OWNER'S MANUAL

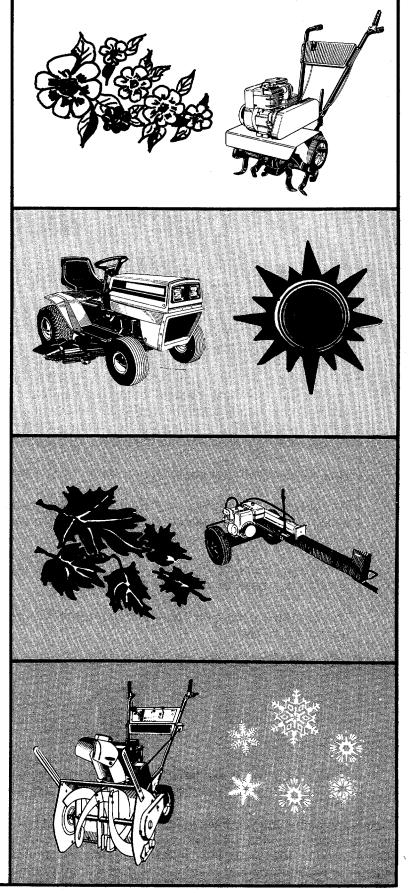
34" and 38" LAWN TRACTORS

132-620A 132-621A 132-628A

Important:

Read Safety Rules and Instructions Carefully

Thank you for purchasing an American built product.



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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 for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such 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.



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.



To reduce the potential for any injury, comply with the following safety instructions. Failure to comply with the instructions may result in personal injury.

SAFE OPERATION PRACTICES FOR RIDING VEHICLES

- It is suggested that this manual be read in its entirety before attempting to assemble or operate this unit. Keep this manual in a safe place for future reference and for ordering replacement parts.
- 2. This unit is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.
- Know the controls and how to stop quickly— READ THIS OWNER'S MANUAL.
- 4. 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.
- 5. No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
- 6. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
- 7. To prevent injury, do not carry passengers or give rides. Keep children, pets and bystanders out of the area while mowing. Only the operator should ride on the unit and only ride in the seat.
- 8. Check overhead clearance carefully before driving under power lines, guy wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury
- To maintain control of the unit and reduce the possibility of upset or collision, operate the tractor smoothly. Avoid erratic operation and excessive speed.
- 10. 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 and cause injury.
- Clear work area of objects which might be picked up and thrown by the mower in any direction and cause injury.
- Stop the blade(s) when crossing gravel drives, walks or roads.
- 13. Disengage all attachment clutches and shift into neutral before attempting to start engine.
- 14. Disengage power to attachment(s) and stop engine before leaving operating position.
- 15. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade(s) can cause injury.

- 16. 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.
- 17. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, 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.
- 18. Disengage power to attachment(s) when transporting or not in use.
- 19. 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.
- 20. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
- 21. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in gear when going down steep hills to take advantage of engine braking action.
- 22. Stay alert for holes in terrain and other hidden hazards.
- 23. 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.
- 24. Watch out for traffic when crossing or near roadways.
- 25. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
- 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.
- Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in owner's manual.
- 28. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

29. 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.

30. To reduce fire hazard, keep engine free of

grass, leaves or excessive grease.

31. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.

32. Do not change the engine governor settings

or overspeed the engine.

33. 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.

- 34. Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.
- 35. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing



This unit is shipped WITHOUT GAS-OLINE or OIL. After assembly, see separate engine manual for proper fuel and engine oil recommendations.

ASSEMBLY



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

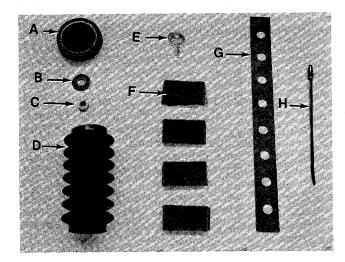


FIGURE 1.

Contents of Hardware Pack: (See Figure 1)

- A (1) Steering Wheel Cap
- B (1) Belleville Washer
- C (1) Hex Nut 5/16-18 Thread
- D (1) Steering Bellow
 - E (2) Ignition Keys
 - F (4) Foam Strips
 - G (1) Battery Strap
 - H (1) Cable Tie

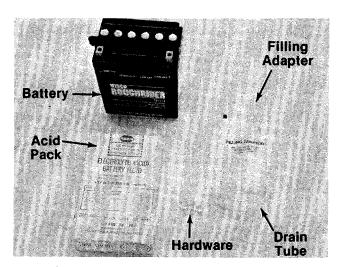
Loose Parts in Carton:

- (1) Battery Pack (Not Shown)
- (1) Steering Wheel (Not Shown)
- (1) Seat (Not Shown)

BATTERY INFORMATION



- A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*
- B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.



- C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.
- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.
- E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.
- F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well-ventilated area.
 - *Always shield eyes, protect skin and clothing when working near batteries.

ACTIVATING AND INSTALLING THE BATTERY

1. Upon opening the battery pack, you should receive acid pack, battery, drain tube, filling adapter and hardware. See figure 2.



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

FIGURE 2.



- Place the battery on table or workbench to be filled.
- → 3. Place one end of clear plastic drain tube on manifold of battery. See figure 3.



Some batteries may already have the drain tube installed, in which case it may be necessary to snip off the sealed end.

FIGURE 3.

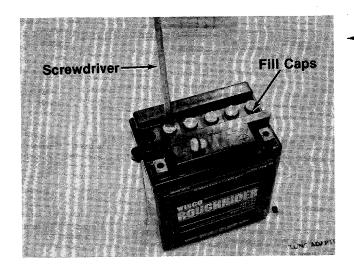


FIGURE 4.

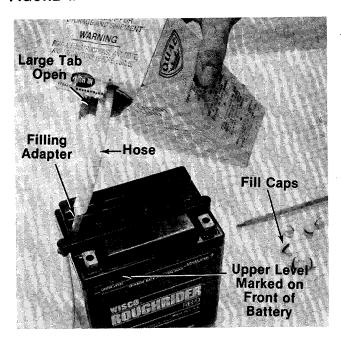


FIGURE 5.



Battery contains sulfuric acid. Refer to warning on page 5. Antidote: EXTERNAL—Flush with water. INTERNAL—Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Seek prompt medical attention. EYES: Flush with cool water for at least 15 minutes, then seek immediate medical attention.

Since batteries produce explosive gases, keep all lighted materials (cigarettes, lighters, matches, etc.) away. Be sure to charge battery only in well-ventilated areas.

KEEP BATTERIES
OUT OF THE REACH OF CHILDREN!

- —4. Remove the six fill caps from the top of the battery with a screwdriver. Care should be taken not to damage the fill caps. See figure 4.
 - 5. Lay acid package down, with "push in" facing up. Using thumb, push in small perforated tab at dot on front of package. Tear down large tab to solid line, exposing hose. **Do not** use any sharp object to open acid package.
 - 6. Pull out hose from package and hold upright. Squeeze hose forcing all acid back into package. Cut off tip of hose and insert filling adapter. See figure 5.
 - Fill each cell to upper level marked on front of battery. Replace fill caps on battery. See —figure 5.
 - 8. Allow battery to sit for 20 to 30 minutes. Add additional acid, if necessary, to bring it up to the proper level.
 - 9. The battery can be charged after the 20 minutes sitting period. SLOW CHARGE THE BATTERY (DO NOT FAST CHARGE) at a maximum bench rate of 1.4 amperes until the specific gravity reading is 1.260-1.280. Charge for a minimum of 2 hours and a maximum of 8 hours.



itor batt

Charging rate after battery has been put into operation: The battery is to be charged for a period of 14-16 hours. NO LONGER THAN 30 HOURS.



CAUTION

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



NOTE

This engine is equipped with a dual circuit alternator. The current for the battery charger alternator is unregulated and is rated at 3 amperes at 3600 r.p.m. During normal operation, it is only necessary to charge the battery:

- 1. When it is activated for the first time.
- 2. Before winter storage.
- 3. Before using the lawn tractor after winter storage.



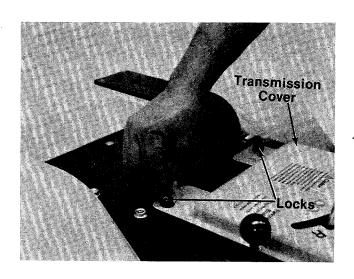
INSTALLING THE BATTERY



Figures 6 through 12 are shown with the seat removed for clarity only. It is not necessary to remove the seat in order to install the battery.

1. Place gear shift lever in the "neutral" position. Unscrew the gear shift knob. See figure

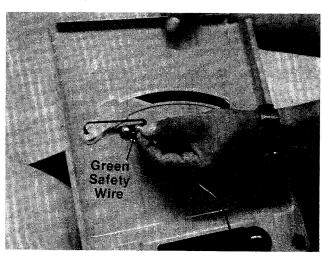
FIGURE 6.



2. Push down and turn the locks on the transmission cover one-quarter turn. See figure 7.

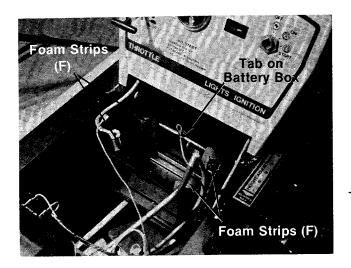
-3. Lift the transmission cover. Unplug the green safety wire from beneath the transmission cover. See figure 8. Remove transmission

FIGURE 7.



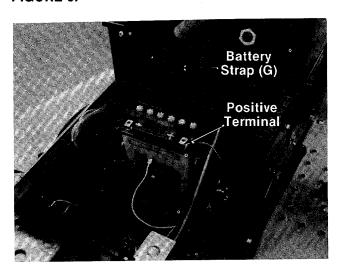
Green Salety Wire

FIGURE 8.



- 4. Install the four foam strips (F) into the battery box as follows.
 - A. Using a cloth, clean the inside of the battery box with a thinner or solvent.
 - B. Peel the paper off the foam strips to expose the adhesive backing. Press foam strips firmly into the corners of the battery—box. See figure 9.

FIGURE 9.

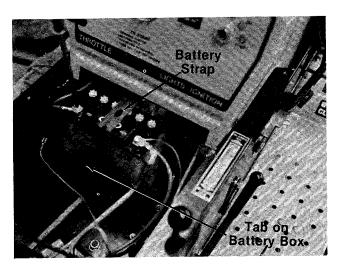


5. Loop one end of battery strap (G) around the tab on battery box shown in figure 9. Hold the battery strap out of the way. Place the battery in the lawn tractor so that the positive terminal is facing the right side of the unit. See figure 10.



Right and left hand sides of the unit are determined by sitting on the seat in the operating position, facing forward.

