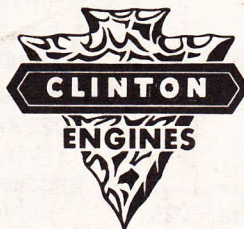
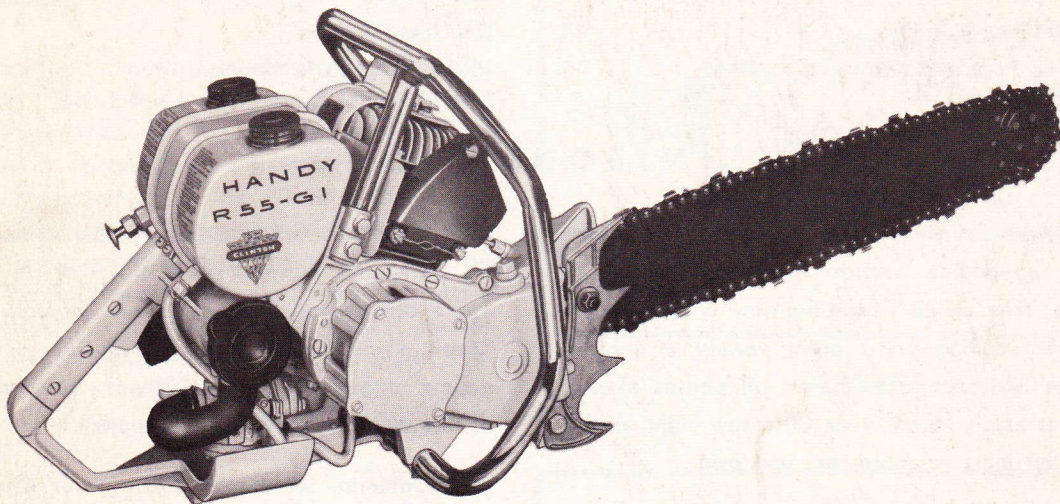


CLINTON

R-55-G1 R-65-G1

Illustrated Parts List AND INSTRUCTION MANUAL



Clinton Engines Corporation

Chainsaw-Outboard Division

CLINTON, MICHIGAN

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INTRODUCTION

By following the instructions in this manual you can look forward to dependable service from your Chainsaw. Quality made, time tested your Chainsaw is designed to provide efficient cutting on a great variety of jobs. It is checked for high standards during all phases of production and assembly. Treat your Chainsaw right, and it will become the most valuable tool you own.

For periodic servicing and all major repairs, you should consult the Authorized Clinton Service Station in your

area. Here you will find factory-trained mechanics, genuine parts and prompt, efficient service at your disposal. There are Clinton Service Stations throughout the United States, Canada and many foreign countries. Consult the yellow pages of your telephone directory for list of Authorized Clinton Service Stations.

For additional information about your Chainsaw please feel free to write directly to the factory.

SPECIFICATIONS

ENGINE — Clinton two cycle, one cylinder, air-cooled.

BORE — 2 $\frac{1}{8}$ " — R65-G1 1 $\frac{7}{8}$ " — R55-G1

STROKE — 1 $\frac{5}{8}$ ".

FUEL — Oil and Gasoline mixed.

SPARKPLUG — Champion H 10J or equal, Gap .025 inches.

POINT GAP — .020 inches, nominal setting.

IGNITION TIMING — Fixed.

TYPE OF VALVE — Reed.

IDLING SPEED — Approximately 1500 to 1800 R.P.M.

TYPE OF BEARINGS — Needle.

OPERATING SPEED — App. 4800 R.P.M.

TYPE OF CARBURETOR — Diaphragm.

FUEL TANK CAPACITY — 1 $\frac{1}{2}$ quarts.

FUEL RATIO — $\frac{3}{4}$ pint of SAE #30 to 1 gal. gasoline for first five hours, $\frac{1}{2}$ pint to one gallon thereafter.

RECOMMENDED GASOLINE — Any good grade (non-leaded).

RECOMMENDED OIL GRADE — SAE #30 outboard motor oil.

TYPE OF IGNITION — High tension flywheel magneto.

TYPE OF STARTER — Recoil.

TYPE OF CLUTCH — Automatic Centrifugal.

CHAIN OILER CAPACITY — One pint SAE #30. (See page 5).

GUIDE BAR LENGTHS — From 12 inches to 26 inches.

OPERATION OF THE TWO CYCLE ENGINE

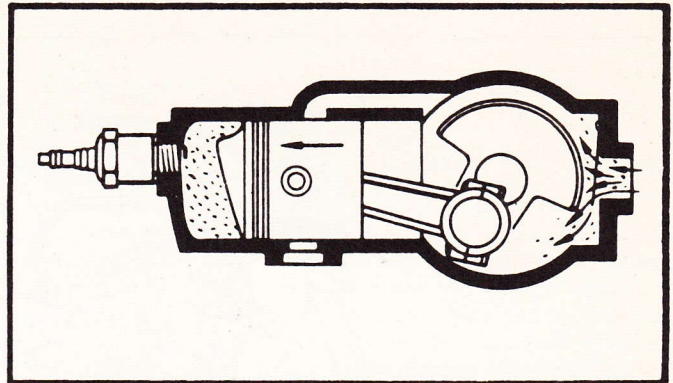
In a two cycle engine, intake, compression, power and exhaust are completed in two strokes of the piston. A power stroke results with every revolution of the crankshaft. On the upward stroke of the piston, a partial vacuum is created in the crankcase. (See Figure No. 1)

First, the vacuum and outside air pressure cause the reed valve between the crankcase and the carburetor to open. The air-fuel mixture from the carburetor flows in to the engine crankcase. Then, the downward movement of the piston causes the reed valve to close while continued downward movement of the piston compresses the fuel charge in the crankcase. Near the bottom of its stroke the piston uncovers the intake by-pass port, which connects the combustion chamber and the crankcase.

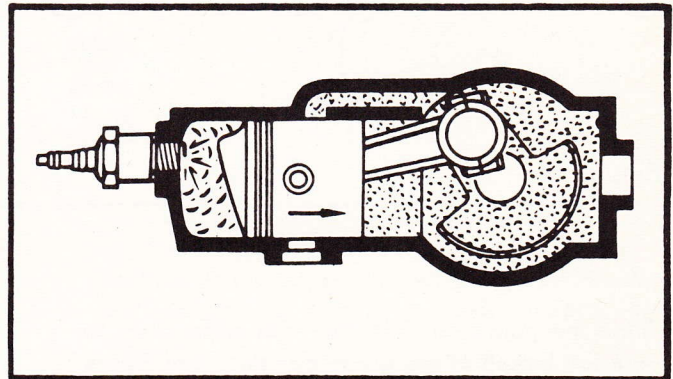
As the piston moves upward on its stroke, it passes the intake port, closing the port opening. Its continued upward movement causes the fuel mixture in the cylinder to be compressed. At the same time a new fuel charge is drawn into the crankcase. As the piston nears the top of the compression stroke, the fuel mixture in the combustion chamber is ignited by the spark. The explosion and expansion of gases forces the piston down on its power stroke. Power is not delivered for the full length of the stroke. Some time is required to rid the cylinder of burned gases, so that it may receive a fresh fuel charge from the crankcase.

As the piston nears the bottom of its stroke, it uncovers the exhaust port opening slightly ahead of the intake port. This permits taking advantage of the pressure of the exhaust gases in the cylinder, which are still comparatively high, and allows them to start escaping. Further downward travel of the piston uncovers the intake by-pass port. The incoming charge assists in forcing the exhaust gases out of the cylinder, to complete the cycle.

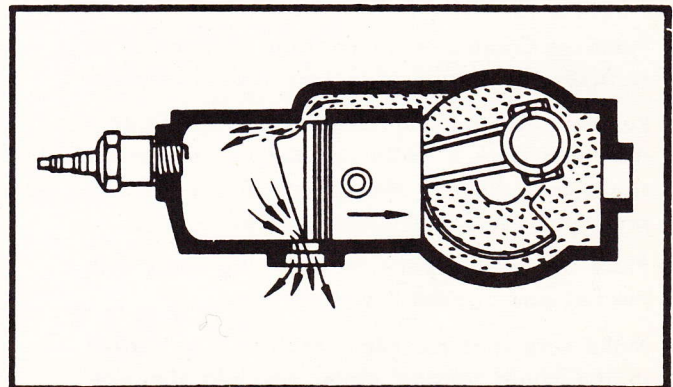
The chief attributes of the two cycle engine are its lightweight, low cost and powerful but simple operation. With only three basic moving parts (crankshaft, piston and rod), maintenance costs are at a minimum while efficiency is at a maximum.



COMPRESSION



POWER



EXHAUST

Figure No. 1

ASSEMBLY OF GUIDE BAR AND CHAIN

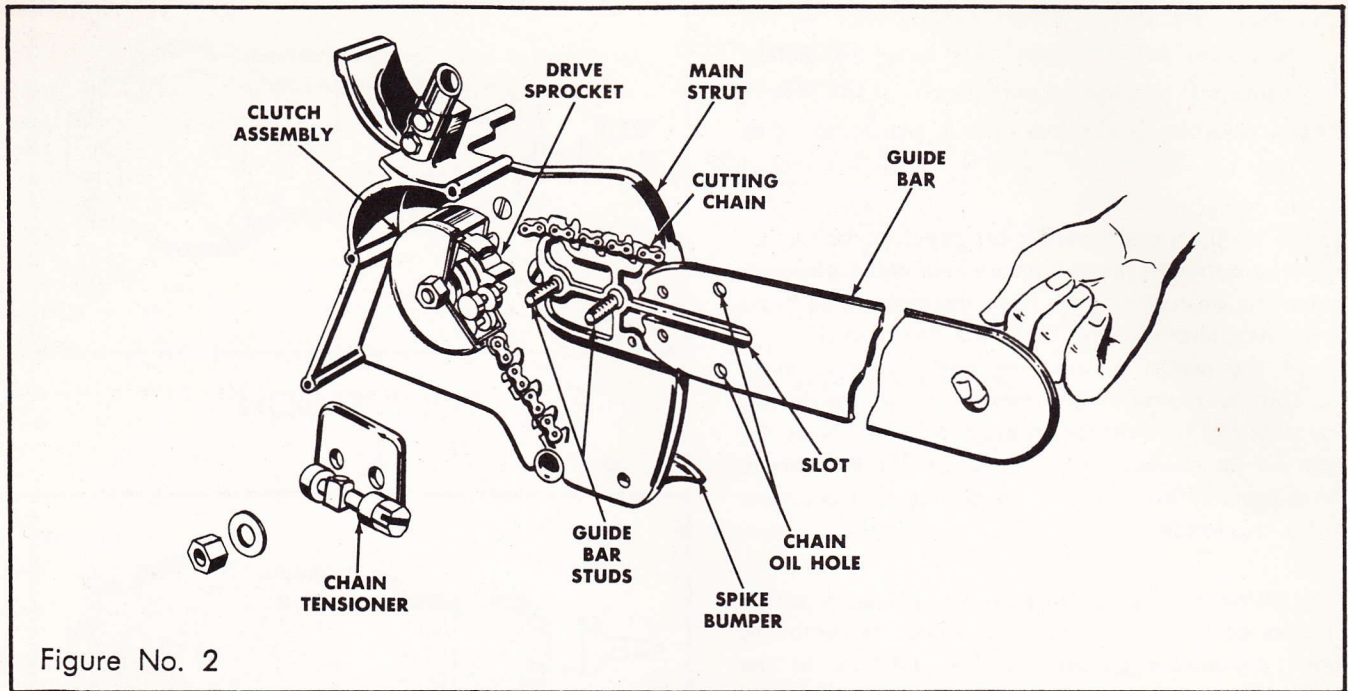


Figure No. 2

- 1 Slide the guide bar over the mounting studs to the full length of the guide bar slot. (See Figure No. 2)
- 2 Place the chain around the guide bar so that cutting edges of teeth on top of the guide bar point away from the engine unit.
- 3 Place the Chain over clutch drum onto the drive sprocket, then place drive links into bar groove.
- 4 Pull the guide bar out from the engine unit until the chain slack is taken up. Make sure that the chain drive links at the bottom of the bar are properly seated in the bar groove.
- 5 Place the tension plate on mounting studs with the flat pad against the guide bar.
- 6 Make sure that the chain tension lug, located in the chain tension plate, fits into the slotted holes.
- 7 Put washers and nuts on the guide bar mounting studs to make them snug, but not tight, against the guide bar mounting plate.
- 8 While holding with upward pressure at end of guide bar, turn tension adjusting screw clockwise until the chain has a free sag of $\frac{1}{8}$ inch from the bottom of the guide bar on stellite tip bars. On roller nose bars the chain should be snug. If the blade is not in the up position as high as it will go against the guide bar studs, it will cause excessive wear on the top of the guide bar closest to the sprocket.
- 9 Securely tighten the mounting stud nuts and then re-check for proper chain tension. If the tension has changed, then loosen the mounting stud nuts and repeat the procedure outlined in step 8.
- 10 Be sure the chain is properly tensioned at all times. Check it often. A chain that is too tight will interfere with proper cutting and will cause serious damage to the guide bar and the engine. **CAUTION:** Check and maintain chain tension for long life and best operation. Use extra care with a new chain until the stretch, which is most noticeable in the first hour of cutting, is eliminated.

