

OWNER'S MANUAL

MODEL NO. WAGT20H48STA

20.0 HP 48 INCH

LAWN TRACTOR

- **Assembly**
 - **Operation**
 - **Maintenance**
 - **Service and Adjustments**
 - **Storage**
 - **Troubleshooting**
 - **Repair Parts**

For Parts and Service, contact our authorized distributor:
call 1-800-849-1297 For Technical Assistance: call 1-800-829-5886

WIZARD

00273

TABLE OF CONTENTS

Warranty	2	Maintenance	20
Safety Rules	3	Maintenance Schedule	20
Product Specifications	6	Service and Adjustments.....	24
Assembly/Pre-Operation	8	Storage	31
Operation.....	13	Troubleshooting	32
		Repair Parts.....	36

WARRANTY

LIMITED WARRANTY

The Manufacturer warrants to the original consumer purchaser that this product as manufactured is free from defects in materials and workmanship. For a period of two (2) years from date of purchase by the original consumer purchaser, we will repair or replace, at our option, without charge for parts or labor incurred in replacing parts, any part which we find to be defective due to materials or workmanship. This Warranty is subject to the following limitations and exclusions.

1. This warranty does not apply to the engine, other than EHP manufactured transaxle/ transmission components, battery (except as noted below) or components parts thereof. Please refer to the applicable manufacturer's warranty on these items.
2. 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 Electrolux Home Products.
3. Battery Warranty: On products equipped with a Battery, we will replace, without charge to you, any battery which we find to be defective in manufacture, during the first ninety (90) days of ownership. After ninety (90) days, we will exchange the Battery, charging you 1/12 of the price of a new Battery for each full month from the date of the original sale. Battery must be maintained in accordance with the instructions furnished.
4. The Warranty period for any products used for rental or commercial purposes is limited to 90 days from the date of original purchase.
5. This Warranty applies only to products which have been properly assembled, adjusted, operated, and maintained in accordance with the instructions furnished. This Warranty does not apply to any product which has been subjected to alteration, misuse, abuse, improper assembly or installation, delivery damage, or to normal wear of the product.
6. Exclusions: Excluded from this Warranty are belts, blades, blade adapters, normal wear, normal adjustments, standard hardware and normal maintenance.
7. In the event you have a claim under this Warranty, you must return the product to an authorized service dealer.

Should you have any unanswered questions concerning this Warranty, please contact:

Electrolux Home Products, Inc.
Outdoor Products Customer Service Dept.
250 Bobby Jones Expressway
Augusta, GA 30909 USA

In Canada contact:
Electrolux Canada Corp.
7075 Ordan Drive
Mississauga, Ontario
L5T 1K6

giving the model number, serial number and date of purchase of your product and the name and address of the authorized dealer from whom it was purchased.

THIS WARRANTY DOES NOT APPLY TO INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR OUR EXPRESSED WARRANTIES. Some areas do not allow the limitation of consequential damages or limitations of how long an implied Warranty may last, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from locale to locale.

This is a limited Warranty within the meaning of that term as defined in the Magnuson-Moss Act of 1975.

SAFETY RULES

IMPORTANT: This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

⚠️WARNING: In order to prevent accidental starting when setting up, transporting, adjusting or making repairs, always disconnect spark plug wire and place wire where it cannot contact spark plug.

⚠️WARNING: Do not coast down a hill in neutral, you may lose control of the tractor.

⚠️WARNING: Tow only the attachments that are recommended by and comply with specifications of the manufacturer of your tractor. Use common sense when towing. Operate only at the lowest possible speed when on a slope. Too heavy of a load, while on a slope, is dangerous. Tires can lose traction with the ground and cause you to lose control of your tractor.

⚠️WARNING: Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

⚠️WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Wash hands after handling.

I. GENERAL OPERATION

- Read, understand, and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
- Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.

- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Turn off blades when not mowing.
- Stop engine before removing grass catcher or unclogging chute.
- Mow only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mower-related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.
- Keep machine free of grass, leaves or other debris build-up which can touch hot exhaust / engine parts and burn. Do not allow the mower deck to plow leaves or other debris which can cause build-up to occur. Clean any oil or fuel spillage before operating or storing the machine. Allow machine to cool before storage.

II. SLOPE OPERATION

Slopes are a major factor related to loss-of-control and tipover accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

DO:

- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. *Tall grass can hide obstacles.*
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.

SAFETY RULES

- Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on the slopes *slow* and *gradual*. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly *straight* down the slope.

DO NOT:

- *Do not* turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- *Do not* mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- *Do not* mow on wet grass. Reduced traction could cause sliding.
- *Do not* try to stabilize the machine by putting your foot on the ground.
- *Do not* use grass catcher on steep slopes.

III. CHILDREN

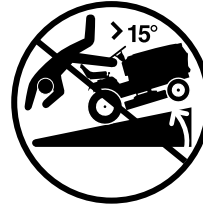
Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. *Never* assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and when backing, look behind and *down* for small children.
- Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

IV. SERVICE

- Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
 - Use only an approved container.
 - Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling. Do not smoke.
 - Never refuel the machine indoors.
 - Never store the machine or fuel container inside where there is an open flame, such as a water heater.
- Never run a machine inside a closed area.
- Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep machine free of grass, leaves, or other debris build-up. Clean oil or fuel spillage. Allow machine to cool before storing.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
- Never make adjustments or repairs with the engine running.
- Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently. Adjust and service as required.

SAFETY RULES



- Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
- Never carry passengers or children even with the blades off.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and when backing, look behind and down for small children.
- Mow up and down slopes (15° Max), not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- If machine stops while going uphill, disengage blades, shift into reverse and back down slowly.
- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.

PRODUCT SPECIFICATIONS

Gasoline Capacity and Type:	5.0 Gallons Unleaded Regular
Oil Type (API-SF-SJ):	SAE 30 (Above 32°F) SAE 5W-30 (Below 32°F)
Oil Capacity:	4.0 Pints
Spark Plug: (GAP: .040")	Champion QC12YC
Ground Speed (MPH):	Forward: 5.5 Reverse: 2.4
Tire Pressure:	Front: 14 PSI Rear: 10 PSI
Charging System:	16 Amps @ 3600RPM
Battery:	Amp/Hr: 35 Min. CCA: 280 Case Size: U1R
Blade Bolt Torque:	27–35 Ft. Lbs.

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

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

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

CUSTOMER RESPONSIBILITIES

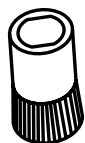
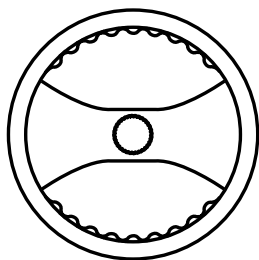
- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tractor.
- Follow the instructions under "Maintenance" and "Storage" sections of this owner's manual.

⚠WARNING: This tractor is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest authorized service center/department (See REPAIR PARTS section of this manual).

UNASSEMBLED PARTS

Steering Wheel



Steering
Wheel
Adapter

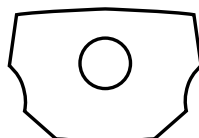
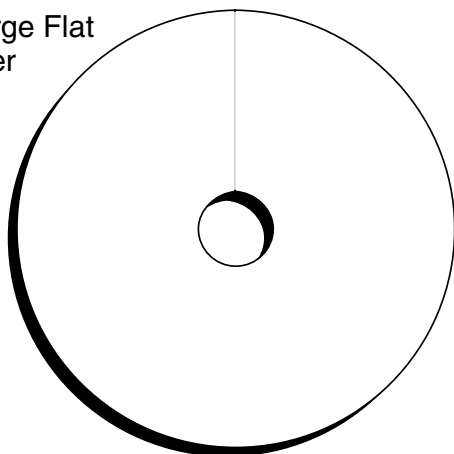


Steering
Sleeve

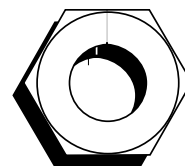


Steering
Extension
Shaft

(1) Large Flat
Washer

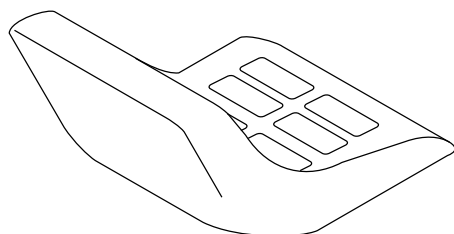


Steering
Wheel
Insert



(1) Locknut 1/2-20

Seat

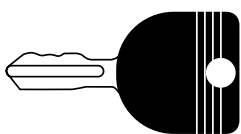


(1) Washer
17/32 x 1-3/16 x 12 Gauge

(1) Knob



Keys

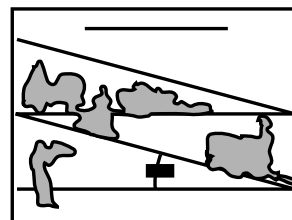


(2) Keys



(1) Oil Drain Tube
For Future Use

Slope Sheet



ASSEMBLY/PRE-OPERATION

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

TOOLS REQUIRED FOR ASSEMBLY

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

- (1) 3/4" wrench
- (1) Pliers
- (2) 7/16" wrench
- (1) Utility knife
- (1) Tire pressure gauge

When right or left hand is mentioned in this manual, it means, from your point of view, when you are in the operating position (seated behind the steering wheel).

TO REMOVE TRACTOR FROM CARTON

UNPACK CARTON

1. Remove all accessible loose parts and parts boxes from carton.
2. Cut, from top to bottom, along lines on all four corners of carton, and lay panels flat.
3. Check for any additional loose parts or cartons and remove.

BEFORE REMOVING TRACTOR FROM SKID

ATTACH STEERING WHEEL

ASSEMBLE EXTENSION SHAFT AND BOOT

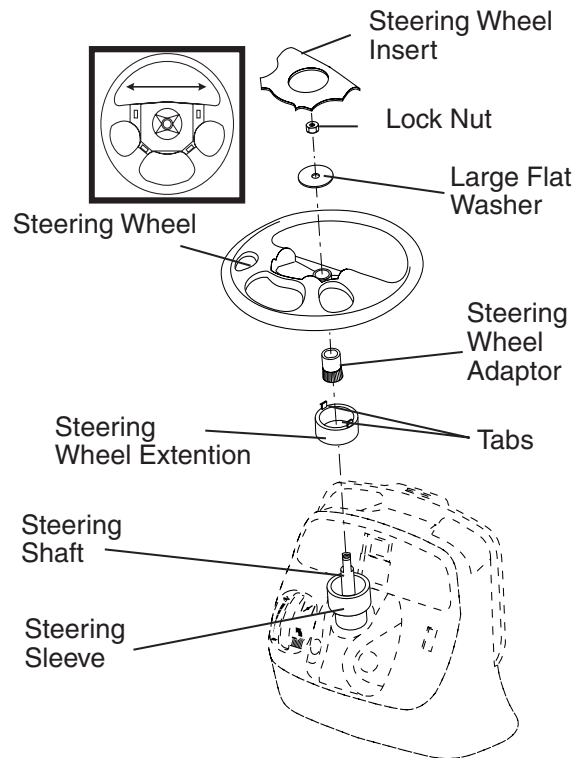
1. Slide extension shaft onto lower steering shaft. Align mounting holes in extension and lower shafts and install 1/4 hex bolt and locknut. Tighten securely.

IMPORTANT: Tighten bolt and nut securely to 10-12 ft. lbs torque.

2. Place tabs of steering boot over tab slots in dash and push down to secure.

INSTALL STEERING WHEEL

3. Position front wheels of the tractor so they are pointing straight forward.
4. Remove steering wheel adapter from steering wheel and slide adapter onto steering shaft extension.
5. Position steering wheel so cross bars are horizontal (left to right) and slide inside boot and onto adapter.
6. Assemble large flat washer, 1/2 hex nut and tighten securely.
7. Snap steering wheel insert into center of steering wheel.
8. Remove protective materials from tractor hood and grill.

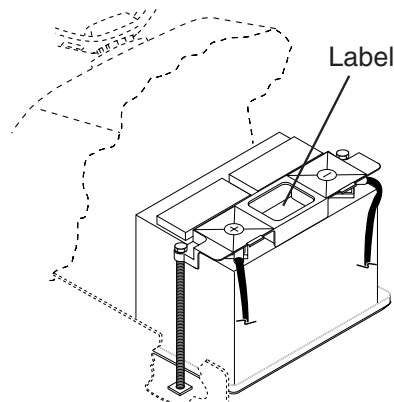


IMPORTANT: Check for and remove any staples in skid that may puncture tires where tractor is to roll off skid.

CHECK BATTERY

1. Lift hood to raised position.

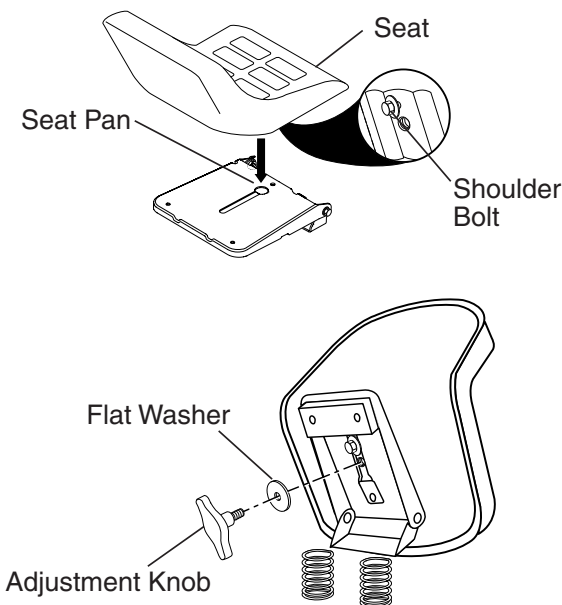
NOTE: If this battery is put into service after month and year indicated on label (label located between terminals) charge battery for minimum of one hour at 6-10 amps. (See "BATTERY" in Maintenance section of this manual for charging instructions).



INSTALL SEAT

Adjust seat before tightening adjustment knob.

1. Remove adjustment knob and flat washer securing seat to cardboard packing and set aside for assembly of seat to tractor.
2. Pivot seat upward and remove from the cardboard packing. Remove the cardboard packing and discard.
3. Place seat on seat pan so head of shoulder bolt is positioned over large slotted hole in pan.
4. Push down on seat to engage shoulder bolt in slot and pull seat towards rear of tractor.
5. Pivot seat and pan forward and assemble adjustment knob and flat washer loosely. Do not tighten.
6. Lower seat into operating position and sit in seat.
7. Slide seat until a comfortable position is reached which allows you to press clutch/brake pedal all the way down.
8. Get off seat without moving its adjusted position.
9. Raise seat and tighten adjustment knob securely.



NOTE: You may now roll or drive your tractor off the skid. Follow the appropriate instruction below to remove the tractor from the skid.

TO ROLL TRACTOR OFF SKID (See Operation section for location and function of controls)

1. Press lift lever plunger and raise attachment lift lever to its highest position.
2. Release parking brake by depressing clutch/brake pedal.
3. Place freewheel control in "transmission disengaged position" (See "TO TRANSPORT" in the Operation section of this manual).
4. Roll tractor forward off skid.

TO DRIVE TRACTOR OFF SKID (See Operation section for location and function of controls)

WARNING: Before starting, read, understand and follow all instructions in the Operation section of this manual. Be sure tractor is in a well-ventilated area. Be sure the area in front of tractor is clear of other people and objects.

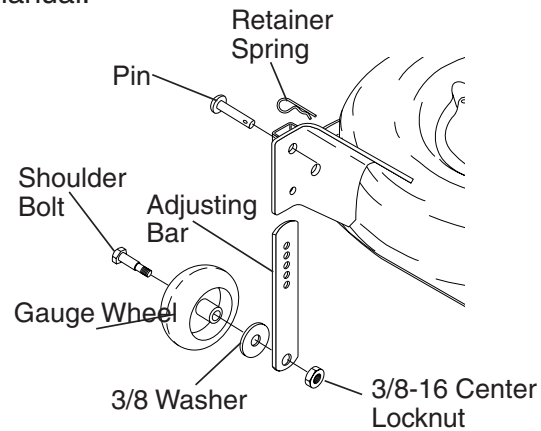
1. Be sure all the above assembly steps have been completed.
2. Check engine oil level and fill fuel tank with gasoline.
3. Place freewheel control in "transmission engaged" position (see "TO TRANSPORT" in Operation section of this manual).
4. Sit on seat in operating position, depress clutch/brake pedal and set the parking brake.
5. Place motion control lever in neutral (N) position.
6. Press lift lever plunger and raise attachment lift lever to its highest position.
7. Start the engine. After engine has started, move throttle control to idle position.
8. Release parking brake.
9. Slowly move the motion control lever forward and slowly drive tractor off skid.
10. Apply brake to stop tractor, set parking brake and place motion control lever in neutral position.
11. Turn ignition key to "STOP" position. Continue with the instructions that follow.

ASSEMBLE GAUGE WHEELS TO MOWER DECK

The gauge wheels are designed to keep the mower deck in proper position when operating mower. Be sure they are properly adjusted to ensure optimum mower performance.

1. Slide gauge wheel bar down into bracket channel, Be sure that gauge wheel bar aligning holes are on top. Assemble gauge wheels as shown using shoulder bolts, 3/8 washers and 3/8-16 center locknuts and tighten securely.
2. For ease of mower to tractor assembly, raise gauge wheels to highest position and retain with clevis pins and spring retainers.

NOTE: Adjust gauge wheels before operating mower. See "TO ADJUST GAUGE WHEELS" in the Operation section of this manual.



INSTALL MOWER AND DRIVE BELT

Be sure tractor is on level surface and mower suspension arms are raised with attachment lift control. Engage parking brake.

1. Cut and remove ties securing anti-sway bar and belts. Swing anti-sway bar to left side of mower deck.
2. Slide mower under tractor with deflector shield to right side of tractor.

IMPORTANT: Check belt for proper routing in all mower pulley grooves.

