# 10¢

# Owner's Operating Service Instruction Manual

- ASSEMBLY
- OPERATION
- REPAIR PARTS

Model Nos.

135-470A

135-475A

135-480A

135-485A

# 34" RIDING MOWERS

#### WARRANTY

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

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

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

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

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## IMPORTANT

# SAFE OPERATION PRACTICES FOR RIDING VEHICLES

- Know the controls and how to stop quickly— READ THE OWNER'S MANUAL.
- Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.
- 3. Do not carry passengers. Keep children and pets a safe distance away.
- 4. Clear work area of objects which might be picked up and thrown.
- 5. Disengage all attachment clutches and shift into neutral before attempting to start engine
- 6. Disengage power to attachment(s) and stop engine before leaving operator position.
- 7. Disengage power to attachment(s) and stop enbefore making any repairs or adjustments.
- 8. Disengage power to attachment(s) when transporting or not in use.
- Take all possible precautions when leaving vehicle unattended such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
- 10. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
- 11. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.
- 12. Stay alert for holes in terrain and other hidden hazards.
- 13. Use care when pulling loads or using heavy equipment.
  - A. Use only approved drawbar hitch points.
  - B. Limit loads to those you can safely control.
  - C. Do not turn sharply. Use care when backing.
  - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
- Watch out for traffic when crossing or near roadways.

- 15. When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
- 16. Handle gasoline with care—it is highly flammable.
  - A. Use approved gasoline container.
  - B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
  - C. Open doors if engine is run in garage exhaust fumes are dangerous. Do not run engine indoors.
- Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in owner's manual.
- 18. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- 19. Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
- 20. To reduce fire hazard keep engine free of grass, leaves or excessive grease.
- 21. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.
- 22. Do not change the engine governor settings or overspeed the engine.
- 23. When using the vehicle with mower, proceed as follows:
  - (1) Mow only in daylight or in good artificial light.
  - (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
  - (3) Shut engine off when removing grass catcher and/or unclogging chute.
  - (4) Check blade mounting bolts for proper tightness at frequent intervals.
- 24. Check grass catcher bags frequently for wear or deterioration. Replace with new bags for safety protection.
- 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. 195-015A is available as optional equipment for the mowers shown in this manual.



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. 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.

#### NOTE

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

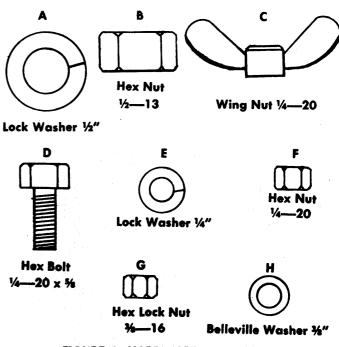


FIGURE 1. HARDWARE SUPPLIED

- 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.

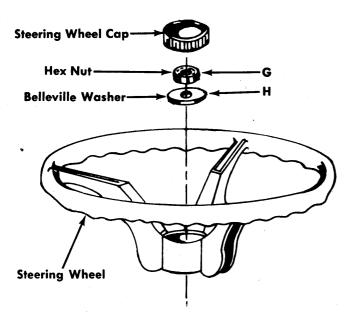


FIGURE 2. STEERING WHEEL ASSEMBLY

- 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 lock-washer (A) and hex nut (B). See figures 1 and 3.

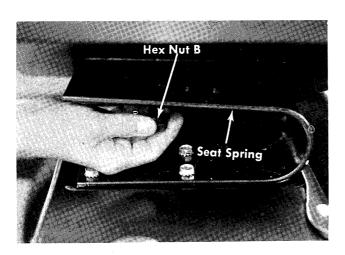


FIGURE 3 SEAT ASSEMBLY

#### NOTE

Check ALL nuts and bolts for correct tightness.

#### **ACTIVATING THE BATTERY (Electric Start Models Only)**

Step 6.

#### DANGER

BATTERIES CONTAIN SULFURIC ACID
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.



Since battery acid is corrosive to metals, do not pour into any sink or drain. Rinse empty electrolyte containers and mutilate before discarding. If acid is accidentally spilled on battery during filling or charging, or on bench or clothing, etc., flush off with clear water and neutralize with soda or ammonia solution.

- 1. Place battery to be filled on bench or workbench. Never activate battery in mower. Remove vent plugs from all cells.
- 2. Fill each cell carefully using battery grade 1.250-1.265 specific graviy. Sulfuric acid to %" above the top of the separators or to the split ring.
- 3. Allow battery to set for 20 minutes. Battery can then be installed, however, to have maximum capacity the battery should be placed on a charger after the 20 minutes setting period. Battery can be charged at maximum of 35 amperes until the specific gravity reading is 1.265-1.275.
- 4. 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.
- 5. 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. Coat the terminals with a thin coat of grease.
- 6. If the battery is not going to be used in the winter, remove the battery and store in a cool, dry place. Do not store directly on a concrete floor as this will drain the battery. Recharge whenever the specific gravity is less than 1.225.

#### INSTALLING THE BATTERY

- 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.

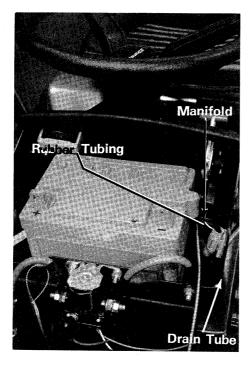


FIGURE 4.

- 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.

#### 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.
- Attach the negative cable, grounded, to the negative battery terminal with the bolt, lockwasher and nut in the assembly pack.

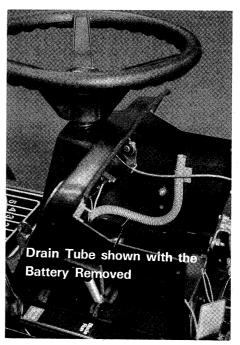


FIGURE 5

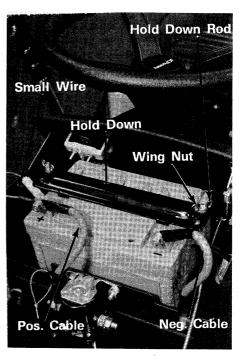


FIGURE 6

## **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.

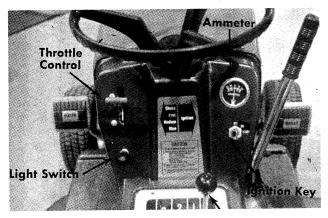


FIGURE 7. CONTROLS

- b. Gear Shift Lever. The gear shift lever is used to shift into one of four Forward Gears, NEUTRAL or RE-VERSE. See figures 7 and 8.
- 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
- 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 7.
- 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 lockout 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 10.
- 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 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 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.



FIGURE 8. SHIFT PATTERN (Recoil)

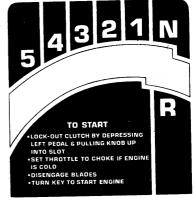


FIGURE 8a. SHIFT PATTERN (Electric)

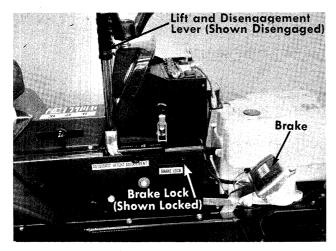


FIGURE 9. RIGHT HAND CONTROLS

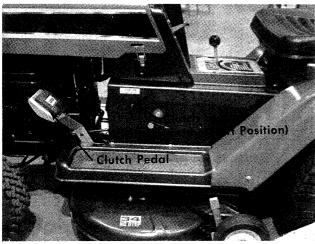


FIGURE 10.LEFT HAND CONTROLS

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

Recoil Model. See figure 11. 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.

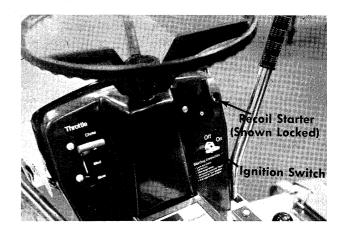


FIGURE 11. RECOIL STARTER

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 11.

I. 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 9.

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

Height of Cut Stop. See figure 12. Lift the stop and set it at the desired cutting height.

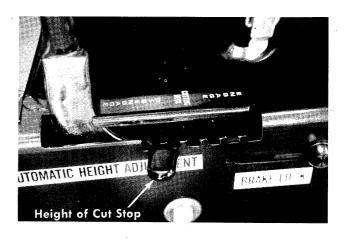


FIGURE 12. HEIGHT OF CUT SETTINGS

Wheel Height Adjuster. See figure 13. 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 13. Set height of cut stop in the 1½ position. See figure 12.

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.

