

**SKIL**<sup>®</sup>  
**POWER TOOLS**  
**OPERATOR'S MANUAL**

**MODELS**  
**1660**  
**1661**



SKIL CORPORATION

5033 ELSTON AVENUE

CHICAGO, ILLINOIS 60630

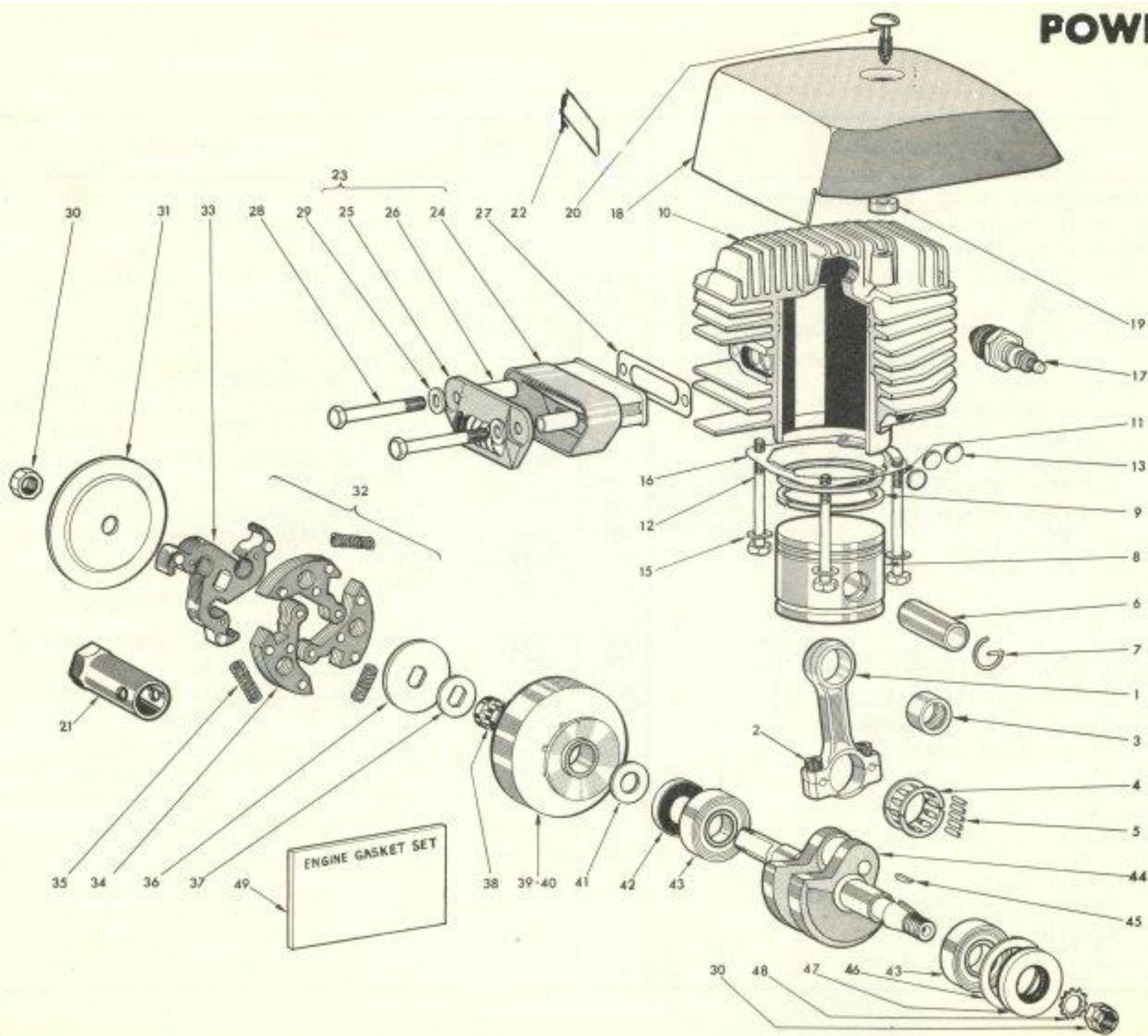
MADE IN CANADA

SKIL CORPORATION (CANADA) LTD.

