FIFTY CENTS

OWNER'S MANUAL

Engine B&S 252.274

- ASSEMBLY
- OPERATION
- MAINTENANCE
- PARTS LIST

Model Nos.

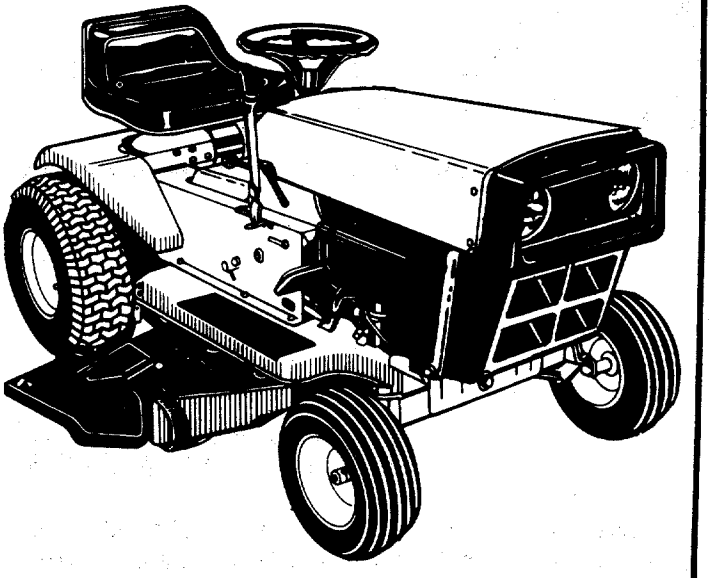
Recoil Vertk - 138-460A
Electric 8HP - 138-462A
138-465A

5 Spd Automatic Overdrive
Automotive Differential
34" Floating Deck
13" x 5.00 Pneumatic
18" x 6.50 Pneumatic

Important:

Read Safety Rules and Instructions Carefully

34" RIDING MOWERS



PRINTED IN U.S.A.

FORM NO. 770-7470

LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges under this warranty must be paid by the purchaser unless return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

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

WARNING TO PURCHASERS
OF INTERNAL COMBUSTION ENGINE EQUIPPED
MACHINERY OR DEVICES IN THE STATE OF CALIFORNIA

The equipment which you have just purchased does not have a spark arrester. If this equipment is used on any forest covered land, brush covered land, or grass covered unimproved land in the State of California, before using on such land, the California law requires that a spark arrester be provided. In addition, spark arrester is required by law to be in effective working order. The spark arrester must be attached to the exhaust system and comply with Section 4442 of the California Public Resources Code.

➡ IMPORTANT

It is suggested that this manual be read in its entirety before attempting to assemble or operate. Keep this manual in a safe place for future reference and for ordering replacement parts.

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see operating section of this manual for proper fuel and amount.

Your rotary mower is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.

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. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
3. Do not carry passengers.
4. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidently thrown by the mower in any direction.
5. Clear work area of objects which might be picked up and thrown by the mower in any direction.
6. Disengage all attachment clutches and shift into neutral before attempting to start engine.
7. Disengage power to attachment(s) and stop engine before leaving operator position.
8. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
9. Before attempting to unclog the mower or discharge chute, stop the engine and be sure the blade(s) have stopped completely. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
10. Disengage power to attachment(s) when transporting or not in use.
11. 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.
12. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
13. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.
14. Stay alert for holes in terrain and other hidden hazards.
15. 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.
16. Watch out for traffic when crossing or near roadways.
17. When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
18. 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.
19. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in owner's manual.
20. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
21. 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.
22. To reduce fire hazard keep engine free of grass, leaves or excessive grease.
23. 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.
24. Do not change the engine governor settings or overspeed the engine.
25. 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 the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
    (4) Check blade mounting bolts for proper tightness at frequent intervals.
26. Check grass catcher bags frequently for wear or deterioration. For safety protection replace only with new bag meeting original equipment specifications.
27. Look behind to make sure the area is clear before placing the transmission in reverse and backing up.

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GRASS CATCHER Model No. 198-015A is available as optional equipment for the mowers shown in this manual.

WARNING

The mower should 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.

For replacement bags, use only factory authorized replacement bag No. 764-0121.

IMPORTANT

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

The steering wheel and seat, with the necessary hardware, are easily assembled to the machine. On the electric starter models, the battery must be activated and installed as outlined in this section.

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.

CAUTION

Installation of tire to rim:

1. Lubricate tire beads and rim flanges.
2. Do not exceed 30 P.S.I. when seating beads.
3. Adjust to recommended pressure after beads are sealed.

NOTE

Reference to right-hand or left-hand side of machine is from the driver's seat facing forward.

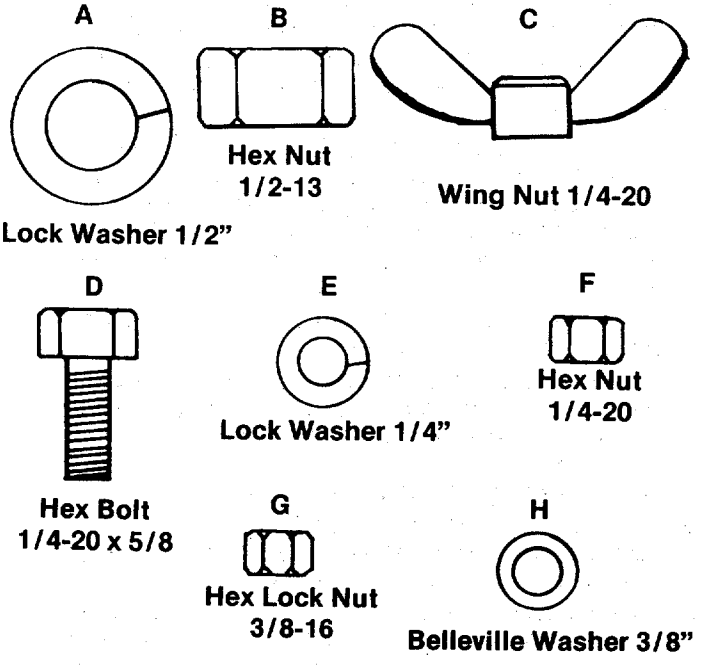

FIGURE 1. HARDWARE SUPPLIED

Step 1. Remove the lawn mower 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 steering wheel over steering shaft.

Step 3. Secure with Belleville washer and hex nut. See figure 2.

Step 4. Press the cap on the steering wheel by hand. See figure 2.

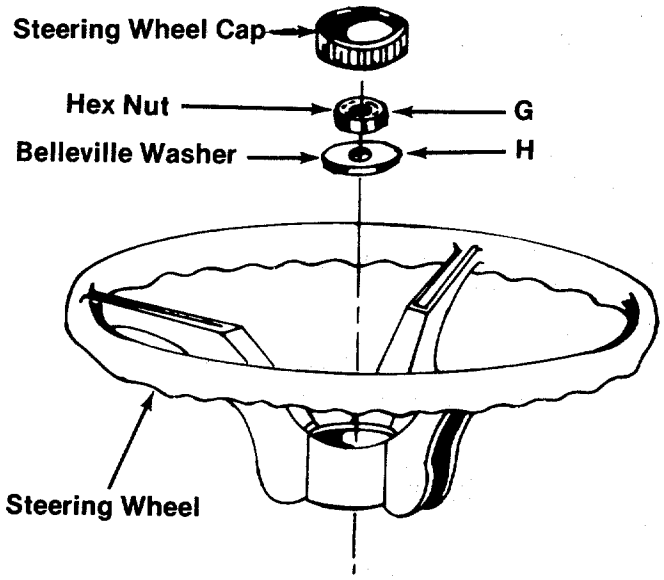

FIGURE 2. STEERING WHEEL ASSEMBLY

Step 5. Your molded seat comes with the mounting bolt molded in the seat.

A. Select one of three hole locations on seat spring.

B. Place seat on spring and secure with lockwasher (A) and hex nut (B). See figures 1 and 3.

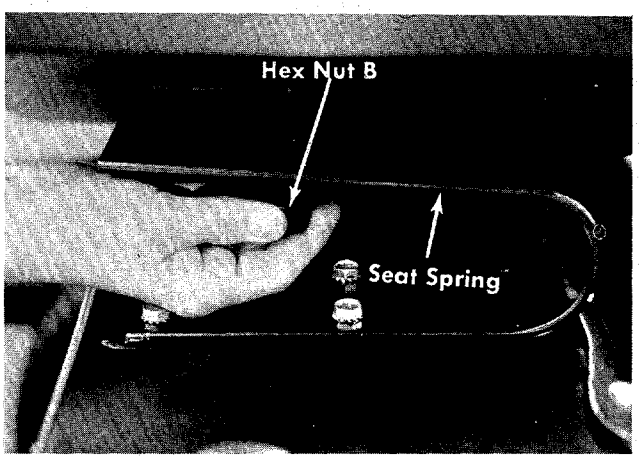

FIGURE 3. SEAT ASSEMBLY

NOTE

Check ALL nuts and bolts for correct tightness.

BATTERY INFORMATION

(MODEL 462 AND 465 ONLY)

WARNING

A. Battery acid must be handled with great care as it will blister the skin and damage clothing. It is advisable to wear goggles, rubber gloves, and a protective apron when working with it.

B. Neutralize acid spilled on clothing with dilute ammonia water or a water solution of baking soda. If acid gets on clothes, dilute it with clean water first, then neutralize.

C. If for any reason acid should be spattered in the eyes, wash it out immediately with clean cold water. Seek medical aid if discomfort continues.

D. Since battery acid is corrosive to metals, do not pour into any sink or drain. Rinse empty electrolyte containers and mutilate before discarding.

DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added)

A. Keep sparks, flame, cigarettes away.

B. Hydrogen gas is generated during charging and discharging.

C. Ventilate when charging or using in enclosed space.

D. When using a charger—to avoid sparks, NEVER connect or disconnect charger clips to battery while charger is turned on.

E. Always shield eyes, protect skin and clothing when working near batteries.

A. ACTIVATING THE BATTERY

1. Place battery to be filled on bench or workbench. NEVER activate battery in unit. Remove vent caps from all cells.
2. Fill each cell carefully using battery grade 1.250-1.265 specific gravity. Sulfuric acid to be 3/8" above the top of the separators or to the split ring.
3. Allow battery to set for 20 minutes to ½ hour. Add additional acid if necessary to bring it up to the proper level.
4. Replace the vent caps.

5. The battery can now be charged after the 20 minutes setting period. Battery can be SLOW CHARGED (DO NOT FAST CHARGE) at a maximum bench rate of 4-5 amperes until the specific gravity reading is 1.265-1.275. A charging rate in excess of this will buckle and warp the positive plates and perforate the separators. If electrolyte bubbles violently while charging, reduce charging rate until excessive bubbling action subsides, then continue charging until specific gravity is reached.

CAUTION

After battery has been in service, add only approved water. DO NOT ADD ACID.

B. TO INSTALL BATTERY

To install the battery in this unit, refer to next column.

C. MAINTENANCE

1. Check periodically (every two weeks or before and after charging) to be sure electrolyte level is 9/16" above separator plates. Add only distilled water or good quality drinking water. NEVER add additional acid or other chemicals to battery after initial activation.
2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225 remove battery and recharge.
3. Coat the terminals and exposed wiring with a thin coat of grease or petroleum jelly for longer service and protection against electrolyte corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with soda and water. Be careful not to get this solution in the cells.

D. STORAGE

1. Charge battery using normal methods. NEVER store discharged battery as it will not recover.
2. Store in cold, dry place.
3. Recharge battery whenever the specific gravity is less than 1.225 before returning to service or every two months, whichever occurs first.
3. Recharge battery whenever the specific gravity is less than 1.225 before returning to service or every two months, whichever occurs first.

E. COMMON CAUSES FOR BATTERY FAILURE ARE:

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte

NOTE

THESE FAILURES DO NOT CONSTITUTE WARRANTY.

INSTALLING THE BATTERY (MODEL 462 AND 465 ONLY)

1. Open the hood of the riding mower.
2. Place the battery in the battery case with the terminal to the front. See figure 4.

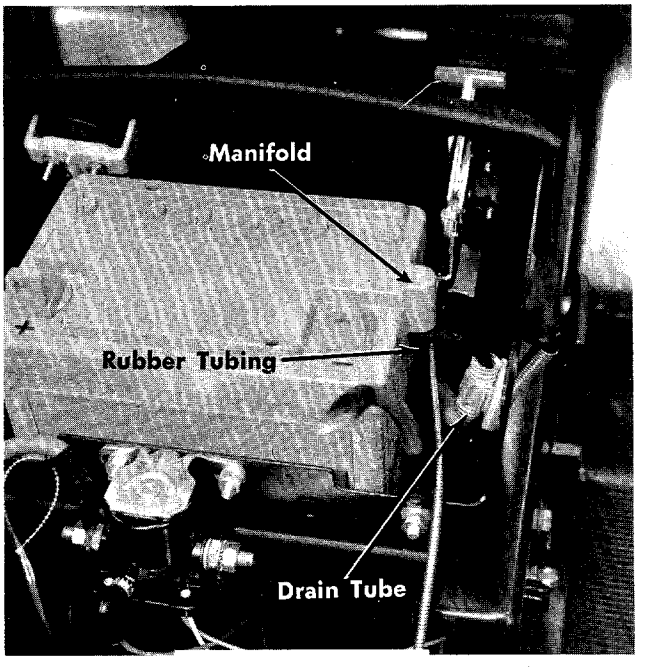

FIGURE 4.

3. Cut the black rubber tubing approximately 4 inches long.
4. Push the rubber tubing into the manifold of the battery and place the other end into the drain tube. See figures 4 and 5.

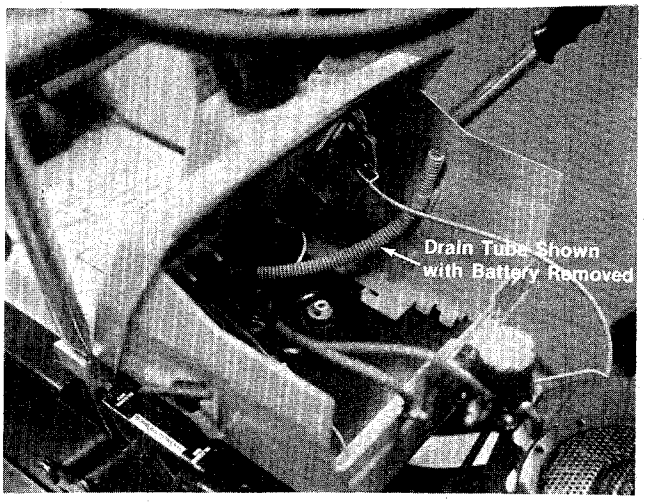

FIGURE 5.

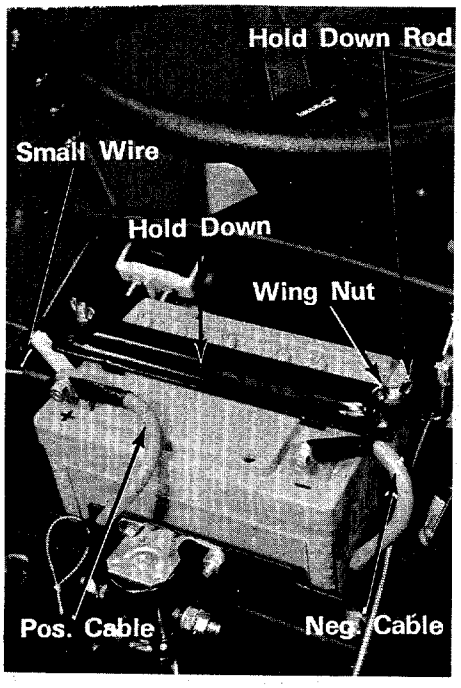

FIGURE 6.

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.

5. Hook the hold down rods under the battery case and place the hold down over the manifold of the battery as shown in figure 6.
6. Secure the hold down with the wing nuts.
7. Attach the positive cable (from the starter solenoid) and the small wire (from the ammeter) to the positive battery terminal with the bolt, lockwasher and nut in the assembly pack.
8. Attach the negative cable, grounded, to the negative battery terminal with the bolt, lockwasher and nut in the assembly pack.

CONTROLS

The controls on both models may be considered as the Drive Control and the Cutting Control as follows:

a. Throttle Control. The throttle control is used to regulate the engine speed and choke the engine. The engine should be operated from ¾ to full throttle when operating the cutting deck or snow thrower (optional). See figure 7.

