

Owner's Operating Service Instruction Manual

10¢

- ASSEMBLY
- OPERATION
- REPAIR PARTS

Model Nos.
145-660A
145-672A
145-760A

8 & 10 H.P. COMPACT TRACTORS

34" Cut,
CLUTCH BRAKE

TRANSMISSION DIFFERENTIAL DIRECT FROM ENGINE TO TRANSAXLE
WHICH IS COMBINATION OF DIFFERENTIAL TRANSALE

WARRANTY

For one year from date of purchase, MTD Products Inc will replace for the original purchaser, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. All transportation charges on parts submitted for replacement under this warranty must be paid by the purchaser. This warranty does not include replacement of parts which become inoperative through misuse, excessive use, accident, neglect, improper maintenance or alterations by unauthorized persons. This warranty does not include the engine, motor, battery, battery charger or any component parts thereof. For service on these units, refer to the applicable manufacturer's warranty.

The above warranty will apply only to the original owner and will be effective only if the warranty card has been properly processed. It will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. UNDER NO CIRCUMSTANCES WILL THE RETURN OF A COMPLETE UNIT BE ACCEPTED BY THE FACTORY UNLESS PRIOR WRITTEN PERMISSION HAS BEEN EXTENDED.

MTD PRODUCTS INC • 5389 WEST 130th STREET • P. O. BOX 2741 CLEVELAND OHIO 44111

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FORM NO. 770-5651

I M P O R T A N T

SAFE OPERATION PRACTICES FOR RIDING VEHICLES

1. Know the controls and how to stop quickly—**READ THE OWNER'S MANUAL.**
2. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.
3. Do not carry passengers. **Keep children and pets a safe distance away.**
4. Clear work area of objects which might be picked up and thrown.
5. Disengage all attachment clutches and shift into neutral before attempting to start engine.
6. Disengage power to attachment(s) and stop engine before leaving operator position.
7. Disengage power to attachment(s) and stop engine before making any repairs or adjustments.
8. Disengage power to attachment(s) when transporting or not in use.
9. Take all possible precautions when leaving vehicle unattended such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
10. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
11. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.
12. Stay alert for holes in terrain and other hidden hazards.
13. Use care when pulling loads or using heavy equipment.
 - A. Use only approved drawbar hitch points.
 - B. Limit loads to those you can safely control.
 - C. Do not turn sharply. Use care when backing.
 - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
14. Watch out for traffic when crossing or near roadways.
15. When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
16. Handle gasoline with care—it is highly flammable.
 - A. Use approved gasoline container.
 - B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
 - C. Open doors if engine is run in garage — exhaust fumes are dangerous. Do not run engine indoors.
17. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in owner's manual.
18. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
19. Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
20. To reduce fire hazard keep engine free of grass, leaves or excessive grease.
21. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.
22. Do not change the engine governor settings or overspeed the engine.
23. When using the vehicle with mower, proceed as follows:
 - (1) Mow only in daylight or in good artificial light.
 - (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
 - (3) Shut engine off when removing grass catcher and/or unclogging chute.
 - (4) Check blade mounting bolts for proper tightness at frequent intervals.
24. Check grass catcher bags frequently for wear or deterioration. Replace with new bags for safety protection.
25. Look behind to make sure the area is clear before placing the transmission in reverse and backing up.

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ASSEMBLY

GRASS CATCHER Model No.194-015A is available as optional equipment for the mowers shown in this manual.



The mower shall not be operated without the entire grass catcher or chute deflector in place.

NOTE

Under normal usage bag material is subject to wear, and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

Use factory replacement bag Number 764-0121.

ASSEMBLY

The steering wheel, seat and deck wheels, with the necessary hardware, are easily assembled to the machine. The battery must be activated and installed as outlined in this section and the cutting deck must be attached.

TIRE PRESSURE

For shipping purposes, the tires on your unit may be over-inflated. Tire pressure should be reduced before unit is put into operation. Pressure should be approximately 15 p.s.i. Equal tire pressure should be maintained on all tires. **Maximum** tire pressure is 30 p.s.i.

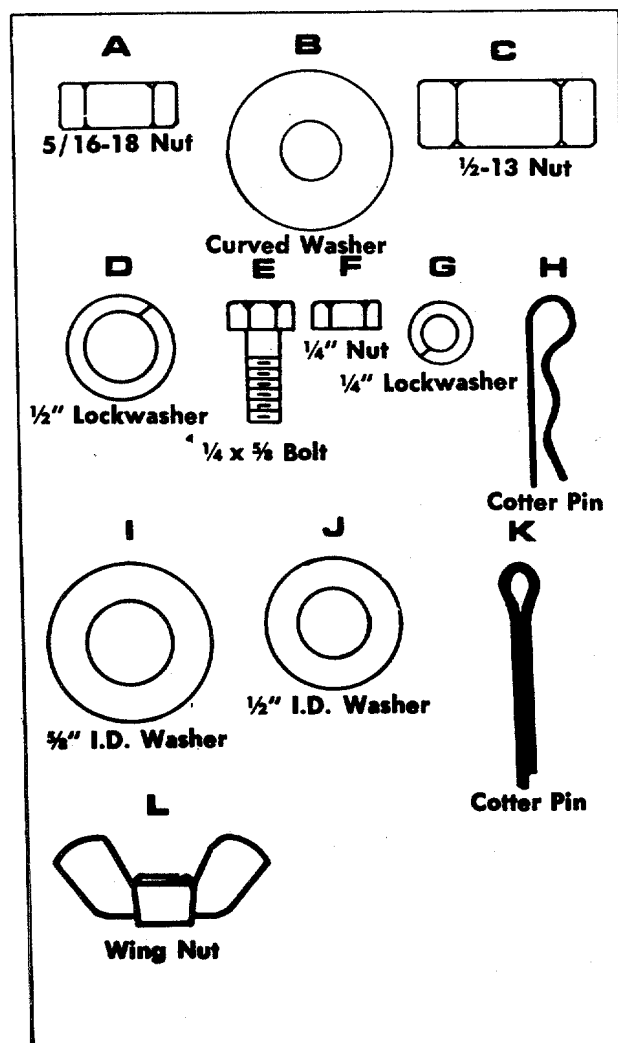


FIGURE 1. HARDWARE SUPPLIED

TOOLS NEEDED
$\frac{1}{2}$ " Open End or Box Wrench $\frac{3}{4}$ " Open End or Box Wrench (2) $\frac{7}{16}$ " Open End Wrench Pliers

FIGURE 2.

ASSEMBLY

The steering wheel, seat, battery and cutting deck (8HP), with the necessary hardware are easily assembled to the machine.

NOTE

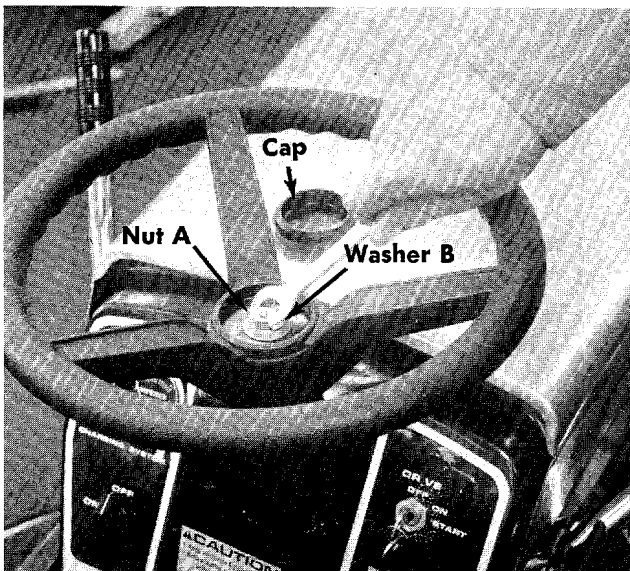
Reference to right hand side of machine is from the normal operating position facing forward.

- Step 1. Remove the tractor and all parts from the carton. Make certain that all loose parts and literature have been removed before the carton is discarded.
- Step 2. Place the steering wheel over the tapered end of the steering column. Press it down until the threaded end sticks through the steering wheel. See figure 2.

NOTE

Line up the two flat sides of the steering wheel hole and the two flat sides of the steering column.

- Step 3. Place the washer "B" over the steering column, then the nut "A".
- Step 4. Tighten the nut with a $\frac{1}{2}$ " wrench.
- Step 5. Press the cap on the steering wheel by hand



- Step 6. Place rubber pad "N" over one of the mounting holes in the seat spring. See figure 4.
- Step 7. Place the bolt on the seat through the rubber pad and the seat spring.
- Step 8. Assemble the rubber washer "M" and flat washer "D" over the seat bolt and secure with nut "C".
- Step 9. Activate the battery.

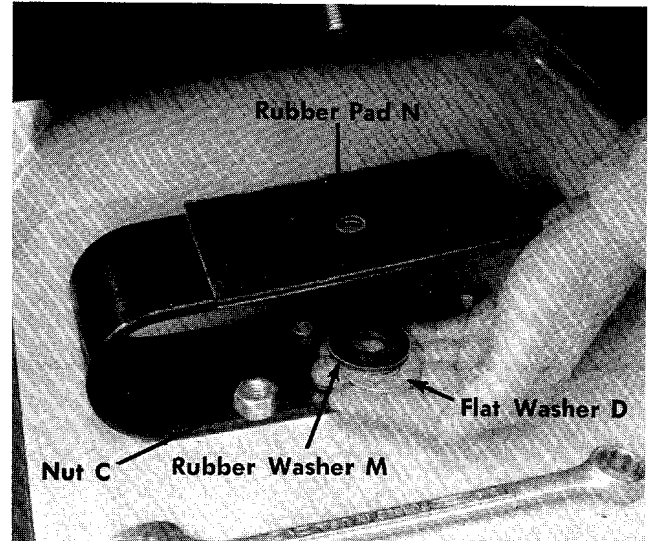


FIGURE 4. SEAT ASSEMBLY

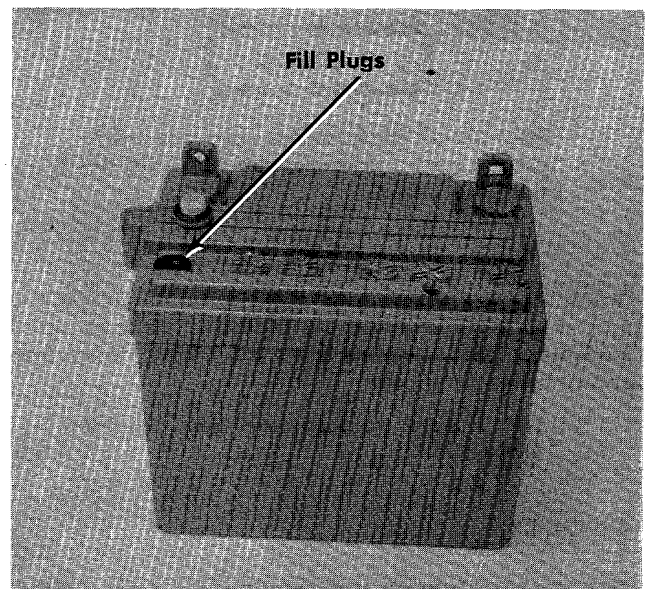


FIGURE 5. BATTERY

CAUTION

Always add electrolyte to battery before battery is installed in vehicle.

- A. Remove fill plugs.
- B. Place package upright; pull tab back to edge of carton, pull out hose; snip off end of hose. Fill each cell until electrolyte level rises to split ring at bottom of vent well.

DO NOT OVERFILL

- C. After filling cells, wait five to ten minutes and add additional electrolyte if necessary to bring electrolyte to proper level.
- D. Replace fill caps.
- E. Charge battery for 10 to 15 minutes at 25-30 amps. or for 30 minutes at 4-6 amps.

WARNING

Electrolyte is a mixture of sulphuric acid and water. Avoid contact with skin, eyes, and clothing. If electrolyte is spilled flush area with clear water and neutralize with solution of water and baking soda or water and ammonia.

INSTALLING THE BATTERY

- Step 1. Place the battery in the battery case with the terminals to the rear. (See figure 6.)

NOTE

The positive battery terminal is marked Pos. (+). The negative battery terminal is marked Neg. (-).

- Step 2. Hook the hold down rods under the battery case and place the hold down over both rods.
- Step 3. Secure the hold down with the wing nuts "L". Tighten hand tight. (See figure 6.)

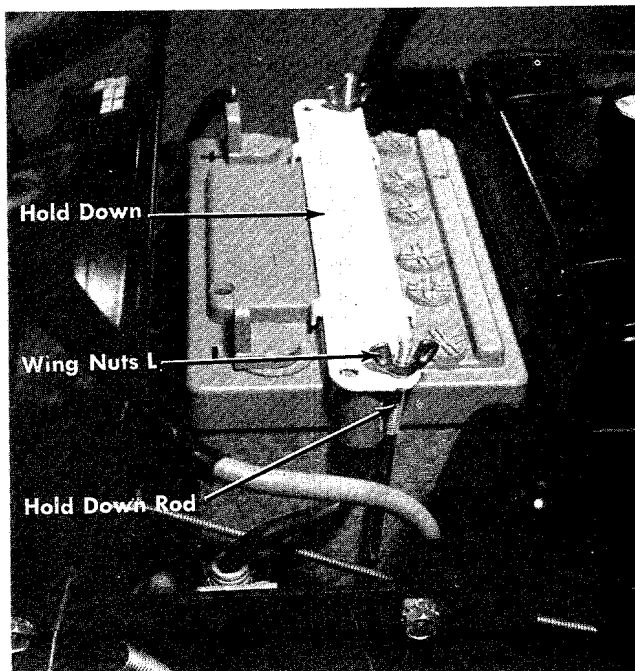


FIGURE 6.

- Step 4. Attach the positive cable (from the starter solenoid) and the small wire (from the ammeter) to the positive battery terminal with the bolt "E", lockwasher "G" and nut "F" in the assembly pack. (See figure 7.)
- Step 5. Attach the negative cable, grounded, to the negative battery terminal with the bolt "E", lockwasher "G" and nut "F" in the assembly pack.

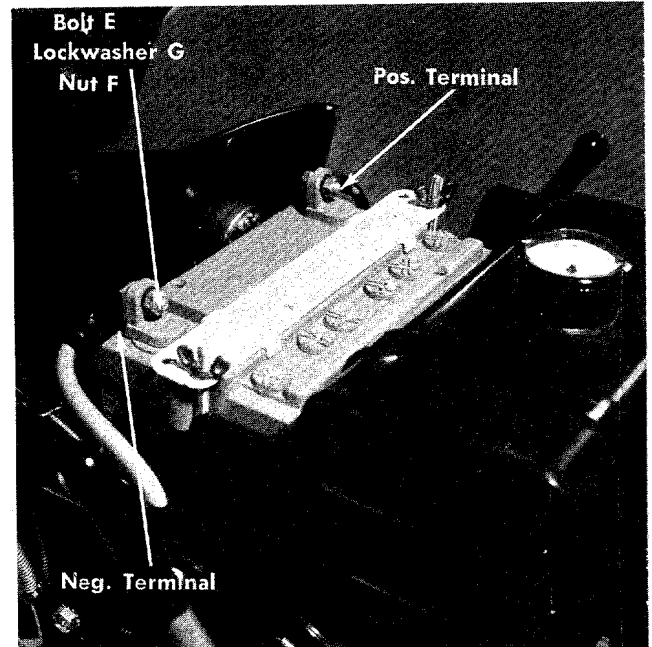


FIGURE 7.

- Step 6. Cut the black rubber tubing approximately 6 inches long.
- Step 7. Push the rubber tubing into the manifold of the battery and place the other end into the drain tube. (See figures 8 and 9.)

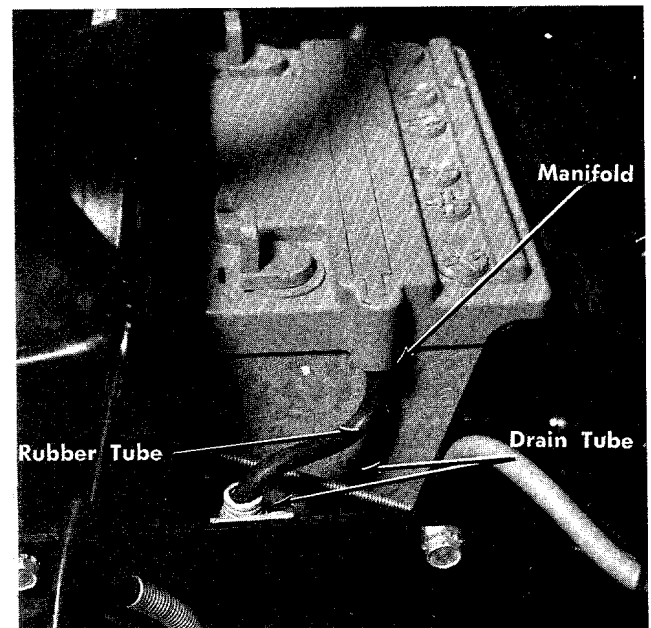


FIGURE 8.

NOTE

The vented battery allows any gases or liquid from the battery to be carried to the rear of the mower through the drain tube.

CAUTION

If the tractor is tipped up on end for any reason the battery must be removed. There may be a small amount of acid in the drain tube that can come out when the tractor is tipped.

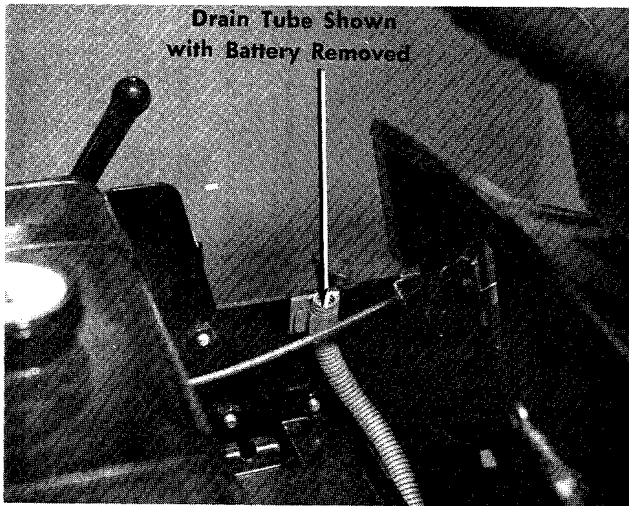


FIGURE 9

TIRE PRESSURE

Reduce the tire pressure to 15 psi for operation. The tires have been over-inflated for shipping. Equal tire pressure should be maintained on all tires. Maximum tire pressure is 30 psi.

