

Operators Manual



Please read these instructions carefully and make sure you understand them before using the machine.

Model:

968999245 / CZ3815

968999246 / CZ4217

Congratulations on the purchase of your **HUSQVARNA** mower. This manual has been prepared for the owners and operators of the models called out on the front cover of this manual. Read, understand and follow the safety and operating instructions.

 **WARNING**

Failure to follow cautious operating practices can result in serious injury to the operator or other persons. The owner must understand these instructions, and must allow only trained persons who understand these instructions to operate the mower. Each person operating the mower must be of sound mind and body and must not be under the influence of any mind altering substance.

 **CAUTION**

1. Keep all shields, guards and safety devices in place and in proper working condition.
2. Stop engine and remove spark plug wires or remove key before adjusting, servicing, or performing maintenance.

GOOD SERVICE

Husqvarna products are sold all over the world and only in specialized retail stores with complete service. This ensures that you as a customer receive only the best support and service. Before the product is delivered, the machine has, for example, been inspected and adjusted by your retailer.

When you need spare parts or support in service questions, warranty issues, etc., please consult the following professional:

This Operator's Manual belongs to the machine with manufacturing number:	Engine	Transmission

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

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

Continuous dedication to improve our products require that specifications and design are subject to change without notice.

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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.

I. GENERAL OPERATION

- Read, understand and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, stones, toys, wire, etc., which could be picked up and thrown by the blades.
- Be sure the area is clear of all people and pets before mowing. Stop the machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not direct it towards anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
- Slow down before turning.
- Never leave the machine unattended when the engine is running. Always turn off the blades, set the parking brake, stop the engine and remove the key before leaving the machine.
- Turn off blades when not mowing.
- Stop engine before removing grass catcher or unclogging chute.
- Mow only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch out for traffic when operating near or crossing roadways.
- Use extra care when loading and unloading the machine onto a trailer or truck.
- 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.

- Keep machine free of grass, leaves or other debris buildup which can touch hot exhaust/engine parts and burn. Do not allow the mower deck to plow leaves or other debris which can cause buildup 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. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

DO:

- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. **Tall grass can hide obstacles.**
- Use a slow speed while on a slope.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on the slopes **slow** and **gradual**. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly **straight** down the slope.

SAFETY RULES



SAFE OPERATION PRACTICES FOR RIDE-ON MOWERS



DO NOT:

- **Do not** turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- **Do not** mow near drop-off, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- **Do not** mow on wet grass. Reduced traction could cause sliding.
- **Do not** try to stabilize the machine by putting your foot on the ground.
- **Do not** use grass catcher on steep slopes.
- Avoid starting up or down a slope or hill with excessive ground speed. It is **VERY** difficult to reduce your speed or maintain control of mower once you are going too fast.

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.

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

IV. SERVICE

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

SAFETY RULES



SAFE OPERATION PRACTICES FOR RIDE-ON MOWERS



- **NEVER** allow children to operate the machine.
- Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
- Never carry passengers or children even with the blades off.
- Do not drive in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and when backing, look behind and down for small children.
- Mow up and down slopes (10° Max), not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use a slow speed while on slope or hill.
- Avoid starting or stopping on a slope. If 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.



CAUTION

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



CAUTION

Do not coast down a hill in neutral, you may lose control of the mower.



WARNING

Do not tow any trailers, etc. with this mower. They may jackknife or over turn causing damage to the mower and possibly serious injury to the operator.



WARNING

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



WARNING

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



CAUTION

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


SPECIFICATIONS

GASOLINE CAPACITY AND TYPE	3 GALLONS UNLEADED REGULAR
OIL TYPE (SPI-SF-SJ):	SEE YOUR ENGINE OWNERS MANUAL
SPARK PLUG:	SEE ENGINE MANUAL
GROUND SPEED (MPH):	FORWARD: 0 - 6 MAX. REVERSE: 0 - 3.5
TIRE PRESSURE:	FRONT: 15 PSI REAR: 15 PSI
CHARGING SYSTEM:	BRIGGS & STRATTON: 9 AMPS @3300 RPM KOHLER: 15 AMP @ 3300 RPM
BATTERY:	MIN. CCA: 300 CASE SIZE: 5 1/4W X 7 3/4 L X 6 T
BLADE BOLT TORQUE:	27-35 FT./LBS.

CUSTOMER RESPONSIBILITIES

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

CONGRATULATIONS on your purchase of a new mower. 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 mower. Please read and retain this manual. The instructions will enable you to assemble and maintain your mower properly. Always observe the "SAFETY RULES".

 **WARNING**

This mower 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 engine service center/department.

ASSEMBLY

Your new mower has been assembled at the factory with the exception of those parts left un-assembled for shipping purposes. To ensure safe and proper operation of your mower, all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to insure proper tightness.

TOOLS REQUIRED FOR ASSEMBLY

1. 7/16" wrench or 7/16" socket w/ drive ratchet
2. Tire pressure gauge
3. Nail bar or claw hammer
4. Wire snips

When right or left hand is mentioned in this manual, it means when you are in the operating position (seated) or left is trim side and right is discharge side.

TO REMOVE THE MOWER FROM CRATE UNPACK CRATE

- Place mower crate on flat surface.
- Using the nail bar or hammer, remove the top of the crate first. Then remove the sides of the crate and place these out of the way. Be careful of any exposed nails or staples.
- Remove the plastic bag that covers the mower.
- Using the wire snips, cut any plastic ties that are holding the mower to the crate.
- Remove the seat and literature bag from shipping position at front of the mower and place in a safe location, near by.

BEFORE REMOVING THE MOWER FROM THE SKID

ATTACH SEAT (See Fig. 1)

Open parts bag(s) and locate the four (three prong) knob seat fasteners and four 1/4" hex head bolts. Remove both control levers from bag(s) and place in a safe location, near by. The seat position should be adjusted forward or backward so that the operator can comfortably reach the deck lift pedal and safely operate the mower. See "Service and Adjustment" Section of this manual.

- Remove protective wrap from the seat.

- Raise the seat pan up to the vertical position so that the bottom can be easily accessed.
- Locate and finger-tighten one of the three prong knobs by inserting it thru the seat pan slot and into the corresponding threaded hole in the seat bottom.
- Repeat for the other three holes.
- Tighten the three prong knobs in the approximate position desired for the seat.
- Connect the wiring harness to the seat switch.

Adjustments may be required to position the seat in the desired position. Refer to the "Service and Adjustment" section of this manual.

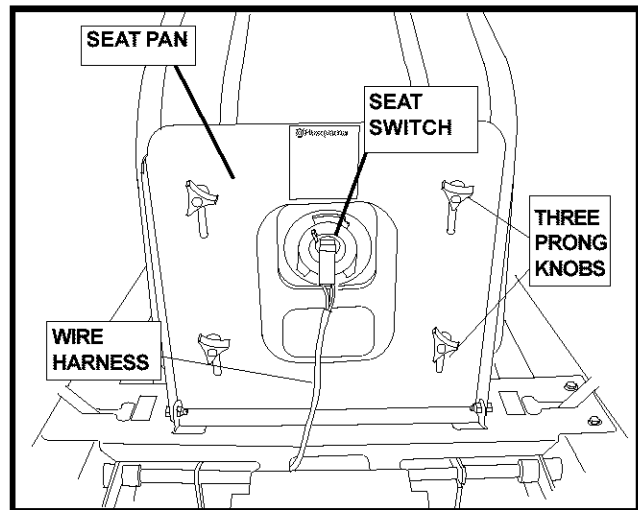


FIGURE 1

ATTACH CONTROL LEVERS (See Fig. 2)

- Locate 1/4" hex head bolts and control levers.
- Slide control lever over control arm with handgrip facing inward.
- Slide control lever to the approximate height desired, align hole in control lever with threaded hole in control arm.
- Start 1/4" bolt from the inside and finger-tighten, add second bolt in second hole on same side of mower.
- Repeat on opposite side of mower for second control lever.

ASSEMBLY

- Securely tighten bolt using a 7/16" wrench or socket with ratchet.

Adjustments may be required to get uniform positioning of the control lever. Refer to the "Service and Adjustment" section of this manual.

NOTE: You may now roll or drive the mower off of the skid. Follow the appropriate instruction below to remove the mower from the skid.

