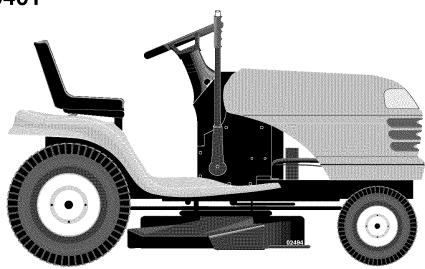
**Owner's Manual** 



**LAWN TRACTOR** 18.0 HP, 42" Mower Electric Start Automatic Transmission

Model No. 917.275401





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

# TABLE OF CONTENTS

Warranty	2
Safety Rules	3
Product Specifications	6
AssemblyPre-Operation	8
Operation	11
Maintenance	17

Maintenance Schedule17Service and Adjustments22Storage28Troubleshooting29Repair Parts34Sears ServiceBack Cover

# WARRANTY

## LIMITED WARRANTY ON CRAFTSMAN TRACTOR AND BATTERY

## 2-YEAR ON TRACTOR

When used and maintained according to the operator's manual instructions, if this tractor fails due to a defect in material or workmanship within two years from the date of purchase, call 1-800-4-MY-HOME® to arrange for free repair.

During the first 30 days of purchase, there will be no charge to service the product in your home. 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 you transport the product to an authorized Craftsman drop-off location. For the nearest authorized location, call 1-800-4-MY-HOME®.

Tractor warranty coverage does not include:

- 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 tractor, 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 operator's manual.
- Engine (fuel system) cleaning or repairs necessary because of 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.

• The tractor battery, which is covered for only 90 days as stated below.

#### 90-DAYS ON BATTERY

For ninety (90) days from the date of purchase, if the battery included with this tractor is defective in material or workmanship (our testing proves it will not hold a charge), it will be replaced free of charge.

During the first 30 days of purchase, there will be no charges to replace the battery in your home. 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 you transport the battery to an authorized Craftsman drop-off location. For the nearest authorized location, call 1-800-4-MY-HOME®.

All tractor and battery warranty coverage is void if this product is used for commercial or rental purposes.

This 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.

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

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

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

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

## I. GENERAL OPERATION

- Read, understand, and follow all instructions 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 neutral and coast downhill.
- Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the blades and proceed slowly straight down the slope.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Use extra care while operating machine with grass catchers or other attachments; they can affect the stability of the machine. Do no use on steep slopes.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not mow near drop-offs, ditches, or embankments. The machine could suddenly roll over if a wheel is over the edge or if the edge caves in.

#### **III. CHILDREN**

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

- Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.
- Before and while backing, look behind and down for small children.

- Never carry children, even with the blades shut off. They may fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.

## **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 area.
- Keep all nuts and bolts tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.

- Keep machine free of grass, leaves, or other debris build-up. Clean oil or fuel spillage and remove any fuel-soaked debris. Allow machine to cool before storing.
- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
- Never make any adjustments or repairs with the engine running.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
- 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

	1 05 0 1
Gasoline	1.25 Gallons
Capacity	Unleaded
and Type:	Regular
Oil Type	SAE 30 (above 32°F)
(API-SG-SL):	SAE 5W-30
· · · · ·	(Below 32°F)
Oil Capacity:	W/Filter: 3.5 Pints
	W/O Filter: 3.0 Pints
Spark Plug:	Champion RC12YC
(ĠAP: .03Ŏ")	·
Ground Speed	Forward: 5.5
(MPH):	Reverse: 2.4
Tire Pressure:	Front: 14 PSI
	Rear: 12 PSI
Charging System	: 3 Amps Battery
	5 Amps Headlights
Battery:	Amp/Hr: 28
-	Min. CCA: 230
	Case Size: U1R
Blade Bolt	27–35 Ft. Lbs.
Torque:	

**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.

**WARNING:** This tractor is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest 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.

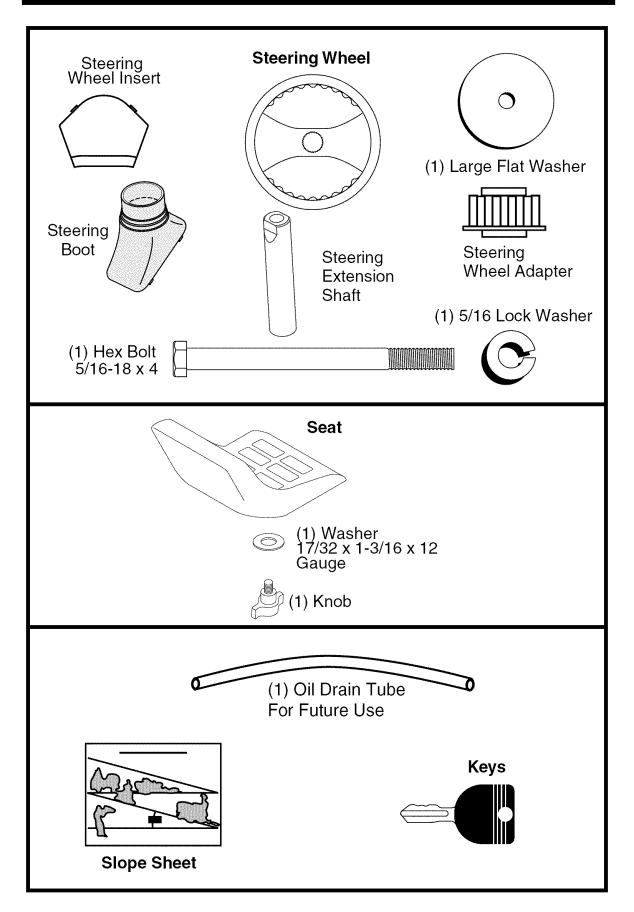
Once you purchase the Agreement, a simple phone call is all that it takes for you to schedule service. You can call anytime day or night, or schedule a service appointment online.

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 with the exception of those parts left unassembled for shipping purposes. To ensure safe and proper operation of your tractor all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to insure proper tightness.

## TOOLS REQUIRED FOR ASSEMBLY

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

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

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

# TO REMOVE TRACTOR FROM CARTON

#### **UNPACK CARTON**

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

## BEFORE REMOVING TRACTOR FROM SKID

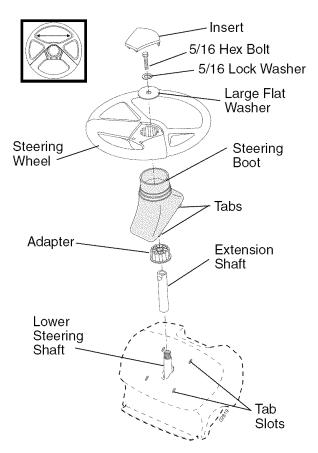
#### ATTACH STEERING WHEEL

ASSEMBLE EXTENSION SHAFT AND BOOT

- 1. Slide extension shaft onto lower steering shaft.
- 2. Place tabs of steering boot over tab slots in dash and push down to secure.

#### INSTALL STEERING WHEEL

- 3. Position front wheels of the tractor so they are pointing straight forward.
- 4. Remove steering wheel adapter from steering wheel and slide adapter onto steering shaft extension.
- 5. Position steering wheel so cross bars are horizontal (left to right) and slide inside boot and onto adapter.
- 6. Assemble large flat washer, 5/16 lock washer, 5/16 hex bolt and tighten securely.
- 7. Snap steering wheel insert into center of steering wheel.
- 8. Remove protective materials from tractor hood and grill.



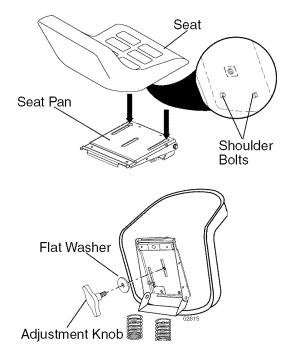
**IMPORTANT:** Check for and remove any staples in skid that may puncture tires where tractor is to roll off skid.

#### **INSTALL SEAT**

Adjust seat before tightening adjustment bolt.

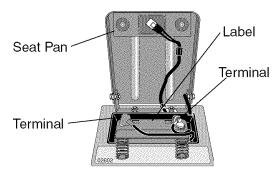
- 1. Remove adjustment bolt, lock washer and flat washer securing seat to cardboard packing and set aside for assembly of seat to tractor.
- 2. Pivot seat upward and remove from the cardboard packing. Remove the cardboard packing and discard.
- 3. Place seat on seat pan so head of shoulder bolts are positioned over the large slotted holes in pan.
- 4. Push down on seat to engage shoulder bolts in slots and pull seat towards rear of tractor.
- 5. Pivot seat and pan forward and assemble adjustment bolt, lockwasher and flat washer loosely. Do not tighten.
- 6. Lower seat into operating position and sit in seat.

- 7. Slide seat until a comfortable position is reached which allows you to press clutch/brake pedal all the way down.
- 8. Get off seat without moving its adjusted position.
- 9. Raise seat and tighten adjustment bolt securely.



#### **CHECK BATTERY**

1. Lift seat pan 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).



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

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

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

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

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

- 1. Be sure all the above assembly steps have been completed.
- 2. Check engine oil level and fill fuel tank with gasoline.
- 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.
- 6. Press lift lever plunger and raise attachment lift lever to its highest position.
- 7. Start the engine. After engine has started, move throttle control to idle position.
- 8. Release parking brake.
- 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 TRANS-MISSION" in the Operation section of this manual).

# OPERATION

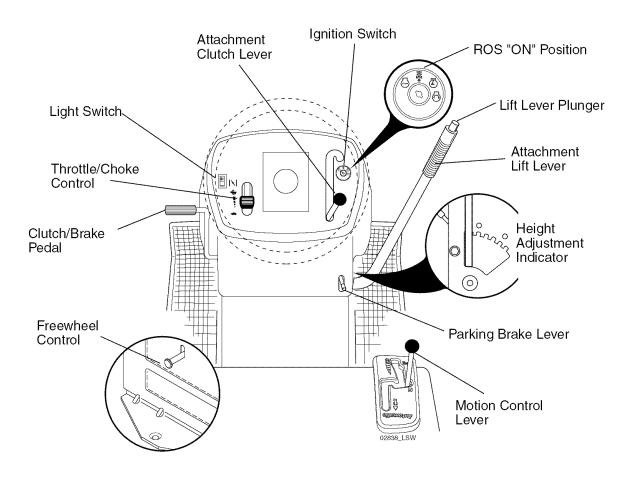
These symbols may appear on your tractor or in literature supplied with the product. Learn and understand their meaning.



## 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.

ATTACHMENT CLUTCH LEVER - 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.