DECK ASSEMBLY

- Step 1. Place the deck wheel over the deck axle and secure it with washer "I" and cotter pin "K". See figure 10.
- Step 2. Attaching the cutting deck.
- Place either blocks of wood or bricks under the rear wheels so the cutting deck can slide under the tractor.
 - There are six link arms (4 long, 2 short) on the cutting deck. Swing all six arms into the forward position.
 - From the front of the rider, grasp both front links and hook them in the pins in frame and secure with cotter pins "H". See figure 11.
 - Place the two center links through the hole in the foot rest and attach the short slotted link to the pin in the lift arm and attach the long link to the pin in the frame. See figure 12.

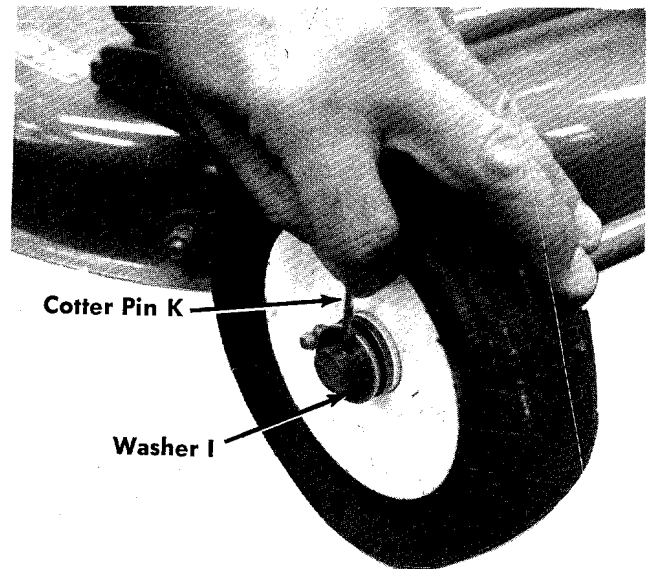


FIGURE 10. DECK WHEEL ASSEMBLY

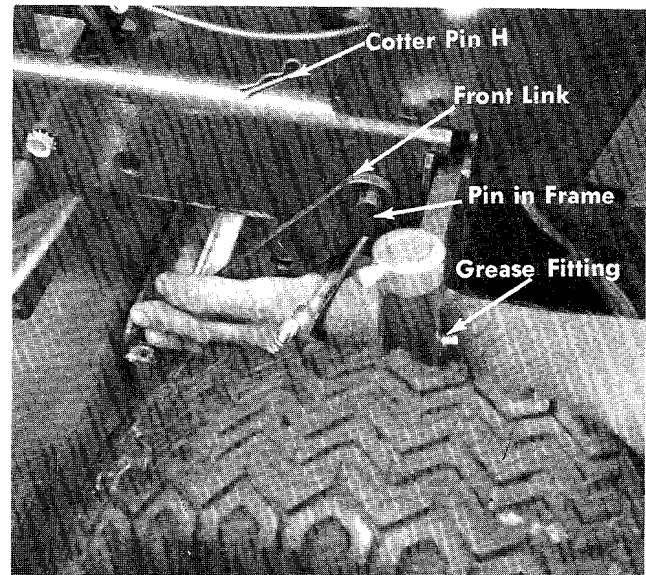


FIGURE 11. FRONT LINK ASSEMBLY

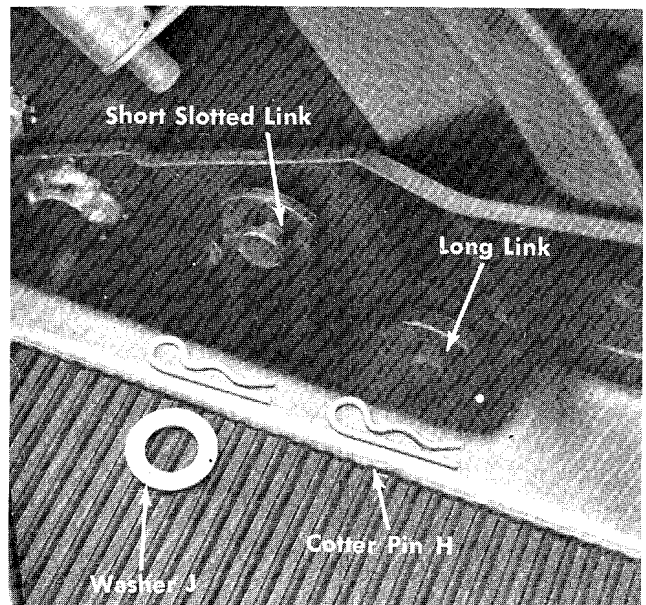


FIGURE 12. CENTER LINK ASSEMBLY

- e. Place washer "J" over the short slotted link and secure both links with cotter pins "H". See figure 12.
- f. Pull the belt through the slot in the frame of the tractor.
- 9. Remove the top bolt on the belt guard. See figure 13.

NOTE

Different heat shields are used depending on the style of muffler used on your tractor. If the heat shield on your tractor is attached to the belt guard it is necessary to remove the bolt and nut shown in figure 13.

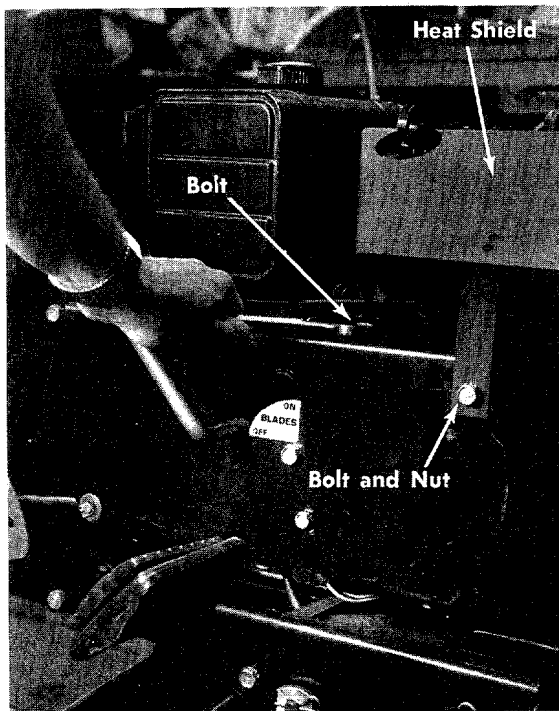


FIGURE 13. BELT GUARD

- h. Unplug the safety switch. See figure 14.
- i. Remove the two bottom bolts on the belt guard. Lift off the belt guard. See figure 14.
- j. Attach the deck belt to the engine pulley. See figure 15.

NOTE

Be sure the bottom part of the belt goes through the two brackets.

- k. Remove the idler belt guard. See figure 16.
- l. Reassemble the belt guard to the tractor.
- m. Move the PTO lever to the ON position and reassemble the idler belt guard. See figure 17.

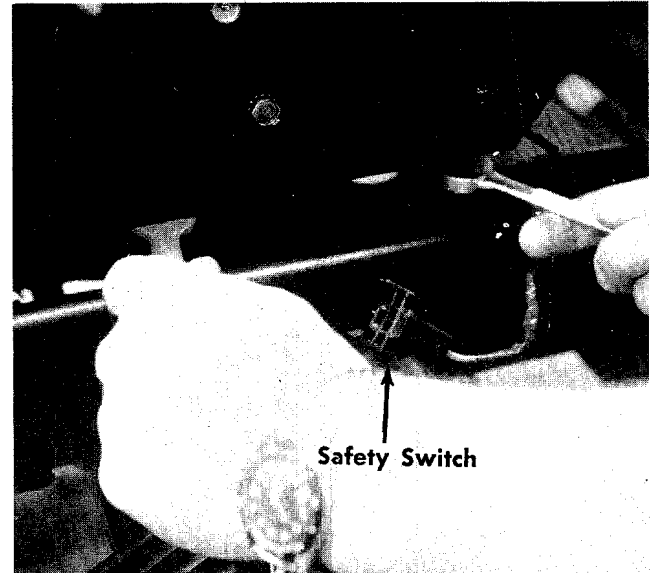


FIGURE 14. BELT GUARD REMOVAL

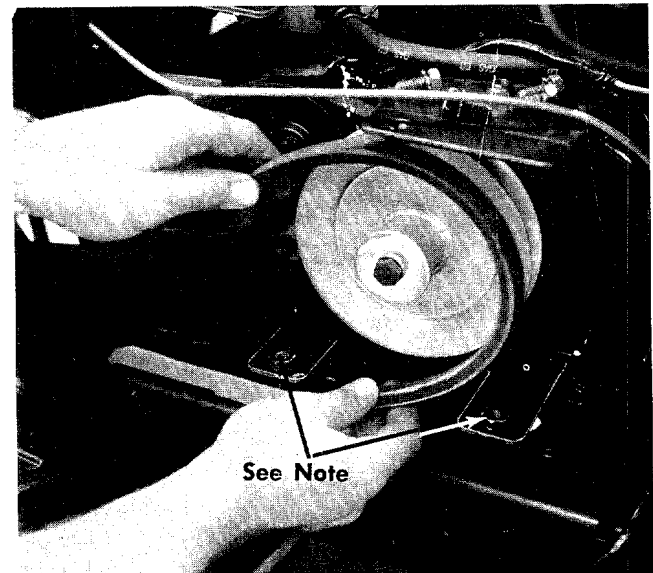


FIGURE 15. ATTACHING THE DECK BELT

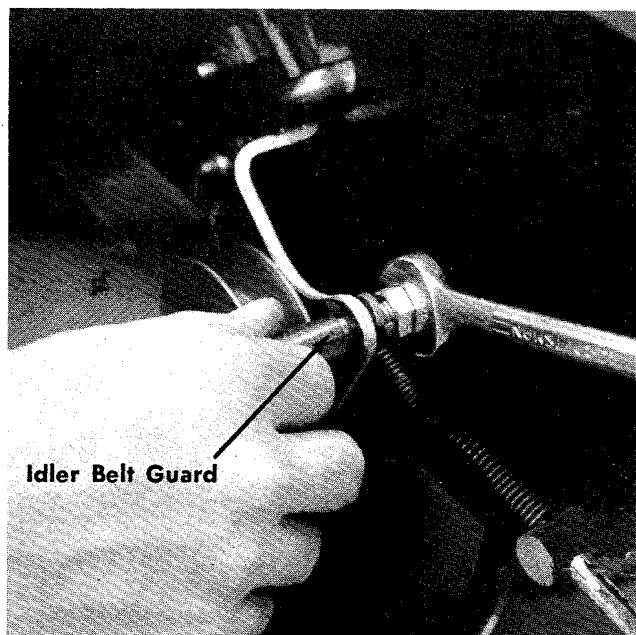


FIGURE 16. IDLER BELT GUARD

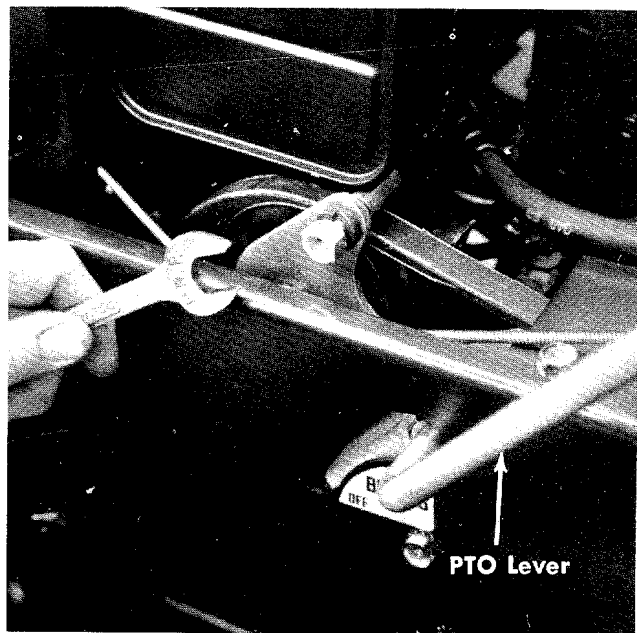


FIGURE 17. IDLER BELT GUARD

CONTROLS AND PRELIMINARY CHECKS

CONTROLS

The controls on your tractor may be considered as the following:

a. Throttle Control. The throttle control is used to regulate the engine speed and choke the engine. The engine should be operated from $\frac{3}{4}$ to full throttle when operating the cutting deck or snow thrower. (Optional)

b. Gear Shift Lever. Use the following guide for gear selection.

1st Gear:

- Heavy grass cutting
- Snow Blade
- Snow Thrower
- Pulling heavy loads

2nd Gear:

- Normal grass cutting
- Light snow throwing
- Pulling light loads

3rd Gear:

- Light grass cutting
- Road Gear

Reverse:

- Used to back up

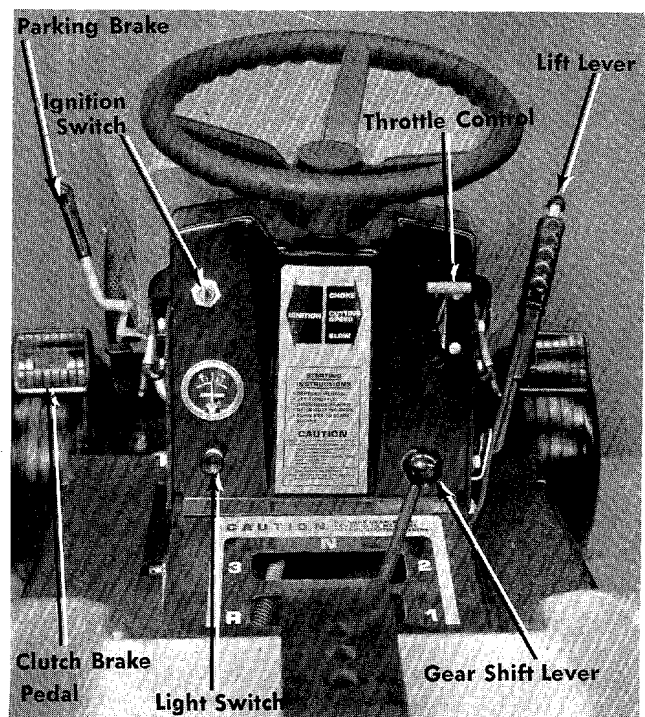


FIGURE 18. CONTROLS

c. Parking Brake. To set the parking brake, pull the parking brake lever back and hold it in the locked position while moving the locking arm to the left. See figure 16.

d. Clutch-Brake Pedals. Depress both of them all the way down to stop or shift gears. Release pedals slowly to engage. See figures 15. and 17.

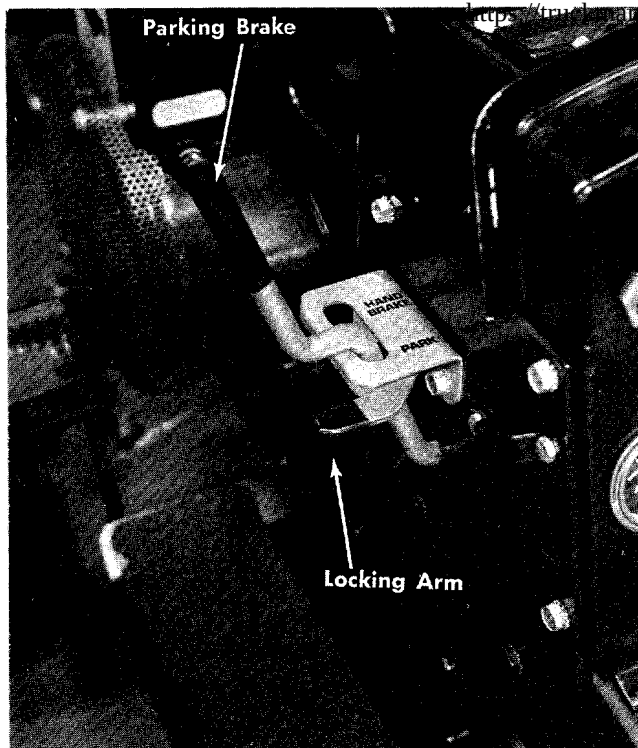


FIGURE 19. PARKING BRAKE

NOTE

The pedals must be depressed in order to start the engine.

CAUTION

Do not shift while in motion.

e. **PTO Lever.** The PTO lever engages the deck belt when it is moved forward. Moving it to the rear disengages the deck belt. The engine will not start unless the PTO is in the OFF position as shown in figure 20.

f. **Lift Lever.** Depress the thumb button and pull back on the lift lever to raise the attachments. See figure 20.

g. **Ignition Switch.** Turn the switch all the way to the right to engage the starter. As soon as the engine starts, release the ignition key so that the starter is switched off. Turn the key to the left to shut off the engine. See figure 18.

NOTE

The clutch-brake pedal must be depressed and the PTO lever must be in the OFF position before the starter will operate.

h. **Light Switch.** Pull the light switch out to turn on the lights. See figure 18.

i. **Ammeter.** The ammeter registers the rate of battery charge or discharge. The ammeter should register on the plus (+) side when the engine is running in the fast position until the battery is completely charged. With a fully charged battery or with the engine idling the ammeter will not show a charge. See figure 18.

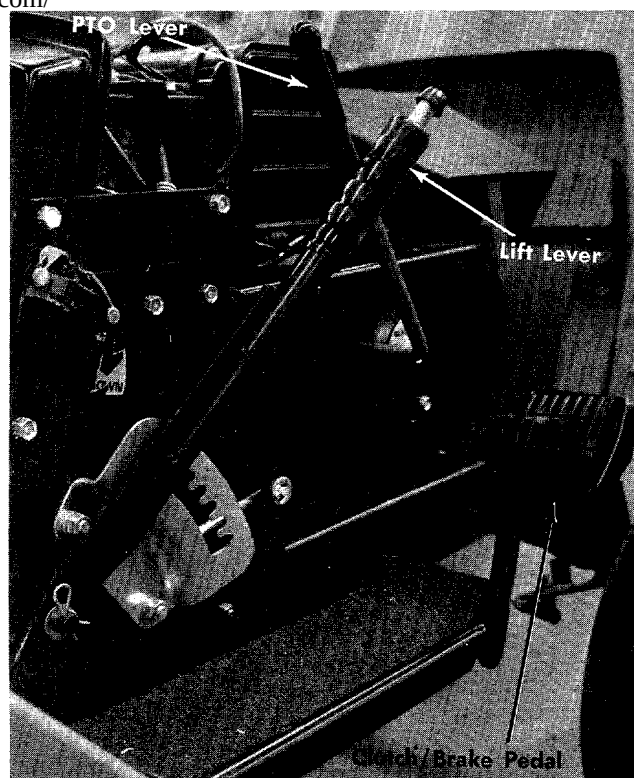


FIGURE 20. CONTROLS

j. **Cutting Height 34" Cut Deck.** Set the cutting height by setting both wheel height adjusters in the desired position and moving the lift lever all the way forward. See figure 21.