CAUTION — Never Adjust Chain Tension While Engine Is Running.

FUEL PREPARATION AND LUBRICATION

Correct fuel mixture is one of the most important points in operating your engine. Follow these instructions carefully, and **DO NOT POUR UNMIXED GASOLINE OR OIL INTO THE FUEL TANK.**

Type of Oil

Use SAE #30 motor oil outboard. A detergent oil or oil containing additives is not advised.

Type of Gasoline

A good grade of regular gasoline, available at your local filling station, is recommended for use in your chain saw engine. High octane or premium fuels offer no advantages and **ARE NOT** advised.

Mixing Ratio of Oil to Gasoline

Thoroughly mix $\frac{3}{4}$ pint of oil with each gallon of gasoline. This rich oil mixture may cause difficulty

with idling, but it is necessary to properly wear in the various parts of the engine. After 5 hours break-in ratio may be changed to not less than $\frac{1}{2}$ pint to 1 gallon of regular gasoline.

Chain and Guide Bar Lubrication

A positive action oil pump located in the lower portion of the fuel tank (See Figure No. 3) provides ample lubrication to the cutting chain and guide bar. Fill this oil reservoir with new SAE #30 oil, being sure to keep the oil level in the reservoir above the intake tube of the oil pump. When the reservoir is filled and cap replaced, push the oil pump plunger a couple of times until pressure is felt, or until you see oil appearing on the guide bar opposite the oil fitting in the main strut. In extremely cold weather, or when cutting wood which contains a lot of pitch, sap or resin, use a 50-50 mixture of kerosene and oil in the oil reservoir. This will provide good lubrication as well as keeping the guide bar groove and chain comparatively clean.

SAFETY AND FIRE PRECAUTIONS

Your Chainsaw is well-built for maximum safety and efficiency, but carelessness in operation can cause accidents. Read the following suggestions carefully, and remember them as you work with your saw.

1. Do not start the engine in a closed room. Have ample ventilation at all times.
2. Do not touch the chain when the engine is running even at a slow speed.
3. Keep engine adjusted to an idle speed which stops the chain completely.
4. Do not move the chain from one location to another without first stopping the engine.
5. Be sure that the spike bumper (abutment strut) is flush against the sawing log to keep the engine unit from being pulled against the log.
6. Do not operate your chain saw when it needs repair.
7. Do not allow the saw to run while on a cement floor.
8. Do not run saw when it is dull or improperly filed.
9. After refueling, move the engine a few feet away from the fueling site.
10. Keep chain saw clean of dust and inflammables, and check to see that spark plug and electrical connections are tight.

Note! Never Carry the Chain Saw from Place to Place with the Engine Running.

BREAK-IN PERIOD

In order to obtain maximum efficiency and service from your chain saw, it is necessary that the engine be operated during a break-in period of approximately five (5) hours. Never operate the engine without load or allow it to become overheated. Proper breaking in of key parts will have much to do with

the life of your engine. Be sure to check often for loose nuts and screws and make all necessary adjustments. Periodic inspection and service by your authorized Clinton Service Dealer will result in long life and good performance of your Chainsaw.

CHAIN SAW CONTROLS

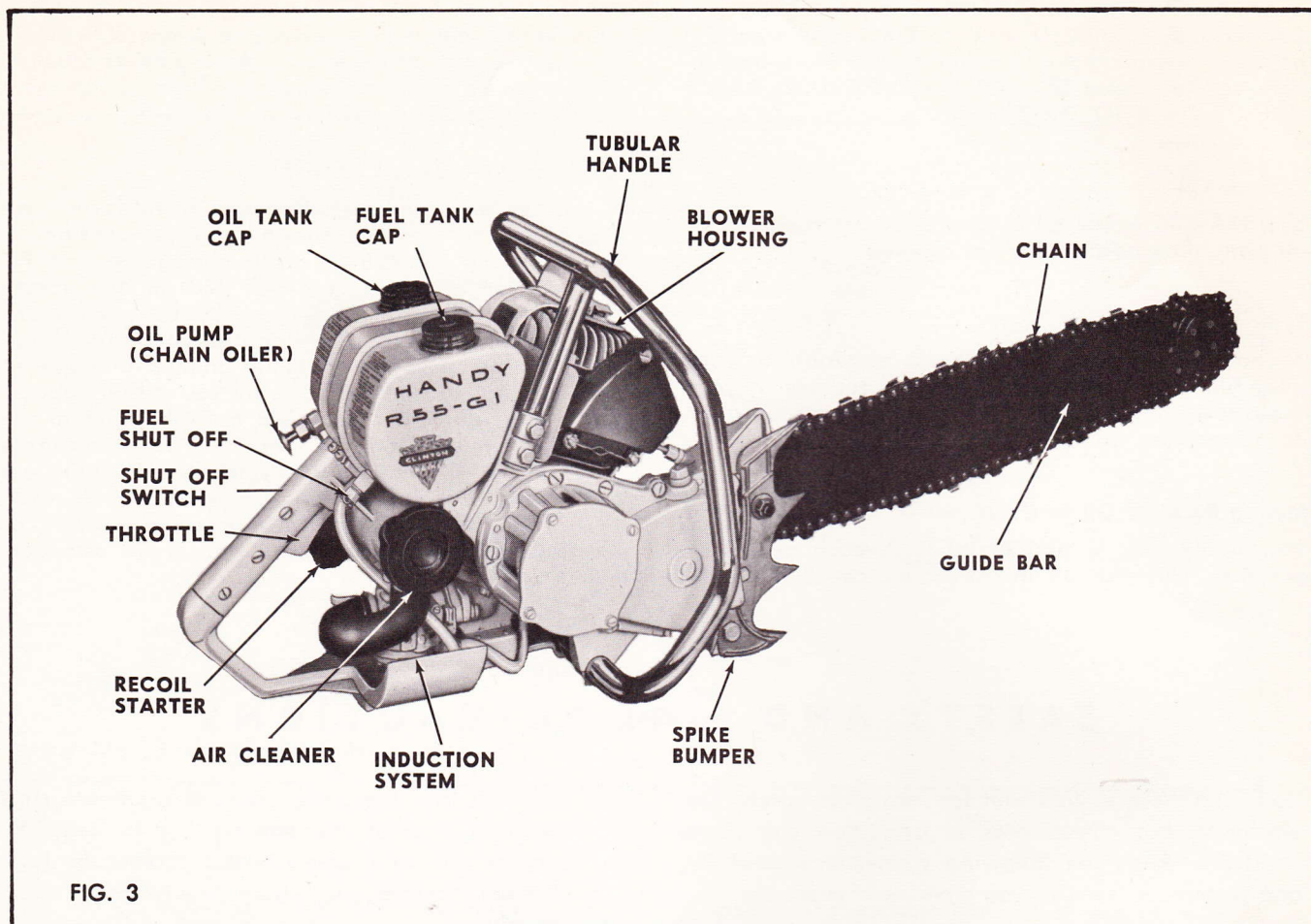


FIG. 3

Major controls on your chain saw are conveniently grouped around the hand grip assembly for finger tip action. You will find your saw easy to manage once you associate the following controls with their locations on the saw. (See Figure 3.)

THE RECOIL STARTER—Located on the left side of the unit. A slight pull will engage the starter with the engine and a spring disengages it when the tension is relieved. **CAUTION:** The starter cable when pulled out, should not be released abruptly and allowed to snap back into its socket. Release slowly to permit complete re-winding.

THE CHAIN OILER—Manually operated, plunger type oil pump, located in the lower portion of the fuel tank just above the hand grip. This system forces oil to the guide bar and chain for positive lubrication.

FUEL SHUT-OFF VALVE—On the bottom of the fuel tank at the lower right. To open, turn counter-clockwise until a slight tension is noticed.

THE THROTTLE CONTROL—Trigger-type, located on the handle grip. The engine speed, or throttle opening, is increased by squeezing the trigger upward into the handle.

THE HIGH SPEED MIXTURE ADJUSTMENT SCREW—Located on the left side of the carburetor. The adjustment is used to obtain proper fuel and air mixture, make the engine run smoothly and achieve maximum power.

THE IDLE FUEL MIXTURE ADJUSTMENT SCREW—This device is found on the left side of carburetor. It is used to obtain smooth and proper idling speed.

THE CHOKE LEVER—Located on the left side of the carburetor just above the adjustment screws.

THE FUEL PUMP—Located in lower section of carburetor maintains proper fuel supply to the carburetor.

THE IGNITION SWITCH—Toggle-type, located directly under fuel tank.

STARTING PROCEDURE

ADJUSTMENT INSTRUCTIONS

To properly adjust carburetor for best performance the engine must be thoroughly warm.

INITIAL ADJUSTMENTS

To start a new engine: First, carefully close by turning clockwise, both Idle and Main Adjustment Screws (Ref. 7 & 19)—located either below air intake opening or at left side of carburetor. Now open Main Adjustment Screw (Ref. 19) counterclockwise approximately one and one-quarter turns ($1\frac{1}{4}$). Open Idle Adjustment Screw (Ref. 7) three-quarters ($\frac{3}{4}$) turn. Back Idle Speed Regulator Screw off its contact with Throttle Stop Lever then turn it inward about one (1) full turn so as to slightly open Throttle Shutter (Ref. 11).

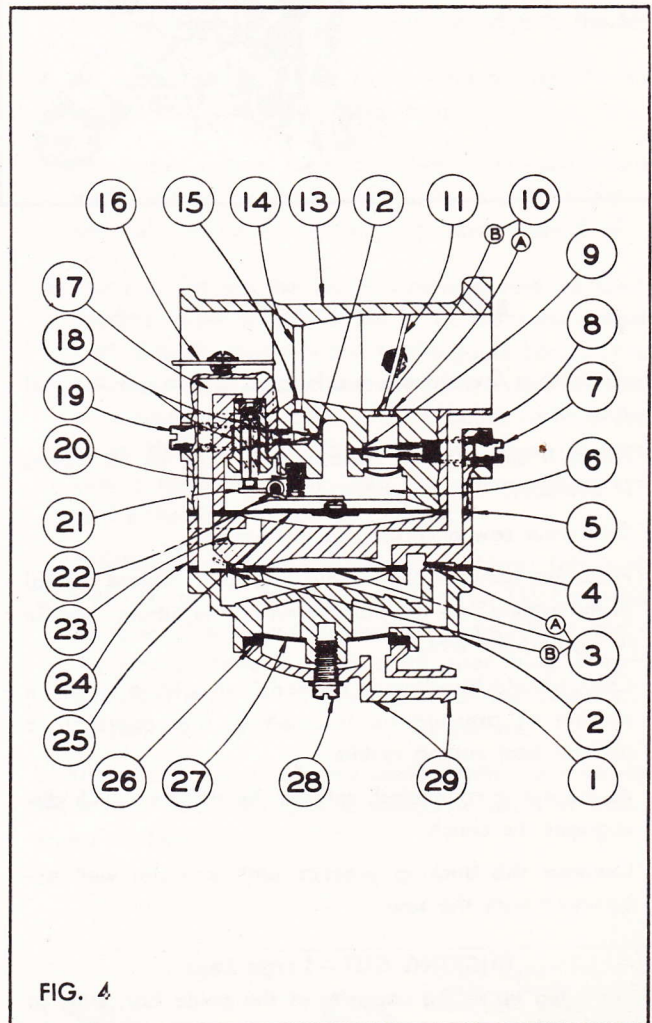
Open fuel shut off valve, choke carburetor, put ignition switch to "ON" position, squeeze throttle trigger and give firm quick pull on starting cord. When engine fires, decrease the choke slightly and ease off the

throttle trigger. Do not race engine, gradually decrease the choke to full open position as engine warms. Then make several test cuts and if necessary, to keep engine from stalling, slightly increase opening of the Main Adjustment Screw (Ref. 19).

FINAL ADJUSTMENTS

Now close throttle and readjust Idle Speed Regulating Screw so engine idle speed is at approximately 1800 to 2200 RPM and without chain turning or throttle trigger being depressed. Then, slowly readjust Idle Adjustment Screw (Ref. 7) to obtain smooth and even engine performance, after which enrichen the mixture slightly above this setting to provide sufficient fuel for quick acceleration. Finally, with saw functioning under a cutting load, slowly readjust Main Adjustment Screw (Ref. 19) to obtain even cutting speed. This setting will vary between one (1) to one and one-half ($1\frac{1}{2}$) turns open.

