Bolens®

Model 2142

Tiller

Safety and Operating Instructions with Parts List

Printed in U.S.A. 11-84

B2835

FORM NO. 4045 (12-84)

Part No. 238027

CONTENTS

Safety Precautions 3
General Introduction 3
Hardware Bag Contents 4
Preparation for Operation 5-6
Initial Servicing 7
Controls and Operation 7-9
Starting Your Rotary Tiller 10
Adjustments 10
Servicing and Maintenance 10-11
Storage 11
Tiller Parts 12
Tiller Parts List 13
How to Order Replacement Parts 16

This symbol is a safety warning. Failure to obey this symbol may result in injury to you or others.

IMPORTANT! Record the unit model number and its serial number on the back page of this operator's manual for future reference when ordering repair parts or identification if unit is lost or stolen.

The manufacturer reserves the right to make changes on and to add improvements upon its products at any time without notice or obligation. The manufacturer also reserves the right to discontinue manufacture of any product at any time.

Notice to customers in the State of California -
The engine on this unit is **NOT** equipped with a spark arresting muffler.

WARNING

USE OR OPERATION OF THIS ENGINE ON ANY FOREST COVERED, BRUSH COVERED OR GRASS COVERED LAND WITHOUT A STATE APPROVED SPARK ARRESTER IN EFFECTIVE WORKING ORDER CONSTITUTES A VIOLATION OF THE LAW OF THE STATE OF CALIFORNIA.

SAFETY PRECAUTIONS

Safety is NO accident ..... Be Alert!

This symbol is used to attract your attention to the safety precautions that should be understood by the operator to avoid accidents.

When you see this symbol — HEED ITS WARNING!

Your rotary tiller was built to the highest standards in the industry. However, **a rotary tiller is only as safe as the operator.** As with any type of power equipment, carelessness or error on the part of the operator can result in injury. Please read and follow these instructions on safe operation and be certain anyone using this rotary tiller is familiar with these simple rules:

- Inspect work area and clear any objects that are not earth or mulch.
- Improper use of the rotary tiller can result in injury. Give complete and undivided attention to the work you are doing.
- Know the controls and how they operate.
- Know how to stop the rotary tiller and engine instantly.
- Disengage power and stop engine before cleaning, removing obstacles, or making adjustment.
- Keep children and pets a safe distance away from rotary tiller.
- Do not allow anyone to operate rotary tiller without proper instruction and supervision.
- Exercise caution to avoid falling.
- Use extra care when operating in reverse.
- Don't start the engine and tines until you are ready to start tilling. Stop the engine whenever you leave the machine.
- Disengage clutch before starting engine. Keep hands, feet and clothing away from power-driven parts. Wear adequate footwear to prevent foot injury.
- Keep rotary tiller in good operating condition and keep safety devices in place.
- Do not till near underground electric cables or irrigation hoses.
- Handle fuel with care; it is highly flammable. Stop engine and allow engine to cool before adding gasoline. Wipe up spilled gasoline immediately.
- Store gasoline in a safe container. Store the container in a cool, dry place. **Not in the house or near heating appliances.**
- Open doors if engine is run in garage. Exhaust gases are dangerous.
- Fill gas tank outdoors. Avoid spilling gasoline. Don't fill tank while engine is running or while you are smoking.
- The replacement of any part on this product by other than the manufacturer's authorized replacement part may adversely affect the performance, durability or safety of this product.

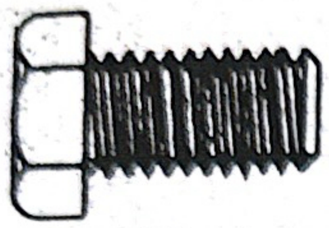
GENERAL INTRODUCTION

This operator's manual has been prepared to provide the information you need to correctly assemble, operate and maintain your tiller. Carefully read and follow the instructions in this operator's manual; with proper care and operation you will obtain long and efficient service. Should you ever need repair parts or service a complete parts breakdown and parts list has been included for your convenience.

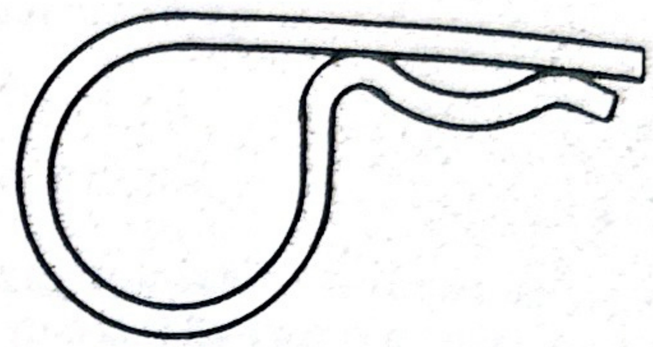
Information regarding operation and maintenance of the engine is not included in this manual. A separate instruction manual is included with your tiller and should be consulted for all information concerning engine adjustments and operation.

HARDWARE BAG CONTENTS

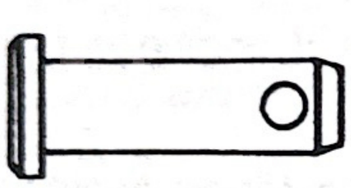
The items illustrated below are used during the assembly of your tiller. They have been drawn actual size and should be helpful in determining which items should be used in each assembly step.



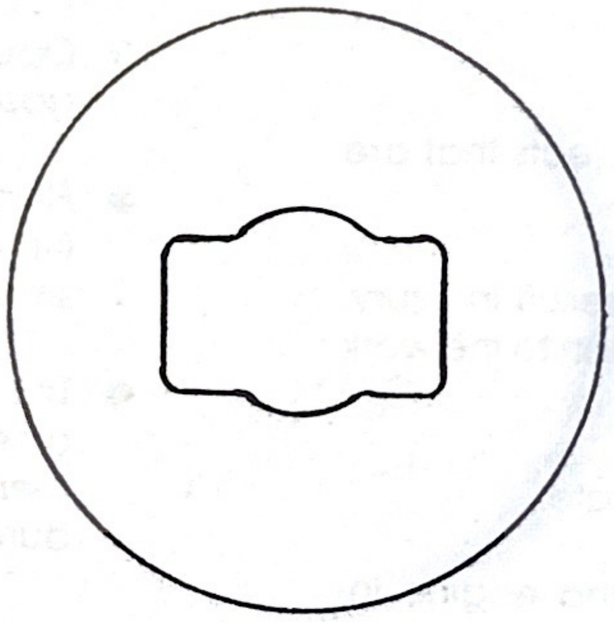
(2)
3/8 X 3/4
Hex Hd. Cap Screw
Grade 5



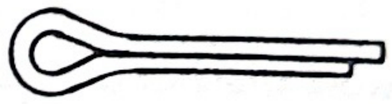
(3)
Spring Clip



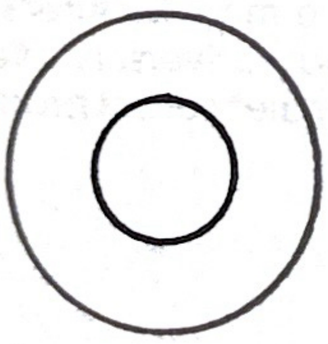
(2)
Clevis Pin



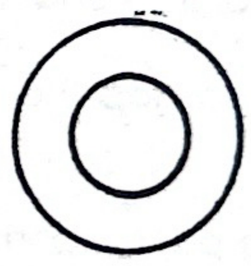
(2)
Tine Washer



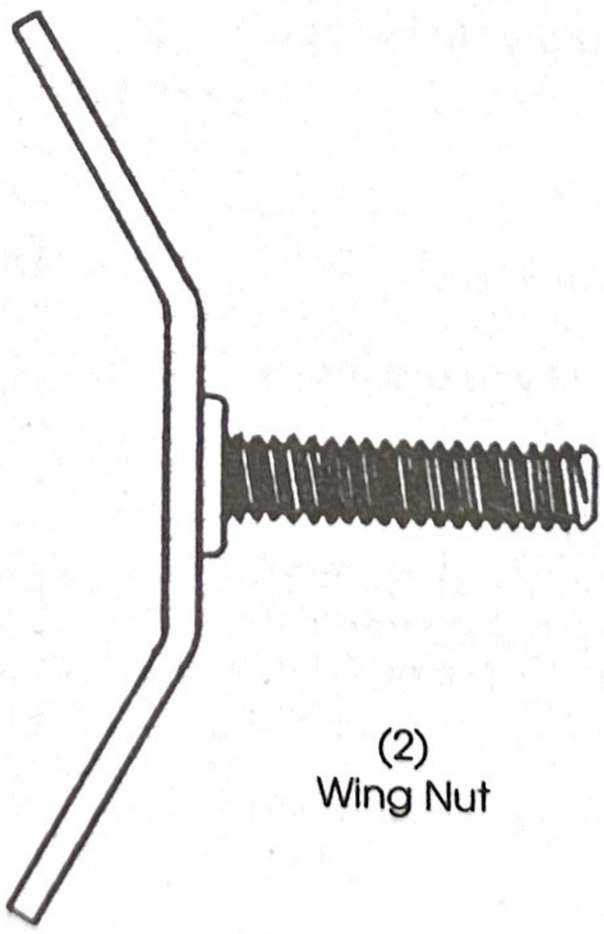
(1)
3/32 x 3/4 Cotter Pin



(2)
3/8 Flat Washer



(1)
5/16 SAE Flat Washer



(2)
Wing Nut

PREPARING TILLER FOR OPERATION

CUSTOMER NOTE! The engine on this tiller was shipped WITHOUT oil in the crankcase. See engine instructions for proper oil to use and crankcase capacity.

