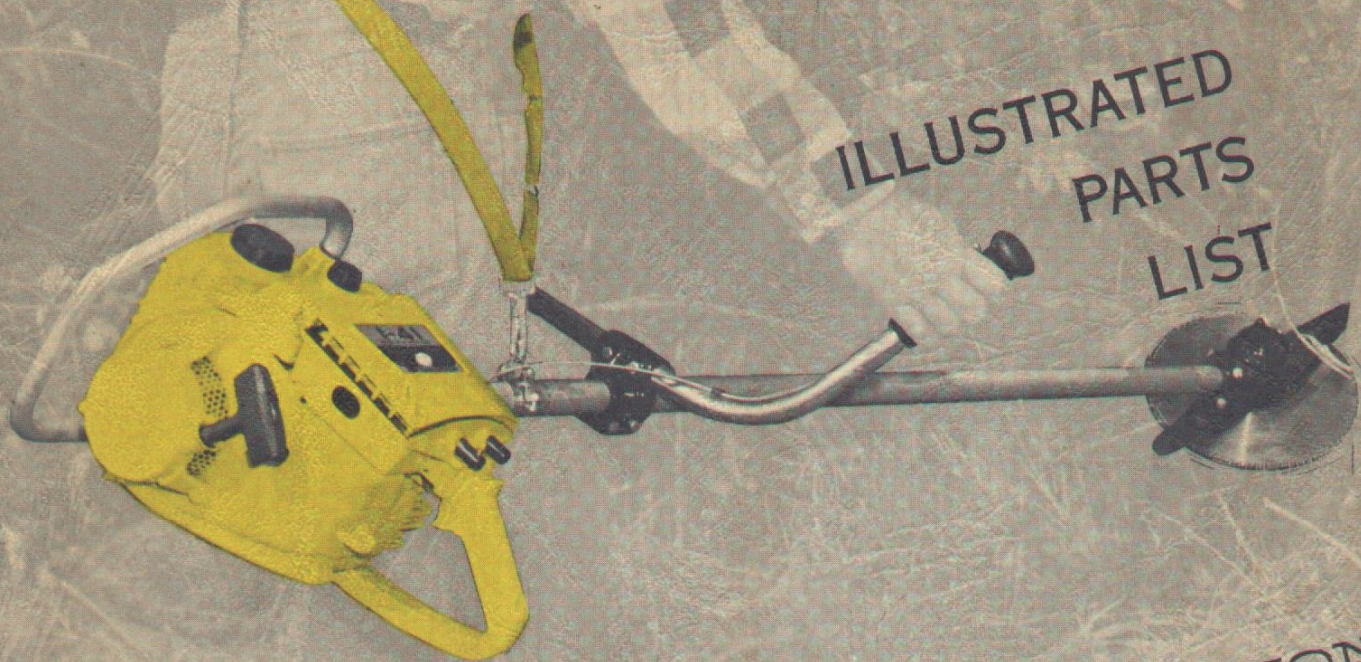




# Brushcutter- Weedcutter

OPERATING  
INSTRUCTIONS

AND  
ILLUSTRATED  
PARTS  
LIST



McCULLOCH CORPORATION

8101 West Century Boulevard,  
Los Angeles 45, California

No. 57510



# MCCULLOCH



## BRUSH CUTTER AND WEED CUTTER ATTACHMENTS

The McCulloch Brush Cutter and Weed Cutter are auxiliary cutting attachments designed for the fast, safe clearing of brush growth and weeds. The complete assembly consists of a 57600 Drive Unit and an optional 57610 Brush Cutter Kit or optional 57630 Weed Cutter Kit. The combination Drive Unit and Brush Cutter or Weed Cutter Attachment can be installed on any of the following McCulloch chain saw engines: Model 1-41, 1-51, 1-40, 1-50 MAC D30, D36, or on a Model 1-41 Power Unit.

### DRIVE UNIT

The sturdy, lightweight Drive Unit transmits the engine power to the cutting attachments. Included in the Drive Unit is a Drive Shaft, a Gear Housing Assembly, a Handle and Control Assembly, and two Accessory Kits: a Loose Parts Kit, P/N 57419, and a Conversion Kit, P/N 57421.

The Loose Parts Kit contains all the parts necessary for installing the Handle and Control Assembly on the Drive Unit; the Conversion Kit is used when converting a chain saw engine to Brush Cutter or Weed Cutter operation. The Illustrated Parts List on page 11 shows the contents of both Accessory Kits.

### CUTTING ATTACHMENTS

The Brush Cutter or Weed Cutter Attachment (whichever is installed) mounts on the gear shaft in the gear housing and is driven by a bevel and pinion gear in the housing.

The Brush Cutter Attachment, while designed for the speedy clearing of brush, can also be used for low-level limbing and for the felling of small trees up to six inches in diameter.

The Weed Cutter Attachment includes a Special Guard Assembly to protect the operator from the annoyance of pebbles, sticks and other small objects thrown backwards

