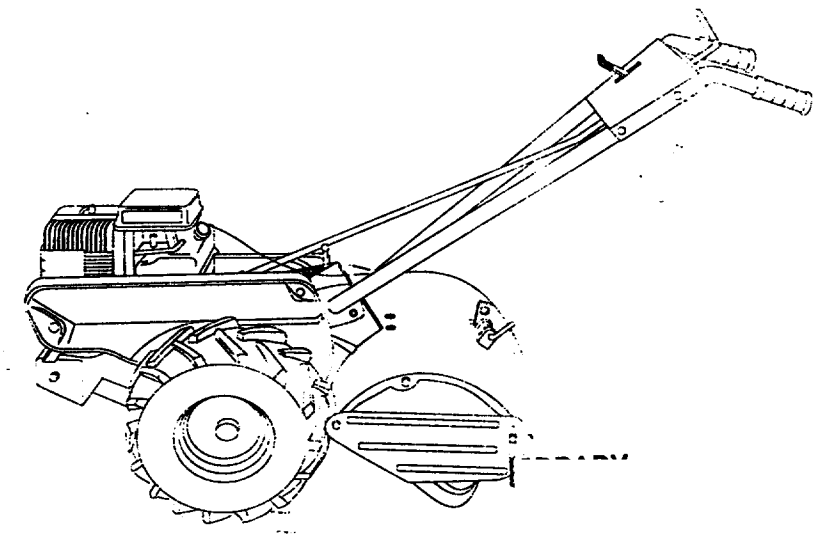
Western Auto®

Operation and Service Instructions
Rear Tine Tiller

Stock Number	Model Number	Factory Number
94-3455-6	3455A89	3455A89



Thank you for purchasing an American-built product.

SAFETY RULES

Safe Operation Practices for Walk-Behind Powered Rotary Tillers

TRAINING

- Read the Owner's Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
- Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instruction.
- Keep the area of operation clear of all persons, particularly small children, and pets.

PREPARATION

- Thoroughly inspect the area where the equipment is to be used and remove all foreign objects.
- Disengage all clutches and shift into neutral before starting the engine (motor).
- Do not operate the equipment without wearing adequate outer garments. Wear footwear that will improve footing on slippery surfaces.
- Handle fuel with care; it is highly flammable.
- Use an approved fuel container.
- Never add fuel to a running engine or hot engine.
- Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
- Replace gasoline cap securely and clean up spilled fuel before restarting.
- Use extension cords and receptacles as specified by the manufacturer for all units with electric drive motors or electric starting motors.
- Never attempt to make any adjustments while the engine (motor) is running (except where specifically recommended by manufacturer).

OPERATION

- Do not put hands or feet near or under rotating parts.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the tiller for any damage, and repair the damage before restarting and operating the tiller.
- Exercise caution to avoid slipping or falling.
- If the unit should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop the engine (motor) when leaving the operating position.
- Take all possible precautions when leaving the machine unattended. Disengage the tines, shift into neutral, and stop the engine.
- Before cleaning, repairing, or inspecting, shut off the engine and make certain all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting. Disconnect the cord on electric motors.
- Do not run the engine indoors; exhaust fumes are dangerous.
- Never operate the tiller without proper guards, plates, or other safety protective devices in place.
- Keep children and pets away.
- Do not overload the machine capacity by attempting to till too deep at too fast a rate.
- Never operate the machine at high speeds on slippery surfaces. Look behind and use care when backing.
- Never allow bystanders near the unit.
- Use only attachments and accessories approved by the manufacturer of the tiller (such as wheel weights, counterweights, cabs, and the like).
- Never operate the tiller without good visibility or light.
- Be careful when tilling in hard ground. The tines may catch in the ground and propel the tiller forward. If this occurs, let go of the handlebars and do not restrain the machine.

MAINTENANCE AND STORAGE

- Keep machine, attachments, and accessories in safe working condition.
- Check shear pins, engine mounting bolts, and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
- Always refer to the operator's guide instructions for important details if the tiller is to be stored for an extended period.

- IMPORTANT -

CAUTIONS, IMPORTANTS, AND NOTES ARE A MEANS OF ATTRACTING ATTENTION TO IMPORTANT OR CRITICAL INFORMATION IN THIS MANUAL.

IMPORTANT: USED TO ALERT YOU THAT THERE IS A POSSIBILITY OF DAMAGING THIS EQUIPMENT.

NOTE: Gives essential information that will aid you to better understand, incorporate, or execute a particular set of instructions.

Look for this symbol to point out important safety precautions. It means CAUTION!!! BECOME ALERT!!! YOUR SAFETY IS INVOLVED.

CAUTION: Always disconnect spark plug wire and place wire where it cannot contact spark plug in order to prevent accidental starting when setting up, transporting, adjusting or making repairs.

⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

CONGRATULATIONS on your purchase of a new tiller. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Should you experience any problems you cannot easily remedy, please contact your nearest authorized service center. We have competent, well-trained technicians and the proper tools to service or repair this unit.

Please read and retain this manual. The instructions will enable you to assemble and maintain your tiller properly. Always observe the "SAFETY RULES".

MODEL
NUMBER **3455A89**

SERIAL
NUMBER_____

DATE OF PURCHASE _____

THE MODEL AND SERIAL NUMBERS WILL BE FOUND ON THE MODEL PLATE ATTACHED TO THE TOP OF THE TRANSMISSION.

YOU SHOULD RECORD BOTH SERIAL NUMBER AND DATE OF PURCHASE AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

PRODUCT SPECIFICATIONS

HORSEPOWER:	5.5 HP
DISPLACEMENT:	13 cu. in. (221cc)
GASOLINE CAPACITY:	4 Quarts (2.8L) Unleaded Regular
OIL(API-SF/SG/SH) : (CAPACITY: 21 oz./0.6L)	See "ENGINE" in Customer Responsibilities section
SPARK PLUG : (GAP: .030"/0.76mm)	Champion RN42C

CUSTOMER RESPONSIBILITIES

- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tiller.
- Follow instructions under "Customer Responsibilities" and "Storage" sections of this Owner's Manual.

IMPORTANT: THIS UNIT IS EQUIPPED WITH AN INTERNAL COMBUSTION ENGINE AND SHOULD NOT BE USED ON OR NEAR ANY UNIMPROVED FOREST-COVERED, BRUSH-COVERED OR GRASS COVERED LAND UNLESS THE ENGINE'S EXHAUST SYSTEM IS EQUIPPED WITH A SPARK ARRESTER MEETING APPLICABLE LOCAL LAWS (IF ANY). IF A SPARK ARRESTER IS USED, IT SHOULD BE MAINTAINED IN EFFECTIVE WORKING ORDER BY THE OPERATOR.

IN THE STATE OF CALIFORNIA, A SPARK ARRESTER IS REQUIRED BY LAW (SECTION 4442 OF THE CALIFORNIA PUBLIC RESOURCES CODE). OTHER STATES MAY HAVE SIMILAR LAWS. FEDERAL LAWS APPLY ON FEDERAL LANDS. SEE YOUR AUTHORIZED SERVICE CENTER FOR SPARK ARRESTER.

WESTERN AUTO TILLER LIMITED WARRANTY
3455A89

Western Auto Supply Company warrants to the original retail purchaser that this product is free from defects in material or workmanship and agrees to repair this product free of charge within these time periods from the date of purchase:

- 2 years, if the product is used for personal, family, or household use;
- 90 days, if the product is used for any other purpose such as commercial or rental use.

Excluded from this warranty are normal wear, maintenance, or mechanical adjustments which are not due to defects in material or workmanship. Consult your owner's manual for help to maintain your product or make mechanical adjustments. Products which have been altered, misused, abused, or repaired by other than a Western Auto-authorized or manufacturer-authorized service facility are also excluded.

A rider or tractor battery which proves defective within 90 days will be replaced without charge. After 90 days but within 1 year from the date of purchase, Western Auto will replace the battery for a charge of 1/12 of the current retail price of the battery for each full month between the date of purchase and the date of return.

Engines or transaxles are warranted by the engine or transaxle manufacturer which gives its own 2 year warranty and provides service through its authorized service facilities. See the engine or transaxle warranty for details. Repair may be arranged through participating Western Auto stores.

For repair service return this product with proof of purchase date to a participating Western Auto store. This warranty gives you specific legal rights and you may have other rights that vary from state to state. If difficulty is encountered in having this warranty honored, contact:

Western Auto Supply Company
Consumer Affairs Section of the General Service Department
2107 Grand Avenue, Kansas City, Missouri 64108
Telephone: 816 346-4411

TABLE OF CONTENTS

CUSTOMER RESPONSIBILITIES 3,12-14
PRODUCT SPECIFICATIONS 3
WARRANTY 3
SAFETY RULES 2
ASSEMBLY 5-7
OPERATION 8-11
MAINTENANCE SCHEDULE 12
SERVICE & ADJUSTMENTS 15-17
STORAGE 18
TROUBLESHOOTING 19
REPAIR PARTS-TILLER 20-26
REPAIR PARTS-ENGINE 27-31

INDEX

A

Adjustments:
- Depth Stake 9
- Handle Height 14
- Side Shields 10
- Throttle 17
- Tines 16
- V-Belt (Ground Drive) 15

Air Cleaner 13

B

Belt:
- Belt Guard 15
- Repair Parts 21
- V-Belt (Ground Drive) 15

C

Cooling System 13

Controls:
- Choke 8
- Throttle 8
- Tines (Drive Control) 8

Cultivating 11

Customer Responsibilities:
- Air Cleaner 13
- Cooling System 13
- Finish 14
- Maintenance Schedule 12
- Muffler 14
- Oil Change 13
- Spark Plug 14
- Tines 16
- Transmission 14
- V-Belt (Ground Drive) 15

D

Depth Stake:
- Adjustment 9
- Repair Parts 24

E

Engine:
- Air Cleaner 13
- Cooling System 13
- Fuel Type 10

Engine (cont'd)
- Lubrication 13
- Oil Level 10
- Oil Type 10,13
- Spark Plug 14
- Starting 11
- Stopping 9
- Storage 18
- Winter Operation 13

F

Fuel:
- Filling Tank 10
- Storage 18
- Type 10

Finish:
- Maintenance 14

H

Handle:
- Height Adjustment 14
- Repair Parts 20

L

Lubrication:
- Lubrication Chart 12
- Engine 13

M

Muffler:
- Maintenance 14
- Spark Arrester 3

O

Oil:
- Level 10
- Type 10,13

Operation:
- Cultivating 11
- Fill Fuel Tank 10
- Starting Engine 11
- Stopping Tines & Engine 9
- Tilling 9
- Tilling Hints 11
- Tine Operation 9
- Transporting Tiller 10
- Winter Operation 13

R

Repair Parts 20-31

Rules for Safe Operation 2

S

Service & Adjustments:
- Handle Height 14
- Side Shields 10
- Throttle 17
- Tines 16
- V-Belt (Ground Drive) 15
- Wheels 14

Service:
- Repair Parts 20-31
- Service Record 12

Shear Pins:
- Operation 11
- Repair Parts 25

Spark Plug:
- Gap 3
- Maintenance 14

Storage:
- Fuel System 18
- Tiller 18

T

Tilling 9,11

Tines:
- Arrangement/Replacement 16
- Operation 9
- Repair Parts 25
- Shear Pins 11

Transmission:
- Maintenance 14
- Repair Parts 23

Troubleshooting 19

Transporting 10

W

Warranty 3

Wheels:
- Removal 14
- Repair Parts 22

ASSEMBLY

Your new tiller has been assembled at the factory with exception of those parts left unassembled for shipping purposes. To ensure safe and proper operation of your tiller, all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to insure proper tightness.

TOOLS REQUIRED FOR ASSEMBLY

A socket wrench set will make assembly easier. Standard wrench sizes are listed.

(1) Utility knife
(1) Tire pressure gauge
(1) Pair of pliers
(1) 9/16" wrench
(1) 7/16" wrench

OPERATOR'S POSITION (See Fig. 1)

When right or left hand is mentioned in this manual, it means when you are in the operating position (standing behind tiller handles).

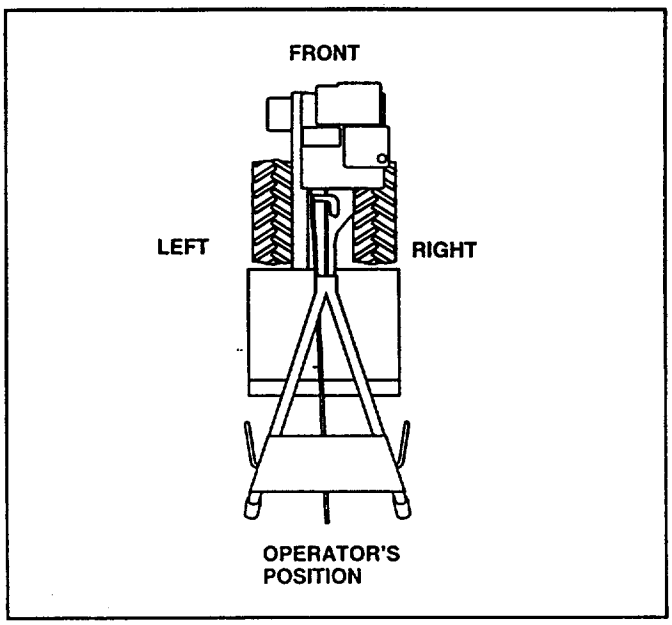
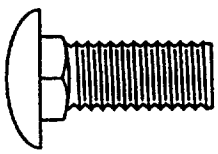


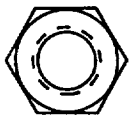
FIG. 1

CONTENTS OF HARDWARE PACK

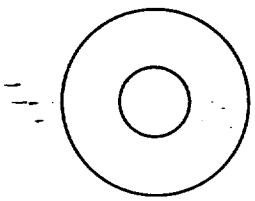
(2) Handle Locks



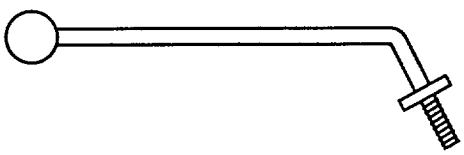
(1) Carriage Bolt
3/8-16 UNC x 1 Grade 5



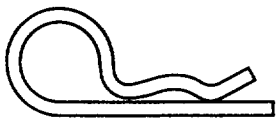
(1) Center Locknut
3/8-16 UNC



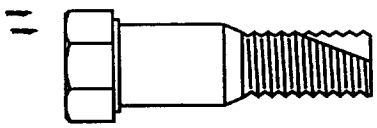
(1) Flat Washer 13/32 x 1 x 11 Gauge



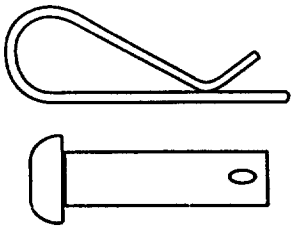
(1) Handle Lock Lever



(1) Hairpin Clip



(1) Pivot Bolt
3/8-16 UNC Grade 5



Extra Shear Pins & Clips

ASSEMBLY

UNPACKING CARTON (See Fig. 2)

CAUTION: Be careful of exposed staples when handling or disposing of cartoning material.

IMPORTANT: WHEN UNPACKING AND ASSEMBLING TILLER, BE CAREFUL NOT TO STRETCH OR KINK CABLES.

- While holding handle assembly, cut cable ties securing handle assembly to top frame and depth stake. Let handle assembly rest on tiller.
- Remove top frame of carton.
- Slowly ease handle assembly up and place on top of carton.
- Cut down right hand front and right hand rear corners of carton, lay side carton wall down.
- Remove packing material from handle assembly.

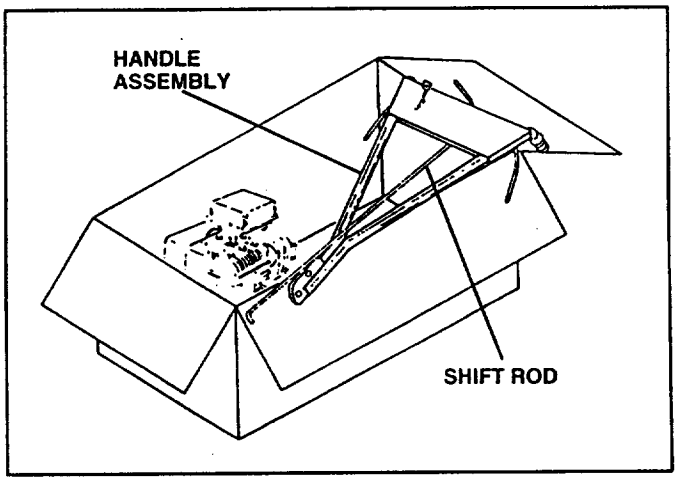


FIG. 2

INSTALL HANDLE (See Figs. 3, 4, and 5)

- Insert one handle lock (with teeth facing outward) in gearcase notch. (Apply grease on smooth side of handle lock to aid in keeping lock in place until handle assembly is lowered into position.)