1. Remove the following parts from the shipping carton:

   A. Handle With Control Rod
   B. Upper Control Rod Assembly
   C. Depth Control
   D. Hardware Bag
   E. Tiller With Wheel Hanger Assembly (Loose)

   NOTE: The tiller is shipped with the tines in the 17" width. Refer to Page 9 for other tilling widths.

2. Attach the wheel hanger assembly to the tiller.

   Parts needed:
   1. Tiller With Loose Wheel Hanger
   2. Clevis Pin* (1)
   3. Spring Clip* (1)

   Insert clevis pin into hole on one side of main frame and through upper hole of wheel hanger assembly, Fig. 1.

   Push clevis pin through as far as possible. Secure with spring clip.

3. Attach the upper control rod assembly to the handle assembly.

   Parts needed:
   1. Upper Control Rod Assembly
   2. Handle Assembly
   3. 5/16 SAE Flat Washer* (1)
   4. 3/32 x 3/4 Cotter Pin* (1)

   Insert upper control rod assembly into hole in bracket on underside of handle assembly making sure that curved end of control rod on handle is inserted into slot on upper control rod assembly.

   Push upper control rod assembly through as far as possible and secure with 5/16 SAE flat washer and 3/32 x 3/4 cotter pin, Fig. 2.

4. Attach the handle assembly to the tiller.

   Parts needed:
   1. Handle With Control Rods
   2. Wing Nuts* (2)

   Handle can be assembled by placing one handle tube in position on lower handle and pulling other handle tube over lower handle. Line up holes in handle assembly with holes in lower part of handle support, Fig. 3. Turn wing nuts into handle assembly and tighten wing nuts securely.

   Inspect wing nuts often to be sure they are tight.

