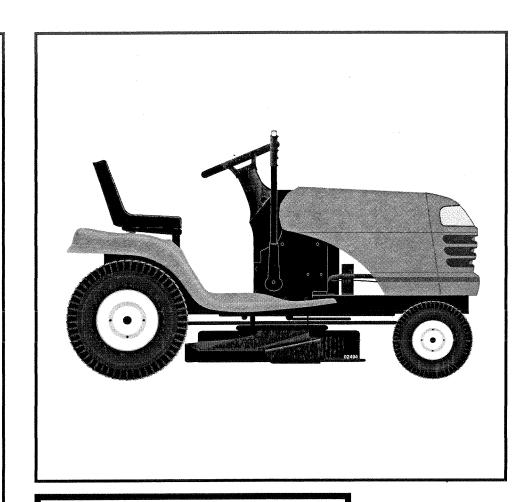


MODEL NO. 944.602161

Caution:
Read and follow
all Safety Rules
and Instructions
Before Operating
This Equipment



# **CRAFTSMAN®**

## 16.5 HP ELECTRIC START 42" MOWER 6 SPEED TRANSAXLE LAWN TRACTOR

- Assembly
- Operation
- Customer Responsibilities
- Service and Adjustments
- Repair Parts

#### **SAFETY RULES**



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



**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.

#### I. GENERAL OPERATION

- Read, understand, and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
- Be sure the area is clear of other people before mowing.
   Stop machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary.
   Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Turn off blades when not mowing.
- Stop engine before removing grass catcher or unclogging chute.
- Mow only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mowerrelated injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.
- Keep machine free of grass, leaves or other debris build-up which can touch hot exhaust / engine parts and burn.
  Do not allow the mower deck to plow leaves or other debris which can cause build-up to occur. Clean any oil or fuel spillage before operating or storing the machine. Allow machine to cool before storage.

#### II. SLOPE OPERATION

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

#### DO:

- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.

#### DO NOT:

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

#### III. CHILDREN

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

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

#### **IV. SERVICE**

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

### **SAFETY RULES**

## Safe Operation Practices for Ride-On Mowers













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



Look for this symbol to point out important safety precautions. It means CAUTION!!! BECOME ALERT!!! YOUR SAFETY IS IN-VOLVED.



CAUTION: Do not coast down a hill in neutral, you may lose control of the trac-



CAUTION: 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.



CAUTION: 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.

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#### PRODUCT SPECIFICATIONS

GASOLINE CAPACITY AND TYPE:	1.25 GALLONS UNLEADED REGULAR
OIL TYPE (API-SF-SJ):  Your tractor was shipped fro SAE 10W-30 motor oil	SAE 30 (above 32°F) SAE 5W-30 (below 32°F) SYNTHETIC (below 0° F) om the factory with non-synthetic
OIL CAPACITY:	3 PINTS
SPARK PLUG: (GAP: .030")	CHAMPION RC12YC
GROUND SPEED (MPH):	FORWARD:  1st 1.1 2nd 1.4 3rd 2.2 4th 3.4 5th 4.3 6th 5.5 REVERSE: 1.7
TIRE PRESSURE:	FRONT: 14 PSI REAR: 12 PSI
CHARGING SYSTEM:	3 AMPS BATTERY 5 AMPS HEADLIGHTS
BATTERY:	AMP/HR: 25 MIN. CCA: 190 CASE SIZE: U1R
BLADE BOLT TORQUE:	27-35 FT. LBS.

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

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

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

#### MAINTENANCE AGREEMENT

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

#### CUSTOMER RESPONSIBILITIES

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

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

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

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

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

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

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

#### **COMMERCIAL OR RENTAL USE**

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

#### This Warranty does NOT cover:

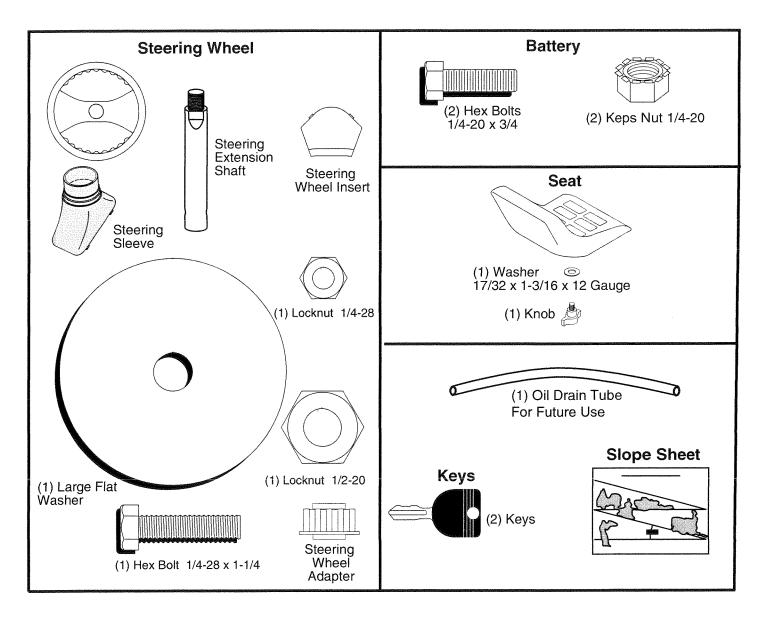
- 1. Pre-delivery set-up.
- 2. Tire replacement or repair caused by punctures from outside objects (such as nails, thorns, stumps, or glass).
- 3. Expendable items which become worn during normal use, such as blades, spark plug, air cleaners and belts.
- 4. Repairs necessary because of operator abuse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

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

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

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

## **CONTENTS OF HARDWARE PACK**



## **ASSEMBLY**

Your new tractor has been assembled at the factory with 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 are listed.

(2) 7/16" wrenches

Utility knife

(1) 3/4" wrench

Tire pressure gauge

Phillips screwdriver

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

## TO REMOVE TRACTOR FROM CARTON UNPACK CARTON

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

## BEFORE REMOVING TRACTOR FROM SKID

#### ATTACH STEERING WHEEL (See Fig. 1)

ASSEMBLE EXTENSION SHAFT AND BOOT

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

**IMPORTANT**: TIGHTEN BOLT AND NUT SECURELY TO 10-12 FT. LBS TORQUE.

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

#### INSTALL STEERING WHEEL

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

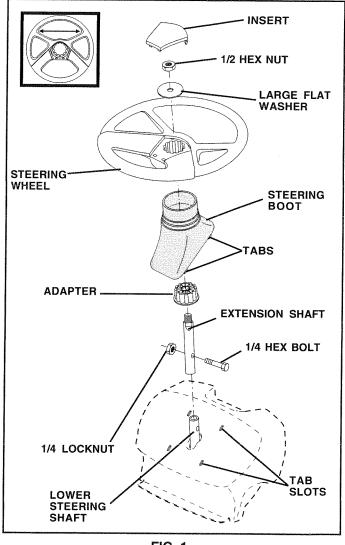


FIG. 1

#### **HOW TO SET UP YOUR TRACTOR**

CONNECT BATTERY (See Figs. 2 and 3)



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

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

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

### **ASSEMBLY**

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

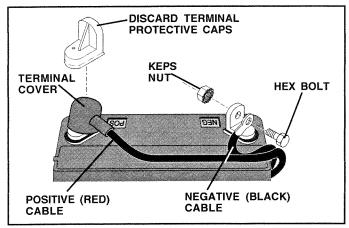


FIG. 2

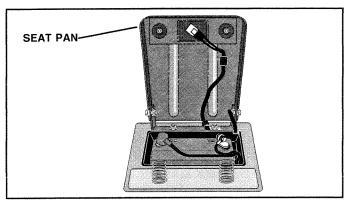


FIG. 3

#### **INSTALL SEAT (See Fig. 4)**

Adjust seat before tightening adjustment knob.

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

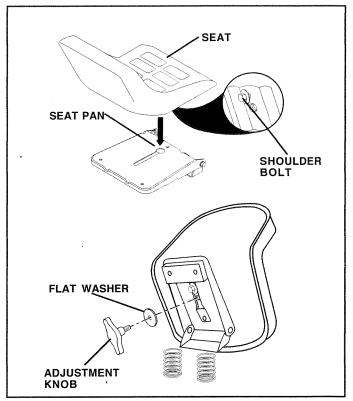


FIG. 4

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

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

- Press lift lever plunger and raise attachment lift lever to its highest position.
- Release parking brake by depressing clutch/brake pedal.
- Place gearshift lever in neutral (N) position.
- Roll tractor forward off skid.
- Remove banding holding deflector shield up against tractor

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

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

- Be sure all the above assembly steps have been completed.
- Check engine oil level and fill fuel tank with gasoline.
- Sit on seat in operating position, depress clutch/brake pedal and set the parking brake.
- Place gear shift lever in neutral (N) position.
- Press lift lever plunger and raise attachment lift lever to its highest position.
- Start the engine. After engine has started, move throttle control to idle position.

### **ASSEMBLY**

- Depress clutch/brake pedal into full "BRAKE" position and hold. Move gearshift lever to 1st gear.
- Slowly release clutch/brake pedal and slowly drive tractor off skid.
- Apply brake to stop tractor, set parking brake and place gearshift lever in neutral position.
- Turn ignition key to "OFF" position.

Continue with the instructions that follow.

## INSTALL MULCHER PLATE (If previously removed) (See Fig. 5)

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



CAUTION: Do not remove deflector shield from mower. Raise and hold shield when attaching mulcher plate and allow it to rest on plate while in operation.

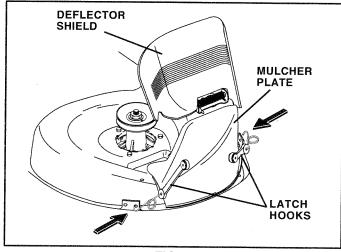


FIG. 5

#### TO CONVERT TO BAGGING OR DISCHARG-ING

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

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

#### 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 AND ENJOY YOUR NEW TRACTOR, WE WISH TO ASSURE THAT YOU RECEIVE THE BEST PERFORMANCE AND SATISFACTION FROM THIS QUALITY PRODUCT.

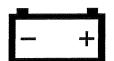
#### PLEASE REVIEW THE FOLLOWING CHECKLIST:

- ✓ 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.

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.

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



**BATTERY** 



**CAUTION OR WARNING** 



**REVERSE** 



**FORWARD** 



**FAST** 



**SLOW** 



**ENGINE ON** 



**ENGINE OFF** 



**OIL PRESSURE** 



LIGHTS ON



**OVER TEMP** 



**LIGHT** 



**FUEL** 



CHOKE



MOWER HEIGHT



**PARKING BRAKE** LOCKED



**UNLOCKED** 



MOWER LIFT



**ATTACHMENT CLUTCH ENGAGED** 



**REVERSE** 



**NEUTRAL** 



HIGH



LOW



**PARKING BRAKE** 



**ATTACHMENT CLUTCH DISENGAGED** 









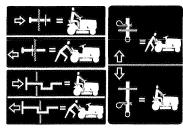


KEEP AREA CLEAR

SLOPE HAZARDS (SEE SAFETY RULES SECTION)



DANGER, KEEP HANDS AND FEET AWAY



FREE WHEEL (Automatic Models only)

#### **KNOW YOUR TRACTOR**

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

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

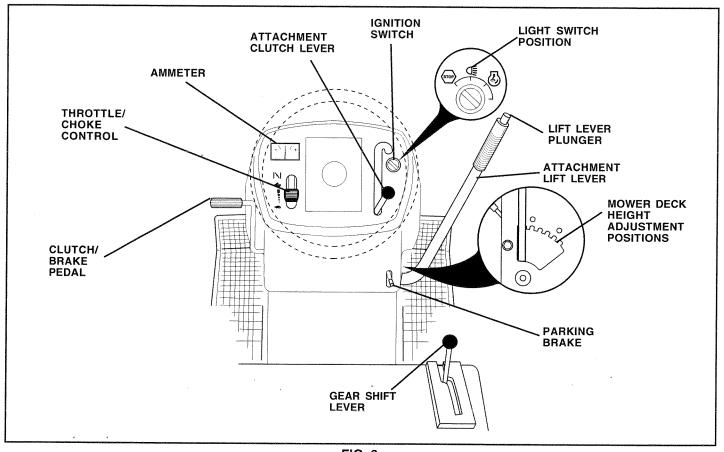


FIG. 6

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.

**LIGHT SWITCH POSITION**: Turns the headlights on and off.

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

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

**PARKING BRAKE**: Locks clutch/brake pedal into the brake position.

**GEARSHIFT LEVER** - Selects the speed and direction of the tractor.

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

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

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

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



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 a wide vision safety mask over spectacles or standard safety glasses.

#### HOW TO USE YOUR TRACTOR

#### TO SET PARKING BRAKE (See Fig. 7)

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.

- Depress clutch/brake pedal into full "BRAKE" position and hold.
- Place parking brake lever in "ENGAGED" position and release pressure from clutch/brake pedal. Pedal should remain in "BRAKE" position. Make sure parking brake will hold tractor secure.

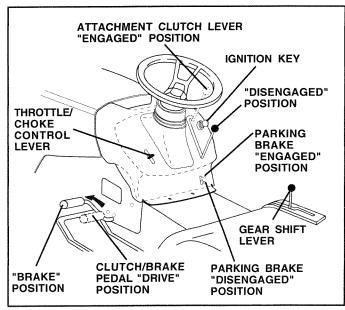


FIG. 7

#### STOPPING (See Fig. 7)

#### MOWER BLADES -

 To stop mower blades, move attachment clutch lever to "DISENGAGED" position.

#### GROUND DRIVE -

- To stop ground drive, depress clutch/brake pedal into full "BRAKE" position.
- Move gearshift lever to neutral (N) position.

#### **ENGINE-**

Move throttle control to slow position.