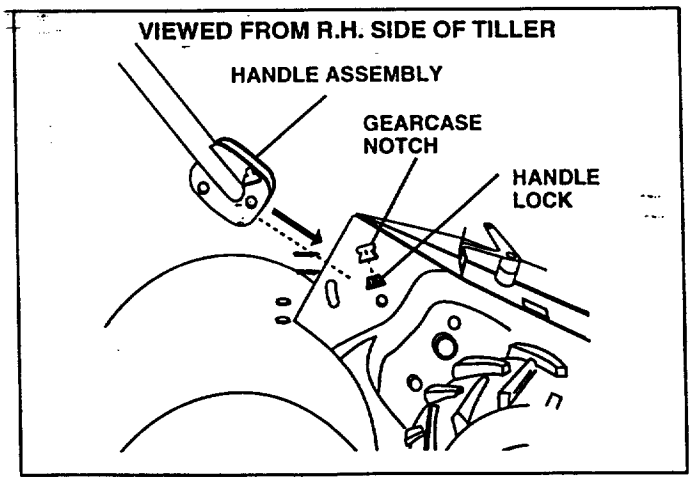


FIG. 3

- Grasp handle assembly. Hold in "up" position. Be sure handle lock remains in gearcase notch. Slide handle assembly into position.

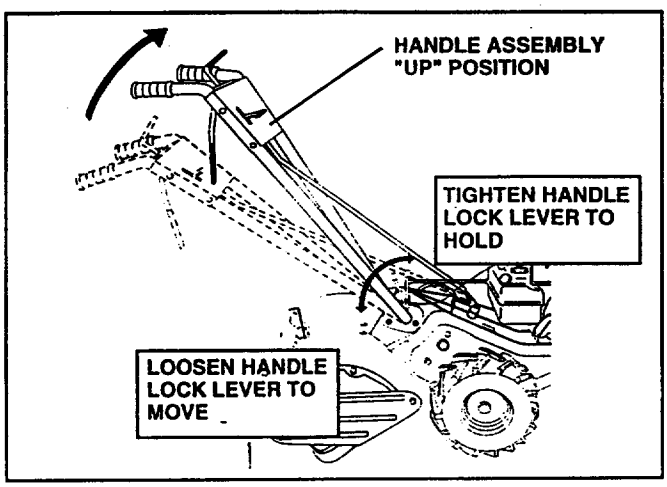


FIG. 4

- Rotate handle assembly down. Insert rear carriage bolt first, with head of bolt on L.H. side of tiller and loosely assemble locknut. (See Fig. 5)
- Insert pivot bolt in front part of plate.
- Cut down rear panel of carton.
- Lower the handle assembly. Tighten bolts so handle moves with some resistance. This will allow for easier adjustment.
- Place flat washer on threaded end of handle lock lever.
- Insert handle lock lever through handle base and gearcase. Screw in handle lock lever just enough to hold lever in place.
- Insert second handle lock (with teeth inward) in the slot of the handle base (just inside of washer).
- With handle assembly in lowest position, securely tighten handle lock lever by rotating clockwise. Leaving handle assembly in lowest position will make it easier to remove tiller from carton.

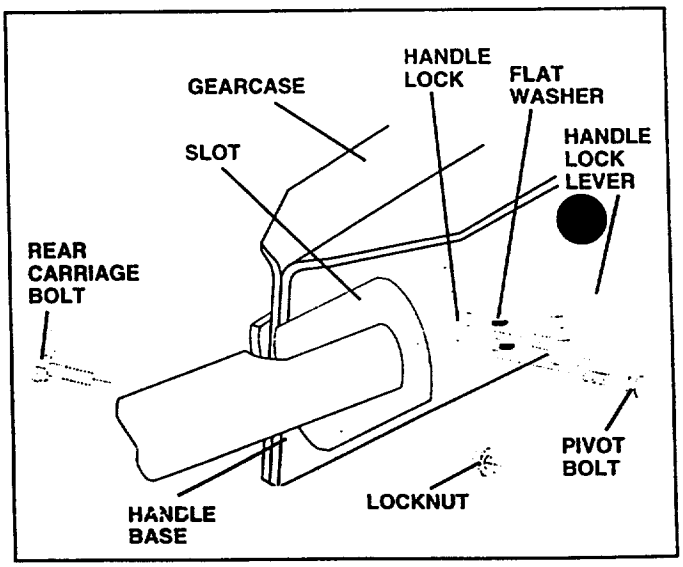


FIG. 5

CONNECT SHIFT ROD (See Fig. 6)

- Insert end of shift rod into hole of shift lever indicator.
- Insert hairpin clip through hole of shift rod to secure.

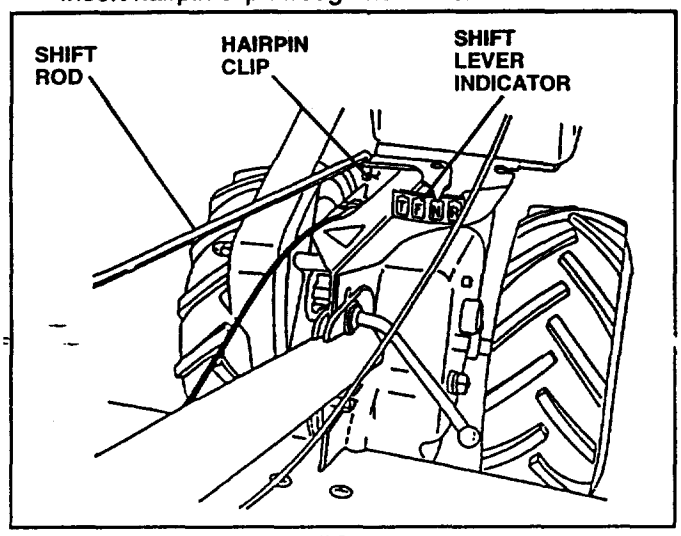


FIG. 6

REMOVE TILLER FROM CRATE

- Make sure shift lever indicator is in "N" position (See Fig. 6)
- Tilt tiller forward by lifting handle. Separate cardboard cover from leveling shield.
- Rotate tiller handle to the right and pull tiller out of carton.

ATTACH CLUTCH CABLE (See Fig. 7)

- Hook end of clutch cable through hole in control bar bracket.

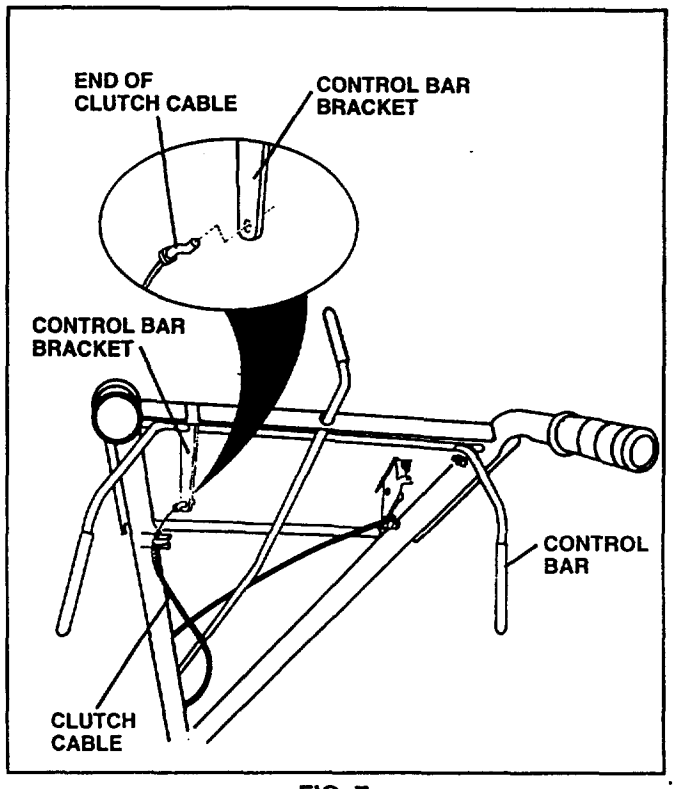


FIG. 7

CHECK TIRE PRESSURE

The tires on your unit were overinflated at the factory for shipping purposes. Correct and equal tire pressure is important for best tilling performance.

- Reduce tire pressure to 20 PSI (1.4 kg/cm^2).

HANDLE HEIGHT

- Handle height may be adjusted to better suit operator. (See "TO ADJUST HANDLE HEIGHT" in the Service and Adjustments section of this manual).

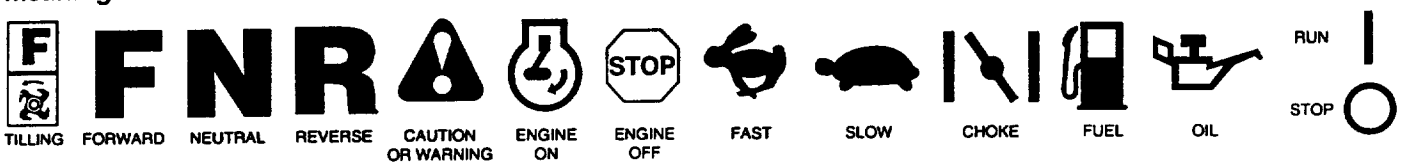
OPERATION

KNOW YOUR TILLER

READ THIS OWNER'S MANUAL AND SAFETY RULES BEFORE OPERATING YOUR TILLER.

Compare the illustrations with your tiller to familiarize yourself with the location of various controls and adjustments. Save this manual for future reference.

These symbols may appear on your Tiller or in literature supplied with the product. Learn and understand their meaning.



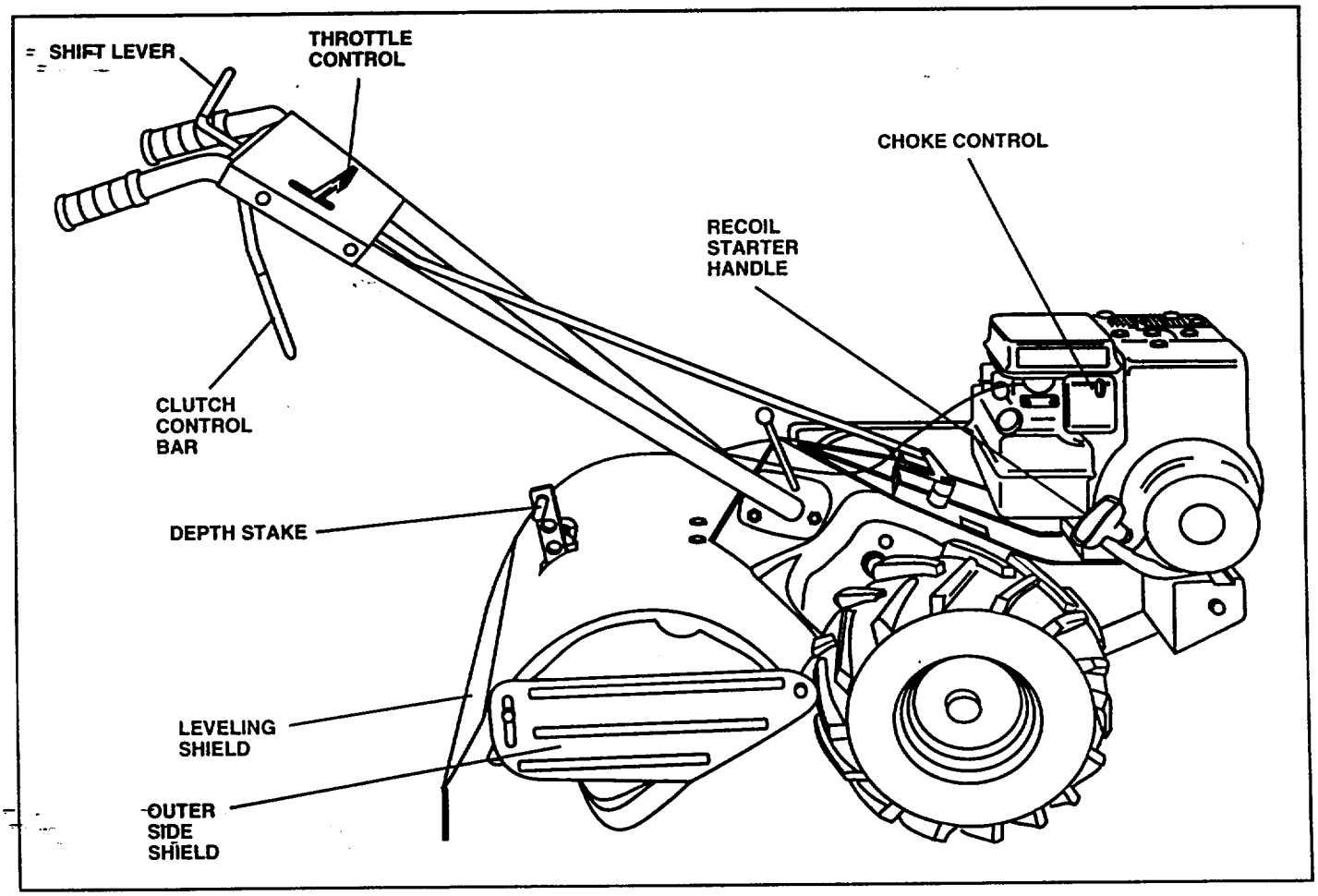


FIG. 8

MEETS ANSI SAFETY REQUIREMENTS

Our tillers conform to the safety standards of the American National Standards Institute.

THROTTLE CONTROL - Used to control engine speed.
CLUTCH CONTROL BAR - Used to engage tiller.
DEPTH STAKE - Controls depth at which tiller will dig.
LEVELING SHIELD - Levels tilled soil.
OUTER SIDE SHIELD - Adjustable to protect small plants from being buried.
SHIFT LEVER - Used to shift transmission gears.
RECOIL STARTER HANDLE - Used to start the engine.
CHOKE CONTROL - Used when starting a cold engine.

The operation of any tiller can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields before starting your tiller and while tilling. We recommend a wide vision safety mask over the spectacles or standard safety glasses.

HOW TO USE YOUR TILLER

Know how to operate all controls before adding fuel and oil or attempting to start engine.

STOPPING (See Fig. 9)

TINES AND DRIVE

- Release clutch control bar to stop movement.
- Move shift lever to "N" (neutral) position.

ENGINE

- Move throttle control to "STOP" position.
- Never use choke to stop engine.

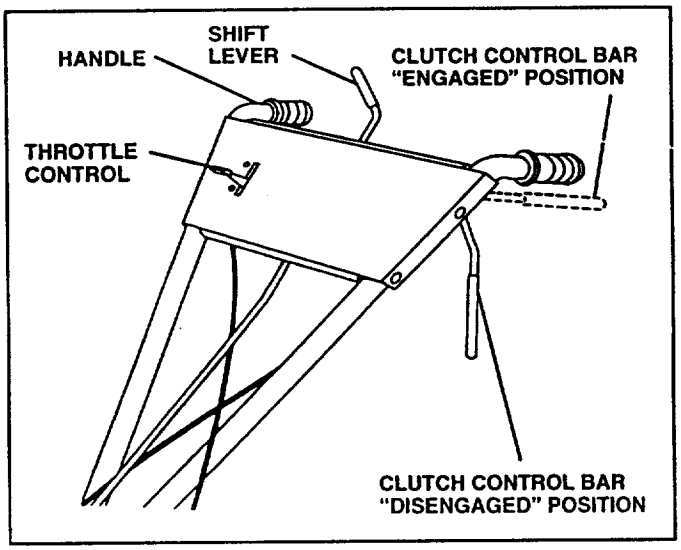


FIG. 9

TINE OPERATION - WITH WHEEL DRIVE

- Always release clutch control bar before moving shift lever into another position.
- Tine movement is achieved by moving shift lever to (R) till position and engaging clutch control bar.

FORWARD - WHEELS ONLY/TINES STOPPED

- Release clutch control bar and move shift lever indicator to "F" (forward) position. Engage clutch control bar and tiller will move forward.

REVERSE - WHEELS ONLY/TINES STOPPED

- DO NOT STAND DIRECTLY BEHIND TILLER.
- Release the clutch control bar.
- Move throttle control to "SLOW" position.
- Move shift lever indicator to "R" (reverse) position.
- Hold clutch control bar against the handle to start tiller movement.

DEPTH STAKE (See Fig. 10)

The depth stake can be raised or lowered to allow you more versatile tilling and cultivating, or to more easily transport your tiller.

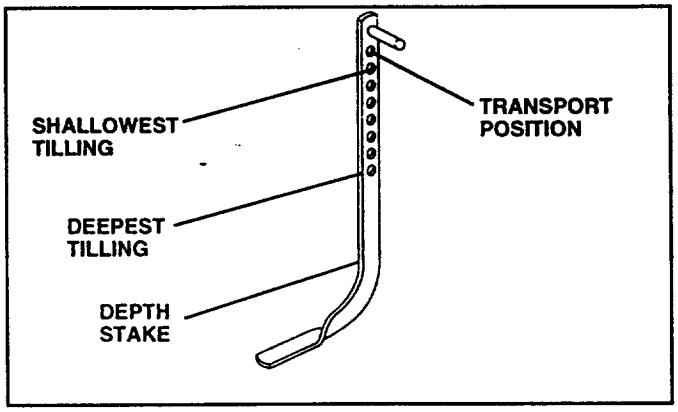


FIG. 10

TILLING (See Fig. 11)

- Release depth stake pin. Pull the depth stake up for increased tilling depth. Place depth stake pin in hole of depth stake to lock in position.
- Place shift lever indicator in till position.
- Hold the clutch control bar against the handle to start tilling movement. Tines and wheels will both turn.
- Move throttle control to "FAST" position for deep tilling. To cultivate, throttle control can be set at any desired speed, depending on how fast or slow you wish to cultivate.

