

\*As rated by the engine manufacturer

Sears Canada, Inc., Toronto, Ontario M5B 2B8



### SAFETY RULES



#### Safe Operation Practices for Ride-On Mowers

DANGER: 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.

### I. GENERAL OPERATION

- Read, understand, and follow all instructions on the machine and in the manual before starting.
- Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
- 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 blades.
- Be sure the area is clear of bystanders before operating. 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.
- Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blades when crossing gravel surfaces.
- Do not operate machine without the entire grass catcher, discharge guard, or other safety devices in place and working.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Disengage blades when not mowing. Shut off engine and wait for all parts to come to a complete stop before cleaning the machine, removing the grass catcher, or unclogging the discharge guard.
- Operate machine 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.
- Always wear eye protection when operating machine.

- 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.
- Follow the manufacturer's recommendation for wheel weights or counterweights.
- 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 tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

- Mow up and down slopes, not across.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Choose a low ground speed so that you will not have to stop or shift while on the slope.
- Do not mow on wet grass. Tires may lose traction. Always keep the machine in gear when going down slopes. Do not shift to neutral and coast downhill.
- Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the blades and proceed slowly straight down the slope.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Use extra care while operating machine with grass catchers or other attachments; they can affect the stability of the machine. Do no use on steep slopes.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not mow near drop-offs, ditches, or embankments. The machine could suddenly roll over if a wheel is over the edge or if the edge caves in.

### **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 in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.
- Before and while backing, look behind and down for small children.
- Never carry children, even with the blades shut off. They
  may fall off and be seriously injured or interfere with
  safe machine operation. Children who have been given
  rides in the past may suddenly appear in the mowing
  area for another ride and be run over or backed over
  by the machine.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.

**SAFETY RULES** 





### Safe Operation Practices for Ride-On Mowers

### **IV. TOWING**

- Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
- Follow the manufacturer's recommendation for weight limits for towed equipment and towing on slopes.
- Never allow children or others in or on towed equipment.
- On slopes, the weight of the towed equipment may cause loss of traction and loss of control.
- Travel slowly and allow extra distance to stop.

### V. SERVICE

#### SAFE HANDLING OF GASOLINE

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only approved gasoline container.
- Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling.
- Never fuel the machine indoors.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliances.
- Never fill containers inside a vehicle or on a truck or trailer bed with plastic liner. Always place containers on the ground away from your vehicle when filling.
- Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If fuel is spilled on clothing, change clothing immediately.
- Never overfill fuel tank. Replace gas cap and tighten securely.

#### **GENERAL SERVICE**

- Never operate machine in a closed area.
- Keep all nuts and bolts tight to be sure the equipment is in safe working 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 and remove any fuel-soaked debris. Allow machine to cool before storing.

- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
- Never make any adjustments or repairs with the engine running.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
- Čheck brake operation frequently. Adjust and service as required.
- Maintain or replace safety and instruction labels, as necessary.



- Be sure the area is clear of bystanders before operating. 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.
- Never carry children, even with the blades shut off. They may fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.
- Before and while backing, look behind and down for small children.
- Mow up and down slopes (15° Max), not across.
- Choose a low ground speed so that you will not have to stop or shift while on the slope.
- Avoid starting, stopping, or turning on a slope. If the 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.

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### PRODUCT SPECIFICATIONS

3.0 Gallons Unleaded Regular SAE 30 (above 32°F) SAE 5W-30 (below 32°F) Synthetic (below 0°F) In the factory with non-synthetic
SAE 5W-30 (below 32°F) Synthetic (below 0°F)
W/Filter: 64 oz. W/O Filter: 60 oz.
Champion QC12YC (Gap: .040")
Forward: 0-5.5 Reverse: 0-2.4
5 Amps Battery 3 Amps Headlights
AMP/HR: 35 Min. CCA: 280 Case Size: U1R
45-55 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 representatives 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".

### MAINTENANCE AGREEMENT

A Maintenance Agreement is available on this product. Contact your nearest Sears store for details.

### **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.

A spark arrester for the muffler is available through your nearest authorized service center/department (See REPAIR PARTS section of this manual).

### LIMITED TWO (2) YEAR WARRANTY ON CRAFTSMAN TRACTOR (RIDING EQUIPMENT)

For two (2) years from date of purchase Sears Canada, Inc. will repair or replace at Sears option free of charge parts which are defective as a result of material or workmanship.

#### FULL ONE (1) YEAR WARRANTY ON BATTERY

For one (1) year from date of purchase, if any battery included with this riding equipment proves defective in material or workmanship and our testing determines the battery will not hold a charge, Sears will replace the battery at no charge.

#### COMMERCIAL OR RENTAL USE

Warranty on Riding Equipment used for commercial or rental purposes is limited to ninety (90) days.

#### This Warranty does NOT cover:

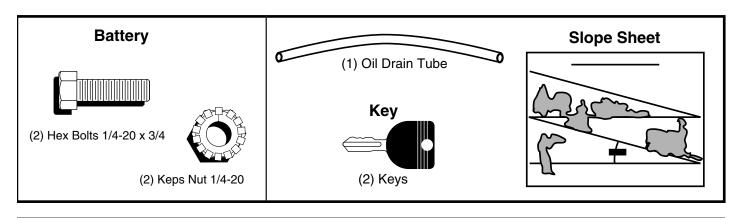
- 1. Pre-delivery set-up.
- 2. Tire replacement or repair caused by punctures from outside objects (such as nails, thorns, stumps, or glass).
- 3. Expendable items which become worn during normal use, such as blades, spark plug, air cleaners and belts.
- 4. Repairs necessary because of operator abuse or negligence, including damaged jackshaft or mandrel and the failure to operate and maintain the equipment according to the instructions contained in the Owner's Manual.

Warranty service is available by returning the Craftsman Riding Equipment to the nearest Sears Service Centre/Department in Canada. This warranty applies only while this product is in use in Canada.

This warranty is in addition to any statutory warranty and does not exclude or limit legal rights you may have but shall run concurrently with applicable provincial legislation. Furthermore, some provinces do NOT allow limitation on how long an implied warranty will last so the above limitations may not apply to you.

#### SEARS CANADA, INC., TORONTO, ONTARIO M5B 2B8

# **UNASSEMBLED PARTS**



### ASSEMBLY

Your new tractor has been assembled at the factory with the exception of those parts left unassembled for shipping puposes.

### TOOLS REQUIRED FOR ASSEMBLY

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

#### (2) 7/16" wrenches

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

# TO REMOVE TRACTOR FROM CARTON

#### **UNPACK CARTON**

- Remove all accessible loose parts and parts cartons from carton.
- Cut along dashed lines on all four panels of carton. Remove end panels and lay side panels flat.
- Check for any additional loose parts or cartons and remove.

### CONNECT BATTERY (See Fig. 1)



CAUTION: 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.

- Lift hood to raised position.
- Remove terminal protective caps and discard.

**NOTE:** If this battery is put into service after month and year indicated on label (L) (label located between terminals) charge battery for minimum of one hour at 6-10 amps.

- First connect RED battery cable to positive (+) terminal with hex bolt and keps nut.
- Connect BLACK grounding cable to negative (-) terminal with remaining hex bolt and keps nut. Tighten securely.

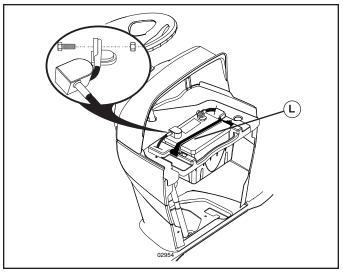


FIG. 1

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

**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.

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

- Raise attachment lift lever to its highest position.
- Release parking brake by depressing clutch/brake pedal.
- Place freewheel control in "transmission disengaged position" (See "TO TRANSPORT" in the Operation section of this manual).
- Roll tractor forward off skid.
- Remove banding holding the deflector shield up against tractor.

### ASSEMBLY

# 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.

- Be sure all the above assembly steps have been completed.
- Check engine oil level and fill fuel tank with gasoline.
- Place freewheel control in "transmission engaged" position (see "TO TRANSPORT" in Operation section of this manual).
- Sit on seat in operating position, depress clutch/brake pedal and set the parking brake.
- Place motion control lever in neutral (N) position.
- Press lift lever plunger and raise attachment lift lever to its highest position.
- Remove key from bag and start the engine (see "TO START ENGINE" in the Operation section of this manual). After engine has started, move throttle control to idle (slow) position.
- Release parking brake.
- Slowly move the motion control lever forward and slowly drive tractor off skid.
- Apply brake to stop tractor, set parking brake and place motion control lever in neutral position.
- Turn ignition key to "STOP" position.

Continue with the instructions that follow.

### INSTALL MULCHER PLATE (See Fig. 3)

### (If previously removed)

- Raise and hold deflector shield in upright position.
- Place slot in mulcher plate over tab on mower and position plate over mower opening as shown.
- Hook front latch into hole on front of mower deck.
- Hook rear latch into hole on back of mower deck.



CAUTION: Do not remove deflector shield from mower.

### TO CONVERT TO BAGGING OR DISCHARGING

Simply remove mulcher plate and store in a safe place. Your mower is now ready for discharging or installation of optional grass catcher accessory.

**NOTE:** It is not necessary to change blades. The mulcher blades are designed for discharging and bagging also.

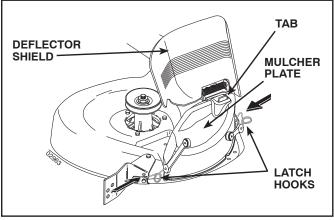


FIG. 3

### **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 on tires.

### CHECK DECK LEVELNESS

For best cutting results, mower housing should be properly leveled. See "TO LEVEL MOWER" 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 operating properly. See "TO CHECK 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 PER-FORMANCE AND SATISFACTION FROM THIS QUALITY PRODUCT.

PLEASE REVIEW THE FOLLOWING CHECKLIST:

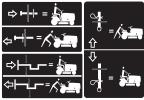
- ✓ All assembly instructions have been completed.
- ✓ No remaining loose parts in carton.
- ✓ Battery is properly prepared and charged.
- ✓ Seat is adjusted comfortably and tightened securely.
- ✓ All tires are properly inflated. (For shipping purposes, the tires were overinflated at the factory).
- 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 TRANS-PORT" 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.
- Be sure Operator Presence System and Reverse Operation System (ROS) are working properly (See the Operation and Maintenance sections in this manual).
- ✓ 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).

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





FREE WHEEL (Automatic Models only)



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.

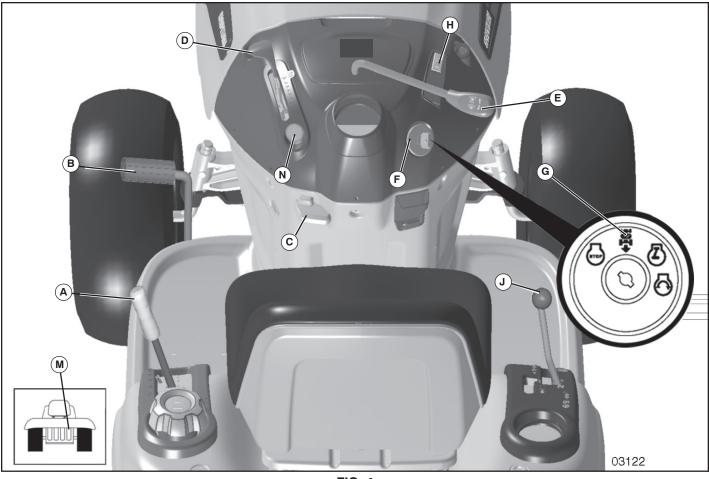


FIG. 4

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

(A) ATTACHMENT LIFT LEVER – Used to raise and lower the mower or other attachments mounted to your tractor.

(B) CLUTCH/BRAKE PEDAL – Used for braking the tractor and starting the engine.

(C) PARKING BRAKE – Locks clutch/brake pedal into the brake position.

(D) THROTTLE CONTROL – Used to control engine speed.
 (E) ATTACHMENT CLUTCH LEVER – Used to engage the mower blades, or other attachments mounted to your tractor.
 (F) IGNITION SWITCH – Used for starting and stopping the engine.

(G) REVERSE OPERATION SYSTEM (ROS) "ON" POSITION

- Allows operation of mower or other powered attachment while in reverse.

(H) LIGHT SWITCH – Turns the headlights on and off. (J) MOTION CONTROL LEVER – Selects the speed and direction of tractor.

(M) FREEWHEEL CONTROL – Disengages transmission for pushing or slowly towing the tractor with the engine off.
 (N) CHOKE CONTROL - Used when starting a cold engine.



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 (See Fig. 5)

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 (B) all the way down and hold.
- 2. Pull parking brake lever (C) up and hold, release pressure from clutch/brake pedal (B), then release parking brake lever. Pedal should remain in brake position. Make sure parking brake will hold tractor secure.

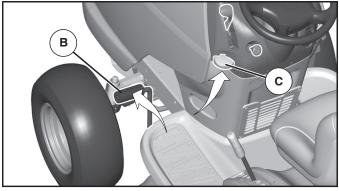
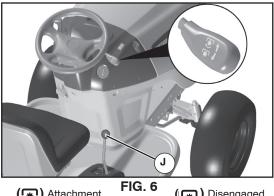


FIG. 5

### STOPPING

MOWER BLADES -

 To stop mower blades, move attachment clutch lever to disengaged position (m).