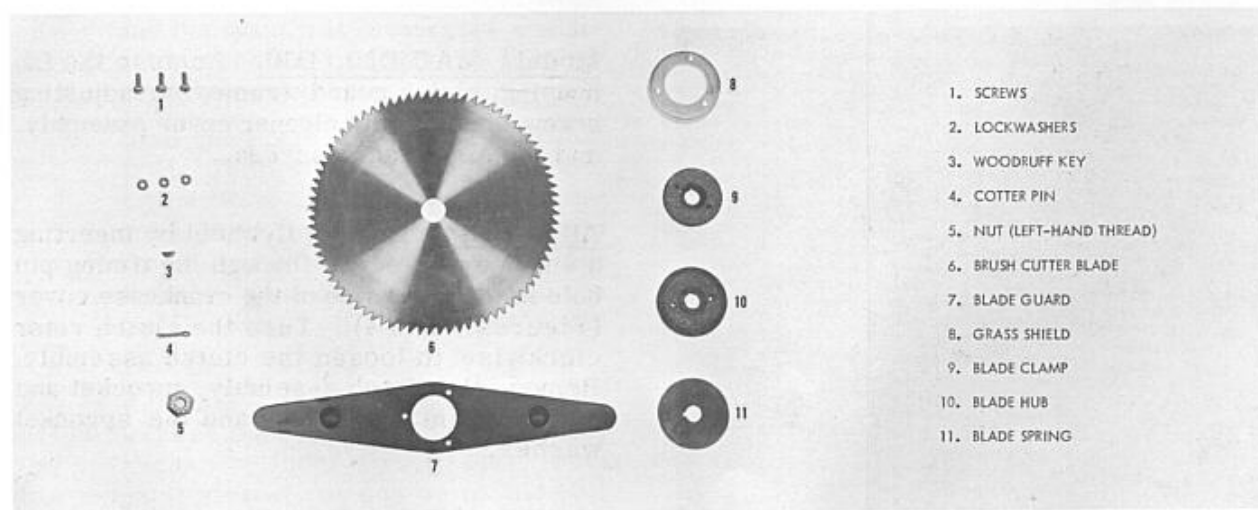


Figure 1. Brush Cutter Attachment 57610

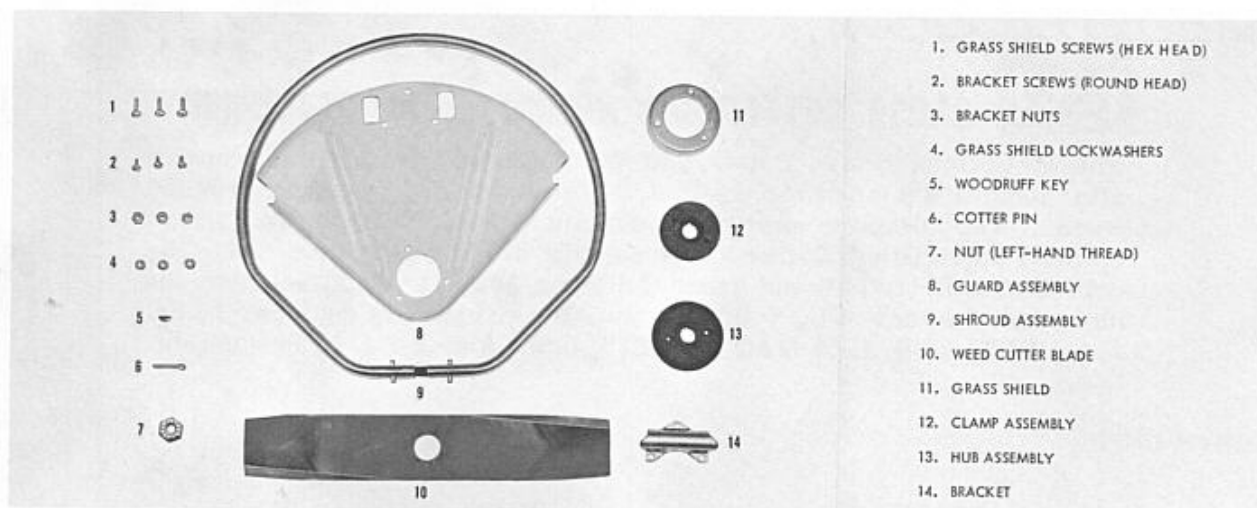


Figure 2. Weed Cutter Attachment Kit 57630

by the rotation of the cutter blade. Figures 1 and 2 show the parts contained in the Brush Cutter and Weed Cutter Attachment Kits.

#### NOTE

To make installation of the Drive Unit and Cutter Attachments easier, all the screws, nuts, washers, and gaskets are identified by part number in separate envelopes in the two Kits which are included with the Drive Unit.

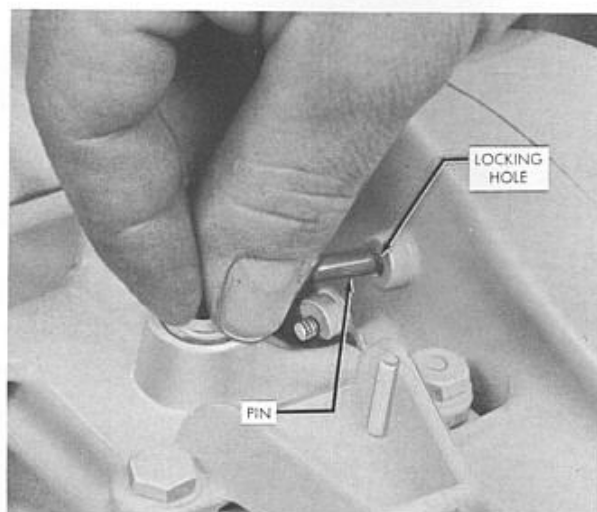


Figure 3. Locking Flywheel

#### ADAPTING YOUR CHAIN SAW ENGINE

To adapt your chain saw for use with the Brush Cutter or Weed Cutter Attachments, carefully follow the instructions below which pertain to your particular saw.

Models 1-41, 1-51, 1-40, 1-50. Remove the starter assembly, fan housing, clutch guard, muffler, frame, bar adjusting screw, air cleaner cover assembly, and air cleaner screen.

Models MAC D30, D36. Remove the fan housing, clutch guard, frame, bar adjusting screw, muffler, air cleaner cover assembly, and the air cleaner screen.

All Models. Lock the flywheel by inserting a small pin or screw through the timing pin hole in the underside of the crankcase cover (Figures 3 and 4). Turn the clutch rotor clockwise to loosen the clutch assembly. Remove the clutch assembly, sprocket and clutch drum assembly, and the sprocket washer.

Model 1-41 Power Unit. Remove the starter assembly, fan housing, muffler, air cleaner cover assembly, and the air cleaner screen.

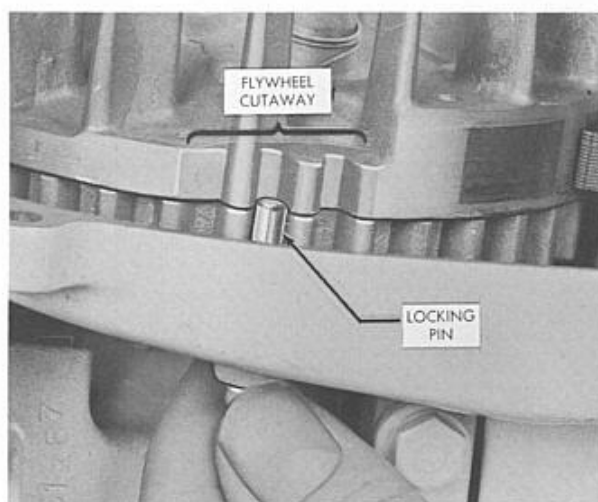


Figure 4. Locking Pin Cutout in Flywheel (Fan Housing Removed)

#### DRIVE UNIT INSTALLATION

##### 1. Airbox Modification:

- a. Cut out the Template, P/N 50448A, and place it on the right side of the airbox as shown in illustration on template sheet. Center-punch the three holes and remove the Template.
- b. Place a small block of wood between the right side of the airbox and the carburetor and a grease-coated cloth between the block of wood and the right side of the carburetor. The cloth will catch the metal drillings and the wood will protect the carburetor when the drill pushes through the airbox wall.
- c. Drill the large hole with a 1/2-inch drill. Drill the two smaller holes with a No. 4 drill (0.209-inch diameter). File off the sharp edges around the drilled holes. Remove the cloth and the block of wood and clean the metal scraps off the outside of the airbox.

2. Feed the 9-1/2-inch Shut-off Wire (P/N 57466) between the bottom of the airbox and the crankcase cylinder cooling fins, from the exhaust side of the engine to the coil side. Clamp the coil terminal (on the end of the Shut-off Wire) on the terminal on the coil (Figure 6).