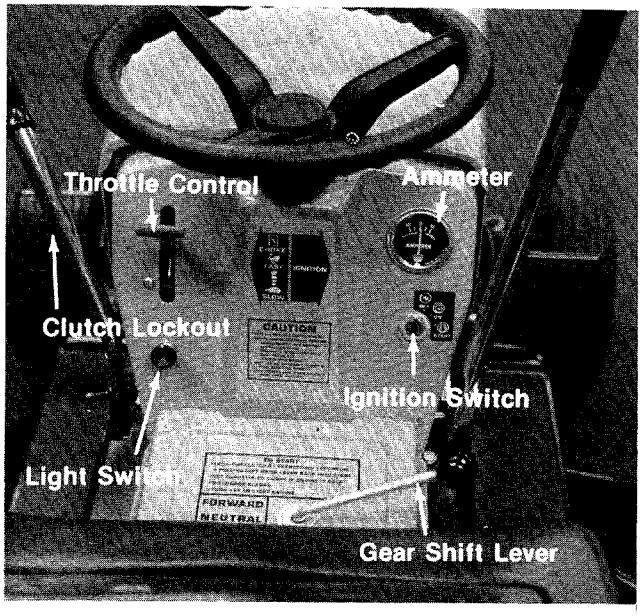

FIGURE 7. CONTROLS

b. Gear Shift Lever. The gear shift lever is used to shift into one of four **Forward Gears**, NEUTRAL or REVERSE. See figure 7.

c. Brake. The brake pedal is located on the right hand side of the mower and is operated by depressing it with your right foot. See figure 8.

d. Brake Lock. The brake lock is located on the right hand side of the mower. To lock the brake, depress the brake pedal and lift up the lock button. The pedal will stay depressed. To release, depress the pedal. See figure 8.

e. Clutch Pedal. The clutch pedal is used to disengage the drive mechanism. Depressing the clutch pedal at any time will reduce mower speed. If depressed all the way, it will stop the mower. See figure 9.

f. Clutch Lockout. When the clutch pedal is depressed all the way it can be locked by placing the clutch lockout in the START position as shown in figure 10. The clutch locknut must be in this position before the engine will start.

g. Stop Lever. The stop lever allows you to regulate the maximum ground speed of the riding mower by setting the stop lever in any one of the five settings. The farther forward the stop lever is set, the faster the ground speed. See figure 9.

h. Ammeter. (Electric Start Model Only) The ammeter registers the rate of battery charge or discharge. The ammeter should register on the plus side (+) when the engine is running 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 7.

i. Light Switch. (Electric Start Only) Pull the light switch out to turn on the lights. The lights will only operate when the engine is running. See figure 7.

j. Ignition Switch. The ignition switch is located on the right side of the dashboard.

Recoil Model. See figure 10. Turn the key to the ON position when starting the engine. To stop the engine turn the key to the left to the OFF position and remove the key to prevent accidental starting.

Electric Start. See figure 7. Turn the key to the START position to start the engine. When the engine is running, let the key return to the ON position. To stop the engine, turn the key to the left to the OFF position and remove it to prevent accidental starting.

NOTE

The engine will not start unless the clutch lockout is in the START position and the lift lever is in the DISENGAGED position.

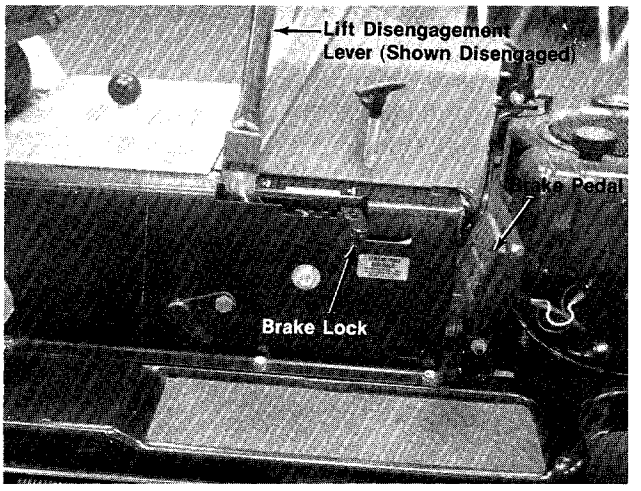

FIGURE 8. RIGHT HAND CONTROLS

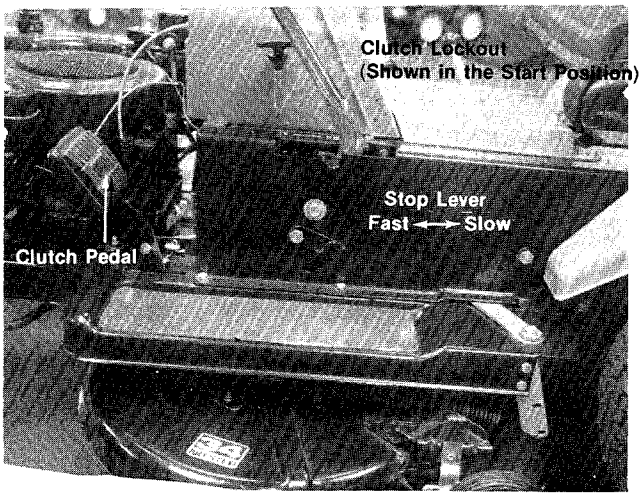

FIGURE 9. LEFT HAND CONTROLS

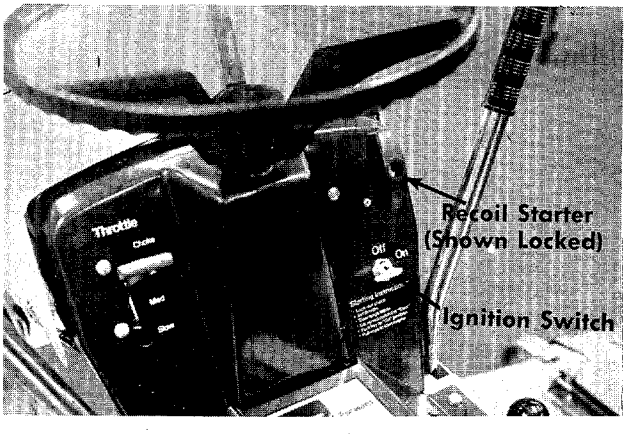

FIGURE 10. RECOIL STARTER

k. Recoil Starter. The recoil starter is located on the right side of the dashboard. The recoil starter can either be pulled while seated on the rider or pulled while standing behind the rider. The ignition key must be on before the engine will

start. After the engine starts, the recoil starter handle must be returned and locked into the dashboard before the blades or clutch are engaged. The engine will stop if you do not follow these instructions. See figure 10.

l. Lift and Disengagement Lever. It is used to raise the cutting deck. Pulling it all the way back and locking it disengages the blades. The engine will not start unless the lift and disengagement lever is in the disengaged position. See figure 8.

m. Cutting Controls. The cutting controls consist of the height of cut stop and the wheel height adjusters.

Height of Cut Stop. See figure 11. Lift the stop and set it at the desired cutting height.

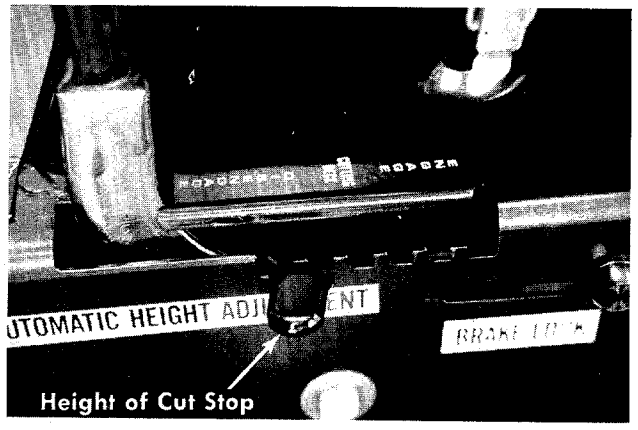

FIGURE 11. HEIGHT OF CUT SETTINGS

Wheel Height Adjuster. See figure 12. Move the lever towards the wheel and set it in the desired cutting height.

The cutting height of the mower can be set in two different ways: FULL FLOAT position where the deck follows the contour of the ground, and the SUSPENDED position where the deck hangs from the frame of the rider. The suspended position is normally used for cutting rough uneven ground.

To set the cutting deck in the full float position, set the wheel height adjusters in the desired cutting height as indicated in figure 12. Set height of cut stop in the 1½ position. See figure 11.

To set the cutting deck in the suspended position, set the height of cut stop in the desired cutting height and then set the deck wheel so they just clear the ground.

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.

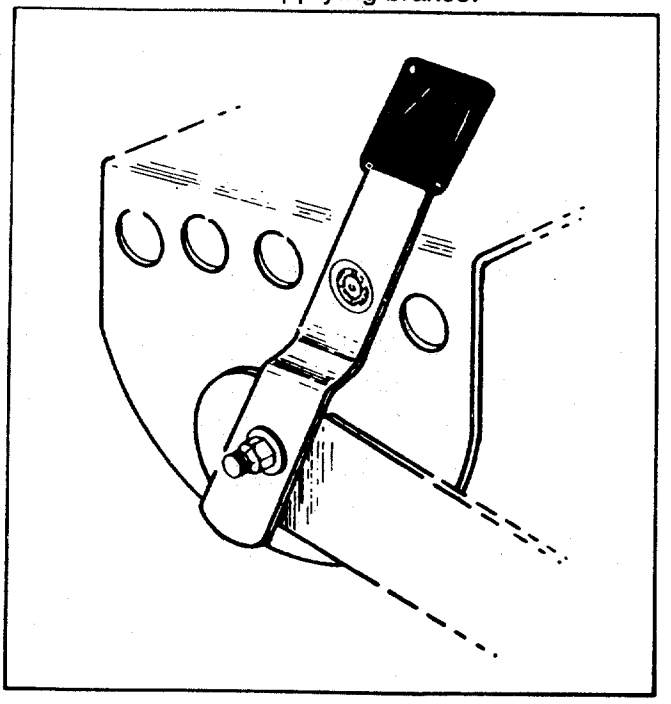

FIGURE 12. WHEEL HEIGHT ADJUSTER

OPERATING INSTRUCTIONS

STARTING THE ENGINE

Be sure to follow the instructions for the oil and gasoline as described in the engine manual.

Step 1. Be sure the fuel shut-off valve is open. See figure 13.

Step 2. Place the clutch lockout in the START position. See figure 9..

Step 3. Place the lift and disengagement lever in the DISENGAGED position. See figure 8.

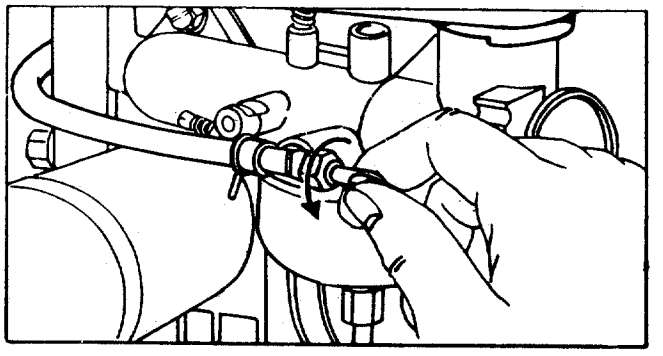

FIGURE 13. FUEL SHUT-OFF VALVE

Step 4. Set the throttle control in the CHOKE position. See figure 7.

Step 5. **Recoil Starter.**

a. Turn the ignition key to the ON position. See figure 14.

b. Grasp the recoil starter, unlock it by twisting it ¼ turn and pull it out sharply and hold it in the out position.

c. Slowly release the recoil starter and lock it into the dashboard as shown in figure 14.

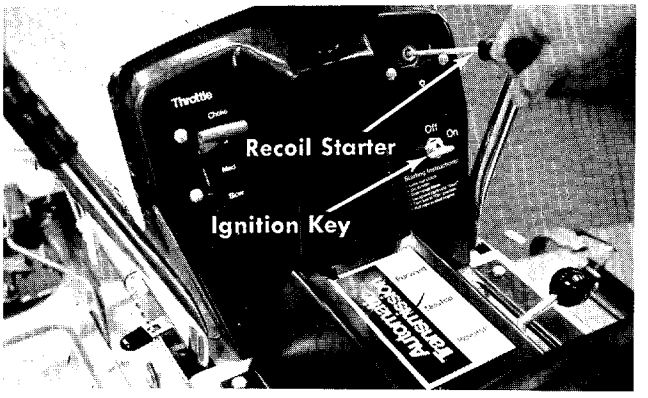

FIGURE 14. RECOIL STARTER

Electric Start

See figures 7 and 15. Turn the ignition key to the START position. When the engine is running, let the key return to the ON position.

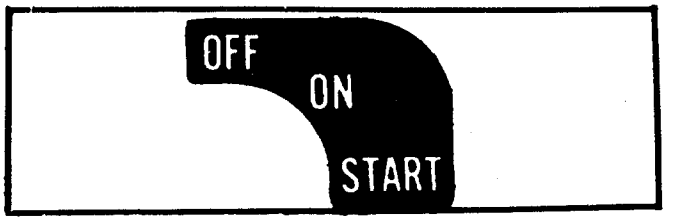

FIGURE 15. STARTER SWITCH

To stop either model, turn the key to the left to the OFF position and remove the key to prevent accidental starting.

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.

STOPPING THE ENGINE

Turn the ignition key to the left to the OFF position and remove the key to prevent accidental starting.

OPERATING THE MOWER

Step 1. Set the desired cutting height.

Step 2. Start the engine as outlined in left hand column.

Step 3. Select gear and shift.

NOTE

As you become familiar with the operation of the mower you can move the stop lever to a faster position.

Step 4. While holding down the clutch pedal, move the clutch lockout lever forward.

Step 5. Put the gear shift lever into either FORWARD or REVERSE.

NOTE

DO NOT force the gear shift lever! If the lever cannot be moved from NEUTRAL to one of the drive positions, release the clutch pedal slowly, depress it again, and then move the gear shift lever as required.

Step 6. Once the machine is in motion, remove foot from the pedal. The mower will now move ahead or to the rear, and the use of the steering wheel will provide directional control.

Step 7. The mower is brought to a stop by pressing your right foot against the brake pedal and your left foot against the clutch pedal. The drive belt will be disengaged and the brake will be applied.

CAUTION

Gear changing should be done only after the mower has been brought to full stop. If the mower is not to be used for a long period, place the gear shift lever in NEUTRAL and stop the engine. DO NOT leave the machine on an incline.

OPERATING THE CUTTER BLADE

The cutting blades may be engaged while the mower is moving or standing still. DO NOT engage the cutting blades abruptly as the sudden belt tension on the pulley may cause the engine to stall.

WARNING

When the blade drive is engaged, keep feet and hands away from the discharge opening and from the blade.

To stop the blades, move the lift and disengagement lever (figure 8) into the DISENGAGED position. This raises the deck and disengages the blades.

NOTE

When the machine is used for other than mowing operations the blade drive should be disengaged.

CRANKCASE OIL

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

Oil Check

Check the oil level in the crankcase before each use of the machine and after every five hours of operation. Oil should be kept between the add and full marks on the dipstick.

After the first five hours of operating a new engine, drain the oil (See figure 16.) from the crankcase while engine is still hot and refill crankcase with new oil; thereafter change the oil 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. With the machine on level ground, place a suitable metal container under the oil drain plug, then remove the drain plug. See figure 16

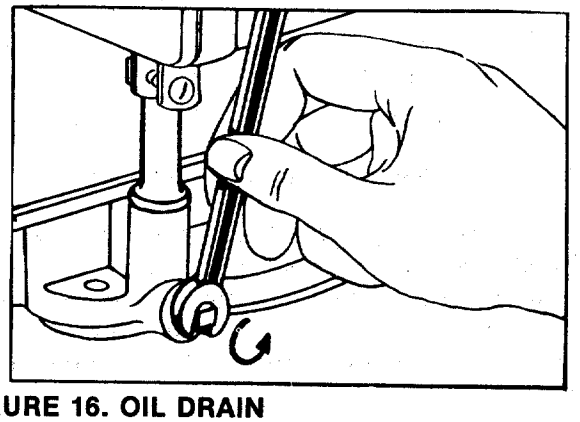

FIGURE 16. OIL DRAIN

Step 2. After the oil has been drained completely from the crankcase, replace the drain plug and tighten.

Step 3. Refill crankcase with 2¼ pints of good quality, type MS, Engine oil into the crankcase. Summer use SAE 30; Winter (Below 40°F) use SAE 5W-20 or SAE 10W.

LUBRICATION

Lubricate the wheel bearings (2 per wheel) and the upper and lower spindle bearings with SAE 30 oil once a season. See figure 17.

