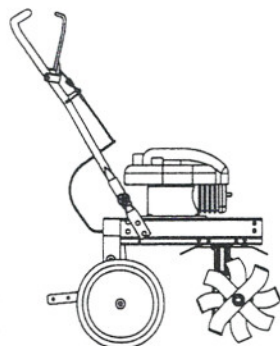


THE BADGER

Gear Drive Rototiller

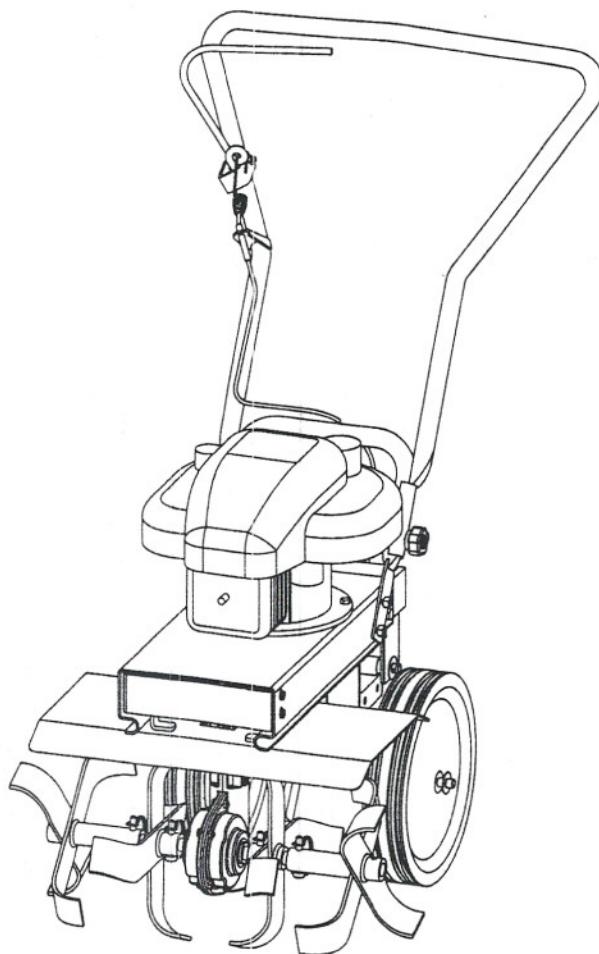
Operator's Manual



Transport Position



Operating Position



Includes Models

3100-3100GS

3200-3200GS

OM3100

Rev. 2/01

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WARRANTY AND REGISTRATION

Thank You . . .

for purchasing an Ardisam front tine rototiller. We guarantee that this front tine rototiller conforms to applicable North American safety standards, and have worked to ensure that it will meet your exacting standards for usability and durability. With proper care, your rototiller will provide many years of service.

Please take time to read this manual carefully to learn how to operate and service your rototiller correctly. Failure to do so could result in personal injury or equipment damage. This manual should be considered a permanent part of your rototiller. Congratulations on your investment in quality.

ONE YEAR LIMITED WARRANTY

The Ardisam, Inc., Manufacturing Company warrants this rototiller to be free from defects in material or workmanship. Conditions of this warranty include:

What is covered under warranty:

For the first year from the date of purchase, Ardisam will furnish 100% parts and labor to correct any defect caused by faulty material or workmanship. During the second year of ownership, Ardisam will furnish 100% of the parts to correct any defect caused by faulty material or workmanship. All repairs made under warranty must have prior approval from Ardisam, Inc. Items subject to normal wear and tear, such as belts, batteries, tines, shear bolts and tires, due to the nature of their function are not covered under this warranty. Any unit used in a commercial application is covered for a period of 90 days after purchase. The engine is covered under a separate warranty issued by the engine manufacturer as stated in the engine manual.

What is not covered under warranty:

This warranty applies only to products which have not been repaired or altered outside our factory. It covers only defects resulting from normal use, and does not cover defects arising from misuse, alteration, negligence, or accident. This warranty applies only to the original purchaser, and is not transferrable.

This warranty supersedes all other warranties either expressed or implied and all other obligations or liabilities on our part. Ardisam, Inc., does not assume, and does not authorize any other person to assume for us, any liability in connection with the sale of our products. This guarantee is void unless the warranty card is properly filled out and returned to Ardisam, Inc., Cumberland, Wisconsin, within two weeks of the purchase date.



ARDISAM, INC.

POWER AUGERS ★ ICE SHELTERS ★ ROTOTILLERS
TREE STANDS ★ CHIPPER SHREDDERS ★ EDGERS
1360 1st Avenue; P.O. Box 666
Cumberland, Wisconsin 54829
(715) 822-2415 Fax (715) 822-4180

1-800-3456-007

www.ardisam.com



CAUTION

You must read, understand and comply with all safety and operating instructions in this manual before attempting to setup and operate this equipment.

Failure to comply with all safety and operating instructions can result in loss of machine control, serious personal injury to you and/or bystanders, and risk of equipment and property damage. The triangle in the text signifies important cautions or warnings which must be followed.



CAUTION

Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.

For easy reference, please record the information on the chart below.

The Rototiller Reference Data can be found on the identification tag located on the unit's left engine mount. (Refer to the engine manual for location of engine information and serial number.)

ROTOTILLER REFERENCE DATA

| | |
|------------------------------|-------------------------|
| Model Description/Number | |
| M/N (Manufacturer's Number) | S/N (Serial Number) |
| Dealer Name | Date Purchased |
| ENGINE REFERENCE DATA | |
| Engine Make/Model | Engine ID/Serial Number |



SECTION CHECKLIST

- Owner's Responsibility
- Cautions and Important Notes
- Important Safety Instructions

OWNER'S RESPONSIBILITY

Safe and effective use of the rototiller is the owner's responsibility.

1. Read and follow all safety instructions.
2. Maintain the tiller according to directions and schedule included.
3. Ensure that anyone who uses the tiller is familiar with all controls and safety precautions.

CAUTIONS AND IMPORTANT NOTES

Two symbols which draw attention to information of special importance appear throughout this manual. These comments range in importance from helpful hints to warnings about risk of personal injury. Please take the time to read and understand them.



Indicates a situation which may cause personal injury. It means - attention! Become alert! Your safety is involved.



Provides helpful information for proper assembly, operation, or maintenance of your rototiller.

IMPORTANT SAFETY INSTRUCTIONS

Please read this section carefully. Operate the tiller according to the safety instructions and recommendations outlined here and inserted throughout the text. Make sure anyone who uses the tiller has read the instructions and is familiar with the controls.

GENERAL

- **CAREFULLY READ THIS MANUAL AND FOLLOW ALL INSTRUCTIONS.**
- Be familiar with all controls before operating the tiller. Your tiller is equipped with a safety device that enables you to stop the tines quickly in an emergency. Learn how the drive safety control lever works and how to control the tiller at all times.
- Never allow children to operate the tiller. Keep small children away from the area being tilled. Do not allow adults to operate the tiller without proper instruction.
- Do not operate the tiller under the influence of alcohol or drugs.

PREPARATION

- Dress appropriately when operating the tiller. Always wear sturdy footwear. Never wear sandals, sneakers, or open shoes, and never operate the tiller with bare feet. Do not wear loose clothing that might get caught in moving parts.
- Carefully inspect the area to be tilled, and remove all foreign objects. Do not till above underground water lines, gas lines, electric cables, or pipes. Do not operate the tiller in soil with large rocks and foreign objects which can damage the equipment.
- Disengage drive safety control lever before starting the engine.
- Handle fuel with care; it is highly flammable.
 - a. Use an approved fuel container.
 - b. Never add fuel to a running engine or hot engine.
 - c. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
 - d. Replace gasoline cap securely and clean up spilled fuel before restarting.
- Never attempt to make any adjustments while the engine is running.