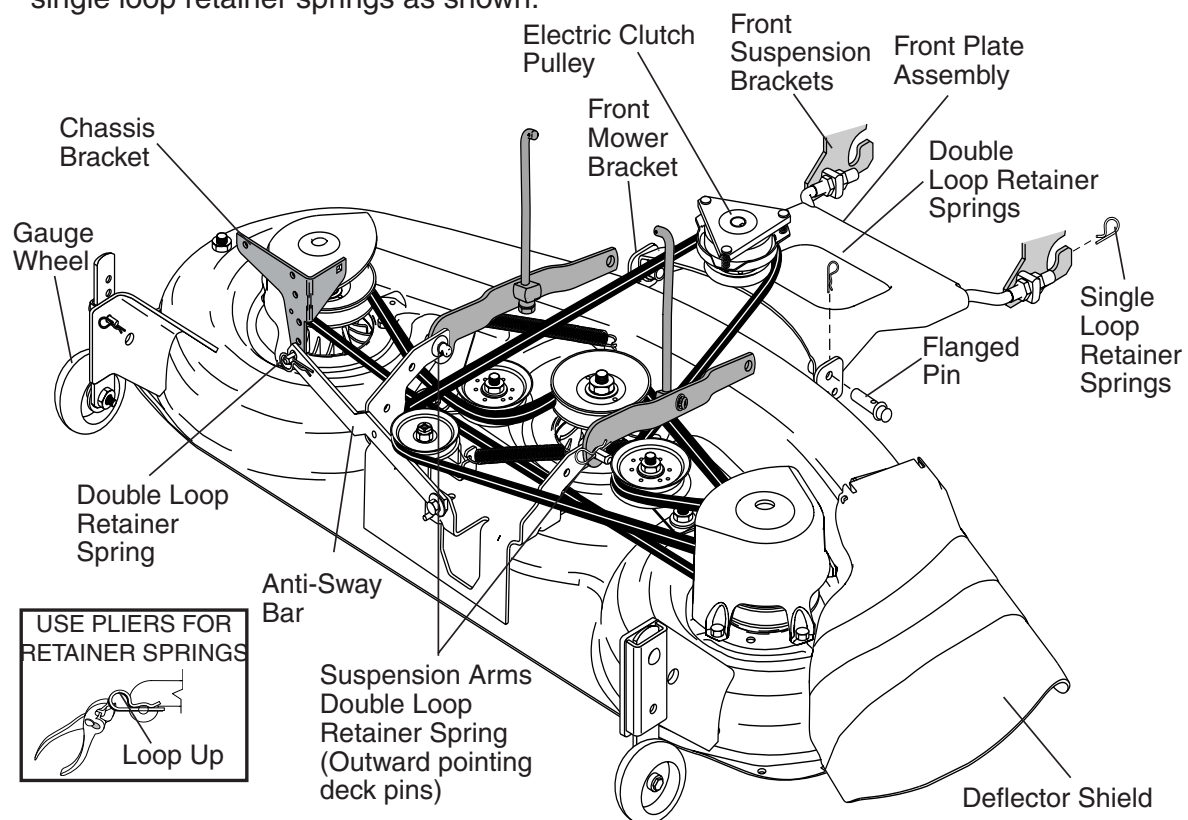
3. If equipped, turn height adjustment knob counterclockwise until it stops.
4. Lower mower linkage with attachment lift control.
5. Install belt into electric clutch pulley groove.
6. Place the suspension arms on outward pointing deck pins. Retain with double loop retainer spring with loops up as shown.
7. Install front plate assembly to tractor suspension brackets and retain with single loop retainer springs as shown.

8. Position front plate assembly between front mower brackets. Raise deck and plate assembly to align holes and insert flanged pins. Secure pins with double loop retainer springs between the plate and mower brackets.

NOTE: To assist in locating hole in flanged pin, the hole in pin is inline with notch on head of pin. If necessary, move mower side-to-side to give space between plate and mower brackets.

IMPORTANT: Check belt for proper routing in all mower pulley grooves.

9. Connect anti-sway bar to chassis bracket under left footrest and retain with double loop retainer spring.
10. If equipped, turn height adjustment knob clockwise to remove slack from mower suspension.
11. Raise deck to highest position.
12. Adjust gauge wheels before operating mower as shown in the Operation section of this manual.



CHECK TIRE PRESSURE

The tires on your tractor were overinflated at the factory for shipping purposes. Correct tire pressure is important for best cutting performance.

- Reduce tire pressure to PSI shown in "PRODUCT SPECIFICATIONS" section of this manual.

CHECK DECK LEVELNESS

For best cutting results, mower housing should be properly leveled. See "TO LEVEL MOWER HOUSING" in the Service and Adjustments section of this manual.

CHECK FOR PROPER POSITION OF ALL BELTS

See the figures that are shown for replacing motion and mower blade drive belts in the Service and Adjustments section of this manual. Verify that the belts are routed correctly.

CHECK BRAKE SYSTEM

After you learn how to operate your tractor, check to see that the brake is properly adjusted. See "TO ADJUST BRAKE" in the Service and Adjustments section of this manual.

✓CHECKLIST

Before you operate your new tractor, we wish to assure that you receive the best performance and satisfaction from this quality product.

Please review the following checklist:

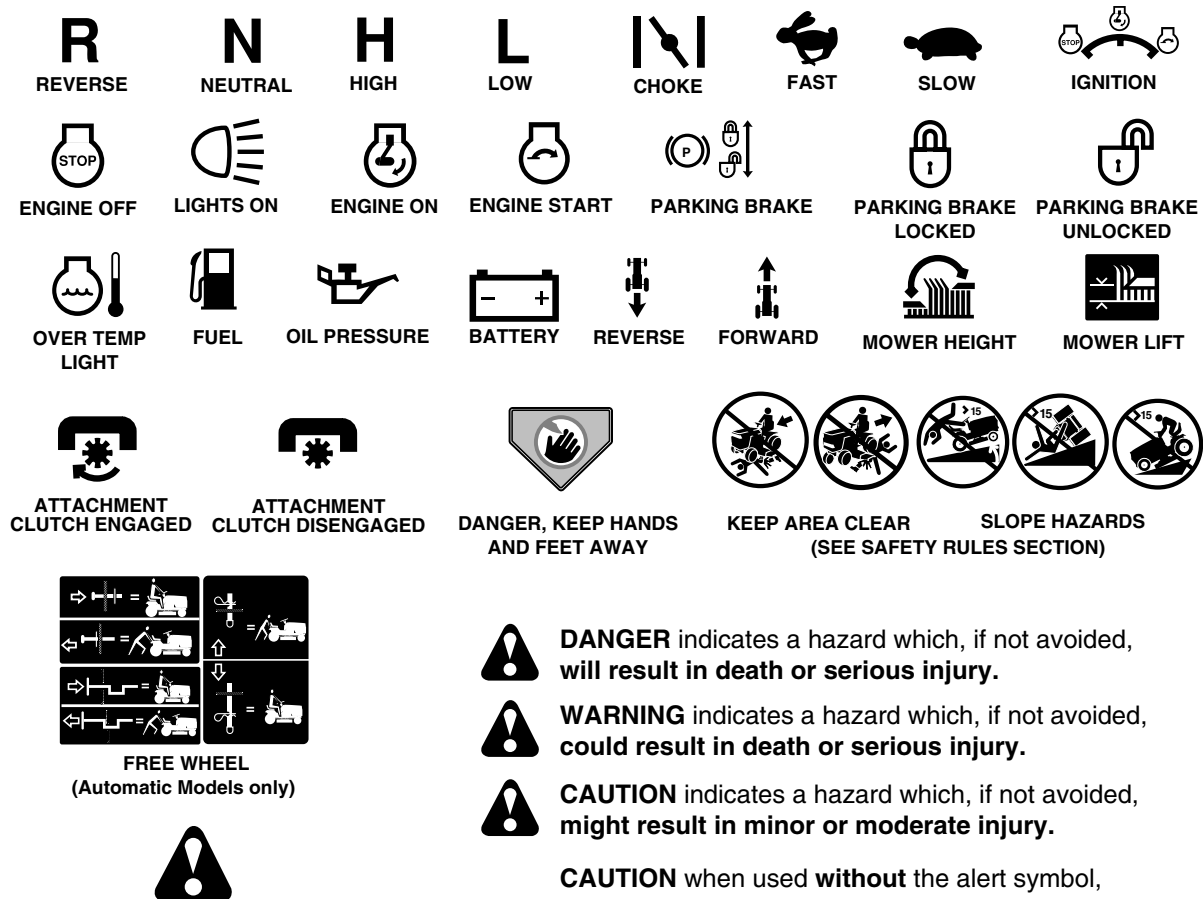
- ✓ All assembly instructions have been completed.
- ✓ No remaining loose parts in carton.
- ✓ Battery is properly prepared and charged. (Minimum 1 hour at 6 amps).
- ✓ Seat is adjusted comfortably and tightened securely.
- ✓ All tires are properly inflated. (For shipping purposes, the tires were overinflated at the factory).
- ✓ Be sure mower deck is properly leveled side-to-side/front-to-rear for best cutting results. (Tires must be properly inflated for leveling).
- ✓ Check mower and drive belts. Be sure they are routed properly around pulleys and inside all belt keepers.
- ✓ Check wiring. See that all connections are still secure and wires are properly clamped.
- ✓ Before driving tractor, be sure freewheel control is in "transmission engaged" position (see "TO TRANSPORT" in the Operation section of this manual).

While learning how to use your tractor, pay extra attention to the following important items:

- ✓ Engine oil is at proper level.
- ✓ Fuel tank is filled with fresh, clean, regular unleaded gasoline.
- ✓ Become familiar with all controls - their location and function. Operate them before you start the engine.
- ✓ Be sure brake system is in safe operating condition.
- ✓ It is important to purge the transmission before operating your tractor for the first time. Follow proper starting and transmission purging instructions (See "TO START ENGINE" and "PURGE TRANSMISSION" in the Operation section of this manual).

OPERATION

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



Failure to follow instructions could result in serious injury or death. The safety alert symbol is used to identify safety information about hazards which can result in death, serious injury and/or property damage.



DANGER indicates a hazard which, if not avoided, will result in death or serious injury.



WARNING indicates a hazard which, if not avoided, could result in death or serious injury.



CAUTION indicates a hazard which, if not avoided, might result in minor or moderate injury.

CAUTION when used **without** the alert symbol, indicates a situation that **could result in damage to the tractor and/or engine**.



HOT SURFACES indicates a hazard which, if not avoided, could result in death, serious injury and/or property damage.

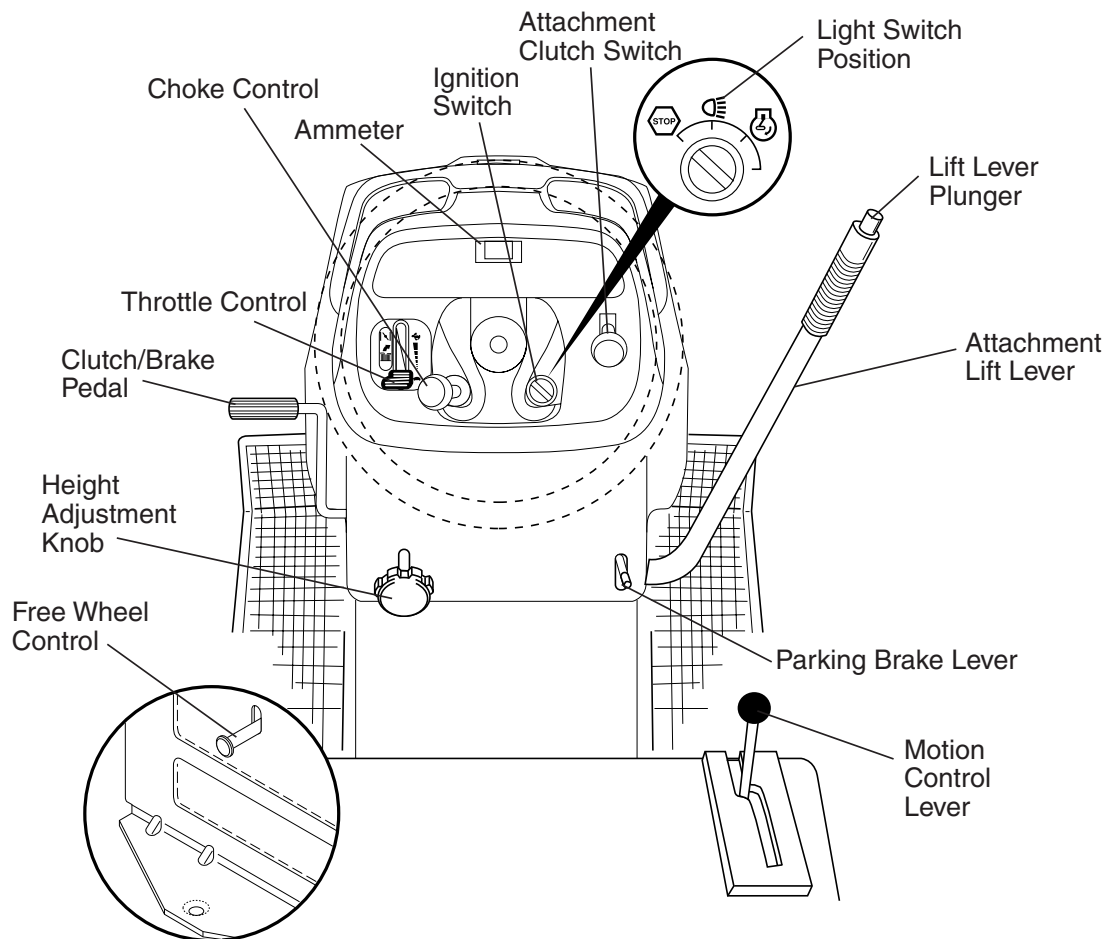


FIRE indicates a hazard which, if not avoided, could result in death, serious injury and/or property damage.

KNOW YOUR TRACTOR

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

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



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

AMMETER - Indicates charging (+) or discharging (-) of battery.

ATTACHMENT CLUTCH SWITCH - Used to engage the mower blades, or other attachments mounted to your tractor.

ATTACHMENT LIFT LEVER - Used to raise, lower, and adjust the mower deck or other attachments mounted to your tractor.

CLUTCH/BRAKE PEDAL - Used for declutching and braking the tractor and starting the engine.

MOTION CONTROL LEVER - Selects the speed and direction of tractor.

IGNITION SWITCH - Used for starting and stopping the engine.

LIFT LEVER PLUNGER - Used to release attachment lift lever when changing its position.

LIGHT SWITCH POSITION - Turns the headlights on and off.

PARKING BRAKE LEVER - Locks clutch/brake pedal into the brake position.

CHOKE CONTROL - Used when starting a cold engine.

THROTTLE CONTROL - Used to control engine speed.

FREEWHEEL CONTROL - Disengages transmission for pushing or slowly towing the tractor with the engine off.

HEIGHT ADJUSTMENT KNOB - Used to adjust the mower cutting height.

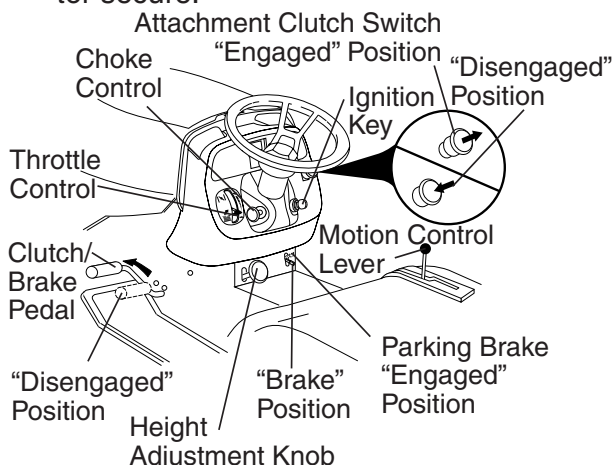


The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your tractor or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn over spectacles.

HOW TO USE YOUR TRACTOR TO SET PARKING BRAKE

Your tractor is equipped with an operator presence sensing switch. When engine is running, any attempt by the operator to leave the seat without first setting the parking brake will shut off the engine.

1. Depress clutch/brake pedal all the way down and hold.
2. Pull parking brake lever up and release pressure from clutch/brake pedal. Pedal should remain in brake position. Make sure parking brake will hold tractor secure.



STOPPING

MOWER BLADES -

- To stop mower blades, push attachment clutch switch in to disengaged position.

GROUND DRIVE -

- To stop ground drive, depress clutch/brake pedal all the way down.
- Move motion control lever to neutral (N) position.

IMPORTANT: The motion control lever does not return to neutral (N) position when the clutch/brake pedal is depressed.

ENGINE -

- Move throttle control to slow position.

NOTE: Failure to move throttle control to slow position to allow engine to idle before stopping may cause engine to "backfire".

- Turn ignition key to "STOP" position and remove key. Always remove key when leaving tractor to prevent unauthorized use.
- Never use choke to stop engine.

IMPORTANT: Leaving the ignition switch in any position other than "STOP" will cause the battery to discharge and go dead.

NOTE: Under certain conditions when tractor is standing idle with the engine running, hot engine exhaust gases may cause "browning" of grass. To eliminate this possibility, always stop engine when stopping tractor on grass areas.

CAUTION: Always stop tractor completely, as described above, before leaving the operator's position.

TO USE THROTTLE CONTROL

Always operate engine at full throttle.

- Operating engine at less than full throttle reduces the battery charging rate.
- Full throttle offers the best bagging and mower performance.

TO USE CHOKE CONTROL

Use choke control whenever you are starting a cold engine. Do not use to start a warm engine.

- To engage choke control, pull knob out. Slowly push knob in to disengage.

TO MOVE FORWARD AND BACKWARD

The direction and speed of movement is controlled by the motion control lever.

1. Start tractor with motion control lever in neutral (N) position.
2. Release parking brake.
3. Slowly move motion control lever to desired position.

TO ADJUST MOWER CUTTING HEIGHT

The cutting height is controlled by turning the height adjustment knob in desired direction.

- Turn knob clockwise (↻) to raise cutting height.
- Turn knob counterclockwise (↺) to lower cutting height.

The cutting height range is approximately 1-1/2" to 4". The heights are measured from the ground to the blade tip with the engine not running. These heights are approximate and may vary depending upon soil conditions, height of grass and types of grass being mowed.

- The average lawn should be cut to approximately 2-1/2 inches during the cool season and to over 3 inches during hot months. For healthier and better looking lawns, mow often and after moderate growth.
- For best cutting performance, grass over 6 inches in height should be mowed twice. Make the first cut relatively high; the second to desired height.

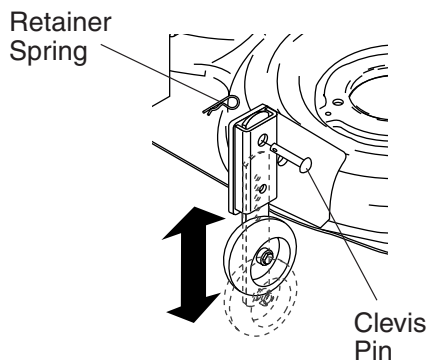
TO ADJUST GAUGE WHEELS

Gauge wheels are properly adjusted when they are slightly off the ground when mower is at the desired cutting height in operating position. Gauge wheels then keep the deck in proper position to help prevent scalping in most terrain conditions.

NOTE: Be sure tractor is on a flat level surface.