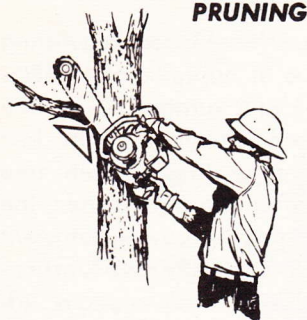
1. Fuel Inlet
2. Fuel Pump Body
3. Fuel Pump Diaphragm
- 3A Fuel Inlet Check Valve
- 3B Fuel Outlet Check Valve
4. Fuel Pump Gasket
5. Diaphragm Cover Gasket
6. Diaphragm Chamber
7. Idle Adjustment Screw
8. Impulse Channel
9. Idle Fuel Adjustment Orifice
- 10A Primary Idle Discharge Port
- 10B Secondary Idle Discharge Port
11. Throttle Shutter
12. Main Fuel Adjustment Orifice
13. Body
14. Venturi
15. Main Fuel Discharge Port
16. Choke Shutter
17. Fuel Inlet Supply Channel
18. Inlet Needle & Seat
19. Main Adjustment Screw
20. Inlet Tension Spring
21. Inlet Control Lever
22. Fulcrum Pin
23. Atmospheric Vent Hole
24. Diaphragm Cover
25. Diaphragm
26. Strainer Gasket
27. Fuel Inlet Screen
28. Strainer Cover Retaining Screw
29. Strainer Cover



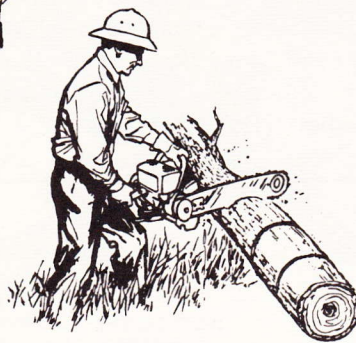
THE CUTTING OF SMALL LIMBS IS CALLED *PRUNING*.

Pruning Before Felling: Cut from bottom of limb—larger limbs should be undercut, with the final cut made from the top several inches farther out from the trunk.

Pruning After Felling: Always keep the saw blade moving away from the operator.



PRUNING



BUCKING

BUCKING CUT — Small Logs

Try bucking a few stove wood lengths, just to get the feel of your saw.

1. Select a suitable log approximately 12 to 18 inches in diameter.
2. Start your saw according to instructions.
3. Place one hand on the handle grip for complete control of the engine. Use the other hand on the tubular handle to support the unit.
4. Chain should be allowed to feed itself with a minimum amount of pressure on the unit by the operator to achieve best cutting results.
5. As the cut is completed, release the throttle which disengages the clutch.
6. Continue this bucking practice until you are well acquainted with the saw.

BUCKING CUT — Large Logs

To cut a log up to the capacity of the guide bar, start at the top of the log.

1. Raise the power unit and lower the cutting mechanism to begin your cut on the side of the log that faces away from you.

2. Notice that sawing action holds the saw against the log. (See Figure No. 5).
3. After tilting the unit to the maximum angle (about 35°) for the initial cut, pull the chain saw toward you.
4. Repeat this rocking motion until the cut is completed.
5. **CAUTION:** As the cut nears completion you must be careful to keep the sawing unit from entering the ground. It is sometime possible to roll the log forward and complete the cut from the opposite side, but often this cannot be done, and extreme care is necessary.
6. Release the throttle as you complete the cut, and this action disengages the clutch.

OPERATOR MAKING FINAL CUT (FELLING) PREPARATORY TO FELLING THE TREE.



FELLING CUT

Direction of fall is controlled by the notch.

NOTCHING AND FELLING

For this type of operation rotate the guide bar in a horizontal position against the tree. **DO NOT** allow spectators within six feet of the chain when it is running.

1. Remember that the undercut notch guides the fall of the tree and should be made with care. By holding your saw at the desired angle any type of notch can be made, but plan carefully. (See Figure No. 6).
2. As you start your felling cut remember to **LEAVE HOLDING WOOD** (See Figure No. 6) or the tree might spin out of control.
3. Think before you cut!

CHAIN MAINTENANCE AND FILING INSTRUCTIONS

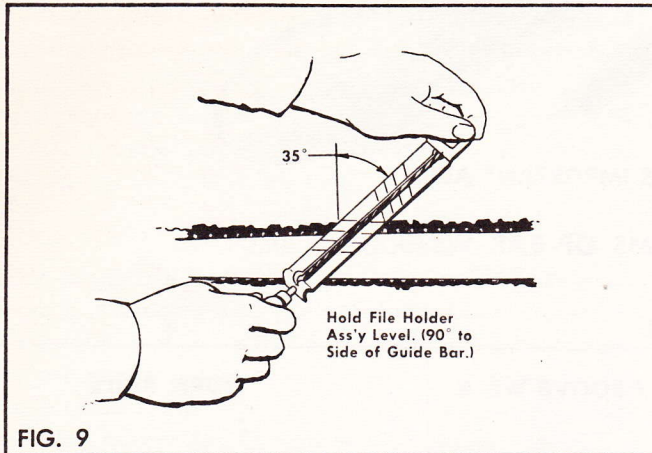


FIG. 9

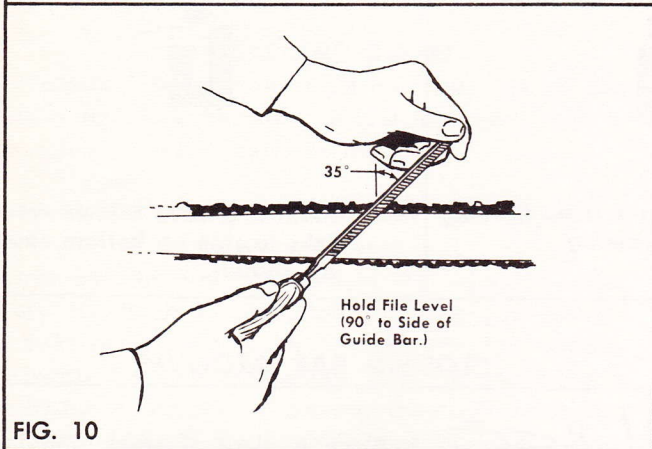


FIG. 10

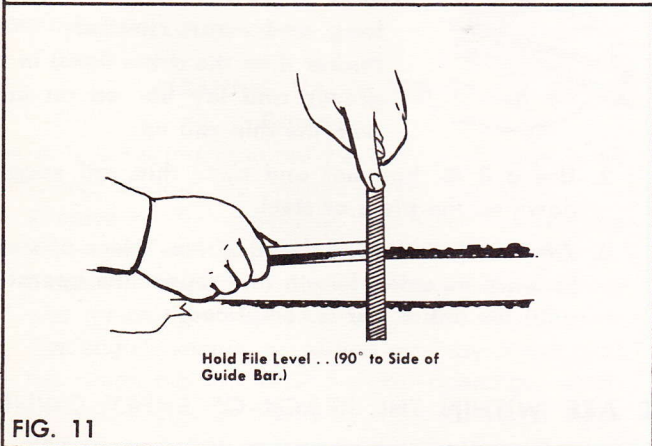


FIG. 11

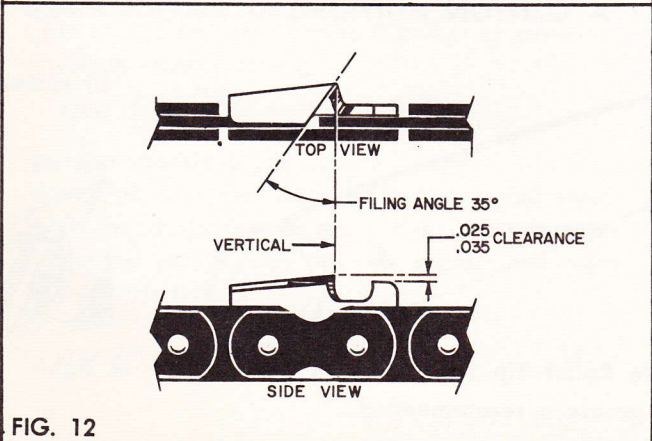


FIG. 12

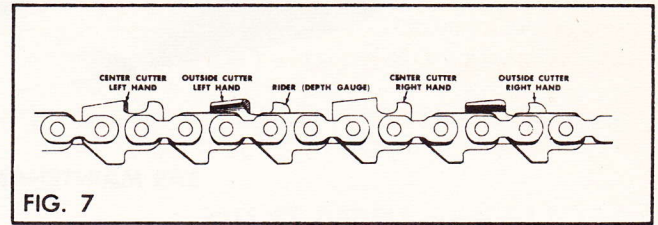


FIG. 7

1. Place chain in chain filing vise or straight edge vise if possible.
2. Place file holder assembly over rounded cutting tooth. (See Fig. 9) The left hand cutting tooth should be sharpened from the right side and the right hand tooth from the left hand side. Line up filing angle marks on holder with guide bar. Hold file level or 90° to the guide bar.
3. Two or three firm strokes (with pressure applied on the forward stroke) should give a keen edge to the tooth.
4. All teeth must have the same filing angles, the same length, and riders the same height.
5. The center cutters, located between the curved cutting teeth, should be filed with a flat file (See Fig. 10) after all the curved cutting teeth have been filed.
6. Using a flat file the center cutters should be filed on leading edge at 35° angle or at the same angle as cutting teeth. Hold file 90° to the guide bar. Take care that the top of the center cutters are even with the top of curved cutting teeth or .005 below curved cutting teeth. Make sure that they are never above the curved cutting teeth. When finished the center cutters should all be the same length and height.
7. The final step is to file the riders down. This is done with the use of a depth gauge (See Fig. 11). Care should be taken that all riders have the same height and that the leading edge is rounded off after filing. Set riders on direct drive chain saws at .025. Set riders on reduction drive models at .035. See picture.

NOTE: In soft wood, the saw chain depth riders on direct drive may be set at .035 on reduction drive at .045 for faster cutting.



FIG. 8

BAR MAINTENANCE



BAR MAINTENANCE IS IMPORTANT ALSO.

THREE MAJOR FORMS OF BAR WEAR

1	2	3
UNEVEN RAIL WEAR	UNEVEN INSIDE GROOVE WEAR	WORN RAILS
<p>Causes cut to bend or "run" ... chain to bind in cut.</p>	<p>Causes friction and heat binding and general inefficiency.</p>	<p>Shallow groove allows drive links to ride on bottom caus- ing chatter.</p>

JOINTING BAR RAILS



Jointing is the process of making the two rails level and square with each other so as to provide proper bearing surfaces for the bottoms of the tie straps and cutters.

Jointing should be done by your dealer whose shop is equipped to render this service. You can make temporary repair by using the flat file A401906 to even the rails.

CLOSING BAR GROOVES

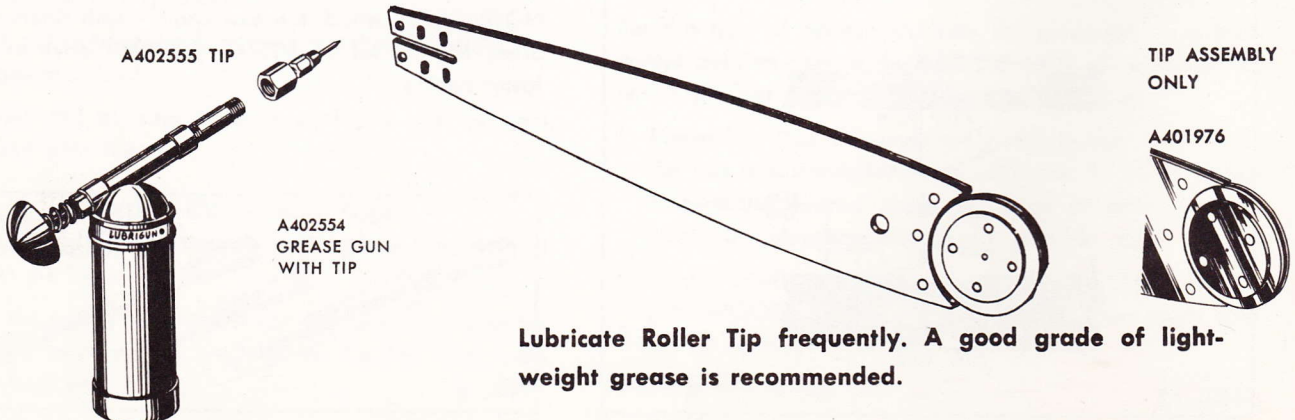


1. Place a piece of steel (about 6" long and approximately .004" thicker than the drive links) in the groove and lay bar on an anvil with the thin rail up.

2. Use a 3 lb. hammer and close thin rail snugly down on the piece of steel.

3. After each section is closed, drive "piece of steel" forward its entire length and repeat the operation until the entire bar is completed.

BAR MAINTENANCE DUTIES DESCRIBED ABOVE ARE WITHIN THE REACH OF EVERY OWNER. ADDITIONAL DUTIES SHOULD BE HANDLED BY A CLINTON AUTHORIZED SERVICE MAN.