1190 CALEDONIA ROAD

TORONTO 19, ONTARIO

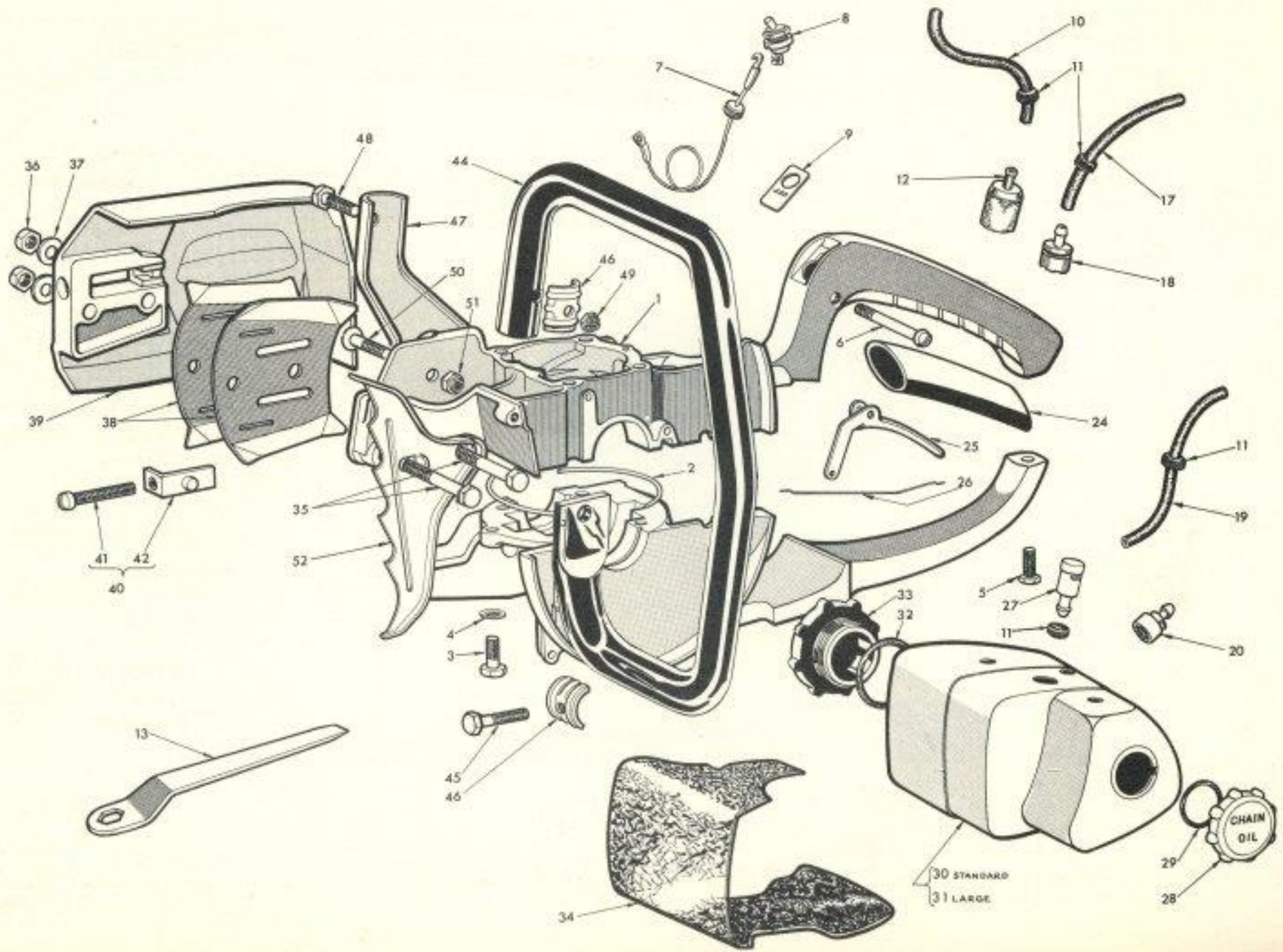
# POWER HEAD



# PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	275606	Con Rod Assy (includes*)	29	275069	Washer Plain ¼ x ½ (2 used)
2	761060	*Con Rod Screws (2 used)	30	850467	Crank Nut Left Hand Thread 7/16 - 20 (2 used)
3	275041	*Wrist Pin Bearing	31	275364	Clutch Side Plate (Outer)
4	183605	*Con Rod Big End Brg. Cage with Needles	32	177647	Clutch Driver Assy. (includes†)
5	177040	Big End Needle (12 used)	33	177643	†Clutch Driver
6	177017	Wrist Pin	34	177654	†Clutch Shoe (3 used)
7	270047	Retainer Clip (2 used)	35	276363	†Clutch Spring. (3 used)
8	270045	Piston	36	276364	Clutch Side Plate (inner)
9	270050	Piston Ring (2 used)	37	276378	Thrust Washer (outer)
10	188612	Cylinder Blk. Assy. Complete with Screws (includes‡)	38	178348	Sprocket Bearing
11	706414	‡Screw (Long, Back) (2 used)	39	188651	7 Tooth ¾ Pitch Sprocket & Drum Assy. c/w Bearing
12	705614	‡Screw (Short, Front) (2 used)			
13	188061	‡Welch Plug (4 used)	41	276379	Thrust Washer (inner)
15	275069	Washer Flat ¼ x ½ (4 used)	42	270033	Seal (Clutch Side)
16	177058	Cyl. Base Gasket	43	270030	Main Bearing (2 used)
17	270523	Spark Plug	44	177025	Crankshaft
18	188640	Outer Shroud Assy. (includes **)	45	856303	Flywheel Key
19	270312	**Screw Retainer	46	177166	Bearing Retainer Ring
20	177301	**Screw (Shroud)	47	177032	Seal (Magneto Side)
21	270522	Plug Wrench	48	854117	Lock Washer External Star 7/16
22	227303	Shroud Decal	49	177710	Engine Gasket Set (includes)
23	177631	Muffler Assy.			Crankcase Joint Seal (2 used)
24	177617	Muffler Body			Cylinder Base Gasket
25	177136	Muffler Body Cover			Muffler Gasket
26	177141	Spacer Tube (2 used)			Fuel Tank Grommet (4 used)
27	177140	Muffler Gasket			Fuel Tank Damper
28	703414	Muffler Mounting Screw ¼ - 20x2½ (2 used)			Gasket (Carburetor to Insulator)
					Gasket (Insulator to Cylinder)
					Gasket (Carburetor to Air Filter)