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

- Turn ignition key to "OFF" 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 "OFF" WILL CAUSE THE BATTERY TO BE DISCHARGED, (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 empty grass catcher, etc.

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

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 (See Fig. 7)

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

- Start tractor with clutch/brake pedal depressed and gearshift lever in neutral (N) position.
- Move gearshift lever to desired position.
- Slowly release clutch/brake pedal to start movement.

IMPORTANT: BRING TRACTOR TO A COMPLETE STOP BEFORE SHIFTING OR CHANGING GEARS. FAILURE TO DO SO WILL SHORTEN THE USEFUL LIFE OF YOUR TRANSAXLE.

## TO ADJUST MOWER CUTTING HEIGHT (See Fig. 8)

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

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

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

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

#### TO OPERATE MOWER (See Fig. 8)

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.

- Select desired height of cut.
- 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.

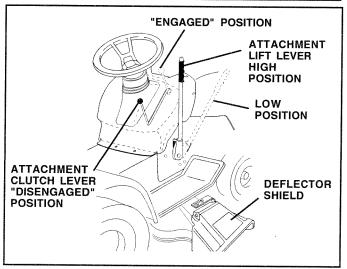


FIG. 8

#### TO OPERATE ON HILLS



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

- Choose the slowest speed before starting up or down hills.
- Avoid stopping or changing speed on hills.
- If 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 gearshift lever to 1st gear. Be sure you have allowed room for tractor to roll slightly as you restart movement.
- To restart movement, slowly release parking brake and clutch/brake pedal.
- Make all turns slowly.

#### TO TRANSPORT

- Raise attachment lift to highest position with attachment lift control.
- When pushing or towing your tractor, be sure gearshift lever is in neutral (N) position.

Do not push or tow tractor at more than five (5) MPH.

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

#### ADD GASOLINE

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



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

**IMPORTANT:** WHEN OPERATING IN TEMPERATURES BELOW32°F(0°C), USE FRESH, CLEAN WINTER GRADE GASOLINE TO HELP INSURE GOOD COLD WEATHER STARTING.



CAUTION: Alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See Storage Instructions for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

#### TO START ENGINE (See Fig. 6)

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.

- Sit on seat in operating position, depress clutch/brake pedal and set parking brake.
- Place gear shift lever in neutral (N) position.
- Move attachment clutch to "DISENGAGED" position.
- Move throttle control to choke (⋈) position.

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

• Insert key into ignition and turn key clockwise to "START" position and release key as soon as engine starts. Do not run starter continuously for more than fifteen seconds per minute. If the engine does not start after several attempts, 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 (ℕ) position and retry.

#### WARM WEATHER STARTING (50° F and above)

- When engine starts, move the throttle control to the fast position.
- The attachments and ground drive can now be used. If the engine does not accept the load, restart the engine and allow it to warm up for one minute using the choke as described above.

#### COLD WEATHER STARTING (50° F AND BELOW)

- 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
- The attachments can also be used during the engine warm-up period.

**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.

#### **MOWING TIPS**

- Mower should be properly leveled for best mowing performance. See "TO LEVEL MOWER HOUSING" in the Service and Adjustments section of this manual.
- The left hand side of mower should be used for trimming.
- Drive so that clippings are discharged onto the area that has been cut. Have the cut area to the right of the machine. This will result in a more even distribution of clippings and more uniform cutting.
- When mowing large areas, start by turning to the right so that clippings will discharge away from shrubs, fences, driveways, etc. After one or two rounds, mow in the opposite direction making left hand turns until finished (See Fig. 9)
- 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.

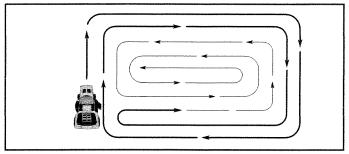


FIG. 9

#### **MULCHING MOWING TIPS**

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

- The special mulching blade will recut the grass clippings many times and reduce them in size so that as they fall onto the lawn they will disperse into the grass and not be noticed. Also, the mulched grass will biodegrade quickly to provide nutrients for the lawn. Always mulch with your highest engine (blade) speed as this will provide the best recutting action of the blades.
- Avoid cutting your lawn when it is wet. Wet grass tends to form clumps and interferes with the mulching action. The best time to mow your lawn is the early afternoon. At this time the grass has dried and the newly cut area will not be exposed to the direct sun.
- For best results, adjust the mower cutting height so that the mower cuts off only the top one-third of the grass blades (See Fig. 10). For extremely heavy mulching, reduce your width of cut on each pass and mow slowly.
- Certain types of grass and grass conditions may require that an area be mulched a second time to completely hide the clippings. When doing a second cut, mow across or perpendicular to the first cut path.
- Change your cutting pattern from week to week. Mow north to south one week then change to east to west the next week. This will help prevent matting and graining of the lawn.

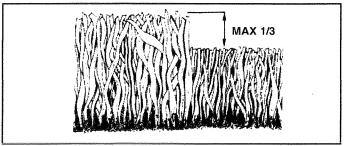


FIG. 10

AS	MAINTENANCE SCHEDUL LL IN DATES S YOU COMPLETE EGULAR SERVICE	.E	JEFORF.	EACH!	HOUR	5 HOUR 15 HOUR 15 HOUR	O HOU	AS HOLION	RS SEASON SEFORE	SERVIC	E DATES
	Check Brake Operation	V	1						T		
	Check Tire Pressure	V	•								
Т	Check Operator Presence and Interlock Systems	V									
R	Check for Loose Fasteners	V				<b>1</b> 5		V			
A	Sharpen/Replace Mower Blades			<b>1</b> 3							
T	Lubrication Chart			1				V			
Ö	Check Battery Level			1/4							
R	Clean Battery and Terminals			•				W			
	Check Transaxle Cooling			<b>V</b>					1		
	Check V-Belts					1			1		
	Check Engine Oil Level	V	•								
	Change Engine Oil (with oil filter)				1,2	2		V			
E	Change Engine Oil (without oil filter)			1,2	T			•			
N	Clean Air Filter			<b>1</b> 2							
G	Clean Air Screen			<b>1</b> /2		<b>†</b>					
N	Inspect Muffler/Spark Arrester				V			1			
E	Replace Oil Filter (If equipped)					1.2					
-	Clean Engine Cooling Fins					2					
	Replace Spark Plug					•	V				
	Replace Air Filter Paper Cartridge					1/2					
	Replace Fuel Filter	1				T -	•	1			

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

#### **GENERAL RECOMMENDATIONS**

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

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

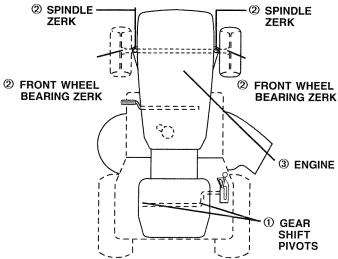
All adjustments in the Service and Adjustments section of this manual should be checked at least once each season.

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

#### **BEFORE EACH USE**

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

### **LUBRICATION CHART**



- ① SAE 30 OR 10W30 MOTOR OIL
- **② GENERAL PURPOSE GREASE**
- REFER TO CUSTOMER RESPONSIBILITIES "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 14 TYPE LUBRICANT SPARINGLY.

#### **TRACTOR**

Always observe safety rules when performing any maintenance.

#### **BRAKE OPERATION**

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

#### TIRES

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

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

#### **OPERATOR PRESENCE SYSTEM**

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

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

#### **BLADE CARE**

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

#### **BLADE REMOVAL (See Fig. 11)**

- Raise mower to highest position to allow access to blades.
- Remove blade bolt, lock washer and flat washer securing blade.
- 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.

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

IMPORTANT: BLADE BOLT IS GRADE 8 HEAT TREATED.

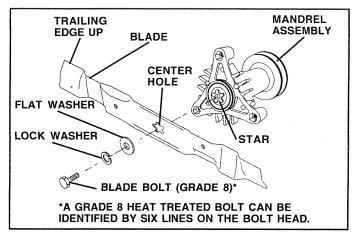


FIG. 11

#### TO SHARPEN BLADE (See Fig. 12)

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

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

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

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

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

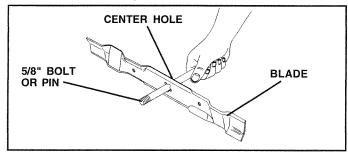


FIG. 12

#### **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.

- Open battery box door.
- Disconnect BLACK battery cable first then RED battery cable and remove battery from tractor.
- Rinse the battery with plain water and dry.
- Clean terminals and battery cable ends with wire brush until bright.
- Coat terminals with grease or petroleum jelly.
- Reinstall battery (See "CONNECT BATTERY" in the Assembly section of this manual).

#### **V-BELTS**

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

#### TRANSAXLE COOLING

Keep transaxle free from build-up of dirt and chaff which can restrict cooling.

#### **ENGINE**

#### LUBRICATION

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

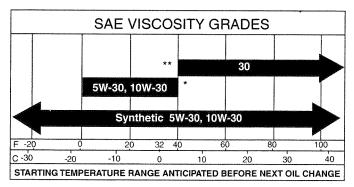


FIG. 13

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



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

Change the oil after every 25 hours of operation or at least once a year if the tractor is not used for 25 hours in one year.

Check the crankcase oil level before starting the engine and after each eight (8) hours of operation. Tighten oil fill cap/dipstick securely each time you check the oil level.

#### TO CHANGE ENGINE OIL (See Figs. 13 and 14)

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

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

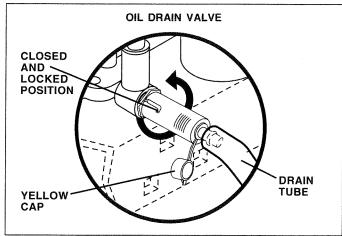


FIG. 14

- Unlock drain valve by pushing inward and turning counterclockwise.
- To open, pull out on the drain valve.
- After oil has drained completely, close and lock the drain valve by pushing inward and turning clockwise until the pin is in the locked position as shown.
- Remove the drain tube and replace the cap onto to the bottom fitting of the drain valve.
- Refill engine with oil through oil fill dipstick tube. Pour slowly. Do not overfill. For approximate capacity see "PRODUCT SPECIFICATIONS" section of this manual.
- Use gauge on oil fill cap/dipstick for checking level. Be sure dipstick cap is tightened securely for accurate reading. Keep oil at "FULL" line on dipstick.

#### **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 FINS (See Fig. 15)**

Remove any dust, dirt or oil from engine cooling fins to prevent engine damage from overheating.

- Remove oil fill cap/dipstick.
- Remove hex bolts from blower housing and lift housing off engine.
- Cover oil fill opening to prevent entry of dirt.
- Use compressed air or stiff bristle brush to thoroughly clean engine cooling fins.
- To reassemble, reverse above procedure.

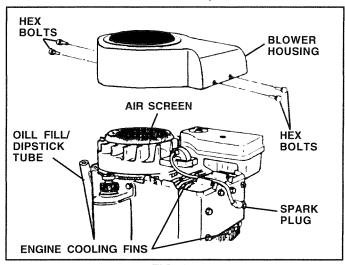


FIG. 15

#### AIR FILTER (See Fig. 16)

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

Service air cleaner more often under dusty conditions.

Remove knob(s) and cover.

#### TO SERVICE PRE-CLEANER

- Slide foam pre-cleaner off cartridge.
- Wash it in liquid detergent and water.
- Squeeze it dry in a clean cloth.
- Saturate it in engine oil. Wrap it in clean, absorbent cloth and squeeze to remove excess oil.
- If very dirty or damaged, replace pre-cleaner.
- Reinstall pre-cleaner over cartridge.
- Reinstall cover and secure with knob(s).

#### TO SERVICE CARTRIDGE

- Remove cartridge nut.
- Carefully remove cartridge to prevent debris from entering carburetor. Clean base carefully to prevent debris from entering carburetor.
- Clean cartridge by tapping gently on flat surface. If very dirty or damaged, replace cartridge.
- Reinstall cartridge, nut, precleaner, cover and secure with knob(s).

IMPORTANT: PETROLEUM SOLVENTS, SUCH AS KEROSENE, ARE NOT TO BE USED TO CLEAN THE CARTRIDGE. THEY MAY CAUSE DETERIORATION OF THE CARTRIDGE. DO NOT OIL CARTRIDGE. DO NOT USE PRESSURIZED AIR TO CLEAN OR DRY CARTRIDGE.

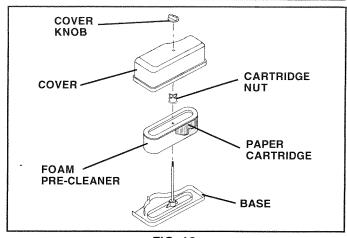


FIG. 16

#### **MUFFLER**

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

#### SPARK PLUGS

Replace spark plugs at the beginning of each mowing season or after every 100 hours of use, whichever comes first. Spark plug type and gap setting is shown in "PROD-UCT SPECIFICATIONS" section of this manual.

#### IN-LINE FUEL FILTER (See Fig. 17)

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

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

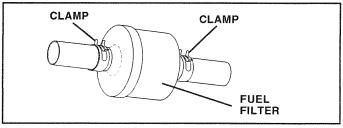


FIG. 17

#### **CLEANING**

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

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



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

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

#### **TRACTOR**

#### TO REMOVE MOWER (See Fig. 18)

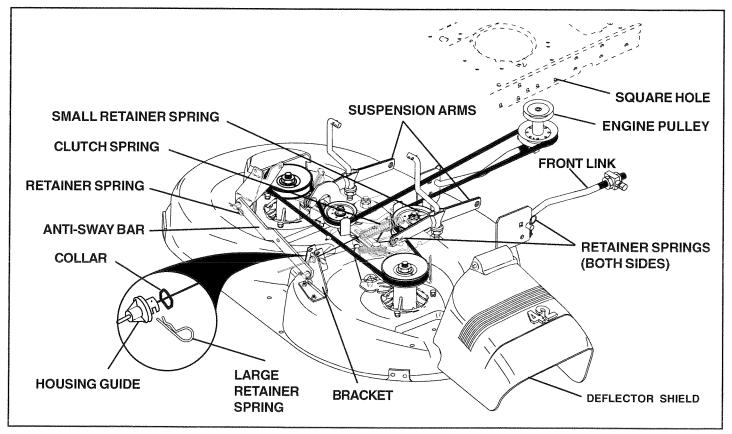
Mower will be easier to remove from the right side of tractor.

