### Owner's Manual

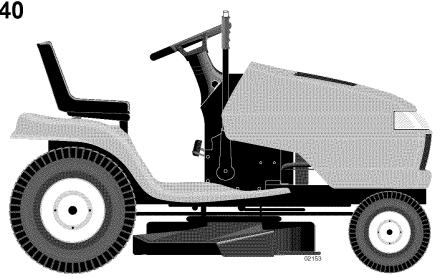
# **CRAFTZMAN®**

# LAWN TRACTOR

18.5 HP, 42" Mower Electric Start Automatic Transmission

Model No.

917.275640





This product has a low emission engine which operates differently from previously built engines. Before you start the engine, read and understand this Owner's Manual.

### **IMPORTANT:**

Read and follow all Safety Rules and Instructions before operating this equipment. For answers to your questions about this product, Call:

**1-800-659-5917 Sears Craftsman Help Line 5 am - 5 pm, Mon - Sat** 

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A Visit our Craftsman website:www.sears.com/craftsman

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### **WARRANTY**

#### LIMITED WARRANTY ON CRAFTSMAN RIDING EQUIPMENT

For two (2) years from the date of purchase, if this Craftsman Riding Equipment is maintained, lubricated and tuned up according to the instructions in the owner's manual, Sears will repair or replace free of charge any parts that are found to be defective in material or workmanship according to the guidelines of coverage listed below. Sears will also provide free labor for these applicable warranted parts for the two full years. During the first 30 days of purchase, there will be no charges to service the product at your home for issues covered by this warranty. (See exclusions below). For your convenience, IN HOME warranty service will still be available after the first 30 days of purchase, but a trip charge will apply. This charge will be waived if the Craftsman product is dropped off at an authorized Sears location. For the nearest authorized Sears location, please call 1-800-4-MY-HOME®. This warranty applies only while this product is within the United States.

#### This Warranty does not cover:

- Expendable items which become worn during normal use, including but not limited to blades, spark plugs, air cleaners, belts, and oil filters.
- Standard Maintenance Servicing, oil changes, or tune-ups
- Tire replacement or repair caused by punctures from outside objects, such as nails, thorns, stumps, or glass.
- Repairs necessary because of operator abuse, including but not limited to, damage caused by towing objects beyond the capability of the riding equipment, impacting objects that bend the frame or crankshaft, or over-speeding the engine.
- Repairs necessary because of operator negligence, including but not limited to, electrical and mechanical damage caused by improper storage, failure to use the proper grade and amount of engine oil, failure to keep the deck clear of flammable debris, or failure to maintain the equipment according to the instructions contained in the owner's manual.
- Engine (fuel system) cleaning or repairs caused by fuel determined to be contaminated or oxidized (stale). In general, fuel should be used within 30 days of its purchase date.
- Normal deterioration and wear of the exterior finishes, or product label replacement.
- Riding equipment used for commercial or rental purposes.

#### LIMITED WARRANTY ON BATTERY

For ninety (90) days 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. During the first 30 days of purchase, there will be no charges to replace the battery at your HOME. After the first 30 days, for your convenience, IN-HOME warranty service will still be available but a trip charge will apply. This charge will be waived if the Craftsman product is dropped off at an authorized Sears location. For the nearest authorized Sears location, please call 1-800-4-MY-HOME®.

This battery warranty applies only while this product is within the United States.

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

Sears, Roebuck and Co., Dept.817WA, Hoffman Estates, IL 60179

### **SAFETY RULES**

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

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

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

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

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

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

#### I. GENERAL OPERATION

- Read, understand, and follow all instructions 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.

### **SAFETY RULES**

#### 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
  - going down slopes. Do not shift to neutral and coast downhill.

    Avoid starting, stopping, or turning on
- 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.

#### 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.

### **SAFETY RULES**

- 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 are.
- 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.
- Check 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.

#### PRODUCT SPECIFICATIONS

Gasoline Capacity and Type:	4.0 Gallons Unleaded Regular
Oil Type (API-SG-SL):	SAE 30 (above 32°F) SAE 5W-30(Below 32°F)
Oil Capacity:	W/Filter: 3.5 Pints W/O Filter: 3.0 Pints
Spark Plug: (GAP: .030")	Champion RC12YC
Ground Speed (MPH):	Forward: 5.5 Reverse: 2.4
Tire Pressure:	Front: 14 PSI Rear: 10 PSI
Charging System:	9 Amps @ 3600RPM
Battery:	Amp/Hr: 28 Min. CCA: 230 Case Size: U1R
Blade Bolt Torque:	27–35 Ft. Lbs.

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

Should you experience any problem you cannot easily remedy, please contact a Sears or other qualified service center. We have competent, well-trained technicians and the proper tools to service or repair this tractor.

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

#### **CUSTOMER RESPONSIBILITIES**

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

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

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

# REPAIR PROTECTION AGREEMENTS

Congratulations on making a smart purchase. Your new Craftsman® product is designed and manufactured for years of dependable operation. But like all products, it may require repair from time to time. That's when having a Repair Protection Agreement can save you money and aggravation.

Purchase a Repair Protection Agreement now and protect yourself from unexpected hassle and expense.

Here's what's included in the Agreement:

- **Expert service** by our 12,000 profesional repair specialists.
- Unlimited service and no charge for parts and labor on all covered repairs.
- Product replacement if your covered product can't be fixed.
- Discount of 10% from regular price of service and service-related parts not covered by the agreement; also, 10% off regular price of preventive maintenance check.
- Fast help by phone phone support from a Sears technician on products requiring in-home repair, plus convenient repair scheduling.

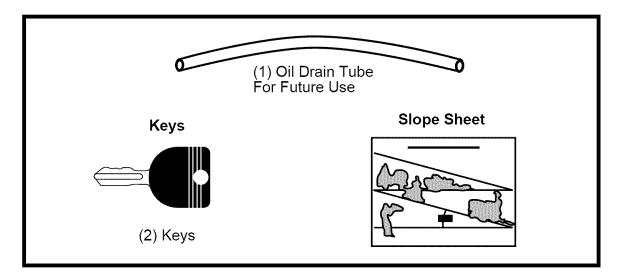
Once you purchase the Agreement, a simple phone call is all that it takes for you to schedule service. You can call anytime day or night, or schedule a service appointment online.

Sears has over 12,000 professional repair specialists, who have access to over 4.5 million quality parts and accessories. That's the kind of professionalism you can count on to help prolong the life of your new purchase for years to come. Purchase your Repair Protection Agreement today! Some limitations and exclusions apply. For prices and additional information call 1-800-827-6655.

#### SEARS INSTALLATION SERVICE

For Sears professional installation of home appliances, garage door openers, water heaters, and other major home items, in the U.S.A. call **1-800-4-MY-HOME**®

### **UNASSEMBLED PARTS**



### **ASSEMBLY/PRE-OPERATION**

Your new tractor has been assembled at the factory.

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**

- 1. Cut along dotted lines on all four panels of carton. Remove end panels and lay side panels flat.
- 2. Remove protective materials from tractor hood and grille.

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

# HOW TO SET UP YOUR TRACTOR CHECK BATTERY

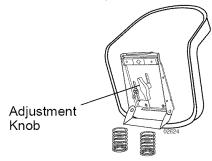
1. Lift hood to raised position.

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

Label

#### **ADJUST SEAT**

- Raise seat and loosen adjustment knob.
- 2. Lower seat into operating position and sit in seat.
- 3. Slide seat until a comfortable position is reached which allows you to press clutch/brake pedal all the way down.
- 4. Get off seat without moving its adjusted position.
- 5. Raise seat and tighten adjustment knob securely.



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

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

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

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

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

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

#### **CHECK TIRE PRESSURE**

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

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

#### **CHECK DECK LEVELNESS**

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

# CHECK FOR PROPER POSITION OF ALL BELTS

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

#### **CHECK BRAKE SYSTEM**

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

#### **✓ CHECKLIST**

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

Please review the following checklist:

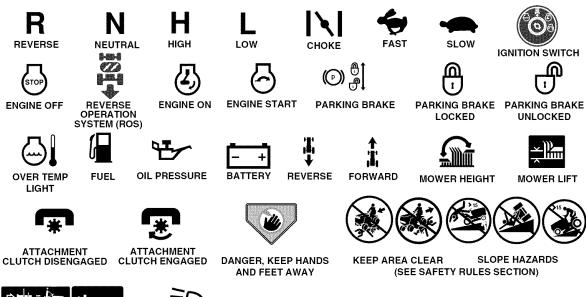
- ✓ All assembly instructions have been completed.
- ✓ No remaining loose parts in carton.
- ✓ Battery is properly prepared and charged. (Minimum 1 hour at 6 amps).
- ✓ Seat is adjusted comfortably and tightened securely.
- ✓ All tires are properly inflated. (For shipping purposes, the tires were overinflated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

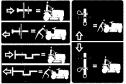
While learning how to use your tractor, pay extra attention to the following important items:

- ✓ Engine oil is at proper level.
- ✓ Fuel tank is filled with fresh, clean, regular unleaded gasoline.
- ✓ Become familiar with all controls, their location and function. Operate them before you start the engine.
- ✓ Be sure brake system is in safe operating condition.
- ✓ 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).

### **OPERATION**

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











**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.

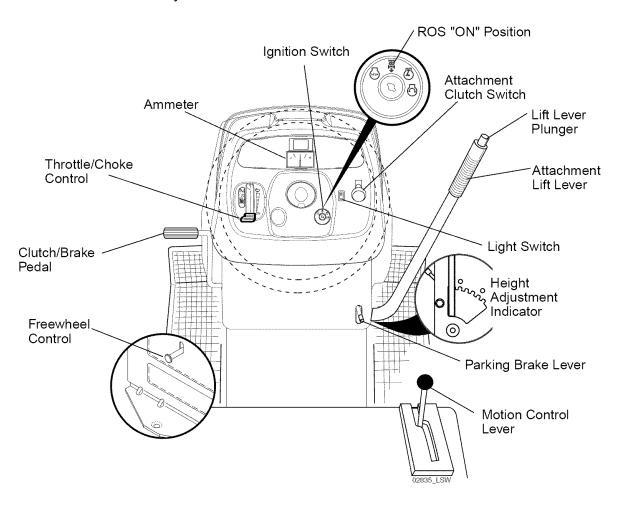


Failure to follow instructions could result in serious injury or death. The safety alert symbol is used to identify safety information about hazards which can result in death, serious injury and/or property damage.

#### **KNOW YOUR TRACTOR**

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

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



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

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

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

ATTACHMENT LIFT LEVER - Used to raise, lower, and adjust the mower deck or other attachments mounted to your tractor. CLUTCH/BRAKE PEDAL - Used for declutching and braking the tractor and

starting the engine.

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

**IGNITION SWITCH** - Used for starting and stopping the engine.

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

**LIGHT SWITCH** - Turns the headlights on and off

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

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

**REVERSE OPERATION SYSTEM (ROS) "ON" POSITION** - Allows operation of mower deck or other powered attachment while in reverse.

**THROTTLE/CHOKE CONTROL** - Used for starting and controlling engine speed.

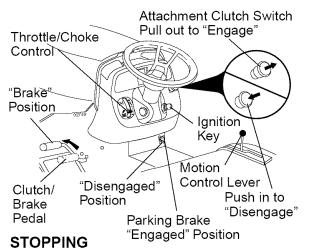


The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your tractor or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn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

# HOW TO USE YOUR TRACTOR TO SET PARKING BRAKE

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

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



#### **MOWER BLADES -**

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

#### **GROUND DRIVE -**

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

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

#### **ENGINE -**

 Move throttle control 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 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.

