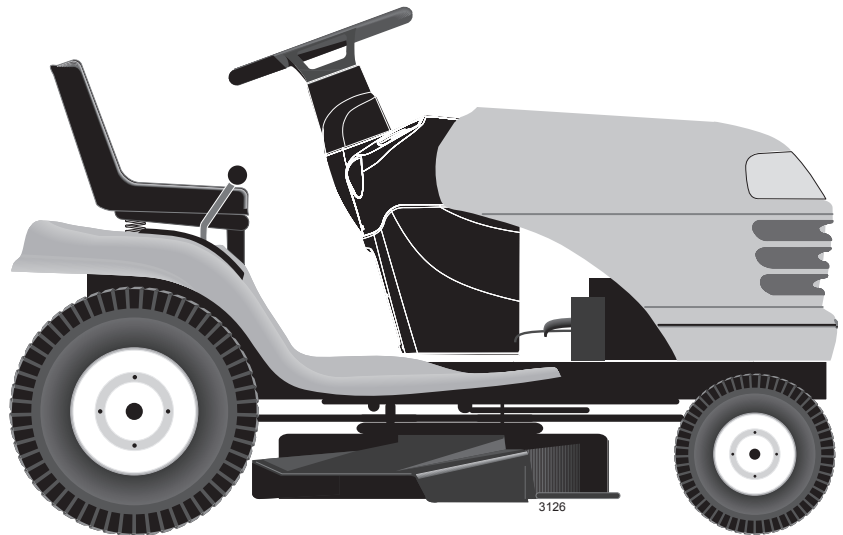


**SEARS**  
OWNER'S  
MANUAL

**MODEL NO.**  
**944.608180**

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



**CRAFTSMAN®**

**19.5 HP\***  
**ELECTRIC START**  
**42" MOWER**  
**6 SPEED TRANSAXLE**  
**LAWN TRACTOR**

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

\*As rated by the engine manufacturer

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



# SAFETY RULES



## Safe Operation Practices for Ride-On Mowers

**DANGER: THIS CUTTING MACHINE IS CAPABLE OF AMPUTATING HANDS AND FEET AND THROWING OBJECTS. FAILURE TO OBSERVE THE FOLLOWING SAFETY INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**



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



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



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

### I. GENERAL OPERATION

- Read, understand, and follow all instructions on the machine and in the manual before starting.
- Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blades.
- Be sure the area is clear of bystanders before operating. Stop machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blades when crossing gravel surfaces.
- Do not operate machine without the entire grass catcher, discharge guard, or other safety devices in place and working.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Disengage blades when not mowing. Shut off engine and wait for all parts to come to a complete stop before cleaning the machine, removing the grass catcher, or unclogging the discharge guard.
- Operate machine only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Always wear eye protection when operating machine.

- Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mower-related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.
- Follow the manufacturer's recommendation for wheel weights or counterweights.
- Keep machine free of grass, leaves or other debris build-up which can touch hot exhaust / engine parts and burn. Do not allow the mower deck to plow leaves or other debris which can cause build-up to occur. Clean any oil or fuel spillage before operating or storing the machine. Allow machine to cool before storage.

### II. SLOPE OPERATION

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

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

### III. CHILDREN

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

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



# SAFETY RULES



## Safe Operation Practices for Ride-On Mowers

### IV. TOWING

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

### V. SERVICE

#### SAFE HANDLING OF GASOLINE

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

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

#### GENERAL SERVICE

- Never operate machine in a closed area.
- Keep all nuts and bolts tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep machine free of grass, leaves, or other debris build-up. Clean oil or fuel spillage and remove any fuel-soaked debris. Allow machine to cool before storing.
- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.

- Never make any adjustments or repairs with the engine running.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently. Adjust and service as required.
- Maintain or replace safety and instruction labels, as necessary.



- Be sure the area is clear of bystanders before operating. Stop machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Never carry children, even with the blades shut off. They may fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.
- Before and while backing, look behind and down for small children.
- Mow up and down slopes (15° Max), not across.
- Choose a low ground speed so that you will not have to stop or shift while on the slope.
- Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the blades and proceed slowly straight down the slope.
- If machine stops while going uphill, disengage blades, shift into reverse and back down slowly.
- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.

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## PRODUCT SPECIFICATIONS

|  |  |
|--|--|
| Gasoline Capacity and type:  | 1.50 Gallons<br>Unleaded Regular   |
| Oil Type (API-SG-SL):  | SAE 30 (above 32°F)<br>SAE 5W-30 (below 32°F)<br>Synthetic (below 0°F)                     |
| Your tractor was shipped from the factory with non-synthetic SAE 10W30 motor oil |  |
| Oil Capacity:  | W/Filter: 56 oz.<br>W/O Filter: 48 oz.   |
| Spark Plug:  | Champion RC12YC<br>(Gap: .030")  |
| Ground Speed (MPH):  | Forward:<br>1st 1.2<br>2nd 1.5<br>3rd 2.4<br>4th 3.5<br>5th 4.8<br>6th 5.3<br>Reverse: 1.5 |
| Charging System:   | 3 Amps Battery<br>5 Amps Headlights  |
| Battery:   | AMP/HR: 28<br>Min. CCA: 230<br>Case Size: U1R  |
| Blade Bolt Torque:   | 45-55 FT. LBS.   |

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

Should you experience any problem you cannot easily remedy, please contact your nearest authorized service center/department. We have competent, well-trained 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 Maintenance Agreement is available on this product. Contact your nearest Sears store for details.

## CUSTOMER RESPONSIBILITIES

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

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

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

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

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

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

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

### COMMERCIAL OR RENTAL USE

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

### This Warranty does **NOT** cover:

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

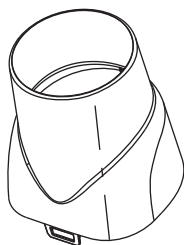
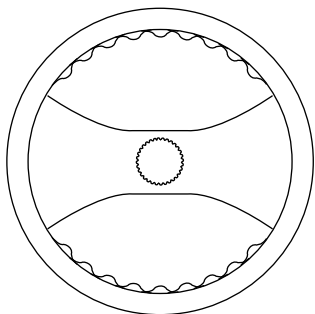
Warranty service is available by returning the Craftsman Riding Equipment to the nearest Sears Service Centre/Department in Canada. This warranty applies only while this product is in use in Canada.

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

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

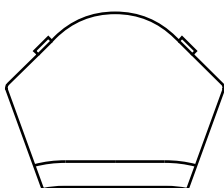
# UNASSEMBLED PARTS

## Steering Wheel



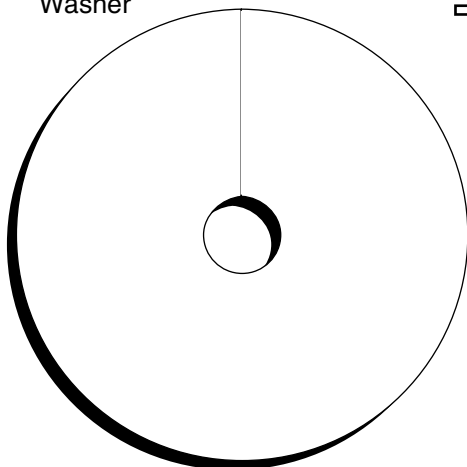
Steering Boot

Steering Extension Shaft

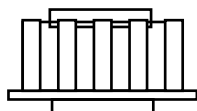


Steering Wheel Insert

(1) Large Flat Washer

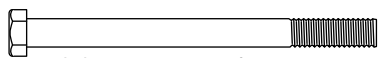


(1) Large Flat Washer



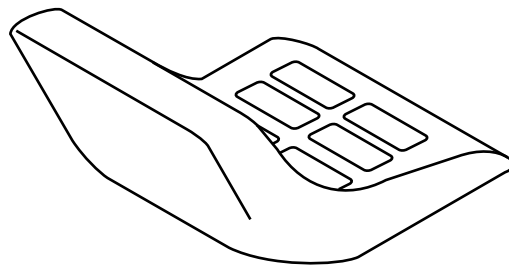
Steering Wheel Adapter

(1) 5/16 Lock Washer



(1) Hex Bolt 5/16-18 x 4

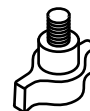
## Seat



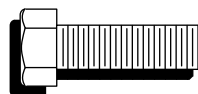
(1) Cup Washer  
17/32 x 1-3/16 x 12 Gauge



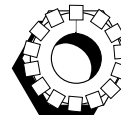
(1) Knob



## Battery



(2) Hex Bolts 1/4-20 x 3/4

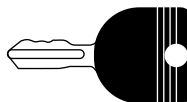


(2) Keps Nuts 1/4-20



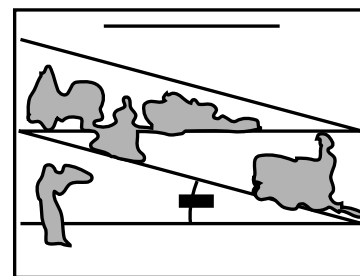
(1) Oil Drain Tube

## Keys



(2) Keys

## Slope Sheet



# 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
- (1) 1/2" wrench                          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 along dashed lines on all four panels of carton. Remove end panels and lay side panels flat.
- Check for any additional loose parts or cartons and remove.

## BEFORE REMOVING TRACTOR FROM SKID

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

#### ASSEMBLE EXTENSION SHAFT AND BOOT

- Slide extension shaft onto lower steering shaft.
- 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, 5/16 lock washer, 5/16 hex bolt 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.

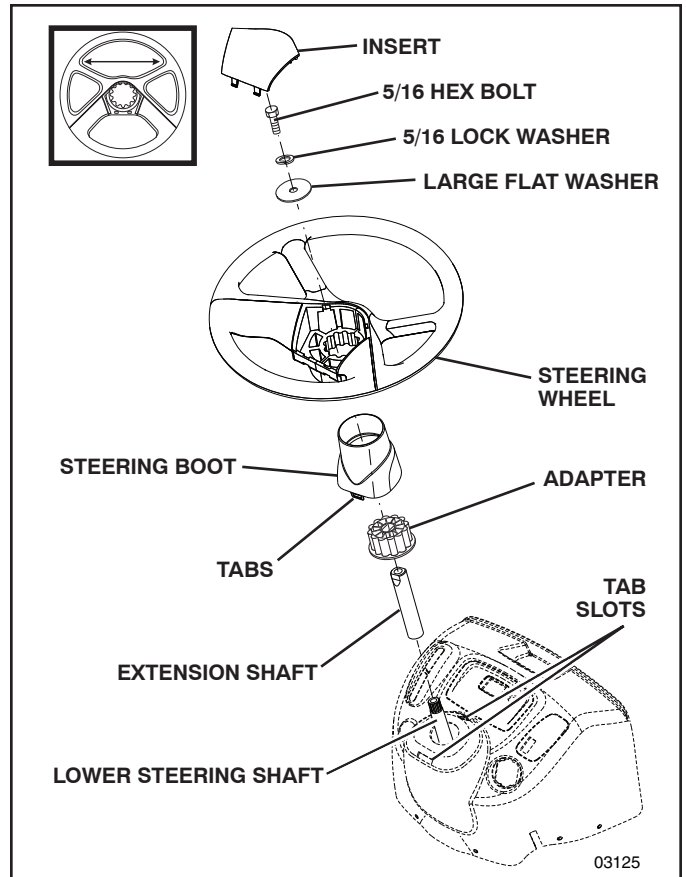


FIG. 1

### CONNECT BATTERY (See Fig. 2)



**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.

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

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

# ASSEMBLY

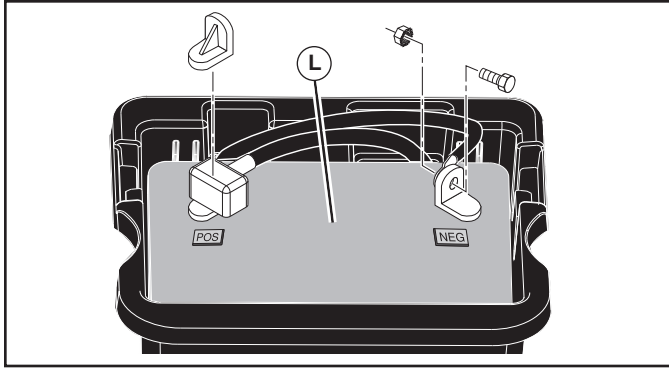


FIG. 2

## INSTALL SEAT (See Fig. 3)

Adjust seat before tightening adjustment knob.

- Remove adjustment knob and cup washer securing seat to cardboard packing and set aside.
- Remove seat from the cardboard packing and set seat aside. Remove the cardboard packing and discard.
- Place seat on seat pan so all three (3) bottom pads are positioned over large slotted holes in pan.
- Push down on seat to engage pads in slots and pull seat towards rear of tractor.
- Pivot seat and pan forward and assemble adjustment knob and cup washer loosely. Do not tighten.
- Lower seat into operating position and sit in 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.

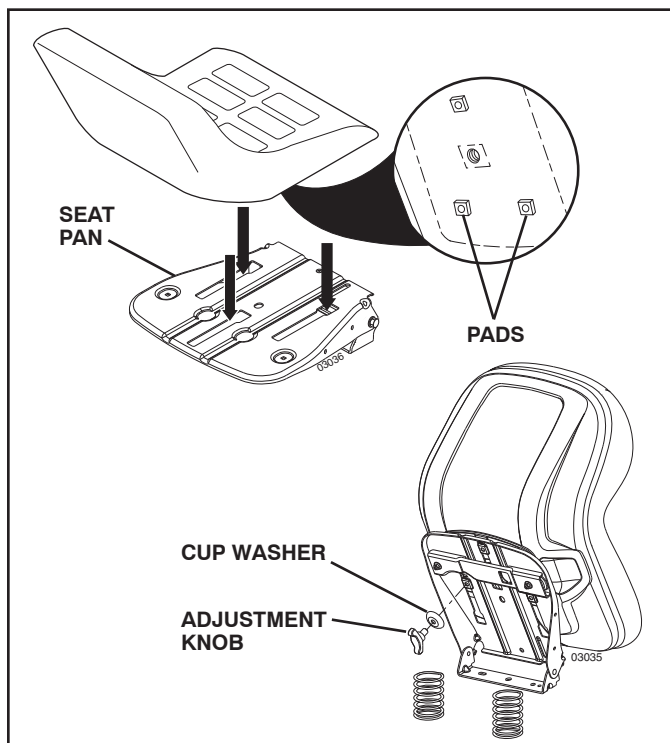


FIG. 3

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

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

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

- Raise attachment lift lever to its highest position.
- Release parking brake by depressing clutch/brake pedal.
- Place gearshift lever in neutral (N) position.
- Roll tractor forward off skid.

Continue with the instructions that follow.

## INSTALL MULCHER PLATE (See Fig. 4) (If previously removed)

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

**⚠ CAUTION:** Do not remove deflector shield from mower.

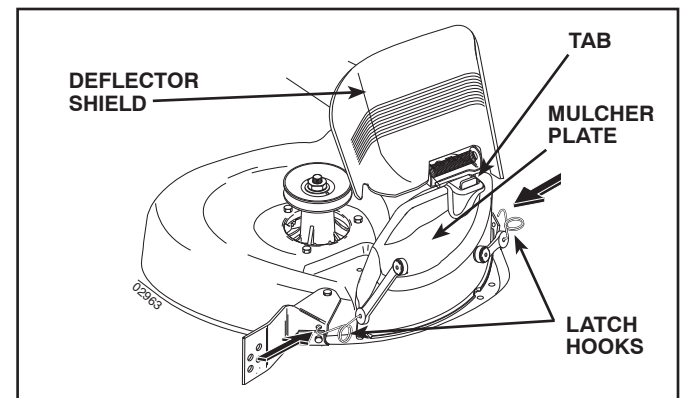


FIG. 4

## TO CONVERT TO BAGGING OR DISCHARGING

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

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

---

# ASSEMBLY

---

## CHECK TIRE PRESSURE

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

- Reduce tire pressure to PSI shown on tires.

## CHECK DECK LEVELNESS

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

## CHECK FOR PROPER POSITION OF ALL BELTS

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

## CHECK BRAKE SYSTEM

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

## ✓CHECKLIST

BEFORE YOU OPERATE YOUR NEW TRACTOR, WE WISH TO ASSURE THAT YOU RECEIVE THE BEST 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.

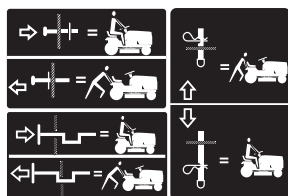
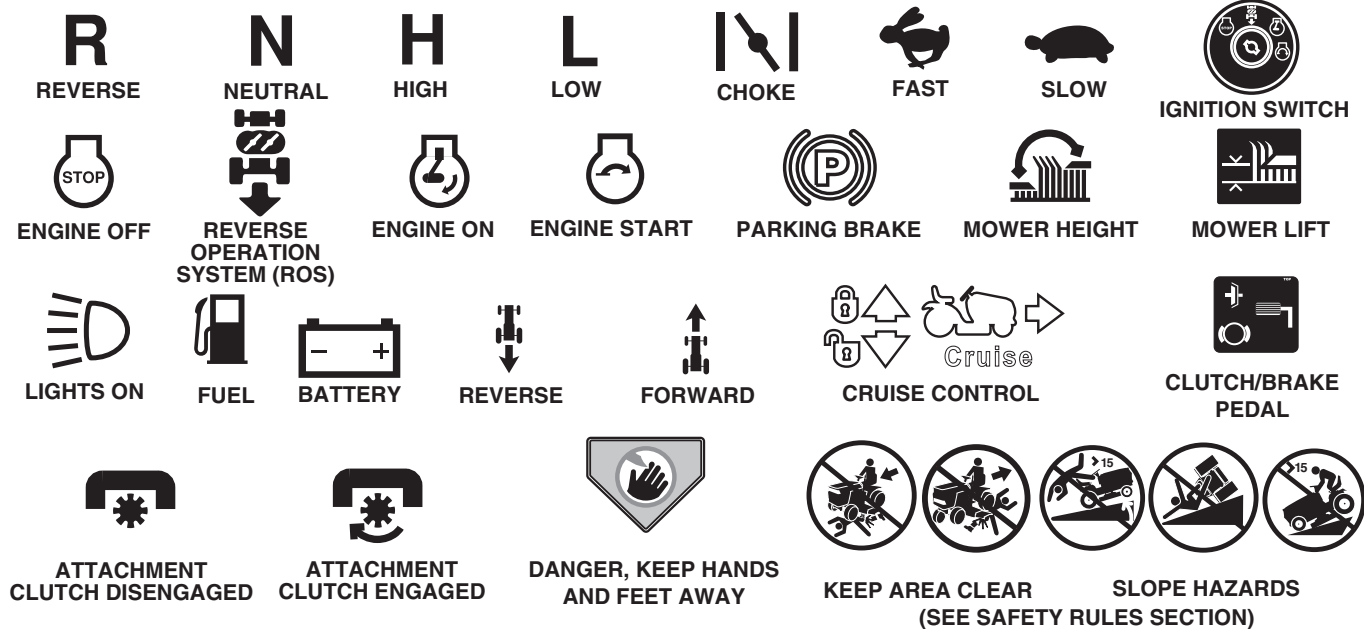
WHILE LEARNING HOW TO USE YOUR TRACTOR, PAY EXTRA ATTENTION TO THE FOLLOWING IMPORTANT ITEMS:

- ✓ 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.
- ✓ Be sure Operator Presence System and Reverse Operation System (ROS) are working properly (See the Operation and Maintenance sections in this manual).