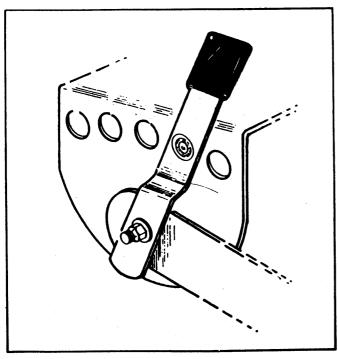


FIGURE 13. WHEEL HEIGHT ADJUSTER

#### **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.

# 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 14.
- Step 2. Place the clutch lockout in the START position. See figure 10.

Step 3. Place the lift and disengagement lever in the DISENGAGED position. See figure 9.

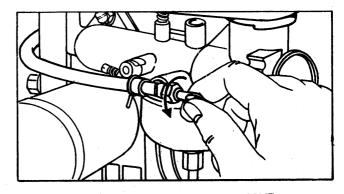


FIGURE 14. FUEL SHUT-OFF VALVE

- 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 15.
  - 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 figures 15. and 17.

#### **Electric Start**

See figures 17 and 19. Turn the ignition key to the START position. When the engine is running, let the key return to the ON position.



FIGURE 15. RECOIL STARTER

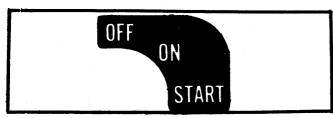
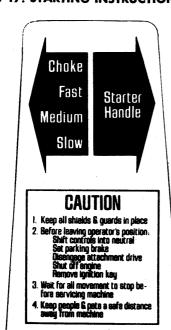


FIGURE 16. STARTER SWITCH

#### TO START

- Lock-out clutch by depressing left pedal & pulling knob up into slot
- Set throttle to choke if engine is cold
- Disengage blade
- Turn key to on position
- Pull rope handle to start engine
- Return rope handle into slot and turn to lock

FIGURE 17. STARTING INSTRUCTION LABEL



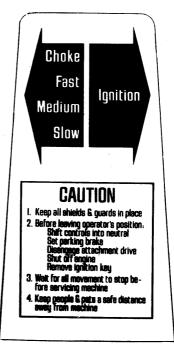


FIGURE 19. DASH PANEL LABEL (Electric Starter)

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 on page 7.
- 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 positons, 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 a 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.



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 9) 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.

# MAINTENANCE

#### **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 20.) 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 20.
- Step 2. After the oil has been drained completely from the crankcase, replace the drain plug and tighten.
- Step 3. Refill crankcase with 2½ 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.

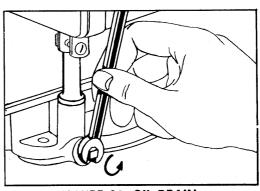


FIGURE 20. OIL DRAIN

#### **LUBRICATION**

Lubricate the wheel bearings (2 per wheel) and the upper and lower spindle bearings with SAE 30 oil once a season. See figure 21.

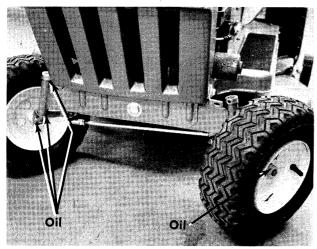


FIGURE 21. WHEEL AND SPINDLE BEARINGS

Lubricate the four rear axle bearings with SAE 30 oil once a season. See figure 22.

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.

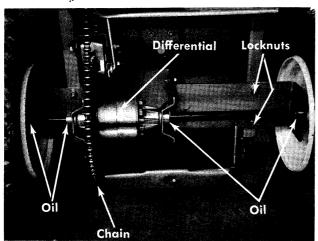


FIGURE 22. REAR AXLE ASSEMBLY

#### **CHAIN ADJUSTMENT**

To tighten the chain, loosen two locknuts on each side of rear axle as shown in figure 22.

Tighten the adjusting nuts (figure 23) 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.

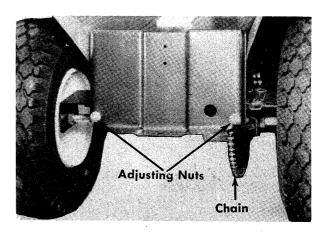


FIGURE 23. CHAIN ADJUSTMENT

#### **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 24.

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.
  - Saturate foam in SAE 30 engine oil, then squeeze out excess oil.
  - d. Assemble parts, fasten to carburetor with screw.

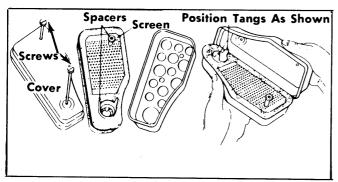


FIGURE 24. AIR CLEANER

#### 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**

The spark plug gap should be cleaned and reset to a 0.030-inch clearance every hours of engine operation (See figure 25). Spark plug replacement is 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.

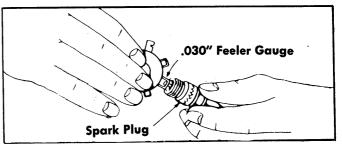


FIGURE 25. SPARK PLUG CLEARANCE

#### REPLACING BLADE



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

Removing and Sharpening Blades. Remove the center bolt and lockwasher. See figure 26. Pull the blade and blade adapter from the blade spindle.

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

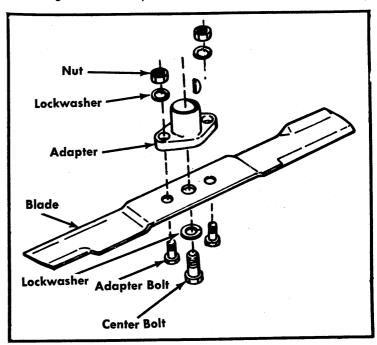


FIGURE 26. BLADE REMOVAL

#### WHEEL ADJUSTMENT

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.

- 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.

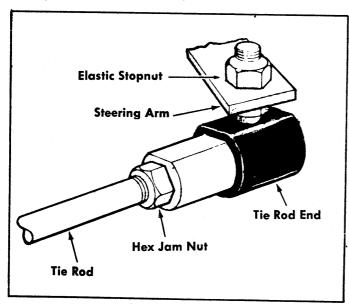


FIGURE 27. TIE ROD ADJUSTMENT

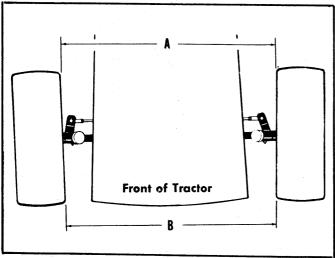


FIGURE 28. TOE-IN DIAGRAM

Dimension "B" should be approximately  $\frac{1}{2}$ " 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 checked periodically for correct tightness.

#### **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.

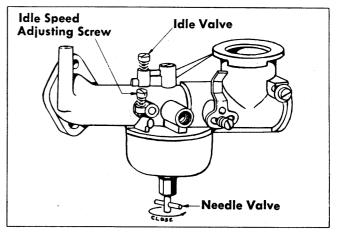


FIGURE 29. CARBURETOR ADJUSTMENT

#### 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 30.

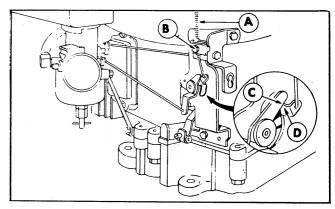


FIGURE 30. CHOKE ADJUSTMENT

#### PREPARING FOR BELT REMOVAL

- 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.



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

#### MOWING UNIT BELT REPLACEMENT

- Step 1. Place the lift lever in the disengaged position. See figure 9.
- Step 2. Remove the belt keeper and large bolt on the engine pulley. See figure 31.

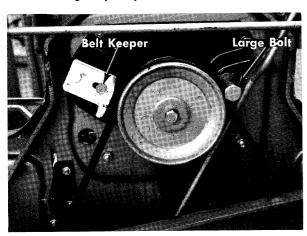


FIGURE 31. BELT KEEPER

Step 3. Unhook the belt from the engine pulley. See figure 32.

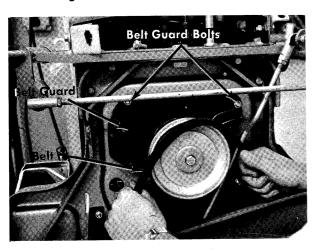


FIGURE 32. REMOVING MOWER BELT

- Step 4. Place the lift lever in the engaged position. See figure 9.
- Step 5. Unhook the tension springs on both sides of the deck. See figure 32.

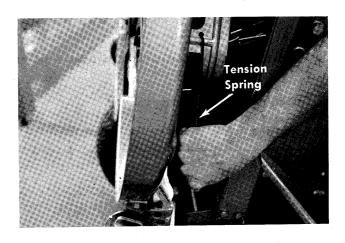


FIGURE 33. REMOVING TENSION SPRINGS

- Step 6. Remove the front four deck links from the cutting deck. See figure 34.
- Step 7. Remove the belt guards from both deck pulleys. See figure 34.
- Step 8. Remove and replace the belt and reassemble.