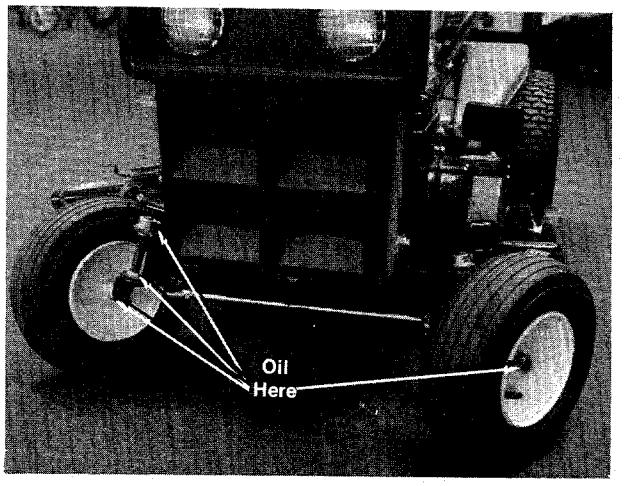

FIGURE 17. WHEEL AND SPINDLE BEARINGS

Variable Speed—See page 30.

Front Pivot Bar—Lubricate at least once a season with light oil.

Steering and Drag Link—Should be lubricated once a season with light oil.

Lubricate the four rear axle bearings with SAE 30 oil once a season. See figure 18.

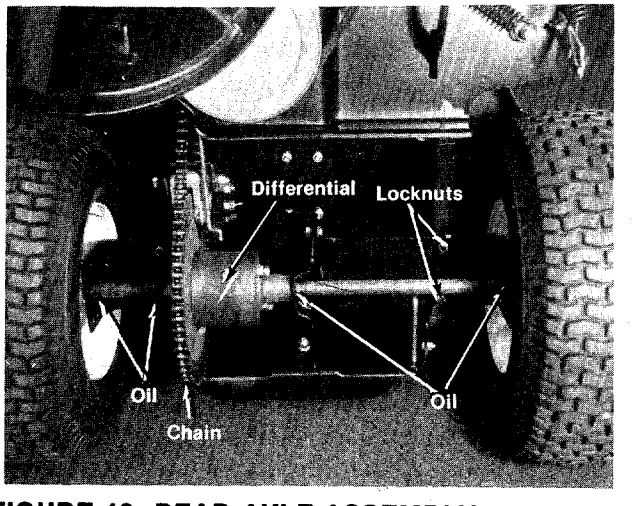

FIGURE 18. REAR AXLE ASSEMBLY

The chain can be lubricated by wiping it with an oily rag.

The differential and transmission are sealed at the factory and require no further lubrication.

CHAIN ADJUSTMENT

To tighten the chain, loosen two locknuts on each side of rear axle as shown in figure 18.

Tighten the adjusting nuts (figure 19) equally on both sides. Tighten until the chain has ½ inch slack between the sprockets.

The adjusting nuts can be tightened individually to align the axle.

Tighten the 4 locknuts after the adjustment is made.

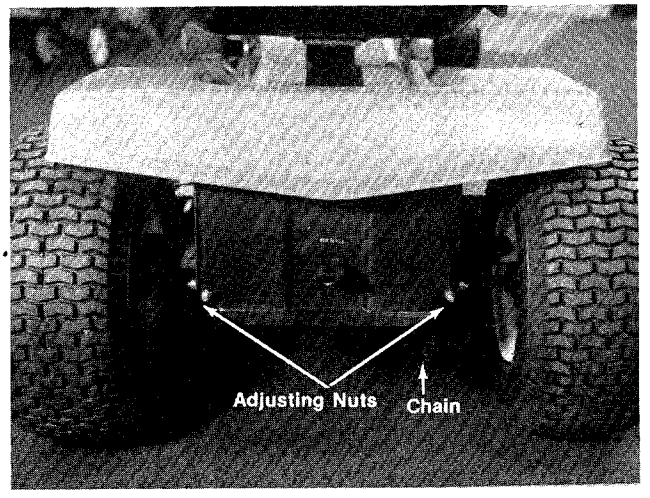

FIGURE 19. CHAIN ADJUSTMENT

AIR CLEANER

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. Refer to figure 20.

When assembling the air cleaner, make certain the lip of the foam element extends over edge of the air cleaner body. The foam element will form a protective seal.

Step 1. Remove two screws and lift off complete air cleaner assembly.

Step 2. Remove screen and spacers from foam element.

Step 3. Remove foam element from air cleaner body.

Step 4. a. Wash foam element in kerosene or liquid detergent and water to remove dirt.

b. Wrap foam in cloth and squeeze dry.

c. Saturate foam in SAE 30 engine oil, then squeeze out excess oil.

d. Assemble parts, fasten to carburetor with screw.

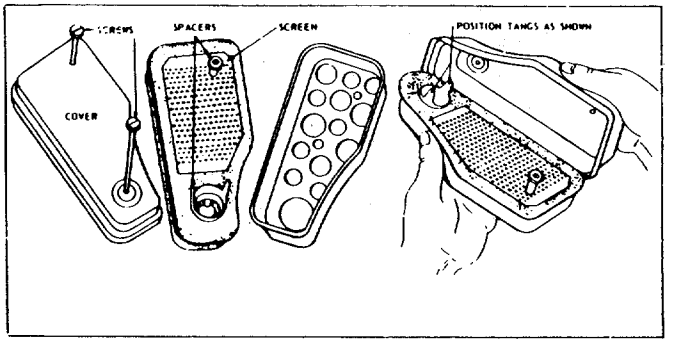

FIGURE 20. AIR CLEANER

CLEANING ENGINE AND BLADE HOUSING

Any fuel or oil spilled on the machine should be wiped off promptly. Grass, leaves, and other dirt must not be left to accumulate around the cooling fins of the engine or on any part of the machine.

Clean the underside of the blade housing after each mowing.

BELTS

Check that belts are free of oil or dirt. Wipe the belts periodically with a clean rag.

NOTE

Belt tension is automatically maintained by the spring on the variable speed bracket on the drive belts and the belt tension on the deck belt is maintained by the two deck springs.

SPARK PLUG

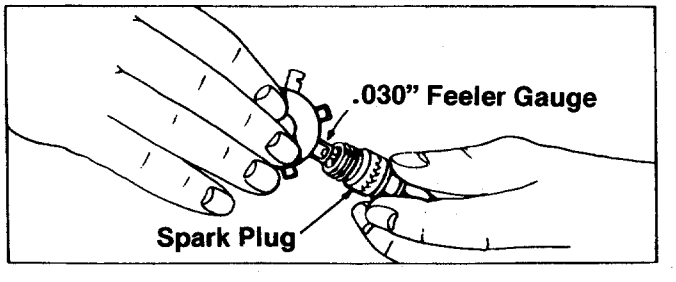

FIGURE 21. SPARK PLUG CLEARANCE

The spark plug gap should be cleaned and reset to a 0.030-inch clearance every 25 hours of engine operation. (See figure 21.) Spark plug replacement if recommended at the start of each mowing season; check engine parts list for correct plug type.

NOTE

Whenever the spark plug is removed for cleaning, it is advisable to replace the spark plug gasket with a new gasket.

REPLACING BLADE

WARNING

Before beginning to work on the cutter blade, remove the spark plug from the cylinder.

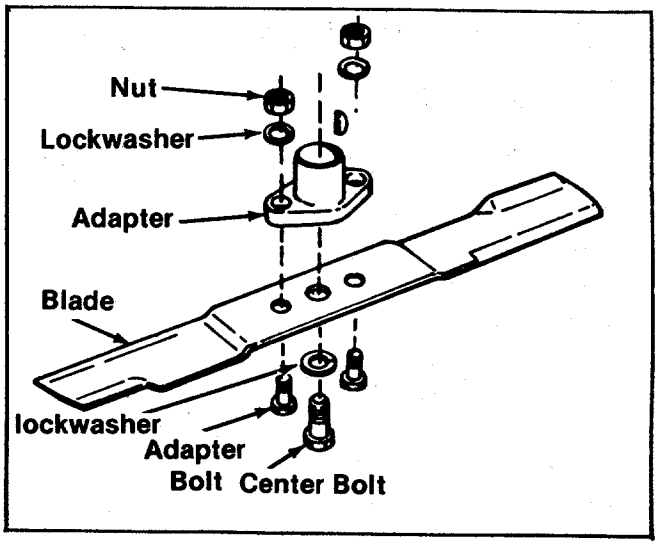

FIGURE 22. BLADE REMOVAL

Removing and Sharpening Blades. Remove the center bolt and lockwaher. See figure 22. 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.

WHEEL ADJUSTMENT (See figures 23 and 24.)

The caster (forward slant of the king pin) and the camber (tilt of the wheels out at the top) requires no adjustment. Automotive steering principals have been used to determine the caster and camber on the tractor. The front wheels should toe-in 1/8 inch.

To adjust the toe-in follow these steps.

1. Remove the elastic locknut and drop the tie rod end from the wheel bracket.
2. Loosen the hex jam nut on tie rod.
3. Adjust the tie rod assembly for correct toe-in.

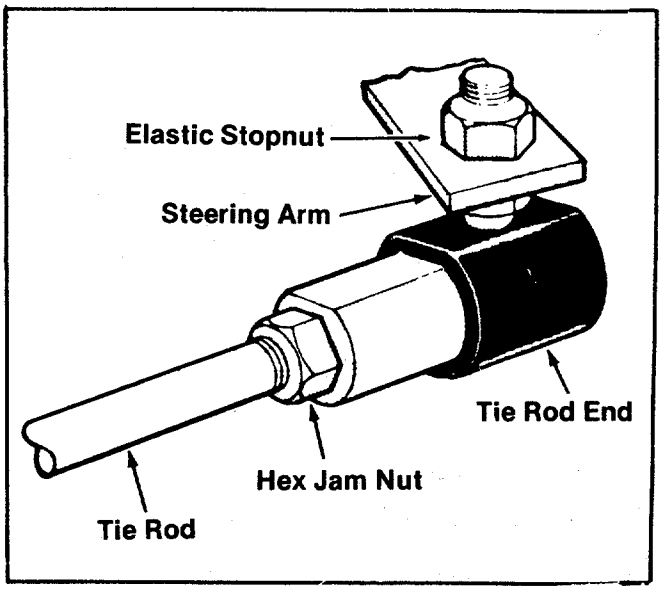

FIGURE 23. TIE ROD END

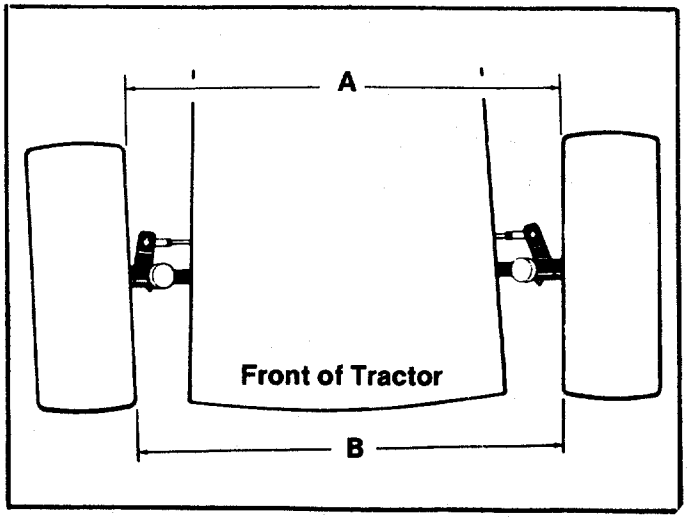

FIGURE 24. TOE-IN ADJUSTMENT

Dimension "B" should be approximately 1/8" less than Dimension "A".

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 dimensions. Readjust if necessary.

NOTE

To insure safe operation of your unit, ALL nuts and bolts must be check periodically for correct tightness.

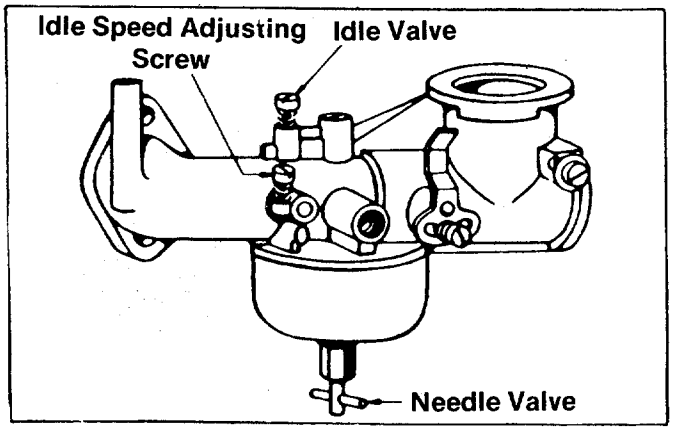

FIGURE 25. CARBURETOR ADJUSTMENT

ADJUSTING CARBURETOR CHOKE

Proper choke operation is dependent upon proper adjustment of remote controls on the powered equipment.

To Check Operation of Choke-A-Matic Controls:

Move control lever to CHOKE position. (See figure 7.) The carburetor choke should be closed.

NOTE

The air cleaner can be removed to check the operation of the choke.

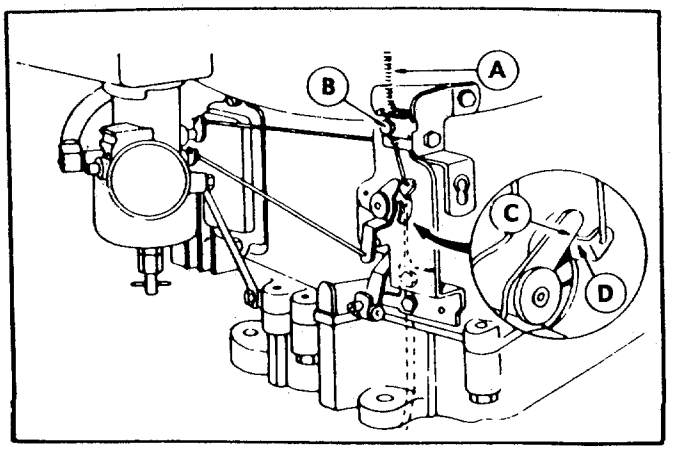

FIGURE 26. CHOKE ADJUSTMENT

To Adjust:

Place 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. See figure 26.

BRAKE ADJUSTMENT

Loosen nut at brake lever, thread adjuster pin in or out as necessary and tighten nut. See figure 27.

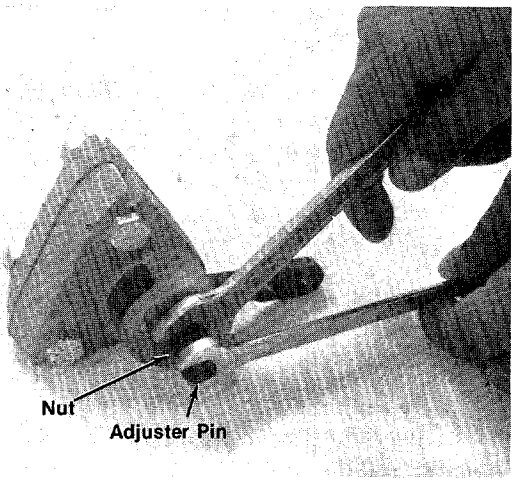

FIGURE 27.

PREPARING FOR BELT REMOVAL

1. To prevent gasoline from leaking from the engine, remove the fuel tank cap, place a piece of thin plastic over the neck of the fuel tank and screw on the cap.
2. Disconnect the spark plug wire and ground it against the engine.

NOTE

If the unit is equipped with a battery, continue with step 3.

3. Remove the battery to prevent acid from leaking.

WARNING

Disconnect the negative terminal first and connect last when installing the battery.

MOWING UNIT BELT REPLACEMENT

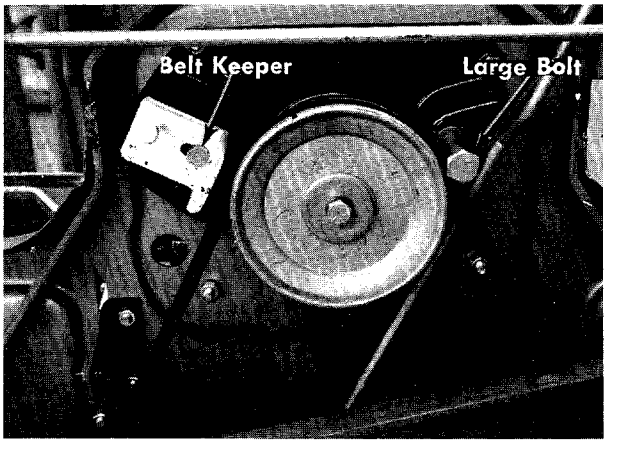

FIGURE 28. BELT KEEPER

Step 1. Place the shift lever in the neutral position. See figure 7.