# OPERATION

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



**FREE WHEEL**  
(Automatic Models only)



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



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



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



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

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



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



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

---

# OPERATION

---

## 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.

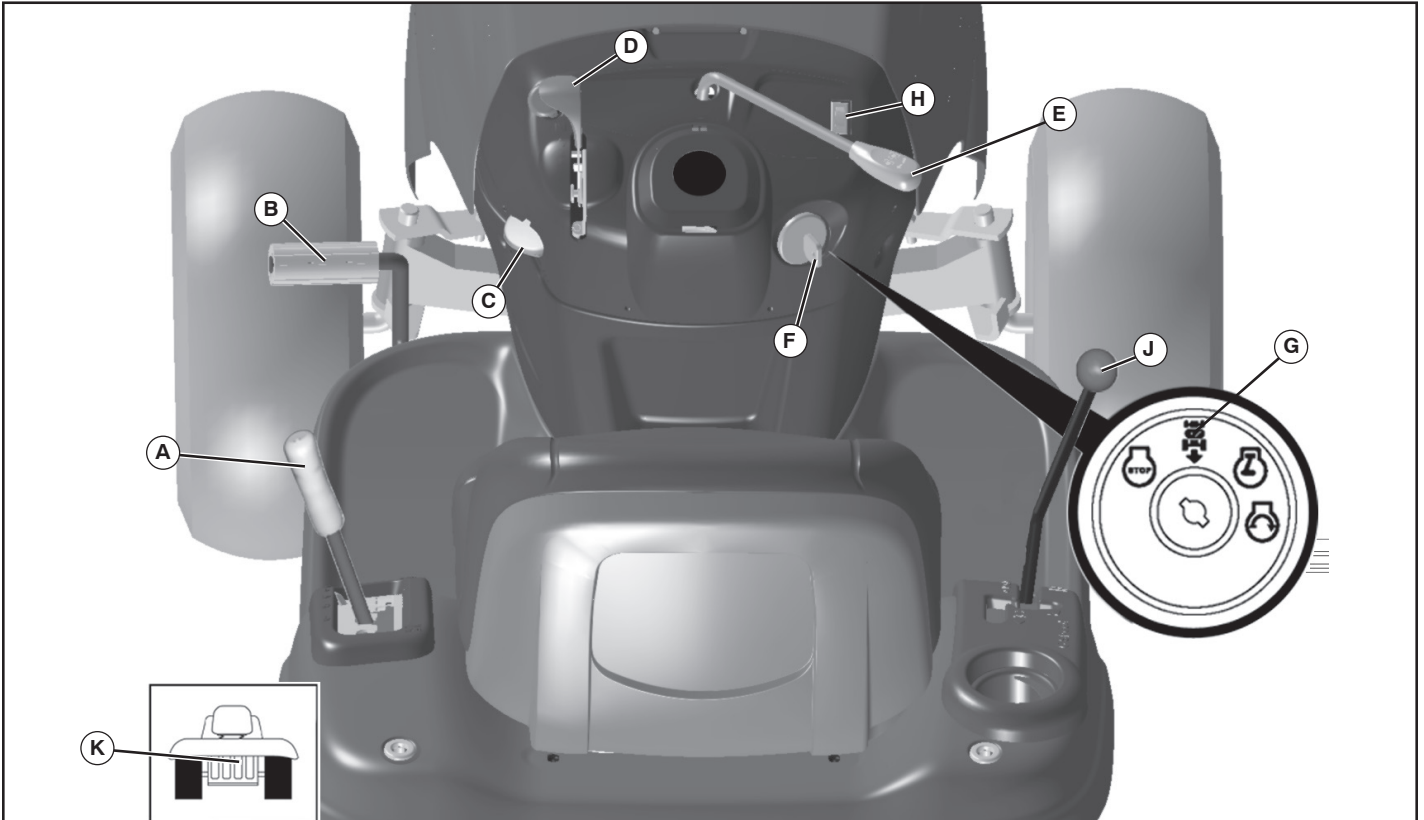


FIG. 5

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

---

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

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

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

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

**(E) ATTACHMENT CLUTCH LEVER** - Used to engage the mower blades, or other attachments mounted to your tractor.

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

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

**(H) LIGHT SWITCH** - Turns the headlights on and off.

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

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

# OPERATION



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. 6)

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

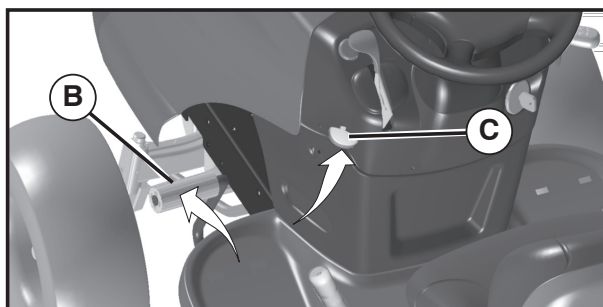
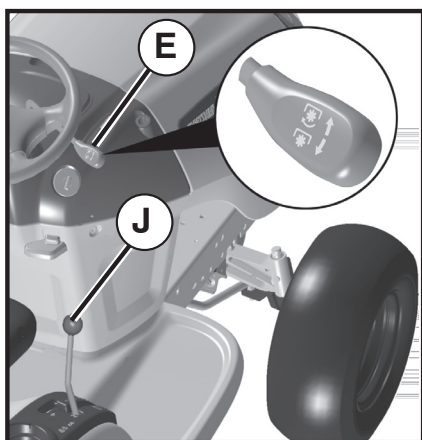


FIG. 6

### STOPPING (See Figs. 7 and 8)

#### MOWER BLADES -

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



(⊗) Attachment Clutch Engage Position      (⊗) Disengaged Position

FIG. 7

#### GROUND DRIVE -

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

#### ENGINE -

- Move throttle control (D) between half and full speed (fast) position.

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

- Turn ignition key (F) to “STOP” position and remove key. Always remove key when leaving tractor to prevent unauthorized use.
- Never use choke (N) to stop engine.

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

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



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

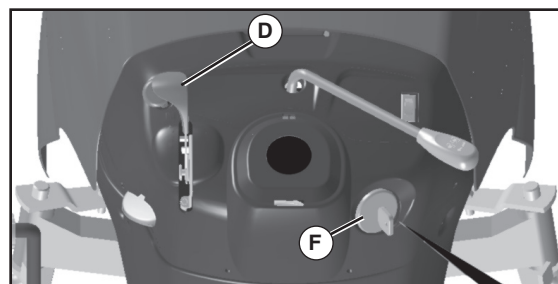


FIG. 8

### TO USE THROTTLE CONTROL (D) (See Fig. 8)

Always operate engine at full speed (fast).

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

### TO MOVE FORWARD AND BACKWARD (See Fig. 9)

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

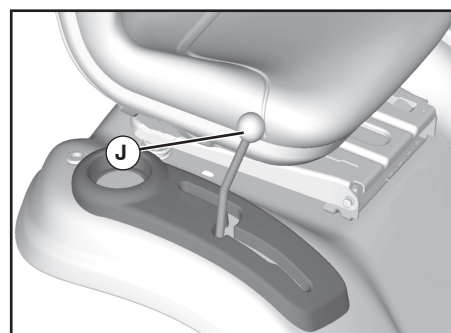


FIG. 9

# OPERATION

- 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. 10)

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

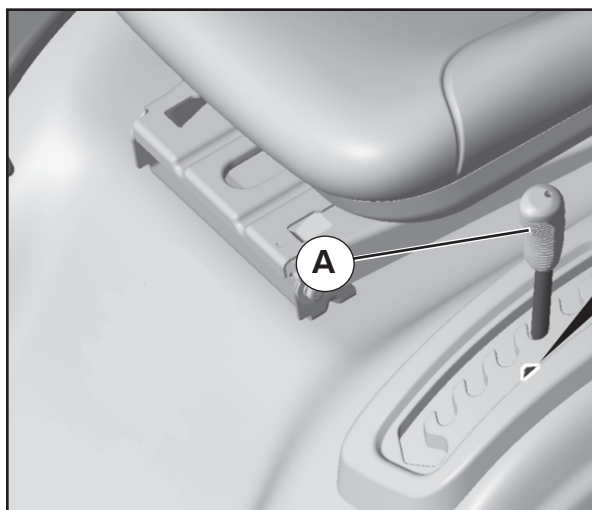


FIG. 10

- Put attachment lift lever in desired cutting height slot. The cutting height range is approximately 1" to 4". The heights are measured from the ground to the blade tip with the engine not running. These heights are approximate and may vary depending upon soil conditions, height of grass and types of grass being mowed.
- The average lawn should be cut to approximately 2-1/2 inches during the cool season and to over 3 inches during hot months. For healthier and better looking lawns, mow often and after moderate growth.
- For best cutting performance, grass over 6 inches in height should be mowed twice. Make the first cut relatively high; the second to desired height.

## REVERSE OPERATION SYSTEM (ROS)

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

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

### USING THE REVERSE OPERATION SYSTEM -

- Depress clutch/brake pedal all the way down and hold.
- With engine running, turn ignition key counterclockwise to ROS "ON" position.
- Look down and behind before backing.
- Move gear shift lever to reverse (R) position and slowly release clutch/brake pedal to start movement.
- When use of the ROS is no longer needed, turn the ignition key clockwise to engine "ON" position.

ROS "ON" POSITION



ENGINE "ON" POSITION  
(NORMAL OPERATING)



## TO OPERATE MOWER (See Fig. 12)

Your tractor is equipped with an operator presence sensing switch. Any attempt by the operator to leave the seat with the engine running and the attachment clutch engaged will shut off the engine. You must remain fully and centrally positioned in the seat to prevent the engine from hesitating or cutting off when operating your equipment on rough, rolling terrain or hills.

- Select desired height of cut with attachment lift lever.
- Start mower blades by engaging attachment clutch control.

# OPERATION

TO STOP MOWER BLADES -  
disengage attachment clutch control.

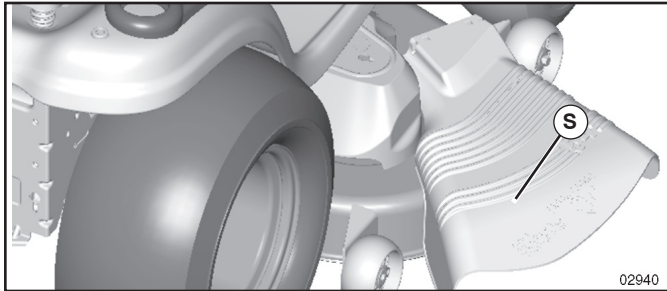
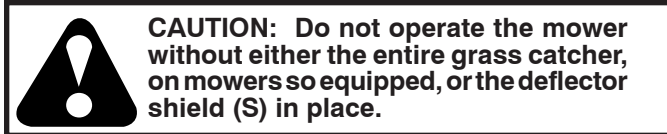
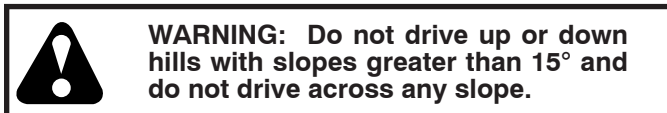


FIG. 12

## TO OPERATE ON HILLS



- Choose the slowest speed before starting up or down hills.
- Avoid stopping or changing speed on hills.
- If stopping is absolutely necessary, push clutch/brake pedal quickly to brake position and engage parking brake.
- Move 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 ATTACHMENTS

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

## BEFORE STARTING THE ENGINE

### CHECK ENGINE OIL LEVEL

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

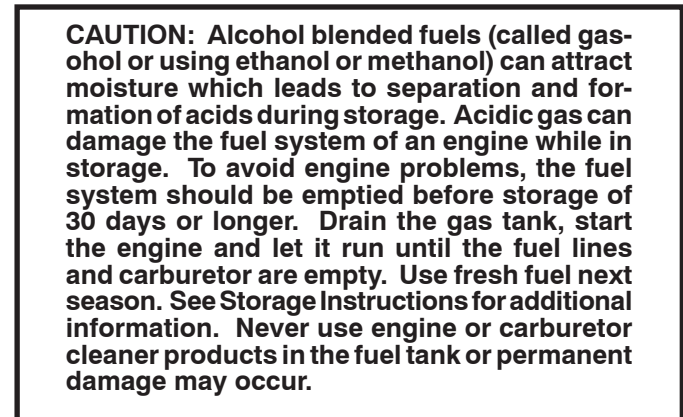
- Check engine oil with tractor on level ground.
- Remove oil fill cap/dipstick and wipe clean, reinsert the dipstick and screw cap tight, wait for a few seconds, remove and read oil level. If necessary, add oil until "FULL" mark on dipstick is reached. Do not overfill.
- For cold weather operation you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

### ADD GASOLINE

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



**IMPORTANT:** WHEN OPERATING IN TEMPERATURES BELOW 32°F (0°C), USE FRESH, CLEAN WINTER GRADE GASOLINE TO HELP INSURE GOOD COLD WEATHER STARTING.




## TO START ENGINE (See Fig. 5)

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.


# OPERATION

- Insert key into ignition and turn key clockwise to "START" position and release key as soon as engine starts. Do not run starter continuously for more than fifteen seconds per minute. If the engine does not start after several attempts, move throttle control to fast position, wait a few minutes and try again. If engine still does not start, move the throttle control back to the choke (  ) position and retry.

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

- 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. 13).

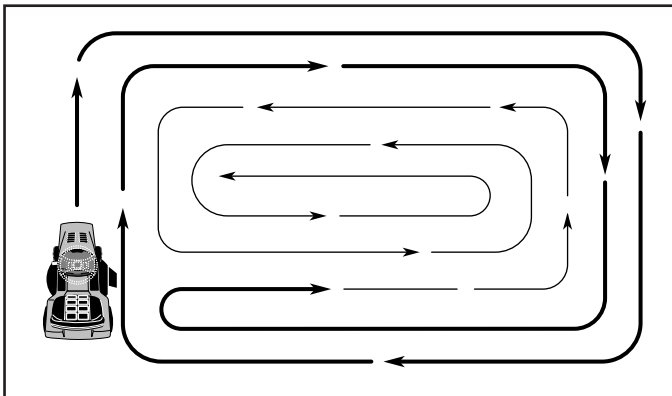


FIG. 13

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

## MULCHING MOWING TIPS

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

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

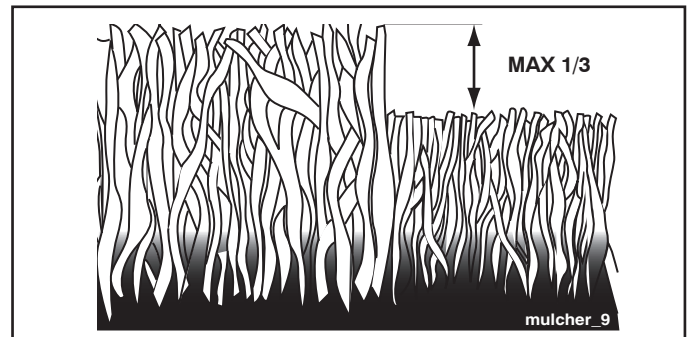


FIG. 14

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

# MAINTENANCE

| MAINTENANCE SCHEDULE |  | BEFORE EACH USE | EVERY 8 HOURS | EVERY 25 HOURS   | EVERY 50 HOURS   | EVERY 100 HOURS  | EVERY SEASON | BEFORE STORAGE |
|----------------------|--|-----------------|---------------|------------------|------------------|------------------|--------------|----------------|
| TRACTOR              | Check Brake Operation                  | ✓               | ✓             |                  |                  |                  |              |                |
|                      | Check Tire Pressure                    | ✓               | ✓             |                  |                  |                  |              |                |
|                      | Check Operator Presence & ROS Systems  | ✓               |               |                  |                  |                  |              |                |
|                      | Check for Loose Fasteners              | ✓               |               |                  |                  | ✓                |              | ✓              |
|                      | Check/Replace Mower Blades             |                 |               | ✓ <sub>3</sub>   |                  |                  |              |                |
|                      | Lubrication Chart                      |                 |               | ✓                |                  |                  |              | ✓              |
|                      | Check Battery Level                    |                 |               | ✓ <sub>4</sub>   |                  |                  |              |                |
|                      | Clean Battery and Terminals            |                 |               | ✓                |                  |                  |              | ✓              |
|                      | Check Transaxle Cooling                |                 |               | ✓                |                  |                  |              |                |
|                      | Check Mower Levelness                  |                 |               |                  | ✓                |                  |              |                |
|                      | Check V-Belts                          |                 |               |                  |                  | ✓                |              |                |
| ENGINE               | Check Engine Oil Level                 | ✓               | ✓             |                  |                  |                  |              |                |
|                      | Change Engine Oil (with oil filter)    |                 |               |                  | ✓ <sub>1,2</sub> |                  |              | ✓              |
|                      | Change Engine Oil (without oil filter) |                 |               | ✓ <sub>1,2</sub> |                  |                  |              | ✓              |
|                      | Clean Air Filter                       |                 |               | ✓ <sub>2</sub>   |                  |                  |              |                |
|                      | Clean Air Screen                       |                 |               | ✓ <sub>2</sub>   |                  |                  |              |                |
|                      | Inspect Muffler/Spark Arrester         |                 |               |                  | ✓                |                  |              |                |
|                      | Replace Oil Filter (If equipped)       |                 |               |                  |                  | ✓ <sub>1,2</sub> |              |                |
|                      | Clean Engine Cooling Fins              |                 |               |                  |                  | ✓ <sub>2</sub>   |              |                |
|                      | Replace Spark Plug                     |                 |               |                  |                  | ✓                | ✓            |                |
|                      | Replace Air Filter Paper Cartridge     |                 |               |                  |                  | ✓ <sub>2</sub>   |              |                |
|                      | Replace Fuel Filter                    |                 |               |                  |                  |                  | ✓            |                |

- 1 - Change more often when operating under a heavy load or in high ambient temperatures.  
 2 - Service more often when operating in dirty or dusty conditions.

- 3 - Replace blades more often when mowing in sandy soil.  
 4 - Not required if equipped with maintenance-free battery.

## GENERAL RECOMMENDATIONS

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

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

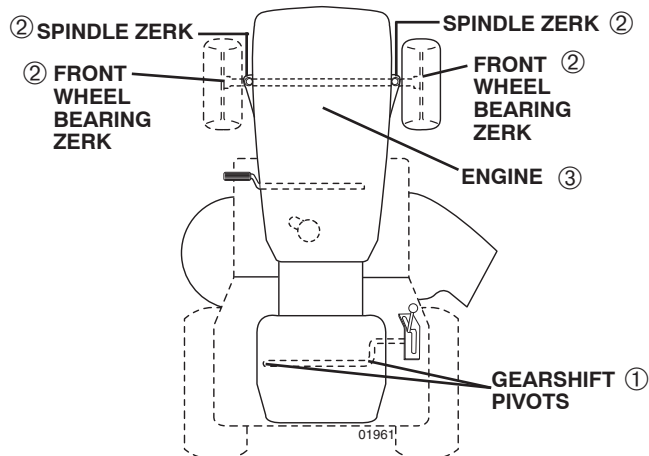
At least once a season, check to see if you should make any of the adjustments described in the Service and Adjustments section of this manual.

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

## BEFORE EACH USE

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

## LUBRICATION CHART



- ① SAE 30 or 10w30 motor oil  
 ② General Purpose Grease  
 ③ Refer to Maintenance "ENGINE" Section

**IMPORTANT:** DO NOT OIL OR GREASE THE PIVOT POINTS WHICH HAVE SPECIAL NYLON BEARINGS. VISCOUS LUBRICANTS WILL ATTRACT DUST AND DIRT THAT WILL SHORTEN THE LIFE OF THE SELF-LUBRICATING BEARINGS. IF YOU FEEL THEY MUST BE LUBRICATED, USE ONLY A DRY, POWDERED GRAPHITE TYPE LUBRICANT SPARINGLY.

# MAINTENANCE

## TRACTOR

Always observe safety rules when performing any maintenance.

### BRAKE OPERATION

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

### TIRES

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

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

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

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

- The engine should not start unless the brake pedal is fully depressed, and the attachment clutch control is in the disengaged position.

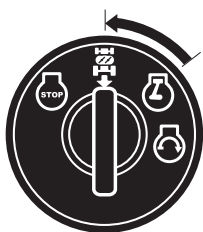
### CHECK OPERATOR PRESENCE SYSTEM

- When the engine is running, any attempt by the operator to leave the seat without first setting the parking brake should shut off the engine.
- When the engine is running and the attachment clutch is engaged, any attempt by the operator to leave the seat should shut off the engine.
- The attachment clutch should never operate unless the operator is in the seat.

### CHECK REVERSE OPERATION (ROS) SYSTEM

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

#### ROS "ON" POSITION



#### ENGINE "ON" POSITION (NORMAL OPERATING)



## BLADE CARE

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



**CAUTION:** Use only a replacement blade approved by the manufacturer of your tractor. Using a blade not approved by the manufacturer of your tractor is hazardous, could damage your tractor and void your warranty.

## BLADE REMOVAL (See Fig. 15)

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

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

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

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

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

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

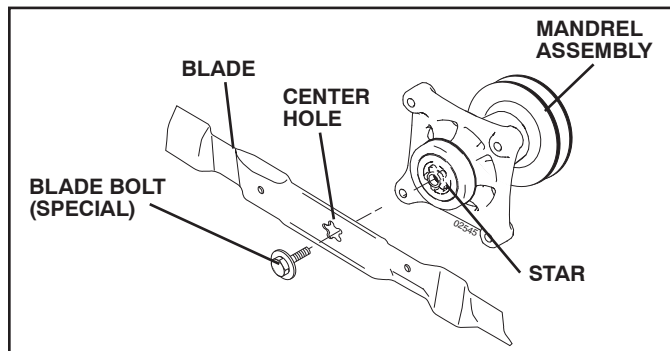


FIG. 15

## BATTERY

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

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

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

### TO CLEAN BATTERY AND TERMINALS

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

- Disconnect BLACK battery cable first then RED battery cable and remove battery from tractor.
- Rinse the battery with plain water and dry.



# MAINTENANCE

- 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 SG-SL. 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.

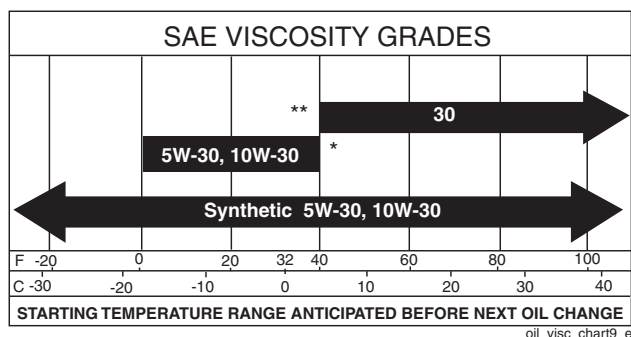


FIG. 16

**\* CAUTION:** Air cooled engines run hotter than automotive engines. The use of non-synthetic multi-viscosity oils (5W30, 10W30 etc.) in temperatures above 40° F (4° 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° F (4° C), will result in hard starting and possible engine bore damage due to inadequate lubrication.



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



Change the oil after every 50 hours of operation or at least once a year if the tractor is not used for 50 hours in one year.