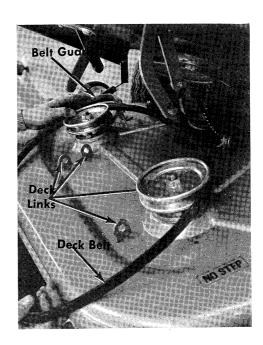


FIGURE 34. DECK LINKS

#### TRANSMISSION BELTS REMOVAL

- Step 1. Place the lift lever in the disengaged position. See figure 9.
- Step 2. Remove the belt keeper and large bolt on the engine pulley. See figure 31.

- Step 3. Unhook the belt from the engine pulley. See figure 32.
- Step 4. Place the lift lever in the engaged position. See figure 9.
- Step 5. Unhook the tension springs on both sides of the deck. See figure 33.
- Step 6. Remove the front four deck links from the cutting deck. See figure 34.
- Step 7. Tip the deck down as shown in figure 34.

#### NOTE

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

Step 8. Remove the engine belt guard by removing the two front engine mounting bolts. See figure 35.

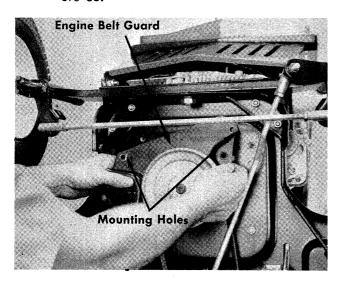


FIGURE 35. BELT GUARD REMOVAL

#### NOTE

By working between the frame and the deck, it is possible to remove and replace the deck belt without removing the deck, however, the working space is limited.

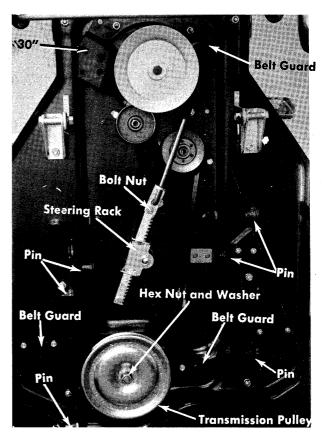


FIGURE 36. BOTTOM VIEW

Step 9. Removing the transmission belt. See figure 36.

- a. Remove the entire belt guard from the engine pulley by removing the two front engine bolts. See figure 35.
- Remove the transmission pulley by removing the hex nut and washer. See figure 36.
- c. Remove the bolt and nut from the steering rack and remove the belt.
- d. Reassemble in reverse order with the new belt.

# OFF-SEASON STORAGE

#### **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 carbureto is exhausted.



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 19 and 20 then wipe the entire machine with an oiled rag in order to protect the surfaces.

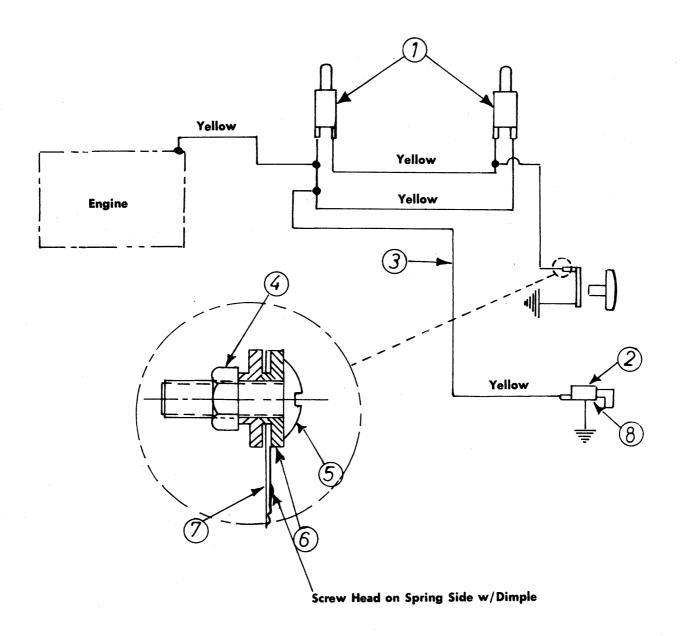
# TROUBLE SHOOTING CHART FOR RECOIL START MODELS

CAUTION: ALWAYS DISCONNECT SPARK PLUG BEFORE ATTEMPTING ANY REMEDY.

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.
	Blocked fuel line or empty gas tank.	Clean fuel line; check fuel supply. Also check fuel shut-off valve.
	Defective spark	Spark plug lead wire disconnected.
	plug.	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 <b>Operation</b> .
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

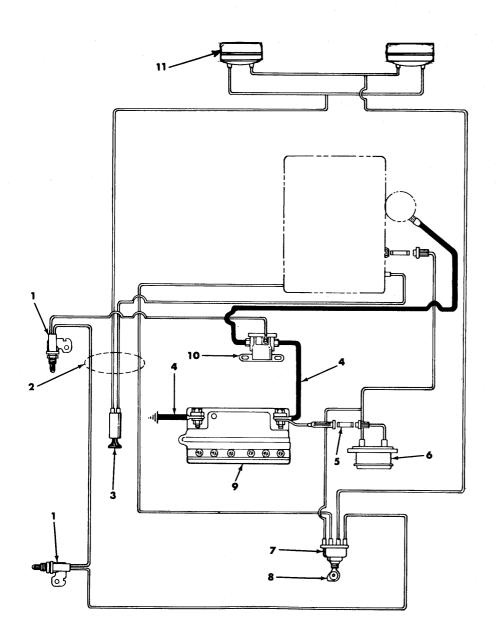
TROUBLE	LOOK FOR	REMEDY
Engine fails to start.	Safety System	A. Check for a blown fuse in the wire leading from the positive terminal of the battery.
		B. Before checking the safety system further, be sure the clutch control and the blade control are disengaged; only the starting system is being checked. 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 guage) 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-oft valve.
	Defective spark	Spark plug lead wire disconnected.
	plug.	Faulty spark plug—spark should jump gap between contro electrode and side electrode. If spark does not jump, re place 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 power.	of Dirty air cleaner.	Remove air cleaner and clean as outlined in <b>Engine</b> 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 dischargrass.	rge Discharge chute clogged.	Clean discharge chute and inside of deck.
	Foreign object lodged in deck.	Remove object from deck. See CAUTION following step 1 i paragraph <b>Operation</b> .
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.
	1	10

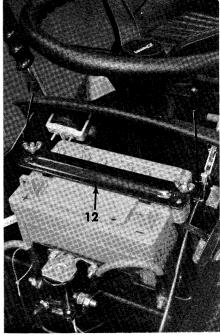


SCHEMATIC FOR ELECTRICAL SYSTEM

PARTS LIST FOR MODELS 135-470A AND 135-480A

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0269	Safety Switch Norm Closed–Red	
2	725-0266	Magneto Ignition Switch w/Nut	
_	725-0272	Wire Harness	
4	712-0121	Hex Nut #10-24	1
	710-0425	Truss Mach. Scr. #10-24 x .62	1
6	736-0338	Fiber Washer	
7	732-0257	Switch Spring	
8	736-0225	Internal L-Wash, % I.D.	





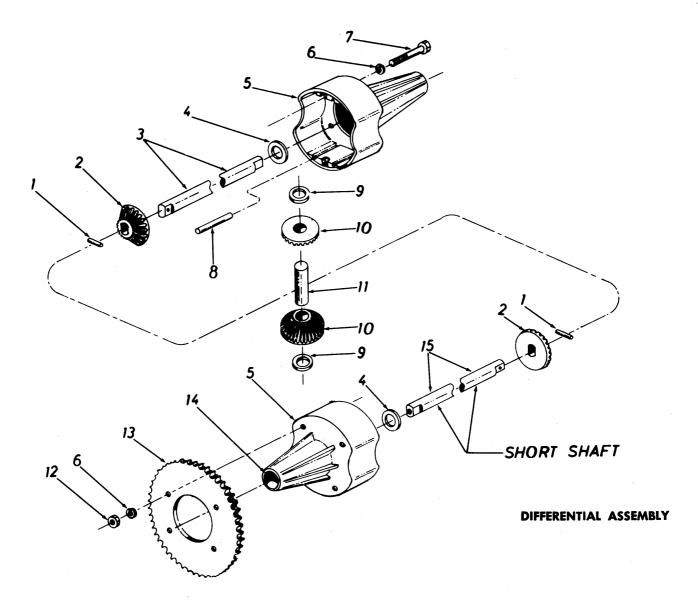
#### PARTS LIST FOR SCHEMATIC MODELS 135-475A AND 135-485A

725-344 WIRE HARNESS

REF NEW **PART** DESCRIPTION NO. NO. **PART** Safety Switch—Black Plunger Wire Harness 485 725-0268 2 725-0364 Light Switch 3 725-0202 4 725-0122 Wire 5 Fuse 71/2 Amp. 1/4 Dia. x 11/4 Lg. 725-0298 6 725-0119 Ammeter Ignition Switch 7 725-0267 8 725-0201 Key 725-0453 Battery Ν 10 725-0270 Solenoid Head Lamp475 Battery Hold Down 725-0<del>155</del> 4 12 12614 Ν 13 Hold Down Rods 711-0222 712-0113 Wing Nuts\*

725-222 ADLAM?