OPERATION SAFETY

OPERATION

- Never operate the tiller without guards, covers, and hoods in place.
- Keep hands, feet, and clothing away from rotating parts. Keep clear of tiller tines at all times.
- Tines rotate when tiller is engaged in **forward**- in **forward**, tines rotate when the drive safety control lever is pulled down. Releasing the drive safety control lever to **neutral** stops the tines.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- After striking a foreign object, stop the engine, remove the wire from the spark plug and secure, thoroughly inspect the tiller for any damage, and repair the damage before restarting and operating the tiller.
- If vegetation clogs the tines, **STOP THE ENGINE AND DISCONNECT THE SPARK PLUG WIRE** before removing vegetation by hand.
- Engine muffler will be hot from operation. Do not touch it with bare skin or a severe burn may result.
- If the unit should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Do not run the engine indoors; exhaust fumes are dangerous.
- Do not overload the machine capacity by attempting to till too deep at too fast a rate.

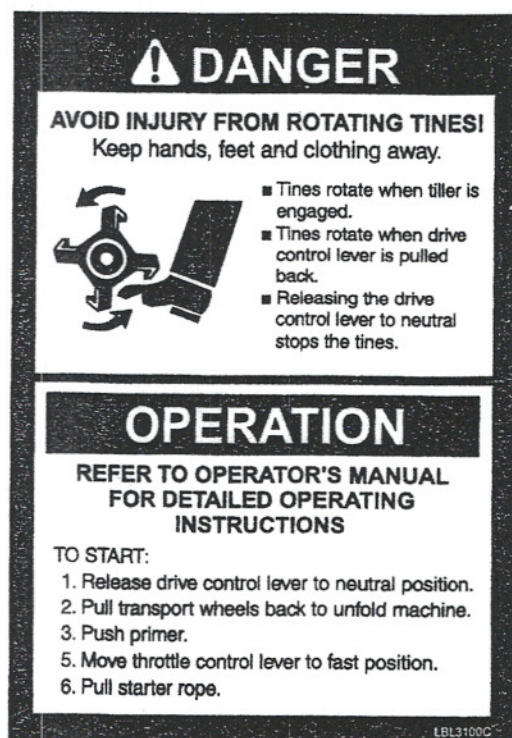
- Never allow bystanders near the unit.
- Never operate the tiller without good visibility or light.
- Take all possible precautions when leaving the machine unattended. Disengage drive control lever, stop the engine, wait for all moving parts to stop, and make certain guards and shields are in place.
- When leaving the operating position for any reason:
 - shut off the engine.
 - wait for all moving parts to stop.

MAINTENANCE AND STORAGE

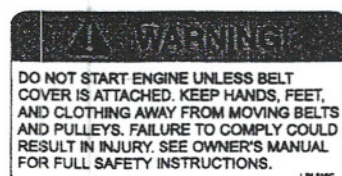
- Keep machine, attachments, and accessories in safe working condition.
- Check shear bolts, engine mounting bolts, and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- To prevent accidental starting, always disconnect the spark plug wire from the spark plug before performing tiller maintenance.
- Never run the engine indoors. Exhaust fumes are deadly.
- Always allow muffler to cool before filling fuel tank.
- Never store equipment with gasoline in the tank inside a closed building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any building.
- Always refer to the operator's guide instructions for important details if the tiller is to be stored for an extended period.

SAFETY DECALS

Safety warning decals are placed at strategic locations on the equipment as a constant reminder to the operator of the most important precautions. All warning, caution and instructional messages on your equipment should be carefully read and obeyed. **If any of these decals are lost or damaged, replace them at once.** They can be purchased from Ardisam, Inc.



Part No. LBL3100C
TINES DANGER/OPERATION / Hood
Decal



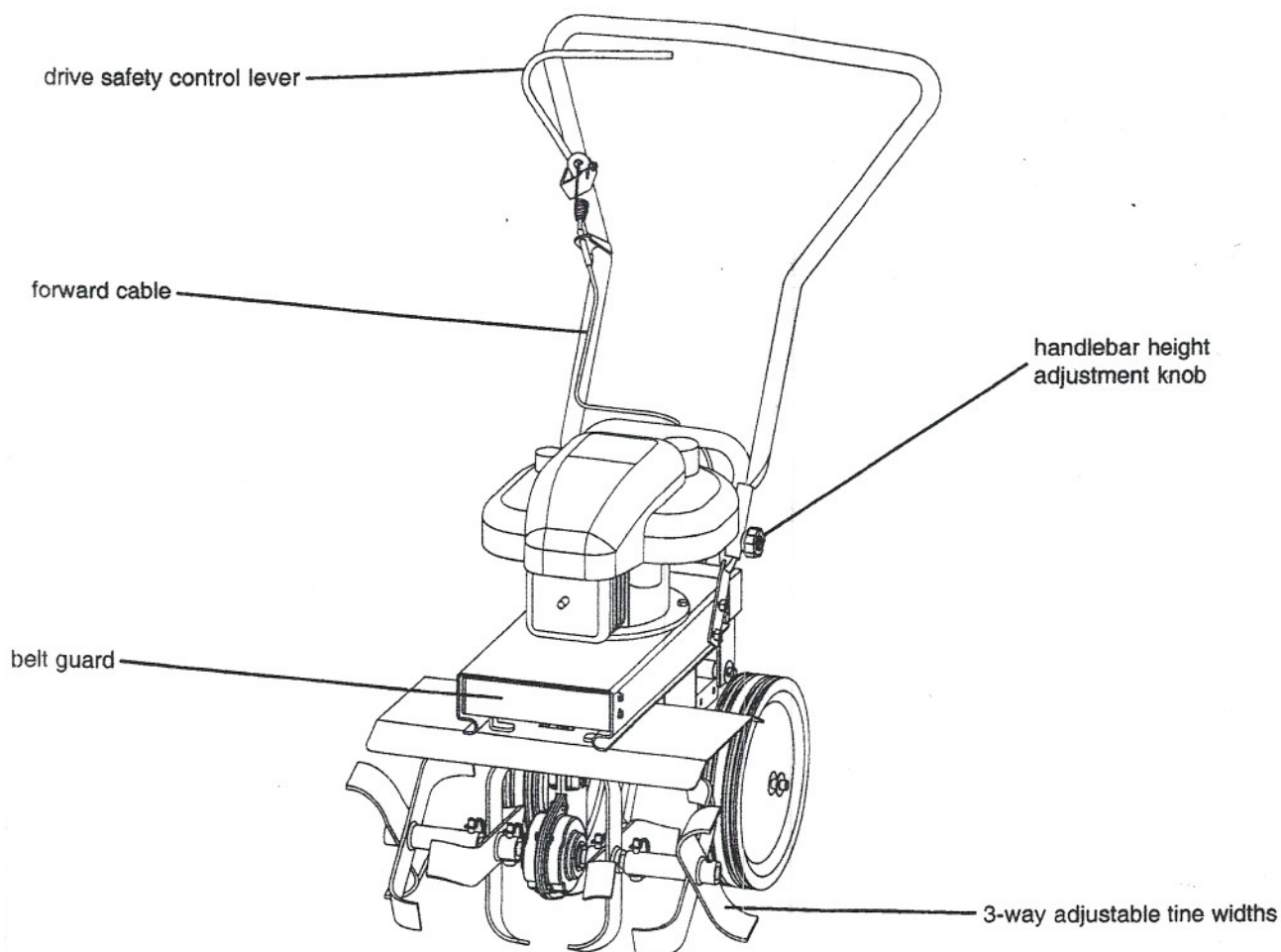
Part No. LBL516C
WARNING / Belt Cover Decal



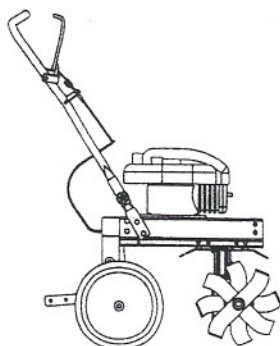
Part No. LBL516F
FREE HAND / Bumper Guard Decal



Part No. LBL3100H
WARNING / Pivot Mount Decal



The *advantage* of **THE BADGER** gear drive rototiller over other front tine tillers, is the exclusive unfolding and flexible drag bar. This gives the **Ardisam Badger gear drive tiller** its stability and its versatility. For easy transport, fold the wheels under the engine. During operation, the wheels unfold back and the drag bar folds down. The long length between the tines and the drag bar make this the most comfortable front tine tiller on the market.