***This item can be found in the hardware bag.**

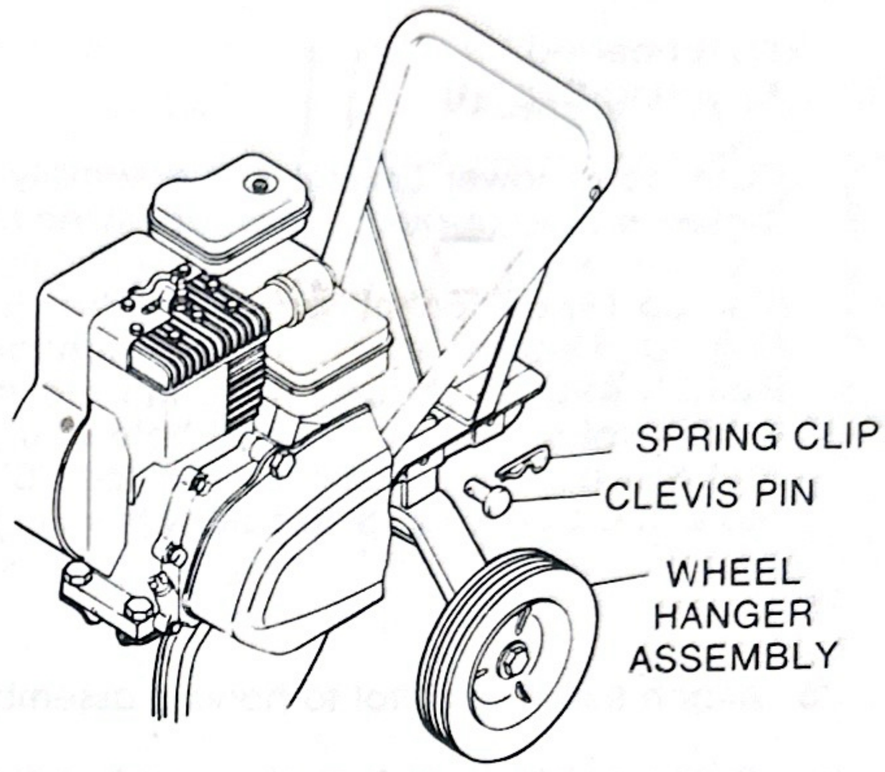


FIG. 1

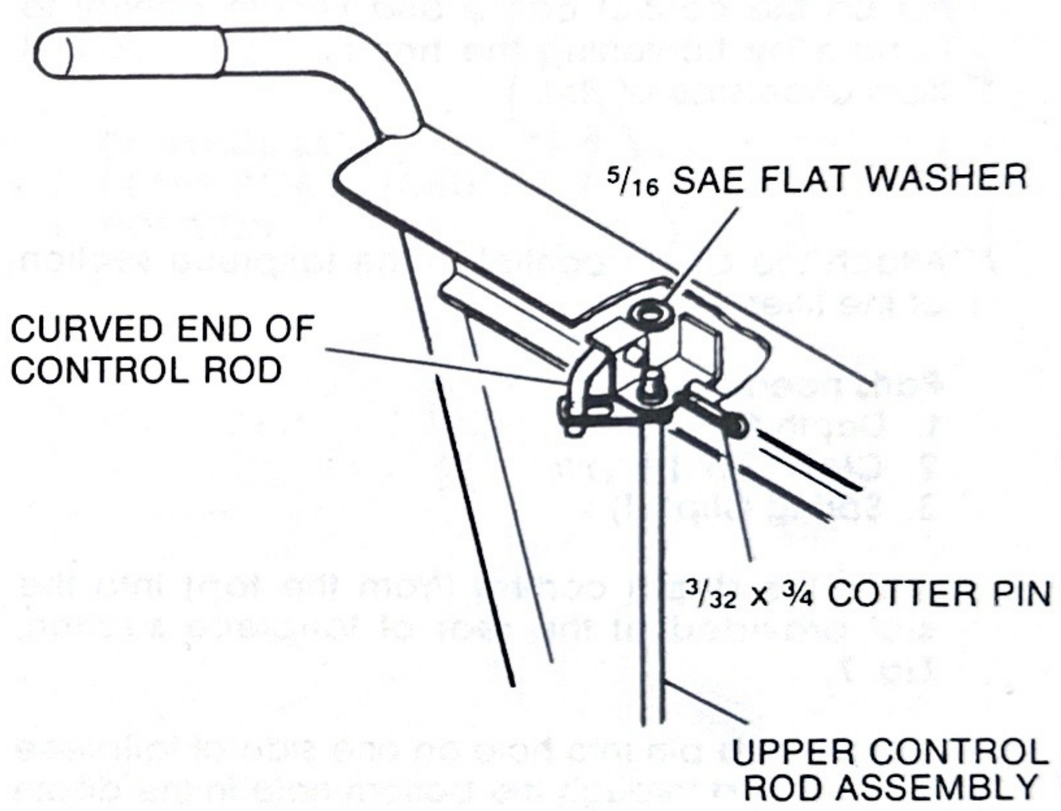


FIG. 2

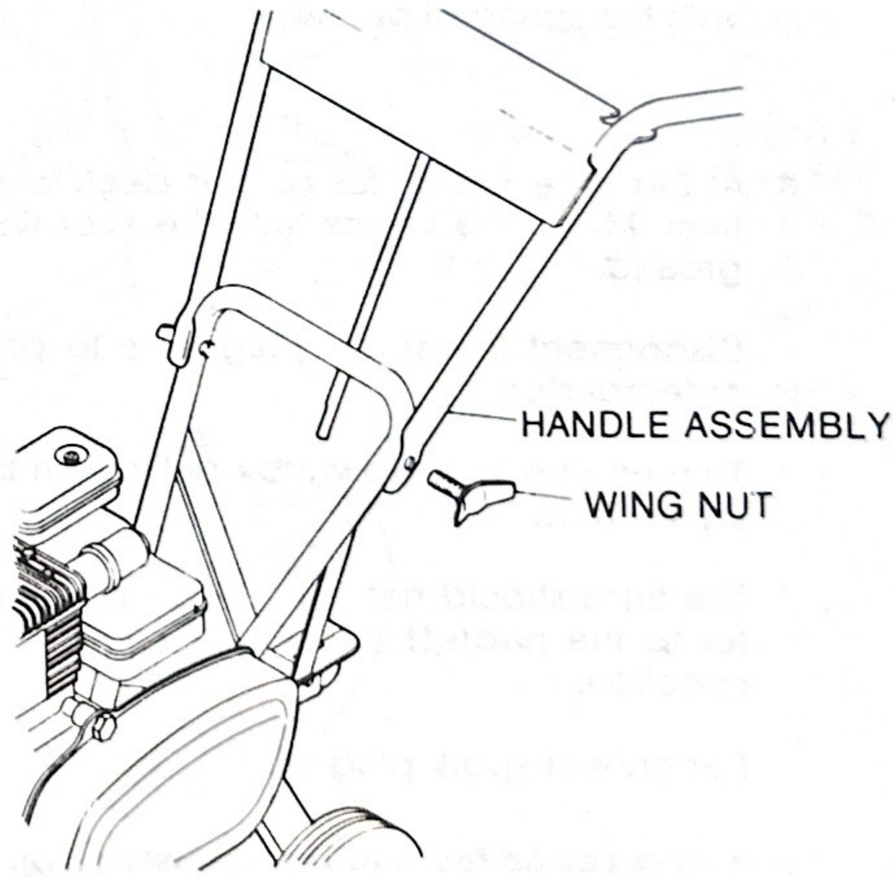


FIG. 3

5. Connect upper and lower control rods.

Parts needed:
1. Spring Clip* (1)

Push down lower control rod assembly until it is below end of upper control rod assembly, Fig. 4.

Pull up lower control rod assembly while inserting "D" shaped end of upper control rod assembly into "D" shaped holes in bracket on lower control rod assembly until hole in upper control rod assembly is below the top "D" shaped hole in bracket, Fig. 5. Secure with spring clip.

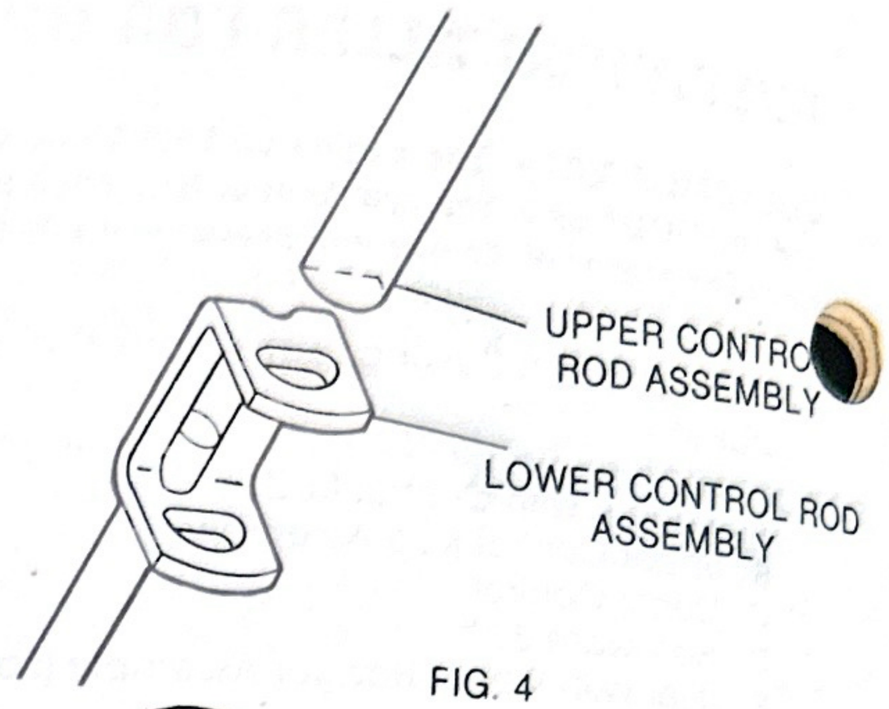


FIG. 4

6. Attach throttle control to handle assembly, Fig. 6.

Route cable over top of lower handle support and slide the threaded part of control into slot in handle shroud. Slide the lock washer and hex nut up the control cable and secure control to handle by tightening the hex nut to the control from underside of slot.

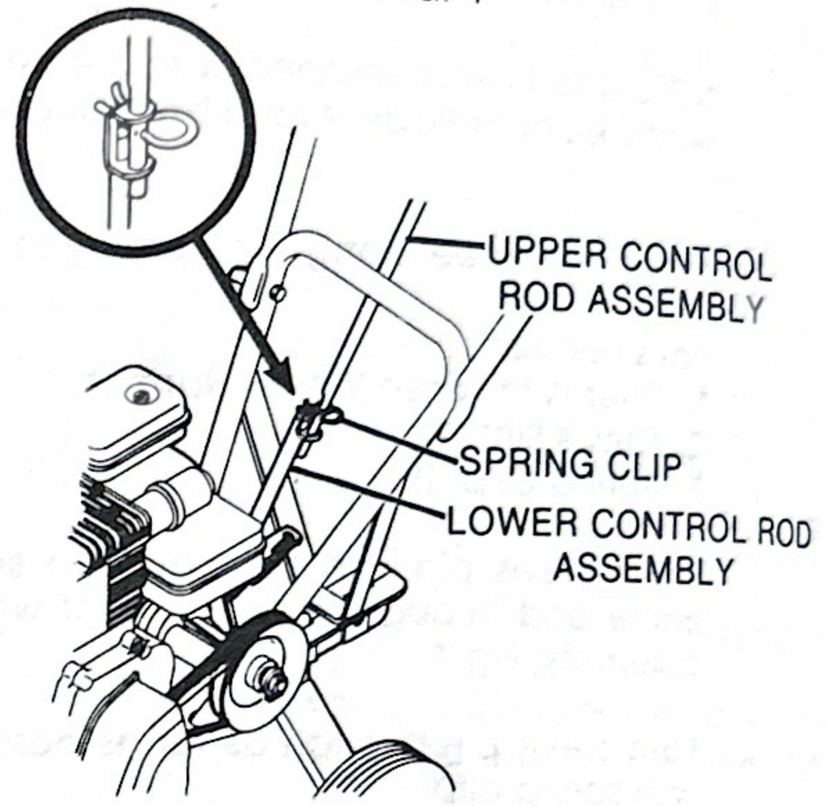


FIG. 5

7. Attach the depth control to the tailpiece section of the tiller.

Parts needed:
1. Depth Control
2. Clevis Pin* (1)
3. Spring Clip* (1)

Slide the depth control (from the top) into the slot provided at the rear of tailpiece section, Fig. 7.

Insert clevis pin into hole on one side of tailpiece section and through the bottom hole in the depth control.

Push clevis pin through as far as possible. Secure with the spring clip.

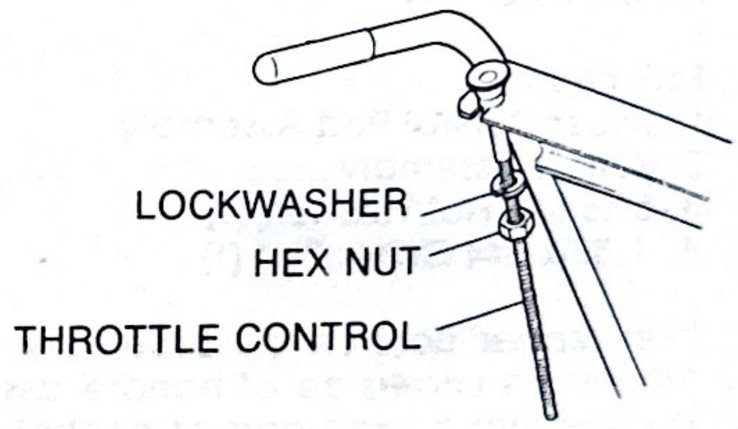


FIG. 6

8. At this time check for proper declutching of the tiller. Make this check with the tiller tines on the ground.

Disconnect the spark plug wire to prevent accidental starting.

Turn engine over slowly by pulling on the engine starter cord.

The tines should not turn. If they do, return the tiller to the nearest authorized serviceman for inspection.

Reconnect spark plug wire.