<sup>\*</sup>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.



#### PARTS LIST FOR DIFFERENTIAL ASSEMBLY 717-0314

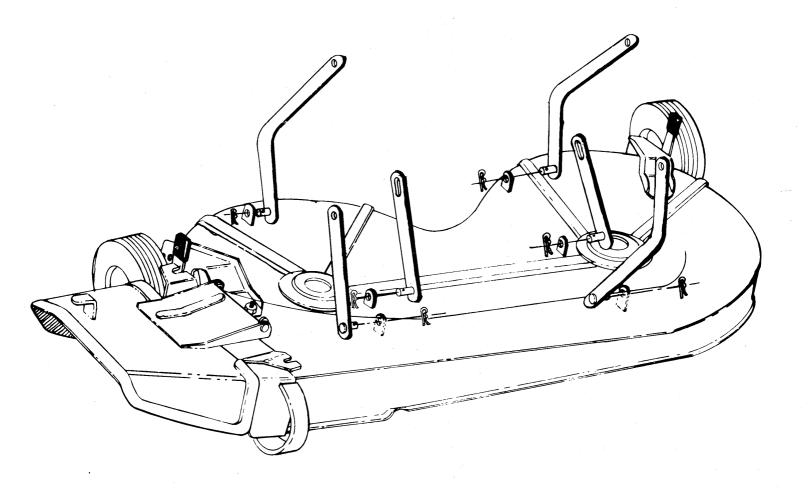
		•	. •		
REF. NO.	PART NO.		ty. ogʻd.	DESCRIPTION	NEW PART
1	715-024	47	2	Spring Pin Spiral 3/16" Dia. x " 1.00" Lg.	
2	748-018	35	2	Gear—Double "D" Hole	
3	738-024		_	Shaft—Long 16.89" Lg.	Ν
4	736-018			Fl. Wash760 I.D. x 1.49 O.D.	
	719-015	50	2	Housing Half	
6	736-01	19		L-Wash. 5/16" Scr.*	
7	710-036	53		Hex Scr. 5/16-24 x 4.00" Lg.	
	715-012	23	2	Dowel Pin 3/16" Dia. x .62" Lg.	
9	736-018	37	2	Fl. Wash640 I.D. x .24 O.D.	
10	748-015	58	2	Gear—Round Hole	
11	711-02	76	1	Drive Pin	
12	712-02	37	4	Hex Cent. L-Nut 5/16-24 Thd.	
13	091	33	1	Sprocket—40 Tooth	
14	748-01			Flange Bearing	
15	738-02		1	Shaft—Short 9.53" Lg.	N
	737-01	20		Grease—High Temp. 450F (2 oz.)	

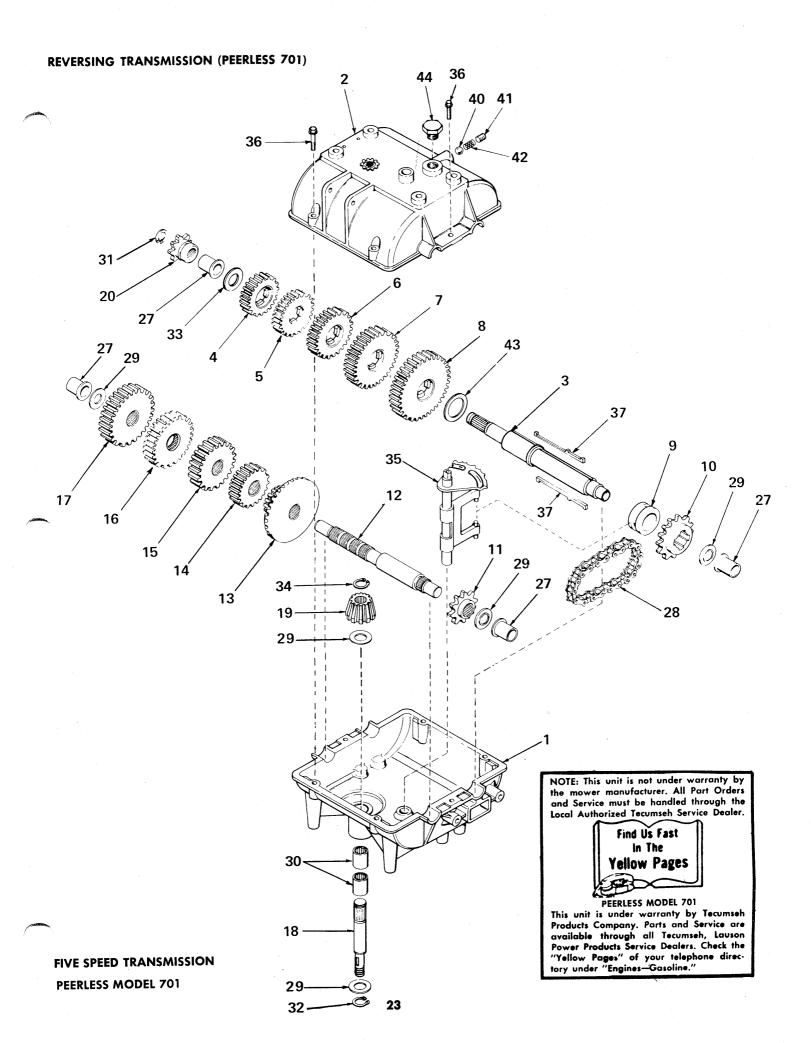
<sup>\*</sup>For faster service obtain standard nuts and bolts locally. If these items cannot be obtained locally, order by part number and size as shown on the parts list.

#### **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.





#### PARTS LIST FOR FIVE SPEED TRANSMISSION PEERLESS MODEL 701

REF.	PART NO.	DESCRIPTION
,		
1	PE-770061 PE-772070	Case, Transmission
2 3	PE-776164	Cover, Transmission
3		Shaft, Output and Brake
4	PE-778121	Gear, Spur (20 teeth)
5 6 7	PE-778122	Gear, Spur (22 teeth)
0	PE-778123	Gear, Spur (25 teeth)
/	PE-778124	Gear, Spur (30 teeth)
8	PE-778125	Gear, Spur (35 teeth)
9	PE-784266	Collar, Shift
10	PE-786060	Sprocket (14 teeth)
11	PE-786061	Sprocket (10 teeth)
12	PE-776134	Shaft, Counter
13	PE-778109	Gear, Bevel (42 tooth and 15 tooth spur gear)
14	PE-778126	Gear, Spur (20 teeth)
15	PE-778127	Gear, Spur (25 teeth)
16	PE-778128	Gear, Spur (28 teeth)
17	PE-778129	Gear, Spur (30 teeth)
18	PE-776140	Shaft, Input
19	PE-778113	Bevel Pinion, Input
20	PE-786049	Sprocket (8 teeth)
27	PE-780105	Bushing, Flanged
28	PE-786062	Chain, Roller (No. 41 chain, 22 links)
29	PE-780072	Race, Thrust
30	PE-780106	Bearing, Needle
31	PE-792072	Ring, Retaining
32	PE-792035	Ring, Retaining
33	PE-780109	Washer
34	PE-788040	Ring, Retaining
35	PE-784271	Rod and Fork Ass'y., Shift
36	PE-792073	Scr., ¼-20 x 1¼ hex hd. tap-tite
37	PE-792089	Key
40	PE-792077	Ball, 5/16" Steel
41	PE-792078	Screw, %-16 x % set
42	PE-792079	Spring
43	PE-780108	Washer, Thrust
44	PE-792074	Plug

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

Find Us Fast In The Yellow Pages

PEERLESS MODEL 701
This unit is under warranty by Tecumseh
Products Company. Parts and Service are
available through all Tecumseh, Lauson
Power Products Service Dealers. Check the
"Yellow Pages" of your telephone directory under "Engines—Gasoline."