Lubricate Roller Tip frequently. A good grade of light-weight grease is recommended.

SERVICE TIPS

FUEL SYSTEM

The fuel system in your Chainsaw is composed of fuel lines and orifices. It utilizes an automatic fuel pump which puts the proper mixture into action throughout the system. Fuel system defects can cause serious trouble throughout your Chainsaw. At the first sign of trouble of this kind, consult your dealer.

OIL PUMP OPERATION

Since proper lubrication of chain and guide bar is so important, be sure to notice any failure in this system. If oil fails to flow to the guide bar and chain when the oil pump plunger is pushed, or if there is no pressure on the plunger, the pump is not functioning. See your authorized Clinton Service Station Dealer.

GAS CAP AND GASKET

The plastic filler cap like most gas caps has an air-hole in it. This is because the fuel tank must take in air when a vacuum exists in the tank.

MAGNETO ASSEMBLY AND IGNITION SYSTEM (Flywheel Type)

Remember the magneto should be inspected after every 100 hours of operation. If the engine refuses to start or is hard to start, check the gas supply, carburetion system and spark plug. (If the latter is badly burnt, replace.) If the engine still does not start see your authorized Clinton Service Dealer for magneto inspection and repair.

CLEANING VALVE PORTS

Exhaust

The only servicing required for the valve ports is an occasional cleaning to remove carbon deposits.

1. Remove muffler assembly from Chainsaw engine which will expose the exhaust valve ports.
2. Clean with suitable instrument capable of scraping and removing carbon deposits within these ports.
3. The engine should be turned over by hand until the piston moves below the port openings, which will allow greater access for the cleaning of these ports.
4. Care should be taken not to damage or score top of piston when cleaning.

BOW SAW

1. Remove straight guide bar and chain.
2. Mount the Bow Saw blade on the guide bar studs.
3. Place the chain tension plate over the mounting studs and secure with the two replacement nuts in the Parts Bag.
4. For easy installation of chain
 - a. Loosen the tension adjustment.

- b. Place the chain over the drive sprocket and continue to seat it along the blade groove.
- c. Adjust the chain to proper tension by using the adjustment nut.
- d. Start the engine and use the chain oiler freely while the chain is in motion.

HELPERS HANDLE

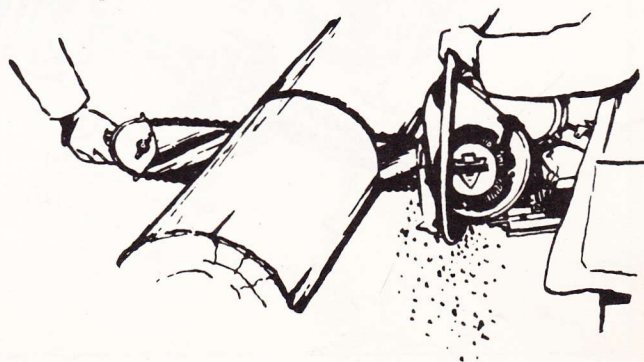
For specialized sawing operations which require the use of the long guide bar, the Clinton Chainsaw can be fitted with a Helpers Handle for two-man use.

This assembly is in two parts. A mounting stud on the handle-and-guard half slips through the slotted hole in the rounded end of the guide bar. Note that the lugs on either side of the mounting stud engage the slot to position the handle securely. The cover half is then placed over the stud and secured with a washer and wing nut. **Note:** You may have to knock out a tapered plug in the guide bar to install the helpers handle.

MAINTENANCE

By making the following practices a habit you can help keep your saw in good running order and avoid repairs that neglect might make necessary.

1. Remove sawdust and dirt daily so that a thorough inspection can be made.
2. Tighten any loose nuts or screws.
3. Check fuel and oil lines for leaks, especially at connection points.
4. Check air filter and brush off dirt.
5. Do not use compressed air to remove dust or dirt from the OUTSIDE of the carburetor, since particles may be blown into the mechanism if you do.
6. Check muffler and exhaust ports periodically, when the loss of power is apparent. If ports are dirty, clean them.
7. As often as necessary remove the cutting chain from the guide bar and allow it to soak overnight in a pan of kerosene to remove the sap and resin deposits and to provide lubrication for all parts of the chain.
8. If you notice symptoms of trouble but cannot find the cause, check with your authorized Clinton Service Dealer, and be sure your saw is in good running order.

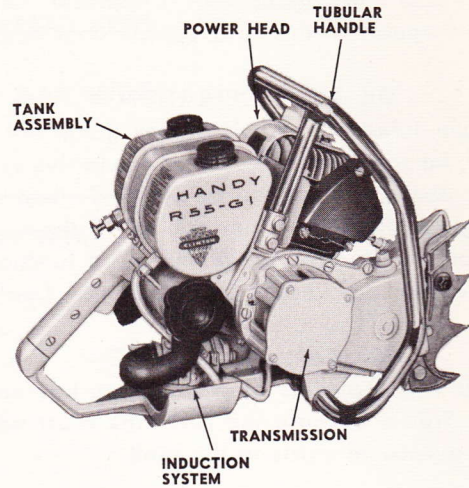


CHAINSAWS

HOW TO IDENTIFY

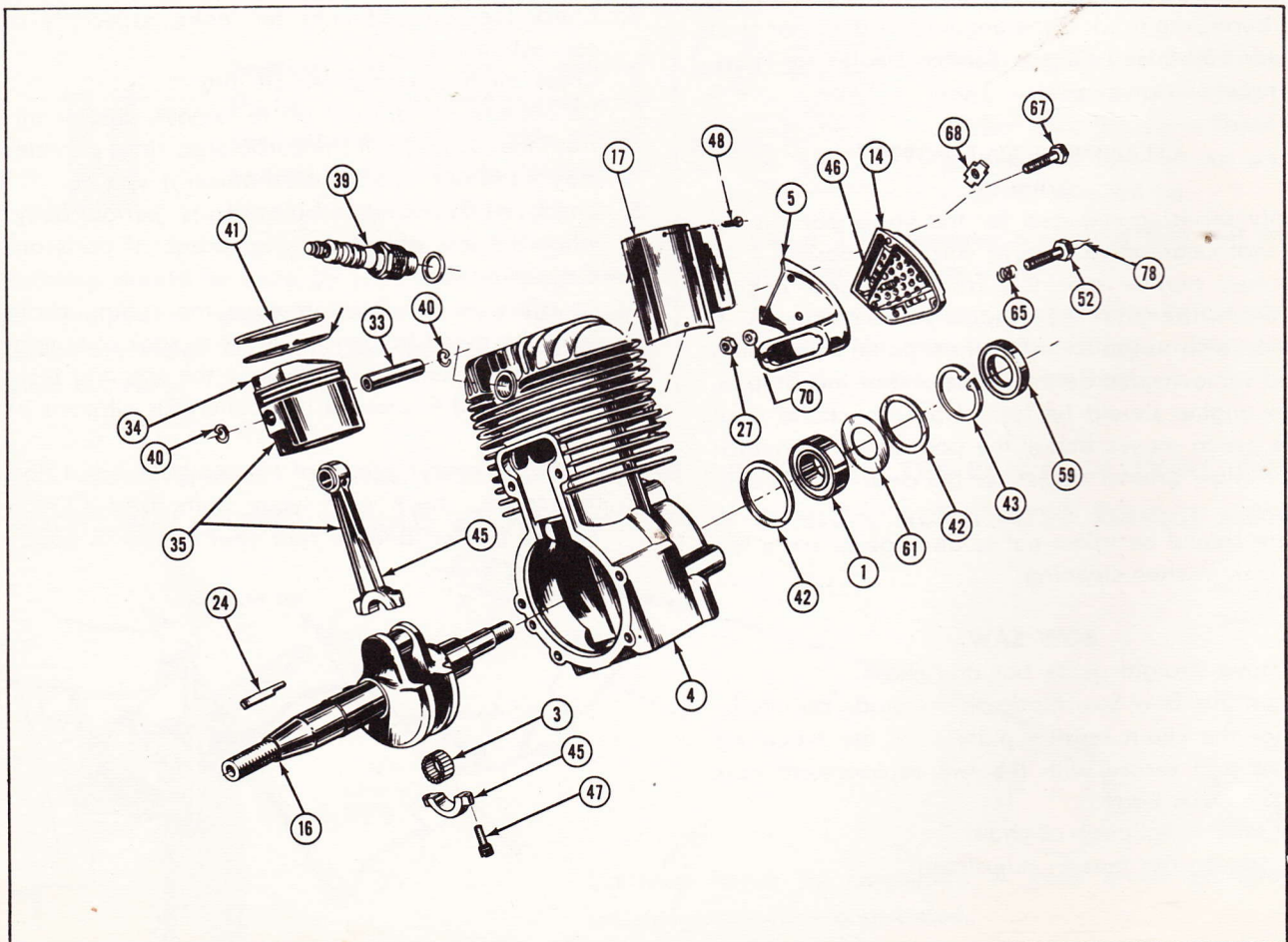
Each Digit in the Six Digit "TYPE" number stamped on the nameplate of your Chainsaw refers to a **Specific** Type of Assembly for each of the SIX Sub-Assemblies making up the complete Chainsaw. The illustrated Parts List for All Types of each Digit is found in the Parts Section. Identify the parts or assembly in which you are interested and find the part number in one of the Parts Lists making sure you have the right part number for the **TYPE** of Sub-Assembly used on your Chainsaw. ALWAYS ORDER BY PART NUMBER.

CHAINSAW MODEL	TYPE OF POWER HEAD	TYPE OF FUEL TANK	TYPE OF INDUCTION SYSTEM	TYPE OF SHROUD STYLE	TYPE OF TRANSMISSION OR RED. HSG.	TYPE OF TUBULAR HANDLE
D00	00	00	00	None Used	00	0



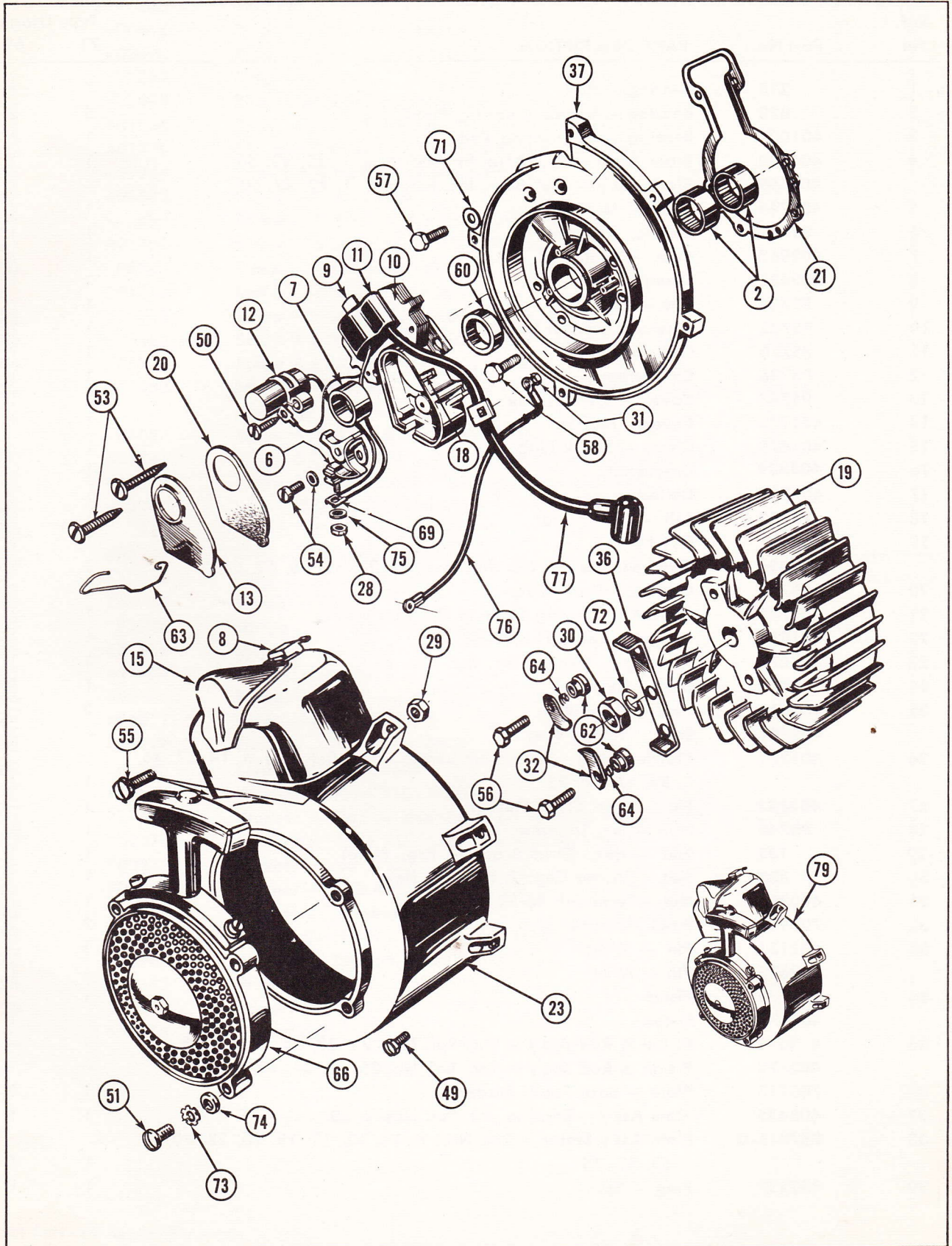
FIRST DIGIT — POWERHEADS

NOTE: The Powerhead is indicated by the first digit in the six digit Chainsaw Type Number found on the name plate.