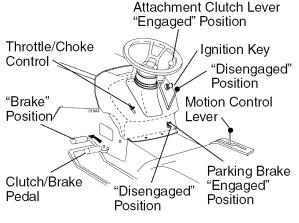


The operation of any tractor can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields while operating your tractor or performing any adjustments or repairs. We recommend standard safety glasses or a wide vision safety mask worn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



#### STOPPING

MOWER BLADES -

• To stop mower blades, move attachment clutch lever 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.

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

#### TO USE THROTTLE CONTROL

Always operate engine at full throttle.

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

#### TO 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;
- 13 the second to desired height.

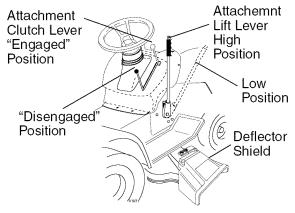
#### **TO OPERATE MOWER**

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.
- 2. Start mower blades by engaging attachment clutch control.

TO STOP MOWER BLADES - disengage attachment clutch control.

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



#### **OPERATING IN REVERSE**

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 the 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.
- With engine running, turn ignition key counterclockwise to ROS "ON" position.
- 3. Look down and behind before backing up.

- 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 Operation)



## TO OPERATE ON HILLS

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

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

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

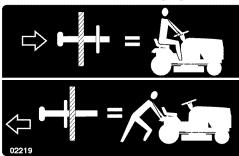
- To restart movement, slowly release parking brake and clutch/brake pedal.
- Slowly move motion control lever to slowest setting.
- Make all turns slowly.

#### **TO TRANSPORT**

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

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

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

#### ADD GASOLINE

• Fill fuel tank to bottom of tank filler neck. Do not overfill. Use fresh, clean, regular unleaded gasoline with a minimum of 87 octane. (Use of leaded gasoline will increase carbon and lead oxide deposits and reduce valve life). Do not mix oil with gasoline. Purchase fuel in quantities that can be used within 30 days to assure fuel freshness. **CAUTION:** Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

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

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

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

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

## TO START ENGINE

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

- 1. Be sure freewheel control is in the transmission engaged position.
- 2. Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
- 3. Place motion control lever in neutral (N) position.
- 4. Move attachment clutch to disengaged position.

5. Move throttle control to 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
- 15 allow it to warm up for one minute using the choke as described above.

COLD WEATHER STARTING (  $50^\circ$  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.
- 3. 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.)

## **PURGÉ TRANSMISSION**

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

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

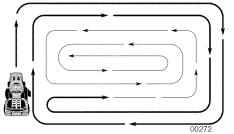
- 1. Place tractor safely in an area that is flat for approximately 80 feet in front of the tractor and set the parking brake.
- Sitting in the tractor seat, start engine. After the engine is running, move throttle control to slow position. With motion control lever in neutral (N) position, slowly disengage clutch/brake pedal.

 Slowly move motion control lever to full forward position and hold for five (5) seconds, or approximately 40 feet. Slowly move lever to full reverse position and hold for five (5) seconds, or approximately 20 feet. After the tractor moves approximately 20 feet in reverse return the motion control lever to the neutral (N) position. Repeat this procedure 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.
- 16

## MAINTENANCE

AS	MAINTENANCE SCHEDUL L IN DATES YOU COMPLETE GULAR SERVICE	E	SEFORE	EACHUS EVERY 8	HOURS	SHOURS SHOURS	HOUP VERY	OO HOU	AS EASON EFORE	SERVIC	CE DAT	ES
	Check Brake Operation	~	V									
	Check Tire Pressure	~	~									
т	Check Operator Presence and ROS Systems	~										
R	Check for Loose Fasteners	~				<b>V</b> 5		V				
A	Sharpen/Replace Mower Blades			<b>V</b> 3								
Ċ	Lubrication Chart			~				V				
Ö	Check Battery Level			14								
Ř	Clean Battery and Terminals			V				1				
	Check Transaxle Cooling			V								
	Check V-Belts					V						
	Check Engine Oil Level	V	1									
	Change Engine Oil (with oil filter)				V 1,2			1				
Е	Change Engine Oil (without oil filter)			V1,2				V				
Ň	Clean Air Filter			12								
G	Clean Air Screen			1/2								
	Inspect Muffler/Spark Arrester				V							
N E	Replace Oil Filter (If equipped)					1.2						
-	Clean Engine Cooling Fins					1 2						
	Replace Spark Plug					~	~					
	Replace Air Filter Paper Cartridge	1				<b>V</b> 2		1				
	Replace Fuel Filter						V					

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

## GENERAL RECOMMENDATIONS

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

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

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

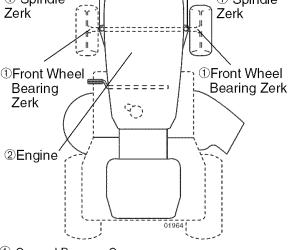
· At least once a year you should replace the spark plug, clean or replace air filter, and check blades and belts for wear. A new spark plug and clean air filter assure proper air-fuel mixture and help your engine run better and last longer.

## **BEFORE EACH USE**

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

4 - Not required if equipped with maintenance-free battery. 5 - Tighten front axle pivot bolt to 35 ft.-lbs. maximum. Do not overtighten.

#### LUBRICATION CHART 1 Spindle Spindle Zerk



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

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

## TRACTOR

Always observe safety rules when performing any maintenance.

#### **BRAKE OPERATION**

If tractor requires more than 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 is engaged, any attempt by the operator to shift into reverse should shut off the engine.

**ROS "ON" Position** 

Engine "ON" Position (Normal Operation)





 When the engine is running with the ignition switch in the ROS "ON" position and the attachment clutch is 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.

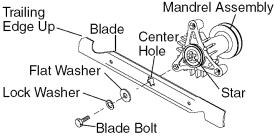
#### **BLADE REMOVAL**

- 1. Raise mower to highest position to allow access to blades.
- 2. Remove blade bolt, lock washer and flat washer securing blade.
- 3. Install new or resharpened blade with trailing edge up towards deck as shown.

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

- 4. Reassemble blade bolt, lock washer and flat washer in exact order as shown.
- 5. Tighten blade bolt securely (27-35 Ft. Lbs. torque).

**IMPORTANT:** Blade bolt is heat treated. If bolt needs replacing, replace only with approve bolt shown in the Repair Parts.



## **TO SHARPEN BLADE**

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

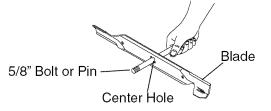
Care should be taken to keep the blade balanced. An unbalanced blade will cause excessive vibration and eventual damage to mower and engine.

- 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.)

18

**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.

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

#### **TRANSAXLE COOLING**

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

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

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

#### TRANSAXLE PUMP FLUID

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

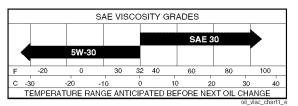
#### V-BELTS

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.



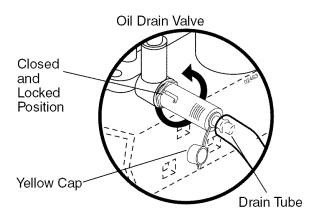
**NOTE:** Although multi-viscosity oils (5W30, 10W30 etc.) improve starting in cold weather, they will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

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.
- 1. 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.



- 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.
- 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.
- 8. Use gauge on oil fill cap/dipstick for checking level. For accurate reading, tighten dipstick cap securely onto the tube before removing dipstick. Keep oil at "FULL" line on dipstick. Tighten cap onto the tube securely when finished.

#### **ENGINE OIL FILTER**

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

#### **AIR FILTER**

Your engine will not run properly using a dirty air filter. 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.

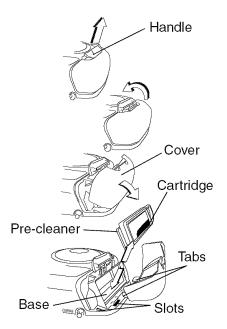
- 1. Pull up on air filter cover handle and rotate towards engine.
- 2. Remove cover.
- 3. Carefully remove air filter cartridge and pre-cleaner from base.
- 4. Clean base carefully to prevent debris from falling into carburetor.

**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.

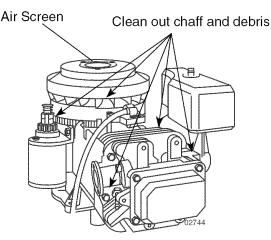


#### **CLEAN AIR SCREEN**

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.

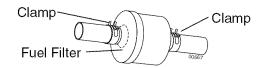
#### SPARK PLUG(S)

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.
- 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.
- 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 covered to keep water out. Water in engine or transmission will shorten the usful life of your tractor. Use compressed air or a leaf blower to remove grass, leaves and trash from tractor and mower. A

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

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

## TRACTOR TO REMOVE MOWER

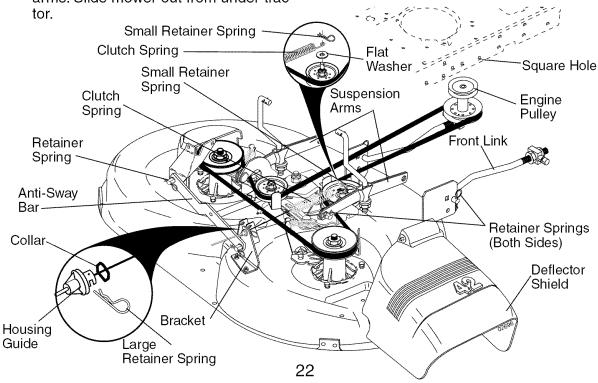
Mower will be easier to remove from the right side of tractor.

- 1. Place attachment clutch in "DISEN-GAGED" position.
- 2. Move attachment lift lever forward to lower mower to its lowest position.
- 3. Roll belt off engine pulley.
- 4. Remove small retainer spring, and remove clutch spring off pulley bolt.
- 5. Remove large retainer spring, slide collar off and push housing guide out of bracket.
- 6. Disconnect anti-sway bar from chassis bracket by removing retainer spring.
- 7. Disconnect suspension arms from rear deck brackets by removing retainer springs.
- 8. Disconnect front links from deck by removing retainer springs.
- 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 and hook the clutch spring Into square hole in frame.

## 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. Push clutch cable housing guide into bracket, slide collar onto guide and secure with large retainer spring.



- 8. Place flat washer and clutch spring on idler pulley bolt and secure with small retainer spring.
- 9. Install belt onto engine pulley.

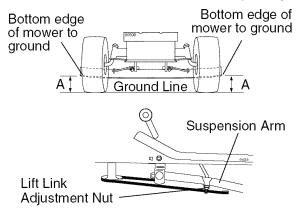
#### TO LEVEL MOWER HOUSING

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".

· Recheck measurements after adjusting.



FRONT-TO-BACK ADJUSTMENT IMPORTANT: Deck must be level side-to side. If the following front-to-back adjust-

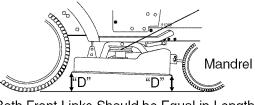
ment is necessary, be sure to adjust both front links equally so mower will stay level side-to-side.