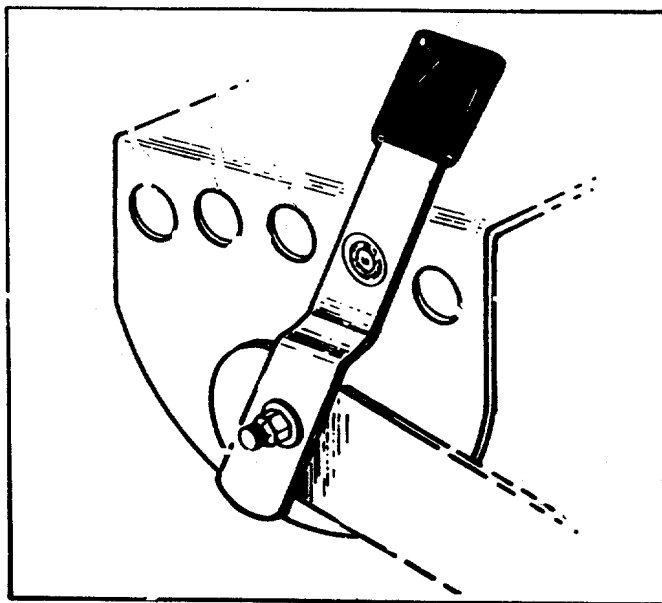


FIGURE 21. WHEEL HEIGHT ADJUSTER 34" DECK

NOTE

When cutting over rough terrain, set the cutting height with the lift lever and set the wheel height adjusters so they just clear the ground.

42" Cut Deck. The cutting height is adjustable by moving the height adjustment lever by the right deck wheel. Both deck wheels raise and lower together. See figure 22.

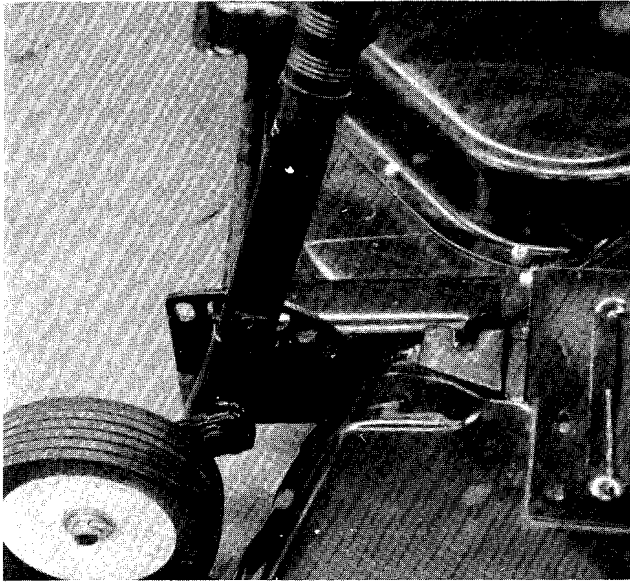


FIGURE 22. WHEEL HEIGHT ADJUSTER—42" DECK

CHECKING OIL AND GASOLINE

NOTE

When packaged for shipment, the machine contains no oil or gasoline. Before starting the engine, oil must be added to the engine crankcase and gasoline to the tank. DO NOT mix oil with gasoline.

Briggs & Stratton. Use a high quality detergent oil classified "For Service SC or SD or MS". Nothing should be added to the recommended oil.

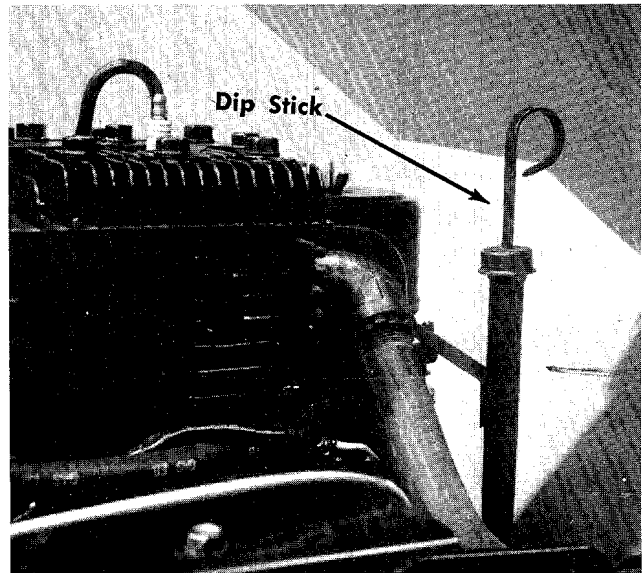


FIGURE 23. BRIGGS & STRATTON DIPSTICK

OPERATING INSTRUCTIONS

WARNING

The mower shall not be operated without the entire grass catcher (optional) or chute deflector in place.

NOTE

Under normal usage the grass catcher bag material is subject to wear and should be checked periodically. Be sure any replacement grass catcher bag complies with the mower manufacturer's recommendations.

Use factory replacement bag number 764-0121.

After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the mower for any damage and repair the damage before restarting and operating the mower.

STARTING THE ENGINE

Refer to page for information regarding oil and gasoline requirements, check that spark plug wire is connected, then proceed as follows:

- Step 1. Be sure the fuel shut-off valve is open. See figure
- Step 2. With the machine set on level ground place the gear shift lever in NEUTRAL (N) position. See figure 18.
- Step 3. Place the PTO lever in the OFF position as shown in figure 20.
- Step 4. Depress the clutch brake pedals all the way down. See figures 20.
- Step 5. Set the throttle control in the CHOKE position.
- Step 6. Turn the ignition key to the right to START position to start the engine. Allow the key to return to the ON position. See figure 18.

NOTE

A brief break-in period is essential to ensure maximum engine and mower life. This consists of running the engine at half speed for a period of time required to use one tank of gasoline. It is also recommended to change crankcase oil after the first 2 hours of operation.

Step 7. Set the desired cutting height. See figures 21 and 22.

Step 8. Lower the cutting deck with the lift lever. See figure 20.

Step 9. Slowly engage the PTO lever. See figure 20.

STOPPING THE ENGINE

To stop the engine, turn the ignition key to the left to the OFF position. Do not leave the key in the ignition switch.

WARNING

Whenever the mower is left unattended, disconnect the spark plug lead and remove the ignition key.

STOPPING THE BLADES

Move the PTO lever towards you to stop the blades from turning. See figure 20.

STOPPING THE RIDER

To stop the rider from moving forward or backward, depress the clutch-brake pedals. See figure 18.

CAUTION

1. Keep all shields and guards in place.
2. Before leaving the operator's position:
 - Shift transmission to neutral
 - Set parking brake
 - Disengage attachment clutch
 - Shut off engine
 - Remove ignition key
3. Wait for all movement to stop and remove spark plug lead before servicing machine.
4. Keep people and pets a safe distance away from machine.

CAUTION

Parking brake **MUST** be disengaged before unit is put into motion

NOTE

Unit is equipped with separate brake and clutch pedals. To efficiently stop, it is necessary to disengage clutch when applying brakes.

MAINTENANCE

TROUBLESHOOTING

Refer to the chart on page 32 for troubleshooting engine problems.

CRANKCASE OIL

To ensure maximum engine performance, perform the following periodic maintenance:

a. Oil Check

Check the oil level in the crankcase before each use of the machine and after every two hours of operation. Keep the oil level between ADD and FULL. See figure 23.

b. Oil Change

After the first two hours of operating a new engine, drain the oil (see figure 24) from the crankcase while engine is still hot and refill crankcase with new oil; thereafter change the oil after every 25 hours of operation. This procedure ensures for minimum wear of engine parts and provides for virtually trouble-free operation. To change the oil, proceed as follows:

Step 1. Remove oil filler plug.

Step 2. Drain the oil through the hole in the frame.

Step 3. Replace oil filler plug.

Step 4. Refill crankcase with oil. See page 10 for quantity and type of oil.

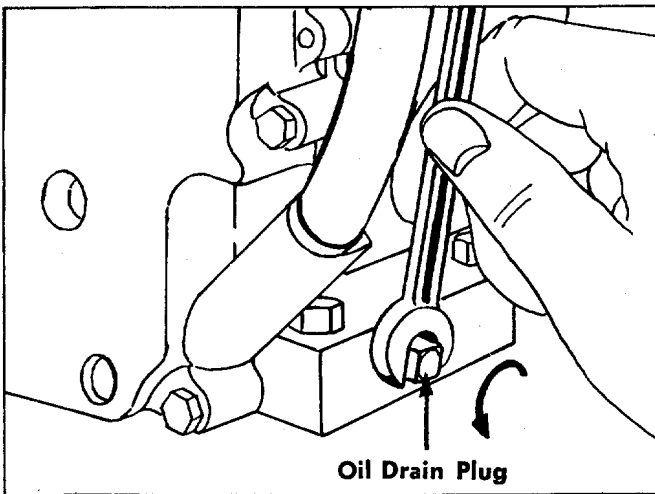


FIGURE 24. BRIGGS & STRATTON OIL DRAIN PLUG

TRANSAXLE LUBRICATION

The transaxle is lubricated at the factory with three pints of SAE 90 E.P. oil. When replacing or adding oil remove the oil fill plug and fill the gear case until it overflows from the fill plug. Replace the oil fill plug. Remove the drain plug from the bottom of the transaxle to drain the oil. The transaxle oil should be checked when the oil is cold. Change the oil once a year. See figure 25.

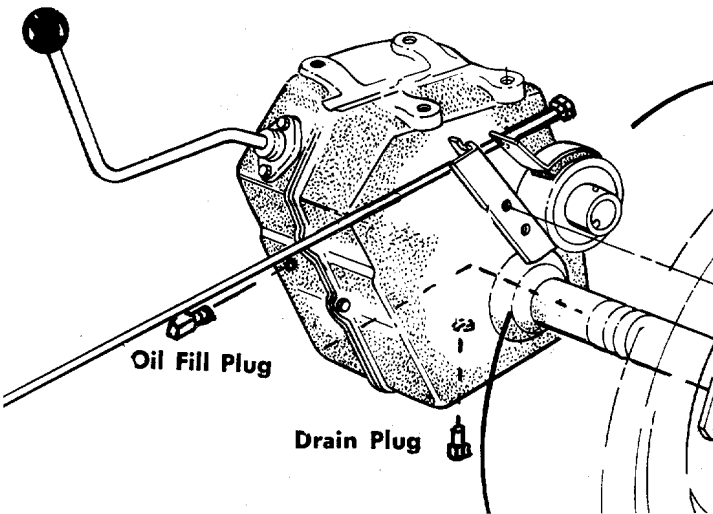


FIGURE 25.

WHEEL BEARING LUBRICATION

Front Wheels—The front wheel bearings are self-lubricating oilite bearings. No additional lubrication is necessary.

Rear Wheels—The rear wheel bearings are lubricated by the oil in the transaxle.

King Pins—The king pins have self-lubricating oilite bearings and require no additional lubrication.

Deck Wheel Bearings—The deck wheels should be removed once a year, cleaned and lubricated with a multi-purpose type of grease.

STEERING GEAR LUBRICATION

Lubricate the teeth on the steering segment, pinion gear and slide with automotive multi-purpose grease after every 24 hours of operation. See figure 26.

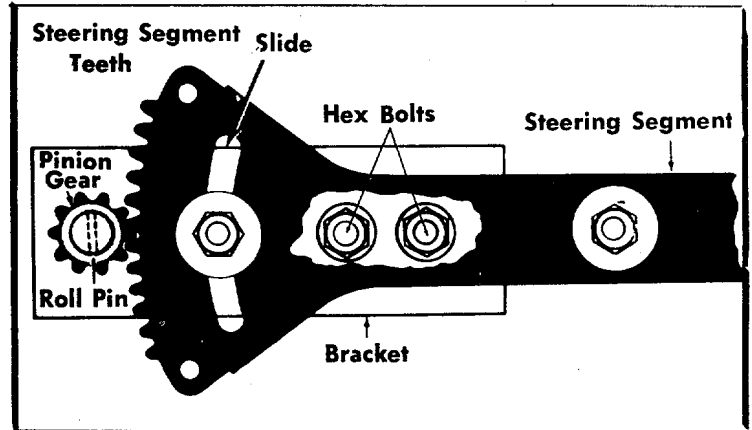


FIGURE 26. STEERING ASSEMBLY

RIGHT ANGLE DRIVE LUBRICATION

Check the lubricant level after every 24 hours of operation. Lubricate with 4 ounces of E.P.G. Lithium grease. Remove the four screws and take off the plate to check the grease level. See figure 27.

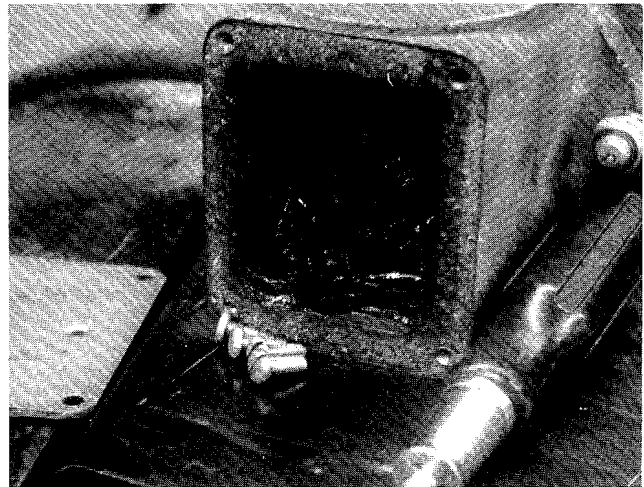


FIGURE 27. GEAR CASE GREASE LEVEL

STEERING ADJUSTMENT

The "play" or looseness of the steering can be adjusted by loosening the two hex bolts on the bracket and lightly tapping the bracket towards the front of the tractor. If the pinion gear becomes worn it can be rotated one-half turn by removing the pin. (See figure 26.)

AIR FILTER

Under normal operating conditions, the air cleaner, located on top of the carburetor, must be serviced after every ten hours of use. Under extremely dusty operating conditions, the air cleaner must be serviced after every hour of operation. See figure 28.

Step 1. Remove the wing nut and cover.

Step 2. Remove the paper element from the support base.

Step 3. To clean, tap the paper element (either top or bottom) on a flat surface or wash in a non-sudsing detergent and flush from the inside until the water is clear. After washing, air dry thoroughly before using.

Step 4. Assemble in reverse of above.

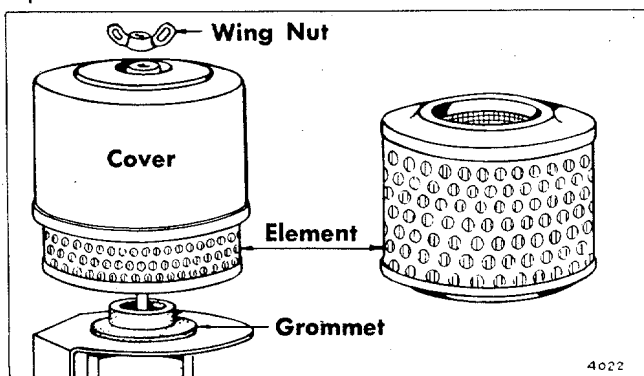


FIGURE 28A. BRIGGS & STRATTON AIR FILTER 8 H.P.

AIR FILTER 10 H.P. ENGINE

Clean and re-oil foam pre-cleaner at 3 month intervals or every 25 hours, whichever occurs first.

1. Remove wing nut and cover.
2. Remove foam pre-cleaner element by sliding it up off of the paper cartridge.
3. A—Wash foam in liquid detergent and water.
B—Squeeze dry.
C—Oil with one ounce engine oil. Squeeze to distribute oil evenly.
4. Assemble to paper cartridge. Reassemble cover and wing nut. Screw wing nut down tight.

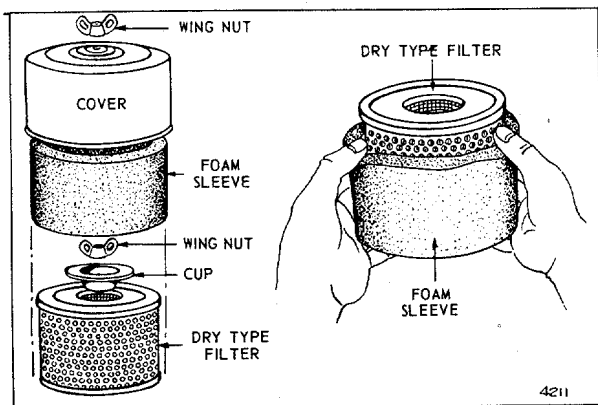


FIGURE 28B. BRIGGS & STRATTON AIR FILTER 10 H.P.

Yearly or every 100 hours, whichever occurs first, remove paper cartridge. Clean by tapping gently on flat surface. If very dirty, replace cartridge, or wash in liquid detergent and water. Rinse until water remains clear. Cartridge must be air dried **thoroughly** before using.

NOTE: Service more often under dusty conditions.

CLUTCH-BRAKE PEDAL ADJUSTMENT

To adjust the angle of the clutch-brake pedal, remove the cotter pin and washer on the clutch rod and turn the clutch rod in or out of the ferrule to obtain the most comfortable angle of the pedal when the pedal is released. Replace the washer and cotter pin. See figure 30.

The brake adjustment is made by using a ½" deep well socket and turning the adjusting nut clockwise through the opening in the back panel. This reduces the distance between the brake band and the drum. See figure 29.

CAUTION

If the spring tension idler goes below the height of the engine pulley when the clutch-brake pedal is depressed it will cause excessive belt wear and the brake should be adjusted. See figure 30.

TRANSMISSION BELT REMOVAL

WARNING

Remove spark plug lead.

Step 1. Remove the deck belt from the engine pulley in reverse order as described in the assembly portion of this manual. See figures 10 through 15.

Step 2. Remove the hex bolt from the spring tension idler.