(
 Attachment Clutch Engage Position

GROUND DRIVE -

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

ENGINE -

 Move throttle control (D) between half and full speed (fast) position. **NOTE:** Failure to move throttle control between half and full speed (fast) position, before stopping, may cause engine to "backfire".

- Turn ignition key (F) 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.

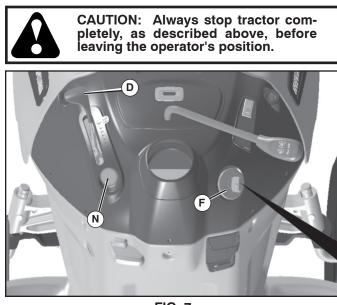


FIG. 7

### TO USE THROTTLE CONTROL - D (See Fig. 7)

Always operate engine at full speed (fast).

- Operating engine at less than full speed (fast) reduces engines operating efficiency.
- Full speed (fast) offers the best bagging and mower performance.

### TO USE CHOKE CONTROL - N (See Fig. 7)

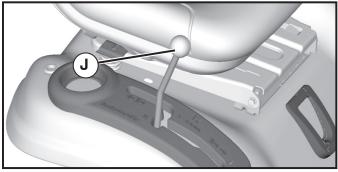
Use choke control whenever you are starting a cold engine. Do not use to start a warm engine.

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

### TO MOVE FORWARD AND BACKWARD (See Fig. 8)

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

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



**FIG. 8** 

# TO ADJUST MOWER CUTTING HEIGHT (See Fig. 9)

The position of the attachment lift lever (A) determines the cutting height.





Put attachment lift lever in desired cutting height slot.

The cutting height range is approximately 1" 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 (See Fig. 10)

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:** Adjust gauge wheels with tractor on a flat level surface.

- Adjust mower to desired cutting height (See "TO AD-JUST MOWER CUTTING HEIGHT" in this section of manual).
- With mower in desired height of cut position, gauge wheels should be assembled so they are slightly off the ground. Install gauge wheel in appropriate hole. Tighten securely.
- Repeat for all, installing gauge wheel in same adjustment hole.

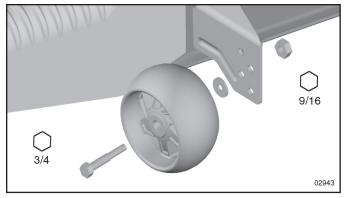


FIG. 10

### 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. You must remain fully and centrally positioned in the seat to prevent the engine from hesitating or cutting off when operating your equipment on rough, rolling terrain or hills.

- Select desired height of cut with attachment lift lever.
- 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 (S) in place.

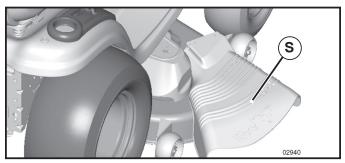


FIG. 11

### **REVERSE OPERATION SYSTEM (ROS)**

Your tractor is equipped with a Reverse Operation System (ROS). Any attempt by the operator to travel in the reverse direction with the attachment clutch engaged will shut off the engine unless ignition key is placed in the ROS "ON" position.

**AWARNING:** Backing up with the attachment clutch engaged while mowing is strongly discouraged. Turning the ROS "ON", to allow reverse operation with the attachment clutch engaged, should only be done when the operator decides it is necessary to reposition the machine with the attachment engaged. **Do not mow in reverse unless absolutely necessary**.

#### USING THE REVERSE OPERATION SYSTEM -

Only use if you are certain no children or other bystanders will enter the mowing area.

- Move motion control lever to neutral (N) position.
- With engine running, turn ignition key counterclockwise to ROS "ON" position.
- Look down and behind before and while backing.
- Slowly move motion control lever to reverse (R) position to start movement.
- When use of the ROS is no longer needed, turn the ignition key clockwise to engine "ON" position.

**ROS "ON" POSITION** 

ENGINE "ON" POSITION (NORMAL OPERATING)





### TO OPERATE ON HILLS



CAUTION: Do not drive up or down hills with slopes greater than 15° and do not drive across any slope.

- Choose the slowest speed before starting up or down hills.
- Avoid stopping or changing speed on hills.
- 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 (See Figs. 4 and 12)

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

- Raise attachment lift to highest position with attachment lift control.
- 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 reengage 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.).

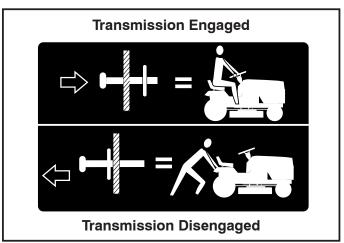


FIG. 12

### 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.

- Check engine oil with tractor on level ground.
- 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 "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 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 BELOW32°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 (See Fig. 4)

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.

- Be sure freewheel control is in the transmission engaged position.
- Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
- Place motion control lever in neutral (N) position.
- Move attachment clutch to "DISENGAGED" position.
- Move throttle control to fast position
- 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.

 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)

 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)

 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:
  - Be sure the tractor is on level ground.
  - Place the motion control lever in neutral. Release the parking brake and let the clutch/brake slowly return to operating position.
  - 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.

- Place tractor safely on a level surface that is clear and open with engine off and parking brake set.
- Disengage transmission by placing freewheel control in freewheeling position (See "TO TRANSPORT" in this section of manual).
- 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.



# CAUTION: At any time, during step 4, there may be movement of the drive wheels.

- 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.
- Move motion control lever to neutral (N) position. Shutoff engine and set parking brake.
- Engage transmission by placing freewheel control in engaged position (See "TO TRANSPORT" in this section of manual).
- 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.
- 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 now 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 been cut. Have the cut area to the right of the machine. 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 (See Fig. 13).

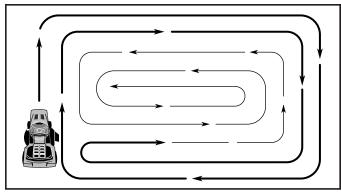


FIG. 13

- 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.

### **MULCHING MOWING TIPS**

**IMPORTANT:** FOR BEST PERFORMANCE, KEEP MOWER HOUSING FREE OF BUILT-UP GRASS AND TRASH. CLEAN AFTER EACH USE.

- The special mulching blade will recut the grass clippings many times and reduce them in size so that as they fall onto the lawn they will disperse into the grass and not be noticed. Also, the mulched grass will biodegrade quickly to provide nutrients for the lawn. Always mulch with your highest engine (blade) speed as this will provide the best recutting action of the blades.
- Avoid cutting your lawn when it is wet. Wet grass tends to form clumps and interferes with the mulching action. The best time to mow your lawn is the early afternoon. At this time the grass has dried, yet the newly cut area will not be exposed to direct sunlight.
- For best results, adjust the mower cutting height so that the mower cuts off only the top one-third of the grass blades (See Fig. 14). For extremely heavy mulching, reduce your width of cut on each pass and mow slowly.

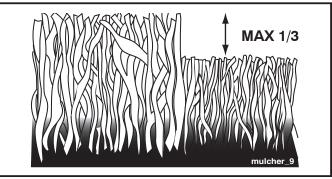


FIG. 14

- Certain types of grass and grass conditions may require that an area be mulched a second time to completely hide the clippings. When doing a second cut, mow across (perpendicular) to the first cut path.
- Change your cutting pattern from week to week. Mow north to south one week then change to east to west the next week. This will help prevent matting and graining of the lawn.

	MAINTENANCE SCHEDULE	BEFORE EACH USE	EVERY 8 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY SEASON	BEFORE STORAGE
Γ	Check Brake Operation	~	V					
Iт	Check Tire Pressure	~	~					
ľĸ	Check Operator Presence & ROS Systems							
	Check for Loose Fasteners							
C	Check/Replace Mower Blades			3				
Т	Lubrication Chart			<b>V</b>				
0	Check Battery Level			4				
R	Clean Battery and Terminals							
	Check Transaxle Cooling							
	Check Mower Levelness			-				
	Check V-Belts					<b>V</b>		
	Check Engine Oil Level	~	~					
	Change Engine Oil (with oil filter)				1,2			
_ا	Change Engine Oil (without oil filter)			1,2				<b>V</b>
E N	Clean Air Filter							
G	Clean Air Screen							
١ĭ	Inspect Muffler/Spark Arrester							
N	Replace Oil Filter (If equipped)					1,2		
E	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.

### **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.

At least once a season, check to see if you should make any of the adjustments described in the Service and Adjustments section of this manual.

 At least 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 ROS systems for proper operation.
- Check for loose fasteners.

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

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

**1** SPINDLE ZERK **① SPINDLE ZERK** 1 FRONT 1 FRONT WHEEL WHEEL 1 BEARING BEARING ZERK **7FRK** 2 ENGINE **①** STEERING SECTOR GEAR TEETH

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 main-tenance.

### **BRAKE OPERATION**

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 serviced. (See "TO CHECK BRAKE" in the Service and Adjustments section of this manual).

### TIRES

- Maintain proper air pressure in all tires (See PSI on tires).
- 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.

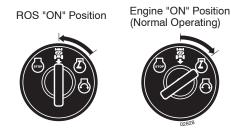
### OPERATOR PRESENCE SYSTEM AND REVERSE OPERATION SYSTEM (ROS)

Be sure operator presence and reverse operation 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 the attachment clutch control is in the disengaged position.

#### CHECK OPERATOR PRESENCE SYSTEM

- 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.

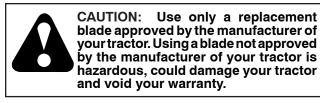


#### CHECK REVERSE OPERATION (ROS) SYSTEM

- When the engine is running with the ignition switch in the engine "ON" position and the attachment clutch engaged, any attempt by the operator to shift into reverse should shut off the engine.
- When the engine is running with the ignition switch in the ROS "ON" position and the attachment clutch engaged, any attempt by the operator to shift into reverse should NOT shut off the engine.

### **BLADE CARE**

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



#### **BLADE REMOVAL (See Fig. 15)**

 Raise mower to highest position to allow access to blades.

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

- Remove blade bolt by turning counterclockwise.
- Install new blade with stamped "GRASS SIDE" facing the ground.

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

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

IMPORTANT: Special blade bolt is heat treated.

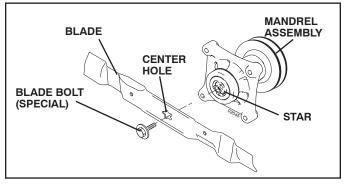


FIG. 15

### 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.

- Remove terminal guard.
- Disconnect BLACK battery cable first then RED battery cable and remove battery from tractor.

- Rinse the battery with plain water and dry.
- Clean terminals and battery cable ends with wire brush until bright.
- · Coat terminals with grease or petroleum jelly.
- Reinstall battery (See "CONNECT BATTERY" in the Assembly section of this manual).

### 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.

### 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 your nearest authorized service center/department.

### ENGINE

### LUBRICATION

Only use high quality detergent oil rated with API service classification SG-SL. Select the oil's SAE viscosity grade according to your expected operating temperature. When operating in temperatures below  $0^{\circ}$  F (-18° C) synthetic oil must be used.

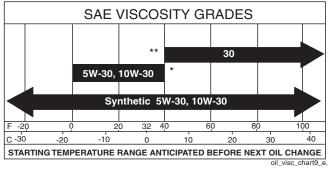


FIG. 16

**\* CAUTION:** Air cooled engines run hotter than automotive engines. The use of non-synthetic multi-viscosity oils (5W30, 10W30 etc.) in temperatures above  $40^{\circ}$  F ( $4^{\circ}$  C) will result in higher than normal oil consumption. When using a multi-viscosity oil, check oil level more frequently. **\*\* CAUTION:** SAE 30 oil, if used below  $40^{\circ}$  F ( $4^{\circ}$  C), will result in hard starting and possible engine bore damage due to inadequate lubrication.



**NOTE:** Synthetic oil meeting ILSAC GF-2, API certification mark and API service symbol (shown at left) with "SJ/CF ENERGY CONSERVING" or higher, is an acceptable oil at all temperatures. Use of synthetic oil does not alter required oil change intervals.

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 (See Figs. 16 and 17)

Determine temperature range expected before oil change. All oil must meet API service classification SG-SL.

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

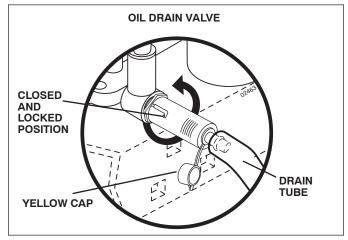


FIG. 17

- Unlock drain valve by pushing inward and turning counterclockwise.
- To open, pull out on the drain valve.
- 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.
- Remove the drain tube and replace the cap onto to the bottom fitting of the drain valve.
- Refill engine with oil through oil fill dipstick tube. Pour slowly. Do not overfill. For approximate capacity see "PRODUCT SPECIFICATIONS" section of this manual.
- Use gauge on oil fill cap/dipstick for checking level. Be sure dipstick cap is tightened securely for accurate reading. Keep oil at "FULL" line on dipstick. Tighten cap onto the tube securely when finished.