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

### TO CHANGE ENGINE OIL (See Figs. 16 and 17)

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

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

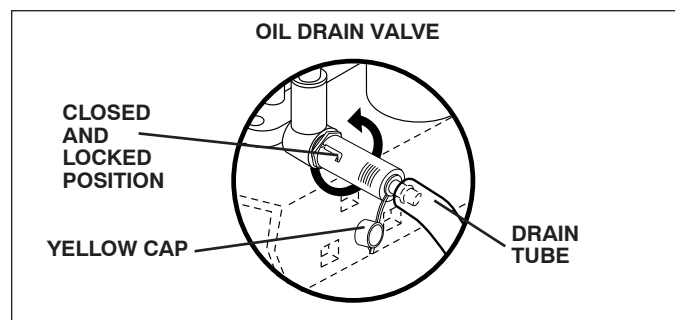


FIG. 17

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

## CLEAN AIR SCREEN

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

## AIR FILTER (See Fig. 18)

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

Service air cleaner more often under dusty conditions.

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

# MAINTENANCE

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

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

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

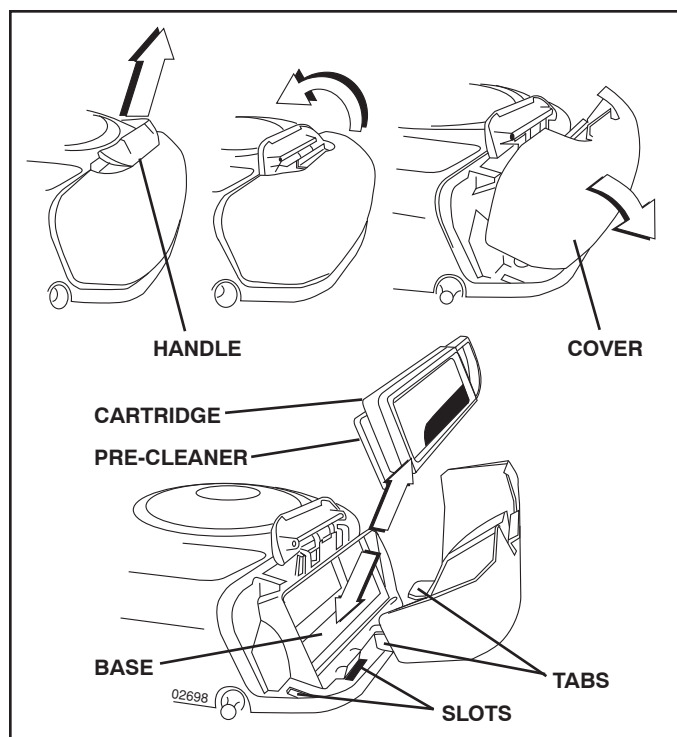


FIG. 18

## ENGINE OIL FILTER

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

## 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 "PRODUCT SPECIFICATIONS" section of this manual.

## IN-LINE FUEL FILTER (See Fig. 19)

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

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

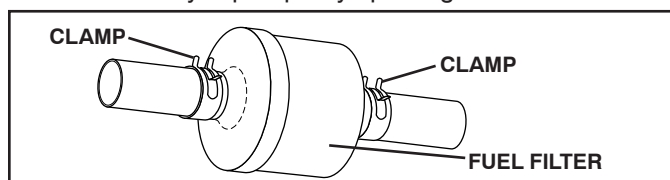


FIG. 19

## CLEANING

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

We do not recommend using a garden hose or pressure washer to clean your tractor unless the engine and transmission are covered to keep water out. Water in engine or transmission will shorten the useful life of your tractor. Use compressed air or a leaf blower to remove grass, leaves and trash from tractor and mower.

# SERVICE AND ADJUSTMENTS



**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.

## TO REMOVE MOWER (See Fig. 20)

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



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

- Slide mower out from under right side of tractor.

**IMPORTANT: IF AN ATTACHMENT OTHER THAN THE**

**MOWER IS TO BE MOUNTED ON THE TRACTOR, REMOVE THE FRONT LINK (E) AND REAR LIFT LINKS (C) FROM TRACTOR AND HOOK THE CLUTCH SPRING (Q) INTO THE CABLE GUIDE ON FRONT EDGE OF LOWER DASH.**

## TO INSTALL MOWER (See Fig. 21–24)

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

- Lower attachment lift lever to it's lowest position.



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

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

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

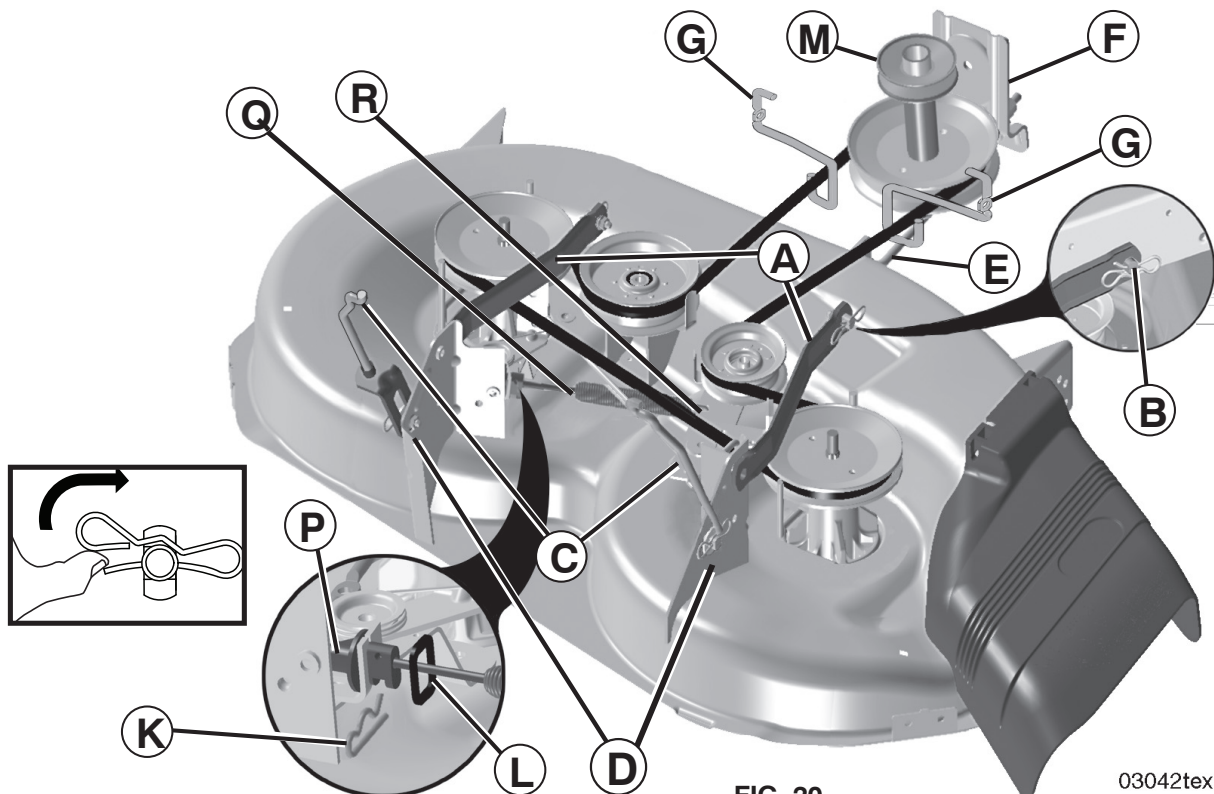


FIG. 20

03042tex

# SERVICE AND ADJUSTMENTS

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

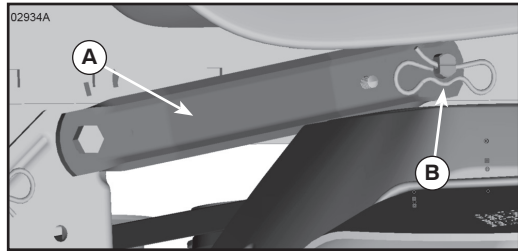


FIG. 21

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

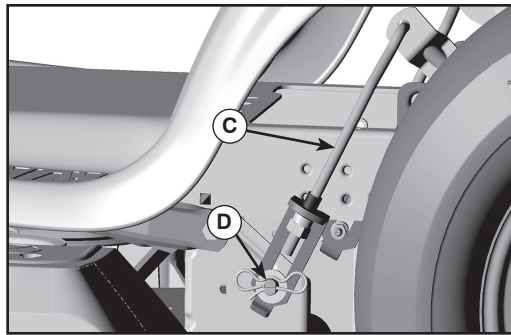


FIG. 22

- ATTACH FRONT LINK (E) - Work from left side of tractor. Insert rod end of link assembly through front hole in tractor front suspension bracket (F).

- Insert end of link (E) into hole in front mower bracket and secure with washer and retainer spring (J).

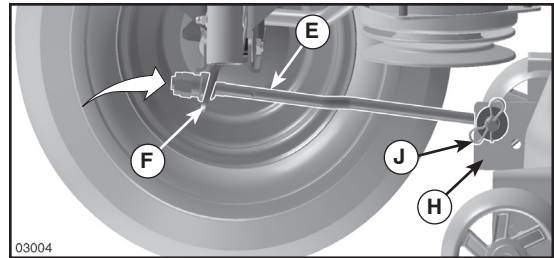


FIG. 23

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

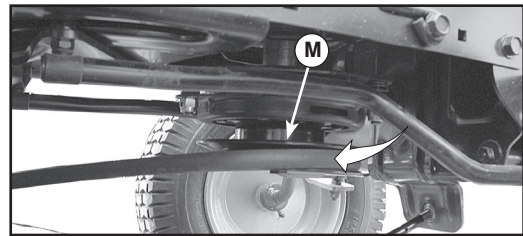


FIG. 24

**IMPORTANT:** CHECK BELT FOR PROPER ROUTING IN ALL MOWER PULLEY GROOVES.

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

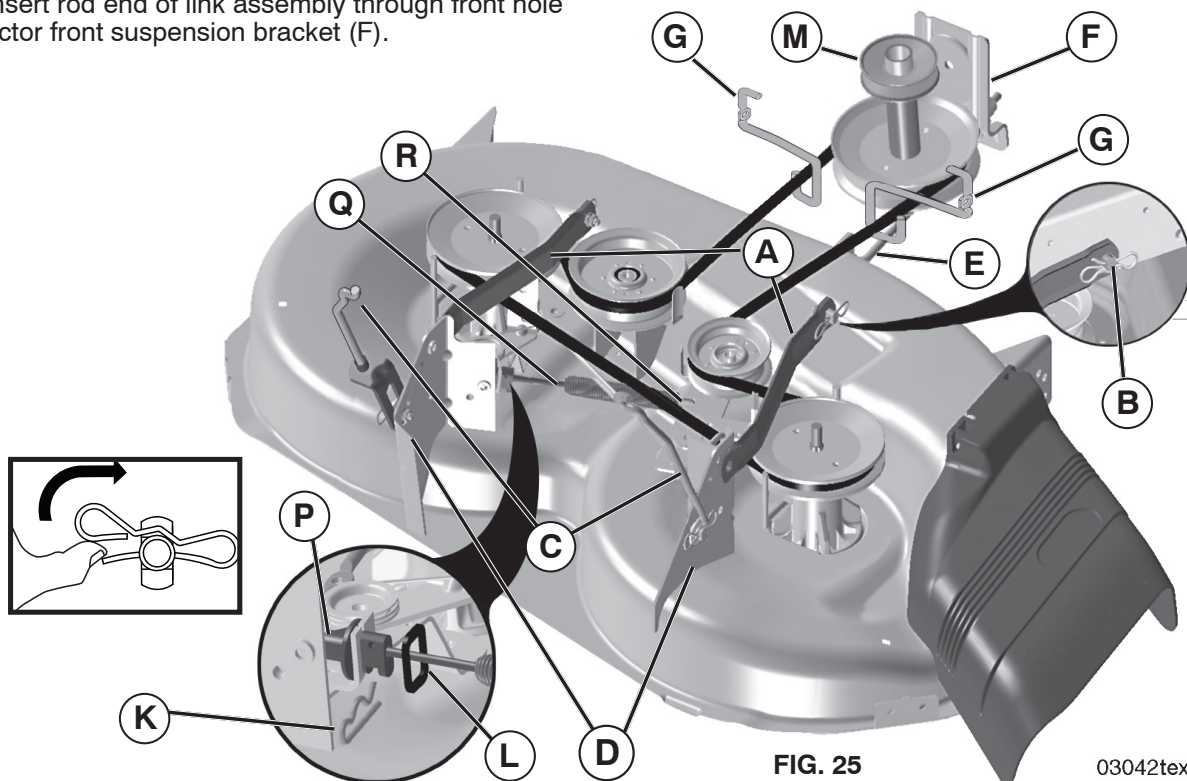


FIG. 25

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# SERVICE AND ADJUSTMENTS

## TO LEVEL MOWER

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

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

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

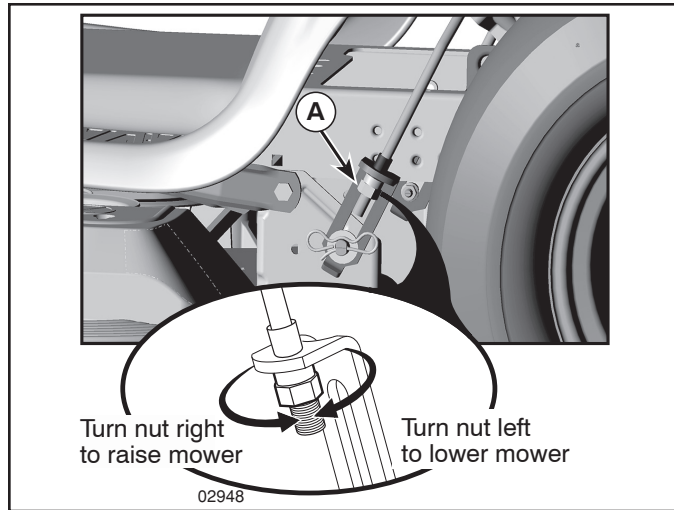


FIG. 25A

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

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

### PRECISION SIDE-TO-SIDE ADJUSTMENT

(See Fig. 26)

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



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

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

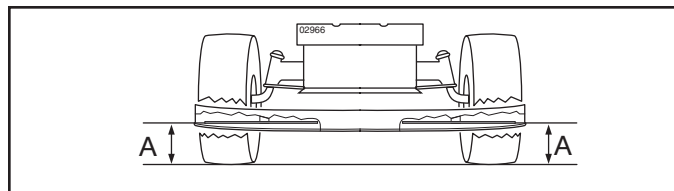


FIG. 26

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

### FRONT-TO-BACK ADJUSTMENT (See Figs. 27 and 28)

**IMPORTANT:** Deck must be level side-to-side.

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



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

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

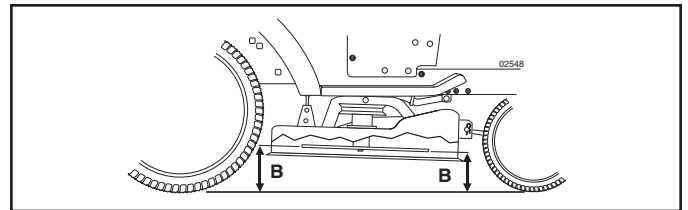


FIG. 27

tip, go to the front of tractor.

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

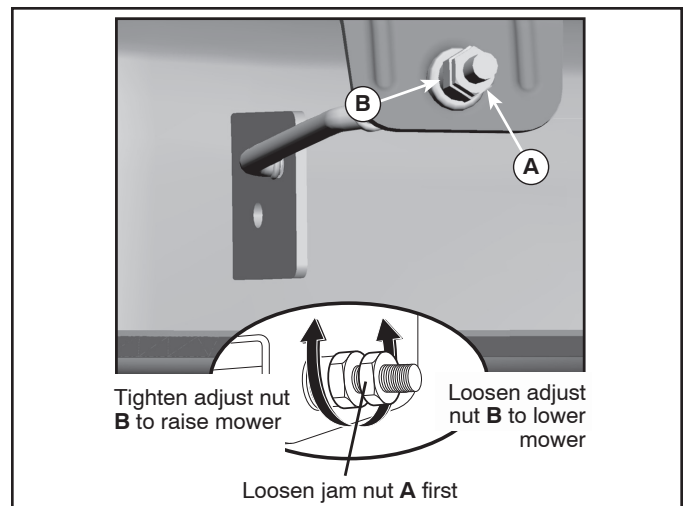


FIG. 28

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

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

# SERVICE AND ADJUSTMENTS

## TO REPLACE MOWER BLADE DRIVE BELT (See Fig. 30)

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

### BELT REMOVAL -

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

### BELT INSTALLATION -

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

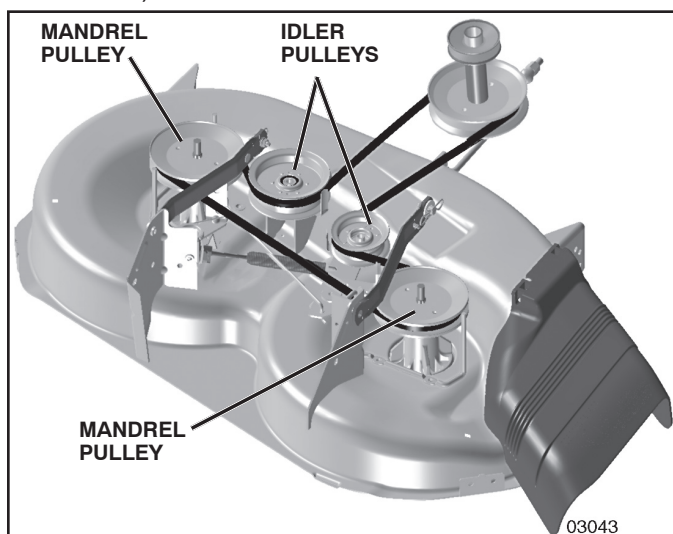


FIG. 30

## TO CHECK BRAKE

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

You may also check brake by:

- Park tractor on a level, dry concrete or paved surface, depress brake pedal all the way down and engage parking brake.
- Place gear shift lever in neutral (N) position.

The rear wheels must lock and skid when you try to manually push the tractor forward. If the rear wheels rotate, then the brake needs to be serviced. Contact a qualified service center.

## TO REPLACE MOTION DRIVE BELT (See Fig. 31)

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

### BELT REMOVAL -

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

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

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

### BELT INSTALLATION -

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

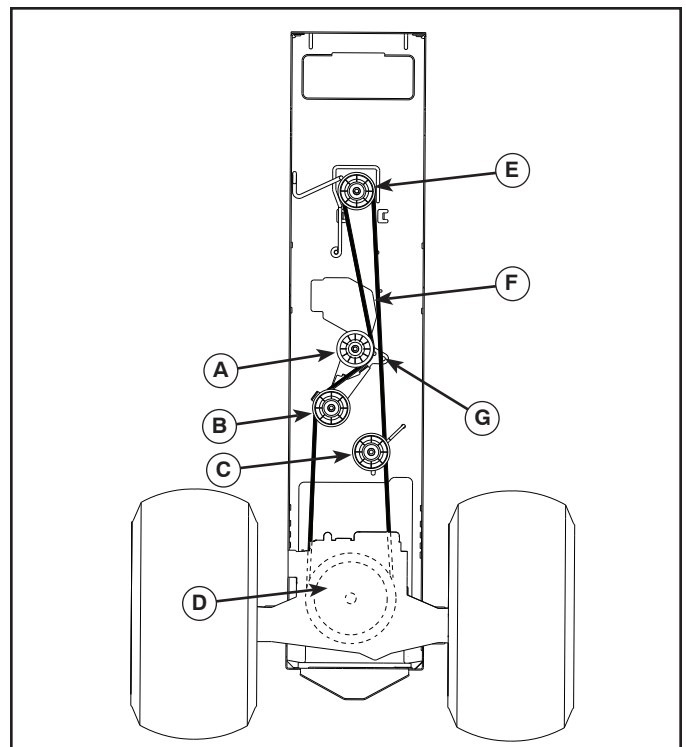


FIG. 31

## 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.

# SERVICE AND ADJUSTMENTS

## FRONT WHEEL TOE-IN/CAMBER

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

## TO REMOVE WHEEL FOR REPAIRS (See Fig. 32)

- 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.

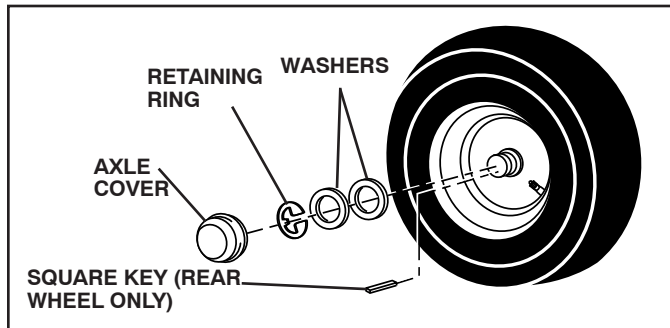


FIG. 32

## TO START ENGINE WITH A WEAK BATTERY (See Fig. 33)



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

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

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

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

### TO ATTACH JUMPER CABLES -

- Connect one end of the RED cable to the POSITIVE (+) terminal of each battery (A-B), taking care not to short against tractor chassis.
- Connect one end of the BLACK cable to the NEGATIVE (-) terminal (C) of fully charged battery.

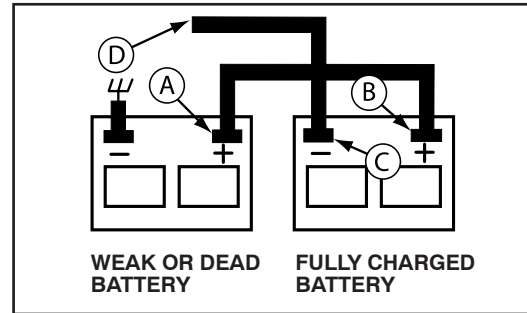


FIG. 33

- 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.