FIGURE 10.



- Secure the battery to the battery box by stretching the battery strap across the battery. Loop the end around the tab on the side
 of the battery box. See figure 11.
- 7. Slide the square nut (provided with battery hardware) into the positive (+) terminal. Place the positive (heavy red wire) cable and the small red wire on the positive terminal. Secure with screw and lock washer provided. See figure 11.
- 8. Slide the square nut (provided with battery hardware) into the negative (-) terminal. Place the negative (heavy red wire) cable on the negative terminal. Secure with screw and lock washer provided.

FIGURE 11.

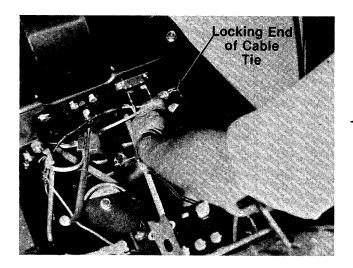


FIGURE 12.

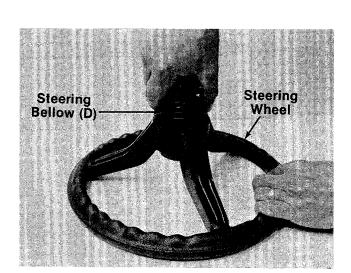
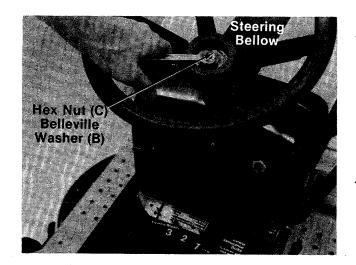


FIGURE 13.



- 9. Attach the battery drain tube to the manifold of the battery, on the left hand side. Push the locking end of cable tie (H) through the hole in the left frame as shown in figure 12. Route the battery drain tube back to the cable tie. Place end of cable tie through the slot so a loop is formed around the drain tube to secure it. Tighten cable tie and cut off excess end.
- Plug the green safety wire into the switch beneath the transmission cover. Refer to figure 8. Replace the transmission cover and gear shift knob.

STEERING WHEEL INSTALLATION

1. Attach steering bellow (D) to the steering — wheel as shown in figure 13.



One end of the steering bellow is slightly larger than the other. The larger end must be assembled to the steering wheel.

- 2. Place steering wheel and bellow on the steering shaft, lining up the flats in the wheel with the flats on the shaft.
- Secure with belleville washer (B) (cupped side against the steering wheel) and hex nut (C).
 See figure 14.
- 4. Press the steering wheel cap (A) on the steering wheel by hand.

FIGURE 14.

CONTROLS

THROTTLE CONTROL

The throttle control is used to regulate the engine speed and to activate the choke on the engine. To get maximum efficiency from cutting, the throttle should be in the FAST position when operating the mower. Pushing the throttle all the way forward past FAST, will choke the engine. See figure 15.

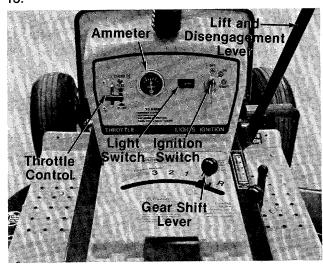


FIGURE 15.

GFAR SHIFT LEVER

The gear shift lever is used to shift into one of three Forward Gears, "NEUTRAL" or "REVERSE." See figure 15.

IGNITION SWITCH

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. See figure 15.

LIGHT SWITCH

Push the light switch to turn on the lights. The lights will only operate when the engine is running. See figure 15.

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 15.

CLUTCH-BRAKE PEDAL

The clutch-brake pedal is located on the right side of the lawn tractor. Depressing the clutch-brake pedal part way disengages the clutch. Pressing the pedal all the way down disengages the clutch and engages the disc brake. See figure 16.



The clutch-brake pedal must be depressed to start the engine.

PARKING BRAKE

To set the parking brake, depress the clutch-brake pedal and press the parking brake knob down. To release the parking brake, depress and release the clutch-brake pedal. See figure 16.

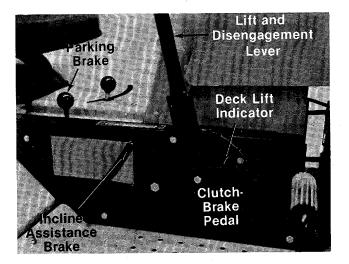


FIGURE 16.

INCLINE ASSISTANCE BRAKE

When stopping on a hill, hold the incline assistance brake lever back while you release the clutch-brake pedal until the lawn tractor begins to move, then release the lever. This lever permits smoother starts by helping hold the lawn tractor while the clutch is being engaged. See figure 16.

INTERLOCKS (Not Shown)

Interlock safety switches are located on the clutch-brake pedal, and the lift and disengagement lever and gear shift lever.

Before the engine will start, the clutch-brake pedal must be depressed all the way and the lift and disengagement lever must be in the disengaged position.

Before the unit can be shifted into reverse, the lift and disengagement must be in the disengaged position.

CUTTING CONTROLS

A. LIFT AND DISENGAGEMENT LEVER

The lift and disengagement lever is used to raise and lower the cutting deck. Pulling it all the way back and locking it disengages the blades. The lift and disengagement lever **must** be in the disengaged position when starting the engine and when shifting into reverse. See figure 15.

B. DECK LIFT INDICATOR

The deck lift indicator marks the position being used for the lift lever. Select the lift lever position desired, press the indicator lever outward, move it to the position immediately below the lift lever and release the indicator lever. See figure 16.

C. WHEEL HEIGHT ADJUSTER

Move the lever towards the wheel and set it in the desired height. See figure 17.

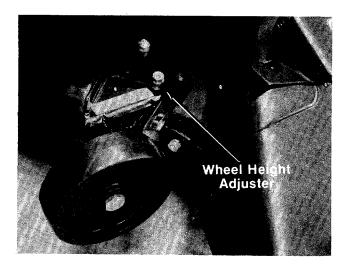


FIGURE 17.

D. SETTING THE CUTTING HEIGHT

- Select the position for the lift lever which gives the desired cutting height. Move the deck lift indicator so that the lift lever can be returned to the same position after it is raised.
- 2. Set the wheel height adjusters on the deck so that the wheels are 1/4 to 1/2 inch above the ground.

OPERATION

CAUTION

- 1. Keep all shields in place.
- 2. Before leaving operator's position:
 - a. Shift transmission to neutral
 - b. Set parking brake
 - c. Disengage attachment clutch
 - d. Shut off engine
 - e. Remove ignition key
- 3. Wait for all movement to stop before servicing machine.
- 4. Keep people and pets a safe distance away from machine.
- 5. Look to the rear before backing up.

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.

STARTING THE ENGINE



NOTE

To open the hood, simply lift up on both sides of the hood.

- 1. Service the engine with oil and gasoline as described in the engine manual.
- 2. Open the fuel shut-off valve (turn counter-clockwise). See figure 18.

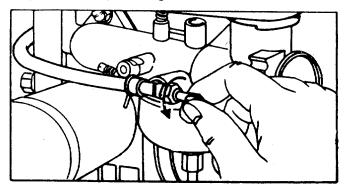


FIGURE 18. FUEL SHUT-OFF VALVE

3. Depress the clutch-brake pedal and set the parking brake. See figure 16.

4. Place the lift and disengagement lever in the DISENGAGED position. See figure 16.



This unit is equipped with a safety interlock system for your protection. The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the clutch-brake pedal is depressed and the lift and disengagement lever is in the disengaged position. In addition, the lift and disengagement lever must be in the disengaged position when the unit is put into reverse or the engine will shut off.



Do not operate the lawn tractor if the interlock system is malfunctioning because it is a safety device, designed for protection.

- 5. Set the throttle control in the CHOKE position. See figure 15.
- 6. Turn the ignition key to the "START" position. When the engine is running, let the key return to the "ON" position. See figure 15.
- 7. Move the throttle control to desired engine speed.

STOPPING THE ENGINE

Turn the ignition key to the left to the "OFF" position. Remove the key to prevent accidental starting.



A brief break-in period is essential to ensure maximum engine and mower life. The break-in 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 5 hours of operation.



If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the unit for any damage, and repair the damage before restarting and operating the mower.

OPERATING THE MOWER

- 1. Set the desired cutting height.
- 2. Start the engine as instructed on page 11.
- 3. Move throttle control to desired engine speed.
- 4. Depress the clutch-brake pedal and shift into first gear or reverse.
- 5. Release clutch-brake pedal slowly to put unit into motion.
- 6. Depress the clutch-brake pedal when shifting gears.



Do not force the gear shift lever!

7. The lawn tractor is brought to a stop by depressing the clutch-brake pedal. The drive belt will be disengaged and the brake will be applied.



CAUTION

If the unit is not to be used for a long period, place the gear shift lever in NEUTRAL, stop the engine, set the parking break and remove the key. DO NOT leave the machine on an incline.

OPERATING THE CUTTING BLADES

The cutting blades may be engaged while the lawn tractor 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.



When the blade drive is engaged, keep feet and hands away from the discharge opening, the blades or any part of the deck.

Move the lift and disengagement lever into the DISENGAGED position to raise the deck and disengage the blades.



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

GRASS CATCHER Model 015 is available as optional equipment for the lawn tractor shown in this manual.



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



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 recommendaitons.

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

ADJUSTMENTS

SEAT ADJUSTMENT

The seat may be adjusted to one of four positions. Remove hex nut and lock washer from under seat spring.

After desired seat location is selected, secure seat to seat spring with lock washer and hex nut. A 3/4" or adjustable wrench is required. See figure 19.

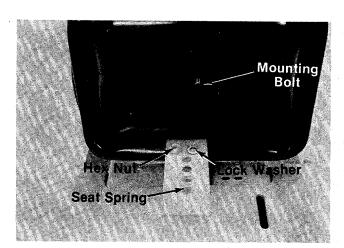


FIGURE 19.

STEERING WHEEL ADJUSTMENT

There are three height positions for the steering wheel. To adjust the height of the steering wheel, remove the hairpin cotter and clevis pin shown in figure 20. Place the steering wheel in the position desired and secure with hairpin cotter and clevis pin.

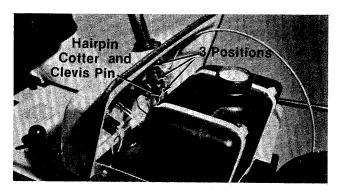


FIGURE 20. WHEEL ADJUSTMENT

The caster (forward slant of the king pin) and the camber (tilt of the wheels out at the top) require no adjustment. Automotive steering principles 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 hex nut and lock washer and drop the tie rod end from the wheel bracket. See figure 21.