Step 2. Remove the belt keeper and large bolt on the engine pulley. See figure 28.

Step 3. Unhook the belt from the engine pulley. See figure 29.

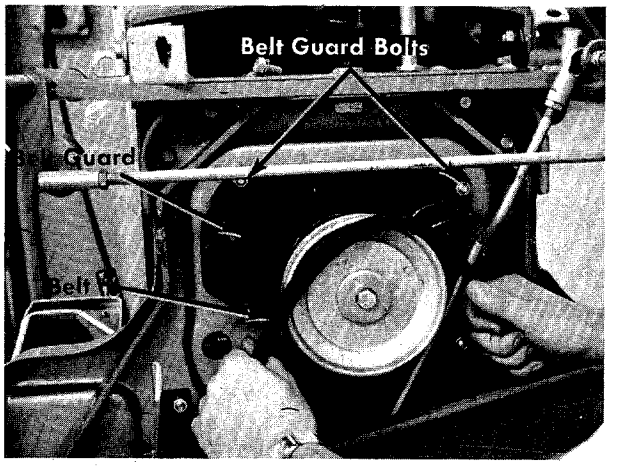

FIGURE 29. REMOVING MOWER BELT

Step 4. Place the lift lever in the engaged position. See figure 8.

Step 5. Unhook the tension springs on both sides of the deck. See figure 30.

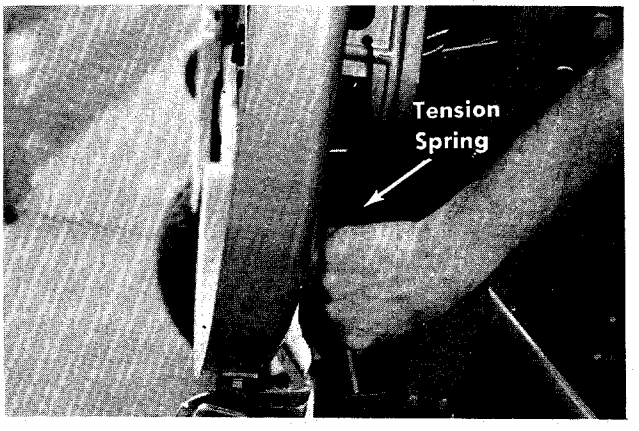

FIGURE 30. REMOVING TENSION SPRINGS

Step 6. Remove the front four deck links from the cutting deck. See figure 31.

Step 7. Remove the belt guards from both deck pulleys. See figure 31.

Step 8. Remove and replace the belt and reassemble.

TRANSMISSION BELTS REMOVAL

Step 1. Place the lift lever in the disengaged position. See figure 8.

Step 2. Remove the belt keeper and large bolt on engine pulley. See figure 28.

Step 3. Unhook the belt from the engine pulley. See figure 29.

Step 4. Place the lift lever in the engaged position. See figure 8.

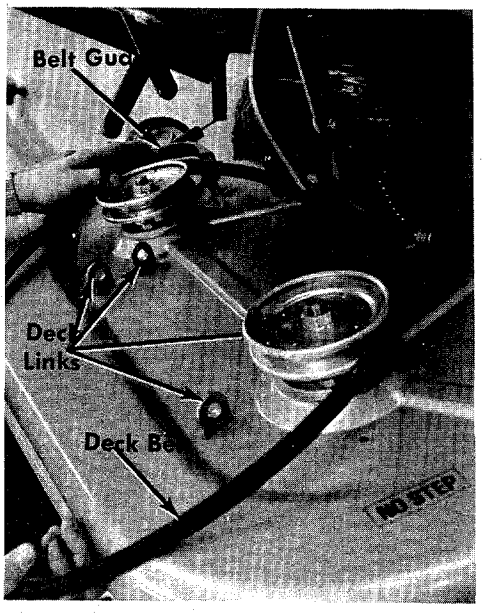

FIGURE 31. DECK LINKS

Step 5. Unhook the tension springs on both sides of the deck. See figure 30.

Step 6. Remove the front four deck links from the cutting deck. See figure 31.

Step 7. Tip the deck down as shown in figure 31.

NOTE

Leave the belt attached to the deck pulleys unless you want to replace it.

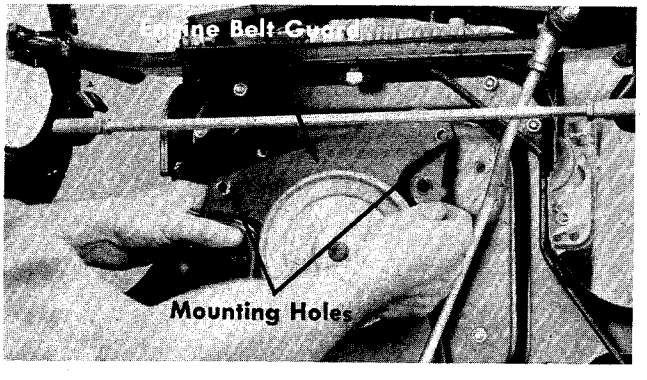

FIGURE 32. BELT GUARD REMOVAL

Step 8. Remove the engine belt guard by removing the two front engine mounting bolts. See figure 33.

Step 9. Place the clutch lockout in the START position. See figure 9.

Step 10. While pushing the variable speed pulley towards the center of the rider, remove the lower belt from the transmission pulley. See figure 33.

Step 11. Slide the movable center section of the variable speed pulley away from the rider and remove the upper belt from the variable speed pulley. See figure 34.

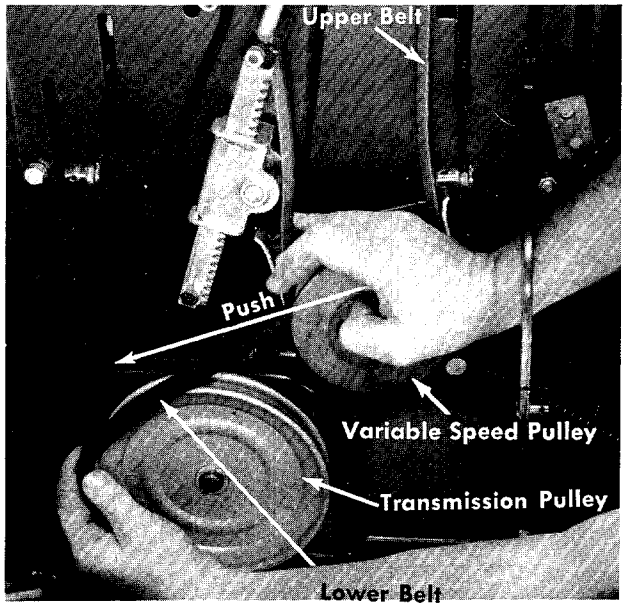

FIGURE 33.

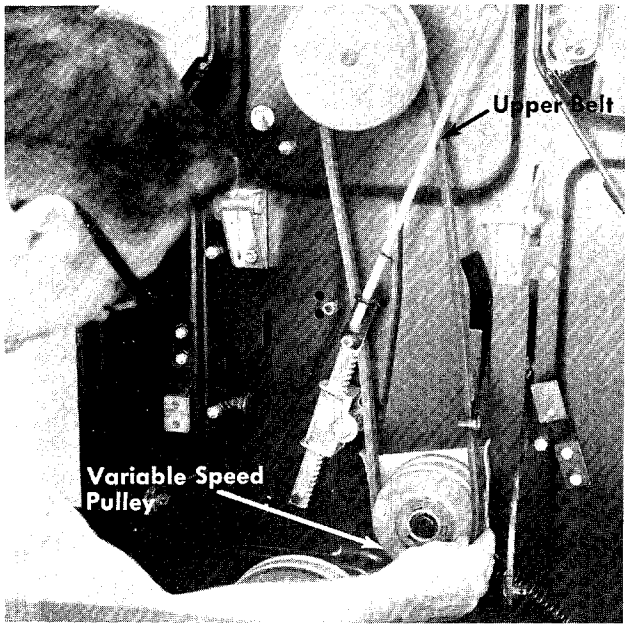

FIGURE 34. REMOVING FROM VARIABLE SPEED

Step 12. Unhook the upper belt from the engine pulley and remove. See figure 35.

Step 13. Reassemble in reverse order with new belts.

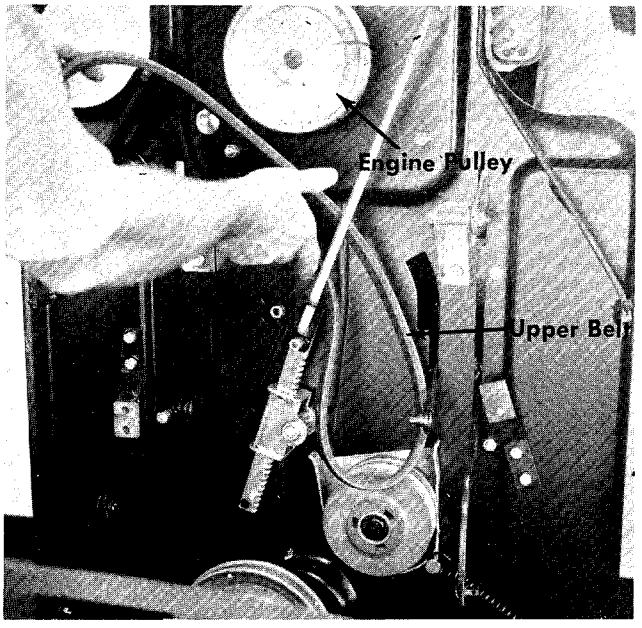

FIGURE 35. REMOVING THE UPPER BELT

BRAKE ADJUSTMENT

To adjust the brake on your rider follow these steps:

Step 1. Depress the brake pedal and lift the brake lock so the pedal stays in the depressed position. See figure 8.

Step 2. Place the clutch lockout in the START position. See figure 9.

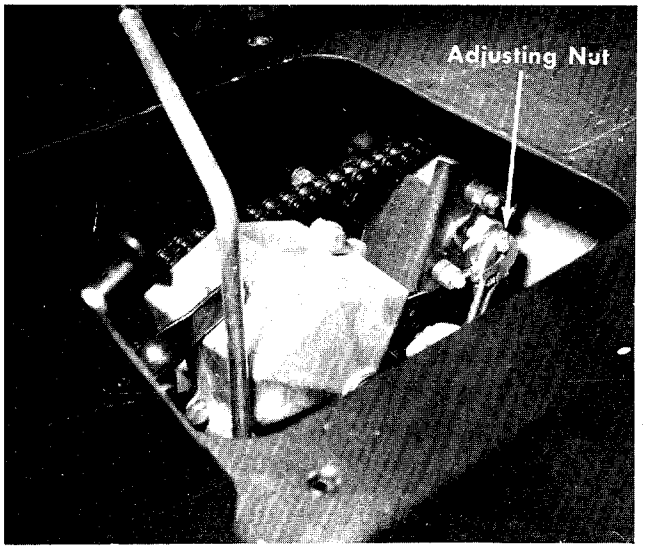

FIGURE 36. BRAKE ADJUSTMENT

Step 3. Try and push the rider. If the rider can be moved tighten the brake adjustment nut as shown in figure 36.

NOTE

The adjusting nut can be reached from the rear of the mower. The transmission cover was removed for the photograph only.

Step 4. Tighten the adjustment nut one turn and test the mower. Repeat if necessary.

OFF-SEASON STORAGE

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

Step 1. 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.

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 figures 17 and 18 then wipe the entire machine with an oiled rag in order to protect the surfaces.

TROUBLE SHOOTING CHART FOR RECOIL START MODELS

TROUBLE	LOOK FOR	REMEDY
Engine fails to start.	Safety System	If the engine will not start be sure the clutch control is disengaged; blade controls disengaged, the throttle control is set and the key is turned on. A. Disconnect the yellow wire from the engine. This comes from the ignition switch. B. If the engine fails to start the problem is with the engine, not the safety system. C. If the engine starts, the problem is with the safety system. Check the yellow wire for a ground. D. Check the operation of the switch behind the recoil starter handle. E. If the engine stops when the clutch or blade is engaged, the recoil handle is not pushed into the receptacle and twisted a quarter turn.
Hard starting or loss of power.	Blocked fuel line or empty gas tank	Clean fuel line; check fuel supply. Also check fuel shut-off valve.
	Defective spark plug	Spark plug lead wire disconnected. Faulty spark plug—spark should jump gap between control electrode and side electrode. If spark does not jump, replace spark plug. NOTE: Use insulated pliers to hold the spark plug wire.
	Throttle setting	Throttle control lever not in the starting position.
	Loose connections	Spark plug wire loose.
	Dirty air cleaner	Remove air cleaner and clean as outlined in **Engine Manual.**
	Carburetor improperly adjusted	Review paragraph **Carburetor Adjustment.**
Excessive vibration.	Bent or damaged blade spindle	Stop engine immediately; tighten all bolts and make all necessary repairs. If vibration continues, have the unit serviced by a competent repairman.
Unit fails to discharge grass.	Discharge chute clogged	Clean discharge chute and inside of deck.
	Foreign object lodged in deck	Remove object from deck. See CAUTION following step 1 in paragraph **Operation.**
Engine overheats.	Obstructions in air passages	Remove any obstruction from air passages in shroud. Grass and dirt in engine shroud. Clean cooling fins.
	Oil level	Fill crankcase to proper oil level.

TROUBLE SHOOTING CHART FOR ELECTRIC START MODELS

TROUBLE	LOOK FOR	REMEDY
Engine fails to start.	Safety System	A. Check for a blown fuse in the wire leading from the positive terminal of the battery. B. Before checking the safety system further, be sure the clutch control and the blade control are disengaged; only the starting system is being checked. Therefore remove the spark plug lead and ground it to prevent the engine from starting. C. Attach a wire (minimum 18 gauge) to the positive terminal of the battery and touch the other end to the small terminal (coil primary) of the solenoid. If the engine cranks, the problem is in the safety system. D. Check for continuity from the battery to the solenoid. NOTE: The positive terminal of the battery should have a large cable (#8 gauge) and a small wire (#18 gauge) attached to it. E. Check all wires and cable for tightness. F. Use a #8 gauge wire and jump between the two large terminals of the solenoid. If the unit starts, replace the solenoid. G. If the unit fails to start after following the above procedure the problem is probably in the starting motor of the engine.
	Blocked fuel line or empty gas tank	Clean fuel line; check fuel supply. Also check fuel shut-off valve.
	Defective spark plug	Spark plug lead wire disconnected. Faulty spark plug—spark should jump gap between control electrode and side electrode. If spark does not jump, replace spark plug. NOTE: Use insulated pliers to hold the spark plug wire.
	Throttle setting	Throttle control lever not in the starting position.
	Loose connections	Spark plug wire loose.
Hard starting or loss of power.	Dirty air cleaner	Remove air cleaner and clean as outlined in **Engine Manual.**
	Carburetor improperly adjusted	Review paragraph **Carburetor Adjustment.**
Excessive vibration.	Bent or damaged blade spindle	Stop engine immediately; tighten all bolts and make all necessary repairs. If vibration continues, have the unit serviced by a competent repairman.
Unit fails to discharge grass.	Discharge chute clogged	Clean discharge chute and inside of deck.
	Foreign object lodged in deck	Remove object from deck. See CAUTION following step 1 in paragraph **Operation.**
Engine overheats.	Obstructions in air passages	Remove any obstruction from air passages in shroud. Grass and dirt in engine shroud. Clean cooling fins.
	Oil level	Fill crankcase to proper oil level.