Transport Position



Operating Position

UNPACKING AND ASSEMBLY



SECTION CHECKLIST

Unpack Tiller

Install the Depth Regulator Lever

Fill Oil Sump

Your rototiller comes fully assembled except for a few parts. The following instructions will help you unpack your tiller and assemble and adjust your tiller's depth regulator lever, cable tension and handlebar height.

UNPACK TILLER

1. Open top of carton and remove handlebar assembly.

CAUTION

Do not try to lift the rototiller from the carton.

2. Find parts packet. Parts packet contains:

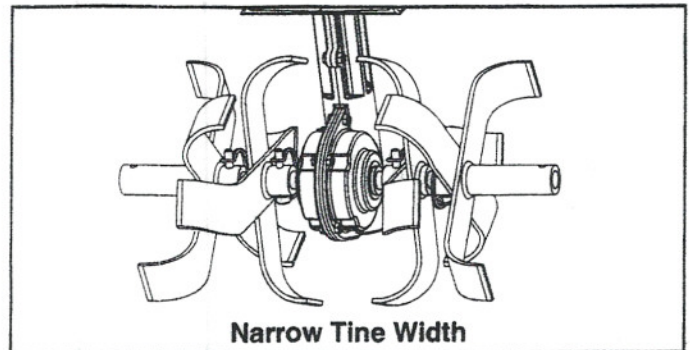
- 2- 5/16-18 x 1-3/4" bolts
- 2- 5/16" spring lockwashers
- 2- hand knobs
- 4- clevis pins w/wire bails
- 2- 1/2" push nuts
- 1- detent pin

3. Cut open end of carton and remove machine:

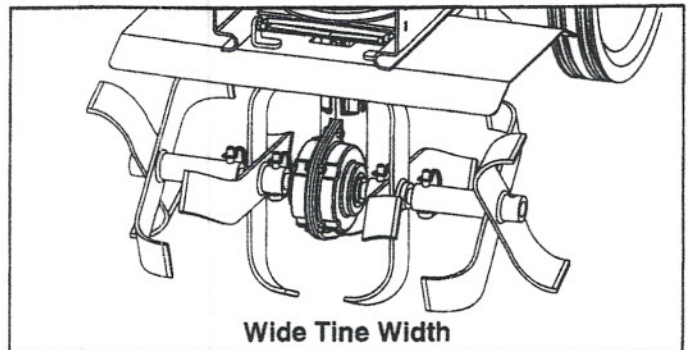
- a. Install wheels on each end of axle, tap on push nuts with a hammer.
- b. Assemble tines to unit, inside tines first. Sharp edge of tine will be away from operator at top or face down at front of machine.
- c. Outside tines have two positions- wide 21" & narrow 16". For narrow width - assemble with short side of tine holder pipe towards center of machine.
- d. For wide width - move left tine to right side and right to left side. Assemble with long half of tine pipe towards machine.
- e. Slide top handle of handlebar over lower loop. Put 5/16-18 x 1-3/4" bolts thru both holes from inside out, put on 5/16" spring lockwashers and tighten with height adjustment knobs.
- f. Add and check engine oil.

IMPORTANT

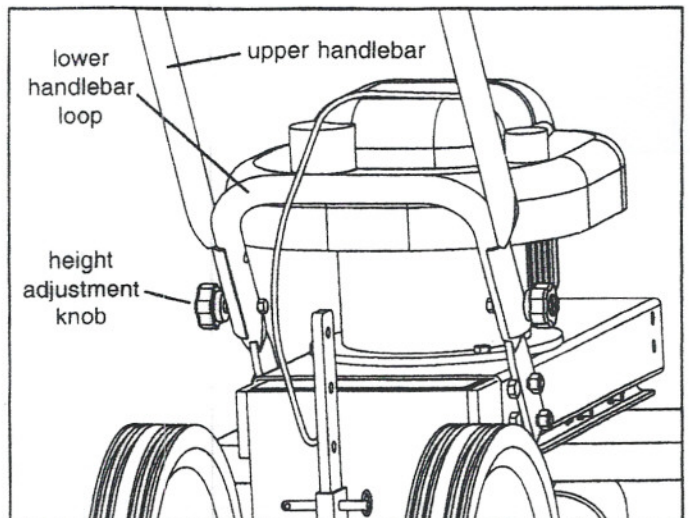
The right and left sides of your rototiller are determined from the operating position as you face the direction of forward travel.



Narrow Tine Width



Wide Tine Width

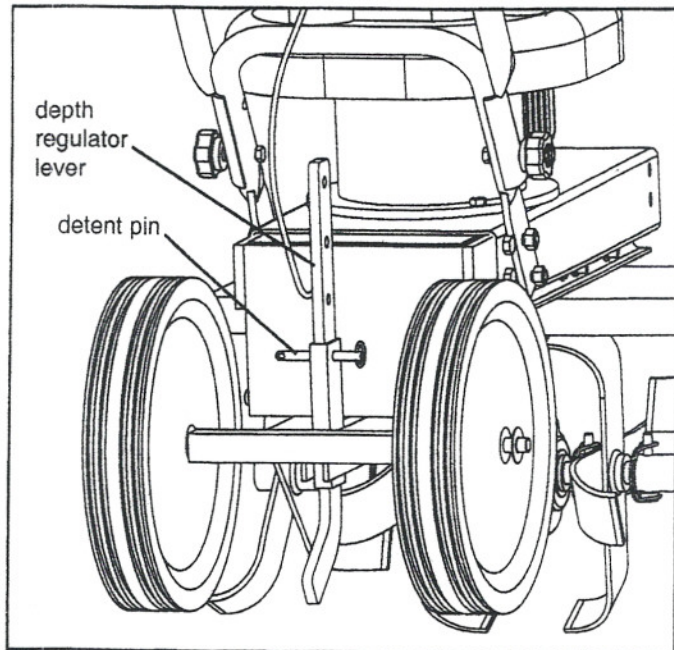




UNPACKING AND ASSEMBLY

INSTALL THE DEPTH REGULATOR LEVER

1. Install the depth regulator lever through hole in bracket from the bottom up with curve to rear of unit and secure with detent pin.



FILLING OIL SUMP



ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.

1. Add oil according to engine manual. **Do not overfill.** Use a clean, high quality SAE30W detergent oil. Container must be marked A.P.I. Service SF - SJ. Use no special additives with recommended oils. Do not mix oil with gasoline.
2. Always check oil level before starting engine. Refer to engine manual for capacity.