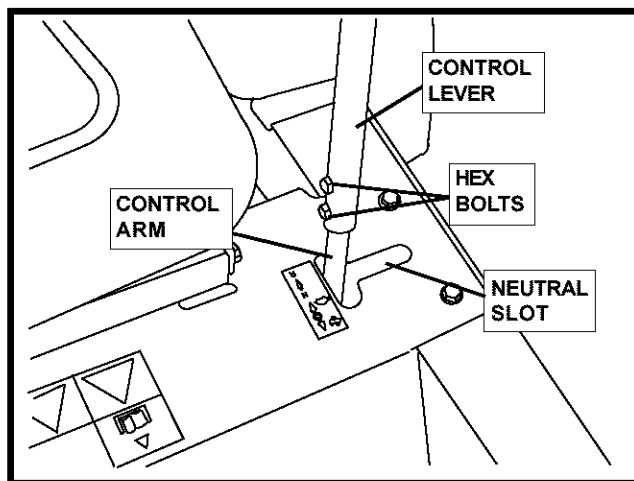


FIGURE 2

TO ROLL THE MOWER OFF OF THE SKID (See Operation section for location and function of controls)

- Move to the rear of the mower, and place the EZT (E-Series Zereturn Transaxle) bypass linkages into the bypass position to disengage the EZT's (See "TO TRANSPORT" in the **OPERATION** section of this manual).
- Sitting on the mower, press the deck lift pedal in to the highest cutting position.
- Release park brake lever, and exit mower.
- While pushing on front or rear of mower, roll the mower off of the skid.

TO DRIVE THE MOWER OFF OF THE SKID (See Operation section for location and function of controls)



WARNING

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

- Be sure all of the above assembly steps have been completed.
- Check engine oil level and fill fuel tank with gasoline.
- Place the EZT (E-Series Zereturn Transaxle) bypass linkages into the drive position (See "TRANSPORT" in the **OPERATION** section of this manual).
- Sit on the seat in the operating position, set the park brake lever to the on or engaged position.
- Rotate the control levers outward into the neutral slot.
- Press forward on the deck lift pedal to raise the deck into the highest cutting position.
- Place the throttle control into the choke position.
- Insert ignition key (can be found in the parts/owners manual bag) start the engine, allow engine to warm, move the throttle control to the idle position.
- Release or disengage the park brake.
- Move the control levers into the operate position.
- Slowly move the control levers forward and slowly drive the mower off of the skid.
- Return the control levers back to the neutral position.
- Apply the park brake.
- Turn the ignition key to the "OFF" position.

ASSEMBLY

CHECK THE TIRE PRESSURE

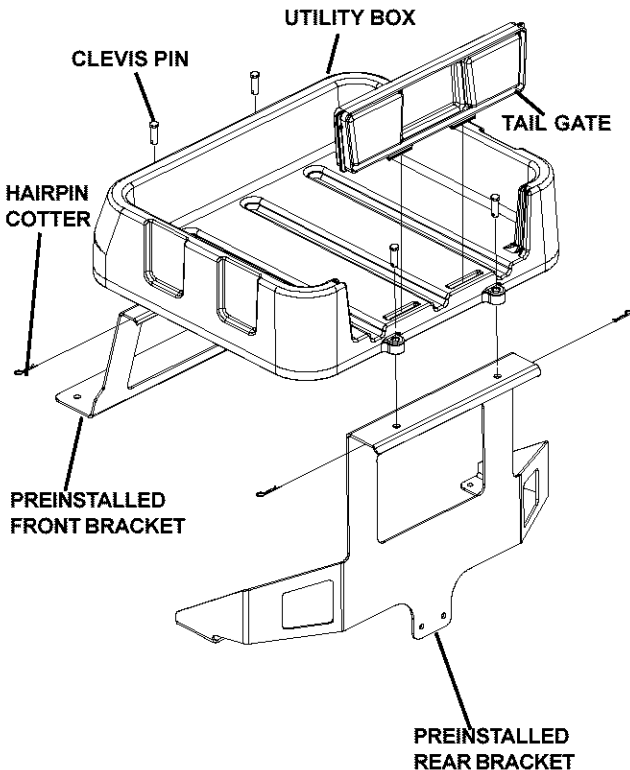
Correct tire pressure is important for best cutting performance and proper straight-line tracking.

- Check the tire pressure and adjust accordingly. Refer to the "SPECIFICATIONS" section in this manual.

UTILITY BOX INSTALLATION

- Place utility box onto factory preinstalled brackets.
- Insert clevis pins through holes in utility box and brackets as shown.
- Insert hairpins through holes in clevis pins.
- Install tail gate into grooves in utility box, until seated.

NOTE: No riders and weight limited to less than 50 lbs.



CHECKLIST

PLEASE REVIEW THE FOLLOWING CHECKLIST

- All assembly instructions have been completed
- No remaining loose parts in crate or parts bag(s)
- Seat is adjusted properly and securely fastened
- All tires are properly inflated
- Check wiring. See that all connections are still secure, and wires are properly clamped.
- Before driving the mower, be sure the EZT(E-Series Zeroturn Transaxle) bypass linkages are in the drive position.

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

- Engine oil is at proper level
- Fuel tank is filled with fresh, clean, regular unleaded gasoline. Check your engine manual for fuel requirements.
- Become familiar with all controls – their location and function. Operate them before you start the engine.
- Become familiar with unit operation on a flat and level area with the mower deck (blade PTO disengaged) shut off and engine at idle speed or partial throttle.
- Be sure the brake system is in a safe operating condition. If adjustment is needed see Service and Adjustment section.