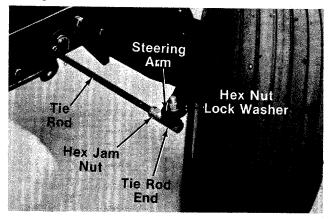


FIGURE 21.

- 2. Loosen the hex jam nut on tie rod.
- 3. Adjust the tie rod assembly for correct toe-in.

Dimension "B" should be approximately 1/8" less than Dimension "A." See figure 22.

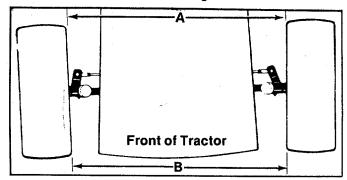


FIGURE 22. TOE-IN DIAGRAM

- 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. Readiust if necessary.

CARBURETOR ADJUSTMENT

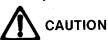


If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches, and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitutde and load. To adjust the carburetor, refer to the separate engine manual packed with your unit.

BRAKE ADJUSTMENT

During normal operation of this machine, the brake is subject to wear and will require periodic examination and adjustment.



Do not have the engine running when you adjust the brake.

To adjust the brake, proceed as follows.

- 1. Tighten the inside nut until the cam lever can not be moved by hand.
- 2. Loosen the inside nut until the cam lever can be pushed forward so that there is a 1/8" to 3/16" space between the cam lever and stop bolt. See figure 23.

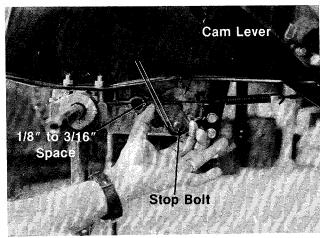


FIGURE 23.

3. Tighten the outside nut against the inside nut, two ½" wrenches. See figure 24.



Friction pads must be replaced when the inside of cam lever touches the housing.

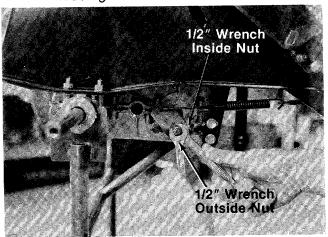


FIGURE 24.

LUBRICATION

STEERING GEARS

Lubricate teeth of steering gears with automotive multi-purpose grease after every 25 hours of operation or once a season. See figure 25.

STEERING SHAFT

Lubricate steering shaft at least once a season with light oil.



FIGURE 25.

TRANSAXLE

The transaxle is lubricated and sealed at the factory and does not require checking. If disassembled for any reason, lubricate with 24 oz. of E.P. Lithium grease.

PIVOT POINTS

Lubricate all pivot points with light oil at least once a season.

MAINTENANCE



Disconnect the spark plug wire and ground against the engine before performing any repairs or maintenance.

CRANKCASE OIL

Check the oil level in the crankcase before each use of the machine and after every five hours of operation. Oil level should be maintained as instructed in the separate engine manual.

After the first five hours of operating a new engine, drain the oil from the crankcase while engine is still hot and refill crankcase with new oil; thereafter change the oil every 25 hours of operation. Refer to the engine manual.

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. To service the air cleaner, refer to the separate engine manual packed with your unit.

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.

SPARK PLUG

The spark plug should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specification.

CUTTING BLADE

A. Removal for Sharpening or Replacement



Be sure to disconnect and ground the spark plug wire and remove ignition key before working on the cutting blade to prevent accidental engine starting.

 Remove the large bolt and lock washer which holds the blade and adapter to the blade spindle.

- Remove the blade and adapter from the spindle. Be careful not to lose the key on the spindle.
- 3. If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter.

B. Sharpening

Remove the cutting blade by following the directions of the preceding section.

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested for balance by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.



It is recommended that the blade always be removed from the adapter for the best test of balance.

C. Reassembly

Before reassembling the blade and the blade adapter to the unit, lubricate the spindle and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position. Make certain key is in place on the crankshaft.

Blade Mounting Torque

3/8" Dia. Bolt 375 in. lb. min., 450 in. lb. max. 5/16" Dia. Bolt 150 in. lb. min., 250 in. lb. max.

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

BELT REMOVAL AND REPLACEMENT



Disconnect the spark plug wire and ground it against the engine.



Figures 26 through 30 were photographed with the unit tipped up for clarity. It is not necessary to tip the unit to remove the belts.

Removing the Deck Belt

- 1. Place the lift lever in the disengaged position.
- 2. Remove the two J-bolts (belt keepers) from the engine pulley belt guard. See figure 26.

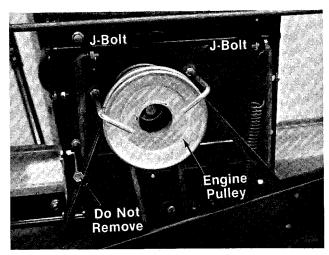


FIGURE 26.

- 3. Unhook the deck belt from the engine pulley.
- 4. Place the lift lever in the engaged (all the way forward) position.
- Disconnect the six deck links by removing the hairpin cotters and flat washers. See figure 27.

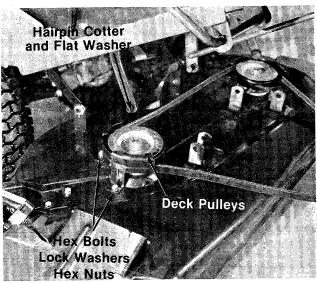


FIGURE 27.

- 6. Slide the deck from beneath the lawn tractor.
- 7. Remove the belt guards at each deck pulley by removing the hex bolts, lock washers and hex nuts. See figure 27.

8. Remove and replace the belt, following the instructions in reverse order.

Removing the Drive Belt

- 1. Follow steps 1 through 3 on removing the deck belt.
- Remove the two bolts, lock washers and nuts on each side of the frame which hold the engine pulley belt guard to the frame. See figure 28.

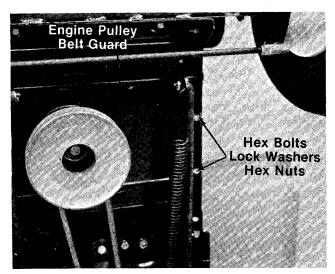


FIGURE 28.

3. Remove the engine pulley belt guard by slipping it back and to the right. See figure 29.

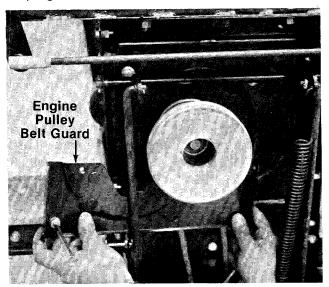


FIGURE 29.

4. Remove the bolt, lock washer and nut which hold the idler pulley to the idler bracket. See figure 30.



Upon reassembly, the hub side of the idler pulley must be assembled against the idler bracket.

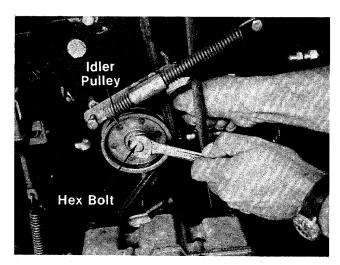


FIGURE 30.

5. Remove two self-tapping screws which hold the transaxle belt guard to the top of the transaxle. See figure 31.

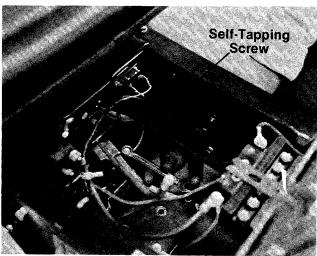


FIGURE 31.

6. Remove the transaxle shift lever by removing the hex bolt and belleville washer. Lift off the special "D" washer. See figure 32.

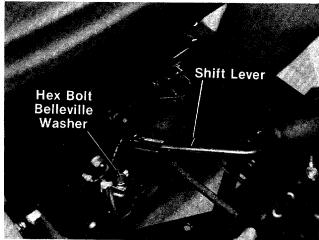


FIGURE 32.

7. Slide the transaxle belt guard back. Remove the belt from the engine pulley. Lift the belt up and over the transaxle pulley. See figure 33.



FIGURE 33.

8. Reassemble with a new belt, following instructions in reverse order.



The belt must be reassembled as shown in figure 34, with the back of the belt (flat side) against the idler pulley. The belt must be inside the pins. Failure to assemble the belt correctly will damage the belt.

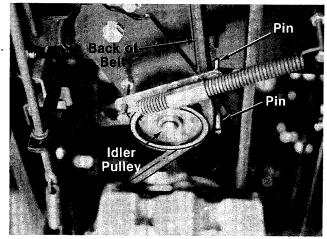


FIGURE 34.
BATTERY REMOVAL OR INSTALLATION



When removing the battery, follow this order of disassembly to prevent the screwdriver from shorting against the frame.

- 1. Remove the Negative cable.
- 2. Remove the Positive cable.

To install a battery:

- 1. Attach the Positive cable.
- 2. Attach the Negative cable.

JUMP STARTING

- 1. Attach the first jumper cable from the Positive terminal of the good battery to the Positive terminal of the dead battery.
- Attach the second jumper cable from the Negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BAT-TERY.



Failure to use this starting procedure could cause sparking, and the gas in either battery could explode.

BATTERY MAINTENANCE

- Check periodically (every two weeks or before and after charging) to be sure electrolyte level is above the lowest line on battery. Add only distilled water or a 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.
- 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.

BATTERY STORAGE

- Charge battery using normal methods. NEVER store discharged battery as it will not recover.
- 2. When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
- 3. Store in cold, dry place.
- Recharge battery whenever the specific gravity is less than 1.225, before returning to service, or every two months, whichever occurs first.

COMMON CAUSES FOR BATTERY FAILURE ARE:

1. Overcharging

- 2. Undercharging
- 3. Lack of water
- Loose holds downs and/or corroded connections
- 5. Excessive loads
- 6. Battery electrolyte substitutes
- 7. Freezing of electrolyte



THESE FAILURES DO NOT CONSTITUTE WARRANTY.

INSTALLATION OF TIRE TO RIM



The following procedure must be followed when removing or installing a tire to the rim.

- 1. Lubricate the 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.

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.



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

- Disconnect the spark plug wire and remove the spark plug from the cylinder. Pour about six drops of engine oil into the cylinder, and crank slowly to distribute oil. Replace the spark plug, but DO NOT connect the wire.
- Drain all the oil from the crankcase (this should be done after the engine has been operated and is still warm). Refill the crankcase with clean new oil.
- 4. Clean the engine and the entire unit thoroughly.

Lubricate all lubrication points. Wipe the entire machine with an oiled rag in order to protect the surfaces.