### **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.

### AIR FILTER (See Fig. 18)

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.

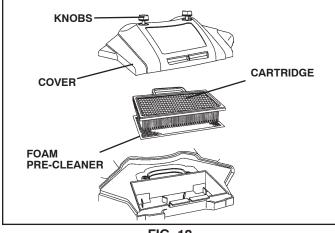
Service air cleaner more often under dusty conditions.

- Remove cover.
- TO SERVICE PRE-CLEANER
- Wash it in liquid detergent and water.
- Squeeze it dry in a clean cloth.
- Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.
- If very dirty or damaged, replace pre-cleaner.

TO SERVICE CARTRIDGE

- Clean cartridge by tapping gently on flat surface. If very dirty or damaged, replace cartridge.
- · Reinstall precleaner cartridge, cover and secure.

**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.





### **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.

### **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 PLUGS

Replace spark plugs 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 (See Fig. 19)

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

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

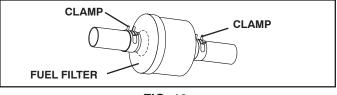


FIG. 19

### **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 or pressure washer to clean your tractor unless the engine and transmission are covered to keep water out. Water in engine or transmission will shorten the useful life of your tractor. Use compressed air or a leaf blower to remove grass, leaves and trash from tractor and mower.



#### WARNING: TO AVOID SERIOUS INJURY, BEFORE PERFORMING ANY SERVICE OR ADJUST-MENTS:

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

### TO REMOVE MOWER (See Fig. 20)

- Place attachment clutch in "DISENGAGED" position.
- Lower attachment lift lever to its lowest position.
- Roll belt off engine pulley (M) and belt keepers (G).
- Remove retainer spring (K), slide collar (L) off and push housing guide (P) out of bracket.
- Remove clutch cable spring (Q) from idler arm (R).
- Disconnect front link (E) from mower remove retainer spring and washer.
- Go to either side of mower and disconnect mower suspension arm (A) from chassis pin (B) and rear lift link (C) from rear mower bracket (D) - remove retainer springs and washers.



CAUTION: AFTER REAR LIFT LINKS ARE DISCONNECTED, THE ATTACH-MENT LIFT LEVER WILL BE SPRING LOADED. HAVE A TIGHT GRIP ON LIFT LEVER WHEN CHANGING POSITION OF THE LEVER.

• Slide mower out from under right side of tractor.

**IMPORTANT:** IF AN ATTACHMENT OTHER THAN THE MOWER IS TO BE MOUNTED ON THE TRACTOR, REMOVE THE FRONT LINK (E) AND REAR LIFT LIKS (C) FROM TRACTOR AND HOOK THE CLUTCH SPRING (Q) INTO THE CABLE GUIDE ON FRONT EDGE OF LOWER DASH.

### TO INSTALL MOWER (See Figs. 21-24)

Be sure tractor is on level surface and engage parking brake.

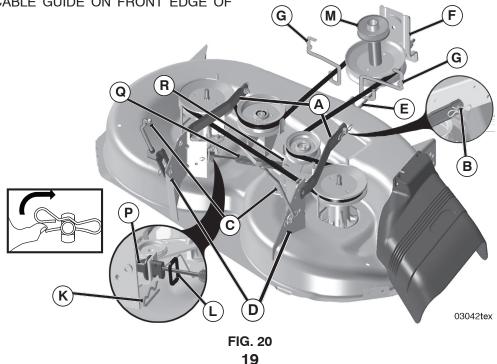
Lower attachment lift lever to it's lowest position.



CAUTION: LIFT LEVER IS SPRING LOADED. HAVE A TIGHT GRIP ON LIFT LEVER, LOWER IT SLOWLY AND ENGAGE IN LOWEST POSITION.

**NOTE:** Be sure mower side suspension arms (A) are pointing forward before sliding mower under tractor.

- Slide mower under tractor until it is centered under tractor.
- ATTACH MOWER SIDE SUSPENSION ARMS (A) TO CHASSIS Position hole in arm over pin (B) on outside of tractor chassis and secure with retainer spring.
- Repeat on opposite side of tractor.



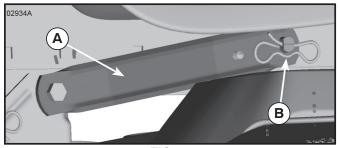


FIG. 21

- ATTACH REAR LIFT LINKS (C) Lift rear corner of mower and position slot in link assembly over pin on rear mower bracket (D) and secure with washer and retainer spring.
- Repeat on opposite side of tractor.

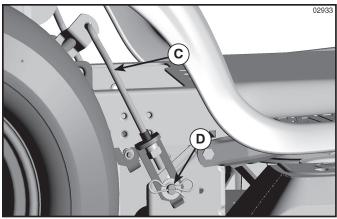


FIG. 22

- ATTACH FRONT LINK (E) Work from left side of tractor. Insert rod end of link assembly through front hole in tractor front suspension bracket (F).
- Insert end of link (E) into hole in front mower bracket (H) and secure with washer and retainer spring (J).

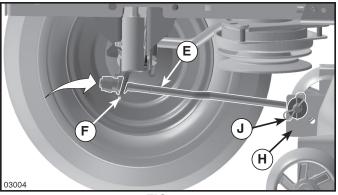


FIG. 23

- Push clutch cable housing guide (P) into bracket, slide collar (L) onto guide and secure with retainer spring (K).
- Hook end of clutch cable spring (Q) into hole in idler arm (R).
- Install belt onto engine pulley (M).

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

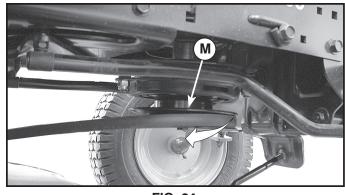


FIG. 24

- Raise attachment lift lever to highest position.
- If necessary, adjust gauge wheels before operating mower as shown in the Operation section of this manual.

### **TO LEVEL MOWER**

Make sure tires are properly inflated to the PSI shown on tires. If tires are over or under inflated, it may affect the appearance of your lawn and lead you to think the mower is not adjusted properly.

VISUAL SIDE-TO-SIDE ADJUSTMENT (See Fig. 25)

- With all tires properly inflated and if your lawn appears unevenly cut, determine which side of mower is cutting lower.
- With a 3/4" or adjustable wrench, turn lift link adjustment nut (A) to the left to lower LH side of mower, or, to the right to raise LH side of mower.

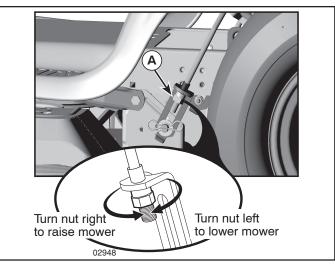


FIG. 25

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

Test your adjustment by mowing some uncut grass and visually checking the appearance. Readjust, if necessary, until you are satisfied with the results.

#### PRECISION SIDE-TO-SIDE ADJUSTMENT

(See Fig. 26)

• With all tires properly inflated, park tractor on level ground or driveway.



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

- Raise mower to its highest position.
- At both sides of mower, position blade at side and measure the distance (A) from bottom edge of blade to the ground. The distance should be the same on both sides.

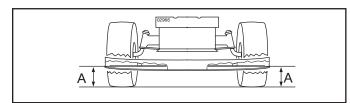


FIG. 26

- If adjustment is necessary, see step in Visual Adjustment instructions above.
- Recheck measurements, adjust if necessary until both sides are equal.

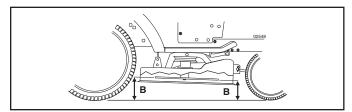
FRONT-TO-BACK ADJUSTMENT (See Figs. 27 and 28) **IMPORTANT:** Deck must be level side-to-side.

To obtain the best cutting results, the mower blades should be adjusted so the front tip is 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.

- Raise mower to highest position.
- Position any blade so the tip is pointing straight forward. Measure distance (B) to the ground at front and rear tip of the blade.
- If front tip of blade is not 1/8" to 1/2" lower than the rear



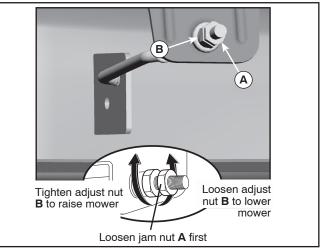


tip, go to the front of tractor.

- With an 11/16" or adjustable wrench, loosen jam nut A several turns to clear adjustment nut B.
- With a 3/4" or adjustable wrench, turn front link adjustment nut (B) clockwise (Itighten) to raise the front of mower, or, counterclockwise (loosen) to lower the front mower.

**NOTE:** Each full turn of the adjustment nut will change mower height about 1/8".

- Recheck measurements, adjust if necessary until front tip of blade is 1/8" to 1/2" lower than the rear tip.
- Hold adjustment nut in position with wrench and tighten jam nut securely against adjustment nut.





### TO REPLACE MOWER DRIVE BELT (See Fig. 29)

MOWER DRIVE BELT REMOVAL

- Park tractor on a level surface. Engage parking brake.
- Lower attachment lift lever to its lowest position.
- Remove any dirt or grass clippings which may have accumulated around mandrels and entire upper deck surface.
- Remove belt from electric clutch pulley (M), both mandrel pulleys (R) and all idler pulleys (S).

MOWER DRIVE BELT INSTALLATION

- Install belt around all mandrel pulleys (R) and around idler pulleys (S) as shown.
- Install belt onto electric clutch pulley (M).

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

Raise attachment lift lever to highest position.

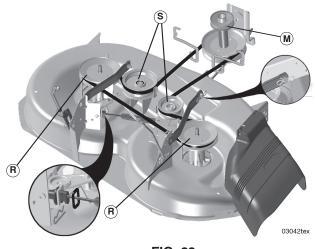


FIG. 29

### TO CHECK BRAKE

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 serviced.

You may also check brake by:

- 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, then the brake needs to be serviced. Contact a Sears or other qualified service center.

### TO REPLACE MOTION DRIVE BELT (See Fig. 30)

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 -

• 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.

- Remove belt from stationary idler (A) and clutching idler (B).
- Remove belt from centerspan idler (C).
- Pull belt slack toward rear of tractor. Remove belt upwards from transaxle input pulley (D).
- Remove belt downward from engine pulley (E).
- Slide belt toward rear of tractor, off the steering plate (F) and remove from tractor.

**BELT INSTALLATION -**

- Install new belt from tractor rear to front, over the steering plate (F) and above clutch brake pedal shaft (G).
- Pull belt toward front of tractor and roll belt onto engine pulley (E).
- Pull belt toward rear of tractor. Carefully work belt down around transaxle input pulley (D). Be sure belt is inside the belt keeper.
- Install belt on centerspan idler (C).
- Install belt through stationary idler (A) and clutching idler (B).
- Make sure belt is in all pulley grooves and inside all belt guides and keepers.
- Install mower (See "TO INSTALL MOWER" in this section of manual).

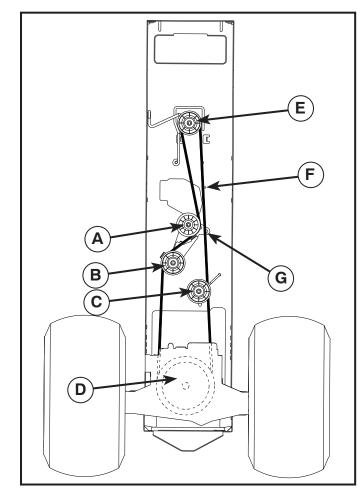


FIG. 30

### FRONT WHEEL TOE-IN/CAMBER

Your new tractor front wheel toe-in and camber is set at the factory and is normal. The front wheel toe-in and camber are not adjustable. If damage has occurred to affect the factory set front wheel toe-in or camber, contact a qualified service center.

### TO REMOVE WHEEL FOR REPAIRS (See Fig. 31)

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

**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.

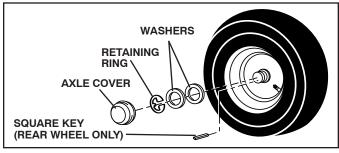


FIG. 31

### TO START ENGINE WITH A WEAK BATTERY (See Fig. 32)



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 -

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

TO REMOVE CABLES, REVERSE ORDER -

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

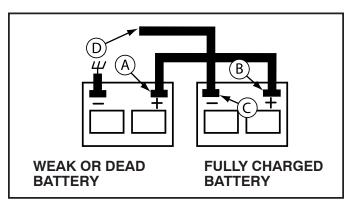


FIG. 32

### TO REPLACE HEADLIGHT BULB

- Raise hood.
- Pull bulb holder out of the hole in the backside of the grill.
- Replace bulb in holder and push bulb holder securely back into the hole in the backside of the grill.
- 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 (See Fig. 33)

Raise hood.

- Unsnap headlight wire connector.
- Stand in front of tractor. Grasp hood at sides, tilt toward engine and lift off of tractor.
- To replace, reverse above procedure.

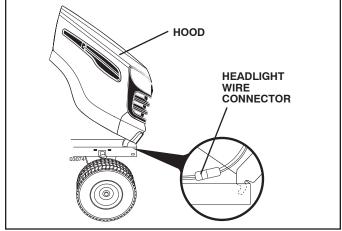


FIG. 33

### ENGINE

### TO ADJUST THROTTLE CONTROL CABLE (See Fig. 34)

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, proceed as follows:

- With engine not running, move throttle control lever to fast position.
- Check that swivel is against stop. If it is not, loosen cable clamp screw and pull cable back until swivel is against stop. Tighten cable clamp screw securely.