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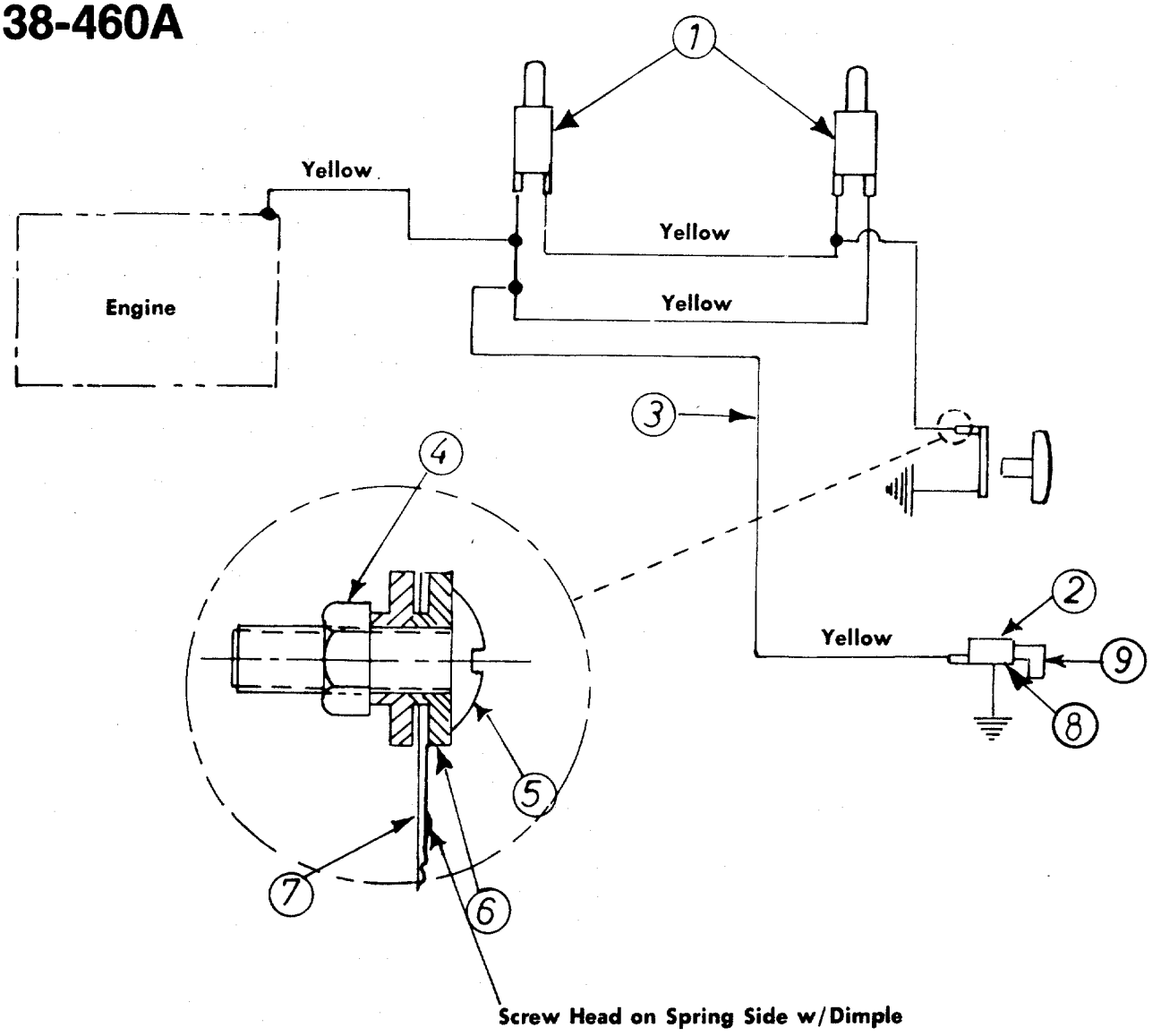

SCHEMATIC FOR ELECTRICAL SYSTEM

PARTS LIST FOR SCHEMATIC MODEL 138-460A

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0269	Safety Switch Norm Closed—Red	
2	725-0464	Magneto Ignition Switch w/Nut	
3	725-0274	Wire Harness	
4	712-0121	Hex Nut #10-24	
5	710-0425	Truss Mach. Scr. #10-24 x .62	
6	736-0338	Fiber Washer	
7	732-0257	Switch Spring	
8	736-0225	Internal L-Wash. 5/8 I.D.	
9	725-0201	Ignition Key	

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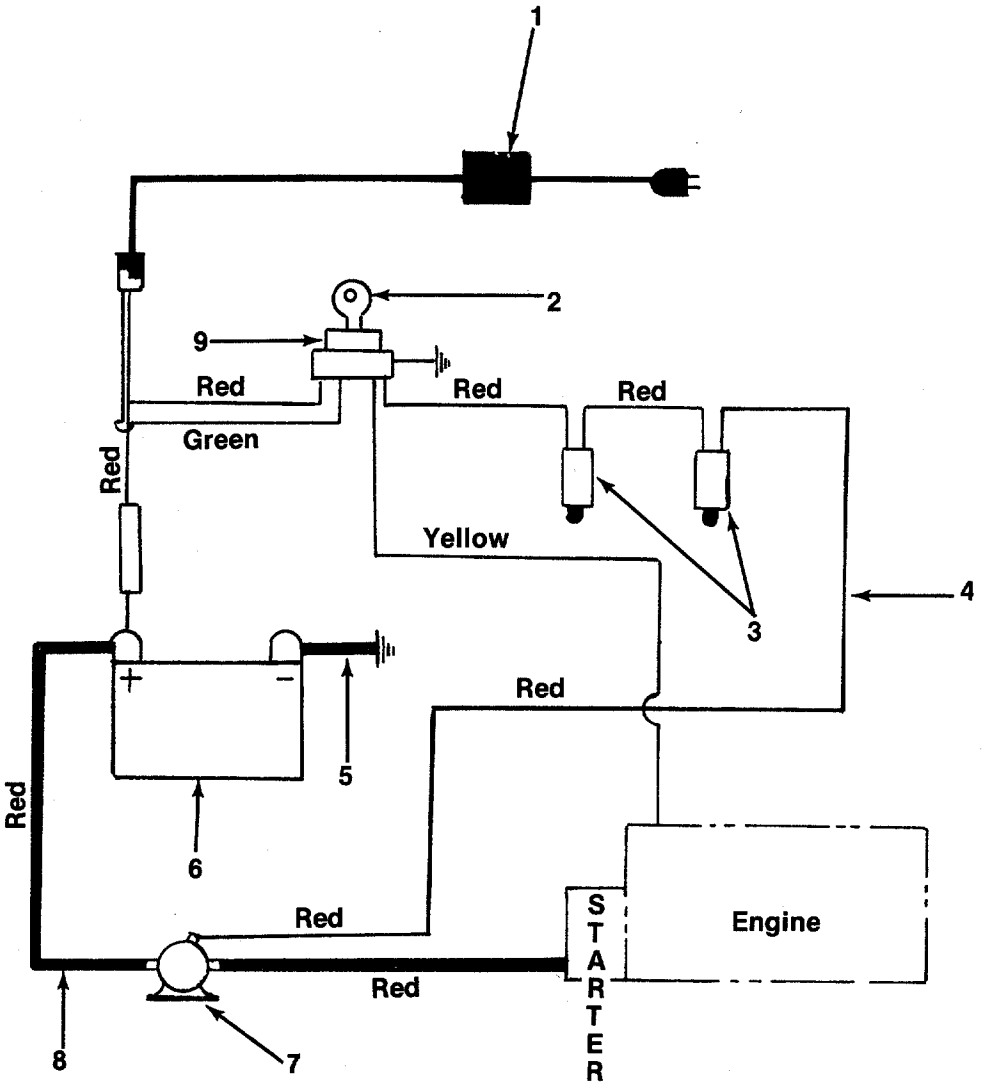

PARTS LIST FOR ELECTRICAL SYSTEM MODEL 138-462A

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0578	Charger	N
2	725-0201	Ignition Switch	
3	725-0268	Safety Switch, N.O., Black Plunger	
4	725-0595	Wire Harness	N
5	725-0121	Electric Wire	
6	725-0453	Battery 12V	
7	725-0530	Solenoid	
8	725-0121	Electric Wire	
9	725-0267	Ignition Switch	

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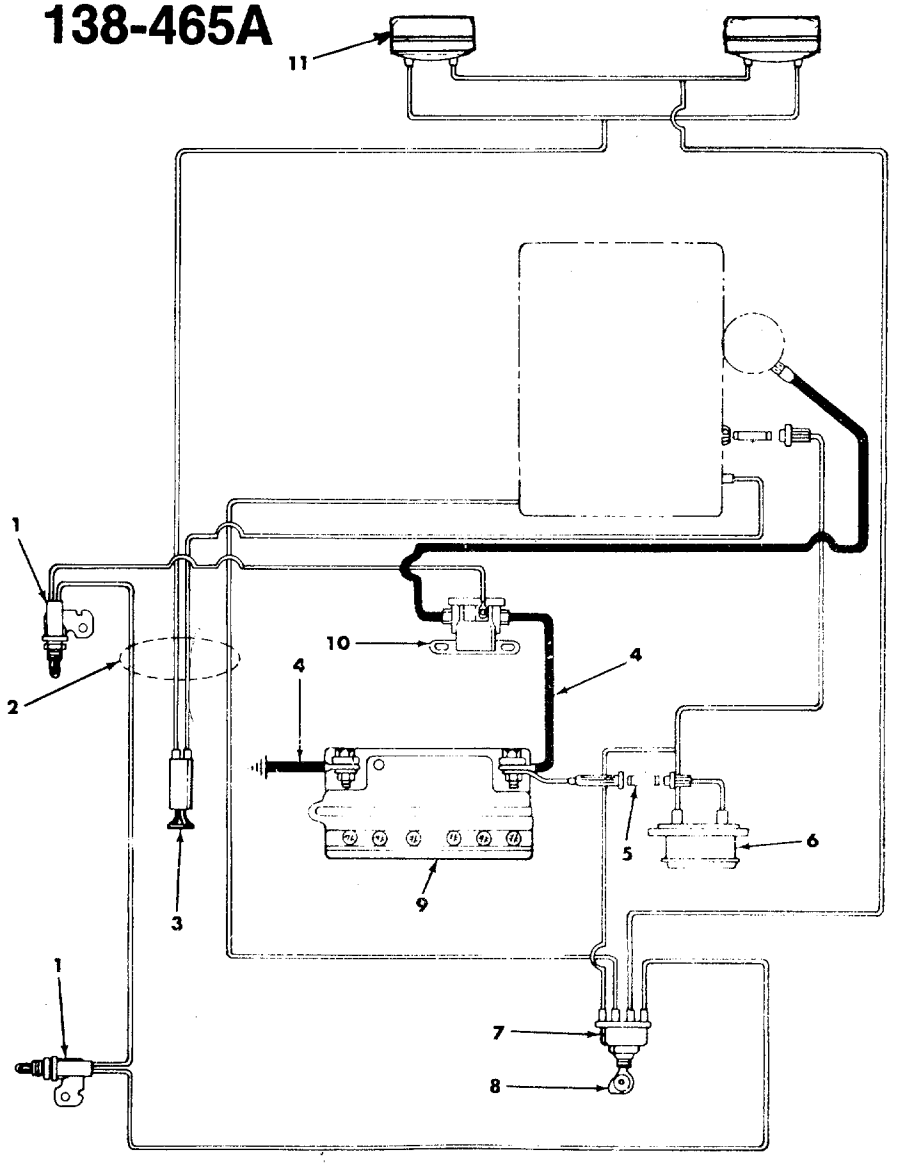

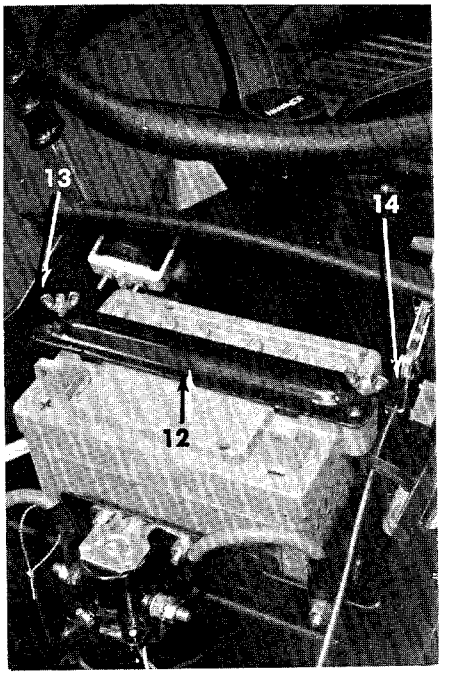

PARTS LIST FOR SCHEMATIC MODEL 138-465A

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0268	Safety Switch—Black Plunger	
2	725-0364	Wire Harness	
3	725-0202	Light Switch	
4	725-0122	Wire	
5	725-0298	Fuse 7½ Amp. ¼ Dia. x 1¼ Lg.	
6	725-0119	Ammeter	
7	725-0267	Ignition Switch	
8	725-0201	Key	
9	725-0453	Battery	
10	725-0530	Solenoid	
11	725-0222	Head Lamp	
12	12614	Battery Hold Down	
13	711-0222	Hold Down Rods	
14	712-0113	Wing Nuts*	

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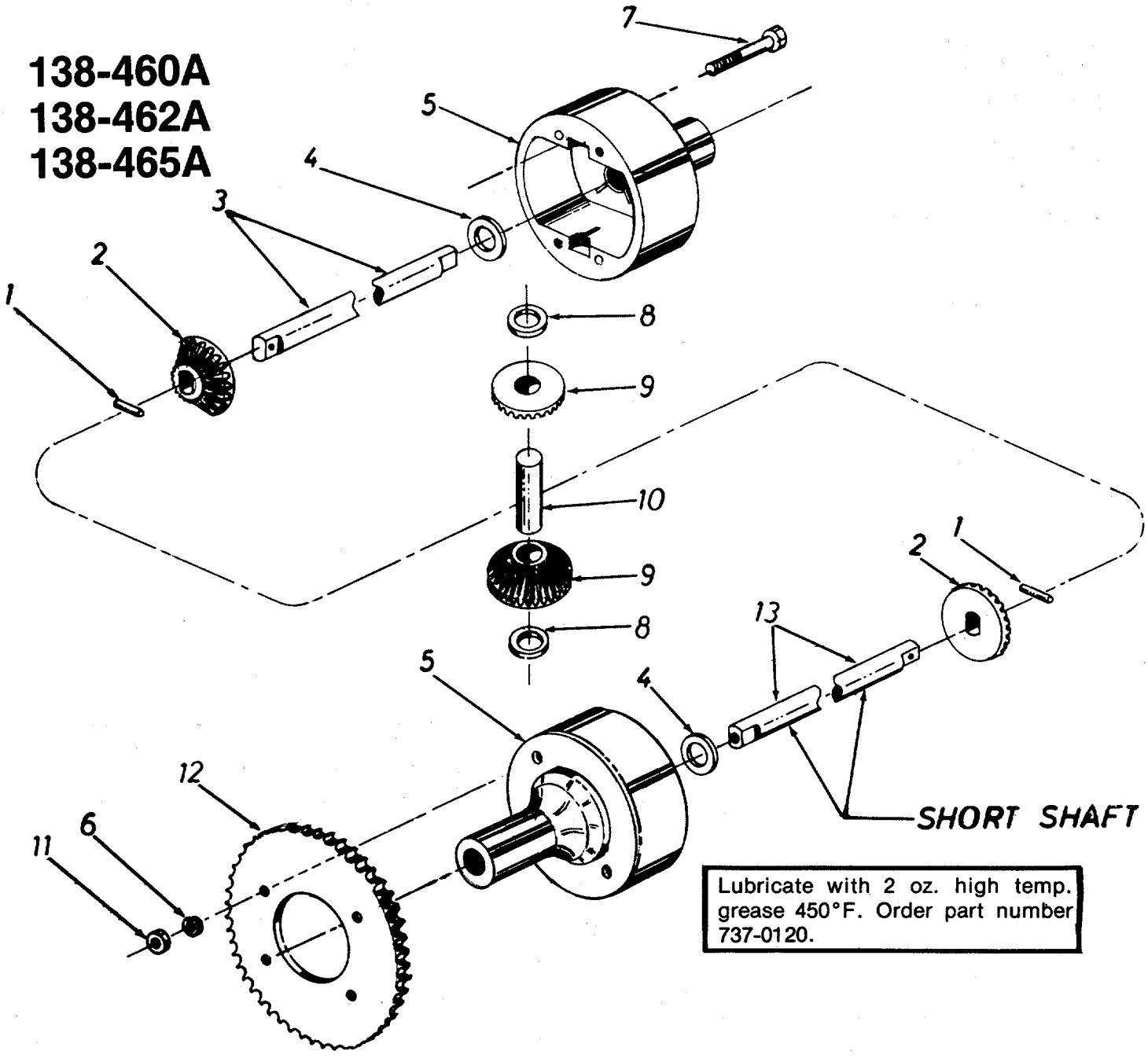

Lubricate with 2 oz. high temp. grease 450°F. Order part number 737-0120.

PARTS LIST FOR DIFFERENTIAL ASSEMBLY 717-0330

REF. NO.	PART NO.	Qty. Req'd.	DESCRIPTION	NEW PART
1	715-0247	2	Spring Pin Spir. 3/16" Dia. x 1.00" Lg.	
2	748-0185	2	Gear—Double "D" Hole	
3	738-0249	1	Shaft—Long 17.01" Lg.	
4	736-0188	2	Fl-Wash. .760 I.D. x 1.49 O.D.	
5	717-0341	2	Housing Half	
6	736-0119	2	L-Wash. 5/16" Scr.*	
7	710-0526	2	Hex Scr. 5/16-24 x 4.00" Lg.*	
8	736-0187	2	Fl-Wash. .640 I.D. x 1.24 O.D.	
9	748-0158	2	Gear—Round Hole	
10	711-0276	1	Drive Pin	
11	712-0237	2	Hex Cent. L-Nut 5/16-24 Thd.	
12	09133	1	Sprocket—60 Tooth	
13	738-0250	1	Shaft—Short 9.65" Lg.	