1. Lower mower and adjust mower to desired cutting height (See "TO ADJUST MOWER CUTTING HEIGHT" in this section of manual).
2. Remove retainer spring and clevis pin which secure each gauge wheel bar.
3. Lower gauge wheels to ground. Raise gauge wheels slightly to align holes in bracket and gauge wheel bar and insert clevis pin. Gauge wheels should be slightly off the ground.
4. Replace retainer spring into clevis pin.
5. Be sure all gauge wheels are in the same setting.

IMPORTANT: Be sure to readjust gauge wheels if you change the cutting height of the mower deck.



TO OPERATE MOWER

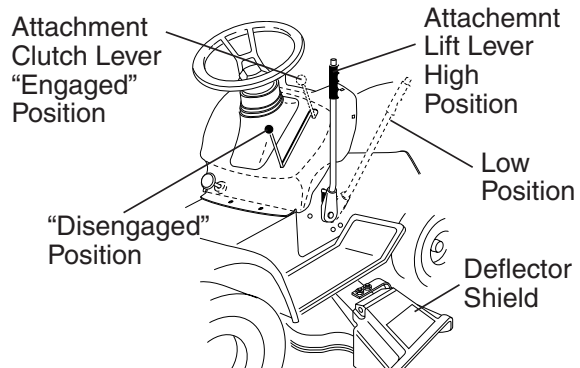
Your tractor is equipped with an operator presence sensing switch. Any attempt by the operator to leave the seat with the engine running and the attachment clutch engaged will shut off the engine.

1. Select desired height of cut.
2. Lower mower with attachment lift control.
3. Start mower blades by engaging attachment clutch control.

TO STOP MOWER BLADES -

disengage attachment clutch control.

CAUTION: Do not operate the mower without either the entire grass catcher, on mowers so equipped, or the deflector shield in place.



TO OPERATE ON HILLS

WARNING: Do not drive up or down hills with slopes greater than 15° and do not drive across any slope. Use the slope guide at the back of this manual.

- Choose the slowest speed before starting up or down hills.
- Avoid stopping or changing speed on hills.
- If slowing is necessary, move throttle control lever to slower position.
- If stopping is absolutely necessary, push clutch/brake pedal quickly to brake position and engage parking brake.
- Move motion control lever to neutral (N) position.

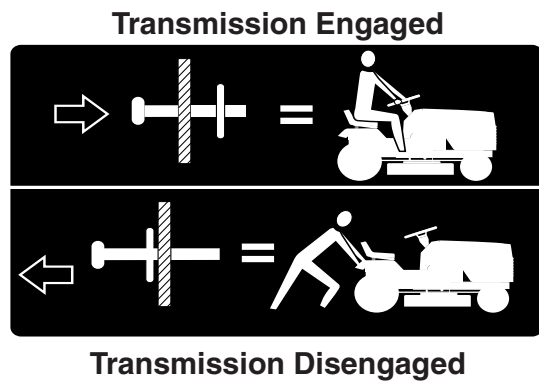
IMPORTANT: The motion control lever does not return to neutral (N) position when the clutch/brake pedal is depressed.

- To restart movement, slowly release parking brake and clutch/brake pedal.
- Slowly move motion control lever to slowest setting.
- Make all turns slowly.

TO TRANSPORT

When pushing or towing your tractor, be sure to disengage transmission by placing freewheel control in freewheeling position. Freewheel control is located at the rear drawbar of tractor.

1. Raise attachment lift to highest position with attachment lift control.
 2. Pull freewheel control out and down into the slot and release so it is held in the disengaged position.
- Do not push or tow tractor at more than two (2) MPH.
 - To re-engage transmission, reverse above procedure.



NOTE: To protect hood from damage when transporting your tractor on a truck or a trailer, be sure hood is closed and secured to tractor. Use an appropriate means of tying hood to tractor (rope, cord, etc.).

TOWING CARTS AND OTHER ATTACHMENTS

Tow only the attachments that are recommended by and comply with specifications of the manufacturer of your tractor. Use common sense when towing. Too heavy of a load, while on a slope, is dangerous. Tires can lose traction with the ground and cause you to lose control of your tractor.

BEFORE STARTING THE ENGINE CHECK ENGINE OIL LEVEL

The engine in your tractor has been shipped, from the factory, already filled with summer weight oil.

1. Check engine oil with tractor on level ground.
2. Remove oil fill cap/dipstick and wipe clean, reinsert the dipstick and screw cap tight, wait for a few seconds, remove and read oil level. If necessary, add oil until "FULL" mark on dipstick is reached. Do not overfill.
- For cold weather operation you should change oil for easier starting ((See the oil viscosity chart in the Maintenance section of this manual).
- To change engine oil, see the Maintenance section in this manual.

ADD GASOLINE

- Fill fuel tank to bottom of tank filler neck. Do not overfill. Use fresh, clean, regular unleaded gasoline with a minimum of 87 octane. (Use of leaded gasoline will increase carbon and lead oxide deposits and reduce valve life). Do not mix oil with gasoline. Purchase fuel in quantities that can be used within 30 days to assure fuel freshness.

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

IMPORTANT: When operating in temperatures below 32°F(0°C), use fresh, clean winter grade gasoline to help insure good cold weather starting.

CAUTION: Alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See Storage Instructions for additional information.

Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

TO START ENGINE

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

1. Be sure freewheel control is in the transmission engaged position.
2. Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
3. Place motion control lever in neutral (N) position.
4. Move attachment clutch to disengaged position.
5. Move throttle control to fast position
6. Pull choke control out for a cold engine start attempt. For a warm engine start attempt the choke control may not be needed.

NOTE: Before starting, read the warm and cold starting procedures below.

7. Insert key into ignition and turn key clockwise to start position and release key as soon as engine starts. Do not run starter continuously for more than fifteen seconds per minute. If the engine does not start after several attempts, push choke control in, wait a few minutes and try again. If engine still does not start, pull the choke control out and retry.

WARM WEATHER STARTING (50° F and above)

8. When engine starts, slowly push choke control in until the engine begins to run smoothly. If the engine starts to run roughly, pull the choke control out slightly for a few seconds and then continue to push the control in slowly.
- The attachments and ground drive can now be used. If the engine does not accept the load, restart the engine and allow it to warm up for one minute using the choke as described above.

COLD WEATHER STARTING (50° F and below)

8. When engine starts, slowly push choke control in until the engine begins to run smoothly. Continue to push the choke control in small steps allowing the engine to accept small changes in speed and load, until the choke control is fully in. If the engine starts to run roughly, pull the choke control out slightly for a few seconds and then continue to push the control in slowly. This may require an engine warm-up period from several seconds to several minutes, depending on the temperature.

AUTOMATIC TRANSMISSION WARM UP

Before driving the unit in cold weather, the transmission should be warmed up as follows:

1. Be sure the tractor is on level ground.
2. Place the motion control lever in neutral. Release the parking brake and let the clutch/brake slowly return to operating position.
3. Allow one minute for transmission to warm up. This can be done during the engine warm up period.
- The attachments can be used during the engine warm-up period after the transmission has been warmed up and may require the choke control be pulled out slightly.

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

PURGE TRANSMISSION

▲ CAUTION: Never engage or disengage freewheel lever while the engine is running.

To ensure proper operation and performance, it is recommended that the transmission be purged before operating tractor for the first time. This procedure will remove any trapped air inside the transmission which may have developed during shipping of your tractor.

IMPORTANT: Should your transmission require removal for service or replacement, it should be purged after reinstallation before operating the tractor.

1. Place tractor safely on level surface with engine off and parking brake set.
2. Disengage transmission by placing freewheel control in "transmission disengaged" position (See "TO TRANSPORT" in this section of manual).
3. Sitting in the tractor seat, start engine. After the engine is running, move throttle control to slow position. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.
4. Move motion control lever to full forward position and hold for five (5) seconds. Move lever to full reverse position and hold for five (5) seconds. Repeat this procedure three (3) times.

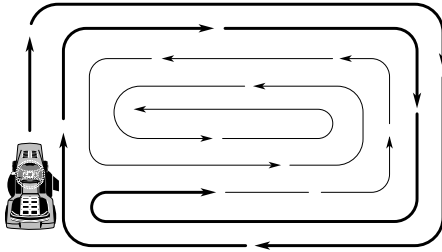
NOTE: During this step there will be no movement of drive wheels. The air is being removed from hydraulic drive system.

5. Move motion control lever to neutral (N) position. Shutoff engine and set parking brake.
6. Engage transmission by placing freewheel control in "transmission engaged" position (See "TO TRANSPORT" in this section of manual).
7. Sitting in the tractor seat, start engine. After the engine is running, move throttle control to half (1/2) speed. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.
8. Slowly move motion control lever forward, after the tractor moves approximately five (5) feet, slowly move motion control lever to reverse position. After the tractor moves approximately five (5) feet return the motion control lever to the neutral (N) position. Repeat this procedure with the motion control lever three (3) times.

Your transmission is now purged and ready for normal operation.

MOWING TIPS

- Mower should be properly leveled for best mowing performance. See "TO LEVEL MOWER HOUSING" in the Service and Adjustments section of this manual.
- The left hand side of mower should be used for trimming.
- Drive so that clippings are discharged onto the area that has already been cut. Have the cut area to the right of the tractor. This will result in a more even distribution of clippings and more uniform cutting.
- When mowing large areas, start by turning to the right so that clippings will discharge away from shrubs, fences, driveways, etc. After one or two rounds, mow in the opposite direction making left hand turns until finished.
- If grass is extremely tall, it should be mowed twice to reduce load and possible fire hazard from dried clippings. Make first cut relatively high; the second to the desired height.
- Do not mow grass when it is wet. Wet grass will plug mower and leave undesirable clumps. Allow grass to dry before mowing.
- **Always operate engine at full throttle when mowing** to assure better mowing performance and proper discharge of material. Regulate ground speed by selecting a low enough gear to give the mower cutting performance as well as the quality of cut desired.
- When operating attachments, select a ground speed that will suit the terrain and give best performance of the attachment being used.



MAINTENANCE

MAINTENANCE SCHEDULE		SERVICE DATES						
FILL IN DATES AS YOU COMPLETE REGULAR SERVICE		BEFORE EACH USE	EVERY 8 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY SEASON	BEFORE STORAGE
TRACTOR	Check Brake Operation	✓	✓					
	Check Tire Pressure	✓	✓					
	Check Operator Presence and Interlock Systems	✓						
	Check for Loose Fasteners	✓			✓ ₅	✓		
	Sharpen/Replace Mower Blades			✓ ₃				
	Lubrication Chart			✓		✓		
	Check Battery Level			✓ ₄				
	Clean Battery and Terminals			✓		✓		
	Check Transaxle Cooling			✓				
	Check V-Belts				✓			
ENGINE	Check Engine Oil Level	✓	✓					
	Change Engine Oil (with oil filter)			✓ _{1,2}		✓		
	Change Engine Oil (without oil filter)			✓ _{1,2}		✓		
	Clean Air Filter			✓ ₂				
	Clean Air Screen			✓ ₂				
	Inspect Muffler/Spark Arrester			✓				
	Replace Oil Filter (If equipped)				✓ _{1,2}			
	Clean Engine Cooling Fins				✓ ₂			
	Replace Spark Plug				✓	✓		
	Replace Air Filter Paper Cartridge				✓ ₂			
	Replace Fuel Filter					✓		

1 - Change more often when operating under a heavy load or in high ambient temperatures.

2 - Service more often when operating in dirty or dusty conditions.

3 - Replace blades more often when mowing in sandy soil.

4 - Not required if equipped with maintenance-free battery.

5 - Tighten front axle pivot bolt to 35 ft.-lbs. maximum.

Do not overtighten.

GENERAL RECOMMENDATIONS

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

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

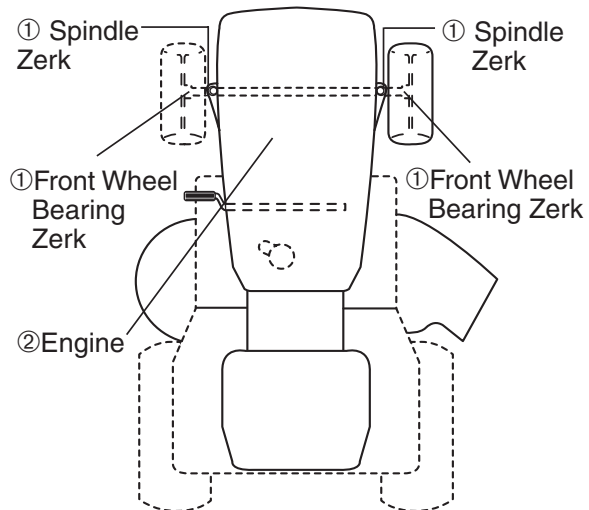
All adjustments in the Service and Adjustments section of this manual should be checked at least once each season.

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

BEFORE EACH USE

- Check engine oil level.
- Check brake operation.
- Check tire pressure.
- Check operator presence and interlock systems for proper operation.
- Check for loose fasteners.

LUBRICATION CHART



① General Purpose Grease

② REFER TO Maintenance "ENGINE" SECTION

IMPORTANT: Do not oil or grease the pivot points which have special nylon bearings. Viscous lubricants will attract dust and dirt that will shorten the life of the self-lubricating bearings. If you feel they must be lubricated, use only a dry, powdered graphite type lubricant sparingly.

TRACTOR

Always observe safety rules when performing any maintenance.

BRAKE OPERATION

If tractor requires more than six (6) feet stopping distance at high speed in highest gear, then brake must be adjusted. (See "TO ADJUST BRAKE" in the Service and Adjustments section of this manual).

TIRES

- Maintain proper air pressure in all tires (See "PRODUCT SPECIFICATIONS" section of this manual).
- Keep tires free of gasoline, oil, or insect control chemicals which can harm rubber.
- Avoid stumps, stones, deep ruts, sharp objects and other hazards that may cause tire damage.

NOTE: To seal tire punctures and prevent flat tires due to slow leaks, tire sealant may be purchased from your local parts dealer. Tire sealant also prevents tire dry rot and corrosion.

OPERATOR PRESENCE SYSTEM

Be sure operator presence and interlock systems are working properly. If your tractor does not function as described, repair the problem immediately.

- The engine should not start unless the brake pedal is fully depressed and attachment clutch control is in the disengaged position.
- When the engine is running, any attempt by the operator to leave the seat without first setting the parking brake should shut off the engine.
- When the engine is running and the attachment clutch is engaged, any attempt by the operator to leave the seat should shut off the engine.
- The attachment clutch should never operate unless the operator is in the seat.

BLADE CARE

For best results mower blades must be kept sharp. Replace bent or damaged blades.

BLADE REMOVAL

1. Raise mower to highest position to allow access to blades.

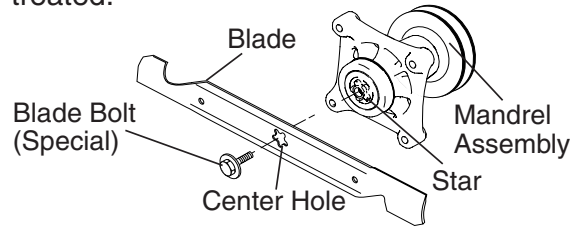
NOTE: Protect your hands with gloves and/or wrap blade with heavy cloth.

2. Remove blade bolt by turning counter-clockwise.
3. Install new or resharpened blade with stamped "THIS SIDE UP" facing deck and mandrel assembly.

IMPORTANT: To ensure proper assembly, center hole in blade must align with star on mandrel assembly.

4. Install and tighten blade bolt securely (45-55 Ft. Lbs. torque).

IMPORTANT: Special blade bolt is heat treated.



TO SHARPEN BLADE

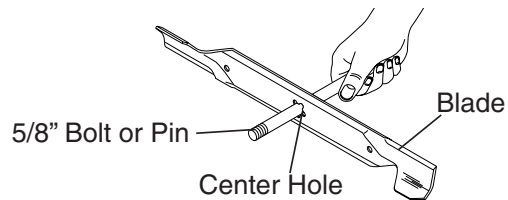
NOTE: We do not recommend sharpening blade - but if you do, be sure the blade is balanced.

Care should be taken to keep the blade balanced. An unbalanced blade will cause excessive vibration and eventual damage to mower and engine.

- The blade can be sharpened with a file or on a grinding wheel. Do not attempt to sharpen while on the mower.
- To check blade balance, you will need a 5/8" diameter steel bolt, pin, or a cone balancer. (When using a cone balancer, follow the instructions supplied with balancer.)

NOTE: Do not use a nail for balancing blade. The lobes of the center hole may appear to be centered, but are not.

- Slide blade on to an unthreaded portion of the steel bolt or pin and hold the bolt or pin parallel with the ground. If blade is balanced, it should remain in a horizontal position. If either end of the blade moves downward, sharpen the heavy end until the blade is balanced.



BATTERY

Your tractor has a battery charging system which is sufficient for normal use. However, periodic charging of the battery with an automotive charger will extend its life.

- Keep battery and terminals clean.
- Keep battery bolts tight.
- Keep small vent holes open.
- Recharge at 6-10 amperes for 1 hour.

NOTE: The original equipment battery on your tractor is maintenance free. Do not attempt to open or remove caps or covers. Adding or checking level of electrolyte is not necessary.

TO CLEAN BATTERY AND TERMINALS

Corrosion and dirt on the battery and terminals can cause the battery to "leak" power.

1. Remove terminal guard.
2. Disconnect BLACK battery cable first then RED battery cable and remove battery from tractor.
3. Rinse the battery with plain water and dry.
4. Clean terminals and battery cable ends with wire brush until bright.
5. Coat terminals with grease or petroleum jelly.
6. Reinstall battery (See "REPLACING BATTERY" in the SERVICE AND ADJUSTMENTS section of this manual).

TRANSAXLE COOLING

The transmission fan and cooling fins should be kept clean to assure proper cooling.

Do not attempt to clean fan or transmission while engine is running or while the transmission is hot. To prevent possible damage to seals, do not use high pressure water or steam to clean transaxle.

- Inspect cooling fan to be sure fan blades are intact and clean.
- Inspect cooling fins for dirt, grass clippings and other materials. To prevent damage to seals, do not use compressed air or high pressure sprayer to clean cooling fins.

TRANSAXLE PUMP FLUID

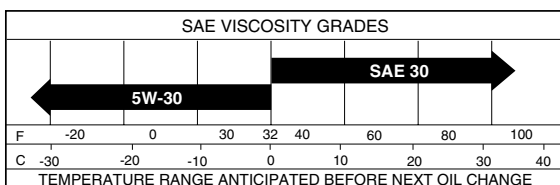
The transaxle was sealed at the factory and fluid maintenance is not required for the life of the transaxle. Should the transaxle ever leak or require servicing, contact our authorized service center/department.