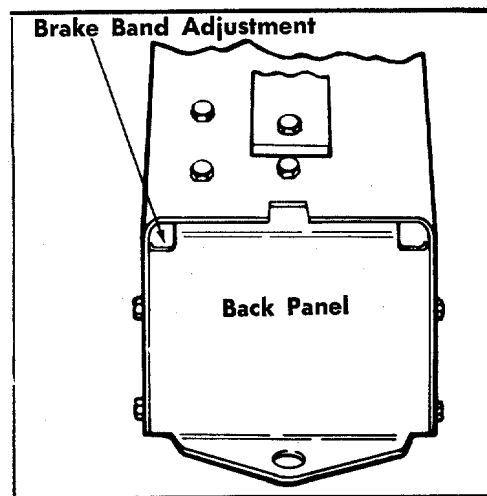


FIGURE 29. BACK PANEL

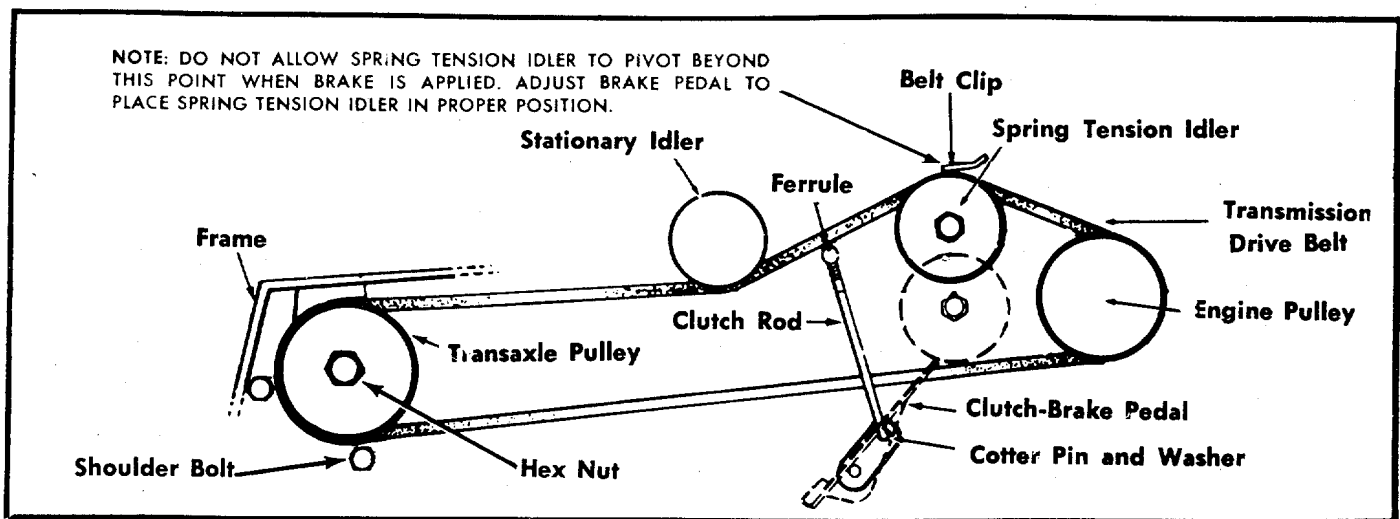


FIGURE 30. CLUTCH BRAKE PEDAL ADJUSTMENT

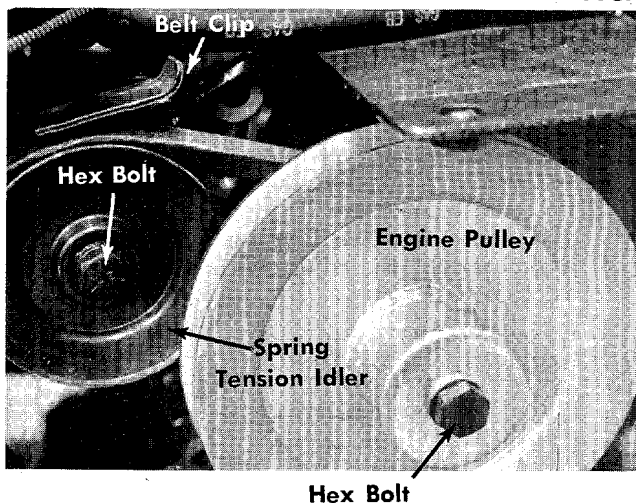


FIGURE 31. ENGINE PULLEY

NOTE

The idler bracket is notched so the belt clip will be correctly positioned.

- Step 3. Remove the hex bolt holding the engine pulley to the crankshaft of the engine. Pull the pulley off so the belt can be removed. See figure 31.
- Step 4. Remove the shoulder bolt near the transaxle pulley. See figure 30.
- Step 5. Remove the hex nut on the pulley.
- Step 6. Slide off the pulley.
- Step 7. Re-assemble in reverse order with a new V-belt.

DECK DRIVE BELT

- Step 1. Remove the belt guard over the belt. See figures 32 and 33.

- Step 2. Remove the bolt holding the pulley to the gear box.
- Step 3. Slide off the pulley and remove the belt.

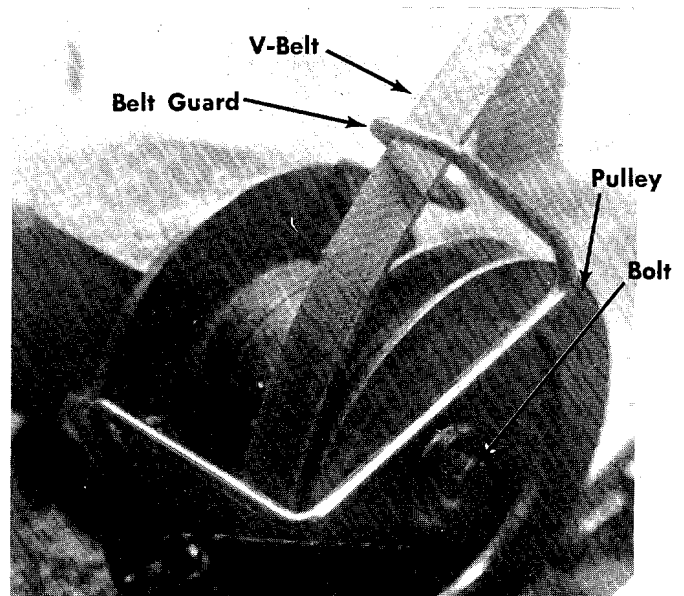


FIGURE 32. DECK DRIVE BELT

BLADE DRIVE BELT—34"

- Step 1. Remove the two belt guards on the deck pulleys. (See figure 40.)
- Step 2. Unhook the idler spring.
- Step 3. Loosen the bolts holding the mounting bracket to the deck.
- Step 4. Remove the belt.
- Step 5. Replace the belt and reassemble in reverse order.

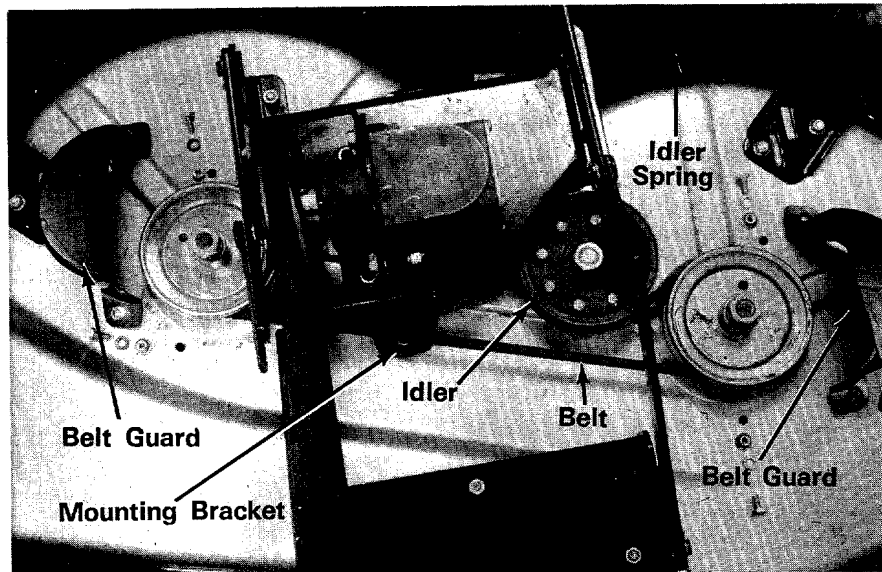


FIGURE 33.

BLADE BELT—42" (See Separate Manual)

STARTER-GENERATOR BELT (8 H.P. Only)

After the first ten hours of operation and periodically thereafter, the belt should be tightened or checked on the starter-generator. If the starter-generator turns over and the engine does not crank or there is a high pitched squeel when the starter-generator is turned on, it is an indication of a loose belt. To tighten, LOOSEN the two bolts on the bracket and LOOSEN the two bolts on the adjusting strap. Swing the starter-generator away from the engine, towards the rear of the mower, until the belt is tight. (Belt should deflect $\frac{1}{4}$ " when depressed with your thumb). Tighten all bolts. To remove the belt, loosen the starter-generator as described above and remove the belt from both pulleys. See figure 34.

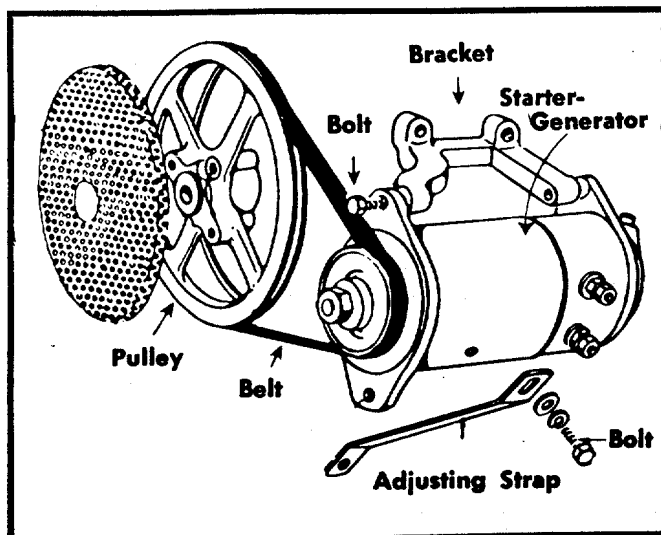


FIGURE 34. STARTER-GENERATOR BELT

REMOVING AND SHARPENING BLADES

Remove the center bolt and lockwasher. See figure 35. Pull the blade and blade adapter from the blade spindle.

The adapter can be removed from the blade by removing the two adapter bolts, lockwashers and nuts.

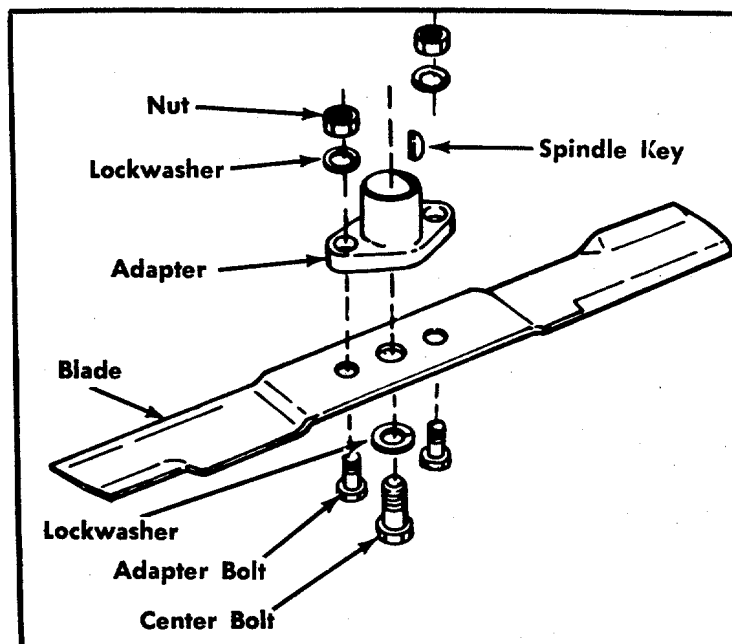


FIGURE 35. BLADE REMOVAL

WHEEL ADJUSTMENT

The caster (forward slant of the kingpin) and the camber (tilt of the wheels out at the top) requires no adjustment. Automotive steering principles have been used to determine the caster and camber on the tractor. The front wheels should toe-in $\frac{1}{8}$ inch. To adjust the toe-in, loosen the hex jam nut, remove the elastic locknut, drop the tie-rod end out of the hole in the steering arm and screw the tie-rod end in or out to make the adjustment. The distance "B" must be less than "A" by $\frac{1}{8}$ inch. See figures 37 and 38.

To adjust the toe-in follow these steps:

1. Remove the elastic locknut and drop the tie rod from the wheel bracket. See figure 36.
2. Loosen the hex jam nut on the tie rod. See figure 36.
3. Adjust the tie rod assembly for correct toe-in. Dimension "B" should be approximately $\frac{1}{8}$ " less than dimension "A". See figure 37.
 - A.) To increase dimension "B", screw tie rod into tie rod end.
 - B.) To decrease dimension "B", unscrew tie rod from tie rod end.
 - C.) Reassemble tie rod. Check Dimension. Readjust if necessary.

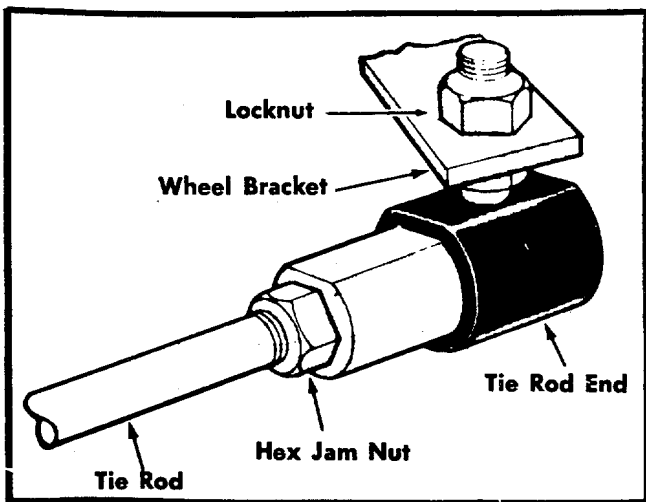


FIGURE 36. TIE ROD END

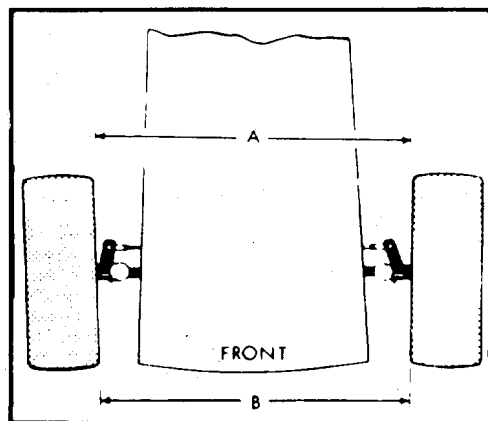


FIGURE 37. TOE-IN

CLEAN COOLING SYSTEM

Grass particles, chaff or dirt may clog the air-cooling system, especially after prolonged service in cutting dry grasses. Continued operation with a clogged cooling system may cause severe overheating and possible engine damage. It is necessary to remove the blower housing to completely clean this area. See figure 38.

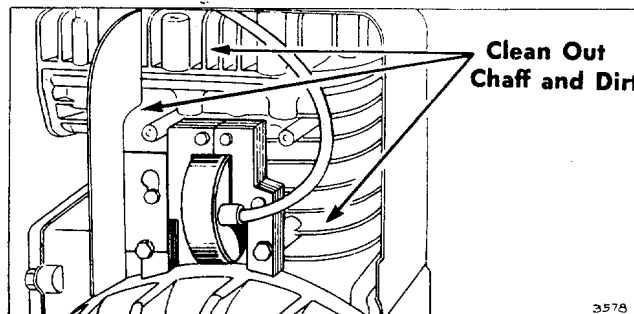


FIGURE 38. COOLING SYSTEM

FUEL SHUT-OFF VALVE AND FILTER

The fuel shut-off valve is located under the gasoline tank and is opened by turning it counter-clockwise. See figure 40.

The filter should be replaced once a year to insure operating your engine with clean fuel. To replace the filter, shut off the fuel valve and compress the legs of the clamps on both sides of the filter and slide them back. Replace the filter and replace the clamps.

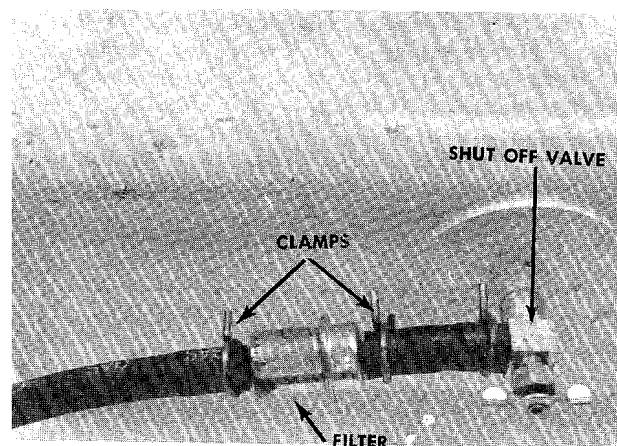


FIGURE 39. SHUT-OFF VALVE

CARBURETOR ADJUSTMENTS

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load.

To Adjust Carburetor: Turn needle valve clockwise until it just closes. **Caution:** Valve may be damaged by turning it in too far.

Now open needle valve $1\frac{1}{8}$ turns counter-clockwise. Close idle valve in same manner and open $1\frac{1}{8}$ turns. This initial adjustment will permit the engine to be started and warmed up prior to final adjustment.

Final Adjustment: Turn needle valve in until engine misses (lean mixture) then turn it out past smooth operating point until engine runs unevenly (rich mixture). Now turn needle valve to the mid-point between rich and lean so the engine runs smoothly. Hold throttle at idle position and set idle speed adjusting screw until fast idle is obtained (1750 RPM). Hold throttle in idle position and turn idle valve in (lean) and out (rich) until engine idles smoothly. Then reset idle speed adjusting screw so that engine idles at 1750 RPM. Release throttle—engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, the carburetor should be re-adjusted to a slightly richer mixture.

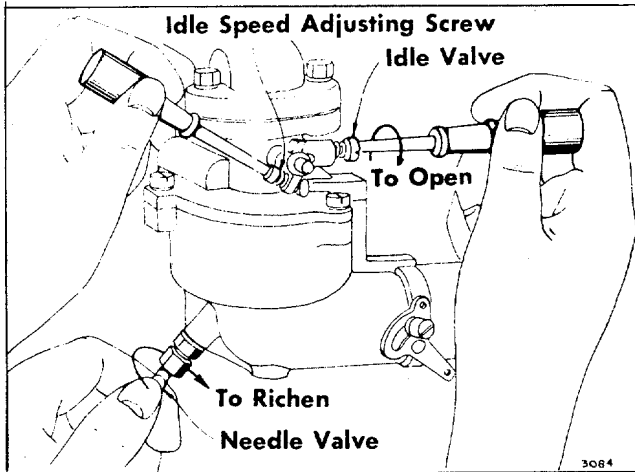


FIGURE 40. CARBURETOR ADJUSTMENT

CHOKE-A-MATIC CARBURETOR CONTROL ADJUSTMENTS

Proper choke and stop switch operation is dependent upon proper adjustment of remote control on the powered equipment.

To Check Operation of Choke-A-Matic Controls:

- Remove air cleaner.
- Move remote control lever to CHOKE position. The carburetor choke should be closed.
- Move remote control to STOP position. Lever should make good contact with stop switch.