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.

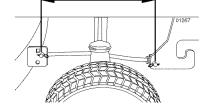
Check adjustment on right side of tractor. Measure distance "D" directly in front and behind the mandrel at bottom edge of mower housing as shown.

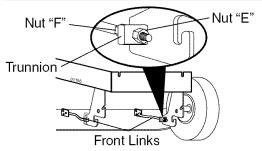
• Before making any necessary adjustments, check that both front links are equal in length.

- 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 Should be Equal in Length





# 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.

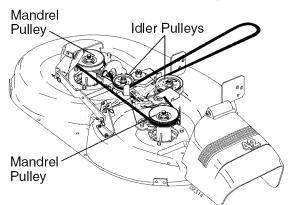
BELT REMOVAL -

- 1. 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

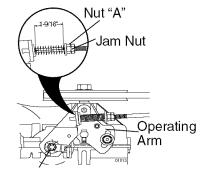
- 1. Park tractor on a level, dry concrete or paved surface, depress clutch/brake pedal all the way down and engage parking brake.
- 2. Disengage transmission by placing freewheel control in "transmission disengaged" position. Pull freewheel control out and into the slot and release so it is held in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

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

TO ADJUST BRAKE

- 1. Depress clutch/brake pedal all the way down and engage parking brake.
- 2. Measure distance between brake operating arm and nut "A" on brake rod.
- 3. If distance is other than 1-9/16", 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"



Do not touch this nut. If further brake adjustment is necessary contact a Sears or other qualified service center.

## TO REPLACE MOTION DRIVE BELT

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

**BELT REMOVAL -**

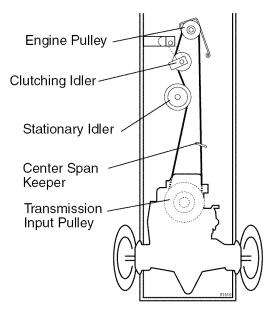
1. Remove mower (See "TO REMOVE MOWER" in this section of manual).

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

- 2. Remove belt from stationary idler and clutching idler.
- 3. Remove belt downward from around engine pulley.
- 4. Pull belt slack toward rear of tractor. Carefully remove belt upwards from transmission input pulley.
- 5. 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 around the top groove of engine pulley.
- 4. Install belt through stationary idler and clutching idler.
- 5. Make sure belt is in all pulley grooves and inside all belt guides and keepers.
- 6. Install mower (See "TO INSTALL MOWER" in this section of manual).



#### TRANSAXLE MOTION CONTROL LE-VER NEUTRAL ADJUSTMENT

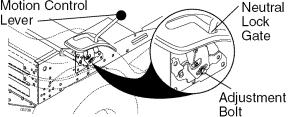
The motion control lever has been preset at the factory and adjustment should not be necessary.

- 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.

Motion Control



#### **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 ALIGN-MENT

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.

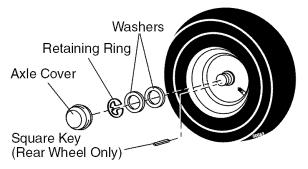
#### TO REMOVE WHEEL FOR REPAIRS

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

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

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

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



#### TO START ENGINE WITH A WEAK BAT-TERY

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 "BAT-TERY" in the MAINTENANCE section of this manual).

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

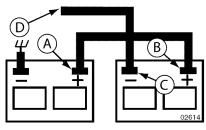
**IMPORTANT**: Your tractor is equipped with a 12 volt system. The other vehicle must also be a 12 volt system. Do not use your tractor battery to start other vehicles.

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.
- 2. Connect one end of the BLACK cable to the NEGATIVE (-) terminal (C) of fully charged battery.
- 3. Connect the other end of the BLACK cable (D) to good chassis ground, away from fuel tank and battery.

TO REMOVE CABLES, REVERSE ORDER -

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



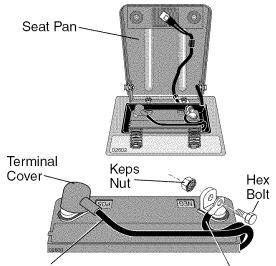
Weak or Dead Battery Fully Charged Battery

## **REPLACING BATTERY**

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

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

- 1. Lift seat pan to raised position.
- 2. Disconnect BLACK battery cable first then RED battery cable and carefully remove battery from tractor.
- 3. Install new battery with terminals in same position as old battery.
- 4. First connect RED battery cable to positive (+) terminal with hex bolt and keps nut as shown. Tighten securely. Slide terminal cover over terminal
- 5. Connect BLACK grounding cable to negative (-) terminal with remaining hex bolt and keps nut. Tighten securely.



Positive (Red) Cable Negative (Black) Cable

## 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.
- Close hood.

## INTERLOCKS AND RELAYS

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

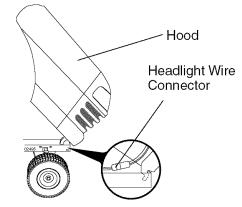
• Check wiring. See electrical wiring diagram in the Repair Parts section.

#### 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

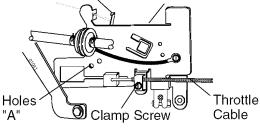
Maintenance, repair, or replacement of the emission control devices and systems, which are being done at the customers expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized engine manufacturer's service outlet.

#### 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:

- 1. 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.

Governor Control Lever Governor Control Plate



## 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 -

- 1. 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).

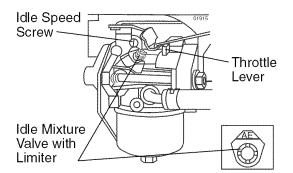
FINAL SETTING -(See "TO ADJUST THROTTLE CONTROL CABLE" in this section of the manual.)

- 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.
- 3. 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 or 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.



# 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.

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

## TRACTOR

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

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

## BATTERY

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

## ENGINE

#### **FUEL SYSTEM**

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

- 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).
- 3. Turn ignition key to "START" position for a few seconds to distribute oil.
- 4. Replace with new spark plug(s).

#### OTHER

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

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

## TROUBLESHOOTING CHART:

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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> </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 carbure- tor, refill tank with fresh gas- oline and replace fuel filter.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor"</li> </ol>
	10.Engine valves out of adjustment.	in Service and Adjustments section. 10.Contact a Sears or other qualified service center.
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> </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> </ol>
	<ol> <li>Engine valves out of adjustment.</li> </ol>	<ol> <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	<ol> <li>Cutting too much grass/too fast.</li> <li>Throttle in "CHOKE" position.</li> <li>Build-up of grass, leaves and trash under mower.</li> <li>Dirty air filter.</li> <li>Low oil level/dirty oil.</li> </ol>	<ol> <li>Raise cutting height/reduce speed.</li> <li>Adjust throttle control.</li> <li>Clean underside of mower housing.</li> <li>Clean/replace air filter.</li> <li>Check oil level/change oil.</li> </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>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>6. Clean and regap or change spark plug.</li> <li>7. Replace fuel filter.</li> <li>8. Empty fuel tank and refill tank with fresh, clean gasoline.</li> <li>9. Empty fuel tank and carbure- tor, refill tank with fresh gas- oline and replace fuel filter.</li> <li>10. Connect and tighten spark plug wire.</li> <li>11. Clean engine air screen/fins.</li> <li>12. Clean/replace muffler.</li> <li>13. Check all wiring.</li> <li>14. See "To Adjust Carburetor" in Service and Adjustments section.</li> <li>15. 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	<ol> <li>Reverse operation system (ROS) is not "ON" while mower or other attachment is engaged.</li> </ol>	<ol> <li>Turn ignition key to ROS "ON" position. See Operation section.</li> </ol>
Engine continues to run when operator leaves seat with attachment clutch engaged	<ol> <li>Faulty operator-safety presence control system.</li> </ol>	<ol> <li>Check wiring, switches and connections. If not corrected, contact a Sears or other qualified service center.</li> </ol>
Poor cut - uneven	<ol> <li>Worn, bent or loose blade.</li> <li>Mower deck not level.</li> <li>Buildup of grass, leaves, and trash under mower.</li> <li>Bent blade mandrel.</li> <li>Clogged mower deck vent 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:

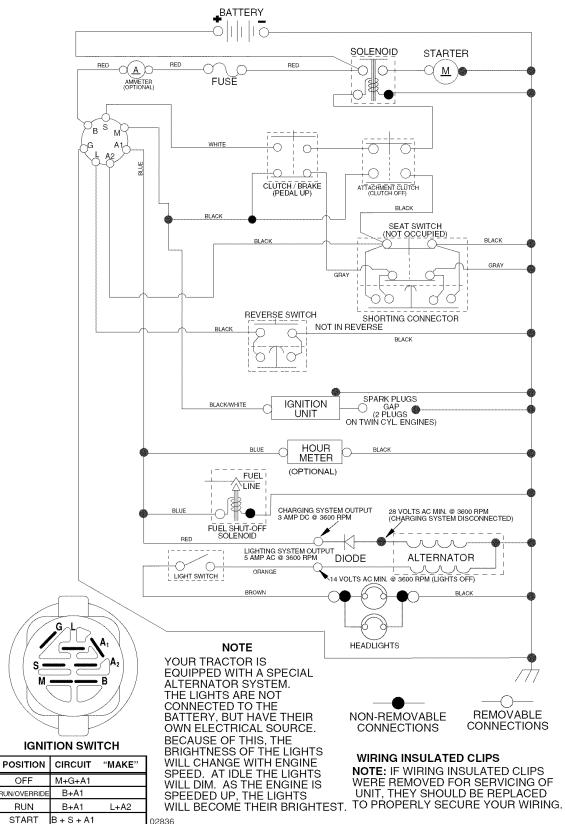
See appropriate section in manual unless directed to Sears service center

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

# SERVICE NOTES

#### SCHEMATIC

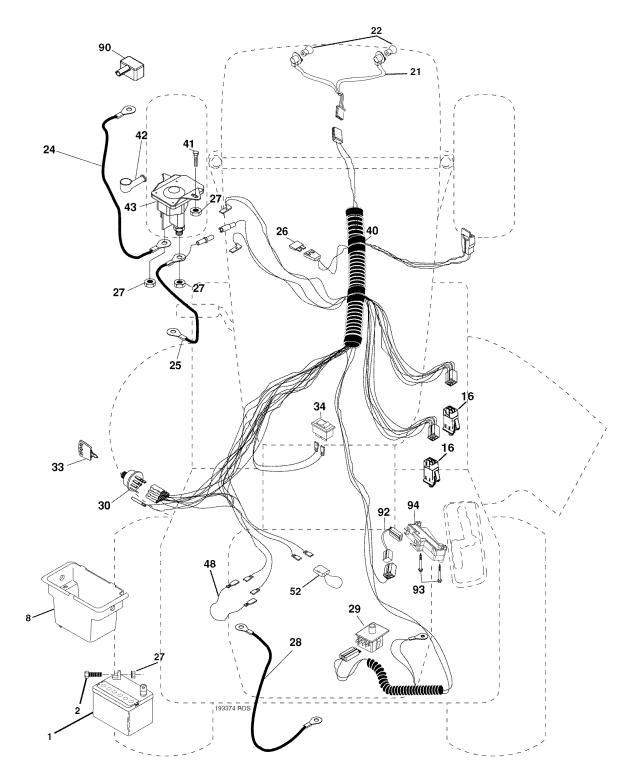
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## **REPAIR PARTS**