#### BATTERY WARRANTY CERTIFICATE

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

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

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

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

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

#### BATTERY MANUFACTURER MEMBERSHIP LIST

**ALABAMA** Birmingham Southern Bty. Yocam Batteries Mobile Yocam Batteries Montgomery Ebco Battery ALASKA Anchorage Alaska Husky Bty. Miami **ARKANSAS Hot Springs** Red Diamond Bty. CALIFORNIA Los Angeles Estee Battery Laher Bty. Prod. Oakland Laher Bty Prod. Sacramento Laher Bty, Prod. San Francisco Amp King Bty. Laher Bty. Prod. Pico Bty. Mfg. Stockton Stockton Battery COLORADO Denver **Moore Battery** D. C. Washington

Express Bty. Div. Contract Bty, Mfg. Leeth Brothers Yocam Batteries **FLORIDA** ILLINOIS Fort Lauderdale Belleville Bell City Bty. Mfg. Florida Bty. Hialeah Chicago East Penn Mfg. Illinois Bty, Mfg. Universal Bty. Jacksonville Volta Bty. Corp. Tropex Batteries Yocam Batteries Peoria Red Diamond Bty. **Tropex Batteries** INDIANA Yocam Batteries Muncie Orlando Stout Storage Bty. Yocam Batteries IOWA Pensacola Corydon Yocam Batteries Voltmaster St. Petersburg Council Bluffs Electro Battery Co. Reliance Bty. Prod. Tampa **Des Moines** Bilt-Rite Bty. Mfg. Voltmaster Contract Bty. Mfg. **KANSAS** DeSoto Bty. & Elec. **Tropex Batteries** Kansas City Yocam Batteries American Batteries Contract Bty. Mfg. GEORGIA KENTUCKY Albany Ebco Battery Whitesburg Electro-Lite Bty. Atlanta Ebco Battery LOUISIANA Southern Bty. Yocam Batteries **New Orleans** Central Bty. Columbus Reliable Bty. Ebco Battery

Shreveport Central Bty. MARYLAND Baltimore East Penn Mfg. MASSACHUSETTS Watertown Atlantic Btv. MICHIGAN Detroit Batteries Mfg. Flint **ABC** Batteries Holly **Detroit Battery** Madison Heights C & W Lektra Warren G & M Battery MINNESOTA St. Paul Standard Storage Bty. MISSISSIPPI Florence Contract Bty. Mfg. Jackson Central Bty. New Albany Laher Bty. Prod. MISSOURI Joplin Lead Products

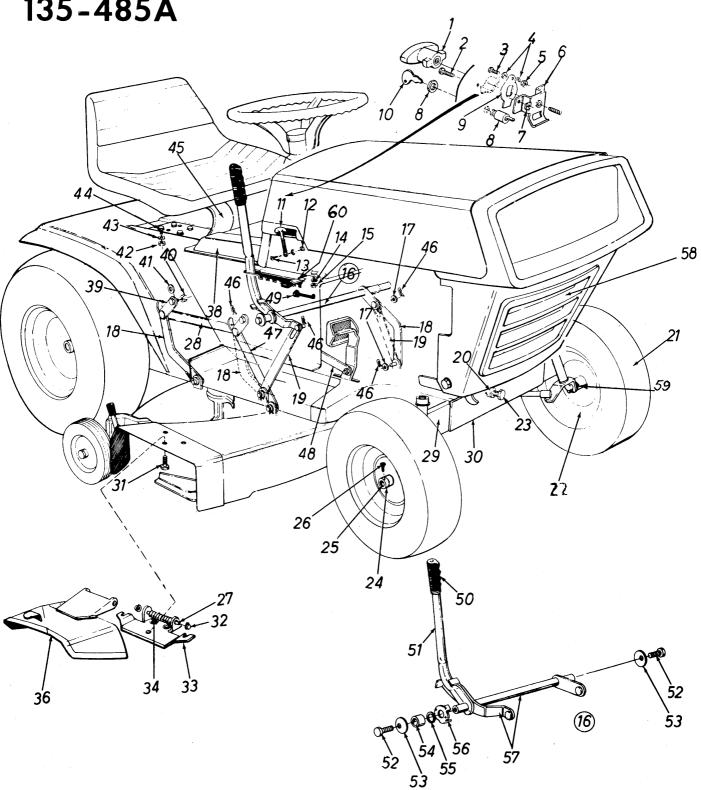
**Maryland Heights** Electro Bty. Mfg. Sikeston Electro Bty. **NEW JERSEY** Atlantic City Landis Battery NEW MEXICO Alburguerque Sandia Btv. Mfa. **NEW YORK** Buffalo East Penn\_Mfg. Lockport **Great Lakes Battery** NORTH CAROLINA Charlotte Yocam Batteries **Thomasville** East Penn Mfg. OHIO Akron Crown Battery Cincinnati **Moore Battery** Cleveland Crown Battery New Castle Bty. Columbus Crown Battery Fremont Crown Battery

Beaverton Western Bty., Inc. **Portland** Laher Bty. Prod. PENNSYLVANIA Altoona East Penn Mfg. Erie New Castle Bty. Lancaster Lancaster Bty. Lyon Station East Penn Mfg. **New Castle** New Castle Bty. Philadelphia East Penn Mfa Pittsburgh Simon Bty. & Res. Geidel Bty. Div. RHODE ISLAND Providence Pilof Mfg., Inc. SOUTH CAROLINA Columbia Yocam Batteries **TENNESSEE** Chattanooga Electro-Lite Bty. Knoxville Southern Bty.

OREGON

Memphis Central Battery Laher Bty. Prod. Southern Bty. Nashville Electro-Lite Btv Southern Btv TEXAS Dallas Continental Bty. Reliable Battery El Paso El Paso Bty. Houston Texford Bty. Co. Reliable Battery San Antonio Reliable Battery UTAH Salt Lake City Laher Bty, Prod. VIRGINIA Arlington Express Bty. Div. Leeth Bros. Lynchburg **Hydrate Battery** WASHINGTON Seattle Laher Bty. Prod. Spokane Laher Bty, Prod. CANADA Vancouver, B. C. Industrial Bty. & Supply