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

#### TO USE THROTTLE CONTROL

Always operate engine at full throttle.

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

#### TO MOVE FORWARD AND BACKWARD

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

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

#### TO ADJUST MOWER CUTTING HEIGHT

The position of the attachment lift lever determines the cutting height.

- · Grasp lift lever.
- Press plunger with thumb and move lever to desired position.

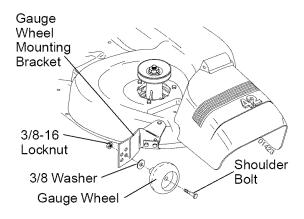
The cutting height range is approximately 1-1/2 to 4". The heights are measured from the ground to the blade tip with the engine not running. These heights are approximate and may vary depending upon soil conditions, height of grass and types of grass being mowed.

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

#### TO ADJUST GAUGE WHEELS

Gauge wheels are properly adjusted when they are slightly off the ground when mower is at the desired cutting height in operating position. Gauge wheels then keep the deck in proper position to help prevent scalping in most terrain conditions. **NOTE:** Adjust gauge wheels with tractor on a flat level surface.

- 1. Adjust mower to desired cutting height (See "TO ADJUST 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 with shoulder bolt, 3/8 washer, and 3/8-16 locknut and tighten securely.
- 3. Repeat for opposite side, installing gauge wheel in same adjustment hole.



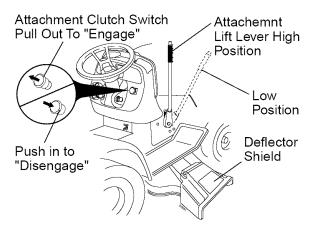
#### TO OPERATE MOWER

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.

- 1. Select desired height of cut.
- Start mower blades by engaging attachment clutch control.

TO STOP MOWER BLADES - disengage attachment clutch control.

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



#### **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 -

- 1. Move motion control lever to neutral (N) position.
- 2. With engine running, turn ignition key counterclockwise to ROS "ON" position.
- 3. Look down and behind before backing.
- 4. Slowly move motion control lever to reverse (R) position to start movement.
- 5. 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

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

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

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

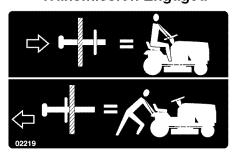
- To restart movement, slowly release parking brake and clutch/brake pedal.
- Slowly move motion control lever to slowest setting.
- · Make all turns slowly.

#### TO TRANSPORT

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

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

#### **Transmission Engaged**



**Transmission Disengaged** 

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

#### TOWING CARTS AND OTHER ATTACH-MENTS

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

# BEFORE STARTING THE ENGINE CHECK ENGINE OIL LEVEL

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

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

#### **ADD GASOLINE**

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

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

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

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

To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty.

Use fresh fuel next season. See Storage Instructions for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

#### TO START ENGINE

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

- 1. Be sure freewheel control is in the transmission engaged position.
- 2. Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
- 3. Place motion control lever in neutral (N) position.
- 4. Move attachment clutch to disengaged position.
- 5. Move throttle control to choke position. **NOTE:** Before starting, read the warm and cold starting procedures below.
- 6. 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, move throttle control to fast position, wait a few minutes and try again. If engine still does not start, move the throttle control back to the choke position and retry.

WARM WEATHER STARTING (50° F and above)

- 7. When engine starts, move the throttle control to the fast position.
- 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)

7. When engine starts, allow engine to run with the throttle control in the choke position until the engine runs roughly, then move throttle control to fast position. This may require an engine warm-up period from several seconds to several minutes, depending on the temperature.

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

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

**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 level surface with engine off and parking brake set.
- 2. Disengage transmission by placing freewheel control in disengaged 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.
- 4. Move motion control lever to full forward position and hold for five (5) seconds. Move lever to full reverse position and hold for five (5) seconds. Repeat this procedure three (3) times.

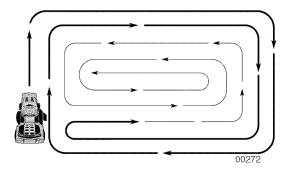
**NOTE:** During this step there will be no movement of drive wheels. The air is being removed from hydraulic drive system.

- 5. Move motion control lever to neutral (N) position. Shutoff engine and set parking brake.
- 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.
- 8. Slowly move motion control lever forward, after the tractor moves approximately five (5) feet, slowly move motion control lever to reverse position. After the tractor moves approximately five (5) feet return the motion control lever to the neutral (N) position. Repeat this procedure with the motion control lever three (3) times.

Your transmission is now purged and 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 already been cut. Have the cut area to the right of the tractor. This will result in a more even distribution of clippings and more uniform cutting.
- When mowing large areas, start by turning to the right so that clippings will discharge away from shrubs, fences, driveways, etc. After one or two rounds, mow in the opposite direction making left hand turns until finished.



- If grass is extremely tall, it should be mowed twice to reduce load and possible fire hazard from dried clippings. Make first cut relatively high; the second to the desired height.
- Do not mow grass when it is wet.
   Wet grass will plug mower and leave undesirable clumps. Allow grass to dry before mowing.
- Always operate engine at full throttle when mowing to assure better mowing performance and proper discharge of material. Regulate ground speed by selecting a low enough gear to give the mower cutting performance as well as the quality of cut desired.
- When operating attachments, select a ground speed that will suit the terrain and give best performance of the attachment being used.

### **MAINTENANCE**

AS	MAINTENANCE SCHEDUL LIN DATES YOU COMPLETE GULAR SERVICE	E	3EFORE	EACH US	HOUR!	S HOURS	SHOUP VERY	S HOLO	RS ON SEASON	SERVICE SERVICE	DE DATE	S
	Check Brake Operation	~	1									
l	Check Tire Pressure	1	1									
Т	Check Operator Presence and ROS Systems	V										
R	Check for Loose Fasteners	1				1/5		1				
AC	Sharpen/Replace Mower Blades			<b>√</b> 3								
۱¥	Lubrication Chart			/				1				
Ιċ	Check Battery Level			1/4								
R	Clean Battery and Terminals			<b>V</b>				1				
l	Check Transaxle Cooling			1								
	Check V-Belts					1						
	Check Engine Oil Level	~	1									7
l	Change Engine Oil (with oil filter)				1,2	2		1				
lΕ	Change Engine Oil (without oil filter)			1,2				<b>'</b>				
N	Clean Air Filter			1/2								
G	Clean Air Screen			<b>1</b> /2								
Ι'n	Inspect Muffler/Spark Arrester				1							
Ϊ́	Replace Oil Filter (If equipped)					1,2						1
I <sup>-</sup>	Clean Engine Cooling Fins					<b>1</b> 2						
l	Replace Spark Plug					<b>V</b>	1					
I	Replace Air Filter Paper Cartridge					1/2						
	Replace Fuel Filter						1					

- 1 Change more often when operating under a heavy load or in high ambient temperatures
- 2 Service more often when operating in dirty or dusty conditions.
- 3 Replace blades more often when mowing in sandy soil.
- 4 Not required if equipped with maintenance-free battery.
- Tighten front axle pivot bolt to 35 ft.-lbs. maximum. Do not overtighten.

#### GENERAL RECOMMENDATIONS

The warranty on this tractor does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, operator must maintain tractor as instructed in this manual. Some adjustments will need to be made periodically to properly maintain your trac-

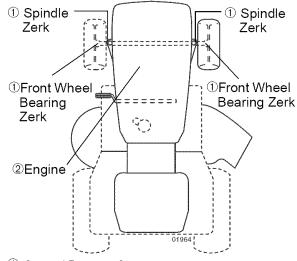
At least once a season, check to see if you should make any of the adjustments described in the Service and Adjustments section of this manual.

 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**

- 1. Check engine oil level.
- 2. Check brake operation.
- 3. Check tire pressure.
- 4. Check operator presence and ROS systems for proper operation.
- Check for loose fasteners.

#### **LUBRICATION CHART**



- General Purpose Grease
- ② REFER TO Maintenance "ENGINE" SECTION

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

#### TRACTOR

Always observe safety rules when performing any maintenance.

#### **BRAKE OPERATION**

If tractor requires more than five (5) feet to stop at highest speed in highest gear on a level, dry concrete or paved surface, then brake must be checked and adjusted. (See "TO ADJUST BRAKE" in the Service and Adjustments section of this manual).

#### TIRES

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

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

# OPERATOR PRESENCE SYSTEM 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.

ROS "ON" Position

Engine "ON" Position (Normal Operating)





• 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 kept sharp. Replace bent or damaged blades.

#### **BLADE REMOVAL**

Raise mower to highest position to allow access to blades.

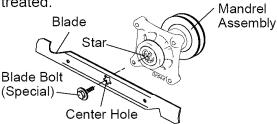
**NOTE:** Protect your hands with gloves and/or wrap blade with heavy cloth.

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

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

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

**IMPORTANT**: Special blade bolt is heat treated.



#### TO SHARPEN BLADE

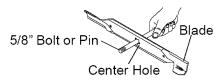
**NOTE:** We do not recommend sharpening blade - but if you do, be sure the blade is balanced.

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

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

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

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



#### **BATTERY**

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

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

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

TO CLEAN BATTERY AND TERMINALS Corrosion and dirt on the battery and terminals can cause the battery to "leak" power.

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

#### TRANSAXLE COOLING

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

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

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

#### TRANSAXLE PUMP FLUID

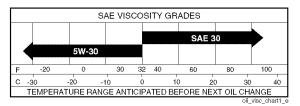
The transaxle was sealed at the factory and fluid maintenance is not required for the life of the transaxle. Should the transaxle ever leak or require servicing, contact a Sears or other qualified service center.

#### **V-BELTS**

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

# ENGINE LUBRICATION

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



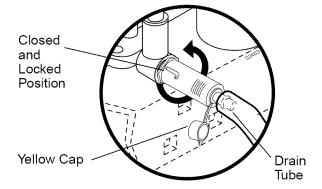
**NOTE:** Although multi-viscosity oils (5W30, 10W30 etc.) improve starting in cold weather, they will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

Change the oil after every 50 hours of operation or at least once a year if the tractor is not used for 50 hours in one year. Check the crankcase oil level before starting the engine and after each eight (8) hours of operation. Tighten oil fill cap/dipstick securely each time you check the oil level.

#### TO CHANGE ENGINE OIL

Determine temperature range expected before oil change. All oil must meet API service classification 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.
   Oil Drain Valve



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

#### **ENGINE OIL FILTER**

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

#### **AIR FILTER**

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

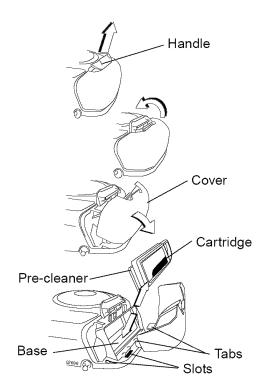
Service air cleaner more often under dusty conditions.

- 1. Pull up on air filter cover handle and rotate towards engine.
- 2. Remove cover.
- 3. Carefully remove air filter cartridge and pre-cleaner from base.
- 4. Clean base carefully to prevent debris from falling into carburetor.

**NOTE**: If very dirty or damaged, replace cartridge.

- 5. Place new pre-cleaner and cartridge firmly in base.
- 6. Align tabs on cover with slots in blower housing and replace cover.
- 7. Hook handle on cover and push down on handle to close.