- Place attachment clutch in "DISENGAGED" position.
- Move attachment lift lever forward to lower mower to its lowest position.
- Roll belt off engine pulley.
- Remove small retainer spring, and lift clutch spring off pulley bolt.
- Remove large retainer spring, slide collar off and push housing guide out of bracket.
- Disconnect anti-swaybar from chassis bracket by removing retainer spring.
- Disconnect suspension arms from rear deck brackets by removing retainer springs.
- 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 (See Fig. 18)

- Raise attachment lift lever to its highest position.
- Slide mower under tractor with deflector shield to right side of tractor.
- Lower lift lever to its lowest position.
- Connect front links to mower deck and secure with retainer springs..
- Connect suspension arms to rear deck brackets and secure with retainer springs.
- Connect anti-swaybar to chassis bracket and secure with retainer spring.
- Push clutch cable housing guide into bracket, slide collar onto guide and secure with large retainer spring.
- 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 (See Figs. 19 and 20)

- 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.

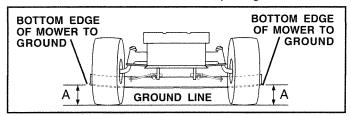


FIG. 19

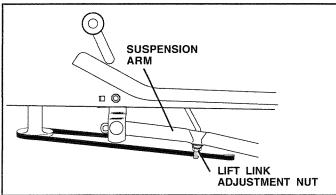


FIG. 20

FRONT-TO-BACK ADJUSTMENT (See Figs. 21 and 22)

IMPORTANT: DECK MUST BE LEVEL SIDE-TO-SIDE. IF THE FOLLOWING FRONT-TO-BACK ADJUSTMENT IS NECESSARY, BE SURE TO ADJUST BOTH FRONT LINKS EQUALLY SO MOWER WILL STAY LEVEL SIDE-TO-SIDE.

To obtain the best cutting results, the mower 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.

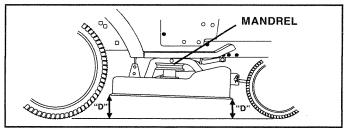


FIG. 21

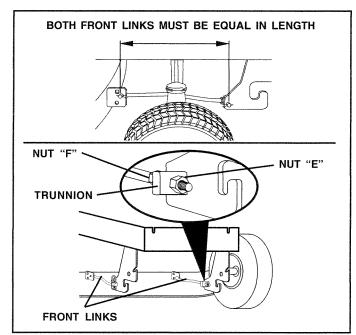


FIG. 22

## TO REPLACE MOWER BLADE DRIVE BELT (See Fig. 23)

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

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

#### **BELT INSTALLATION -**

- Install new belt in reverse order of removal.
- Make sure belt is in all pulley grooves and inside all belt guides.
- Install mower in reverse order of removal instructions.

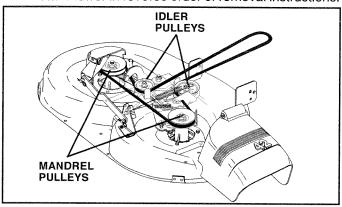


FIG. 23

#### TO ADJUST BRAKE (See Fig. 24)

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

If tractor requires more than six (6) feet stopping distance at high speed in highest gear on a level dry concrete or paved surface, then brake must be adjusted.

- Depress clutch/brake pedal and engage parking brake.
- Measure distance between brake operating arm and nut "A" on brake rod.
- If distance is other than 1-1/2", loosen jam nut and turn nut "A" until distance becomes 1-1/2". Retighten jam nut against nut "A".
- Road test tractor for proper stopping distance as stated above. Readjust if necessary. If stopping distance is still greater than six (6) feet in highest gear, further maintenance is necessary. Contact your nearest authorized service center/department.

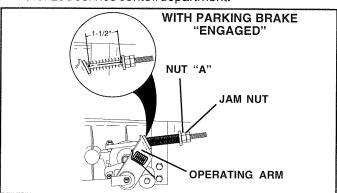


FIG. 24

## TO REPLACE MOTION DRIVE BELT (See Fig. 25)

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

#### **BELT REMOVAL -**

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

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

- Remove belt from stationary idler and clutching idler.
- Remove belt downward from around engine pulley.
- Pull belt slack toward rear of tractor. Remove belt upwards from transaxle pulley by deflecting belt keepers.
- Remove belt from center span keeper and pull belt away from tractor.

#### **BELT INSTALLATION -**

- Carefully work new belt down between transaxle belt keepers and onto the input pulley.
- Slide belt into the center span keeper.
- Pull belt toward front of tractor and roll around the top groove of engine pulley.
- Install belt through stationary idler and clutching idler.
- Make sure belt is in all pulley grooves and inside all belt guides and keepers.
- Install mower (See "TO INSTALL MOWER" in this section of manual).

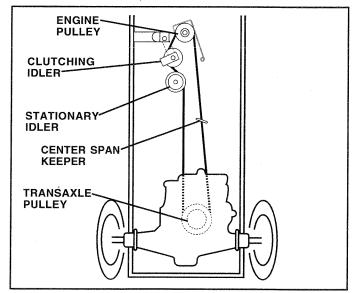


FIG. 25

## TRANSAXLE GEAR SHIFT LEVER NEUTRAL ADJUSTMENT (See Fig. 26)

The transaxle should be in neutral when the gear shift lever is in neutral (N) (lock gate) position. The adjustment is preset at the factory; however, if adjustment is needed, proceed as follows:

Make sure transaxle is in neutral (N).

**NOTE:** When the tractor rear wheels move freely, the transaxle is in neutral.

- Loosen adjustment bolt in front of the right rear wheel.
- Position the gear shift lever in the neutral (N) position.
- Tighten adjustment bolt securely.

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

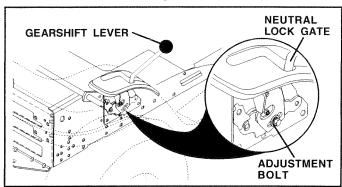


FIG. 26

#### TO ADJUST STEERING WHEEL ALIGNMENT

If steering wheel crossbars are not horizontal (left to right) when wheels are positioned straight forward, remove steering wheel and reassemble per instructions in the Assembly section of this manual.

#### 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 your nearest authorized service center/department.

## TO REMOVE WHEEL FOR REPAIRS (See Fig. 27)

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

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

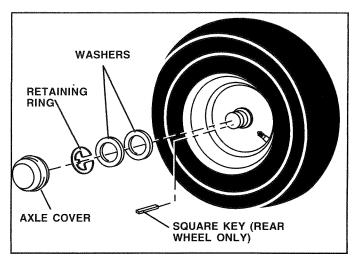


FIG. 27

## TO START ENGINE WITH A WEAK BATTERY (See Fig. 28)



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

If your battery is too weak to start the engine, it should be recharged. If "jumper cables" are used for emergency starting, follow this procedure:

IMPORTANT: YOUR TRACTOR IS EQUIPPED WITH A 12 VOLT SYSTEM. THE OTHER VEHICLE MUST ALSO BE A 12 VOLT SYSTEM. DO NOT USE YOUR TRACTOR BATTERY TO START OTHER VEHICLES.

#### TO ATTACH JUMPER CABLES -

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

#### TO REMOVE CABLES, REVERSE ORDER -

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

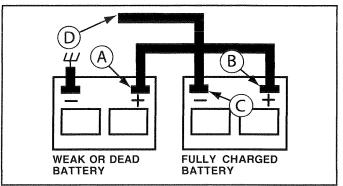


FIG. 28

#### TO REPLACE HEADLIGHT BULB

- Baise hood.
- Pull bulb holder out of the hole in the backside of the grill.
- Replace bulb in holder and push bulb holder securely back into the hole in the backside of the grill.
- Close hood.

#### INTERLOCKS AND RELAYS

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

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

#### TO REPLACE FUSE

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

## TO REMOVE HOOD AND GRILL ASSEMBLY (See Fig. 29)

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

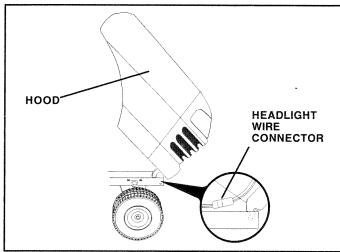


FIG. 29

#### **ENGINE**

## TO ADJUST THROTTLE CONTROL CABLE (See Fig. 30)

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

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

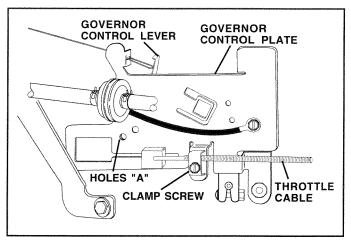


FIG. 30

#### TO ADJUST CARBURETOR (See Fig. 31)

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

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

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

**IMPORTANT:** DAMAGE TO THE NEEDLE VALVE AND THE SEAT IN CARBURETOR MAY RESULT IF SCREW IS TURNED IN TOO TIGHT.

#### PRELIMINARY SETTING -

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

#### FINAL SETTING -

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

#### **ACCELERATION TEST-**

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

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

IMPORTANT: NEVER TAMPER WITH THE ENGINE GOVERNOR, WHICH IS FACTORY SET FOR PROPER ENGINE SPEED. OVERSPEEDING THE ENGINE ABOVE THE FACTORY HIGH SPEED SETTING CAN BE DANGEROUS. IF YOU THINK THE ENGINE-GOVERNED HIGH SPEED NEEDS ADJUSTING, CONTACT YOUR NEAREST AUTHORIZED SERVICE CENTER/DEPARTMENT, WHICH HAS PROPER EQUIPMENT AND EXPERIENCE TO MAKE ANY NECESSARY ADJUSTMENTS.

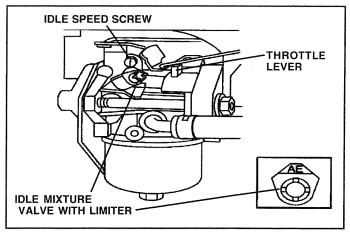


FIG. 31

### **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.

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

#### **BATTERY**

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

#### **ENGINE**

#### **FUEL SYSTEM**

IMPORTANT: IT IS IMPORTANT TO PREVENT GUM DEPOSITS FROM FORMING IN ESSENTIAL FUEL SYSTEM PARTS SUCH AS CARBURETOR, FUEL FILTER, FUEL HOSE, OR TANK DURING STORAGE. ALSO, EXPERIENCE INDICATES THAT ALCOHOL BLENDED FUELS (CALLED GASOHOL OR USING ETHANOL OR METHANOL) CAN ATTRACT MOISTURE WHICH LEADS TO SEPARATION AND FORMATION OF ACIDS DURING STORAGE. ACIDIC GAS CAN DAMAGE THE FUEL SYSTEM OF AN ENGINE WHILE IN STORAGE.