135-470A 135-475A 135-480A 135-485A



## PARTS LIST FOR RIGHT HAND VIEW 135-470A, 475A, 480A AND 485A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	RE NO		PART NO.	COLOR CODE	
					2	7	711-05	<i>7</i> 1	
1		263	Plastic Hande (470A & 480A)		2	8	097	35	١
2	710-0	351	Truss Hd. Mach. B-Tapp. Scr.			1			١
_		105	#10 x .50" Lg. (470A & 480A) Truss Hd. Mach. Scr. #10-24		2	9		406	İ
3	710-0	425	x .62" Lg.* (470A & 480A)		1 -	0		411	١
	736-0	220	Fiber Washer (470A & 480A)		.   3	1	710 <b>-0</b>	195	
4 5	712-0		Hex Nut #10-24 Thd.*		[ ]				١
5	/ 12-0	121	(470A & 480A)			2	726-0		١
6	1 11	053	Switch Bracket Ass'y.(470A & 480A	5		3		399	
7	712-0		Speed Nut #10-24 U-Type	ľ		4	732-02		
	/ 12-0	177	(470A & 480A)			5	116		1
8	725-0	266	Magneto Ignition Switch		3	6	110	0/4	ļ
٠	/ 20 0		(470A & 480A)		١		10	333	ļ
9	732-0	257	Switch Spring (470A & 480A)			8		721	
Ó	725-0		Ignition Key Only (470A & 480A)	!		10	712-0		İ
ĭ	723-0		Hood Lock Ass'y.			11	736 <b>-0</b>		١
2	712-0	287	Hex Nut 1/4-20 Thd.*			2	712 <b>-0</b>		
3	710-0	289	Hex Hd. Cap Scr. ¼-20 x .50"			3	736 <b>-</b> 0		
	1		Lg.*			14	710-0		į
14	736-0	119	Spring Lockwasher 5/16" Scr.*	ł		'	,		
5	712-0	267	Hex Nut 5/16-18 Thd.*	İ	4	15	732 <b>-0</b>	255	
16			Lift Handle Ass'y. See Breakdown		2	16	714-0		
17	736-0		Flat Washer .53 I.D. x .93 O.D.		4	47	10	904	
18		349	Deck Link 'Ass'y.		4	48	11	059	
19		346	Lockout Link Ass'y.						
20	712-0		Hex Center Locknut %-18 Thd.			49	726-0	121	
21	734-0	)494	Front Wheel Ass'y.—Comp. 13.0 x 5.0		!	50		118	
	734-0	10E	Front Wheel Tire Only		1 1 1	51		030	
	/34-0	J493	Front Wheel The Only		:	52	710 <b>-</b> 0	201	
22	734-0	1520	Front Wheel Rim Ass'y. Only	1			70/ 6	010	
23	710-0		Hex Hd. Cap Scr. %-18 x 1.62" Lg.	N	;	53	736-0	1219	
25	1,10	JULL	Lg.		11.	E 4	740 0	201	
24	711-0	2160	Collar %" I.D.		1 1	54 55	748-0	_ •	
25			Front Wheel Bearing			56		029	
26	710-		Sq. Hd. Set Scr. 5/16-18 x			57	1	032	
20	1,10-	J-17-7	.38" Lg. Cup			58	731-0		
			-9		1 1	59	736-0		
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	1					60		027	
							11	249	
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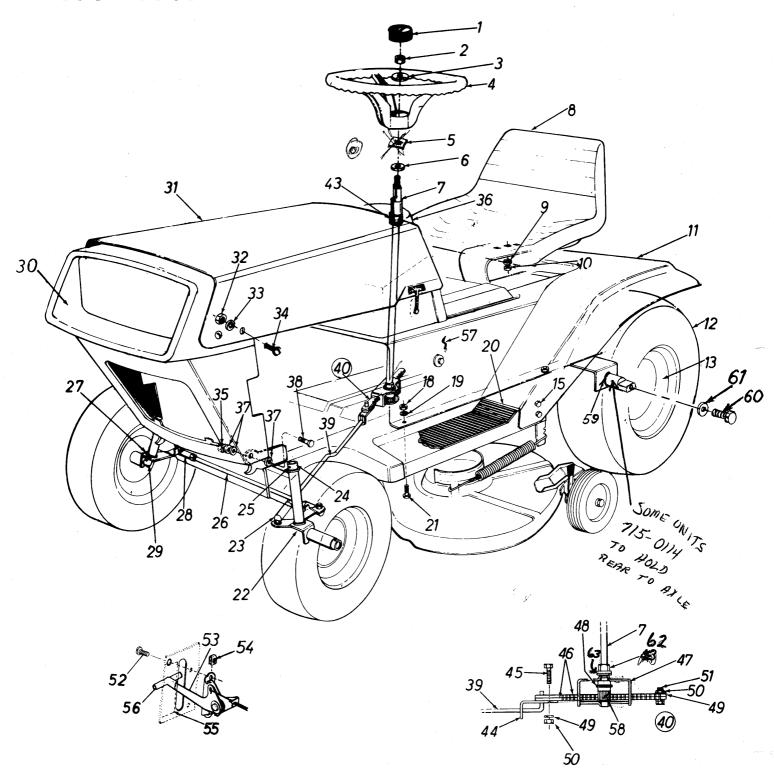
REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
27	711-05	571	Pivot Pin	
28	097	<b>'</b> 35	Connecting Rod 3/16 x 1.00	
			x 12.5" Lg.	
29		406	Front Pivot Bar Ass'y. Front Pivot Bracket	N
30	710 <b>-</b> 0	411 105	Hex Hd. Cap Scr. 1/4-28 x .62"	14
31	/10-0	195	La.*	
32	726-0	106	Push-on Flange Palnut	
33	t .	399	Adapter Plate Assembly	
34	732-0		Torsion Spring	
35		533	Chute Cover Ass'y. Comp.	
36	113	574	Chute Cover Ass'y.	
			Course Course	
38	I .	333	Upper Frame Cover Pivot Link Ass'y.	
39		721	Hex Nut 5/16-18 Thd.*	
40	712-0		Flat Washer .344 I.D. x .62 O.D.	1 1
41 42	736 <b>-0</b>		Hex Nut 5/16-18 Thd*	
42	1 ' ' - :		Spring Lockwasher 5/16" Scr*	
44	710-0		Hex Hd. Sems Scr. 5/16-18	
	/ / / 0	170	x .75" Lg.*	
45	732-0	255	Seat Spring 4.50" High	1
46	714-0	101	Internal Cotter Pin 1/2" Dia.	
47	10	904	Deck Link Ass'y.	
48	11	059	Parking Brake—Lever Ass'y.—	
			R.H.	
49	1		Push Cap ¼" Dia.—Black	
50		3118	Grip Lift Handle R.H.	
51		1030	Hex Hd. Cap Scr. %-16 x .62"	
52	/ 10-0	JZU-1	La.*	
53	736-0	0219	Belleville Washer .400 I.D. x	
55			1.13 O.D.	]
54		0201	Spacer .635 I.D. x .88 O.D. x .57	71
55	736-0		Wave Washer .660 I.D. × .82 O	.D. x .0
56	1	1029	Handle Pivot Bracket	
57	1	1032	Lift Handle Bracket Ass'y.	
58			Grille Insert (135-480A & 485A)	1
59	1		FiWash.	
60		1027	Handle Stop Brkt. Ass'y.	
1	1	1249	Knob for Handle Stop Brkt.	

<sup>\*</sup>For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally order by part number and size

(463—Top Flite Red) Models 135-470A & 475A (462—Red Flake) Models 135-480A & 485A

When ordering parts if color or finish is important, use appropriate color code shown at left. (e.g.—Red Flake Finish—11839 (462)).