**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 cartridge.

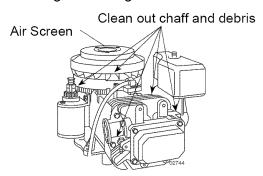


#### **CLEAN AIR SCREEN**

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

#### **ENGINE COOLING SYSTEM**

Debris may clog the engine's air cooling system. Remove blower housing and clean area shown to prevent overheating and engine damage.



#### **MUFFLER**

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

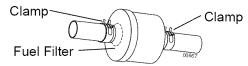
#### SPARK PLUG(S)

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

#### **IN-LINE FUEL FILTER**

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

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



#### **CLEANING**

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

We do not recommend using a garden hose 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.

### SERVICE AND ADJUSTMENTS



# WARNING: TO AVOID SERIOUS INJURY, BEFORE PERFORMING ANY SER, VICE OR ADJUSTMENTS:

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

#### **TRACTOR**

#### TO REMOVE MOWER

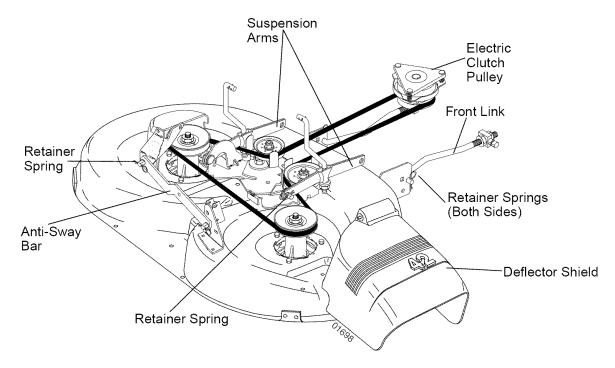
Mower will be easier to remove from the right side of tractor.

- 1. Place attachment clutch switch in "DIS-ENGAGED" position.
- 2. Move attachment lift lever forward to lower mower to its lowest position.
- 3. Roll belt off electric clutch pulley.
- 4. Disconnect anti-sway bar from chassis bracket by removing retainer spring.
- 5. Disconnect suspension arms from rear deck brackets by removing retainer springs.
- 6. Disconnect front links from deck by removing retainer springs.
- 7. Raise lift lever to raise suspension arms. Slide mower out from under tractor.

**IMPORTANT:** If an attachment other than the mower deck is to be mounted on the tractor, remove the front links.

#### TO INSTALL MOWER

- 1. Raise attachment lift lever to its highest position.
- 2. Slide mower under tractor with deflector shield to right side of tractor.
- 3. Lower lift lever to its lowest position.
- 4. Connect front links to mower deck and secure with retainer springs.
- Connect suspension arms to rear deck brackets and secure with retainer springs.
- 6. Connect anti-sway bar to chassis bracket and secure with retainer spring.
- 7. Install belt into electric clutch pulley groove.



#### TO LEVEL MOWER HOUSING

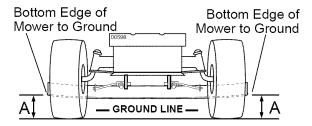
Adjust the mower while tractor is parked on level ground or driveway. Make sure tires are properly inflated (See "PROD-UCT SPECIFICATIONS" section of this manual). If tires are over or underinflated, you will not properly adjust your mower.

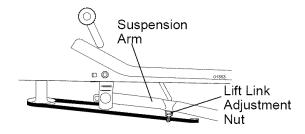
#### SIDE-TO-SIDE ADJUSTMENT

- · Raise mower to its highest position.
- At the midpoint of both sides of mower, measure height from bottom edge of mower to ground. Distance "A" on both sides of mower should be the same or within 1/4" of each other.
- If adjustment is necessary, make adjustment on one side of mower only.
- To raise one side of mower, tighten lift link adjustment nut on that side.
- To lower one side of mower, loosen lift link adjustment nut on that side.

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

6.0 Recheck measurements after adjusting.





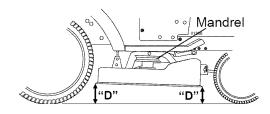
#### FRONT-TO-BACK ADJUSTMENT

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

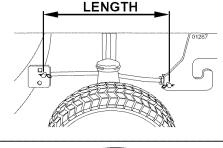
To obtain the best cutting results, the mower housing should be adjusted so that the front is approximately 1/8" to 1/2" lower than the rear when the mower is in its highest position.

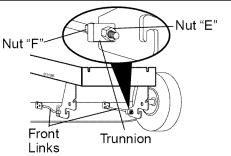
Check adjustment on right side of tractor. Measure distance "D" directly in front of and behind the mandrel at bottom edge of mower housing as shown.

- Before making any necessary adjustments, check that both front links are equal in length.
- If links are not equal in length, adjust one link to same length as other link.
- To lower front of mower loosen nut "E" on both front links an equal number of turns.
- When distance "D" is 1/8" to 1/2" lower at front than rear, tighten nuts "F" against trunnion on both front links.
- To raise front of mower, loosen nut "F" from trunnion on both front links. Tighten nut "E" on both front links an equal number of turns. The two front links must remain equal in length.
- When distance "D" is 1/8" to 1/2" lower at front than rear, tighten nut "F" against trunnion on both front links.
- Recheck side-to-side adjustment.



#### **BOTH FRONT LINKS MUST BE EQUAL IN**





## TO REPLACE MOWER BLADE DRIVE BELT

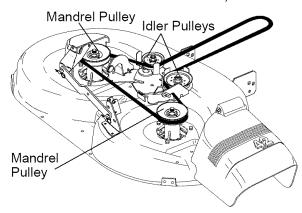
The mower blade drive belt may be replaced without tools. Park the tractor on level surface. Engage parking brake.

#### **BELT REMOVAL -**

- Remove mower from tractor (See "TO REMOVE MOWER" in this section of manual).
- 2. Work belt off both mandrel pulleys and idler pulleys.
- 3. Pull belt away from mower.

#### **BELT INSTALLATION -**

- 1. Work belt around both mandrel pulleys and idler pulleys
- 2. Make sure belt is in all pulley grooves and inside all belt guides.
- 3. Install mower (See "To Install Mower" in this section of this manual).



#### TO CHECK AND ADJUST BRAKE

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

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

#### TO CHECK BRAKE

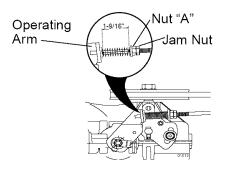
- Park tractor on a level, dry concrete or paved surface, depress clutch/brake pedal all the way down and engage parking brake.
- Disengage transmission by placing freewheel control in "transmission disengaged" position. Pull freewheel control out and into the slot and release so it is held in the disengaged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

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

#### TO ADJUST BRAKE

- 1. Depress clutch/brake pedal all the way down and engage parking brake.
- 2. Measure distance between brake operating arm and nut "A" on brake rod.
- 3. If distance is other than 1-9/16", loosen jam nut and turn nut "A" until distance becomes 1-9/16". Retighten jam nut against nut "A".
- 4. Engage transmission by placing freewheel control in "transmission engaged" position.
- 5. Road test tractor for proper stopping distance as stated above. Readjust if necessary. If stopping distance is still greater than five (5) feet in highest gear, further maintenance is necessary. Replace brake pads or contact a Sears or other qualified service center.

#### With parking brake "Engaged"



#### TO REPLACE MOTION DRIVE BELT

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

#### **BELT REMOVAL -**

 Remove mower (See "TO REMOVE MOWER" in this section of manual).

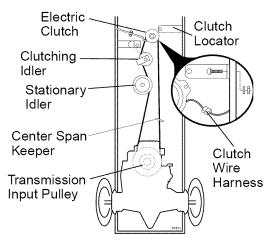
**NOTE:** Observe entire motion drive belt and position of all belt guides and keepers.

- 2. Disconnect clutch wire harness.
- Remove clutch locator.
- 4. Remove belt from stationary idler and clutching idler.
- 5. Remove belt downward from engine pulley and around electric clutch.
- Pull belt slack toward rear of tractor. Carefully remove belt upwards from transmission input pulley.
- 7. Remove belt from center span keeper and pull belt away from tractor.

#### **BELT INSTALLATION -**

- 1. Carefully work new belt down onto the input pulley.
- 2. Slide belt into the center span keeper.

- 3. Pull belt toward front of tractor and roll belt around electric clutch and onto engine pulley.
- 4. Install belt through stationary idler and clutching idler.
- Reinstall clutch locator and tighten nut securely.
- 6. Reconnect clutch harness.
- 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).



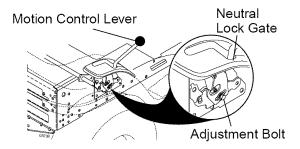
# TRANSAXLE MOTION CONTROL LEVER NEUTRAL ADJUSTMENT

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

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

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

  After above adjustment is made, if the tractor still creeps forward or backward while motion control lever is in neutral position, follow these steps:
- 1. Loosen the adjustment bolt.
- 2. Move the motion control lever 1/4 to 1/2 inch in the direction it is trying to creep.
- 3. Tighten adjustment bolt securely.
- 4. Start engine and test.
- 5. If tractor still creeps, repeat above steps until satisfied.



#### TRANSMISSION REMOVAL/ REPLACEMENT

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

# TO ADJUST STEERING WHEEL ALIGNMENT

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

#### FRONT WHEEL TOE-IN/CAMBER

The front wheel toe-in and camber are not adjustable on your tractor. If damage has occurred to affect the front wheel toe-in or camber, contact a Sears or other qualified service center.

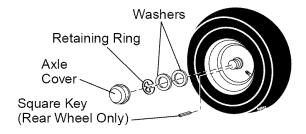
#### TO REMOVE WHEEL FOR REPAIRS

- 1. Block up axle securely.
- Remove axle cover, retaining ring and washers to allow wheel removal (rear wheels have a square key - Do not lose).
- 3. Repair tire and reassemble.

**NOTE:** On rear wheels only: align grooves in rear wheel hub and axle. Insert square key.

- 4. Replace washers and snap retaining ring securely in axle groove.
- 5. Replace axle cover.

**NOTE:** To seal tire punctures and prevent flat tires due to slow leaks, purchase and use tire sealant from Sears. Tire sealant also prevents tire dry rot and corrosion.



# TO START ENGINE WITH A WEAK BATTERY

**AWARNING:** 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:

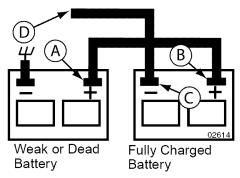
**IMPORTANT**: Your tractor is equipped with a 12 volt system. The other vehicle must also be a 12 volt system. Do not use your tractor battery to start other vehicles.

#### 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.
- 3. Connect the other end of the BLACK cable (D) to good chassis ground, away from fuel tank and battery.

## TO REMOVE CABLES, REVERSE ORDER -

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



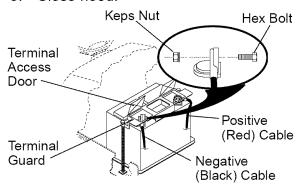
#### **REPLACING BATTERY**

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

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

- 1. Lift hood to raised position.
- 2. Remove terminal guard.

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



#### TO REPLACE HEADLIGHT BULB

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

#### INTERLOCKS AND RELAYS

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

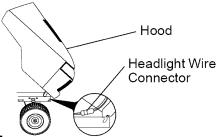
 Check wiring. See electrical wiring diagram in the Repair Parts section.

#### TO REPLACE FUSE

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

#### TO REMOVE HOOD AND GRILL AS-SEMBLY

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



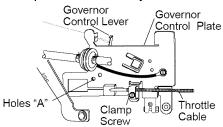
#### **ENGINE**

Maintenance, repair, or replacement of the emission control devices and systems, which are being done at the customers expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized engine manufacturer's service outlet.