CONTROLS



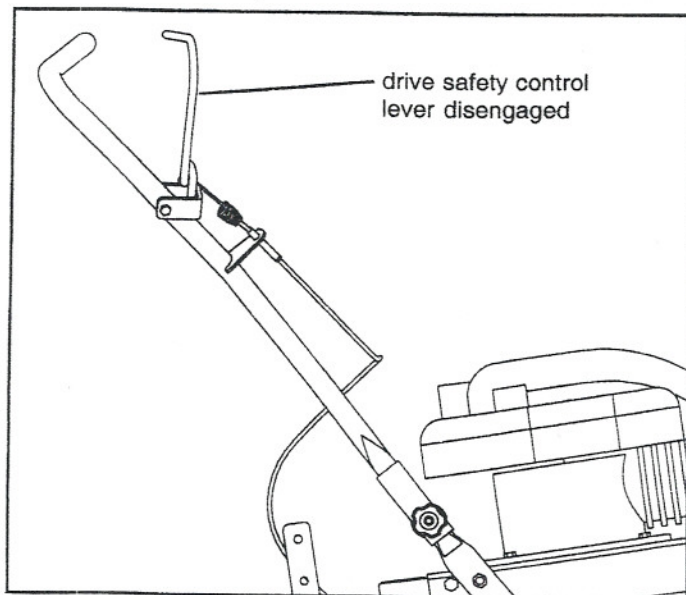
SECTION CHECKLIST

Drive Safety Control Lever

DRIVE SAFETY CONTROL LEVER

Engage tines into forward, releasing returns machine to neutral.

Pulling down on drive safety control lever engages the tines. Releasing the drive safety control lever disengages the tines to a neutral position.



CAUTION

This information is provided here only to introduce the control. DO NOT START THE ENGINE AT THIS TIME. Starting and operating instructions are given on page 11. Please read this section and all operating and safety instructions before starting your tiller.

CAUTION

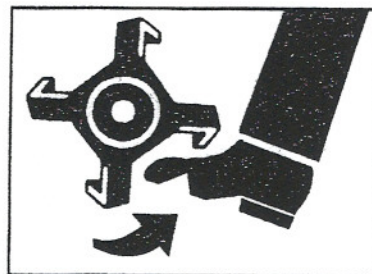
ENGINE SHOULD BE OFF BEFORE ADJUSTING ANY CONTROLS!

IMPORTANT

- ❖ As a safety precaution, the drive safety control lever will not lock in the forward position.
- ❖ To stop the tines at any time, release the drive safety control lever.

CAUTION

Extreme caution should be used when operating rototiller in the forward direction.





SECTION CHECKLIST

Handlebar Height Adjustment

Belt Tension Adjustment

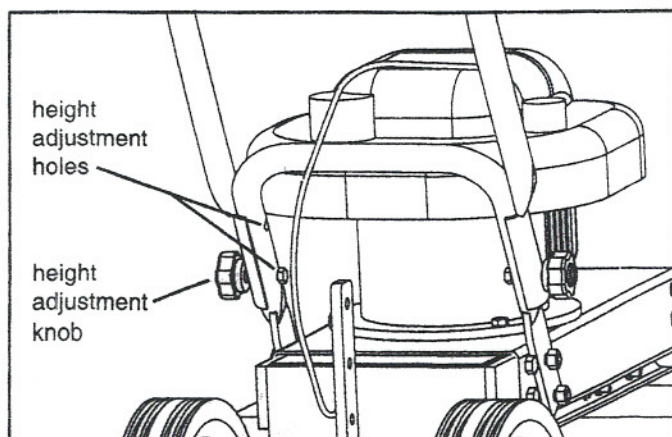
Depth Regulator Lever

HANDLEBAR HEIGHT ADJUSTMENT

Adjust handlebar height.

There are two handlebar adjustments. The ideal height of the handlebar varies with operator height and the depth of tilling. To adjust handlebar height:

1. Unscrew knobs and remove bolts.
2. Slide handlebar up or down to raise or lower.
3. Reinsert bolts through height adjustment holes and put washer on end of bolt.
4. Tighten with height adjustment knob.

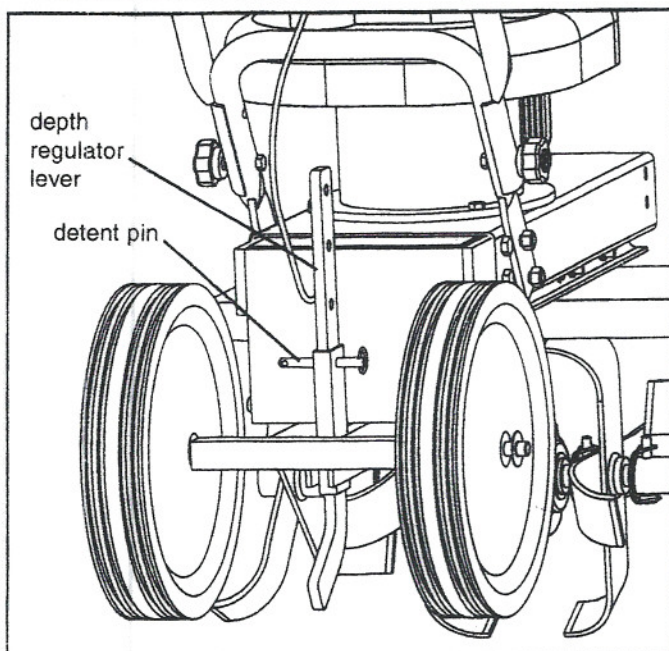


DEPTH REGULATOR LEVER

Tilling depth is controlled by the height of the depth regulator lever.

To adjust tilling depth.

1. Remove detent pin.
2. Raise the depth regulator lever to position tines at chosen tilling depth.
3. Align hole in depth regulator lever with hole in depth regulator bracket and replace detent pin.



CAUTION

Do not adjust tilling depth unless drive safety control lever is released to the neutral position.

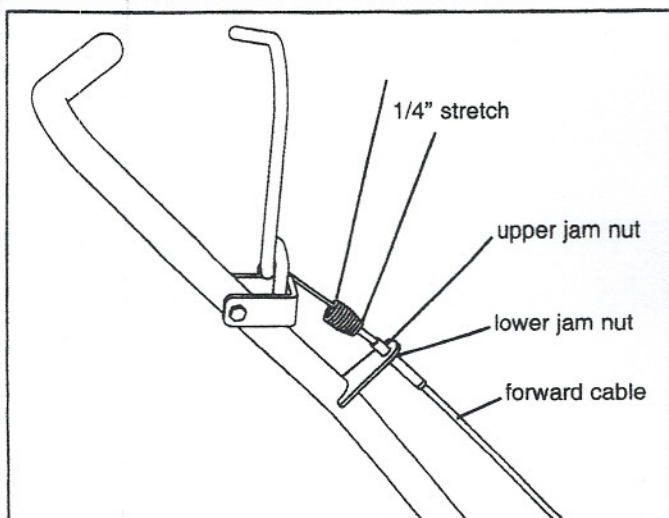
BELT TENSION ADJUSTMENT

Proper belt tension is critical to good performance. After 1/2 hour of operation, all cables may have to be adjusted due to initial stretch. Thereafter, check tension after every 2 hours of operation.

To increase belt tension:

1. Loosen upper jam nut. Turn nut up cable in 1/8" increments.
2. Tighten lower jam nut.
3. Check adjustment.

This procedure can be repeated until conduit adjustment bolts have no more adjustment left. If no more adjustment can be made, belt may have to be replaced.



OPERATION



SECTION CHECKLIST

Pre-Start Inspection

Starting and Stopping the Engine

Tilling

CAUTION

Please do **not** start your tiller until you have read the Manual that came with your engine, and the sections in this manual titled Controls, Adjustments and Safety. If you have read these, follow the steps below to start your tiller. Always perform this pre-start checklist before starting the engine.

CAUTION

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is hot or running. Always move outdoors to fill the tank.

PRE-START INSPECTION

1. Make sure all safety guards are in place and all nuts and bolts are secure.
2. Check oil level in engine crankcase. See your engine manual for procedure and specifications.
3. Inspect air cleaner for cleanliness. See your engine manual for procedure.
4. Check the fuel supply. Fill the fuel tank no closer than 1/2 inch from top of tank to provide space for expansion. See your engine manual for fuel recommendations.
5. Be sure spark plug wire is attached and spark plug is tightened securely.
6. Check depth regulator lever position.