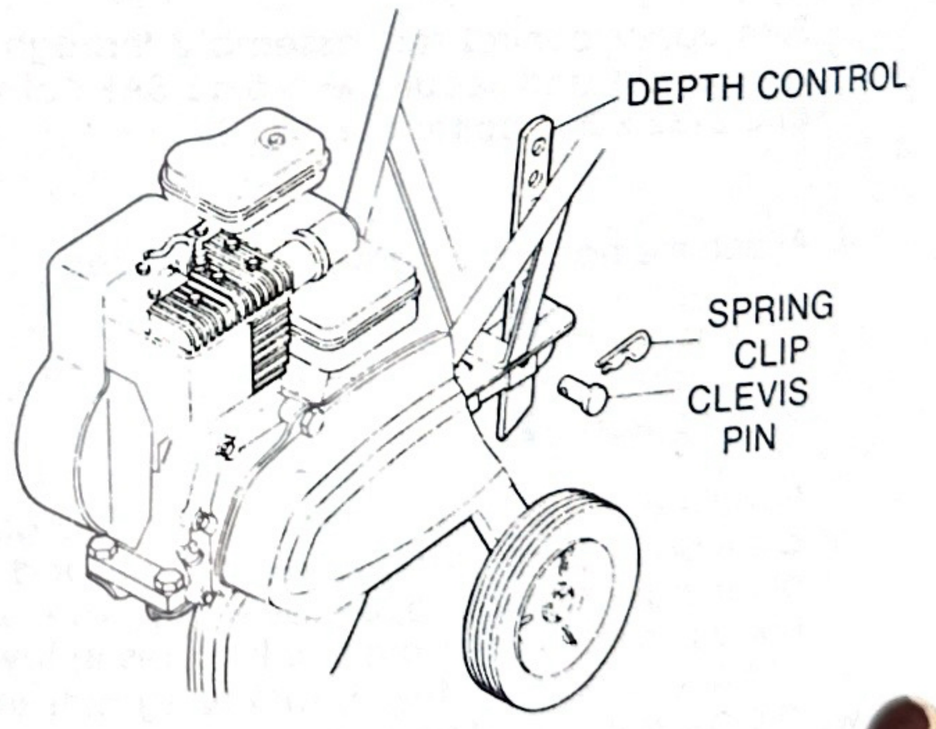


FIG. 7

***This item can be found in the hardware bag.**

INITIAL SERVICING

1. Before starting the engine, refer to the engine instructions. **Be certain that the engine crankcase is filled with the proper type oil** and that all engine service instructions have been followed completely.

2. Fill fuel tank with a clean, fresh, lead-free or leaded "regular" grade of automotive gasoline. Do not mix oil with gasoline.

3. All nuts and bolts should be checked and tightened during the first two (2) hours of use. Periodic checks should be made thereafter.

CONTROLS AND OPERATION

CLUTCH CONTROL LEVER

This lever engages the drive to the tines.

With control lever in the position shown in Fig. 8, tines will turn. Hold the handle bar firmly with lever positioned as shown.

With control lever in the position shown in Fig. 9, tines will not turn.

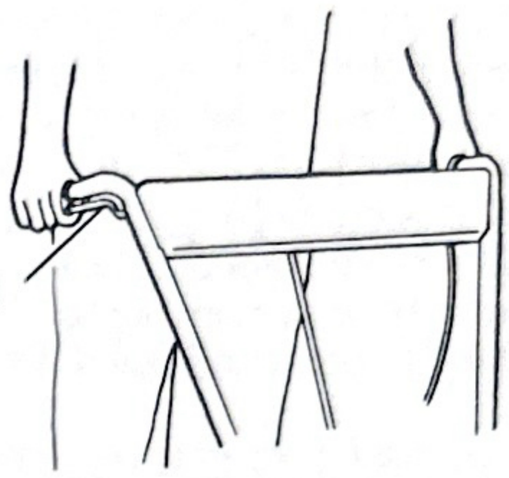


FIG. 8

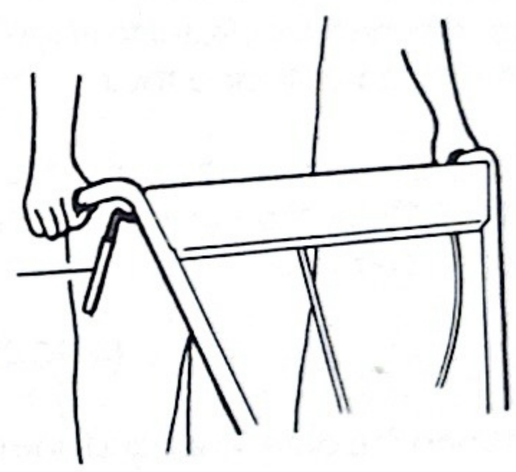


FIG. 9

THROTTLE CONTROL

This control regulates the engine speed from idle to fast and also stops the engine. It is located on the handle panel (Fig. 6). To idle engine push throttle control in. To increase speed pull throttle control out. To stop engine push throttle control all the way in.

DEPTH CONTROL

The depth control regulates the tilling depth and forward speed of the tiller. It has four (4) different depth positions, Fig. 10.

The lower you set the control, the slower the tiller will propel itself forward, but at the same time you will be increasing the working depth of the tines. By raising the depth control, you will be increasing the forward speed of the tiller but decreasing the working depth.

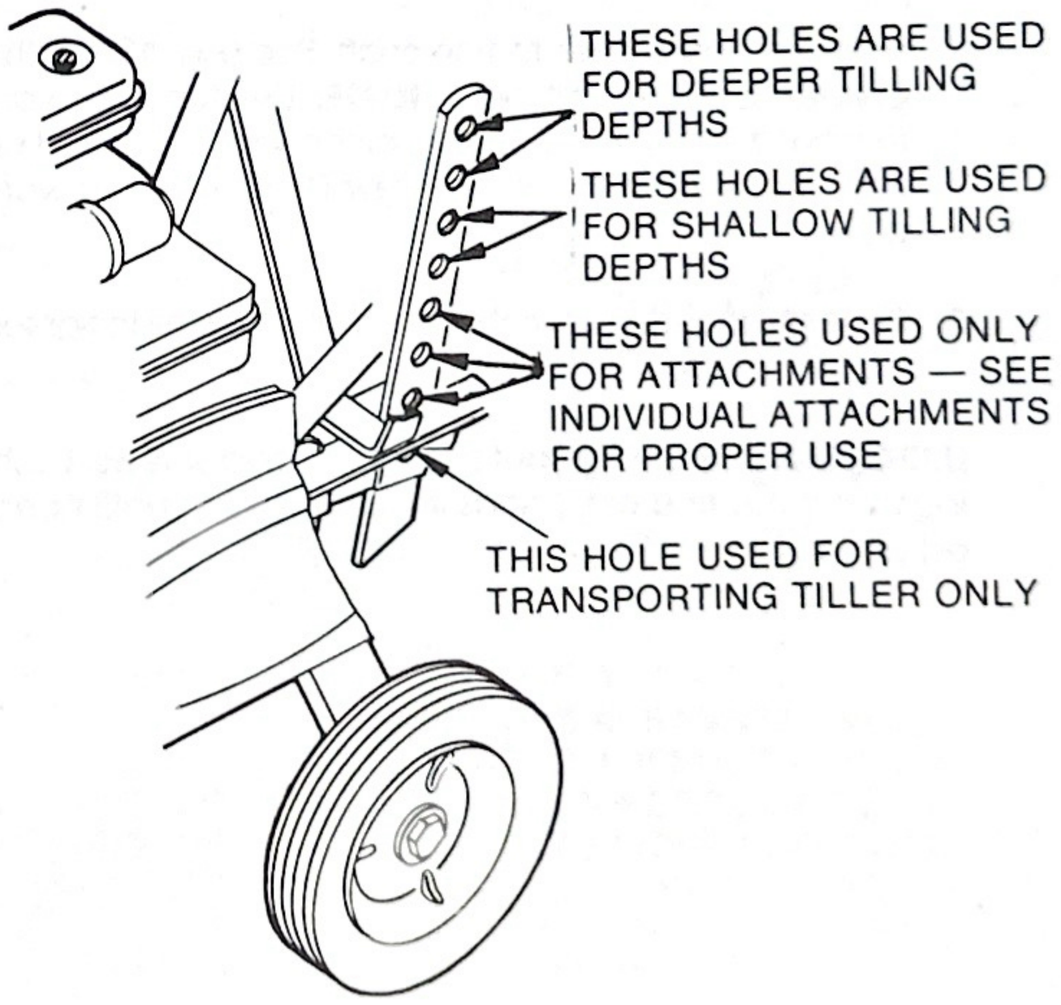


FIG. 10

STARTING THE TILLER

Now that you have located the controls and understand their operation and functions, it is time to start your tiller.