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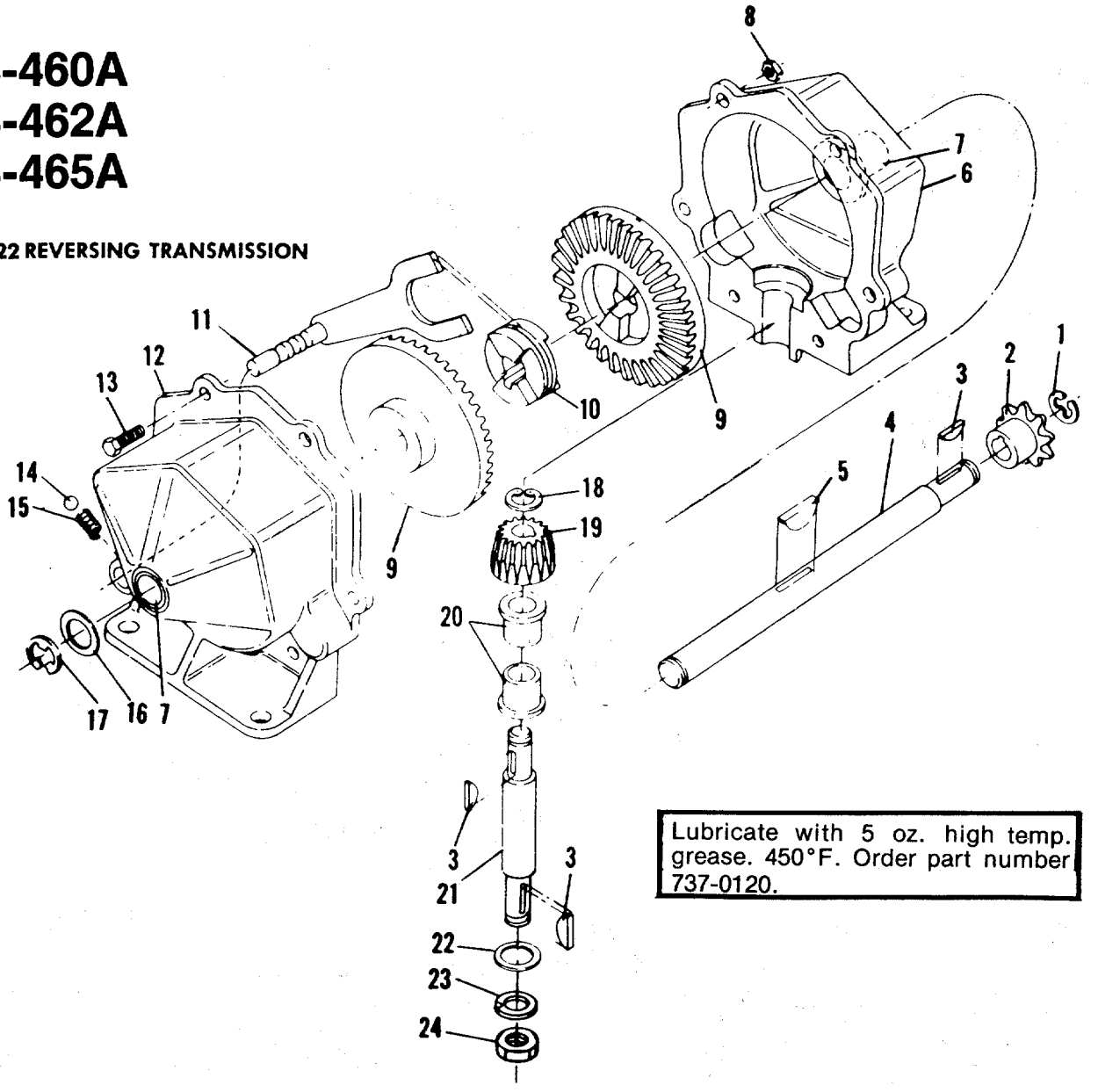
138-465A

717-0222 REVERSING TRANSMISSION



Lubricate with 5 oz. high temp. grease. 450°F. Order part number 737-0120.

PARTS LIST FOR REVERSING TRANSMISSION 717-0222

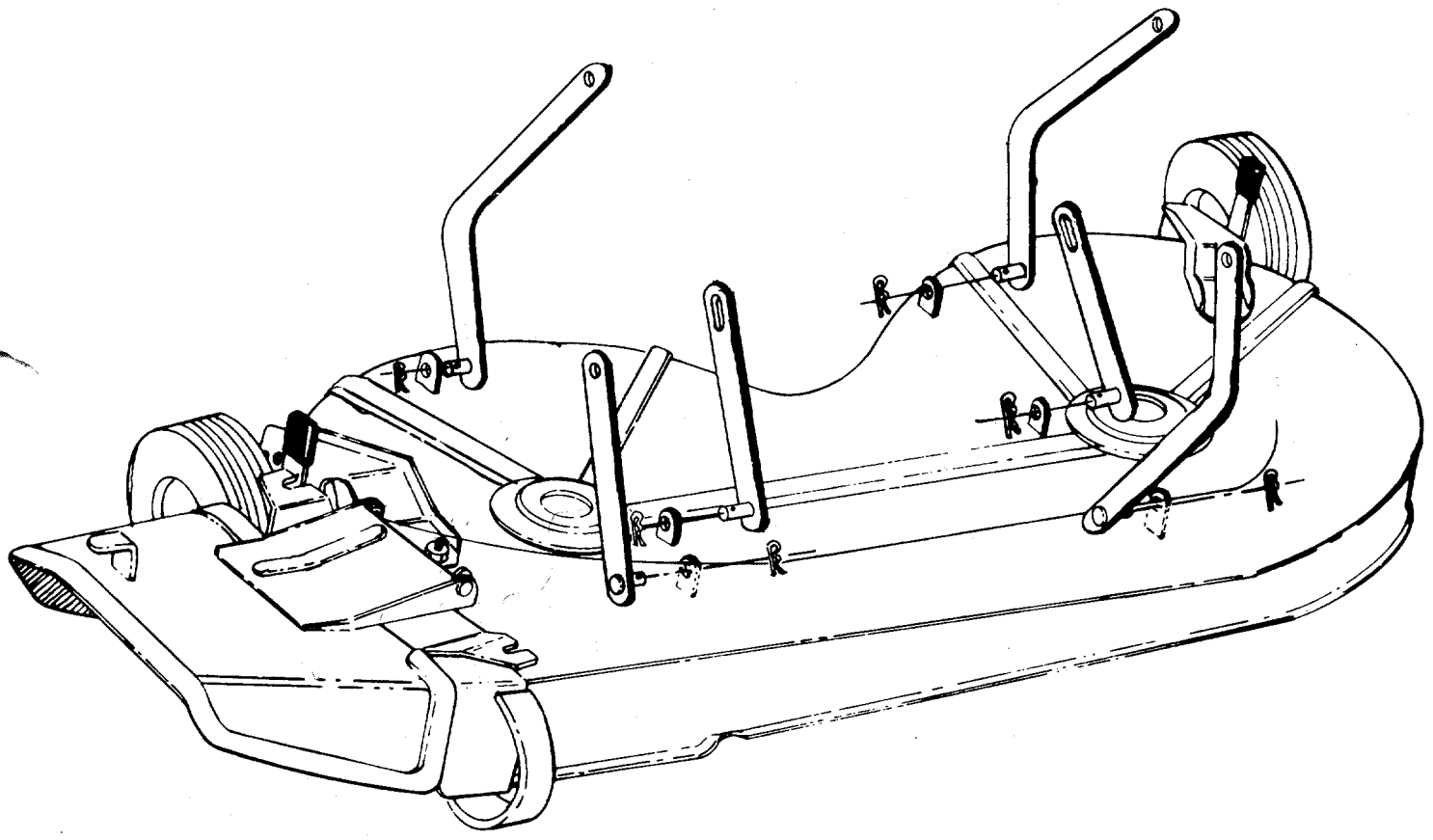
REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	716-0104		E-Ring for .500" Dia. Shaft		13	710-0195		Hex Hd. Cap Scr. ¼-28 x .62" Lg.*	
2	748-0204		#41 Sprocket Center 8 Tooth						
3	714-0129		#4 Hi-Pro Key 3/32 x 5/8" Dia.		14	741-0862		Detent Ball	
4	711-0854		Output Shaft		15	732-0863		Detent Spring	
5	714-0126		#9 Hi-Pro Key 3/16 x 3/4" Dia.		16	736-0116		Fl-Wash. .635 I.D. x .93 O.D.	
6	717-0123		Transmission Case—L.H. Complete		17	716-0106		E-Ring for .625" Dia. Shaft	
7	748-0855		Flange Bearing		18	716-0865		Snap Ring for .500" Dia. Shaft	
8	712-0117		Hex Centerlock ¼-28*		19	748-0866		Pinion Gear	
9	748-0856		Bevel Gear		20	748-0867		Bearing .627 I.D.	
10	748-0857		Clutch Collar		21	738-0159		Pinion Shaft	
11	08583		Shift Yoke Ass'y.		22	736-0192		Fl-Wash. .531 I.D. x .93 O.D.	
12	717-0124		Transmission Case—R.H.—Comp. (With Detent Hole)		23	736-0921		Spring L-Wash. ½" Scr.*	
					24	712-0922		Hex Jam Nut ½-20 Thd.*	
					25	737-0120		Grease—High Temp. 450°F. (5 oz.)	
					26	717-0222		Transmission Complete	

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

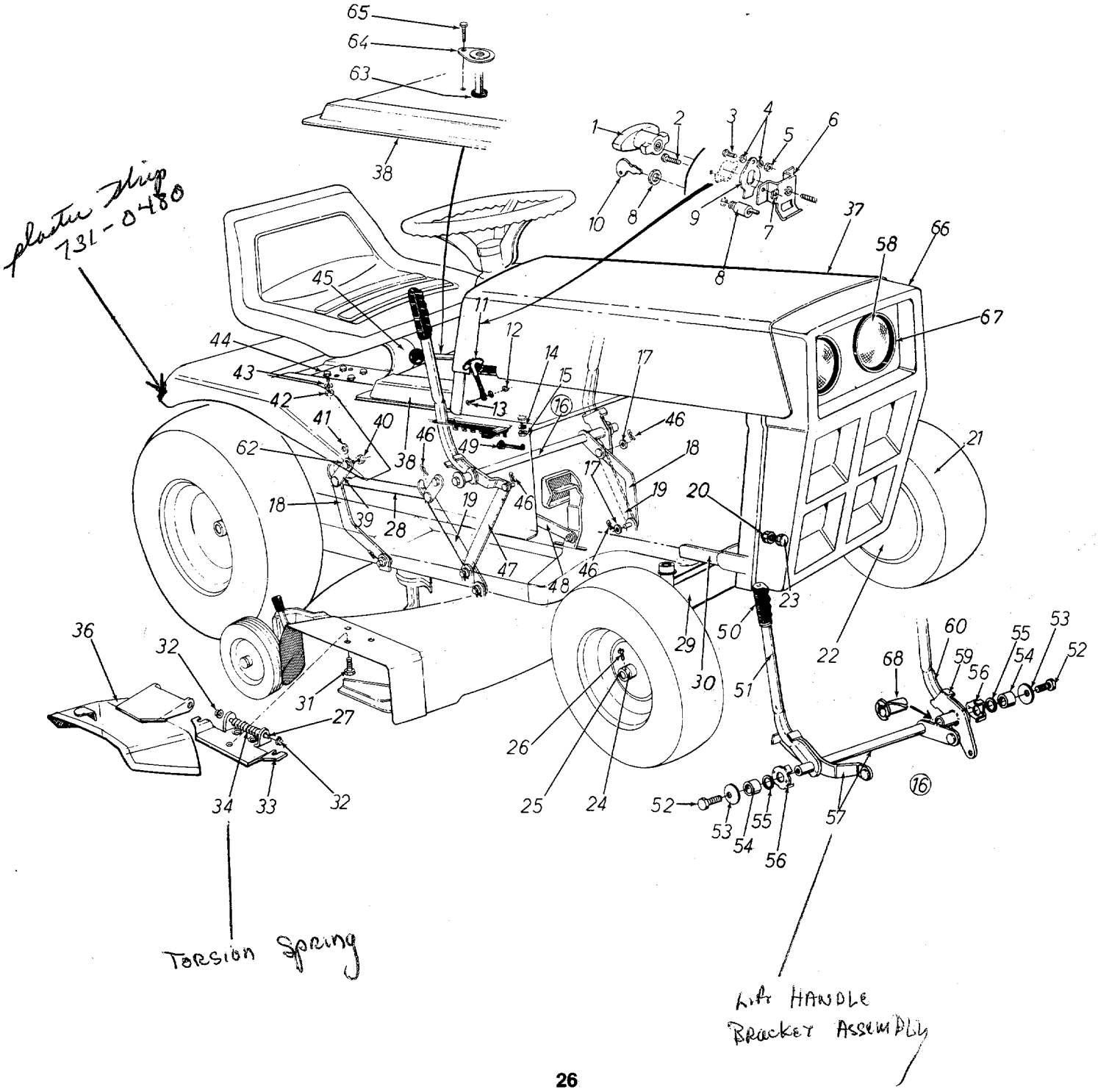
DECK LINKAGE

NOTE

Refer to illustration below for proper deck link hookup. If the deck is removed for any reason use the illustration below for correct assembly.



138-460A
138-462A
138-465A



PARTS LIST FOR MODELS 138-460A, 138-462A AND 138-465A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	11263		Plastic Handle (460A)	
2	710-0351		Truss Hd. Mach. B-Tapp. Scr. #10 x .50" Lg. (460A)	
3	710-0425		Truss Hd. Mach. Scr. #10-24 x .62" Lg.* (460A)	
4	736-0338		Fiber Washer (460A)	
5	712-0121		Hex Nut #10-24 Thd.* (460A)	
6	11053		Switch Brkt. Ass'y. (460A)	
7	712-0147		Speed Nut #10-24 U-Type (460A)	
8	725-0464		Ignition Switch (460A)	
	725-0267		Ignition Switch (462A and 465A)	
9	732-0257		Switch Spring (460A)	
10	725-0201		Ignition Key Only	
11	723-0296		Hood Lock Ass'y.	
12	712-0287		Hex Nut ¼-20 Thd.*	
13	710-0289		Hex Hd. Cap Scr. ¼-20 x .50" Lg.*	
14	736-0119		Spring L-Wash. 5/16" Scr.*	
15	712-0267		Hex Nut 5/16-18 Thd.*	
16	—		See Breakdown	
17	736-0192		Fl-Wash. .531 I.D. x .93 O.D.	
18	10349		Deck Link Ass'y.	
19	13636		Deck Link Ass'y.	N
20	712-0923		Hex Cent. L-Nut 5/8-18 Thd.	
21	734-0494		Front Wheel Ass'y.—Comp. 13.0 x 5.0	
	734-0495		Front Wheel Tire Only	
22	734-0520		Front Wheel Rim Ass'y. Only	
23	710-0622		Hex Hd. Cap Scr. 5/8-18 x 1.62" Lg.	
24	711-0169		Collar 5/8" I.D.	
25	748-0184		Front Wheel Bearing	
26	710-0666		Sq. Hd. Set Scr. 5/16-18 x .38 Cup	
27	711-0571		Pivot Pin	
28	09735		Connecting Rod 3/16 x 1.00 x 12.5" Lg.	
29	12406	—456	Pivot Bar Ass'y.	
30	12411	—456	Front Pivot Brkt.	
31	710-0195		Hex Hd. Cap Scr. ¼-28 x .62" Lg.*	
32	726-0106		Push-on Flange Palnut	
33	11399		Adapter Plate Ass'y.	
34	732-0261		Torsion Spring	
35	11633		Chute Cover Ass'y. Comp.	
36	11574		Chute Cover Ass'y.	
37	11836		Front Hood	
38	11840	—456	Upper Frame Cover	
39	09721		Pivot Link Ass'y.	
40	712-0267		Hex Nut 5/16-18 Thd.*	
41	736-0264		Fl-Wash. .344 I.D. x .62 O.D.	
42	712-0267		Hex Nut 5/16-18 Thd.*	
43	736-0119		Spring L-Wash. 5/16" Scr.*	
44	710-0198		Hex Hd. Sems Scr. 5/16-18 x .75" Lg.*	
45	732-0354		Seat Spring	N
46	714-0101		Internal Cotter Pin ½" Dia.	
47	10904		Lockout Link Ass'y.	
48	11056		Parking Brake—Lever Ass'y.—R.H.	
49	726-0121		Push Cap ¼" Dia.—Black	
50	710-0157		Grip	
51	749-0212		Lift Handle R.H.	
52	710-0201		Hex Hd. Cap Scr. 3/8-16 x .62" Lg.*	
53	736-0219		Bell. Wash. .400 I.D. x 1.13 O.D.	
54	748-0201		Spacer .635 I.D. x .88 O.D. x .57	
55	735-0180		Rubber Wash. .75 I.D. x 1.25 O.D.	
56	11029		Handle Pivot Brkt.	
57	13630		Lift Handle Brkt. Ass'y.	N
58	725-0222		Headlamp (465A)	
59	11034		Clutch Handle Brkt. Ass'y.	
60	11031		Lift Handle L.H.	
61	736-0156		Flat Washer	
62	738-0140		Shld. Bolt .473 x .180	
63	731-0309		Nylon Bushing	
64	12653		Bushing Cap	
65	710-0351		Truss Mach. Scr. #10 x .50" Lg.	
66	731-0358		Grille (460A and 462A)	
	731-0409		Grille (465A)	N
67	735-0156		Headlamp—Door Mounting (465A)	
68	741-0257		Flanged Nyliner	N
	13450		34" Deck Ass'y.—Comp.	N

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

(456—Radiant Tangerine)

When ordering parts, if color or finish is important use the appropriate color code shown above (e.g. Radiant Tangerine Finish—13322 (456).)

