

Cub Cadet.

OPERATOR'S MANUAL



Front Mount Zero Turn Riding Mower With 50" Mower Deck

⚠ WARNING

**READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL
BEFORE ATTEMPTING TO OPERATE THIS MACHINE.
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.**

CUB CADET LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019

Thank You

Thank you for purchasing a Lawn Tractor manufactured by Cub Cadet LLC. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. Cub Cadet LLC reserves the right to change product specifications, designs and equipment without notice and without incurring obligation.

If you have any problems or questions concerning the machine, phone your local Cub Cadet dealer or contact us directly. Cub Cadet's Customer Support telephone numbers, website address and mailing address can be found on this page. We want to ensure your complete satisfaction at all times.

Throughout this manual, all references to *right* and *left* side of the machine are observed from the operating position.

The engine manufacturer is responsible for all engine-related issues with regards to performance, power-rating, and specifications.

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Record Product Information

Before setting up and operating your new equipment, please locate the model plate on the equipment and record the information in the provided area to the right. You can locate the model plate by looking beneath the seat. This information will be necessary, should you seek technical support via our web site or with your local Cub Cadet dealer.

MODEL NUMBER

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SERIAL NUMBER

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Customer Support

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

- ◇ Visit us on the web at www.cubcadet.com
- ◇ Locate your nearest Cub Cadet Dealer at (877) 282-8684
- ◇ Write us at Cub Cadet LLC • P.O. Box 361131 • Cleveland, OH • 44136-0019



WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol. **HEED ITS WARNING!**

CALIFORNIA PROPOSITION 65



WARNING: Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to 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 reproductive harm. *Wash hands after handling*



DANGER: This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This 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.

General Operation

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and should be trained and supervised by an adult.
4. Never allow adults to operate this machine without proper instruction.
5. To help avoid blade contact or a thrown object injury, keep bystanders, helpers, children and pets at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
6. Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones, toys, and other foreign objects which could be picked up and thrown by the blade(s). Thrown objects can cause serious personal injury.
7. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. Also, avoid discharging material against a wall or obstruction which may cause discharged material to ricochet back toward the operator.
8. Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
9. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Loose fitting clothes and jewelry can be caught in movable parts. Never operate this machine in bare feet or sandals.
10. Be aware of the mower and attachment discharge direction and do not point it at anyone. Do not operate the mower without the discharge cover or entire grass catcher in its proper place.
11. Do not put hands or feet near rotating parts or under the cutting deck. Contact with the blade(s) can amputate hands and feet.

12. A missing or damaged discharge cover can cause blade contact or thrown object injuries.
13. Stop the blade(s) when crossing gravel drives, walks, or roads and while not cutting grass.
14. Watch for traffic when operating near or crossing roadways. This machine is not intended for use on any public roadway.
15. Do not operate the machine while under the influence of alcohol or drugs.
16. Mow only in daylight or good artificial light.
17. Never carry passengers.
18. Disengage blade(s) before shifting into reverse. Back up slowly. Always look down and behind before and while backing to avoid a back-over accident.
19. Slow down before turning. Operate the machine smoothly. Avoid erratic operation and excessive speed.
20. Disengage blade(s), set parking brake, stop engine and wait until the blade(s) come to a complete stop before removing grass catcher, emptying grass, unclogging chute, removing any grass or debris, or making any adjustments.
21. Never leave a running machine unattended. Always turn off blade(s), place transmission in neutral, set parking brake, stop engine and remove key before dismounting.
22. Use extra care when loading or unloading the machine into a trailer or truck. This machine should not be driven up or down ramp(s), because the machine could tip over, causing serious personal injury. The machine must be pushed manually on ramp(s) to load or unload properly.
23. Muffler and engine become hot and can cause a burn. Do not touch.
24. Check overhead clearances carefully before driving under low hanging tree branches, wires, door openings etc., where the operator may be struck or pulled from the machine, which could result in serious injury.
25. Disengage all attachment clutches, depress the brake pedal completely and shift into neutral before attempting to start engine.
26. Your machine is designed to cut normal residential grass of a height no more than 10". Do not attempt to mow through unusually tall, dry grass (e.g., pasture) or piles of dry leaves. Dry grass or leaves may contact the engine exhaust and/or build up on the mower deck presenting a potential fire hazard.
27. Use only accessories and attachments approved for this machine by the machine manufacturer. Read, understand and follow all instructions provided with the approved accessory or attachment.
28. 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.
29. If situations occur which are not covered in this manual, use care and good judgment. Contact your customer service representative for assistance.

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.

For your safety, use the slope gauge included as part of this manual to measure slopes before operating this machine on a sloped or hilly area. If the slope is greater than 15 degrees as shown on the slope gauge, do not operate this machine on that area or serious injury could result.

Do:

1. Mow up and down slopes, not across. Exercise extreme caution when changing direction on slopes.
2. Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
3. Use slow speed. Choose a low enough speed setting so that you will not have to stop or shift while on the slope. Tires may lose traction on slopes even though the brakes are functioning properly. Always keep machine in gear when going down slopes to take advantage of engine braking action.
4. Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
5. Use extra care with grass catchers or other attachments. These can change the stability of the machine.
6. Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction. Rapid engagement or braking could cause the front of the machine to lift and rapidly flip over backwards which could cause serious injury.
7. Avoid starting or stopping on a slope. If tires lose traction, disengage the blade(s) and proceed slowly straight down the slope.

Do Not:

1. Do not turn on slopes unless necessary; then, turn slowly and gradually downhill, if possible.
2. Do not mow near drop-offs, ditches or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff, ditch, or if an edge caves in.
3. Do not try to stabilize the machine by putting your foot on the ground.
4. Do not use a grass catcher on steep slopes.
5. Do not mow on wet grass. Reduced traction could cause sliding.
6. Do not shift to neutral and coast downhill. Over-speeding may cause the operator to lose control of the machine resulting in serious injury or death.
7. Do not tow heavy pull behind attachments (e.g. loaded dump cart, lawn roller, etc.) on slopes greater than 5 degrees. When going down hill, the extra weight tends to push the tractor and may cause you to lose control (e.g. tractor may speed up, braking and steering ability are reduced, attachment may jack-knife and cause tractor to overturn).

Children

1. 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. They do not understand the dangers. Never assume that children will remain where you last saw them.
 - a. Keep children out of the mowing area and in watchful care of a responsible adult other than the operator.
 - b. Be alert and turn machine off if a child enters the area.
 - c. Before and while backing, look behind and down for small children.
 - d. Never carry children, even with the blade(s) shut off. They may fall off and be seriously injured or interfere with safe machine operation.
 - e. Use extreme care when approaching blind corners, doorways, shrubs, trees or other objects that may block your vision of a child who may run into the path of the machine.
 - f. **To avoid back-over accidents, always disengage the cutting blade(s) before shifting into Reverse. If equipped, the "Reverse Caution Mode" should not be used when children or others are around.**
 - g. Keep children away from hot or running engines. They can suffer burns from a hot muffler.
 - h. Remove key when machine is unattended to prevent unauthorized operation.
2. Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and should be trained and supervised by an adult.

Towing

1. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
2. Follow the manufacturers recommendation for weight limits for towed equipment and towing on slopes.
3. Never allow children or others in or on towed equipment.
4. On slopes, the weight of the towed equipment may cause loss of traction and loss of control.
5. Travel slowly and allow extra distance to stop.
6. Do not shift to neutral and coast downhill.

Service

Safe Handling of Gasoline:

1. To avoid personal injury or property damage use extreme care in handling gasoline. **Gasoline is extremely flammable and the vapors are explosive.** Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.
 - a. Use only an approved gasoline container.
 - b. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
 - c. When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
 - d. 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.
 - e. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
 - f. Never fuel machine indoors.
 - g. Never remove gas cap or add fuel while the engine is hot or running. Allow engine to cool at least two minutes before refueling.
 - h. Never over fill fuel tank. Fill tank to no more than ½ inch below bottom of filler neck to allow space for fuel expansion.
 - i. Replace gasoline cap and tighten securely.
 - j. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting the engine.
 - k. To reduce fire hazards, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel soaked debris.
 - l. Never store the machine or fuel container inside where there is an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
 - m. Allow a machine to cool at least five minutes before storing.

General Service

1. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless, and deadly gas.
2. Before cleaning, repairing, or inspecting, make certain the blade(s) and all moving parts have stopped. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.
3. Periodically check to make sure the blades come to complete stop within approximately (5) five seconds after operating the blade disengagement control. If the blades do not stop within the this time frame, your machine should be serviced professionally by an authorized Cub Cadet Service Dealer.
4. Check brake operation frequently as it is subjected to wear during normal operation. Adjust and service as required.

5. Check the blade(s) and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade(s) for damage (e.g., excessive wear, bent, cracked). Replace the blade(s) with the original equipment manufacturer's (O.E.M.) blade(s) only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
6. Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
7. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
8. Never tamper with the safety interlock system or other safety devices. Check their proper operation regularly.
9. After striking a foreign object, stop the engine, disconnect the spark plug wire(s) and ground against the engine. Thoroughly inspect the machine for any damage. Repair the damage before starting and operating.
10. Never attempt to make adjustments or repairs to the machine while the engine is running.
11. Grass catcher components and the discharge cover are subject to wear and damage which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace immediately with original equipment manufacturer's (O.E.M.) parts only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
12. Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
13. Maintain or replace safety and instruction labels, as necessary.
14. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.

Do not modify engine

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

Notice Regarding Emissions

Engines which are certified to comply with California and federal EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline, and may include the following emission control systems: Engine Modification (EM), Oxidizing Catalyst (OC), Secondary Air Injection (SAI) and Three Way Catalyst (TWC) if so equipped.

Spark Arrestor



WARNING: This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brushcovered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any).

If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 361131 Cleveland, Ohio 44136-0019.

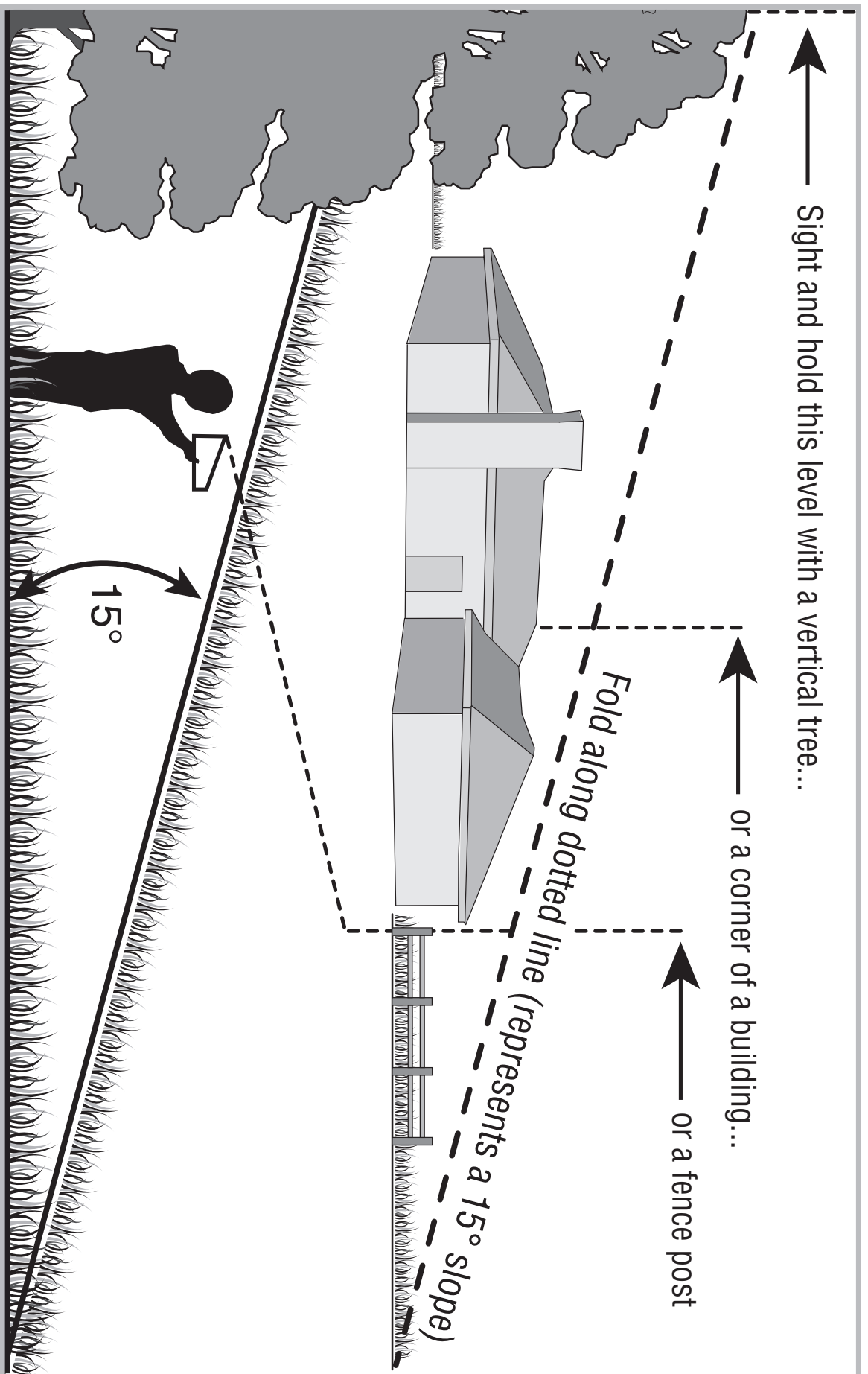
Average Useful Life

According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), this product has an *Average Useful Life* of seven (7) years, or 270 hours of operation. At the end of the *Average Useful Life*, buy a new machine or have the machine inspected annually by an authorized service dealer to ensure that all mechanical and safety systems are working properly and not worn excessively. Failure to do so can result in accidents, injuries or death.



WARNING: Your Responsibility—Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTIONS!



Use this page as a guide to determine slopes where you may not operate safely.



WARNING: Do not operate your lawn mower on such slopes. Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. Operate riding mowers up and down slopes, never across the face of slopes.

Contents of Crate

• One Lawn Tractor	• One Oil Drain Tube	• One Deck Wash Hose Coupler
• Four Hex Flange Lock Nuts, 5/16-18	• One Allen Wrench, 3/16"	• Two Hex Tapp Screw, 5/16-18 x .75
• One Seat Assembly	• One Steering Wheel/Stub Shaft Assy.	• One Bumper/Tow Plate Assembly
• One Kohler Engine Operator's Manual	• One FMZ Tractor Operator's Manual	• One Product Registration Card

Optional Small Crate Contents

• All Above Listed Components	• One Deck Assembly	• One Deck Frame Assembly
• One Shock Absorber Assembly		

General Information

All FMZ tractors require some initial assembly. Some FMZ tractors are shipped with the mower deck and deck frame installed on the tractor. For shipping purposes, others are packed in a smaller crate with the mower deck, deck frame, and frame shock absorber removed from the tractor.

For ALL tractors, perform the following assembly and set-up procedures up to the **"Installing the Mower Deck and Deck Frame"** sub-section on page 11. If the tractor being set-up has the mower deck and frame installed, skip the **"Installing the Mower Deck and Deck Frame"** sub-section. If the deck and deck frame is removed, perform ALL of the set-up and assembly instructions.

NOTE: Some parts may have been factory assembled. Disregard any instructions that have already been completed.

Unpacking the Tractor

Remove the top and sides of the shipping crate. Cut any bands securing the tractor.