# TO ADJUST THROTTLE CONTROL CABLE

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

- With engine not running, move throttle control lever from slow to choke position. Slowly move lever from choke to fast position.
- Check that holes "A" in governor control lever and hole in governor plate line-up. If holes "A" are not aligned, loosen clamp screw and move throttle cable until holes are aligned. Tighten clamp screw securely.



#### TO ADJUST CARBURETOR

**NOTE:** The carburetor on this engine is low emission. It is equipped with an idle fuel adjusting needle with a limiter cap, which allows some adjustment within the limits allowed by the cap. Do not attempt to remove the limiter cap. The limiter cap cannot be removed without breaking the adjusting needle.

The carburetor has been preset at the factory and adjustment should not be necessary. However, minor adjustment may be required to compensate for differences in fuel, temperature, altitude or load. If the carburetor does need adjustment, proceed as follows:

In general, turning idle mixture valve in (clockwise) decreases the supply of fuel to the engine giving a leaner fuel/air mixture. Turning the idle mixture valve **out** (counterclockwise) increases the supply of fuel to the engine giving a richer fuel/air mixture.

**IMPORTANT:** Damage to the needle valve and the seat in carburetor may result if screw is turned in too tight.

#### PRELIMINARY SETTING -

- Air cleaner assembly must be assembled to the carburetor when making carburetor adjustments.
- 2. Be sure the throttle control cable is adjusted properly (see above).

#### FINAL SETTING -

- 1. Start engine and allow to warm for five minutes. Make final adjustments with engine running and shift/motion control lever in neutral (**N**) position.
- Move throttle control lever to slow position. With finger, rotate and hold throttle lever against idle speed screw. Turn idle speed screw to attain 1750 RPM.
- While still holding throttle lever against idle speed screw, turn idle mixture valve full travel clockwise then counterclockwise until engine runs rough. Turn valve to a point midway between those two positions. Release throttle lever.

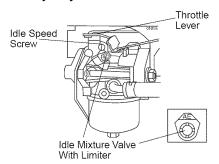
#### **ACCELERATION TEST -**

 Move throttle control lever from slow to fast position. If engine hesitates or dies, turn idle mixture valve **out** (counterclockwise) 1/8 turn. Repeat test and continue to adjust, if necessary, until engine accelerates smoothly.

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

IMPORTANT: Never tamper 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 a Sears or other qualified service center, which has proper equipment and experience to make any necessary adjustments.



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### **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.

**AWARNING:** 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).
- 3. Lubricate as shown in the Maintenance section of this manual.
- 4. Be sure that all nuts, bolts and screws are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
- 5. Touch up all rusted or chipped paint surfaces; sand lightly before painting.

#### **BATTERY**

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

#### **ENGINE**

#### **FUEL SYSTEM**

**IMPORTANT**: It is important to prevent gum deposits from forming in essential fuel system parts such as carburetor, fuel hose, or tank during storage. Also, alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

- Empty the fuel tank by starting the engine and letting 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)

- 1. Remove spark plug(s).
- 2. 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.
- 4. Replace with new spark plug(s).

#### OTHER

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

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

### TROUBLESHOOTING CHART:

See appropriate section in manual unless directed to Sears service center

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>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>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 and Adjustments section.</li> <li>Contact a Sears or other qualified service center.</li> </ol>			
	11. Extreme Cold Conditions	11. See "To start engine" in operation section.			
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 and Adjustments section.</li> <li>Contact a Sears or other qualified service center.</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 a Sears or other qualified service center.</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	Cutting too much grass/too fast.     Throttle in "CHOKE" position.	<ol> <li>Raise cutting height/reduce speed.</li> <li>Adjust throttle control.</li> </ol>			

### TROUBLESHOOTING CHART: See appropriate section in manual unless directed to Sears service center

PROBLEM	CAUSE	CORRECTION
Loss of power (cont.)	<ol> <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>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <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 and Adjustments section.</li> <li>Contact a Sears or other qualified service center.</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>Contact a Sears or other qualified service center.</li> <li>Tighten loose part(s). Replace damaged parts.</li> </ol>
Engine dies when tractor is shifted into reverse	Reverse operation system (ROS) is not "ON" while mower or other attachment is engaged.	Turn ignition key to     ROS "ON" position.     See Operation section.
Engine continues to run when operator leaves seat with attachment clutch engaged	Faulty operator-safety presence control system.	Check wiring, switches and connections. If not corrected, contact a Sears or other qualified service center.
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 from build-up 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>Contact a Sears or other qualified service center.</li> <li>Clean around mandrels to open vent holes.</li> </ol>

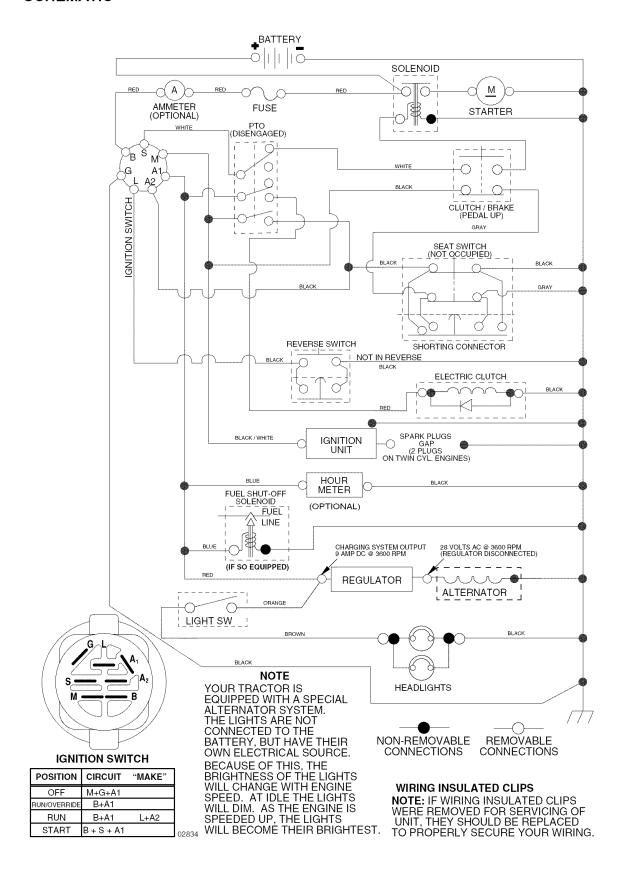
### TROUBLESHOOTING CHART: See appropriate section in manual unless directed to Sears service center

PROBLEM	CAUSE	CORRECTION			
Mower blades will not rotate	Obstruction in clutch mechanism.     Worn/damaged mower drive	<ol> <li>Remove obstruction.</li> <li>Replace mower drive belt.</li> </ol>			
	belt. 3. Frozen idler pulley. 4. Frozen blade mandrel.	3. Replace idler pulley. 4. Contact a Sears or other qualified service center.			
Poor grass discharge Poor grass discharge (continued)	<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/sharpen 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>			
Headlight(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>			
Loss 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"	Engine throttle control not set between half and full speed (fast) position before stopping engine.	between half and full speed			

# SERVICE NOTES

#### TRACTOR - - MODEL NUMBER 917.275640

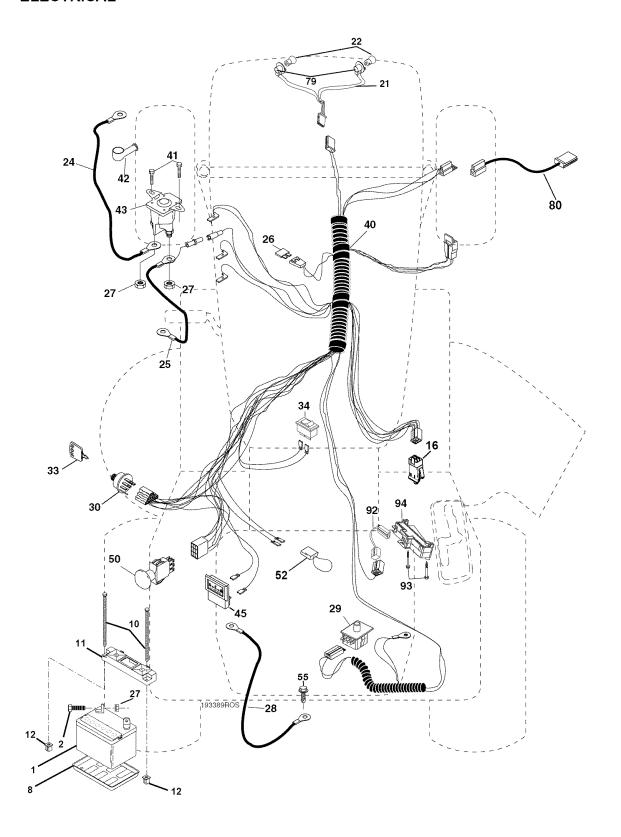
#### **SCHEMATIC**



### **REPAIR PARTS**

### TRACTOR - - MODEL NUMBER 917.275640

#### **ELECTRICAL**



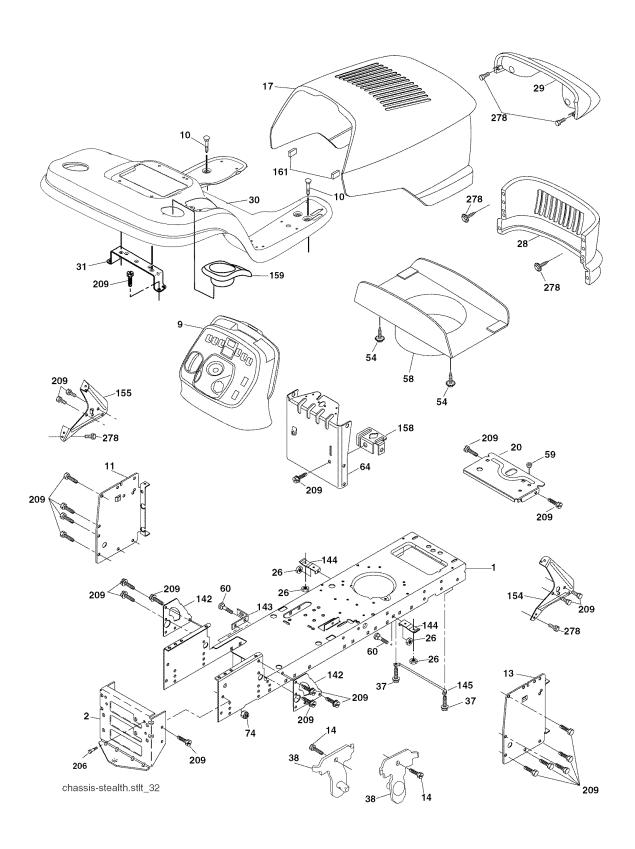
### TRACTOR - - MODEL NUMBER 917.275640

#### **ELECTRICAL**

KEY NO.	PART NO.	DESCRIPTION
1 2 8 10 11 12 22 24 25 6 27 28 29 33 34 41 42 43 50 55 57 90 93 94	176138 175688 4152J 8860R 146148 175158 73510400 145491 192749 193350 140403 110712X 193389 17720408 131563 178861 122822X 174652	Battery Bolt Hex 1/4-20 x 3/4 Tray Battery Bolt Btr Front 1/4-20 x 7-1/2 Holddown Battery Front Mount Nut Push Nylon Battery Front 1/4 Switch Interlock Harness Light Bulb Light Cable Starter Cable Battery Fuse Nut Keps Hex 1/4-20 unc Cable Ground Switch Seat Switch Ignition Key Molded Switch Light / Reset Harness Ignition Screw Thd Cut 1/4-20 x 1/2 Cover Terminal Solenoid Ammeter Switch PTO Protection Wire Loop Screw Thdrol 5/16-18 x 1/2 Socket Asm Bulb Twistlock Harness Pigtail Reverse Switch Screw Plastite 10-14 x 2.0 Module Reverse ROS