## TO REPLACE HEADLIGHT BULB

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

## INTERLOCKS AND RELAYS

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

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

## TO REPLACE FUSE

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

## TO REMOVE HOOD AND GRILL ASSEMBLY (See Fig. 34)

- 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.

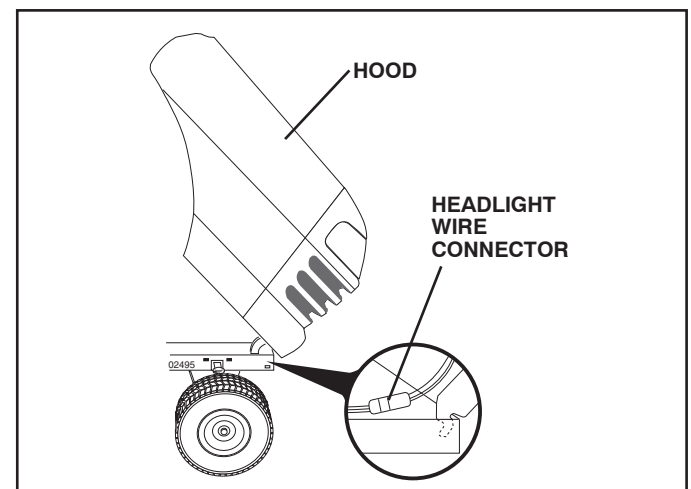


FIG. 34

# SERVICE AND ADJUSTMENTS

## ENGINE

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

### TO ADJUST THROTTLE CONTROL CABLE (See Fig. 35)

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

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

TO ADJUST CARBURETOR (See Fig. 36)

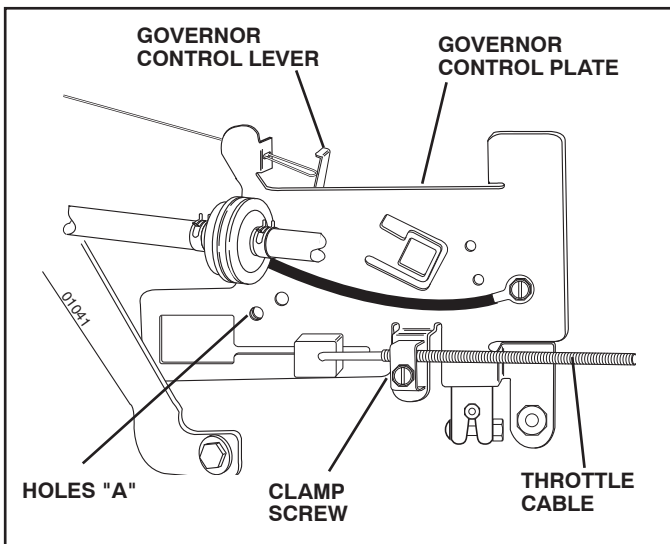


FIG. 35

**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.

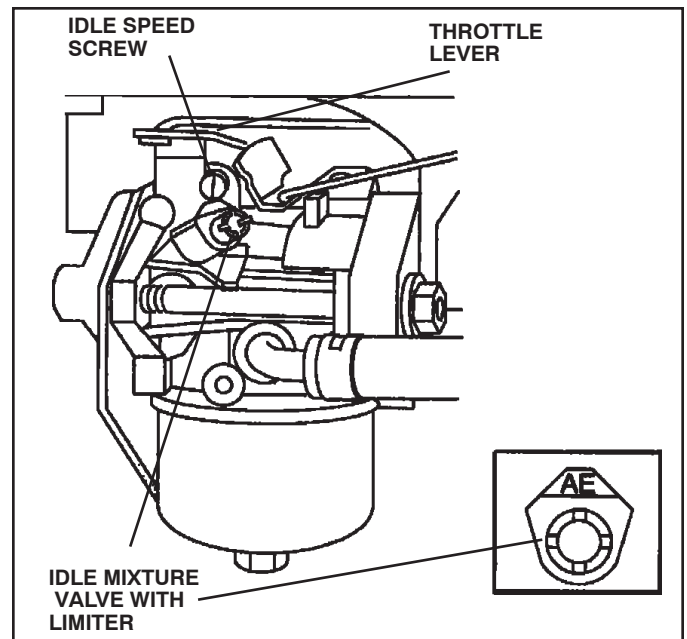


FIG. 36



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# STORAGE

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



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

## TRACTOR

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

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

## BATTERY

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

## ENGINE

### FUEL SYSTEM

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

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

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

### ENGINE OIL

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

### CYLINDER(S)

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

## OTHER

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

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

# TROUBLESHOOTING POINTS

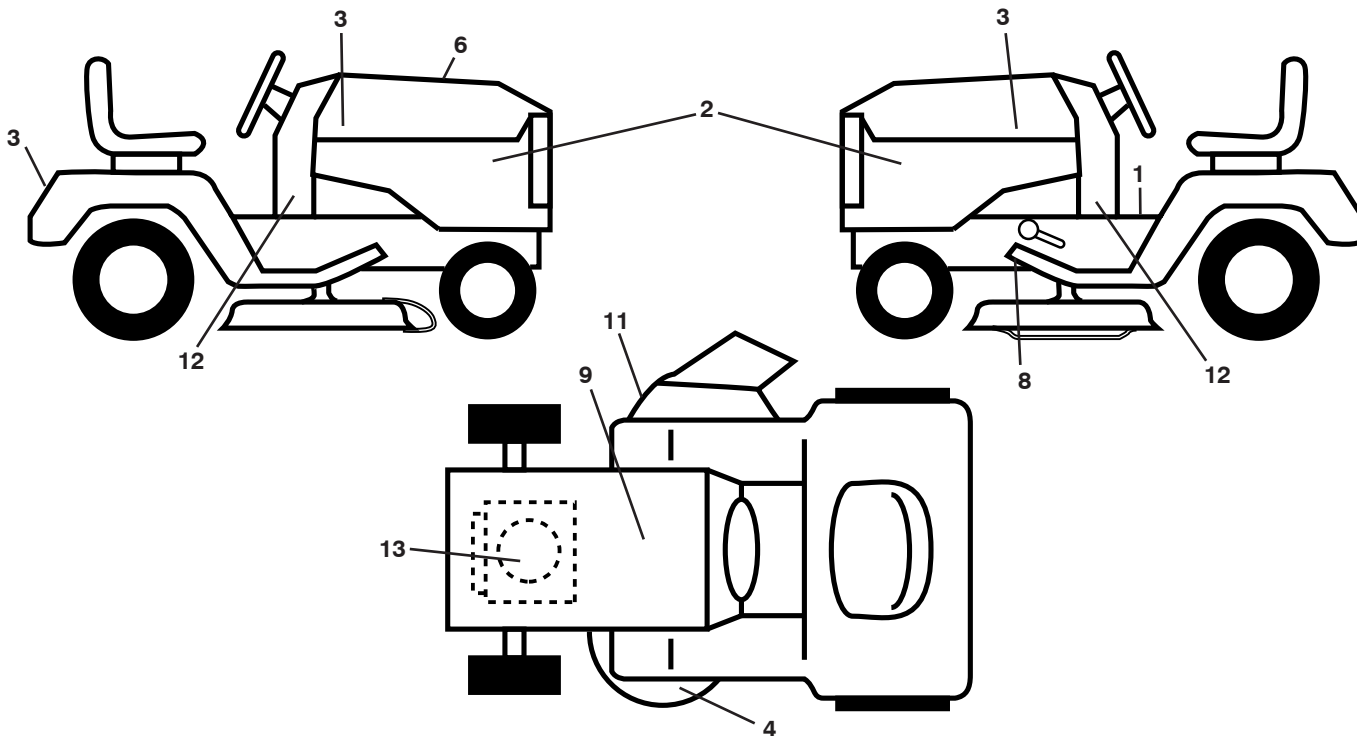
| PROBLEM                                 | CAUSE   | CORRECTION   |
|---|---|--|
| <b>Will not start</b>                   | <ol style="list-style-type: none"> <li>1. Out of fuel.</li> <li>2. Engine not "CHOKED" properly.</li> <li>3. Engine flooded.</li> <li>4. Bad spark plug.</li> <li>5. Dirty air filter.</li> <li>6. Dirty fuel filter.</li> <li>7. Water in fuel.</li> <li>8. Loose or damaged wiring.</li> <li>9. Carburetor out of adjustment.</li> <li>10. Engine valves out of adjustment.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Fill fuel tank.</li> <li>2. See "TO START ENGINE" in Operation section.</li> <li>3. Wait several minutes before attempting to start.</li> <li>4. Replace spark plug.</li> <li>5. Clean/replace air filter.</li> <li>6. Replace fuel filter.</li> <li>7. Empty fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>8. Check all wiring.</li> <li>9. See "To Adjust Carburetor" in Service Adjustments section.</li> <li>10. Contact an authorized service center/department.</li> </ol>   |
| <b>Hard to start</b>                    | <ol style="list-style-type: none"> <li>1. Dirty air filter.</li> <li>2. Bad spark plug.</li> <li>3. Weak or dead battery.</li> <li>4. Dirty fuel filter.</li> <li>5. Stale or dirty fuel.</li> <li>6. Loose or damaged wiring.</li> <li>7. Carburetor out of adjustment.</li> <li>8. Engine valves out of adjustment.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Clean/replace air filter.</li> <li>2. Replace spark plug.</li> <li>3. Recharge or replace battery.</li> <li>4. Replace fuel filter.</li> <li>5. Empty fuel tank and refill tank with fresh, clean gasoline.</li> <li>6. Check all wiring.</li> <li>7. See "To Adjust Carburetor" in Service Adjustments section.</li> <li>8. Contact an authorized service center/department.</li> </ol>   |
| <b>Engine will not turn over</b>        | <ol style="list-style-type: none"> <li>1. Clutch/brake pedal not depressed.</li> <li>2. Attachment clutch is engaged.</li> <li>3. Weak or dead battery.</li> <li>4. Blown fuse.</li> <li>5. Corroded battery terminals.</li> <li>6. Loose or damaged wiring.</li> <li>7. Faulty ignition switch.</li> <li>8. Faulty solenoid or starter.</li> <li>9. Faulty operator presence switch(es).</li> </ol>  | <ol style="list-style-type: none"> <li>1. Depress clutch/brake pedal.</li> <li>2. Disengage attachment clutch.</li> <li>3. Recharge or replace battery.</li> <li>4. Replace fuse.</li> <li>5. Clean battery terminals.</li> <li>6. Check all wiring.</li> <li>7. Check/replace ignition switch.</li> <li>8. Check/replace solenoid or starter.</li> <li>9. Contact an authorized service center/department.</li> </ol>   |
| <b>Engine clicks but will not start</b> | <ol style="list-style-type: none"> <li>1. Weak or dead battery.</li> <li>2. Corroded battery terminals.</li> <li>3. Loose or damaged wiring.</li> <li>4. Faulty solenoid or starter.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Recharge or replace battery.</li> <li>2. Clean battery terminals.</li> <li>3. Check all wiring.</li> <li>4. Check/replace solenoid or starter.</li> </ol>  |
| <b>Loss of power</b>                    | <ol style="list-style-type: none"> <li>1. Cutting too much grass/too fast.</li> <li>2. Throttle in "CHOKE" position.</li> <li>3. Build-up of grass, leaves and trash under mower.</li> <li>4. Dirty air filter.</li> <li>5. Low oil level/dirty oil.</li> <li>6. Faulty spark plug.</li> <li>7. Dirty fuel filter.</li> <li>8. Stale or dirty fuel.</li> <li>9. Water in fuel.</li> <li>10. Spark plug wire loose.</li> <li>11. Dirty engine air screen/fins.</li> <li>12. Dirty/clogged muffler.</li> <li>13. Loose or damaged wiring.</li> <li>14. Carburetor out of adjustment.</li> <li>15. Engine valves out of adjustment.</li> </ol> | <ol style="list-style-type: none"> <li>1. Raise cutting height/reduce speed.</li> <li>2. Adjust throttle control.</li> <li>3. Clean underside of mower housing.</li> <li>4. Clean/replace air filter.</li> <li>5. Check oil level/change oil.</li> <li>6. Clean and regap or change spark plug.</li> <li>7. Replace fuel filter.</li> <li>8. Empty fuel tank and refill tank with fresh, clean gasoline.</li> <li>9. Empty fuel tank and carburetor, refill tank with fresh gasoline and replace fuel filter.</li> <li>10. Connect and tighten spark plug wire.</li> <li>11. Clean engine air screen/fins.</li> <li>12. Clean/replace muffler.</li> <li>13. Check all wiring.</li> <li>14. See "To Adjust Carburetor" in Service Adjustments section.</li> <li>15. Contact an authorized service center/department.</li> </ol> |
| <b>Excessive vibration</b>              | <ol style="list-style-type: none"> <li>1. Worn, bent or loose blade.</li> <li>2. Bent blade mandrel.</li> <li>3. Loose/damaged part(s).</li> </ol>  | <ol style="list-style-type: none"> <li>1. Replace blade. Tighten blade bolt.</li> <li>2. Replace blade mandrel.</li> <li>3. Tighten loose part(s). Replace damaged parts.</li> </ol>   |

# TROUBLESHOOTING POINTS

| PROBLEM   | CAUSE   | CORRECTION   |
|---|---|--|
| <b>Engine dies when tractor is shifted into reverse</b>                                 | <ol style="list-style-type: none"> <li>Reverse operation system (ROS) is not "ON" while mower or other attachment is engaged.</li> </ol>  | <ol style="list-style-type: none"> <li>Turn ignition key to ROS "ON" position.<br/>See Operation section.</li> </ol>   |
| <b>Engine continues to run when operator leaves seat with attachment clutch engaged</b> | <ol style="list-style-type: none"> <li>Faulty operator-safety presence control system.</li> </ol>   | <ol style="list-style-type: none"> <li>Check wiring, switches and connections. If not corrected, contact an authorized service center/department.</li> </ol>   |
| <b>Poor cut - uneven</b>  | <ol style="list-style-type: none"> <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 style="list-style-type: none"> <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>  |
| <b>Mower blades will not rotate</b>   | <ol style="list-style-type: none"> <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 style="list-style-type: none"> <li>Remove obstruction.</li> <li>Replace mower drive belt.</li> <li>Replace idler pulley.</li> <li>Replace blade mandrel.</li> </ol>  |
| <b>Poor grass discharge</b>   | <ol style="list-style-type: none"> <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 style="list-style-type: none"> <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> |
| <b>Headlight(s) not working (if so equipped)</b>  | <ol style="list-style-type: none"> <li>Light switch is "OFF".</li> <li>Bulb(s) or lamp(s) burned out.</li> <li>Faulty light switch.</li> <li>Loose or damaged wiring.</li> <li>Blown fuse.</li> </ol>   | <ol style="list-style-type: none"> <li>Turn light switch "ON".</li> <li>Replace bulb(s) or lamp(s).</li> <li>Check/replace light switch.</li> <li>Check wiring and connections.</li> <li>Replace fuse.</li> </ol>  |
| <b>Battery will not charge</b>  | <ol style="list-style-type: none"> <li>Bad battery cell(s).</li> <li>Poor cable connections.</li> <li>Faulty regulator (if so equipped).</li> <li>Faulty alternator.</li> </ol>   | <ol style="list-style-type: none"> <li>Replace battery.</li> <li>Check/clean all connections.</li> <li>Replace regulator.</li> <li>Replace alternator.</li> </ol>  |
| <b>Engine "backfires" when turning engine "OFF"</b>                                     | <ol style="list-style-type: none"> <li>Engine throttle control not set between half and full speed (fast) position before stopping engine.</li> </ol>   | <ol style="list-style-type: none"> <li>Move throttle control between half and full speed (fast) position before stopping engine.</li> </ol>  |

# TRACTOR - - MODEL NUMBER 944.608180

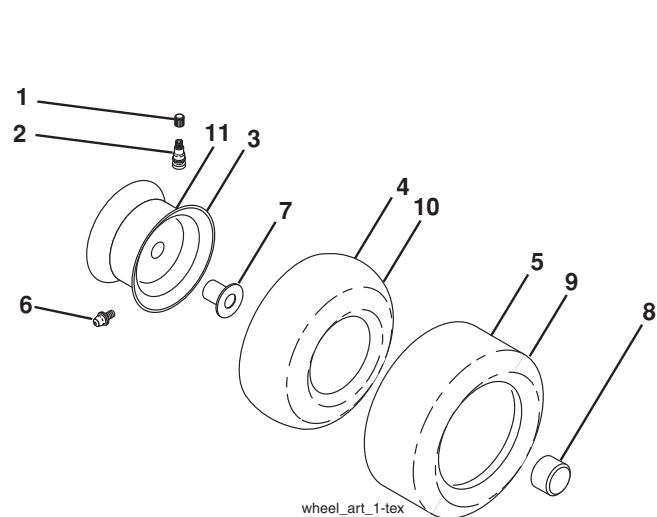
## DECALS



| KEY NO. | PART NO. | DESCRIPTION                |
|---------|----------|----------------------------|
| 1       | 411658   | Decal, Fender Warning      |
| 2       | 404492   | Decal, Side Panel          |
| 3       | 411697   | Decal, Fender Hood RH/LH   |
| 4       | 160396   | Decal, V-Belt Sch.         |
| 6       | 419802   | Decal, Replacement         |
| 8       | 199096   | Decal, V-Belt Sch.         |
| 9       | 149517   | Decal, Battery Dnge/Poison |

| KEY NO. | PART NO.   | DESCRIPTION               |
|---------|------------|---------------------------|
| 11      | 170563     | Decal, Warning            |
| 12      | 419889     | Decal, Chassis            |
| 13      | 418565     | Decal, Engine HP          |
| --      | 193226X428 | Pad, Footrest, LH         |
| --      | 193227X428 | Pad, Footrest, RH         |
| --      | 419819     | Manual, Owner's (English) |
| --      | 419820     | Manual, Owner's (French)  |

## WHEELS AND TIRES



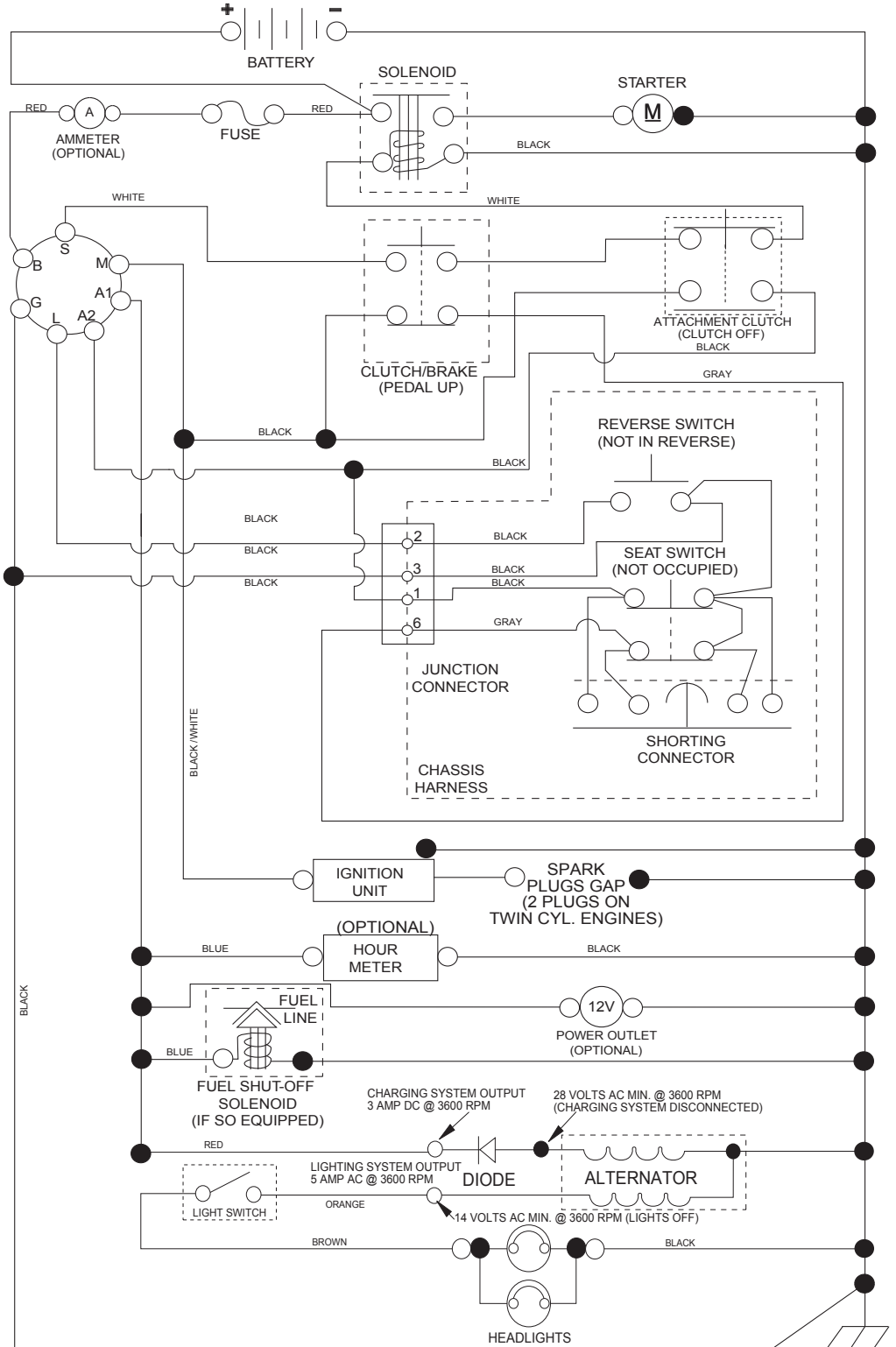
| KEY NO. | PART NO.   | DESCRIPTION                        |
|---------|------------|------------------------------------|
| 1       | 59192      | Cap Valve Tire                     |
| 2       | 65139      | Stem Valve                         |
| 3       | 106732X645 | Rim Asm 6" Front Service           |
| 4       | 59904      | Tube Front (Service Item Only)     |
| 5       | 106222X    | Tire F T 15 x 6 0 - 6 Service      |
| 6       | 278H       | Fitting Grease (Front Wheel Only)  |
| 7       | 9040H      | Bearing Flange (Front Wheel Only)  |
| 8       | 104757X645 | Cap Axle Blk 1 50 x 1 00           |
| 9       | 106268X    | Tire, Rear 18 x 9.5-8 TurfSaver    |
| --      | 420531     | Tire, Rear 18 x 9.5-8 TurfSaver LT |
| 10      | 7152J      | Tube Rear (Service Item Only)      |
| 11      | 106108X645 | Rim Asm 8" Rear Service            |
| --      | 144334     | Sealant, Tire (10 oz. Tube)        |