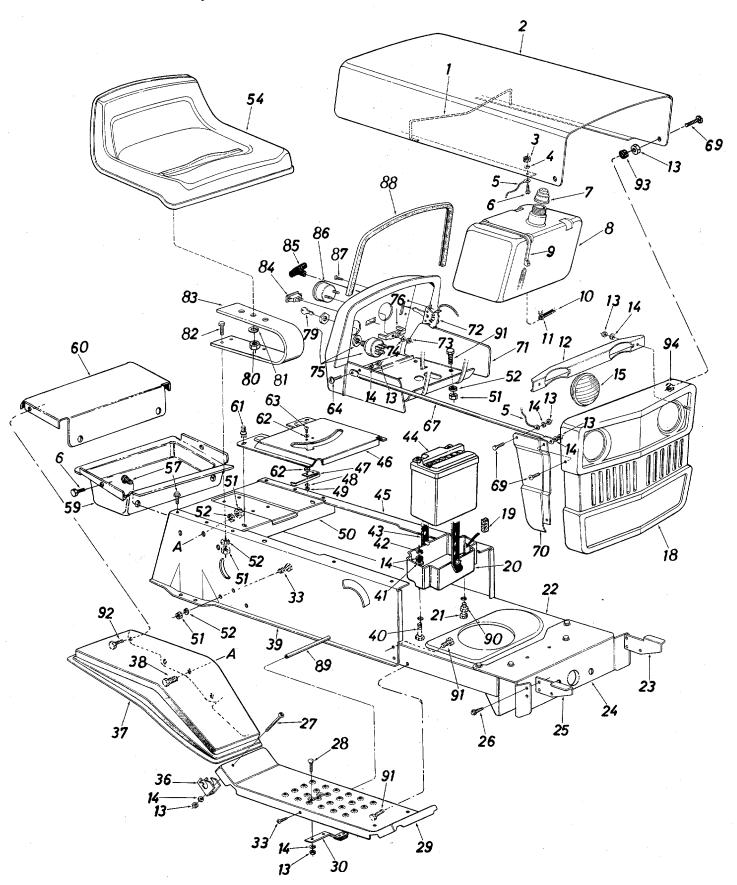
TROUBLE SHOOTING CHART FOR ELECTRIC START MODELS

TROUBLE	LOOK FOR	REMEDY
Engine will not crank	Battery installed incor- rectly	The battery must be installed with the negative, identified at the terminal post by (Neg, N or -), grounded. The positive (Pos, P or $+$) attaches to the large cable from the solenoid. The small red wire from the fuse holder or circuit breaker is also attached to the positive terminal.
	Blow fuse or circuit breaker	Replace fuse with 7½ amp. fuse ¼ x 1¼" Ig. Circuit breaker will reset itself when it cools off. Fuses or circuit breakers seldom open or fail without a reason. The problem must be corrected. Check for loose connections in the fuse holder. Replace fuse holder if necessary. A dead short may be in the cranking or charging circuit where the insulation may have rubbed through and exposed the bare wire. Replace the wire or repair with electrican's tape if the wire strands have not been damaged. Note: Look for a wire pinched between body panels, burned by the exhaust pipe or muffler or rubbed against a moving part.
	Battery is dead or weak	Use a hydrometer to check the condition of the battery. The Specific Gravity (s.g.) should be 1.265 at 80°F. (1.215 s.g. minimum needed for cranking engine). The reason for the battery failing must be determined. (1) Defective battery. Battery will not accept or hold a full charge. (2) Short circuit. Check for grounded wire. (3) Charging system not working, either engine alternator or trickle charger. Trickle Charger. Check with multimeter. Charger 725-0578—input 120 V A.C., no load output 13.5 V D.C., rated load current 1 amp. Charger 725-0507—input 120 V A.C., no load output 17.4 V D.C., rated load current 1/2 amp. Alternator (dual or single circuit) The charging system is an alternator located under the flywheel. It is unregulated and rated 3 amp. at 3600 r.p.m. A diode (rectifier) is located in the output lead just before the wire harness plug on the engine side.
		Red Wire Diode Tube (Batt.) 7 AMP AC (Lamps) Black Wire Polarized Plug
		The diode changes A.C. to D.C. to charge the battery. A bad diode can either fail to charge the battery or discharge the battery if the alternator is shorted as well as the diode. To test: (1) Disconnect charger lead from the battery (small red wire). (2) Connect 12 V small test lamp between the 3 amp. D.C. charge lead and the positive terminal of the battery. (3) With the engine off, the lamp should not light. If it does, the diode and possibly the alternator should be replaced. (4) Start the engine. The lamp should light. If it does not, the alternator (stator) or lead wire is bad and should be replaced.
	Mechanical failure. (Wires and switches)	The interlock system includes two mechanical activated switches which are wired in series in the circuit used to energize the starter solenoid. While testing the interlock system, you will make the mower temporarily unsafe by permitting the engine to be started with the blade and clutch engaged. WARNING: While testing, disengage the clutch, shut off the blade control, set the parking brake and place the gear shift lever in neutral. Attach a wire (minimum 18 gauge) to the positive terminal of the battery and touch the other end to the small terminal on the solenoid. If the engine does not crank: (1) There is a loose connection or poor ground. (2) The solenoid may be bad. The solenoid can be checked by using a heavy wire (#8 gauge minimum) and jumping between the two large terminals. If the engine cranks, the solenoid is bad. (3) If the engine does not crank when you jump the solenoid, have the starter motor tested by an authorized engine dealer. If the engine does crank, the problem is with one of the safety switches, ignition switch or the wire between the fuse holder (or circuit breaker) and the small terminal on the solenoid. Note: Look for a poor connection at the switches or a defective switch. Replace if necessary.
Engine cranks but will not start	Throttle or choke not in starting position	Check owner's guide for correct position for throttle control and choke (if separate control) for starting.

TROUBLE SHOOTING CHART FOR ELECTRIC START MODELS

TROUBLE	LOOK FOR	REMEDY
	No spark to spark plug	Spark plug lead disconnected. Connect lead. Hold spark plug lead away from engine block about 1/8". Crank engine. There should be a spark. If not, have engine repaired at authorized engine service dealer. Faulty spark plug. To test, remove spark plug. Attach spark plug lead to spark plug. Ground the spark plug body against the engine block. Crank the engine. The spark plug should fire at the electrode. Replace if it does not.
	No fuel to the carburetor	Gasoline tank empty. Fill. Fuel valve shut off. Open valve. Valve is located either at the bottom of the fuel tank or on the carburetor. Fuel line plugged. Remove and clean.
	Air filter dirty	If the air cleaner is dirty, the engine may not start. Clean or replace as recommended by the engine manufacturer.
Engine smokes	Engine loses crankcase vacuum	Dipstick not seated or broken. Replace defective part. Engine breather defective. Replace.
Excessive vibration	Bent or damaged blade spindle	Stop engine immediately. Check all pulleys, blade spindles, blade adapters, keys and bolts for tightness and damage. Tighten or replace any damaged parts.
	Bent blade	Stop engine immediately. Replace damaged blade. Only use original equipment blades.
Mower will not discharge grass or leaves uncut strips	Engine speed low Transmission selection Blades short or dull	Throttle must be set between 3/4 and full throttle. Use lower transmission gear. The slower your ground speed, the better the quality of cut. Sharpen or replace blades (uncut strip problem only).

NOTES



PARTS LIST FOR MODELS 620, 621 AND 628 LAWN TRACTORS

REF.	PART COLOR NO. CODE	DESCRIPTION	NEW PART	REF.	PART COLOR NO. CODE	DESCRIPTION	NEW PART
1	732-0414	Hood Spring	N	47	725-0759	Reverse Safety Switch	- 500
2		Hood	N	48	736-0147	Ext. L-Wash. #10-24 Thd.*	
3	712-0272	Hex Sems Nut #10-24 Thd.*	'1	49	712-0121	Hex Nut #10-24 Thd.*	1
4	736-0463	FI-Wash281" I.D. x .62"		50	14607	Hitch Plate	N
4	730-0403	O.D. x .06		51	712-0267	Hex Nut 5/16-18 Thd.*	1
_	723-0302	Hood Stop 7" Lg.		52	736-0119	L-Wash. 5/16" I.D.*	
5	710-0437	Truss Hd. Scr. #10-24 x ½"		54	757-0264	Seat Ass'y.	ĺ
0	110-0431	Lg.*		57	710-0726	Hex Wash. Hd. AB-Tap Scr.	İ
7	723-0155	Fuel Cap Gauge		31	710-0720	5/16 x .62" Lg.	
8	751-0172	Fuel Tank		59	731-0561	Tool Tray (Optional)	N
9	726-0153			60	14789	Fender Panel	N
		Tie Strap Fuel Line	N	61	726-0151	Fastener	IN
10	751-0173		l in			Fiber Wash.	l
11	726-0183	Hose Clamp	N	62 63	736-0338	Truss Hd. Scr. #10-24 x .50"	
12	14672	Headlight Retainer	13	03	710-0437		
13	712-0287	Hex Nut 1/4-20 Thd.*			740 0050	Lg.	
14	736-0329	L-Wash. 1/4 " I.D.*		64	710-0258	Hex Bolt 1/4-20 x .62" Lg.*	
15	725-0222	Headlight	N	67	749-0517	Grille Support Rod (R.H. &	N
18	14635	Grille Ass'y.	IN	60	740 0055	L.H.) Truss Hd. Scr. ¼-20 x .75"	'%
19	722-0135	Foam Strip		69	710-0255		
20	731-0534	Battery Box		70	14670	Lg.* R.H.—Grille Side Panel	N
21	710-0102	Hex Bolt 1/4-20 x 2.50"		70		L.H.—Grille Side Panel	N
	14000	Lg.*	N	74	14669		N
22	14606	Lower Frame	IN .	71	14620	Dash Panel Ass'y.	N
23	13863	Grille Mount Brkt.—L.H.	N.	72	746-0449	Throttle Control Ass'y.	iN
24	14619	Front Pivot Brkt.	N	73 74	_	Part of Ref. No. 86 Part of Ref. No. 86	
25	13862	Grille Mount Brkt.—R.H.	Ì	75	725-0267		
26	710-0726	Hex Wash. Hd. AB-Tap Scr.		76	120-0201	Ignition Switch Part of Ref. No. 86	
27	710-0524	5/16 x .62" Lg. Truss Hd. Scr. ¼-20 x 1.75"		79	725-0201	Ignition Key	
21	7 10-0524			80	710-0493	Hex Bolt ½-13 x 1.00" Lg.	
28	710 0124	Lg.* Carriage Bolt 1/4-20 x .62"		00	110-0493	(2-Req'd.)	
20	710-0134			81	736-0921	L-Wash. ½" I.D.* (2-Req'd.)	
20	14604	Lg.*	N	82	710-0376	Hex Bolt 5/16-18 x 1.00"	
29 30	761-0168	Running Board (R.H. & L.H.)	'N	02	710-0370	Lg.*	
30	701-0100	Blade Brake Ass'y. (34" Deck)		83	732-0354	Seat Spring	
	761-0169	Blade Brake Ass'y. (38"		84	725-0634	Light Switch	
	701-0109	Deck)		85	723-0034	Throttle Control Knob	
33	710-0372	Truss Mach. Scr. 5/16-18 x		86	725-0119	Ammeter	
33	110-0312	.75" Lg.*	1	87	710-0351	Truss Hd. Phil. Scr. #10 x	
36	14671	Fender Clamp	N	01	710-0331	50" Lg.	ŀ
	14666	Fender (R.H. & L.H.)	N	99	731-0511	Molding Strip 27" Lg.	
37 38	710-0118	Hex Bolt 5/16-18 x .75" Lg.*	14	88	738-0526	Running Board Rod	N
39	14602	R.H. Side Frame	N	90	712-0287	Hex Nut 1/4-20 Thd.*	'`
40	710-0258	Hex Bolt 1/4-20 x .62" Lg.*	'1	91	710-0198	Hex Bolt 5/16-18 x .75" Lg.*	
41			[92	710-0198	Thread Rolling Scr. 1/4-20 x	
41	736-0173	FI-Wash281 I.D. x .75" O.D.		32	7 10-0333	.50" Lg.	
42	712-0287	Hex Nut 1/4-20 Thd.*		93	735-0144	Rubber Wash. ½″ I.D. x 1.0	
43	735-0204	Battery Hold Down		30	7 00-0 144	O.D. x .25"	
44	735-0204	12-V Battery		94	712-0324	Hex Sems Inst. L-Nut 1/4-20	
45	14603	L.H. Side Frame	N	34	7 12-0024	Thd.	
46	14618	Transmission Panel	N			1110.	
+0	14010	Hallothioolon Fallet	14	L	l	l	