TRACTOR - - MODEL NUMBER 917.275401

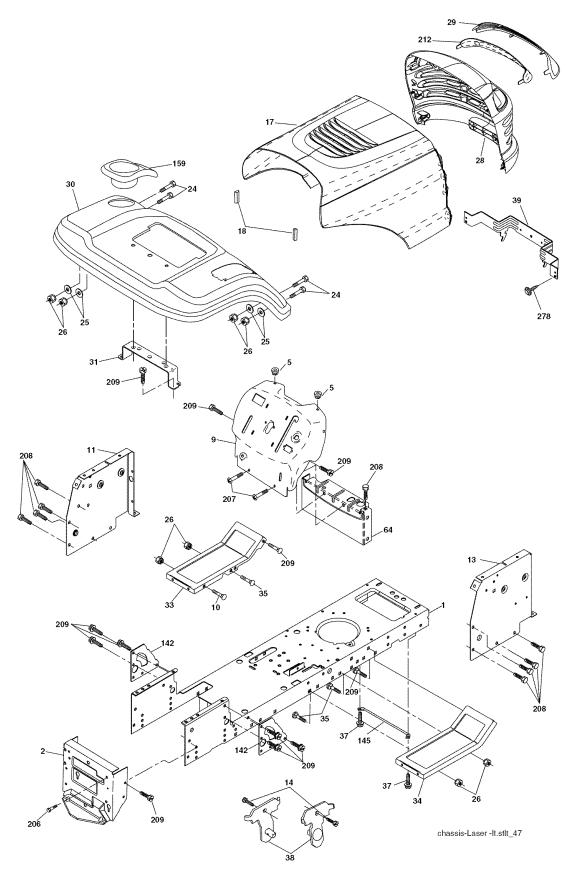
ELECTRICAL



ELECTRICAL

	PART NO.	DESCRIPTION
1 2 8	163465 74760412 176689	Battery Bolt Hex Hd 1/4-20 unc x 3/4 Box Battery
16 21	176138 183759	Switch, Interlock
22		Harness Asm Light W/4152j Bulb Light #1156
24	4799J	Cable Battery 6 Ga. 11" red
25		Cable Battery
26 27	175158 73510400	Fuse Nut Keps Hex 1/4-20 Unc
28		Cable Ground 6 Ga. 12" black
	192749	Switch Seat
30		Switch Ign
33		Key Ign
34 40	110712X 193374	Switch Light Harness Ign
40	71110408	Bolt Blk. Fin Hex 1/4-20 unc x 1/2
42		Cover Terminal Red
43	178861	Solenoid
48	140844	Adapter Ammeter
52	141940	Protection Wire Loop Cover Terminal
90 92		Harness Pigtail Reverse Switch
93	192540	Screw Plastic 10-14 x 2.0
94	191834	Module Reverse ROS

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

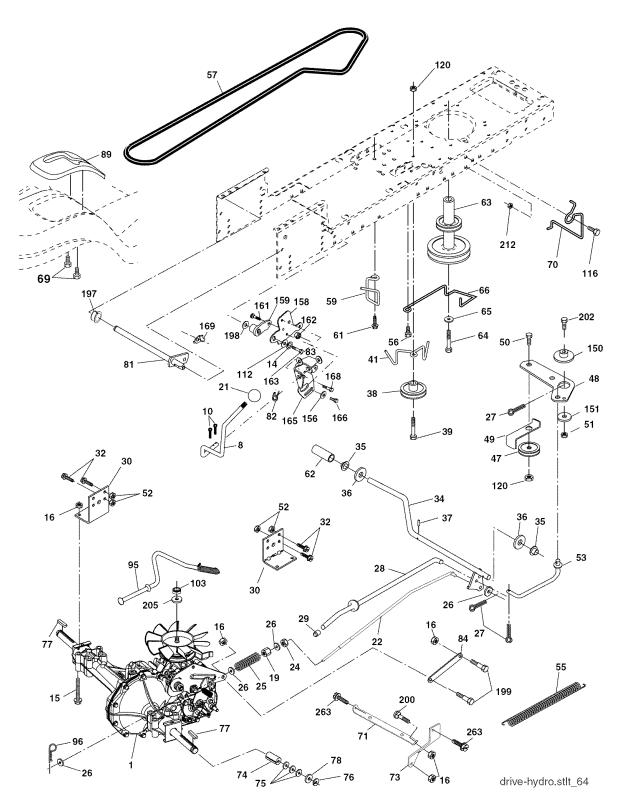


## TRACTOR - - MODEL NUMBER 917.275401 CHASSIS AND ENCLOSURES

KEY NO.	PART NO.	DESCRIPTION
1 2 5	174619 176554 155272	Chassis Drawbar Bumper Hood/Dash
9	193510X012	Dash
10	STD533710	Bolt, Carriage 3/8-16 x 3/4
11	174996	Panel, Dash, L.H.
13	172105X010	Panel, Dash, R.H.
14	17490608	Screw Thdrol 3/8-16 x 1/2
17 18	185682X613 184921	Hood Assembly Bumper Hood
24	STD523710	Bolt Fin. Hex 3/8-16 x 1
25	19131312	Washer 13/32 x 13/16 x 12 Ga.
26	STD541437	Nut
28	193258	Grille/Lens Asm. (Includes Key Nos. 29 and 212)
29	174332X599	Lens
30	192528x613	Fend/Ftrest
31	136619	Bracket, Fender Support
33 34	179716X613 179717X613	Footrest LH Footrest RH
34 35	STD533707	Bolt Rdhd Sht Sank 3/8-16 x 3/4
37	17490508	Screw Thdrol 5/16-18 x 1/2
38	175710	Pivot Bracket Assembly, Rear
39	174714	Bracket Pivot Laser Lt
64	154798	Dash Lower STLT
142	175702	Plate Reinforcement STLT
145	156524	Rod Pivot Chassis/Hood
159	169473X428	Cupholder
206 207	170165 17670508	Bolt Shoulder 5/16-18 TT Screw Thdrol 5/16-18 x 1/2 Tytt
207	17670608	Screw Thdrol 3/8-16 x 1/2
209	17000612	Screw Hexwsh Thdr 3/8-16 x 3/4
212	175143	Insert Lens Reflective
278	191611	Screw 10 x 3/4 Single Lead-Hex
	5479J	Plug, Button
	187801	Plug Plastic Dome

NOTE: All component dimensions given in U.S. inches 1 inch = 25.4 mm TRACTOR - - MODEL NUMBER 917.275401

**GROUND DRIVE** 



38

### **GROUND DRIVE**

### TRACTOR - - MODEL NUMBER 917.275401

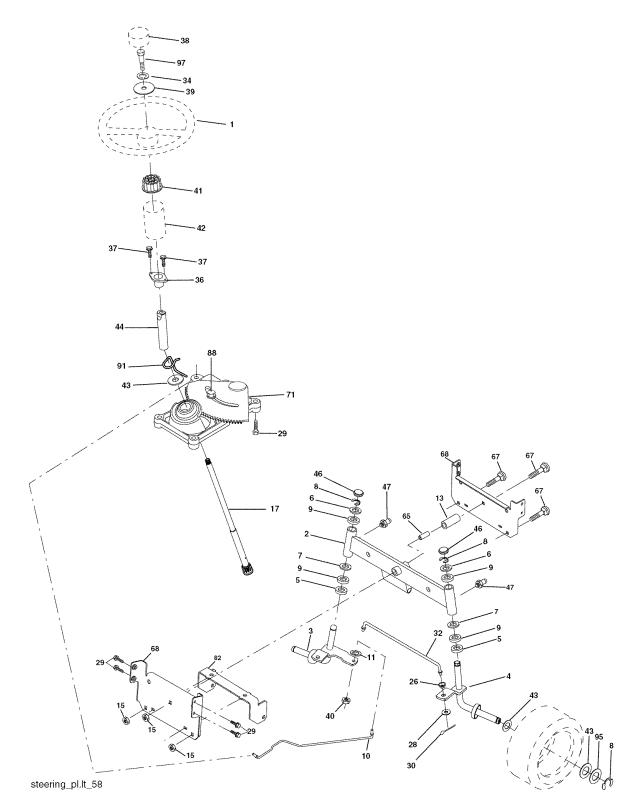
#### KEY PART NO. NO.

NO.	NO.	DESCRIPTION
1		Transmission (See Breakdown) Hydro Gear Model 322-0510
8	192706	Rod, Shift
10	STD561210	Pin, Cotter 1/8 x 1
14	STD551125	Washer Lock 1/4
15	74490544	Bolt Hex Fighd 5/16-18 Gr. 5
16	73800500	Nut, Lock Hex w/Ins
10	/0000000	5/16-18 unc
19	73800600	Nut Lock Hex w/Ins 3/8-16
21	130564	Knob
22	169498	Rod, Brake
24	73350600	Nut
25	106888X	Spring, Rod, Brake
26	19131316	Washer 13/32 x 13/16 x 16 Ga.
27	STD561210	Pin, Cotter 1/8 x 3/4
28	175765	Rod, Parking Brake
29	71673	Cap, Parking Brake
30	174973	Bracket, Transmission
32	74760512	Bolt Hex 5/16-18 unc x 3/4
34	175578	Shaft, Foot Pedal
35	120183X	Bearing, Nylon
36	19211616	Washer
37	1572H	Pin, Roll
38	179114	Pulley, Composite
39	72110622	Bolt Rdhd
		3/8-16 unc x 2-3/4 Gr. 5
41	175556	Keeper, Belt, Idler
47	127783	Pulley, Idler, V-Belt
48	154407	Bellcrank Clutch Grnd Drustl
49	123205X	Retainer, Belt
50	72110612	Bolt
51	STD541437	Nut Crownlock 3/8-16 unc
52	STD541431	Nut Crownlock 5/16-18
53	105710X	Link, Clutch
55	105709X	Spring, Return, Clutch
56	17060620	Screw 3/8-16 x 1 1/4
57	140294	V-Belt, Drive
59	169691	Keeper, Belt, Center
61	17120614	Screw 3/8-16 x .875
62	8883R	Cover, Pedal
63	175410	Pulley, Engine
64	173937	Bolt Hex
		7/16-20 x 4 Gr. 5-1.5 Thr
65	10040700	Washer
66	154778	Keeper, Belt Engine Hydro
69	142432	Screw Hex Wsh Hi-Lo
		1/4 x 1/2 unc