IMPORTANT

ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.

STARTING AND STOPPING THE ENGINE

NOTE: Refer to engine manual for proper operating instructions.

CAUTION

Always keep hands and feet clear of rotating machine parts.

CAUTION

Temperature of muffler and near by areas may exceed 150° F. Avoid these areas.

CAUTION

Do not move choke control to CHOKe to stop engine. Backfire or engine damage may occur.

IMPORTANT

To stop the engine at any time, move throttle control to the off position. To stop tines at any time, release drive safety control lever to the neutral position.

TILLING

1. Adjust the depth regulator lever to desired tilling depth.

NOTE: Raise depth regulator lever up one hole at a time, testing tiller operation after each raise. Raising depth regulator lever too high can result in loss of control of tiller!

2. Move the throttle control to **fast**.
3. Place the tiller in **forward** by pushing down on the drive control lever--this will engage the tines.

CAUTION

To stop the tines at any time, release drive safety control lever to the neutral position.

CAUTION

Always release drive safety control lever to the neutral position before adjusting the depth regulator lever.



MAINTENANCE AND STORAGE

SECTION CHECKLIST

- Check Belt Tension
- Change Forward Belt
- Check or Fill Oil Sump
- Check Tiller Transmission Grease
- Engine Maintenance
- Clean Tine Axle Shaft
- Prepare for Storage
- Tiller and Engine Maintenance Schedule

CHECK BELT TENSION

Belt tension may decrease over time. It must be adjusted within the first half hour of operation, and checked after every two hours of operation. Proper adjustment will assure long belt life. Too much or too little belt tension will cause premature belt failure. To check and adjust the forward belt tension:

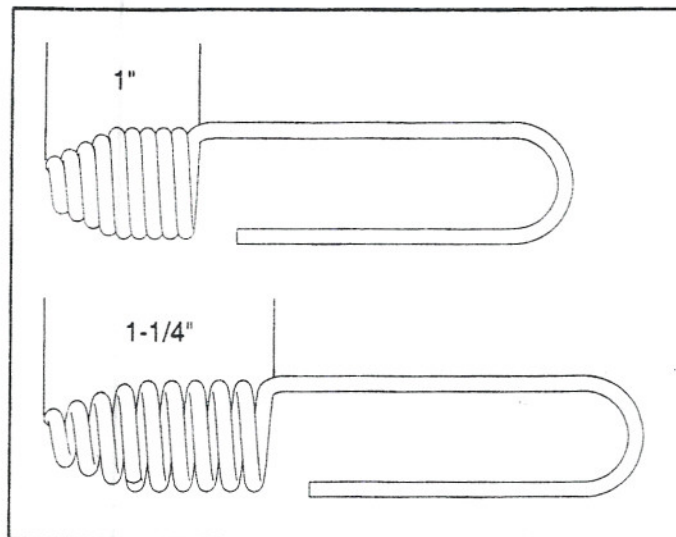
1. Turn off engine. Engine must be cool.
2. Remove spark plug wire from spark plug and secure.
3. With drive safety control lever in the neutral position, measure length of spring when compressed.
4. Pull down on drive safety control lever and measure length of spring when stretched out. Ideal length would be 1/4" longer.

! CAUTION

To prevent accidental starting:



Engine must be turned off and cool, and spark plug wire must be removed from spark plug before checking and adjusting engine or equipment.



! CAUTION

Check belt tension regularly. Too much or too little tension will cause premature belt failure.

MAINTENANCE AND STORAGE

CHANGE FORWARD BELT

1. Turn off engine. Engine must be cool.
2. Remove spark plug wire from spark plug and secure.
3. Remove belt guard.

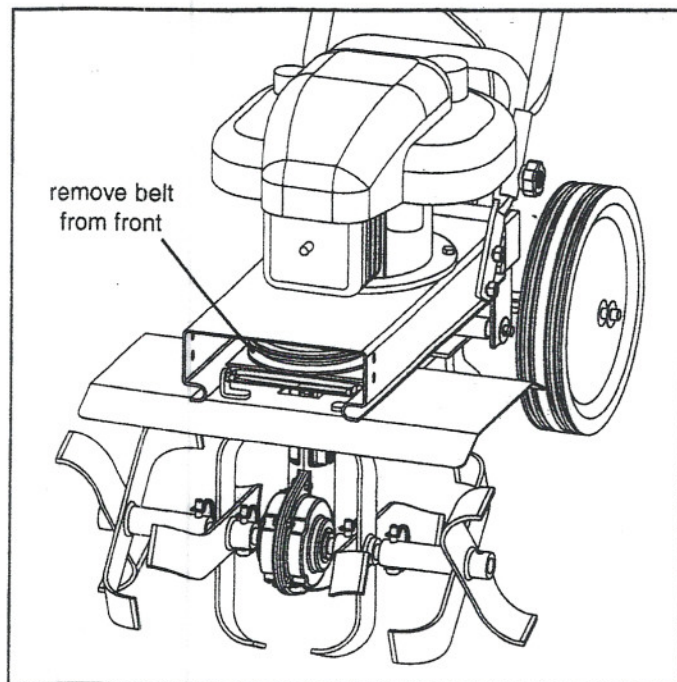
★ remove the belt from the engine pulley:

- gently pull the engine recoil rope to rotate the pulley.
- with the pulley turning, force the belt out of the V-groove.
- slide the belt free of the engine pulley.
- pull the belt down and out of the way.
- push the bolt forward and out front of machine.

★ install new belt:

- place belt in transmission pulley groove.
- gently pull the engine recoil rope to rotate the pulley while forcing the belt into the V-groove.

4. Replace belt guard.
5. Attach spark plug wire.



BELT REPLACEMENT PART #:

727A (forward)



MAINTENANCE AND STORAGE

CHECK OR FILL OIL SUMP

1. Add oil according to engine manual. **Do not overfill.** Use a clean, high quality SAE30W detergent oil. Container must be marked A.P.I. Service SF - SJ. Use no special additives with recommended oils. Do not mix oil with gasoline.
2. Always check oil level before starting engine. Refer to engine manual for capacity.



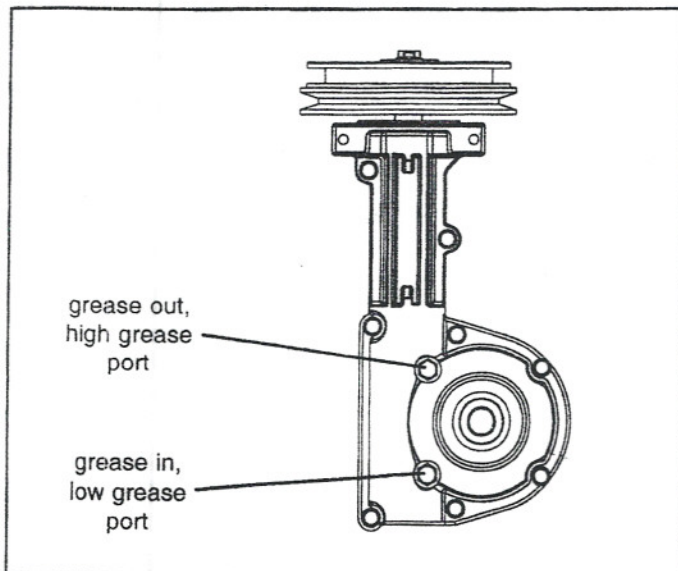
ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE.

CHECK TILLER TRANSMISSION GREASE



TILLER TRANSMISSION IS SHIPPED FROM FACTORY WITH THE PROPER AMOUNT OF 00 LIQUID GREASE.

To add grease, remove both high and low grease ports. Inject grease in bottom until you see some at top hole, transmission is now full.