- Remove the oil drain tube and deck wash hose coupler from the manual pack and store for later use. The flange lock nuts, hex tapp screws, and allen wrench in the manual pack will be used in assembly of the tractor.
- Cut the bands securing the seat assembly to the pallet and carefully remove the seat assembly. Cut the ties holding the steering wheel assembly to the drive pedals and remove the steering wheel assembly.
- Cut the cable tie holding the seat base in the down position.
- **ONLY for units with deck and deck frame installed.** Remove the bumper/tow plate assembly from the rear of the tractor frame by removing the internal cotter pins and clevis pins.
- **ONLY for units with deck and deck frame removed.**
 - Cut the tie and remove the carton containing the bumper/tow plate assembly. Remove bumper assembly from carton.
 - Cut the ties and remove the shock absorber assembly.
 - Cut the bands securing the mower deck and remove the wooden block, at the center of the deck's rear rollers, from the pallet. Roll the mower deck off the shipping pallet. Roll the mower deck off to the side for now.

- Cut the straps securing the deck frame. Cut the tie holding the frame's front hanger rod to the rear tie rod of the tractor. Carefully slide the deck frame out from between the two rear tires of the tractor and off the shipping pallet. Flip the frame over onto its caster wheels and roll off to the side for now.
- Cut the ties holding the deck belt around the hitch brackets on the rear of the deck. DO NOT cut the tie holding the belt to the belt keeper.
- From underneath each side of the tractor, just forward of the tractor's front wheels, locate and cut the tie holding the lift link upward on each side of the tractor. Refer to Figure 3-14.

Attaching the Battery Cables

The tractor is shipped with an activated sealed battery. The positive battery cable is factory connected. The negative cable must be connected. The positive battery terminal is marked Pos. (+). The negative battery terminal is marked Neg. (-).

IMPORTANT: Make sure the ignition switch is in the "OFF" position before attaching the battery cables.

- Flip the seat mounting plate upward and forward to access the battery and remove the hex screw and sems nut from the negative (black) cable.
- Pull the protective cap, if present, off the negative battery terminal. Attach the negative cable (heavy black wire) to the negative battery terminal (-) with the bolt and sems nut. Refer to Figure 3-1.

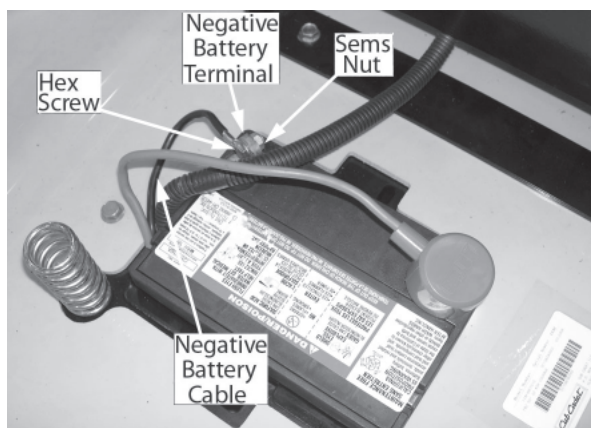


Figure 3-1

- The positive cable (red cable) is secured to the positive battery terminal (+) at the factory. Make certain that the rubber boot covers the positive battery terminal.

NOTE: If the battery is put into service after the date shown on top of battery, charge the battery as instructed as instructed in this manual prior to operating the tractor.

Install the Steering Wheel Assembly

NOTE: When correctly installed, the steering wheel spokes should form the basic “T” shape facing the operator when the rear wheels are in the straight ahead position and the operator is facing forward in the tractor seat. If the steering wheel does not face the operator in this manner after being installed, reposition the steering wheel on the steering stub shaft.

- Use the allen wrench from manual pack to remove the socket head screw and flange lock nut from the steering stub shaft tube of the steering wheel assembly.
- Position the steering wheel spokes of assembly as described above, and compress the steering boot upward to expose bottom of the steering stub shaft tube of the assembly.
- Approximately align the holes in steering stub shaft with the holes at the top of the lower steering shaft, then slide the tube of the steering wheel assembly onto the lower steering shaft. See Figure 3-2.

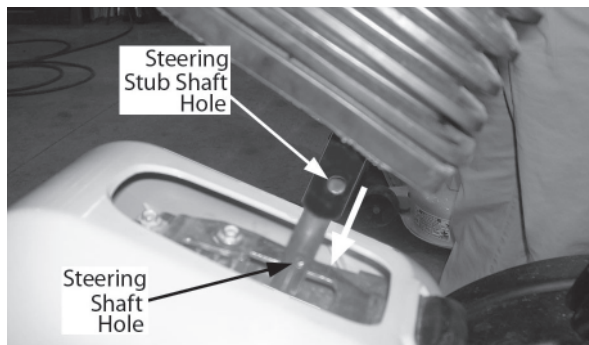


Figure 3-2

- Align the holes in the steering stub shaft with the holes in the lower steering shaft. Refer to Figure 3-2.
- Note that one of the holes in the steering stub shaft tube is larger than the hole on the other side of the tube. Insert the socket head screw through the larger hole and fully through the lower steering shaft and stub shaft tube, and secure with the flange lock nut. Refer to Figure 3-3.
- Position the steering boot to align with the opening at the top of the steering console. Working around the bottom perimeter of the boot, insert the lower edge of the boot into the console opening. The bottom groove of the boot should engage the edge of the console opening to hold the boot in place. Refer to Figure 3-4.

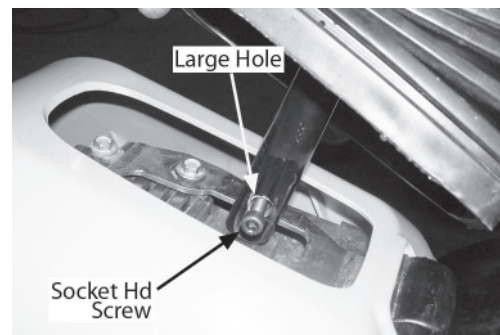


Figure 3-3

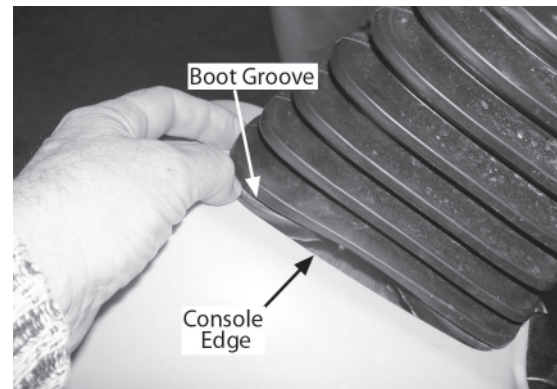


Figure 3-4

If the steering wheel spokes are not properly positioned toward the operator as described earlier, reposition the steering wheel as follows:

- Pull the center steering wheel cover upward to remove from the steering wheel.
- Remove the hex screw from the center of the steering wheel and pull the steering wheel from the stub shaft.
- Reposition the steering wheel and push onto the splines of the steering stub shaft. Install the hex screw and fully tighten to secure the steering wheels.
- Position the center steering wheel cover in the steering wheel and press downward until the cover snaps into the steering wheel.

Install the Seat Assembly

NOTE: Use care to avoid scratching painted surfaces when installing the seat assembly. Pivot the arms upward and rest the back of the seat on the steering wheel to aid in supporting the seat during the seat installation procedures.

- Tip and hold the seat mounting plate partially forward. Locate the electrical connector end of the seat switch wire harness lead. Route the wire harness lead forward between the seat mounting plate and the seat hinge bracket and over the top of the seat mounting plate. See Figure 3-5.

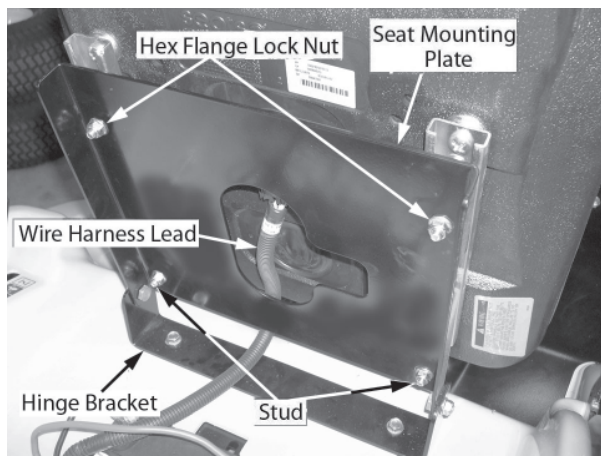


Figure 3-5

- Align the four studs on the bottom of the seat assembly with the matching holes in the seat mounting plate, then insert the studs through the four holes in the mounting plate.
- Securely connect the wire harness connector to the seat switch on the bottom of the seat assembly.
- Thread the four hex flange lock nuts from the manual pack onto the studs and fully tighten to secure the seat. Refer to Figure 3-5.

Install Rear Bumper/Tow Plate Assembly

NOTE: The rear bumper assembly is normally attached to tractor using only the two clevis pins and internal cotter pins. This provides a secure but easily removable installation of the bumper assembly, but may allow some bumper rattle to occur when traveling over uneven terrain. If desired, firmly secure the bumper assembly to the tractor support brackets by installing the two hex tapp screws provided in the manual pack.

- Working from the rear of the tractor, locate the shoulder bolt in the support bracket on each side of the tractor. Refer to Figure 3-6.
- Remove the internal cotter pin and withdraw the clevis pin from each side of the bumper assembly.
- Position the rear bumper/tow plate so that the hitch hole of the tow plate is at the bottom and faces rearward. See Figure 3-6.

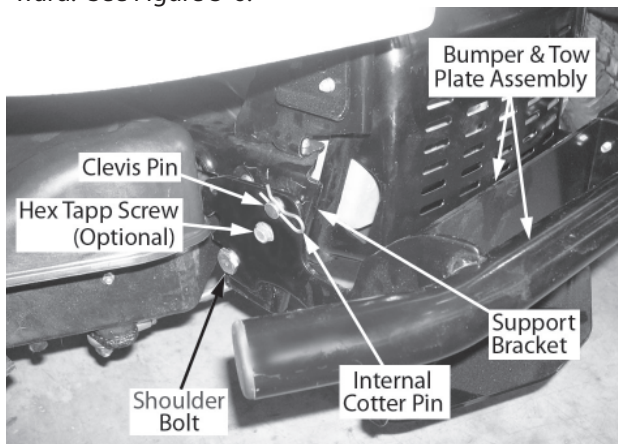


Figure 3-6

- Slide the rear bumper assembly along the outside of the support brackets and slide the lower/front notch of the bumper assembly onto the shoulder bolts in both support brackets. Pivot the bumper assembly as necessary to align its larger upper/rear mounting holes with the comparable holes in the support brackets. Refer to Figure 3-6.
- From either side of the bumper, maneuver the clevis pin up inside of the tractor support bracket and insert through the holes of the bracket and bumper. Insert the internal cotter pin through the clevis pin to secure. Refer to Figure 3-6. Repeat on the other side of the bumper to secure.
- If you desire to firmly secure the bumper assembly, insert a hex tapp screw through the center hole on each side of the bumper assembly and thread into the support brackets. Fully tighten to secure the rear bumper/tow plate assembly. Refer to Figure 3-6.

Gasoline Fill-up



WARNING: Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes, and other sources of ignition.

NOTE: Purchase gasoline in small quantities. Do not use gasoline left over from the previous season, to minimize gum deposits in the fuel system.

- This engine is certified to operate on unleaded gasoline. For best results, fill the fuel tank with only clean, fresh, unleaded gasoline with a pump sticker octane rating of 87 or higher. In countries using the Research method, it should be 90 octane minimum.
- Unleaded gasoline is recommended because it leaves less combustion chamber deposits and reduces harmful exhaust emissions. Leaded gasoline is not recommended and must not be used where emissions are regulated.
- Gasohol (up to 10% ethyl alcohol, 90% unleaded gasoline by volume) is an approved fuel. Other gasoline/alcohol blends are not approved.
- Methyl Tertiary Butyl Ether (MTBE) and unleaded gasoline blends (up to a maximum of 15% MTBE by volume) are approved fuels. Other gasoline/ether blends are not approved.

The fuel fill cap is located at the rear of the RH console to the right/rear of the seat. Turn the fill cap approximately 1/4-1/2 turn and pull upward to remove. Add fuel to the tank.

Align the threads of the cap and fuel tank fill neck, then push the cap downward on the tank and turn clockwise until a ratcheting sound is heard to indicate the cap is tight.

IMPORTANT: Your tractor is shipped with motor oil in the engine. However, you **MUST** check the oil level before operating. Refer to the engine Owner's Manual provided with your tractor for instructions on checking the oil level.

Opening the Tractor Hood

To check the engine oil level the rear engine hood must be opened. Proceed as follows:

- Locate the rear engine cover retainer strap located behind the seat, just left of the center line of the seat. Refer to Figure 3-7.
- Grasp the upper end of the strap pull upward and forward to disengage the hood pin. Refer to Figure 3-7.

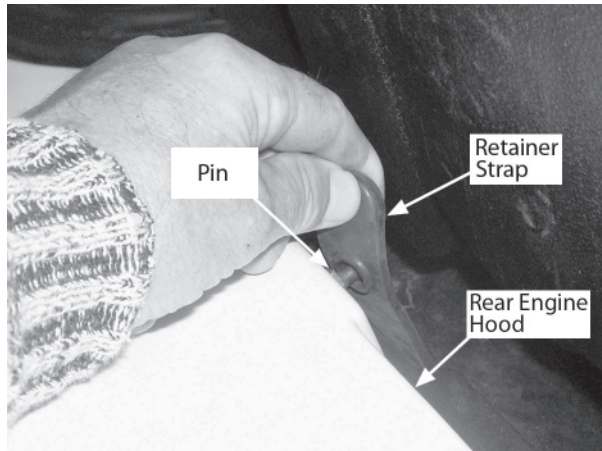


Figure 3-7

- Lift the front of the engine hood and pivot rearward to access the tractor's engine.

Tire Pressure



WARNING: Maximum tire pressure under any circumstances is 25 psi. Equal tire pressure should be maintained at all times.

The tires on your unit may be over-inflated for shipping purposes. Reduce the tire pressure before operating the tractor. Recommended operating tire pressure is approximately 10 p.s.i. for the rear tires & 10 p.s.i. for the front tires. Check sidewall of tire for maximum p.s.i.

If the mower deck was factory installed, use the lift handle on the tractor to raise the mower deck. Start the tractor engine (Refer to the "Operation" section of this manual) and carefully drive the tractor off of the shipping pallet.

Installing the Mower Deck and Deck Frame

The following set-up instructions apply only to those tractor's that are shipped from the factory with the mower deck and deck frame removed.

Install Shock Absorber Assembly

- Remove the internal cotter pin and withdraw the clevis pin from the body end (non piston end) of the shock absorber assembly. Refer to Figure 3-8.
- Working at the front of the tractor facing rearward, position the shock absorber assembly so that its pivot handle is to your right. Position the body end of the shock absorber between the two ears of the shock absorber mounting bracket on the front of the tractor. Refer to Figure 3-8.

- Align the shock absorber and mounting bracket holes and insert the clevis pin. Secure with the internal cotter pin. See Figure 3-8.