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

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

#### **ENGINE OIL**

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

#### CYLINDER(S)

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

#### OTHER

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

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

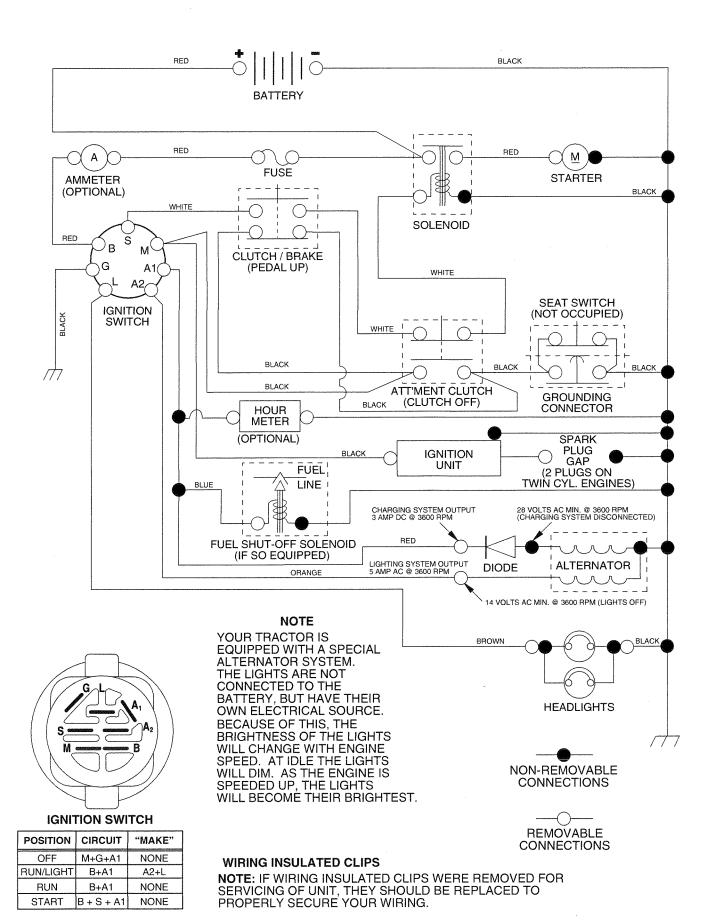
## TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Will not start	<ol> <li>Out of fuel.</li> <li>Engine not "CHOKED" properly.</li> <li>Engine flooded.</li> <li>Bad spark plug.</li> <li>Dirty air filter.</li> <li>Dirty fuel filter.</li> <li>Water in fuel.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <li>Fill fuel tank.</li> <li>See "TO START ENGINE" in Operation section.</li> <li>Wait several minutes before attempting to start.</li> <li>Replace spark plug.</li> <li>Clean/replace air filter.</li> <li>Replace fuel filter.</li> <li>Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service Adjustments section.</li> <li>Contact an authorized service center/department.</li> </ol>
Hard to start	<ol> <li>Dirty air filter.</li> <li>Bad spark plug.</li> <li>Weak or dead battery.</li> <li>Dirty fuel filter.</li> <li>Stale or dirty fuel.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> </ol> 8. Engine valves out of adjustment.	<ol> <li>Clean/replace air filter.</li> <li>Replace spark plug.</li> <li>Recharge or replace battery.</li> <li>Replace fuel filter.</li> <li>Drain fuel tank and refill with fresh gasoline.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service Adjustments section.</li> <li>Contact an authorized service center/department.</li> </ol>
Engine will not turn over	<ol> <li>Clutch/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 clutch/brake pedal.</li> <li>Disengage attachment clutch.</li> <li>Recharge or replace battery.</li> <li>Replace fuse.</li> <li>Clean battery terminals.</li> <li>Check all wiring.</li> <li>Check/replace ignition switch.</li> <li>Check/replace solenoid or starter.</li> <li>Contact an authorized service center/department.</li> </ol>
Engine clicks but will not start	<ol> <li>Weak or dead battery.</li> <li>Corroded battery terminals.</li> <li>Loose or damaged wiring.</li> <li>Faulty solenoid or starter.</li> </ol>	<ol> <li>Recharge or replace battery.</li> <li>Clean battery terminals.</li> <li>Check all wiring.</li> <li>Check/replace solenoid or starter.</li> </ol>
Loss of power	<ol> <li>Cutting too much grass/too fast.</li> <li>Throttle in "CHOKE" position.</li> <li>Build-up of grass, leaves and trash under mower.</li> <li>Dirty air filter.</li> <li>Low oil level/dirty oil.</li> <li>Faulty spark plug.</li> <li>Dirty fuel filter.</li> <li>Stale or dirty fuel.</li> <li>Water in fuel.</li> <li>Spark plug wire loose.</li> <li>Dirty engine air screen/fins.</li> <li>Dirty/clogged muffler.</li> <li>Loose or damaged wiring.</li> <li>Carburetor out of adjustment.</li> <li>Engine valves out of adjustment.</li> </ol>	<ol> <li>Set in "Higher Cut" position/reduce speed.</li> <li>Adjust throttle control.</li> <li>Clean underside of mower housing.</li> <li>Clean/replace air filter.</li> <li>Check oil level/change oil.</li> <li>Clean and regap or change spark plug.</li> <li>Replace fuel filter.</li> <li>Drain fuel tank and refill with fresh gasoline.</li> <li>Drain fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>Connect and tighten spark plug wire.</li> <li>Clean engine air screen/fins.</li> <li>Clean/replace muffler.</li> <li>Check all wiring.</li> <li>See "To Adjust Carburetor" in Service Adjustments section.</li> <li>Contact an authorized service center/department.</li> </ol>
Excessive vibration	<ol> <li>Worn, bent or loose blade.</li> <li>Bent blade mandrel.</li> <li>Loose/damaged part(s).</li> </ol>	<ol> <li>Replace blade. Tighten blade bolt.</li> <li>Replace blade mandrel.</li> <li>Tighten loose part(s). Replace damaged parts.</li> </ol>

## **TROUBLESHOOTING POINTS**

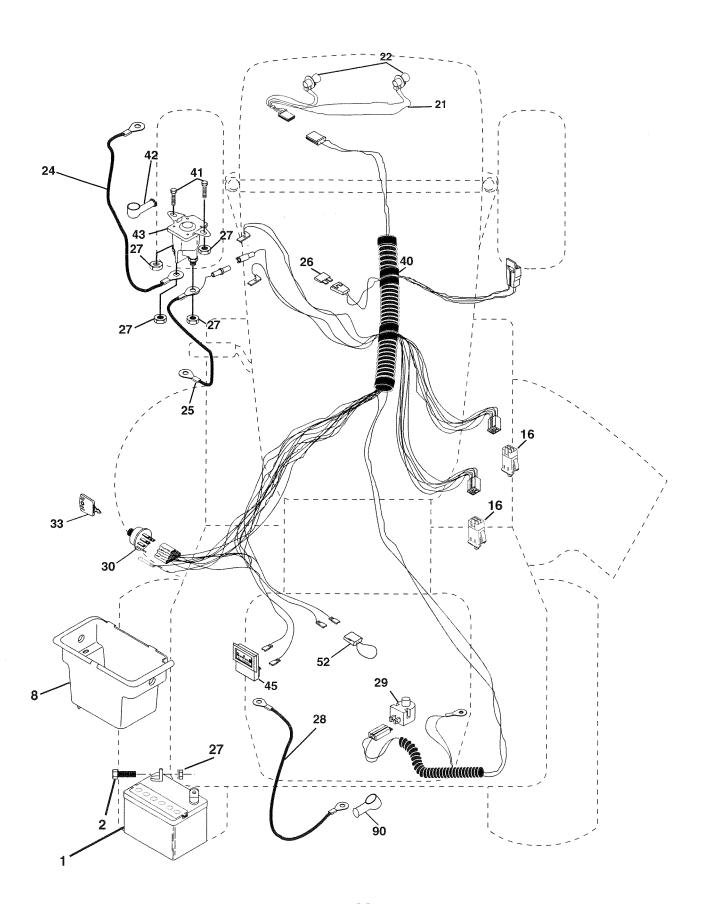
PROBLEM	CAUSE	CORRECTION			
Engine continues to run when operator leaves sea with attachment clutch engaged	Faulty operator-safety presence control system.	Check wiring, switches and connections. If not corrected, contact an authorized service center/department.			
Poor cut - uneven	<ol> <li>Worn, bent or loose blade.</li> <li>Mower deck not level.</li> <li>Buildup of grass, leaves, and trash under mower.</li> <li>Bent blade mandrel.</li> <li>Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>Replace blade. Tighten blade bolt.</li> <li>Level mower deck.</li> <li>Clean underside of mower housing.</li> <li>Replace blade mandrel.</li> <li>Clean around mandrels to open vent holes.</li> </ol>			
Mower blades will not rotate	<ol> <li>Obstruction in clutch mechanism.</li> <li>Worn/damaged mower drive belt.</li> <li>Frozen idler pulley.</li> <li>Frozen blade mandrel.</li> </ol>	<ol> <li>Remove obstruction.</li> <li>Replace mower drive belt.</li> <li>Replace idler pulley.</li> <li>Replace blade mandrel.</li> </ol>			
Poor grass discharge	<ol> <li>Engine speed too slow.</li> <li>Travel speed too fast.</li> <li>Wet grass.</li> <li>Mower deck not level.</li> <li>Low/uneven tire air pressure.</li> <li>Worn, bent or loose blade.</li> <li>Buildup of grass, leaves and trash under mower.</li> <li>Mower drive belt worn.</li> <li>Blades improperly installed.</li> <li>Improper blades used.</li> <li>Clogged mower deck vent holes from buildup of grass, leaves, and trash around mandrels.</li> </ol>	<ol> <li>Place throttle control in "FAST" position.</li> <li>Shift to slower speed.</li> <li>Allow grass to dry before mowing.</li> <li>Level mower deck.</li> <li>Check tires for proper air pressure.</li> <li>Replace/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>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 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>	1. Replace battery. 2. Check/clean all connections. 3. Replace regulator. 4. Replace alternator.			
Engine "backfires" when turning engine "OFF"	Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine.	Move throttle control to "SLOW" position and allow to idle for 30 seconds before stopping engine.			

#### **SCHEMATIC**



## TRACTOR - - MODEL NUMBER 944.602161

### **ELECTRICAL**



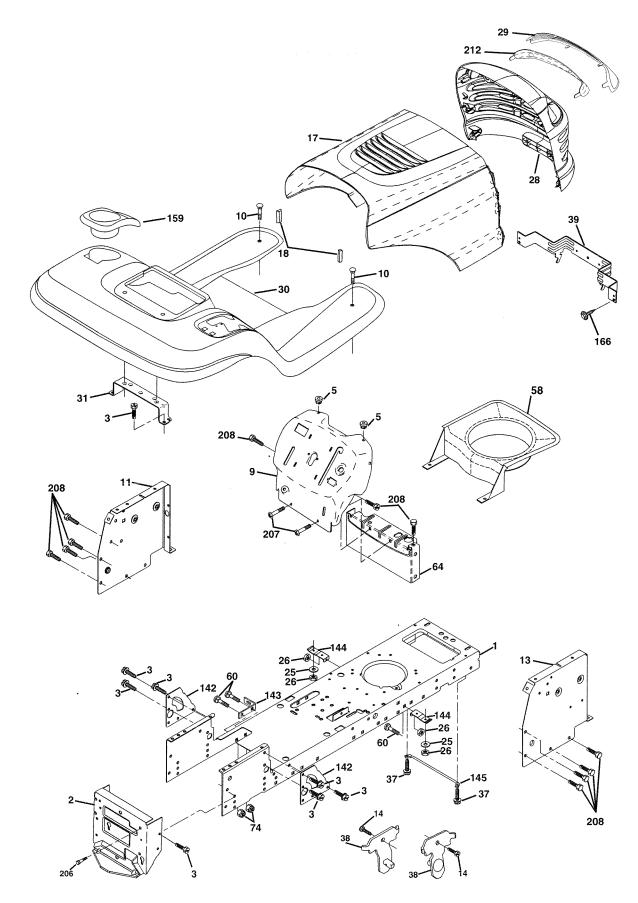
### TRACTOR - - MODEL NUMBER 944.602161

#### ELECTRICAL

NO.         DESCRIPTION           1         144925         Battery 12 Volt 25 Amp           2         74760412         Bolt Hex Hd 1/4-20unc X 3/4           8         176689         Battery Box           16         176138         Switch Interlock           21         175688         Harness Asm Light W/4152J           22         4152J         Bulb Light #1156           24         4799J         Cable Battery 6 Ga 11"red           25         146147         Cable Battery 6 Ga w/16 wire,red           26         175158         Fuse 20 AMP           27         73510400         Nut Kep Hex 1/4-20           28         4207J         Cable Ground 6 Ga 12" black           29         121305X         Switch Plunger Nc Gray           30         175566         Switch Ign           33         140403         Key Ign           40         179720         Harness Ign           41         71110408         Bolt Blk Fin Hex 1/4-20unc X 1/2           42         131563         Cover Terminal Red           43         178861         Solenoid           45         121433X         Ammeter           52         141940         Protection Wire Loop (Ho	KEY	PART	
2 74760412 Bolt Hex Hd 1/4-20unc X 3/4 8 176689 Battery Box 16 176138 Switch Interlock 21 175688 Harness Asm Light W/4152J 22 4152J Bulb Light #1156 24 4799J Cable Battery 6 Ga 11"red 25 146147 Cable Battery 6 Ga w/16 wire,red 26 175158 Fuse 20 AMP 27 73510400 Nut Kep Hex 1/4-20 28 4207J Cable Ground 6 Ga 12" black 29 121305X Switch Plunger Nc Gray 30 175566 Switch Ign 33 140403 Key Ign 40 179720 Harness Ign 41 71110408 Bolt Blk Fin Hex 1/4-20unc X 1/2 42 131563 Cover Terminal Red 43 178861 Solenoid 45 121433X Ammeter	NO.	NO.	DESCRIPTION
28	2 8 16 21 22 24 25 26	74760412 176689 176138 175688 4152J 4799J 146147 175158	Bolt Hex Hd 1/4-20unc X 3/4 Battery Box Switch Interlock Harness Asm Light W/4152J Bulb Light #1156 Cable Battery 6 Ga 11"red Cable Battery 6 Ga w/16 wire,red Fuse 20 AMP
90 180449 Cover Terminal Battery	28 29 30 33 40 41 42 43 45 52	4207J 121305X 175566 140403 179720 71110408 131563 178861 121433X 141940	Cable Ground 6 Ga 12" black Switch Plunger Nc Gray Switch Ign Key Ign Harness Ign Bolt Blk Fin Hex 1/4-20unc X 1/2 Cover Terminal Red Solenoid Ammeter Protection Wire Loop (Hourmeter)