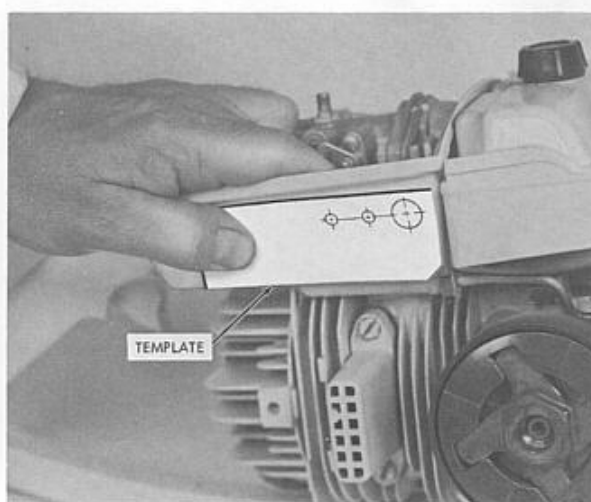


Figure 5. Air Box Modification

3. Remove the fuel vent orifice assembly from the bar mounting pad and install the Fuel Tank Vent Plug (P/N 57595). See Figure 18. Install the Cover Plate Gasket (P/N 57437), Cover Plate (P/N 50485), and the Spacers (P/N 50484) on the bar mounting studs and secure with two hex nuts (P/N 103729) (see Figure 18).

4. Install the Accessory Adapter on the engine crankcase with three 1/4 x 1-1/8-inch screws (P/N 103258) and three 1/4-inch lockplates (P/N 36306). Insert the prongs of the lockplates into the lockholes in the adapter. Tighten the screws to 90 to

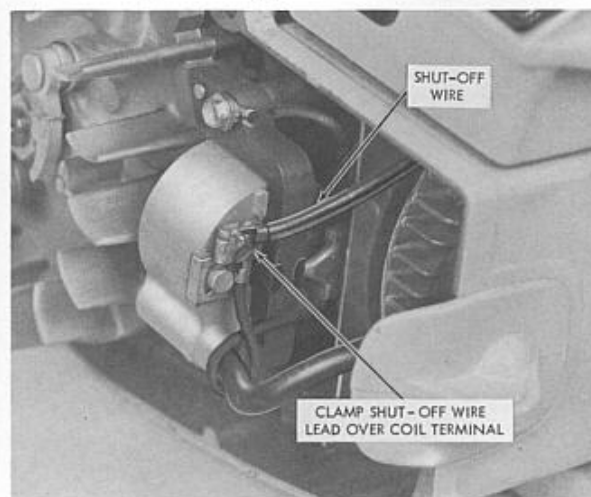


Figure 6. Shut-off Connection

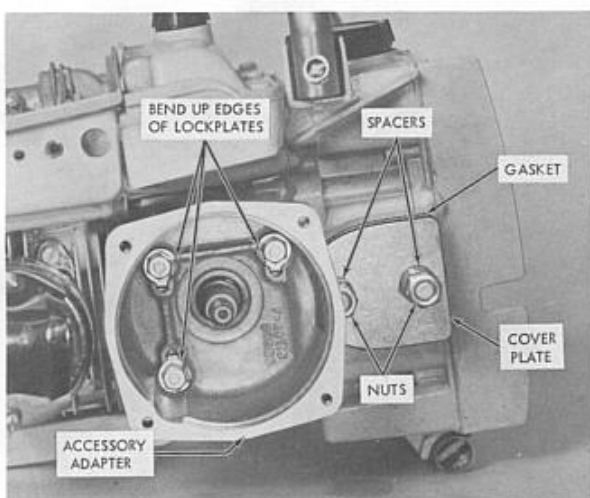


Figure 7. Installation of Adapter

120 inch/pounds torque (8 to 10 foot/pounds) and bend up one edge of each lockplate to hold the screws. (See Figure 7.)

5. Reinstall the clutch assembly (rotor, spring, and shoes) but not the clutch drum. Tighten the rotor to 180 to 240 inch/pounds torque (15 to 20 foot/pounds).

6. Mount the Drive Unit on the Adapter with four 1/4-20 x 1-inch screws (P/N 101982), four lock washers (P/N 100153), and four 1/4-inch plain washers (P/N 100004)

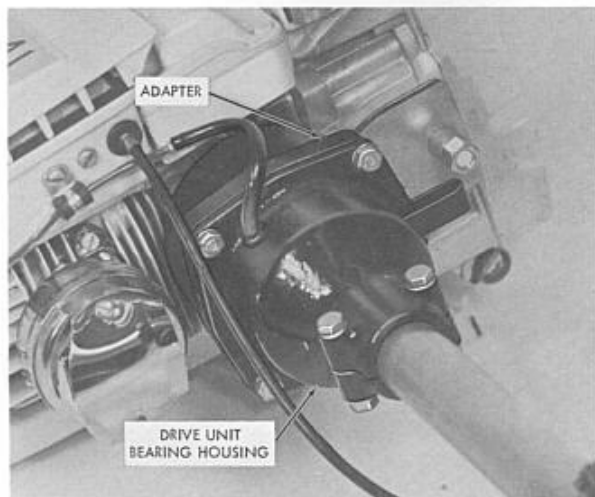


Figure 8. Mounting Drive Unit

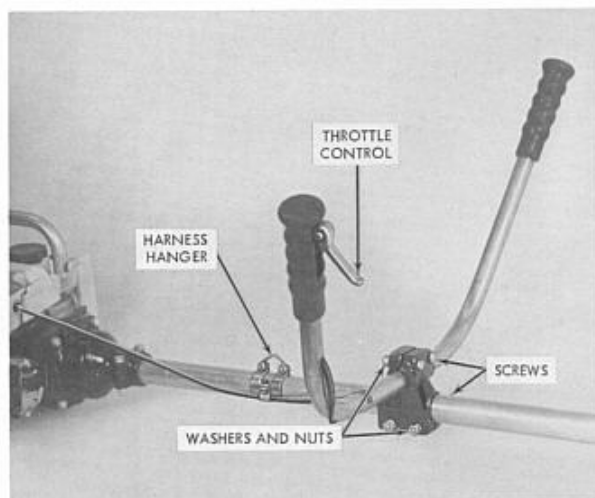


Figure 9. Handle Bar Installation

as shown in Figure 8. The lockwashers go between the head of the screw and the plain washer.

7. Assemble the handle bar on the drive shaft housing as shown in Figure 9 with four 1/4-20 x 1-3/4-inch screws (P/N 102125), eight 1/4-inch plain washers (P/N 100004), and four 1/4-20 inch nuts (P/N 101143). The handle bar must be positioned for the best balance of the Drive Unit. Note that the throttle control is on the right hand upright and that the bar is mounted off-center to the left.

8. Assemble the Bellcrank on the Bellcrank Bracket with the Cotter Pin (see Figure 10). Spread the ends of the Cotter Pin apart to hold the Bellcrank in place on the Bracket.