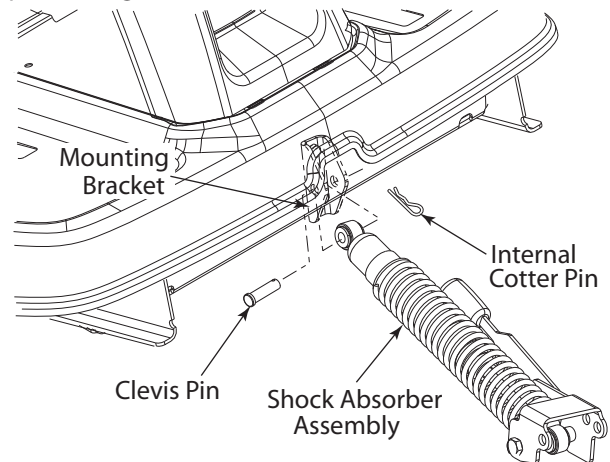


Figure 3-8

Temporary Deck Frame Installation

To drive the tractor off of the shipping pallet, the safety interlock harness on the deck frame must be connected to the tractor wire harness.

- Roll the deck frame to the front of the tractor and position with its caster wheels toward the front and the frame arms pointing rearward and approximately aligned with the sides of the tractor frame.
- Remove the internal cotter pins and remove the long and short clevis pins from the pivot handle bracket at the front of the shock absorber assembly.
- Remove the internal cotter pin and withdraw the clevis pin from the rear of the lift arm on each side of the deck frame. Refer to Figure 3-14.
- Rotate the shock absorber handle forward, then lift and hold the shock assembly upward while carefully rolling the deck frame rearward to the tractor frame. Refer to Figure 3-9.

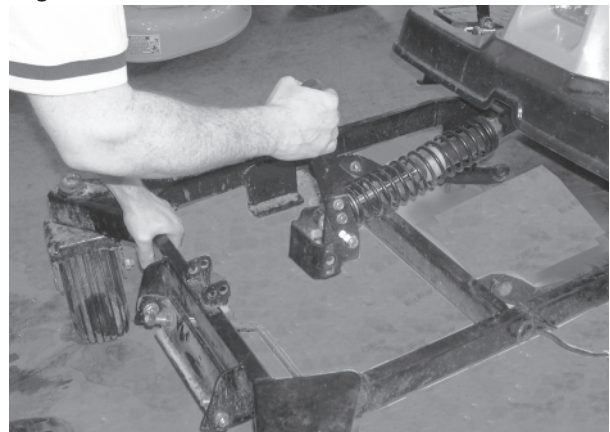


Figure 3-9

- Make certain the deck frame aligns with the receiver brackets on each side of the frame; then push the deck frame rearward onto the outside of the receiver back-

ets. Maneuver the deck frame as necessary to engage the release pins fully through the receiver bracket holes. Refer to Figure 3-10.

NOTE: If the deck frame is properly aligned, the ramped surfaces of the receiver brackets should push out the deck frame release pins and guide the pins into the receiver holes. If desired, the release pins can be manually pulled outward and turned to lock in the disengaged position while installing the deck frame.

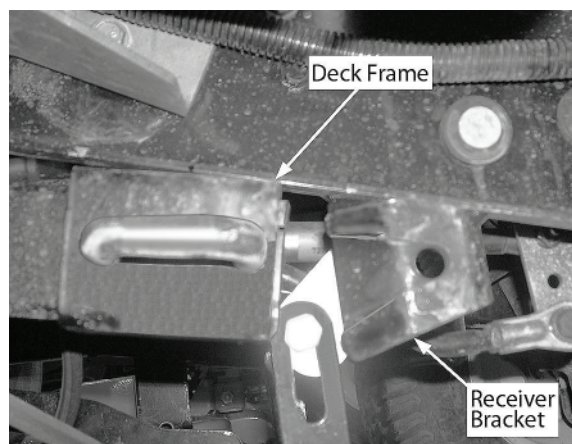


Figure 3-10

- Install the shock absorber pivot handle bracket on the outside of the deck frame mounting brackets, then temporarily insert the long clevis pin through the forward-most holes of the pivot handle and mounting brackets. Secure with the internal cotter pin removed earlier. Refer to Figure 3-11.

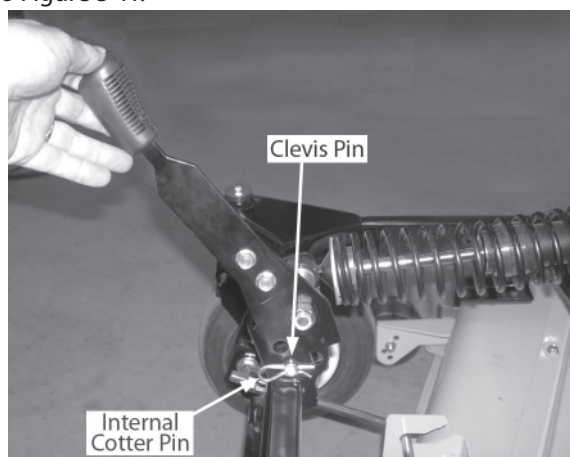


Figure 3-11

- From the front of the deck frame, facing rearward, pivot the shock absorber pivot handle fully rearward. Align the rearward hole on the right front of the pivot handle with the hole in the right mounting bracket. Insert the short clevis pin and secure with the internal cotter pin removed earlier to lock the pivot handle. See Figure 3-12.
- Connect the safety interlock harness to the tractor harness. Refer to Figure 3-13.

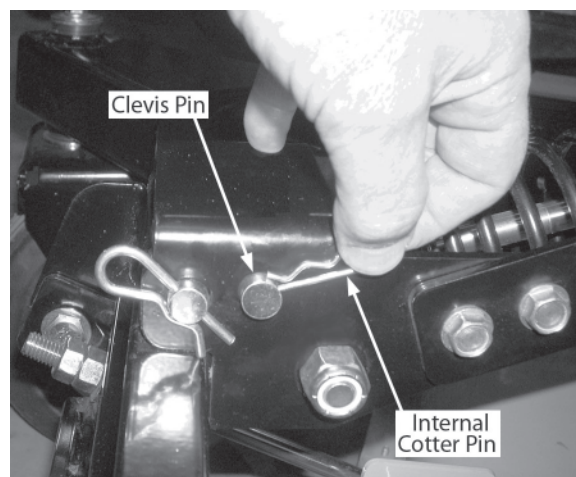


Figure 3-12

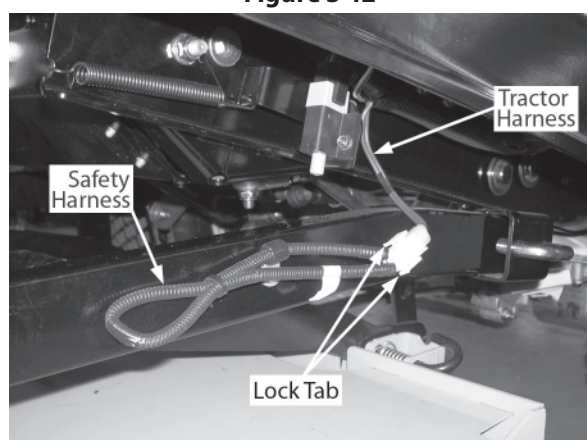


Figure 3-13

- To avoid possible damage to the deck frame lift arms when driving the tractor off of the pallet, connect the lift arms to the lift links on both sides of the tractor using the clevis pins and internal cotter pins removed earlier. See Figure 3-14.

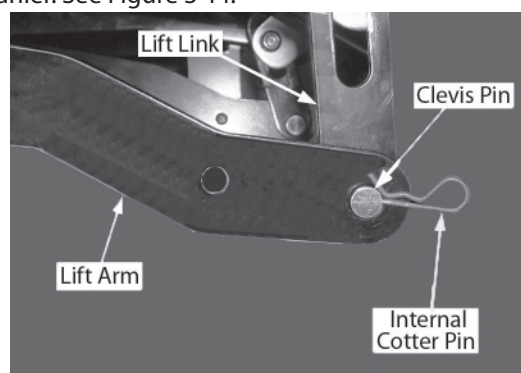


Figure 3-14

- Start the tractor engine (Refer to the "Operation" section of this manual) and carefully drive the tractor off of the shipping pallet. Stop the tractor engine.
- Remove the internal cotter pins and clevis pins to disconnect the lift arms and lift links on each side of the tractor. Refer to Figure 3-14. Hold the internal cotter pins and clevis pins for assembly of the deck.

- Spread the connector lock tabs and disconnect the safety interlock harness from the tractor harness.
- Remove the internal cotter pin and withdraw the clevis pin locking the shock absorber handle rearward and rotate the shock absorber pivot handle fully forward.
- Remove the internal cotter pin and withdraw the long clevis pin to separate the shock absorber pivot handle from the deck frame mounting brackets.
- From either side of the tractor, at the rear of the deck frame, pull the release pin outward to disengage the deck frame from the tractor. Turn the release pin slightly so that it is held outward in the disengaged position. See Figure 3-15.

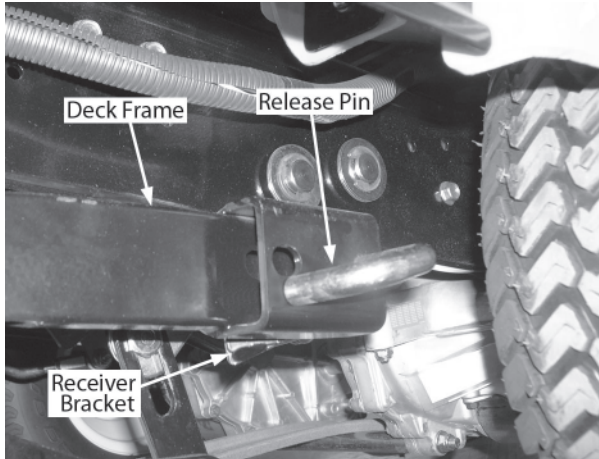


Figure 3-15

- Grasp the shock absorber pivot handle and lift upward off the deck frame mounting bracket. Hold the shock absorber up while rolling the deck frame away from the front of the tractor. Refer to Figure 3-9.

Installing the Mower Deck and Deck Frame

- Roll the deck frame around and over the top of the mower deck so that the caster wheels are forward of the front of the deck and the deck frame arms point rearward over the top of the deck.
- Roll the deck and/or deck frame as necessary to place the deck front hanger rod in the slots of the deck front hanger bracket. Roll the deck rearward so that the hanger rod is at the front of the slots. Refer to Figure 3-16.

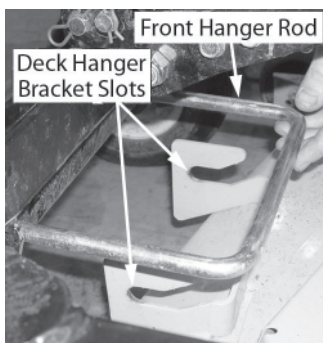


Figure 3-16

- Maneuver the deck frame as necessary to align the deck frame lift arms with the slots in the hitch brackets on the rear of the mower deck. Refer to Figure 3-17.
- On either side of the deck, pull and hold the deck support pin in the hitch bracket outward. Refer to Figure 3-17.
- Lift the deck frame and align the forward-most of the two rear holes of the lift arm with the deck support pin; then lower the hitch arm into the slot of the hitch bracket. Align the lift arm hole with the support pin and release the pin so that its spring tension pushes the pin fully through the lift arm. See Figure 3-17.

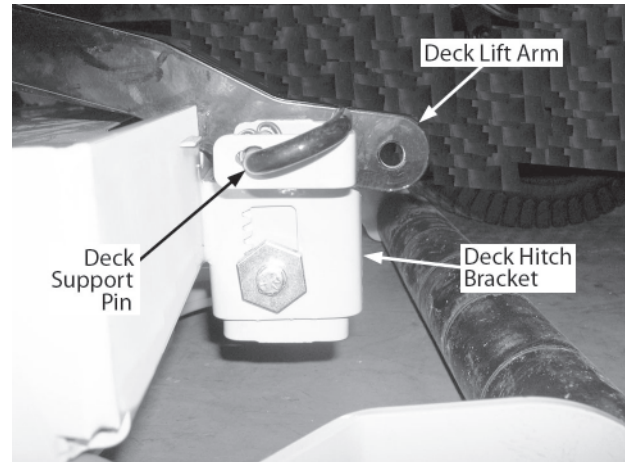


Figure 3-17

- Move to the other side of the deck and attach the other lift arm to the deck hitch bracket in the same manner.
- Align the deck and deck frame with the front of the tractor. Lift the shock absorber handle and carefully roll the deck frame/deck rearward to the tractor frame.
- Make certain the deck frame aligns with the receiver brackets on each side of the frame; then push the deck frame rearward onto the outside of the receiver brackets. Maneuver the deck frame as necessary to engage the release pins fully through the receiver bracket holes. Refer to Figure 3-10.
- Install the shock absorber pivot handle on the outside of the mounting brackets on the deck frame. Align the forward holes of the pivot handle and mounting brackets, insert the long clevis pin and secure with the internal cotter pin removed when removing the deck frame. See Figure 3-11.
- Pivot the shock absorber pivot handle fully rearward and align the rearward hole on the right front of pivot handle with the rear hole of the right mounting bracket. Insert the short clevis pin and secure with the internal cotter pin removed during the removal procedure. Refer to Figure 3-12.
- Connect the safety harness to the tractor harness. Refer to Figure 3-13.

- Make certain the tractor lift links are positioned inside of the deck frame lift arms. If they are not, lift and pivot the lift links and position inside of the lift arms. Refer to Figure 3-18.
- Align the lift link and lift arm holes on either side of the tractor and insert the clevis pin through the lift link and lift arm. Secure with the internal cotter. See Figure 3-18. Connect the lift link and lift arm on the other side of the tractor in the same manner.

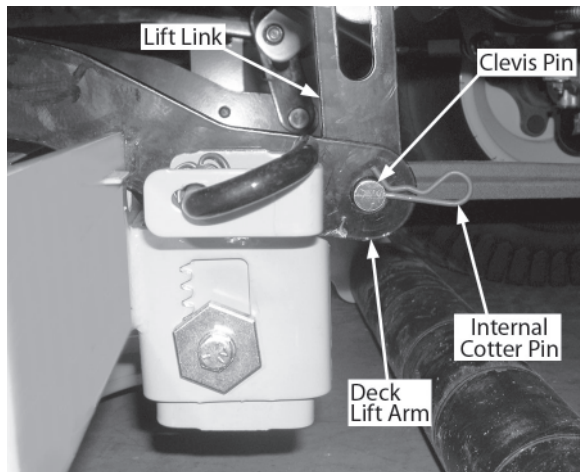


Figure 3-18

IMPORTANT: The deck V-belt is factory installed around the deck pulleys beneath the deck cover. To maintain engagement in the deck pulleys, the two sides of the belt coming out from the rear of the deck cover are pulled tight and cable tied to the belt keeper on the rearmost deck idler pulley. Check that the V-belt is still pulled tightly and tied to the belt keeper. If uncertain that the belt is properly engaged in the spindle pulleys, remove the deck and deck frame from the tractor. Remove the screws securing the cover to the deck, and lift the cover to inspect and reinstall the V-belt in the deck pulleys.

- After first making sure the deck V-belt is still pulled tight behind the deck idler pulleys, route the deck belt rearward above the spacer between the two front drive transmissions and toward the PTO pulley on the bottom of the engine.
- Using the deck lift handle, raise the deck to the position that gives you the most horizontal run of the belt between the deck pulleys and the PTO pulley on the bottom of the engine.
- Cut the cable tie holding the V-belt tight in the belt keeper on the rear deck idler pulley.