135-470A 135-475A 135-480A 135-485A

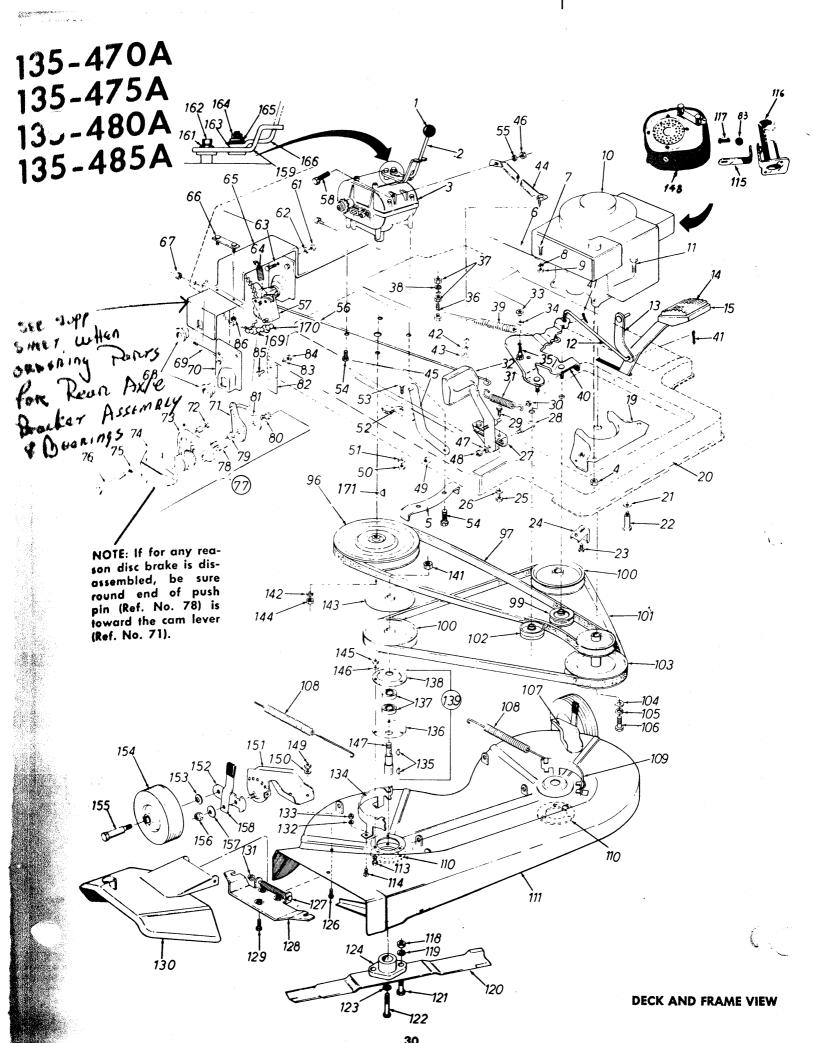


# PARTS LIST FOR LEFT HAND VIEW MODELS 135-470A, 475A, 480A AND 485A

مميودا									_ }
REF.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
			Carrier Wheel Can		31	11	855-463	Hood-Front (135-470A & 475A)	
1	731-02		Steering Wheel Cap Hex Center Locknut 5/36-18			11	836-462	Hood-Front (135-480A & 485A)	
2	712-01	08	Thd.		32	712-0		Hex Nut 1/4-20 Thd.*	
3	736-00	ייי	Belleville Washer 34 1.D.		33	736-0		Spring Lockwasher ¼" Scr.*	
٥	730-02	174	x.88 0.0.		34	710-0	286	Truss Hd. Mach. Scr. ¼-20	
4	731-02	19		10				x .50" Lg.*	
5	734-0		12.0 inch Steering Wheel		35	712-0		Hex Center Locknut %-16 Thd.	
6	736-01	74	Wave Washer .660 I.D. x		36		861	Dash Panel Ass'y. (134-485A)	
			.88 O.D.		1	11	862	Dash Panel and Battery Box	
7	738-02	00	Steering Shaft		27	7010		Ass'y. (134-485A)	
8	757-02	41	Seat Ass'y Complete—10.0"		37	736-0		Belleville Washer   Hex Hd. Cap Scr. %-16 x 1.00"	
1			Black (Mounting		30	710-0	1253	Lg.*	
ļ _			Bolt Molded in Seat)		39	747-0	120	Steering Rod	N
9	736-09		Spring Lockwasher 1/2" Scr.*		40	/ 4/ -0		Steering Ass'y, See Breakdown	
10	712-02	06	Hex Nut ½-13 Thd.* Fender (135-470A & 475A)		43	748-0	227	Hex Flange Bearing .62 I.D.	
11	110	20 462	Fender (135-470A & 475A)					Bronze	
1,0	734-05		Rear Wheel Ass'y.—Comp.	N	44	12	2372	Steering Rod Bracket	N
12	/ 54-05	72	18 x 6.50		45	710-0	1412	Hex Hd. Cap Scr. ¼-28 x .75"	
l	734-02	94	Rear Wheel Tire Only		1			Lg.*	
1			18 x 6.50		46		048	Steering Segment	
					47 48	715-0	074	Steering Housing Ass'y. Spring Pin Spirol	
13	734-05	94	Rear Wheel Rim Ass'y.	N	40	/ 15-0	1134	3/16" Dia. x 1.50" Lg.	
١	710.00		11 11 C - C 1/ 00 H		49	736-0	0220	Spring Lockwasher ¼" Scr.*	1
15	710-02	258	Hex Hd. Cap Scr. ¼-20 x .62" Lg.*		50	712-		Hex Nut 1/4-28 Thd.*	
.8	712-02	67	Hex Nut 5/16-18 Thd.*		51	710-0		Hex Hd. Cap Scr. 1/4-28 x .75"	
19	736-01	-	Spring Lockwasher 5/16" Scr.*			/	•	Lg.*	1 -
20	723-02		Foot Pad 15.75" Lg. x 4.0" Wide		52	710-	0351	Truss Hd. Mach. B-Tapp Scr.	İ
21	710-02		Hex Sems Scr. 5/16-18 x					#10 x .50" Lg.	1 .
			.62" Lg.*		53	746-		Throttle Control—Complete	ł
22	090	98-462	Front Axle Ass'y. L.H.		54	712-		Speed Nut #10-24 U-Type	
23	723-01		Ball Joint Ass'y. (Tie Rod End)		55		1861	Dash Panel Ass'y. (133-480A)	<b>.</b>
24	711-01		Collar %" I.D.			'	1862	Dash Panel and Battery Box Ass'y. (134-480A)	
25	710-04	194	Sq. Hd. Set Scr. 5/16-18 x		56	722-	0115	Knob Only—Throttle Control	1
1 00	711 04	10	.38 Cup	N	57		1852	Upper Frame	
26	711-06	113	Tie Rod	17	58		0203	12 Teeth Spur Gear	
27	748-02	27	Flange Bearing .630 I.D.		59		0134	FlWash.	
28	723-01		Ball Joint Ass'y. (Tie Rod End)		60		0242	Belleville Wash.	
29			Front Axle Ass'y. R.H.		61		0627	Hex Wash. Hattap: Scr. W Lock.	1
30			Grille (135-470A)		62	71/5	7-728	5/16 <b>-24</b> x .75" Lg.	
	107	793–463	Grille (135-475A)			146	LUE	HEX FLG. BAG. 5061D.	
	719-0		Grille (135-480A)		13	736	-192	FL. WASH .5311. X. 930 00	
	719-0		Grille (135-485A)						
L									-

<sup>\*</sup>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.

(463—Top Flite Red) Models 135-470A & 475A (462—Red Flake) Models 135-480A & 485A When ordering parts if color or finish is important, use appropriate color code shown at left. (e.g. Red Flake Finish—11839 (462)).



# PARTS LIST FOR DECK AND FRAME VIEW MODELS 135-470A, 475A, 480A AND 485A

REF.		COLOR	DESCRIPTION	NEW PART	REF.	PART NO.	COLOR	DESCRIPTION	NEW PARI	
10.	NO.	CODE		1	50	712-0	1227	Hex Nut 1/4-20 Thd.*		
1	720-0	1165	Knob (For Transmission, Lever)	1	50	736-0		Spring Lockwasher 1/4" Scr.*		١
2		545	Shift Lever		51	761-0		l Blade Brake Ass'v88 High	1	١
3			5 Speed Transmission (See	Ì	52			Carriage Bolt 1/4-20 x .62" Lg.*	١\	١
١			Breakdown on Page 231		53	710-0	)10 <del>4</del>	Hex Sems Scr. 5/16-18 x .75"		
4	712-0	267	Hex Nut 5/16-18 Thd.*		54	710-0	1198	Tex Series Sci. 57 to 15	1	
4			Transmission Belt Guard		ł			Lg.* Spring Lockwasher 1/4" Scr.*		
5		845	Engine Brace	-	55	736-	0329	Brake Rod .25" Dia. x 23.50"		
6		095	Hex Sems Scr. 5/16-18 x .62"	<b>,</b>	56	747-	0106			
7	710-0	)259	Hex Seriis Sci. 57 to 10 to		1			Lg.	ı	
			Lg.* Spring Lockwasher 5/16" Scr	*	57	1	0398	Disc Brake Bracket Ass'y.	1	
8	736-0		Spring Lockwaster 5/ 10 oct	•	58	710-	0412	Hex Hd. Cap Scr. 1/4-28 x .75"		
9	712-0	0267	Hex Nut 5/16-18 Thd.*	1				l La. T	- 1	
10	-	-	Engine		61	712-	0267	Hex Nut 5/16-18 Thd.*	*	
11	710-	0442	Hex Hd. Cap Scr. 5/16-18 x	1	62		0119	Spring Lockwasher 5/16" Scr.	`\	
	1		1.50" Lg.*	1	63	710-	0198	Hex Sems Scr. 5/16-18 x .75"	-	
12	747-	0112	Clutch Rod		03	1,.0	• • • •	l La.*		
13		1057	Parking Brake—Lever Ass'y	-	4	732	0157	Spring .38 O.D. x 3.25	1	
. •	1		L.H.		64		0362	Rear Axle Bracket Ass'y.	1	
14	1 1	0614	Pedal Pad Vinyl		65	1 .		Axle Bolt Plate Ass'y.	1	
15		1037	Clutch Pedal Ass'y.		66		0360	Hex Inserted Locknut 5/16-18	3.	
19		2654	Engine Belt Guard Ass'y.	N	67	712	-0429			
		1090	Frame Ass'y.		1			Thd.	- [	
20			Belleville Washer 3/8" Scr.		68	3   748	-0151	Flange Bearing with Flats	- 1	
21		-0105	Shoulder Scr498" Dia. x				•	.753 l.D.	a l	
22	/38	-0129	2.00" Lg.*		69	710	-0437	Chain Adjusting Link 5/16-1	<b>"</b>	
	1	0050	Hex Sems Scr. 5/16-18 x .62	"				x 4.38" Lg.	- 1	
23	710	-0259	Hex Sems Sci. 5/ 10-10 x :02		70	o   '	10364	Rear Axle Plate		
	1	_	Lg.*		7		770-0000	Cam Lever	.	
24		10426	Belt Keeper Ass'y.		7		2-0375	Hex Center Locknut %-10 111	a.	
25	712	-0267	Hex Nut 5/16-18 Thd.*	*	7	2 12-1	041-0000	Casting, Carrier Side	- 1	
26	736	-0119	Spring Lockwasher 5/16" Sc	<b>.</b>	1 7	4 12-1	039-0000	Castina, Cam Side	- 1	
27		11039	[Peda] "U"-Bracket Ass'y.	l		4   Z-1	1-0138	Spacer for Disc Brake % O.D	. ×	
28		-0213	Shoulder Scr498" Dia. x		7	5   /0	1-0130	%" Lg.		
-		<b>-</b>	1.450" Lg.		<u> </u>		001/	Hex Hd. Cap Scr. %-16 x 3.5	50"	
29	710	-0198	Hex Sems Scr. 5/16-18 x		7	6   710	0-0316		1	
1 2	1,.0	0.70	.75" Lg.*	Ì			- 0107	Lg. Disc Brake Assembly—Com	ו.מו	
1 20	726	-0100	Push Nut %" Rod		7	7   76	1-0137	Disc Brake Assembly		
30			Brake Spring		7	<b>'</b> 8  05-1	033-000	O Push Pin	1	
31		2-0245	Brake Pedal Bracket Ass'y.		7	'9  06-`	029-000	O Compression Spring		
32	- 1	11036	Hex Nut 5/16-18 Thd.*		8	30 102-	1011-000	0   Locknut		
33		2-0267	Spring Lockwasher 5/16" S	cr.*	8	31 03-	1030-000	O Thrust Washer 5/16" I.D.		
34	1   736	5-0119	Shoulder Scr437" Dia, x			32	10410	l Spring Bracket	.	
35	5  738	3-0140	Shoulder Sci43/ Did. X			33 73	6-0329	Spring Lockwasher 1/4" Scr.		
1	1		.180" Lg.	ו יימ		84 71	2-0287	Hay Nut 1/4-20 Ind."	1	
3	6  710	0-0289	Hex Hd. Cap Scr. 1/4-20 x .50	<b>~</b>			0-0258	Hex Hd. Cap Scr. 14-20 x .0	2	
1	-		Lg.*		'	٠, ا		l la. *	i	
3	7  71:	2-0287	Hex Nut 1/4-20 Thd.*		ļ	86 71	2-0429	Hex Inserted Locknut 5/16	-18	
3	_	6-0329	Spring Lockwasher 1/4" Scr.		l	00   / 1	Z-V721	Thd	- 1	
3		2-0191	Spring .75 O.D. x 11.0" Lg.		,	04 7	54-0174	Transmission Split Pulley .5	50 I.P.	
4	. 1	12448	Idler Bracket Ass'v.	( 1	1		56-0174	"V"-Belt ½ x 65" Lg.	1	
4	1	4-0507	Cotter Pin 3/32" Dia. x .75'	Lg.	<b>-</b>	97   7	54-0191	(Transmission)	-	
		6-0119	Spring Lockwasher 5/10"	Scr. T	ļ	-	C 4 0114	"V"-Belt Idler 3.06" O.D.	1	
	3 71	2-0267	Hex Nut 5/16-18 Thd.*	ı		· · I _	56-0116		- 1	
	,	10396	Transmission Support Brack	cet			56-0 <del>124</del>	"V"-Belt 21/32 x 67" Lg	1	
4	4	10370	Ass'y.		1	01 7	54-0151	(plants Dates Bols)	- 1	
1	ا ہ	11054	Parking Brake—Lever Ass'	, I	1			(Blade Drive Belt)		
14	15	11056		'	1 1		56-0217	"P"-Flat Idler 2.75" O.D.	1	
1		- 0100	R.H.	1			56-0253	Two Step Engine Pulley	ا ء	
	16 71	2-0138	Hex Nut 1/4-28 Thd.*	*			36-0235	Flat Washer .406 I.D. x 1.2	20	
4	17 73	36-0169	Spring Lockwasher %" Scr.						1	
4	48 71	2-0798	Hex Nut %-16 Thd.* Hex Inserted Locknut 5/16	10	1	105 7	36-0169	Spring Lockwasher %" Scr	<u>:</u>	
	49 7	2-0429	ILIAN Incorpor LOCKBUT DV LC	7-10 I			, _ /			