^{*}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.

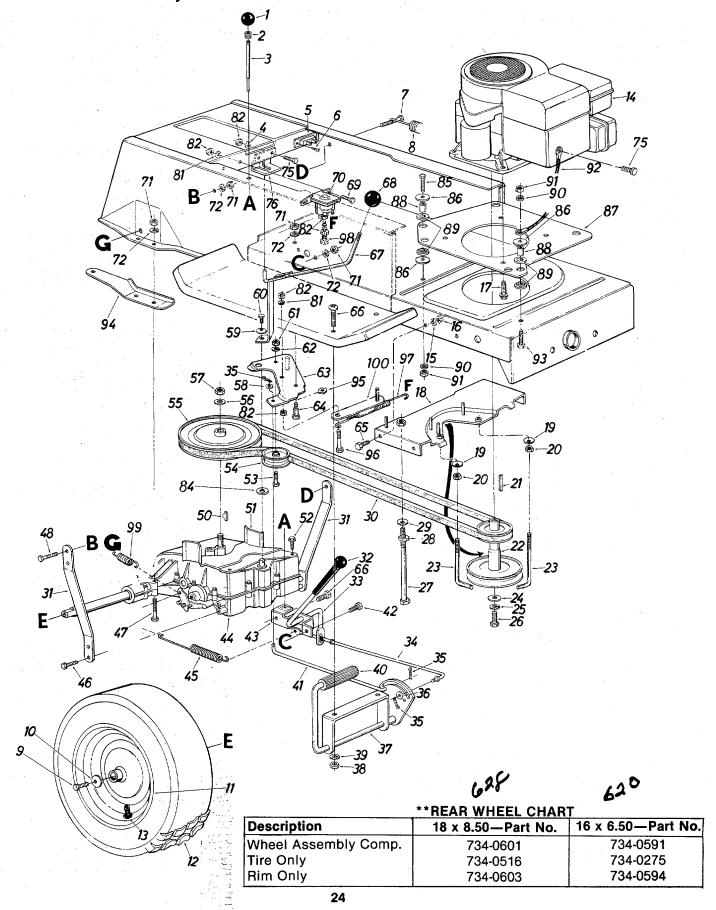
(462—Red Flake) (486—Star Orange)

When ordering parts, if color or finish is important use the appropriate color code shown above. (e.g. Red Flake Finish—11836 (462).)

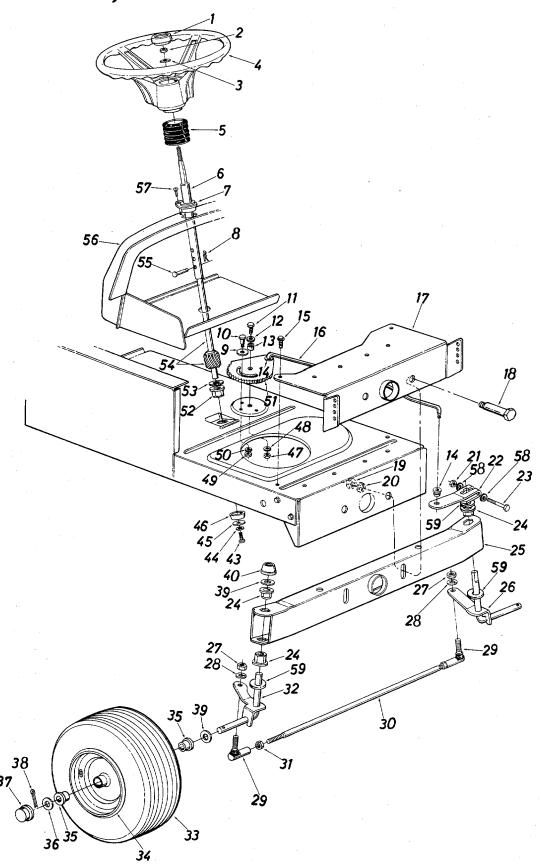


NOTE

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



	PARTS LIST FOR MODELS 620, 621 AND 628 LAWN TRACTORS							
REF. NO.	PART COLOR NO. CODE	DESCRIPTION	NEW PART	NO.	PART COLOR NO. CODE	DESCRIPTION	NEW PART	
1	720-0187	Ball Knob 1.25" O.D. x 1/4-20			710-0198	Hex Bolt 5/16-18 x .75" Lg.*		
	700 04 45	Thd.		50	714-0129	#4 Hi-Pro Key 3/32 x 5/8"		
2	732-0145	Compression Spring .30"		-4	14601	Dia.	l.	
	711 0740	O.D. x 1.00" Lg.	N		14631	Transaxle Belt Keeper	N	
	711-0742	Brake Lockout Rod L-Wash. ¼" I.D.*	N	52	710-0604	Hex Wash. Hd. Self-Tap Scr. 5/16" x .62" Lg.		
	736-0329 725-0459	Circuit Breaker		52	710-0344	Hex Bolt 3/8-16 x 1.50" Lg.*		
	710-0351	Truss Hd. Phil. Scr. #10 x			756-0225	Flat Idler Pulley 3/8" I.D. x		
	7 10-0051	½" Lg.		57	700 0220	2.75 O.D.		
7	710-0528	Hex Bolt 5/16-18 x 1.25" Lg.		55	756-0341	Transaxle Pulley		
8	732-0307	Ext. Spring .99" O.D. x			736-0921	L-Wash. 1/2" I.D.*		
		11.00" Lg.		57	712-0922	Hex Nut 1/2-20 Thd.*		
9	710-0627	Hex Bolt 5/16-24 x .75" Lg.*		58	736-0204	FI-Wash331" I.D. x .625"		
10	736-0242	Bell-Wash. 5/16" I.D.			L	O.D.		
11	* *	Rear Wheel Rim Only		59	736-0270	Bell-Wash26" I.D. x .75"	-	
12	**	Rear Wheel Ass'y. Comp.			740.0540	O.D.		
13	734-0255	Air Valve (Service Only)			710-0513 712-0798	Hex Bolt 1/4-28 x .62" Lg. Hex Nut 3/8-16 Thd.*		
14	726 0220	Engine L-Wash. ¼″ I.D.*			736-0169	L-Wash. 3/8" I.D.*		
	736-0329 712-0287	Hex Nut 1/4-20 Thd.*		63		Idler Brkt. Ass'y.	N	
	710-0502	Hex Not 7/4-20 Thd. Hex Bolt 3/8-16 x 1.25" Lg.*		64		Shid. Scr437" Dia. x 1.80"	'	
1	14643	Belt Guard Brkt. Ass'y.	N	•		Lg. (5/16-18)	1	
	736-0242	Bell-Wash. 5/16" I.D.	'	65	710-0258	Hex Bolt 1/4-20 x .62" Lg.*		
1	712-0267	Hex Nut 5/16-18 Thd.*		66	710-0323	Truss Hd. Mach. 5/16-18 x		
	714-0114	Sq. Key 1/4" x 1/4" x 2.00"				.75" Lg.*		
-:		Lg.		67		Shift Lever Ass'y.	N	
22	756-0373	Two Step Engine Pulley	N	68	720-0165	Ball Knob 1.25" O.D. x 3/8-		
23	710-0836	"J"-Bolt 5/16-18 x 4.90" Lg.	N	60	740 0050	16 Thd.		
24	736-0322	FI-Wash. 7/16" I.D. x 1.25"			710-0258 725-0771	Hex Bolt ¼-20 x .62" Lg.* Solenoid	N	
	700 0474	O.D. x .180		71		Hex Nut 5/16-18 Thd.*	' '	
	736-0171	L-Wash. 7/16" I.D.*		72		L-Wash. 5/16" I.D.*		
27	710-0757 710-0833	Hex Bolt 7/16-20 x 1.50" Lg. Hex Bolt 5/16-18 x 5.25"		75		Hex Bolt 1/4-20 x .62" Lg.*		
21	7 10-0000	Lg.*	N	76		Shift Lever Pivot Brkt.	N	
28	712-0267	Hex Nut 5/16-18 Thd.*			736-0329	L-Wash. 1/4" I.D.*		
29	736-0242	Bell-Wash. 5/16" I.D.			712-0287	Hex Nut 1/4-20 Thd.*		
30	754-0266	"V"-Belt "A" Glass 85" Lg.	.		717-0234	Special Wash. 1.00" O.D.		
		Bare Back	N	85	710-0158	Hex Bolt 5/16-24 x 1.25" Lg.*		
	14653	Transaxle Brace	N	86	736-0343	Fl-Wash. 1.25" O.D. x .320"		
	720-0143	Grip (Hand Brake) Hill Holder Brake Handle	N	00	700-00-0	I.D.		
	747-0386 747-0385	Brake Rod	N	87	14791	Engine Mounting Plate	N	
	714-0363	Cotter Pin 3/32" Dia. x 1.00"	''	88	750-0539	Spacer		
"		Lg.*			722-0153	Engine Mounting Grommet		
36	736-0204	FI-Wash331" I.D. x .625"			736-0119	L-Wash. 5/16" Scr.*		
		O.D.			712-0123	Hex Nut 5/16-24 Thd.*		
37	14623	Brake and Clutch Pedal			725-0122 710-0624	Electric Ground Wire Hex Bolt 5/16-24 x 1.50"		
	740 0007	Ass'y.	N	93	110-0024	Lg.*	1	
	712-0267	Hex Nut 5/16-18 Thd.*		94	14770	Transaxle Support Brkt.—		
	736-0119 735-0196	L-Wash. 5/16" I.D.* Foot Pedal Pad		J	1	R.H.	N	
	747-0390	Clutch Rod	N		14769	Transaxle Support Brkt.—		
	710-0198	Hex Bolt 5/16-18 x .75" Lg.*				L.H. (Not Shown)	N	
	14634	Brake Lock and Handle			736-0141	Wave Wash.		
		Support Brkt.	N		710-0102	Hex Bolt 1/4-20 x 2.50" Lg.*		
44		Transaxle Complete	N		732-0384 710-0102	Ext. Spring Hex Bolt 1/4-20 x 2.50" Lg.*		
45	732-0413	Ext. Spring .590" O.D. x			732-0303	Brake Return Spring		
100	710-0604	7.08" Lg. Hex Wash. Hd. AB-Tap Scr.			14794	Belt Guard	N	
40	7 10-0004	5/16 x .62" Lg.						
47	710-0378	Hex Bolt 5/16-18 x 2.50"						
"'		Lg.*						