9. Thread the loose end of the Shut-off Wire through the Governor Wire Clamp as shown in Figure 11. Align the screw holes on the Clamp with the screw hole (small hole on left) drilled in the side of the airbox. Put the Bellcrank Bracket inside the airbox and align its screw holes with the two small airbox screw holes. Secure the Governor Wire Clamp (on outside of airbox) and the Bellcrank Bracket (on inside of airbox) with two 10-24 x 3/8-inch long screws (P/N 100415) and two 10-24 hex nuts (P/N 101191).



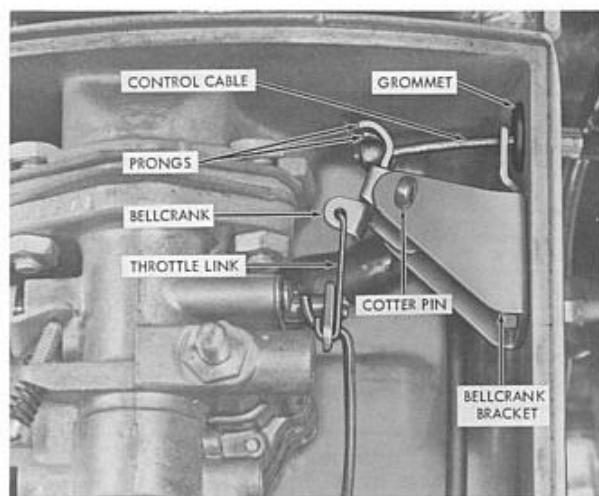


Figure 10. Bellcrank Assembly

10. Insert the loose end of the Governor Wire (leading from the Bearing housing on the drive unit) into the Shut-off Wire connection as shown in Figure 11.

11. Feed the end of the control cable through the Special Grommet (P/N 57436). Insert the end of the control cable through the 1/2-inch hole drilled in the airbox and hook the cable between the two prongs on the Bellcrank. Slide the Special Grommet toward the end of the control cable and mount the Grommet on the 1/2-inch hole as shown in Figure 10.

12. Remove the throttle governor lever from the carburetor and install new Throttle Governor Lever (P/N 51718). See Figure 12.

#### NOTE

If the Drive Unit installation is being made on a Model 1-41 Power Unit, disregard Instruction 12 above because the new Throttle Governor Lever has already been installed at the factory.

13. Install the "two-way bend" end of the Throttle Link (P/N 57403) into the hole on the top of the Bellcrank and the "90° bend" end into the top hole on the Throttle Governor Lever. Install the throttle rod in the lower hole as shown in Figure 12. Crimp the 90° end with a pair of pliers to lock it securely on the Throttle Governor Lever.

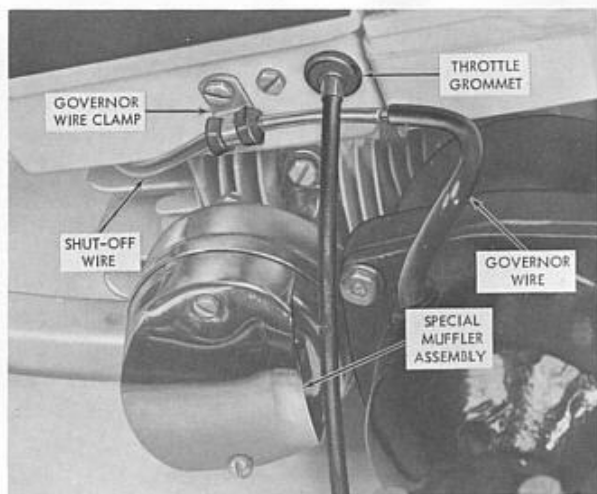


Figure 11. Mounting Special Grommet

#### NOTE

After completion of the above instructions, make the following two tests:

1. **Full throttle test.** Squeeze the throttle trigger and handle bar throttle control to make sure the throttle opens all the way. If the throttle does not open fully, remove the throttle link from the throttle rod and shorten it 1/4-inch with a pair of pliers. Replace the link.

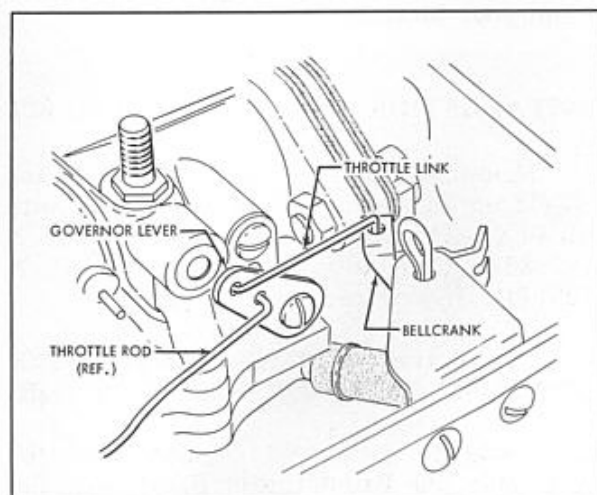


Figure 12. Installing Throttle Lever

2. **Throttle control test.** Squeeze the throttle control on the handle bar several times. If the throttle rod sticks or binds, remove the trigger from the airbox and move the trigger retainer (P/N 104231) from the right side of the trigger to the left side (starter side of engine).
14. Reinstall the starter assembly (if removed), fan housing, air cleaner screen, and the air cleaner cover. Install the new vented Fuel Cap Assembly on the fuel tank.

### CAUTION

Before reinstalling the fan housing, make sure that no small screws, nuts, or other small metallic objects are clinging to the magnet on the flywheel.

15. Mount the new Special Muffler Assembly on the engine with two 10-24 x 5/8-inch long screws (P/N 102388). Make sure that the muffler discharge faces toward the handle brace.

16. Save all the chain saw parts removed from the engine as these parts will be required later for normal chain saw operation. An Airbox Hole Cover (to cover the three holes drilled in the airbox) can be obtained from your McCulloch dealer.

### INSTALLATION OF BRUSH CUTTER KIT

1. Mount the Blade Guard and the Grass Shield on the gear housing drive shaft with three 10-24 x 5/8-inch long screws (P/N 102388) and three No. 10 lockwashers (P/N 103174). (See Figure 13.)
2. Press the No. 3 Woodruff key (P/N 103882) into the keyway on the drive shaft.
3. Install the Blade Spring, the Blade Hub Assembly, the Brush Cutter Blade (with the teeth facing clockwise), the Blade Clamp Assembly, and the 1/2-20 left-hand thread nut (P/N 104455). Tighten the nut securely