Be certain the clutch control lever is not engaged.

1. Refer to the engine starting instructions.
2. Pull throttle control about half way out.
3. Pull choke out. See engine instructions.
4. Pull out the recoil starter cord rapidly. When the engine starts, push the choke back in gradually.

To Stop Engine:

Push throttle control all the way in.

ADJUSTMENTS

WARNING: Never attempt to make adjustments on the tiller while the engine is running. Always stop the engine and disconnect the wire from the spark plug before attempting to make any adjustments.

BELT ADJUSTMENT

No adjustment required.

WHEEL HANGER ADJUSTMENT

To provide a comfortable handle bar height at various tilling depths, the wheel hanger can be adjusted in either of two (2) positions, Fig. 15.
To Adjust:

1. Remove spring clip and clevis pin.
2. Move wheel hanger to either hole position to raise or lower handle to position most comfortable to you.
3. Insert clevis pin and secure with spring clip.

SERVICING AND MAINTENANCE

TILLER CARE

The best assurance you have of getting the most dependable service from your tiller is to keep the unit clean, rust free and well lubricated.

When tiller is not being used it should be stored in a dry place out of the weather.

Check bolts often to be sure they are kept tight.

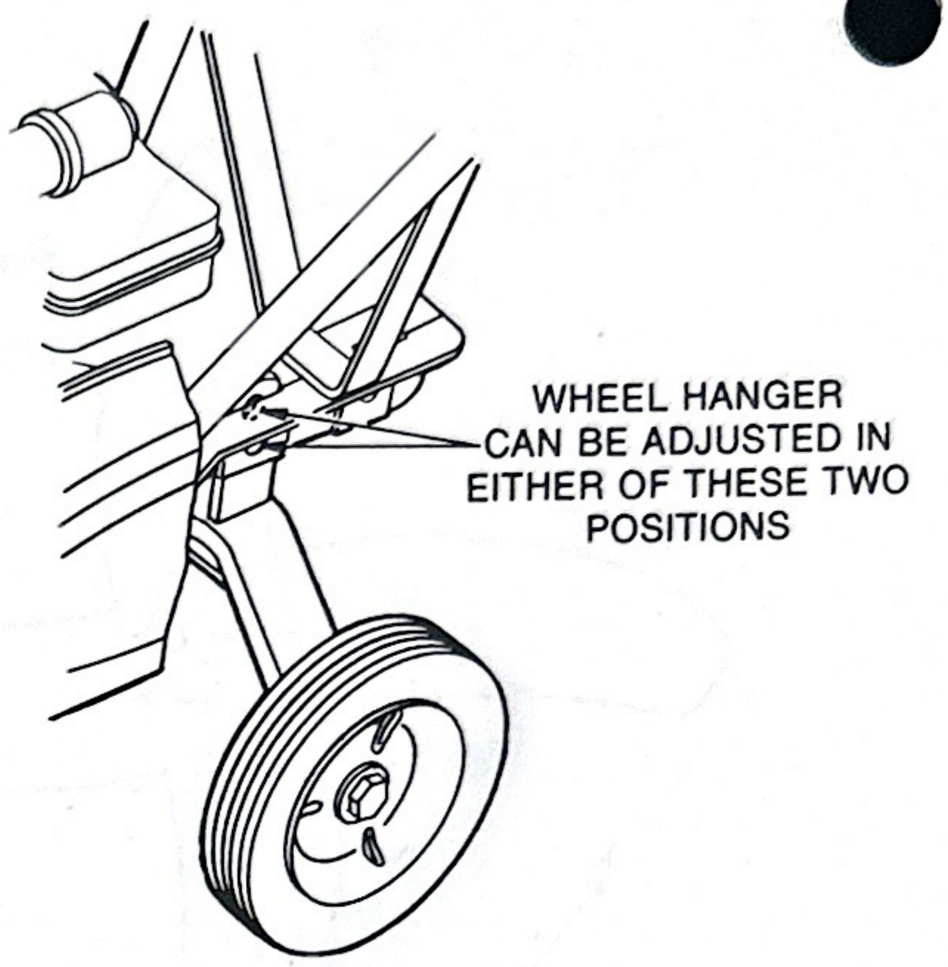


FIG. 15

LUBRICATION

1. **Engine** — Refer to the engine operating instructions for all maintenance and lubrication instructions and requirements.
2. **Wheels** — Remove, clean and lubricate wheels once a season for average home use using SAE 30 wt. oil.
3. **Idler Pulley Shaft** — Oil shaft, Fig. 16, once a season for average home use using SAE 30 wt. oil. Turn idler pulley while oiling to distribute oil evenly. Note: Be careful not to get any oil onto the belt.
4. **Chain Case** — To check the oil level of the tiller chain case raise handle until it is approximately straight up and down. Wipe dirt from around oil fill screw and remove, Fig. 17. Oil should be level with the bottom of the oil fill screw hole in this

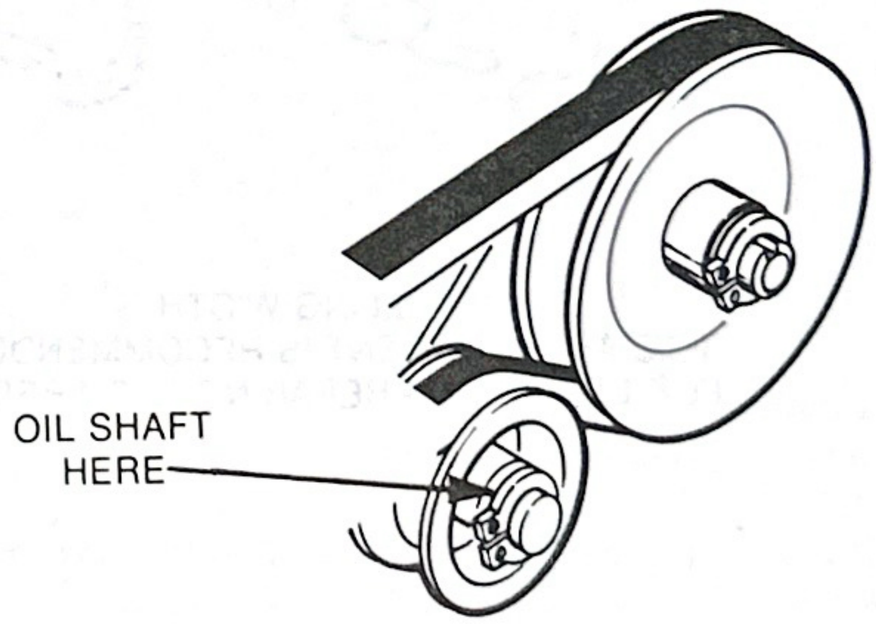


FIG. 16

position. If it isn't, add (EP) SAE 140 heavy-duty oil to bring oil up to proper level. Replace oil fill screw after oil is at proper level. The oil level should be checked after every 25 hours of operation, or if there are signs of continuous leakage.

BELT ADJUSTMENT

No adjustment required. Belt is adjusted by the spring loaded idler pulley, (Fig. 19).

BELT REPLACEMENT

The belt on this tiller was specifically designed and engineered to provide long, trouble-free service. If belt replacement is required, order the part number shown in the parts list section of this manual, to be sure you have a belt that will provide the life and service required.

To Replace Belt:

1. Remove belt guard from tiller. Save the hardware, (Fig. 18).

2. Loosen (do not remove) the hardware holding the (2) belt fingers. Remove old belt by slipping the belt over the front of engine pulley, (Fig. 19), and turning pulley until belt comes off. Remove from rear input pulley.

3. Replace with new belt. When replacing the belt, fit the belt around the rear input pulley first and then around the front of the engine pulley, (Fig. 19). Position belt fingers $^{1}/_{16}$" from pulley and tighten belt fingers in this position.

4. Replace belt guard. **The belt guard must always be secured to tiller before operating.**

STORAGE

This tiller can be compactly stored or transported by loosening the two (2) wing nuts, removing spring clip from control rods and pushing lower control down separating the two rods. Handle can then be folded over top of engine.

For short term storage, clean the tiller off and store in a dry place.

1. Refer to the engine instructions for engine storage instructions.

2. Drain gasoline from fuel tank.

3. Run engine until it stops.

4. Cover exposed metal surfaces with a thin coat of SAE #30 wt. oil.

5. Lubricate per instructions under SERVICING MAINTENANCE.

6. Before using the tiller again, check all lubrication points, fill fuel tank and review the safety and operating instructions in this operator's manual.