IMPORTANT: ALWAYS RELEASE CLUTCH CONTROL BAR BEFORE MOVING SHIFT LEVER INTO ANOTHER POSITION.

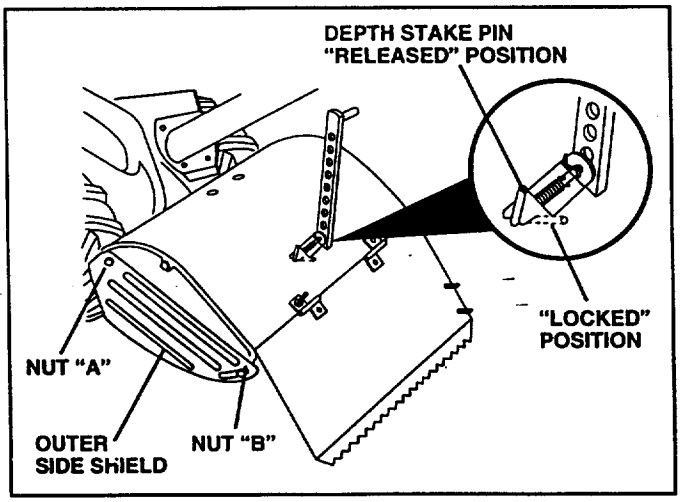


FIG. 11

TURNING

- Release the clutch control bar.
- Move throttle control to "SLOW" position.
- Place shift lever indicator in "F" (forward) position. Tines will not turn.
- Lift handle to raise tines out of ground.
- Swing the handle in the opposite direction you wish to turn, being careful to keep feet and legs away from tines.
- When you have completed your turn-around, release the clutch control bar and lower handle. Place shift lever in till position and move throttle control to desired speed. To begin tilling, hold clutch control bar against the handle.

OUTER SIDE SHIELDS (See Fig. 11)

The front edges of the outer side shields are slotted so that the shields can be raised for deep tilling and lowered for shallow tilling to protect small plants from being buried. Loosen nut "A" in slot and nut "B". Move shield to desired position (both sides). Retighten nuts.

TO TRANSPORT

CAUTION: Before lifting or transporting, allow tiller engine and muffler to cool. Disconnect spark plug wire. Drain gasoline from fuel tank.

AROUND THE YARD

- Release the depth stake pin. Move the depth stake down to the top hole for transporting the tiller. Place depth stake pin in hole of depth stake to lock in position. This prevents tines from scuffing the ground.
- Place shift lever indicator in "F" (forward) position for transporting.
- Hold the drive control bar against the handle to start tiller movement. Tines will not turn.
- Move throttle control to desired speed.

AROUND TOWN

- Disconnect spark plug wire.
- Drain fuel tank.
- Transport in upright position to prevent oil leakage.

BEFORE STARTING ENGINE

IMPORTANT: BE VERY CAREFUL NOT TO ALLOW DIRT TO ENTER THE ENGINE WHEN CHECKING OR ADDING OIL OR FUEL. USE CLEAN OIL AND FUEL AND STORE IN APPROVED, CLEAN, COVERED CONTAINERS. USE CLEAN FILL FUNNELS.

CHECK ENGINE OIL LEVEL (See Fig. 12)

- The engine in your unit has been shipped, from the factory, already filled with SAE 30 summer weight oil.
- With engine level, clean area around oil filler plug and remove plug.
- Engine oil should be to point of overflowing when engine is level. For approximate capacity see "PRODUCT SPECIFICATIONS" on page 3 of this manual. All oil must meet A.P.I. Service Classification SG.
- For cold weather operation you should change oil for easier starting (See oil viscosity chart in the Customer Responsibilities section of this manual).
- To change engine oil, see the Customer Responsibilities section in this manual.

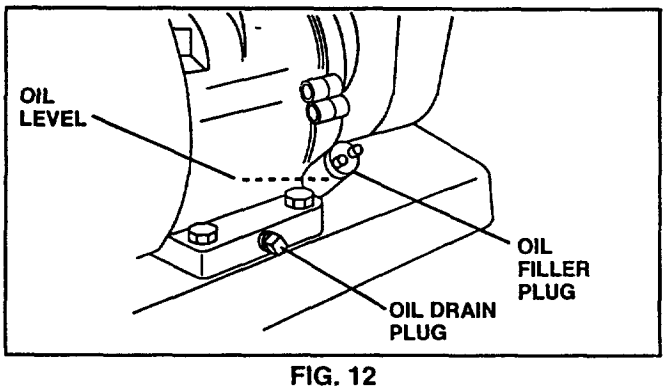


FIG. 12

ADD GASOLINE

- Fill fuel tank. Use fresh, clean, regular unleaded gasoline. (Use of leaded gasoline will increase carbon and lead oxide deposits and reduce valve life.)

IMPORTANT: WHEN OPERATING IN TEMPERATURES BELOW 32°F (0°C), USE FRESH, CLEAN, WINTER GRADE GASOLINE TO HELP INSURE GOOD COLD WEATHER STARTING.

WARNING: Experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. **To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer.** Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. **Use fresh fuel next season.** See Storage section of this manual for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

CAUTION: Fill to within 1/2" (1.3 cm) of top of fuel tank to prevent spills and to allow for fuel expansion. If gasoline is accidentally spilled, move machine away from area of spill. Avoid creating any source of ignition until gasoline vapors have disappeared.

Do not overfill. Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

TO START ENGINE (See Fig. 13)

CAUTION: Keep drive control bar in "DISENGAGED" position when starting engine.

When starting engine for the first time or if engine has run out of fuel, it will take extra pulls of the recoil starter to move fuel from the tank to the engine.

- Make sure spark plug wire is properly connected.
- Move shift lever indicator to "N" (neutral) position.
- Place throttle control in "FAST" position.
- Move choke control to full "CHOKE" position. Grasp recoil starter handle with one hand and grasp tiller handle with other hand. Pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point).
- Pull recoil starter handle quickly. Do not let starter handle snap back against starter. Repeat if necessary.
- If engine fires but does not start, move choke control to half choke position. Pull recoil starter handle until engine starts.
- When engine starts, slowly move choke control to "RUN" position as engine warms up.

NOTE: A warm engine requires less choking to start.

- Move throttle control to desired running position.
- Allow engine to warm up for a few minutes before engaging tines.

NOTE: If at a high altitude (above 3000 feet) or in cold temperatures (below 32°F), the carburetor fuel mixture may need to be adjusted for best engine performance. See "TO ADJUST CARBURETOR" in the Service and Adjustments section of this manual.

NOTE: If engine does not start, see troubleshooting points.

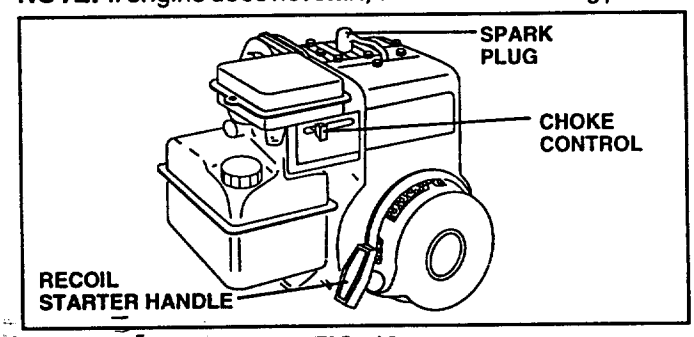


FIG. 13

TILLING HINTS

CAUTION: Until you are accustomed to handling your tiller, start actual field use with throttle in slow position (midway between "FAST" and "IDLE").

- Tilling is digging into, turning over, and breaking up packed soil before planting. Loose, unpacked soil helps root growth. Best tilling depth is 4" to 6" (10-15 cm). A tiller will also clear the soil of unwanted vegetation. The decomposition of this vegetable matter enriches the soil. Depending on the climate (rainfall and wind), it may be advisable to till the soil at the end of the growing season to further condition the soil.

  For easier handling of your tiller, leave about 8 inches (20 cm) of untilled soil between the first and second tilling passes. The third pass will be between the first and second (See Fig. 14).

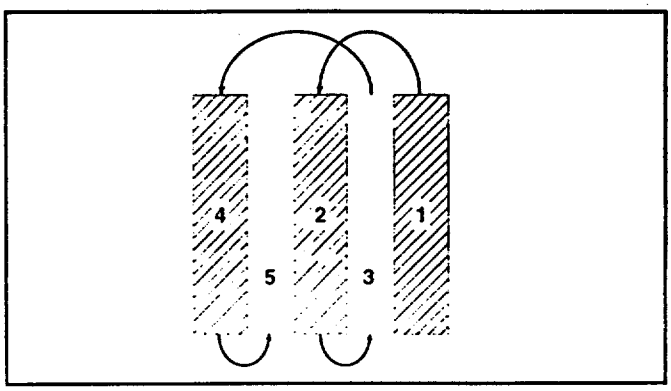


FIG. 14

- Soil conditions are important for proper tilling. Tines will not readily penetrate dry, hard soil which may contribute to excessive bounce and difficult handling of your tiller. Hard soil should be moistened before tilling; however, extremely wet soil will "ball-up" or clump during tilling. Wait until the soil is less wet in order to achieve the best results. When tilling in the fall, remove vines and long grass to prevent them from wrapping around the tine shaft and slowing your tilling operation.
- Do not lean on handle. This takes weight off the wheels and reduces traction. To get through a really tough section of sod or hard ground, apply upward pressure on handle or lower the depth stake.

CULTIVATING

Cultivating is destroying the weeds between rows to prevent them from robbing nourishment and moisture from the plants. At the same time, breaking up the upper layer of soil crust will help retain moisture in the soil. Best digging depth is 1" to 3" (2.5-7.5 cm). Lower the outer side shields to protect small plants from being buried.

- Cultivate up and down the rows at a speed which will allow tines to uproot weeds and leave the ground in rough condition, promoting no further growth of weeds and grass (See Fig. 15).

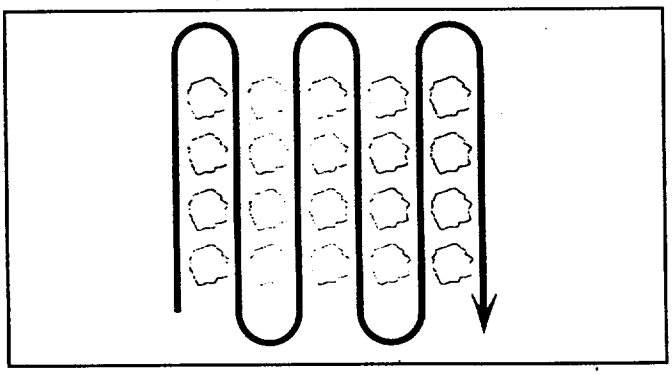


FIG. 15

TINE SHEAR PINS

The tine assemblies on your tiller are secured to the tine shaft with shear pins (See "TINE REPLACEMENT" in the Service and Adjustments section of this manual).

If the tiller is unusually overloaded or jammed, the shear pins are designed to break before internal damage occurs to the transmission.

- If shear pin(s) break, replace only with those shown in the Repair Parts section of this manual.

CUSTOMER RESPONSIBILITIES

MAINTENANCE SCHEDULE FILL IN DATES AS YOU COMPLETE REGULAR SERVICE	BEFORE EACH USE	EVERY 5 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	SERVICE DATES									
Check Engine Oil Level	✔	✔												
Change Engine Oil				✔1,2										
Oil Pivot Points		✔												
Inspect Spark Arrester / Muffler				✔										
Inspect Air Screen	✔													
Clean or Replace Air Cleaner Cartridge				✔2										
Clean Engine Cylinder Fins				✔										
Replace Spark Plug				✔										

1 - Change more often when operating under a heavy load or in high ambient temperatures.
2 - Service more often when operating in dirty or dusty conditions.

GENERAL RECOMMENDATIONS

The warranty on this tiller does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain tiller as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain your tiller.

All adjustments in the Service and Adjustments section of this manual should be checked at least once each season.

- Once a year you should replace the spark plug, clean or replace air filter, and check tines and belts for wear. A new spark plug and clean air filter assure proper air-fuel mixture and help your engine run better and last longer.

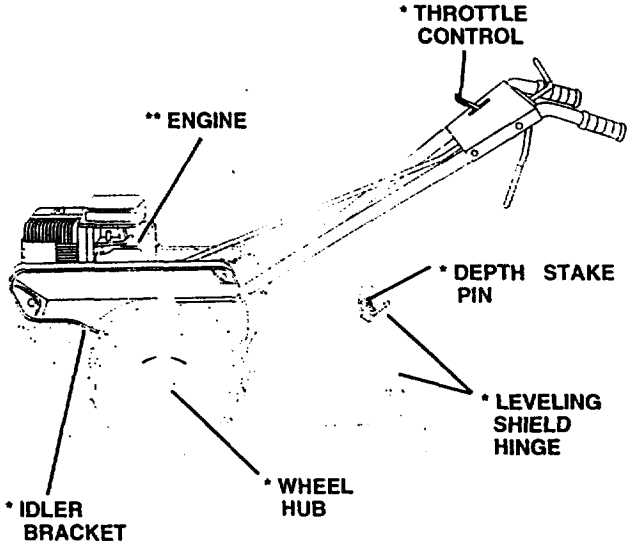
BEFORE EACH USE

- Check engine oil level.
- Check tine operation.
- Check for loose fasteners.

LUBRICATION

Keep unit well lubricated (See "LUBRICATION CHART").

LUBRICATION CHART



* SAE 30 OR 10W-30 MOTOR OIL
** REFER TO CUSTOMER RESPONSIBILITIES "ENGINE" SECTION

CUSTOMER RESPONSIBILITIES

Disconnect spark plug wire before performing any maintenance (except carburetor adjustment) to prevent accidental starting of engine.

Prevent fires! Keep the engine free of grass, leaves, spilled oil, or fuel. Remove fuel from tank before tipping unit for maintenance. Clean muffler area of all grass, dirt, and debris.

Do not touch hot muffler or cylinder fins as contact may cause burns.

ENGINE

LUBRICATION

Use only high quality detergent oil rated with API service classification SF, SG or SH. Select the oil's SAE viscosity grade according to your expected temperature.

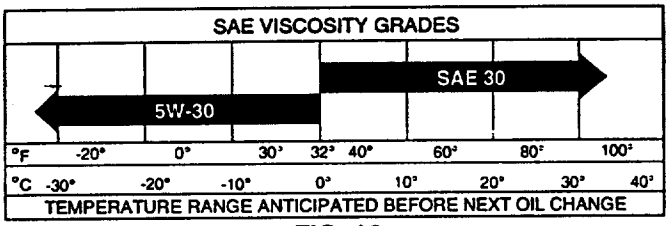


FIG. 16

NOTE: Although multi-viscosity oils (5W-30, 10W-30, etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 32°F (0°C). Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

Change the oil after every 25 hours of operation or at least once a year if the tractor is not used for 25 hours in one year.

Check the crankcase oil level before starting the engine and after each five (5) hours of continuous use. Add SAE 30 motor oil or equivalent. Tighten oil filler plug securely each time you check the oil level.

TO CHANGE ENGINE OIL (See Figs. 16 and 17)

Determine temperature range expected before oil change. All oil must meet API service classification SF, SG or SH.

- Be sure tiller is on level surface.
- Oil will drain more freely when warm.
- Use a funnel to prevent spill on tiller, and catch oil in a suitable container.
- Remove drain plug.
- Tip tiller forward to drain oil.
- After oil has drained completely, replace oil drain plug and tighten securely.
- Remove oil filler plug. Be careful not to allow dirt to enter the engine.
- Refill engine with oil. See "CHECK ENGINE OIL LEVEL" in the Operation section of this manual.

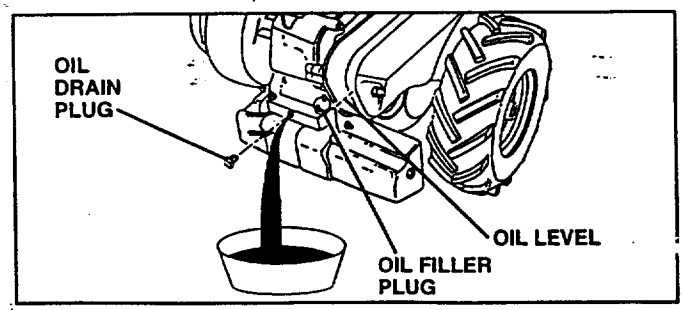


FIG. 17

AIR CLEANER (See Fig. 18)

Service air cleaner cartridge every twenty-five hours, more often if engine is used in very dusty conditions.

- Loosen air cleaner screws, one on each side of cover.
- Remove air cleaner cover.
- Carefully remove air cleaner cartridge. Be careful. Do not allow dirt or debris to fall into carburetor.
- Clean by tapping gently on a flat surface.
- If very dirty or damaged, replace cartridge.

CAUTION: Petroleum solvents, such as kerosene, are not to be used to clean cartridge. They may cause deterioration of the cartridge. Do not oil cartridge. Do not use pressurized air to clean or dry cartridge.