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

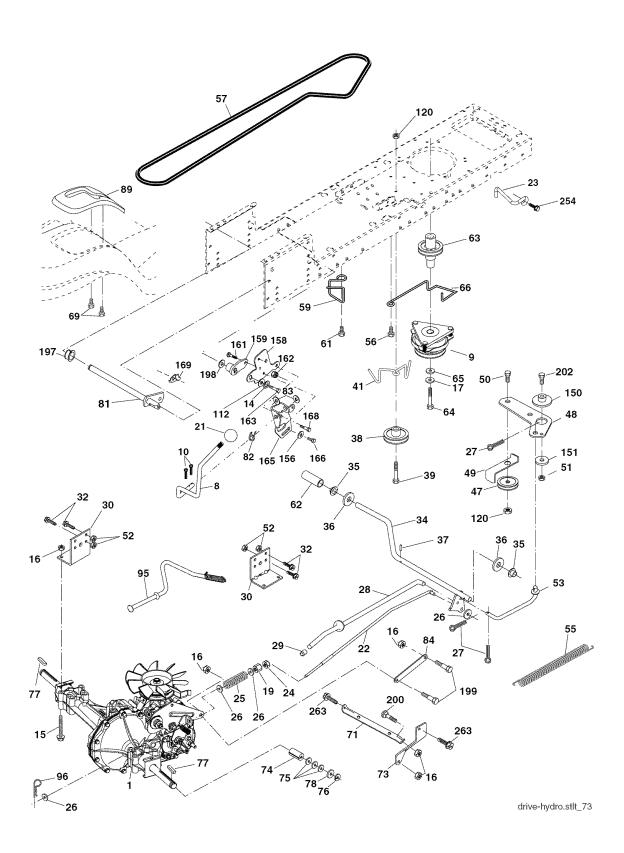
# TRACTOR - - MODEL NUMBER 917.275640 CHASSIS AND ENCLOSURES



### TRACTOR - - MODEL NUMBER 917.275640 CHASSIS AND ENCLOSURES

	PART	
NO.	NO.	DESCRIPTION
1	174619	Chassis
2	176554	Drawbar
9	193635X428	
10	72140608	Bolt RDHD SQNK 3/8-16 x 1
11	167203	Panel Dash LH
13		Panel Dash RH
14	17490608	Screw Thdrol 3/8-16 x 1/2
17		Hood Assembly
20 26	162026	Plate Battery
26 28	STD541437 174515X615	Locknut Hex with Insert 3/8-16 unc
29	161840	Lens Bar
30		Fender/Footrest
31	139976	Bracket Fender/Support
37	17490508	Screw Thdrol 5/16-18 x 1/2 TYT
38	175710	Bracket Asm Pivot Mower Rear
54	192512	Screw Hex Wshd 10-32 x 5/8
58	175351	Duct Hood
59	187495	Bushing 1.375 OD
60	STD533707	Bolt Rdhd Sqnk 3/8-16 unc x 3/4
64	174997	Dash Lower
74	STD541437	Nut Crownlock 3/8-16 unc
142	175702	Plate Reinforcement
143 144	186689 175582	Bracket Swaybar Chassis Bracket Footrest
145	156524	Rod Pivot Chassis/Hood
154	161897	Bracket Dash Rh
155	161900	Bracket Dash Lh
158	162037	Parking Brake Bkrt
159	191120X428	
161	164655	Bumper Extrusion .600 x 3.50
206	170165	Bolt Shoulder 5/16-18
209	17000612	Screw Hexwsh Thdr 3/8-16 x 3/4
278	191611	Screw 10 x 3/4 Single Lead-Hex
NATE	• • • • • • • • • • • • • • • • • • • •	

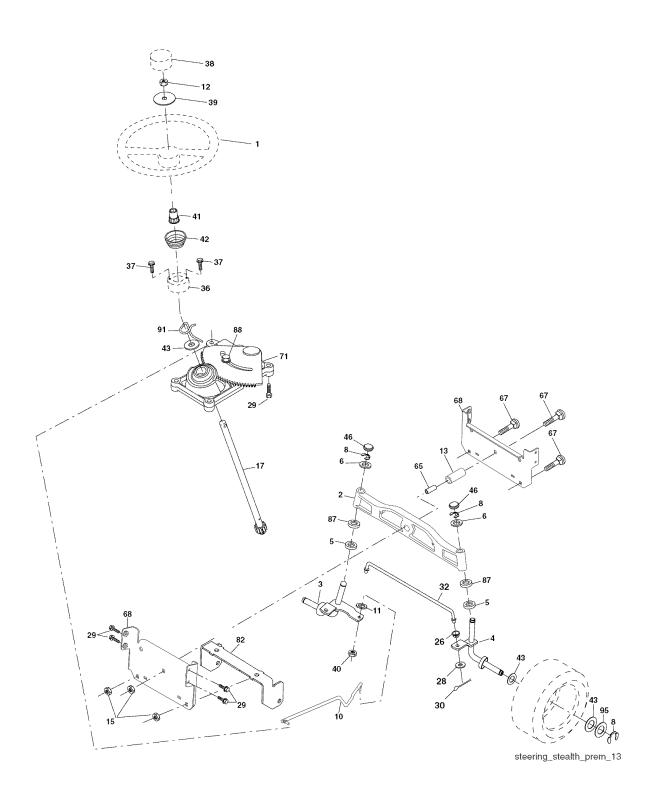
#### **GROUND DRIVE**



#### **GROUND DRIVE**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 8 9 10 14 15 16 17 19 21	192502 180505 STD561210 STD551131 74490544 STD541431 126197X STD541437 130564	Transaxle, HydroGear, Model 314-0510 (See Break down) Rod Shift Fend. Clutch Electric Pin Cotter 1/8 x 1 Washer Lock Hvy 1/4 Bolt Hex Flghd 5/16-18 Gr. 5 Nut Lock Hex W/Ins. 5/16-18 unc Washer 1-1/2 OD x 15/32 ID x.250 Nut Lock Hex W/Wsh 3/8-16 unc Knob	64 65 66 69 71 73 74 75 76	173937 STD551143 154778 142432 169183 169182 137057 121749X STD551262	Bolt Hex 7/16-20 x 4 x Gr. 5-1.5 Washer Keeper Belt Engine Screw Hex Wsh Hi-Lo 1/4 x 1/2 unc Strap Torque LH Strap Torque RH Spacer, Axle Washer 25/32 x 1-1/4 x 16 Ga. E-Ring
21 22 23 24 25 26 27 28 29 30	130564 169498 190736 STD541237 106888X STD551037 STD561210 175765 124236X 169592	Rod, Brake Bracket Anti-Rotation Nut, Hex Jam 3/8-16 unc Spring, Brake Rod Washer Pin Cotter 1/8 x 3/4 CAD. Rod, Parking Brake Knob Brake Parking	77 78 81 82 83 84 89 95	170201 STD624003	Key, Square Washer 25/32 x 1-5/8 x 16 Ga. Shaft Assy. Cross Taper Spring Torsion Washer 17/32 x 3/4 x 16 Ga. Link Transaxle Console, Shift Rod Bypass Retainer Spring 1" Zinc/Cad
32 34 35 36 37 38 39 41	STD523107 175578 120183X STD551062 STD571810 179114 STD533727 175556	Pin, Roll Pulley, Composite Bolt Rdhd 3/8-16 unc x 2-3/4 Gr. 5 Keeper, Belt Idler Flat	112 120 150 151 156 158 159 161 162	STD551025 73900600 175456 19133210 166002 165589 183900 72140406 73680400	Washer 9/32 x 3/4 x 10 Ga. Nut Lock Flg 3/8-16 unc Spacer Retainer Washer 13/32 x 2 x 10 Ga. Washer 5/16 ID x 1.0 x .125 Bracket Shift Mount Hub Shift Bolt Rdhd Sqnk 1/4-20 x 3/4 Gr. 5 Nut Crownlock 1/4-20 unc
47 48 49 50 51 52 53 55 56 57 59 61	127783 154407 123205X 72110612 STD541437 STD541431 105710X 105709X 17060620 140294 169691 17120614	Pulley, Idler, V-Groove Bellcrank Clutch Grnd Drw Stl Retainer, Belt Bolt Nut Crownlock 3/8-16 unc Nut, Crownlock 5/16-18 unc Link, Clutch Spring, Return, Clutch Screw 3/8-16 x 1-1/4 V-Belt, Ground Drive Keeper, Center Span Screw 3/8-16 x .875	163 165 166 168 169 197 198 199 200 202 254 263	74780416 165623 17490510 165492 165580 169613 169593 169612 72140508 STD533110 17000616 17000612	Bolt Hex Fin 1/4-20 unc x 1 Gr. 5 Bracket Pivot Lever Screw 5/16-18 x 5/8 Bolt Shoulder 5/16-18 x .561 Plate Fastener Cross Shf. Nyliner Snap-in 5/8 ID Washer Nyl 7/8 ID x .105" Bolt Shoulder 5/16-18 unc Bolt Rdhd Sqnk 5/16-18 unc x 1 Bolt Carr Sh 3/8-16 x 1-3/4 Gr. 5 Screw 3/8-16 x 1 SMGML Screw 3/8-16 x .75
62 63	123533X 174607	Cover, Pedal Pulley, Engine	NOTE		nt dimensions given in U.S. inches

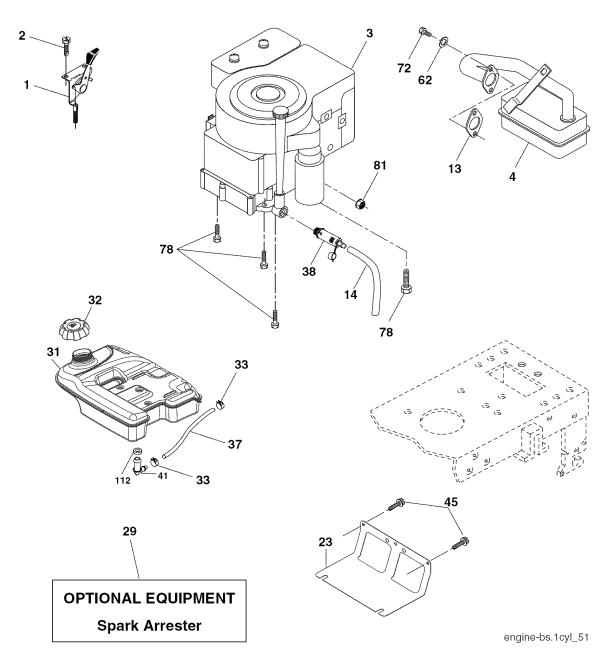
### TRACTOR - - MODEL NUMBER 917.275640 STEERING ASSEMBLY