To Adjust:

Place remote control lever on equipment in FAST (high speed) position. Loosen control casing clamp screw "B". Move control casing "A" and wire until lever "D" touches choke operating link at "C". Tighten casing clamp screw "B". Replace air cleaner.

OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following precautions are recommended:

- Working outdoors, drain all fuel from the fuel tank. Use a clean dry cloth to absorb the small amount of fuel remaining in the tank, then run the engine until all fuel in carburetor is exhausted.

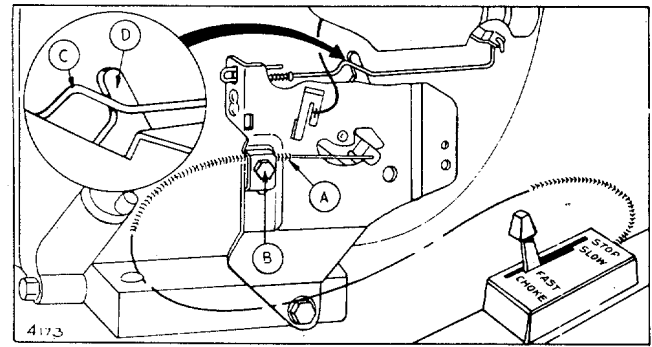


FIGURE 41. CHOKE ADJUSTMENT

WARNING

Do not drain fuel while smoking, or if near an open fire.

- Step 2. Drain all the oil from the crankcase (this should be done after the engine has been operated and is still warm) and refill the crankcase with clean new oil.
- Step 3. Disconnect the spark plug wire and remove the spark plug from the cylinder. Pour about six drops of engine oil into the cylinder and then pull the recoil starter several times to spread the oil on the cylinder wall. Replace the spark plug, but DO NOT connect the wire.
- Step 4. Clean the engine and the entire mower thoroughly.
- Step 5. Lubricate all lubrication points indicated in the Maintenance Section, then wipe the entire machine with an oiled rag in order to protect the surfaces.

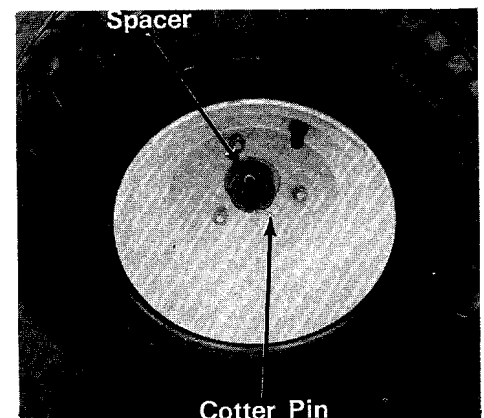
WHEEL SPACERS

The spacers on the rear wheels must be on the outside of the wheels as shown in figure 42 when using the mowing deck.

If tire chains or a draw bar hitch is used on the tractor it will be necessary to remove the cotter pins, spacers and wheels. Place the spacers on the axles and secure with the cotter pins.

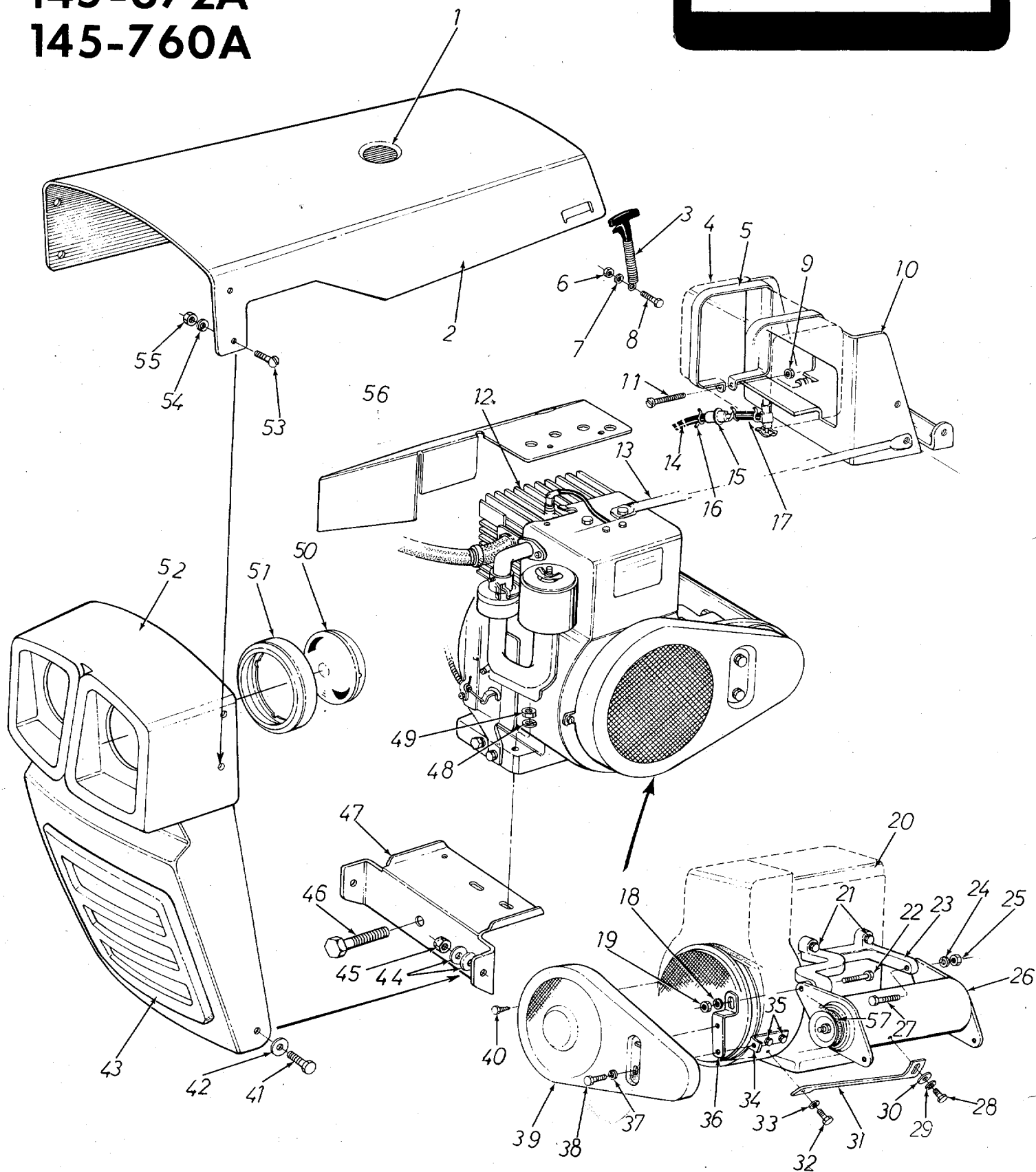
NOTE

You cannot operate the tractor with mowing deck when the spacers are installed on the inside of the wheels.



145-660A 145-672A 145-760A

IF YOU WRITE TO US ABOUT THIS ARTICLE
OR IF YOU ORDER REPLACEMENT PARTS AL-
WAYS MENTION THIS MODEL & SERIAL NO
MODEL



PARTS LIST FOR 145-660A, 145-672A AND 145-760A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	723-0155		Gas Gauge		31	—		Engine Part †	
2	10970		Hood†		32	—		Engine Part †	
	12369		Hood‡		33	—		Engine Part †	
3	723-0296		Hood Lock Ass'y.		34	—		Engine Part †	
4	723-0149		Fuel Tank		35	—		Engine Part †	
5	723-0151		Fuel Tank Strap		36	—		Engine Part †	
6	712-0138		Hex Nut 1/4-28 Thd.*		37	736-0329		Spring Lockwasher 1/4*†	
7	736-0329		Spring Lockwasher 1/4"*		38	710-0258		Hex Scr. 1/4-20 x .63*†	
8	710-0195		Hex Hd. Scr. 1/4-28 x .62"*		39	09284		Belt Cover†	
9	712-0287		Hex Nut 1/4-20 Thd.*		40	710-0148		Hex Scr. #8-32 x .38*†	
10	11967		Battery Box Ass'y.		41	710-0344		Hex Scr. 3/8-16 x 1 1/2*	
11	710-0279		Mach. Scr. 1/4-20 x 1.75"*		42	736-0300		Flat Washer .385 I.D.*	
12	—		Engine		43	731-0208		Grille Insert	
13	11999		Reinforcement Bracket†		44	736-0105		Belleville Washer	
14	723-0153		Gas Hose 1/4 I.D. x 10 1/2 Lg.		45	712-0130		Hex Locknut 3/8-16*	
15	723-0154		Gas Filter		46	710-0533		Hex Scr. 5/8-18 x 2 1/2*	
16	723-0157		Hose Clamp		47	11946		Front Pivot Support	
17	723-0152		Gas Hose 1/4 I.D. x 1 1/2 Lg.		48	736-0119		Spring Lockwasher 5/16*†	
18	736-0119		Spring Lockwasher 5/16*			736-0169		Spring Lockwasher 3/8*†#	
19	712-0267		Hex Nut 5/16-18 Thd.*		49	712-0267		Hex Nut 5/16-18*†	
20	—		Engine			712-0798		Hex Nut 3/8-16*†#	
21	—		Engine Part †		50	725-0222		Headlamp	
22	738-0380		Hex Scr. 5/16-24 x 1.75"†		51	735-0156		Headlamp Mount	
23	—		Engine Part †		52	719-0201		Grille†	
24	736-0119		Spring Lockwasher 5/16"*†			719-0218		Grille‡	
25	712-0267		Hex Nut 5/16-18*†		53	710-0255		Truss Mach. Scr. 1/4-20 x .75*	
26	725-0143		Starter—Generator†		54	736-0329		Spring Lockwasher 1/4 Scr.*	
27	710-0380		Hex Scr. 5/16-24 x 1.75†		55	712-0287		Hex Nut 1/4-20 Thd.*	
28	—		Engine Part †		56	12635		Heat Shield	
29	—		Engine Part †		57	754-0134		V-Belt 3/8 x 33.2 G-8110-1884	N
30	736-0264		Flat Washer .344 I.D.*†						

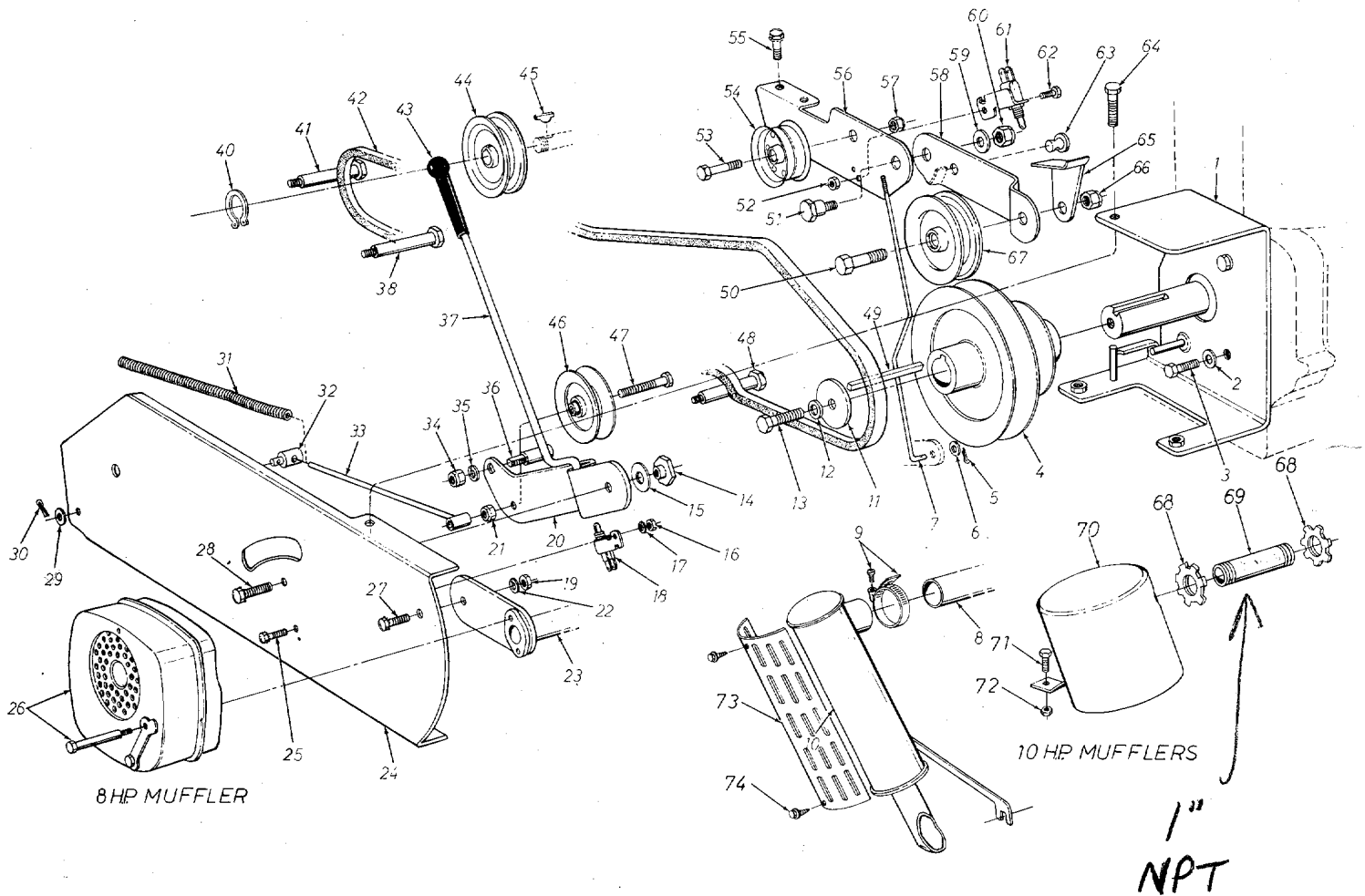
*For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

†8 H.P. Engine Tractor (660)
‡10 H.P. Engine Tractor (672)
#10 H.P. Engine Tractor (760)

When ordering parts if color is important, use the appropriate color code listed below. (For example 11970 —459 Hood)

459—Mag. Flake
395—Heather Green
464—Willow Green
458—Arctic Blue
462—Red Flake

145-660A 145-672A 145-760A



PARTS LIST FOR 145-660A, 145-672A AND 145-760A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	11938		Engine Mtg. Brkt.		40	716-0101		Snap Ring .750 Dia.	
2	736-0119		Spring L-Wash. 5/16*		41	738-0215		Shldr. Scr. .498 Dia. x .3"	
3	710-0118		Hex Scr. 5/16-18 x .75*		42	754-0182		V-Belt 21/32 x 81 G8002-5002	DRIVE
4	756-0201		Engine Two Step Pulley		43	720-0143		Grip	
5	714-0474		Cotter Pin 1/8 x .75*		44	756-0204		Pulley 5.25 Dia.	
6	736-0264		Fl-Wash. .344 I.D.*		45	714-0314		#9 Hi-Pro Key 3/16 x 3/4	
7	711-0218		Clutch Rod		46	756-0116		Idler Pulley	
8	751-0170		Muffler Tubing†#		47	710-0427		Hex Scr. 3/8-16 x 2 Lg.*	
9	726-0132		Hose Clamp†#		48	738-0146		Shldr. Scr. .500 Dia. x 1.35	
10	751-0130		Muffler†#		49	714-0114		Sq. Key 1/4 x 2"*	
11	07386		Washer		50	710-0459		Hex Scr. 3/8-24 x 1.5 Lg.*	
12	736-0169		Spring L-Wash. 3/8*		51	738-0143		Shldr. Scr. .498 Dia. x .340	
13	710-0191		Hex Scr. 3/8-24 x 1.25*		52	712-0324		Hex Ins. L-Nut 1/4-20 Thd.*	
14	711-0404		Shoulder Nut		53	710-0459		Hex Scr. 3/8-24 x 1.5*	
15	736-0100		Fl-Wash. .531 I.D.*		54	756-0117		Flat Idler	
16	712-0324		Hex Ins. L-Nut 1/4-20*		55	710-0198		Hex Sems Scr. 5/16-18 x .75 Lg.*	
18	725-0268		Safety Switch		56	08620		Clutch Mtg. Brkt.	
19	712-0267		Hex L-Nut 5/16-18*‡		57	712-0116		Hex Ins. L-Nut 3/8-24*	
20	11947		Clutch Brkt. Ass'y.		58	09200		Clutch Brkt.	
21	712-0130		Hex Ins. L-Nut 3/8-16*		59	736-0300		Fl-Wash. .385 I.D.*	
22	736-0119		Spring L-Wash. 5/16*		60	712-0130		Hex Ins. L-Nut 3/8-16*	
23	751-0137		Muffler Ext. Ass'y.‡		61	725-0268		Safety Switch	
24	11940		Clutch Cover Plate		62	710-0258		Hex Scr. 1/4-20 x .62*	
25	710-0322		Hex Sems Scr. 5/16-18 x 1 Lg.*		63	711-0179		Adj. Ferrule	
26	—		Lo-Tone Muffler Engine Part‡		64	710-0198		Hex Sems Scr. 5/16-18 x .75*	
27	710-0198		Hex Sems Scr. 5/16-18 x .75*		65	08664		Belt Keeper	
28	710-0322		Hex Sems Scr. 5/16-18 x 1*		66	712-0116		Hex Ins. L-Nut 3/8-24*	
29	736-0159		Fl. Wash. .344 I.D.*		67	756-0116		Idler	
30	714-0111		Cotter Pin 3/32 x 1 Lg.*		68	712-0250		Conduit Nut†# / "	
31	732-0281		Clutch Spring		69	751-0170		Muffler Tubet#	
32	711-0432		Brake Ferrule		70	751-0179		Muffler†#	
33	11964		Spring Guide Ass'y		71	710-0289		Hex Scr. 1/4-20 x .50*†#	
34	712-0798		Hex Nut 3/8-16*		72	712-0287		Hex Nut 1/4-20 *†#	
35	736-0169		Spring L-Wash. 3/8*		73	751-0158		Muffler Screen†#	
36	738-0209		Lockout Shaft		74	710-0148		Self Tap. Scr. #8-32 x 3/8*†#	
37	11947		Clutch Brkt. Ass'y.						
38	738-0215		Shldr. Scr. .498 Dia. x 3"						

*For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

‡8 H.P. Engine Tractor (660)
†10 H.P. Engine Tractor (672)
#10 H.P. Engine Tractor (760)