OPERATION

CONTROLS

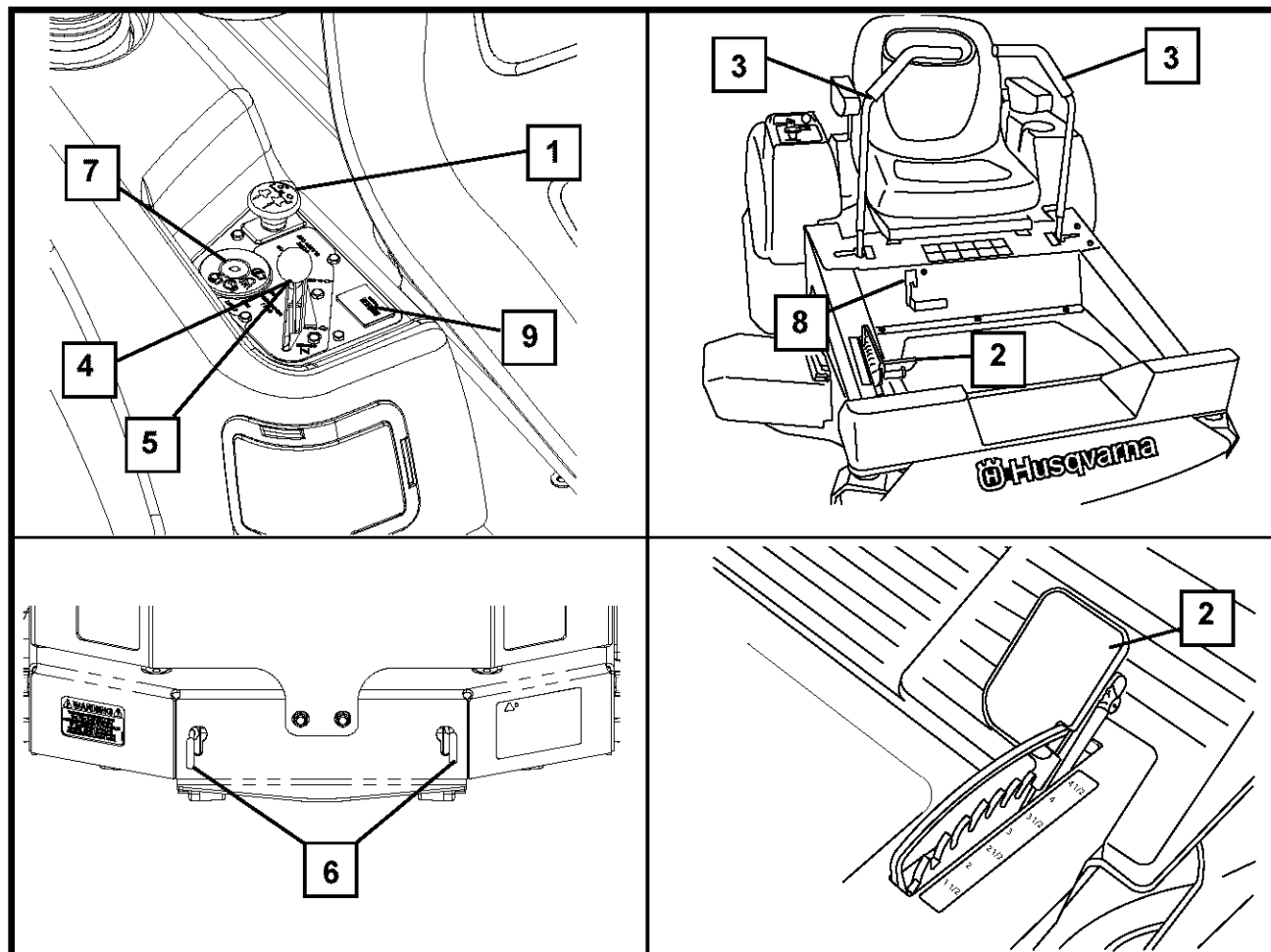


FIGURE 3

- 1. PTO SWITCH** – Used to engage (blades ON) or disengage (blades OFF) the deck blades.
- 2. FOOT PEDAL** – Used to raise, lower and select various cutting heights of the deck.
- 3. CONTROL LEVERS** – In the outward position, levers are in the neutral position. When pulled inward and pushed forward, this controls the forward movement and what speed the mower travels. The farther forward you push, the faster the mower will go. When control levers are pulled back, this controls the reverse movement and at what speed the mower travels. The farther you pull back, the faster the mower will go. By combining the forward and backwards movement of the control levers, you can execute a turn or a zero-turn.
- 4. THROTTLE CONTROL** – Used to control engine speed, from slow (idle) to fast (full throttle).
- 5. CHOKE CONTROL** – Used when starting a cold engine, when throttle control is pushed beyond the fast (full throttle) stop.
- 6. EZT (E-Series Zeroturn Transaxle) BYPASS LINKAGES** – Allows for pushing or pulling of mower.
- 7. IGNITION SWITCH** – Switch has four positions, Off (start), Run with headlights (headlights may be optional), Run (headlights off) and Start (cranks engine).
- 8. PARKING BRAKE LEVER** – Engages (brake on) brake when in upper detent position and disengages (brake off) brake when in the lower position.
- 9. HOUR METER** – Black background with white numbers indicates hours of operation. White background with black numbers indicates tenths of hours.

OPERATION

HOW TO USE YOUR MOWER

First time users should push mower (see TO TRANSPORT) to an open, flat area, with no other persons or vehicles/obstacles near by.

DO NOT start unit until you have read this section.

Check to make sure bypass rods are in the drive position (see TO TRANSPORT) (see FIGURE 3, ITEM 6).

Operator **MUST** sit in seat.

Your mower is equipped with an operator presence system. When the engine is running, any attempt by the operator to leave the seat without first setting the park brake and placing control levers in the neutral position (outward) will shut off the engine.

Control levers **MUST** be placed in the neutral position (outward (see FIGURE 3, ITEM 3).

Place parking brake in the engaged (brake on) position by pulling upwards on brake handle, then slide to the left (see FIGURE 3, ITEM 8).

Make sure blades are disengaged by pushing down on the PTO switch (see FIGURE 3, ITEM 1).

TO USE THROTTLE CONTROL (See Fig. 3, Item 4)

Once operator has become familiar with mower operation and driving characteristics, make sure mower is always operated at full throttle when mowing. To obtain full throttle, slide the throttle control lever as far forward as it will go, you should feel a hard stop. To vary the engine speed, slide throttle control lever forward and backwards to obtain the desired engine speed.

TO USE CHOKE CONTROL (See Fig. 3, Item 5)

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

- To choke, slide throttle control forward and to the right making sure it is in the full choke position.

- To take out of choke position, pull back on the throttle control until it clicks in the fast position. Once engine warms, set at desired speed by sliding throttle control back and forth.

BEFORE STARTING THE ENGINE CHECK ENGINE OIL LEVEL

- The engine in your mower has been shipped from the factory, already filled with 10W-30 motor oil.
- Check engine oil with the mower on level ground.
- Refer to your Engine Owners Manual for correct oil level.
- To change engine oil, see the Customer Responsibilities section of this manual.

ADD GASOLINE

- Fill fuel tank. 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 ensure 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.



CAUTION

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. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel the next season. See Storage Instructions for additional information. Never use engine or carburetor cleaners in the fuel tank or permanent damage may occur.

OPERATION



WARNING

Fill to bottom of filler neck. Do not over fill. Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

TO START ENGINE (See Fig. 3)

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

- Be sure EZT (E-Series Zereturn Transaxle) bypass linkages are in the drive position.
- Sit on the seat in the operators position, make sure park brake lever is engaged (brake on) position (see FIGURE 3, ITEM 8).
- Check to be sure the PTO switch is disengaged or in the down position (see FIGURE 3, ITEM 1).
- Move the throttle control to the choke position, if required (see FIGURE 3, ITEM 5).
- For a warm engine start, the choke control may not be needed

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

- Insert key into the ignition and turn the key clockwise to "START" position and release the key as soon the engine starts. Do not run the starter continuously for more than 15 seconds per minute. If the engine does not start after several attempts, push the throttle control into the choke position, wait a few minutes and try again. If the engine still does not start, move the throttle control back into the fast position and retry.

WARM WEATHER or WARM ENGINE STARTING (50° F and above)

- Engine may start without the need for choke.
- Attempt to start with throttle control set at the full throttle (fast) position.
- Allow engine to run at full throttle for approximately one minute, before attempting to engage the blade PTO switch (blades on) by pulling up (see FIGURE 3, ITEM 1).

- If the engine does not accept the load from engaging the PTO, restart the engine and allow it to warm up for an additional minute or so, using the choke if required.

COLD WEATHER or COLD ENGINE STARTING (50° F and below)

- Slide throttle control lever to the choke position by pushing forward and to the right. make sure throttle control lever is in the full choke position.
- When the engine starts, slowly pull the throttle control back until the engine begins to run smoothly. Continue to pull back on the throttle control in small steps allowing the engine to accept small changes in speed and load, until the throttle control is completely in the fast position. If the engine starts to run roughly, press the throttle control back forward to choke the engine for a few seconds. Then continue to pull the throttle control back slowly to the fast position. This may require an engine warm up period from several seconds to several minutes, depending on the temperature.



WARNING

Always stop mower completely before leaving the operators position; to empty a grass catcher, etc.

TO STOP ENGINE

- Move throttle control to slow position.

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

- Turn ignition key to "OFF" position and remove key. Always remove key when leaving the mower to prevent unauthorized use.
- Never use choke to stop engine.

IMPORTANT: LEAVING THE IGNITION SWITCH IN ANY POSITION OTHER THAN "OFF" WILL CAUSE THE BATTERY TO BE DISCHARGED, (DEAD).

OPERATION

TO MOVE FORWARD AND BACKWARD (See Fig. 4)

NOTE: Zero turn mowers are far more maneuverable than typical riding mowers due to their unique steering capabilities.

We recommend that this section be reviewed in its entirety prior to attempting to move mower under its own power.

Additionally, we suggest when first operating mower, use a reduced throttle speed and reduced ground speed by NOT moving control levers to the furthest forward or reverse positions during initial operation, or until operator becomes comfortable with controls.

We also suggest first time users, or new users to ZeroTurn mowers become familiar with the mowers movement on a hard surface, such as concrete or blacktop PRIOR to attempting to operate on turf. Until operator becomes comfortable with mower controls and zero turning capability, they may damage turf due to over aggressive maneuvers.

The direction and speed of the mowers movements is effected by the movement of the control lever(s) on each side of mower.

The left control lever controls the left EZT (e-Series Zereturn Transaxle) wheel motor. the right control lever controls the right EZT wheel motor.

IMPORTANT: CONTROL LEVERS RETURN TO NEUTRAL WHEN RELEASED. THIS MAY CAUSE A SUDDEN STOP OF THE MOWER.

First time users should push mower (see TO TRANSPORT) to an open, flat area, with out other persons or vehicles/obstacles near by.

In order to move unit under its own power, the operator must be in the seat, start engine (see START ENGINE), adjust engine speed to idle, disengage park brake, do not engage (turn on) blades at this time, rotate control levers outward. As long as the control levers have not been moved forward or backwards, mower will

not move. Slowly move both control levers forward slightly, this will allow mower to start moving forward in a straight line. Pull back on control levers to the neutral position and mower should stop moving. Pull back slightly on control levers, this will allow mower to start moving backwards or in the reverse direction. Push forward on control levers to the neutral position and mower should stop moving. Figures 4 and 4A.