MAINTENANCE AND STORAGE

CAUTION

Do not operate tiller before reading the engine manual provided in the parts packet.

CAUTION

Temperature of muffler and near by areas may exceed 150° F. Avoid these areas.

IMPORTANT

Engine can overheat and become damaged if debris blocks the cooling system or rotating screen.

IMPORTANT

Never run engine without complete air cleaner installed on engine.

CLEAN TINE AXLE SHAFT

1. Turn off engine. Engine must be cool.
2. Remove spark plug wire from spark plug and secure.
3. Remove all vegetation, string, wire, and other material that may have accumulated on the axle between the inside set of tines and the seal on the transmission housing.
4. Replace spark plug wire.

ENGINE MAINTENANCE

Refer to the engine manual included in your parts packet for information on engine maintenance. Your engine manual provides detailed information and a maintenance schedule for performing the following tasks:

1. Check oil level every 5 hours of operation, or before each use.
2. Change oil after first 5 hours of operation. Change oil while engine is warm. Refill with new oil of recommended grade.
4. Check spark plug yearly or every 100 hours of operation. Refer to engine manual for spark plug type and gap setting.
5. Service air cleaner.
6. Keep engine and parts clean.
7. Check engine and equipment often for loose nuts and bolts, keep these items tightened.



MAINTENANCE AND STORAGE

PREPARE FOR STORAGE

Follow the steps below to prepare your tiller for storage. Read your engine manual for detailed instructions on preparing the engine for storage.

1. Protect wheels and axles from rust:
 - Coat the axles lightly with axle grease.
2. Run with gas stabilizer in fuel.
3. Drain the fuel tank. Run the engine until it stops.

4. While engine is still warm, drain the oil from the engine. Refill with fresh oil of the recommended grade.
5. Remove spark plug, pour one-half ounce of clean engine oil into cylinder. Pull starter handle slowly several times to distribute oil. Replace spark plug.
6. Clean entire tiller.
7. Store your tiller in a clean, dry building.



CAUTION

Do not store tiller in an non-ventilated area where fuel fumes may reach flame, sparks, pilot lights or an ignited object. Drain fuel outdoors away from any ignition sources. Use only approved fuel containers.

TILLER AND ENGINE MAINTENANCE SCHEDULE

Your tiller will require maintenance including service and adjustments before and after use. To help ensure long life and peak performance for your tiller, follow the maintenance schedule below. Refer to your engine manual to establish a maintenance schedule for your engine.

| Maintenance Operation | See Page # | Before Each Use | 50 hrs or Every Season |
|----------------------------------------|------------|-----------------|------------------------|
| Check belt tension _____ | 12 | _____ ✓ | |
| Check or fill engine crankcase _____ | 14 | _____ ✓ | |
| Check tiller transmission grease _____ | 14 | _____ | ✓ |
| Change forward belt _____ | 13 | _____ | ✓ |
| Clean tine axle shaft _____ | 15 | _____ | ✓ |
| Change engine oil _____ | EM | _____ | 2 |

EM = See engine manual.

- 1 Adjust throttle control after first 3 hours of operation or if engine is hard to start or run-on occurs.
- 2 Change oil after first 5 hours, then after every 50 hours or every season. Change oil every 25 hours when operating under heavy load or in high temperatures.



TROUBLESHOOTING AND REPAIR

● TROUBLESHOOTING GUIDE

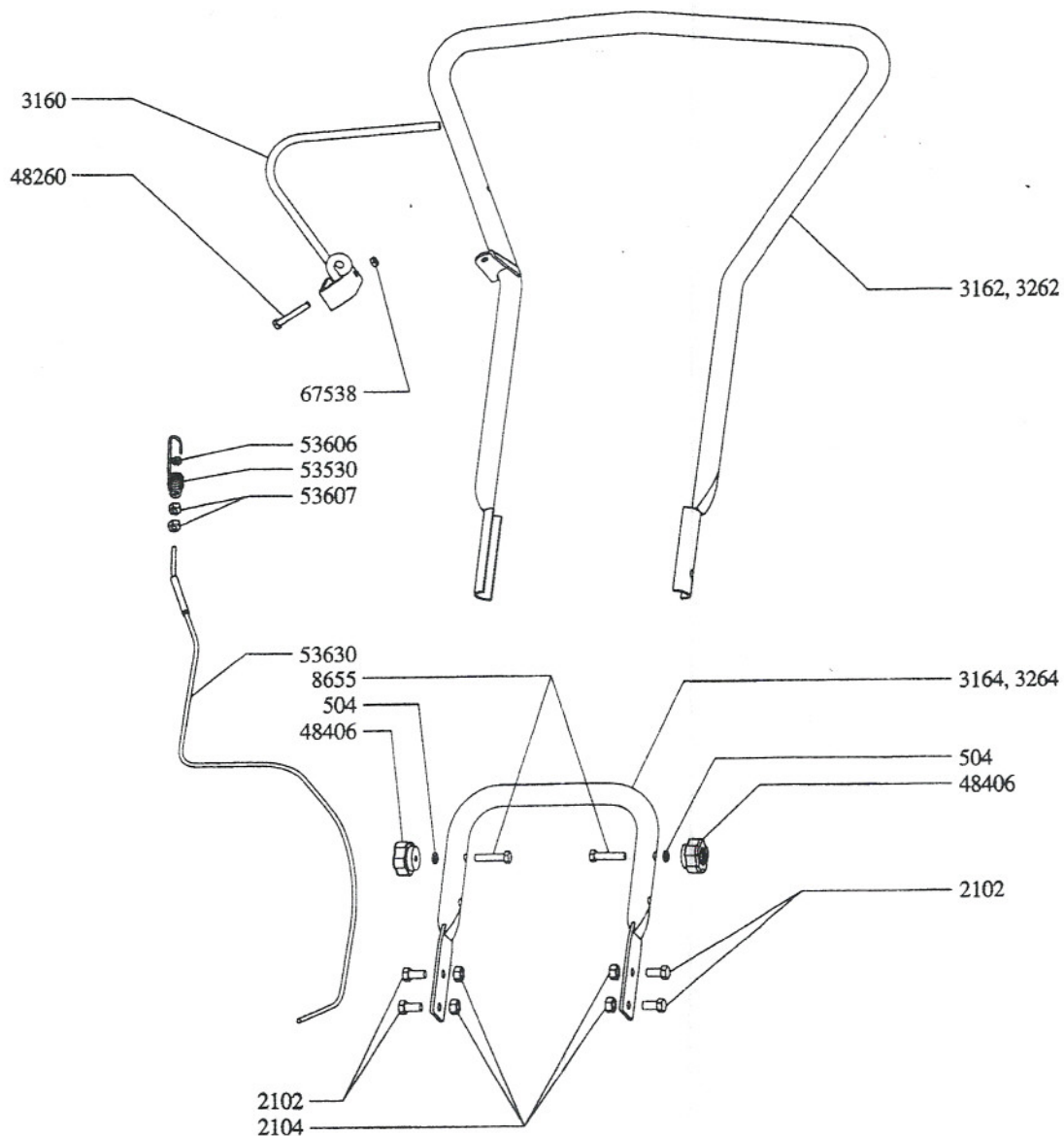
CAUTION

Practice safety at all times. Engine must be turned off and allowed to cool, and spark plug wire must be disconnected and secured before attempting any maintenance or repair.