## TRACTOR - - MODEL NUMBER 917.275640 STEERING ASSEMBLY

KEY NO.		DESCRIPTION
1	186094X428	Wheel Steering
2	184706	Axle Asm
3	169840	Spindle Asm LH
2 3 4 5	169839	Spindle Asm RH
5	6266H	Bearing Race Thrust Harden
6	121748X	Washer 25/32 x 1-5/8 x 16 Ga.
8	12000029	Ring Klip #t5304-75
10	175121	Link Drag
11	STD551137	Washer Lock Hvy Hicl Spr 3/8
12 13	73940800 136518	Nut Hex Jam Toplock 1/2-20 unf
15	145212	Spacer Bearing Axle Front Nut Hex Flange Lock
17	177883	Shaft Asm Steering
26	126847X	Bushing Link Drag
28	19131416	Washer 13/32 x 7/8 x 16 Ga.
29	17000612	Screw 3/8-16 x 3/4
30	76020412	Pin Cotter 1/8 x 3/4
32	130465	Rod Tie
36	155105	Bushing Strg
37	152927	Screw
38		Insert Cap Strg Wh
39	19182411	Washer 9/16 x 1-1/2 x 11Ga.
40	73540600	Nut Crownlock 3/8-24
41	159945	Adaptor Wheel Strg
42		Boot Steering
43	121749X	Washer 25/32 1 1/4 x 16 Ga.
46 65		Cap Spindle
65 67	160367 72110618	Spacer Brace Axle
68	169827	Bolt Rdhd Sq 3/8-16 unc x 2-1/4 Axle Brace
71	175146	Steering Asm.
82	169835	Bracket Susp. Chassis Front
87	173966	Washer Flat .781 x 1-1/2 x .15
88	175118	Bolt Shoulder 7/16-20 unc
91	175553	Clip Steering
95	188967	Washer Harden .793 x 1.637 x .060

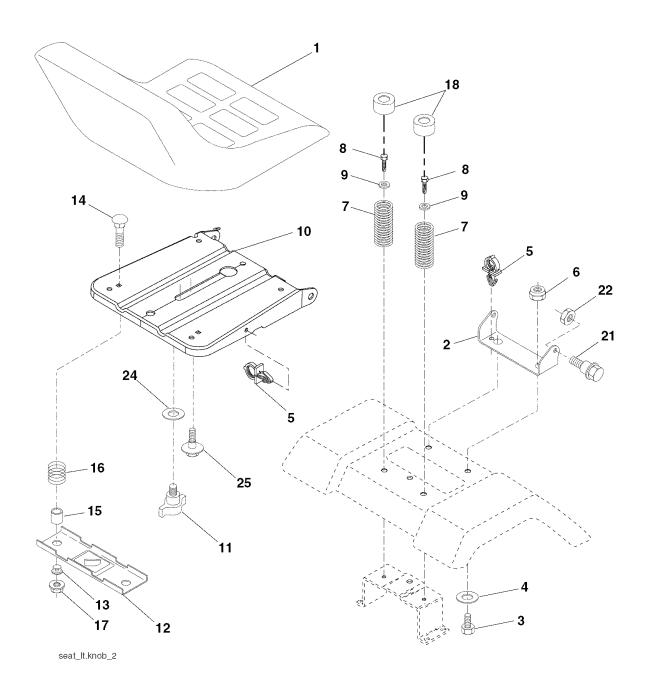
#### **ENGINE**



3/8-16 x 3/4
/16-18 x 3/4
unc
in U.S.
/

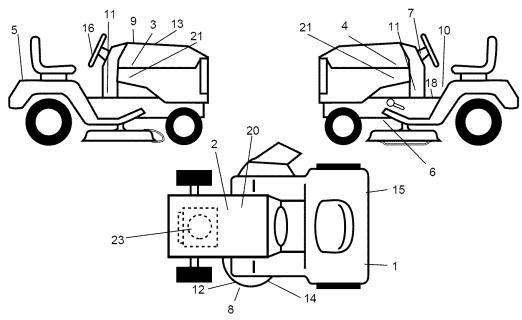
42'

# TRACTOR - - MODEL NUMBER 917.275640 SEAT ASSEMBLY



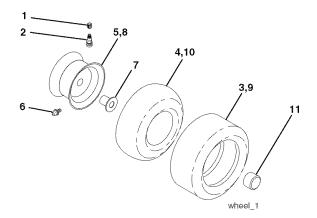
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	188719	Seat	13	121248X	Bushing Snap Blk Nyl 50 ld
2	140551	Bracket Pivot Seat	14	72050412	Bolt Rdhd Sqnk 1/4-20 x 1-1/2
3	STD523710	Bolt Fin Hex 3/8-16 unc x 1	15	134300	Spacer Split
4	19131610	Washer 13/32 x 1 x 10 Ga	16	121250X	Spring Cprsn
5	145006	Clip Push-In	17	123976X	Nut Lock 1/4 Lge Flg Gr. 5 Zinc
6	STD541437	Nut Hex w/lns 3/8-16 unc	18	124238X	Cap Spring Seat
7	124181X	Spring Seat Cprsn	21	171852	Bolt Shoulder 5/16-18 unc
8	17000616	Screw 3/8-16 x 1-1/2	22	STD541431	Nut Hex Lock W/Ins 5/16-18
9	19131614	Washer 13/32 x 1 x 14 Ga.	24	19171912	Washer 17/32 x 1-3/16 x 12 Ga.
10	182493	Pan Seat	25	127018X	Bolt Shoulder 5/16-18 x 62
11 12	166369 174648	Knob Seat Adj Wingnut Bracket Mounting Switch	NOTE	: All compone 1 inch = 25.4	ent dimensions given in U.S. inches mm

#### **DECALS**



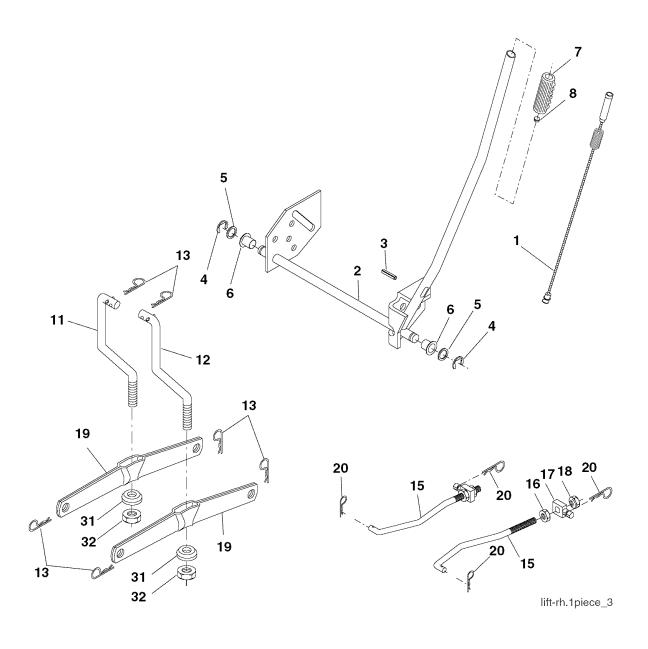
	PART			PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	187407	Decal Reflector LH	14	160396	Decal V-Belt Schematic
2	138047	Decal Battery Diehard Sears	15	187408	Decal Reflector RH
3	186242	Decal Hood RH	16	164065	Decal Steering Wheel
4	186243	Decal Hood LH	18	193307	Decal Fender Opr.
5	186572	Decal Fender Craftsman	20	149516	Decal Battery
6	146046	Decal V-Belt Drive Schematic	21	186331	Decal Hood Side Panel
7	193654	Decal Dash	23	189020	Decal Engine
8	179128	Decal Deck Caution		184310X428	Pad Footrest LH
9	193872	Decal Replacement Hood		184311X428	Pad Footrest RH
10	156439	Decal Fender Danger		178392	Decal Chassis Disconnect
11	189088	Decal Panel Dash		184310X428	Pad Footrest ST/LT LH
12	172331	Decal Mower Heavy-Duty		184311X428	Pad Footrest ST/LT RH
13	133644	Decal Replacement Parts		194168	Manual Owner's English
				194169	Manual Owner's Spanish

#### **WHEELS & TIRES**



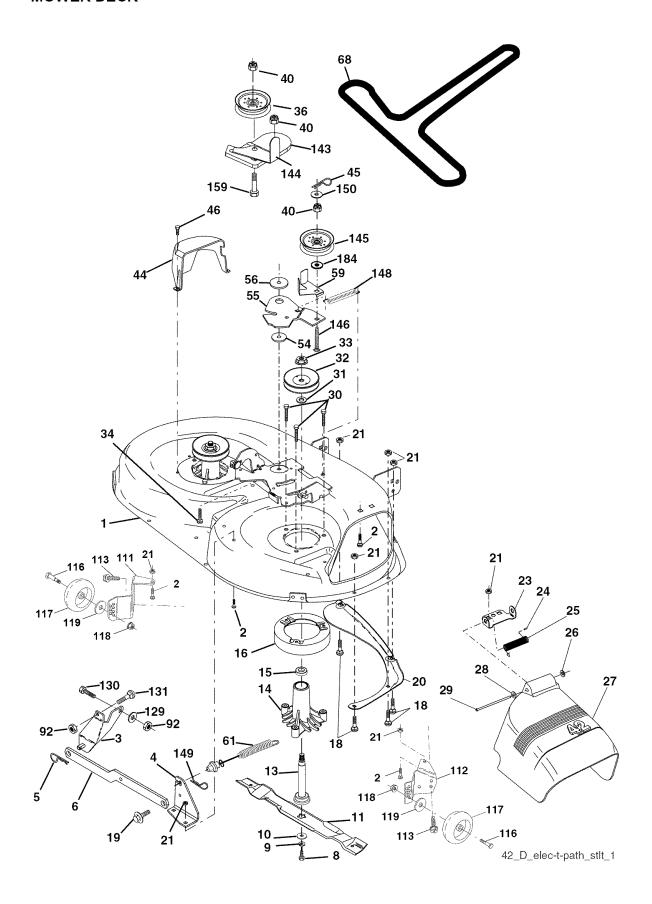
KEY NO.	PART NO.	DESCRIPTION
1 2 3 4 5 6 7	59192 65139 106222X 59904 106732X624 278H 9040H	Cap Valve Tire Stem Valve Tire F Ts 15 x 6.0 - 6 Service Tube Front (Service Item Only) Rim Asm 6" front Service Fitting Grease (Front Wheel Only) Bearing Flange (Front Wheel
8 9 10 11	138468 7152J	Only) Rim Asm 8" rear Service Tire R Ts 20 x 8-8 C Service Tube Rear (Service Item Only) Cap Axle Blk 1.50 x 1.00 Sealant, Tire (10 oz. Tube)

### LIFT ASSEMBLY



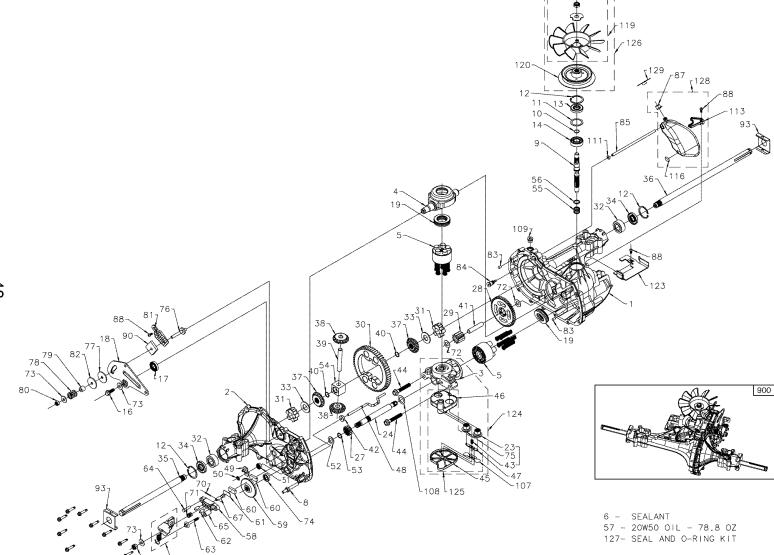
KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	179504	Plunger Assembly	15	173288	Link Front Susp
2	159476	Shaft Assembly, Lift	16	73350800	Nut Hex Jam 1/2-13 unc
3	188822	Pin Groove	17	175689	Trunnion Front Susp
4	12000002	E-Ring	18	73800800	Nut Lock w/Wsh 1/2-13 unc
5	19211621	Washer 21/32 x 1 x 21 Ga.	19	139868	Arm Asm Suspension Mower
6	120183X	Bearing Nylon	20	163552	Retainer Spring
7	175830	Grip Handle Fluted	31	169865	Bearing Pivot Lift
11	139865	Link Lift L.H.	32	73540600	Nut Crownlock 3/8-24
12 13	139866 4939M	Link Lift R.H. Retainer Spring	NOT	E: All compor 1 inch = 25	nent dimensions given in U.S. inches .4 mm