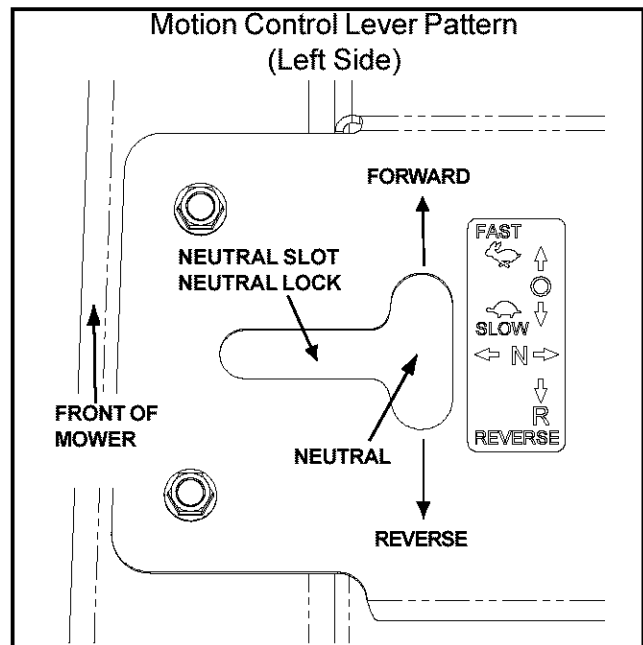


FIGURE 4

To **turn to the right** while moving in a forward direction, pull the right lever back towards the neutral position while maintaining the position of the left lever, this will slow the rotation of the right wheel and cause the machine to turn in that direction.

To **turn to the left** while moving in a forward direction pull the left lever back towards the neutral position while maintaining the position of the right lever, this will slow the rotation of the left wheel and cause the machine to turn in that direction.

To **zero turn** while moving in a forward direction, first pull both control levers back until the mower stops or slows dramatically. Then by alternating one lever slightly to the forward position and the other in the reverse position.

OPERATION



CAUTION

Attempting to zero turn at too high a ground speed may result in **TURF DAMAGE** due to the wheel spinning or slippage. The unit should always be brought to a very slow or stopped position prior to zero turning.

Use extra care when using this maneuver the machine can spin very rapidly if one lever is positioned too far ahead of the other.



CAUTION

DO NOT apply excessive force to control levers or use to assist in dismounting unit. Misuse will result in bent control levers.

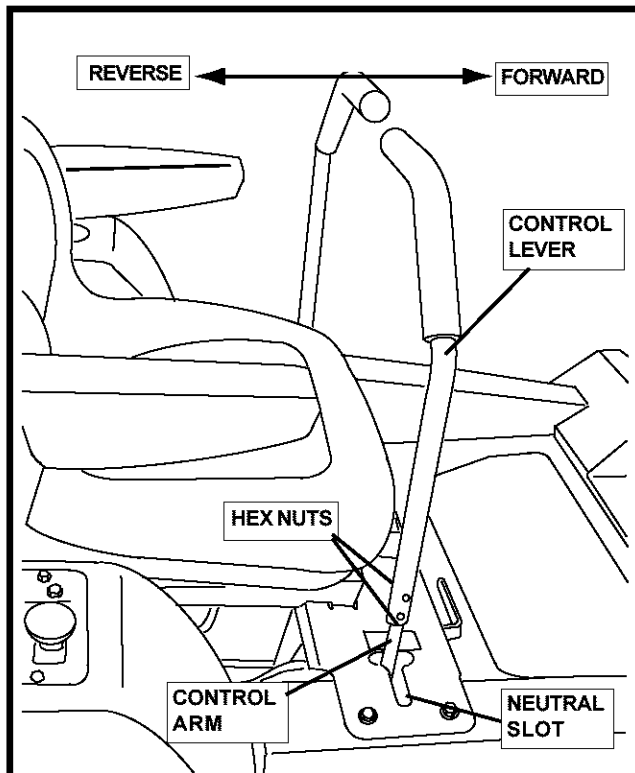


FIGURE 4A

TO ADJUST THE DECK CUTTING HEIGHT (See Fig. 5)

The deck cutting height is obtained by pressing the foot pedal forward to lift the deck. To lower the deck, you apply pressure to the top side of the foot pedal and allow it to pivot while allowing the lift arm to rotate to the rear of the mower. To stop in a desired cutting position, rotate the foot pedal down into the notch in the height plate. The cutting height range is from 1 1/2" to 5" in 1/2" increments. The heights are measured from the ground up to the blade tip with the engine not running.

- The average lawn should be cut to 2 1/2" during the cool season and to over 3" during the 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 the desired height.

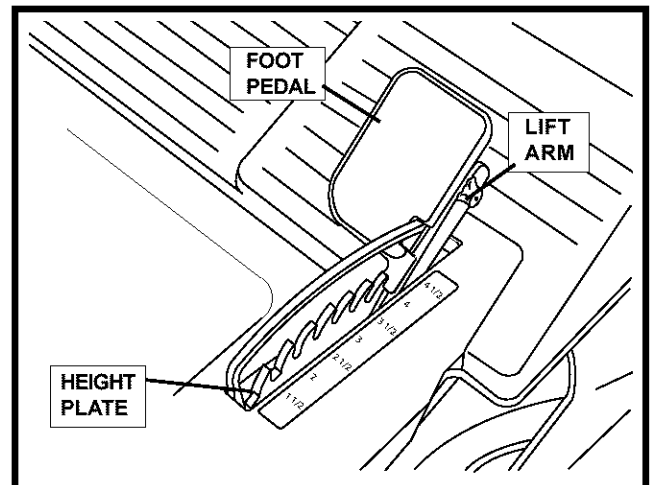


FIGURE 5

OPERATION

TO OPERATE ON HILLS



WARNING

Do not drive up or down hills with slopes greater than 10 degrees. And do not drive across any slopes.

- The slowest speed possible should be used before starting up or down hills.
- Avoid stopping or changing speed on hills.
- If stopping is absolutely necessary, pull drive levers into the neutral position and push to the outside of the unit and engage the park brake.
- To restart movement, release the park brake.
- Pull the control levers back to the center of the mower and press forward to regain forward motion.
- Make all turns slowly.

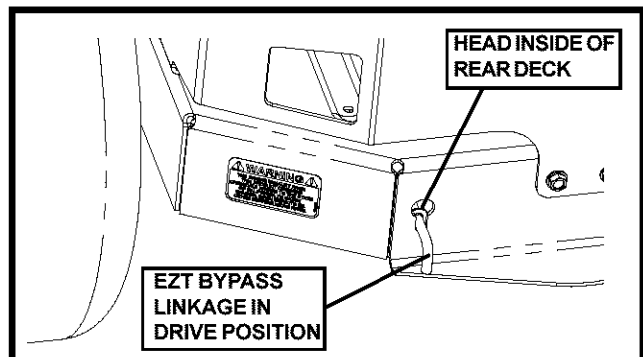


FIGURE 6

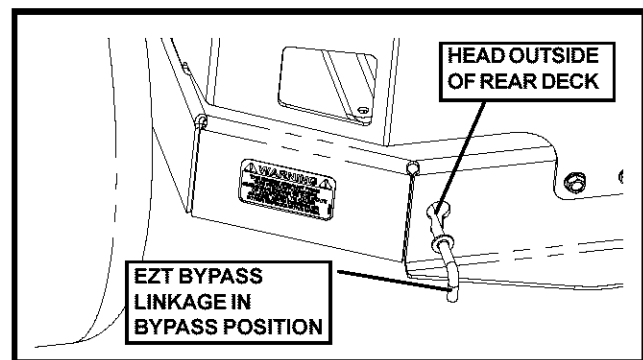


FIGURE 6A

TO TRANSPORT (See Figures 6 & 6A)

When pushing or pulling the mower, be sure to engage the EZT (E-Series Zeroturn Transaxle) bypass linkages. The EZT bypass linkages are located on the rear of the frame, below the rear engine guard.



CAUTION

Do not tow this vehicle, it may cause damage to the drive system.

- Raise the deck into the highest cutting position.
- Pull the EZT bypass linkages out and into the slots and release so that it is held in the bypass position.
- To reengage the EZT's to drive, reverse the above procedure.

OPERATION

TO OPERATE MOWER

Your mower is equipped with an operator presence system. When the engine is running, any attempt by the operator to leave the seat without first setting the park brake will shut off the engine.

- Select desired height of cut.
- Start deck blades by pulling the PTO switch up into the engaged position.
- To stop the deck blades, press down on the PTO Switch into the disengaged position.