| PROBLEM | REMEDY/ACTION |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engine will not start | <ol style="list-style-type: none"> 1. Connect spark plug wire to spark plug 2. Throttle must be positioned at choke for a cold start |
| Engine runs rough, floods during operation | <ol style="list-style-type: none"> 1. Clean or replace air cleaner |
| Engine is hard to start | <ol style="list-style-type: none"> 1. Drain old fuel and replace with fresh. Use gas stabilizer at end of season 2. Make sure spark plug wire is securely attached to spark plug 3. Drive control safety lever must be released to <i>neutral</i> to start the engine |
| Engine misses or lacks power | <ol style="list-style-type: none"> 1. Clean or replace air cleaner 2. Improper carburetor adjustment, take to authorized engine service center 3. Replace spark plug and adjust gap 4. Drain and refill gas tank and carburetor |
| Engine will not stop when throttle control is positioned at stop | <ol style="list-style-type: none"> 1. See engine manual to check and adjust throttle linkage |
| Tiller moves forward during starting | <ol style="list-style-type: none"> 1. Drive safety control lever must be released to <i>neutral</i> to start the engine |
| Tiller is difficult to control when tilling (machine jumps or lurches forward) | <ol style="list-style-type: none"> 1. Raise the tines for shallower tilling by raising the depth regulator lever, see page 10 2. Lower engine speed in hard ground |
| Belts squeal in neutral | <ol style="list-style-type: none"> 1. Adjust belt guide: <ul style="list-style-type: none"> - turn engine off and allow muffler to cool - disconnect spark plug wire from spark plug - pull down on drive safety control lever - manually bend belt guide so there is 1/16 inch or less clearance between belt guide and belt - replace spark plug wire |
| Belts squeal in forward operation | <ol style="list-style-type: none"> 1. Turn engine off and allow muffler to cool 2. Disconnect spark plug wire from spark plug 3. Release drive safety control lever to <i>neutral</i> 4. Adjust engage cable 5. Replace spark plug wire |