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FIRST DIGIT — POWERHEADS

NOTE: The Powerhead is indicated by the first digit in the six digit Chainsaw Type Number found on the name plate.

Ref. No.	Part No.	PART DESCRIPTION	Type Usage	
			71	69
1	233	Bearing — Ball	1	1
2	820	Bearing — Needle (Bearing Plate)	2	2
3	401027	Bearing — Connecting Rod	1	1
4	401832	Block Ass'y — 2 1/8" Bore, Inc. Ref. Nos. 1, 42, 43, 60	1	1
	402699	Block Ass'y — 1 7/8" Bore, Inc. Ref. Nos. 1, 42, 43, 60	—	1
5	401744	Body — Muffler	1	1
6	P5735	Breaker Assembly	1	1
7	402967	Cam — Breaker	1	1
8	402633	Clamp — Draw Pull	1	1
9	P5734	Clip — Core	1	1
10	P5732	Core and Breaker Box Ass'y	1	1
11	P5770	Coil Assembly	1	1
12	P5736	Condensor	1	1
13	P5743	Cover — Breaker Box	1	1
14	401773	Cover — Muffler	1	1
15	401679	Cover — Spark Plug	1	1
16	403339	Crankshaft	1	1
17	402727	Deflector	1	1
18	P5742	Felt — Cam Wiper	1	1
19	402801	Flywheel	1	1
	402896	Flywheel Ass'y — Inc. Ref. Nos. 19, 32, 36, 56, 62, 64	1	1
20	P5744	Gasket — Dust Cover	1	1
21	700743	Gasket — Bearing Plate to Cylinder Block	1	1
22	401987	Gasket — Spark Plug Cover	1	1
23	401677	Housing — Blower, Inc. Ref. Nos. 8, 15, 22, 44	1	1
24	958	Key — Flywheel	1	1
25	400616	Lock — Piston Ring	3	—
	402701	Lock — Piston Ring	—	3
26	401761	Muffler Ass'y — (Not Numbered) — Inc. Ref. Nos. 5, 14, 27, 46, 52, 67, 70, 78	1	1
27	402822	Nut — Hex. S. H. Muffler	1	—
28	P5740	Nut — Hex, Terminal	1	1
29	132	Nut — Hex. (Strut Brace to Brg. Plate)	1	1
30	838	Nut — Starter Cup, 7/16 x 20 Hex.	1	1
31	400269	Nut — Terminal, #6-32	1	1
32	700915	Pawl — Starter	2	2
33	402131	Pin — Wrist	1	—
	402673	Pin — Wrist	—	1
34	403086	Piston	1	—
	402671	Piston	—	1
35	403090	Piston & Rod Ass'y — Inc. Ref. Nos. 25, 33, 34, 40, 41, 45	1	—
	402672	Piston & Rod Ass'y — Inc. Ref. No. 25, 33, 34, 40, 41, 45	—	1
36	700913	Plate — Base Pawl, Starter	1	1
37	403425	Plate Ass'y — Bearing, Inc. Ref. Nos. 2, 60	1	1
38	P57316-G	Plate Ass'y Stator — Ref. Nos. 6, 11, 12, 13, 18, 20, 28, 50, 54, 63, 69, 75	1	1
39	402237	Plug — Spark	1	1

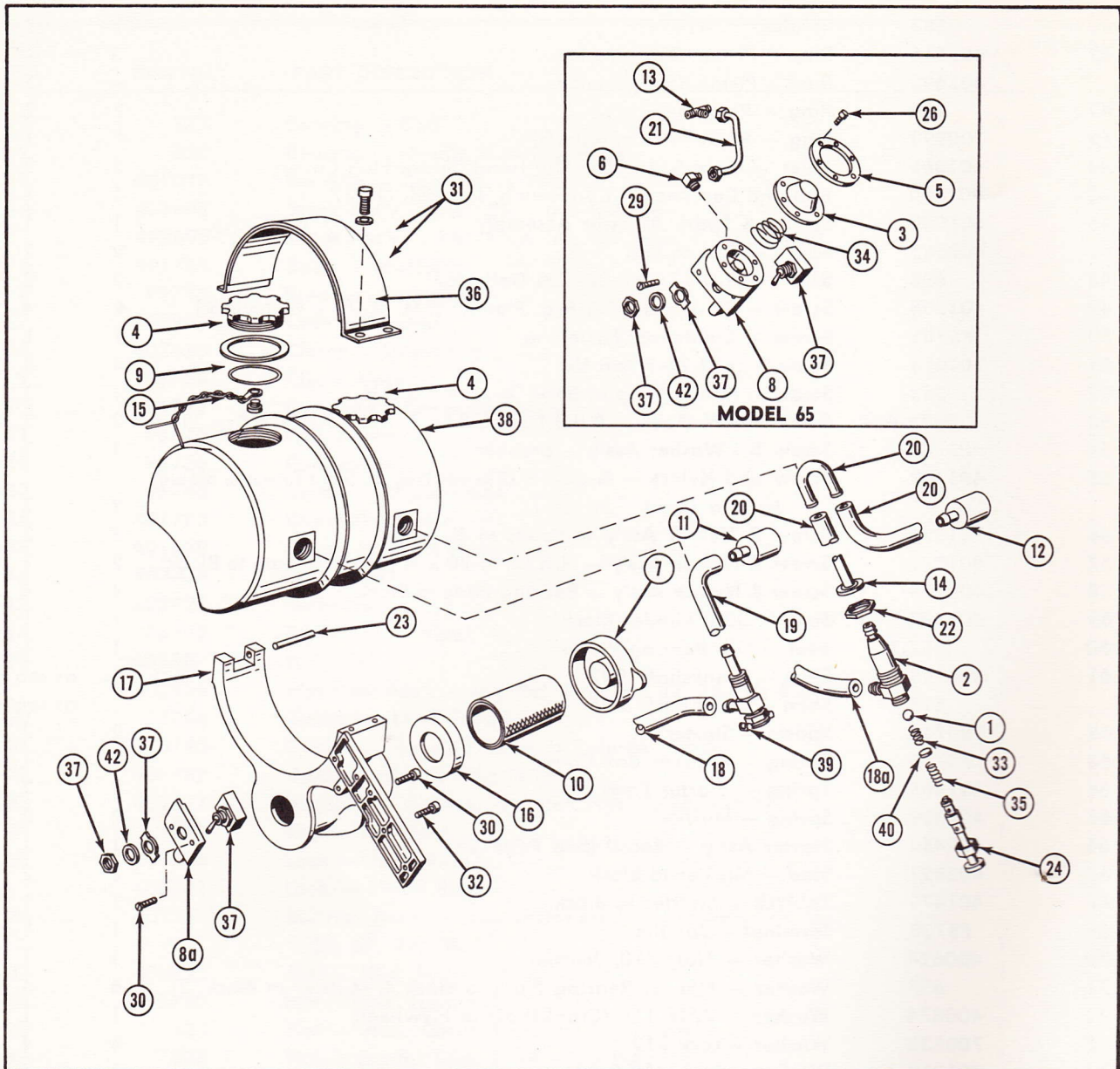
FIRST DIGIT — POWERHEADS

Ref. No.	Part No.	PART DESCRIPTION	Type Usage	
			71	69
40	663	Retainer — Wrist Pin	2	2
41	400615	Ring — Piston, Compression	3	—
	402698	Ring — Piston, Compression	—	3
42	234	Ring — Retainer	2	2
43	700893	Ring — Retainer (Crankshaft)	1	1
44	401866	Rivet — 1/8 x 3/16, Lg. Flat Head (Spark Plug Cover)	2	2
45	401770	Rod and Cap Ass'y — Connecting, Inc. Ref. No. 47	1	1
46	401949	Screen & Spark Arrestor Assembly	1	1
47	400585	Screw — Cap to Rod	2	2
48	698	Screw — R.H.S.T., #8-32 x 3/8 Deflector	2	2
49	401708	Screw — Blower Hsg. to Brg. Plate, F.H.M. 1/4-20 x 7/8 (Nylock)	4	4
50	P5741	Screw — Condenser Fastening	1	1
51	701013	Screw — #12-24-1 Pan Hd.	4	4
52	363	Screw — Muffler Cap to Body 1/4-20 x 1 S.H.H.	1	1
53	5682-A	Screw & L.W. Ass'y — P.H.S.T., #10-24 x 1, Mag. Ass'y to Brg. Plate	2	2
54	P5737	Screw & L'Washer Ass'y — Breaker	1	1
55	401103	Screw and Nylock — 1/4-20-1 1/2 (Blower Hsg. to Strut Brace & Blower Hsg. to Tank)	2	2
56	701028	Screw & Nylock Ass'y — Pawls to Flywheel	2	2
57	401941	Screw & Nylock Ass'y — H.H.C., 1/4-20 x 7/8 (Bearing Plate to Block)	2	2
58	400179	Screw & Nylock Ass'y — Bearing Plate to Block	4	4
59	402407	Seal — Oil (Cylinder Block)	1	1
60	257-1	Seal — Oil (Bearing Plate)	1	1
61	400198	Shim — Crankshaft .002		as req'd
	515	Shim — Crankshaft .005		as req'd
62	700914	Spacer — Starter	2	2
63	P5745	Spring — Breaker Box Cover	1	1
64	401865	Spring — Starter Pawl	2	2
65	402309	Spring — Muffler	2	2
66	402454	Starter Ass'y — Recoil (See Page 28)	1	1
67	402821	Stud — Muffler to Block	2	2
68	401479	Tablock — Muffler to Block	1	1
69	P5738	Terminal — Jamtite	1	1
70	400624	Washer — Flat, #10, Muffler	1	1
71	657	Washer — Flat, 1/4 Bearing Plate to Block 4, Muffler to Block, 2)	6	6
72	400874	Washer — 7/16 I.D. (Crankshaft to Flywheel)	1	1
73	700838	Washer — Lock #12	4	4
*74	701012	Washer — Lock #12 Split	4	4
75	P5739	Washer — Terminal	1	1
76	403396	Wire — Shorting	1	1
77	402965	Wire — Hi-Tension, Lead	1	1
78	402532	Wire — Lock	1	1
79	403374	Powerhead	1	—
	403378	Powerhead	—	1

*Not Serviced Separately

SECOND DIGIT — TANK ASSEMBLY

NOTE: The Tank Assembly is represented by the second digit in the six digit Chainsaw Type Number found on the Name Plate.