WHEEL CHART

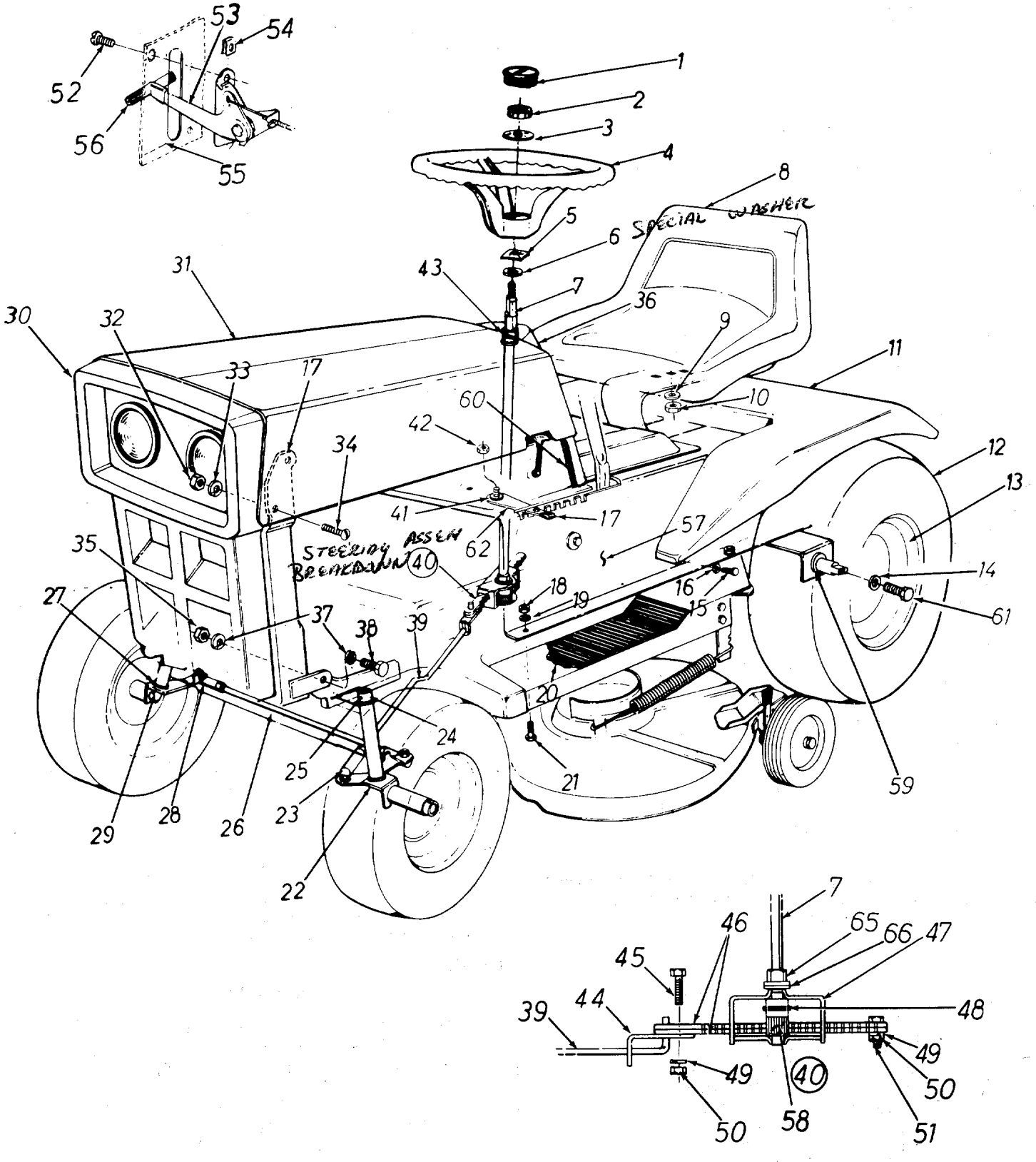
FRONT WHEEL

PART NO.	DESCRIPTION	NEW PART
734-0494	Wheel Ass'y. Complete	
734-0520	Rim Only with Hub	
734-0495	Tire Tubeless 13 x 5.00	
734-0255	Air Valve	
748-0184	Bearing	
734-0249	Inner Tube (Service Only)	

REAR WHEEL

PART NO.	DESCRIPTION	NEW PART
734-0592	Wheel Ass'y. Complete	
734-0594	Rim Only	
734-0294	Tire Tubeless 18 x 6.50-8	
734-0255	Air Valve	
734-0310	Inner Tube (Service Only)	

138-460A
138-462A
138-465A



PARTS LIST FOR MODELS 138-460A, 138-462A AND 138-465A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	731-0220		Steering Wheel Cap	
2	712-0158		Hex Cent. L-Nut 5/16-18 Thd.	
3	736-0219		Bell. Wash. .400 I.D. x 1.13 O.D.	
4	731-0219		12.0 Inch Steering Wheel	
5	712-0222		Push Nut 5/8" Dia.	
6	736-0174		Wave Wash. .660 I.D. x .88 O.D.	
7	738-0200		Steering Shaft	
8	757-0264		Seat Ass'y. Comp.	
9	736-0921		Spring L-Wash. ½" Scr.*	
10	712-0206		Hex Nut ½-13 Thd.*	
11	09087	—456	Rear Fender	
12	734-0601		Rear Wheel Ass'y. Comp. 18.0 x 8.50	
	734-0516		Rear Wheel Tire Only 18.0 x 8.50	
	734-0255		Air Valve—Tubeless	
13	734-0603		Rear Wheel Rim Ass'y.	
14	736-0242		Bell. Wash.	
15	710-0258		Hex Scr. ¼-20 x .62" Lg.*	
16	736-0329		Spring L-Wash. ¼" Scr.*	
17	13322		Grille Frame	
18	712-0267		Hex Nut 5/16-18 Thd.*	
19	736-0119		Spring L-Wash. 5/16" Scr.*	
20	723-0241		Foot Pad 15.75" Lg. x 4.0" Wide	
21	710-0259		Hex Sems Scr. 5/16-18 x .62" Lg.*	
2	09098		Front Axle Ass'y. L.H.	
23	723-0156		Ball Joint Ass'y.	
24	711-0169		Collar 5/8" I.D.	
25	710-0494		Sq. Hd. Set Scr. 5/16-18 x .38 Cup	
26	711-0613		Tie Rod	
27	741-0225		Flange Brg. 6.30 I.D.	N
28	723-0156		Ball Joint Ass'y.	
29	09095	—463	Front Axle Ass'y. R.H.	
30	731-0409		Grille—Front	
31	11836	—463	Front Hood	
32	712-0287		Hex Nut ¼-20 Thd.*	
33	736-0329		Spring L-Wash. ¼" Scr.*	
34	710-0286		Truss Mach. Scr. ¼-20 x .50" Lg.*	
35	712-0375		Hex Cent. L-Nut 3/8-16 Thd.	
36	12360		Dash Panel Ass'y.	
37	736-0105		Bell. Wash.	
38	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
39	747-0138		Steering Rod	
40	717-0294		Steering Ass'y. Breakdown	
43	748-0228		Hex Flange Brg. .505 I.D. Bronze	
44	12372		Steering Rod Brkt.	
45	710-0412		Hex Scr. ¼-28 x .75" Lg.*	
46	11048		Steering Segment	
47	11074		Steering Housing Ass'y.	
48	715-0134		Spring Pin Spir. 3/16" Dia. x 1.50" Lg.	
49	736-0329		Spring L-Wash. ¼" Scr.*	
50	712-0117		Hex Nut ¼-28 Thd. Lock*	
51	710-0412		Hex Scr. ¼-28 x .75" Lg.*	
52	710-0351		Truss Mach. B-Tapp Scr. #10 x .50" Lg.	
53	746-0160		Throttle Control—Comp.	
54	712-0147		Speed Nut #10-24 U-Type	
55	12360		Dash Panel Ass'y.	
56	722-0111		Knob Only—Throttle Control	
57	13474		Upper Frame	N
58	748-0203		12 Teeth Spur Gear	
59	736-0134		Fl-Wash.	
60	731-0144		Vinyl Blk. Strip for Dash 12.0' Lg.	
61	710-0627		Hex Scr. w/Lock 5/16"-14 x .75" Lg.	

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(456—Radiant Tangerine)

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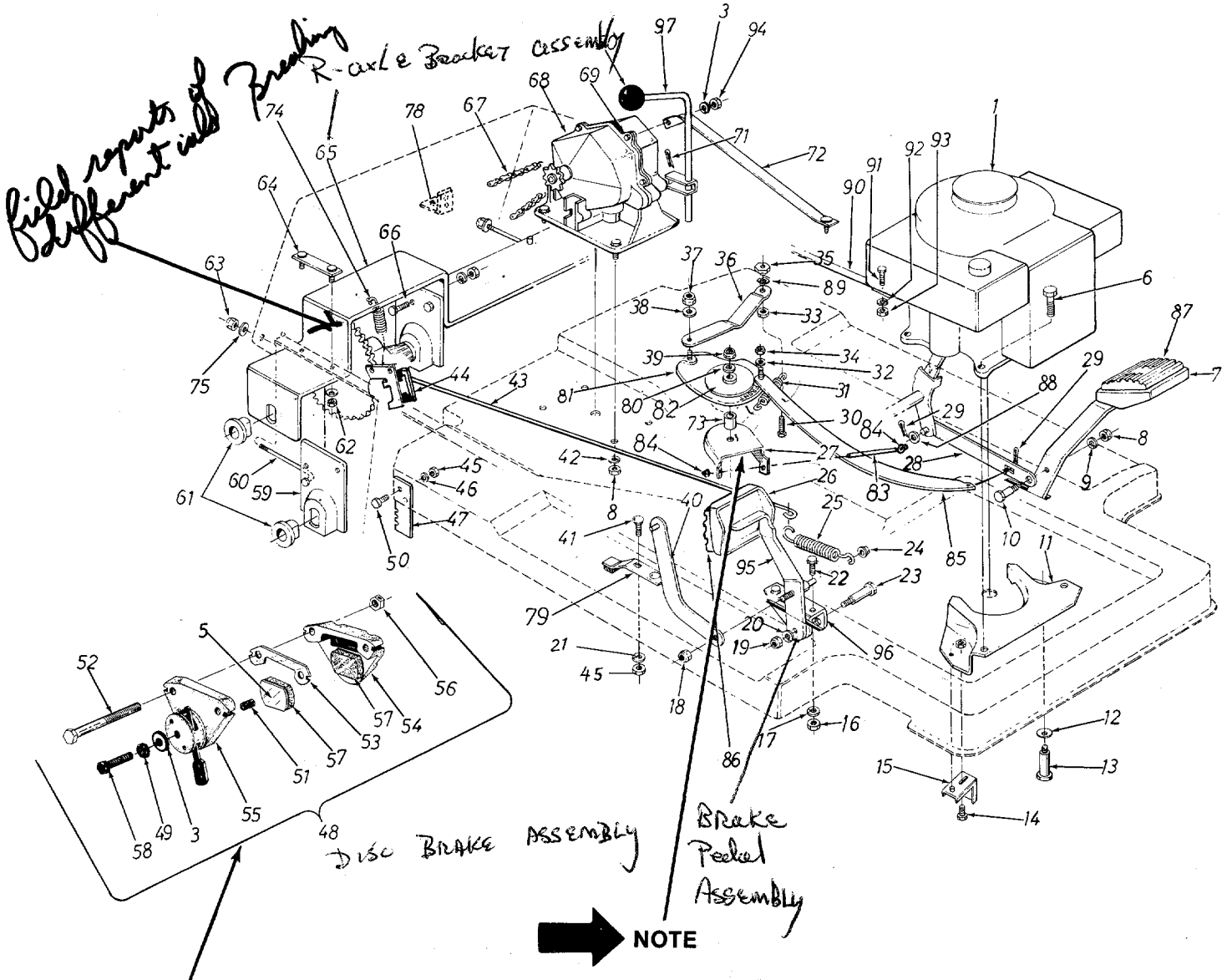
NOTE

This instruction manual covers various models and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

138-460A
138-462A
138-465A



NOTE: Must be lubricated with dry-slide or oil every 25 hours.

NOTE: If for any reason disc brake is disassembled, be sure round end of push pin (Ref. No. 51) is toward the cam lever (Ref. No. 55).