PARTS LIST FOR MODELS 620, 621 AND 628 LAWN TRACTORS

2 3 4 5 6	731-0220 712-0267 736-0242 731-0219 731-0559	7 2	Steering Wheel Cap Hex Nut 5/16-18 Thd.* Thd. Belleville Wash345" I.D.		28 29	736-01	69	L-Wash. 3/8" I.D.*	
3 4 5 6	736-0242 731-0219 731-0559	2	Hex Nut 5/16-18 Thd.* Thd.						
4 5 6	731-0219 731-0559					723-01	56	Ball Joint 3/8-24 Thd.	
4 5 6	731-0219 731-0559		Belleville Wash345" I.D.		30	711-06	13	Tie Rod	
5 6	731-0559	9	Bonoring tractions in the		31	712-07	11	Hex Jam Nut 3/8-24 Thd.*	
6			Steering Wheel		32	14650		Front Axle Ass'y.—R.H.	N
6	4 4775	9	Steering Column Bellow	N	33	. * *		Wheel Ass'y. Comp.	ļ
	14775		Steering Column Ass'y.	N	34	* *		Front Wheel Rim Only	
7	741-0356	6	Flange Bearing .890 I.D. x		35	741-03	13	Bearing	
			1.36 O.D.	N	36	736-03	16	FI-Wash635 I.D. x 1.59"	
8	714-0147	7	Internal Cotter Pin 1/4" Dia.					O.D.	
	736-0319		FI-Wash438" I.D. x 1.37"		37	731-04	84	Front Wheel Hub Cap	
-			O.D.		38	714-04	70 l	Cotter Pin 1/8" Dia. x 1.25"	
10	738-014	1	Shoulder Bolt .437" Dia. x		_			Lg.*	
, ,			.35 Lg. 5/16-18 Thd.		39	736-01	56	Fl-Wash635" I.D. x 1.20"	
11	710-0152	2	Hex Bolt 3/8-24 x 1.0" Lg.					O.D.	
1			(Grade 5)		40	726-02	14	Push Cap 5/8" Dia. Rod	N
12	736-0206	6	FI-Wash38" I.D. x 1.0"		43	710-05		Hex L-Bolt 5/16-18 x .62"	
	, , , , , , , , , , , , , , , , , , , ,	-	O.D.					Lg.*	
13	750-053	5	Spacer .380" I.D. x .625"	!	44	736-01	19	L-Wash. 5/16" I.D.*	
.			O.D. x .227	N	45	736-02		FI-Wash344" I.D. x 1.25"	
14	731-055	5	Drag Link Grommet	N				O.D.	
	710-0720		Hex Wash. Hd.		46	750-05	32	Spacer (Plastic)	N
	711-0739		Steering Drag Link	N	47	712-02		Hex Nut 3/8-24 Thd.*	
17	14619		Front Pivot Brkt.	N ·	48	736-01		L-Wash. 3/8" I.D.*	
18	738-052	7	Shoulder Bolt .498" Dia. x		49	712-02		Hex Nut 5/16-18 Thd.*	
		,	2.04 Lg. 3/8-16 Thd.	N	50	736-01		L-Wash. 5/16" I.D.*	
19	712-0798	8	Hex Nut 3/8-16 Thd.*		51	717-04		Steering Gear Segment	N ·
20	736-016		L-Wash. 3/8" I.D.*		52	741-02		Hex Flg. Brg634 I.D.	
21	712-023		Hex Cent. L-Nut 5/16-24		53	736-01		FI-Wash. (Hardened)	N
		-	Thd.		54	738-05		Steering Shaft Lower	. N
22	14611		Steering Arm Front Axle	N	55	711-06		Clevis Pin 1/4" Dia x 1.00"	' '
23	710-077	2	Hex Bolt 5/16-24 x 2.00"			50	- '	Lg.	
		_	Lg. Grade 5		56	14620		Dash Panel Ass'y.	N
24	741-022	5	Hex Flg. Brg634 I.D.		57	710-08	37	Oval Hd. Cr.—Sunk Scr.	''
25	14608	-	Pivot Bar Ass'y.	N	••			#10 x 5/8" Lg.	N
26	14649		Front Axle Ass'y.—L.H.	N	58	736-02	42	Bell-Wash.	''
27	712-024	1	Hex Nut 3/8-24 Thd.*		59	736-01		FI-Wash: (Hardened)	

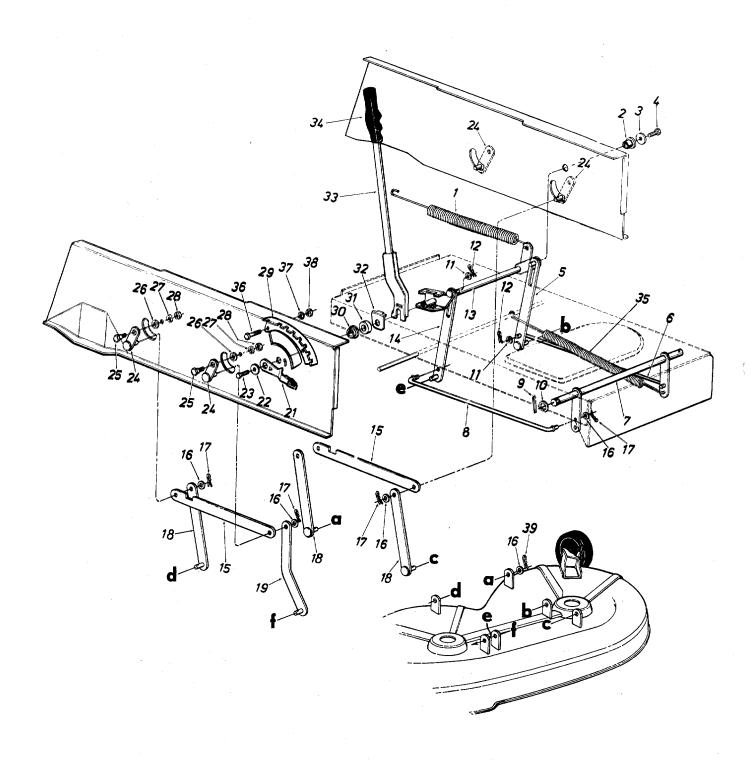
^{*}For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(462—Red Flake) (486—Star Orange)

When ordering parts, if color or finish is important use the appropriate color code shown above. (e.g. Red Flake Finish—11836 (462).)

**FRONT WHEEL CHART

Description	15 x 6.00—Part No.	13 x 5.00—Part No.	
Wheel Assembly Comp.	734-0998	734-0999	
Tire Only	734-0498	734-0495	
Rim Only	734-0997	734-0986	
Bearing	741-0313	741-0313	
Air Valve	734-0255	734-0255	



PARTS LIST FOR MODELS 620, 621 AND 628 LAWN TRACTORS

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	732-030	7	Extension Spring .99" O.D.		21 22	732-041 736-023		Deck Lift—Down Stop	N
2	741-031	2	x 11.00" Lg. Flange Bearing .634" I.D.		. 22	730-023	21	FI-Wash344" I.D. x 1.25" O.D. x 1.25	
3	736-023		FI-Wash344" I.D. x 1.25"		23	710-060)4	Hex Wash. Hd. 5/16-18 x .62" Lg.	
4	710-060	14	Hex Wash. Hd. 5/16-18 x .62" Lg.		24 25	09721 738-014	10	.02 Lg. Pivot Link Ass'y. Shld. Bolt .437" Dia. x .180"	
5	14802		Link Deck Lift Ass'y.	N	23	730-014	·U	Lg. (5/16-18)	
6	711-073	8	Stablilizer Rod	N	26	736-026	64	Fl-Wash344" I.D. x .62"	
7	14647		Stabilizer Shaft Ass'y.	N				O.D.	
8	711-073	8	Stabilizer Rod	N	27	736-011	-	L-Wash. 5/16" I.D.*	
9	714-047	0	Cotter Pin 1/8" Dia. x 11/4"		28	712-026	57	Hex Nut 5/16-18 Thd.*	
		_	Lg.*		29	14633		Index Brkt.	N
10	736-015	6	FI-Wash330" I.D. x 1.20" O.D.		30	736-034	17	Flange Wash628" I.D. x 1.25" O.D.	N
11	736-019	2	FI-Wash531" I.D. x .940" O.D.		31	735-021	16	Rubber Wash. 1.25" O.D. x .63" I.D. x .60	N
12	714-010	1	Inter, Cotter Pin .50" Dia.		32	14654		Retainer Washer—Lift	'
13	14641	•	Lift Shaft Ass'y.	N				Handle	N.
14	14802		Link Deck Lift Ass'y.	N	33	14645		Lift Handle Ass'y.	N
15	09735		Connecting Rod		34	720-015	57	Grip (Lift Handle)	
16	736-019	2	FI-Wash531" I.D. x .940"		35	732-041	0	Extension Spring .99" O.D.	
			O.D.	•	00	740 040		x 13.25" Lg.	N
17	714-010	14	Inter. Cotter Pin For 3/8" Rod		36	710-019	18	Hex Bolt 5/16-18 x .75" Lg.*	
18	14804		Link Deck Hanger Ass'y.	N	37	736-011		L-Wash. 5/16" I.D.*	
19	14800		Link Deck Hanger Ass'y.		38	712-026		Hex Nut 5/16-18 Thd.*	
			(Dog Leg)	N	39	714-010)1	Inter. Cotter Pin	