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

# TRACTOR - - MODEL NUMBER 944.602161 CHASSIS AND ENCLOSURES

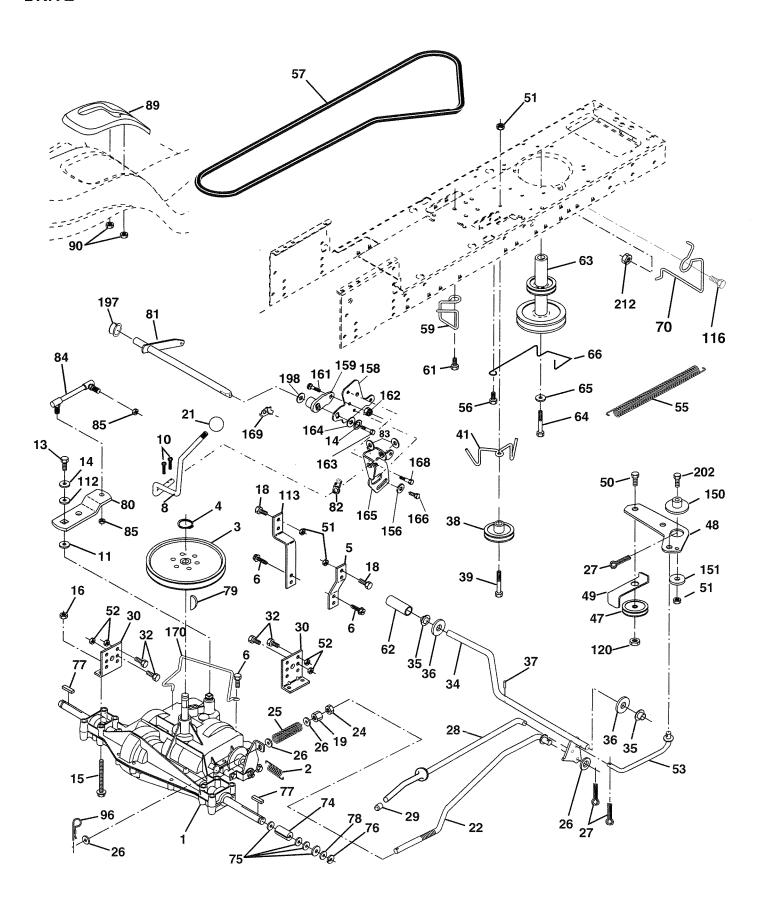


# TRACTOR - - MODEL NUMBER 944.602161 CHASSIS AND ENCLOSURES

KEY NO.	PART NO.	DESCRIPTION
1 2 3 5 9 10 11 13 14 17 18 25 26 28 29 30 31 37 38 39 56 64 142 145 159 166 207 208 212	174619 176554 17060612 155272 168337X011 STD533710 174996 172105X010 17490608 174330X558 126938X 19131312 STD541437 175049 174332X599 175692X558 139976 17490508 175710 174714 150127 STD533707 154798 STD541437 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702 154966 175702	Chassis Drawbar Screw 3/8-16x3/4 Bumper Hood/Dash Dash Bolt Carriage 3/8-16 x 1 Panel Dash Lh Panel Dash Rh Screw Thdrol 3/8-16 x 1/2 Hood Bumper Hood Washer 13/32 X 13/16 X 12 Ga Nut Lock Hex W/Ins 3/8-16 Unc Grille/Lens Lens Grille Fender Footrest Bracket Support Fender Screw Thdrol 6/16-18 x 1/2 TYT Bracket, Assembly Pivot Bracket Pivot Laser LT Duct Air Engine Bolt Rdhd Sqnk 3/8-16 unc x 3/4 Dash Lower STLT Nut Crownlock 3/8-16 UNC Plate Reinforcement STLT Bracket Swaybar Chassis Bracket Pnt Footrest STLT Rod Pivot Chassis/Hood Cupholder Stlt Black Screw Hwhd Hi-Lo #13-16 x 3/4 Bolt Shoulder 5/16-18 Screw Thdrol 5/16-18 x 1/2 Insert Lens Reflective Plug Button

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

#### **DRIVE**



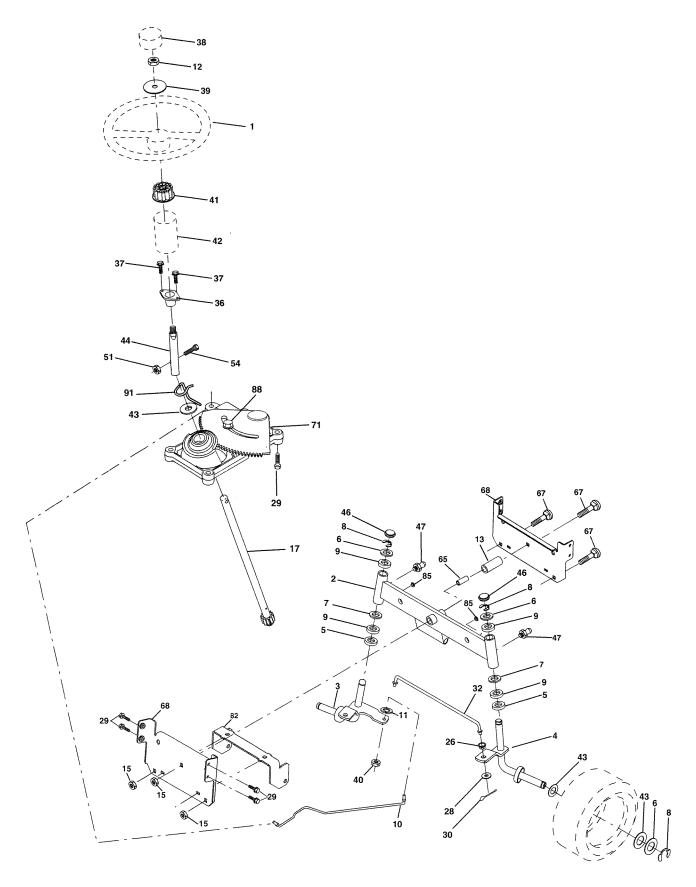
### TRACTOR - - MODEL NUMBER 944.602161

#### DRIVE

KEY NO.	PART NO.	DESCRIPTION		PART NO.	DESCRIPTION
NO.  1 2 3 4 5 6 8 10 11 13 14 15 16 18 19 21 22 24	146682 123666X 12000028 121520X 17000512 165866 STD561210 105701X 74550412 10040400 74490544 73800500 STD523710 STD523710 STD541437 106933X 130804 STD541237	Transaxle (See Breakdown) Dana - D4360-140 Spring Return Brake T/a Zinc Pulley Transaxle 18" tires Ring Retainer # 5100-62 Strap Torque 30 Degrees Screw Thdrol 5/16-18 X 3/4 TAP/BL Rod Shift Fender Adjust LT Pin Cotter 1/8 X 1 Cad Washer Plate Shf 388 Sq Hole Bolt 1/4-28 Unf Gr 8 W/Patch Washer Lock Hvy Helical 1/4 Bolt Hex Flghd 5/16-18 Gr. 5 Nut Lock Hex W/Ins 5/16-18 Unc Bolt, Fin Hex 3/8-16 UNC x 1 Gr. 5 Nut Lock 3/8-16 Unc Knob Rod Brake Blk Zinc 26 840 Nut Hex Jam 3/8-16 Unc	NO. 63 64 65 66 70 74 75 76 77 78 79 80 81 82 83 84 85 89 90	NO.  175410 71170764 STD55143 154778 134683 109502X 121749X STD581075 123583X 121748X 2228M 131488 165594 165711 19171216 166229 150360 158391X428 124346X	Engine Pulley LT/YT Bolt Hex Washer Lock Hvy Hlcl Spr 7/16 Keeper Belt Engine Foolproof Guide Belt Mower Drive RH Spacer Axle Washer 25/32 X 1 1/4 X 16 Ga E-ring #5133-75 Key Square 2 0 X 1845/ 1865 Washer 25/32 X 1-5/8 X 16 Ga Key Woodruff Arm Shift Shaft Asm Cross Spring Torsion T/a Washer 17/32 X 3/4 X 16 Ga Link Transaxle Nut Lock Center 1/4 - 28 FNTHD Console Shift STLT Nut Self-thd Wsh-hd 1/4 Zinc
25 26 27 28 29 30 32 34 35 36 37 38 39 41 47 48 49 50 51 52 53 55 56 57 59	106888X STD551037 STD561210 175765 71673 174973 STD523107 175578 120183X STD551062 STD571810 179114 STD523730 175556 127783 154407 123205X STD523715 STD541437 STD541431 105710X 105709X 17060620 160855 169691	Spring Rod Brake 2 00 Zinc Washer 13/32 X 13/16 X 16 Ga Pin Cotter 1/8 X 3/4 Cad Rod Brake Parking LT/YT Cap Brake Parking Bracket Mtg Transaxle Bolt Hex Hd 5/16-18unc X 3/4 Shaft Asm Pedal Foot Bearing Nylon Blk 629 ld Washer 21/32 X 1 X 16 Ga Pin Roll 3/16 X 1" Pulley Idler Bolt Fin Hex 3/8-16unc X 3 Keeper Belt Idler Pulley Idler V Groove Plastic Bellcrank Asm Retainer Belt Style Spring Bolt Hex Hd 3/8-16unc X 1-1/2 Nut Crownlock 3/8-16 Unc Nut Crownlock 5/16-18 Unc Link Clutch Spring Return Clutch 6 75 Screw 3/8-16 X 1-1/4 V-Belt Ground Drive Keeper Belt Span Ctr	96 112 113 116 120 150 151 156 158 159 161 162 163 164 165 166 168 169 170 197 198 202 212	STD624003 19091210 127285X STD533710 73900600 175456 19133210 166002 165589 165494 72140406 73680400 74780416 19091010 165623 166880 165492 165580 178394 169613 169593 72110614 145212	Retainer Spring Washer 9/32 x 3/4 x 10 Ga. Strap Torque LH Bolt Rdhd Sq Neck 3/8-16 x 1 Nut Lock Flg 3/8-16 Unc Spacer Retainer Washer 13/32 x 2 x 10 Washer Srrted 5/16 ID X 1 X .125 Bracket Shift Mount Hub Tapered Flange Shift LT Bolt Rdhd Sqnk 1/4-20 x 3/4 Gr. 5 Nut Crownlock 1/4-20 Unc Bolt Hex Fin 1/4-20 Unc x 1 Gr. 5 Washer 5/8 x .281 x 10 Ga. Bracket Pivot Lever Screw 5/16-18 x 5/8 Bolt Shoulder 5/16-18 x .561 Plate Fastening LT Keeper Belt Transaxle Nyliner Snap-In Washer Nyliner Bolt Carriage 3/8-16 x 1-3/4 Gr. 5 Nut Hexflange Lock
61 62	17120614 8883R	Screw 3/8-16 x .875 Cover Pedal Blk Round		1 inch = 25	

## TRACTOR - - MODEL NUMBER 944.602161

### STEERING ASSEMBLY



### TRACTOR - - MODEL NUMBER 944.602161

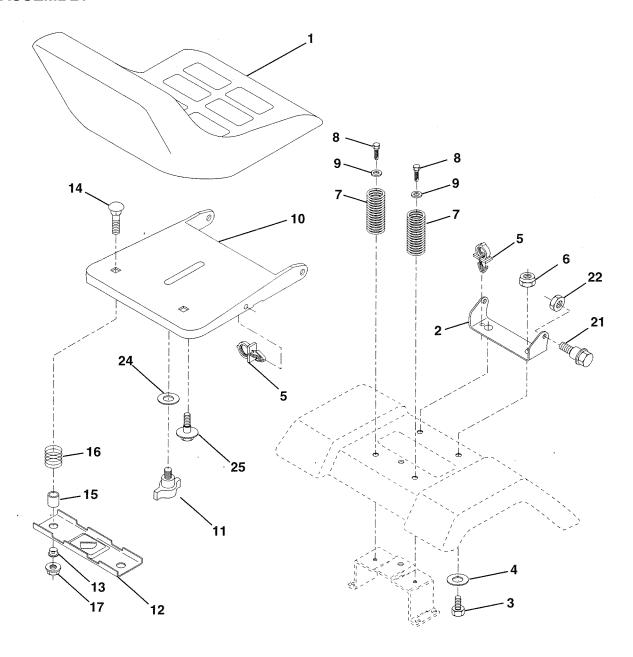
#### STEERING ASSEMBLY

KEY NO.	PART NO.	DESCRIPTION
1 2 3 4 5 6 7 8 9 10 11 2 13 15 7 6 8 9 30 2 6 7 8 9 40 4 42 43 44 64 7 5 5 6 6 6 6 6 7 8 2 1 8	139768 175131 169840 169839 6266H 121748X 19272016 12000029 3366R 175121 STD551137 73940800 136518 145212 180641 126847X 19131416 17060612 STD561210 130465 155099 152927 139769 19183812 STD541537 100711L 145054X428 121749X 180640 121232X 6855M 73540400 71130420 160367 72140618 169827 175146 169835	Wheel Steering Axle Asm Spindle Asm LH Spindle Asm RH Bearing Race Thrust Harden Washer 25/32 X 1-5/8 X 16 Ga Washer 27/32 X 1-1/4 X 16 Ga Ring Klip #t5304-75 Bearing Col Strg Blk Link Drag Extended Stamp Washer Lock Hvy Hlcl Spr 3/8 Nut Hex Jam Toplock 1/2-20 Unf Spacer Bearing Axle Nut Hex Flange Lock Shaft Asm Strg Bushing Link Drag Blk LR Washer 13/32 X 7/8 X 16 Ga Screw 3/8-16 x 3/4 Pin Cotter 1/8 X 3/4 Cad Rod Tie Wire Form 19 75 Mech Bushing Strg Screw Insert Cap Strg Wh Au Washer 9/16 ID x 2-3/8 OD 12 Gr. Lock nut Adaptor Wheel Strg Boot Steering Shaft Washer 25/32 X 1 1/4 X 16 Ga Extension Steering Shaft Cap Spindle Fr Top Blk Fitting Grease Nut Crownlock 1/4-28 Bolt Hex Spacer Brace Axle Bolt Rdhd Sq 3/8-16 x 2-1/4 Axle, Brace Steering Asm Bracket
85 88 91	133835 175118 175553	Fastener Christmas Tree Bolt Shoulder 7/16-20 Unc Clip Steering