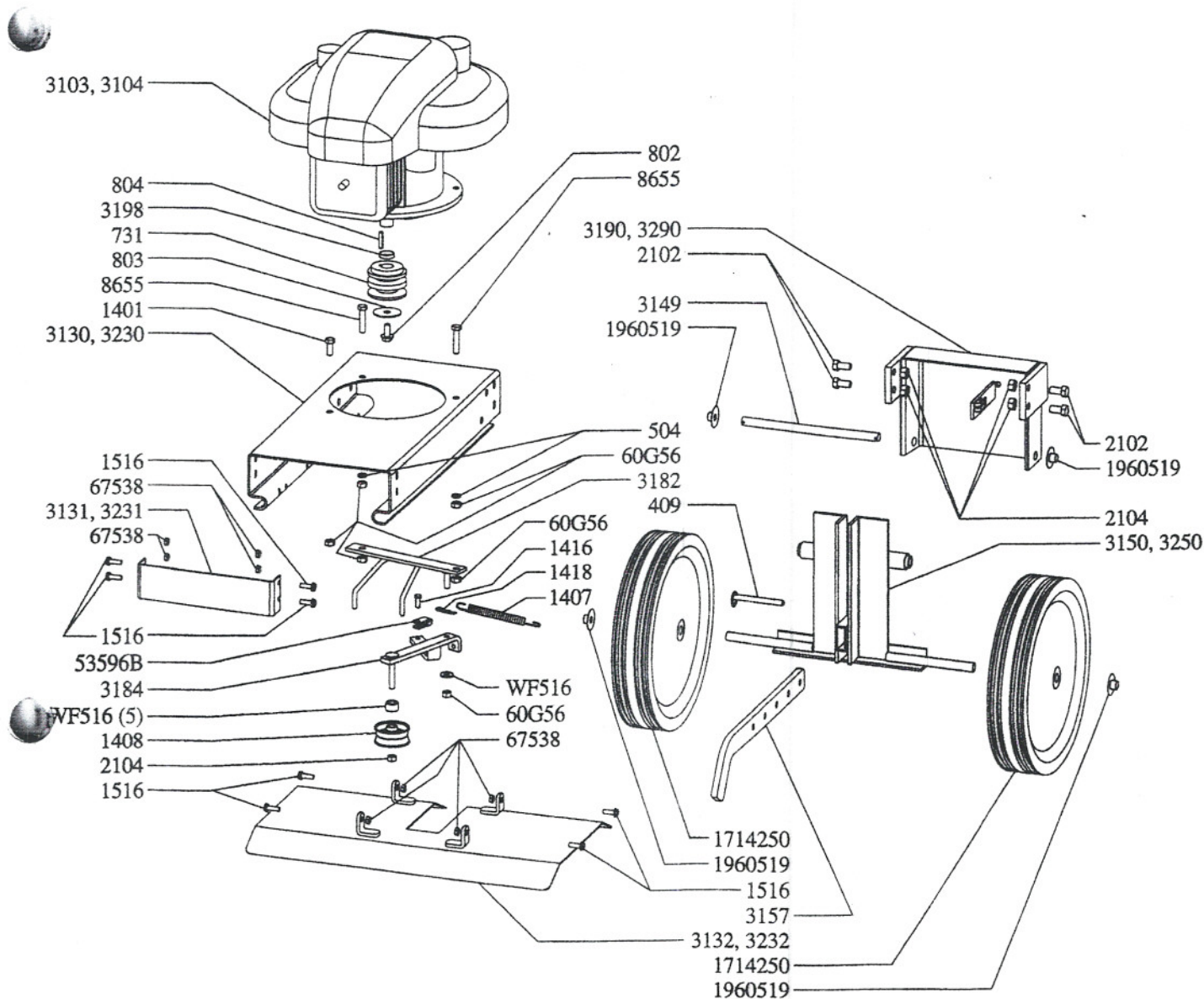


3100/3200 Handlebar Assembly



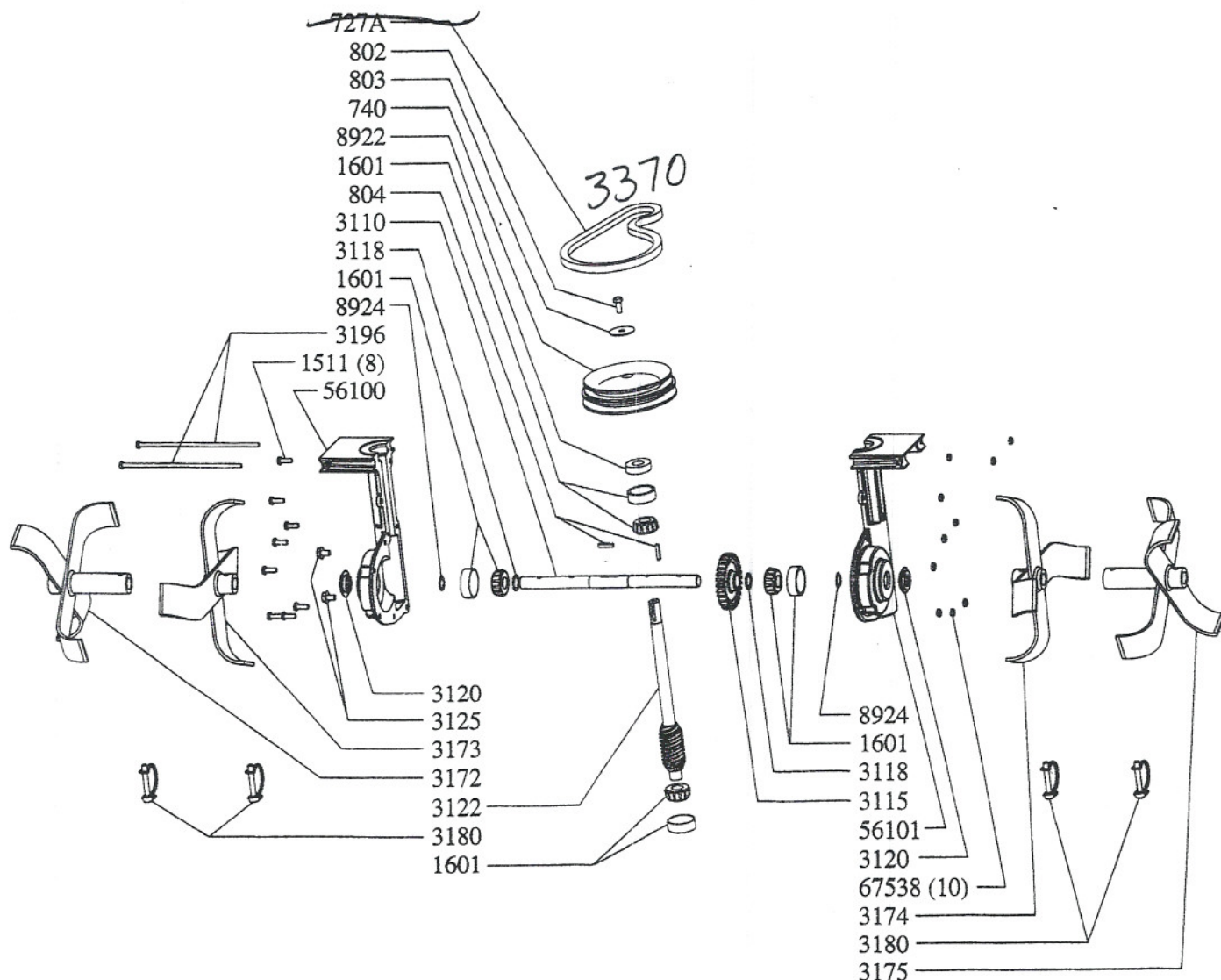
| <u>PART #</u> | <u>DESCRIPTION</u> | <u>QTY.</u> |
|---------------|---------------------------------------|-------------|
| 504 | LOCKWASHER-Spring, 5/16" | 2 |
| 2102 | BOLT-Hex Hd, 3/8"-16 x 1", Grade 5 | 4 |
| 2104 | NUT-Hex, 3/8"-16 | 4 |
| 3160 | DRIVE SAFETY CONTROL LEVER | 1 |
| 3162 | TOP HANDLE, Black (Earthquake) | 1 |
| 3164 | BOTTOM HANDLE, Black (Earthquake) | 1 |
| 3262 | TOP HANDLE, Red (GardenStar) | 1 |
| 3264 | BOTTOM HANDLE, Red (GardenStar) | 1 |
| 8655 | BOLT-Hex Hd, 5/16-18 x 1-3/4" | 2 |
| 48260 | CAPSCREW-Hex Hd, 1/4-20 x 2", Grade 5 | 1 |
| 48406 | KNOB-Five Star Black, 5/16-18 | 2 |
| 53530 | SPRING-Bee Hive, Forward Cable Adjust | 1 |
| 53606 | NUT-Nyloc, #10 | 1 |
| 53607 | NUT-Jam, 5/16"-24 | 2 |
| 53630 | CABLE ASSEMBLY | 1 |
| 67538 | NUT-Nyloc, 1/4" | 1 |

3100/3200 Motor Mount & Hood Assembly



| PART # | DESCRIPTION | QTY. | PART # | DESCRIPTION | QTY. |
|--------|---------------------------------------------|------|---------|--------------------------------------|------|
| 60G56 | NUT-Biway Lock, 5/16-18 | 6 | 3132 | SHIELD-Tine, Black (EQ) | 1 |
| 409 | DETENT PIN, 5/16" | 1 | 13149 | WHEEL SHAFT, 1/2" Hinge | 1 |
| 504 | LOCKWASHER-Spring, 5/16" | 2 | 3150 | DRAG BAR MOUNT, Black (EQ) | 1 |
| 731 | PULLEY-2 Groove, Engine, 3/4" ID | 1 | 3157 | DEPTH REGULATOR LEVER | 1 |
| 802 | CAPSCREW-Hex Hd, 5/16-24 x 3/4" | 1 | 3182 | BELT GUIDE & MOUNT | 1 |
| 803 | WASHER, 5/16" ID x 1-5/8" OD, Eng. Pulley . | 1 | 3184 | IDLER ARM-Forward | 1 |
| 804 | KEY, 3/16 x 1" | 1 | 3190 | REAR COVER & MOUNT, Black (EQ) | 1 |
| 1401 | CAPSCREW-Hex Hd, 5/16-18 x 1-1/4" | 1 | 3198 | SPACER-Engine | 1 |
| 1407 | SPRING-Idler Arm | 1 | 3230 | FRAME-Engine Mount, Red (GS) | 1 |
| 1408 | PULLEY-Forward Idler | 1 | 3231 | FRONT BELT COVER, Red (GS) | 1 |
| 1416 | LINK PIN | 1 | 3232 | SHIELD-Tine, Red (GS) | 1 |
| 1418 | COTTER PIN | 1 | 3250 | DRAG BAR MOUNT, Red (GS) | 1 |
| 1516 | BOLT-Hex Flange Hd, 1/4-20 x 3/4" | 8 | 3290 | REAR COVER & MOUNT, Red (GS) | 1 |
| 802 | BOLT-Hex Hd, 3/8-16 x 1" | 4 | 8655 | BOLT-Hex Hd, 5/16-18 x 1-3/4" | 2 |
| 2104 | NUT-Hex, 3/8-16 Two-Way | 5 | 53596B | CABLE YOKE | 1 |
| 3103 | ENGINE, 5.5-hp Tecumseh (3100) | 1 | 67538 | NUT-Nyloc, 1/4" | 8 |
| 3104 | ENGINE, 5-hp Briggs & Stratton (3200) | 1 | 1714250 | WHEEL & TIRE ASSEMBLY | 2 |
| 3130 | FRAME-Engine Mount, Black (EQ) | 1 | 1960519 | PUSH NUT, 1/2" Dia. | 4 |
| 3131 | FRONT BELT COVER, Black (EQ) | 1 | WF516 | WASHER-Flat, 5/16" | 6 |

3100/3200 Tine & Shaft Assembly



| <u>PART #</u> | <u>DESCRIPTION</u> | <u>QTY.</u> | <u>PART #</u> | <u>DESCRIPTION</u> | <u>QTY.</u> |
|---------------|---------------------------------------------|-------------|---------------|------------------------------------------|-------------|
| 727A | BELT-Forward | 1 | 3125 | BOLT-Thread Forming, 1/4-20 x 1/2" | 2 |
| 740 | PULLEY-2 Groove, Transmission | 1 | 3172 | TINE SET-Outside Right | 1 |
| 802 | CAPSCREW-Hex Hd, 5/16-24 x 3/4" | 1 | 3173 | TINE SET-Inside Right | 1 |
| 803 | WASHER, 5/16" ID x 1-5/8" OD, Eng. Pulley . | 1 | 3174 | TINE SET-Outside Left | 1 |
| 804 | KEY, 3/16 x 1" | 1 | 3175 | TINE SET-Inside Left | 1 |
| 1511 | BOLT-Hex Flange Hd, 1/4-20 x 7/8" | 8 | 3180 | SNAP PIN-Round Bail, 5/16 x 1-3/4" | 4 |
| 1601 | BEARING-Tapered (Includes Cone & Race) ... | 4 | 3196 | BOLT-Hx Hd, 1/4-20 x 7-1/2" | 2 |
| 3110 | TINE SHAFT | 1 | 8922 | BALL BEARING, R12 | 1 |
| 3115 | GEAR-Brass | 1 | 8924 | SNAP RING-External | 2 |
| 3118 | SPACER | 2 | 56100 | CASTING-Right Side | 1 |
| 3120 | SEAL, 3/4" Dia. | 2 | 56101 | CASTING-Left Side | 1 |
| 3122 | DRIVE SHAFT | 1 | 67538 | NUT-Nyloc, 1/4" | 10 |



ARDISAM, INC.

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