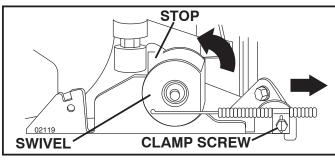


FIG. 34

### TO ADJUST CHOKE CONTROL (See Fig. 35)

The choke 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, proceed as follows:

- With engine not running, move choke control (located on dash panel) to full choke position.
- Loosen knob and remove cover assembly from air cleaner.
- Choke should be closed. If it is not, loosen casing clamp screw and move choke cable until choke is completely closed. Tighten casing clamp screw securely.
- Replace air cleaner cover assembly and tighten knob.

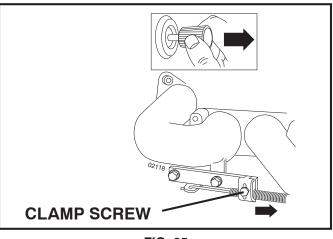


FIG. 35

### 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 for repair and/or adjustment.

High speed stop is factory adjusted. Do not adjust - damage may result.

**IMPORTANT:** NEVERTAMPER WITH THE ENGINE GOVERNOR, WHICH IS FACTORY SET FOR PROPER ENGINE SPEED. OVERSPEEDING THE ENGINE ABOVE THE FACTORY HIGH SPEED SETTING CAN BE DANGEROUS. IF YOU THINK THE ENGINE-GOVERNED HIGH SPEED NEEDS ADJUSTING, CONTACT YOUR NEAREST AUTHORIZED SERVICE CENTER/ DEPARTMENT, WHICH HAS PROPER EQUIPMENT AND EXPERIENCE TO MAKE ANY NECESSARY ADJUSTMENTS.

# 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.

- Clean entire tractor (See "CLEANING" in the Maintenance section of this manual).
- Inspect and replace belts, if necessary (See belt replacement instructions in the Service and Adjustments section of this manual).
- Lubricate as shown in the Maintenance section of this manual.
- Be sure that all nuts, bolts and screws are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
- 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 FILTER, FUEL HOSE, OR TANK DURING STORAGE. ALSO, EXPERIENCE INDICATES THAT 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.

- Empty the fuel tank by starting 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 empty 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)

- Remove spark plug(s).
- Pour one ounce of oil through spark plug hole(s) into cylinder(s).
- Turn ignition key to "START" position for a few seconds to distribute oil.
- 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.

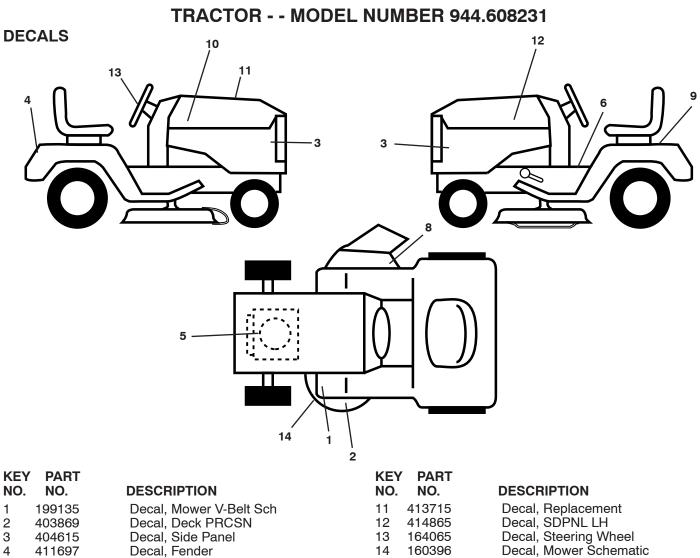
**IMPORTANT**: NEVER COVER TRACTOR WHILE ENGINE AND EXHAUST AREAS ARE STILL WARM.

# **TROUBLESHOOTING POINTS**

PROBLEM	CAUSE	CORRECTION
Will not start	<ol> <li>Out of fuel.</li> <li>Engine not "CHOKED" properly.</li> <li>Engine flooded.</li> <li>Bad spark plug.</li> <li>Weak or dead battery.</li> <li>Dirty air filter.</li> <li>Dirty fuel filter.</li> <li>Water in fuel.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <li>Fill fuel tank.</li> <li>See "TO START ENGINE" in Operation section.</li> <li>Wait several minutes before attempting to start.</li> <li>Replace spark plug.</li> <li>Recharge or replace battery.</li> <li>Clean/replace air filter.</li> <li>Replace fuel filter.</li> <li>Empty fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service Adjustments section.</li> <li>Contact an authorized service center/department.</li> </ol>
Hard to start	<ol> <li>Dirty air filter.</li> <li>Bad spark plug.</li> <li>Weak or dead battery.</li> <li>Dirty fuel filter.</li> <li>Stale or dirty fuel.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <li>Clean/replace air filter.</li> <li>Replace spark plug.</li> <li>Recharge or replace battery.</li> <li>Replace fuel filter.</li> <li>Empty fuel tank and refill tank with fresh, clean gasoline</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service Adjustments section.</li> <li>Contact an authorized service center/department.</li> </ol>
Engine will not turn over	<ol> <li>Brake pedal not depressed.</li> <li>Attachment clutch is engaged.</li> <li>Weak or dead battery.</li> <li>Blown fuse.</li> <li>Corroded battery terminals.</li> <li>Loose or damaged wiring.</li> <li>Faulty ignition switch.</li> <li>Faulty solenoid or starter.</li> <li>Faulty operator presence switch(es).</li> </ol>	<ol> <li>Depress brake pedal.</li> <li>Disengage attachment clutch.</li> <li>Recharge or replace battery.</li> <li>Replace fuse.</li> <li>Clean battery terminals.</li> <li>Check all wiring.</li> <li>Check/replace ignition switch.</li> <li>Check/replace solenoid or starter.</li> <li>Contact an authorized service center/department.</li> </ol>
Engine clicks but will not start	<ol> <li>Weak or dead battery.</li> <li>Corroded battery terminals.</li> <li>Loose or damaged wiring.</li> <li>Faulty solenoid or starter.</li> </ol>	<ol> <li>Recharge or replace battery.</li> <li>Clean battery terminals.</li> <li>Check all wiring.</li> <li>Check/replace solenoid or starter.</li> </ol>
Loss of power	<ol> <li>Cutting too much grass/too fast.</li> <li>Throttle in "CHOKE" position.</li> <li>Build-up of grass, leaves and trash under mower.</li> <li>Dirty air filter.</li> <li>Low oil level/dirty oil.</li> <li>Faulty spark plug.</li> <li>Dirty fuel filter.</li> <li>Stale or dirty fuel.</li> <li>Water in fuel.</li> <li>Spark plug wire loose.</li> <li>Dirty engine air screen/fins.</li> <li>Dirty/clogged muffler.</li> <li>Lose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> </ol>	<ol> <li>Raise cutting height/reduce speed.</li> <li>Adjust throttle control.</li> <li>Clean underside of mower housing.</li> <li>Clean/replace air filter.</li> <li>Check oil level/change oil.</li> <li>Clean and regap or change spark plug.</li> <li>Replace fuel filter.</li> <li>Empty fuel tank and refill tank with fresh, clean gasoline</li> <li>Empty fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>Connect and tighten spark plug wire.</li> <li>Clean engine air screen/fins.</li> <li>Clean/replace muffler.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service Adjustments section.</li> <li>Contact an authorized service center/department.</li> </ol>
Excessive vibration	<ol> <li>Worn, bent or loose blade.</li> <li>Bent blade mandrel.</li> <li>Loose/damaged part(s).</li> </ol>	<ol> <li>Replace blade. Tighten blade bolt.</li> <li>Replace blade mandrel.</li> <li>Tighten loose part(s). Replace damaged parts.</li> </ol>

# **TROUBLESHOOTING POINTS**

PROBLEM	CAUSE	CORRECTION		
Engine dies when tractor is shifted into reverse	<ol> <li>Reverse operation system (ROS) is not "ON" while mower or other attachment is engaged.</li> </ol>	1. Turn ignition key to ROS "ON" position. See Operation section.		
Engine continues to run when operator leaves seat with attachment clutch engaged	1. Faulty operator-safety presence control system.	<ol> <li>Check wiring, switches and connections. If not corrected, contact an authorized service center/ department.</li> </ol>		
Poor cut - uneven	<ol> <li>Worn, bent or loose blade.</li> <li>Mower deck not level.</li> <li>Buildup of grass, leaves, and trash under mower.</li> <li>Bent blade mandrel.</li> <li>Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>Replace blade. Tighten blade bolt.</li> <li>Level mower deck.</li> <li>Clean underside of mower housing.</li> <li>Replace blade mandrel.</li> <li>Clean around mandrels to open vent holes.</li> </ol>		
<i>l</i> lower blades will not otate	<ol> <li>Obstruction in clutch mechanism.</li> <li>Worn/damaged mower drive belt.</li> <li>Frozen idler pulley.</li> <li>Frozen blade mandrel.</li> </ol>	<ol> <li>Remove obstruction.</li> <li>Replace mower drive belt.</li> <li>Replace idler pulley.</li> <li>Replace blade mandrel.</li> </ol>		
Poor grass discharge	<ol> <li>Engine speed too slow.</li> <li>Travel speed too fast.</li> <li>Wet grass.</li> <li>Mower deck not level.</li> <li>Low/uneven tire air pressure.</li> <li>Worn, bent or loose blade.</li> <li>Buildup of grass, leaves and trash under mower.</li> <li>Mower drive belt worn.</li> <li>Blades improperly installed.</li> <li>Improper blades used.</li> <li>Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>Place throttle control in "FAST" position.</li> <li>Shift to slower speed.</li> <li>Allow grass to dry before mowing.</li> <li>Level mower deck.</li> <li>Check tires for proper air pressure.</li> <li>Replace blade. Tighten blade bolt.</li> <li>Clean underside of mower housing.</li> <li>Replace mower drive belt.</li> <li>Reinstall blades sharp edge down.</li> <li>Replace with blades listed in this manual.</li> <li>Clean around mandrels to open vent holes.</li> </ol>		
łeadlight(s) not working if so equipped)	<ol> <li>Light switch is "OFF".</li> <li>Bulb(s) or lamp(s) burned out.</li> <li>Faulty light switch.</li> <li>Loose or damaged wiring.</li> <li>Blown fuse.</li> </ol>	<ol> <li>Turn light switch "ON".</li> <li>Replace bulb(s) or lamp(s).</li> <li>Check/replace light switch.</li> <li>Check wiring and connections.</li> <li>Replace fuse.</li> </ol>		
Battery will not charge	<ol> <li>Bad battery cell(s).</li> <li>Poor cable connections.</li> <li>Faulty regulator (if so equipped).</li> <li>Faulty alternator.</li> </ol>	<ol> <li>Replace battery.</li> <li>Check/clean all connections.</li> <li>Replace regulator.</li> <li>Replace alternator.</li> </ol>		
oss of drive.	<ol> <li>Freewheel control in "disengaged" position.</li> <li>Motion drive belt worn, damaged, or broken.</li> <li>Air trapped in transmission during shipment or servicing.</li> </ol>	<ol> <li>Place freewheel control in "engaged" position.</li> <li>Replace motion drive belt.</li> <li>Purge transmission.</li> </ol>		
Engine "backfires" when turning engine "OFF"	<ol> <li>Engine throttle control not set between half and full speed (fast) position before stopping engine.</li> </ol>	<ol> <li>Move throttle control between half and full speed (fast) position before stopping engine.</li> </ol>		



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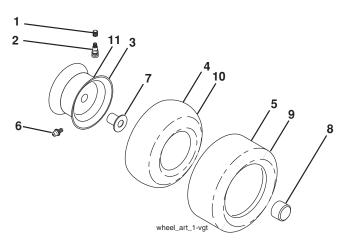
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- 4 411697 Decal, Fender Decal, Engine Decal, Fender Operator's 5 412580 6 411658
- 8 170563 Decal, Warning
- Decal, Battery Dnge/Poi Decal, SDPNL RH 9 149517 10 414864

ΈY	PART	
IO.	NO.	DESCRIPTION
1	413715	Decal, Replacement
2	414865	Decal, SDPNL LH
3	164065	Decal, Steering Wheel
4	160396	Decal, Mower Schematic
-	193227X428	Pad, Footrest, RH
-	166960	Decal, Bypass
-	193226X428	Pad, Footrest, LH
-	420417	Manual, Owner's English
-	420418	Manual, Owner's French