- From the left side of the tractor between the front drive wheels and the rear wheels, grasp and hold the idler bracket handle while cutting the tie around the idler bracket and PTO pulley. Carefully release the handle.
- From the left side of the tractor, roll the belt onto the PTO pulley and place the narrow side of the left run of the belt in the V-idler pulley. Refer to Figure 3-19.
- Pivot the idler bracket handle fully rearward and hold in position while routing the backside of the left run of the V-belt around the inside of the flat idler pulley. See Figure 3-18.

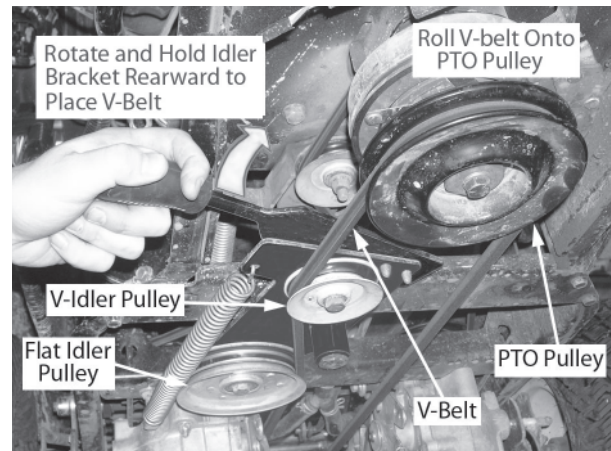


Figure 3-19

- After making certain the V-belt is properly placed in the PTO pulley and idler pulleys, carefully pivot the idler bracket handle forward to tension the belt.
- Start the tractor engine and momentarily engage the PTO (Refer to the "Operation" section of this manual) to test the belt installation. Disengage the PTO and stop the engine immediately if the V-belt is not properly driving the mower deck. Refer to the "Service" section of this manual to remove the deck and deck frame, and to reinstall the deck belt.

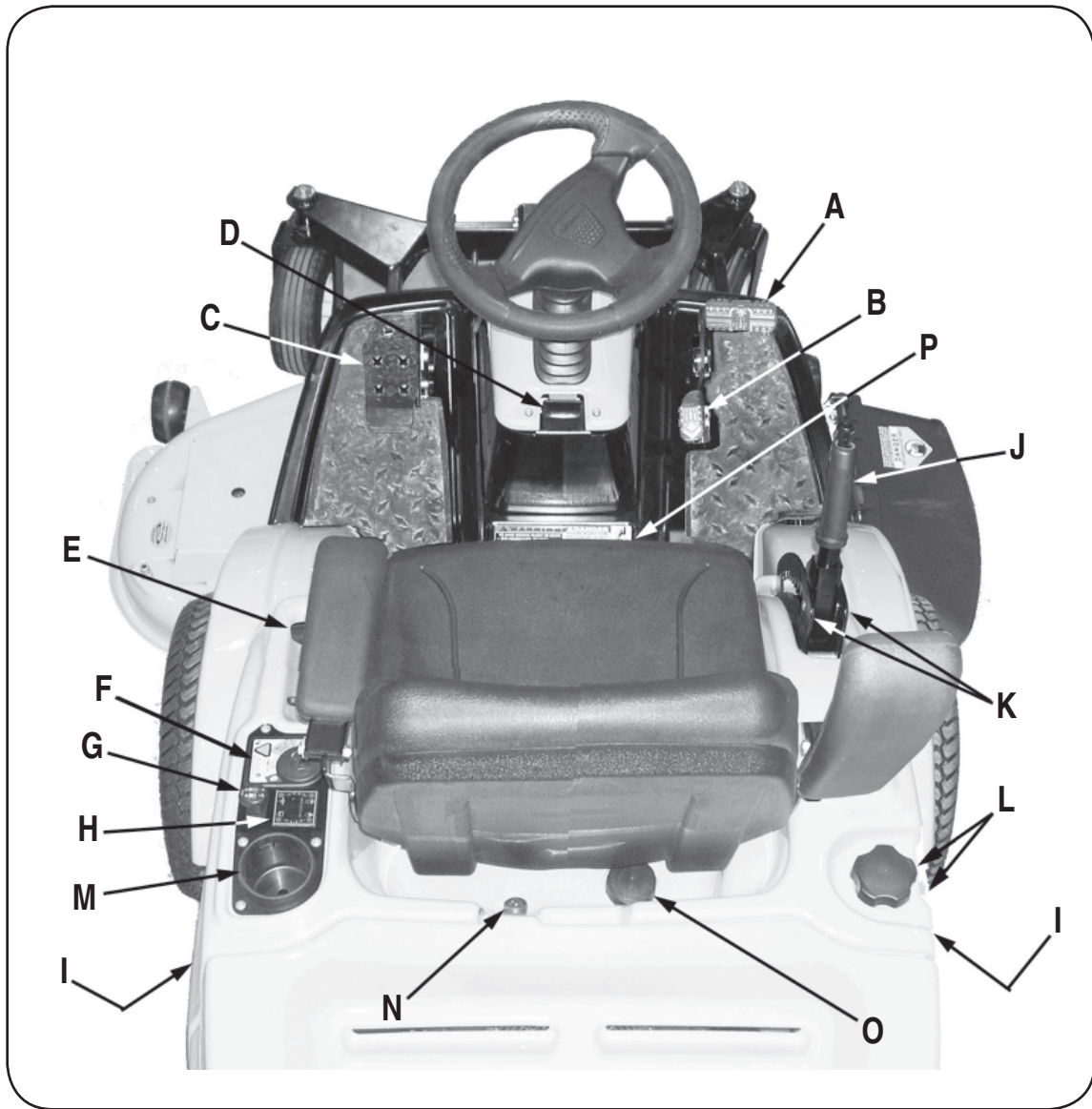


Figure 4-1

A	Forward Control Pedal	I	Hydro Transmission Bypass Rod (Not Visible)
B	Reverse Control Pedal	J	Lift Handle
C	Brake Pedal/ Parking Brake	K	Deck Height Index Bracket
D	Steering Wheel Tilt Lock	L	Fuel Fill Cap & Fuel Level Window
E	Throttle Control Lever	M	Cup Holder
F	Key Switch Module	N	Engine Hood Retainer Strap
G	PTO (Blade Engage) Control Switch	O	Transmission Oil Expansion Tank
H	Systems Indicator Monitor/ Hour Meter	P	Seat Adjustment Lever (Not Visible)

NOTE: Any reference in this manual to the RIGHT or LEFT side of the tractor is observed from operator's position.

Forward Control Pedal

The forward control pedal is located on the right side of the tractor, at the front of the right running board. Depress the forward control pedal to cause the tractor to travel in the forward direction. The forward ground speed of the tractor is directly affected by the distance the pedal is depressed. The further the pedal is depressed, the faster the tractor will travel. The tractor will slow and the pedal will return to its original position when released.

Reverse Control Pedal

The reverse control pedal is located in the right front running board rearward of the forward control pedal. Depress the reverse control pedal to cause the tractor to travel in reverse. The further the pedal is depressed, the faster the tractor will travel. The tractor will slow and the pedal will return to its original position when released.

Brake Pedal

The brake pedal is located at the front of the left running board and is used for quick stops, or setting the parking brake. This pedal must be FULLY depressed, or the parking brake must be engaged, to activate the safety interlock switch when starting the tractor.

- As the brake pedal is depressed the drive to the transmissions is disengaged and the brakes are engaged.
- Fully depress the center of the brake pedal to engage parking brake. Refer to Figure 4-2.
- To disengage the parking brake depress the front (top) of the brake pedal. See Figure 4-2.

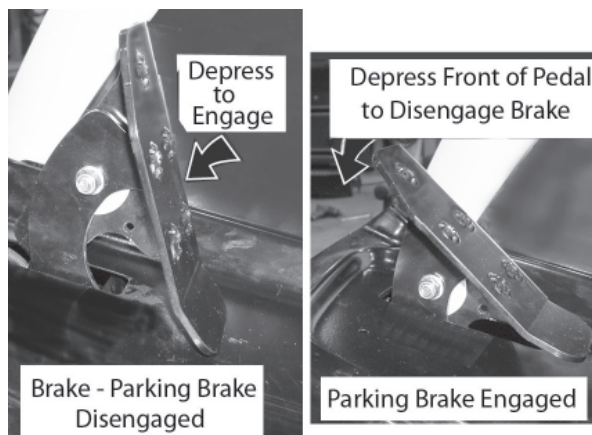


Figure 4-2

Steering Wheel Tilt Lock

The steering wheel tilt lock is located beneath the steering wheel in the center/rear of the steering console.



WARNING: Do not adjust the steering wheel tilt while the tractor is in motion. Doing so could result in loss of control of the tractor and result in an accident.

- The tilt lock feature allows you to adjust the steering wheel to the position that provides the most comfort and control to the tractor's operator. Refer to "Maintenance and Adjustments" later in this manual for adjustment instructions.

Throttle Control

The throttle control is located on the LH console to the left of the operator's seat. When set in a given position, a uniform engine speed will be maintained.

- Push the throttle control handle forward to increase the engine speed. The tractor is designed to operate with the throttle control in the fast position (full throttle) when the tractor is being driven and the mower deck is engaged.
- Pull the throttle control handle rearward to decrease the engine speed.
- When starting the engine, push the control handle fully forward into the "CHOKE" position.
- After starting and warming the engine, move the control handle rearward until you feel it move past the choke detent.



This symbol indicate the Choke position



This symbol indicate the fast position

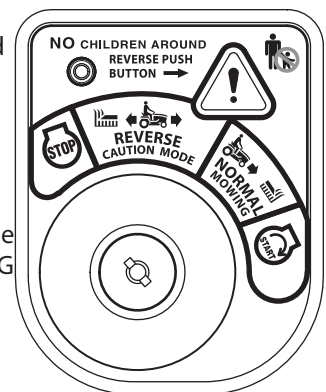


This symbol indicates the slow position

Key Switch Module

The key switch module is used to start and stop the engine. It is also used to activate the REVERSE CAUTION MODE. Insert key into the key switch module and turn clockwise to the START position. Release the key into the NORMAL MOWING position once engine has started.

To stop the engine, turn the ignition key counterclockwise to the STOP position.





WARNING: Never leave a running machine unattended. Always disengage PTO, move shift lever into neutral position, set parking brake, stop engine and remove key to prevent unintended starting.

IMPORTANT: Prior to operating the tractor, refer to both "Safety Interlock System" on page 15 and "Starting The Engine" on page 16 of this manual for detailed instructions regarding the Ignition Switch Module and operating the tractor in REVERSE CAUTION MODE.

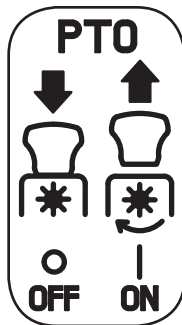


WARNING: Never move the key into the Start position while the engine is running. Doing so may cause damage to your engine's starter.

PTO (Blade Engage) Control Switch

To engage the electric PTO and provide power to the cutting deck, pull upward on the PTO control switch knob. Push the switch knob downward to disengage the PTO and stop the cutting deck.

NOTE: The PTO Control Switch must be in the disengaged (OFF) position when starting the engine.



Systems Indicator Monitor/Hour Meter

Your tractor is equipped with a Systems Indicator Monitor as shown in Figure 4-2. The monitor records the accumulated hours of tractor operation, and displays the information on the LCD hour meter display (tenths of an hour - right most digit). The monitor also has four indicator lights that show the status of various functions of the tractor.

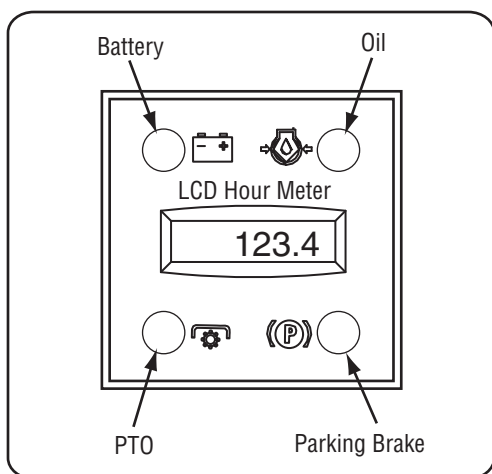


Figure 4-2

The system indicator monitor features are as follows:

LCD Hour Meter Display

The hour meter display is activated when the key switch is turned to either the "NORMAL MOWING" or the "REVERSE CAUTION MODE" switch positions. When the key switch is turned to an on position, the battery indicator light briefly illuminates and the battery voltage is briefly displayed. The display then changes to the accumulated hours.

NOTE: A record of the actual hours of operation should be kept to assure maintenance procedures are completed according to the schedule in this manual.

The Indicator Monitor will also remind the operator of maintenance intervals for changing the engine oil. The LCD will alternately flash the recorded hours, "CHG" and "OIL" for five minutes, after every 50 hours of recorded operation elapse. The maintenance interval lasts for two hours (from 50-52, 100-102, 150-152, etc.). The LCD will flash as described for five minutes every time the tractor's engine is started during this maintenance interval. Follow the oil change intervals provided in the engine manual.

Battery Indicator Light

Illuminates when the ignition switch is turned to an ON position and the engine is not started.

Illuminates to indicate the battery voltage has dropped below 11.5 (+0.5/-1.0) DC volts (the battery voltage is also displayed on the hour meter). If this indicator and display come on during operation, check the battery and charging system for possible causes and/or contact your Cub Cadet dealer.

Oil Pressure Indicator Light

This warning lamp indicates low engine oil pressure. If this indicator illuminates, stop the tractor immediately and check the engine oil level. If the oil level is within the operating range, but the light remains on, contact your Cub Cadet dealer. **NOTE:** The oil pressure indicator may illuminate when the key switch is turned to an on position, but should turn off when the engine is started.

PTO Engaged Indicator Light

This indicator illuminates when the key switch is turned to the "START" position while the PTO switch is in the "ENGAGED" position. Check this indicator if the engine will not crank with the key switch in the "START" position. Move the PTO switch to the "DISENGAGED" position.

Brake Engaged Indicator

This indicator illuminates when the key switch is turned to the "START" position and the brake pedal is not fully depressed. Check this indicator if the engine will not crank with the key switch in the "START" position. If necessary, fully depress the brake pedal.

Hydro Transmission Bypass Rods

The hydro transmission bypass rods are located inside and behind the tractor's front wheels. When engaged, these levers open a hydro pump bypass valve in each transmission which allows the tractor to be manually pushed short distances. See the "Maintenance & Adjustments" section later in this manual for instructions.

Lift Handle

The lift handle is located on the RH console to the right of the operator's seat and is used to raise and lower the mower deck used with the tractor. The deck can be set in any of ten positions by depressing the top button on the handle, moving the handle to the desired position, then releasing the button. It may be necessary to push or pull slightly on the handle to depress the button.

Deck Height Index Bracket

The deck height index brackets have ten index notches. The cutting heights range from 1-1/2" to 4-1/2" with each of the ten index notches representing an approximately 1/4" to 3/8" adjustment to the deck height.

After changing the cutting height of the deck, you must check the position of the deck front gauge wheels. They should be approximately 1/2-inch above the ground when the tractor is on a smooth, flat surface such as a driveway. Refer to "Maintenance & Adjustments" later in this manual

Fuel Fill Cap

The fuel fill cap is located at the rear of the RH console to the right/rear of the seat.

Turn the fill cap approximately 1/4-1/2 turn and pull upward to remove. Align the threads of the cap and fuel tank fill neck, then push the cap downward on the tank and turn clockwise until a ratcheting sound is heard to indicate the cap is tight.

The level of fuel in the fuel tank can be viewed through the fuel level window in the rear hitch plate.

Cup Holder

The tractor's cup holder is located on the fender to the left of the seat.