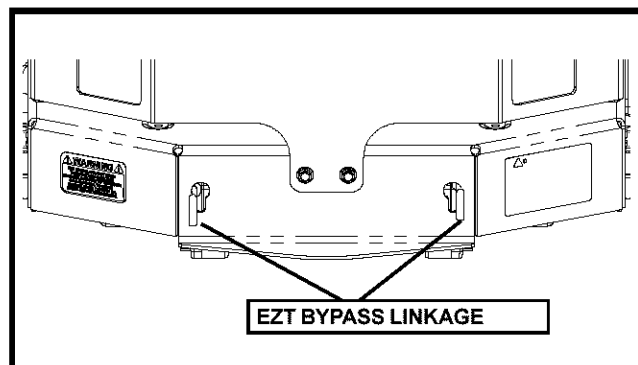
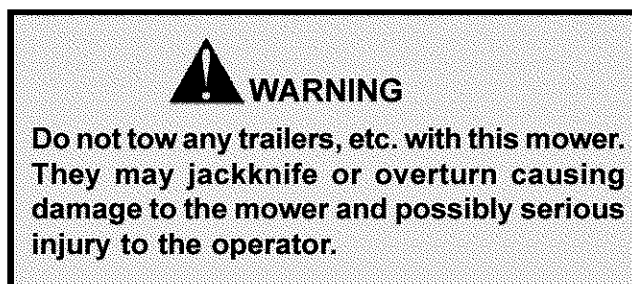
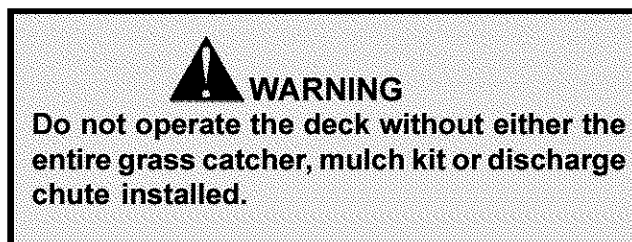


FIGURE 6B

MOWING TIPS

- The cutting deck should be properly leveled for best mowing performance. See "TO LEVEL DECK" in the Service and Adjustment section of this manual.
- The left hand side of the deck 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 mower. This will result in more even distribution of clippings and a more uniform cut.
- 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; second to desired height.
- Do not mow grass when it is wet. Wet grass will plug the deck 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 going slow enough to allow proper deck 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.

CUSTOMER RESPONSIBILITIES

MAINTENANCE SCHEDULE							
	Before each use	EVERY					Before Storage
		8 Hours	25 Hours	50 Hours	100 Hours	Season	
Check Brake Operation	X	X					
Check Tire Pressure	X	X					
Check Operator Presence and Interlock Systems	X						
Check for Loose Fasteners	X				X		X
Sharpen/Replace mower Blades			X ³				
Lubrication Chart			X				X
Check Battery Level			X ⁴				
Clean Battery and Terminals			X				X
Check V-Belts					X		
Check Engine Oil Level	X	X					
Change Engine Oil (with oil filter)				X ^{1, 2}			X
Change Engine Oil (without oil filter)			X ^{1, 2}				X
Clean Air Filter			X ²				
Clean Air Screen			X ²				
Inspect Muffler/Spark Arrester				X			
Clean Engine Cooling Fins					X ²		
Replace Spark Plug					X	X	
Replace Air Filter Paper Cartridge					X ²		
Replace Fuel Filter						X	

- 1 - change more often when operating under a heavy load or in high ambient temperatures. 3 - Replace blades more often when mowing in sandy soil.
 2 - Service more often when operating in dirty or dusty conditions. 4 - Not required if equipped with maintenance-free battery.

GENERAL RECOMMENDATIONS

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

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

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

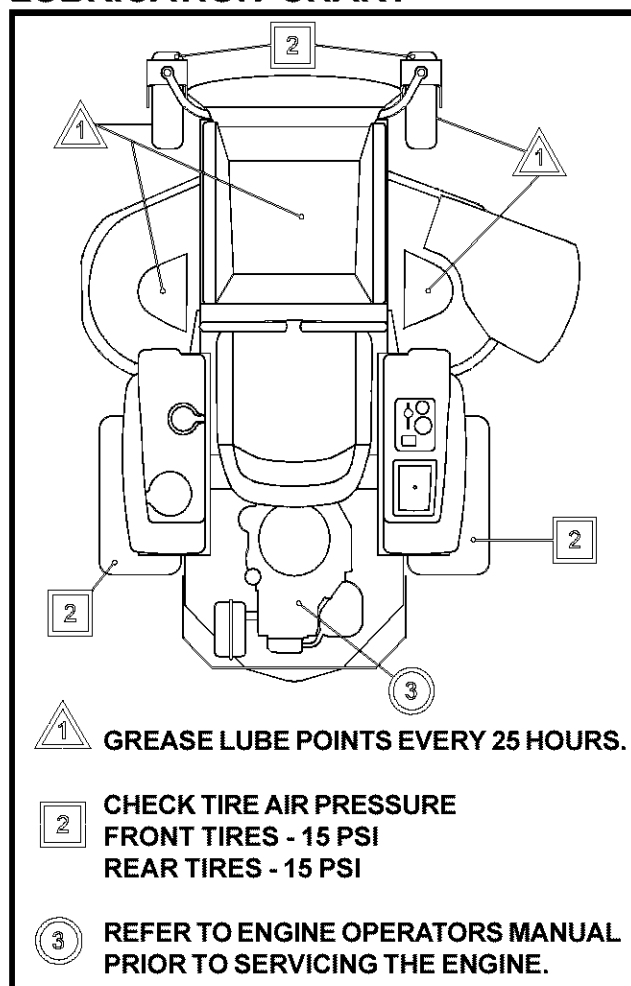
- Once a year you should replace the spark plug, clean or replace air filter, and check blades and belts for wear. A new spark plug and clean air filter assure proper air-fuel mixture and help your engine run better and last longer.

BEFORE EACH USE

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

CUSTOMER RESPONSIBILITIES

LUBRICATION CHART



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.

TIRES

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

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

OPERATOR PRESENCE SYSTEM

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

- The engine should not start unless the parking brake is engaged, the PTO switch is disengaged (pressed down), the operator is on the seat, and the control levers are rotated to the outside of the mower.
- When the engine is running, any attempt by the operator to leave the seat without first setting the park brake should shut off the engine.
- When the engine is running and the PTO switch is engaged, any attempt by the operator to leave the seat without first disengaging the PTO switch, should shut off the engine.
- When the engine is running and the control levers are rotated in, any attempt by the operator to leave the seat without rotating the control levers out, should shut off the engine.
- The PTO switch should never engage without the operator on the seat.

BLADE CARE

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

BLADE REMOVAL (See Fig. 7)

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

- Remove blade bolt by turning counterclockwise.
- Install new or re-sharpened blade with stamped "GRASS SIDE" facing towards ground/grass (down).

CUSTOMER RESPONSIBILITIES

IMPORTANT: TO ENSURE PROPER ASSEMBLY, CENTER HOLE IN BLADE MUST ALIGN WITH STAR ON CUTTER HOUSING.

- Install and tighten blade bolt securely (27-35 ft./lbs. torque).

IMPORTANT: SPECIAL BLADE BOLT IS HEAT TREATED.

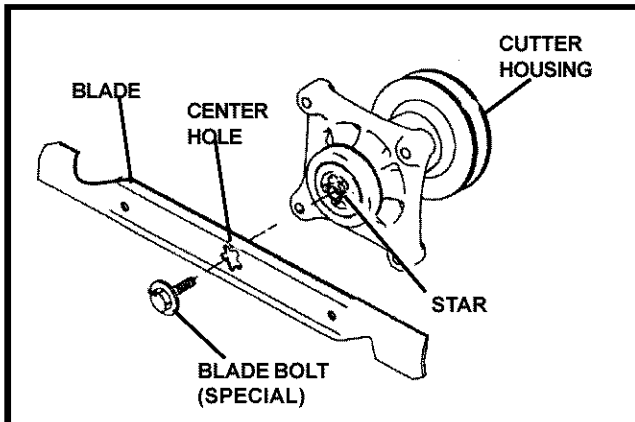


FIGURE 7

TO SHARPEN BLADE (See Fig. 8)



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

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

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

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

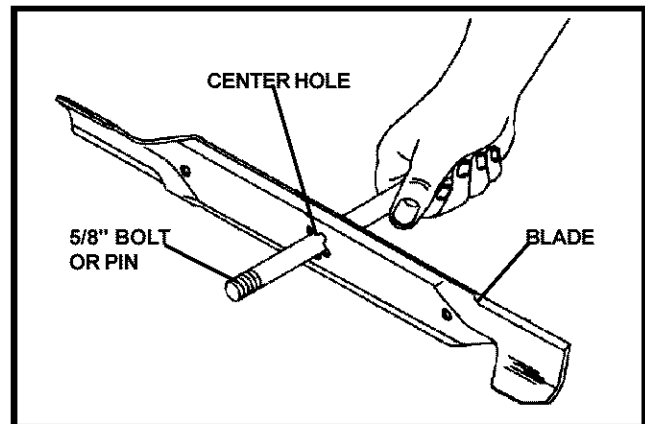


FIGURE 8

BATTERY

Your mower is equipped with a maintenance free battery and does not need servicing. However, periodic charging of the battery with an automotive type battery charger will extend its life.