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

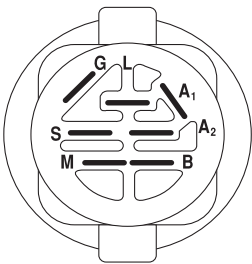
# TRACTOR - - MODEL NUMBER 944.608180

## SCHEMATIC

SCH11

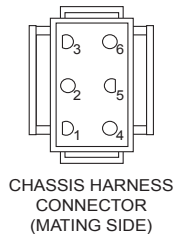


**NOTE**  
YOUR TRACTOR IS EQUIPPED WITH A SPECIAL ALTERNATOR SYSTEM. THE LIGHTS ARE NOT CONNECTED TO THE BATTERY, BUT HAVE THEIR OWN ELECTRICAL SOURCE. BECAUSE OF THIS, THE BRIGHTNESS OF THE LIGHTS WILL CHANGE WITH ENGINE SPEED. AT IDLE THE LIGHTS WILL DIM. AS THE ENGINE IS SPEEDED UP, THE LIGHTS WILL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

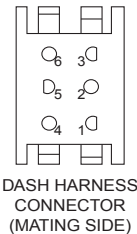


IGNITION SWITCH

| POSITION     | CIRCUIT    | "MAKE" |
|--------------|------------|--------|
| OFF          | M+G+A1     |        |
| RUN/OVERRIDE | B+A1       |        |
| RUN          | B+A1       | L+A2   |
| START        | B + S + A1 |        |

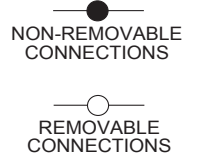


CHASSIS HARNESS CONNECTOR (MATING SIDE)



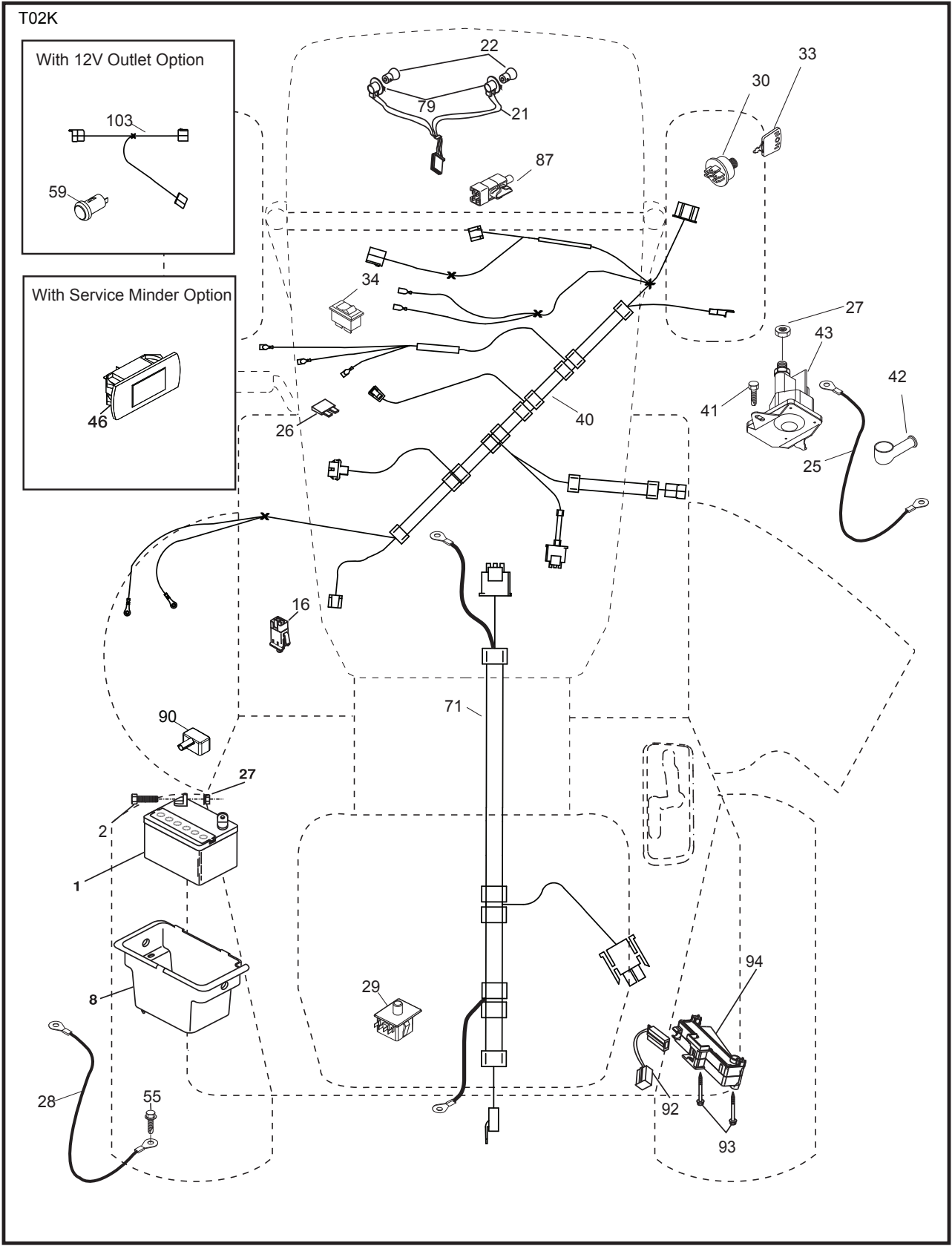
DASH HARNESS CONNECTOR (MATING SIDE)

WIRING INSULATED CLIPS  
NOTE: IF WIRING INSULATED CLIPS WERE REMOVED FOR SERVICING OF UNIT, THEY SHOULD BE RE-INSTALLED TO PROPERLY SECURE YOUR WIRING.



# TRACTOR - - MODEL NUMBER 944.608180

## ELECTRICAL



# TRACTOR - - MODEL NUMBER 944.608180

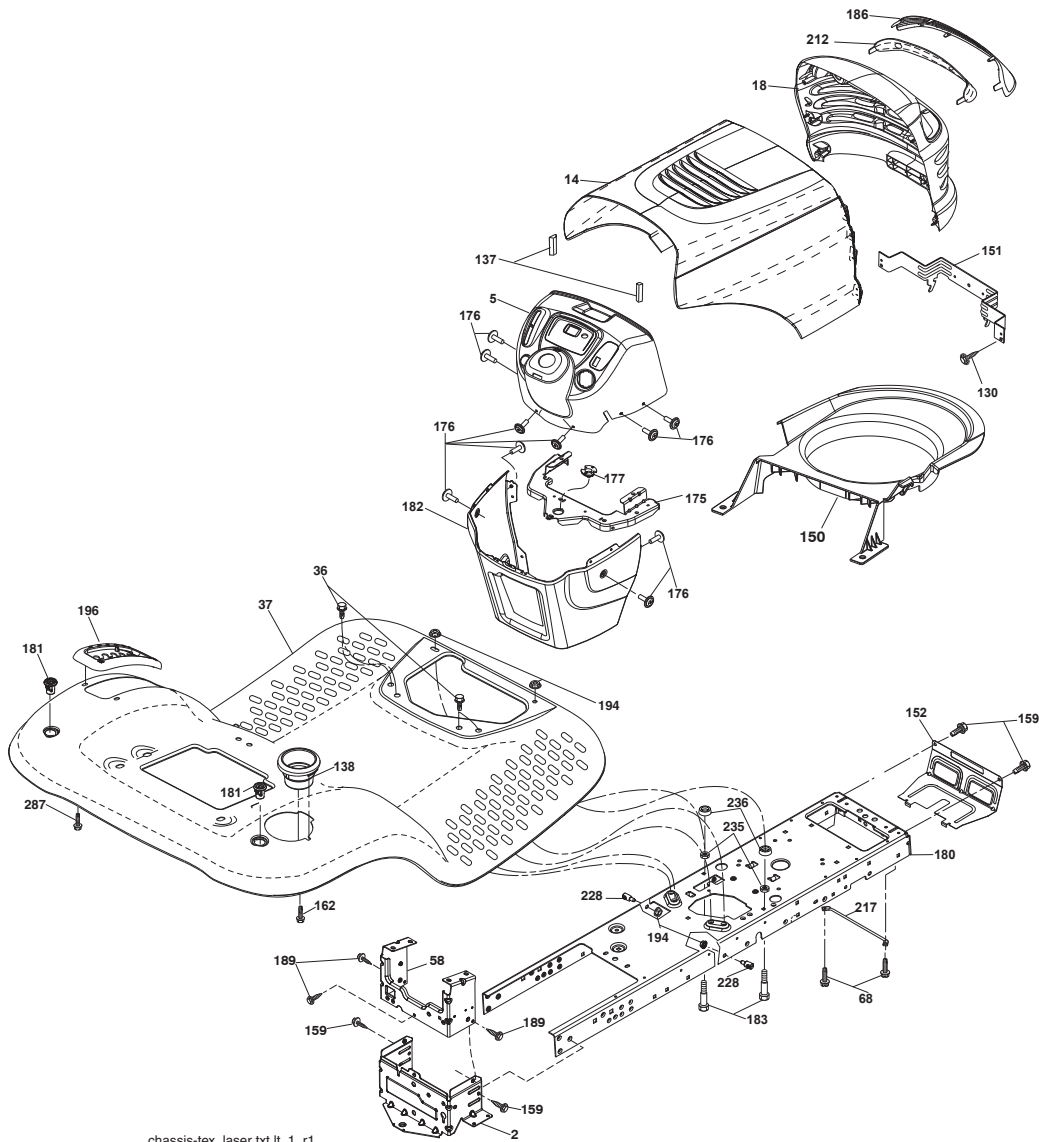
## ELECTRICAL

| KEY NO. | PART NO. | DESCRIPTION                    |
|---------|----------|--------------------------------|
| 1       | 163465   | Battery                        |
| 2       | 74760412 | Bolt Hex Head 1/4-20 x 3/4     |
| 8       | 193228   | Box Battery                    |
| 16      | 176138   | Switch Interlock Push-In       |
| 21      | 183759   | Harness Socket Light           |
| 22      | 4152J    | Light Bulb                     |
| 25      | 401662   | Cable Starter                  |
| 26      | 175158   | Fuse                           |
| 27      | 73510400 | Nut Keps Hex 1/4-20 unc        |
| 28      | 198885   | Cable, Ground                  |
| 29      | 192749   | Switch, Seat                   |
| 30      | 193350   | Switch, Ign                    |
| 33      | 411934   | Key/Chain                      |
| 34      | 110712X  | Switch Light / Reset           |
| 40      | 401098   | Harness Ign. Dash              |
| 41      | 17720408 | Screw Thd Cut 1/4-20 x 1/2     |
| 42      | 131563   | Cover, Terminal                |
| 43      | 192507   | Solenoid                       |
| 55      | 17060512 | Screw Thdrol 5/16-18 x 3/4     |
| 71      | 400449   | Harness Ign. Chassis           |
| 79      | 175242   | Socket Asm Bulb                |
| 87      | 197802   | Switch Interlock               |
| 90      | 400725   | Cover Terminal Battery         |
| 92      | 196615   | Harness Pigtail Reverse Switch |
| 93      | 192540   | Screw Plastite 10-14 x 2.0     |
| 94      | 191834   | Module Reverse ROS             |

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

# TRACTOR - - MODEL NUMBER 944.608180

## CHASSIS



| KEY NO. | PART NO.   | DESCRIPTION         |
|---------|------------|---------------------|
| 2       | 412282     | Drawbar Lower       |
| 5       | 197783X428 | Dash                |
| 14      | 185682X613 | Hood                |
| 18      | 193258     | Grille Asm.         |
| 36      | 17060512   | Screw 5/16-18 x 3/4 |
| 37      | 414872X613 | Fender/Foostrest    |
| 58      | 412280     | Drawbar Upper       |
| 68      | 17490508   | Screw 5/16-18 x 1/2 |
| 130     | 416358     | Screw #10 x 0.750   |
| 137     | 184921     | Bumper Hood Large   |
| 138     | 193224X428 | Cupholder           |
| 150     | 184461     | Duct Intake Air     |
| 151     | 407807     | Bracket Pivot       |
| 152     | 194329     | Shield Browning     |
| 159     | 17000612   | Screw 3/8-16 x 3/4  |
| 162     | 142432     | Screw               |
| 175     | 193243     | Crossmember         |
| 176     | 400776     | Screw 10-24 x 5/8   |

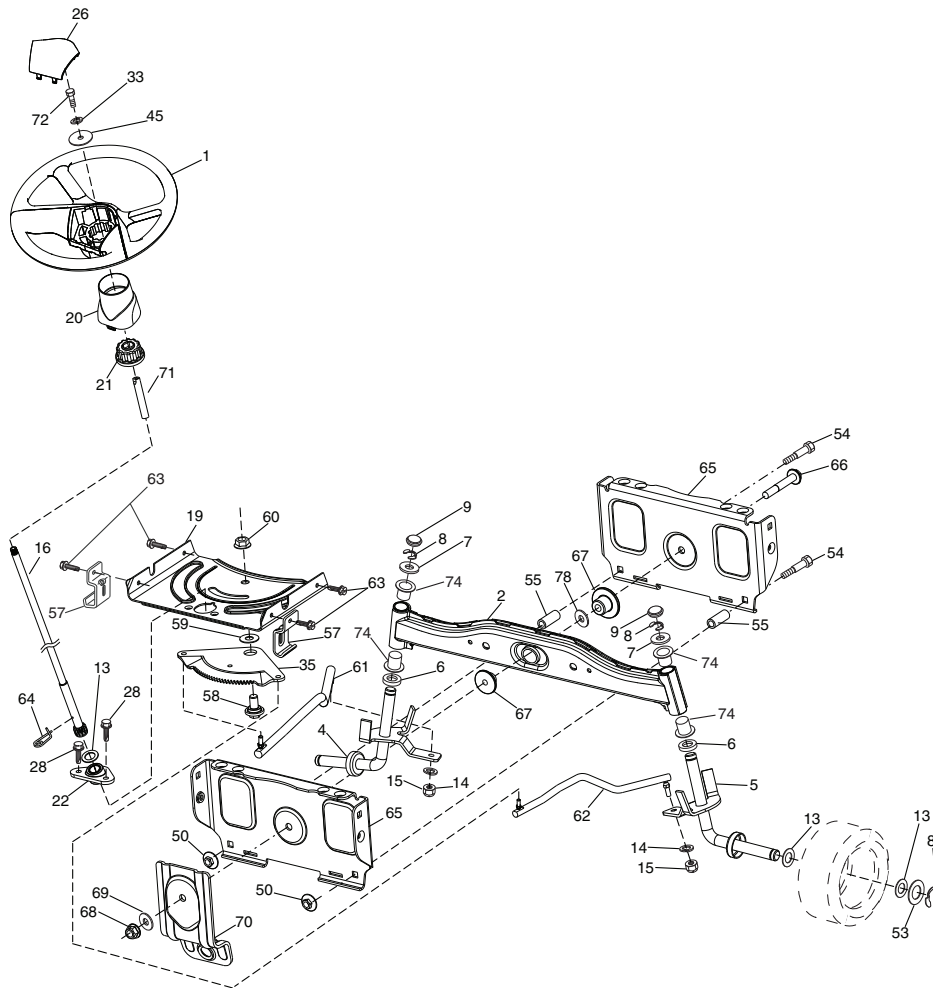
| KEY NO. | PART NO.   | DESCRIPTION                 |
|---------|------------|-----------------------------|
| 177     | 195228     | Bushing Steering            |
| 180     | 194260     | Chassis                     |
| 181     | 193102X428 | Bushing Mtg. Fender Crgo    |
| 182     | 193057     | Dash Lower                  |
| 183     | 74780520   | Bolt 5/16-18 unc x 1-1/4    |
| 186     | 174332X599 | Lens                        |
| 189     | 17000512   | Screw 5/16-18 x 3/8         |
| 194     | 73900500   | Nut Lock Hex Flange 5/16-18 |
| 196     | 414579     | Console Asm. Deck Lift      |
| 212     | 175143     | Insert Lens Reflect         |
| 217     | 409167     | Rod Pivot Hood              |
| 228     | 195161     | Stud Fastener               |
| 235     | 406129     | Spacer Fender               |
| 236     | 73930500   | Nut Centerlock 3/8-16       |
| 287     | 17600406   | Screw 1/4-20 x 3/8          |

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



# TRACTOR - - MODEL NUMBER 944.608180

## STEERING ASSEMBLY



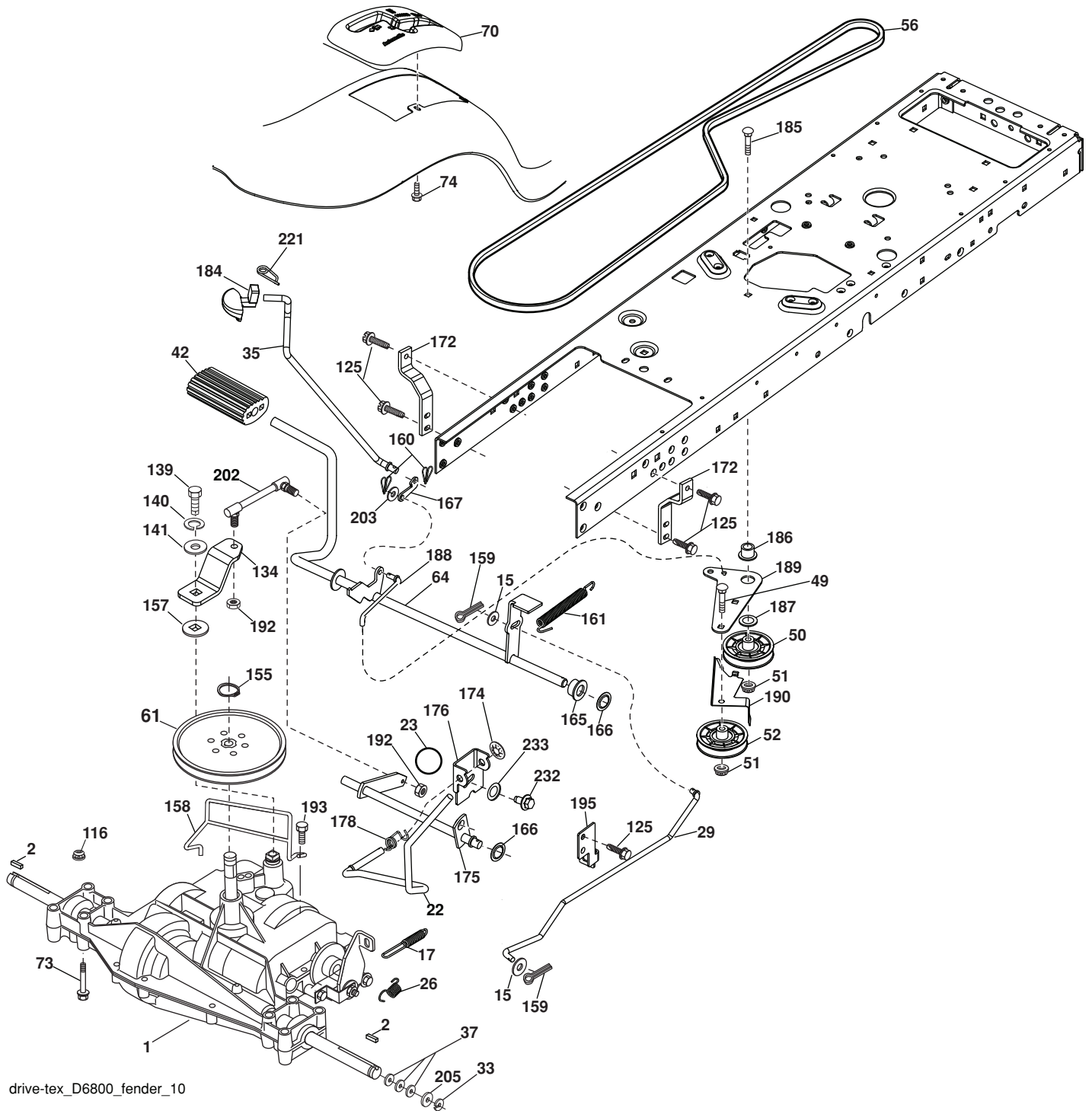
steering-tex\_LEGND2\_5

| KEY NO. | PART NO.   | DESCRIPTION                   | KEY NO. | PART NO. | DESCRIPTION                          |
|---------|------------|-------------------------------|---------|----------|--------------------------------------|
| 1       | 186780     | Wheel, Steering               | 54      | 74760636 | Bolt Hex 3/8-16 unc x 2-1/4          |
| 2       | 418168     | Axle Asm., Front              | 55      | 414736   | Spacer Brace Axle                    |
| 4       | 403087     | Spindle Asm., LH              | 57      | 407465   | Bracket Upstop                       |
| 5       | 403088     | Spindle Asm., RH              | 58      | 194747   | Bolt Shoulder Sector Pivot CFM       |
| 6       | 6266H      | Bearing, Race Thrust Harden   | 59      | 194748   | Washer Thrust Sector Steering        |
| 7       | 121748X    | Washer 25/32 x 1-5/8 x 16 Ga. | 60      | 73971000 | Nut Flange Lock 5/8-11               |
| 8       | 1200029    | Ring, Klip #T5304-75          | 61      | 194740   | Draglink LH                          |
| 9       | 121232X    | Cap, Spindle                  | 62      | 194741   | Draglink, RH                         |
| 13      | 121749X    | Washer 25/32 x 1-1/4 x 16 Ga. | 63      | 17000512 | Screw 5/16-18 x 3/4                  |
| 14      | 10040600   | Washer, Lock Hvy Hlcl Spr 3/8 | 64      | 199849   | Retainer Clip Spring Steering        |
| 15      | 73540600   | Nut, Crown Lock 3/8-24 unf    | 65      | 194734   | Brace Axle Front                     |
| 16      | 408220     | Shaft Steering                | 66      | 71020748 | Bolt Hex Fghd 7/16-14 x 3 Serr       |
| 19      | 194729     | Plate Steering                | 67      | 194737   | Bushing PM Front Axle                |
| 20      | 198375X428 | Boot, Steering                | 68      | 73900700 | Nut Lock Flange 7/16-14 Gr. 5        |
| 21      | 186737     | Adapter, Wheel Steering       | 69      | 199162   | Washer 1.5 x .505 x .118             |
| 22      | 194845     | Bushing, Strg. Blk            | 70      | 196197   | Bracket Deck Susp. Front             |
| 26      | 186781     | Insert, Wheel Steering        | 71      | 196075   | Shaft Exten. Strg. Spline            |
| 28      | 17000612   | Screw 3/8-16 x 3/4            | 72      | 74780572 | Bolt Fin Hex 5/16-18 unc x 4.5 Gr. 5 |
| 33      | 10040500   | Washer Lock Hvy Hlcl Spr 5/16 | 74      | 3366R    | Bearing                              |
| 35      | 194732     | Gear, Sector Plate            | 78      | 57079    | Washer Thrust                        |
| 45      | 19113812   | Washer 11/32 ID               |         |          |                                      |
| 50      | 73900600   | Nut Lock 3/8-16 unc           |         |          |                                      |
| 53      | 188967     | WasherHardened.793x1.637x.060 |         |          |                                      |