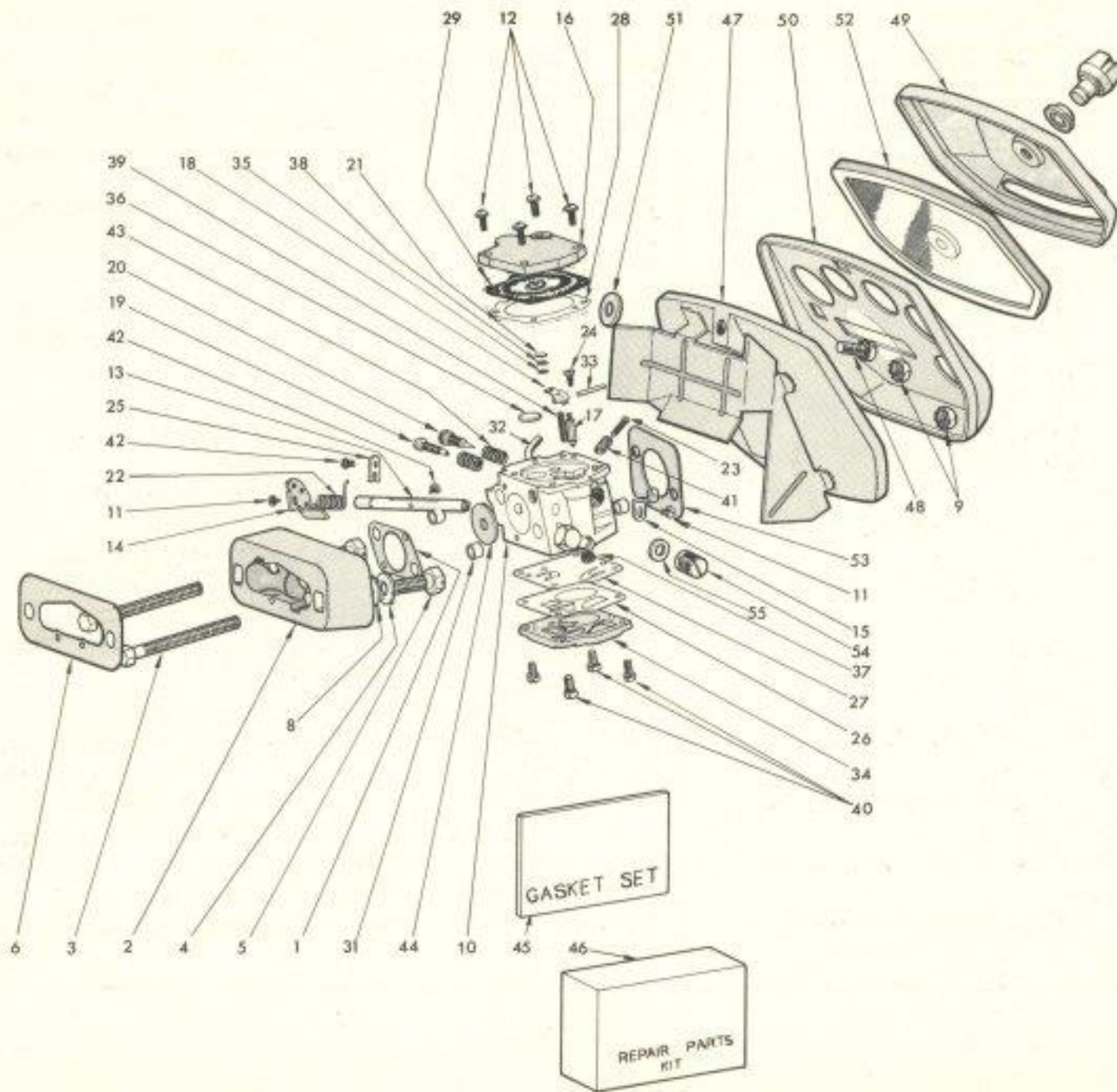
# CRANKCASE



# PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	183602	Crankcase Assy. Complete (includes*)	28	275638	Oil Cap
2	177062	*C/case Joint Seal	29	271258	Oil Cap "O" Ring
3	702014	*Mounting Bolt ½ - 20x1¼"			
4	275069	*Flat Washer ¼"x½" Dia. (1 used)	31	183765	Fuel & Oil Tank Assy. (includes ↖)
5	706214	*Screw ¼ - 20x¾ Hex. Cap Screw	32	270186	Fuel Cap "O" Ring
6	183193	Screw-Primer-Throttle Lever - Oiler Body	33	270675	Fuel Cap
7	183087	Switch Wire	34	177234	↖ Tank Mounting Damper
8	270238	Switch	35	703665	Bolt Guide 5/16 - 24x2¼ (2 used)
9	183269	Switch Plate	36	850065	Nut Guide 5/16 - 24 (2 used)
10	177206	Fuel Pick Up Hose - 5"	37	855915	Washer Guide Bar Pad (2 used)
11	177229	↖ Grommet (4 used)	38	177160	Chain Guide Plates (2 used)
12	177635	Fuel Pick Up	39	183648	Chain Cover Assy. (includes*)
13	177521	Bar Wrench	40	183649	*Chain Adjuster Assy. (includes‡)
14			41	737814	‡Chain Tensioner Screw
15			42	178649	‡Chain Adjustor
16			44	183767	Front Handle Bar (Semi-wrap)
17	177270	Oil Pick Up Hose	45	702414	Screw ¼ - 20x1½"
18	271629	Oil Pick Up Head Assy.	46	271326	No Squash Washer (2 used)
19	177206	Primer Pick Up Line - 5"	47	177106	Handle Bar Bracket
20	183635	Primer Fuel Pick Up	48	702014	Hex Screw ¼ - 20x1½
21			49	850414	Nut ¼ - 20 Flexlock Jam
22			50	741264	Screw Hd. ¼ - 28x¾ Slotted
23			51	850364	Nut - ¼ - 28 Flexlock
24	183169	Handle Grip	52	177345	Bucking Spike
25	177230	Throttle Trigger			
26	183232	Throttle Linkage			
27	177634	Fuel Tank Vent Assy.			