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

CUSTOMER RESPONSIBILITIES

NOTE: Do not attempt to open or remove caps or covers. Adding or checking level of electrolyte is not necessary.

TO CLEAN BATTERY AND TERMINALS

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

- Remove terminal guard.
- Disconnect BLACK battery cable first, then the RED battery cable and remove the battery from the tractor.
- Rinse the battery with plain water and dry.
- Clean terminals and battery cable ends with wire brush until shiny.
- Coat terminals with grease or petroleum jelly
- Reinstall battery (See “REPLACING BATTERY” in the SERVICE AND ADJUSTMENT section of this manual).

V-BELTS

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

ENGINE

LUBRICATION

Refer to you Engine Owners Manual

TO CHANGE ENGINE OIL (See Figs. 9). Determine temperature range expected before oil change. All oil must meet API service classification SF-SJ.

- Be sure the mower is on a 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.

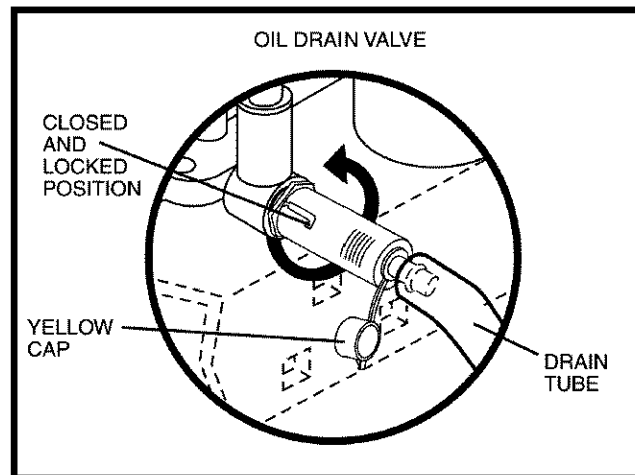


FIGURE 9

- Unlock drain valve by pushing inward and turning counterclockwise.
- To open, pull out on the drain valve.
- After the 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 (Figure 9).
- Remove the drain tube and replace the cap onto the bottom fitting of the drain valve.
- Refill engine with oil through the oil fill dipstick tube. Pour slowly. Do not overfill. For approximate capacity see “ENGINE MANUAL”.
- Use gauge on oil fill cap/dipstick for checking level. Insert dipstick into the tube and rest the oil fill cap on the tube. Do not thread the cap onto the tube when taking reading. Keep oil at “FULL” line on dipstick. Tighten cap onto the tube securely when finished.

CUSTOMER RESPONSIBILITIES

CLEAN AIR SCREEN

Air screen must be kept free of dirt and chaff to prevent engine damage from overheating. Refer to your engine manual for the proper cleaning procedure.

CLEAN AIR INTAKE/COOLING AREAS

To insure proper cooling, make sure the grass screen, cooling fins, and other external surfaces of the engine are kept clean at all times.

Every 100 hours of operation (more often under extremely dusty, dirty conditions), remove the blower housing and other cooling shrouds. Clean the cooling fins and external surfaces as necessary. Make sure the cooling shrouds are reinstalled.

NOTE: Operating the engine with a blocked grass screen, dirty or plugged cooling fins, and/or cooling shrouds removed will cause engine damage due to overheating.

AIR FILTER

Your engine will not run properly using a dirty air filter. Service air cleaner more often under dusty conditions. See Engine Manual.

ENGINE OIL FILTER

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

SPARK PLUGS

Replace spark plugs at the beginning of each mowing season or after every 100 hours of operation, whichever occurs first. For spark plug type and gap setting refer to your ENGINE OWNER'S MANUAL.

IN-LINE FUEL FILTER (See Fig. 10)

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

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

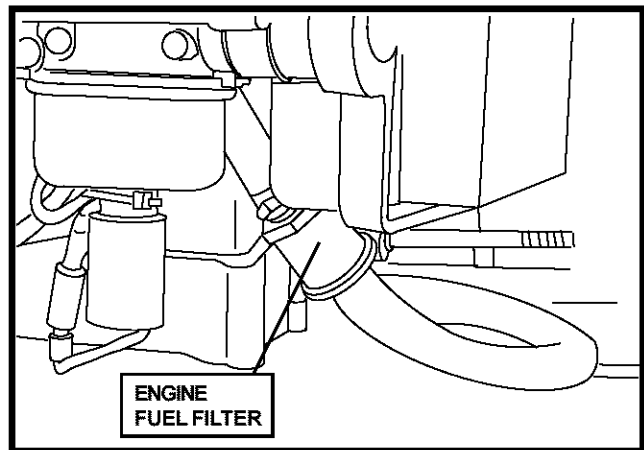


FIGURE 10

CLEANING

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

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

SERVICE AND ADJUSTMENT



WARNING

BEFORE PERFORMING ANY SERVICE OR ADJUSTMENTS:

- Set park brake to engaged position.
- Place PTO switch in the disengaged position (pressed down).
- Turn ignition key "OFF" and remove the key.
- Make sure the blades and all moving parts have completely stopped.
- Disconnect spark plug wire from spark plug and place the wire where it cannot come in contact with the plug.

- Recheck measurements after adjustment.

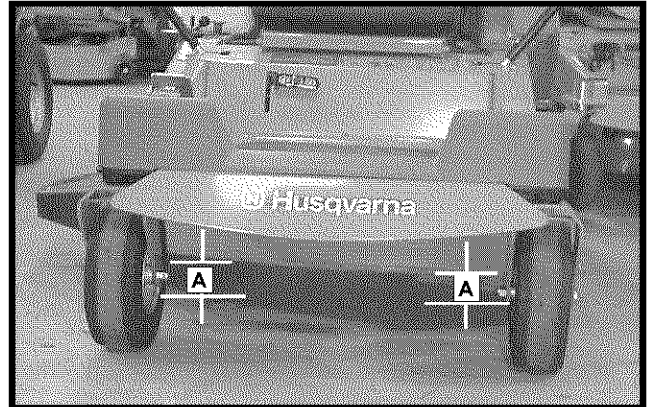


FIGURE 11

MOWER

TO LEVEL DECK

Adjust the deck while the mower is on a level surface. Make sure the tires are inflated to the correct pressure (see "SPECIFICATIONS" section in this manual). If tires are under or over inflated, you can not properly adjust your deck.

SIDE-TO-SIDE ADJUSTMENT (See Figs. 11 and 12)

- Raise the deck into the highest cutting position (4")
- Measure height from the bottom edge of the deck to the ground at both front corners. Distance "A" should be the same, or within 3/16 of an inch.
- If adjustment is necessary, make adjustment to one side of the deck only
- Remove the hairpin from the top pin and the bottom clevis pin. Push bottom clevis pin through deck lift connector while supporting deck. Adjust by moving the deck lift connector to a new bottom hole to lower or raise that specific corner of the deck. You may need to flip the deck connector plate to insure proper clearance between deck connector plate and yoke

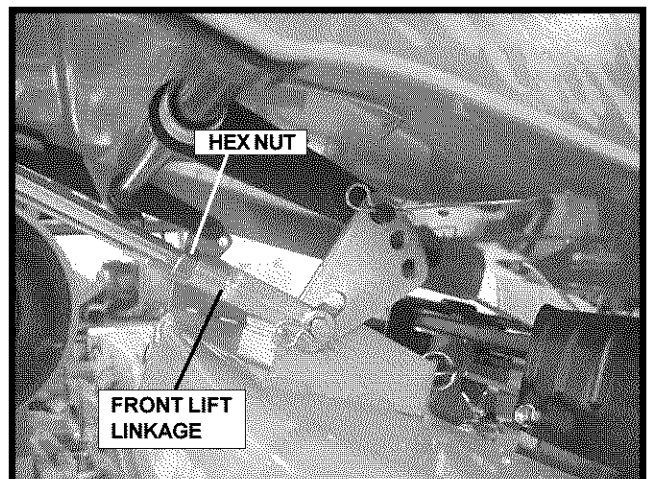


FIGURE 12

SERVICE AND ADJUSTMENT

FRONT-TO-BACK ADJUSTMENT (See Fig. 13).