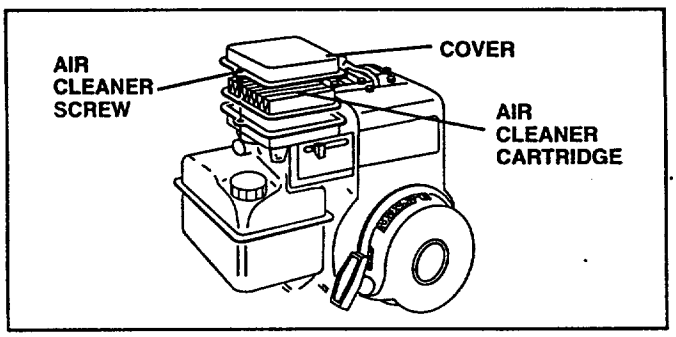


FIG. 18

COOLING SYSTEM (See Fig. 19)

Your engine is air cooled. For proper engine performance and long life keep your engine clean.

- Clean air screen frequently using a stiff-bristled brush.
- Remove blower housing and clean as necessary.
- Keep cylinder fins free of dirt and chaff.

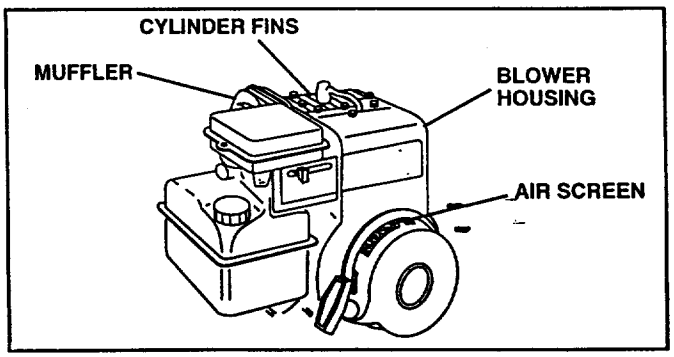


FIG. 19

CUSTOMER RESPONSIBILITIES

MUFFLER

Do not operate tiller without muffler. Do not tamper with exhaust system. Damaged mufflers or spark arresters could create a fire hazard. Inspect periodically and replace if necessary. If your engine is equipped with a spark arrester screen assembly, remove every 50 hours for cleaning and inspection. Replace if damaged.

SPARK PLUG

Replace spark plugs at the beginning of each tilling season or after every 50 hours of use, whichever comes first. Spark plug type and gap setting is shown in "PRODUCT SPECIFICATIONS" on page 3 of this manual.

TRANSMISSION

Your transmission is sealed and will only require lubrication if serviced.

CLEANING

- Clean engine, wheels, finish, etc. of all foreign matter.
- Keep finished surfaces and wheels free of all gasoline, oil, etc.
- Protect painted surfaces with automotive type wax.

We do not recommend using a garden hose to clean your unit unless the muffler, air filter and carburetor are covered to keep water out. Water in engine can result in a shortened engine life.

SERVICE AND ADJUSTMENTS

CAUTION: Disconnect spark plug wire from spark plug and place wire where it cannot come into contact with plug.

TILLER

TO ADJUST HANDLE HEIGHT (See Fig. 20)

Select handle height best suited for your tilling conditions. Handle height will be different when tiller digs into soil.

- First loosen handle lock lever.
- Handle can be positioned at different settings between "HIGH" and "LOW" positions.
- Retighten handle lock lever securely after adjusting.

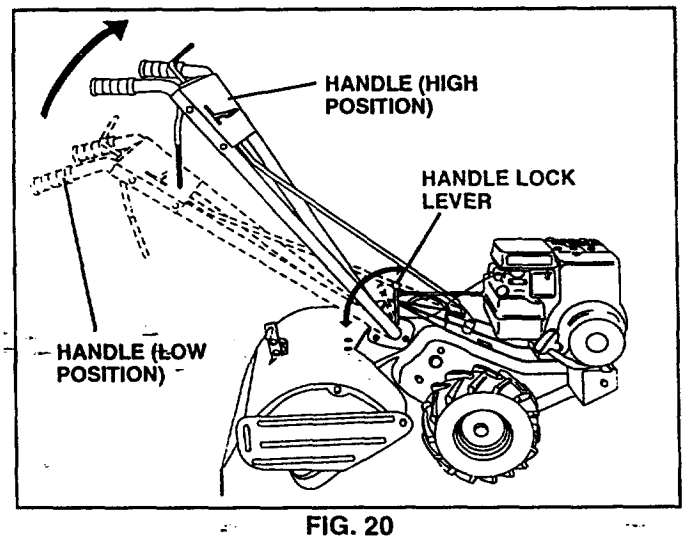


FIG. 20

TIRE CARE

CAUTION: When mounting tires, unless beads are seated, overinflation can cause an explosion.

- Maintain 20 PSI (1.4 kg/cm²) of tire pressure. If tire pressures are not equal, tiller will pull to one side.
- Keep tires free of gasoline or oil which can damage rubber.

TO REMOVE WHEEL (See Fig. 21)

- Place blocks under transmission to keep tiller from tipping.
- Remove outer side shield by removing nuts "A" and "B".
- Remove inner side shield by removing nuts "C" and "D".
- Remove hairpin clip and clevis pin from wheel.
- Remove wheel and tire.
- Repair tire and reassemble.

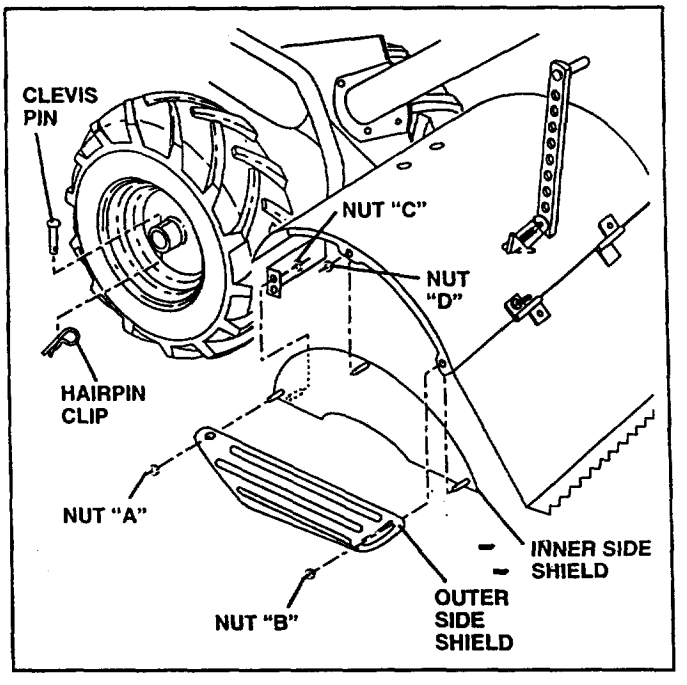


FIG. 21

TINE REPLACEMENT (See Figs. 22, 23 and 24)

CAUTION: Tines are sharp. Wear gloves or other protection when handling tines.

A badly worn tine causes your tiller to work harder and dig more shallow. Most important, worn tines cannot chop and shred organic matter as effectively nor bury it as deeply as good tines. A tine this worn needs to be replaced.

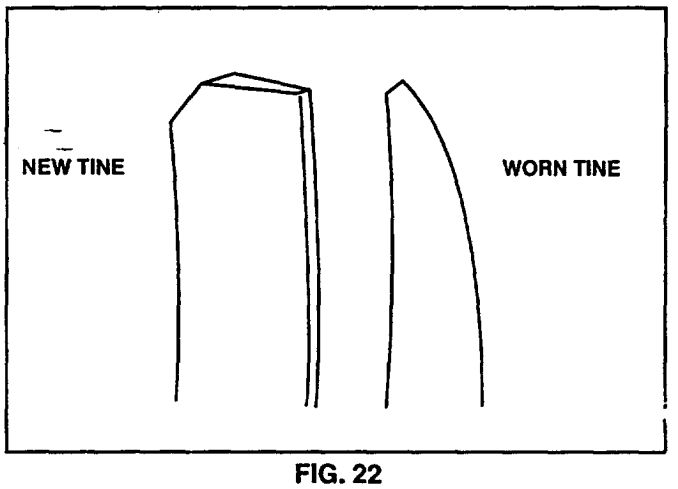


FIG. 22

- To maintain the superb tilling performance of this machine the tines should be checked for sharpness, wear, and bending, particularly the tines which are next to the transmission. If the gap between the tines exceeds 3-1/2 inches (9 cm), they should be replaced or straightened as necessary.
- New tines should be assembled as shown in Fig. 26. Sharpened tine edges will rotate rearward from above.

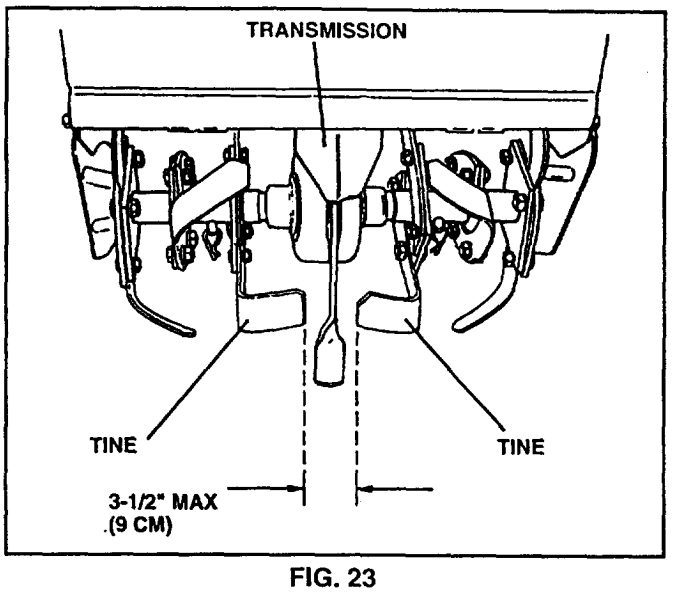


FIG. 23

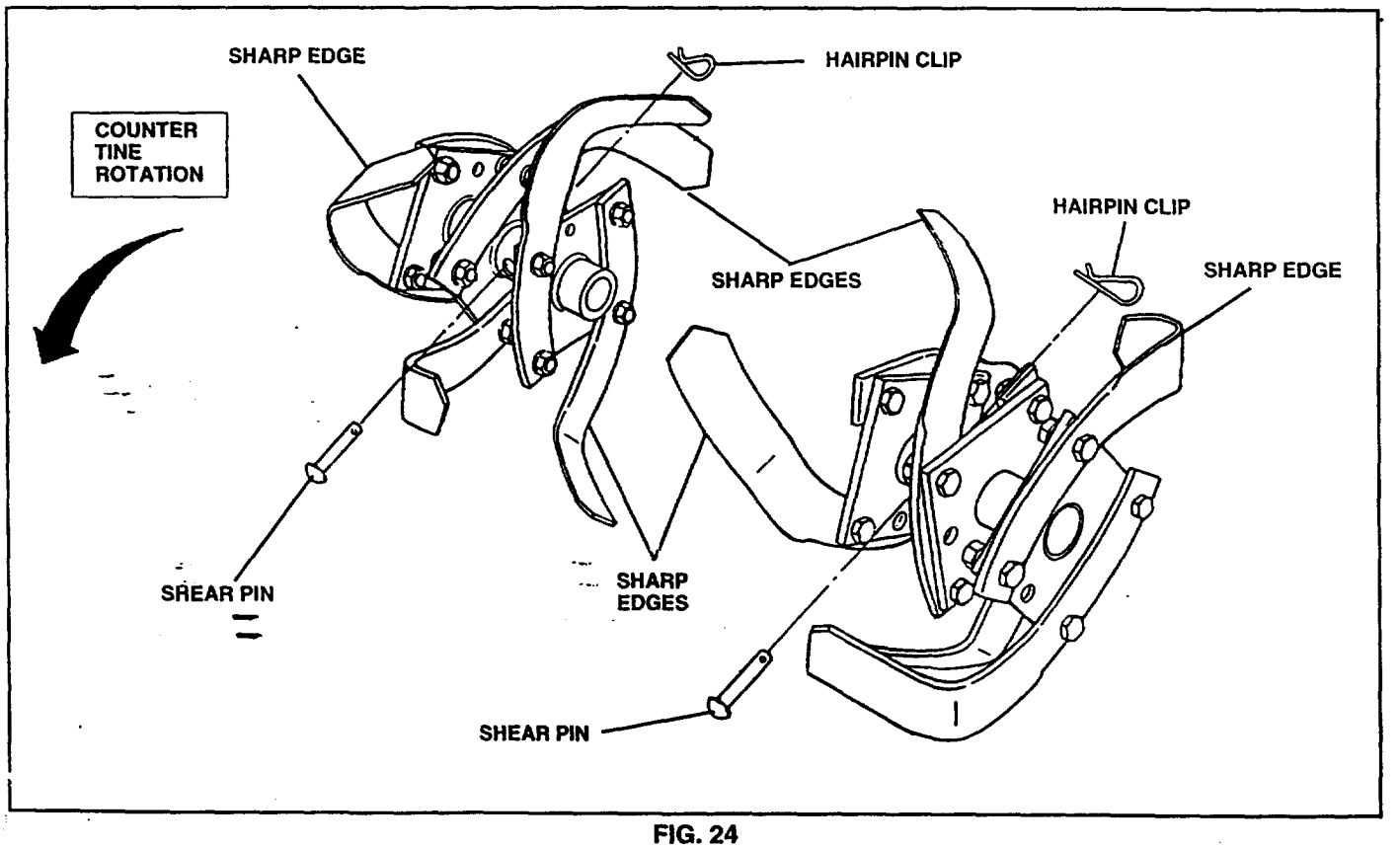


FIG. 24

TO REMOVE BELT GUARD (See Fig. 25)

- Remove L.H. outer and inner side shields (See "TO REMOVE WHEEL" in this section of this manaul).
- Remove hairpin clip and clevis pin from left wheel. Pull wheel out from tiller about 1 inch (2.5cm).
- Remove two (2) cap nuts and washers from side of belt guard.
- Remove hex nut and washer from bottom of belt guard (located behind wheel).
- Pull belt guard out and away from unit.
- Replace belt guard by reversing above procedure.

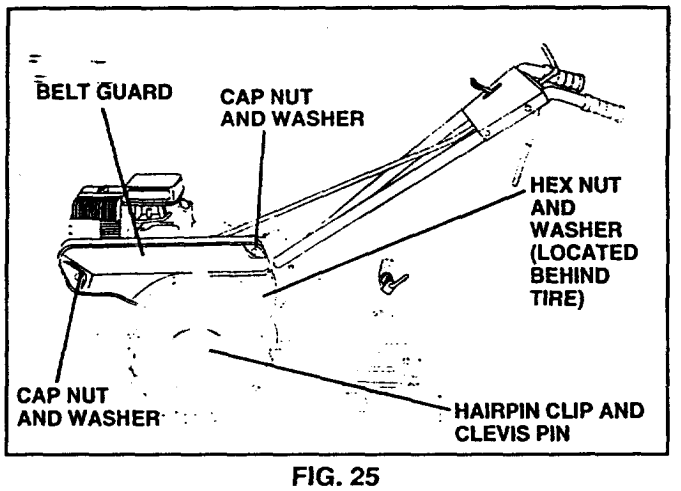


FIG. 25

TO REPLACE GROUND DRIVE BELT (See Figs. 25 and 26)

- Remove belt guard (See "TO REMOVE BELT GUARD" in this section of this manual).
- Loosen belt guides "A" and "B" and also nuts "C" and "D".
- Remove old belt by slipping from engine pulley first.
- Place new belt in groove of transmission pulley and into engine pulley. BELT MUST BE IN GROOVE ON TOP OF IDLER PULLEY. NOTE POSITION OF BELT TO GUIDES.
- Tighten belt guides "A" and "B" and nuts "C" and "D".
- Check belt adjustment as described below.
- Replace belt guard.
- Reposition wheel and replace clevis pin and hairpin clip.
- Replace inner and outer side shields.

GROUND DRIVE BELT ADJUSTMENT (See Fig. 26)

For proper belt tension, the extension spring should have about 5/8 inch stretch when drive control bar is in "ENGAGED" position. This tension can be attained as follows:

- Loosen cable clip screw securing the drive control cable.
- Slide cable forward for less tension and rearward for more tension until about 5/8 inch (16 mm) stretch is obtained while the clutch control bar is engaged.
- Tighten cable clip screw securely.