Engine Hood Retainer Strap

The engine hood retainer strap is located behind the seat and is used to hold the engine hood closed.

To open the hood, grasp the upper end of the strap and pull upward and forward to disengage the hood pin. Refer to Figure 3-6. Lift the front of the engine hood and pivot rearward.

Transmission Oil Expansion Tank

The transmission oil expansion tank is connected by hoses to the RH and LH transmission assemblies, and is located beneath the seat. The function of the tank is to hold the natural expansion of transmission oil that occurs as the transmission warms up during operation. **DO NOT FILL THE TANK.**

Under normal operating conditions, no oil should be added to the reservoir. The COLD oil level should be no higher than approximately 1/4" (the "Full Cold" mark) above the bottom of the reservoir.

NOTE: *Prior to the initial operation of the tractor, the oil level in the reservoir may be slightly higher than the maximum due to air in the oil lines. Operation of the tractor will eventually purge the air from the lines and the oil level will settle to the maximum.*

Seat Adjustment Lever

The seat adjustment lever is at the front/right of the seat. Use this lever to adjust the seat forward or rearward to a comfortable operating position. See the "Maintenance & Adjustments" section later in this manual for instructions.



WARNING

AVOID SERIOUS INJURY OR DEATH

- GO UP AND DOWN SLOPES, NOT ACROSS.
- AVOID SUDDEN TURNS.
- DO NOT OPERATE THE UNIT WHERE IT COULD SLIP OR TIP.
- IF MACHINE STOPS GOING UPHILL, STOP BLADE(S) AND BACK DOWNHILL SLOWLY.
- DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND.
- NEVER CARRY CHILDREN, EVEN WITH BLADES OFF.
- LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.
- KEEP SAFETY DEVICES (GUARDS, SHIELDS, AND SWITCHES) IN PLACE AND WORKING.
- REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE(S).
- KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
- BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S).
- BEFORE LEAVING OPERATOR'S POSITION, DISENGAGE BLADE(S), RELEASE THE F OR R CONTROL PEDAL, ENGAGE BRAKE LOCK, SHUT ENGINE OFF AND REMOVE KEY.

READ OPERATOR'S MANUAL

Headlights

The tractor headlight is turned on whenever the ignition switch is turned to either of the run positions.

Safety Interlock System



WARNING: Tampering with or attempting to bypass the Safety Interlock Switches in any way will void your tractor's warranty. Do not operate the tractor if the interlock system is malfunctioning.

The safety interlock system is designed for safe operation of the tractor. If this system should ever malfunction, do not operate the tractor, immediately contact your Cub Cadet dealer.

- The safety interlock system prevents the engine from starting unless the parking brake is engaged, the PTO switch is in the disengaged (OFF) position, and the mower deck frame (front attachment) is attached to the tractor.
- The safety interlock system will automatically shut off the engine if the operator leaves the seat before engaging the parking brake.
- The safety interlock system will automatically shut off the engine if the operator leaves the tractor's seat with the PTO (Blade Engage) switch engaged, regardless of whether the parking brake is engaged.
- With the ignition key in the NORMAL MOWING position, the electric PTO clutch will automatically shut off if the PTO switch is in the engaged (ON) position and the drive pedal is depressed for Reverse travel.

- If the front of the deck frame is raised to approximately 7° above the tractor's front wheel plane with the PTO engaged, a safety switch will turn off the PTO clutch. The PTO switch must be depressed to the "OFF" position, then pulled upward to the "ON" position to re-engage the PTO Clutch.

Reverse Caution Mode



WARNING: Use extreme caution while operating the tractor in the REVERSE CAUTION MODE. Always look down and behind before and while backing. Do not operate the tractor when children or others are around. Stop the tractor immediately if someone enters the area.

The **REVERSE CAUTION MODE** position of the key switch module allows the tractor to be operated in reverse with the blades (PTO) engaged.

IMPORTANT: Mowing in reverse is not recommended.

To use the REVERSE CAUTION MODE:

IMPORTANT: The operator **MUST** be seated in the tractor seat.

1. Start engine as instructed in the following sub section.
2. Turn the key from the NORMAL MOWING (Green) position to the REVERSE CAUTION MODE (Yellow) position of the key switch module. See Figure 5-1.

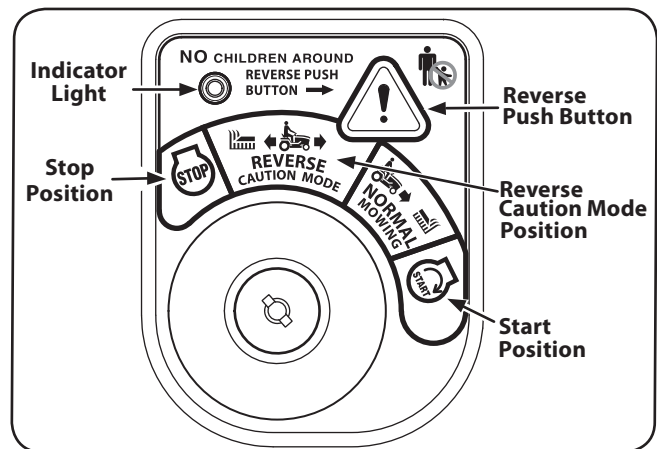


Figure 5-1

3. Depress the REVERSE PUSH BUTTON (Orange, Triangular Button) at the top, right corner of the key switch module. The red indicator light at the top, left corner of the key switch module will be ON while activated. See Figure 5-1.
4. Once activated (indicator light ON), the tractor can be driven in reverse with the cutting blades (PTO) engaged.
5. Always look down and behind before and while backing to make sure no children are around.
6. After resuming forward motion, return the key to the NORMAL MOWING position.

IMPORTANT: The REVERSE CAUTION MODE will remain activated until:

- The key is placed in either the NORMAL MOWING position or STOP position.
- The operator leaves the seat. Follow the previous instructions to re-activate.

Starting the Engine



WARNING: Do not operate the tractor if the interlock system is malfunctioning. This system was designed for your safety and protection.

NOTE: Refer to the engine Owner's Manual for gasoline and oil fill-up instructions.

1. Insert the tractor key into the key switch module.
2. Disengage the PTO (Blade Engage) lever/knob.
3. Engage the tractor's parking brake.
4. Move the throttle control lever fully forward into the "CHOKE" position. **NOTE:** If the engine is warmed up, it may not be necessary to place the throttle control in the choke position.
5. Turn the ignition key clockwise to the START position. After the engine starts, release the key. It will return to the NORMAL MOWING position.

IMPORTANT: Do not hold the key in the START position for longer than ten seconds at a time. Doing so may cause damage to your engine's electric starter.

7. As the engine warms up, gradually pull the throttle control lever rearward past the choke detent position.

NOTE: Do not use the choke control to enrich the fuel mixture, except as necessary to start and warm up the engine.

Stopping the Engine



WARNING: If you strike a foreign object, stop the engine and disconnect the spark plug wire(s). Thoroughly inspect the machine for any damage. Repair the damage before restarting and operating.

1. If the blades are engaged, disengage the PTO.
2. Move the throttle control lever to midway between the half and full throttle. Then turn the ignition key counterclockwise to the OFF position.
3. Remove the key from the ignition switch to prevent unintended starting.

Driving The Tractor

IMPORTANT: Avoid sudden starts, excessive speed and sudden stops.

- Briefly depress the front of the brake pedal to disengage the parking brake. Move the throttle lever into the FAST (rabbit) position.
- To travel forward: Slowly depress the forward drive control pedal until the desired speed is achieved. See Figure 5-2.

NOTE: If the tractor does not move when depressing the forward or reverse drive pedals, check for engagement of the transmission bypass rods. Refer to "Maintenance & Adjustments."

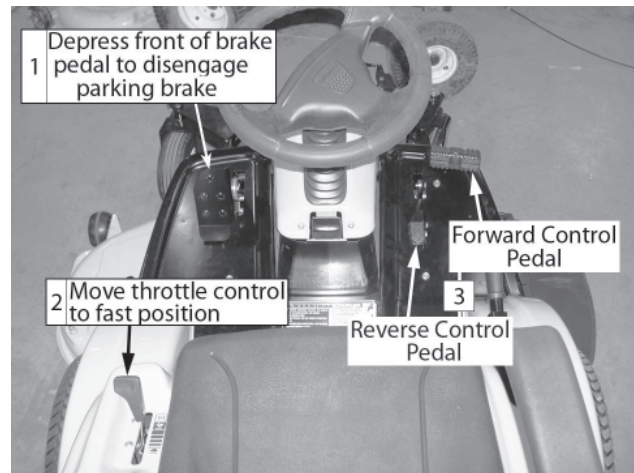


Figure 5-2

- To travel in reverse: Check that the area behind is clear, then slowly depress the reverse drive control pedal until the desired speed is achieved. See Figure 5-2.
- Release the depressed drive pedal and depress the brake pedal to stop the tractor.



WARNING! Do not leave the seat of the tractor without first placing the PTO/Blade Engage knob in the disengaged (OFF) position and engaging the parking brake. If leaving the tractor unattended, also turn the engine off and remove the ignition key.

Steering the Tractor

Your Front Mount Zero Turn tractor is equipped with a steering system that is different from the steering of a conventional lawn tractor. The rear wheels of the tractor turn rather than the front wheels, and the tractor's hydro transmissions drive the front wheels.

Turning the steering wheel not only turns the tractor's rear wheels, but also adjusts the position of the drive control linkage of the hydro transmissions causing the appropriate transmission to speed-up or slow-down as necessary to complete the desired turn. Some practice may be needed to become accustomed to the steering of your tractor.



WARNING: When making zero turns the inner front drive wheel is the pivot point, with the rear of the tractor swinging around the pivot point. Make certain there is enough room to swing the rear of the tractor around when making zero turns. Failure to do so could result in striking a structure or other immovable object, which could result in personal injury or property damage.

The tractors steering system works as follows:

- Minor turns of the steering wheel from the straight ahead position turn the rear wheels and results in only minimal change to the transmission controls.
- Increasing the rotation of the steering wheel results in increasingly and proportionally tighter turns. As the steering mechanism turns the rear wheels, it also changes the position of the transmission drive control linkage to slow down the inner front wheel in the turn, and adjust the speed of the outer front wheel as necessary to complete the desired turn.
- Turning the steering wheel fully to its stop in either direction will fully turn the rear wheels, reverse the direction of the inner front wheel and adjust the outer wheel speed to execute a zero turn in the chosen direction.
- Turn the steering wheel back to the center position as the turn is completed.

NOTE: *It is not necessary to release the drive pedal when making a turn. The change to the transmission linkage occurs regardless of how far the drive pedal is depressed. When the steering wheel is straightened, the tractor will return to the speed set by the drive pedal.*

IMPORTANT: *Making tight or zero turns on grass will greatly increase the potential for defacement of the turf.*

Driving On Slopes

IMPORTANT: *Refer to the SLOPE GAUGE on page 7 to help determine slopes where you may operate the tractor safely.*

- Mow up and down slopes, never across.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Avoid turns when driving on a slope. If a turn must be made, turn downhill on the slope. Turning uphill increases the possibility of a tractor rollover.
- Avoid stopping when driving up a slope. If it is necessary to stop while driving up a slope, start up smoothly and carefully to reduce the possibility of flipping the tractor over backward.

Engaging the Parking Brake

NOTE: *The parking brake must be set if the operator leaves the seat with the engine running or the engine will automatically shut off.*

To set the parking brake, press the center of the brake pedal completely downward with your left foot. You may feel the brake latch engage as you depress the pedal. Slowly remove your foot from the brake pedal. If the parking brake has engaged the brake pedal should remain in the down position (Refer to Figure 4-2). If it doesn't, the parking brake is not engaged. Repeat the previous step to engage the parking brake.

To disengage the parking brake, lightly depress the front(top) of the brake pedal and slowly release the brake pedal.



WARNING: Never leave a running machine unattended. Always disengage PTO, set parking brake, stop engine and remove key to prevent unintended starting

Engaging the PTO

Engaging the PTO transfers power to the cutting deck or other (separately available) attachments. To engage the PTO:

1. Move the throttle control lever to the FAST (rabbit) position.
2. Pull the PTO/Blade Engage knob upward to the engaged (ON) position.

NOTE: Always operate the tractor with the throttle lever in the FAST (rabbit) position for the most efficient use of the cutting deck or other (separately available) PTO driven attachments.

3. Push the PTO/Blade Engage knob downward to disengage the PTO and stop the deck blades (or other PTO driven attachments).

IMPORTANT: When mowing uneven terrain that will cause the front of the deck frame to raise approximately 7° above the plane of the front drive wheel, the PTO clutch will shut off. Depress the PTO switch and pull to the on position to re-engage the PTO.

Mowing



WARNING: To help avoid blade contact or a thrown object injury, keep bystanders, helpers, children and pets at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.

This tractor is equipped with one of Cub Cadet's high quality cutting decks. The following information will be helpful when using the cutting deck with your tractor.

- Do not mow at high ground speed, especially if a mulch kit or grass collector is installed.
- For best results it is recommended that the first two laps be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.
- Do not cut the grass too short. Short grass invites weed growth and yellows quickly in dry weather.
- Mowing should always be done with the engine at full throttle.

- Under heavier conditions it may be necessary to go back over the cut area a second time to get a clean cut.
- Do not attempt to mow heavy brush and weeds and extremely tall grass. Your tractor is designed to mow lawns, not clear brush.
- Keep the blades sharp and replace the blades when worn. Refer to the "SERVICE" section of this manual for proper blade sharpening instructions.

IMPORTANT: When stopping the tractor for any reason while on a grass surface, always:

- Release the forward or reverse drive control pedal,
- Engage the parking brake,
- Shut engine off and remove the key.

Doing so will minimize the possibility of having your lawn "browned" by hot exhaust from your tractor's running engine.

Mulching (If Available)

Your tractor mowing deck may be adaptable to separately available mulch kit, check with your dealer. Mulching is the process of recirculating grass clippings repeatedly beneath the cutting deck. This results in ultra-fine clippings that are then forced back into the lawn where they act as a natural fertilizer.

Observe the following points for best results when mulching:

- Never attempt to mulch if the lawn is damp. Wet grass tends to stick to the underside of the cutting deck preventing proper mulching of the clippings.
- Do not attempt to mulch more than 1/3 the total height of the grass or approximately 1-1/2 inches. Doing so will cause the clippings to clump up beneath the deck and not be mulched effectively.
- Maintain a slow ground speed to allow the grass clippings more time to effectively be mulched.
- Always position throttle control lever in the FAST (rabbit) position and allow it to remain there while mowing. Failing to keep the engine at full throttle places strain on the tractor's engine and does not allow the blades to properly mulch grass.

Maintenance & Adjustments

6

Maintenance



WARNING! Before performing any maintenance or repairs, disengage the PTO, release the forward or reverse control pedal, engage the parking brake, stop the engine and remove the key to prevent unintended starting.

Engine

Refer to the Kohler Owner's Manual for all engine maintenance intervals, procedures, specifications and instructions.

Changing the Engine Oil



WARNING! If the engine has been recently run, the engine, muffler and surrounding metal surfaces will be hot and can cause burns to the skin. Exercise caution to avoid burns.

To complete an oil change, proceed as follows:

1. Run the engine for a short time to warm the engine oil. The oil will flow more freely and carry away more impurities. Use care to avoid burns from hot oil.
2. Locate the oil drain port on the right side of the engine.
3. Pop open the protective cap on the end of the oil drain valve to expose the drain port. See Figure 6-1. Remove the oil fill cap/dipstick from the oil fill tube.