DESCRIPTION

KEY NO.	PART NO.	DESCRIPTION
70 71 73 74 75 76 77 78 81 82 83 84 89 90 95 96	134683 169183 169182 137057 121749X 1200001 123583X 121748X 165596 165711 19171216 169847 192056X428 124346X 170201 STD624003	Guide, Belt, Mower Drive RH Strap, Torque, Lh Strap, Torque, Rh Spacer, Axle Washer 25/32 x 1-1/4 x 16 Ga. Ring, E Key, Square Washer 25/32 x 1-5/8 x 16 Ga. Shaft Asm Cross Spring, Torsion Washer 17/32 x 3/4 x 16 Ga. Link Transaxle Console, Shift Nut Self-Thd Wshd 1/4 Control Asm Bypass Hydro Spring, Retainer 1"
103 112 116 120 150 151 156 158 159 162 163 164	73940800 19091210 72140608 73900600 175456 19133210 166002 165589 183900 73680400 74780416 72140406	Nut, Hex Jam Toplock 1/2-20 unf Washer 9/32 x 3/4 x 10 Ga. Bolt Rdhd Sq Neck 3/8-16 x 1 Nut Lock Flg 3/8-16 Spacer Retainer Washer 13/32 x 2 x 10 Washer 5/16 x 1.0 x 1.25 Bracket Shift Mount Hub Shift Nut Crownlock 1/4-20 unc Bolt Hex Fin 1/4-20 x 1 Bolt Rdhd Sqnk 1/4-20 x 3/4 Gr. 5
165 166 168 169 197 198 199 200 202 202 202 205 212 205	165623 17490510 165492 165580 169613 169593 169612 72140508 72110614 19171616 145212	Bracket Pivot Lever Screw 5/16-18 x 5/8 Bolt Shoulder 5/16-18 x .561 Plate Fastener Cross Shaft Nyliner Snap-In Washer Nyliner 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 Washer 17/32 x 1 x 16 Ga. Nut Hex Flange Lock
200 202 205	72140508 72110614 19171616	Bolt RdHd Sqnk 5/16-18 unc x 1 Bolt Carr. Sh 3/8-16 x 1-3/4 Gr. 5 Washer 17/32 x 1 x 16 Ga.

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

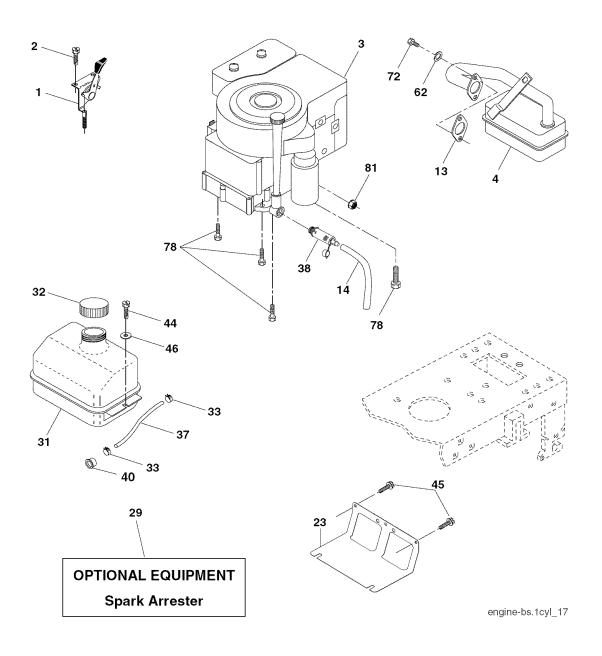


# TRACTOR - - MODEL NUMBER 917.275401 STEERING ASSEMBLY

KEY PART NO. NO.	DESCRIPTION
1         186780           2         175131           3         169840           4         169839           5         6266H           6         121748X           7         19272016           8         12000029           9         3366R           10         175121           11         STD551137           13         136518           15         145212           17         190753           26         126847X           28         19131416           29         17000612           30         STD561210           32         192757           34         10040500           36         155099           37         152927           38         186781           39         19113812           40         73540600           41         186737           42         145054X428           43         121749X           44         190752           46         121232X           47         183226           65         160367	Steering Wheel Axle Assembly Spindle Assembly, L.H. Spindle Assembly, R.H. Washer Thrust Washer 25/32 x 1-5/8 x 16 Ga. Washer 27/32 x 1-1/4 x 16 Ga. Ring, Klip Bearing Col. Draglink Washer, Lock Spacer Bearing Axle Front Nut, Hex Flange Lock Shaft, Steering Bushing, Link, Drag Washer 13/32 x 7/8 x 16 Ga. Screw 3/8-16 x 3/4 Pin Cotter Rod, Tie Washer Lock Hvy. HIcl Spr 5/16 Bushing, Steering Screw Insert, Steering Wheel Washer 11/32 ID x 3/8 OD x 12 Ga. Nut Crownlock 3/8-24 Adaptor, Steering Wheel Boot, Steering Shaft Washer 25/32 x 1-1/4 x 16 Ga. Extension Shaft Steering Cap, Spindle Fitting Grease Spacer Brace Axle Bolt RDHD Sqnk 3/8-16 x 2-1/4 Axle, Brace Steering Asm.
82 169835 88 175118 91 175553 95 188967 97 74780564	Bracket Susp. Chassis Front Bolt Shoulder 7/16-20 unc Clip Steering Washer Hardened Bolt 5/16-18 unc x 4 Gr. 5
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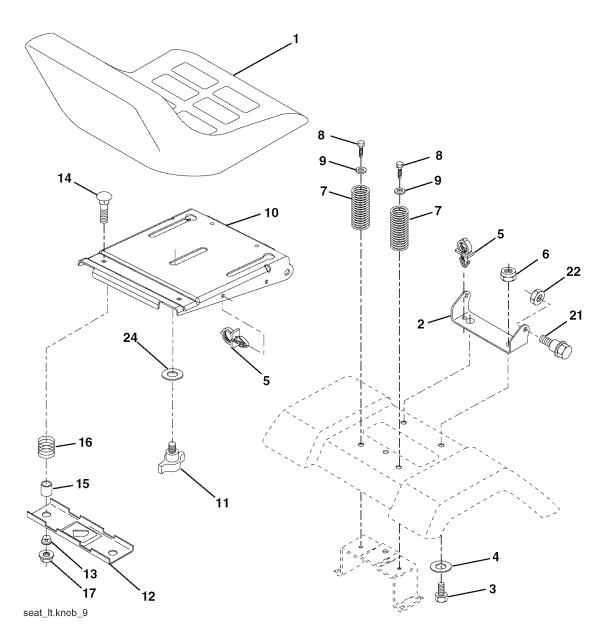
NOTE: All component dimensions given in U.S. inches 1 inch = 25.4 mm

### ENGINE



KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	170545	Control, Throttle/Choke	37	137040	Line, Fuel
2	17720408	Screw, Hex Head, Thread	38	181654	Plug Drain Oil Easy
		Cutting 1/4-20 x 1/2	40	124028X	Bushing, Snap, Fuel Line
3		Engine, Briggs Model 31H777-	44	17670412	Screw, Hex Washer Head,
		0297-E1 (See Breakdown)			Thd., Roll. 1/4-20 x 3/4
4	137352	Muffler	45	17000612	Screw Hxwsh Thdr 3/8-16 x 3/4
13	165291	Gasket	46	19091416	Washer 9/32 x 7/8 x 16 Ga.
14	148456	Tube Drain Oil Easy	62	10010500	Washer Split
23	169837	Shield Brn/Dbr Guard	72	71070512	Screw Hex Head Cap
29	137180	Arrestor, Spark			5/16-18 x 3/4
31	187750	Tank. Fuel	78	17060620	Screw 3/8-16 x 1-1/4
32	140527	Cap Assembly, Fuel Sears,	81	73510400	Nut Keps Hex 1/4-20
		Vented			•
33	123487X	Clamp, Hose	NOTE	E: All componer	nt dimensions given in U.S. inches
			<b>`</b>	1 inch = 25.4	mm

### TRACTOR - - MODEL NUMBER 917.275401 SEAT ASSEMBLY



	PART NO.	DESCRIPTION
1 2	188716 180166	Seat Bracket Pnt Pivot Seat (blk )
3 4 5	71110616 19131610 145006	Bolt Fin Hex 3/8-16 unc x 1 Washer 13/32 x 3/4 x 10 Ga.
5 6 7	STD541437 124181X	Clip Push In Hinged Nut Hex Lock w/Ins 3/8-16 unc Spring Seat Cprsn 2 250 Blk Zi
, 8 9	17000616 19131614	Screw 3/8-16 x 1 Washer 13/32 x 1 x 14 Ga.
10 11	180186 166369	Pan Pnt Seat (blk ) Knob Seat Adj Wingnut

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KEY NO.	PART NO.	DESCRIPTION
12 13 14 15 16 17 21 22 24	174648 121248X 72050412 134300 121250X 123976X 171852 STD541431 19171912	Bracket Pnt Mounting Switch Bushing Snap Blk Nyl 50 Id Bolt Rdhd Sht Nk 1/4-20 x 1-1/2 Spacer Split 28 x 96 Zinc Spring Cprsn 1 27 Blk Pnt Nut Lock 1/4 Lge Flg Gr. 5 Zinc Bolt Shoulder 5/16-18 unc-2A Nut Hex Lock w/Ins 5/16-18 Washer 17/32 x 1-3/16 x 12 Ga.