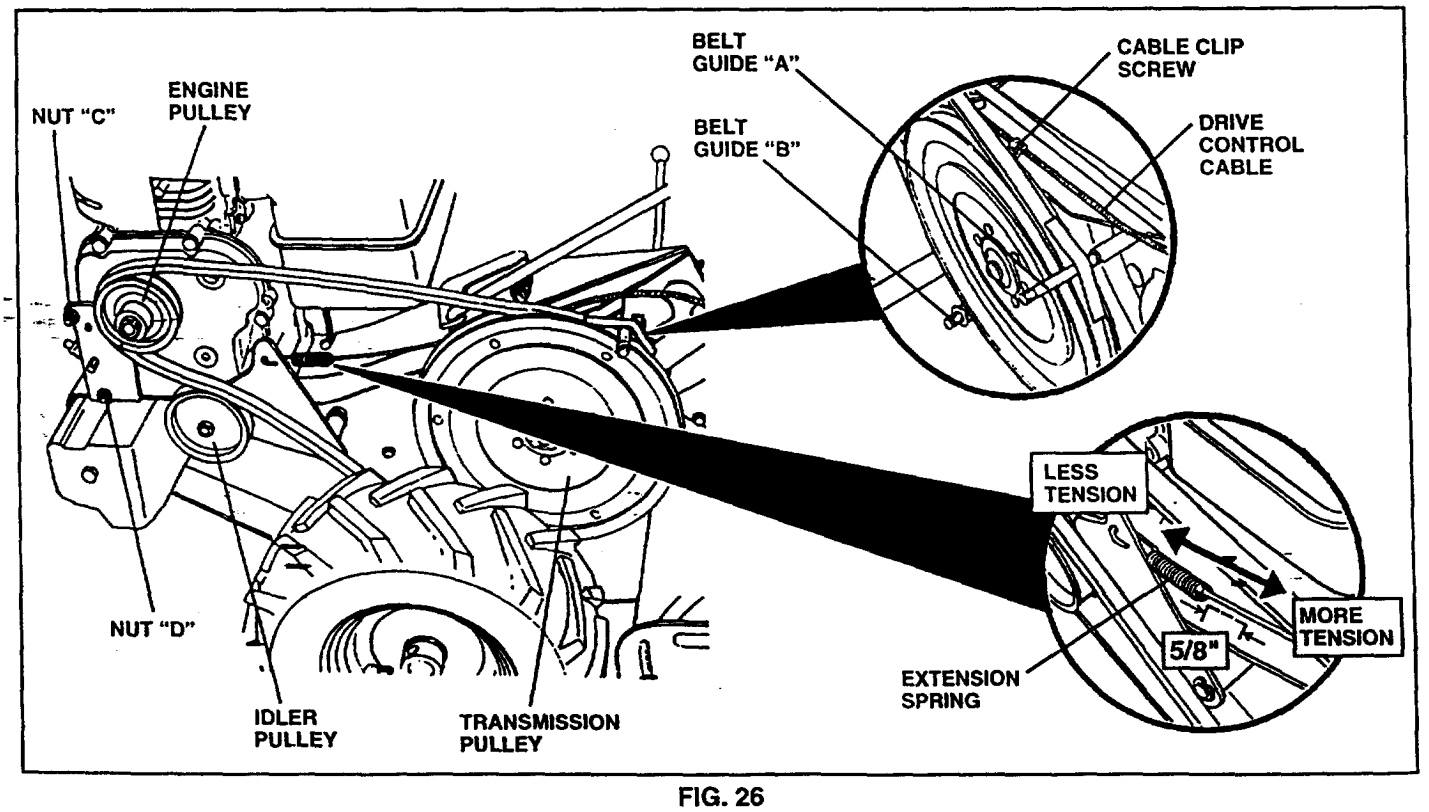


FIG. 26

SERVICE AND ADJUSTMENTS

ENGINE

TO ADJUST THROTTLE CONTROL CABLE (See Fig. 27)

- If adjustment is needed, move throttle control lever to "FAST" position.
- Loosen casing clamp screw "A" and move casing and wire "B" in direction shown to end of travel.
- Tighten casing clamp screw "A".
- Move throttle control lever to "STOP" position. Lever on engine must make good contact with stop on carburetor or control plate.

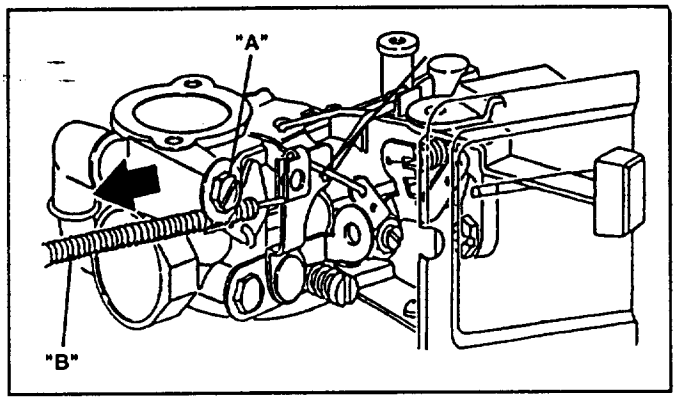


FIG. 27

TO ADJUST CARBURETOR (See Fig. 28)

The carburetor has been preset at the factory and adjustment should not be necessary. However, minor adjustments may be required to compensate for differences in fuel, temperature, altitude or load.

NOTE: The air cleaner and air cleaner cover must be assembled to carburetor when running engine. The best carburetor adjustment is obtained with fuel tank approximately 1/2 full.

INITIAL ADJUSTMENT

- Gently turn needle valve clockwise until it just closes. Valve may be damaged by turning it in too far.
- Open the needle valve 1-1/2 turns counterclockwise. This initial adjustment will permit the engine to be started and warmed up (approximately 5 minutes) prior to final adjustment.

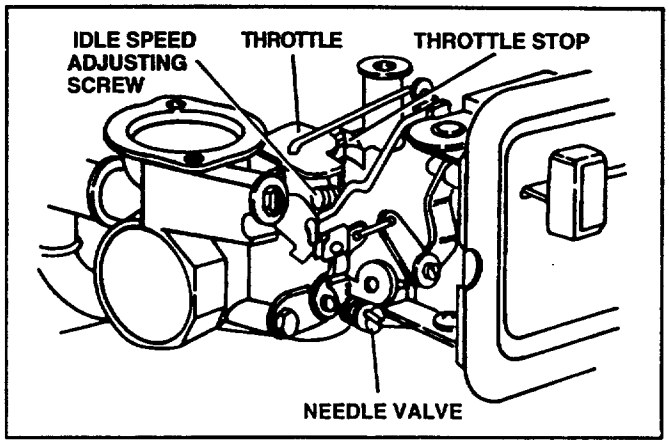


FIG. 28

FINAL ADJUSTMENT

- Place throttle control lever in "SLOW" position.
- Turn needle valve in until engine slows (clockwise-lean mixture).
- Turn needle valve out past smooth operating point until engine runs unevenly (rich mixture).
- Turn needle valve to the midpoint between rich and lean so the engine runs smoothly.
- Adjust idle RPM. Rotate throttle counterclockwise and hold against stop while adjusting idle speed adjusting screw to obtain 1750 RPM. Release throttle.

Engine should accelerate without hesitation or sputtering. If engine does not accelerate smoothly, the carburetor should be readjusted, usually to a slightly richer mixture.

IMPORTANT: NEVER TAMPER WITH THE ENGINE GOVERNOR, WHICH IS FACTORY SET FOR PROPER ENGINE SPEED. OVERSPEEDING THE ENGINE ABOVE THE FACTORY HIGH SPEED SETTING CAN BE DANGEROUS. IF YOU THINK THE ENGINE-GOVERNED HIGH SPEED NEEDS ADJUSTING, CONTACT YOUR NEAREST AUTHORIZED SERVICE FACILITY, WHICH HAS PROPER EQUIPMENT AND EXPERIENCE TO MAKE ANY NECESSARY ADJUSTMENTS.

STORAGE

Immediately prepare your tiller for storage at the end of the season or if the unit will not be used for 30 days or more.

CAUTION: Never store the tiller with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

TILLER

- Clean entire tiller (See "CLEANING" in the Customer Responsibilities section of this manual).
- Inspect and replace belts, if necessary (See belt replacement instructions in the Service and Adjustments section of this manual).
- Lubricate as shown in the Customer Responsibilities section of this manual.
- Be sure that all nuts, bolts and screws are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
- Touch up all rusted or chipped paint surfaces; sand lightly before painting.

ENGINE

FUEL SYSTEM

IMPORTANT: IT IS IMPORTANT TO PREVENT GUM DEPOSITS FROM FORMING IN ESSENTIAL FUEL SYSTEM PARTS SUCH AS THE CARBURETOR, FUEL FILTER, FUEL HOSE, OR TANK DURING STORAGE. ALSO, EXPERIENCE INDICATES THAT ALCOHOL BLENDED FUELS (CALLED GASOHOL OR USING ETHANOL OR METHANOL) CAN ATTRACT MOISTURE WHICH LEADS TO SEPARATION AND FORMATION OF ACIDS DURING STORAGE. ACIDIC GAS CAN DAMAGE THE FUEL SYSTEM OF AN ENGINE WHILE IN STORAGE.

- Drain the fuel tank.
- Start the engine and let it run until the fuel lines and carburetor are empty.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.
- Use fresh fuel next season.

NOTE: Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow the mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow the stabilizer to reach the carburetor. Do not drain the gas tank and carburetor if using fuel stabilizer.

ENGINE OIL

Drain oil (with engine warm) and replace with clean oil. (See "ENGINE" in the Customer Responsibilities section of this manual).

CYLINDERS

- Remove spark plug.
- Pour 1 ounce (29 ml) of oil through spark plug hole into cylinder.
- Pull starter handle slowly several times to distribute oil.
- Replace with new spark plug.

OTHER

- **Do not store gasoline from one season to another.**
- Replace your gasoline can if your can starts to rust. Rust and/or dirt in your gasoline will cause problems.
- If possible, store your unit indoors and cover it to give protection from dust and dirt.
- Cover your unit with a suitable protective cover that does not retain moisture. Do not use plastic. Plastic cannot breathe which allows condensation to form and will cause your unit to rust.

IMPORTANT: NEVER COVER TILLER WHILE ENGINE AND EXHAUST AREAS ARE STILL WARM.

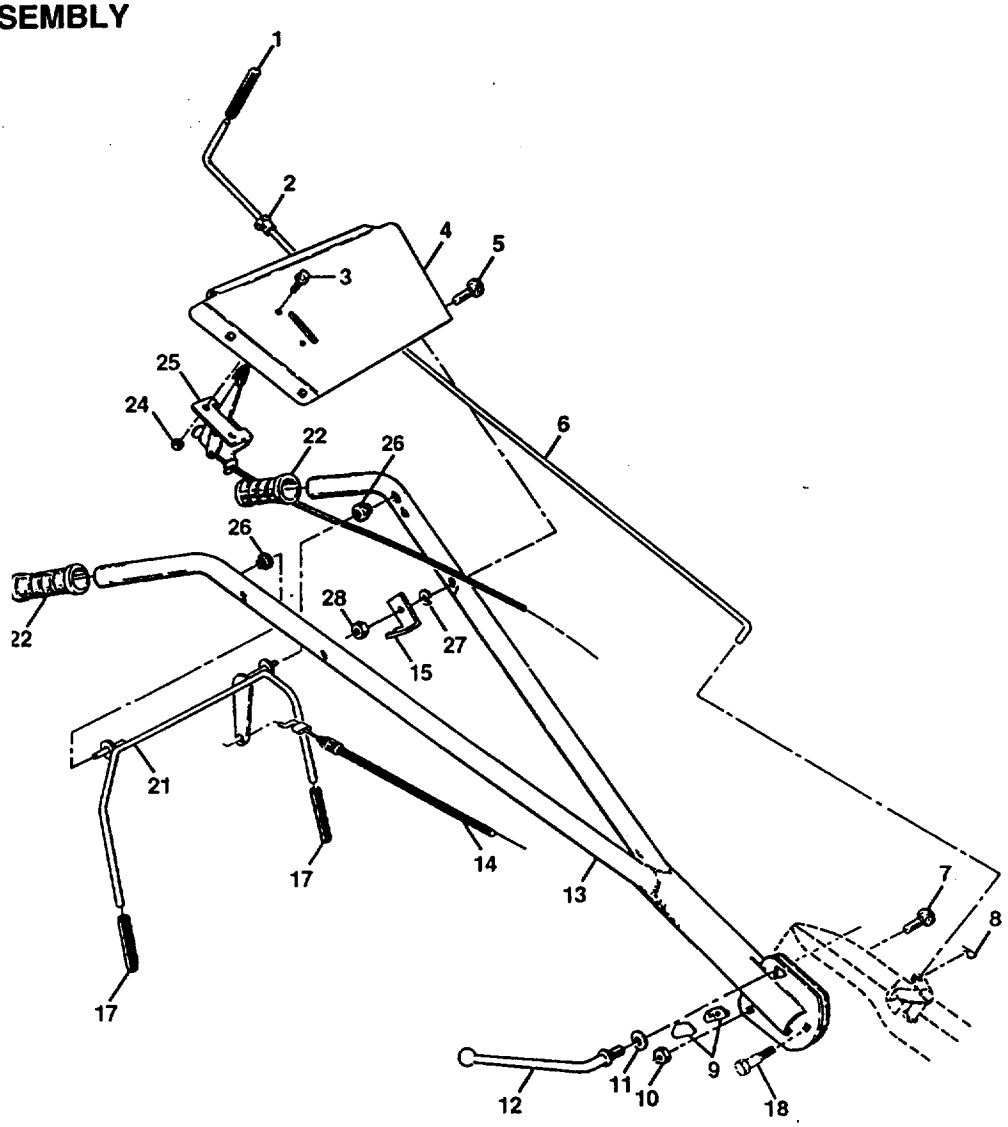
TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Will not start	1. Out of fuel. 2. Engine not "CHOKED" properly. 3. Engine flooded. 4. Dirty air cleaner. 5. Water in fuel. 6. Clogged fuel tank. 7. Loose spark plug wire. 8. Bad spark plug or improper gap. 9. Carburetor out of adjustment. 10. Oil soaked air filter.	1. Fill fuel tank. 2. See "TO START ENGINE" in Operation section. 3. Wait several minutes before attempting to start. 4. Clean or replace air cleaner cartridge. 5. Drain fuel tank and carburetor, and refill tank with fresh gasoline. 6. Remove fuel tank and clean. 7. Make sure spark plug wire is seated properly on plug. 8. Replace spark plug or adjust gap. 9. Make necessary adjustments. 10. Replace air filter.
Hard to start	1. Throttle control not set properly. 2. Dirty air cleaner. 3. Bad spark plug or improper gap. 4. Stale or dirty fuel. 5. Loose spark plug wire. 6. Carburetor out of adjustment.	1. Place throttle control in "FAST" position. 2. Clean or replace air cleaner cartridge. 3. Replace spark plug or adjust gap. 4. Drain fuel tank and refill with fresh gasoline. 5. Make sure spark plug wire is seated properly on plug. 6. Make necessary adjustments.
Loss of power	1. Engine is overloaded. 2. Dirty air cleaner. 3. Low oil level/dirty oil. 4. Faulty spark plug. 5. Oil in fuel. 6. Stale or dirty fuel. 7. Water in fuel. 8. Clogged fuel tank. 9. Spark plug wire loose. 10. Dirty engine air screen. 11. Dirty/clogged muffler. 12. Carburetor out of adjustment. 13. Poor compression.	1. Set depth stake for shallower tilling. 2. Clean or replace air cleaner cartridge. 3. Check oil level/change oil. 4. Clean and regap or change spark plug. 5. Drain and clean fuel tank and refill, and clean carburetor. 6. Drain fuel tank and refill with fresh gasoline. 7. Drain fuel tank and carburetor, and refill tank with fresh gasoline. 8. Remove fuel tank and clean. 9. Connect and tighten spark plug wire. 10. Clean engine air screen. 11. Clean/replace muffler. 12. Make necessary adjustments. 13. Contact an authorized service center/department.
Engine overheats	1. Low oil level/dirty oil. 2. Dirty engine air screen. 3. Dirty engine. 4. Partially plugged muffler. 5. Improper carburetor adjustment.	1. Check oil level/change oil. 2. Clean engine air screen. 3. Clean cylinder fins, air screen, and muffler area. 4. Remove and clean muffler. 5. Adjust carburetor to richer position.
Excessive bounce/ difficult handling	1. Ground too dry and hard.	1. Moisten ground or wait for more favorable soil conditions.
Soil balls up or clumps	1. Ground too wet.	1. Wait for more favorable soil conditions.
Engine runs but tiller won't move	1. Drive control bar is not engaged. 2. V-belt not correctly adjusted. 3. V-belt is off pulley(s).	1. Engage drive control. 2. Inspect/adjust V-belt. 3. Inspect V-belt.
Engine runs but labors when tilling	1. Tilling too deep. 2. Throttle control not properly adjusted. 3. Carburetor out of adjustment.	1. Set depth stake for shallower tilling. 2. Check throttle control setting. 3. Make necessary adjustments.
Tines will not rotate	1. Shear pin(s) broken.	1. Replace shear pin(s).