# CARBURETOR



# PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	177098	Gasket (Carb.)	28	178110	Diaphragm Metering Gasket
2	177096	Insulator Block	29	178153	Metering Diaphragm Assembly
3	703860	Screw 10-32x2 $\frac{3}{8}$ " Hex. (2 used)	30	177194	Exit Tube Primer
4	270027	Washer Insulator Block Screw (2 used)	31	†177028	Insulator Sleeve (4 used)
5	812014	Screw Insulator Block $\frac{1}{4}$ x20x1 $\frac{1}{4}$ " Hex. Hd. (2 used)	32	†183093	Carburetor Nozzle (Primer)
6	177097	Gasket Insulator Block	33	183150	Fulcrum Pin
7			34	183157	Pump Cover
8	270026	Washer (Fibre) Insulator Block Screw $\frac{1}{4}$ - $\frac{5}{8}$ x1/16" (2 used)	35	177102	Screen
9	850060	Nut 10 - 32 Keps (2 used)	36	178053	Welch Plug
10	183695	Carburetor HS18AX (includes†)	37	178102	Screen
11	725403	Screw Throttle Shaft (2 used)	38	177101	Retaining Ring
12	715604	Screw Metering Diaphragm Cover (4 used)	39	183136	Tension Spring
13	183134	Throttle Shaft	40	735606	Screw (4 used)
14	183135	Throttle Lever Stop	41	183120	Idle Speed Spring
15	183124	Throttle Lever	42	715304	Screw (2 used)
16	178134	Diaphragm Cover	43	275143	Adjusting Screw Spring (2 used)
17	178151	Inlet Needle	44	183129	Throttle Shutter
18	178155	Inlet Valve Control Lever	45	178778	Gasket Set
19	177121	Idle Adjustment Screw	46	177777	Repair Parts Kit
20	177122	Main Adjustment Screw	47	177751	Air Filter Base Plate
21	177053	Welch Plug	48	725814	Screw Filter to Cyl. Head $\frac{1}{4}$ " - 20x $\frac{1}{2}$ " Pan
22	177142	Throttle Shaft Return Spring	49	188753	Air Filter Cover Assembly
23	177143	Idle Speed Regulating Screw	50	177173	Air Flow Distributor
24	183149	Inlet Lever Pin Retaining Screw	51	270026	Fibre Washer
25	178125	Throttle Shaft Clip	52	177624	Air Filter Element
26	178111	Fuel Pump Gasket	53	177079	Gasket (Carb. to Air Filter Assy.)
27	178154	Fuel Pump Diaphragm		177107	Fuatron Filter (optional)
			54	188126	Governor
			55	188128	Gasket

## ADJUSTMENTS

### CARBURETOR

Adjust the carburetor in the following sequence:

1. Screw in main jet (H) lightly then open 1 to 1 $\frac{1}{4}$  turns.
2. Screw in idle jet (L) lightly then open 1 to 1 $\frac{1}{4}$  turns.
3. Unscrew idle speed screw until lever touches, stop, then screw in 3 $\frac{1}{2}$  to 4 $\frac{1}{2}$  turns.

Further fine adjustments to high and low speed jets may be required to obtain maximum power and cutting speed, these should be made under load or while cutting.