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

# TRACTOR - - MODEL NUMBER 944.608180

## DRIVE



drive-tex\_D6800\_fender\_10

# TRACTOR - - MODEL NUMBER 944.608180

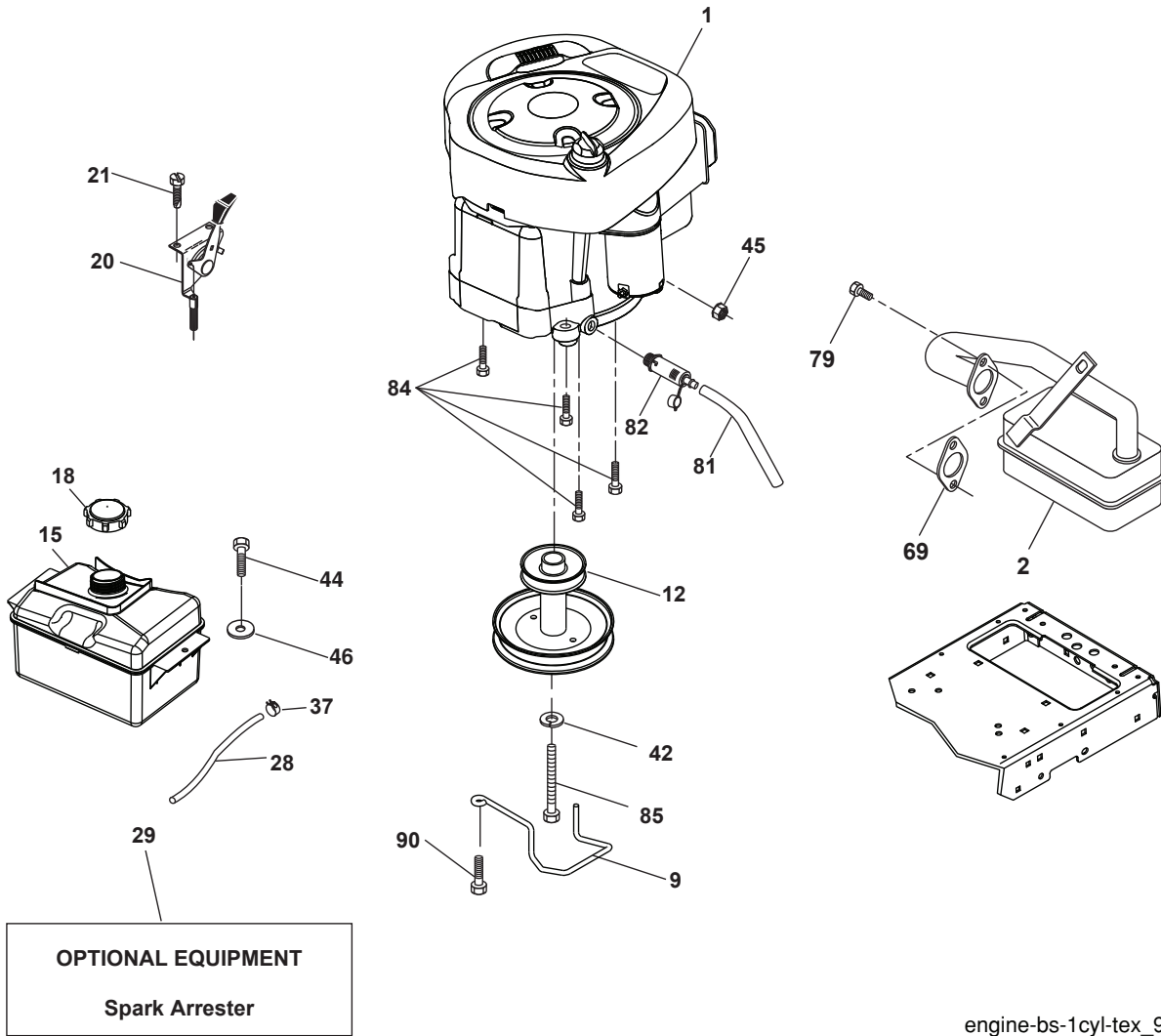
## DRIVE

| KEY NO. | PART NO.   | DESCRIPTION                    | KEY NO. | PART NO.   | DESCRIPTION                     |
|---------|------------|--------------------------------|---------|------------|---------------------------------|
| 1       | -----      | Transaxle, DANA D6800          | 160     | 169484     | Retainer Clip                   |
| 2       | 123583X    | Key Square                     | 161     | 105709X    | Spring, Return, Clutch          |
| 15      | 19131316   | Washer 13/32 x 13/16 x 16 Ga.  | 162     | 195785     | Spacer Transaxle                |
| 17      | 197297     | Spring, Brake                  | 165     | 196212     | Busing Shaft Brake Hand Control |
| 22      | 197660     | Rod Shift                      | 166     | 197290     | Nut Push .625                   |
| 23      | 106933X    | Knob                           | 167     | 405257     | Latch Brake Parking             |
| 26      | 197455     | Spring Brake Return            | 170     | 194322     | Keeper Belt Centerspan          |
| 29      | 197267     | Rod, Brake                     | 171     | 72110616   | Bolt                            |
| 33      | 12000001   | Ring E                         | 172     | 197657     | Strap Torque LH                 |
| 35      | 197722     | Rod, Brake, Park               | 174     | 197289     | Nut Push                        |
| 37      | 121749X    | Washer 25/32 x 1-1/4 x 16 Ga.  | 175     | 198981     | Shaft Asm. Shift                |
| 42      | 8883R      | Cover, Foot Pedal              | 176     | 196214     | Arm Clevis Rod Shift            |
| 49      | 72110614   | Bolt                           | 178     | 197456     | Spring Shift                    |
| 50      | 194327     | Pulley Idler Flat              | 184     | 198403X505 | Knob                            |
| 51      | 73900600   | Lock Nut 3/8-16                | 185     | 72110620   | Bolt                            |
| 52      | 194326     | Idler V-Groove 910" Offset     | 186     | 194321     | Spacer Retainer                 |
| 56      | 411245     | V-Belt, Drive                  | 187     | 19133210   | Washer                          |
| 61      | 123666X    | Pulley transaxle               | 188     | 194323     | Link Clutch Ground Drive        |
| 64      | 196200     | Shaft Asm. Pedal Brake Control | 189     | 194317     | Bellcrank Ground Drive          |
| 70      | 193225X428 | Console                        | 190     | 194318     | Keeper Bellcrank Ground Drive   |
| 73      | 74490544   | Bolt Hex 5/16-18 Gr. 5         | 192     | 150360     | Nut Lock Center 1/4-28 Fnthd    |
| 74      | 142432     | Screw 1/4 x 1/2                | 193     | 17060512   | Screw 5/16-18 x 3/4             |
| 116     | 73900500   | Nut Lock Hex Flange 5/16-18    | 195     | 197332     | Bracket Brake Rod               |
| 125     | 17000512   | Screw 5/16-18 x 3/4            | 202     | 199589     | Link Transaxle                  |
| 134     | 402430     | Asm Shift                      | 203     | 19111116   | Washer 11/32 x 11/16 x 16 Ga.   |
| 139     | 74550412   | Bolt 1/4-28 unf Gr. 8 w/Patch  | 205     | 121748X    | Washer 25/32 x 1-5/8 16 Ga.     |
| 140     | 10040400   | Washer Lock Hvy Helical 1/4    | 221     | 403187     | Retainer Spring Clip Handle     |
| 141     | 19091210   | Washer 9/32 x 3/4 x 10 Ga.     | 232     | 74780716   | Bolt Fin Hex 7/16-14 x 1        |
| 155     | 12000028   | Ring Retainer                  | 233     | 405296     | Washer Serrated                 |
| 157     | 105701X    | Washer Plate Shift             |         |            |                                 |
| 158     | 194352     | Belt Keeper                    |         |            |                                 |
| 159     | 76020412   | Pin Cotter 1/8 x 3/4           |         |            |                                 |

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

# TRACTOR - - MODEL NUMBER 944.608180

## ENGINE



engine-bs-1cyl-tex\_9

# TRACTOR - - MODEL NUMBER 944.608180

## ENGINE

| KEY NO. | PART NO.   | DESCRIPTION   | KEY NO. | PART NO. | DESCRIPTION                   |
|---------|------------|---|---------|----------|-------------------------------|
| 1       | -----      | Engine Briggs Model No. 31P677-0804-B1 (See Engine Breakdown) | 46      | 19091416 | Washer 9/32 x 7/8 x 16        |
| 2       | 137352     | Muffler   | 69      | 165291   | Gasket                        |
| 9       | 194319     | Keeper Belt Engine  | 79      | 192334   | Screw Socket Hd 5/16-18 x .75 |
| 12      | 401985     | Pulley Engine   | 81      | 148456   | Tube Drain Oil Easy           |
| 15      | 407545     | Tank Fuel   | 82      | 181654   | Plug Drain Oil                |
| 18      | 197725     | Cap Asm   | 84      | 17060620 | Screw 3/8-16 x 1-1/4          |
| 20      | 176636X428 | Control Throttle  | 85      | 173937   | Bolt 7/16-20 x 4 Gr. 5        |
| 21      | 416358     | Screw #10 x 0.750   | 90      | 17000616 | Screw 3/8-16 x 1              |
| 28      | 137040     | Fuel Line   |         |          |                               |
| 29      | 137180     | Spark Arrester Kit  |         |          |                               |
| 37      | 123487X    | Clamp Hose  |         |          |                               |
| 42      | 10040700   | Washer Lock 7/16  |         |          |                               |
| 44      | 17670412   | Screw Hexwsh Thdrol. 1/4-20 x 3/4                             |         |          |                               |
| 45      | 73510400   | Nut Keps Hex 1/4-20 unc                                       |         |          |                               |

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

For engine service and replacement parts, call the toll free number for your engine manufacturer listed below:

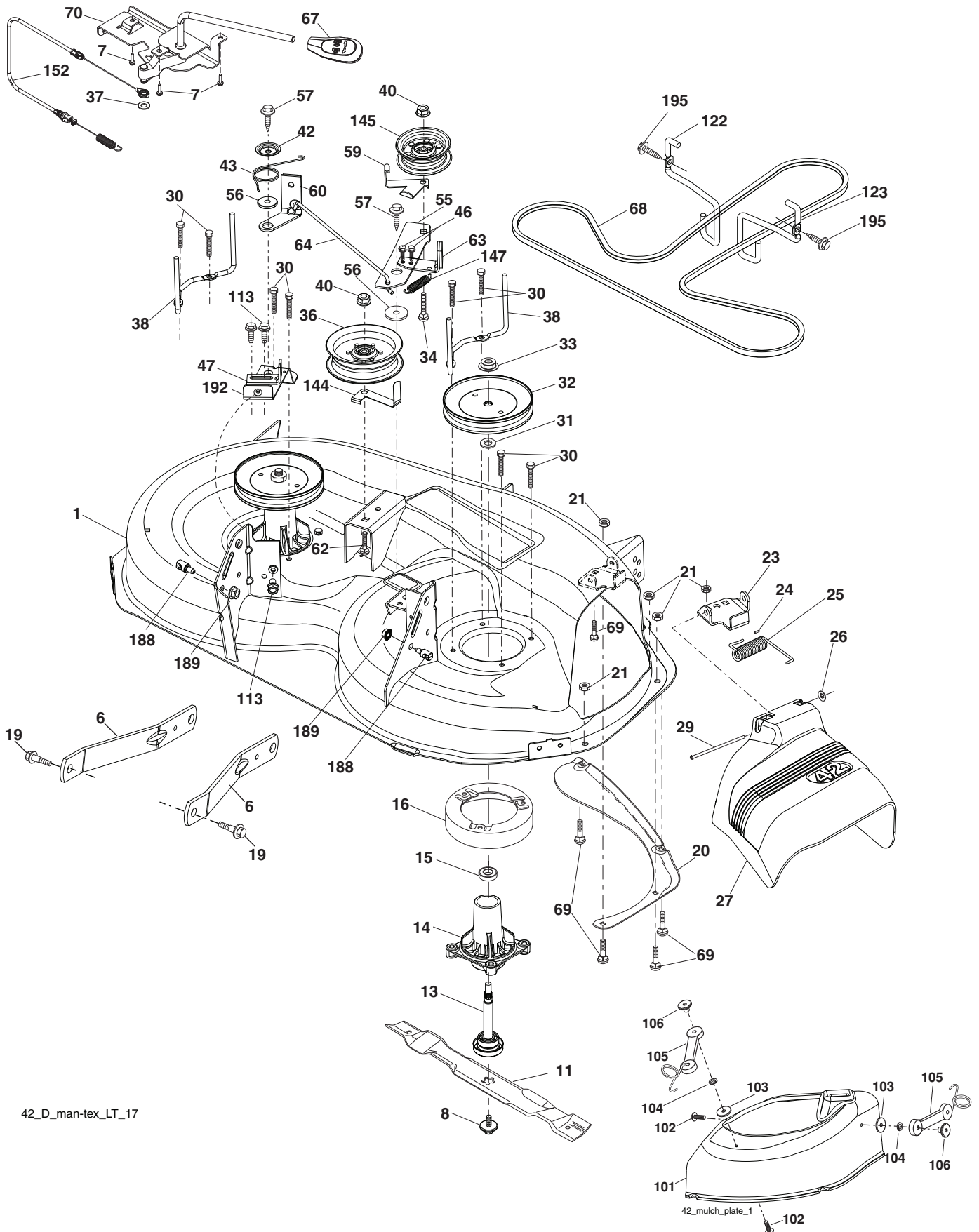
Briggs & Stratton                      1-800-233-3723

### Engine Power Rating Information

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

# TRACTOR - - MODEL NUMBER 944.608180

## MOWER DECK



# TRACTOR - - MODEL NUMBER 944.608180

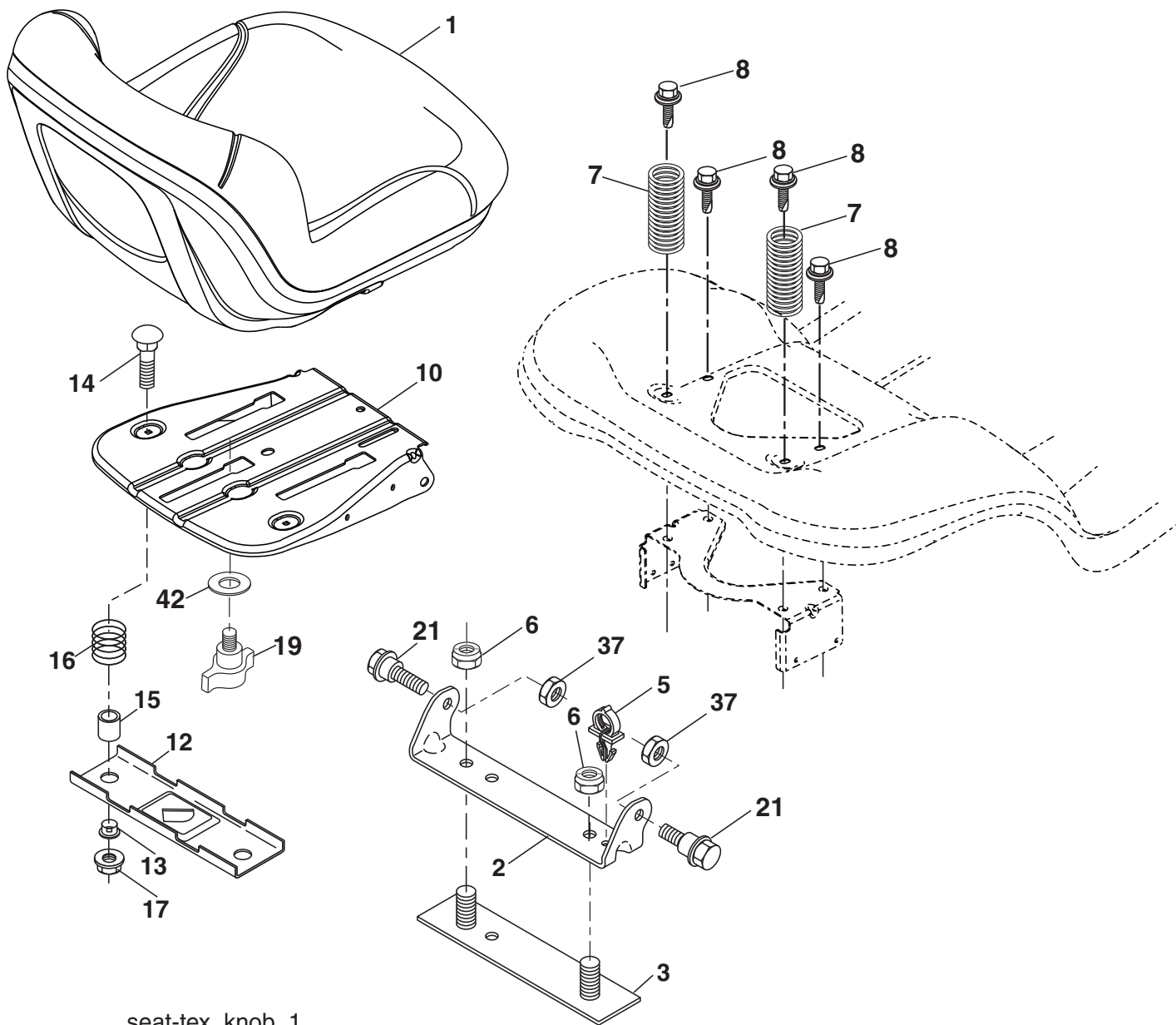
## MOWER DECK

| KEY NO. | PART NO.   | DESCRIPTION   | KEY NO. | PART NO.   | DESCRIPTION   |
|---------|------------|---|---------|------------|---|
| 1       | 199911     | Mower Housing   | 57      | 17000616   | Screw 3/8-16 x 1  |
| 5       | 4939M      | Retainer Spring                                       | 59      | 141043     | Guard, Tuv Idler  |
| 6       | 195186     | Arm Suspension  | 60      | 197261     | Arm Brake Mower   |
| 7       | 416358     | Screw #10 x 0.750                                     | 62      | 72110616   | Bolt Rd Hd Sq Nk 3/8-16 unc x 2   |
| 8       | 193003     | Bolt/Washer asm 7/16-20 unf                           | 63      | 199477     | Arm Brake Mower   |
| 11      | 134149     | Blade, 42" Mulching Std<br>(For mulching mowers only) | 64      | 199790     | Brake Linkage   |
| 13      | 192872     | Shaft Assembly, Mandrel                               | 67      | 198398X505 | Handle Clutch Cable   |
| 14      | 187281     | Housing, Mandrel                                      | 68      | 197253     | V-Belt  |
| 15      | 110485X    | Bearing, Ball, Mandrel                                | 69      | 72140505   | Bolt  |
| 16      | 174493     | Stripper, Mower Deck                                  | 70      | 198332     | Clutch Asm Manual   |
| 19      | 196539     | Bolt, Shoulder  | 101     | 193107     | Cover Mulching  |
| 20      | 159770     | Baffle, Vortex  | 102     | 71081010   | Screw 10-24 x 5/8   |
| 21      | 73680500   | Nut, Crownlock 5/16-18 unc                            | 103     | 19061216   | Washer #10  |
| 23      | 192557     | Bracket, Deflector                                    | 104     | 10071000   | Washer Lock #10   |
| 24      | 105304X    | Cap, Sleeve   | 105     | 160793     | Latch Asm   |
| 25      | 197026     | Spring, Torsion, Deflector                            | 106     | 2029J      | Nut Weld  |
| 26      | 110452X    | Nut, Push   | 113     | 17000510   | Screw 5/16-18   |
| 27      | 193108X428 | Shield, Deflector                                     | 122     | 197258     | Keeper Belt Engine LH   |
| 29      | 131491     | Rod, Hinge  | 123     | 197259     | Keeper Belt Engine RH   |
| 30      | 173984     | Screw Thdrol Rolling Wsh Hd                           | 144     | 199204     | Keeper Belt   |
| 31      | 187690     | Washer, Spacer  | 145     | 197379     | Pulley Idler  |
| 32      | 197473     | Pulley, Mandrel                                       | 147     | 401971     | Spring Return   |
| 33      | 400234     | Nut, Toplock, Flanged                                 | 152     | 408714     | Manual Clutch Cable   |
| 34      | 72110612   | Bolt Carr Sh. 3/8-16 x 1-1/2 Gr. 5                    | 188     | 195161     | Stud Fastener   |
| 36      | 193197     | Pulley, Idler, Primary                                | 189     | 73900500   | Nut Lock Hex Flange   |
| 37      | 19131316   | Washer  | 192     | 197260     | Bracket Brake Stand LH  |
| 38      | 199189     | Keeper Belt LH Mandrel                                | 195     | 17000612   | Screw 3/8-16 x 3/4  |
| 40      | 73900600   | Nut, Lock Flg. 3/8-16 unc                             | --      | 192870     | Mandrel Assembly (Includes housing, shaft assembly, and bearing only - pulley/nut/washer and blade bolt/washers not included) |
| 42      | 198410     | Spring Torsion Brake                                  | --      | 412545     | Replacement Mower, Complete   |
| 43      | 197256     | Spring Torsion Retainer                               |         |            |   |
| 46      | 137729     | Screw Thd Roll 1/4-20 x 5/8                           |         |            |   |
| 47      | 197250     | Bracket Clutch Cable                                  |         |            |   |
| 55      | 197249     | Arm, Idler  |         |            |   |
| 56      | 199092     | Spacer, Retainer                                      |         |            |   |