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

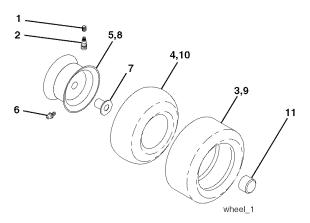
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## TRACTOR - - MODEL NUMBER 917.275401

DECALS

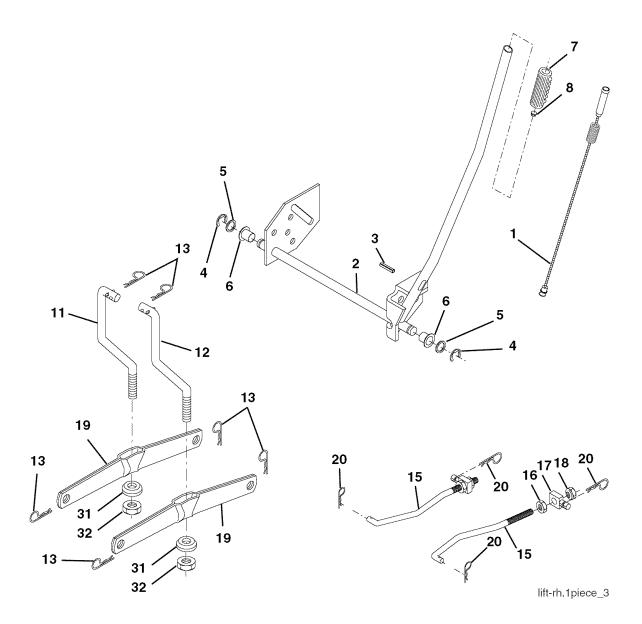
KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	193307	Decal, Oper. Instr.	13	183827	Decal, Dash Panel
2	194160	Decal, Replacement	14	160396	Decal, V-Belt Schematic
3	186280	Decal, Hood, R.H.	15	189100	Decal, Engine
4	186281	Decal, Hood, L.H.	16	172331	Decal, Mower Hvy. Duty 12 Ga.
5	179128	Decal, Deck "B" 42"	20	149516	Decal, Battery Dngr/Psn Eng
6	133644	Decal, Customer Maintenance		138311	Decal, Lift Handle
7	193545	Decal, Hood Side		166960	Decal, By-Pass
9	186282	Decal, Fender, Craftsman		179768X428	Pad, Footrest LH STLT
10	156439	Decal, Fender Danger		179769X428	Pad, Footrest RH STLT
11	138047	Decal, Battery		194249	Manual, Owner's, English
12	146046	Decal, V-Belt Drive Schematic		194250	Manual, Owner's, Spanish

### WHEELS & TIRES



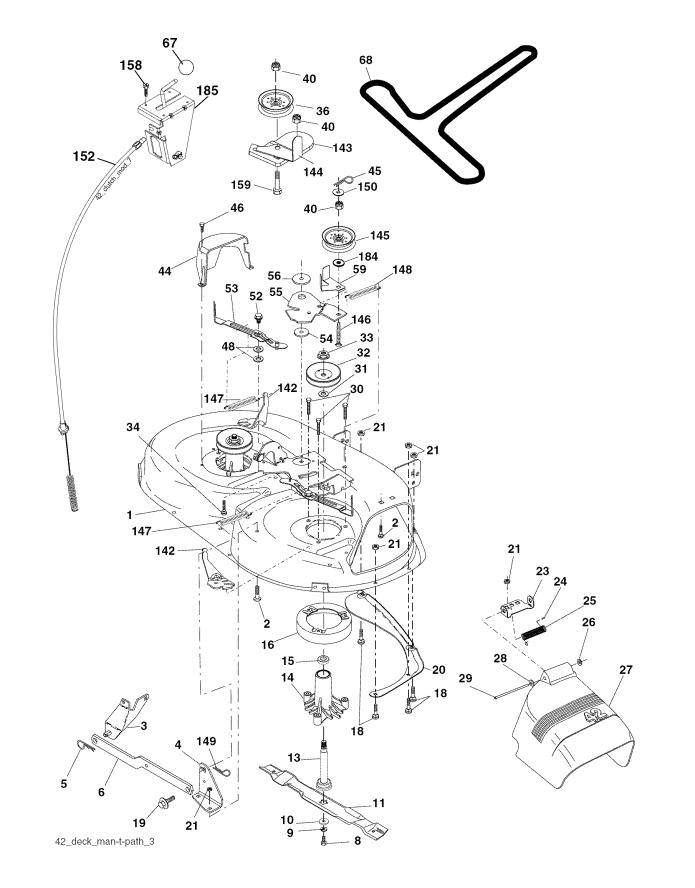
KEY	PART	
NO.	NO.	DESCRIPTION
1	59192	Cap Value Tire
2	65139	Stem Value
3	106222X	Tire F Ts 15 x 6.0 - 6 Service
4	59904	Tube Inner Front #35060
5	106732X624	Rim Asm 6" front White Service
6	278H	Fitting Grease
7	9040H	Bearing Flange
8	106108X624	Rim Asm 8" rear White Service
9	106268X	Tire R Ts 18 x 9 5-8 Service
10	7152J	Tube Rear 9.5 x 8 Service
11	104757X428	Cap Axle Blk 1.50 x 1.00
	144334	Sealant, Tire (10 oz. tube)

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



KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	159460	Washer Asm Inner Spring W/	13	STD624008	Retainer Spring
		Plunger	15	173288	Link Front
2	159471	Shaft Asm. Lift	16	73350800	Nut Jam Hex 1/2-13 unc
3	105767X	Pin Groove	17	175689	Trunnion Blk Zinc
4	12000002	E Ring #5133-62	18	73800800	Nut Lock w/Wsh 1/2-13 unc
5	19211621	Washer 21/32 x 1 x 21 Ga.	19	139868	Arm Suspension Mower
6	120183X	Bearing Nylong	20	163552	Retainer Spring
7	125631X	Grip Handle Fluted	31	169865	Bearing, Pvt. Lift
8	122365X	Button Plunger Read	32	73540600	Nut Crownlock 3/8-24
11 12	139865 139866	Link Asm Lift L.H. Link Asm Lift R.H.	NOTE	E: All componer 1 inch = 25.4	nt dimensions given in U.S. inches mm