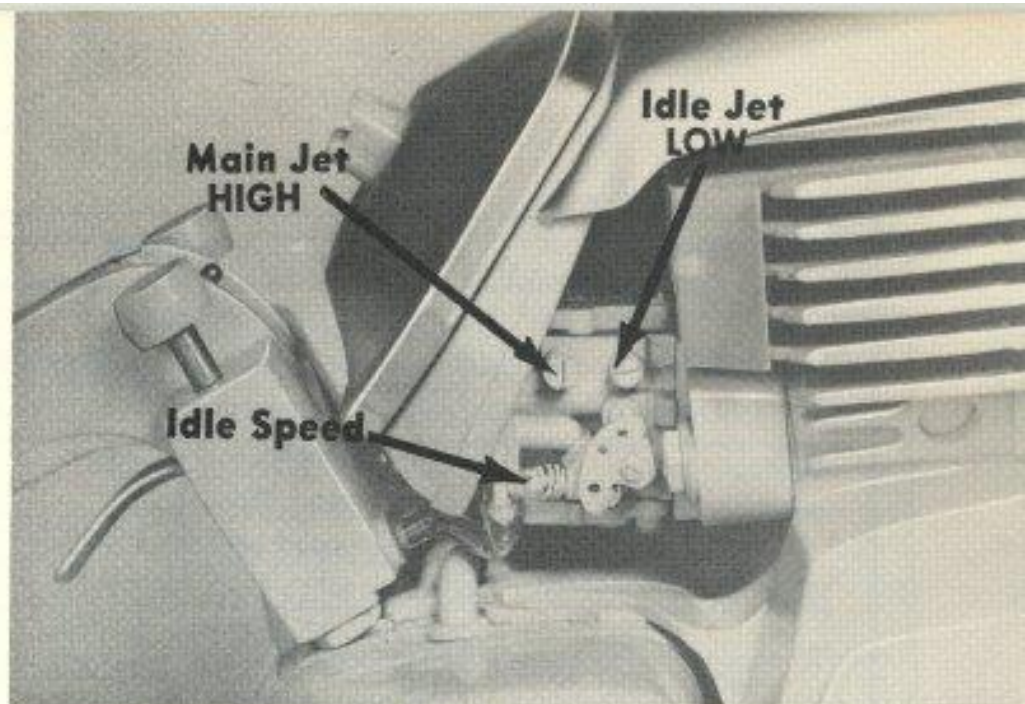
### FUEL MIX

Fuel mix 16 gas to 1 oil 8 oz. per U.S. gal.  
(10 oz. per Imp. gal.).

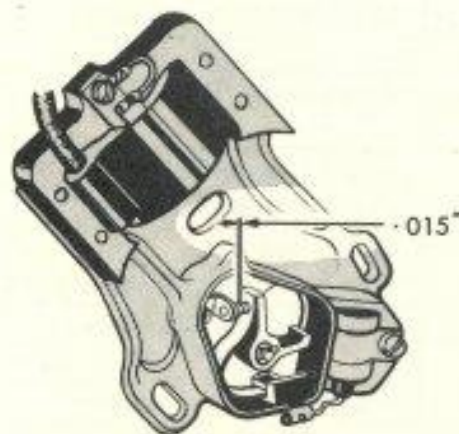
### IGNITION

Spark plug gap .025".

Ignition breaker point gap .015".