IMPORTANT: DECK MUST BE LEVELED SIDE-TO-SIDE, PRIOR TO LEVELING FRONT TO REAR. IF THE FOLLOWING FRONT TO BACK ADJUSTMENT IS REQUIRED, BE SURE TO ADJUST BOTH FRONT AND REAR LINKAGES EQUALLY SO THE DECK WILL STAY LEVEL SIDE TO SIDE.

To obtain the best cutting performance, the deck should be adjusted so the front tip of the blades are approximately 1/8" to 1/4" lower than the rear tip. If the front tip is higher, this will create a poor quality of cut.

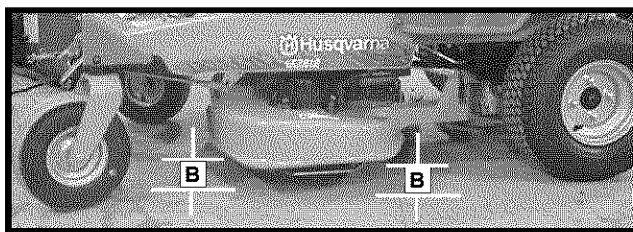


FIGURE 13

 **WARNING**

Blades are sharp. Protect your hands with gloves and/or wrap blades with a heavy cloth when handling.

Check blade height with blade facing front to rear. Measure distance "B" at the front and rear tip of the blade.

- Before making any necessary adjustments, check to make sure that the deck is level side-to-side.
- With the deck in the 4" cutting position, measure the front and rear tip of each blade while facing front to rear.
- To adjust loosen the jam nut on the yoke, remove the hairpin and push the clevis pin out while supporting the deck. To lower that specific corner, lengthen the rod assembly by turning the yoke counter clockwise. To raise that specific corner, shorten the rod assembly by turning the yoke clockwise.
- Reinstall clevis pin and recheck dimension.
- Once front to back adjustment is correct, reinstall hairpins and secure jam nuts.

TO REPLACE DECK BELT

DECK BELT REMOVAL (See Fig. 14)

- Park on a level surface. Apply park brake.
- Lower the deck into the lowest cutting position
- Disengage belt tension by pushing inward on deck belt idler pulley by hand or with a 1/2" drive ratchet placed in square drive hole on idler arm, While arm is pushed inward, remove belt from stationary idler pulley and release idler arm slowly until spring force is no longer felt.
- Remove bolt from idler pulley. this will allow belt to pass by the belt guide.

 **WARNING**

Idler arm is spring loaded. Have a tight grip on idler arm or ratchet and release slowly.

- Loosen screws from both left and right plastic belt shield above each mandrel housing. Remove shields
- Remove any dirt or grass that may have accumulated around the cutter housings and entire deck surface.
- Carefully roll the belt over the top of the cutter housing pulleys.
- Remove the belt from around the electric clutch on the engine shaft.
- The belt can now be removed.

SERVICE AND ADJUSTMENT

TO REPLACE EZT (E-Series Zeroturn Transaxle) BELT (See Fig. 15)

Park the mower on a level surface. Engage the park brake.

DECK BELT INSTALLATION (See Figs. 14)

NOTE: For ease in installing the deck belt, refer to the routing decal under the seat.

- Wrap the deck belt around the electric clutch pulley that is located on the engine shaft.
- Route the belt forward between the EZT (E-Series Zeroturn Transaxles) and up onto the deck.
- Place belt around spring loaded idler pulley, between the pulley and guide. Secure bolt and nut.
- Starting on the right hand side of the deck, wrap the belt around the stationary idler pulley, the right mandrel housing, then around to the left mandrel housing.
- Push inward on the idler arm and carefully route belt over stationary idler pulley. Once belt is properly routed, slowly release idler arm to tension belt.
- Double check belt routing to make sure it matches the routing decal, and the belt does not have any twist. Correct as needed.
- Replace belt shields on both mandrel housings and secure with fasteners.

EZT BELT REMOVAL

NOTE: Be careful not to damage the fan blades on the EZT's as this can affect cooling or damage the EZT's

- Remove the deck belt (see "TO REPLACE DECK BELT" in this section of the manual).
- Unplug clutch from wiring harness. Remove bolt from center of clutch and slide clutch off of engine shaft.
- Create slack in the belt by removing the spring on the pump idler arm.
- The belt should now be able to be removed from the engine pulley and EZT pulleys.

BELT INSTALLATION

- Wrap the EZT belt around the EZT pulleys
- Route the belt around the inside of the idler pulley.
- Now you can wrap the belt around the engine pulley.
- Reattach the spring on the pump idler arm.
- Install clutch on to engine shaft (pulley side down) make sure key is installed and align the clutch anti rotation tab into slot on clutch. Secure clutch, install wire.
- Reinstall the deck belt onto the electric clutch belt (see "TO REPLACE DECK BELT" in this section of the manual).

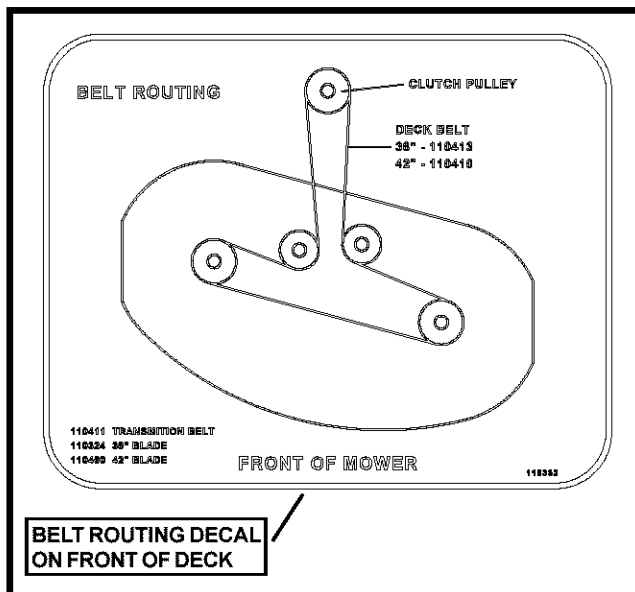


FIGURE 14

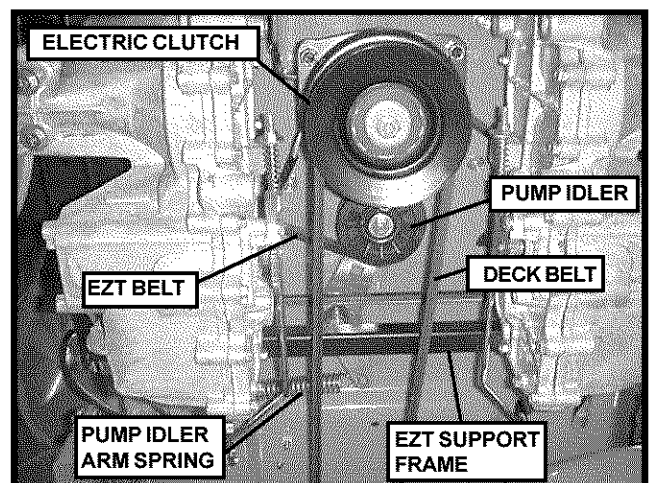


FIGURE 15

SERVICE AND ADJUSTMENT

TO ADJUST THE SEAT (See Fig. 1)

- Move the control levers into the neutral position and rotate to the outside of the machine.
- Lift up on the back of the seat and rotate it forward.
- Loosen the three prong knobs on the bottom of the seat and move the seat to the desired position.
- Tighten the three prong knobs and rotate seat back to the operating position.

TO ADJUST CONTROL LEVER HEIGHT (See Fig. 2)

Sitting in the seat, in the operators position, pull both control levers inward. If control levers are too tall or too close to operators legs, follow the instructions below for adjustment.

- Using a 7/16" wrench or socket with drive ratchet, remove the four 1/4" bolts retaining the control levers.
- Slide the control levers either up or down to the desired height, align holes and reinstall 1/4" bolts.
- Secure bolt by tightening with 7/16" wrench or socket with drive ratchet.

TO REMOVE WHEELS FOR REPAIR

FRONT CASTER TIRES

- Park mower on a level surface and apply park brake.
- Jack up the front end of the mower.
- Place jack stand under front of mower
- Using a 3/4" wrench and/or socket w/ drive ratchet, remove hex nut and hex bolt from the caster fork.
- Remove the tire from the fork.