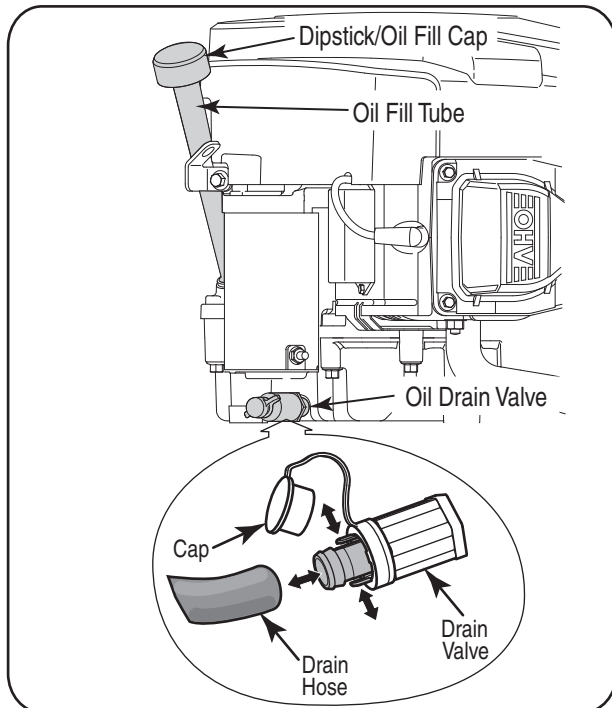


Figure 6-1

4. Push the oil drain hose (packed with this manual) onto the oil drain port. Route the opposite end of the hose into an appropriate oil collection container with at least a 2.5 quart capacity, to collect the used oil.

5. Pinch the tabs on the oil drain valve, then pull outward to begin draining oil. Refer to Figure 6-1.
6. After the oil has finished draining, push the end of the oil drain valve back in, until the tabs click into place. Re-cap the end of the oil drain valve to keep debris from entering the drain port.
7. Replace the oil filter, and refill the engine with new oil as instructed in the Kohler Owner's Manual.

Air Cleaner

Service the pre-cleaner and cartridge/air cleaner element as instructed in the Kohler Owner's Manual.

Spark Plug

The spark plugs should be cleaned and the gap reset once a season. Refer to the Kohler Owner's Manual for correct plug type and gap specifications.

Hydrostatic Transmission

Your FMZ tractor is equipped with dual integrated hydrostatic pumps/transaxles that are sealed and are maintenance-free. However, the tractor is equipped with a transmission oil expansion tank. Under normal operating conditions, the oil level in the expansion tank does not need to be checked and no additional oil is needed.

If checking the tank oil level, proceed as follows:

IMPORTANT: Check the oil level *ONLY* before starting the tractor when the transmission oil is fully cooled.

- Pivot the operator's seat forward and clean the tank cap and the area around the cap to prevent debris from contaminating the transmission oil. See Figure 6-2.

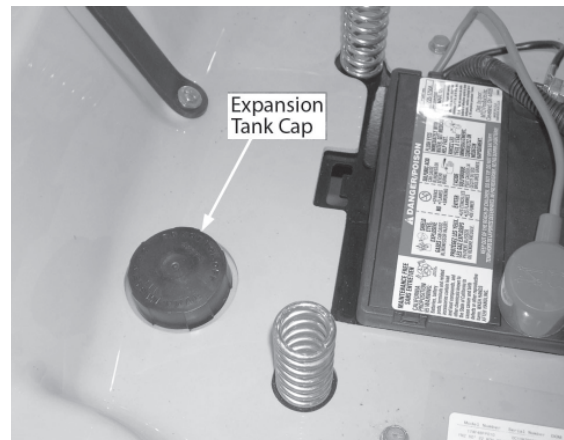


Figure 6-2

Turn the tank cap counterclockwise to remove, then check the oil level in the tank. Oil should be visible at the bottom of the cup, but the oil level must NOT be above 1/4" from the bottom of the cup. **DO NOT FILL THE RESERVOIR.**

If necessary to add oil, use a quality 20W50 motor oil and add only enough oil to bring the level to 1/4" above the bottom of the tank. Reinstall the cap and fully tighten.

Steering Lubrication

The steering axles, pivot shafts, and front caster axles must be lubricated after every 25 hour of operation. Lubricate using a pressure grease gun and Cub Cadet 251H EP grease, or an equivalent No. 2 multipurpose lithium grease.

- Working from the rear of the tractor, apply grease through the two lube fittings on each end of the pivot bar. See Figure 6-3.

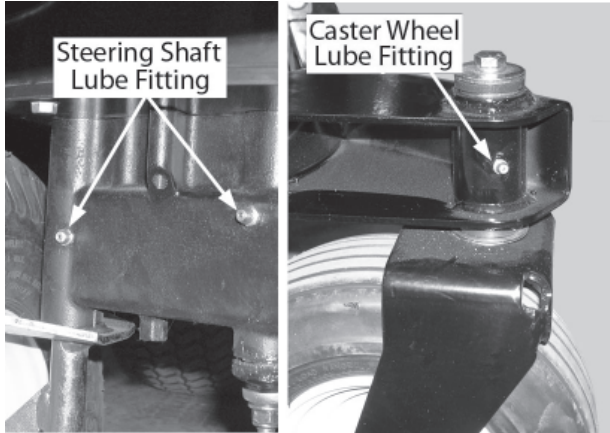


Figure 6-3

- Working at the front of the tractor, apply grease through the lube fitting for both caster wheel axles. Figure 6-3.

Lubricate Rear Wheel and Caster Wheel Bearings

Lubricate the rear wheel bearings with Cub Cadet 251H EP grease, or an equivalent No. 2 multipurpose lithium grease, after every 25 hours of operation. The lube fittings are located in the rim hub inside each rear wheel.

Lubricate the front caster wheel bearings with Cub Cadet 251H EP grease after every 25 hours of operation.

Cleaning Steering Gears

Once a year, or if a tight spot is experienced when turning the steering wheel, remove the steering gear cover on each end of the rear pivot bar and clean the two steering gears.

- From beneath the cover base plate on each end of the pivot bar, remove the three hex screws securing the steering gear cover. Remove the covers and clean the gears. It is not necessary to lubricate the gears.
- Reposition each cover on its respective base plate and secure with the three hex screws. Do not over tighten.

Lubricate Pivot Points & Linkage

Lubricate all the pivot points on the drive system, parking brake and lift linkage at least once a season with light oil.

Removing the Deck Cover

To access the blade spindles for lubrication and/or the deck drive belt for service, the deck cover must be removed from the top of the deck. The mower deck does not have to be removed from the deck frame to remove the cover, but access is improved if the deck is removed.

- Working around the perimeter of the cover, remove the five hex tapp screws securing the cover to the deck housing. Refer to Figure 6-4.

- Lift the front of the cover slightly, then pull the cover forward to slide the tabs of the cover out of the slots of the deck hanger plate. See Figure 6-4.

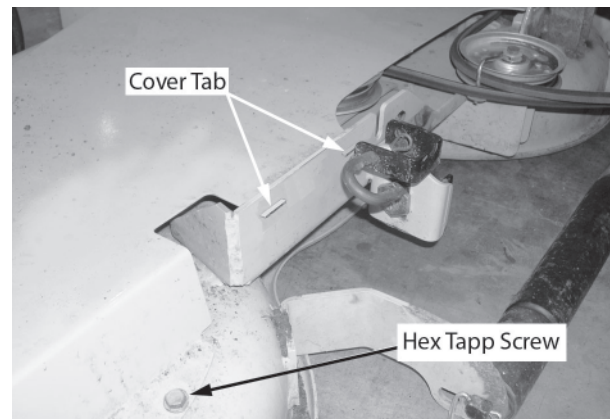


Figure 6-4

- To reinstall the cover, insert the cover tabs into the slots of the deck hanger plate. Lower the front of the cover onto the deck and secure with the five hex tapp screws.

Lubricate Deck Spindles

Lubricate the deck spindles with Cub Cadet 251H EP grease after every 10 hours of operation.

The deck spindle lube fittings are in the top of the spindle housings, beneath the spindle pulleys. Remove the deck cover. See Figure 6-5.

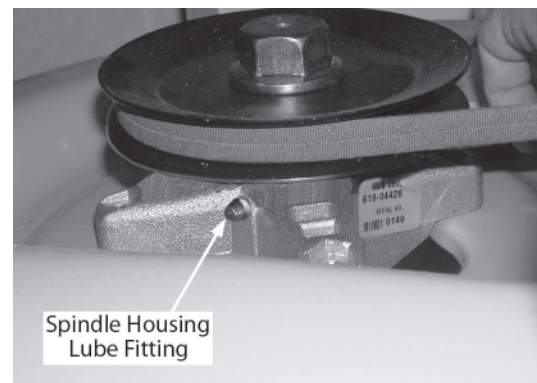


Figure 6-5

Tires



WARNING: Never exceed the maximum inflation pressure shown on the sidewall of tire. Refer to the tire sidewall for exact tire manufacturer's recommended or maximum psi. Do not overinflate.

The recommended operating tire pressure is:

- Approximately 10 psi for the rear tires
- Approximately 10 psi for the front tires

IMPORTANT: Uneven tire pressure could cause the cutting deck to mow unevenly.

Cleaning the Tractor and Deck

Any fuel or oil spilled on the machine should be wiped off promptly. Do NOT allow debris to accumulate around the deck pulleys or any other part of the machine.

Periodically remove the deck cover and remove any accumulated grass clippings from around the spindle pulleys and the deck belt.

IMPORTANT: *The use of a pressure washer to clean your tractor is NOT recommended. It may cause damage to electrical components, spindles, pulleys, bearings or the engine.*

Using Deck Wash System™

Use the Deck Wash System™ to rinse grass clippings from the deck's underside and prevent the buildup of corrosive chemicals. Your tractor's deck is equipped with a water nozzle on the left end of the deck.

Complete the following steps AFTER EACH MOWING:

1. Drive the tractor to a level, clear spot on your lawn, near enough to a water sillcock (spigot) for your garden hose to reach.

IMPORTANT: *Make certain the tractor's discharge chute is directed AWAY from your house, garage, parked cars, etc.*

2. Disengage the PTO (Blade Engage), set the parking brake, and stop the engine.
3. Thread the nozzle adapter (packaged with your tractor's Operator's Manual) onto the end of your garden hose.
4. Pull back the lock collar of the nozzle adapter and push the adapter onto the deck wash nozzle at the left end of the mower deck. Release the lock collar to lock the adapter on the nozzle. Refer to Figure 6-6.

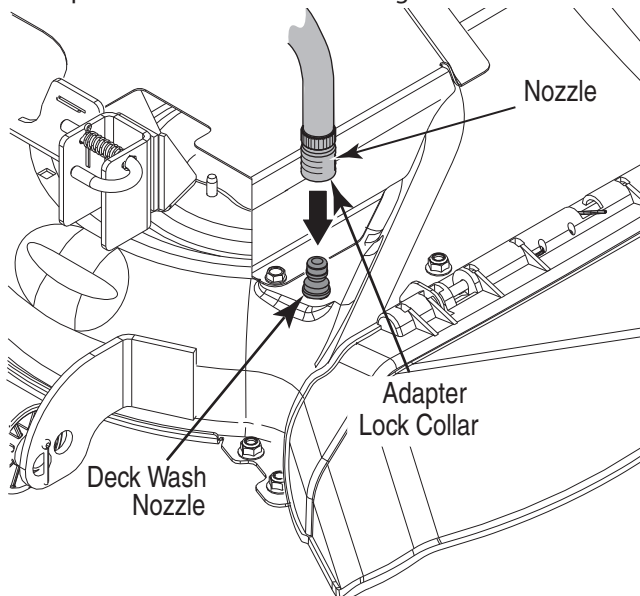


Figure 6-6

5. Turn the water on.
6. While sitting in the operator's position on the tractor, re-start the engine and place the throttle lever in the FAST (rabbit) position.
7. Move the tractor's PTO (Blade Engage) into the ON position. Remain in the operator's position with the cutting

deck engaged for a minimum of two minutes, allowing the underside of the cutting deck to thoroughly rinse.

8. Move the tractor's PTO (Blade Engage) into the OFF position. Turn the ignition key to the STOP position to turn the tractor's engine off.
9. Pull back the lock collar of the nozzle adapter to disconnect the adapter from the nozzle.
10. Repeat the previous steps 4 thru 9 to clean the deck using the nozzle at the other end of the deck.

Moving the Tractor Manually

If for any reason the tractor will not drive or you wish to move the tractor, engage the two hydro transmission bypass rods to manually move the tractor short distances. Access the bypass rods on each side of the tractor from beneath the tractor frame just behind the tractor's front drive wheels.

IMPORTANT: *Never tow or drag the tractor with the front wheels on the ground. Even with the bypass rods engaged. Doing so will damage the transmissions.*

To engage a bypass rod, proceed as follows:

- Lift the rod so that it is centered in the larger/rounded part of the keyhole slot in the tractor frame bracket. Pull the rod rearward so that the flange on the rod passes through the larger/rounded part of the keyhole slot.
- With the flange of the rod outside (rearward) of the frame bracket, pull the rod downward in the small part of the keyhole slot so that rod's flange is locked against the back of the bracket. See Figure 6-7.

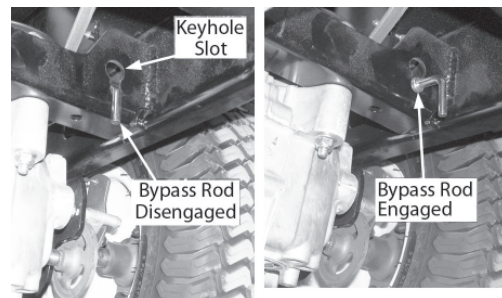


Figure 6-7

- Repeat to engage the other bypass rod.
- To disengage, lift the rod to align its flange with the larger/rounded part of the keyhole slot and release the rod back through the frame bracket.

NOTE: *The transmissions will NOT drive the tractor when the hydrostatic bypass rods are pulled out. Return the both rods to their normal position to operate the tractor.*

Adjustments



WARNING: Never attempt to make any adjustments while the engine is running. Disengage the PTO, release the forward or reverse control pedal, engage the parking brake, and stop the engine.

Steering and Transmission Linkage

The steering tie rod, the drag links, the control rod assemblies, and the related transmission linkages and gears are set at the factory and should not require further adjustment. Because of the complex adjustment procedure, the steering and transmission linkage should only be serviced or adjusted by a qualified mechanic. If you experience problems with steering, or with the hydro drive transmissions, contact your nearest Cub Cadet dealer to have the tractor inspected.

Adjusting the Seat



WARNING: After adjusting the seat or before driving the tractor, make sure that the seat adjustment lever is engaged in the seat index plate and that the seat will not move. Do not adjust the seat while the tractor is being driven. Adjusting the seat while the tractor is moving could cause the operator to lose control of the tractor.

1. While sitting in the seat, grasp the seat adjustment lever at the front/right of the seat and push/pull it toward the left side of the tractor to disengage the seat index plate. See Figure 6-8.