Carburetor Adjustment



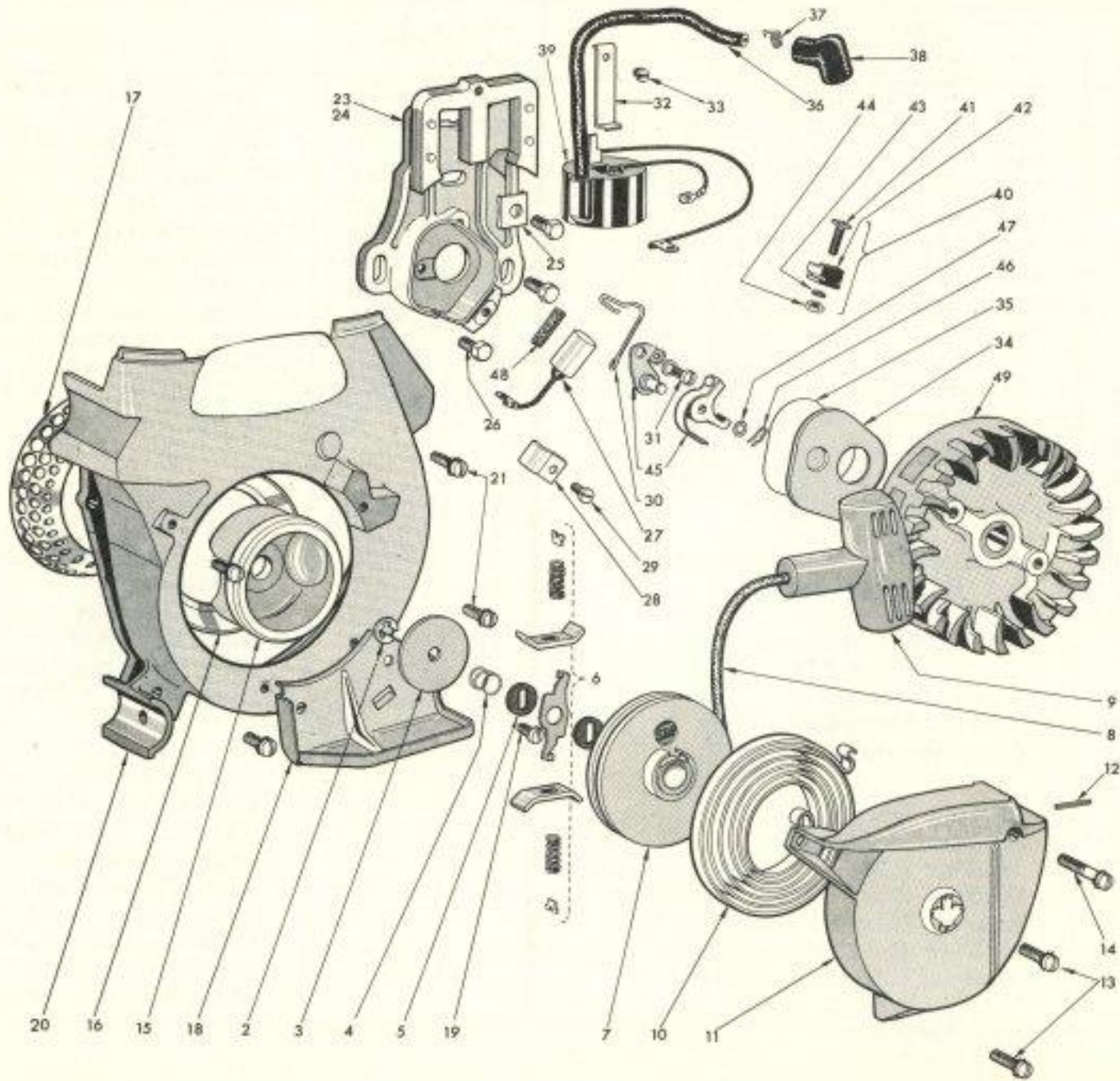
Breaker Point Adjustment



Spark Plug Gap



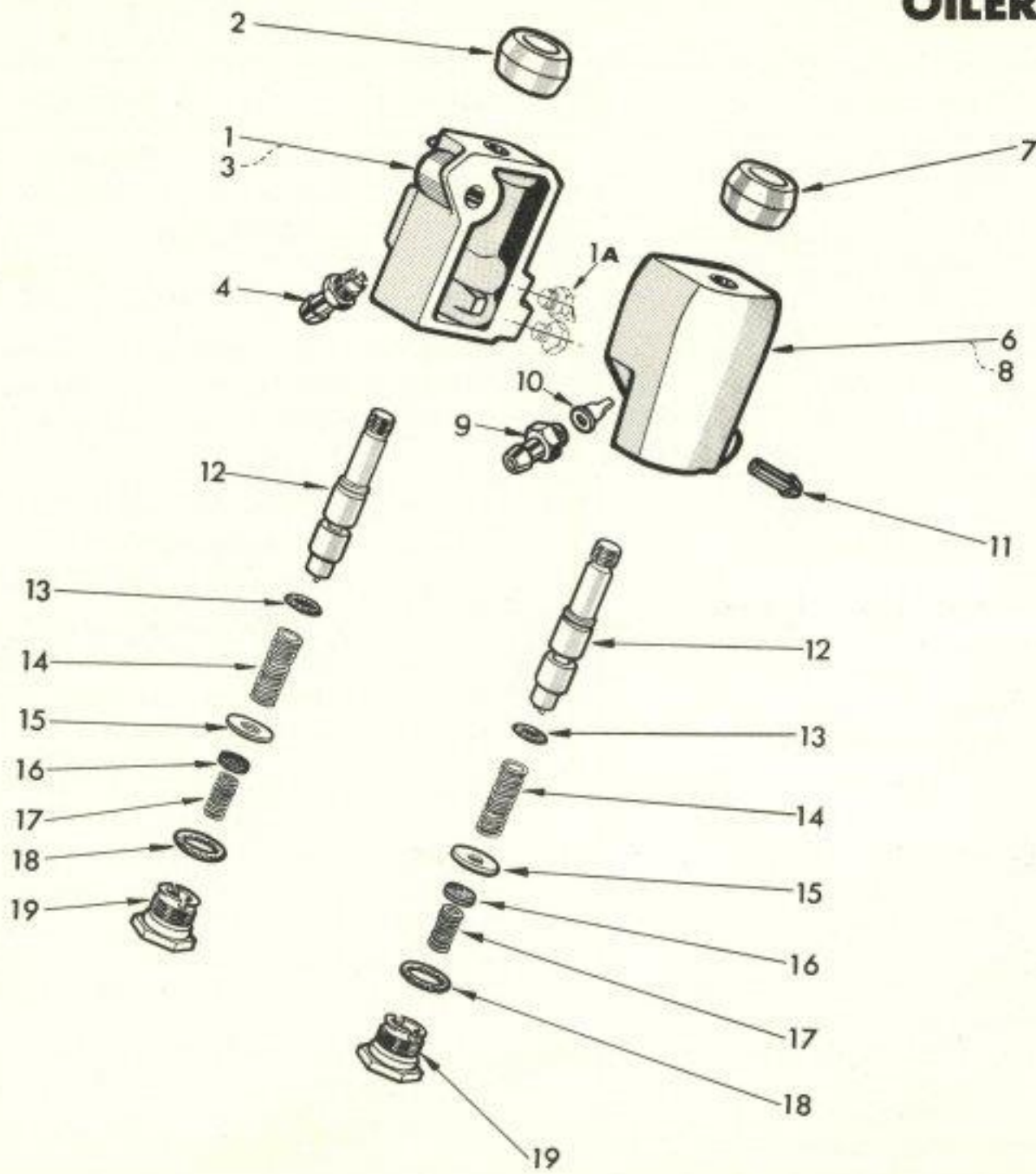
# MAGNETO & STARTER



# PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	177674	Starter Assy. Complete (Includes *)	24	183671	*Stator Group (Plate and Core Only)
2	178324	*Retainer Ring	25	275087	Primary Wire Clip
3	178323	*Brake Retainer Washer	26	706010	Screw Stator 10-24x $\frac{5}{8}$ Hex (3 used)
4	178319	*Brake Spring	27	177664	*Condenser Group
5	178100	*Brake Washer (Fibre) (2 used)	28	183664	*Condenser Clamp
6	178676	*Replacement Pawl Assy.	29	183669	*Condenser Clamp Screw
7	178297	*Rotor	30	275089	*Breaker Box Cover Spring
8	178335	*Starter Cord	31	725506	*Fixed Contact Clamp Screw (Assy.)
9	178639	*"T" Handle Assy.	32	183147	*Coil Wedge Spring
10	178317	*Rewind Spring	33	183148	*Coil Grounding Screw
11	177675	*Starter Housing	34	183455	*Point Cover