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

## TRACTOR - - MODEL NUMBER 944.602161

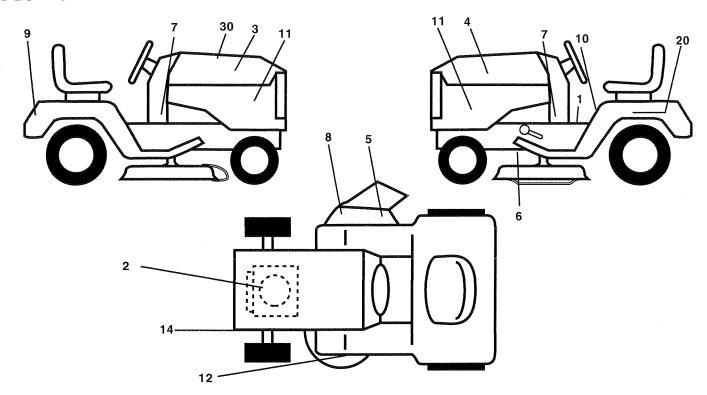
#### **SEAT ASSEMBLY**



KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1 2 3 4 5 6 7 8 9 10	140122 140551 71110616 19131610 145006 STD541437 124181X 17000616 19131614 <b>182493</b>	Seat Bracket Pivot Seat 8 720 Bolt Fin Hex 3/8-16unc X 1 Washer 13/32 X 1 X 10 Ga Clip Push-In Nut Hex w/Ins. 3/8-16 Unc Spring Seat Cprsn 2 250 Blk Zi Screw 3/8-16 X 1.5 Washer 13/32 X 1 X 14 Ga. Pan Seat	13 14 15 16 17 21 22 24 25	121248X 72050412 134300 121250X 123976X 171852 STD541431 19171912 127018X	Bushing Snap Blk Nyl 50 Id Bolt Rdhd Sqnk 1/4-20x1-1/2 Spacer Split 28x 96 Yel Zinc Spring Cprsn 1 27 Blk Pnt Nut Lock 1/4 Lge Flg Gr 5 Zinc Bolt Shoulder 5/16-18 Unc Nut Hex Lock W/lns 5/16-18 Washer 17/32 X 1-3/16 X 12 Ga. Bolt Shoulder 5/16-18 X 62
11	166369	Knob Seat	NOTE	: All compone	ent dimensions given in U.S. inches
12	121246X	Bracket Mounting Switch		1  inch = 25.	.4 mm

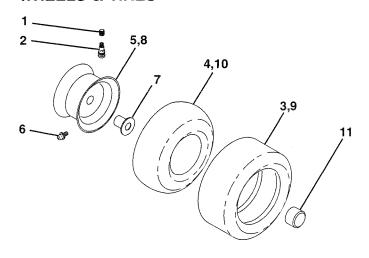
### TRACTOR - - MODEL NUMBER 944.602161

### **DECALS**



KEY	PART		KEY	PART	
NO.	NO.	DESCRIPTION	NO.	NO.	DESCRIPTION
1	156369	Decal Fend STLT Oper	11	177253	Decal Hood Side
2	176677	Decal Engine	12	172331	Decal Mower
3	177279	Decal Hood LH	14	160396	Decal V-Belt Schematic
4	177278	Decal Hood RH	20	149517	Decal Bat Dan/Psn
5	179128	Decal Deck "B"	30	172265	Decal Replacement Parts
6	146046	Decal V Belt Drive Sch		165800X428	Pad Footrest LH STLT
7	177259	Decal Dash Pnl		165799X428	Pad Footrest RH STLT
8	170563	DecalWarning		138311	Decal Handle Lft Height Adjust
9	163204	Decal Craftsman		183326	Manual Owner's (English)
10	157140	Decal Fender Danger Eng/Fr		183327	Manual Owner's (French)

### WHEELS & TIRES

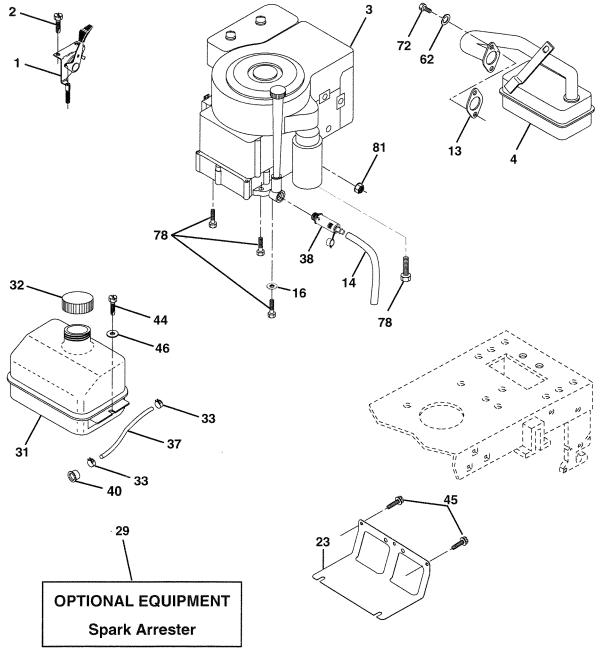


KEY NO.	PART NO.	DESCRIPTION
1	59192	Cap Valve Tire
2	65139	Stem Valve
3	106222X	Tire F
4	59904	Tube Front (Service Item Only)
5	106732X427	Rim Asm 6"front Service
6	278H	Fitting Grease (Front Wheel Only)
7	9040H	Bearing Flange (Front Wheel Only)
8	106108X427	Rim Asm 8"rear Service
9	106268X	Tire R
10	7152J	Tube Rear (Service Item Only)
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

### TRACTOR - - MODEL NUMBER 944.602161

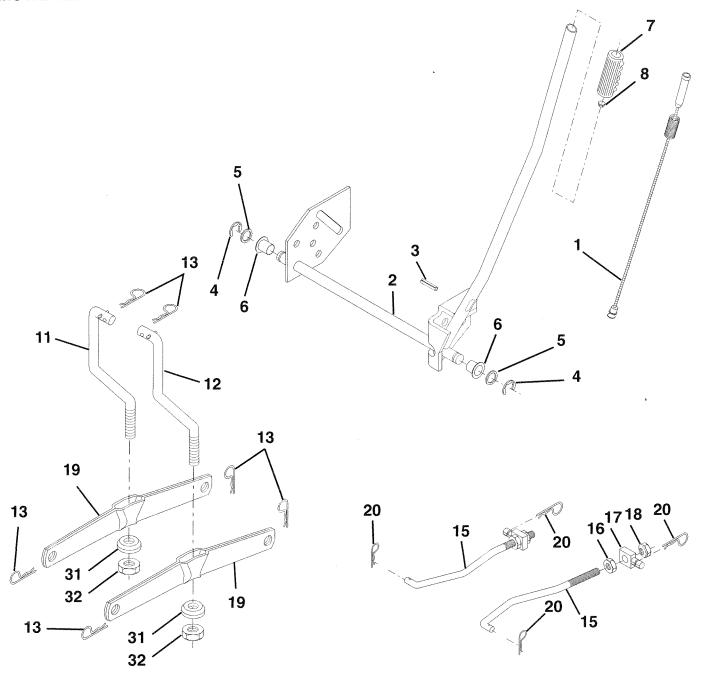
### **ENGINE**



KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	170545	Control Throt /Ch	37	137040	Line Fuel 20"
2	17720408	Screw Hex Thd Cut 1/4-20 x 1/2	38	148315	Plug Drain Oil Easy
3		Engine (See Breakdown)	40	124028X	Bushing Snap Nyl Blk Fuel Line
		B&S, Model 310707-0137-E1	44	17670412	Screw Hexwsh Thdrol 1/4-20x3/4
4	137352	Muffler Exhaust B&s Lt	45	17000612	Screw Hex Wsh Thdrol 3/8-16 x 3/4
13	165291	Gasket	46	19091416	Washer 9/32 X 7/8 X 16ga
14	148456	Tube Drain Oil Easy	62	STD551131	Washer Lock Hvy Hlcl Spr 5/16
16	STD551237	Washer Lock Ext Tooth 3/8	72	71070512	Screw Hexhd Cap 5/16-18x3/4
23	169837	Shield Browning	78	17060620	Screw 3/8-16x1-1/4
29	137180	Arrestor Spark Technology	81	73510400	Nut Keps Hex 1/4-20 Unc
31	109202X	Tank Fuel 1 25 Fr			·
32	158990	Cap Asm Fuel W/sym Vented	NOTE	: All compo	nent dimensions given in U.S. inches
33	123487X	Clamp Hose Blk		1 inch = 25	

### TRACTOR - - MODEL NUMBER 944.602161

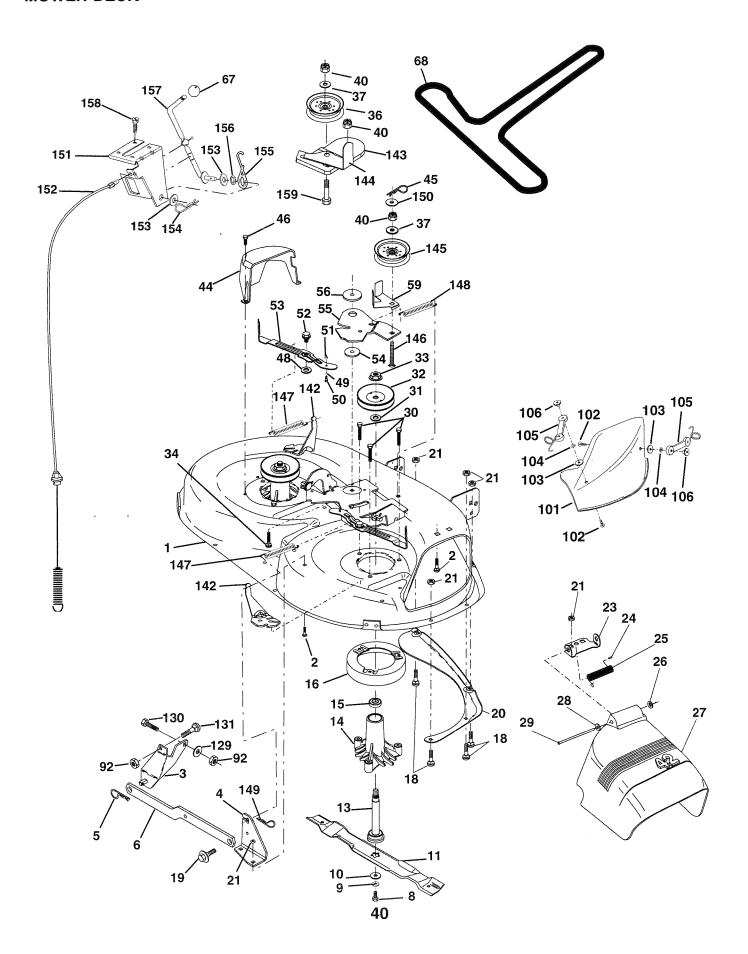
### **MOWER LIFT**



KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 2	159460 159471	Wire Asm Inner W/Plunger Shaft Asm Lift	13 15	STD624008 173288 73350800	Retainer Spring Link Front
3 4 5	105767X STD581062 19211621	Pin Groove E Ring Washer 29/32 x 1-1/4 x 21 Ga.	16 17 18	175689 73800800	Nut Jam Hex 1/2-13 Unc Trunnion Nut Lock W/Wsh 1/2-13 Unc
6 7	120183X 125631X	Bearing Nylon Blk .629 ID Grip Handle Fluted	19 20	139868 163552	Arm Suspension Rear Spring Retainer
8 11	122365X 139865	Button, Plunger Link Lift Lh Fixed Length	31 32	169865 73540600	Bearing Pvt. Lift Nut Lock 3/8-24
12	139866	866 Link Lift Rh Fixed Length	NOT	E: All compone 1 inch = 25	ent dimensions given in U.S. inches i.4 mm