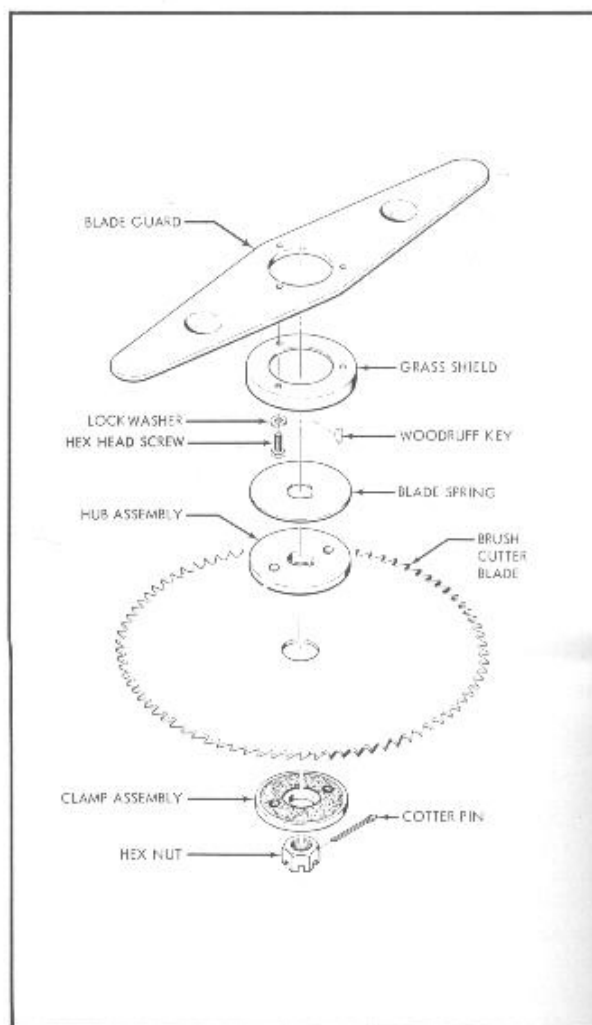


Figure 13. Installation of Brush Cutter Kit 57610

and align the drilled hole in the nut with the drilled hole in the drive shaft.

### NOTE

Do not back off the nut to align the hole in the nut with the drive shaft hole. The blade is friction driven to absorb cutting impacts, and if the nut is not tight, slippage and poor cutting will result.

4. Install the 3/32 x 1-inch cotter pin (P/N 100009) through the aligned holes and spread the ends, forming them around the hex nut.

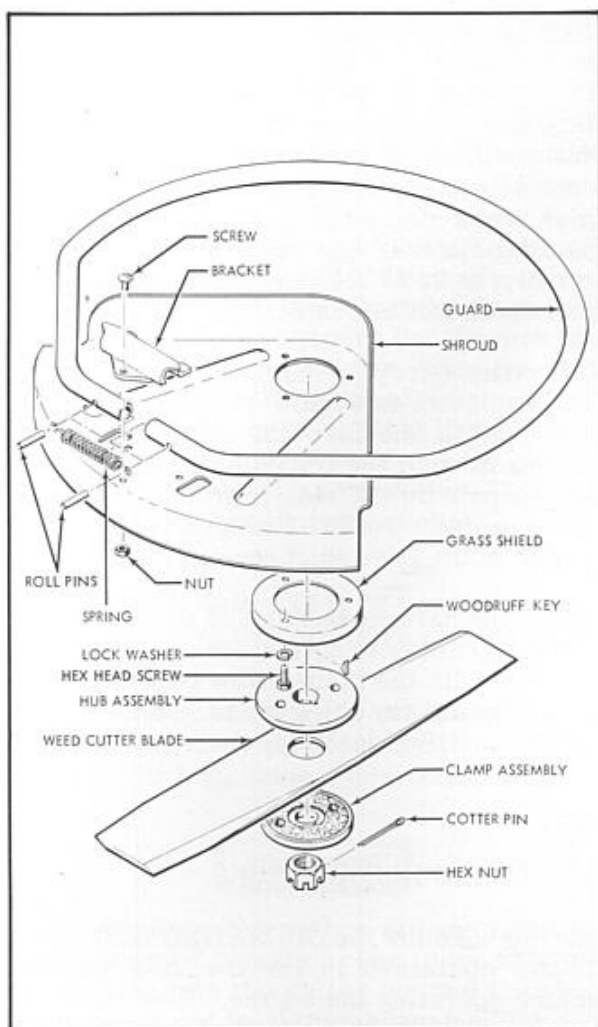


Figure 14. Installation of Weed Cutter Kit 57630

#### INSTALLATION OF WEED CUTTER KIT

1. Assemble the Shroud Assembly onto the Guard Assembly with the Bracket, three 10-24 x 3/8-inch long screws (P/N 100415), and three 10-24 hex nuts (P/N 101191). (See Figure 14.) Place the assembled parts on the gear housing drive shaft.

2. Install the Grass Shield on the drive shaft and secure the Grass Shield and the Guard Assembly with three 10-24 x 5/8-inch long screws (P/N 102388) and three No. 10 lockwashers (P/N 103174).

3. Press the No. 3 Woodruff key (P/N 103882) into the keyway on the drive shaft.

4. Install the Blade Hub Assembly, the Weed Cutter Blade, the Blade Clamp Assembly, and the 1/2-20 left-hand thread nut (P/N 104455). Tighten the nut securely and align the drilled hole in the nut with the drilled hole in the drive shaft.

#### NOTE

Do not back off the nut to align the hole with the drive shaft hole. The blade is friction driven to absorb cutting impacts, and if the nut is not tight, slippage and poor cutting will result.

5. Install the 3/32 x 1-inch cotter pin (P/N 100009) through the aligned holes and spread the ends of the cotter pin, forming them around the hex nut.

#### FUEL

Mix one part McCulloch oil to twenty parts gasoline or one part SAE 30 motor oil to sixteen parts gasoline. Carefully follow the FUEL instructions contained in the Owner's Manual when preparing the fuel mixture.