12	177083	*Roll Pin	35	183456	*Point Cover Gasket
13	726010	Housing Screw 10-24x $\frac{5}{8}$ (2 used) Pan Sems	36	177666	*High Tension Lead
14	727410	Housing Screw 10-24x1 $\frac{1}{2}$ Pan Sems	37	275090	*Lead Terminal Spring
15	177126	Starter Cup	38	275091	*Lead Terminal Cover
16	177128	Starter Cup Shield	39	177665	*Coil Assy.
17	177127	Fly Wheel Screen	40	183667	*Terminal Connection Unit (includes †)
18	177390	Step Plate	41	183163	†Connection Stud
19	725610	Step Plate Screw 10-24x $\frac{3}{8}$ Pan Sems	42	183164	†Connection Stud Insulator
20	177077	Blower Housing	43	854206	†Connection Stud Lock Washer
21	726210	Blower Housing Screw 10-24x $\frac{3}{8}$ Pan Hd.	44	850006	†Connection Stud Nut
22	177601	Magneto Assy. Complete including Flywheel	45	177663	Breaker Point Set (includes ‡)
23	183673	Stator Assy. Complete (includes*)	46	183063	‡Breaker Point Arm Lock Pin
			47	183064	‡Thrust Washer
			48	183452	‡Cam Wiper Felt
			49	177658	Flywheel

