OPERATING INSTRUCTIONS AND PARTS LIST
FOR

West Bend

Power Bee

ENGINE

MODELS: 70007
70008

Always mention both the Model Number and Serial Number of your engine when ordering parts.

These numbers are found on the identification plate attached to the engine.

THE WEST BEND COMPANY

ENGINE DIVISION: HARTFORD, WISCONSIN

ENG. 103R

4/63

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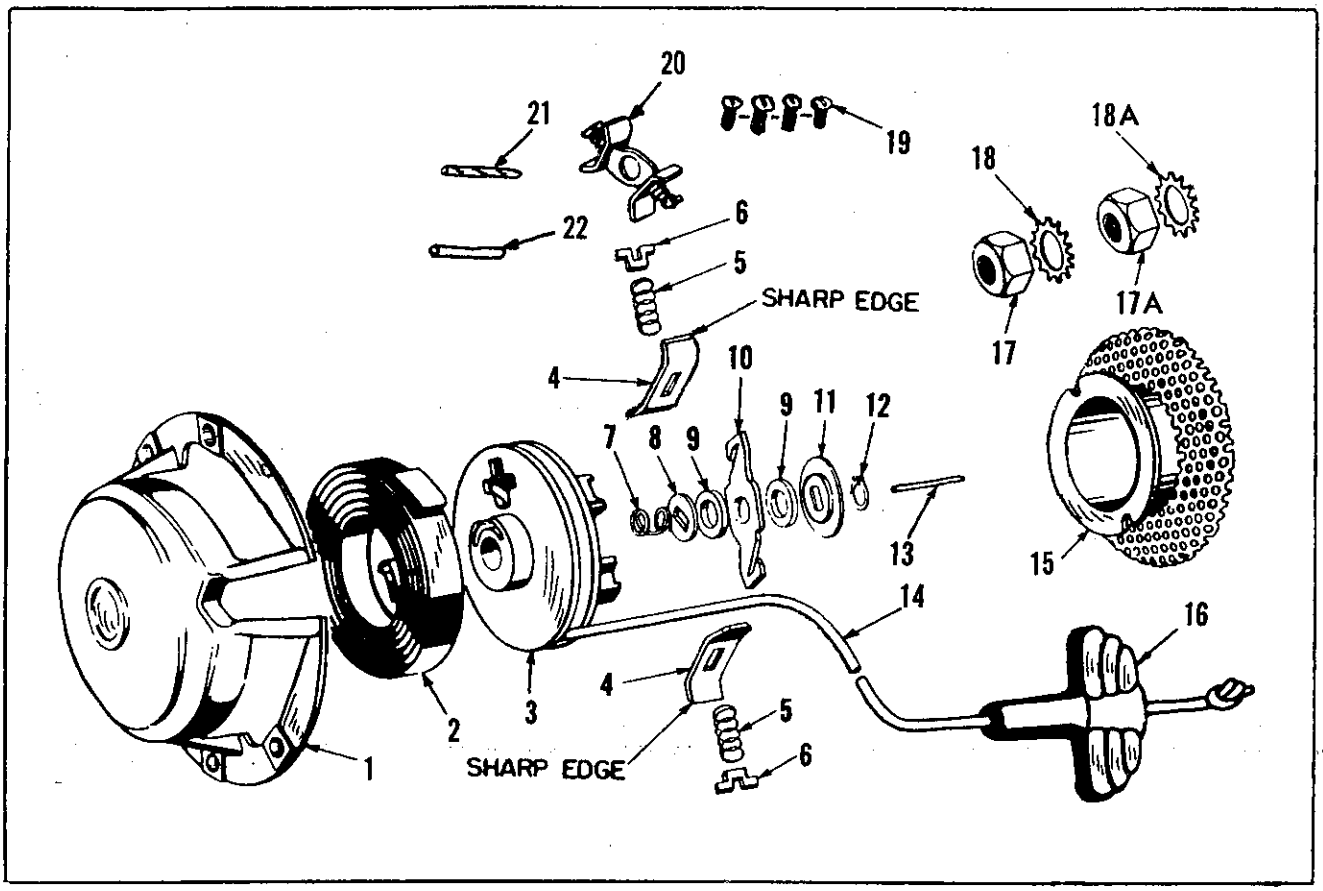
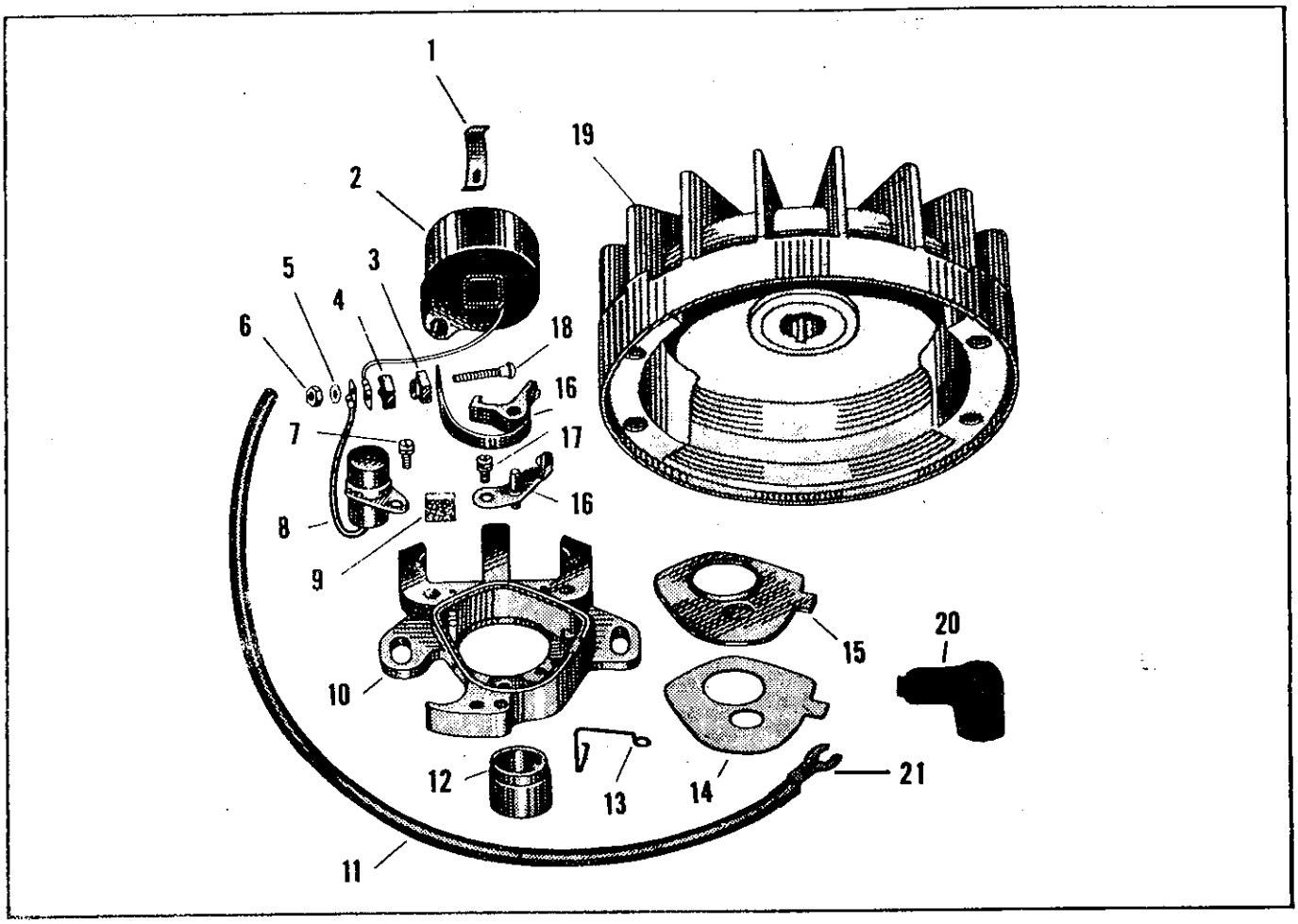
STARTER



ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	151-146	1	Cover assembly
2	20-35	1	Rewind spring
3	13-15	1	Rotor
4	11-71	2	Friction shoe plate
5	29-2	2	Friction shoe spring
6	11-19	2	Spring retainer plate
7	20-3	1	Brake spring
8	27-3	1	Brake washer
9	27-2	2	Fiber washer
10	16-4	1	Brake lever
11	27-8	1	Brake retainer washer
12	29-3	1	Retainer ring
13	25-9	1	Centering pin
14	140-6	1	Cord
15	114-100	1	Cup and screen assembly
16	A144-14	1	T-handle
17	See Chart	1	Flywheel nut (left hand thread)
17A	See Chart	1	Flywheel nut (right hand thread)
18	See Chart	1	External tooth lockwasher (left hand)
18A	See Chart	1	External tooth lockwasher (right hand)
19	10-24 x 3/8	4	Pan head machine screw w/internal external tooth lockwasher
20	111-71	1	Friction shoe assembly includes: Items 4,5, 6 and 10.
21	25-55	1	Spiral pin
22	25-7	1	Roll pin
	See Chart	1	Starter assembly complete (right hand) not shown
	See Chart	1	Starter assembly complete (left hand) not shown

MODEL NO.	STARTER COMPLETE	FLYWHEEL NUT	EXTERNAL TOOTH LOCKWASHER
70007	30063 (375-114K)	7/16-20 R.H. thick hex nut	7/16 (Right Hand) (8066)
70008	31063 (375-114LK)	7/16-20 L.H. thick hex nut	7/16 (Left Hand) (8051)

