.
4	590411	Spring, Brake
5	590148	Dog, Starter
6	590412	Spring, R.H. Dog
7	590413A	Pulley
8	590414	Spring & Keeper Assy.
9	590415	Housing Assy., Starter
10	590386	Rope, Starter
11	590387	Handle Assy., Starter
	590459	Pin, Centering

Sears

**owners
manual**

**MODEL NO.
247.88090**

**Sears
SERVICE
is at
Your
SERVICE**

How to ORDER Repair Parts

The model Number will be found on a plate attached to your mower at the rear of the deck. Always mention the Model Number when requesting service or repair parts for your 18" ROTARY MOWER.

All parts listed herein may be ordered from any SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED retail or catalog store. If the parts you need are not stocked locally, your order will be electronically transmitted to Sears Repair Parts Distribution Center for expedited handling.

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

1. The PART NUMBER
2. The PART DESCRIPTION
3. The MODEL NUMBER 247.88090
4. The NAME OF ITEM—18" ROTARY MOWER
5. ENGINE MODEL NO. AV520-670-72B

Your Sears merchandise takes on 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 methods.

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and SIMPSONS-SEARS LIMITED, Toronto, Ontario, Canada**