### WHEELS AND TIRES



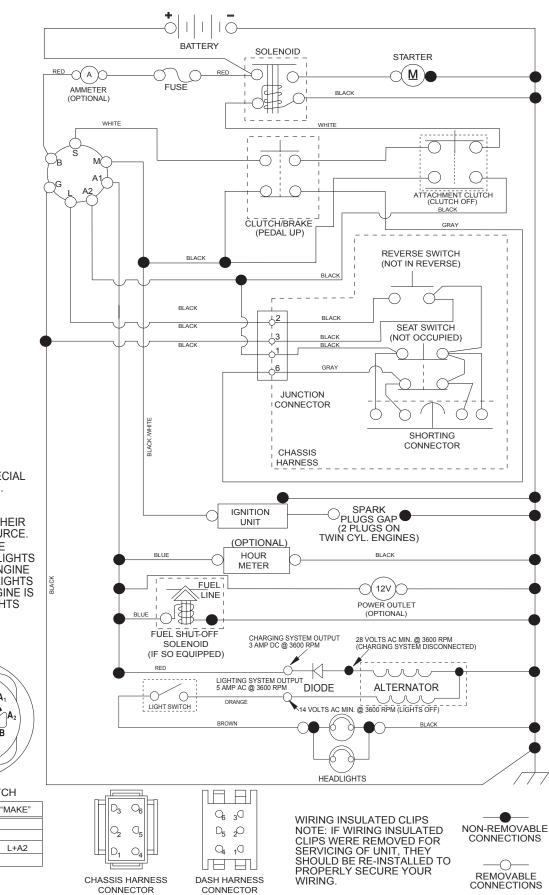
KEY NO.	PART NO.	DESCRIPTION
1	59192	Cap, Valve, Tire
2	65139	Stem, Valve
3	106732X624	Rim Assembly, Front
4	59904	Tube, Front
5	106222X	Tire, Front
6	278H	Fitting, Grease
7	9040H	Bearing, Flange
8	104757X428	Cap, Axle (Front Wheel Only)
9	124635X	Tire, Rear
10	7152J	Tube, Rear
11	106108X624	Rim Assembly, Rear
	144334	Sealant, Tire (10 oz. Tube)

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

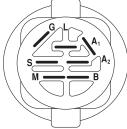
### TRACTOR - - MODEL NUMBER 944.608231

SCHEMATIC

SCH11



NOTE YOUR TRACTOR IS EQUIPPED WITH A SPECIAL ALTERNATOR SYSTEM. THE LIGHTS ARE NOT CONNECTED TO THE BATTERY, BUT HAVE THEIR OWN ELECTRICAL SOURCE. BECAUSE OF THIS, THE BRIGHTNESS OF THE LIGHTS WILL CHANGE WITH ENGINE SPEED. AT IDLE THE LIGHTS WILL DIM. AS THE ENGINE IS SPEEDED UP, THE LIGHTS WILL BECOME THEIR BRIGHTEST.



IGNITION SWITCH

CIRCUIT	"MAKE"
M+G+A1	
B+A1	
B+A1	L+A2
B + S + A1	
	M+G+A1 B+A1 B+A1

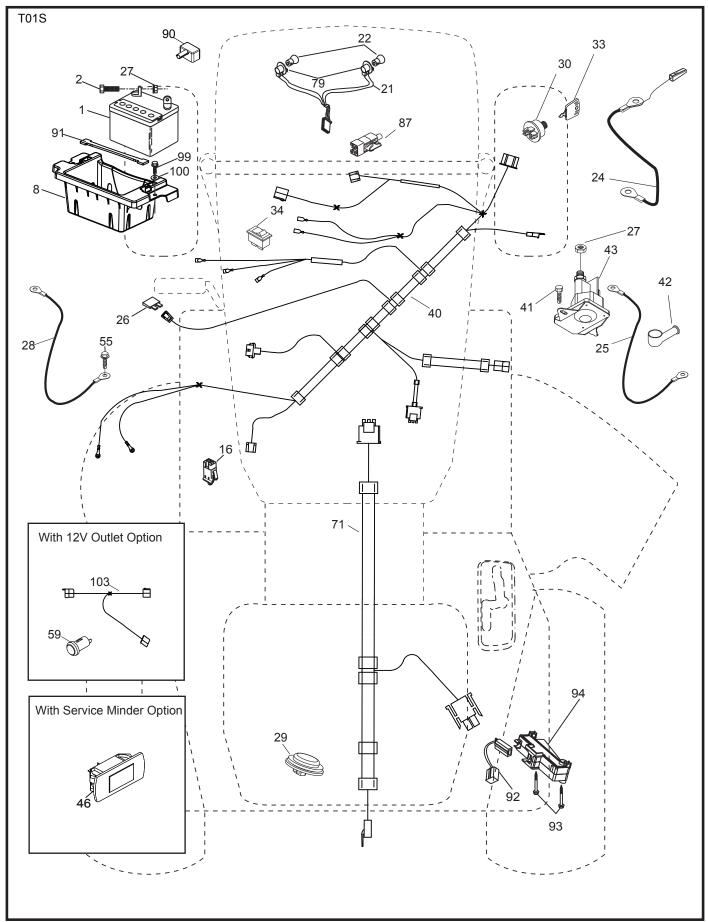
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(MATING SIDE)

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### TRACTOR - - MODEL NUMBER 944.608231

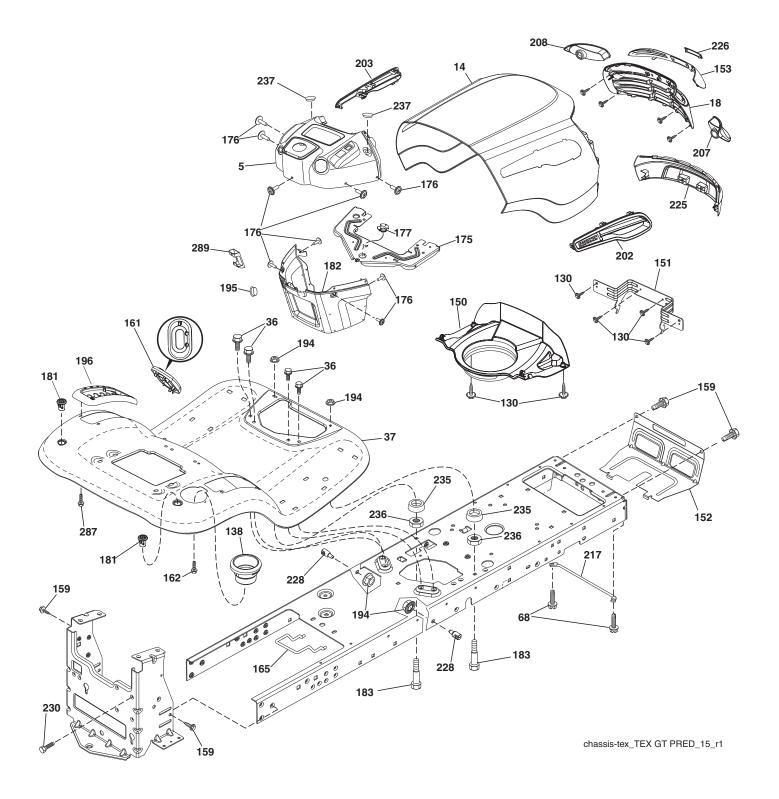
### ELECTRICAL



ELECTRICAL

KEY NO.	PART NO.	DESCRIPTION
$\begin{array}{c}1\\2\\8\\16\\21\\22\\4\\25\\26\\27\\28\\29\\30\\33\\40\\41\\42\\43\\55\\71\\90\\91\\92\\93\\94\\99\\100\end{array}$	73510400 145491 401545 193350 411934 110712X 401098 17720408 131563 192507 17060512 194276 175242 197802 400724 190270 196615 192540 191834	Battery Bolt Hex Head 1/4-20 x 3/4 Box Battery Switch Interlock Push-In Harness Socket Light Bulb Cable Btry Cable Starter Fuse Nut Keps Hex 1/4-20 unc Cable, Ground Switch, Seat Switch, Ign Key/Chain Switch Light / Reset Harness Ign. Dash Screw Thd Cut 1/4-20 x 1/2 Cover, Terminal Solenoid Screw Thdrol 5/16-18 x 3/4 Harness Ign. Socket Asm Bulb Twistlock Switch Interlock Clutch Cable Cover Terminal Battery Strap Battery Mount Front Harness Pigtail Screw Plastite 10-14 x 2.0 Module Reverse ROS Screw Hexwsh Thdrol 1/4-20 x 3/4 Washer 9/32 x 7/8 x 16 Ga.

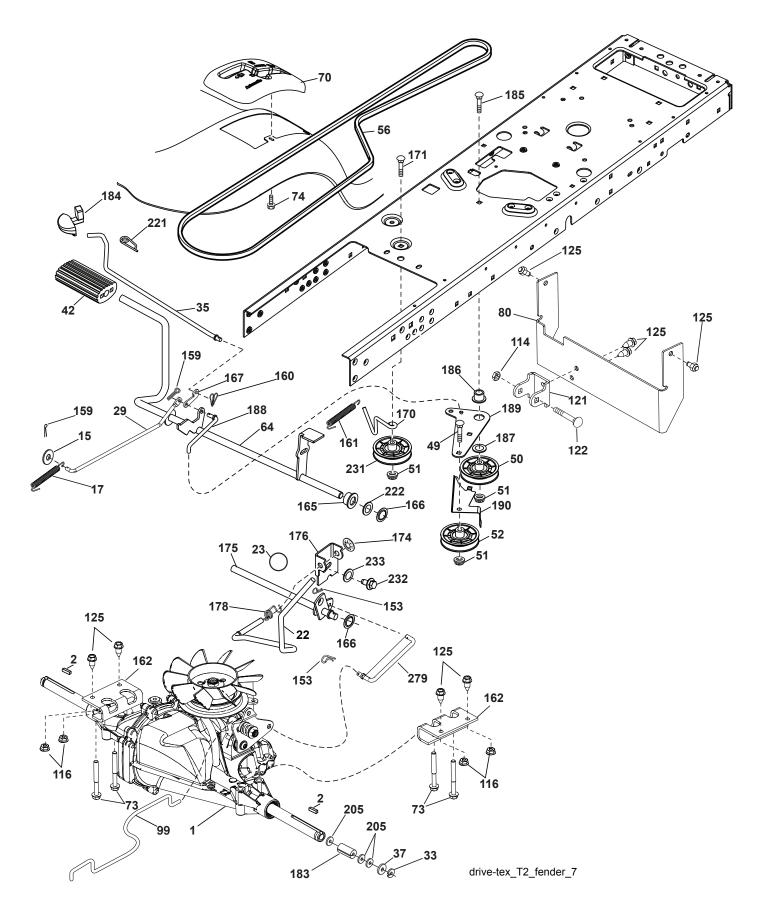
**NOTE:** All component dimensions given in U.S. inches 1 inch = 25.4 mm



KEY	PART	
NO.	NO.	DESCRIPTION
2	194263	Drawbar
5	407235X428	Dash
14	404654X612	Hood
18	405013	Grille
36	17060512	Screw 5/16-18 x 3/4
37	414870X612	Fender
68	17490508	Screw THDROL 5/16-18 x 1/2
130	416358	Screw #10 x 0.750 BOS Thread
138	193224X428	Cupholder
150	199411	Duct Heat Hood
151	196332	Bracket Pivot
152	194329	Shield Browning/Debris
153	198965	Lens Bar
159	17000612	Screw Hexwsh Thdrol 3/8-16 x 3/4
161	193229X428	Window Fuel
162	142432	Screw Hex Wsh Hi-Lo 1/4 x 1/2 unc
165	194330	Support Tank Rear
175	196304	Crossmember
176	400776	Screw 10-24 x 5/8 Wshd Qdrx
177	195227	Bushing Steering
180 181	194260	Chassis Bushing Mtg. Fender Crgo.
182	193102X428 406859	Dash Lower
183	74780520	Bolt Fin Hex 5/16-18 x 1-1/4
189	199783X428	Plug Cruise/Hook/Phone
194	73900500	Nut Lock Hex Flange 5/16-18
195	401556X428	Plug Hole Dash Lower
196	414579	Console Asm. Deck Lift
202	198968X428	Vent Side Hood RH
203	198969X428	Vent Side Hood LH
207	198963	Bezel RH
208	198964	Bezel LH
217	409167	Rod Pivot Chassis
225	198962X612	Bumper
226	198967X428	Logo
228	195161	Stud Fastener
230	170165	Bolt Shoulder 5/16-18
235	406129	Spacer Fender
236	73930500	Nut Center Lock 5/16-18 unc x 1-1/4
287	17600406	Screw Hex Washead 1/4-20 x 3/8
	404951X428	Plug Dash SRVMNDR
	403704	Plug Mount Cargo
NOTE		dimensions given in LLS, inches