V-BELTS

Check V-belts for deterioration and wear after 100 hours of operation and replace if necessary. The belts are not adjustable. Replace belts if they begin to slip from wear.

ENGINE LUBRICATION

Only use high quality detergent oil rated with API service classification SF-SJ. Select the oil's SAE viscosity grade according to your expected operating temperature.

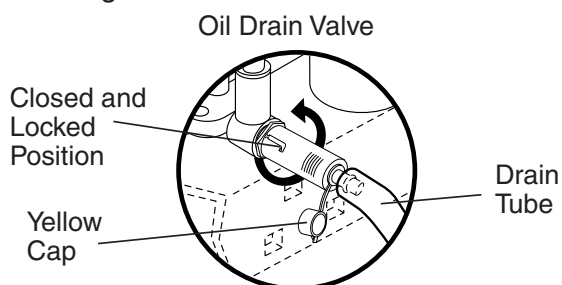


NOTE: Although multi-viscosity oils (5W30, 10W30 etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid possible engine damage from running low on oil. Change the oil after every 50 hours of operation or at least once a year if the tractor is not used for 50 hours in one year. Check the crankcase oil level before starting the engine and after each eight (8) hours of operation. Tighten oil fill cap/dipstick securely each time you check the oil level.

TO CHANGE ENGINE OIL

Determine temperature range expected before oil change. All oil must meet API service classification SF-SJ.

- Be sure tractor is on level surface.
 - Oil will drain more freely when warm.
 - Catch oil in a suitable container.
1. Remove oil fill cap/dipstick. Be careful not to allow dirt to enter the engine when changing oil.
 2. Remove yellow cap from end of drain valve and install the drain tube onto the fitting.



3. Unlock drain valve by pushing inward slightly and turning counterclockwise.
4. To open, pull out on the drain valve.
5. After oil has drained completely, close and lock the drain valve by pushing inward and turning clockwise until the pin is in the locked position as shown.
6. Remove the drain tube and replace the cap onto the end of the drain valve.
7. Refill engine with oil through oil fill dipstick tube. Pour slowly. Do not overfill. For approximate capacity see "PRODUCT SPECIFICATIONS" section of this manual.
8. Use gauge on oil fill cap/dipstick for checking level. For accurate reading, tighten dipstick cap securely onto the tube before removing dipstick. Keep oil at "FULL" line on dipstick. Tighten cap onto the tube securely when finished.

ENGINE OIL FILTER

Replace the engine oil filter every season or every other oil change if the tractor is used more than 100 hours in one year.

AIR FILTER

Your engine will not run properly using a dirty air filter. Clean the foam pre-cleaner after every 25 hours of operation or every season. Service paper cartridge every 100 hours of operation or every season, whichever occurs first.

Service air cleaner more often under dusty conditions.

1. Remove knobs and cover.

TO SERVICE PRE-CLEANER

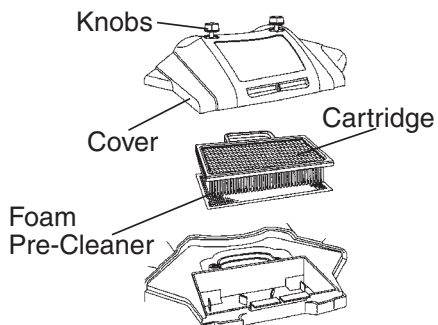
2. Wash it in liquid detergent and water.
3. Squeeze it dry in a clean cloth.
4. Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.

NOTE: If very dirty or damaged, replace pre-cleaner.

TO SERVICE CARTRIDGE

1. Clean cartridge by tapping gently on flat surface. If very dirty or damaged, replace cartridge.
2. Reinstall precleaner cartridge, cover and secure with knobs.

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



CLEAN AIR SCREEN

Air screen must be kept free of dirt and chaff to prevent engine damage from overheating. Clean with a wire brush or compressed air to remove dirt and stubborn dried gum fibers.

CLEAN AIR INTAKE/COOLING AREAS

To insure proper cooling, make sure the grass screen, cooling fins, and other external surfaces of the engine are kept clean at all times.

Every 100 hours of operation (more often under extremely dusty, dirty conditions), remove the blower housing and other cooling shrouds. Clean the cooling fins and external surfaces as necessary. Make sure the cooling shrouds are reinstalled.

NOTE: Operating the engine with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed will cause engine damage due to overheating.

MUFFLER

Inspect and replace corroded muffler and spark arrester (if equipped) as it could create a fire hazard and/or damage.

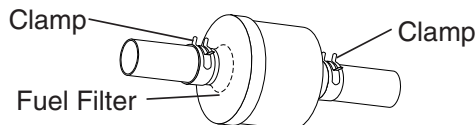
SPARK PLUG(S)

Replace spark plug(s) at the beginning of each mowing season or after every 100 hours of operation, whichever occurs first. Spark plug type and gap setting are shown in "PRODUCT SPECIFICATIONS" section of this manual.

IN-LINE FUEL FILTER

The fuel filter should be replaced once each season. If fuel filter becomes clogged, obstructing fuel flow to carburetor, replacement is required.

1. With engine cool, remove filter and plug fuel line sections.
2. Place new fuel filter in position in fuel line with arrow pointing towards carburetor.
3. Be sure there are no fuel line leaks and clamps are properly positioned.
4. Immediately wipe up any spilled gasoline.



CLEANING

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

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

SERVICE AND ADJUSTMENTS



WARNING: TO AVOID SERIOUS INJURY, BEFORE PERFORMING ANY SERVICE OR ADJUSTMENTS:

1. Depress clutch/brake pedal fully and set parking brake.
2. Place motion control lever in neutral (N) position.
3. Place attachment clutch in "DISENGAGED" position.
4. Turn ignition key to "STOP" and remove key.
5. Make sure the blades and all moving parts have completely stopped.
6. Disconnect spark plug wire from spark plug and place wire where it cannot come in contact with plug.

TRACTOR

TO REMOVE MOWER

1. Place attachment clutch in "DISENGAGED" position.
2. If equipped, turn height adjustment knob to lowest setting.
3. Lower mower to its lowest position.
4. Remove retainer spring holding anti-sway bar to chassis bracket and disengage anti-sway bar from bracket.
5. Remove four retainer springs from front plate assembly and remove plate.
6. Remove retainer springs from suspension arms at deck and disengage arms from deck.
7. Raise attachment lift to its highest position.
8. Slide mower forward and remove belt from electric clutch pulley.
9. Slide mower out from under right side of tractor.

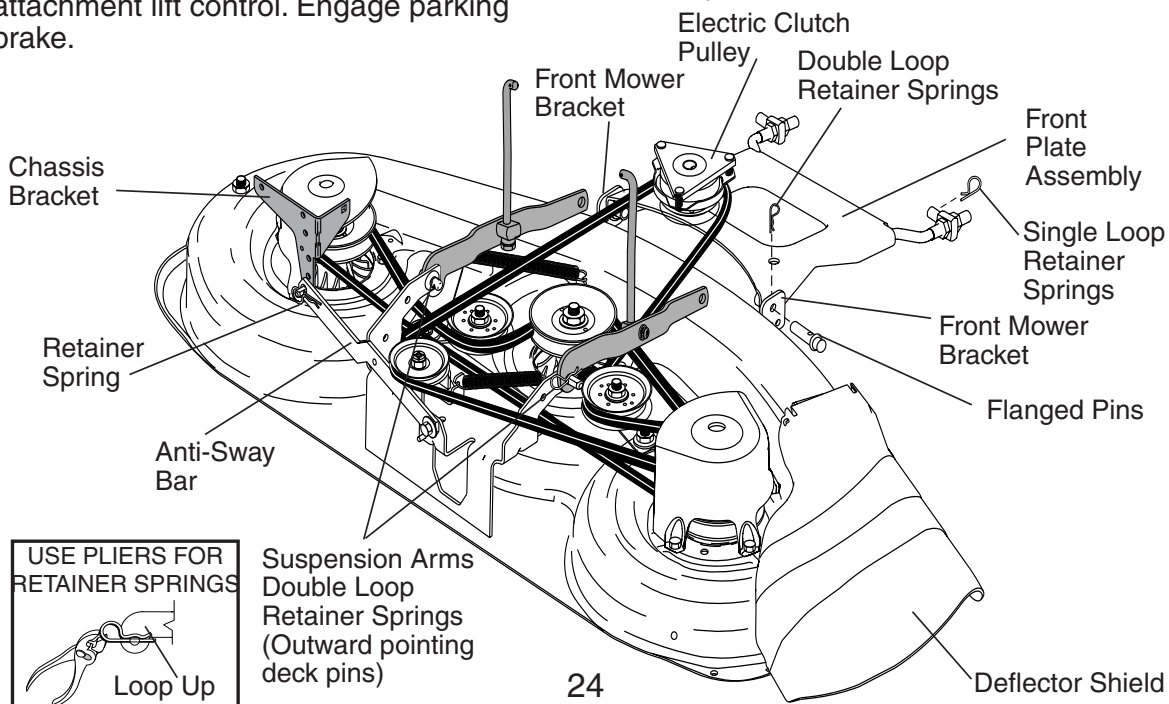
TO INSTALL MOWER

Be sure tractor is on level surface and mower suspension arms are raised with attachment lift control. Engage parking brake.

1. Swing anti-sway bar to left side of mower deck.
2. Slide mower under tractor with deflector shield to right side of tractor.

IMPORTANT: Check belt for proper routing in all mower pulley grooves.

3. If equipped, turn height adjustment knob counterclockwise until it stops.
4. Lower mower linkage with attachment lift control.
5. Install belt into electric clutch pulley groove.
6. Place the suspension arms on outward pointing deck pins. Retain with double loop retainer spring with loops up as shown.
7. Install front plate assembly to tractor suspension brackets and retain with single loop retainer springs as shown.
8. Position front plate assembly between front mower brackets. Raise deck and plate assembly to align holes and insert flanged pins. Secure pins with double loop retainer springs between the plate and mower brackets.



NOTE: To assist in locating hole in flanged pin, the hole in pin is inline with notch on head of pin. If necessary, move mower side-to-side to give space between plate and mower brackets.

IMPORTANT: Check belt for proper routing in all mower pulley grooves.

9. Connect anti-sway bar to chassis bracket under left footrest and retain with double loop retainer spring.
10. If equipped, turn height adjustment knob clockwise to remove slack from mower suspension.
11. Raise deck to highest position.

TO LEVEL MOWER HOUSING

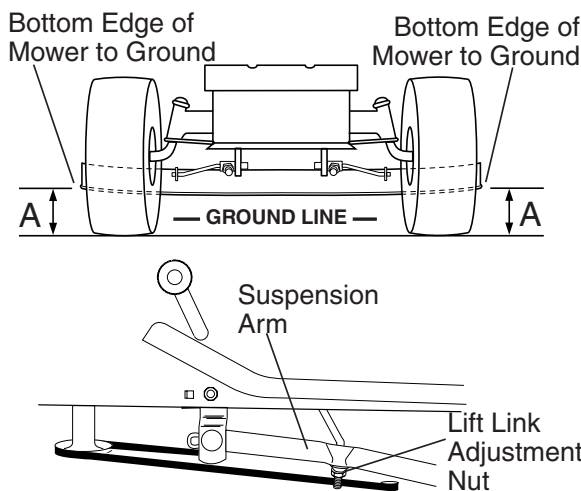
Adjust the mower while tractor is parked on level ground or driveway. Make sure tires are properly inflated (See "PRODUCT SPECIFICATIONS" section of this manual). If tires are over or underinflated, you will not properly adjust your mower.

SIDE-TO-SIDE ADJUSTMENT

- Raise mower to its highest position.
- Measure height from bottom edge of mower to ground level at front corners of mower. Distance "A" on both sides of mower should be the same.
- If adjustment is necessary, make adjustment on one side of mower only.
- To raise one side of mower, tighten lift link adjustment nut on that side.
- To lower one side of mower, loosen lift link adjustment nut on that side.

NOTE: Each full turn of adjustment nut will change mower height about 3/16".

- Recheck measurements after adjusting.



FRONT-TO-BACK ADJUSTMENT

IMPORTANT: Deck must be level side-to-side. If the following front-to-back adjustment is necessary, be sure to adjust both front links equally so mower will stay level side-to-side.

To obtain the best cutting results, the mower blades should be adjusted so the front tip is approximately 1/8" to 1/2" lower than the rear tip when the mower is in its highest position.

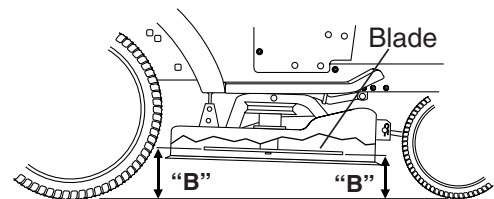
CAUTION: Blades are sharp. Protect your hands with gloves and/or wrap blade with heavy cloth.

Check adjustment on right side of tractor. Position any blade so the tip is pointing straight forward. Measure distance "B" at front and rear tip of blade.

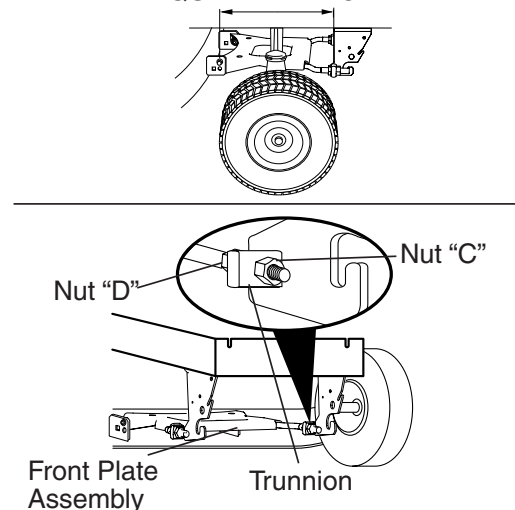
- Before making any necessary adjustments, check that both front plate links are equal in length.
- If links are not equal in length, adjust one link to same length as other link.
- To lower front of blade, loosen nut "C" on both front links an equal number of turns.

NOTE: Each full turn of nut "C" will change distance "B" by approximately 3/16".

- When distance "B" is 1/8" to 1/2" lower at front than rear, tighten nut "D" against trunnion on both front links.
- To raise front of blade, loosen nut "D" from trunnion on both front links. Tighten nut "C" on both front links an equal number of turns. The two front links must remain equal in length.
- When distance "B" is 1/8" to 1/2" lower at front than rear, tighten nut "D" against trunnion on both front links.
- Recheck side-to-side adjustment.



BOTH FRONT PLATE LINKS MUST BE EQUAL IN LENGTH



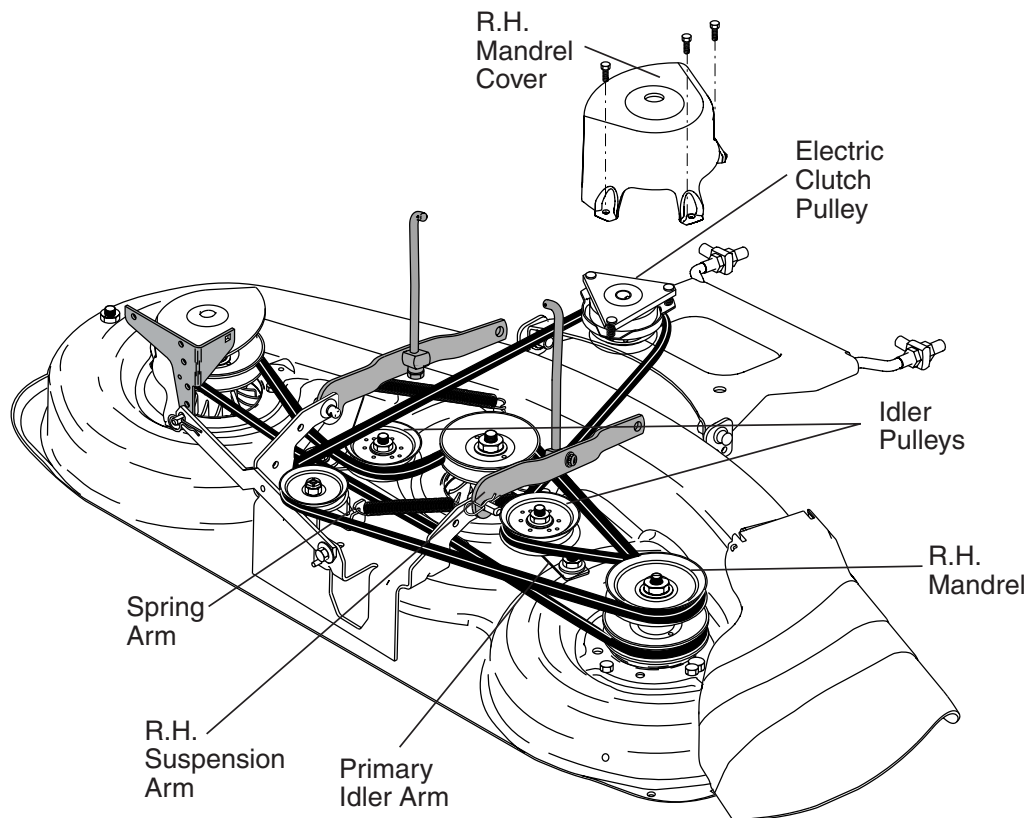
TO REPLACE MOWER DRIVE BELT

MOWER DRIVE BELT REMOVAL

1. Park tractor on a level surface. Engage parking brake.
2. Lower mower to its lowest position.
3. Remove screws from R.H. mandrel cover and remove cover.
4. Remove any dirt or grass clippings which may have accumulated around mandrels and entire upper deck surface.
5. Disconnect R.H. suspension arm from rear deck bracket by removing retainer spring.
6. Carefully roll belt over the top of R.H. mandrel pulley.
7. Remove belt from electric clutch pulley.
8. Remove belt from idler pulleys.
9. Check primary idler arm and two idlers to see that they rotate freely.
10. Be sure spring is securely hooked to primary idler arm and spring arm.

MOWER DRIVE BELT INSTALLATION

11. Install belt in both idlers.
12. Install new belt onto electric clutch pulley.
13. Carefully roll belt into upper groove of R.H. mandrel pulley.
14. Carefully check belt routing making sure belt is in the grooves correctly.
15. Reconnect R.H. suspension arm to rear deck bracket with retainer spring.
16. Reassemble R.H. mandrel cover.



TO REPLACE MOWER BLADE (SECONDARY) DRIVE BELT

Park the tractor on level surface. Engage parking brake.

1. Remove mower (See "TO REMOVE MOWER" in this section of manual).
2. Remove screws from R.H. and L.H. mandrel covers and remove covers.