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

HANDLE ASSEMBLY



KEY NO.	PART NO.	DESCRIPTION
1	8389J	Grip, Handle
2	121248X	Bushing, Snap
3	71191008	* Screw, Pan Hd. #10-24
4	126949X505	Bracket, Handle
5	72110514	* Bolt, Carriage 5/16-18 x 1-3/4
6	108281X	Rod, Shift
7	72110608	* Bolt, Carriage 3/8-16 x 1 Gr. 5
8	4497H	Clip, Hairpin
9	109229X	Lock, Handle
10	73930600	Nut 3/8-16
11	19131611	* Washer 13/32 x 1 x 11 Ga.
12	109228X	Lever, Lock, Handle
13	150217	Handle
14	159232	Cable, Clutch

KEY NO.	PART NO.	DESCRIPTION
15	145821	Bracket, Clutch Cable
17	102604X	Grip, Bar Control
18	150696	Bolt, Pivot
21	159227X	Bar, Control
22	150744	Grip, Handle
24	73731000	* Nut, Keps #10-24 UNC
25	127012X	Control, Throttle
26	146480	Grommet, Handle
27	10040500	* Washer, Lock 5/16
28	73800500	Locknut 5/16-18

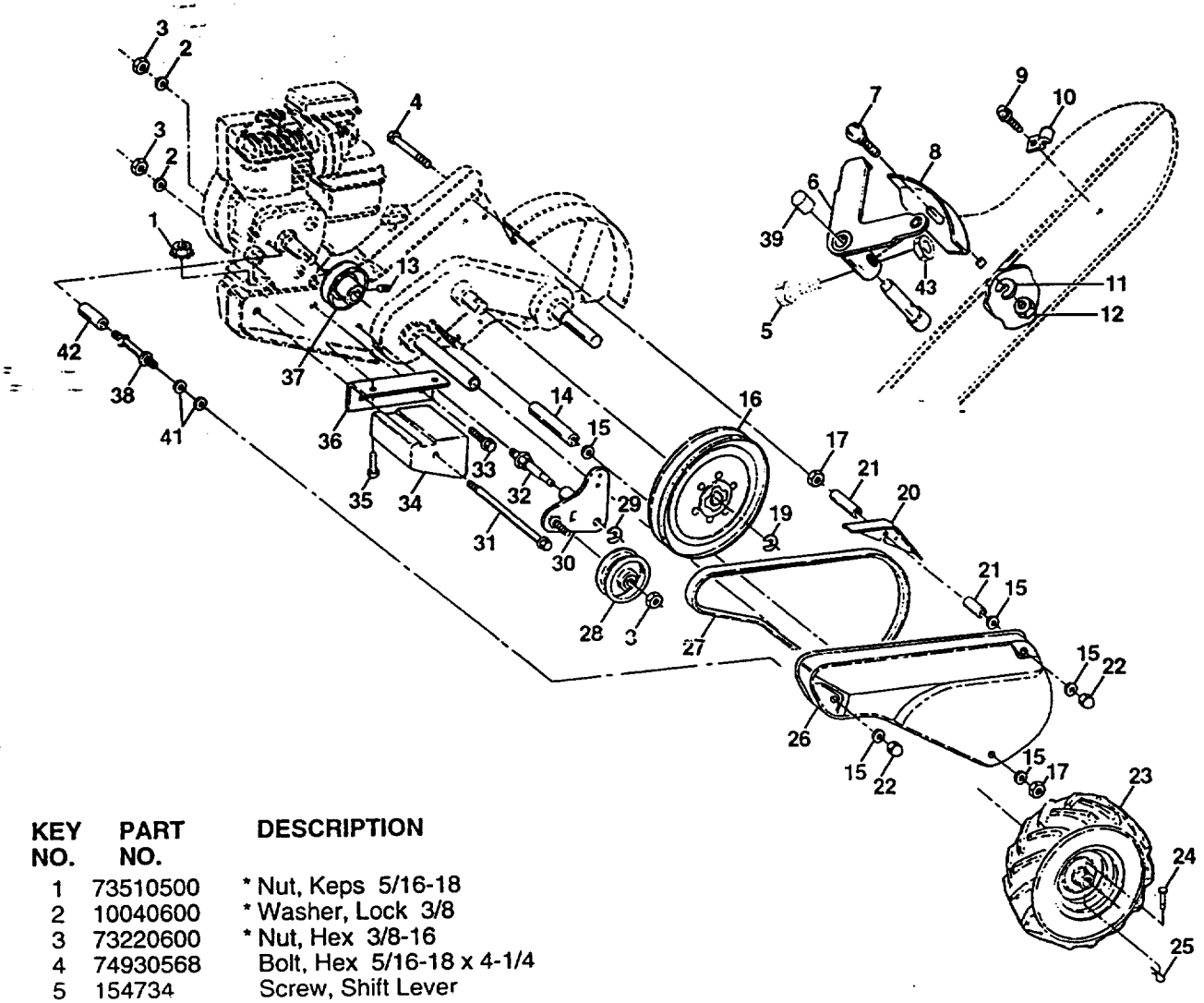
* STANDARD HARDWARE - - PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

MAINFRAME, LEFT SIDE



KEY NO.	PART NO.	DESCRIPTION
1	73510500	* Nut, Keps 5/16-18
2	10040600	* Washer, Lock 3/8
3	73220600	* Nut, Hex 3/8-16
4	74930568	Bolt, Hex 5/16-18 x 4-1/4
5	154734	Screw, Shift Lever
6	110111X	Lever, Shift
7	72110404	* Bolt, Carriage 1/4-20 x 1/2 Gr. 5
8	8700J	Plate, Shift Indicator
9	86777	Screw, Hex, Washer Head, Slotted #10-24 x 1/2
10	9484R	Clip
11	10040400	* Washer, Lock 1/4
12	73220400	* Nut, Hex 1/4-20
13	23230506	* Screw, Set, Hex 5/16-18 x 3/8
14	120938X	Spacer, Split 0.327 x 0.42 x 2.68
15	19111116	* Washer 11/32 x 11/16 x 16 Ga.
16	145102	Sheave, Transmission
17	73220500	* Nut, Hex 5/16-18
19	12000028	Ring, Retainer
20	110653X	Guard, Pinch Point
21	145216	Spacer, Split 0.327 x 0.42 x 1.688
22	104214X	Nut, Cap 5/16-18
23	5015J	Tire
	128952	Rim
	795R	Tire Valve
24	126875X	Rivet, Drilled
25	4497H	* Clip, Hairpin
26	131159X505	Guard, Belt
27	132801	Belt, V

KEY NO.	PART NO.	DESCRIPTION
28	104679X	Pulley, Idler
29	12000032	Ring, Klip
30	159229	Bracket, Idler
31	102384X	Bolt, Hex 5/16-16 x 12
32	102141X	Shaft, Idler Arm
33	74760616	* Bolt, Hex 3/8-16 x 1
34	102383X	Counterweight, L. H.
35	74760524	Bolt, Hex 5/16-18 x 1-1/2
36	102331X	Bracket, Reinforcement, L. H.
37	130812	Sheave, Engine
38	145822	Stud, Belt Guard
39	140062	Cap, Plunger
41	19111610	Washer 11/32 x 1 x 10 Ga.
42	151004	Spacer
43	69180	Nut Lock #10-24

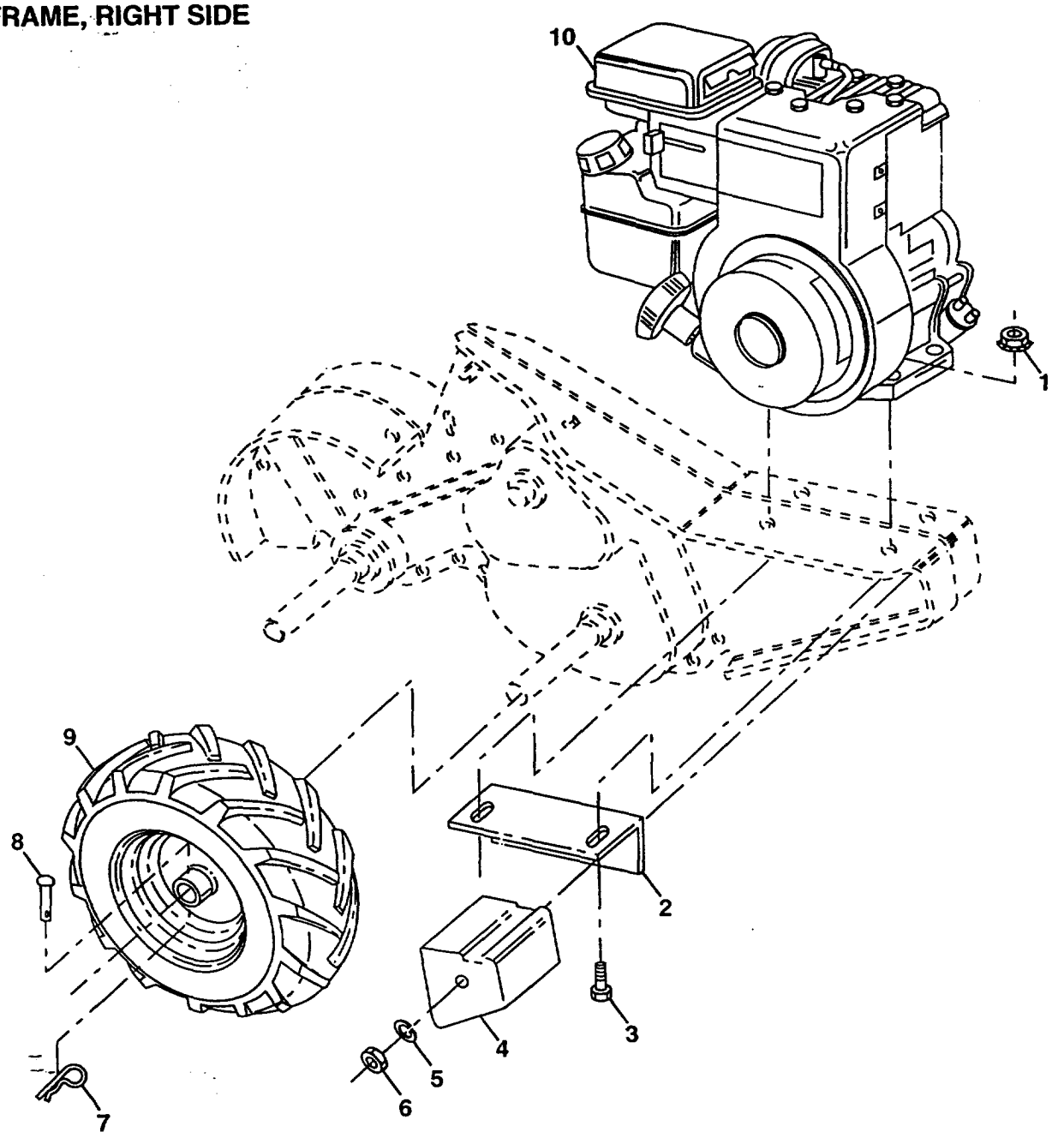
* STANDARD HARDWARE - - PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

MAINFRAME, RIGHT SIDE



KEY NO.	PART NO.	DESCRIPTION
1	73510500	* Nut, Keps 5/16-18
2	102332X	Bracket, Reinforcement
3	74760524	Bolt, Hex 5/16-18 x 1-1/2
4	102173X	Counter Weight, R.H.
5	10040600	* Washer, Lock 3/8
6	73220600	* Nut, Hex 3/8-16
7	4497H	* Clip, Hairpin
8	126875X	Rivet, Drilled

KEY NO.	PART NO.	DESCRIPTION
9	5015J	Tire
	128952	Rim
	795R	Tire Valve
10	- - - - - - -	Engine (See breakdown)

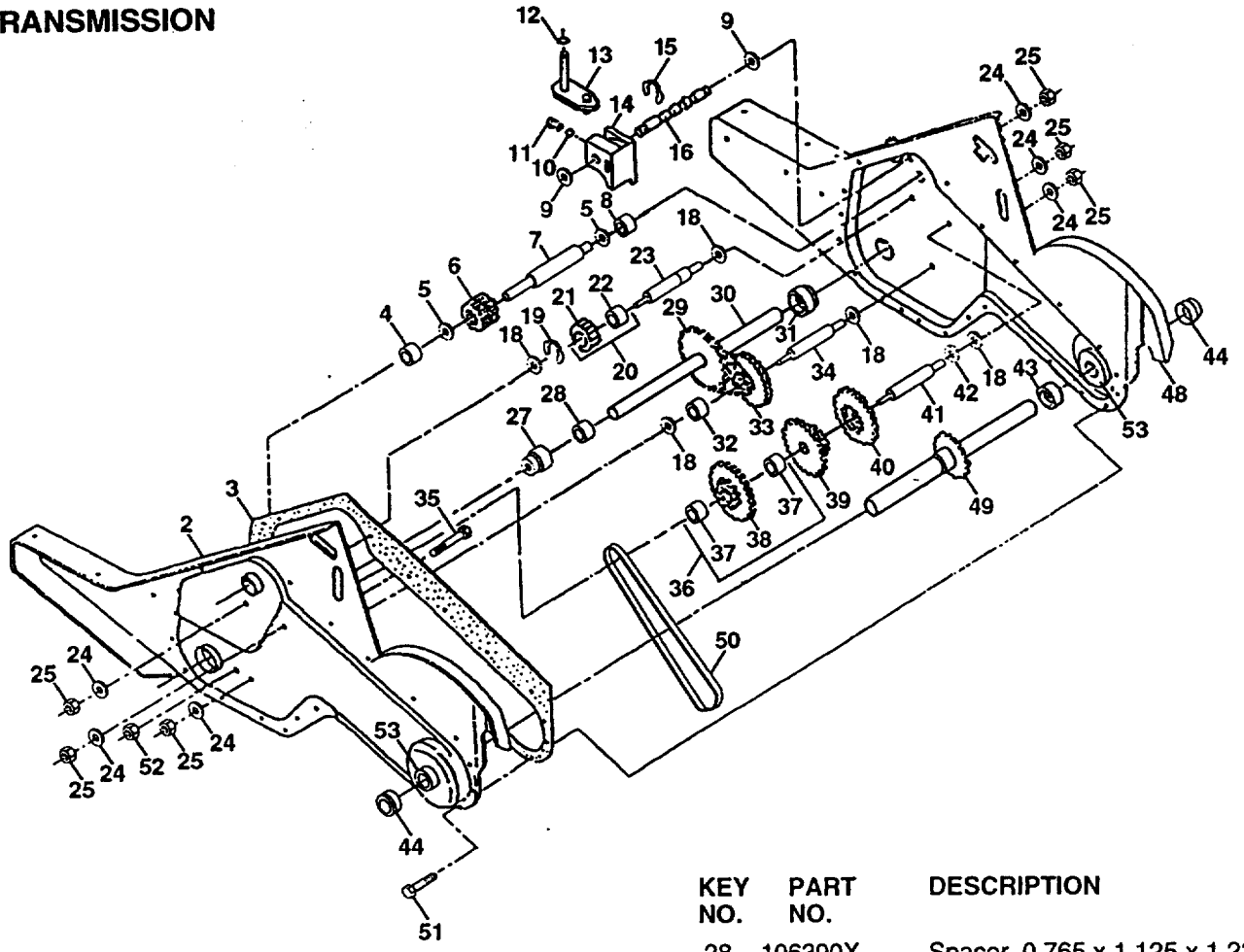
* STANDARD HARDWARE - - PURCHASE LOCALLY

NOTE: All component dimensions given in U.S.inches.
1 inch = 25.4 mm

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

TRANSMISSION



KEY NO.	PART NO.	DESCRIPTION
1	154354	Transmission Assembly (Includes Key Nos. 2-53)
2	150698	Gearcase, L.H. w/Bearing (Includes Key No. 4)
3	106211X	Gasket, Gearcase
4	5020J	Bearing, Needle
5	1370H	Washer, Thrust 5/8 x 1.10 x 1/32
6	137335	Pinion, Input
7	145101	Shaft, Input
8	4895H	Bearing, Needle
9	154467	Washer, Seal
10	7392M	Ball, Steel
11	100371K	Spring, Shift, Fork
12	106160X	O-Ring
13	142145	Arm,. Shift
14	8353J	Fork, Shift
15	12000039	Ring, Klip
16	154466	Shaft, Shift
18	4358J	Washer
19	12000040	Ring, Klip
20	102114X	Gear, Assembly, Reverse Idler (Includes Key Nos. 21 and 22)
21	102115X	Gear, Reverse Idler
22	6803J	Bearing, Needle
23	102111X	Shaft, Reverse Idler
24	10040700	* Washer, Lock 7/16
25	73610700	* Nut, Hex 7/16-20
27	143009	Bearing, Shaft, Ground Drive L.H.