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

# TRACTOR - - MODEL NUMBER 944.608180

## SEAT ASSEMBLY



seat-tex\_knob\_1

| KEY NO. | PART NO. | DESCRIPTION                   |
|---------|----------|-------------------------------|
| 1       | 197516   | Seat                          |
| 2       | 180166   | Bracket Pivot Fender          |
| 3       | 140675   | Strap, Asm Fender             |
| 5       | 145006   | Clip, Push In, Hinged         |
| 6       | 73800600 | Nut, Lock w/Ins. 3/8-16 unc   |
| 7       | 124181X  | Spring, Seat Cprsn            |
| 8       | 171877   | Bolt 5/16-18 unc x 3/4 w/Sems |
| 10      | 199180   | Pan, Seat                     |
| 12      | 199370   | Bracket Mnt Seat              |
| 13      | 121248X  | Bushing Snap                  |
| 14      | 72050412 | Bolt Rdhd 1/4-20 x 1-1/2      |

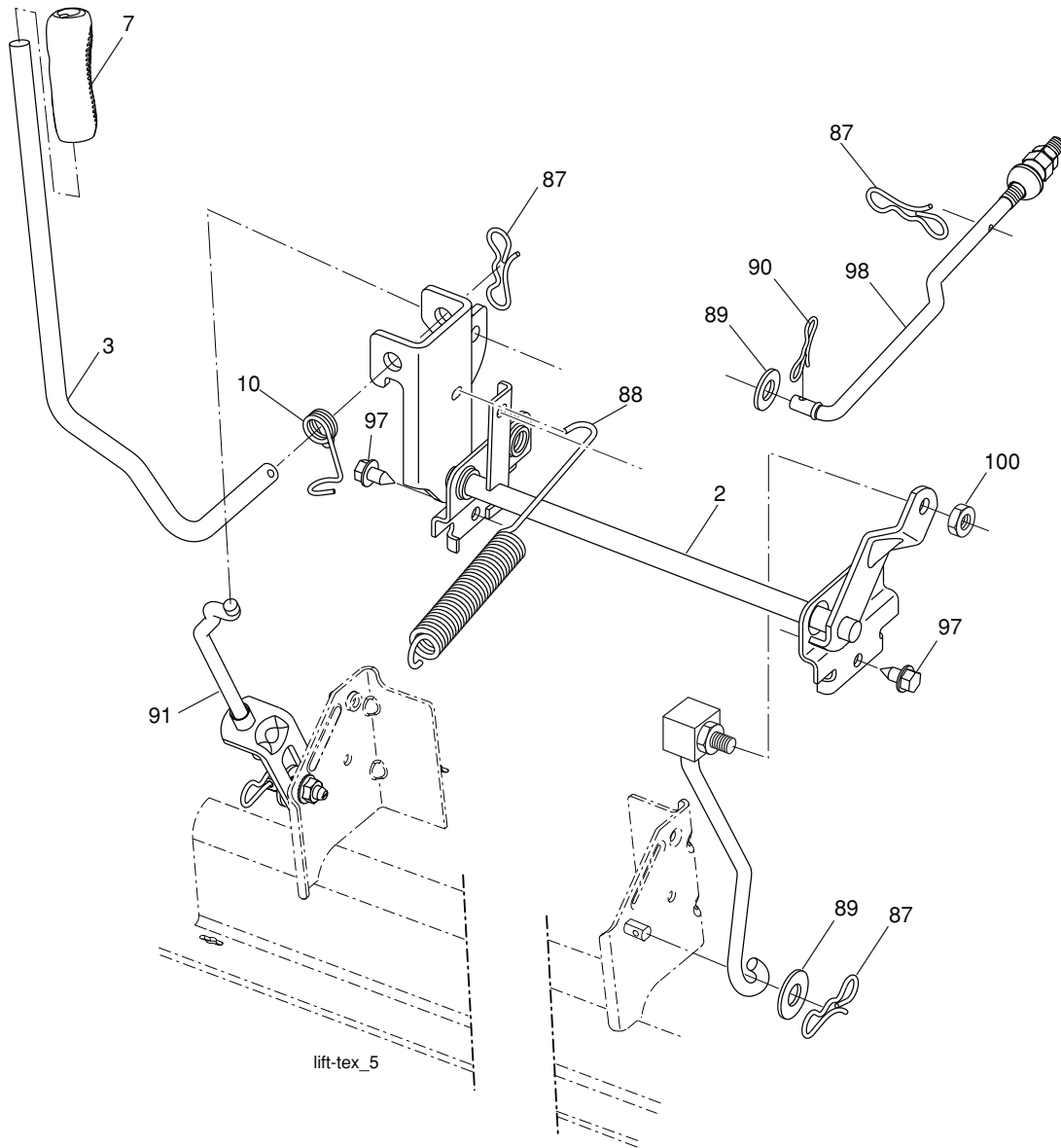
| KEY NO. | PART NO. | DESCRIPTION            |
|---------|----------|------------------------|
| 15      | 134300   | Spacer Split 28 x .96  |
| 16      | 123740X  | Spring Cprsn           |
| 17      | 123976X  | Nut Lock 1/4           |
| 19      | 199372   | Knob                   |
| 21      | 171852   | Bolt, Shoulder 5/16-18 |
| 37      | 73800500 | Nut, Lock 5/16-18 unc  |
| 42      | 199371   | Washer Cup Seat        |

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



# TRACTOR - - MODEL NUMBER 944.608180

## MOWER LIFT



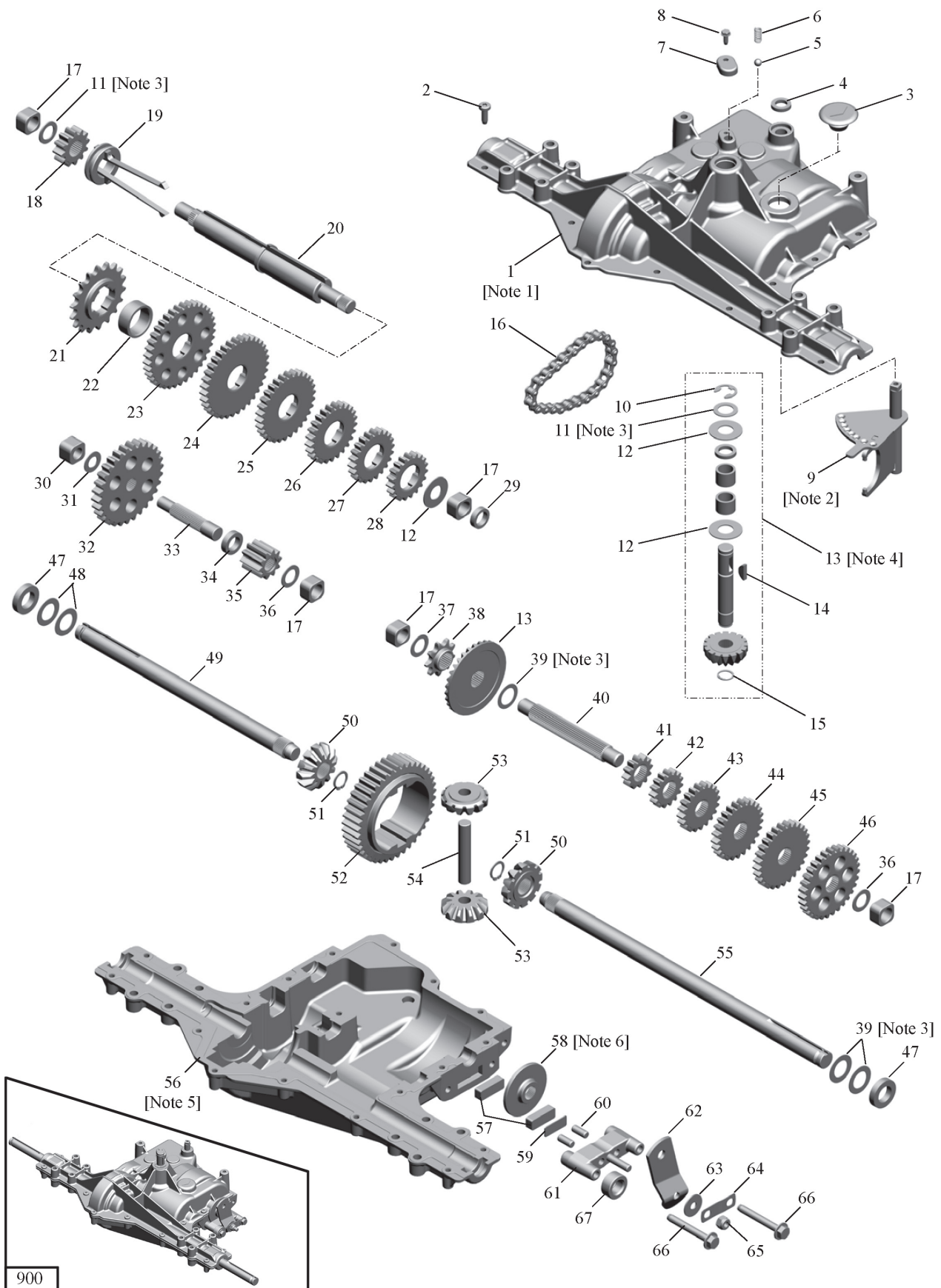
lift-tex\_5

| KEY NO. | PART NO.   | DESCRIPTION                  |
|---------|------------|------------------------------|
| 2       | 195223     | Shaft Asm., Lift             |
| 3       | 195231     | Lever Asm., Lift RH          |
| 7       | 196492X428 | Grip, Lever                  |
| 10      | 196314     | Spring Torsion               |
| 87      | 194209     | Pin Cotter 7/16 Bow Tie Lock |
| 88      | 410710     | Spring Lift Assist           |
| 89      | 19191912   | Washer Clear Zinc            |

| KEY NO. | PART NO. | DESCRIPTION                  |
|---------|----------|------------------------------|
| 90      | 194208   | Pin Cotter 5/16 Bow Tie Lock |
| 91      | 195181   | Link Lift Susp Mower Rear    |
| 97      | 17000612 | Screw 3/8-16 x .75           |
| 98      | 195270   | Link Lift Susp. Front Mower  |
| 100     | 73930600 | Nut Centerlock 3/8-16 unc    |

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

**TRACTOR - - MODEL NUMBER 944.608180**  
**DANA TRANSAXLE - - MODEL NUMBER D6800-1**



# TRACTOR - - MODEL NUMBER 944.608180

## DANA TRANSAXLE - - MODEL NUMBER D6800-1

| Key No. | Part No. | Description                                 | Key No. | Part No. | Description                       |
|---------|----------|---|---------|----------|-----------------------------------|
| 1       | 407112   | [1] Assy, Kit, Housing, Upper               | 58      | 407134   | [6] Disc, Brake                   |
| 2       | 2274J    | Screw, Tapping, 1/4-20 X .734               | 59      | 108989X  | Spacer, Brake Puck                |
| 3       | 407113   | Plug, Rubber                                | 60      | 120954X  | Pin, Dowel                        |
| 4       | 407114   | Seal, Oil                                   | 61      | 160952   | Jaw, Brake                        |
| 5       | 190973   | Ball, Detent                                | 62      | 407135   | Lever, Actuating                  |
| 6       | 190974   | Spring, Detent                              | 63      | 108996X  | Washer, Plain, .321 X 1.00 X .055 |
| 7       | 407115   | Cover, Detent                               | 64      | 160954   | Bracket, Anti-Rotation            |
| 8       | 190975   | Screw, Tapping, No. 10-24 X .482            | 65      | 73810500 | Nut, Lock, 5/16-24                |
| 9       | 407116   | [2] Assy, Shifter                           | 66      | 160953   | Screw, Tapping, 5/16-18 X 2.35    |
| 10      | 2225J    | Ring, Retaining                             | 67      | 407136   | Spacer, .604 X 1.076 X .395       |
| 11      | 134793   | [3] Assy, Kit, Shim, .625 Shaft             | 900     | 402723   | Transaxle                         |
| 12      | 120415X  | Washer, Plain, .632 X 1.38 X .046           |         |          |                                   |
| 13      | 407117   | [4] Assy, Kit, Input Shaft & Bevel & Pinion |         |          |                                   |
| 14      | 142674   | Key, Woodruff, No. 606                      |         |          |                                   |
| 15      | 134383   | Ring, Retaining                             |         |          |                                   |
| 16      | 105910X  | Chain, 24 Pitches                           |         |          |                                   |
| 17      | 407118   | Bushing, .626 X .874 Sq X .560              |         |          |                                   |
| 18      | 407119   | Gear, Spur, 12T                             |         |          |                                   |
| 19      | 407120   | Assy, Collar, Shift                         |         |          |                                   |
| 20      | 407121   | Shaft, Intermediate, RH Brake               |         |          |                                   |
| 21      | 120470X  | Sprocket, 18T                               |         |          |                                   |
| 22      | 407122   | Spacer, 1.131 X 1.45 X .580                 |         |          |                                   |
| 23      | 142677   | Gear, Spur, 37T                             |         |          |                                   |
| 24      | 142681   | Gear, Spur, 35T                             |         |          |                                   |
| 25      | 124644X  | Gear, Spur, 30T                             |         |          |                                   |
| 26      | 108980X  | Gear, Spur, 25T                             |         |          |                                   |
| 27      | 120406X  | Gear, Spur, 22T                             |         |          |                                   |
| 28      | 134796   | Gear, Spur, 19T                             |         |          |                                   |
| 29      | 407123   | Seal, Oil                                   |         |          |                                   |
| 30      | 407124   | Bushing, .501 X .874 Sq X .650              |         |          |                                   |
| 31      | 120467X  | Washer, Plain, .505 X .942 X .040           |         |          |                                   |
| 32      | 407125   | Gear, Spur, 30T                             |         |          |                                   |
| 33      | 407126   | Shaft, Idler                                |         |          |                                   |
| 34      | 407127   | Spacer, .633 X 1.00 X .260                  |         |          |                                   |
| 35      | 134418   | Gear, Spur, 10T                             |         |          |                                   |
| 36      | 2228J    | Washer, Plain, .632 X 1.00 X .046           |         |          |                                   |
| 37      | 2230J    | Washer, Plain, .632 X 1.00 X .036           |         |          |                                   |
| 38      | 105928X  | Sprocket, 9T                                |         |          |                                   |
| 39      | 134394   | [3] Assy, Kit, Shim, .750 Shaft             |         |          |                                   |
| 40      | 407128   | Shaft, Drive                                |         |          |                                   |
| 41      | 142678   | Gear, Spur, 12T                             |         |          |                                   |
| 42      | 143697   | Gear, Spur, 15T                             |         |          |                                   |
| 43      | 124641X  | Gear, Spur, 20T                             |         |          |                                   |
| 44      | 106589X  | Gear, Spur, 25T                             |         |          |                                   |
| 45      | 120408X  | Gear, Spur, 28T                             |         |          |                                   |
| 46      | 105937X  | Gear, Spur, 31T                             |         |          |                                   |
| 47      | 407129   | Seal, Oil                                   |         |          |                                   |
| 48      | 2264J    | Washer, Plain, .758 X 1.25 X .031           |         |          |                                   |
| 49      | 407130   | Axle, LH                                    |         |          |                                   |
| 50      | 190987   | Gear, Miter, 12T, Splined                   |         |          |                                   |
| 51      | 160948   | Ring, Retaining                             |         |          |                                   |
| 52      | 134419   | Gear, Spur, 41T                             |         |          |                                   |
| 53      | 160949   | Gear, Miter, 12T, Idler                     |         |          |                                   |
| 54      | 120952X  | Shaft, Cross                                |         |          |                                   |
| 55      | 407131   | Axle, RH                                    |         |          |                                   |
| 56      | 407132   | [5] Housing, Lower                          |         |          |                                   |
| 57      | 407133   | Assy, Kit, Friction Puck                    |         |          |                                   |

**Notes:**

[1] Includes 7072, 5272, 7101, 840052, 7057, 7089.

[2] Anti-Seize lubricant to be applied to top surface of 6670 Shifter Assembly (use Bostik Never-Seez or equivalent).

[3] Use in various combinations to maintain proper clearances.

[4] Includes 1106, 1746, 3876, 3956, 4689, 5272, 7073, 7074, 7057.

[5] Silicone Sealant to be applied between Upper and Lower Housings (use Loctite Ultra Gray Silicone 5699 or equivalent).

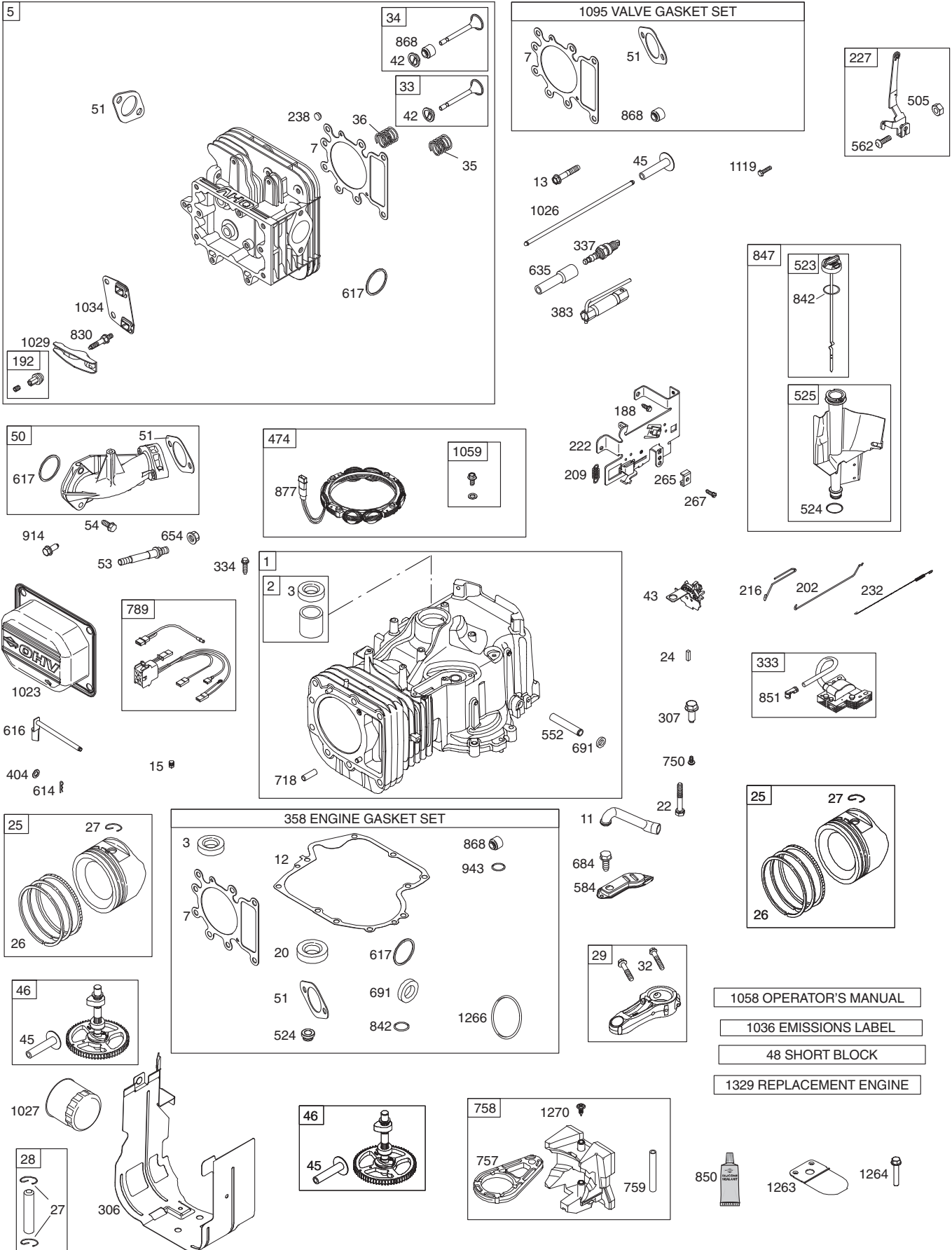
[6] Anti-Seize lubricant to be applied to ID of 7103 Brake Disc (use Bostik Never-Seez or equivalent).