- Remove the spacer from the inside of the caster rim.
- Repair tire
- Reassemble in the reverse order of the previous steps.

REAR TIRES

IMPORTANT: Block front tires to prevent the mower from rolling.

- Park mower on a level surface and apply park brake.
- Jack up the rear end of the mower on the side of the damaged tire.
- Place jack stand under rear of mower
- Remove 4 lug nuts to allow wheel removal
- Repair tire.
- Reassemble in reverse order of previous steps

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

TO START AN ENGINE WITH A WEAK BATTERY



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 Customer Responsibilities section of this manual).

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

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

SERVICE AND ADJUSTMENT

TO ATTACH JUMPER CABLES

- Connect each end of the RED cable to the POSITIVE (+) terminal on each battery, taking care not to short against chassis.
- Connect one end of the BLACK cable to the NEGATIVE (-) terminal of the fully charged battery.
- Connect the other end of the BLACK cable to a good CHASSIS GROUND, away from the 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.

- Connect BLACK grounding cable to negative (-) battery terminal with remaining hex bolt and hex nut.
- Tighten securely.
- Close terminal access doors.
- Lower seat.

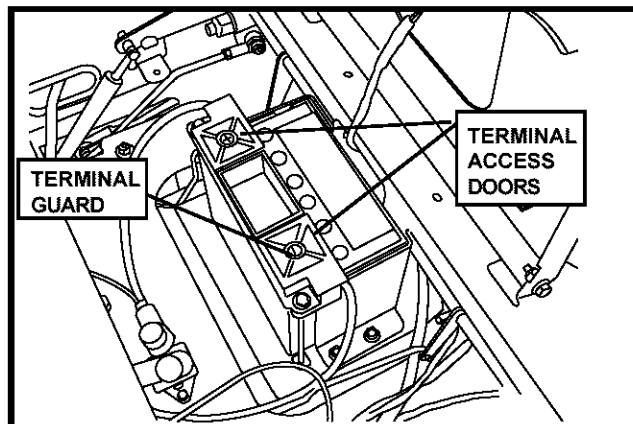


FIGURE 16

REPLACING BATTERY (See Fig. 16)



WARNING

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

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

- Lift Seat and rotate forward.
- Open terminal access doors.
- Using two 1/2" wrenches disconnect BLACK battery cable then RED battery cable.
- Using 7/16" wrench, remove terminal guard.
- Carefully remove the battery from the mower.
- Install new battery with terminals in the same position as the old battery.
- Reinstall terminal guard
- First connect RED battery cable to positive (+) battery terminal with hex bolt and hex nut.

TO ADJUST PARK BRAKE

In the disengaged position, the brake arms should clear the brake sprocket slightly. If they do not, remove some tension by turning adjuster nut counter clockwise. Once clearance is established in the disengaged position, engage the brake by lifting the brake arm up and sliding to your left into the slot.

Check to make sure teeth in brake arm are engaged with teeth in brake sprocket.

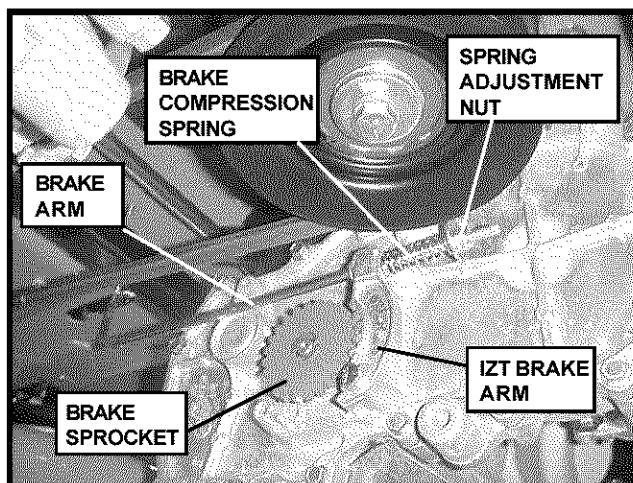


FIGURE 17

SERVICE AND ADJUSTMENT

TRACKING ADJUSTMENT

If the mower is not tracking straight, check the air pressure in all four tires. Recommended air pressure for all 4 tires is 15 psi. If the unit will not track straight, follow the steps below. Tracking must be checked on a flat and level concrete or blacktop surface.

- **Mower is tracking to the right.** Increase the air pressure 2-3 psi in the right rear tire or decrease the air pressure 2/3 psi in the left rear tire.
- **Mower is tracking to the left.** Increase the air pressure 2-3 psi in the left rear tire or decrease the air pressure 2/3 psi in the right rear tire.

Recheck tracking and keep making adjustments with the tire pressure until the unit tracks straight. DO NOT exceed maximum recommended tire pressure 24 psi.

Record the tire pressure for future reference.

STORAGE

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



MOWER

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

BATTERY

- Fully charge the battery for storage.
- After a period of time in storage, battery may require recharging.
- To help prevent corrosion and power leakage during long periods of storage, battery cables should be disconnected and battery cleaned thoroughly (see "TO CLEAN BATTERY AND TERMINALS" in the Customer Responsibilities section of this manual).

- After cleaning, leave cables disconnected and place cables where they cannot come in contact with battery terminals.
- If battery is removed from mower for storage, do not store battery directly on concrete or damp surfaces.

ENGINE

FUEL SYSTEM

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

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

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

ENGINE OIL

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

STORAGE

CYLINDER(S)

- Remove spark plug(s).
- Pour one ounce of oil through spark plug hole(s) into cylinder(s).
- Install plug(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 mower indoors and cover it to give protection from dust and dirt.
- Cover your mower 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 mower to rust.

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

TROUBLESHOOTING POINTS

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

TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Engine continues to run when operator leaves seat with attachment	<ol style="list-style-type: none"> 1. Faulty operator-safety presence control system. 	<ol style="list-style-type: none"> 1. Check wiring, switches and connections. If not corrected, contact an authorized service center/ department.
Poor cut - uneven	<ol style="list-style-type: none"> 1. Worn, bent or loose blade. 2. Mower deck not level. 3. Buildup of grass, leaves, and trash under mower. 4. Bent cutter housing. 5. Clogged mower deck vent holes from buildup of grass, leaves, and trash around cutter housing. 	<ol style="list-style-type: none"> 1. Replace blade. Tighten blade bolt. 2. Level mower deck. 3. Clean underside of mower housing. 4. Replace cutter housing. 5. Clean around cutter housing to open vent holes.
Mower blades will not rotate	<ol style="list-style-type: none"> 1. Obstruction in clutch mechanism. 2. Worn/damaged mower drive belt. 3. Frozen idler pulley. 4. Frozen cutter housing. 	<ol style="list-style-type: none"> 1. Remove obstruction. 2. Replace mower drive belt. 3. Replace idler pulley. 4. Replace cutter housing.
Poor grass discharge	<ol style="list-style-type: none"> 1. Engine speed too slow. 2. Travel speed too fast. 3. Wet grass 4. Mower deck not level. 5. Low/uneven tire air pressure. 6. Worn, bent or loose blade. 7. Buildup of grass, leaves and trash under mower. 8. Mower drive belt worn. 9. Blades improperly installed. 10. Improper blades used. 11. Clogged mower deck vent holes from buildup of grass, leaves and trash around cutter housing. 	<ol style="list-style-type: none"> 1. Place throttle control in "FAST" position. 2. Shift to slower speed. 3. Allow grass to dry before mowing. 4. Level mower deck. 5. Check tires for proper air pressure. 6. Replace/sharpen blade. Tighten blade bolt. 7. Clean underside of mower housing. 8. Replace mower drive belt. 9. Reinstall blades sharp edge down. 10. Replace with blades listed in this manual. 11. Clean around cutter housing to open bent holes.
Battery will not charge	<ol style="list-style-type: none"> 1. Bad battery cell(s). 2. Poor cable connections. 3. Faulty regulator (if so equipped). 4. Faulty alternator. 	<ol style="list-style-type: none"> 1. Replace battery. 2. Check/clean all connections. 3. Replace regulator. 4. Replace alternator.
Loss of drive	<ol style="list-style-type: none"> 1. EZT bypass linkages in bypass position. 2. EZT belt worn, damaged, or broken. 	<ol style="list-style-type: none"> 1. Place EZT bypass linkages in drive in "engaged" position. 2. Replace EZT belt.
Engine "backfires" when turning engine "OFF"	<ol style="list-style-type: none"> 1. Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine. 	<ol style="list-style-type: none"> 1. Move throttle control to "SLOW" position and allow to idle for 30 seconds before stopping engine.

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