Ref. No.	Part No.	PART DESCRIPTION	Type Usage	
			30	31
1	400446	Ball — Oil Check	—	1
2	401793	Body — Oil Pump	—	1
3	402441	Button — Rubber, Oil Pump	1	—
4	400569	Cap Assembly — Fuel & Oil Reservoir (Inc. Ref. Nos.)	2	2
5	402439	Clamp — Button to Oil Pump Body	1	—
6	402891	Connector — Male	1	—
7	401699	Cover — Air Cleaner	1	1
8	402880	Cover — Switch & Oil Pump Body	1	—
8A	401714	Cover Switch	—	1
9	400644	Diaphragm — Fuel Cap	1	1
10	402667	Element — Filter	1	1
11	401765	Filter — Fuel Pick-up	1	1

SECOND DIGIT — TANK ASSEMBLY

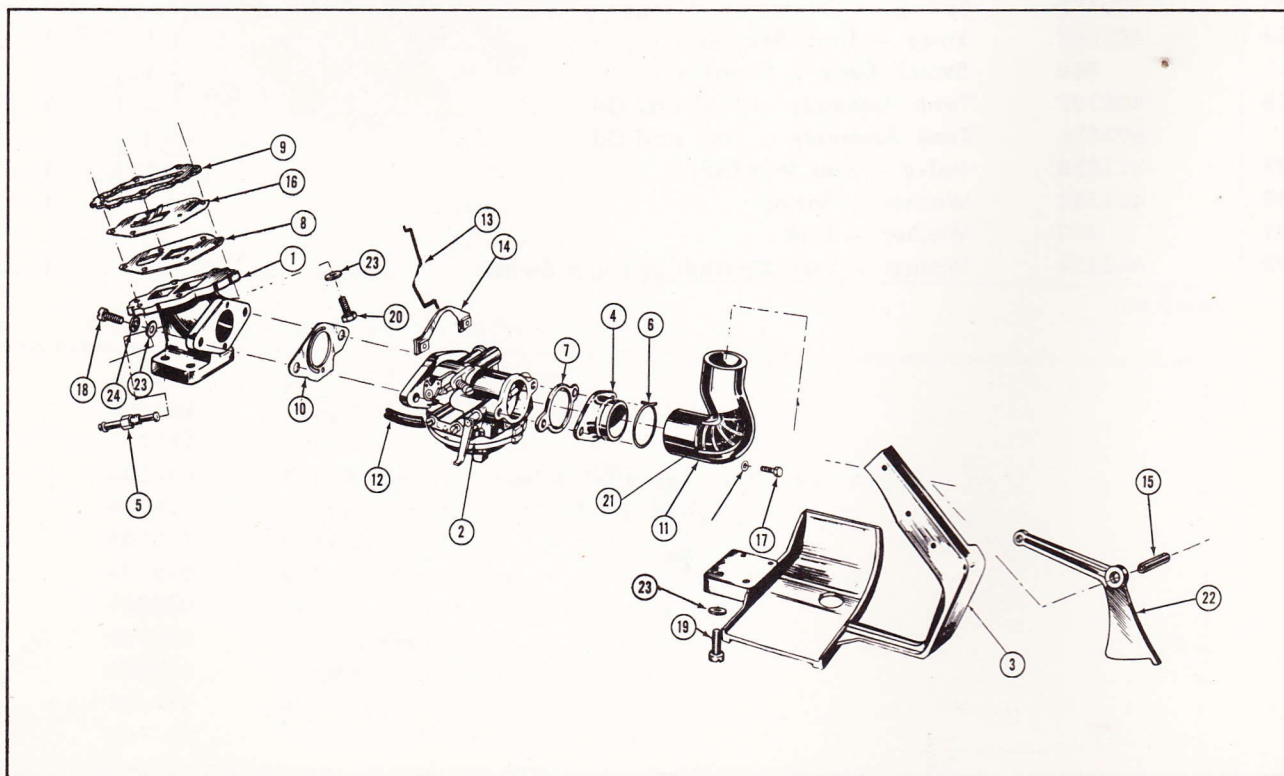
NOTE: The Tank Assembly is represented by the second digit in the six digit Chainsaw Type Number found on the Name Plate.

Ref. No.	Part No.	PART DESCRIPTION	Type Usage	
			30	31
12	402121	Filter — Oil pick-up	1	1
13	403422	Fitting — Oil Pump	1	—
14	400860	Gasket — Oil Pump to Tank	—	1
15	400645	Gasket — Fuel Cap	1	1
16	401382	Grommet — Rubber	1	1
17	401686	Handle and Tank Saddle Casting	1	1
18	403421	Line — Fuel (Rubber)	1	—
	401544	Line — Fuel (Rubber)	—	1
19	401497	Line — Molded Snake	2	2
20	402419	Line Assembly — Oil	1	—
21	403423	Line Assembly — Oil	1	—
22	400544	Nut — Oil Pump, Adjustment	—	1
23	400863	Pin — Roll	1	1
24	401327	Plunger — Oil Pump	—	1
25	401792	Pump Assembly — Oil (Ass'y includes Ref. Nos.)	—	1
26	402446	Screw — #4-40 x 3/8" (Switch Cover to Handle Casting)	1	—
27	671	Screw — 1/4-20 x 1 1/2 (Tank Saddle to Main Casting)	1	—
28	403071	Screw — S.H.C., 1/4-20 x 1 1/2 (Blower Housing to Bearing Plate to Tank Saddle)	1	1
29	401732	Screw — S.T.O.H. #8-32 x 7/8"	1	1
30	401704	Screw & Nylock Assembly — F. H., #12-24 x 7/8"	1	1
31	400189	Screw & Lockwasher Assembly — F.H., #10-24 x 5/8" (Nylock)	2	2
32	401733	Screw & Nylock Assembly — F.H. #12-24 x 3/4"	1	1
33	400447	Spring — Check Ball	—	1
34	402443	Spring — Oil Pump	1	—
35	400453	Spring — Oil Pump, Plunger	—	1
36	401700	Strap — Tank Retaining	1	1
37	860	Switch Ass'y — Shorting	1	1
38	402107	Tank Assembly — Fuel and Oil	—	1
	403416	Tank Assembly — Fuel and Oil	1	—
39	401878	Valve — Fuel Shut-Off	1	1
40	401332	Washer — Spring	—	1
41	480	Washer — Lock	1	—
42	400323	Washer — Lock (Special) Shorting Switch	1	1

THIRD DIGIT — INDUCTION ASSEMBLY

Note: The Induction Assembly is indicated by the third digit in the six digit Chainsaw Type Number found on the name plate.

Ref. No.	Part No.	PART DESCRIPTION	Type	Type	Type
			63	60	59
1	401848	Bracket — Induction	1	1	1
2	C402203	Carburetor — Tillotson, Diaphragm, H120AX	1		1
	C402113	Carburetor — Brown, 7CS	—	1	—
3	401687	Casting — Handle to Lower Mounting	1	1	1
4	401689	Connector — Air Cleaner Hose	1	1	1
5	401248	Connector — Bayonet Type	1	1	1
6	401701	Fastener — Hose	1	1	1
7	920	Gasket — Air Cleaner Mounting Plate	1	1	1
8	401612	Gasket — Induction Bracket to Reed Plate	1	1	1
9	401629	Gasket — Reed Plate to Block	1	1	1
10	401688	Gasket — Carburetor	1	1	1
11	401690	Hose — Air Cleaner	1	1	1
12	401528	Line — Hose Impulse	1	1	1
13	401692	Linkage — Throttle	1	1	1
14	681	Plate Assembly — Retaining	1	1	1
15	162	Pin — Roll, 1/8" x 7/8"	1	1	1
16	401616	Reed Plate Assembly — Induction	1	1	1
17	402126	Screw — F.H., #10-32 x 3/8" (Connector to Carb. — 2)	2	2	2
18	365	Screw — F.H.M., 1/4" x 20 x 7/8", Carb. to Ind. Brkt.	2	2	2
19	656	Screw — F.H.M., 1/4"-20 x 1" (Nylock), Ind. Brkt. to Handle	4	4	4
20	400177	Screw & Nylock Ass'y — S.H.H., 1/4"-20 x 7/8", Ind. Brkt. to Block	6	6	6
21	402307	Spring — Air Hose	1	1	1
22	401691	Trigger — Throttle	1	1	1
23	657	Washer — Flat, 1/4"	12	12	12
24	114	Washer — Lock, 1/4"	2	2	2

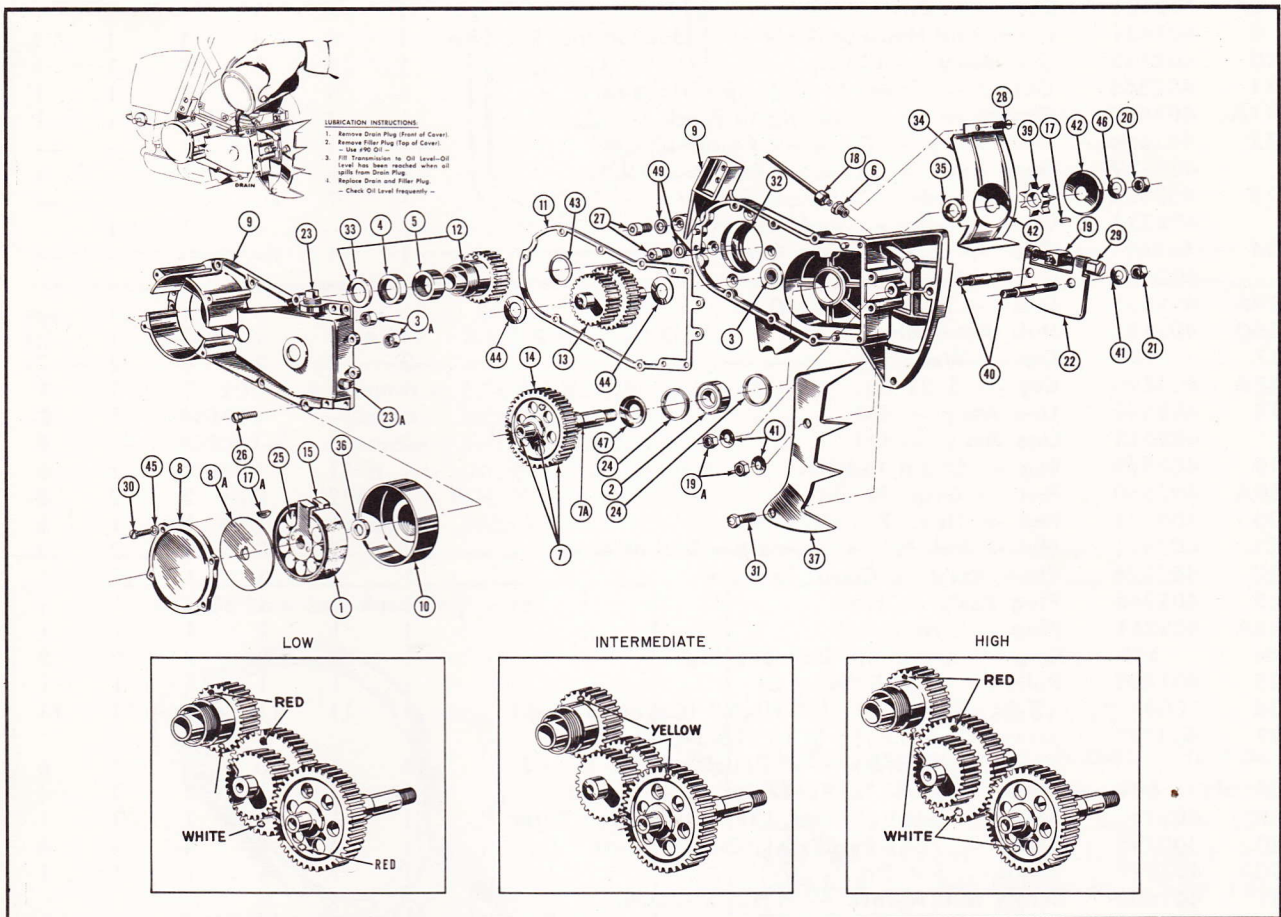


FIFTH DIGIT — TRANSMISSION ASSEMBLY

NOTE: The Transmission Assembly is represented by the fifth digit in the six digit Chainsaw Type Number found on the name plate.

G-1 Transmissions

Gear Range	Chain Speed	Type Number	Gear Ratio
Low Speed	775 F.P.M.	71-70	3.77-1
High Speed	1940 F.P.M.	73-72	1.5 -1
Intermediate Speed	1420 F.P.M.	69-68	2.05-1



Ref. No.	Part No.	PART DESCRIPTION	Quantity					
			Type 68	Type 69	Type 70	Type 71	Type 72	Type 73
1	402639	Band Assembly — Clutch	1	1	1	1	1	1
2	196	Bearing — Ball	1	1	1	1	1	1
3	402343	Bearing — Needle — Reduction Housing	1	1	1	1	1	1
3A	403433	Bearing — Needle, Reduction Housing Cover	2	2	2	2	2	2
4	402331	Bearing — Needle — Drive Gear (front)	1	1	1	1	1	1
5	402332	Bearing — Needle — Drive Gear (rear)	1	1	1	1	1	1
5A	403435	Clutch Assembly	1	1	1	1	1	1
6	402688	Connector — Oil Line	1	—	1	—	1	—
	403044	Connector — Oil Line	—	1	—	1	—	1
7	403429	Countershaft Ass'y — Color: Yellow, Inc. Ref. Nos.	1	1	—	—	—	—
	403439	Countershaft Ass'y — Color: Red, Inc. Ref. Nos.	—	—	1	—	—	—
	403440	Countershaft Ass'y — Color: Red, Inc. Ref. Nos.	—	—	—	1	—	—
	403438	Countershaft Ass'y — Color: White, Inc. Ref. No.	—	—	—	—	1	—
	403430	Countershaft Ass'y — Color: White, Inc. Ref. Nos.	—	—	—	—	—	1

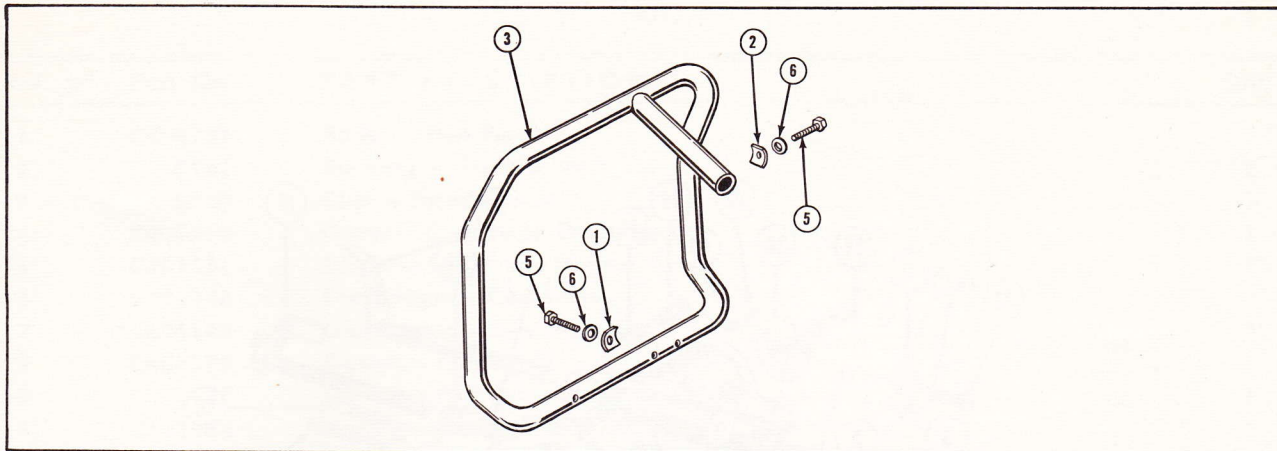
FIFTH DIGIT — TRANSMISSION ASSEMBLY

NOTE: The Transmission Assembly is represented by the fifth digit in the six digit Chainsaw Type Number found on the name plate.