MAGNETO

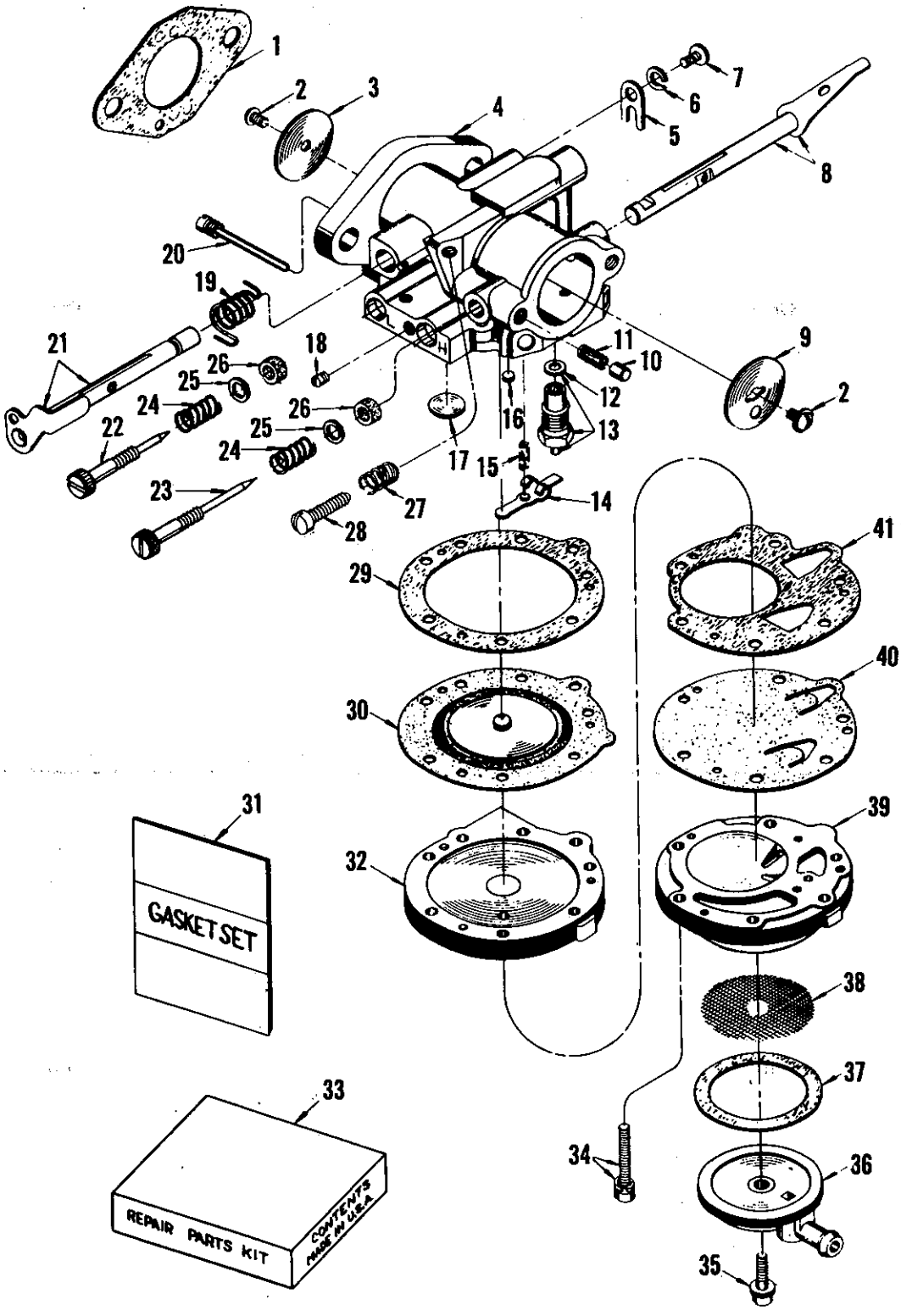


ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	11028	1	Coil wedge spring
2	X11260	1	Coil
3	11027	1	Connection stud insulator
4	11025	1	Connection stud insulator
5	#6	1	Spring lockwasher
6	11015	1	Nut
7	5431F	1	Condenser clamp screw
8	X12508	1	Condenser
9	6318	1	Cam wiper felt
10	X11060	1	Stator plate (plate and core only)
11	2732841	1	High tension lead (with terminal
12	See Chart	1	Breaker cam
13	11024	1	Breaker box cover spring
14	30031	1	Breaker box cover gasket (Wico 11019)
15	30029	1	Breaker box cover (Wico 11018)
16	X11030	1	Breaker point replacement set
17	5900	1	Fixed contact clamp screw
18	9996	1	Connection stud
19	See Chart	1	Rotor
20	K-750	1	Sparkie kit
21	30673	1	Lead wire terminal
	X11061	1	Terminal connection unit (not shown) (includes items 3, 4, 5, 6, 18)
	30498	1	Shaft key (not shown) (Wico 11092)
	30907	1	Ground lead (not shown)
	X11189	1	Stator plate unit complete (not shown)
	See Chart	1	Magneto complete (not shown)
	11785	1	Ground lead terminal (not shown)

MODEL NO.	REPLACEMENT MAGNETO NO.	ROTOR	BREAKER CAM
70007	27062 (FW2605)	Y12717	30002 (Wico 11021)
70008	31062 (FW2639)	Y12341	31002 (Wico 11084)