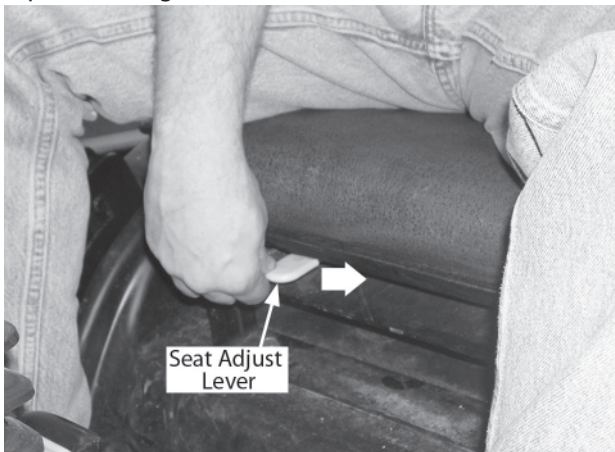


Figure 6-8

2. Slide the seat to the desired position.
3. Once the desired position is reached, release the seat lever. Slide the seat slightly fore and aft as necessary to engage the seat lever into one of the adjustment positions in the index plate. Make certain the seat is locked in position.

Side to Side Leveling the Deck

NOTE: Check the tractor's tire pressure before performing any deck leveling adjustments. Refer to "Tires" earlier in this section for information regarding tire pressure.

If the cutting deck appears to be mowing unevenly, a side to side adjustment can be performed. Adjust if necessary as follows:

1. With the tractor parked on a firm, level surface, move the deck to the mid height position using the deck lift lever. Rotate both outer blades so that they are perpendicular with the tractor frame.
2. Measure the distance from the outside of the left blade tip to the ground and the distance from the outside of the right blade tip to the ground. Both measurements taken should be equal. If they're not, note whether the left side of the deck is lower or higher and proceed to the next step.
3. Working from the left side of the tractor, loosen, but do not remove, the hex cap screw on the left deck hanger bracket. See Figure 6-9.

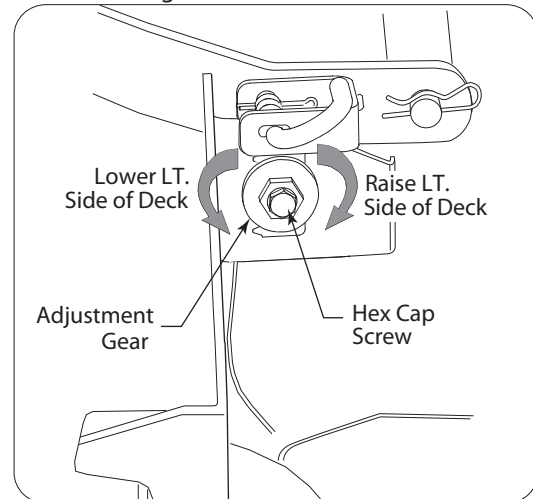


Figure 6-9

5. To level the deck, turn the adjustment gear, located immediately behind the hex cap screw, counter-clockwise (toward front) to lower the left side of the deck. Turn the gear clockwise (rearward) to raise the left side of the deck. See Figure 6-9.
6. The deck is properly leveled when both blade tip measurements, as described earlier, are equal.
7. Retighten the hex cap screw in the left deck adjustment bracket when proper adjustment is achieved.

Front To Rear Deck Leveling

The front of the cutting deck is supported by an adjustable front deck hanger rod. This rod can be adjusted to set the front to rear pitch of the deck. The front of the deck should be approximately 1/4-inch lower than the rear of the deck. Adjust if necessary as follows:

1. With the tractor parked on a firm, level surface, move the deck to the mid height position using the deck lift lever. Rotate the blade nearest the discharge chute so that it is parallel with the tractor frame.
2. Measure the distance from the front of the blade tip to the ground and the rear of the blade tip to the ground. The front measurement taken should be approximately 1/4" less than the rear measurement. Note whether the front of the deck must be raised or lowered for proper adjustment and, if necessary, proceed to the next step.

- Working at the front of the tractor, loosen the two hex nuts jammed against the rear hex nuts on the front of the deck hanger rod. Thread the hex nuts away from the hex nuts behind them. Refer to Figure 6-10.
- Use an open end wrench to turn the inner hex nuts to adjust the front of the deck. Turn the hex nuts clockwise to raise the front of the deck, or counterclockwise to lower the front of the deck. Adjust the hex nuts evenly so that the deck hanger rod is at the front of both slots in the hanger bracket on the front of the deck. See Figure 6-10.

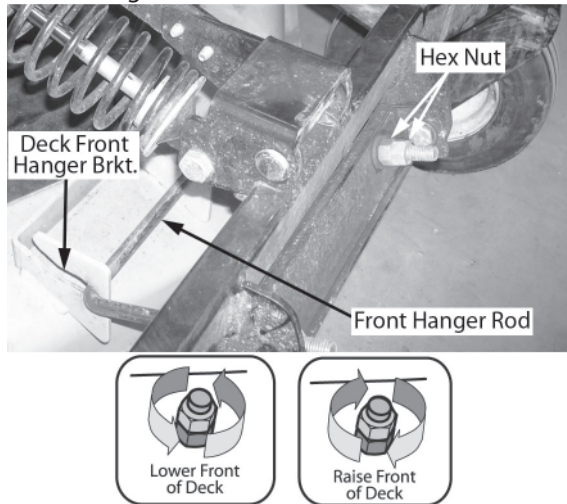


Figure 6-10

- Retighten the two hex jam nuts when properly adjusted.

Adjusting Front Gauge Wheels and Rear Rollers



WARNING! Keep hands and feet away from the discharge opening of the cutting deck.

The front gauge wheels on the mower deck are an anti-scalp feature, and should not ride on the ground. The front gauge wheels should be approximately 1/4 to 1/2 inch above the ground when the deck is set in the desired height setting.

The rear deck rollers can be set in either the low or high position.

Using the lift handle, set the deck in the desired height setting, then check the gauge wheel distance from the ground below. If necessary adjust the front gauge wheels as follows:

- Visually check the distance between the front gauge wheels and the ground. If the gauge wheels are near or touching the ground, they should be raised. If more than 1/2" above the ground, they should be lowered.
- Remove the lock nut securing one of the front gauge wheel shoulder screws to the deck. Remove the gauge wheel and shoulder screw. See Figure 6-11.
- Insert the shoulder screw into the one of four index holes in the front gauge wheel bracket that will give the gauge wheel a 1/4 to 1/2 inch clearance with the ground.

- Note the index hole of the just adjusted wheel, and adjust the other front gauge wheel into the respective index hole of the other front gauge wheel bracket.

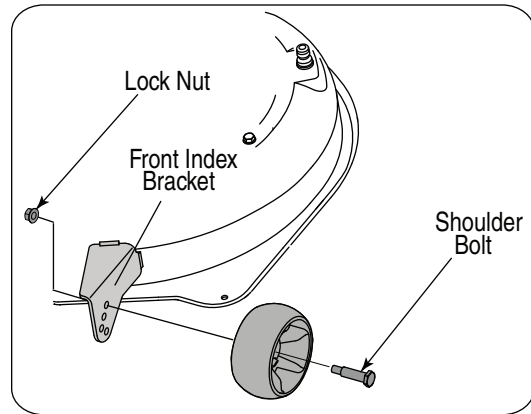


Figure 6-11

The position of the rear deck rollers is generally not changed. In the low position the rollers will roll the grass. In the high position, the rollers are in a storage position and do little or no rolling of the grass. Change the roller position as follows:

- Remove the cotter pin from the left end of the roller shaft. See Figure 6-12.

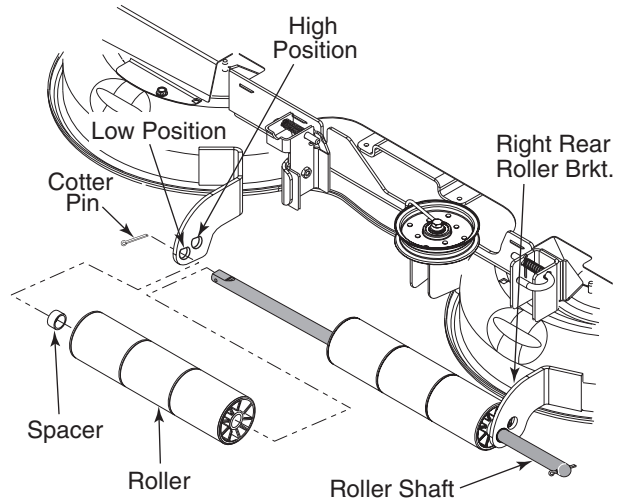


Figure 6-12

- Slide the roller shaft to the right and remove the rollers as the shaft is fully withdrawn from the right rear roller bracket. See Figure 6-12.
- Insert the roller shaft through the other roller bracket hole. Slide the rollers onto the shaft as you slide the shaft to the left.
- If necessary, rotate the roller shaft to align the flat area on the left end of the shaft with the flat of the hole in the left roller bracket. Slide the shaft through the left roller bracket and secure with the cotter pin.

Maintenance Schedule

	Before Each use	Every 10 Hours	Every 25 Hours	Every 50 Hours	Every 100 Hours	Prior to Storing
Clean Engine Hood Louvers		✓				✓
Check Engine Oil Level	✓					
Check Air Filter for Dirty, Loose or Damaged Parts	✓					
Clean and Re-oil Air Filter's Foam Precleaner			✓			
Replace Air Filter Element					✓	
Change Engine Oil and Replace Oil Filter					✓	
Clean Battery Terminals		✓				✓
Lube Steering Axles, Pivot Shafts, and Front Caster Axles			✓			✓
Lube Rear Wheel and Caster Wheel Bearings			✓			✓
Clean Engine Cooling Fins			✓			✓
Lube Front Deck Wheels			✓			✓
Lube Deck Spindles		✓				✓
Lube Pedal Pivot Points						✓
Check Spark Plug Condition & Gap					✓	✓
Replace Fuel Filter					✓	

Pivot Bar adjustment

If excessive play is experienced in the steering wheel, check the rear pivot bar for forward/rearward movement.

1. Raise the rear of the tractor and set on jack stands, so the rear wheels are suspended above the ground.
2. Grasping the ends of the pivot bar, attempt to move each end of the axle forward and rearward to check for side play. There should be minimal or no side play.
3. If there is no side play, lower the tractor to the ground and have the steering linkage inspected by you Cub Cadet dealer. If there is side play, tighten the pivot bar as follows:
 - Support the pivot bar, then remove the hex lock nuts securing the two shoulder bolts that pass through the pivot bar bracket, the pivot bar, and tractor frame. See Figure 7-1.

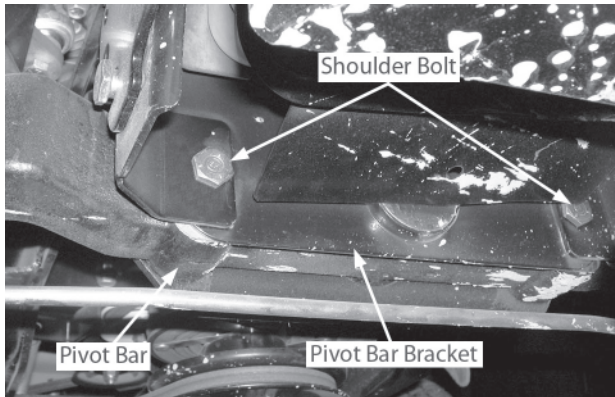


Figure 7-1

- Slide a half inch flat washer, with a maximum thickness of .030 inch, onto each shoulder bolt. Reinstall the shoulder bolts w/washers and fasten with the two hex lock nuts. See Figure 7-1.
- Gradually and evenly tighten the hex lock nut while continuing to check the forward/rearward movement of the pivot bar. Tighten the lock nuts until minimum play, without binding the pivot bar's up and down movement, is achieved.

Checking Main Harness Fuse

- A 20 amp fuse is installed in your tractor's wiring harness to protect the tractor's electrical system from damage caused by excessive amperage.
- If the electrical system does not function, or your tractor's engine will not crank, first check to be certain that the fuse has not blown.
- The fuse and fuse holder can be found beneath the left console taped to the main wire harness.

IMPORTANT: Always use a fuse with the same amperage capacity for replacement.

Jump Starting the Tractor

IMPORTANT: Never jump your tractor's dead battery with the battery of a running vehicle.

1. Connect end of one jumper cable to the positive terminal of the good battery, then the other end to the positive terminal of the dead battery.
2. Connect the other jumper cable to the negative terminal of the good battery, then to the **frame of the unit with the dead battery**.



WARNING!: Failure to use this procedure could cause sparking which could ignite the gas emitting from either battery, and result in a battery explosion.

Battery

The battery is sealed and is maintenance-free. Acid levels cannot be checked.

- Always keep the battery cables and terminals clean and free of corrosive build-up.
- After cleaning the battery and terminals, apply a light coat of petroleum jelly or grease to both terminals.
- Always keep the rubber boot positioned over the positive terminal to prevent shorting.

Removing the battery

IMPORTANT: If removing the battery for any reason, disconnect the **NEGATIVE (Black)** wire from it's terminal **FIRST**, followed by the **POSITIVE (Red)** wire. When re-installing the battery, always connect the **POSITIVE (Red)** wire its terminal first, followed by the **NEGATIVE (Black)** wire. Be certain that the wires are connected to the correct terminals; reversing them could change the polarity and result in damage to your engine's alternating system.

- Pivot the seat forward and remove the battery cables (black negative cable first) from the battery terminal.
- Unhook the battery holddown rod and pivot off battery.
- Grasp the top of the battery and carefully lift out of the tractor.
- To reinstall, carefully lower the battery into the tractor and re-hook the holddown rod. Connect the battery cables in the proper order as instructed above.

Charging the Battery

If the tractor has not been in use for a prolonged period of time, the battery should be recharged. Charge the battery with an automotive-type 12-volt charger for a minimum of one hour at six amps.



WARNING!: Batteries give off an explosive gas while charging. Charge battery in a well ventilated area and keep away from an open flame or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.

Cleaning the Battery

Clean the battery by removing it from the tractor and washing with a baking soda and water solution. If necessary, scrape the battery terminals with a wire brush to remove deposits. Coat terminals and exposed wiring with grease or petroleum jelly to prevent corrosion.

Battery Failures

Some common causes for battery failure are:

- incorrect initial activation
- undercharging
- overcharging
- corroded connections
- freezing

These failures are NOT covered by your tractor's warranty.

Changing Transmission Drive Belt

Several components must be removed, including transmission steering linkage which will have to be readjusted, in order to change the tractor's transmission drive belt. Contact your Cub Cadet dealer to have your transmission drive belt replaced.

Hydrostatic Transmission

Keep the area around the transmission cooling fans free of grass and debris at all times. The hydrostatic transmission is sealed at the factory and is maintenance free. The fluid level cannot be changed.

Removing Only the Mower Deck

When performing service procedures on the mower deck, the deck only may be removed from the deck frame, or the complete deck frame and deck may be removed from the tractor. When replacing the mower deck with an optional attachment, the mower deck and deck frame should be removed from the tractor together.



WARNING! Disengage the PTO, release the forward or reverse control pedal, engage the parking brake, stop the engine and remove the key to prevent unintended starting.

To remove only the mower deck, proceed as follows:

- Disengage the PTO (Blade Engage), stop the engine, and engage the parking brake.
- Place the deck gauge wheels in their highest setting (lowest deck setting).
- Using the deck lift lever, place the mower deck in the position that results in the most horizontal run of the deck drive belt between the deck pulleys and the PTO pulley on the bottom of the engine.
- Moving to the left side of the tractor between the front and rear wheels, locate the idler bracket handle beneath the tractor frame.
- Grasp the idler bracket handle and pivot it rearward to relieve tension from the deck drive belt. Remove the belt from the V-idler pulley and flat idler pulley by pulling the belt downward. Carefully release the idler bracket handle. See Figure 7-2.