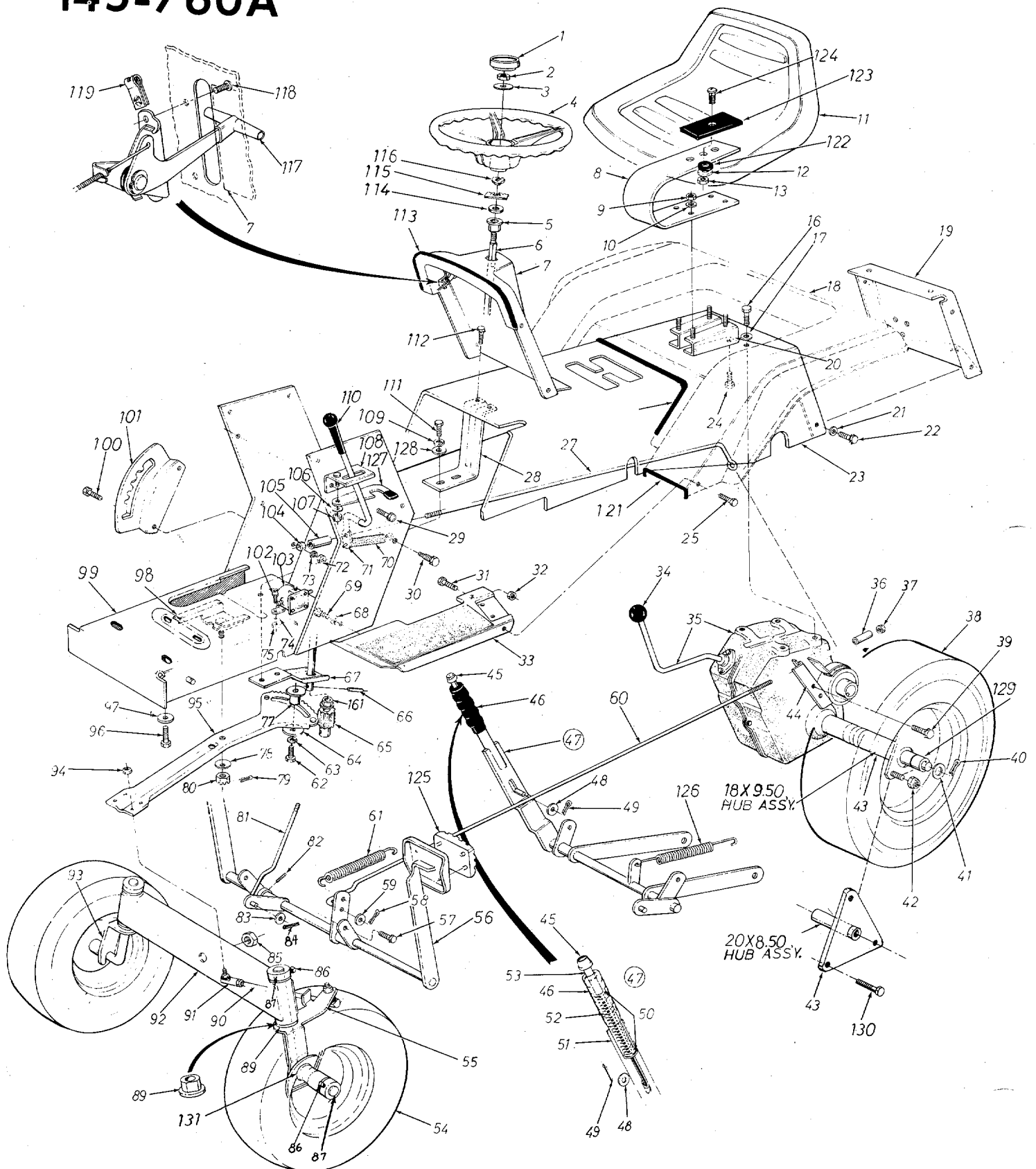
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145-660A

145-672A

145-760A



PARTS LIST FOR 145-660A, 145-672A AND 145-760A

REF. NO.	PART NO.	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	731-0220	Steering Wheel Cap		40	714-0142	Cotter Pin 3/16 x 1.50*	
2	712-0158	Hex Centerlock Nut 5/16-18 Thd.*		41	736-0163	Fl-Wash. 1.03 I.D.*	
3	736-0242	Wave Wash. 660 I.D. NEW WASH	34518	42	712-0193	Cone Nut 3/8-24 Thd.*††	
4	731-0219	Steering Wheel		43	12355	Rear Wheel Hub††	REAR WHL HUB #
5	748-0227	Hex Flange Bearing .630 Dia.		44	11942	Brake Ass'y. Compl.	
6	738-0203	Steering Shaft			761-0152	Brake Drum	
7	11976	Dash Panel Ass'y.†			714-0388	Key	
	11977	Dash Panel Ass'y.†			736-0231	Washer	
8	732-0256	Seat Spring		45	710-0538	Hex Scr. 5/16-18 x .62*	
9	712-0267	Hex Nut 5/16-18 Thd.*		46	726-0110	Push Cap	
10	736-0119	Spring Lockwasher 5/16*		47	08818	Grip	
11	757-05229	Seat		48	11521	Lift Handle Compl.	
12	736-0208	Fl.-Wash. .510 I.D.*		49	736-0234	Fl.-Wash. .385 I.D.*	
13	712-0384	Hex Centerlock Nut 1/2-13*		50	714-0474	Cotter Pin 1/8 x .75*	
14	712-0267	Hex Nut 5/16-18 Thd.*		51	736-0300	Fl.-Wash. .300 I.D.*	
15	736-0119	Spring L-Wash. 5/16*		52	11983	Lift Handle Ass'y.	
16	710-0216	Hex Scr. 3/8-16 x .75*		53	732-0156	Compression Spring	
17	736-0169	Spring L-Wash. 3/8*		54	750-0124	Spacer	
18	11975	Rear Fender			734-0649	Fr. Wheel Ass'y. 13 x 6.50††	
19	08597	Frame Plate Ass'y.			734-0650	Tire Only 13 x 6.50††	
20	11988	Fender Support Ass'y.			734-0499	Rim for 13 x 6.50††	
21	736-0169	Spring L-Wash. 3/8*			734-0255	Valve Stem	
22	710-0216	Hex Scr. 3/8-16 x .75*		54	734-0497	Front Wheel Ass'y. 15 x 6#	
23	11954	Frame Ass'y.			734-0498	Tire Only 15 x 6#	
24	710-0198	Hex Sems Scr. 5/16-18 x .75 Lg.*			734-0499	Rim for 15 x 6#	
					734-0255	Valve Stem	
25	710-0252	Hex Scr. 1/4-20 x .75		55	11979	Fr. Axle Ass'y. L.H.	
26	10614	Vinyl Pad		56	12661	Foot Pedal Ass'y.	N
27	747-0100	Hand Brake Rod		57	710-0209	Hex Sems Scr. 3/8-16 x .62*	
28	08618	Reinforcement Brkt. Ass'y.		58	714-0474	Cotter Pin 1/8 x .75*	
29	710-0198	Hex Sems Scr. 5/16-18 x .75*		59	736-0264	Fl.-Wash. .344 I.D.*	
30	711-0220	Hex Hd. Step Scr.—Spec.		60	711-0203	Brake Rod	
31	710-0377	Hex Sems Scr. 1/4-20 x .63*		61	732-0180	Extension Spring	
32	712-0287	Hex Nut 1/4-20 Thd.*		62	710-0344	Hex Scr. 3/8-16 x 1.5*	
38	11986	Running Bd. R.H.	N	63	736-0169	Spring L-Wash. 3/8*	
	11985	Running Bd. L.H. (not shown)	N	64	07386	Washer	
34	722-0116	Gear Shift Knob		65	748-0203	Spur Gear 12 Teeth	
35	—	Transaxle (see breakdown)		66	715-0134	Spring Pin 3/16 x 1.5 Lg.	
36	750-0187	Spacer Tube		67	10043	Lower Mtg. Brkt.	
37	712-0429	Hex Ins. L-Nut 5/16-18 Thd.		68	736-0169	Spring L-Wash. 3/8 Scr.*	
38	734-0447	Wheel Ass'y. Compl. 18 x 9.50††		69	710-0253	Hex Scr. 3/8-16 x 1 Lg.*	
	734-0448	Tire Only 18 x 9.50††		70	732-0264	Extension Spring	
	734-0449	Rim for 18 x 9.50††		71	11513	Hand Brake Lever	
	734-0331	Tube for Service Only††		72	712-0798	Hex Nut 3/8-16*	
	734-0255	Valve Stem		73	736-0148	External L-Wash. 3/8*	
38	734-0505	Wheel Ass'y. Compl. 20 x 8.50#		74	736-0329	Spring L-Wash. 1/4*	
	734-0506	Tire Only 20 x 8.50#		75	712-0287	Hex Nut 1/4-20 Thd.*	
	734-0507	Rim for 20 x 8.50#		77	750-0215	Steering Spacer	
	734-0255	Valve Stem		78	736-0112	Belleville Wash. .535 I.D.	
39	710-0198	Hex Sems Scr. 5/16-18 x .75*		79	714-0115	Cotter Pin 1/8 x 1" Lg.*	
				80	712-0114	Hex Slotted Nut 1/2-20*	
				81	711-0218	Clutch Rod	
				82	710-0938	Set Scr. 1/4-28 x .25 Lg. Cup Point*	

*For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

†8 H.P. Engine Tractor (660)
 †10 H.P. Engine Tractor (672)
 #10 H.P. Engine Tractor (760)

When ordering parts if color is important, use the appropriate color code listed below. (For example 11970—459 Hood)
 459—Mag. Flake
 395—Heather Green
 464—Willow Green
 458—Arctic Blue
 462—Red Flake

PARTS LIST (CONTINUED)

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	DESCRIPTION	NEW PART
83	736-0264		Fl.-Wash. .344 I.D.*		108	11500	Hand Brake Brkt. Ass'y.	
84	714-0474		Cotter Pin 1/8 x .75 Lg.*		109	736-0169	Spring L-Wash. 3/8*	
85	712-0923		Hex Centerlock Nut 5/8-18*		110	720-0143	Grip	
86	710-0494		Sq. Hd. Set Scr. 5/16-18 x .33 Cup Point*		111	710-0253	Hex Scr. 3/8-16 x 1 Lg.*	
87	711-0518		Collar 3/4 I.D.		112	712-0253	Hex Scr. 3/8-16 x 1 Lg.*	
89	748-0209		Flange Bearing		113	731-0144	Vinyl Strip	
90	711-0209		Tie Rod		114	736-0174	Fl.-Wash. .635 I.D.*	
91	723-0156		Ball Joint (tie rod end) 3/8-24		115	712-0222	Push Nut .620 Dia.	
92	11833		Fr. Pivot Bar Ass'y.		116	746-0220	Throttle Control	
93	11980		Fr. Axle Ass'y. R.H.		118	710-0192	Truss Hd. Scr. #10-24*	
94	712-0116		Hex Ins. L-Nut 3/8-24*		119	712-0147	Speed Nut #10-24*	
95	11965		Steering Segment		120	731-0253	Vinyl Strip	
96	710-0116		Hex Scr. 5/16-18 x 2*†		121	731-0252	Vinyl Strip	
	710-0342		Hex Scr. 3/8-16 x 1.25*‡#		122	736-0159	Rubber Washer	
97	736-0133		Fl.-Wash. .406 I.D.*		123	735-0163	Rubber Pad	
98	—		Part of Ref. 99		124	710-0365	Bolt 1/2-13 x .88* (if loose)	
99	11955		Fr. Frame Ass'y.		125	10614	Vinyl Foot Pad	
100	710-0253		Hex Scr. 3/8-16 x 1 Lg.*		126	732-0191	Spring	
101	11971		Index Brkt.		127	11504	Hand Brake Stop Lever	
102	710-0258		Hex Scr. 1/4-20 x .63*			11249	Knob Only	
103	725-0270		Solenoid		128	736-0105	Belleville Washer	
104	712-0324		Hex L-Nut 1/4-20 Thd.*		129	750-0257	Hub Sleeve†‡	
105	750-0219		Spacer		130	710-0470	Wheel Hub Bolt#	
106	736-0142		Fl.-Wash. .281 I.D.*		131	748-0184	Front Hub Bearing	
107	712-0324		Hex L-Nut 1/4-20*					

*For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

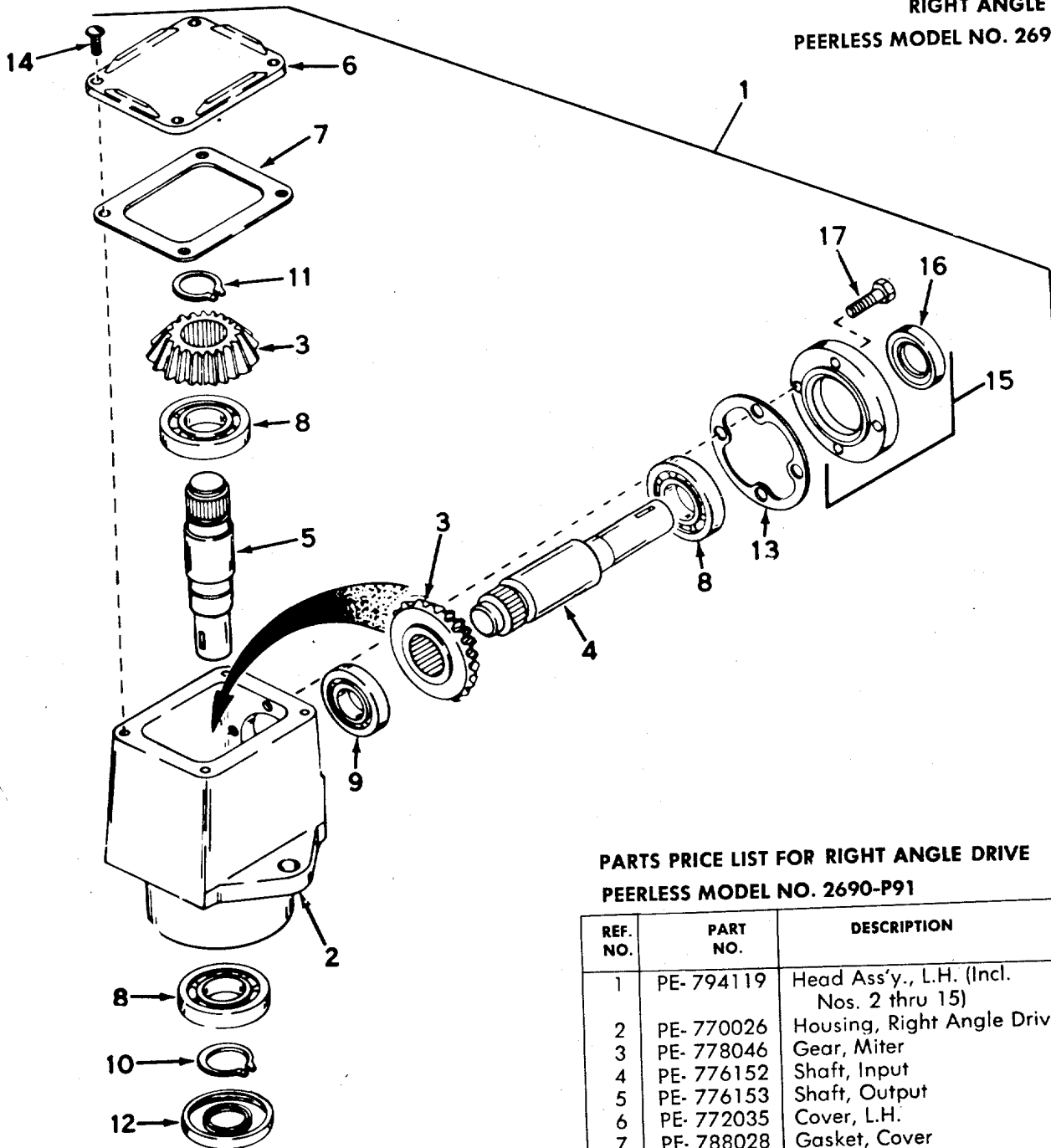
†8 H.P. Engine Tractor (660)
‡10 H.P. Engine Tractor (672)
#10 H.P. Engine Tractor (760)

116 736-0116 FL-WASH

When ordering parts if color is important, use the appropriate color code listed below. (For example 11970 —459 Hood)

459—Mag. Flake
395—Heather Green
464—Willow Green
458—Arctic Blue
462—Red Flake

**RIGHT ANGLE DRIVE
PEERLESS MODEL NO. 2690-P91**



**PARTS PRICE LIST FOR RIGHT ANGLE DRIVE
PEERLESS MODEL NO. 2690-P91**

REF. NO.	PART NO.	DESCRIPTION
1	PE-794119	Head Ass'y., L.H. (Incl. Nos. 2 thru 15)
2	PE-770026	Housing, Right Angle Drive
3	PE-778046	Gear, Miter
4	PE-776152	Shaft, Input
5	PE-776153	Shaft, Output
6	PE-772035	Cover, L.H.
7	PE-788028	Gasket, Cover
8	PE-780034	Bearing, Ball
9	PE-780024	Bearing, Ball
10	PE-788019	Ring, Snap
11	PE-788018	Ring, Snap
12	PE-788029	Seal, Oil
13	PE-788030	Gasket, Cap
14	PE-792025	Scr., Rd. Hd. Self Tap 10-24 x 1/2
15	PE-786029	Cap & Seal Assy., Retainer (Incl. Nos. 16 & 17)
16	PE-788031	Seal, Oil
17	PE-792043	Scr., Hex Hd. 1/4-20 x 1

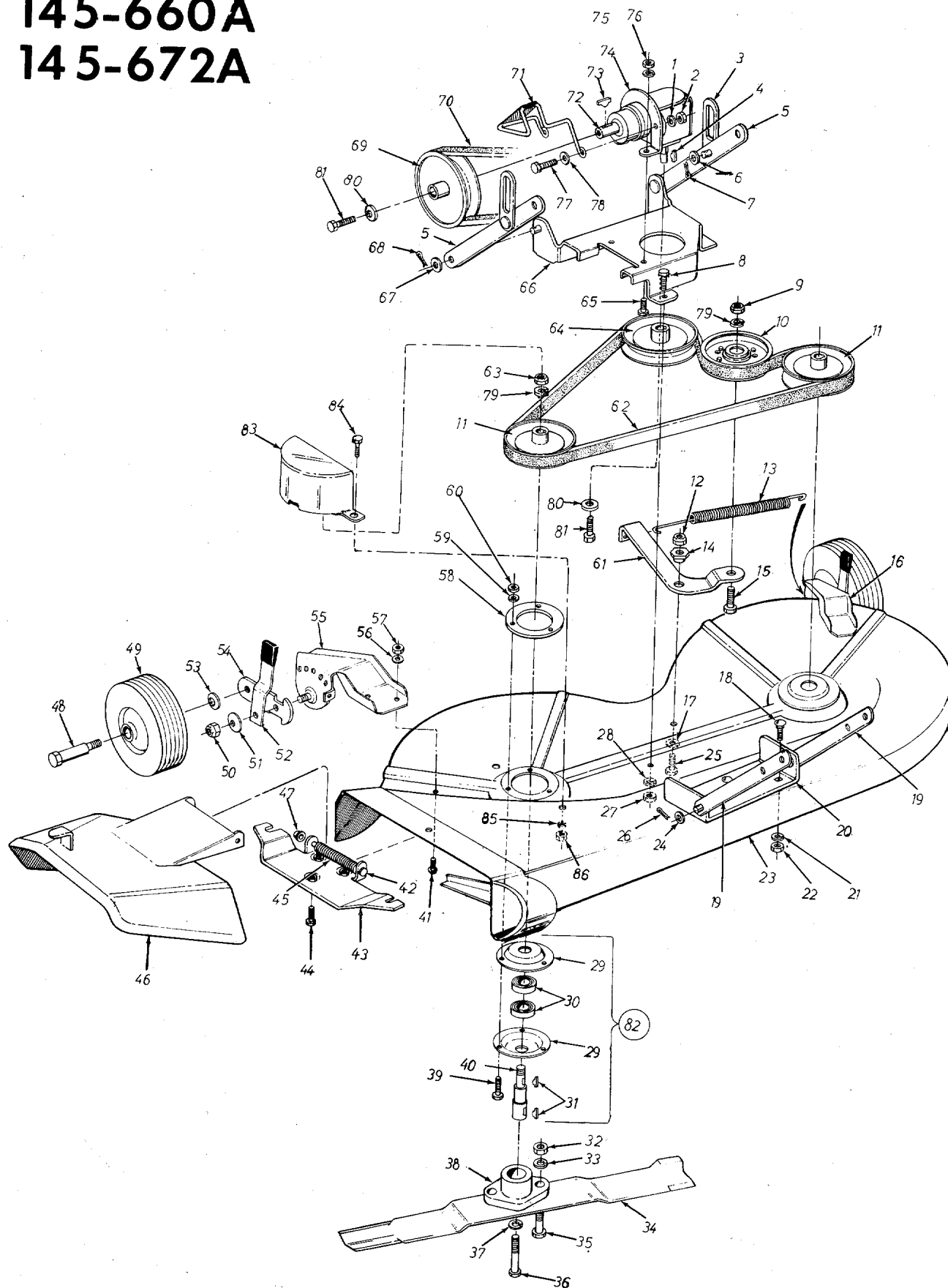
NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.