KEY NO.	PART NO.	DESCRIPTION
28	106390X	Spacer 0.765 x 1.125 x 1.23
29	102134X	Chain #35-50 Pitch
30	150737	Ground Shaft Assembly
31	143008	Bearing, Shaft, Ground Drive R.H.
32	106388X	Spacer 0.70 x 1.00 x 1.150
33	102121X	Sprocket and Gear Assembly
34	102112X	Shaft, Reduction (2nd)
35	102101X	Screw, Whiz, Lock 5/16-18 x 3-1/2
36	154355	Sprocket Assembly w/Bearing (Includes Key Nos. 37 and 38)
37	4422J	Bearing, Needle
38	154356	Sprocket, Tine
39	105345X	Gear, Cluster, Red 1st & 2nd
40	105346X	Gear, Reverse
41	8358J	Shaft, Reduction (1st)
42	4220R	Washer, Thrust
43	106146X	Spacer 1.01 x 1.75 x 0.760
44	155236	Seal Asm Oil
48	150700	Gearcase, R.H. w/Bearing (Includes Key No. 8)
49	132688	Shaft, Tine
50	106147X	Chain, Roller #50-50 Pitch
51	17720408	Screw 1/4-20 x 1/2
52	73220500	* Nut, Hex 5/16-18
53	122204X	Kit, Bearing
- -	6066J	Grease, Plastilube #1

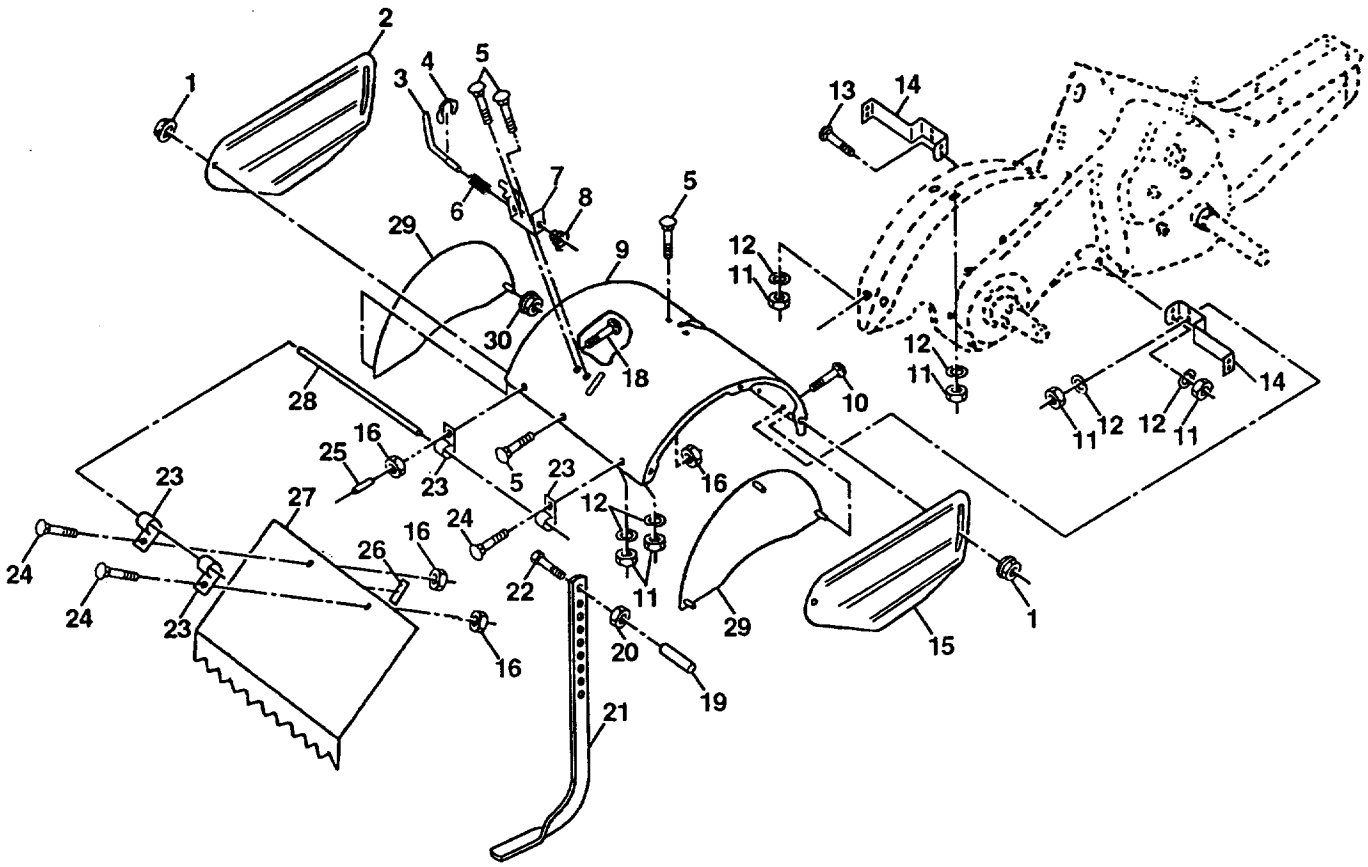
* STANDARD HARDWARE - - PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

TINE SHIELD



KEY NO.	PART NO.	DESCRIPTION
1	98000129	Nut, Flange 5/16-18
2	161415X505	Shield, Side, Outer L. H.
3	8393J	Pin, Stake, Depth
4	12000036	Ring, Klip
5	72140506	* Bolt, Carriage 5/16-18 x 3/4 Gr 5
6	8394J	Spring
7	8392J	Bracket, Latch
8	109230X	Spring, Depth Stake
9	124289X505	Shield, Tine
10	72140508	* Bolt, Carriage 5/16-18 x 1 Gr. 5
11	73220500	* Nut, Hex 5/16-18
12	10040500	* Washer, Lock 5/16
13	72110510	Bolt, Carriage 5/16-18 x 1-1/4
14	124311X	Bracket, Shield Tine
15	161414X505	Shield, Side, Outer R.H.
16	73510400	* Nut, Ecrou Hex 1/4-20
18	72040410	* Bolt, Carriage 1/4-20 x 1-1/4 Gr. 5
19	102701X	Grip

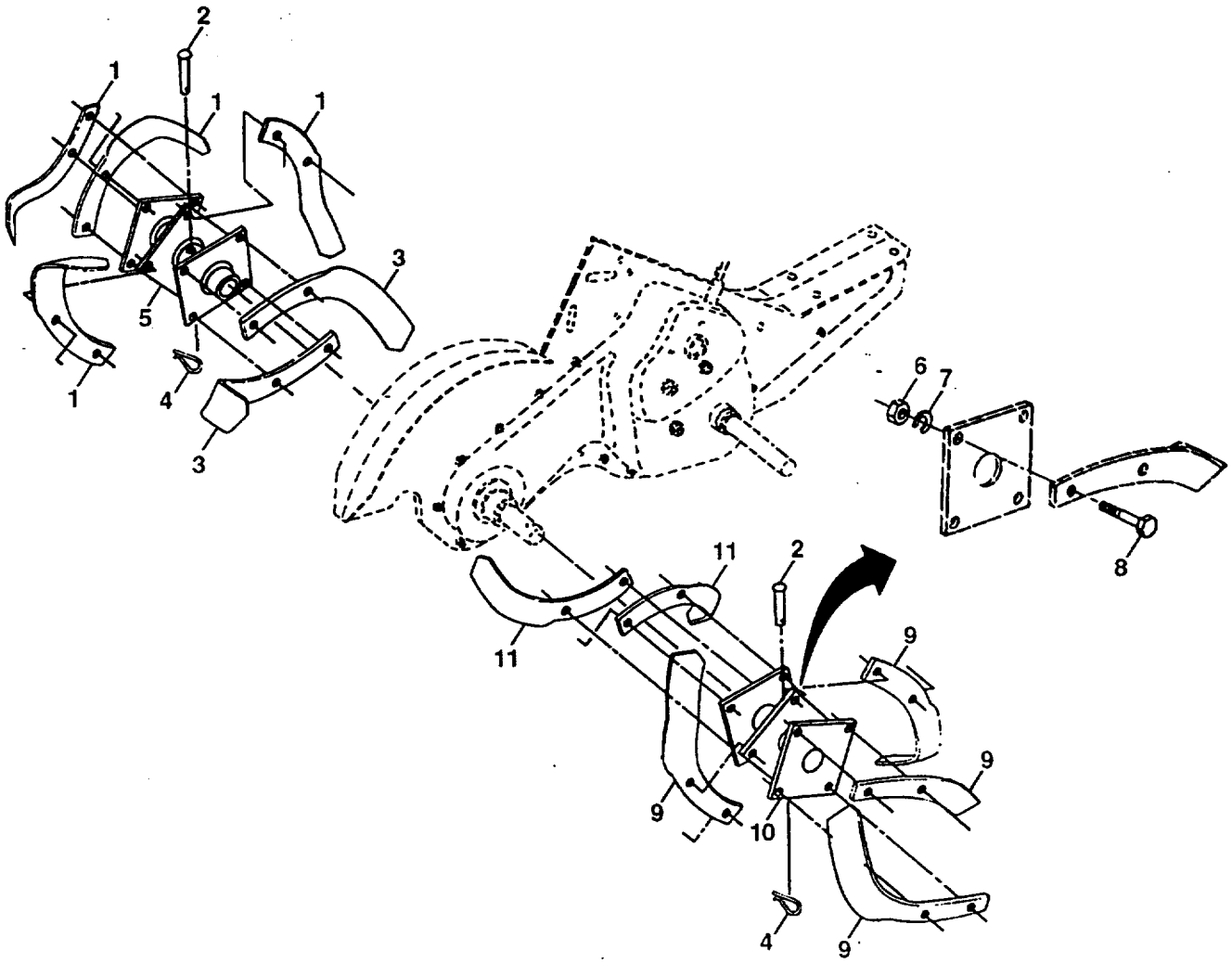
KEY NO.	PART NO.	DESCRIPTION
20	73220600	* Nut, Hex 3/8-16
21	102156X	Stake, Depth
22	74930632	Bolt, Hex 3/8-16 x 2
23	4440J	Hinge
24	72140404	* Bolt, Carriage 1/4-20 x 1/2 Gr. 5
25	6712J	Cap, Vinyl
26	109227X	Pad, Idler
27	102695X505	Shield, Leveling
28	120588X	Pin, Hinge
29	124309X505	Shield, Side
30	73970500	Locknut, Hex, Flange

* STANDARD HARDWARE - - PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm

TILLER - - MODEL NUMBER 3455A89

TINE ASSEMBLY



KEY NO.	PART NO.	DESCRIPTION
1	4459J	Tine, Outer, L.H.
2	132673	Clevis Pin
3	6554J	Tine, Inner, L.H.
4	3146R	* Clip, Hairpin
5	132727	Assembly, Hub and Plate, L.H.
6	73610600	Nut, Hex 3/8-24
7	10040600	Washer, Lock 3/8
8	74610616	Bolt, Hex 3/8-24 x 1
9	4460J	Tine, Outer, R.H.
10	132728	Assembly, Hub and Plate, R.H.
11	6555J	Tine, Inner, R.H.

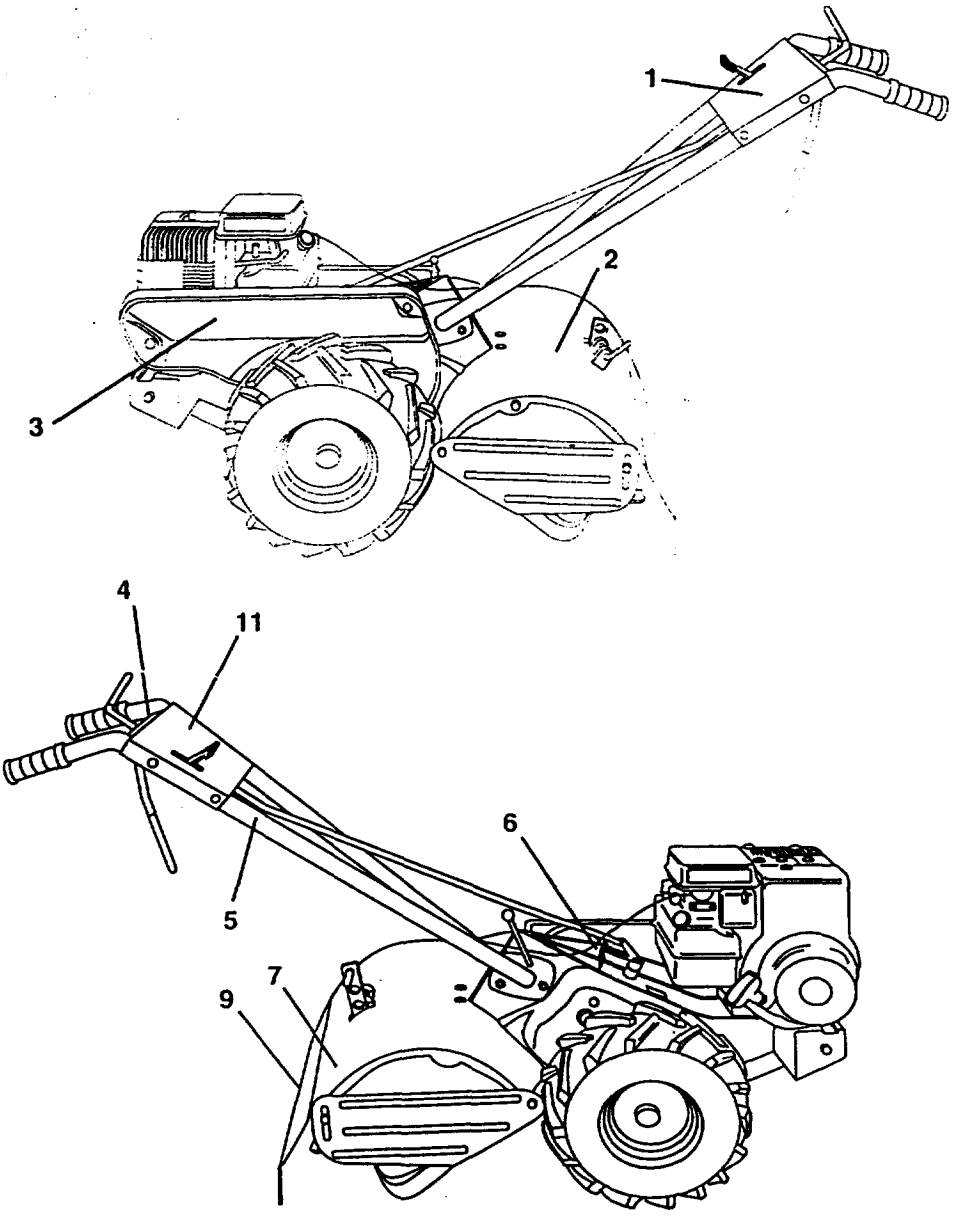
* STANDARD HARDWARE--PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

DECALS

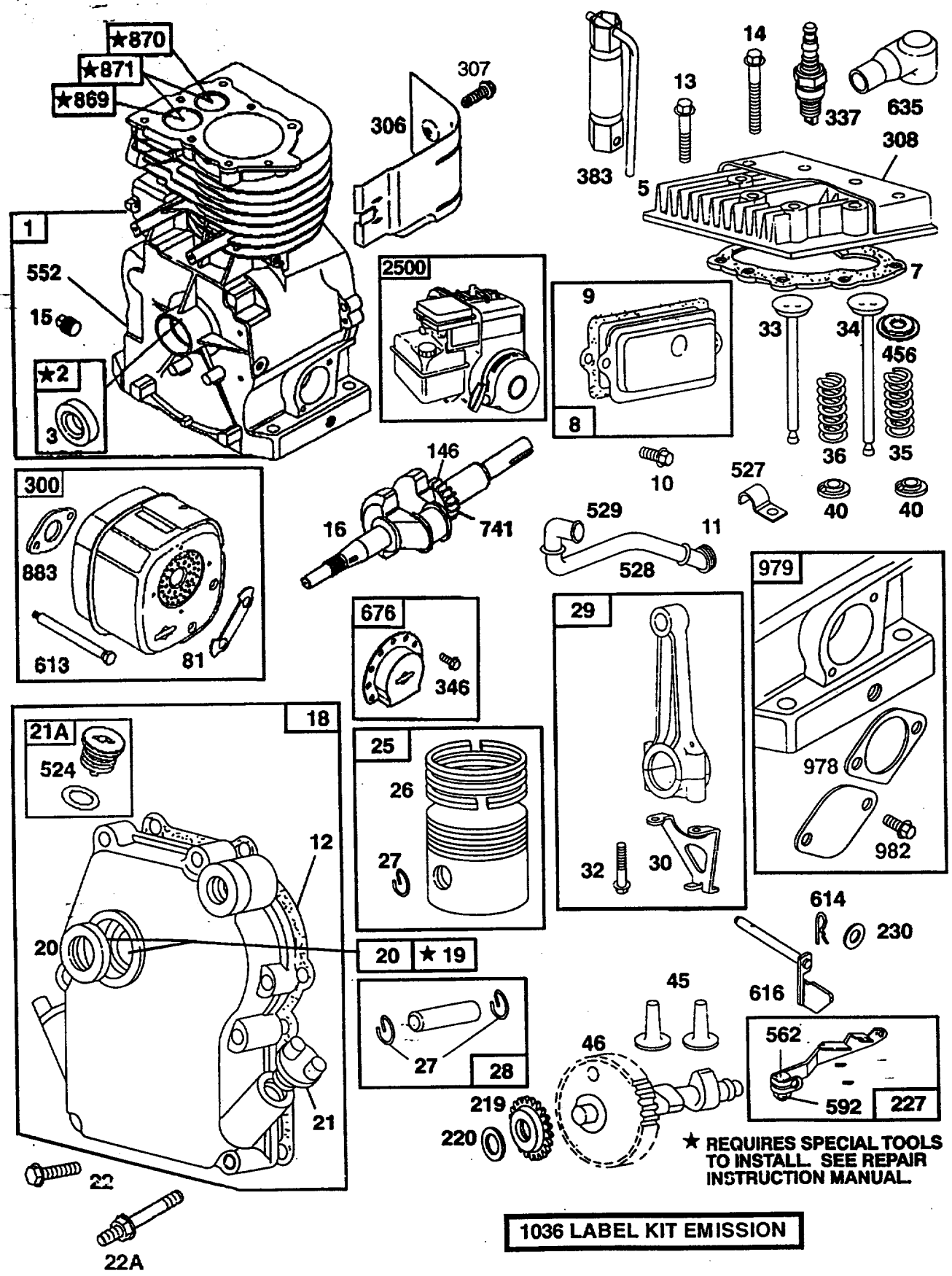


KEY NO.	PART NO.	DESCRIPTION
1	162998	Decal, Logo
2	127521	Decal, USA Blk
3	146353	Decal, Logo
4	110655X	Decal, Instruction, Tilling
5	120431X	Decal, Hand Placement
6	102180X	Decal, Shift Indicator
7	162215	Decal, Warning
9	120075X	Decal, Warning, Rotating Tines
11	156199	Decal, Control Pnl. Rev.
- -	163002	Manual, Owner's