### TRACTOR - - MODEL NUMBER 944.602161

#### **MOWER DECK**

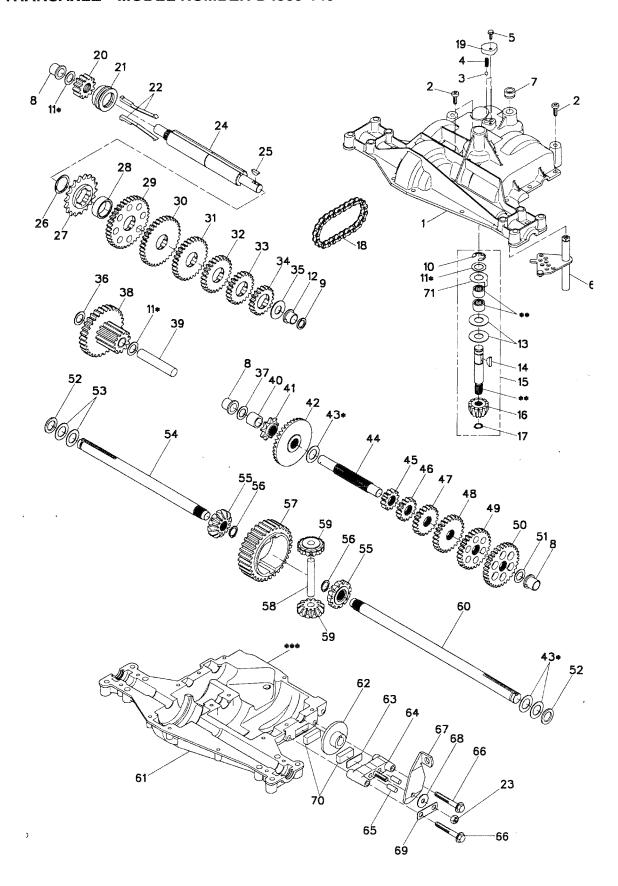


### TRACTOR - - MODEL NUMBER 944.602161

#### **MOWER DECK**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1 2 3	165892 STD533107 138017	Mower Deck Assembly, 42" Bolt RDHD SQNK 5/16-18 Unc x 3/4 Bracket Assembly, Sway Bar,	49 50 51 52	174284 131340 STD541410 139888	Roller Assembly, Cam Follower Bolt, Shoulder #10-24 Grade 5 Locknut Bolt, Shoulder 5/16-18 UNC
4 5 6 8 9	165460 STD624008 178024 850857 STD551137	Front Bracket Sway Bar 38/42" Deck Retainer Spring Bar Sway Deck Bolt, Hex 3/8-24 x 1.25 Gr. 8 Washer, Lock	53 54 55 56 59 67	131845 133943 155046 165723 141043 149846	Arm Assembly, Pad, Brake Washer, Hardened Arm, Idler Spacer, Retainer Guard, TUV Idler Knob Custom Oval
10 11	140296 134149	Washer, Hardened Blade, Mulching 42" Std (Originallyequipped with)	68 92	144959 STD541437	V-Belt Nut
~ ~	138498	Blade Mower 42" Hi-Lift Std (For better bagging. especially in wet conditions)	101 102 103	136420 71081010 19061216	Mulcher Cover Screw Washer #10
TH 60	139775	Blade Mulching 42" Premium (For better wear when mulching)	104 105 106	10071000 160793 2029J	Washer, Lock Latch Assembly, Bagger Nut, Weld
w 10	138971	Blade Mower 42" Hi-Lift Premium (For better wear when bagging in heavy or wet conditions)	129 130	19131312 STD523710	Washer 13/32 x 13/16 x 12 Ga. Bolt, Fin Hex 3/8-16 UNC x 1 Gr. 5
13 14	<b>180074</b> 128774	Shaft Assembly, Mandrel, Vented Housing, Mandrel, Vented	131 142 143	STD533710 165890 157109	Bolt, Rdhd Sqnk 3/8-16UNC x 1 Arm Spring Brake Mower ` Bracket Arm Idler 42"
15 16 18	110485X 174493 72140505	Bearing, Ball, Mandrel Stripper, Vented Mower Deck Bolt, Carriage 5/16-18 x 5/8	144 145 146	158634 165888	Keeper Belt 42" Clutch Cable Pulley Idler Flat
19 20 21	132827 159770 STD541431	Bolt, Shoulder Baffle, Vortex Nut Crownlock 5/16-18 UNC	147 148	171977 <b>179748</b> 169022	Bolt Carriage Idler Spring Extension Spring Return Idler
23 24	<b>177563</b> 105304X	Bracket, Deflector Cap, Sleeve	149 150 151	165898 19091216 169670	Retainer Spring Yellow Zinc Washer 9/32 x 3/4 x 16 Ga. Bracket Clutch
25 26 27	123713X 110452X 130968X428	Spring, Torsion, Deflector Nut, Push Shield, Deflector	152 153 154	169676 169674 169675	Cable Clutch 42 In Washer Flat 3/8" Type B
28 29 30	19111016 131491 173984	Washer 11/32 x 5/8 x 16 Ga. Rod, Hinge ScrewThdrol	155 156	169671 169672	Spring Retainer Spring Retention Lever Spacer
31 32 33 34	129963 153535 178342 STD533717	Washer, Spacer Pulley, Mandrel Nut, Toplock, Flanged Bolt RDHD 3/8-16 x 1-3/4	157 158 159	169669 17720408 72140614 130794	Rod Clutch Screw Hex Thd Cut 1/4-20 x 1/2 Bolt Rdhd Sqn 3/8-16 Unc x 1-3/4 Mandrel Assembly (Includes Housing, Shaft and Shaft Hardware
36 37 40 44 45	131494 STD551037 STD541437 140088 STD624003	Pulley, Idler, Flat Washer 13/32 x 13/16 x 16 Gauge Nut Crownlock 3/8-16 UNC Guard, Mandrel, L.H. Retainer		169583	Only-Pulley not Included) Replacement Mower Complete
46 48	137729 133944	Screw, Thd. Roll 1/4-20 x 5/8 Washer, Hardened	NOTE	: All compone 1 inch = 25	ent dimensions given in U.S. inches i.4 mm

# TRACTOR - - MODEL NUMBER 944.602161 DANA TRANSAXLE - MODEL NUMBER D4360-140

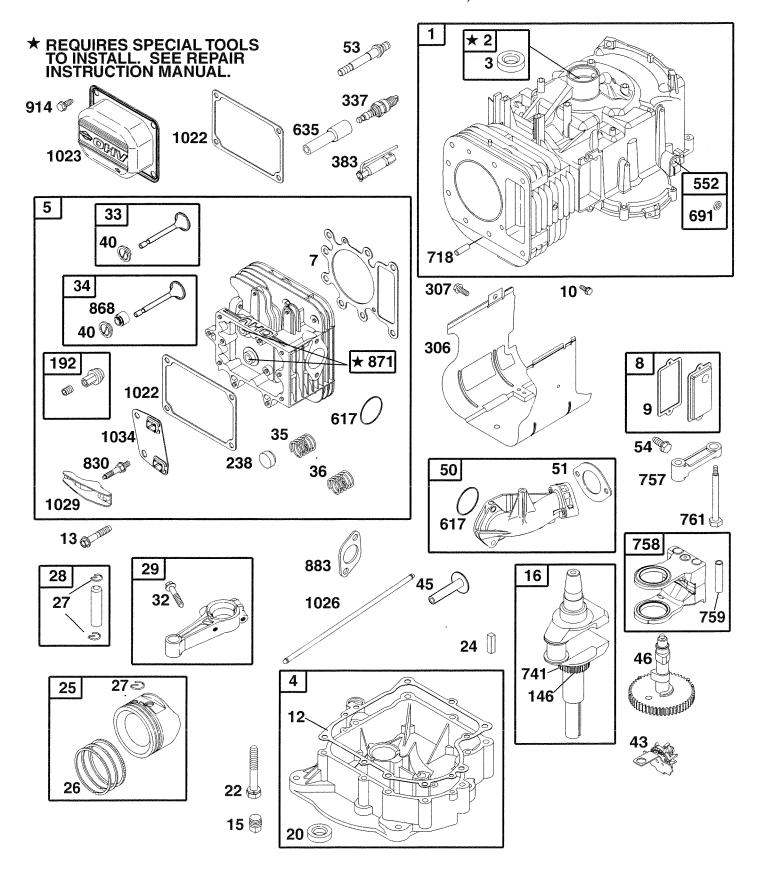


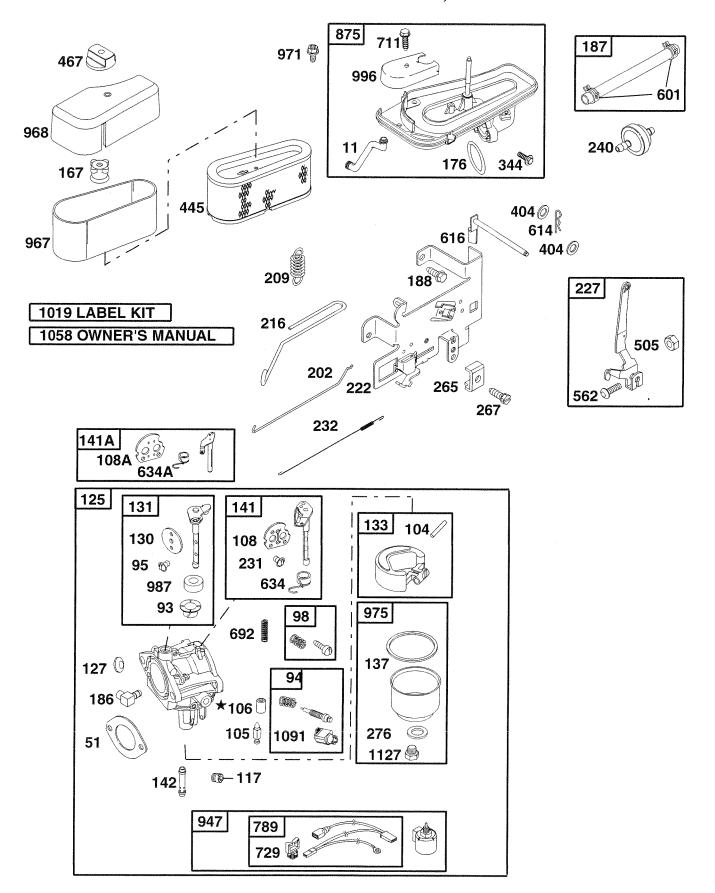
## TRACTOR - - MODEL NUMBER 944.602161 DANA TRANSAXLE - MODEL NUMBER D4360-140

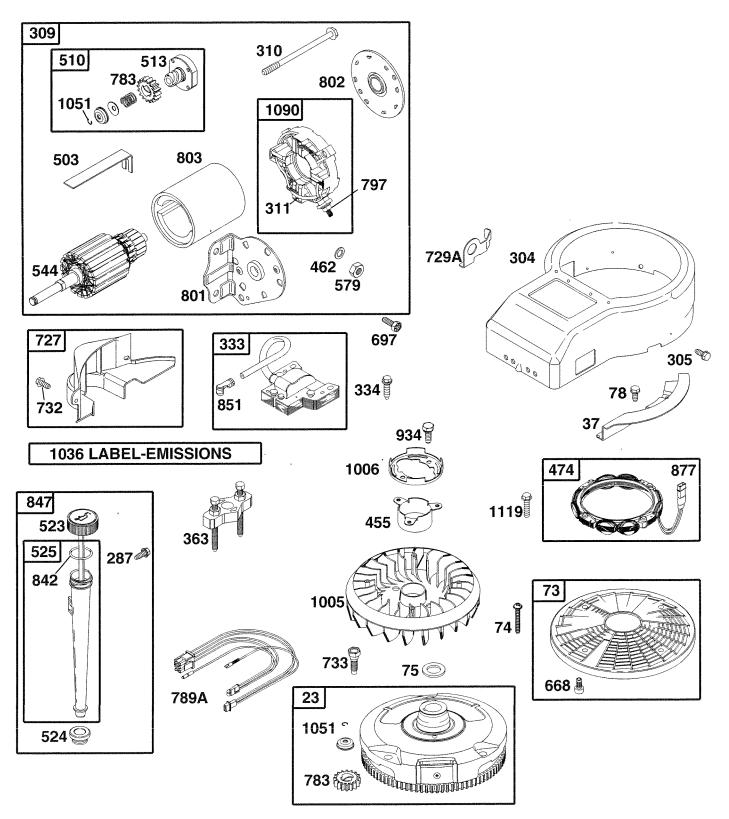
KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	170981	Housing, Upper	40	120472X	Spacer, .633 X .87 X .755
2	2274J	Screw, Tapping, 1/4-20 X .734	41	105928X	Sprocket, 9T
3	134400	Ball, Detent	42	170988	Gear, Bevel, 36T
4	105904X	Spring, Detent	43	134394	*Assy, Kit, Shim, .750 Shaft
5	160940	Screw, Tapping, No. 10-24 X .482	44	120473X	Shaft, Drive
6	138235	Assy, Kit, Shifter	45	142678	Gear, Spur, 12T
7	108727X	V-Ring	46	143697	Gear, Spur, 15T
8	148266	Bearing, Flange	47	124641X	Gear, Spur, 20T
9	148269	Seal, Oil	48	106589X	Gear, Spur, 25T
10	2225J	Ring, Retaining	49	120408X	Gear, Spur, 28T
11	134793	*Assy, Kit, Shim, .625 Shaft	50	105937X	Gear, Spur, 31T
12	148268	Bearing, Flange	51	2226J	Washer, Plain, .632 X 1.00 X .060
13	120415X	Washer, Plain, .632 X 1.38 X .046	52	134401	Washer, Neoprene
14	142674	Key, Woodruff, No. 9	53	2264J	Washer, Plain, .758 X 1.25 X .031
15	170983	Assy, Kit, Input Shaft	54	160946	Axle, LH
16	170986	Pinion, Bevel, 12T	55	170990	Gear, Miter, 1 2T, Splined
17	105909X	Ring, Retaining	56	160948	Ring, Retaining
18	105910X	Chain, 24 Pitches	57	110071X	Gear, Spur, 32T
19	160942	Cover, Detent	58	120952X 、	Shaft, Cross
20	160943	Gear, Spur, 12T	59	170991	Gear, Miter, 1 2T, Idler
21	148267	Collar, Clutch	60	160950	Axle, RH
22	138236	Assy, Kit, Clutch Keys	61	170992	Housing, Lower
23	73810500	Nut, Lock, 5/16-24	62	7294J	Disc, Brake
24	142676	Shaft, Intermediate	63	108989X	Spacer, Brake Puck
25	2244J	Key, Woodruff, No. 61	64	160952	Jaw, Brake
26	105916X	Ring, Retaining	65	120954X	Pin, Dowel
27	12047OX	Sprocket, 1.8T	66	160953	Screw, Tapping, 5/16-18 X 2.35
28	110070X	Spacer, 1. 131 X 1.45 X .494	67	138244	Lever, Actuating
29	142677	Gear, Spur, 37T	68	108996X	Washer, Plain, .321 X 1.00 X .055
30	142681	Gear, Spur, 35T	69	160954	Bracket, Anti-Rotation
31	124644X	Gear, Spur, 30T	70	120951X	Puck, Friction
32	108980X	Gear, Spur, 25T	71	174256	Washer, Anti Rotation
33	120406X	Gear, Spur, 22T	72	120416X	Grease
34	134796	Gear, Spur, 19T			
35 36	105925X	Washer, Plain, .640 X 1.37 X .061			nent dimensions given in U.S. inches
36 27	2228J	Washer, Plain, .632 X 1.00 X .046	1 incr	n = 25.4  mm	
37	170987	Washer, Plain, .632 X 1.00 X .031	*	t face to 1	
38	174255	Assy, Gear, Comb., 12T & 30T	^		us combinations to maintain proper
39	124639X	Shaft, Idler		clearances.	

<sup>\*\*</sup> Order Key No. 15.

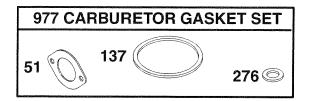
<sup>\*\*\*</sup> Silicone Sealant to be applied between Upper and Lower Housings (use Loctite Ultra Gray Silicone 5699 or equivalent).