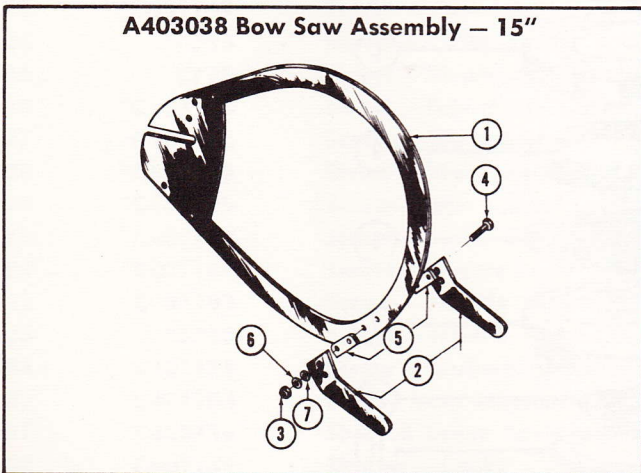
Ref. No.	Part No.	PART DESCRIPTION	Quantity					
			Type 68	Type 69	Type 70	Type 71	Type 72	Type 73
7A	403326	Countershaft — Not Illustrated	1	1	1	1	1	1
8	402338	Cover — Clutch	1	1	1	1	1	1
8A	403391	Cover — Dirt	1	1	1	1	1	1
9	403431	Cover and Housing Ass'y — Reduction Inc. Ref. Nos.	1	1	1	1	1	1
10	402335	Cup Ass'y — Clutch	1	1	1	1	1	1
11	402345	Gasket — Cover to Reduction Housing	1	1	1	1	1	1
11A	403434	Gasket — Red, Housing to Block	1	1	1	1	1	1
12	402696	Gear Ass'y — Drive — Color: Yellow	1	1	—	—	—	—
	402329	Gear Ass'y — Drive — Red and White	—	—	1	1	1	1
13	403325	Gear — Idler — Color: Yellow	1	1	—	—	—	—
	403324	Gear — Idler — Red and White	—	—	1	1	1	1
14	402691	Gear — Lo-Speed — Color: Yellow	1	1	—	—	—	—
	402322	Gear — Lo-Speed — Red	—	—	1	1	—	—
14A	402531	Gear — Hi-Speed — White	—	—	—	—	1	1
15	403182	Hub Assembly	1	1	1	1	1	1
17	184	Key — Woodruff	2	2	2	2	2	2
17A	403390	Key — 5/32 Sp.	1	1	1	1	1	1
18	403436	Line Ass'y — Oil	1	—	1	—	1	—
	403043	Line Ass'y — Oil	—	1	—	1	—	1
19	400985	Lug — Chain Tension	1	1	1	1	1	1
19A	402550	Nut — Grip, 3/8"-24	2	2	2	2	2	2
20	400642	Nut — Hex., 7/16"-20x3/8"	1	1	1	1	1	1
21	402521	Nut — Std. 3/8"-24, Guide Bar End of Studs	2	2	2	2	2	2
22	402324	Plate Ass'y — Chain Tension	1	1	1	1	1	1
23	402346	Plug Ass'y — Filler	1	1	1	1	1	1
23A	402351	Plug — Drain	1	1	1	1	1	1
24	195	Ring — Retaining, Ball Bearing	2	2	2	2	2	2
25	401803	Rollers — Clutch (Set of 8)	1	1	1	1	1	1
26	700877	Screw — Fil. Hd., 1/4"-20x3/4" (Cover to Hsg.)	11	11	11	11	11	11
27	403437	Screw — S.H.F.H., 5/16"-18-3Ax7/8" (Housing to Block — 4; Housing to Tank — 2)	6	6	6	6	6	6
28	698	Screw — R.H.S.T., #8-32x3/8", Dust Shield	1	1	1	1	1	1
29	402326	Screw — S.H.H., 5/16"-18x2 1/4", Tension Plate	1	1	1	1	1	1
30	400798	Screw — F.H., #8-32x5/8", Clutch Cover	4	4	4	4	4	4
30A	403393	Screw — Soc. Hd. 1/4"-20x3/4"	1	1	1	1	1	1
31	401403	Screw and Nylock — H.H., 3/8"-24x3/4", Spike Bumper to Strut	1	1	1	1	1	1
32	402341	Seal — Oil, Reduction Housing	1	1	1	1	1	1
33	402333	Seal — Oil, Drive Gear	1	1	1	1	1	1
34	402339	Shield — Dust	1	1	1	1	1	1
35	403338	Spacer — Sprocket	1	1	1	1	1	1
36	402899	Spacer — Clutch	1	1	1	1	1	1
37	402742	Spike Bumper	1	1	1	1	1	1
39	400221	Sprocket — (7-tooth)	1	1	1	1	1	1
40	402535	Studs — Guide Bar	2	2	2	2	2	2
41	507	Washer — Flat, 13/32"x13/32"x1/16"	5	5	5	5	5	5
42	402817	Washer — Chain Guide	2	2	2	2	2	2
43	402334	Washer — Thrust, Drive Gear	1	1	1	1	1	1
44	402328	Washer — Thrust, Idler Gear	2	2	2	2	2	2
45	110	Washer — #8, Clutch Cover	4	4	4	4	4	4
46	402	Washer — Flat	1	1	1	1	1	1
47	402323	Washer — Slinger	1	1	1	1	1	1
48	403392	Washer — Lock	1	1	1	1	1	1
49	700932	Washer — Flat 5/16"	6	6	6	6	6	6

SIXTH DIGIT — TUBULAR HANDLE ASSEMBLY

NOTE: The Tubular Handle Assembly is indicated by the sixth digit in the six digit Chainsaw Type Number found on the name plate.



Ref. No.	Part No.	PART DESCRIPTION	Qty.
1	201	Clamp — Tubular Handle	5
2	403415	Clamp — Joint	1
3	402367	Handle — Tubular (Steel)	1
4	400584	Nut — 1/4"-20, Grip (Not shown)	1
5	850	Screw — H.H. 1/4"-20x1 1/2	7
6	480	Washer — Lock 1/4"	7



IMPORTANT

Muffler Assembly No. 400686 with two (2) No. 400179 Screw and Nylock Assembly F.H. 1/4-20-3/4 and two (2) 400264 Screw 1/4-20-1 1/4 must be installed on unit before Bow Saw can be adapted for use.

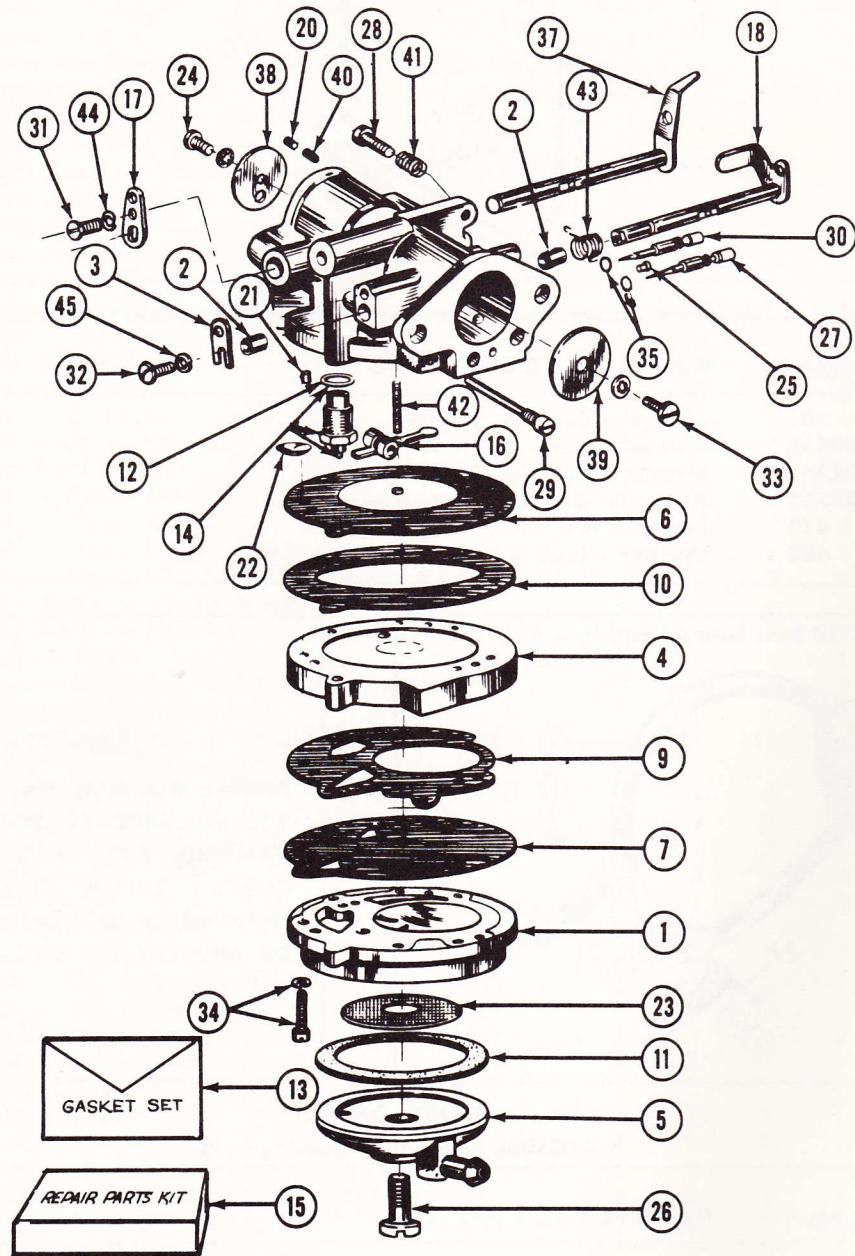
BOW SAWS

A403038 Bow Saw Assembly — 15"

Ref. No.	Part No.	PART DESCRIPTION	Qty.
1	A401069	Bar — Bow, Guide	1
2	A401065	Bumper — Bow, Front	2
3	400584	Nut — 1/4-20	2
4	400264	Screw — H.H., 1/4-20 x 1 1/4	2
5	A400887	Spacer — Bow, Front Bumper	2
6	657	Washer — Flat, 1/4	2
7	114	Washer — Lock, 1/4	2