REMOVE MOWER DRIVE BELT

(Refer to "TO REMOVE MOWER DRIVE BELT" illustration in this section of manual).

3. Carefully roll belt over the top of R.H. mandrel pulley.
4. Remove belt from idler pulleys.
5. Check primary idler arm and two idlers to see that they rotate freely.
6. Be sure spring is securely hooked to primary idler arm and spring arm.

REMOVE MOWER BLADE (SECONDARY) DRIVE BELT

7. Carefully roll belt off L.H. mandrel pulley.
8. Remove belt from center mandrel pulley, idler pulley, and R.H. mandrel pulley.
9. Remove any dirt or grass which may have accumulated around mandrels and entire upper deck surface.

10. Check secondary idler arm and idler pulley to see that they rotate freely.
11. Be sure spring is hooked in secondary idler arm and secondary spring arm.

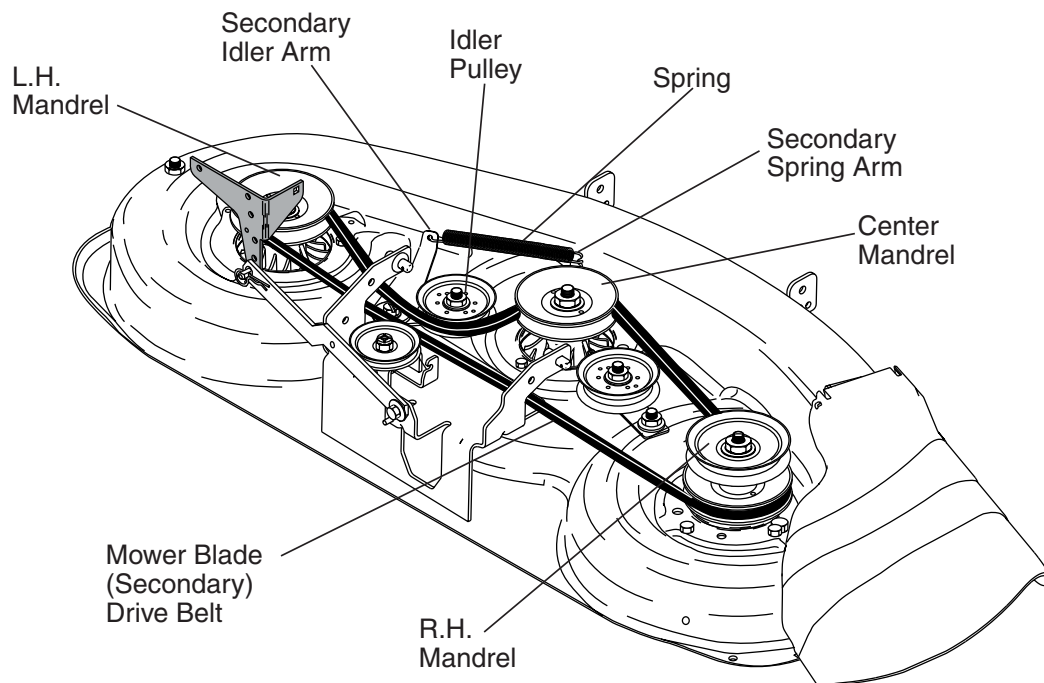
INSTALL NEW MOWER BLADE (SECONDARY) DRIVE BELT

12. Install new belt in lower groove of R.H. mandrel pulley, idler pulley, and center mandrel pulley as shown.
13. Carefully roll belt over L.H. mandrel pulley. Make sure belt is in all grooves properly.

REINSTALL MOWER DRIVE BELT

(Refer to "TO REMOVE MOWER DRIVE BELT" illustration in this section of manual).

14. Install belt into upper groove of R.H. mandrel pulley and around both idlers. Pull belt to front of mower to remove slack.
15. Reinstall mandrel covers and securely tighten all screws.
16. Carefully check belt routing making sure belt is in all grooves correctly.
17. Reinstall mower to tractor (See "TO INSTALL MOWER" in this section of manual).



TO CHECK AND ADJUST BRAKE

Your tractor is equipped with an adjustable brake system which is mounted on the right side of the transaxle.

If tractor requires more than five (5) feet to stop at highest speed in highest gear on a level, dry concrete or paved surface, then brake must be checked and adjusted.

TO CHECK BRAKE

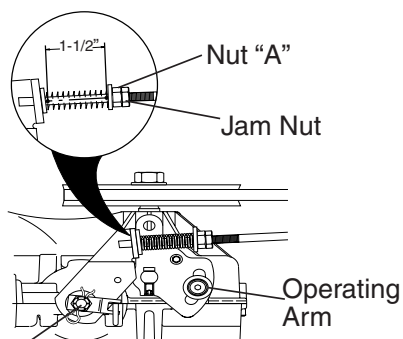
1. Park tractor on a level, dry concrete or paved surface, depress clutch/brake pedal all the way down and engage parking brake.
2. Disengage transmission by placing freewheel control in "transmission disengaged" position. Pull freewheel control out and into the slot and release so it is held in the disengaged position.

The rear wheels must lock and skid when you try to manually push the tractor forward. If the rear wheels rotate, the brake needs to be adjusted or the pads need to be replaced.

TO ADJUST BRAKE

1. Depress clutch/brake pedal all the way down and engage parking brake.
2. Measure distance between brake operating arm and nut "A" on brake rod.
3. If distance is other than 1-1/2", loosen jam nut and turn nut "A" until distance becomes 1-1/2". Retighten jam nut against nut "A".
4. Engage transmission by placing freewheel control in "transmission engaged" position.
5. Road test tractor for proper stopping distance as stated above. Readjust if necessary. If stopping distance is still greater than five (5) feet in highest gear, further maintenance is necessary. Replace brake pads or contact an authorized service center/department.

With parking brake "Engaged"



Do not touch this nut. If further brake adjustment is necessary contact an authorized service center/department.

TO REPLACE MOTION DRIVE BELT

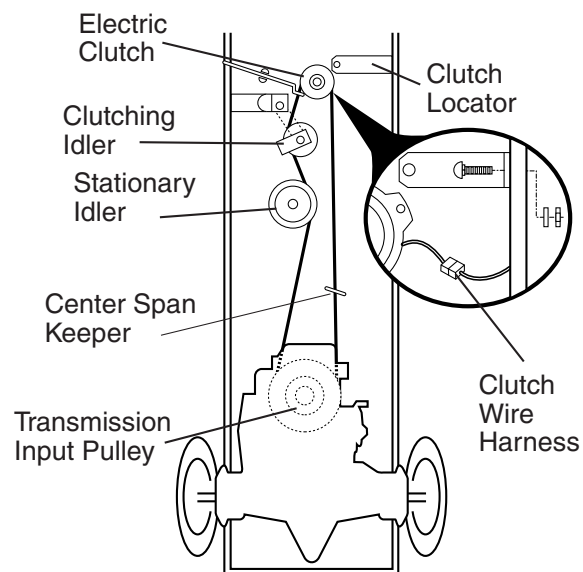
Park the tractor on level surface. Engage parking brake. For assistance, there is a belt installation guide decal on bottom side of left footrest.

BELT REMOVAL -

1. Remove mower (See "TO REMOVE MOWER" in this section of manual).
- NOTE:** Observe entire motion drive belt and position of all belt guides and keepers.
2. Disconnect clutch wire harness.
3. Remove clutch locator.
4. Remove belt from stationary idler and clutching idler.
5. Remove belt downward from engine pulley and around electric clutch.
6. Pull belt slack toward rear of tractor. Carefully remove belt upwards from transmission input pulley and over cooling fan blades.
7. Remove belt from center span keeper and pull belt away from tractor.

BELT INSTALLATION -

1. Carefully work new belt down around transmission cooling fan and onto the input pulley.
2. Slide belt into the center span keeper.
3. Pull belt toward front of tractor and roll belt around electric clutch and onto engine pulley.
4. Install belt through stationary idler and clutching idler.
5. Reinstall clutch locator and tighten nut securely.
6. Reconnect clutch harness.
7. Make sure belt is in all pulley grooves and inside all belt guides and keepers.
8. Install mower (See "TO INSTALL MOWER" in this section of manual).



TRANSAXLE MOTION CONTROL LEVER NEUTRAL ADJUSTMENT

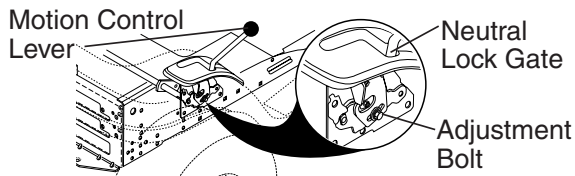
The motion control lever has been preset at the factory and adjustment should not be necessary.

1. Loosen adjustment bolt in front of the right rear wheel, and lightly tighten.
2. Start engine and move motion control lever until tractor does not move forward or backward.
3. Hold motion control lever in that position and turn engine off.
4. While holding motion control lever in place, loosen the adjustment bolt.
5. Move motion control lever to the neutral (N) (lock gate) position.
6. Tighten adjustment bolt securely.

NOTE: If additional clearance is needed to get to adjustment bolt, move mower deck height to the lowest position.

After above adjustment is made, if the tractor still creeps forward or backward while motion control lever is in neutral position, follow these steps:

1. Loosen the adjustment bolt.
2. Move the motion control lever 1/4 to 1/2 inch in the direction it is trying to creep.
3. Tighten adjustment bolt securely.
4. Start engine and test.
5. If tractor still creeps, repeat above steps until satisfied.



TRANSMISSION REMOVAL/REPLACEMENT

Should your transmission require removal for service or replacement, it should be purged after reinstallation and before operating the tractor. See "PURGE TRANSMISSION" in the Operation section of this manual.

TO ADJUST STEERING WHEEL ALIGNMENT

If steering wheel crossbars are not horizontal (left to right) when wheels are positioned straight forward, remove steering wheel and reassemble with crossbars horizontal. Tighten securely.

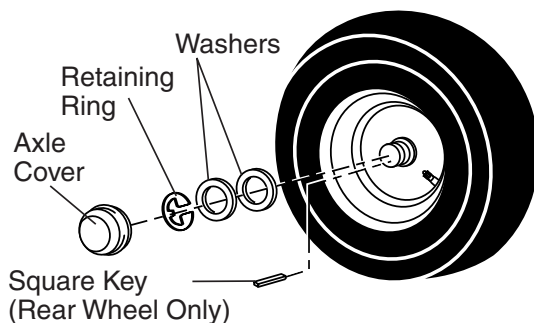
FRONT WHEEL TOE-IN/CAMBER

The front wheel toe-in and camber are not adjustable on your tractor. If damage has occurred to affect the front wheel toe-in or camber, contact our authorized service center/department.

TO REMOVE WHEEL FOR REPAIRS

1. Block up axle securely.
 2. Remove axle cover, retaining ring and washers to allow wheel removal (rear wheels have a square key - Do not lose).
 3. Repair tire and reassemble.
- NOTE:** On rear wheels only: align grooves in rear wheel hub and axle. Insert square key.
4. Replace washers and snap retaining ring securely in axle groove.
 5. Replace axle cover.

NOTE: To seal tire punctures and prevent flat tires due to slow leaks, purchase and use tire sealant from an authorized service center/department. Tire sealant also prevents tire dry rot and corrosion.



TO START ENGINE WITH A WEAK BATTERY

WARNING: Lead-acid batteries generate explosive gases. Keep sparks, flame and smoking materials away from batteries. Always wear eye protection when around batteries.

If your battery is too weak to start the engine, it should be recharged. (See "BATTERY" in the MAINTENANCE section of this manual).

If "jumper cables" are used for emergency starting, follow this procedure:

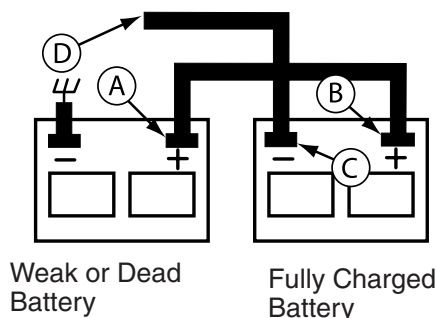
IMPORTANT: Your tractor is equipped with a 12 volt system. The other vehicle must also be a 12 volt system. Do not use your tractor battery to start other vehicles.

TO ATTACH JUMPER CABLES -

1. Connect one end of the RED cable to the POSITIVE (+) terminal of each battery(A-B), taking care not to short against tractor chassis.
2. Connect one end of the BLACK cable to the NEGATIVE (-) terminal (C) of fully charged battery.
3. Connect the other end of the BLACK cable (D) to good chassis ground, away from fuel tank and battery.

TO REMOVE CABLES, REVERSE ORDER -

1. BLACK cable first from chassis and then from the fully charged battery.
2. RED cable last from both batteries.

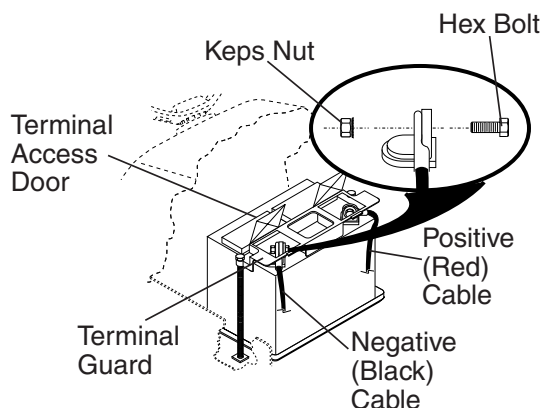


REPLACING BATTERY

⚠ WARNING: Do not short battery terminals by allowing a wrench or any other object to contact both terminals at the same time. Before connecting battery, remove metal bracelets, wristwatch bands, rings, etc.

Positive terminal must be connected first to prevent sparking from accidental grounding.

1. Lift hood to raised position.
2. Remove terminal guard.
3. Disconnect BLACK battery cable then RED battery cable and carefully remove battery from tractor.
4. Install new battery with terminals in same position as old battery.
5. Reinstall terminal guard.
6. First connect RED battery cable to positive (+) battery terminal with hex bolt and keps nut as shown. Tighten securely.
7. Connect BLACK grounding cable to negative (-) battery terminal with remaining hex bolt and keps nut. Tighten securely.
8. Close terminal access doors.
9. Close hood.



TO REPLACE HEADLIGHT BULB

1. Raise hood.
2. Pull bulb holder out of the hole in the backside of the grill.
3. Replace bulb in holder and push bulb holder securely back into the hole in the backside of the grill.
4. Close hood.

INTERLOCKS AND RELAYS

Loose or damaged wiring may cause your tractor to run poorly, stop running, or prevent it from starting.

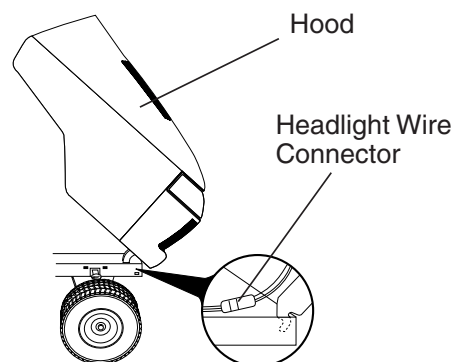
- Check wiring. See electrical wiring diagram in the Repair Parts section.

TO REPLACE FUSE

Replace with 20 amp automotive-type plug-in fuse. The fuse holder is located behind the dash.

TO REMOVE HOOD AND GRILL ASSEMBLY

1. Raise hood.
2. Unsnap headlight wire connector.
3. Stand in front of tractor. Grasp hood at sides, tilt toward engine and lift off of tractor.
4. When replacing hood, be sure to reconnect the headlight wire connector.



ENGINE

TO ADJUST THROTTLE CONTROL CABLE

The throttle control has been preset at the factory and adjustment should not be necessary. Check adjustment as described below before loosening cable. If adjustment is necessary, see engine manual.

TO ADJUST CARBURETOR

Your carburetor is not adjustable. If your engine does not operate properly due to suspected carburetor problems, take your tractor to an authorized service center/department for repair and/or adjustment.

STORAGE

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

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

TRACTOR

Remove mower from tractor for winter storage. When mower is to be stored for a period of time, clean it thoroughly, remove all dirt, grease, leaves, etc. Store in a clean, dry area.

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

BATTERY

- Fully charge the battery for storage.
- After a period of time in storage, battery may require recharging.
- To help prevent corrosion and power leakage during long periods of storage, battery cables should be disconnected and battery cleaned thoroughly (see "TO CLEAN BATTERY AND TERMINALS" in the Maintenance section of this manual).
- After cleaning, leave cables disconnected and place cables where they cannot come in contact with battery terminals.
- If battery is removed from tractor for storage, do not store battery directly on concrete or damp surfaces.

ENGINE

FUEL SYSTEM

IMPORTANT: It is important to prevent gum deposits from forming in essential fuel system parts such as carburetor, fuel hose, or tank during storage.

Also, alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

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

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

ENGINE OIL

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

CYLINDER(S)

1. Remove spark plug(s).
2. Pour one ounce of oil through spark plug hole(s) into cylinder(s).
3. Turn ignition key to start position for a few seconds to distribute oil.
4. Replace with new spark plug(s).

OTHER

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

IMPORTANT: Never cover tractor while engine and exhaust areas are still warm.

TROUBLESHOOTING CHART:

PROBLEM	CAUSE	CORRECTION
Will not start	<ol style="list-style-type: none"> 1. Out of fuel. 2. Engine not "CHOKED" properly. 3. Engine flooded. 4. Bad spark plug. 5. Dirty air filter. 6. Dirty fuel filter. 7. Water in fuel. 8. Loose or damaged wiring. 9. Carburetor out of adjustment. 10. Engine valves out of adjustment. 	<ol style="list-style-type: none"> 1. Fill fuel tank. 2. See "TO START ENGINE" in Operation section. 3. Wait several minutes before attempting to start. 4. Replace spark plug. 5. Clean/replace air filter. 6. Replace fuel filter. 7. Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter. 8. Check all wiring. 9. See "To Adjust Carburetor" in Service and Adjustments section. 10. Contact our authorized service center/department.
Hard to start	<ol style="list-style-type: none"> 1. Dirty air filter. 2. Bad spark plug. 3. Weak or dead battery. 4. Dirty fuel filter. 5. Stale or dirty fuel. 6. Loose or damaged wiring. 7. Carburetor out of adjustment. 8. Engine valves out of adjustment. 	<ol style="list-style-type: none"> 1. Clean/replace air filter. 2. Replace spark plug. 3. Recharge or replace battery. 4. Replace fuel filter. 5. Drain fuel tank and refill with fresh gasoline. 6. Check all wiring. 7. See "To Adjust Carburetor" in Service and Adjustments section. 8. Contact our authorized service center/department.
Engine will not turn over	<ol style="list-style-type: none"> 1. Brake pedal not depressed. 2. Attachment clutch is engaged. 3. Weak or dead battery. 4. Blown fuse. 5. Corroded battery terminals. 6. Loose or damaged wiring. 7. Faulty ignition switch. 8. Faulty solenoid or starter. 9. Faulty operator presence switch(es). 	<ol style="list-style-type: none"> 1. Depress brake pedal. 2. Disengage attachment clutch. 3. Recharge or replace battery. 4. Replace fuse. 5. Clean battery terminals. 6. Check all wiring. 7. Check/replace ignition switch. 8. Check/replace solenoid or starter. 9. Contact our authorized service center/department.
Engine clicks but will not start	<ol style="list-style-type: none"> 1. Weak or dead battery. 2. Corroded battery terminals. 3. Loose or damaged wiring. 4. Faulty solenoid or starter. 	<ol style="list-style-type: none"> 1. Recharge or replace battery. 2. Clean battery terminals. 3. Check all wiring. 4. Check/replace solenoid or starter.
Loss of power	<ol style="list-style-type: none"> 1. Cutting too much grass/too fast. 2. Throttle in "CHOKE" position. 	<ol style="list-style-type: none"> 1. Set in "Higher Cut" position/reduce speed. 2. Adjust throttle control.