#### **MOWER DECK**



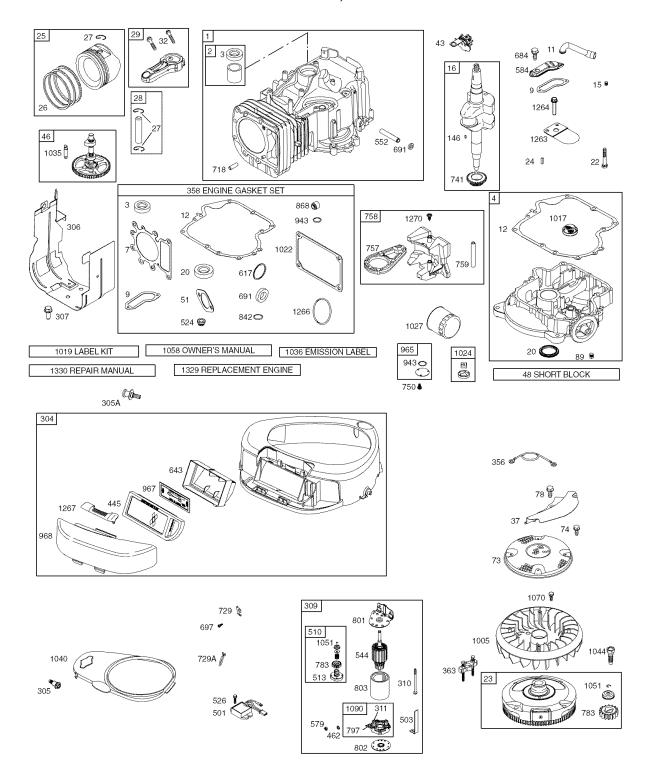
#### **MOWER DECK**

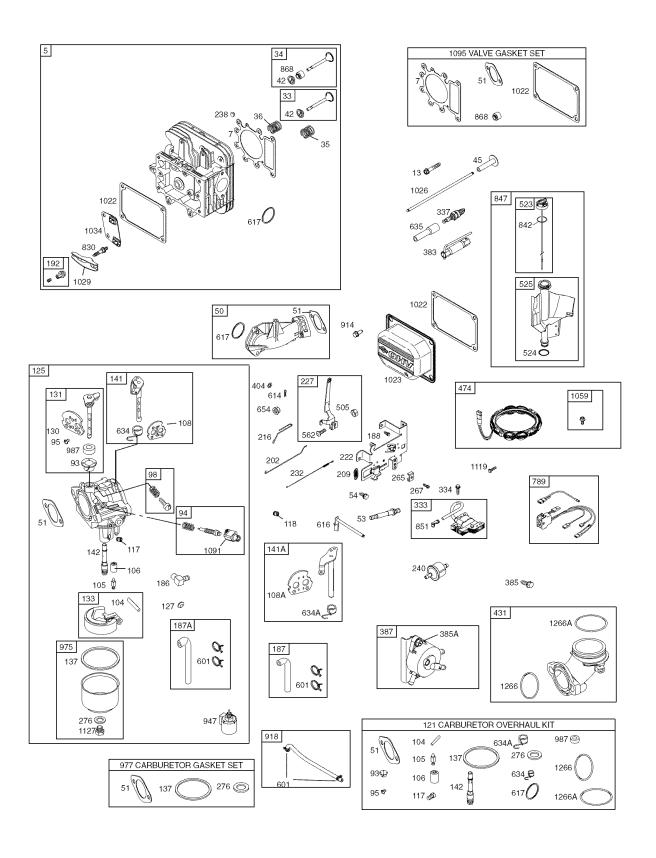
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	165892	Mower Housing	40	73900600	Nut Lock 3/8-16 unc
2	STD533107	Bolt	44	140088	Guard Mandrel L.H.
3	138017	Bracket Asm Sway Bar Front	45	STD624003	Retainer
4	165460	Bracket Sway Bar 38/42"	46	137729	Screw Thd. Roll 1/4-20 x 5/8
5	STD624008	Retainer Spring	54	178515	Washer Hardened
6	178024	Bar Sway Deck	55	155046	Arm Idler
8	850857	Bolt Hex 3/8-24 x 1.25 Gr. 8	56	165723	Spacer Retainer
9	STD551137	Washer Lock	59	141043	Guard Tuv Idler (94)
10	140296	Washer Hardened	61	174882	Spring Ext Elect Clutch
4.4	100074	(The following blades are available)	68	160396	V-Belt
11	138971	Blade 42" Hi-Lift	92	STD541437	Locknut Hex W/Wsh 3/8-16 unc
	124140	(For bagging or discharge)	111	179292	Bracket Wheel Guage LH
	134149	Blade 42" Mulching STD	112 113	179293 17000510	Bracket Wheel Guage RH Screw 5/16-18
	139775	(For mulching mowers only)	116	4898H	Bolt Shoulder
	138113	Blade 42" Mulching Premium (For better wear when mulching)	117	188606	Wheel Gauge
13	137645	Shaft Assembly Mandrel Vented	118	73930600	Nut Crownlock 3/8-1
10	107040	(Incl. Key Number 6)	119	19121414	Washer 13/32 x 7/8 x 14 Ga.
14	128774	Housing Mandrel Vented	129	19131312	Washer 13/32 x 13/16 x 12 Ga.
15	110485X	Bearing Ball Mandrel	130	STD523710	Bolt Fin Hex 3/8-16 unc x 1Gr. 5
16	174493	Stripper Mower Deck	131	STD533710	Bolt Rdhd Sqnk 3/8-16 unc x 1
18	72140505	Bolt Carriage 5/16-18 x 5/8	143	157109	Bracket Arm Idler 42"
19	132827	Bolt Shoulder	144	158634	Keeper Belt 42" Clutch Cable
20	159770	Baffle Vortex	145	165888	Pulley Idler Flat
21	STD541431	Nut Crownlock 5/16-18 unc	146	171977	Bolt Carraige Idler
23	177563	Bracket Deflector	148	169022	Spring Return Idler
24	105304X	Cap Sleeve	149	165898	Retainer Spring Yellow Zinc
25	123713X	Spring Torsion Deflector	150	19091210	Washer 9/32 x 3/4 x 10 Ga.
26	110452X	Nut Push	159	STD533717	Bolt Rdhd Sqn 3/8-16 unc x 1-3/4
27		Shield Deflector	184	19131410	Washer 3/8
28	19111016	Washer 11/32 x 5/8 x 16 Ga.		130794	Mandrel Assembly (Includes
29	131491	Rod Hinge			housing, shaft and shaft hardware
30	173984	Screw Thdrol Rolling Wsh Hd			only-pulley not included)
31	187690	Washer Spacer		176207	Replacement Mower, Complete
32	153535	Pulley Mandrel			(Std. Deck-Order separately
33	178342	Nut Toplock Flanged			gauge wheels 116 - 119).
34 36	STD533717	Bolt Bulley Jelley Flet	NOTE	F: All compone	ent dimensions given in U.S.inches
30	131494	Pulley Idler Flat		1 inch = 25.4	_



### TRACTOR - - MODEL NUMBER 917.275640 HYDRO TRANSAXLE - - MODEL NUMBER 314-0510-20

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	170351	Kit, Main Housing Main Housing, Machined	64 65	142892 170411	Bolt, Nylok Spacer, Brake Torsion Spring
2	170352	Bushing .865 X .985 X .790 Kit, Side Housing Side Housing, Machined Bushing .865 X .985 X .790	67 69 70 71	170413 170415 170416 170417	Bolt, Square Head - Brake Nut, Castle 5/16-24 Pin, Cotter 3/32x3/4 Brake Spring
3	170353	Bushing .624 X .719 X .562 Kit, Center Section Center Section, Machined Bushing .707 X .788 X .591	72 73 74 75	170418 142884 170419 170420	Washer (310-0750) Washer, Flat Seal, Oil Ass'y Check Plug
4 5	170354 169898	Swashplate, Trunnion Machined Kit, Cylinder Block (10cc) Block - Cylinder Piston Spring, Compression	76 77 78 79 80	170421 170422 142969 142980 150778	Bolt, Stud 5/16-24 Puck, Friction Spring Spacer Nut, Nylon Insert Hex Lock
6 7 8	178322 170356 170357	Washer Thrust Sealant Tube Hexflange Screw 1/4-20 X 1.25 Stud, 5/16-24 Hex Double End	81 82 83	170423 170424 161168	5/16-24 Wedge, Friction Clip, Washer Pin
9 10 11	170358 170359 170360	Shaft, Input Retaining Ring Spacer	84 85 87	170425 170426 173160	Fitting, 5/16 X Sae 5/32 Tube Hose, Expansion Tank Cap, Vent
12 13 14	169870 170361 173158	Retaining Ring Seal, Lip .67 X 1.58 X .276 Bearing, Ball 6203 (BDR)	88 90 93	178334 170430 170431	Bolt, Self Tapping (BDR) Puck, Inner Wedge Spring Clip, Housing
16 17	170362 170363	Hex Flange Head Screw 1/4-20 X 1.25 Seal, Lip 18 X 32 X 7	107 108	170432 170433	Deflector Washer, Motor Shaft .71ID X 1.15OD X .03 Thick
18 19 23	170364 173159 170365	Arm, Control Bearing, Thrust (10cc) Check Plug Assembly	109 111 113	170434 170435 170437	Plug, Straight Thread 9/16-18 O-ring .7 X .301 ID Bracket, Support Expansion Tank
24 27 28	170366 170367 170368	Shaft Motor Gear, Pinion, 13t 10t / 48t Gear	119	191031	Kit, Fan - Washer - Nut Fan, 7 In Hex Lock Nut 1/2-20(Nylon Insert) Washer, or Slotted,
29 30 31 32	170369 170370 170371 170389	Gear, 10t Jackshaft 60t Bullgear Sleeve Bearing .75 X 1.75 X .625 Sleeve Bearing (Outboard)	120 123 124	188312 178800 170444	.53 X 1.63 X .06 Pulley Belt Keeper Kit, Center Section Filter Bypass
33 34	142991 170390	.75 X 1.575 X .625 Washer Lip Seal, Axle Shaft	124	170444	Center Section Machining Base Filter W/ Poppet Check Plug Assembly, .027 Washer Check
35 36 37	170391 170392 150792	Shaft, Axle (Keyed, R.h.) Shaft, Axle (Keyed, L.h.) Gear, Splined Diff.			Plug Assembly, Washer Spring, Bypass Actuator, Bypass Deflector Bottom, Filter Bushing,
38	150793	(210-1000 & 310-0750) Gear, Miter Diff. (210-1000 & 310-0750)	125	170445	.707 X .788 X .591 Kit, Filter Bottom, Filter Spring, Bypass Actuator, Bypass
39 40 41 42	150809 170393 170394 170395	Differential Shaft (310-0750) Retaining Ring Pin, Jackshaft Magnet, Ring	126	191028	Deflector Base, Filter W/ Poppet Kit, Fan/pulley Hex Jam 1/20-20 (Nylon Inser) Washer, OD Slotted, .53 X 1.63 X .06 Fan, 7 In Pulley
43 44 45	170396 150797 170397	Spring, Bypass Bolt 3/8-24 X 2-1/2 Filter	127	170447	Kit, Seal Lip Seal .67 X 1.58 X .276, Lip Seal 18 X 32 X 7 Lip Seal .706 X 1.584 X .25
46 47 48	170398 170399 170400	Base, Filter Actuator, Bypass Rod, Bypass Actuator			Lip Seal .741 X .250 X .250 Tc Oil Seal .625 X 1.0 X .25 O-ring .07 X .301 ID
49 50 51 52 53	170401 170402 170403 170404 170405	Arm, Bypass Retaining Ring .25 External Seal, Lip .741 X .25 X .25 Washer, Flat 0.050" (210-1000) Retaining Ring	128	173165	Kit, Expansion Tank Tank, Expansion Cap, Vent Bolt, Self Tapping 10-32 X 1/2 Bracket, Support Expansion Tank
54 55 56 57	170406 142977 142978	Bearing, Center Block Spring, Helical Compression Washer, Block Thrust 20W-50 Oil	129 130	191032 186352	Silicon Sponge 1/2 X 1/2 X 3/16 Cap, Expansion Tank Shipping Kit, Brake Arm And Spring Arm, Brake
58 59 60 61	142929 170408 142883 142882	Kit, Brake Yoke Rotor, Brake Brake Puck Brake Puck Plate	900	166768	Spring, Brake Arm Bias Instruction Sheet Transaxle
62 63	170409 170410	Pin, Brake Actuating Hfhcs 1/4-20 X 2 W/patch, Special Flange	NOT	E: All compon 1 inch = 25	ent dimensions given in U.S. inches .4 mm