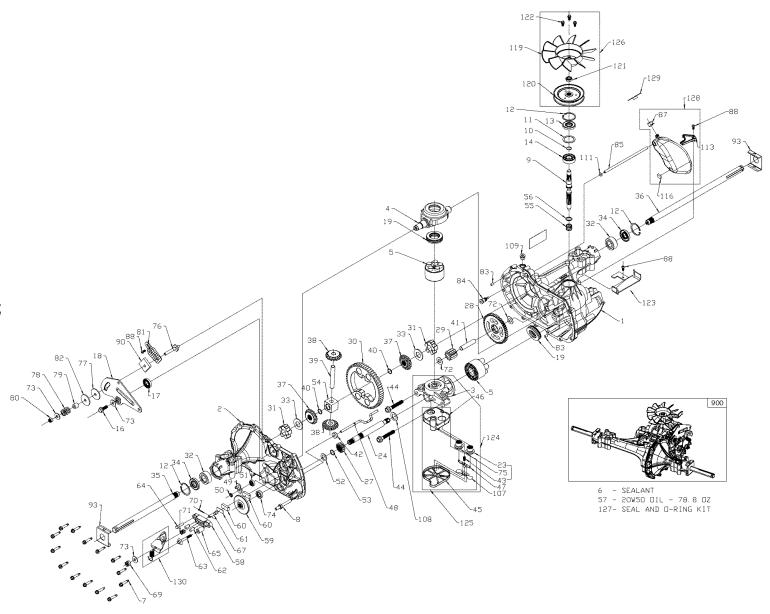
MOWER DECK



## TRACTOR - - MODEL NUMBER 917.275401

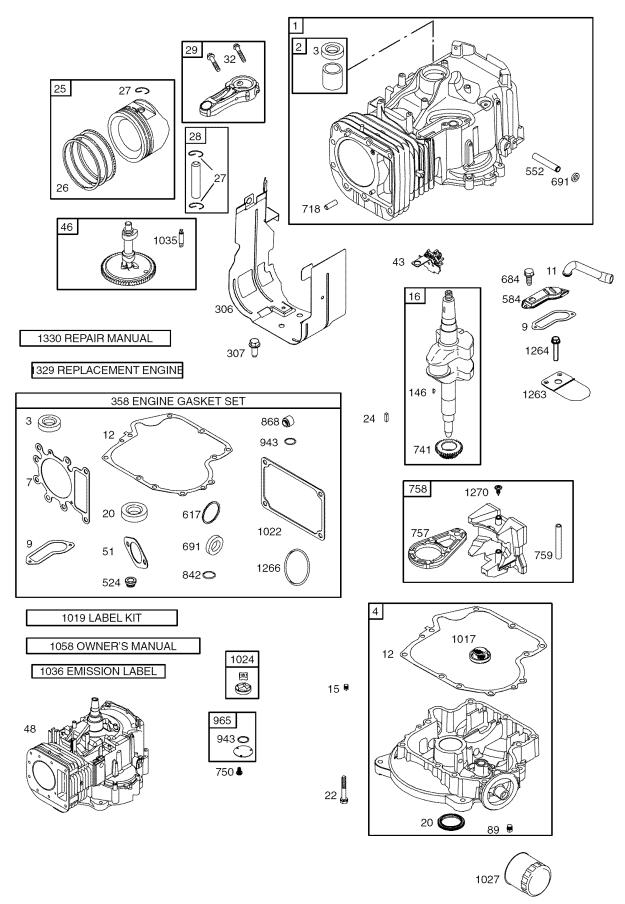
### MOWER DECK

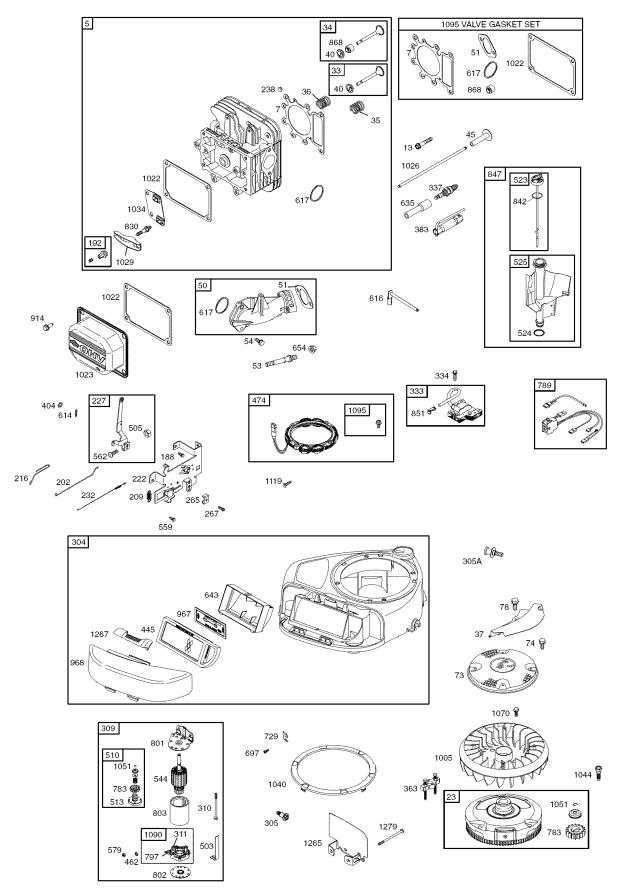
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 2 3	165892 STD533107 138017	Mower Deck Assembly, 42" Bolt Bracket Assembly,Sway Bar, Front	34 36 40 44	72110612 131494 73900600 140088	Bolt Carr. Sh. 3/8-16 x 1-1/2 Gr. 5 Pulley, Idler, Flat Nut Lock 3/8-16 unc Guard, Mandrel, L.H.
4	165460	Bracket Sway Bar 38/42" Deck	45	STD624003	Retainer
5	STD624008	Retainer Spring	46	137729	Screw, Thd. Roll 1/4-20 x 5/8
6	178024	Bar Sway Deck	48	133944	Washer, Hardened
8 9	850857	Bolt, Hex 3/8-24 x 1.25 Gr. 8	52	139888	Bolt, Shoulder 5/16-18 unc
9 10	STD551137 140296	Washer, Lock Washer, Hardened	53 54	184907	Arm Assembly, Pad, Brake
10	140290	(The following baldes are availa-	54 55	178515 155046	Washer, Hardened Arm, Idler
		ble)	55 56	165723	Spacer, Retainer
11	138971	Blade, 42" Hi-Lift	59	141043	Guard, TUV Idler
••	100011	(For bagging or discharging)	67	149846	Knob Custom Oval
	134149	Blade, 42" Mulching Std	68	144959	V-Belt
		(For mulching mowers only)	142	165890	Arm Spring Brake Mower
	139775	Blade, 42" Mulching Premium	143	157109	Bracket Arm Idler 42"
		(For better wear when mulching)	144	158634	Keeper Belt 42" Clutch Cable
13	137645	Shaft Assembly, Mandrel, Vented	145	165888	Pulley Idler Flat
14	128774	Housing, Mandrel, Vented	146	171977	Bolt Carriage Idler
15	110485X	Bearing, Ball, Mandrel	147	131335	Spring Extension
16	174493 72140505	Stripper, Vented Mower Deck	148	169022	Spring Return Idler
18 19	132827	Bolt, Carriage 5/16-18 x 5/8 Bolt, Shoulder	149 150	165898	Retainer Spring Yellow Zinc
20	152827	Baffle, Vortex	150	19091210 169676	Washer 9/32 x 3/4 x 10 Ga. Cable Clutch 42 In
20	STD541431	Nut Crownlock 5/16-18 unc	152 158	17720408	Screw Hex Thd Cut 1/4-20 x 1/2
23	177563	Bracket. Deflector	159	72140614	Bolt Rdhd Sgn 3/8-16 unc x 3/4
24	105304X	Cap, Sleeve	184	19131410	Washer 13/13 x7/8 x 10 Ga.
25	123713X	Spring, Torsion, Deflector	185	188234	Head Asm Cable Clutch
26	110452X	Nut, Push		130794	Mandrel Assembly (Includes
27	130968X428	Shield, Deflector			Housing, Shaft and Shaft
28	19111016	Washer 11/32 x 5/8 x 16 Ga.			Hardware Only - Pulley Not
29	131491	Rod, Hinge			Included)
30	173984	Screw Thdrol Washer Head		171639	Replacement Mower, Complete
31	187690 153535	Washer, Spacer	NOT		nt dimensions given in U.S. inches
32 33	178342	Pulley, Mandrel Nut, Toplock, Flanged	non	1 inch = 25.4	
00	170042	nut, toplook, tildiigeu			

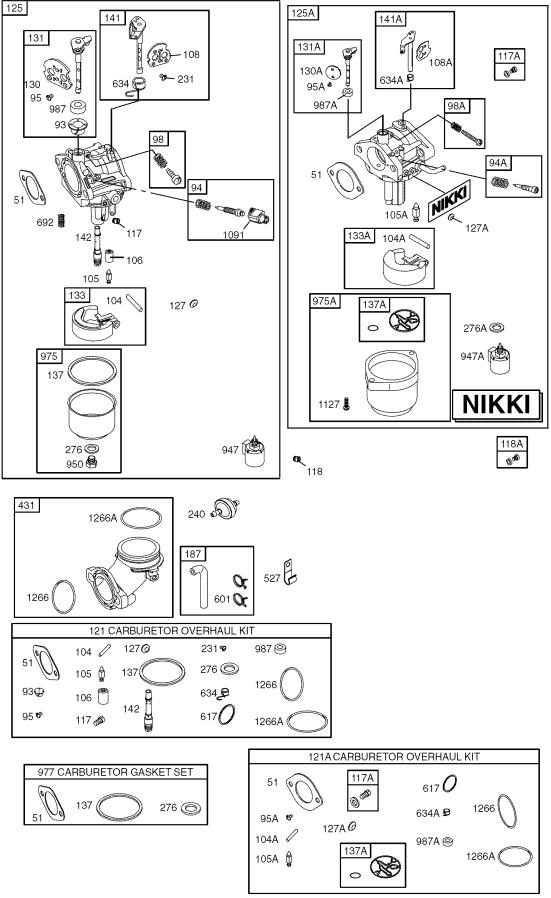


# TRACTOR - - MODEL NUMBER 917.275401 HYDRO TRANSAXLE - - MODEL NUMBER 322-0510

KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	170351	Kit, Main Housing	67	170413	Bolt, Square Head - Brake
		Main Housing, Machined Bushing .865 X .985 X .790	69 70	170415 170416	Nut, Castle 5/16-24 Pin, Cotter 3/32x3/4
2	170352	Kit, Side Housing	71	170417	Brake Spring
_		Side Housing, Machined	72	170418	Washer (310-0750)
		Bushing .865 X .985 X .790	73	142884	Washer, Flat
0	170050	Bushing .624 X .719 X .562	74	170419	Seal, Oil
3	170353	Kit, Center Section Center Section, Machined	75 76	170420 170421	Ass'y Check Plug Bolt, Stud 5/16-24
		Bushing .707 X .788 X .591	77	170422	Puck, Friction
4	170354	Swashplate, Trunnion Machined	78	142969	Spring
5	169898	Kit, Cylinder Block (10cc)	79	142980	Spacer
		Block - Cylinder - Piston	80	150778	Nut, Nylon Insert Hex Lock
		Spring, Compression Washer - Thrust	81	170423	5/16-24 Wedge, Friction
6	178322	Sealant Tube	82	170424	Clip, Washer
7	170356	Hexflange Screw 1/4-20 X 1.25	83	161168	Pin
8	170357	Stud, 5/16-24 Hex Double End	84	170425	Fitting, 5/16 X Sae 5/32 Tube
9 10	170358 170359	Shaft, Input Retaining Ring	85 87	170426 173160	Hose, Expansion Tank Cap, Vent
11	170360	Spacer	88	178334	Bolt, Self Tapping (BDR)
12	169870	Retaining Ring	90	170430	Puck, Inner Wedge
13	170361	Seal, Lip .67 X 1.58 X .276	93	170431	Spring Clip, Housing
14 16	173158 170362	Bearing, Ball 6203 (BDR) Hex Flange Head Screw	107 108	170432 170433	Deflector Washer, Motor Shaft
10	170302	1/4-20 X 1.25	100	170400	.71ID X 1.150D X .03 Thick
17	170363	Seal, Lip 18 X 32 X 7	109	170434	Plug, Straight Thread 9/16-18
18	170364	Arm, Control	111	170435	O-ring .7 X .301 ID
19 23	173159	Bearing, Thrust (10cc) Check Plug Assembly	113	170437	Bracket, Support Expansion
23 24	170365 170366	Shaft Motor	119	173161	Tank Fan (310-3000)
27	170367	Gear, Pinion, 13t	120	170440	Pulley
28	170368	10t / 48t Gear	121	170441	Hex Nut Locking
29 30	170369	Gear, 10t Jackshaft	122	173162	Screw, #12-24 Hx Hd Self Tap-
30	170370 170371	60t Bullgear Sleeve Bearing	123	173163	ping (310-3000) Bracket, Belt Keeper
01	1/00/1	.75 X 1.75 X .625	124	170444	Kit, Center Section Filter Bypass
32	170389	Sleeve Bearing (Outboard)			Center Section Machining
00	140001	.75 X 1.575 X .625			Base Filter W/ Poppet
33 34	142991 170390	Washer Lip Seal, Axle Shaft			Check Plug Assembly, 027 Washer, Check Plug Assembly,
35	170391	Shaft, Axle (Keyed, R.h.)			Washer, Spring, Bypass
36	170392	Shaft, Axle (Keyed, L.h. )			Actuator, Bypass, Deflector
37	150792	Gear, Splined Diff. (210-1000 &			Bottom, Filter
38	150793	310-0750) Gear, Miter Diff. (210-1000 &	125	170445	Bushing .707 X .788 X .591 Kit, Filter
00	100700	310-0750)	120	170440	Bottom, Filter, Spring, Bypass
39	150809	Differential Shaft (310-0750)			Actuator, Bypass, Deflector
40	170393	Retaining Ring	100	470404	Base, Filter W/ Poppet
41 42	170394 170395	Pin, Jackshaft Magnet, Ring	126	173164	Kit, Fan / Pulley #12 T.f. Screw - Indented Hex
43	170396	Spring, Bypass			Washer Head, Fan
44	150797	Bolt 3/8-24 X 2-1/2			Pulley 4.315 X .801
45	170397	Filter	127	170447	Kit, Seal
46 47	170398 170399	Base, Filter Actuator, Bypass			Lip Seal .67 X 1.58 X .276 Lip Seal 18 X 32 X 7
48	170400	Rod, Bypass Actuator			Lip Seal .706 X 1.584 X .25
49	170401	Arm, Bypass			Lip Seal .741 X .250 X .250 TC
50	170402	Retaining Ring .25 External			Oil Seal 625 X 1.0 X .25
51 52	170403 170404	Seal, Lip .741 X .25 X .25	128	173165	O-ring .07 X .301 ID Kit, Expansion Tank
53	170404	Washer, Flat 0.050" (210-1000) Retaining Ring	120	173105	Kit, Expansion Tank Tank, Expansion, Cap, Vent
54	170406	Bearing, Center Block			Bolt, Self Tapping 10-32 X 1/2
55	142977	Spring, Helical Compression			Bracket, Support Expansion
56 57	142978	Washer, Block Thrust			Tank Silicon Spongo 1/2 X 1/2 X 3/16
57 58	142929	20w-50 Oil 78.8 Oz Kit, Brake Yoke	129	191032	Silicon Sponge 1/2 X 1/2 X 3/16 Cap, Expansion Tank Shipping
59	170408	Rotor, Brake	130	186352	Kit, Brake Arm And Spring
60	142883	Brake Puck	-		Arm, Brake, Spring, Brake Arm
61	142882	Brake Puck Plate	000	171010	Bias, Instruction Sheet
62 63	170409 170410	Pin, Brake Actuating HFHCS 1/4-20 X 2 W/patch,	900	171613	Transaxle
00	170410	Special Flange	NOTE	: All Compone	ent Dimensions Given In U.s.
64	142892	Bolt, Nylok		s 1 Inch = 25.4	
65	170411	Spacer, Brake Torsion Spring	19		
		_			