CARBURETOR

ILLUS. NO.	PART NO.	QTY.		DESCRIPTION
1	2775906-3	1		Carburetor gasket
2	010280	2	*	Screw
3	012089	1		Throttle shutter
4				Order 229061 (HL122A) carburetor complete
5	09678	1		Throttle shaft clip
6	0992	1		Lockwasher
7	01974	1		Screw
8	012093	1		Choke shaft and lever
9	09626	1		Choke shutter
10	05454	1		Choke friction pin
11	08805	1		Friction pin spring
12	010165	1		Inlet seat gasket
13	010580	1	*	Inlet needle, seat and gasket
14	010513	1	*	Inlet control lever
15	010578	1	*	Inlet tension spring
16	010588	1	*	Channel cup plug
17	02531	1		Welch plug
18	02232	1		Drain screw
19	010775	1	*	Throttle shaft return spring
20	010581	1	*	Control lever pinion screw
21	012091	1		Throttle shaft and lever
22	011498	1	*	Idle adjustment screw
23	011718	1	*	Main adjustment screw
24	08793	2		Spring
25	011428	2		Washer
26	011401	1		Seal ring
27	0788	1	*	Sprir ,
28	05095	1	*	Idle speed regulating screw
29	012475	1	*	Diaphragm
30	012473	1		Diaphragm cover gasket
31	GS-155	1	*	Gasket and packing set
32	010526	1		Diaphragm cover
33	RK-445	1		Repair parts kit, includes items marked with *
34	010098	6		Body screw
35	010571	1	*	Cover retaining screw
36	010527	1		Strainer cover
37	010529	1		Strainer cover gasket
38	010530	1	*	Strainer screen
39	010525	1		Fuel pump body
40	012708	1	*	Fuel pump diaphragm
41	010880	1		Fuel pump gasket
	A2770589	1		Throttle shaft arm (not shown)
	229061	1		Carburetor complete (HL122A) not shown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GASKET SET
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REPAIR PARTS KIT
CONTENTS MADE IN U.S.A.
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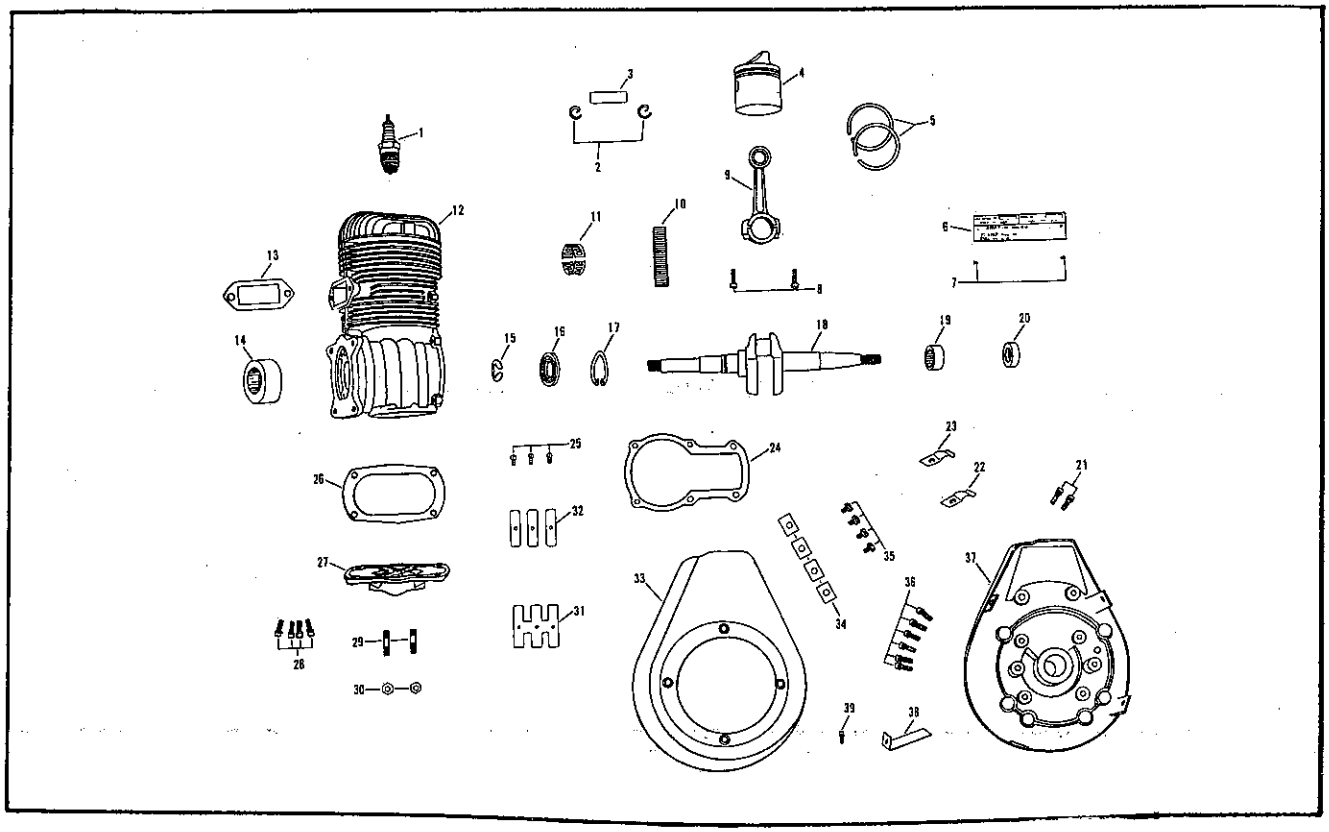
POWER HEAD