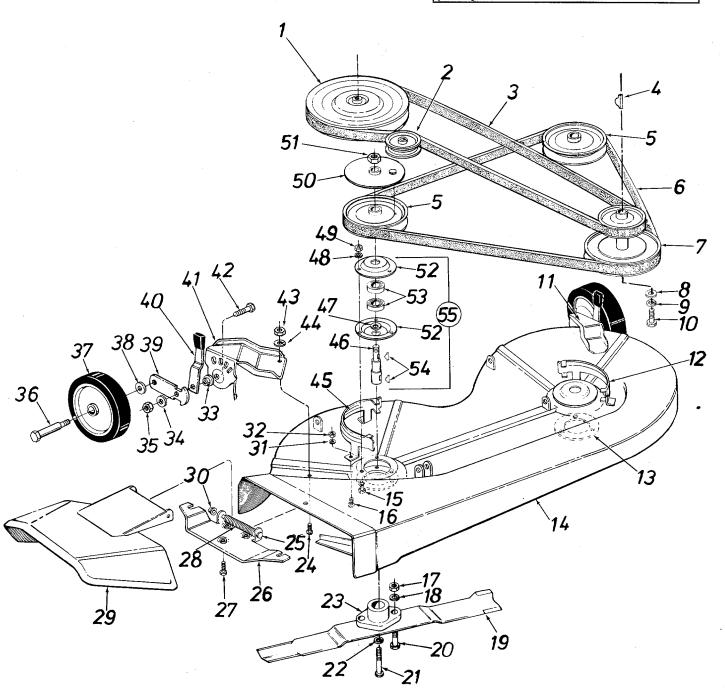
(462—Red Flake) (486—Star Orange)

When ordering parts, if color or finish is important use the appropriate color code shown above. (e.g. Red Flake Finish—11836 (462).)

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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 a temporary service.



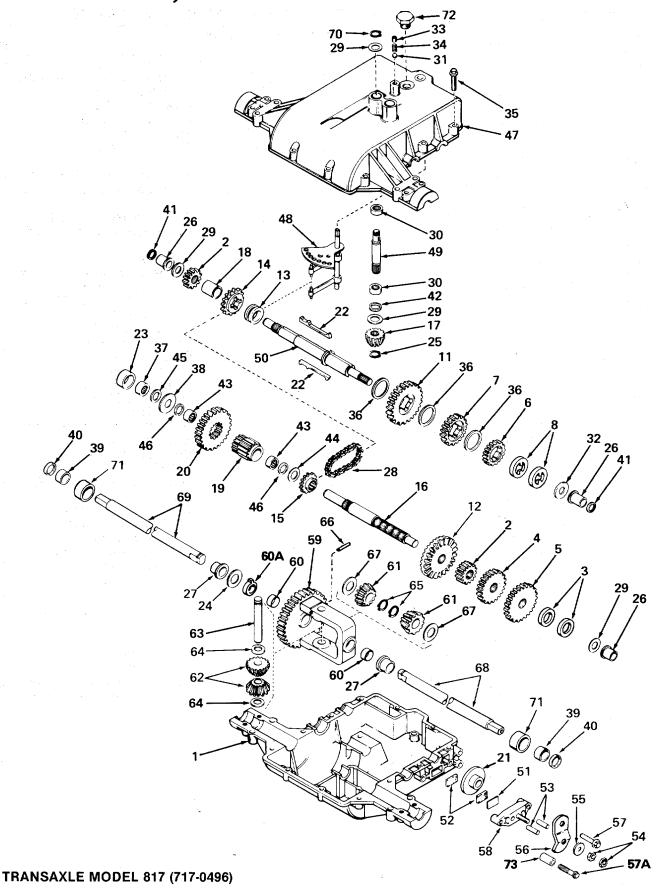
PARTS LIST FOR 34" AND 38" DECKS-MODELS 620, 621 AND 628 LAWN TRACTORS

REF.	PART COLOR NO. CODE	DESCRIPTION	NEW PART	REF.	PART COLOR NO. CODE		NEW PART
1	756-0341	Transaxle Pulley		28	732-0261	Torsion Spring	
2	756-0225	Flat Idler Pulley 3/8" I.D. x		29	11633	Chute Cover Ass'y.—Comp.	
-	700 0220	2.75" O.D.		30	726-0106	Push Nut 1/4" Rod	
3	754-0266	"V"-Belt "A" Glass 85" Lg.		31	736-0329	L-Wash. 1/4" I.D.*	
٦	104 0200	Bare Back	N	32	712-0287	Hex Nut 1/4-20 Thd.*	
4	714-0114	Sq. Key 1/4" x 1/4" x 2.0" Lg.		33	748-0279	Shid. Spacer	
5	756-0251	Pulley 4.75" O.D.		34	736-0219	Bell-Wash400" I.D. x 1.13"	
6	754-0151	"V"-Belt 21/32 x 67" Lg.				O.D.	
	, , , , , , ,	(34" Deck)		35	712-0181	Hex Top L-Nut 3/8-16 Thd.	
	754-0145	"V"-Belt 21/32 x 69" Lg.		36	738-0373	Shld. Bolt .498" Dia. x 1.53"	
	70,01,0	(38" Deck)				Lg.	
7	756-0368	Two Step Engine Pulley	N	37	734-0973	Plastic Wheel 5.0" x 1.38"	
8	711-0572	Step Wash.		38	736-0105	Bell-Wash400" I.D. x .88"	
9	736-0169	L-Wash. 3/8" I.D.*				O.D.	
10	710-0151	Hex Bolt 3/8-24 x 2.00"		39	10937	Pivot Bar	
		Lg.*		40	14082	Spring Lever Ass'y. w/Knob	
111	09082	Wheel Brkt.—L.H.		41	09080	Wheel Brkt.—R.H.	
12	12672	Belt Guard—L.H.		42	710-0253	Hex Bolt 3/8-16 x 1.00" Lg.*	
13	09164	Plate Deck Reinforcement		43	712-0287	Hex Nut 1/4-20 Thd.*	
14	14658	34" Deck Ass'y.	N	44	736-0329	L-Wash. 1/4" I.D.*	
	14662	38" Deck Ass'y.	N	45	12673	Belt Guard—R.H.	
15	710-0322	Hex Sems Bolt 5/16-18 x]	46	711-0255	Blade Spindle	
		1.00" Lg.*		47	13703	Bearing Shield	ļ
16	710-0289	Hex Bolt 1/4-20 x .50" Lg.*		48	736-0119	L-Wash. 5/16" I.D.*	•
17	712-0123	Hex Nut 5/16-24 Thd.*		49	712-0267	Hex Nut 5/16-18 Thd.*	
18	736-0119	L-Wash. 5/16" I.D.*		50	09322	Brake Disc	
19	742-0120	17" Blade (34" Deck)		51	712-0261	Hex Jam L-Nut 5/8-11 Thd.	
	742-0122	19" Blade (38" Deck)		52	08253	Bearing Housing	
20	710-0117	Hex Bolt 5/16-24 x 1.00" Lg.		53	741-0919	Ball Bearing .787" I.D. x	-
		(Grade 5)			7440000	1.85" O.D.	
21	710-0459	Hex Bolt 3/8-24 x 1.50" Lg.		54	714-0365	#6 Hi-Pro Key 5/32" x 5/8"	
	700 0047	(Grade 5)			00004	Dia.	
22	736-0217	L-Wash. 3/8" I.D. (Heavy		55	09321	Blade Spindle Ass'y.	1
00	10760	Duty)			14776	34" Deck Ass'y. Comp.	N
23	10769	Blade Adapter Kit			14777	(Service Only) 38" Deck Ass'y, Comp.	
24 25	710-0289 711-0571	Hex Bolt 1/4-20 x .50" Lg.* Hinge Pin			14///	(Service Only)	N
26	11396	Adapter Plate				(Service Offiy)	1
27	710-0599	Hex Wash. Self-Tap Scr.					
21	110-0099	1/4-20 x .50" Lg.					
	1	/4-20 A .00 Ly.	<u></u>	<u> </u>	L		

(462—Red Flake) (486—Star Orange)

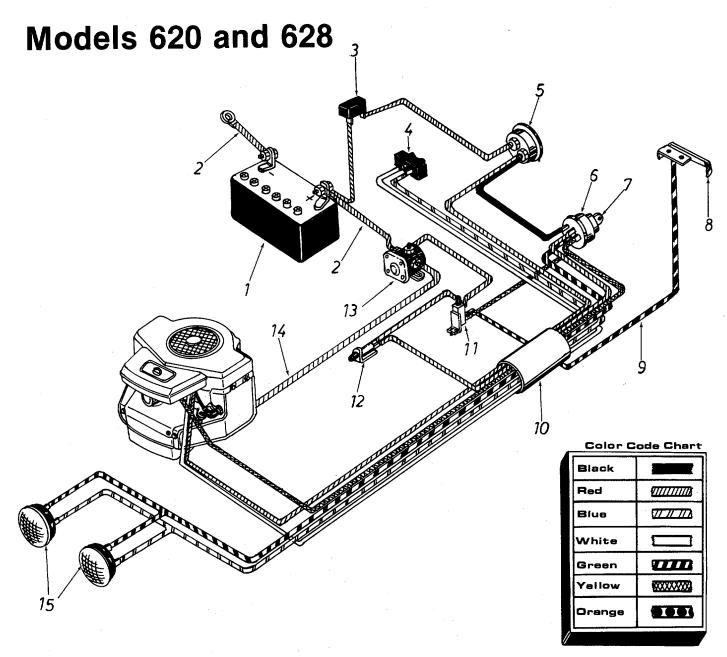
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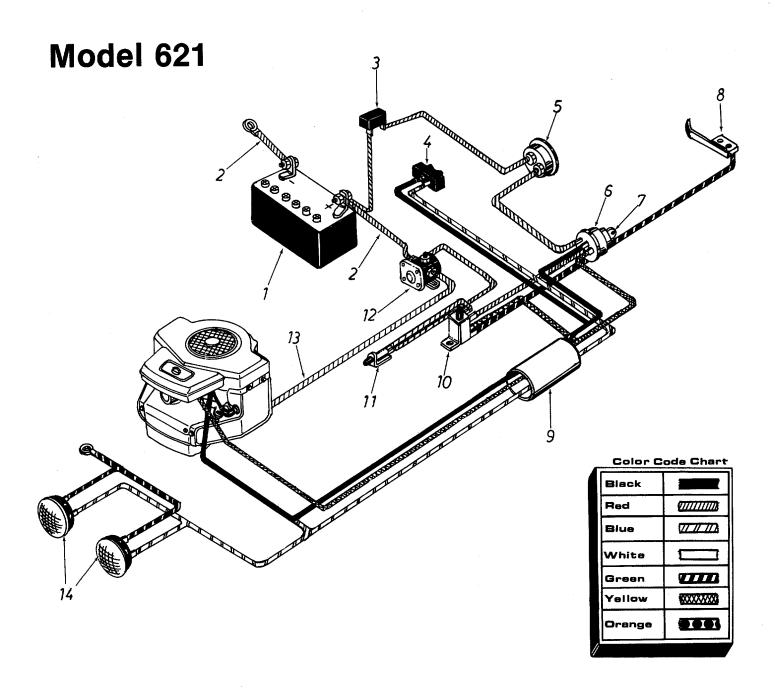
PARTS LIST FOR TRANSAXLE MODEL 817 (717-0496)