[7] Refill Transaxle with (10) ounces 80W90 gear lube.

Note: All Component Dimensions Given In U.S. Inches  
1 Inch = 25.4 mm

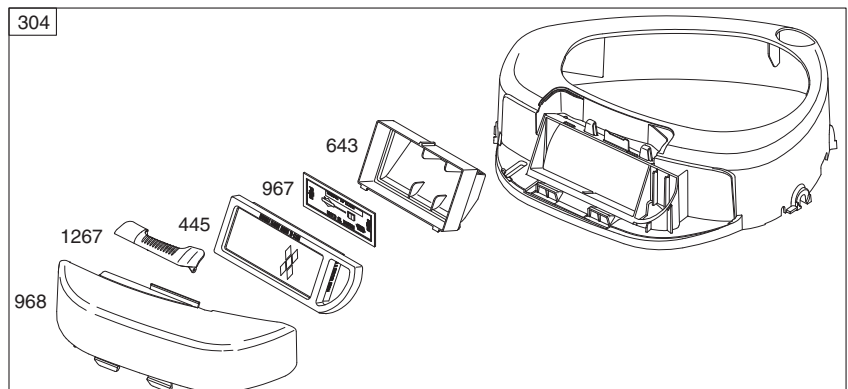
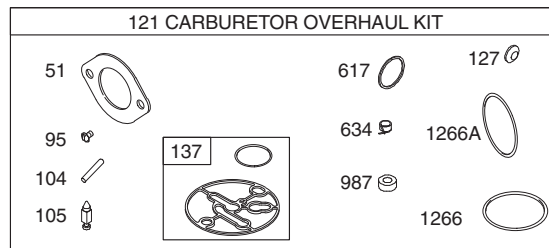
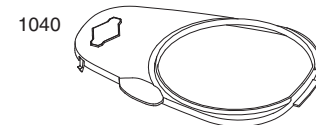
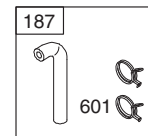
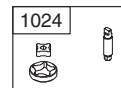
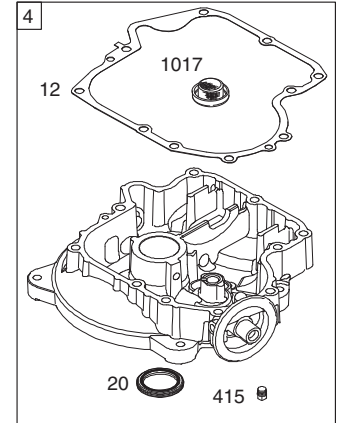
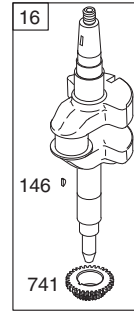
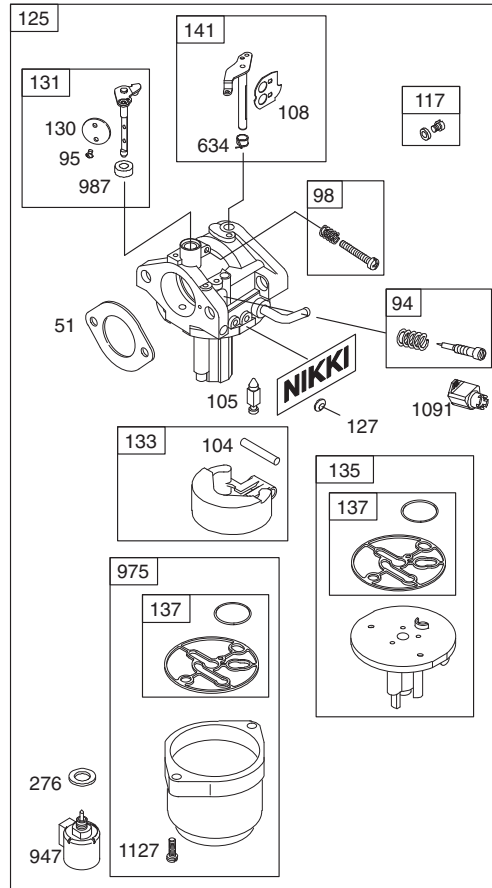
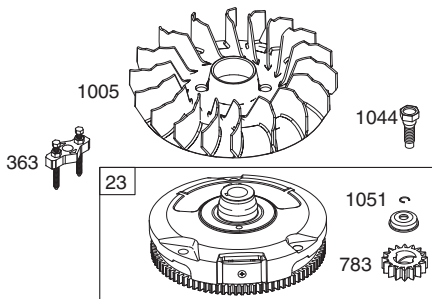
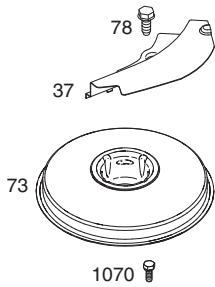
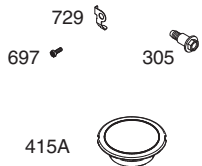
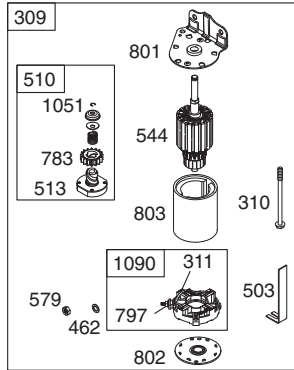
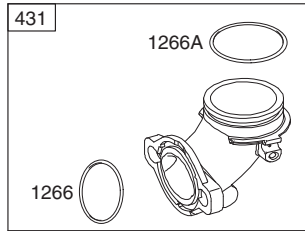
# TRACTOR - - MODEL NUMBER 944.608180

## BRIGGS ENGINE - MODEL NUMBER 31P677, TYPE NUMBER 0804-B1



# TRACTOR - - MODEL NUMBER 944.608180

## BRIGGS ENGINE - MODEL NUMBER 31P677, TYPE NUMBER 0804-B1



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## BRIGGS ENGINE - MODEL NUMBER 31P677, TYPE NUMBER 0804-B1

| KEY NO. | PART NO. | DESCRIPTION                      | KEY NO. | PART NO. | DESCRIPTION                            |
|---------|----------|----------------------------------|---------|----------|--|
| 1       | 793987   | Cylinder Assembly                | 227     | 691374   | Lever-Governor Control                 |
| 2       | 399265   | Kit-Bushing/Seal (Magneto Side)  | 232     | 691842   | Spring-Governor                        |
| 3       | 391086s* | Seal-Oil (Magneto Side)          | 238     | 691843   | Cap-Valve                              |
| 4       | 697188   | Sump-Engine                      | 240     | 394358s  | Filter-Fuel                            |
| 5       | 793991   | Head-Cylinder                    | 265     | 691024   | Clamp-Casing                           |
| 7       | 699168   | •+ Gasket-Cylinder Head          | 267     | 794904   | Screw (Casing Clamp)                   |
| 11      | 794683   | Tube-Breather                    | 276     | 695410   | Ø Washer-Sealing                       |
| 12      | 697110   | • Gasket-Crankcase               | 304     | 699829   | Housing-Blower                         |
| 13      | 793988   | Screw (Cylinder Head)            | 305     | 697102   | Screw (Blower Housing)                 |
| 15      | 690946   | Plug-Oil Drain                   | 305A    | 793376   | Screw (Blower Housing)                 |
| 16      | 697127   | Crankshaft                       | 306     | 697107   | Shield-Cylinder                        |
| 20      | 690947   | • Seal-Oil (PTO Side)            | 307     | 691003   | Screw (Cylinder Shield)                |
| 22      | 692125   | Screw (Crankcase Cover/Sump)     | 309     | 693551   | Motor-Starter                          |
| 23      | 693557   | Flywheel                         | 310     | 690323   | Bolt (Starter Motor)                   |
| 24      | 222698s  | Key-Flywheel                     | 311     | 497608   | Brush Set                              |
| 25      | 792507   | Piston Assembly (Standard)       | 333     | 795315   | Armature-Magneto                       |
| 25      | 792648   | Piston Assembly (.020" Oversize) | 334     | 691061   | Screw (Magneto Armature)               |
| 26      | 791936   | Ring Set (Standard)              | 337     | 491055s  | Plug-Spark                             |
| 26      | 792649   | Ring Set (.020" Oversize)        | 358     | 697191   | Gasket Set-Engine                      |
| 27      | 698469   | Lock-Piston Pin                  | 363     | 19203    | Flywheel Puller                        |
| 28      | 697099   | Pin-Piston                       | 383     | 89838s   | Wrench-Spark Plug                      |
| 29      | 794122   | Rod-Connecting (Standard)        | 404     | 691691   | Washer (Governor Crank)                |
| 32      | 791118   | Screw (Connecting Rod)           | 415     | 690283   | Plug                                   |
| 33      | 791934   | Valve-Exhaust                    | 415A    | 794129   | Plug                                   |
| 34      | 791935   | Valve-Intake                     | 431     | 697122   | Elbow-Intake                           |
| 35      | 691279   | Spring-Valve (Intake)            | 445     | 698083   | Filter-Air Cleaner Cartridge           |
| 36      | 691279   | Spring-Valve (Exhaust)           | 462     | 691261   | Washer (Starter Cable)                 |
| 37      | 697352   | Guard-Flywheel                   | 474     | 696459   | Alternator                             |
| 42      | 499586   | Retainer-Valve                   | 503     | 691532   | Strap-Starter                          |
| 43      | 691968   | Slinger-Governor/Oil             | 505     | 691251   | Nut (Governor Control Lever)           |
| 45      | 690564   | Tappet-Valve                     | 510     | 693699   | Drive-Starter                          |
| 46      | 793880   | Camshaft                         | 513     | 692024   | Clutch-Drive                           |
| 48      | 697762   | Short Block                      | 523     | 699908   | Dipstick                               |
| 50      | 690193   | Manifold-Intake                  | 524     | 691032   | • Seal-Dipstick Tube                   |
| 51      | 692137   | •Ø+ Gasket-Intake                | 525     | 697184   | Tube-Dipstick                          |
| 53      | 690227   | Stud (Carburetor)                | 544     | 692034   | Starter-Armature                       |
| 54      | 691148   | Screw (Intake Manifold)          | 552     | 697144   | Bushing-Governor Crank                 |
| 73      | 794437   | Screen-Rotating                  | 562     | 691119   | Bolt (Governor Control Lever)          |
| 78      | 691003   | Screw (Flywheel Guard)           | 579     | 691029   | Nut (Starter Cable)                    |
| 94      | 695425   | Kit-Idle Mixture                 | 584     | 794682   | Cover-Breather Passage                 |
| 95      | 690718   | Ø Screw (Throttle Valve)         | 601     | 791850   | Clamp-Hose                             |
| 98      | 695408   | Kit-Idle Speed                   | 614     | 691620   | Pin-Cotter                             |
| 104     | 694918   | Ø Pin-Float Hinge                | 616     | 692012   | Crank-Governor                         |
| 105     | 696136   | Ø Valve-Float Needle             | 617     | 692138   | Ø •Seal-O Ring (Intake Manifold)       |
| 108     | 695419   | Valve-Choke                      | 634     | 698779   | Ø Spring/Seal Assembly (Choke A Matic) |
| 117     | 792296   | Jet-Main (Standard)              | 635     | 691909   | Boot-Spark Plug                        |
| 121     | 792369   | Kit-Carburetor Overhaul          | 643     | 698401   | Retainer-Air Filter                    |
| 125     | 792768   | Carburetor                       | 654     | 690958   | Nut (Carburetor)                       |
| 127     | 690727   | Ø Plug-Welch                     | 684     | 697157   | Screw (Breather Passage Cover)         |
| 130     | 792747   | Valve-Throttle                   | 691     | 692407   | • Seal-Governor Shaft                  |
| 131     | 792765   | Kit-Throttle Shaft               | 697     | 690372   | Screw (Drive Cap)                      |
| 133     | 694914   | Float-Carburetor                 | 718     | 690959   | Pin-Locating                           |
| 135     | 698780   | Tube-Fuel Transfer               | 729     | 691224   | Clip-Wire                              |
| 137     | 698781   | Ø Gasket-Float Bowl              | 741     | 697128   | Gear-Timing                            |
| 141     | 792777   | Kit-Choke Shaft                  | 750     | 790832   | Screw (Oil Pump Cover)                 |
| 146     | 691639   | Key-Timing                       | 757     | 793242   | Link-Counterweight                     |
| 187     | 791805   | Line-Fuel                        | 758     | 697134   | Counterweight                          |
| 188     | 691693   | Screw (Control Bracket)          | 759     | 697392   | Pin-Counterweight                      |
| 192     | 691986   | Adjuster-Rocker Arm              | 783     | 693713   | Gear-Pinion                            |
| 202     | 691841   | Link-Mechanical Governor         | 789     | 698329   | Harness-Wiring                         |
| 209     | 692208   | Spring-Governor                  | 797     | 693167   | Nut (Brush Retainer)                   |
| 216     | 691840   | Link-Choke                       | 801     | 691283   | Cap-Drive                              |
| 222     | 694042   | Bracket-Control                  |         |          |  |

**TRACTOR - - MODEL NUMBER 944.608180**  
**BRIGGS ENGINE - MODEL NUMBER 31P677, TYPE NUMBER 0804-B1**

| KEY NO. | PART NO.    | DESCRIPTION  |
|---------|-------------|--|
| 802     | 691286      | Cap-End  |
| 803     |             | Housing-Starter (For service order complete starter motor reference 309) |
| 830     | 691095      | Stud (Rocker Arm)  |
| 842     | 691031      | • Seal-O Ring (Dipstick Tube)  |
| 847     | 790442      | Dipstick/Tube Assembly   |
| 850     | 100100      | Sealant-Liquid   |
| 851     | 692424      | Terminal-Spark Plug  |
| 868     | 690968      | •+ Seal-Valve  |
| 877     | 393456      | Wire/Connector-Alternator  |
| 914     | 691108      | Screw (Rocker Cover)   |
| 943     | 690589      | • Seal-O Ring (Oil Pump Cover)   |
| 947     | 699915      | Solenoid-Fuel  |
| 965     | 499613      | Cover-Oil Pump   |
| 967     | 697015      | Filter-Pre Cleaner   |
| 968     | 699986      | Cover-Air Cleaner  |
| 975     | 699502      | Bowl-Float   |
| 987     | 698777      | ∅ Seal-Throttle Shaft  |
| 1005    | 794438      | Fan-Flywheel   |
| 1017    | 690770      | Screen-Oil Pump  |
| 1023    | 791079      | Cover-Rocker Arm   |
| 1024    | 794644      | Pump-Oil   |
| 1026    | 692003      | Rod-Push (Intake)  |
|         | 692011      | Rod-Push (Exhaust)   |
| 1027    | 492932s     | Filter-Oil   |
| 1029    | 691751      | Arm-Rocker   |
| 1034    | 690822      | Guide-Push Rod   |
| 1036    | 791932      | Label-Emissions  |
| 1040    | 699852      | Plate-Trim   |
| 1044    | 698139      | Screw (Flywheel)   |
| 1051    | 691265      | Ring-Retaining   |
| 1058    | 275935      | Owner's Manual   |
| 1059    | 698516      | Kit-Screw/Washer   |
| 1070    | 690363      | Screw (Flywheel Fan)   |
| 1090    | 691293      | Retainer-Brush   |
| 1091    | 691333      | Cap-Limiter  |
| 1095    | 690190      | Gasket Set-Valve   |
| 1119    | 691183      | Screw (Alternator)   |
| 1127    | 695407      | Screw (Float Bowl)   |
| 1263    | 697124      | Reed-Breather  |
| 1264    | 697104      | Screw (Breather Reed)  |
| 1266    | 691917      | •∅ Seal-O Ring (Intake Elbow)  |
| 1266    | A697123∅    | Seal-O Ring (Intake Elbow)   |
| 1267    | 697419      | Latch-Blower Housing   |
| 1270    | 793243      | Plug-AVS Counterweight   |
| 1329    | 331877-0036 | Replacement Engine   |

- Included in Engine Gasket Set, Key. No. 358
- ∅ Included in Carburetor Overhaul Kit, Key. No. 121
- + Included in Valve Gasket Set, Key. No. 1095

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

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# SERVICE NOTES

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# SERVICE NOTES

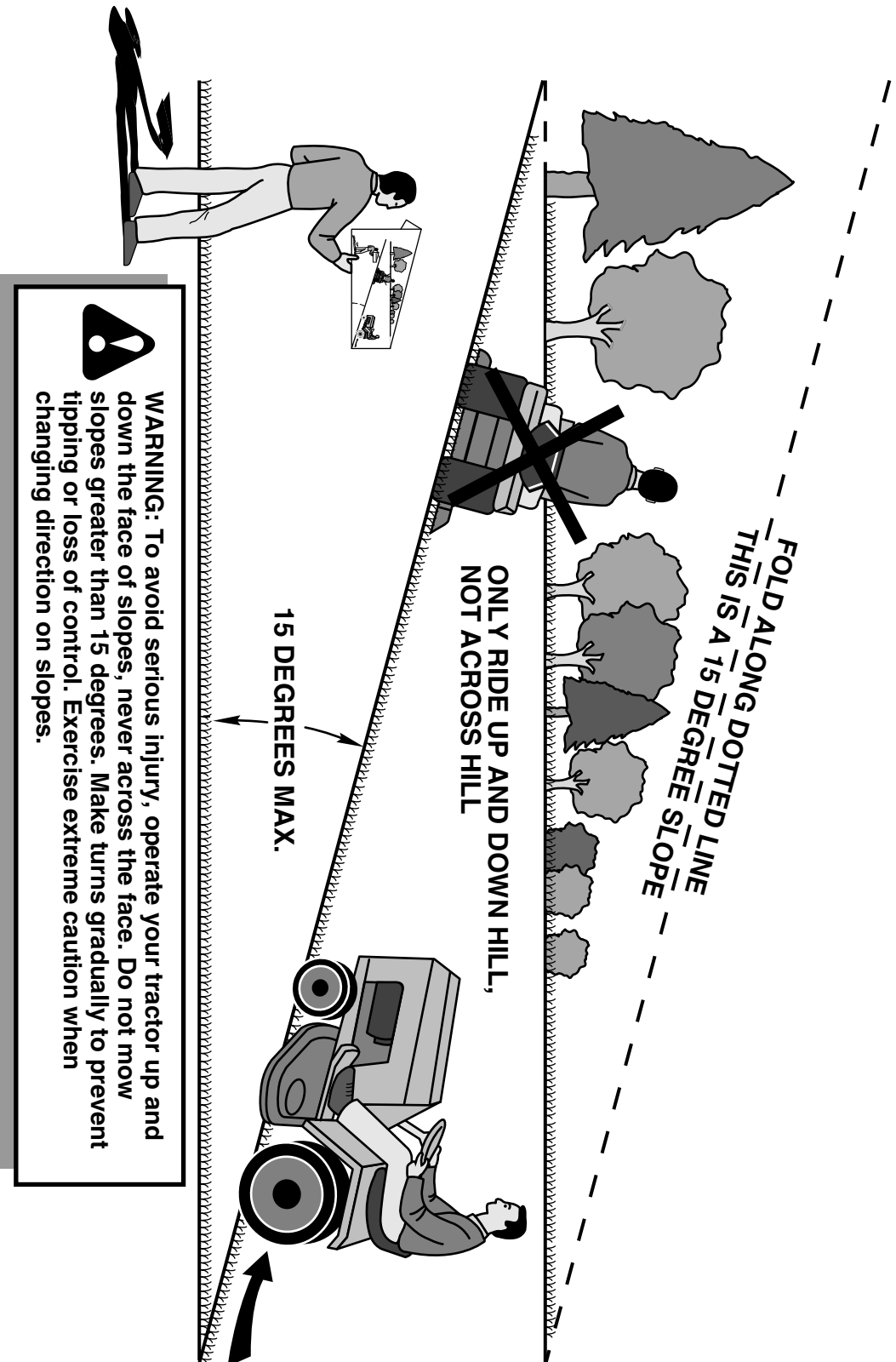
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# SERVICE NOTES

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# SUGGESTED GUIDE FOR SIGHTING SLOPES FOR SAFE OPERATION



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

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