PARTS LIST

ILLUS. NO.	PART NO.	QTY.	DESCRIPTION
1	64227	1	Spark plug
2	31410	2	Piston pin lock ring
3	7017	1	Piston pin
4	2760015	1	Piston
5	A31260	1	Piston ring set
6	A27395-1	1	Identification plate w/screws
7	1500	2	Sheet metal screw, 4 x 1/4
8	36634	2	Connecting rod screw
9	2A36016-3	1	Connecting rod
10	A31228	1	Crankpin roller set
11	31241	1	Crankpin roller cage
12	A2727010	1	Cylinder
13	27279	1	Cylinder exhaust gasket
14	129146	1	Seal, drive end
15	2770410	1	Crankshaft retaining ring
16	127910-1	1	Ball bearing
17	30410	1	Bearing retaining ring
18	See chart	1	Crankshaft
19	31013	1	Crankshaft bearing, upper
20	30146	1	Seal, magneto end
21	1457	2	Rnd. hd. screw w/ext. tooth lockwasher, 1/4-20 x 5/8
22	9010	1	Lead wire retainer
23	9025	1	Clamp
24	27277	1	Bearing cage gasket
25	1295	3	Rnd hd. screw, 4-40 x 1/4
26	2770159-1	1	Reed plate gasket
27	A2761158	1	Reed plate
28	1238	4	Hex slotted hd. screw w/lockwasher, 1/4-20 x 3/4
29	19209-2	2	Carburetor stud
30	1490	2	Hex nut, 1/4-20
31	26161	1	Reed stop
32	26160-2	3	Reed
33	See chart	1	Fan housing
34	2775595	4	Fan housing washer
35	1426	4	Nylok hex hd. screw, 1/4-20 x 1/2
36	1434	6	Pan hd. screw w/lockwasher, 10-24 x 5/8
37	See chart	1	Support plate
38	2703449	1	Ignition shorting contact
39	1083	1	Fill. hd. screw w/lockwasher 10-24 x 3/8
	30396	1	Decal (not shown)
	G2725-1	1	Gasket set (not shown)

MODEL NO.	REPLACEMENT SUPPORT PLATE	FAN HOUSING	CRANKSHAFT
70007	A30038	A30596	A2761018
70008	A31038-2	A31596	A2762018

OPERATING INSTRUCTIONS

FUEL MIXTURE

In a separate, clean container thoroughly mix 1/2 pint SAE No. 30 or No. 40 oil with each gallon of gasoline.