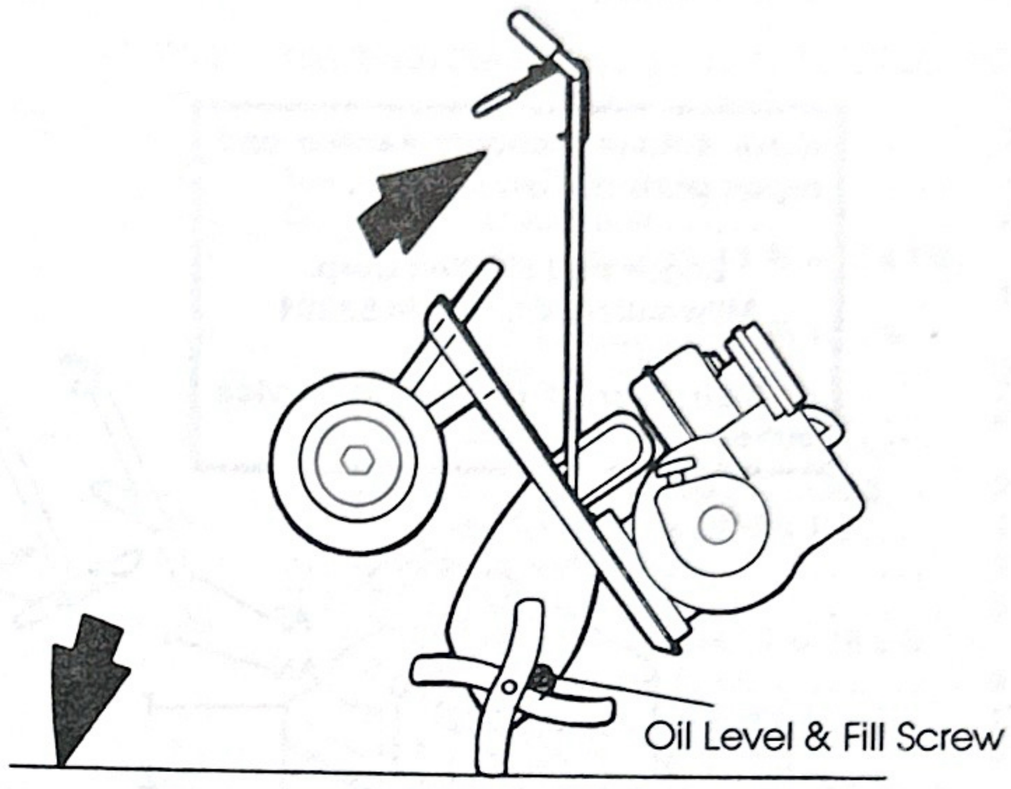


FIG. 17

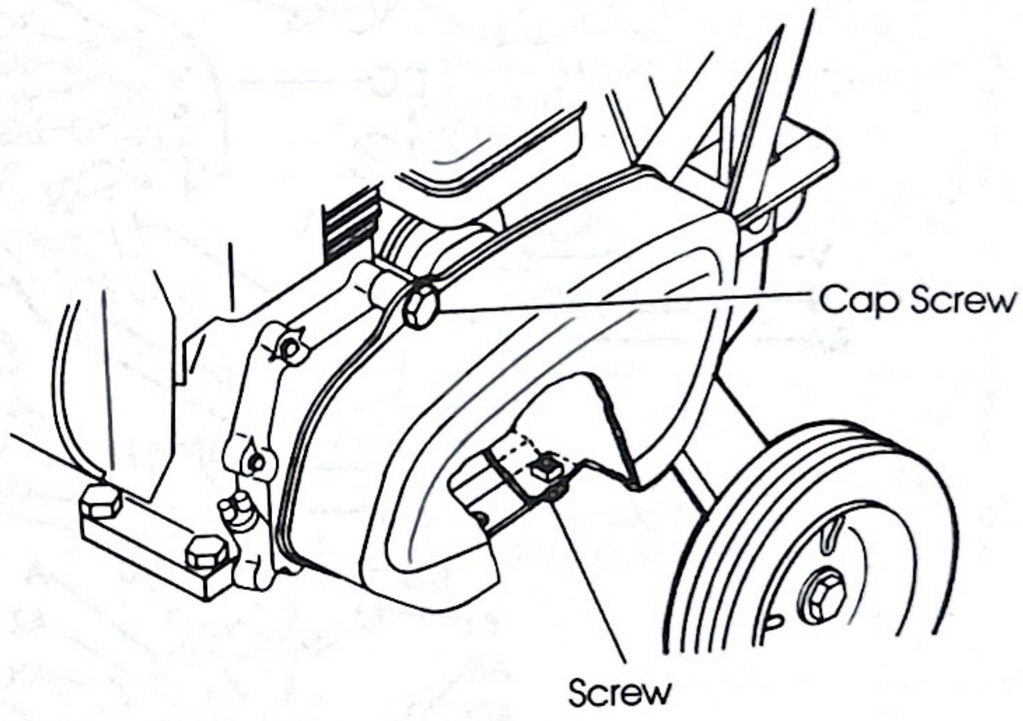


FIG. 18

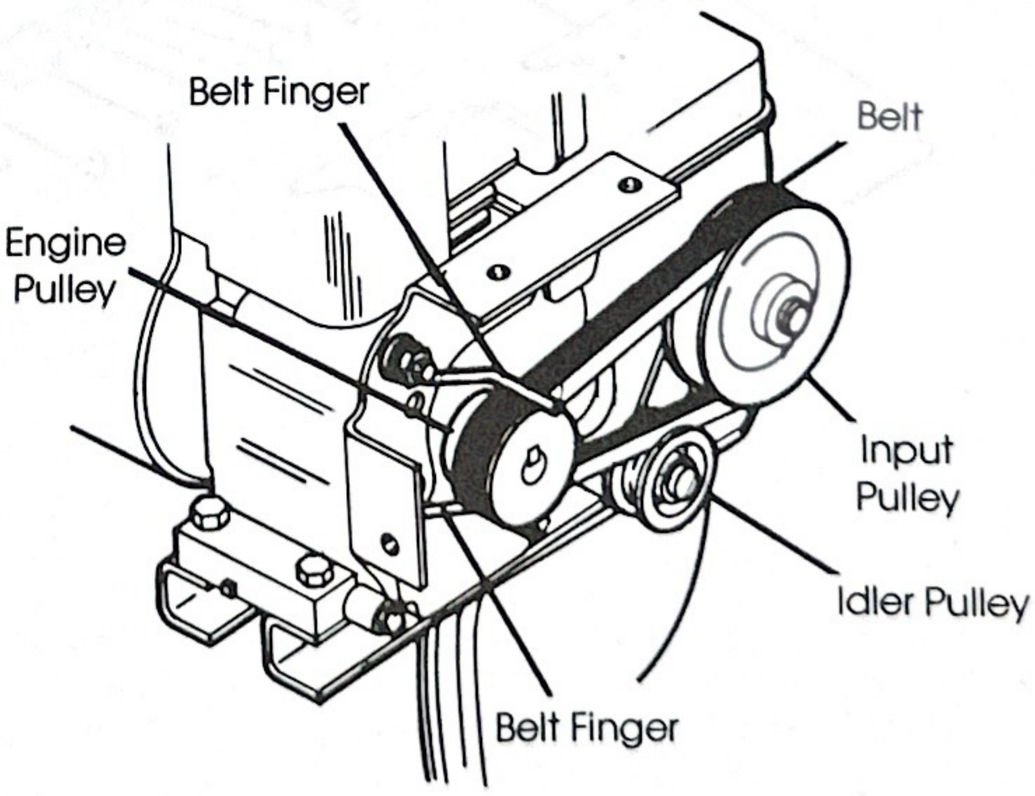


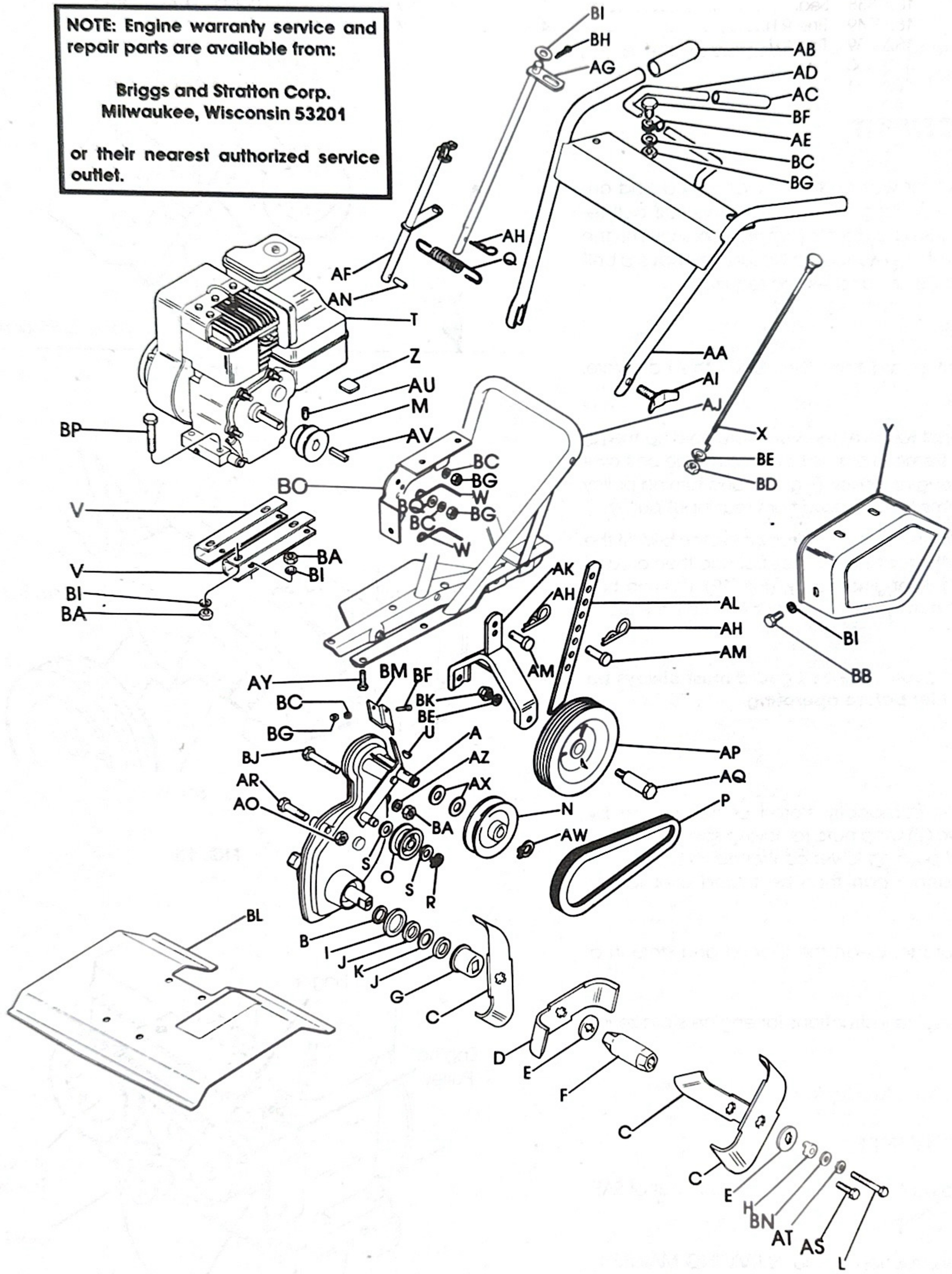
FIG. 19

TILLER PARTS

NOTE: Engine warranty service and repair parts are available from:

Briggs and Stratton Corp.
Milwaukee, Wisconsin 53201

or their nearest authorized service outlet.



TILLER PARTS LIST

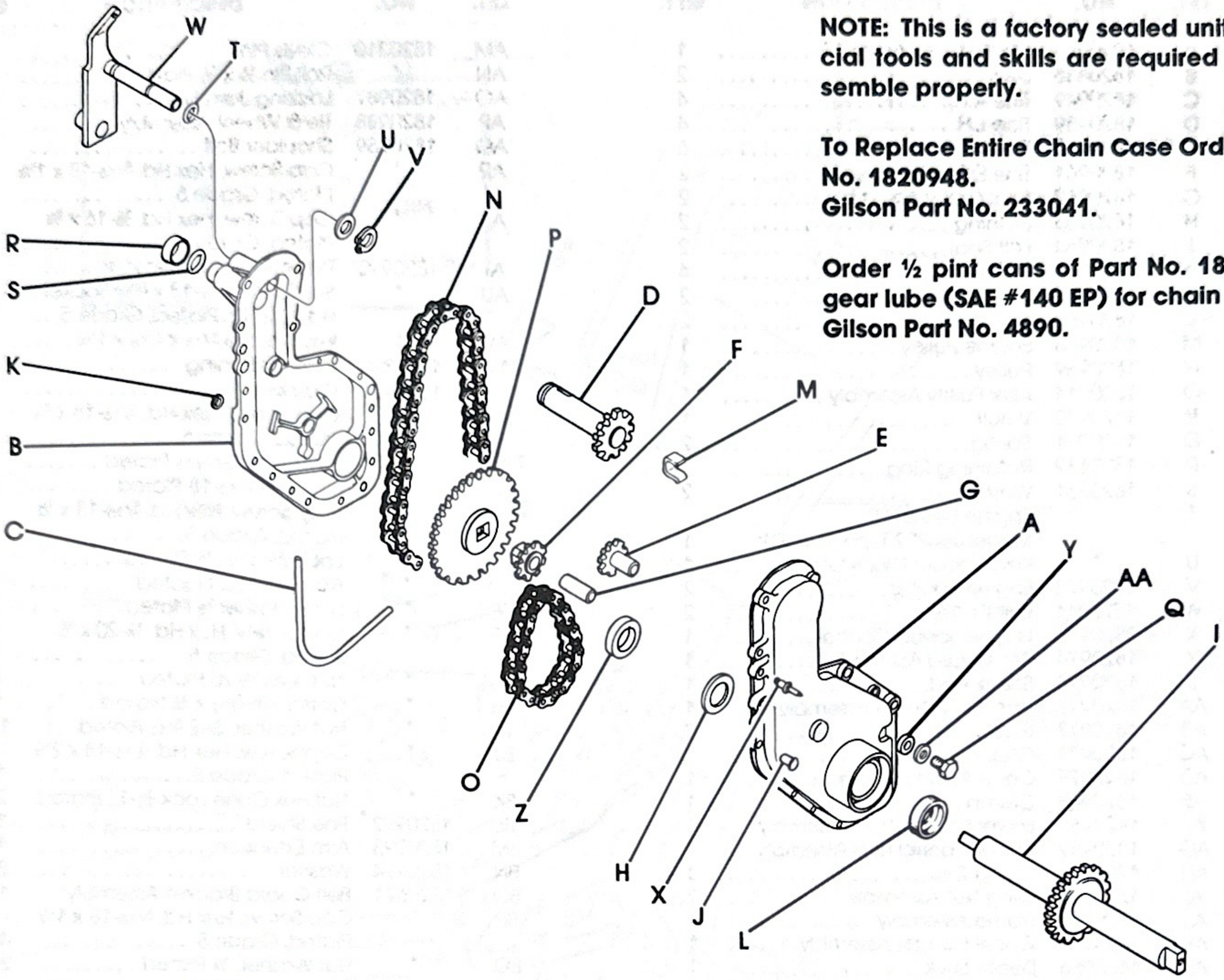
REF. LET.	PART NO.	DESCRIPTION	QTY.
A	1820948	Chain Case Assembly	1
B	1820838	Seal	2
C	1820949	Tine-R.H.	4
D	1820959	Tine-L.H.	4
E	1820960	Tine Washer	6
F	1820961	Tine Extension	2
G	1820962	Seal Collar Assembly	2
H	1820963	Bushing	2
I	1820964	Felt Seal	2
J	1820965	Felt Seal	4
K	1820966	Washer	2
L	1820967	Tine Bolt	2
M	1820968	Engine Pulley	1
N	1820969	Pulley	1
O	1820714	Idler Pulley Assembly	1
P	1820970	V-Belt	1
Q	1820971	Spring	2
R	1820139	Retaining Ring	1
S	1820331	Washer	2
T		Engine B&S 3 H.P. Model 080202 Type 1827-01	1
U	*	Key, Woodruff 1/8 x 5/8 Grade 5	1
V	1820972	Engine Spacer	2
W	1823011	Belt Finger	2
X	1820973	Engine Speed Control	1
Y	1820974	Belt Guard Assembly	1
Z	1820975	Shock Pad	1
AA	1820976	Handle & Decal Assembly	1
AB	1820977	Grip	2
AC	1820978	Grip	1
AD	1820979	Control Rod-Handle	1
AE	1820980	Clamp	1
AF	1820981	Lower Control Rod Assembly	1
AG	1820982	Upper Control Rod Assembly	1
AH	1703011	Spring Clip	3
AI	1820983	Wing Nut Assembly	2
AJ	1820984	Frame Assembly	1
AK	1820985	Wheel Hanger Assembly	1
AL	1820986	Depth Stick	1