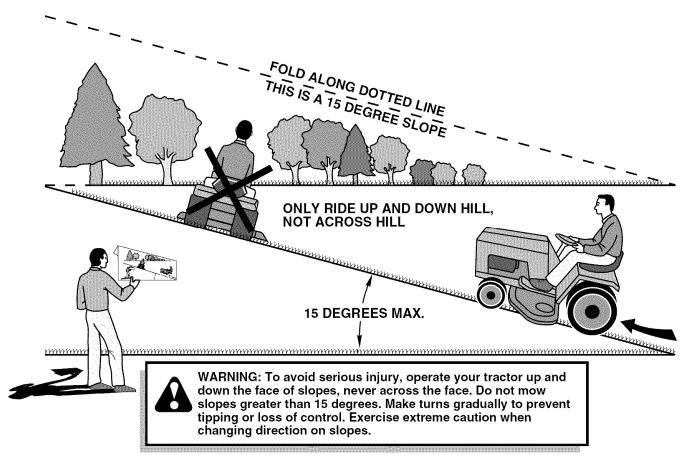


KEY NO.	PART NO.	DESCRIPTION	KEY NO,	PART NO.	DESCRIPTION
NO.	NO.		NO.	NO.	DESCRIPTION
1	697174	Cylinder Assembly	106	690577 Ø	Seat-Inlet
2	399265	Kit-Bushing/Seal (Magneto Side)	108	690464	Valve-Choke (Manual Choke)
3	391086 •	Seal-Oil (Magneto Side)	108A	695419	Valve-Choke (Nikki)
4	697188	Sump-Engine	117	694352 Ø	Jet-Main (Standard)
5 7	698147	Head-Cylinder	117A	699457 Ø	Jet-Main (Standard) (Nikki)
9	699168 •+ 697109 •	Gasket-Cylinder Head Gasket-Breather	118	697228	Jet-Main (High Altitude)
, 11	697113	Tube-Breather	118A 121	699458 697241	Jet-Main (High Altitude) (Nikki) Kit-Carburetor Overhaul
12	697110 •	Gasket-Crankcase	121A	699521	Kit-Carburetor Overhaul (Nikki)
13	690360	Screw (Cylinder Head)	125	698445	Carburetor
15	690946	Plug-Oil Drain	125A		Carburetor (For Complete
16	697127	Crankshaft			Carburetor, Service with
20	690947 •	Seal-Oil (PTO Side)			698445)
22	692125	Screw (Crankcase Cover/Sump)	127	695005	Plug-Welch
23	693557	Flywheel	127A	690727 Ø	Plug-Welch (Nikki)
24	222698	Key-Flywheel	130	691750	Valve-Throttle
25	699052	Piston Assembly (Standard)	130A	699500	Valve-Throttle (Nikki)
	699054	Piston Assembly (.020" Oversize)	131	494379	Kit-Throttle Shaft
26	699051	Ring Set (Standard)	131A 133	699501 494381	Kit-Throttle Shaft (Nikki) Float-Carburetor
	697559	Ring Set (.020" Oversize)	133A	694914	Float-Carburetor (Nikki)
27	698469	Lock-Piston Pin	135	698780	Tube-Fuel Transfer
28	697099	Pin-Piston	137	281165 ؇	Gasket-Float Bowl
29	697126	Rod-Connecting (Standard)	137A	698781 Ø	Gasket-Float Bowl (Nikki)
	697263	Rod-Connecting	141	495097	Kit-Choke Shaft (Manual Choke)
		(.020" Undersize)	141A	698778	Kit-Choke Shaft (Nikki)
32	692852	Screw (Connecting Rod)	142	697140 Ø	Nozzle-Carburetor
33	695760	Valve-Exhaust	146	691639	Key-Timing
34	695761	Valve-Intake	187	697098	Line-Fuel
35 36	691279 691279	Spring-Valve (Intake) Spring-Valve (Exhaust)	188	691693	Screw (Control Bracket)
30 37	697108	Guard-Flywheel	192 202	691986 691841	Adjuster-Rocker Arm Link-Mechanical Governor
40	691752	Retainer-Valve	202	692208	Spring-Governor
43	691968	Slinger-Governor/Oil	216	691840	Link-Choke
45	690564	Tappet-Valve	222	694042	Bracket-Control
46	698492	Camshaft	227	691374	Lever-Governor Control
48	697762	Short Block	231	691636	Screw (Choke Valve)
50	690193	Manifold-Intake	232	691842	Spring-Governor
51		+ Gasket-Intake	238	691843	Cap-Valve
53	690227	Stud (Carburetor)	240	394358	Filter-Fuel
54	691148	Screw (Intake Manifold)	265	691024	Clamp-Casing
73 74	697133 697897	Screen-Rotating Screw (Rotating Screen)	267	695134	Screw (Casing Clamp)
74 78	691003	Screw (Flywheel Guard)	276 276A	692255 ؇ 695410	Washer-Sealing Washer-Sealing
89	690283	Plug-Oil	304	697783	Housing-Blower
93	690602 Ø	Bushing-Throttle Shaft	305	697102	Screw (Blower Housing)
94	498030	Kit-Idle Mixture	305A	697103	Screw (Blower Housing)
94A	695425	Kit-Idle Mixture (Nikki)	306	697107	Shield-Cylinder
95	691636	Screw (Throttle Valve)	307	691003	Screw (Cylinder Shield)
95A	690718 Ø	Screw (Throttle Valve (Nikki)			
98	495800	Kit-Idle Speed	•		ngine Gasket Set, Key. No. 358
98A	695408	Kit-Idle Speed (Nikki)	Ø		arburetor Overhaul Kit, Key. No.
104	690525 Ø	Pin-Float Hinge	т	121	
104A 105	694918 Ø 231855 Ø	Pin-Float Hinge (Nikki) Valve-Float Needle	‡		arburetor Gasket Set, Key. No.
105 105A	696136 Ø	Valve-Float Needle (Nikki)	+	977 Included in V	alve Gasket Set, Key. No. 1095
100/1	000100 0		т	moludeu in v	and Gasher Ger, Ney, NO. 1030
			NOTE	A 11	

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

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
309	693551	Motor-Starter	868	690968 •+	Seal-Valve
310	690323	Bolt (Starter Motor)	914	690960	Screw (Rocker Cover)
311	497608	Brush Set	943	690589 •	Seal-O Ring (Oil Pump Cover)
333	495859	Armature-Magneto	947	694393	Solenoid-Fuel
334	691061	Screw (Magneto Armature)	947A	695423	Solenoid-Fuel (Nikki)
337	691043	Plug-Spark	950	691657	Screw (Float Bowl)
358	697191	Gasket Set-Engine	965	499613	Cover-Oil Pump
363	19203	Flywheel Puller	967	697015	Filter-Pre Cleaner
383	89838	Wrench-Spark Plug	968	697446	Cover-Air Cleaner
404	691691	Washer (Governor Crank)	975	495933	Bowl-Float
431	697122	Elbow-Intake	975A	699502	Bowl-Float (Nikki)
445	697634	Filter-Air Cleaner Cartridge	977	690192	Gasket Set-Carburetor
462 474	691261 696459	Washer (Starter Cable) Alternator	987 987A	691326 Ø 698777 Ø	Seal-Throttle Shaft
503	691532	Strap-Starter	987A 1005	697111	Seal-Throttle Shaft (Nikki) Fan-Flywheel
505	691251	Nut (Governor Control Lever)	1003	690770	Screen-Oil Pump
510	693699	Drive-Starter	1019	698814	Kit-Label
513	692024	Clutch-Drive	1022	272475 •+	Gasket-Rocker Cover
523	697086	Dipstick	1023	692492	Cover-Rocker Arm
524	691032 •	Seal-Dipstick Tube	1024	499054	Pump-Oil
525	697184	Tube-Dipstick	1026	692003	Rod-Push (Intake)
527	698467	Clamp-Tube		692011	Rod-Push (Exhaust)
544	692034	Starter-Armature	1027	492932	Filter-Oil
552	697144	Bushing-Governor Crank	1029	691751	Arm-Rocker
559	693675	Screw (Remote Choke Stop)	1034	690822	Guide-Push Rod
562	691119	Bolt (Governor Control Lever)	1035	693784	Shaft-Pump
579	691029	Nut (Starter Cable)	1036	695700	Label-Emission
584	697112	Cover-Breather Passage	1040	698368	Plate-Trim
601	95162	Clamp-Hose	1044	698139	Screw (Flywheel)
614	691620	Pin-Cotter	1051	691265	Ring-Retaining
616	692012	Crank-Governor	1058	275038	Owner's Manual
617	692138 Ø•	Seal-O Ring (Intake Manifold)	1059 1070	698516 690372	Kit-Screw/Washer
634	690801 Ø	Spring/Seal Assembly (Manual Choke)	1070	690372	Screw (Flywheel Fan) Retainer-Brush
634A	698779 Ø	Spring/Seal Assembly (Nikki)	1090	691293	Cap-Limiter
635	691909	Boot-Spark Plug	1091	690190	Gasket Set-Valve
643	697417	Retainer-Air Filter	1119	691183	Screw (Alternator)
654	690958	Nut (Carburetor)	1127	695407	Screw-Float Bowl
684	697157	Screw (Breather Passage Cover)	1263	697124	Reed-Breather
691	692407 •	Seal-Governor Shaft	1264	697104	Screw (Breather Reed)
692	690572	Spring-Detent	1265	697125	Support-Blower Housing
697	690372	Screw (Drive Cap)	1266	691917 •Ø	Seal-O Ring (Intake Elbow)
718	690959	Pin-Locating		697123 Ø	Seal-O Ring (Intake Elbow)
729	691224	Clip-Wire	1267	697662	Latch-Blower Housing
741	697128	Gear-Timing	1270	697156	Plug-AVS Counterweight
750	691033	Screw (Oil Pump Cover)	1279	690960	Screw (Blower Housing Support)
757	697607	Link-Counterweight	1329		2 Replacement Engine
758	697134	Counterweight	1330	272147	Repair Manual
759	697392	Pin-Counterweight			
783	693713	Gear-Pinion	•		ngine Gasket Set, Key. No. 358
789	698329	Harness-Wiring	Ø		arburetor Overhaul Kit, Key. No.
797	693167	Nut (Brush Retainer)	+	121	arburatar Caalest Sat Kay No
801 802	691283 691286	Cap-Drive Cap-End	‡	977	arburetor Gasket Set, Key. No.
802 803	693757	Housing-Starter	т		alve Gasket Set, Key. No. 1095
803	693757 691095	Stud (Rocker Arm)	+	moluueu III Võ	are Gasher Der, Ney. NO. 1090
842	691035 •	Seal-O Ring (Dipstick Tube)	NOTE		nt dimensions given in U.S. inches
847	697611	Dipstick/Tube Assembly	NOTE.	1 inch = 25.4	
851	692424	Terminal-Spark Plug		7	
241					

### 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.
- Sight across the fold in the direction of hill slope you want to measure.
   Compare the angle of the fold with the slope of the hill.

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