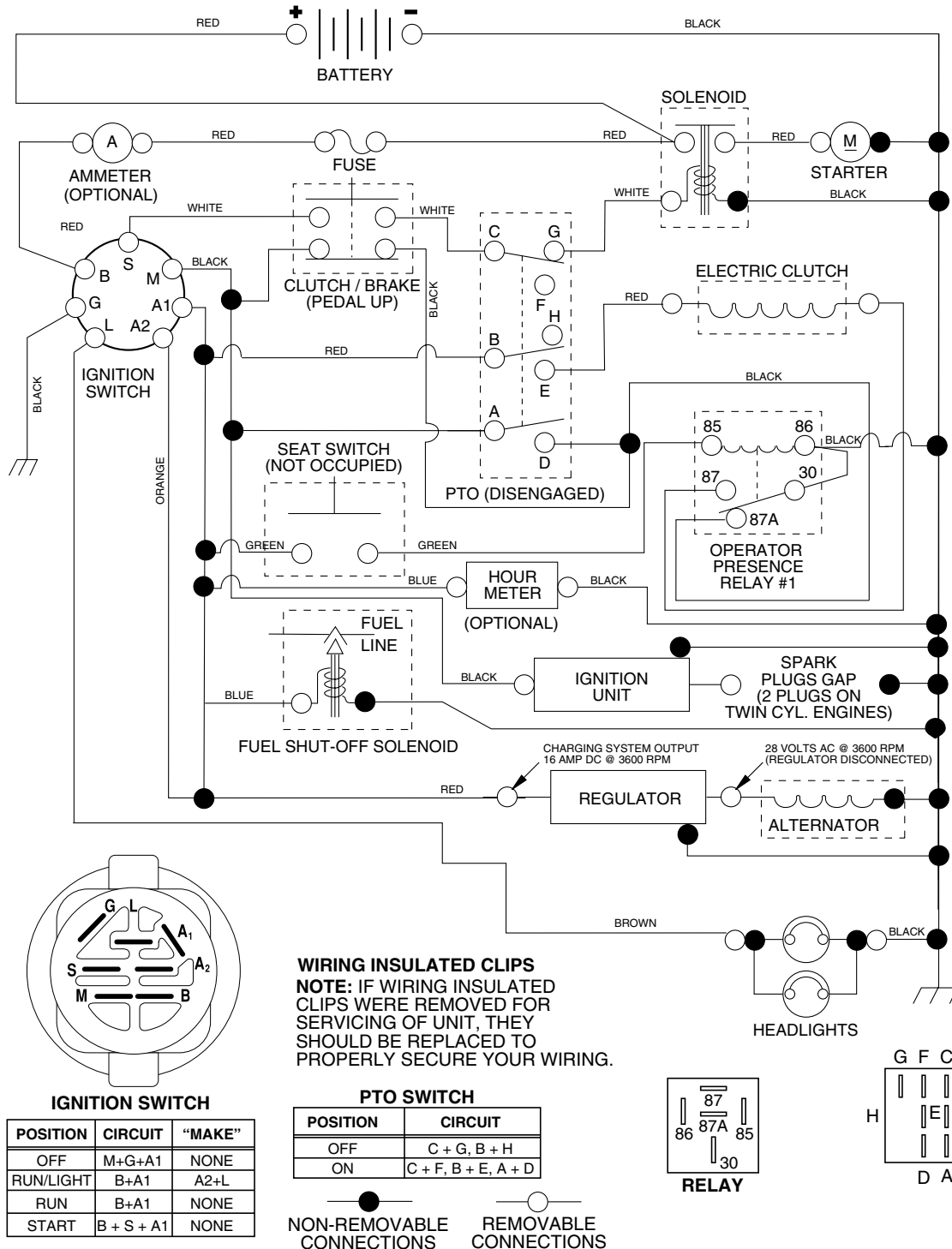
TROUBLESHOOTING CHART:

PROBLEM	CAUSE	CORRECTION
Loss of power (continued)	3. Build-up of grass, leaves and trash under mower. 4. Dirty air filter. 5. Low oil level/dirty oil. 6. Faulty spark plug. 7. Dirty fuel filter. 8. Stale or dirty fuel. 9. Water in fuel. 10. Spark plug wire loose. 11. Dirty engine air screen/fins. 12. Dirty/clogged muffler. 13. Loose or damaged wiring. 14. Carburetor out of adjustment. 15. Engine valves out of adjustment.	3. Clean underside of mower housing. 4. Clean/replace air filter. 5. Check oil level/change oil. 6. Clean and regap or change spark plug. 7. Replace fuel filter. 8. Drain fuel tank and refill with fresh gasoline. 9. Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter. 10. Connect and tighten spark plug wire. 11. Clean engine air screen/fins. 12. Clean/replace muffler. 13. Check all wiring. 14. See "To Adjust Carburetor" in Service and Adjustments section. 15. Contact our authorized service center/department.
Excessive vibration	1. Worn, bent or loose blade. 2. Bent blade mandrel. 3. Loose/damaged part(s).	1. Replace blade. Tighten blade bolt. 2. Contact our authorized service center/department. 3. Tighten loose part(s). Replace damaged parts.
Engine continues to run when operator leaves seat with attachment clutch engaged	1. Faulty operator-safety presence control system.	1. Check wiring, switches and connections. If not corrected, contact our authorized service center/department.
Poor cut - uneven	1. Worn, bent or loose blade. 2. Mower deck not level. 3. Buildup of grass, leaves, and trash under mower. 4. Bent blade mandrel. 5. Clogged mower deck vent from build-up of grass, leaves, and trash around mandrels.	1. Replace blade. Tighten blade bolt. 2. Level mower deck. 3. Clean underside of mower housing. 4. Contact our authorized service center/department. 5. Clean around mandrels to open vent holes.
Mower blades will not rotate	1. Obstruction in clutch mechanism.	1. Remove obstruction.

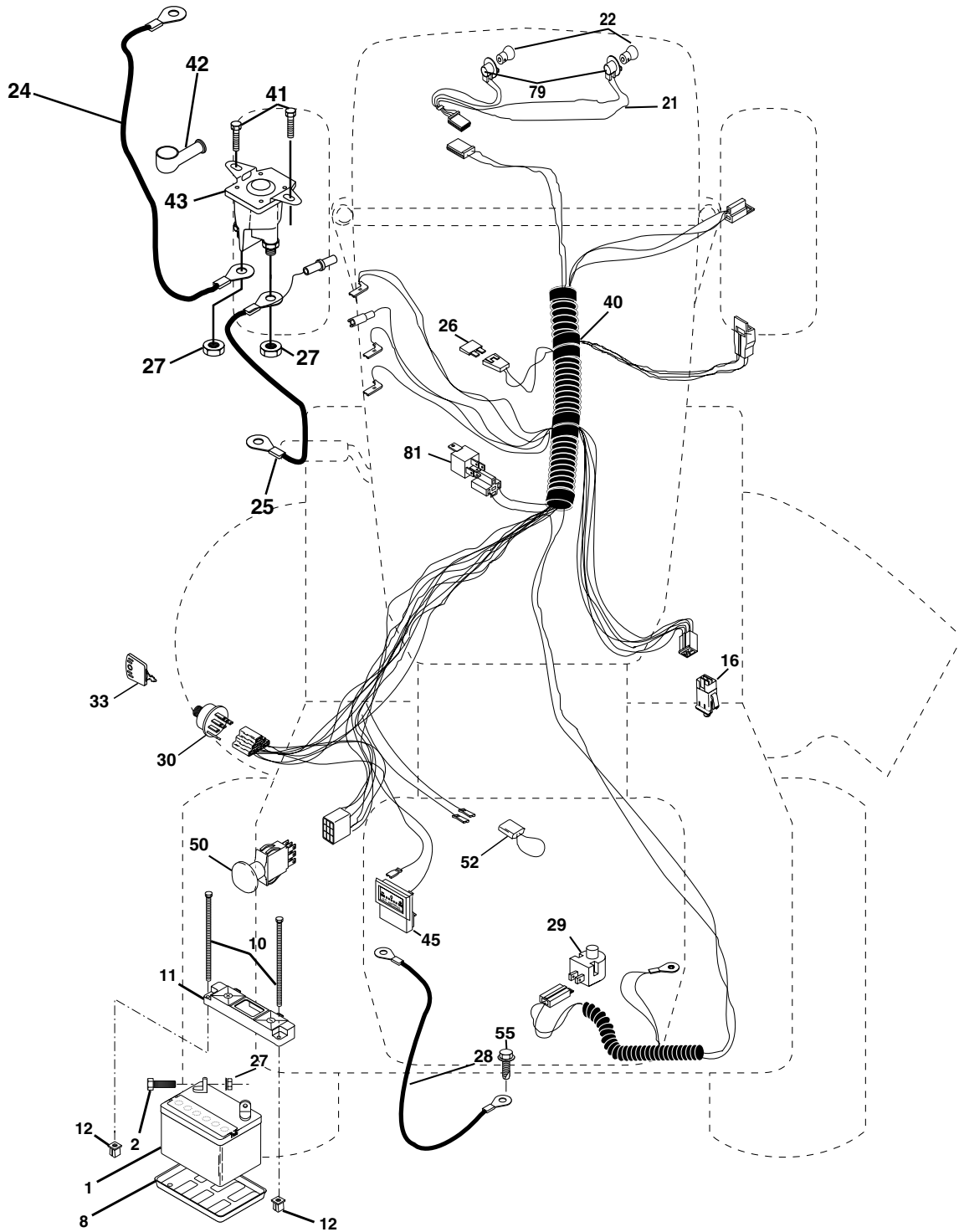
TROUBLESHOOTING CHART:

PROBLEM	CAUSE	CORRECTION
Mower blades will not rotate (con't)	<ol style="list-style-type: none"> 2. Worn/damaged mower drive belt. 3. Frozen idler pulley. 4. Frozen blade mandrel. 	<ol style="list-style-type: none"> 2. Replace mower drive belt. 3. Replace idler pulley. 4. Contact our authorized service center/department.
Poor grass discharge	<ol style="list-style-type: none"> 1. Engine speed too slow. 2. Travel speed too fast. 3. Wet grass. 4. Mower deck not level. 5. Low/uneven tire air pressure. 6. Worn, bent or loose blade. 7. Buildup of grass, leaves and trash under mower. 8. Mower drive belt worn. 9. Blades improperly installed. 10. Improper blades used. 11. Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels. 	<ol style="list-style-type: none"> 1. Place throttle control in "FAST" position. 2. Shift to slower speed. 3. Allow grass to dry before mowing. 4. Level mower deck. 5. Check tires for proper air pressure. 6. Replace/sharpen blade. Tighten blade bolt. 7. Clean underside of mower housing. 8. Replace mower drive belt. 9. Reinstall blades sharp edge down. 10. Replace with blades listed in this manual. 11. Clean around mandrels to open vent holes.
Headlight(s) not working (if so equipped)	<ol style="list-style-type: none"> 1. Switch is "OFF". 2. Bulb(s) or lamp(s) burned out. 3. Faulty light switch. 4. Loose or damaged wiring. 5. Blown fuse. 	<ol style="list-style-type: none"> 1. Turn switch "ON". 2. Replace bulb(s) or lamp(s). 3. Check/replace light switch. 4. Check wiring and connections. 5. Replace fuse.
Battery will not charge	<ol style="list-style-type: none"> 1. Bad battery cell(s). 2. Poor cable connections. 3. Faulty regulator (if so equipped). 4. Faulty alternator. 	<ol style="list-style-type: none"> 1. Replace battery. 2. Check/clean all connections. 3. Replace regulator. 4. Replace alternator.
Loss of drive	<ol style="list-style-type: none"> 1. Freewheel control in "disengaged" position. 2. Motion drive belt worn, damaged, or broken. 3. Air trapped in transmission during shipment or servicing. 	<ol style="list-style-type: none"> 1. Place freewheel control in "engaged" position. 2. Replace motion drive belt. 3. Purge transmission.
Engine "backfires" when turning engine "OFF"	<ol style="list-style-type: none"> 1. Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine. 	<ol style="list-style-type: none"> 1. Move throttle control to "SLOW" position and allow to idle for 30 seconds before stopping engine.

**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
SCHEMATIC**



TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
ELECTRICAL



**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
ELECTRICAL**

KEY NO.	PART NO.	DESCRIPTION
1	144927	Battery
2	74760412	Bolt Hex Hd 1/4-20 UNC X 3/4
8	7603J	Tray, Battery
10	145211	Bolt, BTR FRT 1/4-20 x 7.5
11	150109	Hold Down Battery, Front
12	145769	Nut, Push, Nylon
16	176138	Switch Interlock Push-In
21	175688	Harness Asm Light W/4152j
22	4152J	Bulb Light
24	8860R	Cable Battery
25	146148	Cable Batterywire
26	175158	Fuse
27	73510400	Nut Keps Hex 1/4-20 Unc
28	145491	Cable Ground
29	160784	Switch Plunger Normal OP Olive
30	175566	Switch Ign 4 pos w/lights
33	140401	Key Ign
40	186845	Harness Ign.
41	17720408	Bolt Blk Fin Hex 1/4-20 x 1/2
42	131563	Cover Terminal Red
43	178861	Solenoid
45	122822X	Ammeter Rectangular
50	174651	Switch, PTO
52	141940	Protection wire Loop (Hour Meter)
55	17490508	Screw Thdrol 5/16-18 x 1/2
79	175242	Socket Asm
81	109748X	Relay Asm

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

**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
CHASSIS AND ENCLOSURES**

KEY NO.	PART NO.	DESCRIPTION
1	174619	Chassis
2	176554	Drawbar
3	17060612	Screw 3/8-16x3/4
9	163976X428	Dash
11	167203	Panel Dash Lh
13	178298	Panel Dash Rh
14	17490608	Screw Thdrol 3/8-16 x 1/2
17	175259X603	Hood
20	162026	Plate Battery
24	74780616	Bolt Fin Hex 3/8-16unc x 1 Gr. 5
25	19131312	Washer 13/32 X 13/16 X 12 Ga
26	73800600	Nut Lock Hex W/Ins 3/8-16 Unc
28	175289X428	Grille
29	179763	Light Box Asm W/Lens
30	179775X603	Fender
31	183569	Bracket Fender
33	179716X603	Footrest LH
34	179717X603	Footrest RH
35	72110606	Bolt RDHD SHT SQNK 3/8-16 x 3/4
37	17490508	Screw Thdrol 6/16-18 x 1/2 TYT
38	175710	Bracket, Asm. Pivot Mower Rear
42	161841	Lens LH
43	161842	Lens RH
54	161464	Screw Hex Wshd 8-18 x 7/8
58	161236	Duct Hood
59	177579	Bushing Snap
64	174997	Dash Lower
142	175702	Plate Reinforcement STLT
145	156524	Rod Pivot Chassis/Hood
154	161897	Bracket Dash Rh
155	161900	Bracket Dash Lh
156	163805	Striker Plate
157	163806	Magnet Stealth
158	162037	Bracket Parking Brake
159	179125X428	Cupholder
161	164655	Extrusion Bumper
166	171875	Screw HwHd Hi-Lo #13-16 x 3/4
205	17490608	Screw Thdrol 3/8-16 x 1/2
206	170165	Bolt Shoulder 5/16-18
209	17000612	Screw Hexwsh Thdrol 3/8-16 x 3/4
213	169848X428	Skirt Grille Lh
214	169847X428	Skirt Grille Rh
220	179612X428	Console Fuel Window
262	183554	Bracket Support Tank

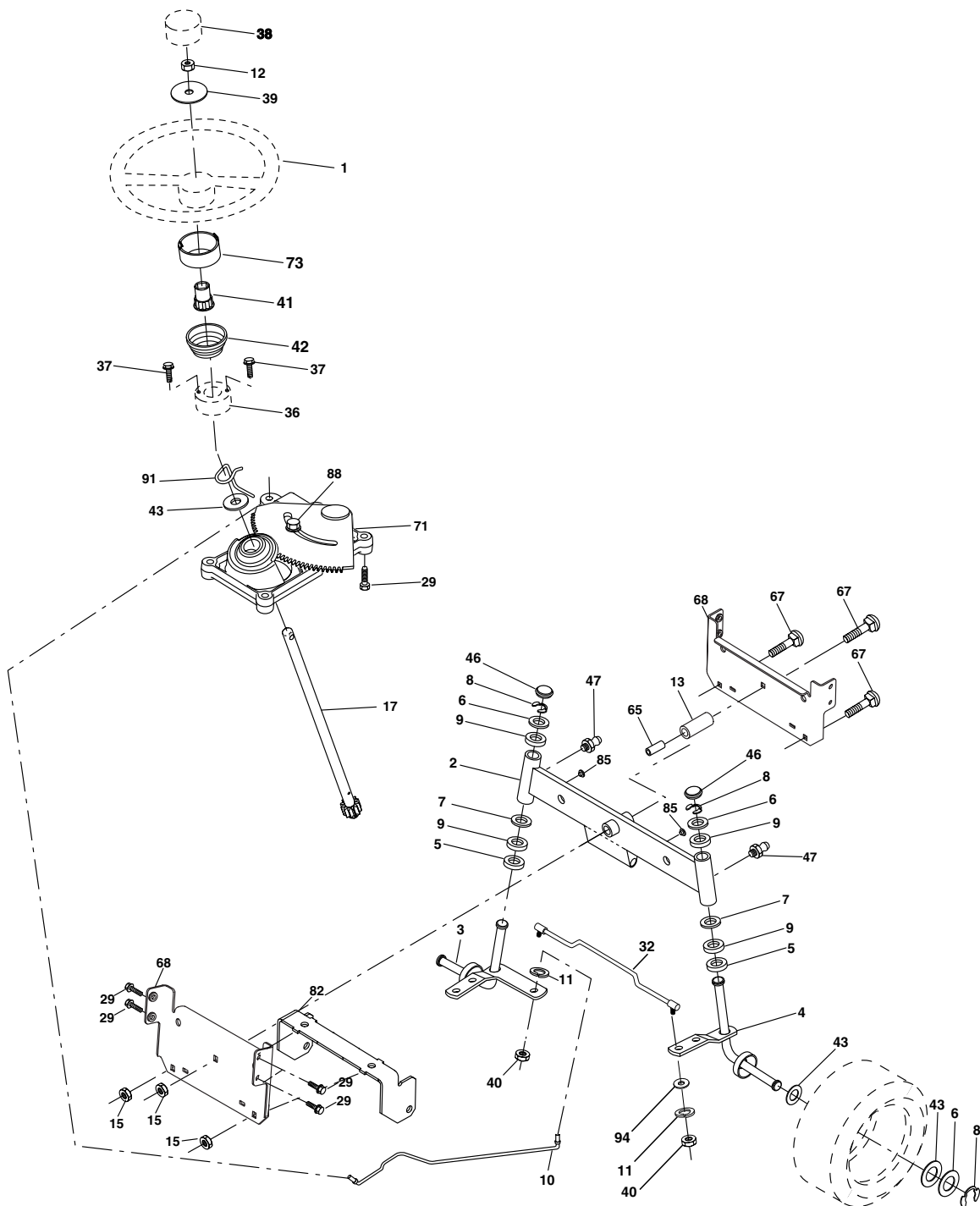
NOTE: All component dimensions given in U.S. inches
1 inch = 25.4 mm