	(717-0490)						
REF.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION		
1	PE-770071	Case, Transaxle	39	PE-530105	Bearing, Needle		
2	PE-778136	Gear, Spur (15 Teeth)		PE-788042	Seal, Oil		
3	PE-786071	Spacer (1-1/8" O.D. x 3/4"		PE-788051	Ring, Square Cut		
"	1 2 70007 1	I.D. x 3/8" Thick)		PE-792001	Ring, Square Cut		
4	PE-778127A	Gear, Spur (25 Teeth)		PE-780112	Bearing, Needle		
5	PE-778129A	Gear, Spur (30 Teeth)		PE-780114	Washer, Flat		
6	PE-778121A	Gear, Spur (20 Teeth)	45	PE-788052	Ring, Square Cut		
7	PE-778123A	Gear, Spur (25 Teeth)	46	PE-788053	Ring, Square Cut		
8	PE-786072	Spacer (1-3/8" O.D. x 1-1/8"	47	PE-772077A	Cover, Transaxle		
"	1 2 7000.2	I.D. x 3/8" Thick)	48	PE-784290	Rod and Fork Ass'y., Shift		
11	PE-778125	Gear, Spur (35 Teeth)	49	PE-776140	Shaft, Input		
12	PE-778137	Gear, Bevel (42 Teeth)	50	PE-776184	Shaft, Brake		
13	PE-784266	Collar, Shift	51	PE-790007	Plate, Brake Pad		
14	PE-786083	Sprocket (18 Teeth)	52	PE-790006	Pad, Brake		
15	PE-786082	Sprocket (9 Teeth)	53	PE-786026	Pin, Dowel		
16	PE-776181	Shaft, Counter	54	PE-792075	Lock Nut, 5/16-24		
17	PE-778113A	Bevel Pinion, Input	55	PE-792076	Washer, Flat		
18	PE-786074	Spacer	56	PE-790004	Lever, Brake		
19	PE-778138	Pinion, Output	57	PE-792073	Screw, Hex Hd. Thread Form-		
20	PE-778139	Gear, Output			ing, 1/4-20 x 1-1/4		
21	PE-790003	Disk, Brake	57A	PE-792085	Screw, Hex Hd. Thread Form-		
22	PE-792089A	Key			ing, 1/4-20 x 2-1/4		
23	PE-786075	Spacer	58	PE-790005	Holder, Brake Pad		
24	PE-780001	Washer	59	PE-778053A	Gear Ass'y., Differential (Incl.		
25	PE-788040	Ring, Retaining			2 of No. 60)		
26	PE-780105	Bushing, Flanged	60	PE-780064	Bushing		
27	PE-780118	Bushing, Flanged	60A	PE-780120	Bushing		
28	PE-786081	Chain, Roller (No. 41 Chain,	61	PE-778067	Gear, Bevel		
		24 Links)	62	PE-778068	Pinion, Bevel		
29	PE-780072	Washer, Thrust	63	PE-786034	Pin, Drive		
30	PE-780086	Bearing, Needle	64	PE-780065	Washer, Thrust		
31	PE-792077	Ball, Steel	65	PE-792018	Ring, Retaining		
32	PE-780109	Washer, Thrust	66	PE-792040	Pin, Roll		
33	PE-792078	Screw, Set, 3/8-16 x 3/8	67	PE-780001	Washer, Thrust		
34	PE-792079	Spring	68	PE-774420	Axle (14-7/8" Long)		
35	PE-792073	Screw, Hex Hd. Thread Form-	69	PE-774419	Axle (13-3/4" Long)		
		ing, 1/4-20 x 1-1/4	70	PE-792035	Ring, Retaining		
36	PE-780108	Washer, Thrust	71°	PE-786084	Spacer		
37	PE-780111	Bearing, Needle	72	PE-792074	Plug		
38	PE-780113	Washer, Flat	73	PE-786066	Spacer		
I	1	1	i				



PARTS LIST FOR ELECTRICAL SYSTEM MODELS 620 AND 628

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0514	Battery	
2	725-0221	Electric Wire	
2	725-0459	Circuit Breaker	
4	725-0634	Light Switch	
4 5 6 7 8	725-0119	Ammeter	
6	725-0267	Ignition Switch	
7	725-0201	Ignition Key	1
8	725-0759	Reverse Safety Switch	
9		Electric Wire (Part of Ref.	
		No. 10)	
10	725-0807	Wire Harness	N
11	725-0803	Safety Switch	N
12	725-0577	Safety Switch	
13	725-0771	Solenoid	N
14	725-0562	Electric Wire	N
15	725-0222	Headlight	



PARTS LIST FOR ELECTRICAL SYSTEM MODEL 621

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0514	12 V-Battery	
2	725-0221	Electric Wire	
2	725-0459	Circuit Breaker	
4	725-0634	Light Switch	
4 5	725-0119	Ammeter	
6	725-0267	Ignition Switch	
7	725-0201	Ignition Key	
8	725-0759	Reverse Safety Switch	N
9	725-0809	Wire Harness	N
10	725-0803	Safety Switch	N
11	725-0577	Safety Switch	
12	725-0771	Solenoid	N
13	725-0562	Electric Wire	
14	725-0222	Headlight	

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

BRIGGS AND STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

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

NOTE: If any parts are found to be missing or defective upon assembly of this unit, write to advise the factory so that immediate replacement can be made.

ALABAMA Auto Electric & Carburetor Co.	BIRMINGHAM 2625 4th Ave. S35233
ARKANSAS Mity Mite Motors Inc	FORT SMITH 4515 S 16th St 72001
Sutton's Lawn Mower Shop CALIFORNIA	NORTH LITTLE ROCK Rt. 4, Box 36872117 PORTERVILLE
CALIFORNIA Billious COLORADO Spitzer Industrial Products Co.	75 North D Street 93257 DENVER
FLORIDA Radco Distributors	6601 N. Washington St., Box 2911480229 JACKSONVILLE
	Pov 5450 22207
Small Eng. Dist	OPA LOCKA 2351 N.W. 147th St 33054 FAST POINT
East Point Cycle & Key ILLINOIS	EAST POINT 2834 Church St 30344 LYONS 8615 Ogden Ave 60534
Keen Edge Co	8615 Ogden Ave 60534 ELKHART 2101 Industrial Pkwy 46514
Power Lawn & Garden Equip	DUBUQUE 2551 J.F. Kennedy 52001
Suhren Engine Co	NEW ORLEANS 8330 Earhart Blvd 70118
Contar Cumply Co	6867 New Hampshire Ave
MASSACHUSETTS Morton B. Collins Co MICHIGAN Lorenz Service Co	SPRINGFIELD
Lorenz Service Co	LANSING 2500 S. Pennsylvania 48910 MOUNT CLEMENS
Power Equipment Dist MINNESOTA	MOUNT CLEMENS 340 Hubbard
MISSISSIPPI	BILOXI
MISSOURI Automotive Equip Service	XANSAS CITY 3117 Holmes St 64109
Henzler, Inc	ST. LOUIS 2015 Lemay Ferry Rd63125 BELLMAWR
Lawnmower Parts Inc NEW MEXICO	BELLMAWR . 717 Creek Rd
Spitzer Eng. & Parts	1023 Third St. N.W87103 CARTHAGE West End Ave13619

NORTH CAROLINA	GOLDSBORO
Smith Hardware Co.	GOLDSBORO 515 N. George St 27530
	GREENSBORO 335 N. Green 27402
Dixie Sales Company	335 N. Green 27402
OHIO .	CARROLL
Stebe's Mid-State Mower Sup	ply . 71 High St., Box 366 43112
•	CLEVELAND
Bleckrie, Inc	CLEVELAND 7900 Lorain Ave44102
	WADSWORTH 687 Seville Rd 44281
National Central	687 Seville Rd44281
Burton Supply Co	YOUNGSTOWN
OKI ALIOMA	Box 929
OKLAHOMA	MUSKUGEE
OPECON	DODILAND
Kenton Supply Co	8216 N. Denver Avo. 97217
PENNSYI VANIA	PORTLAND 8216 N. Denver Ave 97217 HARRISBURG 4021 N. 6th St 17110
FECO Inc	4021 N 6th St 17110
	PHII ADELPHIA
Thompson Rubber Co	5222-24 N. Fifth St. 19120
	DITTODIADAL
Bluemont Co	11125 Frankstown Rd 15235
	PUNXSUTAWNEY
Frank Roberts & Sons	R.D. 2
TENNESSEE	KNOXVILLE
Master Repair Service	KNOXVILLE 2000 Western Ave 37921
	MEMPHIS
American Sales & Service, Inc	c 3035-43 Belibrook 3811
TEXAS	A22 F lefferson 7520:
warr brothers, inc	DALLAS 423 E. Jefferson 75205 FORT WORTH
Woodson Sales Corn	1702 N. Sylvania 76111
Woodson Gales Gorp	HOUSTON
Bullard Supply Co	HOUSTON 2409 Commerce St 77003
IITAH	SALTIAKECITY
A-1 Engine & Mower Co	437 E. 9th St 84111
VERMOŇT	BURLINGTON 180 Flynn Ave05401
Vermont Hdwe. Co. Inc	180 Flynn Ave 05401
VIRGINIA	ASHLAND
RBI Corp	Lake Ridge Park,
	ASHLAND Lake Ridge Park, 101 Cedar Run Dr 23005 SEATTLE
WASHINGTON	SEATTLE 1414 14th Ave98102
Bailey's Inc	1414 14th Ave 98102
WEST VIRGINIA	CHARLESTON 233 Virginia St., E 25301
WISCONSIN	MADONEICIO
Power Pac	MARSHFIELD 301 E. 29th St 54449
TOWEI FAC	501 E. 25th 5t 54449

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.