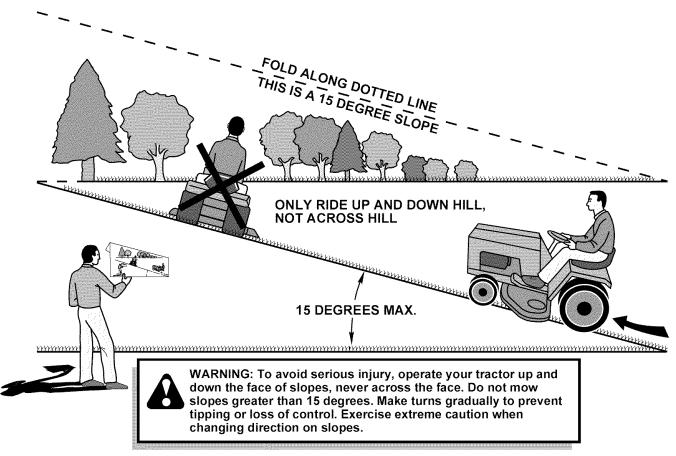


KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
NO.  1 2 3 4 5 7 9 11 12 13 15 16 20 22 23 24 25	697174 399265 391086 • 697188 698147 699168 •+ 697109 • 697113 697110 • 690360 690946 697127 690947 • 692125 693556 222698 699052 699054	Cylinder Assembly Kit-Bushing/Seal (MagnetoSide) Seal-Oil (Magneto Side) Sump-Engine Head-Cylinder Gasket-Cylinder Head Gasket-Breather Tube-Breather Gasket-Crankcase Screw (Cylinder Head) Plug-Oil Drain Crankshaft Seal-Oil (PTO Side) Screw (Crankcase CoverSump) Flywheel Key-Flywheel Piston Assembly (Standard) Piston Assembly (.020"	108 108A 117 118 121 125 127 130 131 133 137 141 141A 142 146 186 187 187A	690464 692344 694352 Ø 697228 697241 698445 695005 691750 494379 494381 281165 ؇ 495931 697140 Ø 691639 698174 697098 698417	Valve-Choke (Manual Choke) Valve-Choke (Choke A Matic) Jet-Main (Standard) Jet-Main (High Altitude) Kit-Carburetor Overhaul Carburetor Plug-Welch Valve-Throttle Kit-Throttle Shaft Float-Carburetor Gasket-Float Bowl Kit-Choke Shaft (Manual Choke) Kit-Choke Shaft (Choke A Matic) Nozzle-Carburetor Key-Timing Connector-Hose Line-Fuel
26 27 28 29	699051 697559 698469 697099 697126 697263	Oversize) Ring Set (Standard) Ring Set (.020" Oversize) Lock-Piston Pin Pin-Piston Rod-Connecting (Standard) Rod-Connecting (.020"	188 192 202 209 216 222 227	691693 691986 691841 692208 691840 694042 691374	Screw (Control Bracket) Adjuster-Rocker Arm Link-Mechanical Governor Spring-Governor Link-Choke Bracket-Control Lever-Governor Control
32 33 34 35 36 37 42 43 45 46 48 50 51 53 54 73 74 78 89 93	690227 691148 697133 697897 691003 690283 690602 Ø	Undersize) Screw (Connecting Rod) Valve-Exhaust Valve-Intake Spring-Valve (Intake) Spring-Valve (Exhaust) Guard-Flywheel Keeper-Valve Slinger-Governor/Oil Tappet-Valve Camshaft Short Block Manifold-Intake + Gasket-Intake Stud (Carburetor) Screw (Intake Manifold) Screen-Rotating Screw (Rotating Screen) Screw (Flywheel Guard) Plug-Oil Bushing-Throttle Shaft	232 238 240 265 267 276 305 305A 306 307 309 310 311 333 334 337 356 358 363	691842 691843 691035 691024 695134 692255 ؇ 699829 697102 697107 691003 693551 690323 497608 492341 691061 691043 697089 697191 19203	Spring-Governor Cap-Valve Filter-Fuel Clamp-Casing Screw (Casing Clamp) Washer-Sealing Housing-Blower Screw (Blower Housing) Screw (Blower Housing) Screw (Glinder Housing) Shield-Cylinder Screw (Cylinder Shield) Motor-Starter Bolt (Starter Motor) Brush Set Armature-Magneto Screw (Magneto Armature) Plug-Spark Wire-Stop Gasket Set-Engine Flywheel Puller
94 95 98 104 105 106	498030 691636 495800 690525 Ø 231855 Ø 691780 Ø	Kit-Idle Mixture Screw (Throttle Valve) Kit-Idle Speed Pin-Float Hinge Valve-Float Needle Seat-Inlet	• Ø ‡ +	Included in 0 121 Included in 0 977	Engine Gasket Set, Key. No. 358 Carburetor Overhaul Kit, Key. No. Carburetor Gasket Set, Key. No. /alve Gasket Set, Key. No. 1095

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
383	89838	Wrench-Spark Plug	868	690968 •+	Seal-Valve
385	694476	Screw (Fuel Pump)	914	690960	Screw (Rocker Cover)
385A	690297	Screw (Fuel Pump)	918	697091	Line-Vacuum
387	697090	Pump-Fuel	943	690589 •	Seal-O Ring (Oil Pump Cover)
404	691691	Washer (Governor Crank)	947	694393	Solenoid-Fuel
431	697122	Elbow-Intake	965	499613	Cover-Oil Pump
445	697153	Filter-Air Cleaner Cartridge	967	697015	Filter-Pre Cleaner
462	691261	Washer (Starter Cable)	968 075	699848	Cover-Air Cleaner
474 501	696459 691188	Alternator Regulator	975 977	495933 690192	Bowl-Float Gasket Set-Carburetor
503	691532	Strap-Starter	987	691326 Ø	Seal-Throttle Shaft
505	691251	Nut (Governor Control Lever)	1005	699043	Fan-Flywheel
510	693699	Drive-Starter	1017	690770	Screen-Oil Pump
513	692024	Clutch-Drive	1019	697143	Kit-Label
523	697086	Dipstick	1022	272475 •+	Gasket-Rocker Cover
524	691032 •	Seal-Dipstick Tube	1023	692492	Cover-Rocker Arm
525	697085	Tube-Dipstick	1024	499054	Pump-Oil
526	697088	Screw (Regulator)	1026	692003	Rod-Push (Intake)
544	692034	Starter-Armature		692011	Rod-Push (Exhaust)
552	697144	Bushing-Governor Crank	1027	696854	Filter-Oil
562	691119	Bolt (Governor Control Lever)	1029	691751	Arm-Rocker
579	691029	Nut (Starter Cable)	1034	690822	Guide-Push Rod
584	697112	Cover-Breather Passage	1035	693784	Shaft-Pump
601	95162	Clamp-Hose	1036	695700	Label-Emission
614	691620	Pin-Cotter	1040	699852	Plate-Trim
616	692012	Crank-Governor	1044	698139	Screw (Flywheel)
617	692138 Ø •	Seal-O Ring (Intake Manifold)	1051	691265	Ring-Retaining
634	690801 Ø	Spring/Seal Assembly (Manual Choke)	1058 1059	275038 698516	Owner's Manual Kit-Screw/Washer
634A	690802 Ø	Spring/Seal Assembly (Choke A	1070	690372	Screw (Flywheel Fan)
00471	000002 2	Matic)	1090	691293	Retainer-Brush
635	691909	Boot-Spark Plug	1091	691333	Cap-Limiter
643	698401	Retainer-Air Filter	1095	690190	Gasket Set-Valve
654	690958	Nut (Carburetor)	1119	691183	Screw (Alternator)
684	697157	Screw (Breather Passage	1127	691657	Screw (Float Bowl)
		Cover)	1263	697124	Reed-Breather
691	692407 •	Seal-Governor Shaft	1264	697104	Screw (Breather Reed)
697	690372	Screw (Drive Cap)	1266	691917 •Ø	Seal-O Ring (Intake Elbow)
718	690959	Pin-Locating	1266A	697123 Ø	Seal-O Ring (Intake Elbow)
729	691224	Clip-Wire	1267	697424	Latch-Blower Housing
729A	694123	Clip-Wire	1270	697156	Plug-AVS Counterweight
741 750	697128 691033	Gear-Timing	1329 1330	272147	6 Replacement Engine Repair Manual
757	697607	Screw (Oil Pump Cover) Link-Counterweight	1330	212141	Repair Maridai
758	697134	Counterweight	•	Included in F	Ingine Gasket Set, Key. No. 358
759	697392	Pin-Counterweight	Ø		Carburetor Overhaul Kit, Key. No.
783	693713	Gear-Pinion		121	
789	698329	Harness-Wiring	‡	Included in C	Carburetor Gasket Set, Key. No.
797	693167	Nut (Brush Retainer)	-	977	•
801	691283	Cap-Drive	+	Included in V	alve Gasket Set, Key. No. 1095
802	691286	Cap-End			
803	693757	Housing-Starter			nt dimensions given in U.S. inches
830	691095	Stud (Rocker Arm)	1 inch :	= 25.4 mm	
842	691031 •	Seal-O Ring (Dipstick Tube)			
847	697087	Dipstick/Tube Assembly			
851	692424	Terminal-Spark Plug			

### SERVICE NOTES

#### SUGGESTED GUIDE FOR SIGHTING SLOPES FOR SAFE OPERATION



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

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