**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
GROUND DRIVE**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	-----	Transaxle, Hydro Gear Model 333-3000 (Order parts from transaxle manufacturer)	76	12000053	E-Ring
8	166020	Rod Shift Fender Adjust Yt	77	9396E	Key Square 1/4 x 2
9	174367	Clutch Electric	81	165598	Shaft Asm Cross Tapered
10	76020416	Pin, Cotter 1/8 x 1	82	165711	Spring, Torsion
14	10040400	Washer Lock Hvy Helical	83	19171216	Washer 17/32 x 3/4 x 16 Gauge
16	73800500	Nut Lock Hex W/Ins. 5/16-18 Unc	84	165926	Link Transaxle
17	126197X	Washer 1-1/2 OD x 15/32 ID x .250	89	179121X428	Console, Shift
19	73800600	Nut Lock Hex W/Wsh 3/8-16 Unc	95	15858	Control Asm Bypass Hydro-3000
20	173937	Bolt Hex 7/16-20 x 4 x Gr. 5-1.5 THR	96	4497H	Retainer Spring 1" Zinc/Cad
21	140845	Knob	110	74780612	Bolt Fin Hex 3/8-16unc x 3/4 Gr. 5
22	158274	Rod, Brake	111	123776X	Bracket, Transaxle, R.H.
23	178289	Bracket Anti-Rotation	120	73900600	Nut Lock Flg 3/8-16 Unc
24	73350600	Nut, Hex Jam 3/8-16	126	1685H	Nut Lock 5/16-18 Nc Thd
25	106888X	Spring, Rod, Brake	127	74490548	Bolt Hex Flghd 5/16-18 x 3.0 Gr.5
26	19131316	Washer 13/32 x 13/16 x 16 Ga.	128	184902	Bracket Neutral Adjust HG-3000
27	76020412	Pin Cotter 1/8 x 3/4	129	105529X	Bolt Shoulder 5/16-18 Unc
28	175765	Rod, Brake, Park	131	10140500	Washer Lock 5/16
29	71673	Cap, Brake, Parking Black	134	158272	Rod Actuator Bypass Hydo-3000
30	123780X	Bracket, Transaxle, L.H.	135	123800X	Washer 1-1/32 x 1-5/8 x 16 Gauge
32	74780512	Bolt Fin Hex 5/16-18 Unc x 3/4	136	163168X	Washer Axle Flange
33	72140608	Bolt Rdhd Sqnk 3/8-16unc x 1	137	19111212	Washer 11/32 x 3/4 x 12 Ga.
34	175578	Shaft, Foot Pedal	138	19112016	Washer 11/32 x 1.25 x 16. Ga.
35	120183X	Bearing, Nylon	139	74780612	Bolt Fin Hex 3/8-16 x 3/4
36	19211616	Washer 21/32 x 1 x 16 Gauge	140	4475J	Bushing Pinion Sector
37	1572H	Pin, Roll 3/16 x 1	142	74330516	Bolt 5/16 x 24 x 1
38	179114	Idler, Flat	146	74490536	Bolt Hex Flghd 5/16-18 x 2-1/4
39	74760648	Bolt Rdhd 3/8-16 Unc x 3	150	175456	Spacer
41	175556	Keeper, Idler	151	19133210	Washer 13/32 x 2 x 10 Ga.
42	19131312	Washer 13/32 x 16/16 x 12 Gauge	156	166002	Washer Srrted 5/16 ID x 1.125
43	19111012	Bolt Shoulder 5/16-18 Unc	158	165589	Bracket Shift Mount
47	127783	Pulley, Idler	159	165494	Hub Tapered Flange Shift Lt
48	154407	Bellcrank Clutch Grnd Drv Stl	161	72140406	Bolt Rdhd Sqnk 1/4-20 x 3/4 Gr. 5
49	123205X	Retainer, Belt	162	73680400	Nut Crownlock 1/4-20 Unc
50	72110612	Bolt Carr Sh 3/8-16 x 1-1/2 Gr. 5	163	74780416	Bolt Hex Fin 1/4-20unc x 1 Gr. 5
51	73680600	Nut Crownlock 3/8-16	164	19091010	Washer 5/8 x .281 x 10 Ga.
52	145212	Nut Hexflange Lock	165	165623	Bracket Pivot Lever
53	105710X	Link, Clutch	166	166880	Screw 5/16-18 x 5/8
55	105709X	Spring, Return, Clutch	168	165492	Bolt Shoulder 5/16-18 x .561
57	161741	V-Belt, Drive	169	165580	Plate Fastening Lt
58	158278	Keeper, Belt, Transaxle, R.H.	171	17490608	Screw Thdrol 3/8-16 x 1/2 Ty-Tt
59	169691	Keeper, Center Span	189	160849	Washer Spacer Axle
61	17120614	Screw 3/8-16 x .875	197	169613	Nyliner Snap-In 5/8" Id
62	8883R	Cover, Foot Pedal	198	169593	Washer Nyl 7/8 Id x .105
63	175684	Pulley, Engine	230	10040500	Washer Lock Hvy HLCL SPR 5/16
65	10040700	Washer, Lock Hvy Hlcl Spr 7/16	270	74780510	Bolt Hex Head 5/16-18 x 5/8 Gr. 5
66	161488	Keeper Belt Engine F-proof			
69	142432	Screw Hex Wsh Hi-Lo 1/4-1/2 Unc			
71	158283	Strap Torque Lh Hydro-3000			
73	158282	Strap Torque Rh Hydro-300			

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

TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
STEERING ASSEMBLY

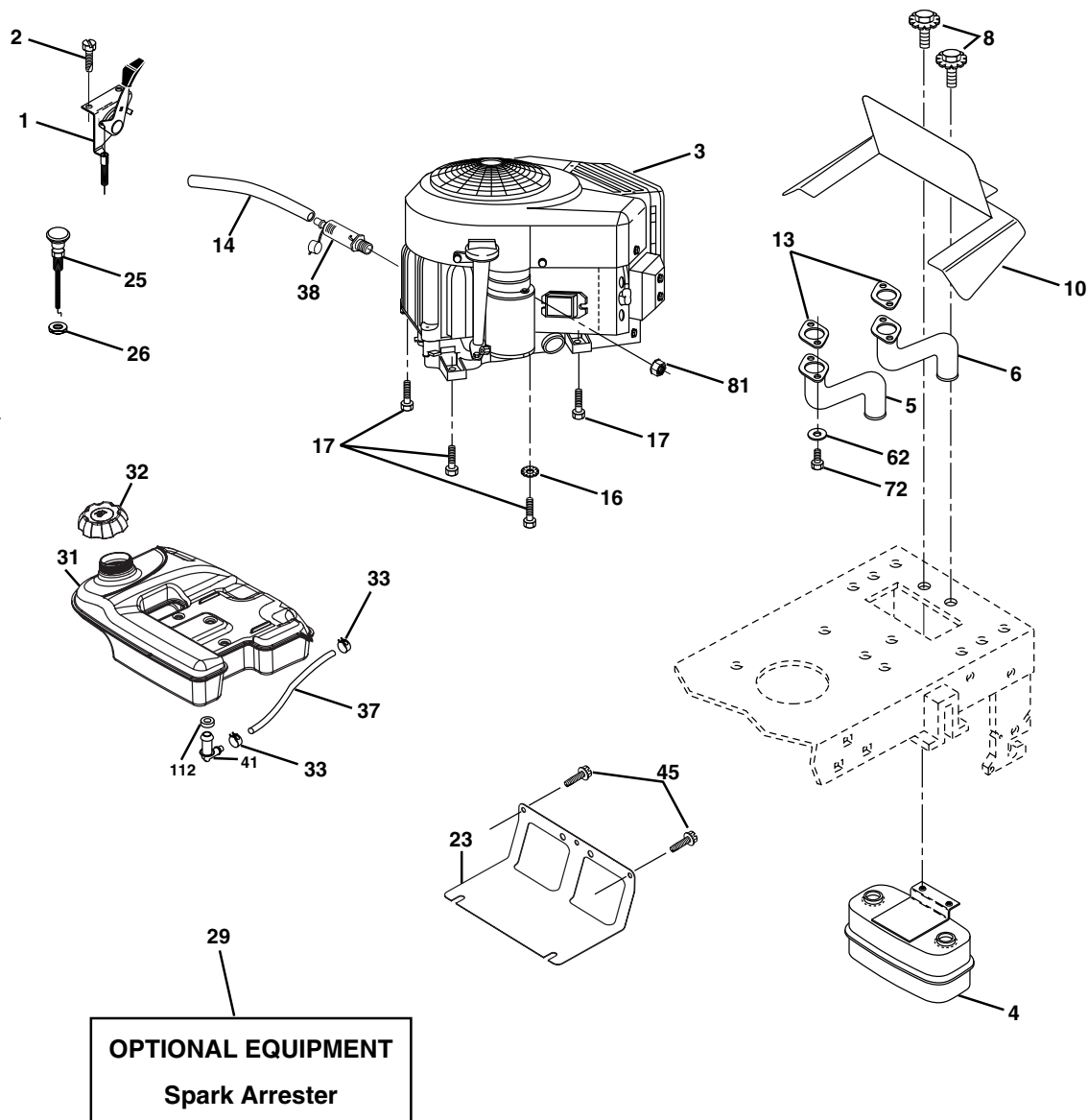


**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
STEERING ASSEMBLY**

KEY NO.	PART NO.	DESCRIPTION
1	184704X428	Wheel Steering
2	175131	Axle Welded Asm
3	169840	Spindle Asm LH
4	169839	Spindle Asm RH
5	6266H	Bearing Race Thrust Harden
6	121748X	Washer 25/32 X 1-5/8 X 16 Ga.
7	19272016	Washer 27/32 x 1-1/4 x 16 Ga.
8	12000029	Ring Klip #t5304-75
9	3366R	Bearing Col. Strg.
10	175121	Link Drag
11	10040600	Washer Lock Hvy Hlcl Spr 3/8
12	73940800	Nut Hex Jam Toplock 1/2-20 UNF
13	136518	Spacer Brg Axle Front
15	145212	Nut Hex Flange Lock
17	177883	Shaft Asm Strg
29	17060612	Screw 3/8-16x3/4
32	180580	Rod Tie
36	155105	Bushing Strg
37	152927	Screw TT #32.5 x 5 x 3/8 Flange
38	159946X428	Cap Wheel Steer
39	19182411	Washer 9/16 x 1-1/2 x 11 Ga.
40	7810H	Nut Lock Center 3/8-24 Unf
41	159945	Adaptor Wheel Strg
42	163888X428	Boot Steering
43	121749X	Washer 25/32 X 1 1/4 X 16 Ga.
44	160135X428	Extension Steering
46	121232X	Cap Spindle Fr Top Blk
47	183226	Fitting Grease
65	160367	Spacer Brace Axle
67	72140618	Bolt Rdhd Sqn 3/8-16 x 2-1/4
68	169827	Brace, Axle
71	175146	Steering Asm.
73	160135X428	Extension Steering
82	169835	Bracket Susp Chassis Front
85	133835	Fastner Christmas Tree
88	175118	Bolt Shoulder 7/16-20 Unc
91	175553	Clip
94	19121414	Washer 3/8 x 7/8 x 14 Ga.

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

**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
ENGINE**

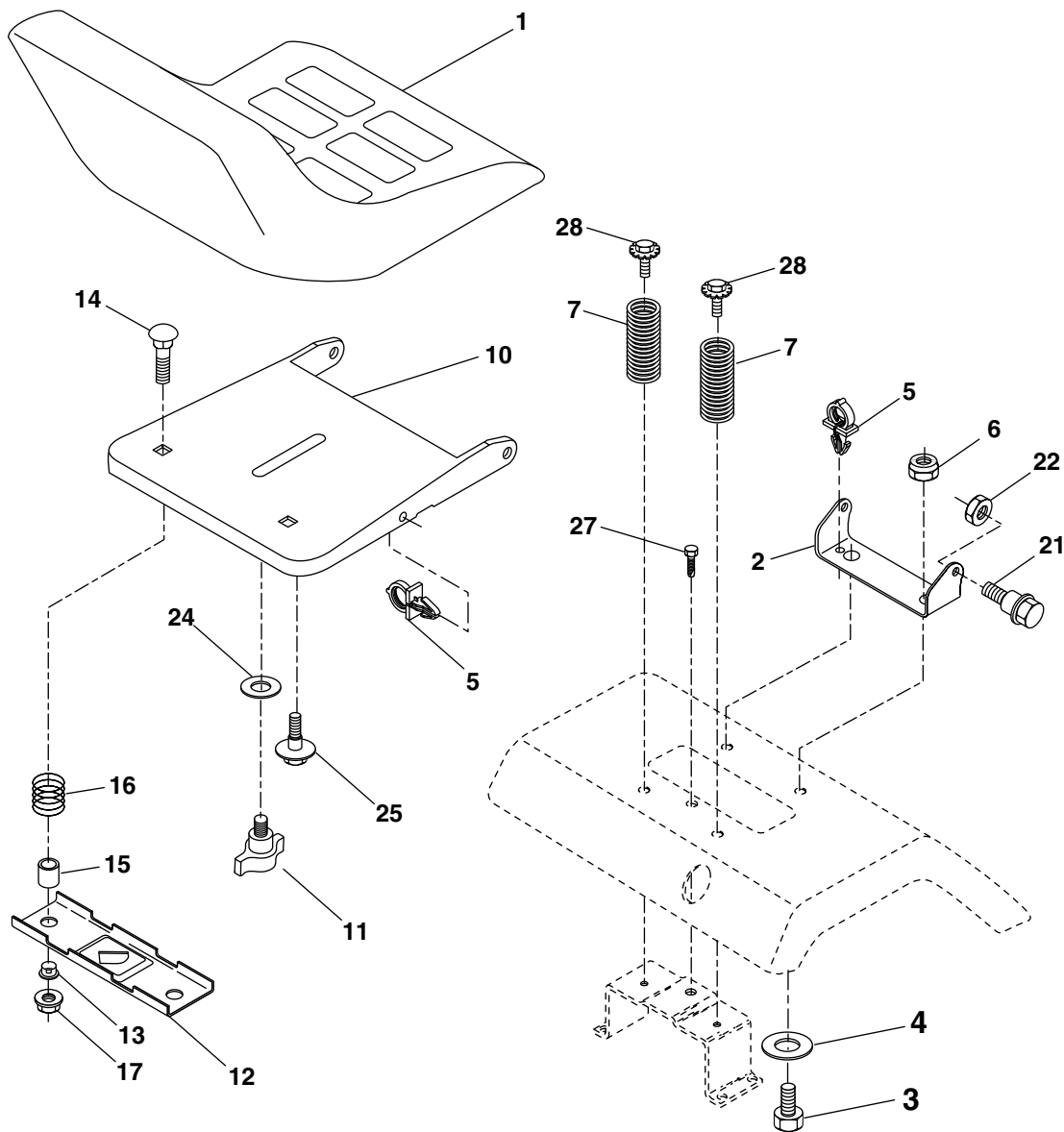


KEY NO.	PART NO.	DESCRIPTION
1	175437X428	Control Throttle
2	171875	Screw Hwhd Hi-Lo #13-16 x 3/4
3	-----	Engine, Briggs Model 407777 (Order parts from engine mfg.)
4	149723	Muffler Asm Twin Lo-Tone
5	159955	Pipe Exhaust LH Intek
6	160589	Pipe Exhaust RH Intek
8	171877	Bolt 5/16-18 UNC x 3/4 w/Sems
10	162797	Shield Browning Intek II
13	165391	Muffler Gasket
16	11050600	Washer Lock Ext Tooth 3/8
17	17060624	Screw Thdrol 3/8-16 x 1-1/2
23	169837	Shield Heat
25	175440X428	Choke Control
26	73920600	Nut, Keps 3/8-24 UNF

KEY NO.	PART NO.	DESCRIPTION
29	137180	Kit Spark Arrester (Flat Scrn)
31	179115	Tank Fuel 5.0 Rear
32	179124X428	Cap Asm Fuel
33	123487X	Clamp Hose Black
37	8543R	Line Fuel
38	181654	Plug Drain Oil Easy
41	139277	Stem Tank Fuel
45	17000612	Screw Hexwsh Thdr 3/8-16 x 3/4
62	10040500	Washer Lock 5/16
72	71070512	Screw Hex Hd Cap 5/16-18 x 3/4
81	73510400	Nut Keps Hex 1/4-20 UNC
112	3645J	Bushing

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

**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
SEAT**



**KEY PART
NO. NO.**

DESCRIPTION

1	140118	Seat
2	140551	Bracket Pivot Seat 8 720
3	71110616	Bolt Fin Hex 3/8-16 Unc x 1
4	19131610	Washer Flat 13/32 x 1 x 10 Ga.
5	145006	Clip Push-In
6	73800600	Nut Hex w/Ins. 3/8-16 Unc
7	124181X	Spring Seat Cprsn 2 250 Blk Zi
10	182493	Pan Seat
11	166369	Knob Seat Adj. Wingnut
12	121246X	Bracket Mounting Switch
13	121248X	Bushing Snap Blk Nyl 50 Id
14	72050412	Bolt Rdhd Sqnk 1/4-20x1-1/2