PEERLESS MODEL NO. 2690-P91

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

145-660A 145-672A



34" MOWING UNIT USED ON 145-660A AND 145-672A

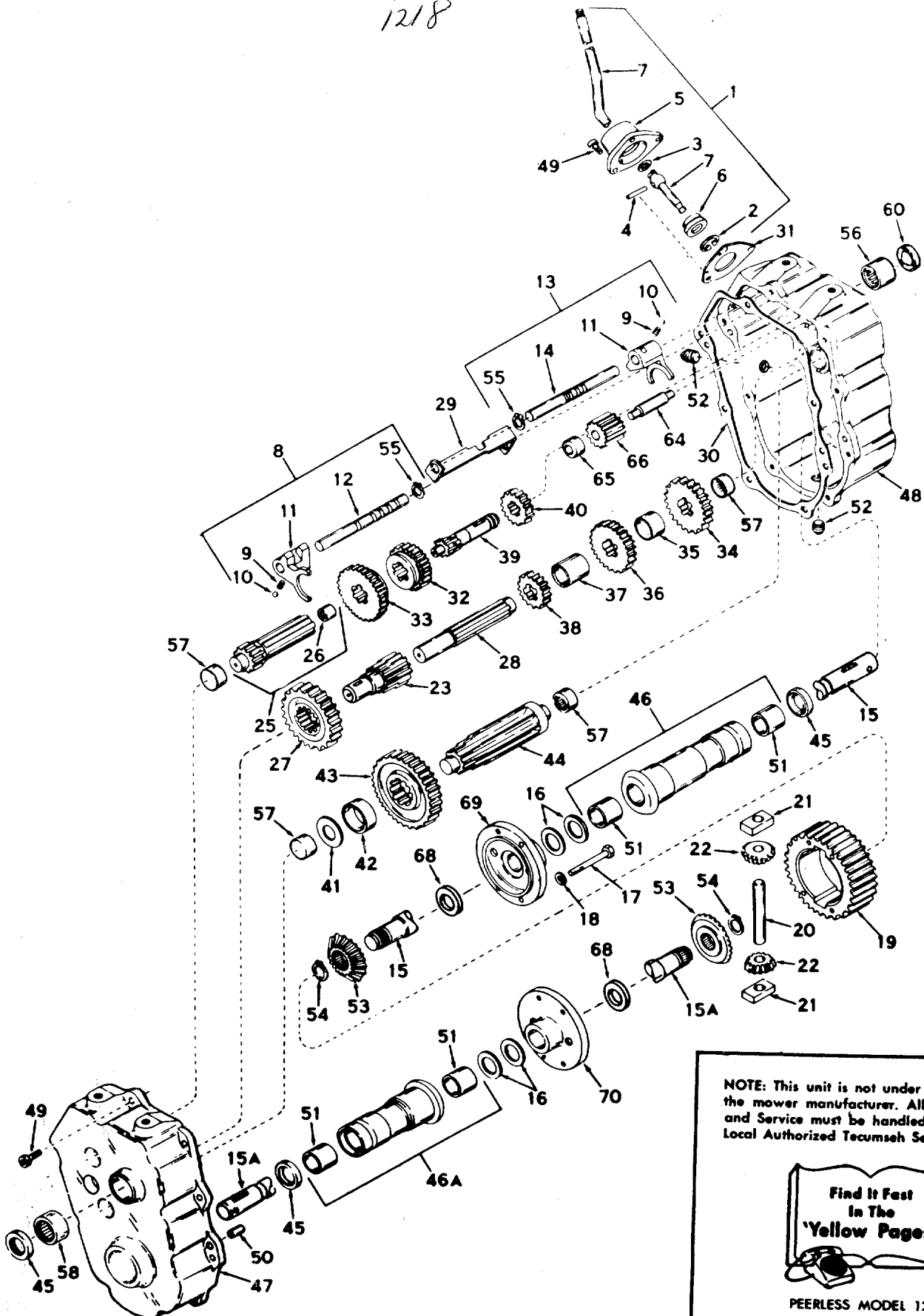
PARTS LIST FOR 34" MOWING UNIT USED ON 145-660A AND 145-672A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	736-0148		External Lockwasher 3/8" Scr.*		43	11399		Adapter Plate Ass'y.	
2	712-0798		Hex Nut 3/8-16 Thd.*		44	710-0195		Hex Scr. 1/4-28 x .62" Lg.*	
3	11516		Lockout Link Assembly		45	732-0261		Torsion Spring	
4	714-0388		#61 Hi Pro Key 3/16 x 5/8" Dia.		46	11574		Chute Cover Ass'y.	
5	11951		Deck Link		47	726-0106		Push Nut 1/4" Rod	
6	736-0160		Flat Washer .531" I.D. x .940" O.D. x .050		48	738-0119		Shoulder Scr. .625" Dia. x 1.75 (Axle)	
7	714-0101		Internal Cotter Pin 1/2" Dia.		49	734-0225		6.0" Dia. Wheel Ass'y.	
8	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*		50	712-0116		Hex Inserted Locknut 3/8-24 Thd.	
9	712-0261		Hex Jam Nut 5/8-11 Thd.*		51	736-0219		Belleville Washer .40 I.D. x 1.130 O.D. x .03	
10	711-0306		Deck Idler		52	10949		Spring Lever Ass'y. w/Red Knob	
11	756-0124		Pulley 4.75" Dia.		53	736-0105		Belleville Washer	
12	712-0267		Hex Nut 5/16-18 Thd.*		54	10937		Wheel Pivot Bar	
13	732-0191		Spring .75 O.D. x 11.0" Lg.		55	11236		Wheel Brkt. Ass'y.—R.H.	
14	711-0404		Shoulder Nut		56	736-0329		Spring Lockwasher 1/4" Scr.*	
15	710-0367		Hex Scr. 5/8-11 x 1.50" Lg.		57	712-0287		Hex Nut 1/4-20 Thd.*	
16	11237		Wheel Bracket Ass'y.—L.H.		58	09164		Reinforcement Plate	
17	736-0123		Flat Washer .344 I.D. x 1.125 O.D. x .063		59	736-0119		Spring Lockwasher 5/16" Scr.*	
18	710-0260		Carriage Bolt 5/16-18 x .62" Lg.*		60	712-0267		Hex Nut 5/16-18" Thd.*	
19	11951		Deck Link		61	11945		34" Idler Bracket	
20	11936		34" Front Deck Brkt. Ass'y.		62	754-0184		"V"-Belt 1/2 x 52.0" Lg.	
21	736-0119		Spring Lockwasher 5/16" Scr.*		63	712-0261		Hex Cent. L-Nut 5/8-11" Thd.	
22	712-0267		Hex Nut 5/16-18 Thd.*		64	756-0118		Pulley .75" I.D. x 4.75" Dia.	
23	11958		34" Tractor Deck Ass'y.		65	710-0344		Hex Scr. 3/8-16 x 1.50" Lg.*	
24	736-0160		Flat Washer .531" I.D. x .940" O.D. x .050		66	11934		34" Rear Deck Brkt. Ass'y.	
25	710-0322		Hex Sems Scr. 5/16-18 x 1.00" Lg.		67	736-0160		Flat Washer .531" I.D. x .940" O.D. x .050	
26	714-0101		Internal Cotter Pin 1/2" Dia.		68	714-0101		Internal Cotter Pin 1/2" Dia.	
27	712-0267		Hex Nut 5/16-18 Thd.*		69	756-0118		Pulley .75" I.D. x 4.75" Dia.	
28	736-0119		Spring Lockwasher 5/16" Scr.*		70	754-0180		"V"-Belt 21/32 x 54.0" Lg.	
29	08253		Housing Bearing		71	12086		Belt Guard Ass'y.	
30	741-0919		Ball Bearing .787" I.D. x 1.85" O.D. x .551		72	—		Right Angle Gear Box (See Breakdown on page	
31	714-0365		#6 Hi Pro Key 5/32 x 5/8" Dia.		73	714-0388		#61 Hi Pro Key 3/16 x 5/8" Dia.	
32	712-0123		Hex Nut 5/16-24 Thd.*		74	11950		Mounting Bracket	
33	736-0119		Spring Lockwasher 5/16" Scr.*		75	736-0148		External Lockwasher 3/8" Scr.*	
34	742-0120		Blade 17.0 Inch		76	712-0798		Hex Nut 3/8-16 Thd.*	
35	710-0117		Hex Scr. 5/16-24 x 1.00" Lg. Heat Treated		77	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
36	710-0459		Hex Scr. 3/8-24 x 1.50" Lg. Heat Treated		78	736-0300		Flat Washer .390" I.D. x .880 O.D. x .06	
37	736-0217		Spring Lockwasher 3/8" Scr. Heavy Duty		79	736-0158		Spring Lockwasher 5/8 Thd.*	
38	10769		Blade Adapter Kit		80	736-0231		Flat Washer .344" I.D. x 1.250" O.D. x .125	
39	710-0376		Hex Scr. 5/16-18 x 1.00" Lg.*		81	710-0538		Hex Scr. 5/16-18 x .62" Lg. Special	
40	711-0597		Blade Spindle		82	12036		Spindle Assy.—Comp.	
41	710-0289		Hex Scr. 1/4-20 x .50" Lg.*		83	11987		Belt Guard Cover (one for each deck pulley)	
42	711-0571		Hinge Pin		84	710-0377		Hex Sems Scr. 1/4-20 x .62" Lg.*	
					85	736-0329		Spring Lockwasher 1/4" Scr.*	
					86	712-0287		Hex Nut 1/4-20 Thd.*	

*For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

TRANSAXLE PEERLESS MODEL NO. 1217

1218



NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.



PEERLESS MODEL 1217

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lawson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

PARTS LIST FOR TRANSAXLE PEERLESS MODEL 1217-1218

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	PE-784095	Lever & Housing Ass'y. Shift (Incl. Nos. 2 thru 7)	33	PE-778020	Gear, Shifting
2	PE-792016	Ring, Snap	34	PE-778021	Gear, Spur (26 Teeth)
3	PE-792001	Ring, Quad	35	PE-786014	Spacer
4	PE-792049	Pin, Drive	36	PE-778022	Gear, Spur (22 Teeth)
5	PE-784088	Housing, Shift Lever	37	PE-786015	Spacer
6	PE-784094	Keeper, Shift Lever	38	PE-778023	Gear, Spur (16 Teeth)
7	PE-784096	Lever, Shift	39	PE-776067	Shaft, Input
8	PE-784056	Rod Ass'y., Shift (Incl. Nos. 9 thru 12)	40	PE-778024	Spur Gear, Input Shaft
9	PE-792003	Spring	41	PE-780001	Washer
10	PE-792004	Ball, Steel	42	PE-786017	Spacer
11	PE-784004	Fork, Shifter	43	PE-778036	Gear, Output
12	PE-784057	Rod, Shifter	44	PE-778041	Pinion, Output
13	PE-784054	Rod Ass'y., Shift (Incl. Nos. 9, 10, 11, 14 & 55)	45	PE-788008	Seal, Oil
14	PE-784055	Rod, Shifter	46	PE-782051	Housing & Bushing Ass'y., Axle (Incl. No. 51)
15	~~PE-774282~~	Axle, R.H. <i>PE 774307</i>	46A	PE-782052	Housing & Bushing Ass'y., Axle (Incl. No. 51)
15A	~~PE-774281~~	Axle, L.H. <i>PE 774306</i>	47	PE-772072	Cover Ass'y., Transaxle (Incl. Nos. 57 & 58)
16	PE-780042	Washer, Thrust	48	PE-770033	Case Ass'y., Transaxle (Incl. Nos. 56 & 57)
17	PE-792020	Scr., Hex Hd. Cap., 1/4-20 x 2 1/4	49	PE-792007	Scr., Socket Hd. Cap., 1/4-20 x 3/4
18	PE-792006	Lockwasher, 1/4"	50	PE-786026	Pin, Dowel
19	PE-778033A	Gear, Ring	51	PE-780054	Bushing
20	PE-786019	Pin, Drive	52	PE-792010	Plug, Pipe
21	PE-786027	Block, Drive	53	PE-778039	Gear, Bevel
22	PE-778014	Pinion, Bevel	54	PE-792018	Ring, Snap
23	PE-776156	Pinion & Bushing Ass'y., Idler	55	PE-792017	Ring, Snap
25	PE-776014	Shaft & Bearing Ass'y., Shifter (Incl. No. 26)	56	PE-780011	Bearing
26	PE-780018	Bearing	57	PE-780013	Bearing
27	PE-778037	Gear, Idler	58	PE-780055	Bearing
28	PE-776032	Shaft, Idler	60	PE-788009	Seal, Oil
29	PE-784074	Stop, Shifter	64	PE-776008	Shaft, Reverse Idler
30	PE-788026	Gasket, Case to Cover	65	PE-786008	Spacer, Reverse Idler
31	PE-788003	Gasket, Shift Lever Housing	66	PE-778016	Idler, Reverse
32	PE-778019	Gear, Shifting	68	PE-780107	Washer
			69	PE-774029	Carrier, Differential
			70	PE-774028	Carrier, Differential

*For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.

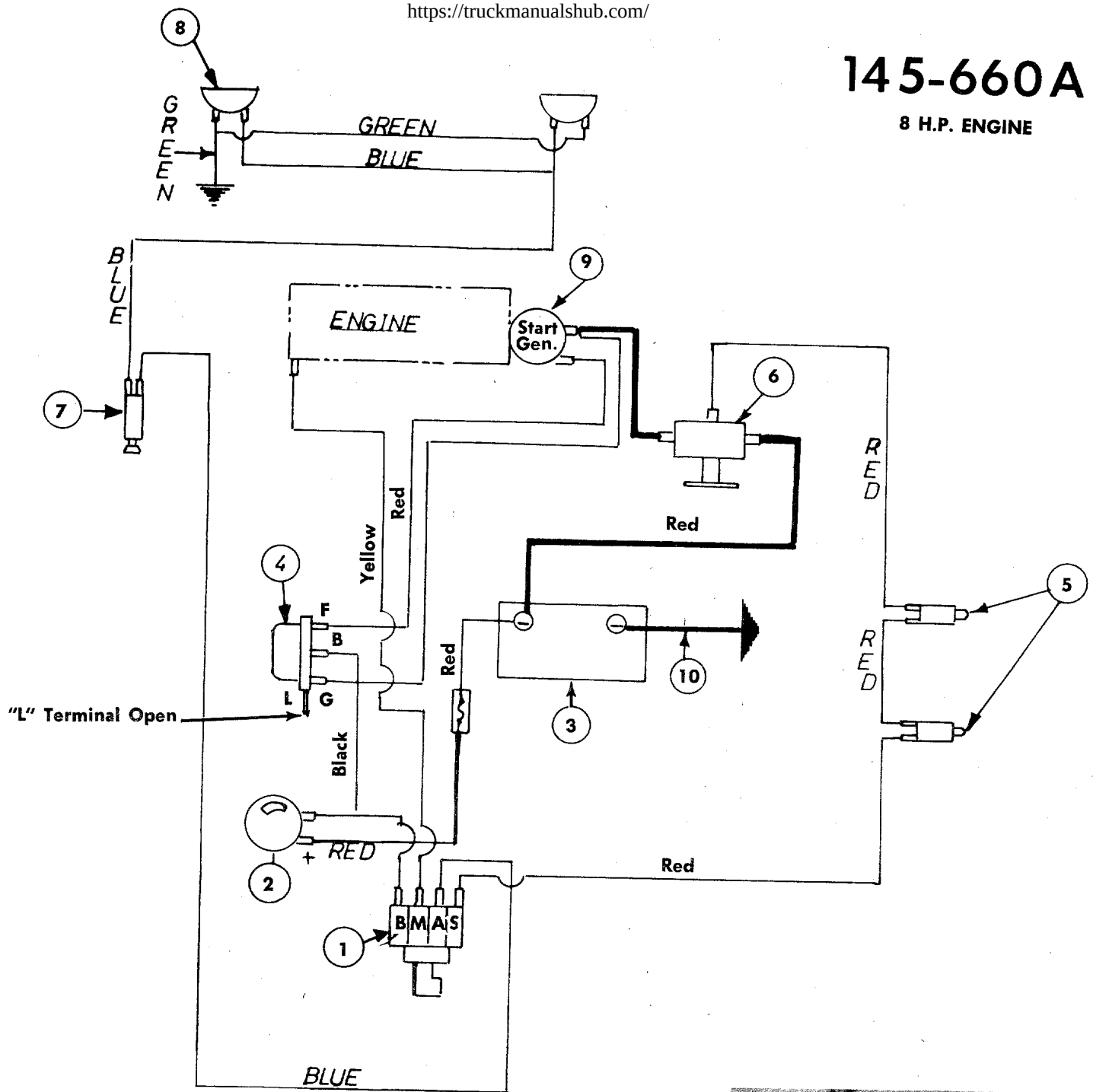


PEERLESS MODEL NO. 1217

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lawson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