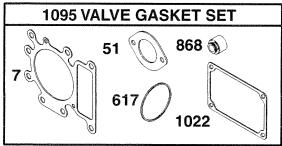


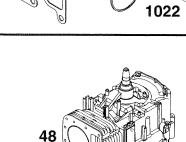


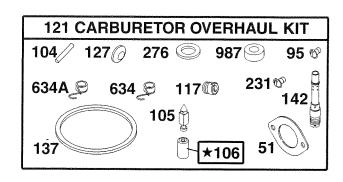


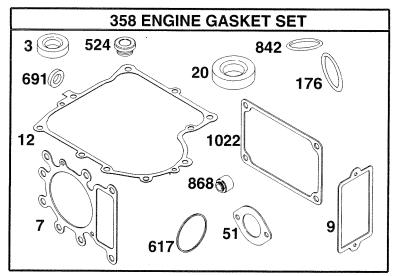
## TRACTOR - - MODEL NUMBER 944.602161 BRIGGS & STRATTON ENGINE - MODEL NUMBER 310707, TYPE NUMBER 0137-E1



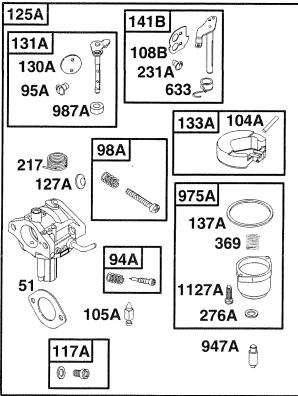


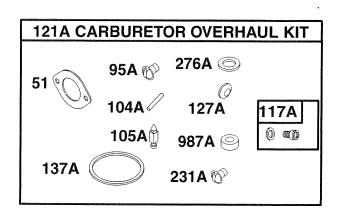


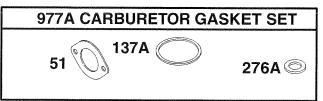




## **NIKKI**



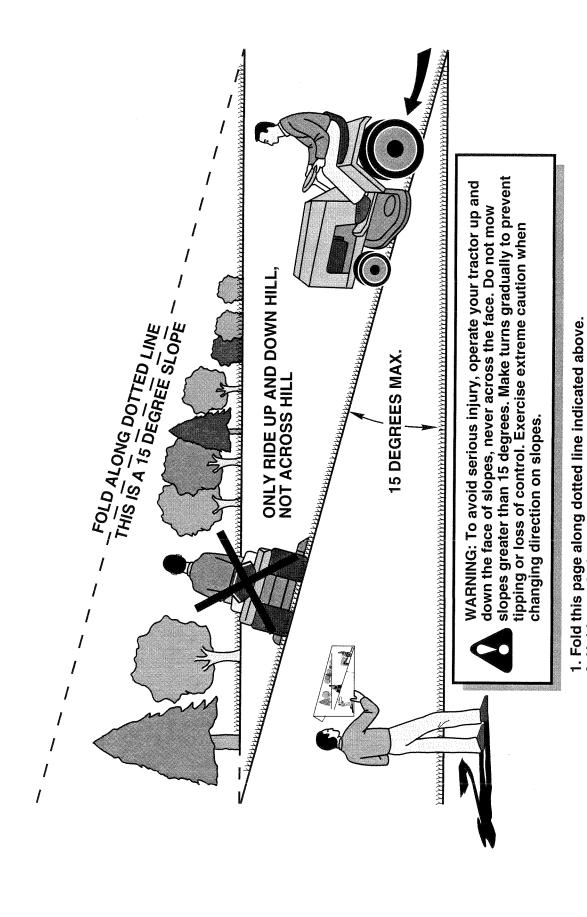




KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	690156	Cylinder Assembly	105	231855	Ø Valve-Float Needle
2	399265	Kit-Bushing/Seal	105A	694922	Ø Valve-Float Needle
3	391086	<ul> <li>Seal-Oil (Magneto Side)</li> </ul>	106	690577	Seat-Inlet
4	494238	Sump-Engine	108	690464	Valve-Choke (Manual Choke)
5	690188	Head-Cylinder	108A	692344	Valve-Choke(Choke-A-Matic)
5 7	692410	•+ Gasket-Cylinder Head	108B	695419	Valve-Choke(Nikki Carburetor)
8	495735	Breather Assembly	117	692408	Ø Jet-Main (Standard)
9	27803	Gasket-Breather		692411	Jet-Main (High Altitude)
10	691666	Screw (Breather Assembly)	117A	695415	Ø Jet-Main (Standard)
11	691328	Tube-Breather		695416	Ø Jet-Main (High Altitude)
12	692226	<ul> <li>Gasket-Crankcase (.015 Thick, Std)</li> </ul>	121	690191	Kit-Carburetor Overhaul
	692406	<ul> <li>Gasket-Crankcase (.005 Thick)</li> </ul>	121A		Kit-Carburetor Overhaul
	692405	<ul> <li>Gasket-Crankcase (.009 Thick)</li> </ul>	125	690194	Carburetor
13	690360	Screw (Cylinder Head)	125A		Carburetor (Nikki) (Service with Walbro
15	690946	Plug-Oil Drain			Carburetor)
16	690136	Crankshaft	127	695005	Ø Plug-Welch
20	291675	• Seal-Oil	127A	690727	Ø Plug-Welch
22	692125	Screw (Crankcase Cover)	130	691750	Valve-Throttle
23	693557	Flywheel	130A	695418	Valve-Throttle
24	222698	Key-Flywheel	131	494379	Kit-Throttle Shaft
25	692271	Piston Assembly (Standard)	131A		Kit-Throttle Shaft
	692272	Piston Assembly (.010 O.S.)	133	494381	Float-Carburetor
	692273	Piston Assembly (.020 O.S.)	133A		Float-Carburetor
	692274	Piston Assembly (.030 O.S.)	137		؇ Gasket-Float Bowl
26	690162	Ring Set-Piston (Standard)	137A		؇ Gasket-Float Bowl
	692164	Ring Set-Piston (.010 O.S.)	141	495097	Kit-Choke Shaft (Manual Choke)
	692166	Ring Set-Piston (.020 O.S.)	141A	495931	Kit-Choke Shaft (Choke-A-Matic)
	692168	Ring Set-Piston (.030 O.S.)	141B	695420	Kit-Choke Shaft (Nikki)
27	691299	Lock-Piston Pin	142	692412	Ø Nozzle-Carburetor
28	498319	Pin-Piston (Standard)	146	691639	Key-Timing
	498320	Pin-Piston (.020 O.S.)	167	692297	Air Cleaner Stud Seal
29	692419	Rod-Connecting (Standard)	176	691917	O-Ring Seal (Air Cleaner)
	499940	Rod-Connecting (.020 U.S.)	186	692317	Connector-Hose
32	692852	Screw (Connecting Rod)	187	691050	Line-Fuel (Cut to Required Length)
33	495856	Valve-Exhaust	188	691693	Screw (Control Bracket)
34	495857	Valve-Intake	192	691986	Adjuster-Rocker Arm
35	691279	Spring-Valve (Intake)	202	691841	Link-Mechanical Governor
36	691279	Spring-Valve (Exhaust)	209	692208	Spring-Governor
37	690456	Guard-Flywheel	216	691840	Link-Choke
40	691752	Retainer-Valve	217 222	695409 694042	Spring-Choke Return Bracket-Control
43	691968	Slinger-Governor/Oil	227	691374	Control Lever-Governor
45 46	690564	Tappet-Valve	231	691636	Ø Screw (Choke Valve)
46	692421	Camshaft Short Block (311707-0028-E1			
48	692706		231A 232	690718 691842	Ø Screw (Choke Valve) Spring-Governor Link
<b>CO</b>	600100	Replacement Engine)	238	691843	Cap-Valve
50	690193	Manifold-Intake	240	394358	Filter-Fuel
51		؇+ Gasket-Intake	265	691024	Clamp-Casing
53 54	690227 691148	Stud (Carburetor) Screw (Intake Manifold)	267	695134	Screw (Casing Clamp)
73	690492	Screen-Rotating	276		؇ Sealing Washer
73 74	691674	Screw (Rotating Screen)	276A		؇ Sealing Washer
7 <del>4</del> 75	690582	Washer (Flywheel)	2101	RPM Sett	
78	690661	Screw (Flywheel Guard)		THI WI OOK	High Speed: 3000-3200
93	690602	Bushing-Throttle Shaft			riigii opeod. oooo ozoo
93 94	498030	Kit-Idle Mixture	•	Included i	n Engine Gasket Set, Key. No. 358
94A	695425	Kit-Idle Mixture	Ø		n Carburetor Overhaul Kit, Key. No. 121
95	691636	Ø Screw (Throttle Valve)	~	and121A	January C. C. Commission (1997)
95A	690718	Ø Screw (Throttle Valve)	‡		n Carburetor Gasket Set, Key. No. 977 and
98	495800	Kit-Idle Speed	т	977A	
98A	695408	Kit-Idle Speed	+		n Valve Gasket Set, Key. No. 1095
104	690525	Ø Pin-Float Hinge	NOTE		onent dimensions given in U.S. inches 1 inch
104A	694918	Ø Pin-Float Hinge	= 25.4		<b>.</b>
		· · · · · · · · · · · · · · · · · · ·			

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
287	691002	Screw (Dipstick Tube)	789	692037	Harness-Wiring
304	690844	Housing-Blower	789A	695050	Harness-Wiring
305	690960	Screw (Blower Housing)	797	693167	Nut (Brush Retainer)
306	690499	Shield-Cylinder	801	691429	Cap-Drive
307	691003	Screw (Cylinder Shield)	802	691286	Cap-End
309	693551	Motor-Starter	803	693757	Housing-Starter
310	690323	Screw (Starter Motor)	830	691095	Stud (Rocker Arm)
311	497608	Brush Set	842	691870	<ul> <li>Dipstick/Tube Seal</li> </ul>
333	495859	Armature-Magneto	847	496415	Dipstick/Tube Assembly
334 337	691061 491055	Screw (Armature Magneto)	851	692424	Terminal-Spark Plug
344	693675	Spark Plug Screw (Cable Clamp)	868 871	690968	•+ Seal-Valve
358	690189	Engine Gasket Set	875	690969 694942	Bushing-Guide
363	19203	Flywheel Puller	877	393456	Base-Air Cleaner Wire-Connector/Alternator
369	695422	Spring-Float Bowl	883	692236	Gasket-Exhaust
383	89838	Wrench-Spark Plug	914	690960	Screw (Rocker Cover)
404	691691	Washer (Ġovernor Crank)	934	691058	Screw (Fan Retainer)
445	496894	Filter-Air Cleaner Cartridge	947	497672	Solenoid-Fuel
455	691173	Cup-Flywheel	947A	695423	Solenoid-Fuel
462	691261	Washer (Brush Retainer)	967	272043	Filter-Pre Cleaner
467	691668	Knob-Air Cleaner	968	691916	Cover-Air Cleaner
474	691063	Alternator	971	692129	Screw (Air Cleaner Base)
503 505	691532	Strap-Starter	975	495933	Bowl-Float
510	691251 693699	Nut (Governor Control Lever) Drive-Starter	975A	695417	Bowl-Float
513	692024	Clutch-Drive	977 977A		Set-Carburetor Gasket
523	692014	Dipstick	977A 987	695428 691326	Set-Carburetor Gasket
524	281370	Seal-Dipstick Tube	987A	690998	<ul> <li>Seal-Throttle Shaft Seal-Throttle Shaft</li> </ul>
525	691398	Tube-Dipstick	996	690678	Carburetor Shield
544	692034	Armature-Starter	1005	695056	Fan-Flywheel
552	491986	Bushing-Governor Lever	1006	690452	Retainer-Fan
562	691119	Bolt (Governor Control Lever)	1019	690180	Kit-Label
579	691029	Nut (Starter Cable)	1022	272475	•+ Gasket-Rocker Cover
601	95162	Clamp-Hose	1023	691192	Cover-Rocker
614 616	691620	Pin-Cotter	1026	692003	Rod-Push (Intake)
617	692012 692138	Crank-Governor	1000	692011	Rod-Push (Exhaust)
633	695414	<ul> <li>O-Ring Seal (Intake Manifold)</li> <li>Seal-Choke/Throttle Shaft</li> </ul>	1029 1034	691751	Arm-Rocker
634	690801	Ø Seal-Spring Assembly (Manual Choke)	1034	690822 695700	Guide-Push Rod Label-Emissions
634A	690802	Ø Seal-Spring Assembly (Choke-A-Matic)	1051	691265	Retainer-Brush
635	691909	Boot-Spark Plug	1058	274789	Owner's Manual
668	691323	Spacer	1090	691293	Retainer-Brush
691	692407	<ul> <li>Seal-Governor Shaft</li> </ul>	1091	691333	Cap-Limiter
692	690572	Spring-Detent	1095	690190	Valve Gasket Set
697	690372	Screw (Drive Cap)		691183	Screw (Alternator)
711	690703	Screw (Carburetor Shield)	1127	691657	Screw (Float Bowl)
718	690959	Pin-Locating	1127A	695407	Screw (Float Bowl)
727 729	490324	Cover-Starter Drive		RPM Setti	
729A	691335 691224	Clip-Wire Clip-Wire			High Speed: 3000-3200
732	691002	Screw (Starter Drive Cover)	•	Included :-	Engine Cooket Cat. Key, No. 050
733	691658	Screw (Crankshaft Extension)	Ø	Included in	n Engine Gasket Set, Key. No. 358 n Carburetor Overhaul Kit, Key. No. 121
741	691284	Gear-Timing	×.	and121A	Carburetor Overnaur NII, Ney. No. 121
757	691714	Link-Counterweight	‡		Carburetor Gasket Set, Key. No. 977 and
758	692423	Counterweight	Ŧ	977A	. Januarotor Gabhet Oot, Ney. No. 377 and
759	691239	Pin-Counterweight	+		Valve Gasket Set, Key. No. 1095
761	691096	Screw (Counterweight)	NOTE:	All compo	nent dimensions given in U.S. inches 1 inch
783	693713	Gear-Pinion	= 25.4 i	mm	

## **SERVICE NOTES**



3. Sight across the fold in the direction of hill slope you want to measure.

4. Compare the angle of the fold with the slope of the hill.

2. Hold page before you so that its left edge is vertically parallel to a tree

trunk or other upright structure.

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