# PARTS LIST (CONTINUED) MODELS 135-470A, 475A, 480A AND 485A

F.		COLOR	DESCRIPTION	NEW PART	REF.		COLOR		NEW
106	710-0		Hex Hd. Cap Scr. %-24 x 1.00"	PARI	NO.		CODE	DESCRIPTION	PART
			Lg.*		135	714-03		#6 Hi-Pro Key 5/32 x %" Dia.	1
107	1112	237	Wheel Bracket Ass'y. L.H.		136	082 741-09		Bearing Housing	
			(Deck)		137	741-09	119	Ball Bearing .787 I.D. x 1.85	
108	732-01	91	Spring .75 O.D. x 11.0" Lg.		138	082	050	O.D.	
		•	(Deck)		139	093		Bearing Housing	
109	126		Belt Guard—L.H. (Deck)	N	141	712-02		Blade Spindle Ass'y. Comp. Hex Jam Nut %-11 Thd.	
110	091		Deck Reinforcement Plate		142	736-09		Spring Lockwasher ½" Scr.*	
1111	126	/4	34 inch Deck Assembly	N	143	093		Blade Brake Disc.	
1110	710.00				144	712-09		Hex Jam Nut ½-20 Thd.	
113	710-03	22	Hex Sems Scr. 5/16-18 x 1.00"		145	712-02	87	Hex Nut 1/4-20 Thd.*	
1114	710 00		Lg.*		146	736-03		Spring Lockwasher 1/4" Scr.*	
1114	710-02	89	Hex Hd. Cap Scr. ¼-20 x .50"		147	711-02	55	Blade Spindle	
115	118	5.57	Lg.*		148			Lo-Tone Muffler Ass'y. (Order	
116	751-01	24	Muffler Bracket					from Briggs & Stratton)	
1117	710-02		Muffler Extension Ass'y.		149	712-02		Hex Nut 1/4-20 Thd.*	
1,,,	710-02	٠′ ا	Hex Hd. Cap Scr. ¼-20 x .50" Lg.*		150	<b>736-</b> 03		Spring Lockwasher ¼" Scr.*	
1118	712-01	23	Hex Nut 5/16-24 Thd.*		151	1123	6	Wheel Bracket Ass'y.—R.H.	
119	736-01		Spring Lockwasher 5/16" Scr.*		150		_	(Deck)	
120	742-01		34.0 inch Blade		152	1093		Wheel Pivot Bar	
121	710-01		Hex Hd. Cap Scr. 5/16-24 x		153 154	736-01		Belleville Washer	1
			1.00" Lg. Heat Treated		155	734-02		Wheel Ass'y, 5.0" Dia. (Deck)	
122	710-04	59	Hex Hd. Cap Scr. %-24 x 1.50"		155	738-01	19	Shoulder Scr625" Dia. x	.
	-		Lg. Heat Treated	•	156	710.01	,	1.75" Lg.	- 1
123	736-02	17	Spring Lockwasher %" Scr.	1	157	712-01 736-01		Hex Inserted Locknut %-24 Thd.	
		Į.	Heavy Duty		158	1094		Belleville Washer	
ਾ24	107		Blade Adapter Kit		159	1184		Spring Lever Ass'y, with Knob	
_ ∠5	116	33	Chute Cover Ass'y. Comp.		161	736-02		Shift Lever Bracket Ass'y.	
			(Includes Ref. No's, 127,			700-02	72	Belleville Washer .345 I.D. x .88 O.D.	
1,01		1	128, 129, 130 & 131)		162	710-02	37	Hex Hd Cap Scr. 5/16-24 x	1
126	<b>710-</b> 02	89	Hex Hd. Cap Scr. 1/4-20 x .50"	- 1			.0,	.62" Lq.*	1
127	711 05	1	Lg.*		163	735-01	26	Rubber Washer .33 I.D. x	
128	711-057		Pivot Pin		1			.87 O.D.	
129	1139		Adapter Plate Ass'y.	ŀ	164	712-01	58	Hex Center Locknut 5/16-18	
129	<b>710-</b> 019	95	Hex Hd. Cap Scr. ¼-28 x .62"	ļ	j			Thd.	I
130	1157	,	Lg.*		165	736-01	59	Flat Washer .344 I.D. x .88 O.D.	- 1
131	726-010	74	Chute Cover Ass'y.		166	1154	45	Shift Lever	
132	<b>736-</b> 032		Push Nut 1/4" Rod		167	0996	,	Hitch Bracket (Not Shown)	i
133	<b>712-</b> 028		Spring Lockwasher ¼" Scr.*		168	<b>731-</b> 01	44	Vinyl Black Strip for Dash	
134	1267	i i	Hex Nut 1/4-20 Thd.*					12.0" Lg. (Not Shown)	
	120/	·	Belt Guard—R.H. (Deck)	N	169	713-01		#420 Chain 1/2" Pitch x 79 Links	
1 . 1		ľ	1	-	170	713-01		#420 Master Link	
$\Box$	·				171	714-01	29	#4 Hi-Pro Key 3/32 x %" Dia. H	ldn.

<sup>\*</sup>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.

(463—Top Flite Red) Models 135-470A & 475A (462—Red Flake) Models 135-480A & 485A

When ordering parts if color or finish is important, use appropriate color code shown at left. (e.g.—Red Flake Finish—11839 (462)).

The engine is not under warranty by the mower manufacturer. If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines—Gasoline."