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

DRIVE



### DRIVE

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
		DESCRIPTION Transaxle, Hydro Gear T2 Key Square Washer 13/32 x 13/16 x 16 Ga. Spring, Brake Rod Shift Knob Deluxe Rod, Brake Ring E Rod, Brake, Park Washer 25/32 x 1-1/4 x 16 Ga. Cover, Foot Pedal Bolt Pulley Idler Flat Lock Nut 3/8-16 Idler V-Groove 910" Offset V-Belt, Drive Shaft Asm. Pedal Brake Control Console Bolt Hex 5/16-18 Gr. 5 Screw 1/4 x 1/2 Strap Torque Rod Spring Bypass Nut Lock 5/16-18 UNC Nut Lock Hex Flange 5/16-18 Bracket Strap Torque	KEY NO. 161 162 165 166 167 170 171 174 175 176 178 183 184 185 186 187 188 189 190 205 221 222 231 232 233		DESCRIPTION Spring, Return, Clutch Adapter Transaxle Bushing Nut Push .625 Latch Brake Parking Keeper V-Idler Bolt Nut Push Shaft Asm Shift Arm Clevis Rod Shift Spring Shift Spacer Axle Handle Parking Brake Bolt Spacer Retainer Washer Link Clutch Ground Drive Bellcrank Ground Drive Keeper Bellcrank Ground Drive Keeper Bellcrank Ground Drive Washer 25/32 x 1-5/8 x 16 Ga. Retainer Spring Clip Handle Washer 21/32 x 1-1/4 10 Ga. Idler V-Groove 1.688" Offset Bolt 7/16-14 x 1 Gr 5
122 125 153 159	72010520 17000512 4497H 76020412	Bolt 5/16-18 x 2.50 Screw 5/16-18 x 3/4 Retainer Spring 1" Pin Cotter 1/8 x 3/4	279	408538	Link Shift dimensions given in U.S. inches
160	169484	Retainer Clip		1 11011 - 20.41	

### TRACTOR - - MODEL NUMBER 944.608231

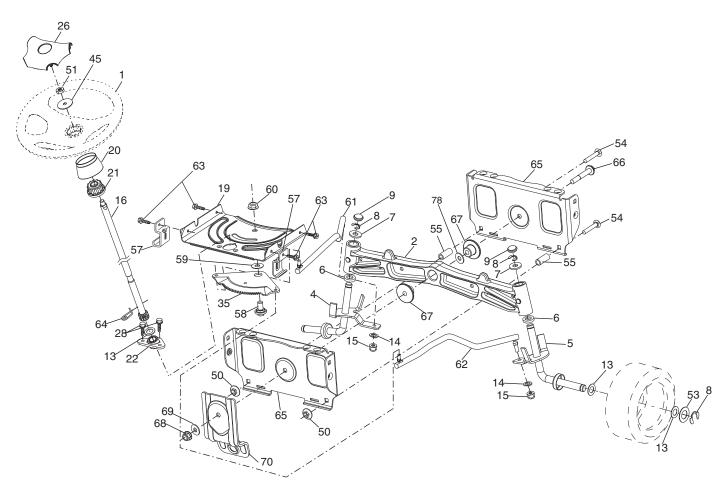
ENGINE  $\langle \mathbf{O} \rangle$ æ ~37 SPARK ARRESTER KIT engine-tex\_bs-2cyl **KEY PART KEY PART** 

NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1		Engine Briggs Model No.	62	146629	Shield Heat Muffler
		441777-0726-E1 (See engine	69	165391	Gasket
		breakdown)	70	159955	Exhaust Tube LH
2	149723	Muffler	71	160589	Exhaust Tube RH
9	194319	Keeper Belt Engine	79	183906	Screw Socket Head 5/16-18 x .75
12	401985	Pulley Engine	81	148456	Tube Drain Oil Easy
15	400021	Tank Fuel	82	181654	Plug Drain Oil
18	195951	Cap Asm	83	171877	Bolt 5/16-18 x 3/4
20	175437X428	Control Throttle	84	17060620	Screw 3/8-16 x 1-1/4
21	416358	Screw #10 x 0.750 BOS Thread	85	173937	Bolt Hex 7/16-20 x 4 x Gr. 5-1.5
22	187767X428	Control Choke	90	17000616	Screw 3/8-16 x 1
28	401135	Fuel Line			
29	137180	Spark Arrester Kit			
37	123487X	Clamp Hose	ΝΟΤΙ	E: All compo	nent dimensions given in U.S. inches
42	10040700	Washer Lock 7/16		1 inch = 2	
45	73510400	Nut Keps Hex 1/4-20 unc			

#### **Engine Power Rating Information**

The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J11940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-5). Actual gross engine power will be lower and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given both the wide array of products on which engines are placed and the variety of environmental issues applicable to operating the equipment, the gas engine will not develop the rated gross power when used in a given piece of power equipment (actual "on-site" or net horsepower). This difference is due to a variety of factors including, but not limited to, accessories (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this Series engine.

#### TRACTOR - - MODEL NUMBER 944.608231 STEERING ASSEMBLY



Steering-tex\_LEGND2\_8

#### **KEY PART**

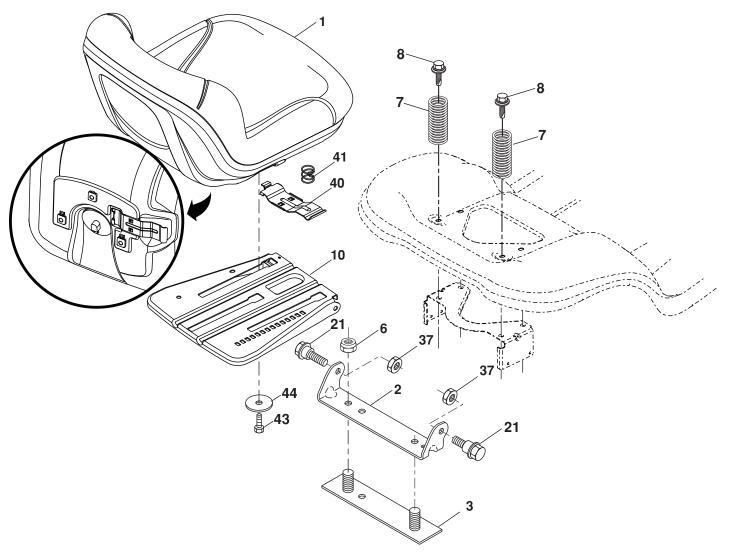
#### NO. NO. DESCRIPTION

1 2	186093X428 184706	Wheel, Steering Axle Asm., Front
4	403087	Spindle Asm., LH
5	403088	Spindle Asm., RH
6	6266H	Bearing, Race Thrust Harden
7	121748X	Washer 25/32 x 1-5/8 x 16 Ga.
8	12000029	Ring, Klip #T5304-75
9	184946X505	
13	121749X	Washer 25/32 x 1-1/4 x 16 Ga.
14	10040600	Washer, Lock Hvy Hlcl Spr 3/8
15	73540600	Nut, Crown Lock 3/8-24 unf
16	408219	Shaft Steering
19	194729	Plate Steering
20	199676X428	
21	186737	Adapter, Wheel Steering
22	194845	Bushing, Strg. Blk
26	186095X428	Insert, Wheel Steering
28	17000612	Screw 3/8-16 x 3/4
35	194732	Gear, Sector Plate
45	19183812	Washer 9/16 ID x 2-3/8 OD x 12 Ga.
50	73900600	Nut Lock 3/8-16 unc
51	73940800	Nut Hex Jam Toplock 1/2-20 unf

KEY NO.	PART NO.	DESCRIPTION
53 54 55 57 58 59 60 61 62 63 64 65 66 67 68 69 70	188967 74760636 414736 407465 194747 194748 73971000 194740 194740 194741 17000512 199849 194734 71020748 194737 73900700 199162 196197	Washer Hardened .793 x 1.637 x .060 Bolt Hex 3/8-16 unc x 2-1/4 Spacer Brace Axle Bracket Upstop Bolt Shoulder Sector Pivot CFM Washer Thrust Sector Steering Nut Flange Lock 5/8-11 Draglink LH Draglink, RH Screw 5/16-18 x 3/4 Retainer Clip Spring Steering Brace Axle Front Bolt Hex Fghd 7/16-14 x 3 Serr Bushing PM Front Axle Nut Lock Flange 7/16-14 Gr. 5 Washer 1.5 x .505 x .118 Bracket Deck Susp. Front
78	57079	Washer Thrust

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

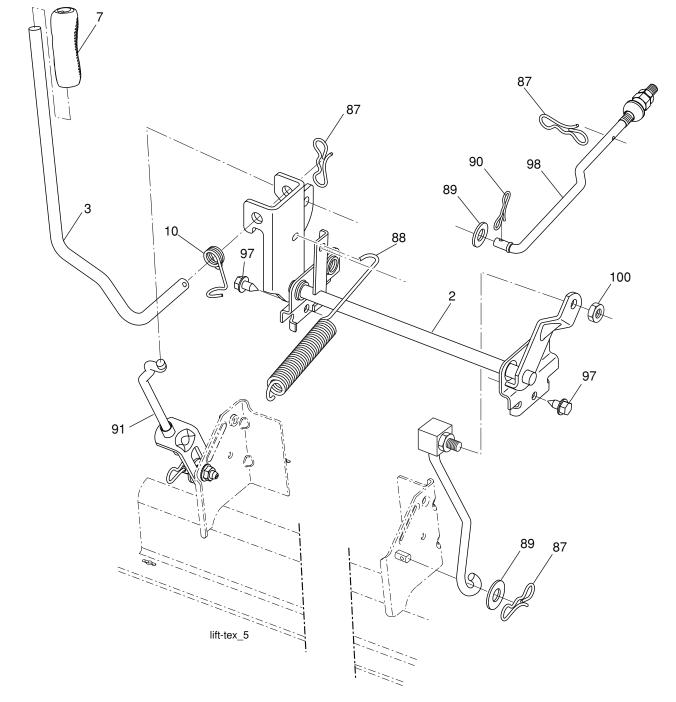
### SEAT ASSEMBLY



seat-tex\_7-vgt

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	197520	Seat	37	73800500	Nut, Lock 5/16-18 unc
2	180166	Bracket Pivot Fender	40	197661	Handle Slide
3	140675	Strap, Asm Fender	41	198200	Spring Latch
6	73800600	Nut, Lock w/Ins. 3/8-16 unc	43	74760612	Bolt Fin Hex 3/8-16 unc x 3/4
7	124181X	Spring, Seat Cprsn	44	19133812	Washer 13/32 x 2-3/8 x 12 Ga.
8	171877	Bolt 5/16-18 unc x 3/4 w/Sems			
10	196977	Pan, Seat	NOTI	E: All compor	nent dimensions given in U.S. inches
21	171852	Bolt, Shoulder 5/16-18		1 inch = 25	

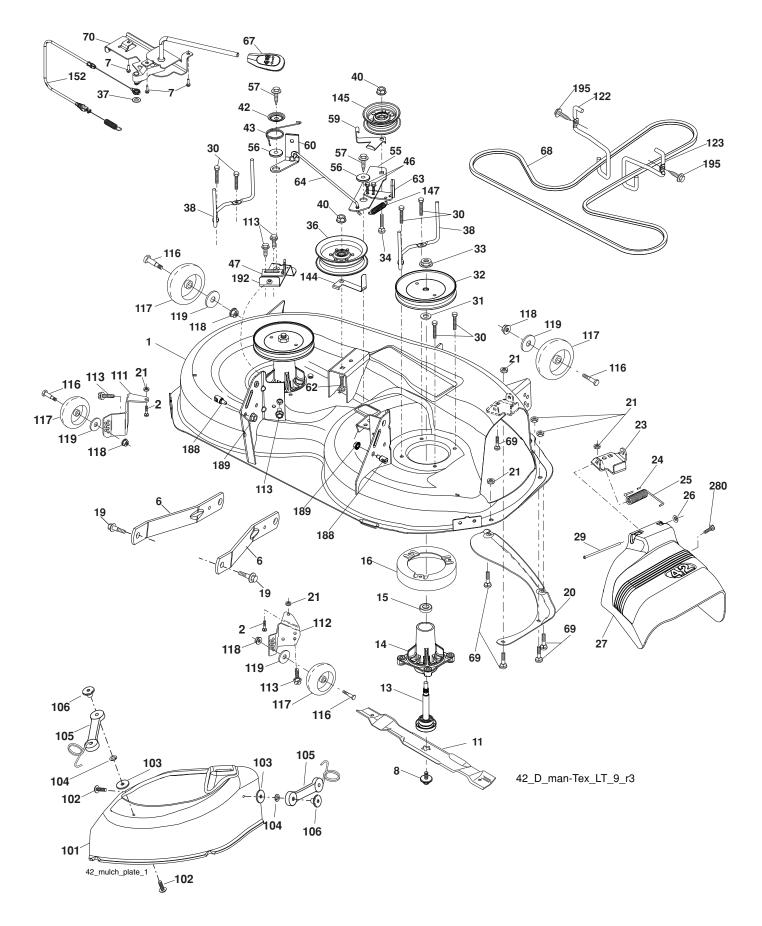
#### **MOWER LIFT**



KEY NO.	NO.	DESCRIPTION	KEY NO.	NO.	DESCRIPTION
2 3 7 10 87 88 89 90	195223 195231 196492X428 196314 194209 410710 19191912 194208	Shaft Asm., Lift Lever Asm., Lift Rh Grip, Lever Spring Torsion Pin Cotter 7/16 Bow Tie Lock Spring Lift Assist Washer Clear Zinc Pin Cotter 5/16 Bow Tie Lock	91 97 98 100 <b>NOTE</b>	195181 17000612 195270 73930600 :: All compone 1 inch = 25.4	Link Asm. Lift Rear Screw 3/8-16 x 3/4 Link Lift Susp. Front Mower Nut Centerlock 3/8-16 unc ent dimensions given in U.S. inches