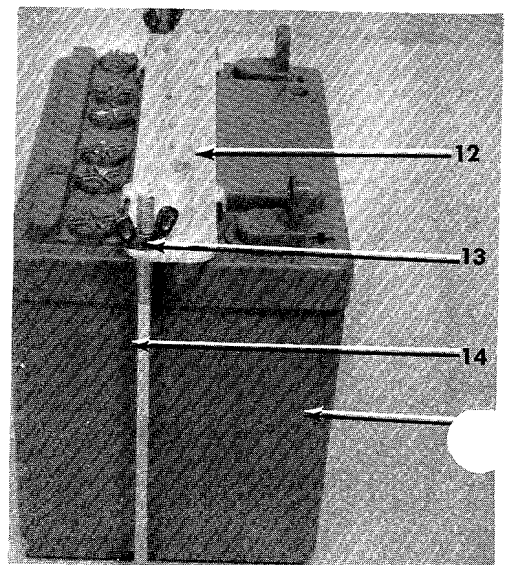
145-660A

8 H.P. ENGINE



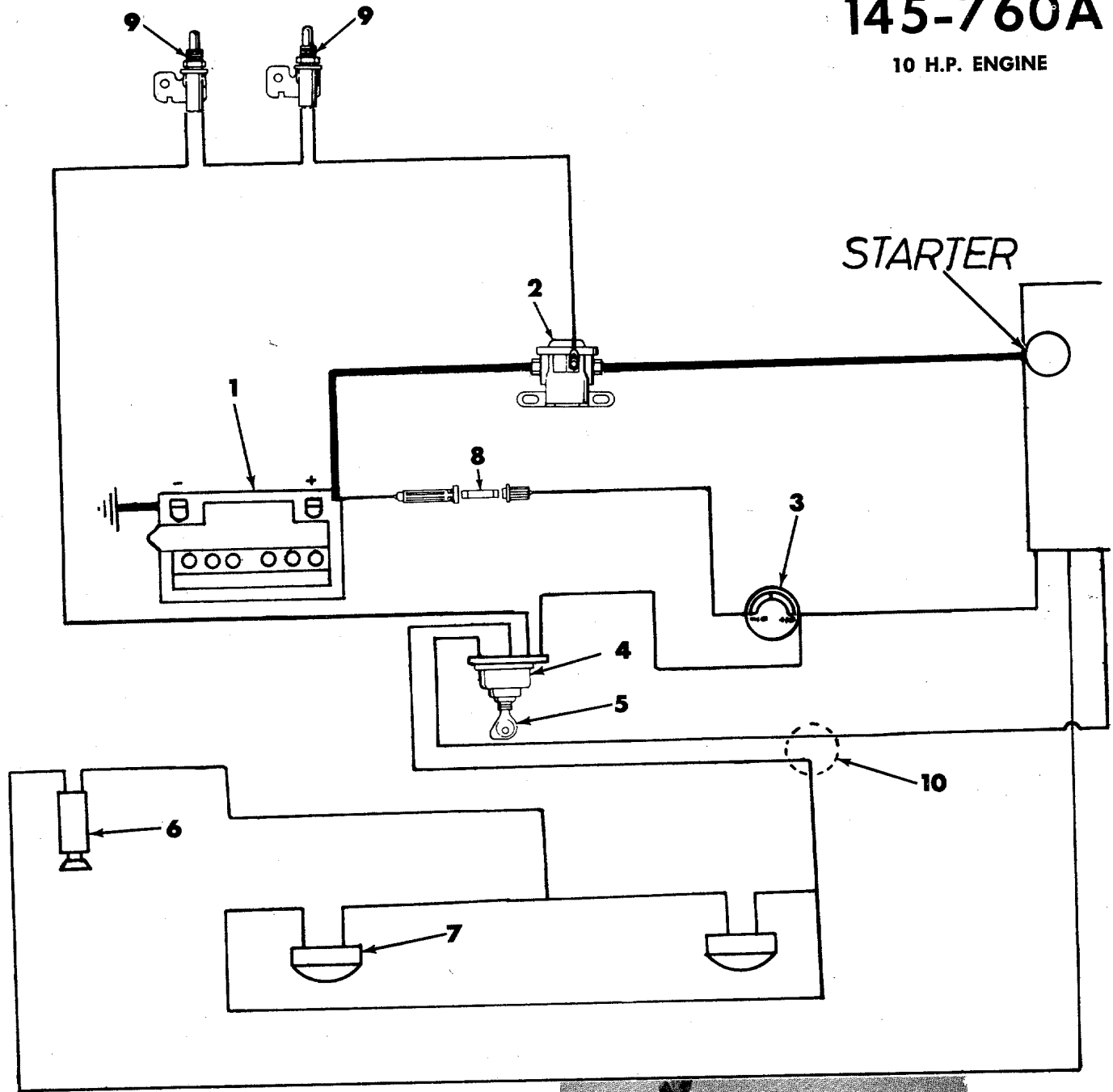
PARTS LIST FOR SCHEMATIC MODEL 145-660A

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0267	Ignition Switch	N
	725-0201	Ignition Key	
2	725-0119	Ammeter	
3	725-0453	Battery	
4	725-0390	Voltage Regulator	
5	725-0268	Safety Switch	
6	725-0270	Solenoid	
7	725-0202	Light Switch	
8	725-0222	Headlight	
9	725-0143	Starter—Gen.	
10	725-0122	Electric Wire	N
11	725-0356	Wiring Harness	
12	12614	Battery Hold Down	
13	712-0113	Wing Nuts	
14	711-0222	Hold Down Rods	

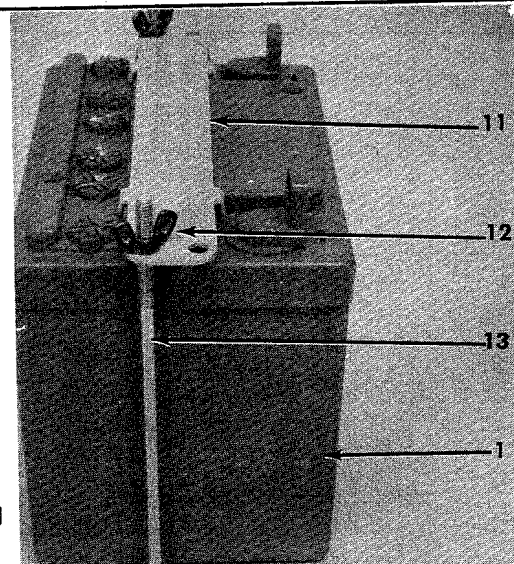


145-660A 145-760A

10 H.P. ENGINE



REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	725-0453		Battery	N
2	725-0270		Solenoid	
3	725-0119		Ammeter	
4	725-0267		Ignition Switch	
5	725-0201		Key	
6	725-0202		Light Switch	
7	725-0222		Head Lamp	
8	725-0298		Fuse 7½ Amp. 32 V. 3 AG 1¼" Lg.	
	725-0268		Safety Switch	
10	725-0433		Wire Harness	N
11	12614		Battery Hold Down	
12	712-0113		Wing Nuts ¼-20 Thd.	
13	711-0222		Hold Down Rods	



Trouble Shooting Chart

Problem	Cause	Remedy
1 Engine fails to start	A Check fuel tank for gas B Spark plug lead wire disconnected C Throttle control lever not in the starting position D Faulty spark plug E Carburetor improperly adjusted Engine flooded	A Fill tank if empty B Connect lead wire C Move throttle lever to start position. D Spark should jump gap between control electrode and side electrode. If spark does not jump, replace the spark plug. E Remove spark plug, dry the plug, crank engine with plug removed, and throttle in off position. Replace spark plug and lead wire and resume starting procedures.
2 Hard starting or loss of power	A Spark plug wire loose B Carburetor improperly adjusted C Dirty air cleaner	A Connect spark plug wire B Adjust carburetor. See engine section of this manual. C Clean air cleaner as described in the Engine section of this manual.
3 Operation erratic	A Dirt in gas tank B Dirty air cleaner C Water in fuel supply D Vent in gas cap plugged E Carburetor improperly adjusted	A Remove the dirt and fill tank with fresh gas B Clean air cleaner as described in the engine section of this manual C Drain contaminated fuel and fill tank with fresh gas. D Clear vent or replace gas cap E Adjust carburetor. See engine section of this manual.
4 Occasional skip (hesitates) at high speed	A Carburetor idle speed too slow B Spark plug gap too close C Carburetor idle mixture adjustment improperly set	A Adjust carburetor. See engine section of this manual. B Adjust to .030" C Adjust carburetor. See engine section of this manual.
5 Idles poorly	A Spark plug fouled, faulty, or gap too wide. B Carburetor improperly adjusted C Dirty air cleaner	A Reset gap to .030" or replace spark plug B Adjust carburetor. See engine section of this manual. C Clean air cleaner as described in the engine section of this manual.
6 Engine overheats	A Carburetor not adjusted properly B Air flow restricted C Engine oil level low	A Adjust carburetor. See engine section of this manual. B Remove blower housing and clean as described in the engine section of this manual. C Fill crankcase with the proper oil
7 Excessive vibration	A Cutter blade loose or unbalanced	A Tighten blade and adapter.

BATTERY WARRANTY CERTIFICATE

The following general warranty policy applies to all batteries sold by IBMA members using this warranty. The nationwide warranty applies only to batteries bearing the IBMA seal of approval.

All new batteries sold by IBMA members carry a warranty against faulty material or workmanship for 90 days from date of purchase. A faulty battery is to be adjusted, repaired or replaced with a new battery by an IBMA member, jobber or dealer only, or the warranty becomes void. An IBMA type battery that is faulty within the 90 day period is to be repaired or replaced with a new battery F.O.B. any IBMA factory supplier or any IBMA authorized dealer, without charge.

Your battery carries a further warranty on a pro-rata adjustment basis covering the number of months determined by the class of service and type of battery. In determining the exchange cost of a new battery, charges will be made for months of service used and the warranty is valid to the original purchaser only.

IBMA approved factory suppliers, as well as all IBMA authorized dealers, are to honor this Warranty. If your IBMA approved battery carries the IBMA seal of approval, this Warranty is to be honored by dealers handling IBMA approved batteries everywhere. (Independent Battery Manufacturers Association, Inc.)

Failures in service that are caused by fire, collision, freezing, abuse, faulty electrical equipment or the use of a battery of a group size smaller or specifications lower than the original battery are not covered by this policy.

BATTERY MANUFACTURER MEMBERSHIP LIST

ALABAMA Birmingham Southern Bty. Yocam Batteries Mobile Yocam Batteries Montgomery Ebco Battery	Express Bty. Div. Leeth Brothers FLORIDA Fort Lauderdale Florida Bty. Hialeah East Penn Mfg. Jacksonville Tropex Batteries Yocam Batteries	Contract Bty. Mfg. Yocam Batteries ILLINOIS Belleville Bell City Bty. Mfg. Chicago Illinois Bty. Mfg. Universal Bty. Volta Bty. Corp. Peoria Red Diamond Bty.	Shreveport Central Bty. MARYLAND Baltimore East Penn Mfg. MASSACHUSETTS Watertown Atlantic Bty. MICHIGAN Detroit Batteries Mfg.	Maryland Heights Electro Bty. Mfg. Sikeston Electro Bty. NEW JERSEY Atlantic City Landis Battery NEW MEXICO Albuquerque Sandia Bty. Mfg. NEW YORK Buffalo East Penn Mfg. Lockport Great Lakes Battery	OREGON Beaverton Western Bty., Inc. Portland Laher Bty. Prod. PENNSYLVANIA Altoona East Penn Mfg. Erie New Castle Bty. Lancaster Lancaster Bty. Lyon Station East Penn Mfg. New Castle New Castle Bty. Philadelphia East Penn Mfg. Pittsburgh Simon Bty. & Res. Geidel Bty. Div.	Central Battery Laher Bty. Prod. Southern Bty. Nashville Electro-Lite Bty. Southern Bty. TEXAS Dallas Continental Bty. Reliable Battery El Paso El Paso Bty. Houston Texford Bty. Co. Reliable Battery San Antonio Reliable Battery UTAH Salt Lake City Laher Bty. Prod. VIRGINIA Arlington Express Bty. Div. Leeth Bros. Lynchburg Hydrate Battery WASHINGTON Seattle Laher Bty. Prod. Spokane Laher Bty. Prod. CANADA Vancouver, B. C. Industrial Bty. & Supply
CALIFORNIA Los Angeles Estee Battery Laher Bty. Prod. Oakland Laher Bty. Prod. Sacramento Laher Bty. Prod. San Francisco Amp King Bty. Laher Bty. Prod. Pico Bty. Mfg. Stockton Stockton Battery COLORADO Denver Moore Battery D. C. Washington	Pensacola Yocam Batteries St. Petersburg Electro Battery Co. Tampa Bilt-Rite Bty. Mfg. Contract Bty. Mfg. DeSoto Bty. & Elec. Tropex Batteries Yocam Batteries GEORGIA Albany Ebco Battery Atlanta Ebco Battery Southern Bty. Yocam Batteries Columbus Ebco Battery	INDIANA Muncie Stout Storage Bty. IOWA Corydon Votmaster Council Bluffs Reliance Bty. Prod. Des Moines Votmaster KANSAS Kansas City American Batteries Contract Bty. Mfg. KENTUCKY Whitesburg Electro-Lite Bty. LOUISIANA New Orleans Central Bty. Reliable Bty.	MINNESOTA St. Paul Standard Storage Bty. MISSISSIPPI Florence Contract Bty. Mfg. Jackson Central Bty. New Albany Laher Bty. Prod. MISSOURI Joplin Lead Products	NORTH CAROLINA Charlotte Yocam Batteries Thomasville East Penn Mfg. OHIO Akron Crown Battery Cincinnati Moore Battery Cleveland Crown Battery New Castle Bty. Columbus Crown Battery Fremont Crown Battery	RHODE ISLAND Providence Pilof Mfg., Inc. SOUTH CAROLINA Columbia Yocam Batteries TENNESSEE Chattanooga Electro-Lite Bty. Knoxville Southern Bty.	

PARTS INFORMATION

DEFECTIVE OR MISSING PARTS must be reported to the factory immediately. Such claims must include your model number and date of purchase.

POWER EQUIPMENT PARTS AND SERVICE

Parts and service for all MTD manufactured power equipment are available through the authorized service firms listed below. All orders should specify the model number of your unit, parts numbers, description of parts and the quantity of each part required.

BRIGGS & STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing *Engines — Gasoline*, Briggs & Stratton or Tecumseh Lauson — Power Products.

A 1 Engine & Mower Co.
327 East 9th Street
Salt Lake City, Utah 84102

Auto Electric & Carburetor Co.
2525 4th Avenue, S.
P. O. Box 1948
Birmingham, Alabama 35233

Automotive Equipment Service Co.
3117 Holmes Street
Kansas City, Missouri 64109

Bailey's Rebuild Inc.
1325 E. Madison Street
Seattle Washington 98102

Blackie, Inc.,
7900 Lorain Avenue
Cleveland, Ohio 44102

Brown Equipment Distributor Inc.
110 Beech Street
Corydon, Indiana 47112

Bullard Supply
2409 Commerce Street
Houston, Texas 77003

Catto & Putty, Inc.
P. O. Box 2408
510 Soledad Street
San Antonio, Texas 78205

Center Supply Company
6867 New Hampshire Avenue
Takoma Park, Maryland 20012

Dixie Sales Company
P. O. Box 1408
327 Battleground Avenue
Greensboro, North Carolina 27402

East Point Cycle & Key Shop
1617 Whiteway
East Point, Georgia 30044

Gamble Distributors
West End Avenue
Carthage, New York 13619

Garden Equipment Co., Inc.
6600 Cherry Avenue
Long Beach, California 90805

Gardenville Supply, Inc.
Pipersville, Pennsylvania 18947

Henry W. O'Neil & Assoc., Inc.
410 North Goodman Street
Rochester, New York 14609

Henzler, Inc.
2015 Lemay Ferry Road
St. Louis, Missouri 63125

Kenton Supply
8216 North Denver Avenue
Portland, Oregon 97217

Kimber's Inc.
115 W. Geddes St.
Syracuse, New York 13204

Marr Brothers
423 E. Jefferson
Dallas, Texas 75203

McClure Lawn & Garden Supply
1114 Lexington Avenue
Mansfield, Ohio 44907

Memphis Cycle & Supply Co.
421 Monroe Avenue
Memphis Tennessee 38103

Morton B. Collins Co.
300 Birnie Avenue
Springfield, Massachusetts 01107

Mox-All of Florida, Inc.
365 Greco Avenue
Coral Gables, Florida 33146

National Central
687 Seville Rd.
Wadsworth, Ohio 44281

Parts & Sales Inc.
2101 Industrial Pkwy.
Elkhart, Indiana 46514

Power Equipment Distributor
36463 So. Gratiot Avenue
Mt. Clemens, Michigan 48043

Power Lawn & Garden Equip. Co.
2551-2571 J. F. Kennedy Road
Dubuque, Iowa 52001

Radco Distributors
2403 Market Street
P. O. Box 3216
Jacksonville, Florida 32204

Raub Supply Company
James & Mulberry Sts.
Lancaster, Pennsylvania 17604

Richmond Battery & Ignition
P. O. Box 25369 — 957 Myers St.
Richmond, Virginia 23260

R. P. W., Inc.
623 S. 16th Street
Omaha, Nebraska 68102

Smith Hardware Company
515 N. George Street
Goldsboro, North Carolina 27530

South Denver Lawn Equip. Co.
527 West Evans
Denver, Colorado 80223

Suhren Engine
8330 Earhart Blvd.
New Orleans, Louisiana 70118

Sutton's Lawn Mower Shop
Route 4, Box 343
North Little Rock, Arkansas 72117

Woodson Sales & Service
1702 North Sylvania
Ft. Worth, Texas 76111

WARRANTY PARTS AND SERVICE POLICY

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture. It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions over which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customer's responsibility.

CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES

1. Replacement of Missing Parts on new equipment.
2. Replacement of Defective Parts within the warranty period.
3. Repair of Defects within the warranty period.

All claims MUST be substantiated with the following information:

1. Model Number of unit involved.
2. Date unit was purchased or first put into service.
3. Date of failure.
4. Nature of failure.