Use regular grade of gasoline. High test, ethyl gasoline is not recommended.

Use any good quality Outboard, 2-cycle, or equivalent motor oil.

Strain the fuel mixture through a fine meshed screen when filling gasoline tank on engine to remove dirt and water if present.

PREPARATION FOR STARTING

1. Fill gasoline tank with fuel mixture prepared per above instructions. Wipe up all spilled gasoline.

2. Open gasoline shut off valve.

3. Move choke lever to closed position.

Note: If engine is warm, it may not require choking.

4. Turn ignition switch "ON".

5. Open the throttle and crank engine.

6. When engine starts, move choke lever to open position.

Note: The normal main adjustment needle settings are approximately one turn open. Occasional readjustment may be required but it is not necessary to readjust for starting except for cold weather starting when it may be necessary to open the high speed adjusting needle an additional 1/2 turn.

TO STOP ENGINE

Moving ignition toggle switch to "OFF" position will stop engine by shorting magneto to ground.

Engines not equipped with toggle switch will have a shorting contact which when depressed will short the spark plug to ground.

CARBURETOR ADJUSTMENT

1. Turn both adjustment needles (diaphragm carburetor) clockwise until completely closed.

CAUTION: Do not force needle tightly closed as the seat may be damaged.

2. Turn both needles counter-clockwise one turn. This is the average setting for proper engine operation.

3. Start engine and allow it to warm up, then, if carburetor setting is too "Lean", engine will not run at full speed and will "Pop", and may stop. Turn main adjustment needle counter-clockwise an eighth of a turn at a time until the engine runs smoothly.

If engine runs at full speed without load, but will not maintain full speed under load, richen the main adjustment needle 1/8 turn.

If carburetor setting is too "Rich", engine will not develop full power but will roll and run unevenly under load. Turn main adjustment needle clockwise an eighth of a turn at a time until the engine runs smoothly.

4. To verify proper idle needle setting, start engine and allow to warm up. If motor surges and runs at uneven speed, turn the idle adjustment needle slowly clockwise up to 1/4 turn. If this aggravates rather than corrects the situation, return to the original setting, then turn the idle adjustment needle slowly counter-clockwise up to 1/4 turn. This should cause the engine to "settle down" and run at a constant speed. If engine fails to accelerate, open idle screw 1/8 turn.

5. If engine runs too fast at idling speed, loosen the idle stop screw a little at a time until desired speed is obtained. To increase idling speed tighten the idle stop screw.

MAGNETO

1. Breaker point gap should be set at .020. Set points with cam follower at highest point of breaker cam.

2. Directional arrow on cam must be UP.

3. For magneto inspection or service, contact your nearest authorized dealer.

4. If magneto stator plate is loosened or removed from the engine for any reason, be sure it is re-installed as follows:

(a) Place stator plate in position.

(b) Install hold down screws, but do not tighten.

(c) Turn stator plate to the mid-range position.

(d) Tighten screws.

(e) Reset breaker points to .020" gap.

This places the stator plate in the position for correct ignition timing.

AIR CLEANER

Under ordinary operating conditions, the air cleaner should be cleaned daily. However, under extremely dirty conditions, more frequent cleaning or brushing off of loose dirt is recommended. To clean the air cleaner:

1. Remove the air cleaner from the carburetor.

2. Wash thoroughly using kerosene, gasoline or other good solvent.

3. Blow or wipe dirt from filter element.

4. Re-install air cleaner.

IMPORTANT: Dirt that enters the engine through the carburetor is one of the greatest causes of engine wear. Therefore, it is very important that the air cleaner be serviced regularly as outlined above.

SPARK PLUG

Check and clean spark plugs regularly. A fouled, dirty, or carboned spark plug causes hard starting and poor engine performance.

Set spark plug gap at .030".