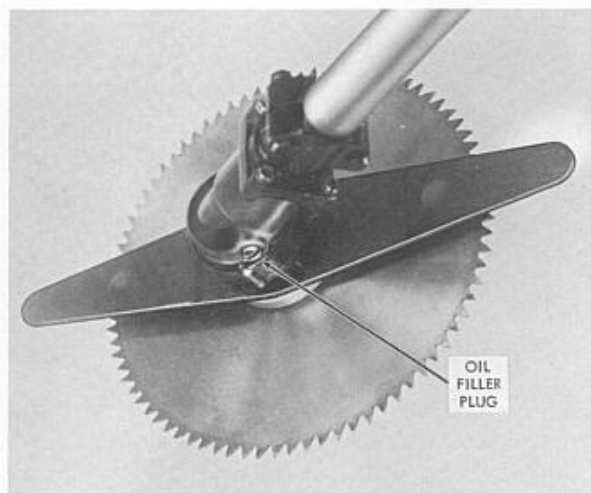


Figure 15. Gear Housing Lubrication



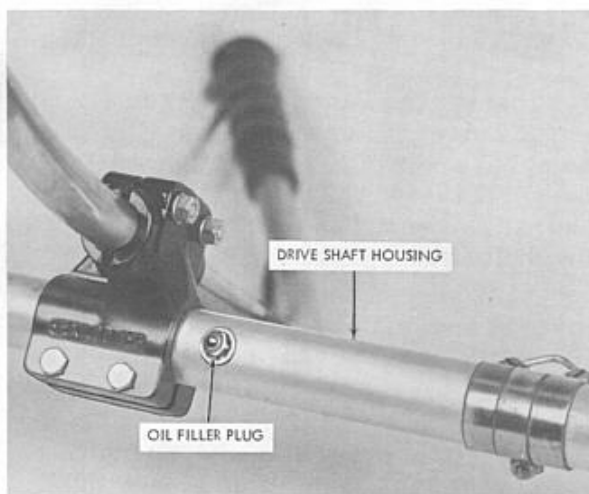
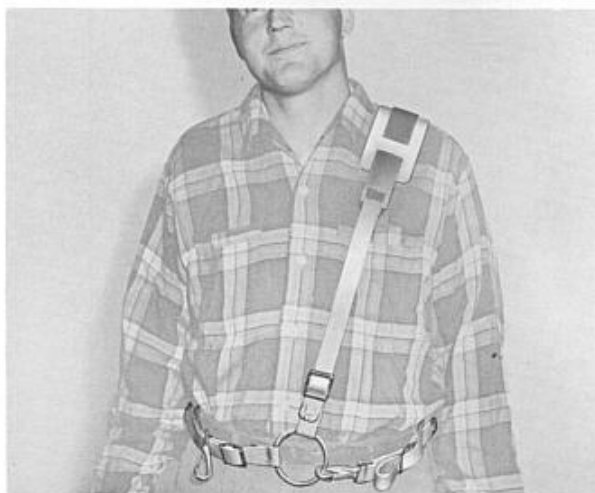


Figure 16. Drive Shaft Housing Lubrication

## LUBRICATION

The Drive Unit is lubricated with #310 Lubriplate when shipped from the factory. After 500 hours of operation, disassemble the gear housing and clean the gears and interior parts of the gear housing. After reassembling the gear housing, put one and one-half ounces of #310 Lubriplate in the gear housing and one and one-half ounces of 140 gear oil into the drive shaft housing. Clean and relubricate after each additional 500 hours of operation.



## CARRYING HARNESS

Two types of carrying harness are available for the Cutter Attachments. The 52077 Harness Assembly is included with the Drive Unit as standard equipment. However, if your work demands a stronger, longer-wearing harness, the optional Harness Assembly, P/N 57504, can be obtained from your local McCulloch dealer.

Wear the carrying harness in the same way as shown in Figure 17. The pad goes over the left shoulder; the stabilizing strap passes around the left side from the back and snaps onto the ring in front. The snap clamp with the roller, hooks on the harness hanger on the drive shaft housing (Figure 18).

Adjust the harness buckles so that the complete unit feels evenly balanced and comfortable with the blade a few inches above, and parallel to, the ground. This is the natural cutting position.

## OPERATING INSTRUCTIONS

Starting - Follow the OPERATING INSTRUCTIONS contained in the Owner's Manual before operating the engine. Disregard all instructions pertaining to the bar and chain.

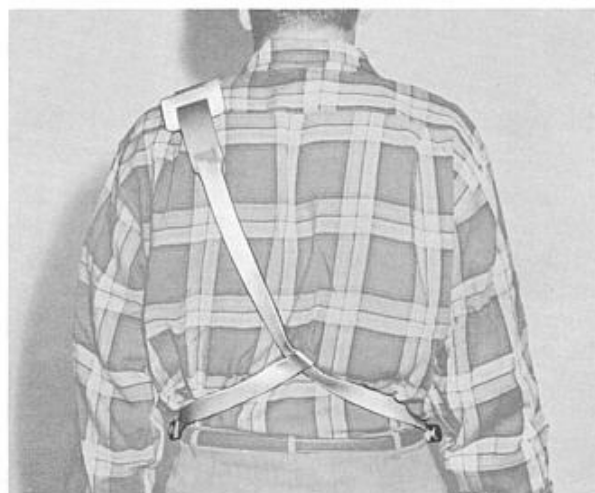


Figure 17. Manner of Wearing Harness

At engine idle speed, the cutting blade should remain stationary. To start the cutter blade rotating, squeeze the throttle control on the handle bar, opening the throttle. To stop the cutter blade, release the throttle control lever and the engine will return to idle speed.

Cutting - Cutting is controlled by moving the drive unit by means of the bow-shaped handle bar. Hold the cutter blade parallel to the ground and squeeze the throttle control lever on the handle bar. When the blade rotates at full cutting speed, begin cutting. Although it is desirable that brush growth be cut as close as possible to the ground, be careful not to drive the cutting blade into the ground or against rocks or hidden boulders.

If the Brush Cutter is to be used for felling, never cut trees that are more than six inches in diameter.

If the cutting blade slips excessively while cutting, the shaft nut should be tightened and then re-locked, using a new cotter pin.

#### CAUTION

Make sure the cotter pin is in place and in good condition. Due to the nature of use, both the cotter pin and the nut are subject to extreme wear and mechanical abuse which, if not checked, can result in early failure.

## GENERAL MAINTENANCE

While very little maintenance is required for the unit, a routine inspection should be made at least once each week. Wear will be greatest at the cutting end of the unit and the following parts should be thoroughly checked during your inspection: the two friction discs, Woodruff key, hex nut, and the cotter pin.

Make sure the two friction discs, one bonded to the blade hub, and the other to the blade clamp (Figures 19 and 20) are not broken or worn. If the keyways on the blade hub or blade clamp are enlarged due to wear, replace them. Replace the Woodruff key if the fit is loose and sloppy.

#### CAUTION

Do not attempt to operate the cutter without a Woodruff key installed in the shaft. If the key is not installed, the gear shaft will not absorb the full force of the blade when it accelerates or decelerates and the end of the gear shaft will twist.

Blade Sharpening - Most McCulloch dealers offer fast and efficient blade sharpening service. If your local McCulloch dealer does not provide this service, he will recommend an expert saw shop in your area.