REF. LET.	PART NO.	DESCRIPTION	QTY.
AM	1820310	Clevis Pin	2
AN	*	Roll Pin 1/8 x 3/4 Plated	1
AO	1820987	Locking Jam Nut	1
AP	1820988	Tie & Wheel Assembly	2
AQ	1820989	Shoulder Bolt	2
AR	*	Cap Screw, Hex Hd. 5/16-18 x 1 5/8 Plated, Grade 5	1
AS	*	Cap Screw, Hex Hd. 3/8-16 x 3/4 Plated, Grade 5	2
AT	1820990	Pyramidal Lock Washer	2
AU	*	Set Screw 5/16-18 x 5/16 Socket Hd. Cup Pt. Plated, Grade 5	2
AV	*	Key Square 3/16 x 3/16 x 1 1/4	1
AW	1820820	Ring, Retaining	1
AX	1820991	Washer	3
AY	*	Cap Screw, Hex Hd. 5/16-18 x 3/4 Plated, Grade 5	4
AZ	*	Lock Washer 5/16 Plated	1
BA	*	Nut, Hex 5/16-18 Plated	9
BB	*	Cap Screw, Hex Hd. 5/16-18 x 1/2 Plated, Grade 5	3
BC	*	Lock Washer 1/4 Plated	4
BD	*	Nut, Hex 3/8-24 Plated	1
BE	*	Lock Washer 3/8 Plated	3
BF	*	Cap Screw, Hex Hd. 1/4-20 x 1/2 Plated, Grade 5	1
BG	*	Nut, Hex 1/4-20 Plated	4
BH	*	Cotter Pin 3/32 x 3/4 Plated	1
BI	*	Flat Washer, SAE 5/16 Plated	12
BJ	*	Cap Screw, Hex Hd. 5/16-18 x 2 1/4 Plated, Grade 5	1
BK	*	Nut,Hex Cone Lock 3/8-16 Plated	2
BL	1820992	Tine Shield	1
BM	1820993	Arm Extension	1
BN	1820994	Washer	2
BO	1820691	Belt Guard Bracket Assembly	1
BP	*	Cap Screw, Hex Hd. 5/16-18 x 1 1/2 Plated, Grade 5	4
BQ	*	Flat Washer, 1/4 Plated	2

* Common Hardware. May Be purchased locally.

£ All assemblies that list decals have only operational, instructional and safety decals. Other kinds of decals must be ordered separately.

CHAIN CASE ASSEMBLY PARTS AND PARTS LIST



NOTE: This is a factory sealed unit. Special tools and skills are required to assemble properly.

To Replace Entire Chain Case Order Part No. 1820948.
Gilson Part No. 233041.

Order ½ pint cans of Part No. 1820749 gear lube (SAE #140 EP) for chain case. Gilson Part No. 4890.

REF. LET.	PART NO.	DESCRIPTION	QTY.
A	1820863	Chain Case R.H.	1
B	1820995	Chain Case L.H. w/Bearing	1
C	1820865	Gasket	1
D	1820866	Input Sahft	1
E	1820867	Idler Sprocket 9 Tooth	1
F	1820996	Sprocket 8 Tooth	1
G	1820869	Shaft-Sprocket	1
H	1820846	Thrust Washer	1
I	1820997	Tine Shaft Assembly	1
J	1820874	Rivet	16
K	1820041	Washer	16
L	1820838	Oil Seal	2
M	1820876	"U" Clip	1
N	1820877	#35 Rollerless Chain	1
O	1820998	#40 Roller Chain	1
P	1820999	Sprocket 42 Tooth	1
Q	*	Cap Screw, Hex Hd. 5/16-18 x ½ Plated, Grade 5	1
R	1820830	Seal Cup	1
S	1820831	O-Ring	1
T	1823000	O-Ring	1
U	1823001	O-Ring	1
V	1823002	Retaining Ring 7/16	1
W	1823003	Idler Arm Assembly	1
X	1820883	Pop Rivet	2
Y	1820839	Nylon Washer	1
Z	1823004	Spacer	1
AA	*	Washer, Flat SAE 5/16 Plated	1

* Common Hardware. May Be Purchased Locally.

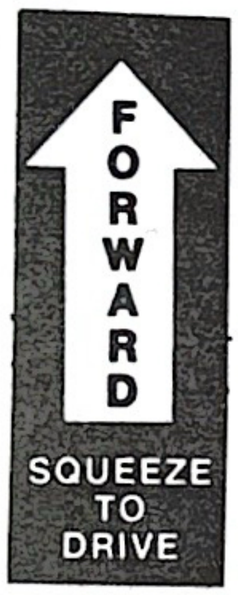
REPLACEMENT DECALS

209635
1823006
Decal - Throttle

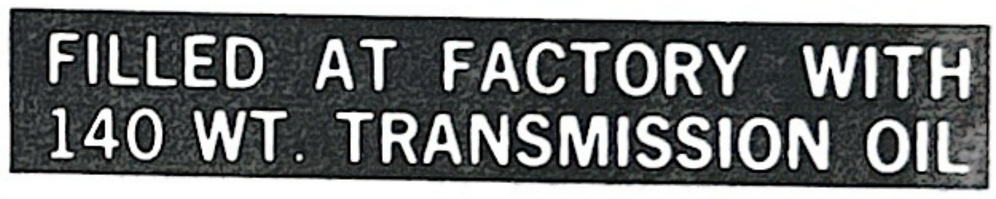
238022
1823005
Decal - Handle

237844
1823008
Decal - Warning

216959
1823010
Decal - 3 H.P.



34806
1823007
Decal - Clutch - Fwd.



9360
1820743
Decal - Filled At Factory

218790
1820745
Decal - Belt Guard

LIMITED WARRANTY

All new Bolens equipment is warranted by Bolens Corporation, to the original retail purchaser only, to be free from defects in material and workmanship under normal use and service for a period of one year from date of purchase. (This period is limited to 90 days if product is purchased for commercial, institutional, industrial, rental or demonstrator use.). This 90 day limitation does not apply to the Bolens QT, HT and Diesel Model tractors and their attachments manufactured at Bolens. This warranty does not apply to engines manufactured by Briggs and Stratton, Tecumseh, Kohler and Wisconsin or transmission manufactured by Peerless Warranties with respect to these components are provided by their respective manufacturers and copies of such warranties are delivered with each new Bolens product.

Bolens Corporation's obligation under this warranty is limited to the repair or replacement, at its option by an authorized Bolens equipment dealer, of any part found to be defective in material or workmanship without charge for parts and labor.

In order to obtain warranty service, the owner is responsible for

1) Providing proof of purchase documentation, ownership registration or copy of bill of sale
2) Informing any authorized Bolens equipment dealer of the defect and making the product available for repair. (Charges for pick-up delivery and service calls are not covered by this warranty.)

This warranty does not cover defects, malfunctions or failures caused by:

1) Use of unauthorized accessories or attachments.
2) Lack of reasonable and necessary maintenance as specified in the "Operation and Safety Instructions".

DISCLAIMER OR CONSEQUENTIAL DAMAGES BOLENS CORPORATION SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR EXPENSE OF ANY KIND, INCLUDING BUT NOT LIMITED TO COST OF EQUIPMENT RENTAL, LOSS OF PROFITS OR COST OF HIRING SERVICES TO PERFORM TASKS NORMALLY PERFORMED BY THE EQUIPMENT.

LIMITATION OF IMPLIED WARRANTIES: ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED IN DURATION TO A PERIOD OF ONE YEAR (90 DAYS IF PRODUCT IS PURCHASED FOR COMMERCIAL, INSTITUTIONAL, INDUSTRIAL, RENTAL OR DEMONSTRATOR USE) FROM THE DATE OF SALE.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSQUENTIAL DAMAGES, OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Bolens Corporation
215 South Park Street
Port Washington, Wisconsin 53074

IDENTIFICATION NUMBERS

To ensure prompt service when repairs or adjustments are required, your Bolens Dealer must have the following information:

1. Model number of unit.

   _____

2. Serial number of unit.

   _____

3. Model number of engine.

   _____

4. Serial and Spec. number of engine.

   _____

When ordering engine component parts, consult the Engine Manufacturer.

NOTICE: The model number and serial number of your unit are stamped on a decal which is on the back of the tiller above the tine shield. Engine model, type and code numbers are stamped on the side of the engine blower housing near the air cleaner. Record these numbers in the spaces provided above.