STARTER SCREEN

The screen keeps dirt, etc., from entering the fan housing, and clogging the air cooling passages.

Because this engine is air-cooled, it is necessary to keep this screen clean at all times to permit the unrestricted passage of air into the fan housing.

STORING MOTOR

The following steps should be taken to prepare your engine for storage:

1. Close gasoline shut off valve.

2. Start engine and allow to run until it stops from lack of fuel. This will use up all the fuel in the carburetor and prevent the formation of deposits due to evaporation of fuel.

3. Disconnect fuel line and permit all fuel to drain from the gasoline tank. Replace fuel line.

4. Remove spark plug and pour 1/4 cup of motor oil into cylinder. Replace spark plug.

5. Crank engine two or three times to distribute oil throughout cylinder. This will coat the cylinder walls with oil and prevent rust from forming during the storage period.

CHECK LIST

TROUBLE	CAUSE	WHAT TO DO
1. Engine fails to start.	No fuel in tank or shut-off valve closed.	Fill tank and open shut-off valve.
	Fuel line or fuel tank screen clogged.	Clean fuel line and screen.
	Flooded.	Close carburetor main adjustment needle and crank until engine starts. Then turn needle to 1 turn open.
	Spark plug shorted, fouled or broken.	Install new spark plug.
	Magneto lead wire shorted, broken or disconnected from spark plug.	Replace lead wire or attach to spark plug.
	Magneto inoperative (No spark from lead wire.)	Contact factory or nearest authorized dealer.
	Breaker points out of adjustment.	Reset breaker points to .020" gap.
2. Engine hard to start.	Water in gasoline or stale fuel mixture	Drain and refill fuel system.
	Too much oil in fuel mixture.	Drain and refill with correct mixture.
	Engine over or under choked.	If flooded by over-choking, proceed according to instructions in previous section. If under-choked, move choke lever to closed position and crank two or three times.
	Carburetor out of adjustment.	See "Adjustments" on page 7.
	Gasket leaks (carburetor or reed plate gaskets.	Replace gaskets.
	Weak spark at lead wire.	Contact the factory or your nearest authorized dealer.
	Breaker points out of adjustment	Reset breaker points to .020" gap.
3. Engine misses.	Dirt in fuel line or carburetor.	Remove and clean.
	Carburetor improperly adjusted.	See "Adjustment" on page 7.
	Spark plug fouled, broken or incorrect gap setting.	Clean or replace spark plug - set gap to .030".
	Weak or intermittent spark at lead wire.	Contact factory or nearest authorized dealer.
	Breaker points out of adjustment.	Reset breaker points to .020" gap.
4. Engine lacks power.	Air cleaner clogged.	Clean air cleaner.
	Carburetor out of adjustment.	See "Adjustments" on page 7.
	Muffler clogged.	Clean carbon from muffler.
	Clogged exhaust ports.	Remove muffler, rotate engine until piston is at bottom of cylinder. With a wooden scraper or blunt tool, remove all carbon from exhaust ports. Be careful not to scratch or damage piston or cylinder walls. Blow out loose carbon with compressed air. Start engine and run briefly to remove all carbon, then install muffler and gasket.
	Poor compression	Contact factory or nearest authorized dealer
	Breaker points out of adjustment.	Reset breaker points to .020" gap.
5. Engine overheats	Insufficient oil in fuel mixture.	Mix fuel as shown in starting instructions.
	Air flow obstructed.	Clean flywheel, cylinder fins and screen.
6. Engine noisy or knocking	Loose flywheel.	Tighten flywheel nut.
	Spark plugs incorrect heat range.	Replace with plugs specified for engine.
	Worn bearings, piston rings or cylinder walls	Contact factory or nearest authorized dealer
	Bent fan housing.	Remove fan housing and straighten bent portion.
7. Engine "Stalls" under load.	Carburetor main adjustment too "lean"	Readjust carb. as shown on page 7.
	Engine overheats.	See section No. 5 above.