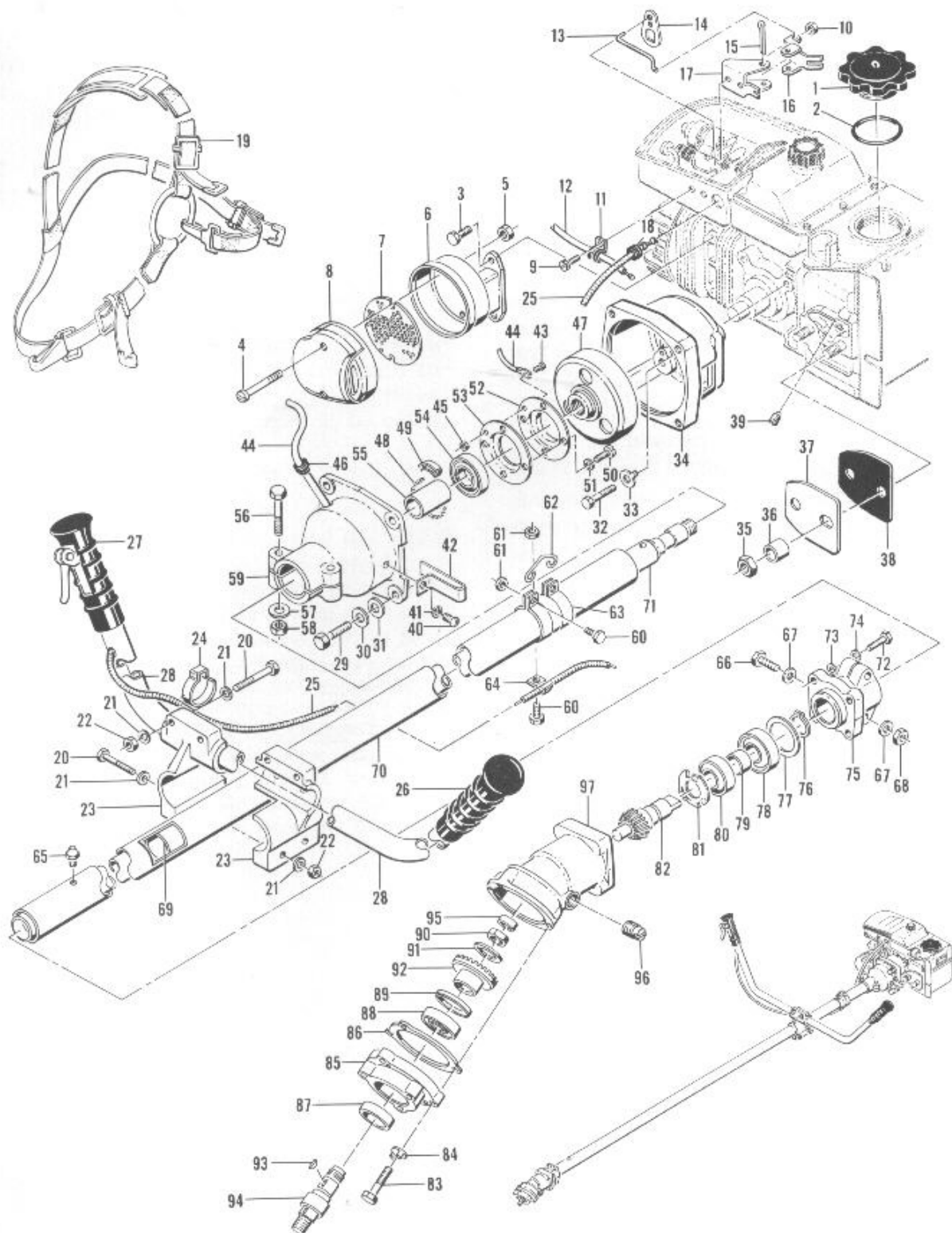


Figure 18. Exploded View 57600 Drive Unit and Accessory Kits

Index No.	Part Number	Nomenclature	Units Per Assy
61	101191	Nut - Hex 10-24 .....	3
62	36877A	Hanger - Strap .....	1
63	36878	Clamp - Hanger .....	1
64	36896	Clip - Cable .....	1
65	103500	Oiler .....	1
66	102125	Screw - Hex hd 1/4-20 x 1-3/4 in. lg .....	2
67	100004	Washer - 1/4 plain .....	4
68	101143	Nut - Hex 1/4-20 .....	2
	36900A	Housing Assy - Drive Shaft .....	1
69	36899	. Bushing .....	4
70	36753	. Housing - Drive shaft .....	1
71	50240B	Shaft Assy - Drive .....	1
72	102289	Screw - Hex hd 10-24 x 3/4 in. lg .....	4
73	100003	Washer - Plain .....	4
74	103174	Washer - Lock .....	4
75	57495	Clamp - Flanged .....	1
76	100849	Ring - Snap .....	1
77	57496	Shim - Pinion .....	As Req'd
	57497	Shim - Pinion .....	As Req'd
	57498	Shim - Pinion .....	As Req'd
78	104452	Bearing - Ball .....	1
79	57013	Spacer .....	1
80	100824	Bearing - Ball .....	1
81	57382	Washer - Spring .....	2
82	†52672	Gear - Bevel .....	1
83	102289	Screw - Hex hd 10-24 x 3/4 in. lg .....	3
84	28052	Lockplate .....	3
85	57356	Cover - Gear housing .....	1
86	57385	Shim .....	As Req'd
	57383	Shim .....	As Req'd
	57386	Shim .....	As Req'd
87	102979	Seal - Oil .....	1
88	104371	Bearing - Ball .....	1
89	100342	Ring - Snap .....	1
90	57357	Nut - Special .....	1
91	57358	Washer - Lock .....	1
92	†52672	Gear - Pinion .....	1
93	103882	Key - Woodruff #3 .....	1
94	57346	Shaft - Gear .....	1
95	103512	Bearing - Needle .....	1
96	100432	Plug .....	1
97	57003	Housing - Gear .....	1
	*57060	Wrench .....	1
	**50448A	Template - Airbox .....	1

\*In 57419 Loose Parts Kit.

\*\*In 57421 Conversion Kit.