TRACTOR - - MODEL NUMBER 944.608231

**MOWER DECK** 

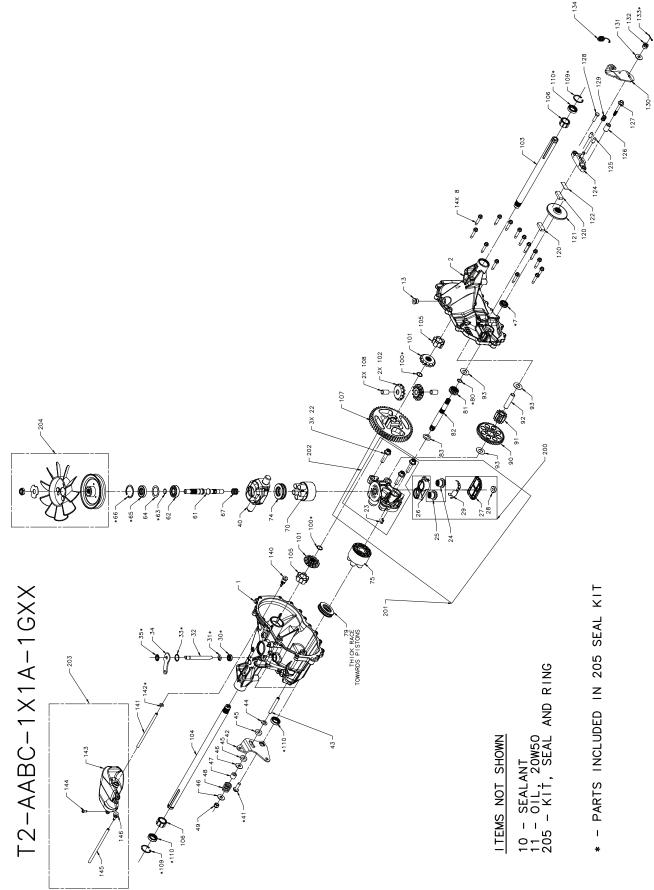


### TRACTOR - - MODEL NUMBER 944.608231

#### MOWER DECK

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	196495	Deck Weldment Mower	60	197261	Arm Brake Mower
2	72140506	Bolt 5/16-18 unc x 3/4	62	72110616	Bolt Rd Hd Sq Nk 3/8-16 unc x 2
6	195186	Arm Suspension	63	199477	Arm Brake Mower
7	416358	Screw #10 x .750 BOS Thread	64	199790	Link Brake Asm
8	193003	Bolt/Washer asm 7/16-20 unf	67		Handle Clutch Cable
11	138971	Blade, 42" Hi-Lift	68	197253	V-Belt
	100071	(For bagging or discharge)	69	72140505	Bolt
	134149	Blade, 42" Mulching Std	70	199972	Clutch Asm Manual
	104140	(For mulching mowers only)	101	193107	Cover Mulching
	139775	Blade, 42" Mulching Premium (For	102	71081010	Screw Pan Hd Phillips 10-24 x 5/8
	109775	better wear when mulching)	102	19061216	Washer #10
13	192872	Shaft Assembly, Mandrel	103	10071000	Washer Lock #10
14	187281	Housing, Mandrel	104	160793	
15	110485X	Bearing, Ball, Mandrel	105	2029J	Latch Asm Nut Weld .327304 #10-24
16	174493	Stripper, Mower Deck	111	2029J 404784	
19	196539	Bolt, Shoulder	112		Bracket Wheel Gauge LH
20	159770	Baffle, Vortex		404785	Bracket Wheel Gauge RH
20	73680500	Nut, Crownlock 5/16-18 unc	113	17000510	Bolt 5/16-18
23	192557	Bracket, Deflector	116	4898H	Bolt, Shoulder
23 24	105304X	Cap, Sleeve	117 118	188606	Wheel, Gauge
24 25	197026			73930600	Nut, Crownlock 3/8-1
26	110452X	Spring, Torsion, Deflector Nut, Push	119	19121414	Washer 13/32 x 7/8 x 14 Ga.
20 27		Shield, Deflector	122	197258	Keeper Belt Engine LH
27			123	197259	Keeper Belt Engine RH
	131491	Rod, Hinge	144	199204	Keeper Belt
30	173984	Screw Thdrol Rolling Wsh Hd	145	193197	Pulley Idler
31	187690	Washer, Spacer	147	401971	Spring Return
32	197473	Pulley, Mandrel	152	408714	Manual Clutch Cable
33	400234	Nut, Toplock, Flanged	188	195161	Stud Fastener
34	72110612	Bolt Carr Sh. 3/8-16 x 1-1/2 Gr. 5	189	73900500	Nut Lock Hex Flange
36	197379	Pulley, Idler, Flat	192	197260	Bracket Brake Stand LH
37	19131316	Washer	195	17000612	Screw Hex Wsh Thdr 3/8-16 x 3/4
38	199189	Keeper Belt LH Mandrel		192870	Mandrel Assembly (Includes hous-
40	73900600	Nut, Lock Flg. 3/8-16 unc			ing, shaft assembly, and bearing
42	198410	Spring Torsion Brake			only - pulley/nut/washer and blade
43	197256	Spring Torsion Retainer			bolt/washers not included)
46	137729	Screw Thd Roll 1/4-20 x 5/8		405094	Replacement Mower, Complete
47	197250	Bracket Clutch Cable			
55	197249	Arm, Idler			
56	199092	Spacer, Retainer	NOT		ent dimensions given in U.S. inches
57	17000616	Screw 3/8-16 x 1	non	1 inch = 25.	
59	141043	Guard, Tuv Idler			

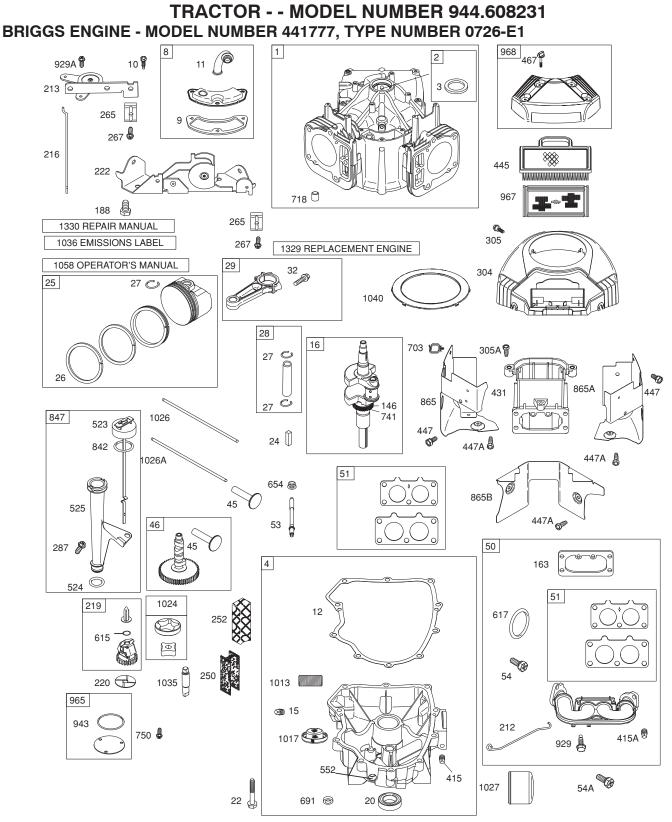
TRACTOR - - MODEL NUMBER 944.608231 HYDRO TRANSAXLE - - MODEL NUMBER T2

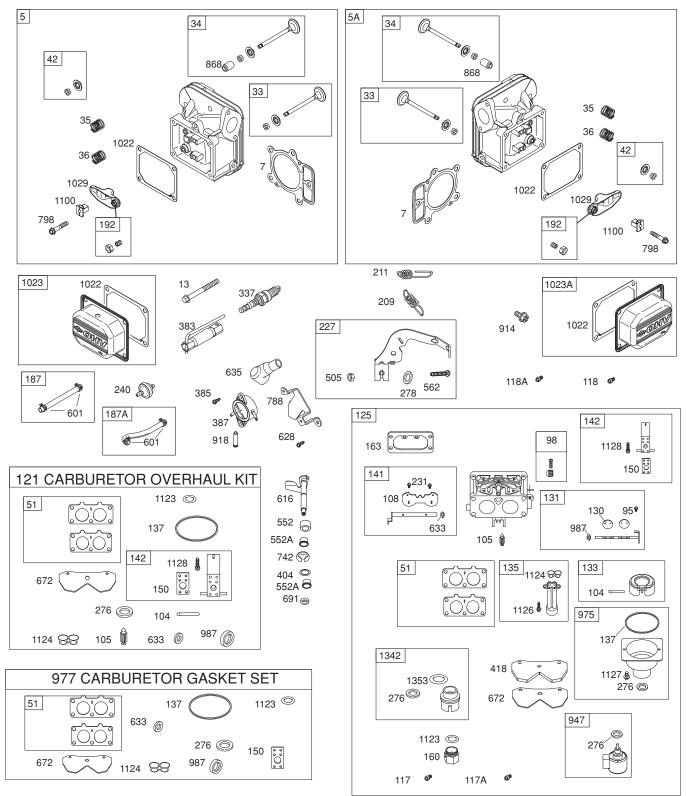


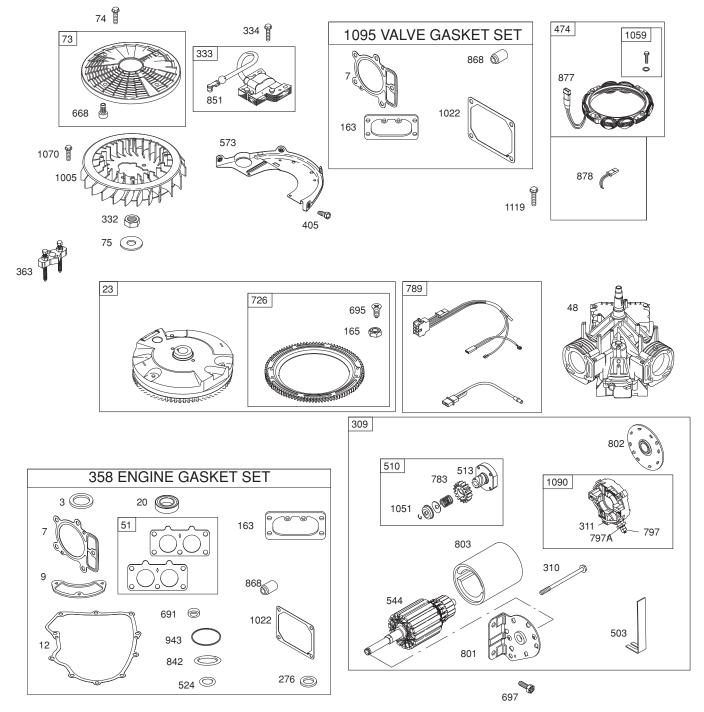
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### TRACTOR - - MODEL NUMBER 944.608231 HYDRO TRANSAXLE - - MODEL NUMBER T2