PARTS LIST FOR MODELS 138-460A, 138-462A AND 138-465A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	—		Engine	
3	HU-20-9764		Washer	N
5	HU-25-13808		Backing Plate	N
6	710-0442		Hex Hd. Cap Scr. 5/16-18 x 1.50" Lg.*	
7	11037		Clutch Pedal Ass'y.	
8	712-0267		Hex Nut 5/16-18 Thd.*	
9	736-0119		L-Wash. 5/16" Scr.*	
10	738-0140		Shld. Scr. .437 Dia. x .180	
11	12654		Engine Belt Guard Ass'y.	
12	736-0105		Bell. Wash. 3/8" Scr.	
13	738-0215		Shld. Scr. .498" Dia. x 3.00" Lg.*	
14	710-0259		Hex Sems Scr. 5/16-18 x .62" Lg.*	
15	12160		Belt Keeper Ass'y.	
16	712-0267		Hex Nut 5/16-18 Thd.*	
17	736-0119		L-Wash. 5/16" Scr.*	
18	712-0429		Hex Ins. L-Nut 5/16-18 Thd.	
19	712-0798		Hex Nut 3/8-16 Thd.*	
20	736-0169		L-Wash. 3/8" Scr.*	
21	736-0329		L-Wash. ¼" Scr.*	
22	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*	
23	738-0213		Shld. Scr. .498" Dia. x 1.450" Lg.	
24	726-0100		Push Nut 3/8" Rod	
25	732-0245		Brake Spring	
26	11036		Brake Pedal Brkt. Ass'y.	
27	11066		Vari. Spd.—Belt Guard Ass'y.	
28	12700		Clutch Connecting Brkt. Ass'y.	
29	714-0507		Cotter Pin 3/32 Dia. x .75" Lg.*	
30	710-0376		Hex Scr. 5/16-18 x 1.00" Lg.*	
31	732-0208		Variable Drive Spring	
32	736-0264		Fl-Wash. .344 I.D. x .62 O.D. x .063	
33	712-0429		Hex Ins. L-Nut 5/16-18 Thd.	
34	712-0158		Hex Cent. L-Nut 5/16-18 Thd.	
35	711-0404		Shld. Nut	
36	12711		Variable Speed—Link	
37	712-0429		Hex Ins. L-Nut 5/16-18 Thd.	
38	736-0264		Fl-Wash. .344 I.D. x .62 O.D.	
39	712-0922		Hex Jam Nut ½-20 Thd.	
40	11056		Park. Brake—Lever Ass'y. R.H.	
41	710-0134		Carriage Bolt ¼-20 x .62" Lg.*	
42	736-0119		L-Wash. 5/16" Scr.*	
43	747-0277		Brake Rod .25" Dia. x 23.50" Lg.	N
44	13458		Disc Brake Brkt. Ass'y.	N
45	712-0287		Hex Nut ¼-20 Thd.*	
46	736-0329		L-Wash. ¼" Scr.*	
47	10410		Spring Bracket	
48	761-0167		Disc Brake Ass'y.—Comp.	N
49	HU-37-13818		Nut	N
50	710-0258		Hex Scr. ¼-20 x .62" Lg.*	
51	HU-39-13774		Pin, Actuator	N
52	HU-37-13821		Bolt	N
53	HU-39-13946		Spacer	N
54	HU-16-13807		Anvil	N
55	HU-39-14097		Housing with Lever and Grove Pin	N
56	HU-37-9238		Locknut	N
57	HU-24-13772		Lining	N
58	HU-39-13775		Pin, Adjuster	N
59	13457		Rear Axle Plate	N
60	710-0437		Chain Adj. Link 5/16-18 x 4.38" Lg.	
61	741-0199		Plastic Flange Brg. w/Flats .753 I.D.	
62	712-0429		Hex Ins. L-Nut 5/16-18 Thd.	
63	712-0429		Hex Ins. L-Nut 5/16-18 Thd.	
64	10360		Axle Bolt Plate Ass'y.	
65	13455		Rear Axle Brkt. Ass'y.	N
66	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*	
67	713-0239		#420 Chain ½" Pitch x 89 Links	N
68	717-0222		Single Speed Trans. Ass'y.	
69	710-0412		Hex Hd. Cap Scr. ¼-28 x .75" Lg.*	
70	720-0165		Ball Knob—Black	
71	714-0115		Cotter Pin 1/8" Dia. x 1.00" Lg.*	
72	10396		Trans. Support Brkt. Ass'y.	
73	750-0289		Spacer .50" I.D. x .27" Lg.	
74	732-0265		Spring .38 O.D. x 3.25	
75	736-0264		Fl-Wash. .344 I.D. x .62 O.D.	
78	09963		Hitch Brkt.	
79	761-0168		Blade Brake Ass'y. 1.90 High	N
80	736-0921		L-Wash. ½" Scr.*	
81	12705		Variable Sp. Eccenter Ass'y.	
82	11070		Variable Sp. Plate Ass'y.	
83	711-0571		Pivot Pin	
84	726-0106		Push Nut ¼" Rod	
85	12710		Variable Spd. Control Brkt.	
86	12378		Brake Pedal Pad	
87	12379		Clutch Pedal Pad	
88	736-0140		Fl-Wash. .385 I.D. x .62 O.D. x .063	
89	736-0232		Wave Wash. .530 I.D. x .78 O.D. x .013	
90	11095		Engine Brace	
91	710-0259		Hex Sems Scr. 5/16-18 x .62" Lg.*	
92	736-0119		L-Wash. 5/16" Scr.*	
93	712-0267		Hex Nut 5/16-18 Thd.*	
94	712-0138		Hex Nut ¼-28 Thd.	
95	11036		Brake Pedal Ass'y.	
96	11039		Pedal U-Brkt. Ass'y.	
97	11853		Trans. Shift Lever	

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(456—Radiant Tangerine)

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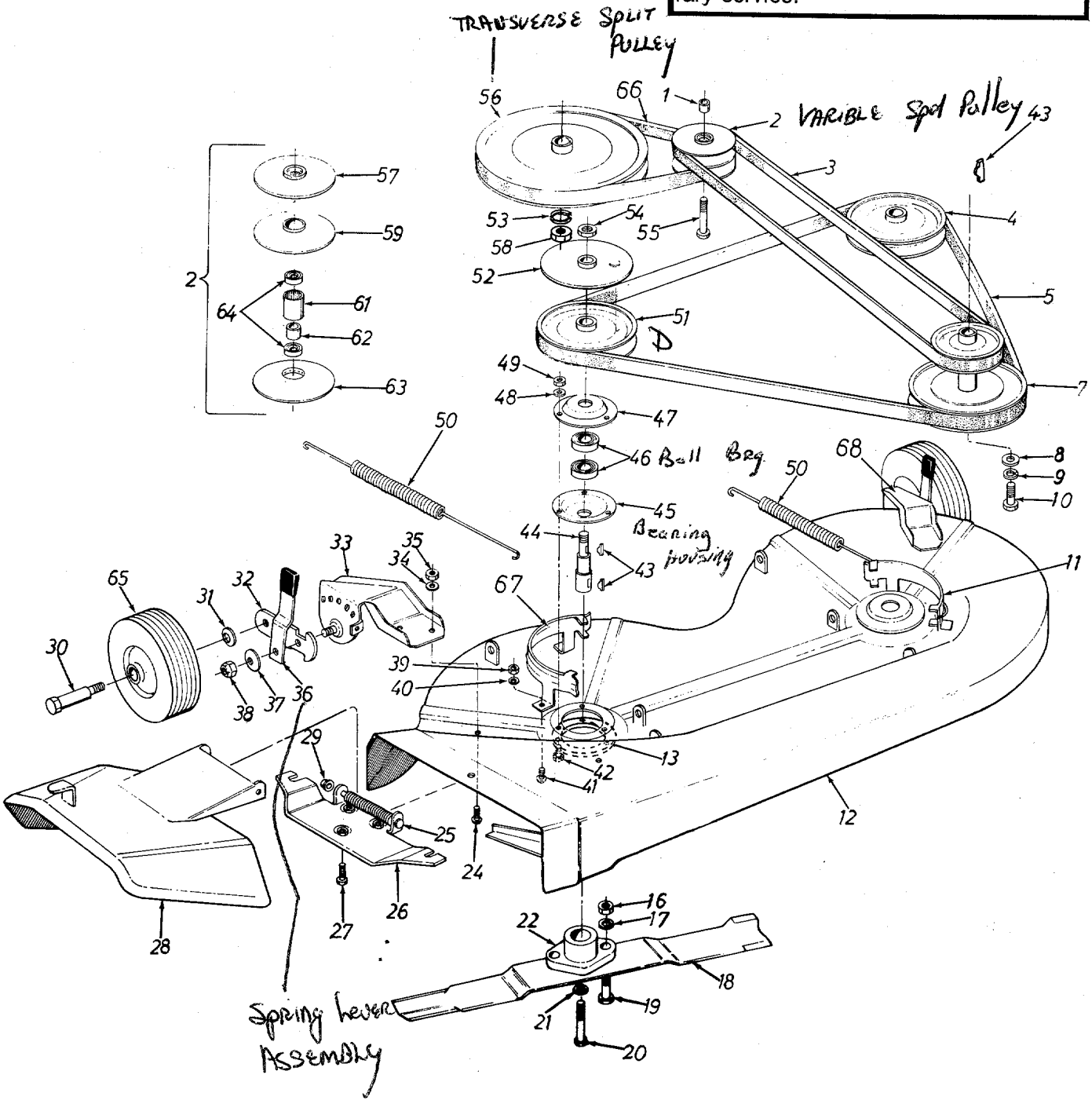
138-460A
138-462A
138-465A

IMPORTANT

Belts listed by Part Number are of special construction and should be used when replacement is necessary. The dimensions and description given are for general reference only and belts purchased by description and dimension generally will only provide temporary service.



PARTS LIST FOR MODELS 138-460A, 138-462A AND 138-465A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	711-0494		Spacer .510 I.D. x .760 O.D. x .390	
2	10438		Variable Spd. Pulley Ass'y.	
3	754-0138		"V"-Belt 21/32 x 50" Lg.	
4	756-0251		Pulley 4.75 O.D. (Deck)	
5	754-0151		"V"-Belt 21/32 x 67" Lg.	
7	756-0307		Two Step Engine Pulley	N
8	736-0235		Fl-Wash. .406 I.D. x 1.25 O.D.	
9	736-0169		L-Wash. 3/8" Scr.*	
10	710-0152		Hex Hd. Cap Scr. 3/8-24 x 1.00*	
11	12672		Belt Guard—L.H. (Deck)	
12	13451		34 in. Deck Ass'y.	N
13	09164		Deck Reinforcement Plate	
14	736-0287		Fl.-Wash. .793 I.D. x 1.24 O.D.	
15	12160		Belt Keeper	
16	712-0123		Hex Nut 5/16-24 Thd.*	
17	736-0119		L-Wash. 5/16" Scr.*	
18	742-0120		17.0 in. Blade	
19	710-0117		Hex Hd. Cap Scr. 5/16-24 x 1.00" Lg. H.T.	
20	710-0459		Hex Hd. Cap Scr. 3/8-24 x 1.50" Lg. H.T.	
21	736-0217		L-Wash. 3/8" Scr. H.D.	
22	10769		Blade Adapter Kit	
24	710-0289		Hex Hd. Cap Scr. ¼-20 x .50" Lg.*	
25	711-0571		Pivot Pin	
26	11399		Adapter Plate Ass'y.	
27	710-0195		Hex Hd. Cap Scr. ¼-28 x .62" Lg.*	
28	11574		Chute Cover Ass'y.	
29	726-0106		Push Nut ¼" Rod	
30	738-0119		Shld. Scr. .625" Dia. x 1.75" Lg.	
31	736-0105		Belleville Washer	
32	10937		Wheel Pivot Bar	
33	11236		Wheel Brkt. Ass'y.—R.H. (Deck)	
34	736-0329		L-Wash. ¼" Scr.*	
35	712-0287		Hex Nut ¼-20 Thd.*	
36	10949		Spring Lever Ass'y. w/Knob	
37	736-0219		Belleville Washer	
38	712-0116		Hex Ins. L-Nut 3/8-24 Thd.	
39	712-0287		Hex Nut ¼-20 Thd.*	
40	736-0329		L-Wash. ¼" Scr.*	N
41	710-0289		Hex Hd. Cap Scr. ¼-20 x .50" Lg.*	
42	710-0322		Hex Sems Scr. 5/16-18 x 1.00" Lg.*	
43	714-0365		#6 Hi-Pro Key 5/32 x 5/8" Dia.	
44	711-0255		Blade Spindle	N
45	08253		Bearing Housing	
46	741-0919		Ball Brg. .787 I.D. x 1.85 O.D.	
47	08253		Bearing Housing	
48	736-0329		L-Wash. ¼" Scr.	
49	712-0287		Hex Nut ¼-20 Thd.*	
50	732-0307		Spring .75 O.D. x 11.0" Lg. (Deck)	
51	756-0251		Pulley 4.75 O.D. (Deck)	
52	09322		Blade Brake Disc	
53	736-0921		L-Wash. ½" Scr.*	
54	712-0261		Hex Jam Nut 5/8-11 Thd.	
55	710-0515		Hex Hd. Cap Scr. ½-20 x 3.50" Lg.*	
56	756-0174		Trans. Split Pulley .50" I.D.	
57	748-0177		Sheave Half	
58	712-0922		Hex Jam Nut ½-20 Thd.*	
59	748-0181		Moveable Sheave Part Ass'y.	
61	750-0144		Steel Tubing	
62	750-0146		Spacer .520 I.D. x .692 O.D.	
63	748-0177		Sheave Half	
64	741-0139		Ball Brg. .50 I.D. x 1.38 O.D.	
65	734-0295		Wheel Ass'y. 5.0" Dia. (Deck)	
66	754-0136		V-Belt 21/32 x 31" Lg.	
67	12673		Belt Guard—R.H. (Deck)	
68	11237		Wheel Brkt. Ass'y.—L.H. (Deck)	

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(456—Radiant Tangerine)

When ordering parts, if color or finish is important use the appropriate color code shown above (e.g. Radiant Tangerine Finish—13322 (456).)

PARTS INFORMATION

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 number, description of parts and the quantity of each part required.

ALABAMA — **BIRMINGHAM**
Auto Electric & Carburetor Co. .... 2625 4th Ave. S. 35233

ARKANSAS — **NORTH LITTLE ROCK**
Sutton's Lawn Mower Shop ..... Rt. 4, Box 368 72117

FORT SMITH
Mity Mite Motors, Inc. ..... 2515 Towson Ave. 72901

CALIFORNIA — **PORTERVILLE**
Billious ..... 75 North D Street 93257

SAN BERNARDINO
Lawn Mower Supply Co. ..... 25608 E. Baseline 92410

SAN FRANCISCO
J.W. Jewett Co. ..... 981 Folsom St. 94107

SACRAMENTO
Luttig & Severson ..... 2030 28th St. 95818

COLORADO — **DENVER**
South Denver Lawn Equip. ..... 527 West Evans 80223

FLORIDA — **JACKSONVILLE**
Radco Distributors ..... 2403 Market St. 32206

CORAL GABLES
Moz-All of Florida, Inc. ..... 365 Greco Ave. 33146

GEORGIA — **EAST POINT**
East Point Cycle & Key ..... 2834 Church St. 30344

ILLINOIS — **LYONS**
Keen Edge Co. ..... 8615 Ogden Ave. 60534

INDIANA — **ELKHART**
Parts & Sales Inc. ..... 2101 Industrial Pkwy. 46514

IOWA — **DUBUQUE**
Power Lawn & Garden Equip. ..... 2551 J.F. Kennedy 52001

LOUISIANA — **NEW ORLEANS**
Suhren Engine Co. ..... 8330 Earhart Blvd. 70118

MARYLAND — **TAKOMA PARK**
Center Supply Co. ..... 6867 New Hampshire Ave. 20012

MASSACHUSETTS — **SPRINGFIELD**
Morton B. Collins Co. ..... 300 Birnie Ave. 01107

MICHIGAN — **MOUNT CLEMENS**
Power Equipment Dist. ..... 36463 South Gratiot 48043

LANSING
Lorenz Service Co. ..... 2500 S. Pennsylvania 48900

MINNESOTA — **MINNETONKA**
Hance Distributing Inc. ..... 11212 Wayzata Blvd. 55343

MISSISSIPPI — **BILOXI**
Biloxi Sales & Service, Inc. ..... 506 Caillavet St. 39533

MISSOURI — **KANSAS CITY**
Automotive Equip. Service ..... 3117 Holmes St. 64109

ST. LOUIS
Henzler, Inc. ..... 2015 Lemay Ferry Rd. 63125

NEW JERSEY — **BELLMAWR**
Lawnmower Parts Inc. ..... 717 Creek Rd., P.O. Box 7 . 08030

NEW YORK — **CARTHAGE**
Gamble Dist., Inc. ..... West End Ave. 13619

BRIGGS & STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

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

NORTH CAROLINA — **GREENSBORO**
Dixie Sales Company ..... 327 Battleground Ave. 27402

GOLDSBORO
Smith Hardware Co. ..... 515 N. George St. 27530

OHIO — **WADSWORTH**
National Central ..... 687 Seville Rd. 44281

CLEVELAND
Bleckrie, Inc. ..... 7900 Lorain Ave. 44102

CARROLL
Stebe's Mid-State Mower Supply . Box 366 43112

WILLARD
Sunshine Wholesale Tire Outlet . . Route 224 44890

OKLAHOMA — **MUSKOGEE**
Victory Motors, Inc. ..... 605 S. Cherokee 74401

ADA
Ada Auto Supply ..... 301 E. 12th St. 74820

OREGON — **PORTLAND**
Kenton Supply Co. ..... 8216 N. Denver Ave. 97217

PENNSYLVANIA — **HARRISBURG**
Eeco Inc. ..... 4021 N. 6th St. 17110

PHILADELPHIA
Thompson Rubber Co. ..... 5222-24 N Fifth St. 19120

PITTSBURGH
Bluemont Co. ..... 11125 Frankstown Rd. 15235

TENNESSEE — **KNOXVILLE**
Master Repair Service ..... 2423 Broadway, N.E. 37917

MEMPHIS
Memphis Cycle & Supply Co. ..... 421 Monroe Ave. 38103
American Sales & Service, Inc. .... 1922 Lynnbrook 3811

TEXAS — **DALLAS**
Marr Brothers, Inc. ..... 423 E. Jefferson 75203

HOUSTON
Bullard Supply Co. ..... 2409 Commerce St. 77003

SAN ANTONIO
Catto & Putty, Inc. ..... P.O. Box 2408 78206

FORT WORTH
Woodson Sales Corp. ..... 1702 N. Sylvania 76111

UTAH — **SALT LAKE CITY**
A-1 Engine & Mower Co. ..... 437 E. 9th St. 84111

VERMONT — **BURLINGTON**
Vermont Appliance Co. ..... 44 Lakeside Ave. 05401

VIRGINIA — **RICHMOND**
RBI Corp. ..... 963 Myers St. 23260

WASHINGTON — **SEATTLE**
Bailey's Rebuild, Inc. ..... 1325 E. Madison St. 98102

WEST VIRGINIA — **CHARLESTON**
Young's, Inc. ..... 233 Virginia St., E. 25301

WISCONSIN — **APPLETON**
Automotive Supply Co. ..... 123 S. Linwood Ave. 54911

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 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.**

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