†Sold only in matched sets - order P/N. 52672



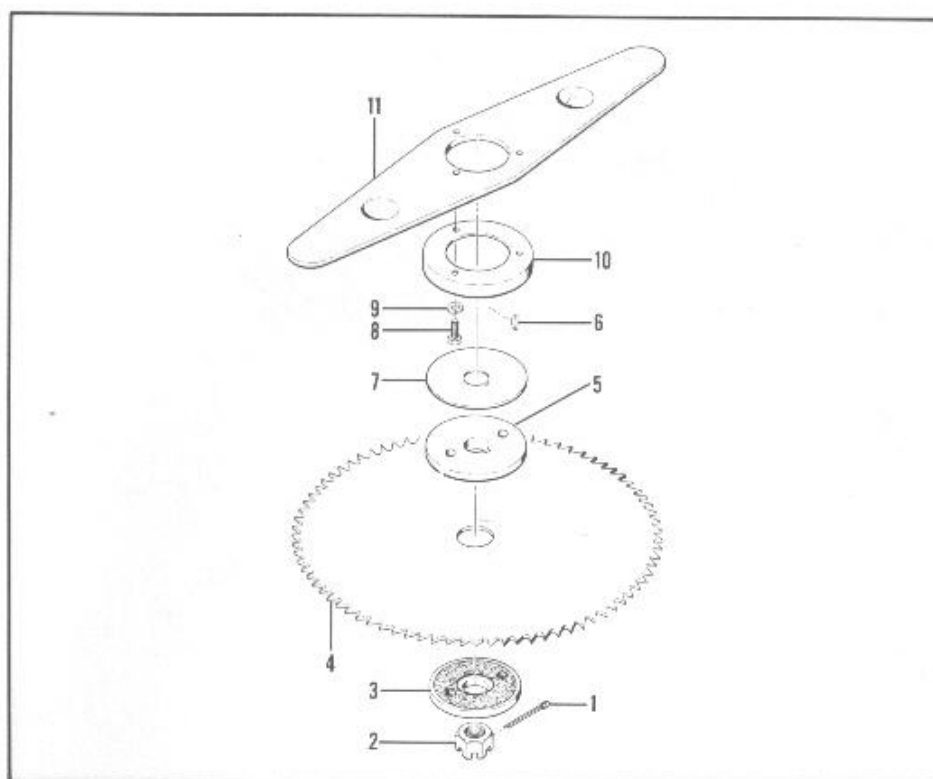


Figure 19. Brush Cutter Attachment

Index No.	Part Number	Nomenclature	Units Per Assy
BRUSH CUTTER ATTACHMENT KIT			
	57610	Brush Cutter Attachment .....	1
1	100009	. Pin - Cotter 3/32 x 1 in. lg .....	1
2	104455	. Nut - Hex 1/2-20 (LH thread) .....	1
3	57380	. Clamp Assy - Blade .....	1
4	104151	. Blade - Brush cutter (80 tooth) .....	1
5	57381	. Hub Assy - Blade .....	1
6	103882	. Key - Woodruff #3 .....	1
7	52643	. Spring - Blade .....	1
8	102388	. Screw - Hex hd 10-24 x 5/8 in. lg .....	3
9	103174	. Washer - Lock #10 .....	3
10	57387	. Shield - Grass .....	1
11	57373	. Guard - Blade .....	1

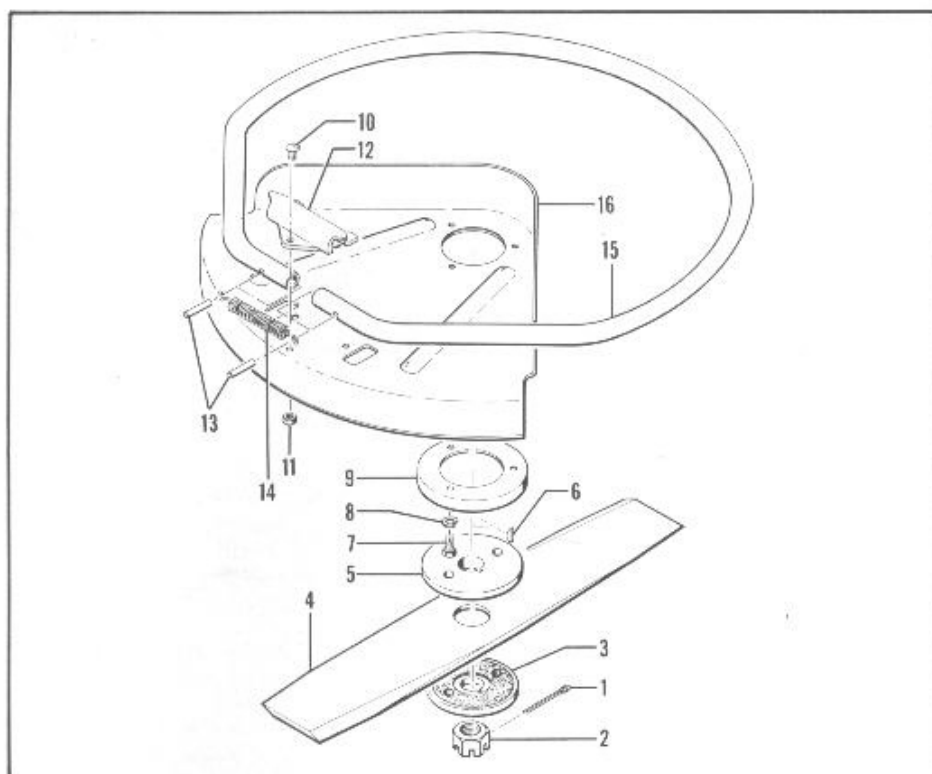


Figure 20. Weed Cutter Attachment

Index No.	Part Number	Nomenclature	Units Per Assy
WEED CUTTER ATTACHMENT KIT			
	57630	Weed Cutter Attachment .....	1
1	100009	. Pin - Cotter 3/32 x 1 in. lg .....	1
2	104455	. Nut - Hex 1/2-20 (LH thread) .....	1
3	57380	. Clamp Assy - Blade .....	1
4	50544	. Blade - Weed cutter .....	1
5	57381	. Hub Assy - Blade .....	1
6	103882	. Key - Woodruff #3 .....	1
7	102388	. Screw - Hex hd 10-24 x 5/8 in. lg .....	3
8	103174	. Washer - Lock .....	3
9	57387	. Shield - Grass .....	1
10	100415	. Screw - Rd hd 10-24 x 3/8 in. lg .....	3
11	101191	. Nut - Hex 10-24 .....	3
12	50538	. Bracket - Weed cutter .....	1
	50535	. Guard Assy - Weed cutter .....	1
13	103818	. . Pin - Roll .....	2
14	50537	. . Spring .....	1
15	50536	. . Guard - Weed cutter .....	1
16	50531	. Shroud Assy - Weed cutter .....	1



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 Eugene . . . Foster-McCulloch Company, 4190 Franklin Boulevard  
 Portland . . . Tawne Equipment Company, 2030 S. E. 7th Avenue  
 Pittsburgh . . . Conaway-McCulloch, Inc., 1116 Castle Shannon Blvd., Castle Shannon  
 Memphis . . . RCH McCulloch Chain Saw Company, Inc., 223-229 S. Front St., P. O. Box 173  
 Marshall . . . Timberland Saw Company, 209 Pinacrest Drive, West  
 Salt Lake City . . . Wilson's Transport Supply, 665 S. State Street  
 Seattle . . . Pacific Equipment, Inc., 1001 Jackson Street  
 . . . Northern Commercial Company, 4233 W. Marginal Way, P. O. Box 3562  
 Spokane . . . McCulloch Corp., Spokane Division, P. O. Box 214, Parkwater Station  
 . . . Potter Equipment Company, Inc., 2121 New York Avenue, N. E.  
 Charleston . . . Engine Sales and Service Company, Inc., 919 Virginia Street, East  
 Plover . . . Rapids Distributing Co., Inc., Corner Hwy 51 & 54  
 Edmonton, Alberta . . . McCulloch of Canada Ltd., 11925 - 73 St.  
 Moncton, New Brunswick . . . McCulloch of Canada Ltd., 135 Albert Street  
 Montreal, Quebec . . . McCulloch of Canada Ltd., 155 Port Royal  
 Quebec City, Quebec . . . McCulloch of Canada Ltd., 160-162 Sacre Coeur  
 Toronto, Ontario . . . McCulloch of Canada Ltd., 25 McCulloch St., Rexdale P. O.  
 Vancouver, B. C. . . McCulloch of Canada Ltd., 730 East Hastings Street  
 Winnipeg, Manitoba . . . McCulloch of Canada Ltd., 1700 Ellice Avenue