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	412015	Kit, Hsg, Main	90	412048	Gear, 11t/48t
2	412016	Kit, Hsg, Side	91	412049	Gear, Jackshaft 11t
7	412018	Seal, Lip .50xl.0x.25 Tc	92	412050	Jack Shaft (P1n)
8	170356	Hfhcs 1/4-20 X 1 .25"	93	170418	Washer.51x1.10x.03
10	178322	Sealant	100	170393	Ring, Ret - Spiral .625 Ext
11	170 10 1	Oil, 20w50	101	401260	Gear, Bevel 12t Spline Id
13	170434	Plug 9/16-18 (Metal)	102	401261	Gear, Bevel 12t .50 ld
20 21	412020	C-section Mach	103	170391	Shaft, Axle, Keyed, 11.39 X 0.75
22	412021 412022	Brg, Jrnl 15mm X 17mm X 15mm L	104 105	170392 412052	Shaft. Axle, Keyed, 16.99 X 0.75
22	412022	Bolt, Hex Flange. 3/8-16, C/s Plate, Bypass	105	412052	Bushing, Inboard Bushing, Outboard
23 24	170420	Assembly, Check Plug w/Washer. ,027	107	412054	Gear, 53t Bull
25	412024	Assembly, Check Plug w/Washer,	108	421055	Pin. Differential
20	412024	027, Spring	109	412056	Ring, Ret, Int Axle
26	412025	Base, Filter	110	142961	Seal, Lip.75x1.125x.25 Tc
27	412026	Cover, Filter	120	142883	Puck, Brake
28	170395	Ring, Magnet	121	412057	Rotor, Brake
29	412027	Deflector	122	142882	Plate, Puck
30	412028	Seal, Lip.375x.75x.25 Tc	124	142929	Yoke, Brake
31	412029	Ring, Ret .375 Ext	125	142887	Pin. Brk .31x.73 Plated
32	412030	Rod, Actuator Bypass	126	161174	Spacer .26x.57x.87
33	412031	Ring, Ret .750 Int	127	170410	Hfhcs 1/4-20 X 2.0 w/patch
34	412032	Arm. Bypass	128	142892	Hhcs 1/4-20x1 (Patch)
35	412033	Ring, Ret .375 Ext	129	161181	Spring. Comp Brake Anti-drag
40	412034	Trunnion. Swash Plate	130	142954	Arm, Brake
41	412035	Screw 5/16-18x1	131	142884	Washer .34x.88x.06
42	412036	Arm, Cntrl	132	142885	Nut, Castle 5/16-24 Pl
43	412037	Screw. Set 3/16-24 X 2.50	133	142886	Pin, Cotter 3/32x3/4
44 45	412038	Washer, Belleville	134	189386	Spring, Brake Arm Bias
45 46	412039 142884	Washer, Plastic, .32x.80x.21 Washer .34x.88x.06	140 141	170425 412058	5/16 Sae, 5/32 Tube Hose
40 47	142980	Spacer .32x.59x.50	142	170435	O-ring .103x.299 Id
48	142969	Spring, Helical Comp	143	412059	Tank. Expansion
49	150778	Nut, Hex 5/16-24 Nylon Lnsert	144	161175	Bolt, Self-tapping 10-32x1/2
61	412040	Shaft, Lnput	146	401264	Cap, Barbed Vent
62	142934	Ball Bear L Ng 15x35x 1 1	147	412060	Fastener, Ratchet
63	142928	Ring, Ret Wire .512 Id	150	170439	Fan, 7', 10 Blade
64	161125	Washer 1.23x1.56x.04	151	412061	Pulley, Flanged, 4.13"
65	142932	Seal, Lip 15x35x7	152	170441	Nut, Hex Lock, 1/2-20 (Nylon Insert)
66	142933	Ring, Ret 1.56 Int	153	170442	Washer, Od Slotted .53x1.63x.06
67	412041	Spring. Helical	200	412062	Kit, Filter
70	412042	Kit, Block, Cyl 8cc	201	412063	Kit, Center Section w/filter
74	412043	Brg, Thrust Ball 27x47x14	202	412064	Kit, Center Section
75	169898	Kit, Block, Cyl 10cc Rm	203	412065	Kit, Tank Expansion
79	150771	Brg, Thrust Ball 30x52x13	204	412066	Kit, Fan & Pulley
80	412044	Ring, Ret .50 Ext	205	412067	Kit, Seal
81	412045	Gear. 13t Pinion			
82	412046	Shaft, Motor	NOTE		ent dimensions given in U.S. inches
83	412047	Washer .60x1.00x.03		1 inch = 25	5.4 mm

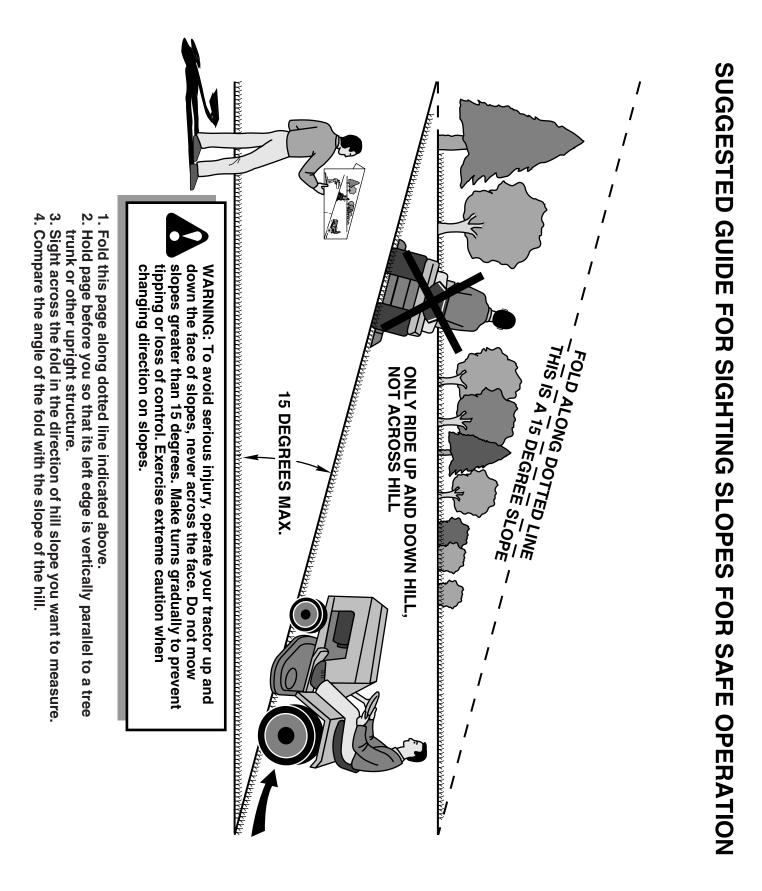






KEY NO.	PART NO.		DESCRIPTION	KEY NO.	part No.		DESCRIPTION
1 2	699753 499585		Cylinder Assembly Kit-Bushing/Seal (Magneto Side)	142 146	699726 690979		Nozzle-Carburetor Key-Timing
3	391086s	•	Seal-Oil (Magneto Side)	150	690995		Gasket-Nozzle
4	699747		Sump-Engine	160	699727		Retainer-Solenoid
5	792299		Head-Cylinder (Cylinder 1)	163	691001		Gasket-Air Cleaner
5A	792300		Head-Cylinder (Cylinder 2)	165	693148		Nut (Ring Gear)
7	693997	•+	Gasket-Cylinder Head	187	791766		Line-Fuel (Cut to Required Length)
8 9	792185	•	Breather Assembly Gasket-Breather		791744		Line-Fuel (Molded)
9 10	690937 691108	•	Screw (Breather Assembly)	188 192	691108 690083		Screw (Control Bracket) Adjuster-Rocker Arm
11	792184		Tube-Breather	209	793339		Spring-Governor
12	697227	•	Gasket-Crankcase	211	691019		Spring-Governed Idle
13	791130		Screw (Cylinder Head)	212	695238		Link-Throttle
15	690946		Plug-Oil Drain	213	691021		Bracket-Choke Control
16	699700		Crankshaft	216	691022		Link-Choke
20	791892	•	Seal-Oil (PTO Side)	219	793338		Gear-Governor
22 23	694966		Screw (Engine Sump)	220	690412		Washer (Governor Lever)
23 24	691054 222698s		Flywheel Key-Flywheel	222 227	698761 792492		Bracket-Control Lever-Governor Control
25	792117		Piston Assembly (Standard)	231	690718		Screw (Choke Valve)
25	792144		Piston Assembly (.020" Oversize)	240	691035		Filter-Fuel
26	792026		Ring Set-Piston (Standard)	250	690957		Retainer-Breather
26	792073		Ring Set-Piston (.020" Oversize)	252	690956		Collector-Oil
27	690975		Lock-Piston Pin	265	691024		Clamp-Casing
28	690229		Pin-Piston	267	695134	~	Screw (Casing Clamp)
29	699699			276	690997	Ø+	Washer-Sealing
32 33	690976 499596		Screw (Connecting Rod) Valve-Exhaust	287 304	691108		Screw (Dipstick Tube)
33 34	792200		Valve-Exhaust	304	791243 691005		Housing-Blower Screw (Blower Housing)
35	694865		Spring-Valve (Intake)		790690		Screw (Blower Housing)
36	694865		Spring-Valve (Exhaust)	309	497595		Motor-Starter
42	499586		Keeper-Valve	310	690323		Bolt-Starter Motor
45	690977		Tappet-Valve	311	497608		Brush Set
46	790562		Camshaft	332	691059		Nut (Flywheel)
48	698172		Short Block	333	691060		Armature-Magneto
50 51	695241	• Ø+	Manifold-Intake	334 337	691061 401055c		Screw (Magneto Armature)
51 53	690951	•0+	Gasket-Intake Stud (Carburetor)	358	491055s 694012		Plug-Spark Set-Engine Gasket
54	699816		Screw (Intake Manifold)	363	19203		Flywheel Puller
54A	695239		Screw (Intake Manifold)	383	19374		Wrench-Spark Plug
73	499439		Screen-Rotating	385	691108		Screw (Fuel Pump)
74	698425		Screw (Rotating Screen)	387	808656		Pump-Fuel
75	691056		Washer (Flywheel)	404	690442		Washer (Governor Crank)
95	690718		Screw (Throttle Valve)	405	697820		Screw (Back Plate)
98 104	699721 694918	Ø	Kit-Idle Speed Pin-Float Hinge	415 415 A	690283 690283		Plug (Crankcase Cover/Sump) Plug (Intake Manifold)
104	698537	ø		415A 418	690283		Plate-Carburetor
108	699723	<i>b</i>	Valve-Choke	431	790816		Elbow-Intake
117	699732		Jet-Main (Standard)	445	499486s		Filter-Air Cleaner Cartridge
	699733		Jet-Main (Standard)	447	691003		Screw (Air Guide Cover)
118	699733		Jet-Main (High Altitude)(Left)		691108		Screw (Air Guide Cover)
	699458		Jet-Main (High Altitude (Right)	467	691008		Knob-Air Cleaner
121	699734		Kit-Carburetor Overhaul	474	696459		Alternator
125 127	699709 698810		Carburetor Plug-Welch	503 505	691532 691029		Strap-Ground Nut (Governor Control Lever)
130	690993		Valve-Throttle	505 510	696541		Drive-Starter
131	499805		Kit-Throttle Shaft	513	692024		Clutch-Drive
133	699724		Float-Carburetor	523	691036		Dipstick
135	699729		Tube-Fuel Transfer	524	691032	•	Seal-Dipstick Tube
137	690994	Ø	Gasket-Float Bowl	525	691037		Tube-Dipstick
141	699722		Kit-Choke Shaft 47	544	692034		Armature-Starter
			4/				

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.		DESCRIPTION
NO. 552 552A 562 573 601 615 616 617 628 633 635 654 668 672 691 695 697 703 718 726 741 742 750 783 788 789 797 797A 798 801 802 803 842 847 851 865 865 865 865 877 878 914	NO. 690552 690553 690311 790444 791850 698290 691045 697891 691108 690998 66538s 690958 691215 690234 790574 693149 690372 691010 690959 499612 690980 690328 696999 695708 793145 698330 691029 693167 697890 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691283 691029 693167 697890 691283 691283 691029 693167 697890 691283 691283 691029 693167 697890 691283 691029 691031 •	Bushing-Governor Crank Bushing-Governor Crank Bolt (Governor Control Lever) Plate-Back Clamp-Hose Retainer-Governor Shaft Crank-Governor Seal-O Ring (Intake Manifold) Screw (Fuel Pump Bracket) Seal-Choke/Throttle Shaft Boot-Spark Plug Nut (Carburetor) Spacer Gasket-Carburetor Plate Seal-Governor Shaft Screw (Ring Gear) Screw (Drive Cap) Clip Pin-Locating Gear-Ring Gear-Ring Gear-Timing Retainer-E Ring Screw (Oil Pump Cover) Gear-Pinion Bracket-Fuel Pump Harness-Wiring Nut (Brush Retainer) Nut (Brush Retainer) Nut (Brush Retainer) Screw (Rocker Arm) Cap-Drive Cap-End Housing-Starter Seal-Dipstick/Tube Dipstick/Tube Assembly Terminal-Spark Plug Cover-Air Guide (Cylinder #1) Cover-Air Guide (Cylinder #2) Cover-Air Guide (Valley)	NO. 967 968 975 977 987 1005 1013 1017 1022 1023 1024 1026 1026 1026 1026 1026 1026 1027 1029 1035 1036 1040 1051 1059 1070 1090 1095 1100 1095 1100 1095 1123 1124 1128 1329 1330	NO. 273638s 791242 499810 699735 691000 790698 690954 690770 690971 793146 A499600 499054 690981 A690982 492932s 690972 691042 792019 791237 691265 276245 698516 690372 691293 699735 791959 691183 699735 791959 691183 699725 690988 690991 690992 690988 690991 690992 690988 690991 690992 690988 690991 690992 690990 441777-00 273521 699731 Included i Included i Included i	•+ 025 n EC n C	DESCRIPTION Filter-Pre Cleaner Cover-Air Cleaner Bowl-Float Gasket Set-Carburetor Seal-Throttle Shaft Fan-Flywheel Nipple-Oil Filter Screen-Oil Pump Gasket-Rocker Cover Cover-Rocker (Cylinder 1) Cover-Rocker (Cylinder 2) Pump-Oil Rod-Push (Aluminum) Filter-Oil Arm-Rocker Shaft-Pump Label-Emissions Plate-Trim Ring-Retaining Owner's Manual Kit-Screw/Washer Screw (Flywheel Fan) Retainer-Brush Kit-Valve Overhaul Pivot-Rocker Arm Screw (Alternator) Seal-O Ring (Solenoid Retainer) Seal-O Ring (Solenoid Retainer) Seal-O Ring (Fuel Transfer Tube) Screw (Float Bowl) Screw (Float Bowl) Screw (Carburetor Nozzle) Replacement Engine Repair Manual Extension-Fuel Transfer Tube
918 929 943 947 965	793147 691003 690589 699728 499613	Hose-Vacuum Screw (Choke Control Bracket) Seal-O Ring (Oil Pump Cover) Solenoid-Fuel Cover-Oil Pump	NOT	E: All comp 1 inch =		ent dimensions given in U.S. inches 4 mm



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