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

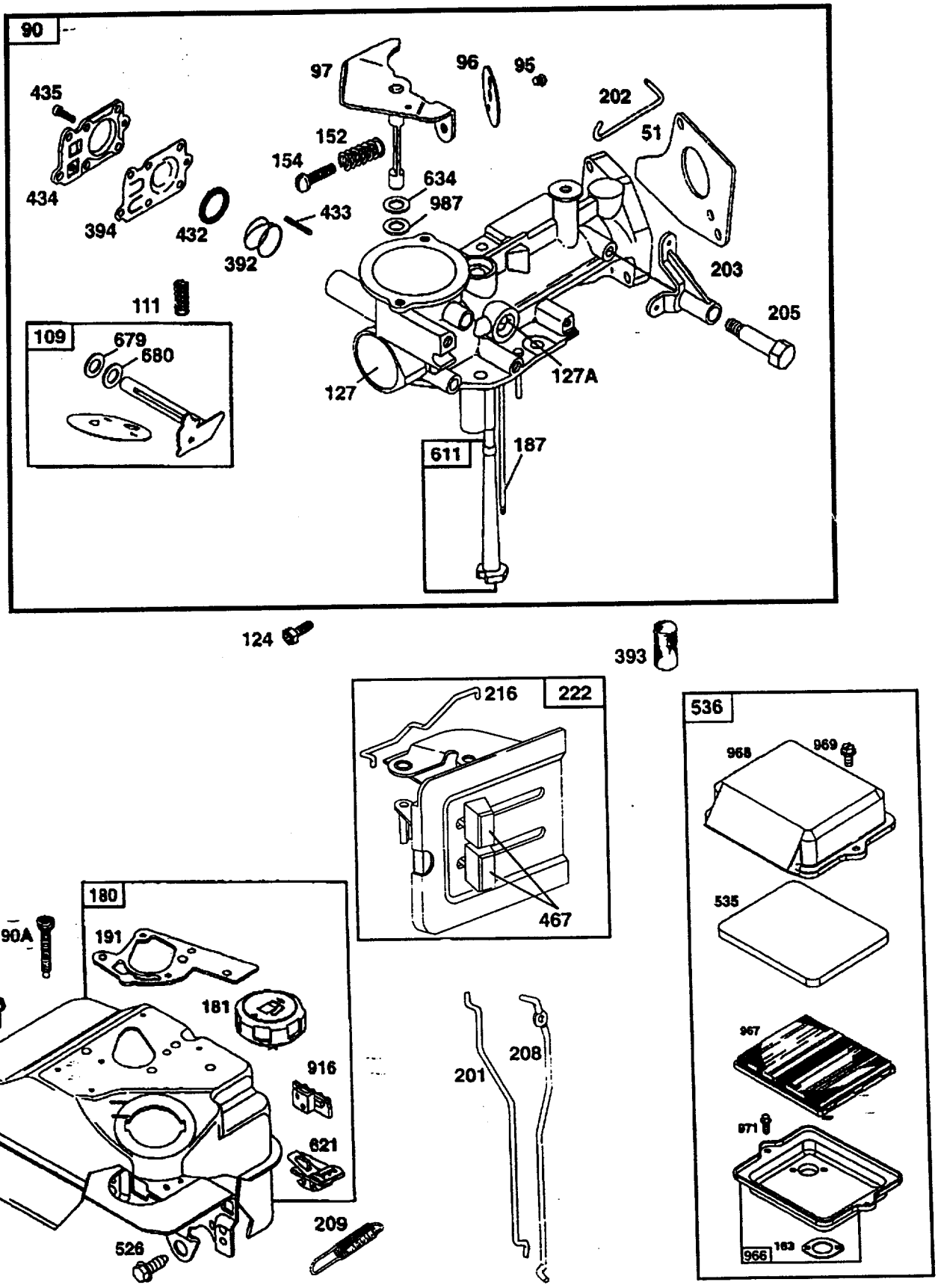
ENGINE, BRIGGS & STRATTON - - MODEL NUMBER 134202, TYPE NO. 1115-E1



REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

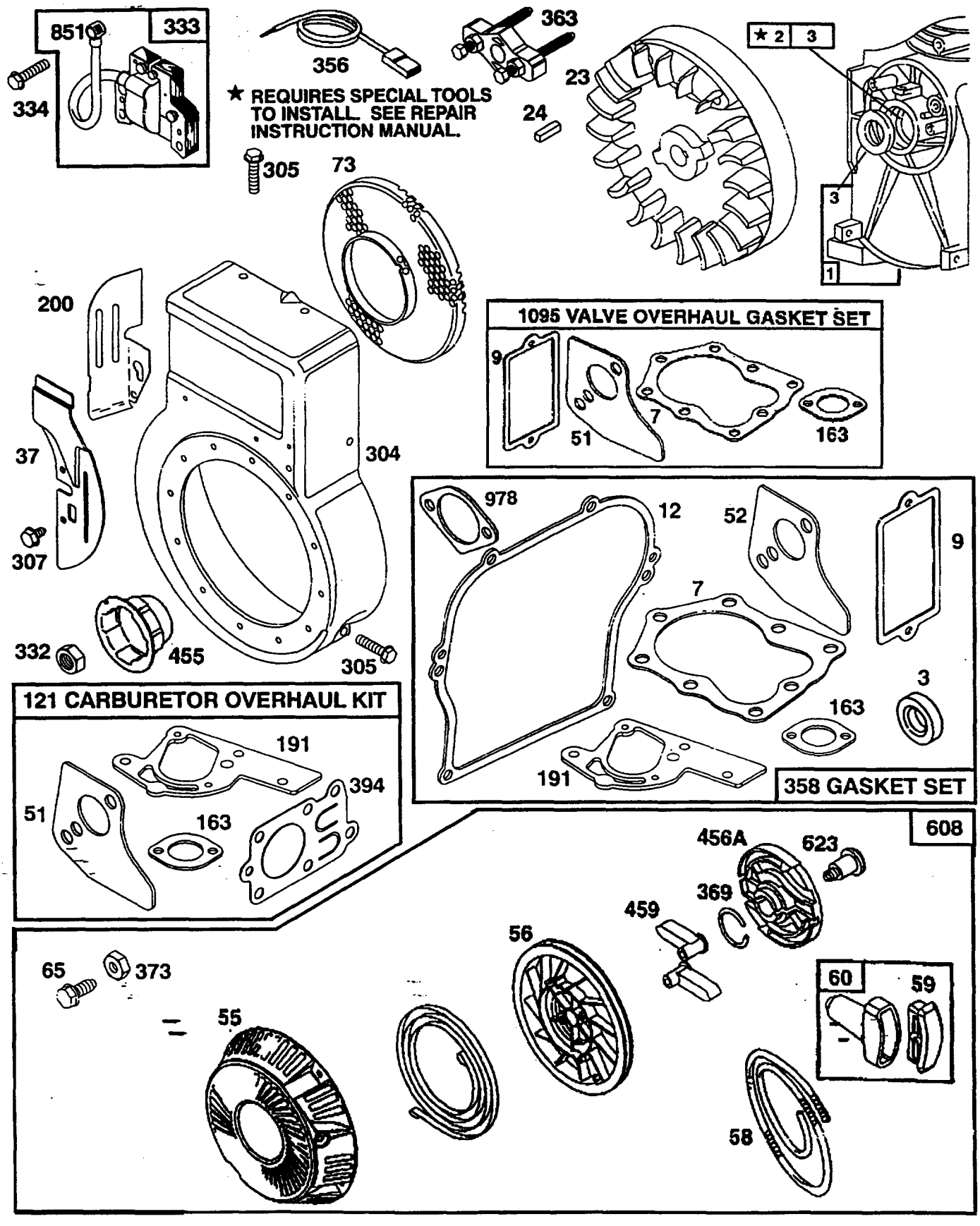
ENGINE, BRIGGS & STRATTON - - MODEL NUMBER 134202, TYPE NO. 1115-E1



REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

ENGINE, BRIGGS & STRATTON - - MODEL NUMBER 134202, TYPE NO. 1115-E1



REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

ENGINE, BRIGGS & STRATTON - - MODEL NUMBER 134202, TYPE NO. 1115-E1

KEY NO.	PART NO.	DESCRIPTION
1	495133	Cylinder Assembly
2	399268	Bushing, Cylinder
3	299819	ø* Seal, Oil
5	214040	Head, Cylinder
7	272157	ø* Gasket, Cylinder Head
8	495774	Breather Assembly
9	27549	* Gasket, Valve Cover
10	94621	Screw, Breather Mounting
11	66578	Grommet, Breather Tube
12	270080	* Gasket, Crankcase, Standard .015"
	270125	* Gasket, Crankcase .005" Thick
	270126	* Gasket, Crankcase .009" Thick
13	94221	Screw, Cylinder Head 2-3/32"
14	94679	Screw, Cylinder Head 2-15/32"
15	94916	Plug, Pipe, Hex Socket
16	492088	Crankshaft
18	494044	Cover Assembly, Crankcase
19	495660	Bushing, Crankcase Cover
20	294606	* Seal, Oil
21	281658	Plug, Oil Filler
21A	399195	Plug, Oil Filter
22	94682	Screw, Cover Mounting
22A	94917	Stud (Used in positions 1 and 2)
23	399673	Flywheel, Magneto
24	222698	Key, Flywheel
25	393819	Piston Assembly, Standard Size
	393820	Piston Assembly .010" Oversize
	393821	Piston Assembly .020" Oversize
	393822	Piston Assembly .030" Oversize
26	399067	Ring Set, Piston, Standard Size
	399014	Ring Set, Piston .010" Oversize
	399015	Ring Set, Piston .020" Oversize
	399016	Ring Set, Piston .030" Oversize
27	26026	Lock, Piston Pin
28	298909	Pin Assembly, Piston, Standard
	298908	Pin Assembly, Piston .005" Over
29	299430	Rod Assembly, Connecting
	390459	Rod Assembly, Connecting .020" Undersize Crankpin Bore
30	225183	Dipper, Connecting Rod
32	94699	Screw, Connecting Rod
33	211119	Valve, Exhaust
34	261044	Valve, Intake
35	260552	Spring, Intake Valve
36	26478	Spring, Exhaust Valve
37	222443	Guard, Flywheel
40	93312	Retainer, Intake Valve and Exhaust Spring
45	260642	Tappet, Valve
46	214726	Gear, Cam
51	273113	ø• Gasket, Carburetor Mounting (2)
55	497442	Housing, Rewind Starter
56	498144	Pulley, Rewind Starter
58	280399	Rope, Rewind Starter (Cut to Required Length)
59	396892	Insert, Starter Handle
60	393152	Handle, Rewind Starter
65	94686	Screw, Housing Mounting
73	225176	Screen, Rotating
81	222263	Lock, Screw
90	498298	Carburetor Assembly
95	93499	Screw, Throttle Valve to Shaft
96	223793	Throttle, Carburetor
97	497600	Shaft and Lever, Throttle
109	497230	Valve and Shaft Group, Choke
111	262715	Spring, Choke
121	495606	Carburetor Overhaul Kit
124	94913	Screw, Hex Head
127	220352	Plug, Welch
127A	223789	Plug, Welch
146	94388	Key, Timing Gear
152	260575	Spring, Throttle Adjustment
154	93527	Screw, Machine, Round Head
162	490589	Screw and Collar
163	271935	ø• Gasket, Air Cleaner Mounting
180	495405	Tank Assembly, Fuel
181	494559	Cap, Fuel Tank
187	231068	Pipe, Fuel
190	94924	Screw, Torx®
190A	94919	Screw, 1-3/4"
191	272489	ø• Gasket, Fuel Tank to Carburetor
200	223886	Guide, Air
201	262280	Link, Governor
202	262270	Link, Throttle

* Included in Gasket Set (495603)

• Included in Carburetor Overhaul Kit (495606)

ø Included in Valve Overhaul Gasket Set (498529)

NOTE: All component dimensions given in U.S. inches
1 inch = 25.4 mm

REPAIR PARTS

TILLER - - MODEL NUMBER 3455A89

ENGINE, BRIGGS & STRATTON - - MODEL NUMBER 134202, TYPE NO. 1115-E1

KEY NO.	PART NO.	DESCRIPTION
203	280720	Bell Crank
205	231520	Screw, Shoulder
208	262279	Rod, Speed Control
209	262248	Spring, Governor
216	262359	Link, Choke
219	494845	Gear, Governor
220	221551	Washer, Thrust
222	490649	Panel, Control
227	490374	Lever Assembly, Governor
230	94927	Washer, Governor Lever
256	223813	Crank, Bell
300	494585	Muffler, Exhaust
304	495759	Housing, Blower
305	94786	Screw, Blower Housing Mounting
306	224820	Shield, Cylinder
307	94680	Screw, Cylinder Shield
308	224738	Cover, Cylinder Head
332	94877	Nut, Flywheel
333	397358	Armature Group
334	93414	Screw, Armature Mounting
337	802592	Plug, Spark
346	94896	Screw, Sems
356	497833	Wire, Ground
358	495603	Gasket Set
363	19069	Flywheel Puller
369	263073	Spring
373	94908	Nut, Hex
383	89838	Wrench, Spark Plug
392	262328	Spring, Fuel Pump Diaphragm
393	225058	Screen
394	272538	• Diaphragm
414	220982	Washer
432	221377	Cap, Spring
433	93265	Pin, Diaphragm Cover
434	213963	Cover, Diaphragm
435	93141	Screw, Diaphragm Cover
455	225121	Cup, Starter
456	225257	Retainer Spring
456A	281503	Retainer
459	281505	Pawl, Starter
467	280715	Knob, Control
524	271485	* Seal, O-Ring
526	94914	Screw, Sems, Tank Bracket Mount.
527	223786	Clamp, Breather Tube
528	231550	Tube, Breather
529	67838	Grommet, Breather Tube
535	491435	Filter, Air
536	494279	Cleaner, Air

KEY NO.	PART NO.	DESCRIPTION
542	94897	Screw
552	231079	Bushing, Governor Crank
562	94907	Bolt, Governor Lever
592	231978	Nut, Hex
608	497830	Starter Assembly, Rewind
611	391813	Fuel Pipe and Clip Assembly
613	93935	Screw, Hex Head, Shoulder
614	93306	Pin, Cotter
616	495243	Crank, Governor
621	396847	Switch, Stop
623	94943	Screw, Shoulder
634	271853	Washer, Throttle Shaft, Foam
635	66538	Elbow, Spark Plug
676	393757	Deflector, Exhaust. Side Outlet
679	270382	Washer, Foam
680	221839	Washer, Brass
741	262992	Gear, Timing
779	262570	Link
851	493880	Cable Terminal, Ignition
869	211787	Seat, Intake Valve, Standard
870	263094	Seat, Exhaust Valve, Standard
871	262001	Guide, Exhaust Valve
	63709	Guide, Intake Valve
883	272228	Gasket, Exhaust
916	280321	Rack, Gear Control
966	492797	Base, Air Cleaner
967	491588	Filter, Air Cleaner
968	495872	Cover, Air Cleaner
969	490073	Screw, Air Cleaner
971	94902	Screw, Hex Head
978	273326	Gasket, Cover
979	494807	Cover, Oil Guard®
982	94658	Screw, Hex Head
987	398970	Seal, Throttle Shaft
995	225057	Lever, Bracket Assembly
1012	490507	Retainer, Link
1036	499345	Label Kit, Emission
1095	498529	Gasket Set, Valve Overhaul
2500	134202-0114	Replacement Engine
——	495952	Replacement Shortblock

RPM Settings: Low: 1200-1600, High: 3500-3700

* Included in Gasket Set (495603)

• Included in Carburetor Overhaul Kit (495606)

ø Included in Valve Overhaul Gasket Set (498529)

NOTE: All component dimensions given in U.S. inches
1 inch = 25.4 mm

HOW AND WHERE TO ORDER PARTS

You can identify your product correctly by looking at its model number label which is located on top of the transmission.

1. A. Name the product that needs a part, for example: tiller.
   B. State the product's model number and factory number. These numbers appear on a label on the product.
2. List the description and part number of the part you want. This manual shows drawings, descriptions, and part numbers.
3. You may order from a participating Western Auto store. If you cannot do that, please order direct from:

Telephone: 1-800-633-8434

Western Auto National Parts Center
2107 Grand Avenue
Kansas City, MO 64108

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