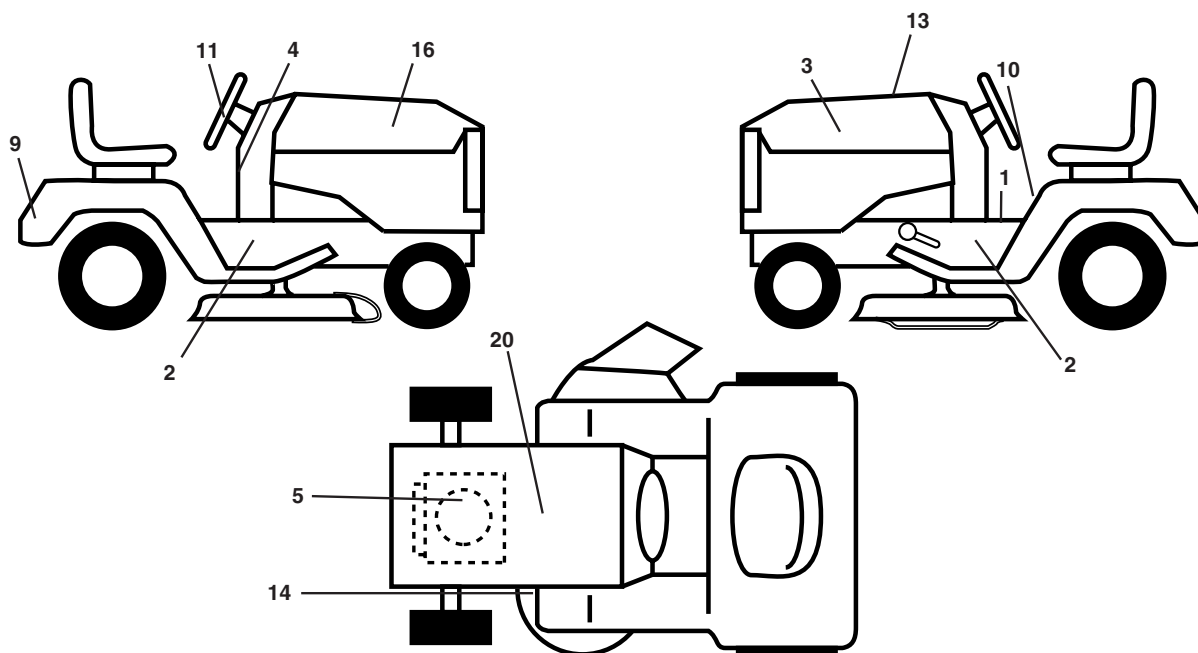
**KEY PART
NO. NO.**

DESCRIPTION

15	121249X	Spacer Split 28x 88
16	123740X	Spring Cprsn
17	123976X	Nut Lock 1/4 Lge Flg Gr 5 Zinc
21	171852	Bolt Shoulder 5/16-18 Unc
22	73800500	Nut Hex Lock W/Ins 5/16-18
24	19171912	Washer 17/32 X 1-3/16 X 12 Ga.
25	127018X	Bolt Shoulder 5/16-18 X 62
27	17490608	Screw Thdrol 3/8-16 x 1/2
28	171877	Bolt 5/16-18unc x 3/4

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

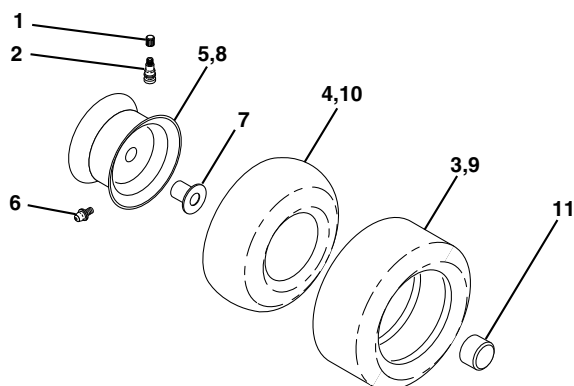
**TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
DECAL**



KEY NO.	PART NO.	DESCRIPTION
1	140837	Decal Brake Parking
2	185120	Decal Chassis O/48
3	185119	Decal Hood LH
4	185121	Decal Dash Pop-Out
5	170851	Decal HP Engine
9	184944	Decal Fender Logo
10	156439	Decal Fender Danger
11	184943	Decal Ins Strg Whl
13	185442	Decal Final Replace Part
14	175291	Decal V-Belt Schematic

KEY NO.	PART NO.	DESCRIPTION
16	185118	Decal Hood Rh
20	145005	Decal Bat Dan/Psn
--	166960	Decal By Pass
--	179768X428	Pad Footrest Lh
--	138311	Decal Handle Lft Height Adjust
--	179769X428	Pad Footrest Rh
--	181249	Decal Footrest
--	184552	Manual Owner's (English)
--	184553	Manual Owner's (Span)

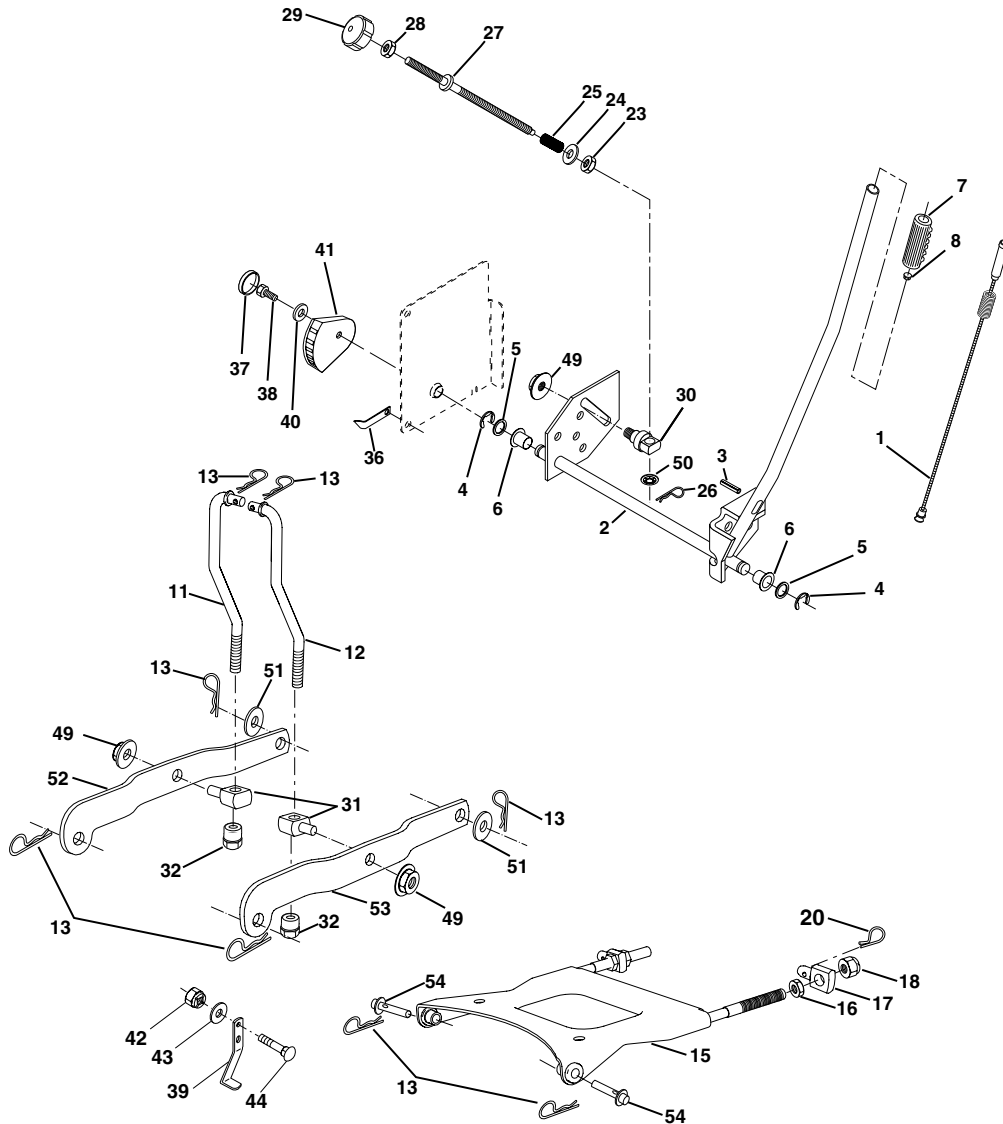
WHEELS & TIRES



KEY NO.	PART NO.	DESCRIPTION
1	59192	Cap Valve Tire
2	65139	Stem Valve
3	106222X	Tire F T 15 X 6 0 - 6 Service
4	59904	Tube Front (Service Item Only)
5	106732X417	Rim Asm 6"front Service
6	278H	Fitting Grease (Front Wheel Only)
7	9040H	Bearing Flange (Front Wheel Only)
8	184707X417	Rim Asm 12"rear Service
9	184708	Tire R T 22 x 9.5 -12 Service
10	7152J	Tube Rear (Service Item Only)
11	104757X421	Cap Axle 1 50 X 1 00
--	144334	Sealant, Tire (10 oz. Tube)

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

TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28
MOWER LIFT



KEY PART
NO. NO.

KEY PART NO.	NO.	DESCRIPTION
1	159461	Wire Asm Inner/Sprg W/plunger
2	159476	Shaft Asm Lift RH w/Inf
3	138284	Pin Groove
4	12000002	E Ring #5133-62
5	19211621	Washer 21/32 X 1 X 21 Ga
6	120183X	Bearing Nylon Blk 629 Id
7	109413X	Grip Handle
8	124526X	Button Plunger
11	185365	Link Lift LH
12	185367	Link Lift RH
13	4939M	Retainer Spring
15	185370	Plate Asm. Suspension Front
16	73350800	Nut Jam Hex 1/2-13 Unc
17	175689	Trunnion Front Susp.
18	73800800	Nut Lock w/Wsh 1/2-13unc
20	163552	Retainer Spring
23	110807X	Nut Special
24	19131016	Washer 13/32 X 5/8 X 16 Ga
25	164024	Spring
26	169484	Retainer Clip
27	164543	Rod Adj Lift
28	73350600	Nut Hex Jam 3/8-16 Unc

KEY PART
NO. NO.

KEY PART NO.	NO.	DESCRIPTION
29	138057	Knob Inf 3/8-16 Unc Blk W/sym
30	150233	Trunnion Infin Height
31	176205	Trunnion Infin Height
32	178698	Nut Lift Link Zinc Clear
36	155097	Pointer Height Indicator
37	123935X	Plug Hole Blk 1.485/1.515 Dia.
38	17060516	Screw 5/16-18 x 1
39	176199	Upstop
40	19112410	Washer 11/32 x 1-1/2 10 Ga.
41	155098	Indicator Height STLT
42	73680600	Nut Crownlock 3/8-16 Unc
43	19131612	Washer 13/32 x 1 x 12 Ga.
44	72240608	Bolt Carr 3/8-16 Unc
49	145212	Nut Hex Flange Lock
50	110452X	Nut Push Phos & Oil
51	19171416	Washer 17/32 x 7/8 x 16 Ga.
52	175378	Arm Susp. Rear LH
53	175802	Arm Susp. Rear RH
54	175560	Pin

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

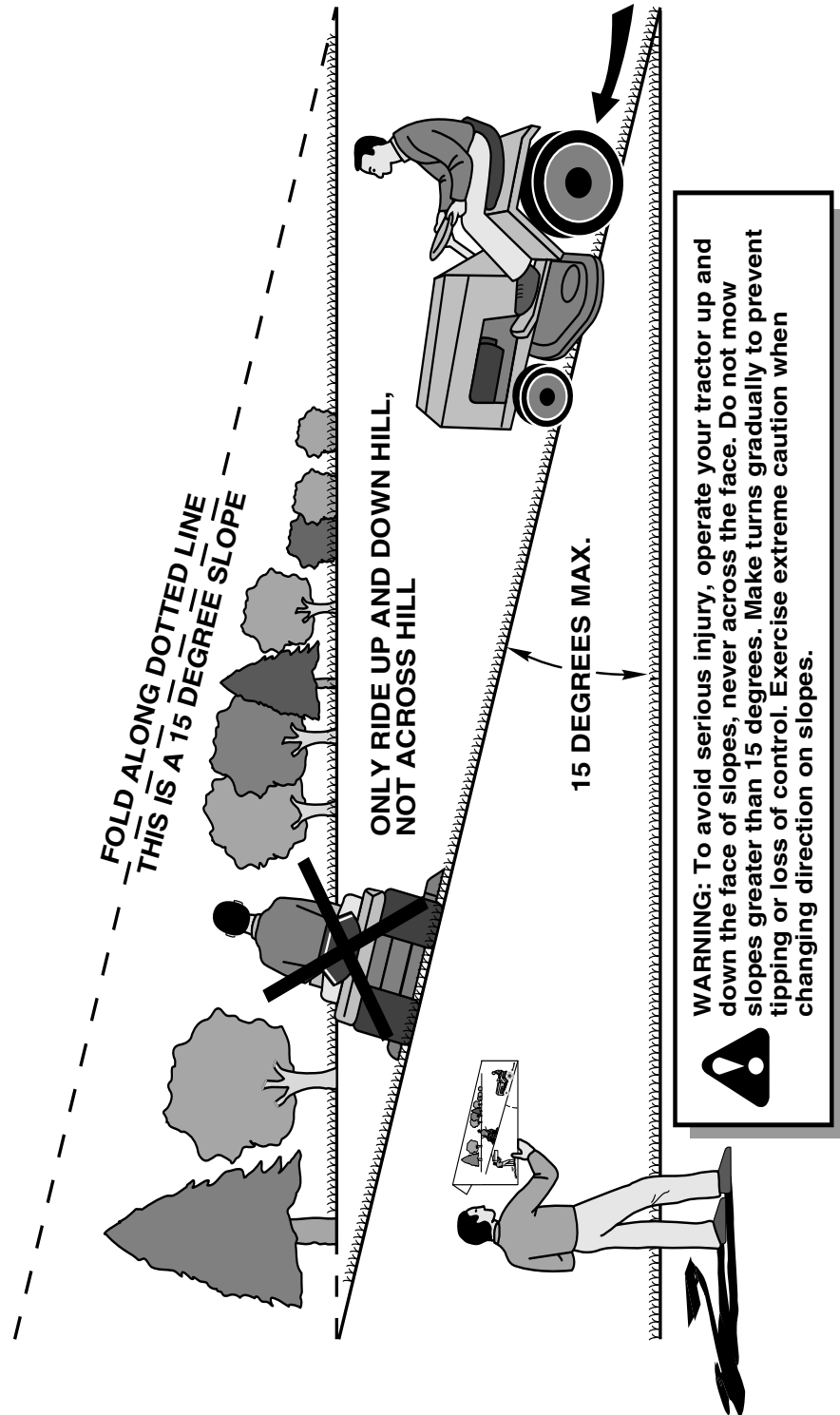
TRACTOR - MODEL NUMBER WAGT20H48STA PRODUCT NO. 954 56 83-28

MOWER DECK

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	180359	Deck Weldment Mower 48	46	137729	Screw, Thdroll. 1/4-20 x 5/8
3	138017	Bracket Asm., Sway Bar	47	180808	V-Belt, Mower, Secondary
5	4939M	Retainer Spring	48	174368	V-Belt, Mower, Primary
6	178024	Arm, Suspension, Rear Sway Bar Deck	49	73680600	Nut, Crownlock 3/8-16 UNC
8	174365	Bolt 7/16 Asm. Blade	50	72110612	Bolt, Carr. 3/8-16 x 1-1/2 Gr. 5
11	180054	Blade	52	175820	Pulley Idler Flat
13	175147	Shaft Asm. w/Lower Bearing	56	155986	Bar Pnt Adj.
14	174358	Mandrel Asm. Housing	57	156941	Pin Head Rivet
15	110485X	Bearing, Ball, Mandrel	97	178515	Washer Hardened
16	174493	Stripper Mandrel Deck	98	179479	Spring Primary Drive
17	72110610	Bolt RDHD Sq Neck 3/8-16 x 1.25	99	184058	Pulley Idler"V"
18	72140505	Bolt, Carriage 5/16-18 x 5/8	100	72110616	Bolt RDHD Sqnk 3/8-16 UNC x 2
19	132827	Bolt, Hex Hd, Shoulder 5/16-18	110	175016	Arm Spring Secondary
20	174378	Baffle, Vortex Mower	111	174610	Arm Spring Fixed Tension
21	73680500	Nut, Crownlock 5/16-18 UNC	116	184219	Bolt, Shoulder
24	105304X	Cap, Sleeve	117	133957	Gauge Wheel
25	178102	Spring, Torsion	118	73930600	Nut, Centerlock 3/8-16 UNC
26	110452X	Nut, Push	119	19121414	Washer 3/8 x 7/8 x 14 Ga.
27	180655X428	Deflector Shield	121	174371	Spring Secondary Drive
28	19111016	Washer 11/32 x 5/8 x 16 Ga.	126	174372	Arm, Idler, Primary Deck
29	131491	Rod, Hinge	130	17000616	Screw 3/8-16 x 1.0
30	173984	Screw, Thdroll Washer Head	131	19131606	Washer 13/32 x 1.00 x 6 Ga.
31	129963	Washer, Spacer Mower Vented	133	72110506	Bolt RDH SQNK 5/16-18unc x 3/4
32	177865	Pulley, Mandrel	184	173979	Keeper Belt Idler
33	178342	Nut, Flg. Top Lock Cntr. 9/16	- -	181704	Relplacement Mower, Complete
36	19131316	Washer 13/32 x 13/16 x 16 Ga.	- -	174357	Mandrel Asm. Service (Includes Key Nos. 13-15 and 33)
37	177968	Pulley, Idler, Flat			
39	174375	Pulley, Idler, Driven			
42	165723	Spacer, Retainer			
43	174373	Arm, Idler Secondary			
45	180806	Cover, Mandrel Deck			

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

SUGGESTED GUIDE FOR SIGHTING SLOPES FOR SAFE OPERATION



1. Fold this page along dotted line indicated above.
2. Hold page before you so that its left edge is vertically parallel to a tree trunk or other upright structure.
3. Sight across the fold in the direction of hill slope you want to measure.
4. Compare the angle of the fold with the slope of the hill.

For Parts Call K&T 606-678-9623 or 606-561-4983

WIZARD
00273

www.mymowerparts.com