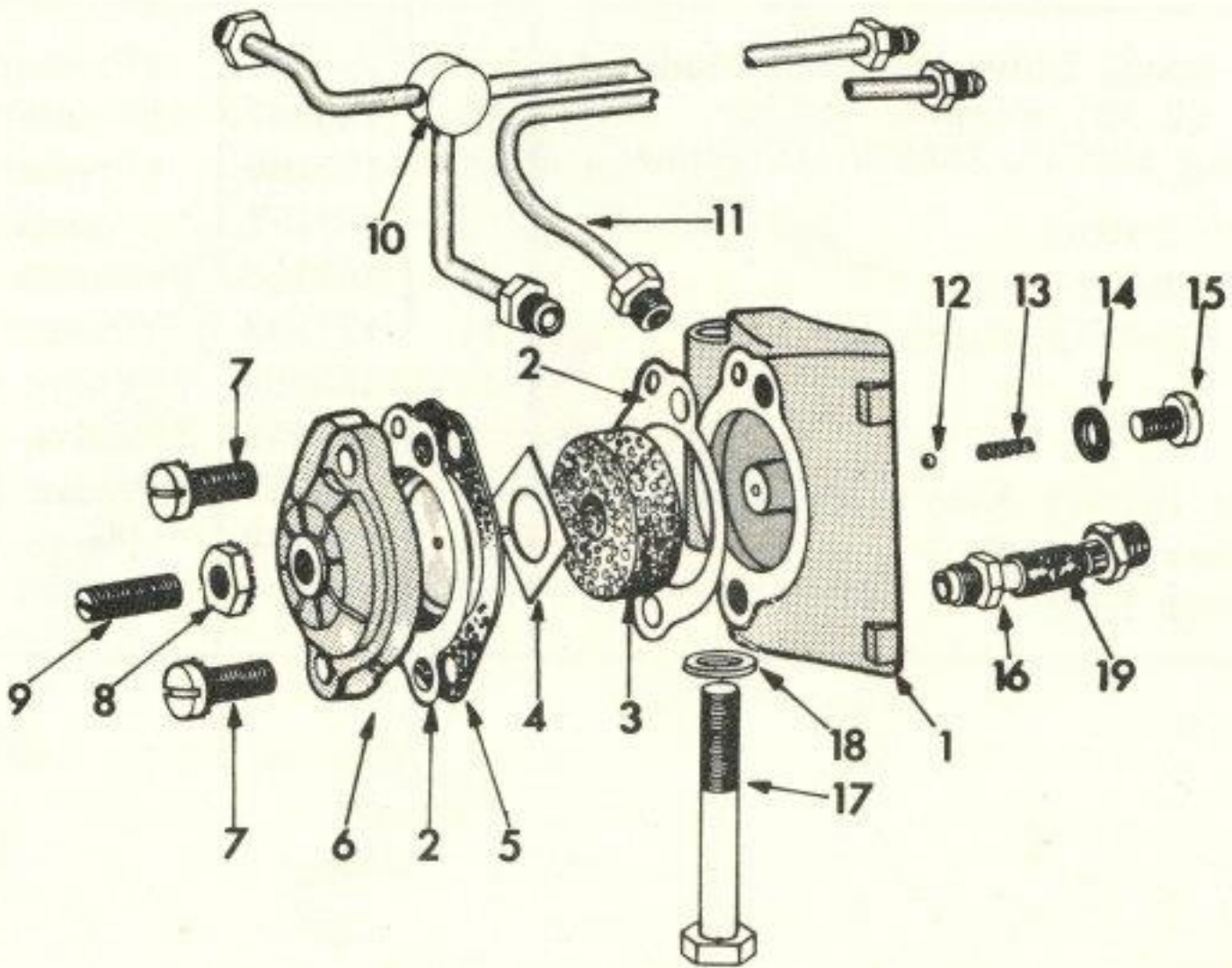
# OILER AND PRIMER



## PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	183753	Oiler Assy. Lube Assist (Includes *)	9	183263	†Primer Inlet Hose Fitting
1A	177279	Plug (2 off) Remove Before Fitting 183747, 183737 Oil Lines	10	183007	†Primer Inlet Valve
2	183190	*Oiler Button	11	177194	†Primer Outlet Fitting
3	183292	*Oiler Body	12	183197	*†Piston
4	178627	*Oil Pick Up Connector	13	183155	*†Piston "O" Ring
6	183743	Fuel Primer Assy. (includes†)	14	177198	*†Piston Return Spring
7	183195	†Primer Button	15	183385	*†Valve Seat (Flat Side to Valve)
8	183289	†Primer Body	16	183256	*†Valve (Rubber to Valve Seat)
			17	183217	*†Valve Return Spring
			18	177188	*†Pump Cap "O" Ring
			19	183199	*†Pump Cap

# LUBE-ASSIST



# PARTS LIST

Ref. No.	Part No.	Description
1	183392	Oiler Body
2	276079	Oiler Gasket (2 used)
3	270286	Filter
4	270287	Filter Retainer
5	275613	Piston and Diaphragm Assy.
6	275611	Diaphragm Cover Assembly (includes*)
7	725810	Diaphragm Cover Screw (2 used)
8	850260	*Lock Nut
9	781260	*Adjusting Screw
10	183747	Oil Line Assy. with "T" Piece
11	183737	Oil Line Assy.—Oiler Body
12	271262	Nylon Ball
13	270284	Spring
14	177196	Fibre Washer
15	720410	Screw
16	183261	Hose Fitting Large (2 used)
17	703614	Attachment Screw $\frac{1}{4}$ - 20x2 $\frac{1}{4}$ " Hex. Hd.
18	275069	Washer
19	183272	Pulse Line Hose

## CHAIN OIL

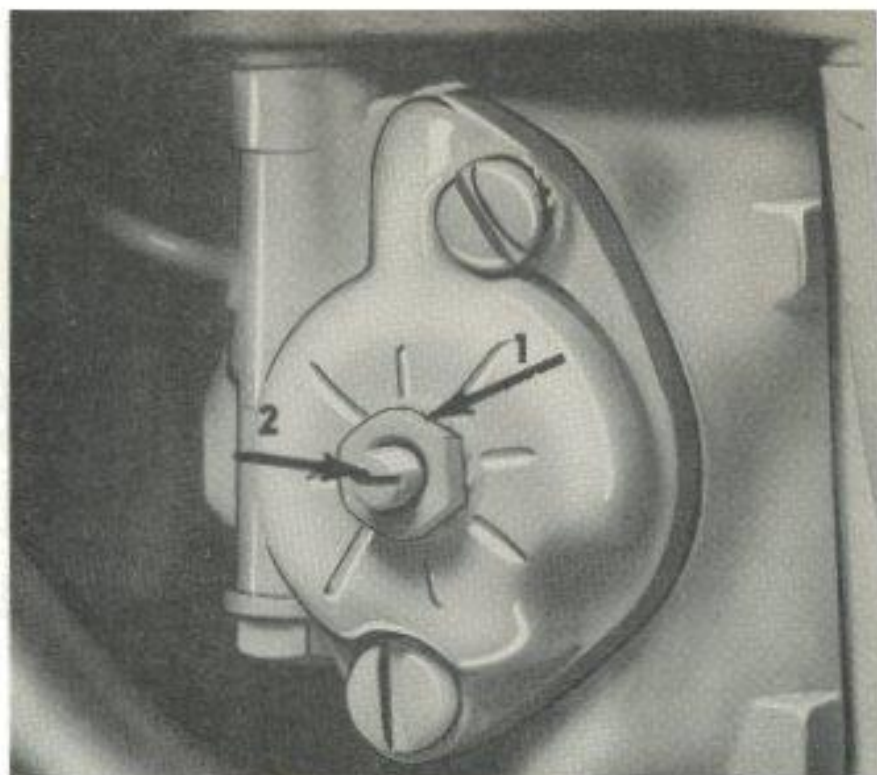
Use SKIL CHAIN SAW OIL or S.A.E. 10 or 20 motor oil. Dilute oil up to 50% with diesel oil or kerosene in extremely cold weather.

## WARNING

Do not dilute chain oil beyond 50%, otherwise the lubricating qualities will be destroyed.

## LUBE ASSIST AND MANUAL OILER

The lube assist provides a continuous flow of oil to the bar and chain and supplements the amount normally applied by the regular use of the manual oiler. The lube assist has been factory set for average operating conditions but may be adjusted to suit local conditions as follows:



**Lube - Assist**

1. Loosen locknut on adjusting screw.
2. Back screw off for more oil ( $\frac{1}{8}$  turn at a time).
3. Turn screw in for less oil ( $\frac{1}{8}$  turn at a time).
4. Retighten locknut.

## NOTE

It is extremely important that the bar and chain be adequately lubricated when cutting in cold weather—use your manual oiler often. Keep the oiling system clean and in good working order.