NOTE: Use Chain Assembly H402655

CARBURETOR



CARBURETOR

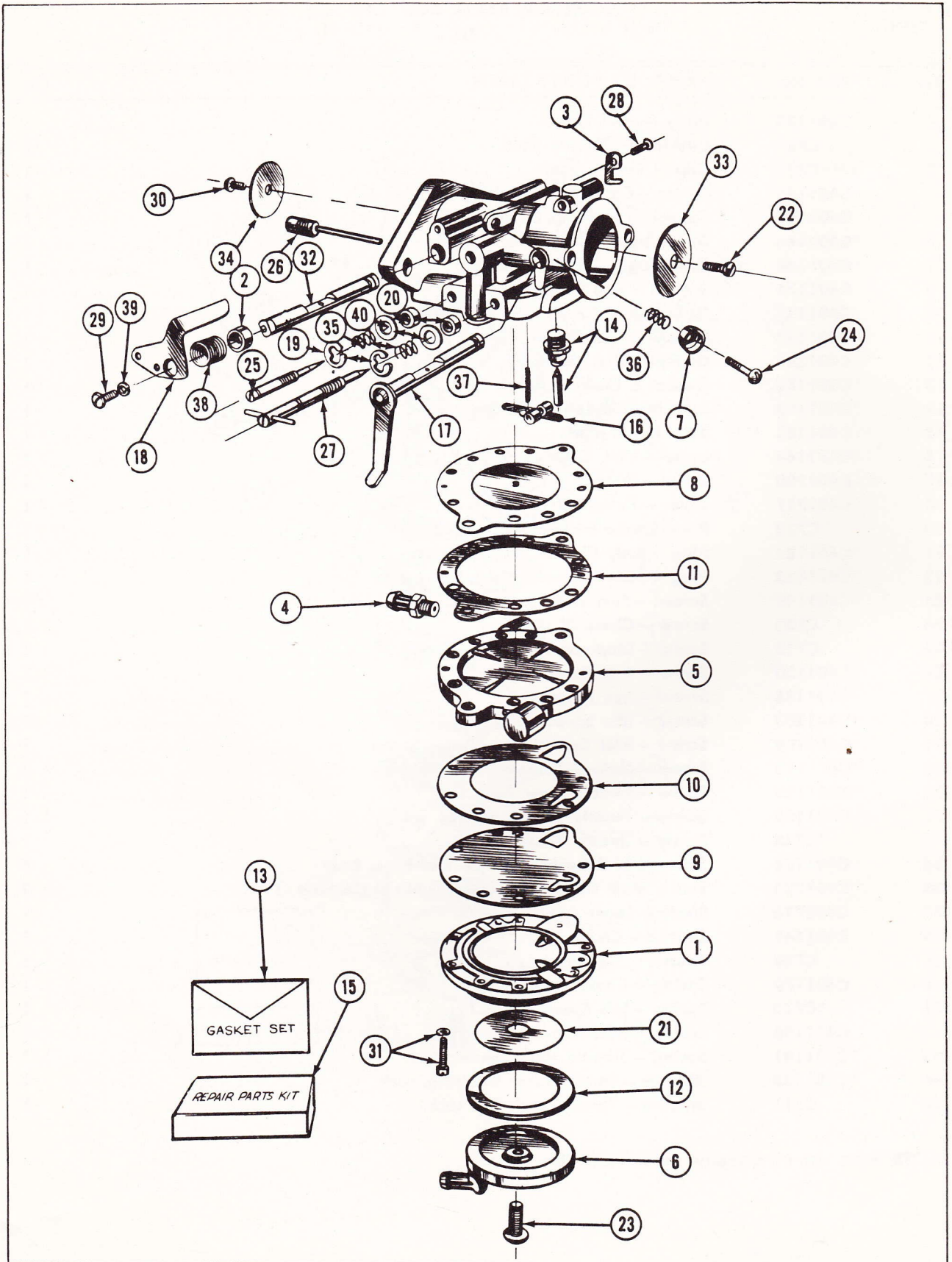
PART NUMBER: C402203
REPAIR PARTS C401185
KIT.

Ref. #	Part No.	PART DESCRIPTION	Qty.
1	C401135	Body — Fuel Pump	1
2	C761	Bushing — Throttle Shaft	2
3	C739	Clip — Throttle Shaft	1
4	C401158	Cover — Carburetor, Diaphragm	1
5	C401151	Cover — Fuel Pump, Strainer	1
6	*C401146	Diaphragm — Carburetor	1
7	*C401148	Diaphragm — Fuel Pump	1
9	C401176	Gasket — Fuel Pump	1
10	C401137	Gasket — Fuel Pump Diaphragm Cover	1
11	C401134	Gasket — Fuel Strainer, Cover	1
12	C401201	Gasket — Inlet Seat	1
13	*C401186	Gasket & Packing Set	1
14	*C401142	Inlet Needle Seat & Gasket	1
15	C401185	Kit — Repair Parts	1
16	*C401144	Lever — Inlet Control	1
17	C401200	Lever — Throttle	1
18	C402717	Lever — Throttle Shaft & Stop	1
20	C722	Pin — Choke Friction	1
21	*C401184	Plug — Body Channel, Cup	1
22	*C401183	Plug — Body Channel, Welch	1
23	*C401149	Screen — Fuel Inlet	1
24	C733	Screw — Choke Shutter	1
25	C715	Screw — Diaphragm Chamber, Drain	1
26	*C401150	Screw — Fuel Pump, Cover	1
27	C401138	Screw — Idle Adjustment	1
28	*C401203	Screw — Idle Speed Regulating	1
29	*C401199	Screw — Inlet Control Lever Pinion Screw	1
30	*C401143	Screw — Main Adjustment	1
31	*C401189	Screw — Throttle Lever Retaining	1
32	C401192	Screw — Throttle Shaft Retaining	1
33	*C733	Screw — Throttle Shutter	1
34	C401175	Screw & Lockwasher Ass'y — Fuel Pump Body	6
35	C401204	Seal — Main Adjustment Screw—1; Idle Adjustment—1	2
37	C402716	Shaft & Lever Ass'y — Choke	1
38	C401141	Shutter — Choke	1
39	C728	Shutter — Throttle	1
40	C401179	Spring — Choke Friction	1
41	*C710	Spring — Idle Speed Screw	1
42	C401198	Spring — Inlet Tension	1
43	*C401191	Spring — Throttle Shaft Return	1
44	*C401188	Washer — Throttle Lever Retaining, Lock	1
45	C711	Washer — Throttle Shaft Clip Lock	1

NOTE: Parts with (*) Comprise Repair Parts Kit

CLINTON CHAINSAWS

DIVISION A - CARBURETOR



CLINTON CHAINSAWS

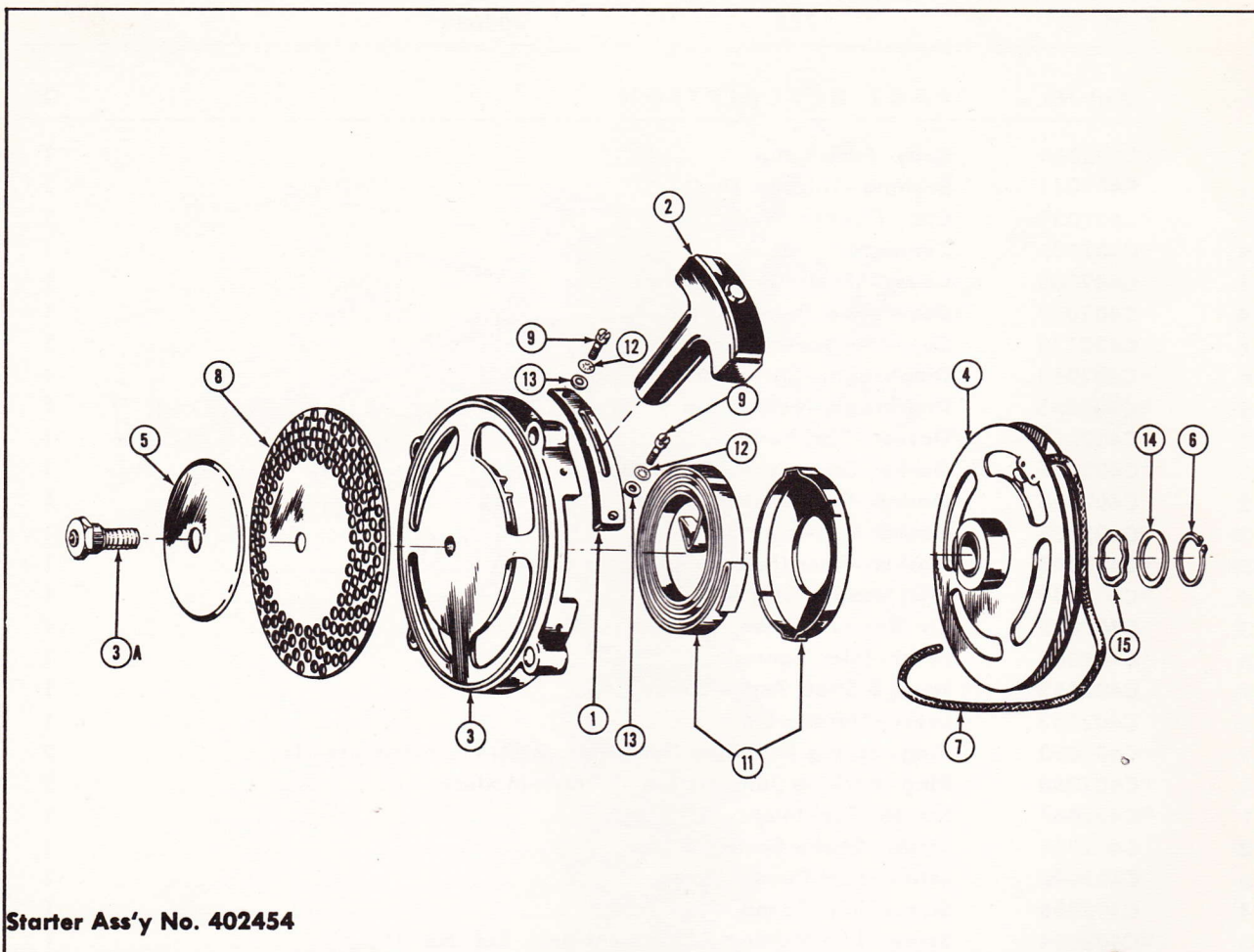
DIVISION A—CARBURETOR

CLINTON ASS'Y NO. C402113		BROWN PART NO. 7CS	REBUILD KIT 402035
Ref. No.	Part No.	PART DESCRIPTION	Qty.
1	C402066	Body—Fuel Pump	1
2	C402041	Bushing—Throttle Shaft	2
3	*C402039	Clip—Throttle Shaft	1
4	C402135	Connector	1
5	C402063	Cover—Fuel Pump Diaphragm	1
6	C402069	Cover—Fuel Pump, Strainer	1
7	C402134	Cup—Idle Speed Screw	1
8	+C402062	Diaphragm—Carburetor	1
9	+C402065	Diaphragm—Fuel Pump	1
10	+C402064	Gasket—Fuel Pump	1
11	+C402061	Gasket—Carburetor, Diaphragm	1
12	+C402068	Gasket—Fuel Strainer, Cover	1
13	*C402036	Gasket & Packing Set	1
13A	+C402048	Gasket—Fiber (Fuel Pump Cover Screw)	1
14	*C402049	Inlet Needle, Seat & Gasket	1
15	C402035	Kit—Repair Parts	1
16	*C402060	Lever—Inlet Control	1
17	C402155	Lever & Shaft Ass'y—Choke	1
18	C402152	Lever—Throttle Stop	1
19	C402093	Ring—Spring Retaining (Idle Mixture—1; Main Mixture—1)	2
20	+C402053	Ring—Packing (Idle Mixture—1; Main Mixture—1)	2
21	*C402067	Screen—Fuel Inlet	1
22	C402037	Screw—Choke Shutter	1
23	C402090	Screw—Fuel Pump, Cover	1
24	C402056	Screw—Idle Speed	1
25	*C402054	Screw—Idle Mixture Adjustment (Incl. Ref. No. 19)	1
	C402070	Screw Ass'y—Idle Mixture Adjustment (Incl. Ref. Nos. 19, 20, 35, 40)	1
26	*C402057	Screw—Inlet Control Lever Pinion	1
27	*C402050	Screw—Main Mixture (Incl. Ref. No. 19 & Cross Pin)	1
	C402071	Screw—Main Mixture (Incl. Ref. Nos. 19, 20, 35, 40)	1
28	*C402040	Screw—Throttle Clip Retaining	1
29	*C402043	Screw—Throttle Shaft Retaining	1
30	C402037	Screw—Throttle Shutter	1
31	C402091	Screw & Lockwasher Ass'y—Fuel Pump Body	6
32	C402153	Shaft—Throttle	1
33	C402045	Shutter—Choke	1
34	C402038	Shutter—Throttle	1
35	*C402051	Spring—Idle Mixture Adjustment—1; Main Adjustment—1	2
36	C402055	Spring—Idle Speed Screw	1
37	*C402058	Spring—Inlet Tension	1
38	*C402059	Spring—Throttle Shaft Return	1
39	*C401188	Washer—Throttle Lever Retaining, Lock	1
40	*C402052	Washer—Packing Retainer (Idle Mixture—1; Main Mixture—1)	2

NOTE: Parts with (*) comprise Kit.

Parts with (+) comprise Gasket & Packing Set.

RECOIL STARTER



Starter Ass'y No. 402454

Ref. No.	Part No.	PART DESCRIPTION	Qty.
1	401834	Guide — Rope	1
2	700949	Handle — Starter	1
3	402459	Housing	1
3A	402493	Plug — Grease	1
4	401869	Pulley	1
5	402457	Retainer — Screen	1
6	401947	Ring — Retaining	1
7	700943	Rope	1
8	402458	Screen	1
9	701016	Screw — #10-24 x 1/2" (Pull Guide to Starter Hsg.)	2
11	401835	Spring & Cup Ass'y	1
12	192	Washer — #10, Lock	2
13	400624	Washer — #10, Plain	2
14	401946	Washer — Steel, Retaining	1
15	401945	Washer — Wave	1

NOTE: Specify Chainsaw Model, Type Number and Serial Number when ordering Repair Parts.