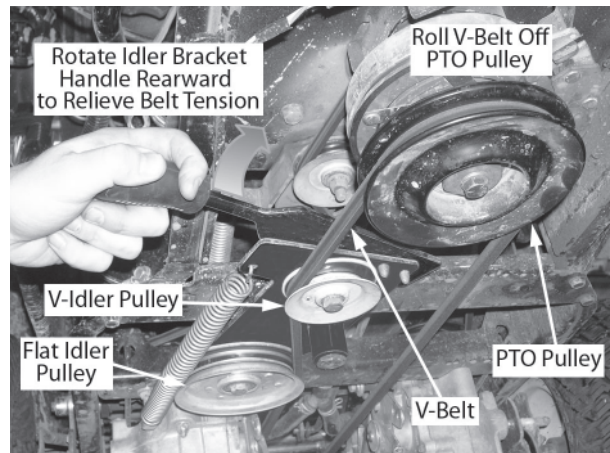


Figure 7-2

- From the left of the PTO pulley, pull the left side of the drive belt downward and roll the belt off the PTO pulley. Refer to Figure 7-2. Use the deck lift lever to fully lower the deck.
- To reduce the possibility of the deck drive belt disengaging the spindle pulleys beneath the deck cover, grasp the two sides of the deck belt just behind the belt keepers on the two rear deck idler pulleys and pull the belt rearward. Pinch the two sides of the belt together just behind the rear most belt keeper and use a wire tie, string, or some type of spring clamp to temporarily hold the two sides of the belt together while removing the deck.
- From the right side of the tractor, locate the deck support pin on the rear right/rear of the deck. Refer to Figure 7-3.
- Pull the deck support pin outward to release the deck from the deck lift arm. Pivot the support pin handle downward to lock the pin in the disengaged position. See Figure 7-3.

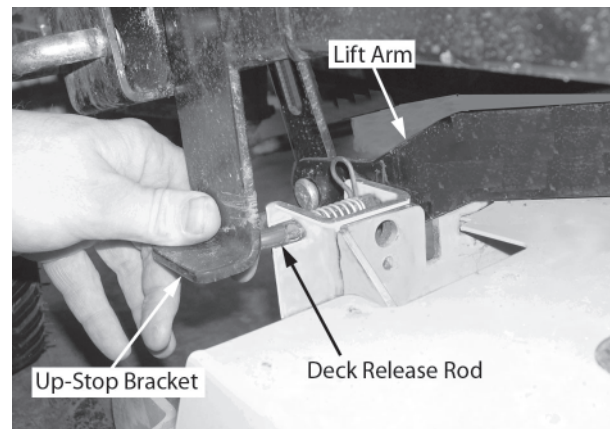


Figure 7-3

- Move to the left side of the tractor and pull the deck support pin on the left side outward to release the deck from the LH lift arm. Pivot the support pin handle downward to lock the pin in the disengaged position.
- Move the deck lift lever into the top notch in the deck height index bracket to raise deck lift arms up and out of the way.

- Carefully roll the deck toward the front of the tractor until the front hanger rod can be removed from the slots of the deck hanger bracket at the front of the deck. See Figure 7-4.

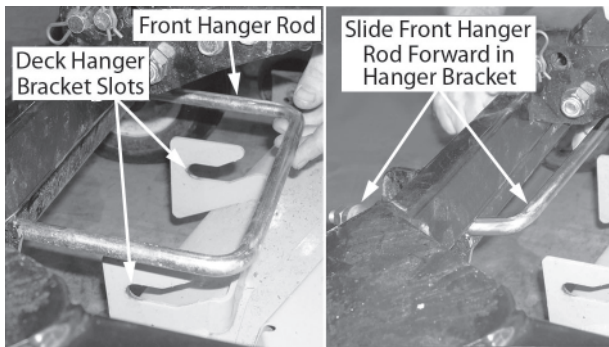


Figure 7-4

- Slide the front hanger rod forward in its pivot bracket so that it is held upward away from the deck hanger bracket slots. Refer to Figure 7-4.
- Carefully slide the deck out from the right side of the tractor.

Cutting Blades



WARNING: When removing the cutting blade(s) for sharpening or replacement, protect your hands by using heavy gloves or a rag to grasp the cutting blade.



WARNING: Periodically inspect the blades for cracks or damage, especially if you strike a foreign object. Replace immediately if damaged.

The blades may be removed as follows.

- Remove the deck from beneath the deck frame, (refer to Cutting Deck Removal).
- Remove the deck cover from the top of the mower deck to expose the top of the blade spindles (Refer to Removing the Deck Cover on Page 24).
- Carefully tilt the deck upward to expose the underside of the deck.

NOTE: A block of wood may be placed between the deck housing and the cutting edge of the blade to help in breaking loose the hex nut securing the blade. Refer to Figure 7-5.

- Use a 1-1/8" wrench to loosen the hex flange nut securing the blade to the bottom of the spindle assembly. Secure the spindle by either holding the blade tightly, or by using a second wrench to hold the head of the spindle bolt. Refer to Figure 7-5.
- Secure the spindle bolt to keep it from turning and remove the flange nut and cutting blade.
- Repeat the previous steps to remove the other blades.
- To properly sharpen the cutting blades, remove equal amounts of metal from both ends of the blades along the cutting edges, parallel to the trailing edge, at a 25° to 30° angle.

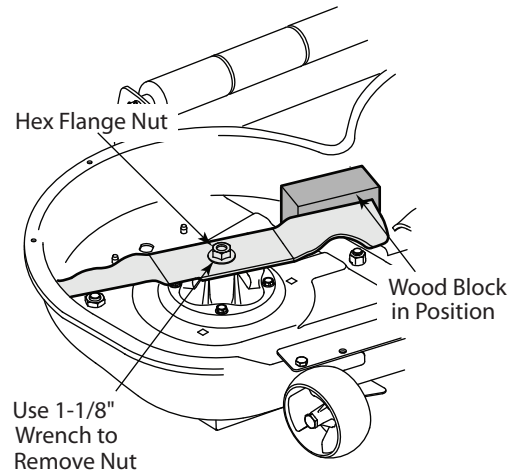


Figure 7-5

IMPORTANT: If the cutting edge of the blade has already been sharpened to within 1 5/8" from the edge, or if any metal separation is present, replace the blades with new ones.

- It is important that each cutting blade edge be ground equally to maintain proper blade balance.
- A poorly balanced blade will cause excessive vibration and may cause damage to the tractor and result in personal injury. The blade can be tested by balancing it on a round shaft screwdriver. Grind metal from the heavy side until it balances evenly.

IMPORTANT: When replacing the blades, make certain the side of the blade marked "Bottom" faces the ground when the mower is turned to the operating position.

- Slide the blade onto the spindle shaft. Thread the hex flange onto the spindle shaft and use a torque wrench to tighten the hex flange nut to 90 to 110 ft-lbs. (122 to 149 N·m).
- Repeat the above procedure to install the other blades.

Changing the Deck Drive V-Belt



WARNING: Be sure to shut the engine off, remove ignition key, disconnect the spark plug wire(s) to prevent unintended starting before removing the belt(s).

All belts on your tractor are subject to wear and should be replaced if any signs of wear are present.

IMPORTANT: Do not use substitute belts. The V-belt found on your tractor is specially designed for optimal performance and service life for your deck application. Use only OEM original replacement belts.

To change or replace the deck belt on your tractor, proceed as follows:

- Remove the deck from beneath the deck frame (refer to Cutting Deck Removal on page 30).
- Remove the deck cover from the top of the mower deck to expose the blade spindles and V-belt (Refer to Removing the Deck Cover on page 24).
- Remove wire tie, string, spring clamp if installed earlier to hold the V-belt more tightly in the spindle pulleys.
- Remove the V-Belt from the spindle pulleys and front idler pulley. Refer to Figure 7-6.
- From beneath the idler pulley mounting brackets remove the hex flange lock nuts fastening the rear idler pulleys and belt keepers to the mounting brackets. Lift the hex screw, flat washers and belt keeper as necessary to withdraw the belt keeper legs from the pulley mounting brackets and remove the V-belts from each idler pulley. Refer to Figure 7-6.
- Place the new belt around the center spindle pulley; then route the backside of the belt around the rear of the front idler pulley and over to the left spindle pulley. Refer to Figure 7-6.

- Place the V-belt in the two outer spindle pulleys and route the backside of the belt to the two rear idler pulleys. Refer to Figure 7-6
- Lift the hex screw, flat washers and belt keeper of the left idler pulley and slide the belt routed from the left spindle pulley between the belt keeper and pulley. Insert the leg of the belt keeper into the small hole of the pulley mounting bracket. Insert the hex screw with flat washers, belt keeper, and idler pulley into the mounting bracket and secure with the hex flange lock nut. Refer to Figure 7-6.
- Repeat to install the V-belt from the right spindle pulley inside the belt keeper and on the right idler pulley.
- Pull the belt tight in the spindle and idler pulleys and pinch the two side of the belt together just behind the rear most belt keeper. Use a wire tie, string, or some type of spring clamp to temporarily hold the V-belt in the spindle pulleys.
- Reinstall the deck cover on the top of the deck.

Reinstalling Only the Mower Deck

The following instructions for installing the mower deck apply only if the deck has been removed tractor by disconnecting from the tractor's deck frame.

- From the right side of the tractor, route the V-belt rearward between the front drive wheels of the tractor as you slide the deck under deck frame of the tractor.
- Push/pull the front hanger rod rearward in its pivot bracket.
- Roll the deck forward and place the deck front hanger rod into the slots of the deck front hanger bracket. Then roll the deck rearward so that the hanger rod is at the front of the slots. Refer to Figure 7-4.

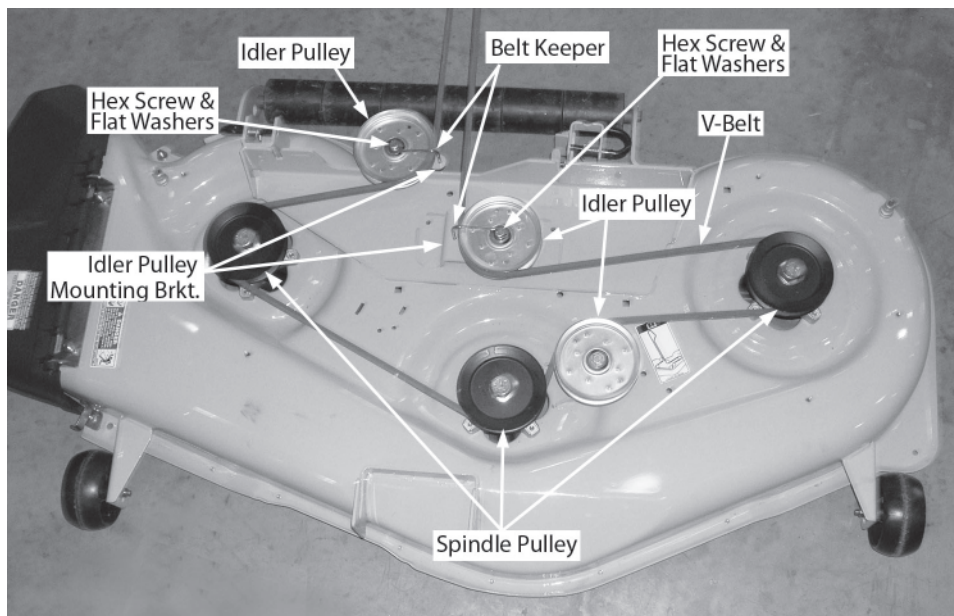


Figure 7-6 Replacement Belt Routing 50" Mower Deck

- On each side of the mower deck, make sure that the deck support pins are pulled outward and fixed in the disengaged position. Refer to Figure 7-3.
- Using the deck lift lever, lower the deck lift arms and guide into the slots of the hitch brackets on the rear of the mower deck.
- From either side of the tractor, align the deck lift arm hole with the deck support pin and release the pin so that it goes through the deck lift arm. Repeat on the other side of the tractor to secure the deck.
- After first making sure the deck V-belt is still pulled tight behind the deck idler pulleys, route the deck belt rearward above the spacer between the two front drive transmissions and toward the PTO pulley on the bottom of the engine.
- Using the deck lift handle, raise the deck to the position that gives you the most horizontal run of the belt between the deck pulleys and the PTO pulley on the bottom of the engine.
- Remove the wire tie, string, or clamp holding the V-belt behind the deck idler pulleys. Then roll the belt onto the PTO pulley and place the narrow side of the left run of the belt in the V-idler pulley.
- Pivot the idler bracket handle fully rearward and hold in position while routing the backside of the left run of the V-belt around the inside of the flat idler pulley. Refer to Figure 7-2.



WARNING! The idler bracket is under spring tension, use caution to avoid pinching your fingers when installing the belt onto the idler bracket pulleys.

- After making certain the V-belt is properly placed in the PTO pulley and idler pulleys, carefully pivot the idler bracket handle forward to tension the belt.

Removing the Deck Frame and Mower Deck



WARNING: Do not operate the tractor without an approved attachment installed on the front of the tractor. Doing so could affect the tractor's stability and could cause an accident.

When replacing the mower deck with an optional attachment, the mower deck and deck frame should be removed from the tractor together. Proceed as follows:



WARNING! Disengage the PTO, release the forward or reverse control pedal, engage the parking brake, stop the engine and remove the key to prevent unintended starting.

- Using the deck lift lever, place the mower deck in the position that results in the most horizontal run of the deck drive belt between the deck pulleys and the PTO pulley on the bottom of the engine.
- From the left side of the tractor, grasp the idler bracket handle and pivot it rearward to relieve tension from the deck drive belt. Remove the belt from the V-idler pulley and flat idler pulley by pulling the belt downward. Carefully release the idler bracket handle. See Figure 7-2

- From the left of the PTO pulley, pull the left side of the drive belt downward and roll the belt off the PTO pulley. Refer to Figure 7-2. Use the deck lift lever to fully lower the deck.
- To reduce the possibility of the deck drive belt disengaging the spindle pulleys beneath the deck cover, grasp the two sides of the deck belt just behind the belt keepers on the two rear deck idler pulleys and pull the belt rearward. Pinch the two sides of the belt together just behind the rear most belt keeper and use a wire tie, string, or some type of spring clamp to temporarily hold the two sides of the belt together while removing the deck and deck frame.
- From either side of the tractor, just behind the mower deck, disconnect the tractor lift link from the deck lift arm by removing the internal cotter pin and withdrawing the clevis pin. See Figure 7-7. Move to the other side of the tractor and disconnect the lift link on that side in the same manner.

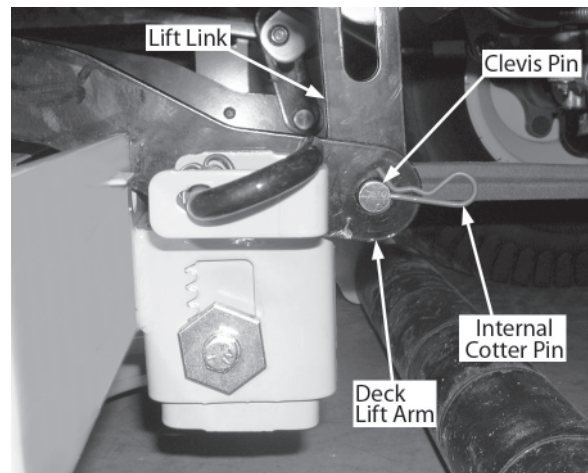


Figure 7-7

- On the left side of the deck frame, locate the safety electrical harness connection. Spread the lock tabs on the harness connector and disconnect the deck frame safety harness. See Figure 7-8.

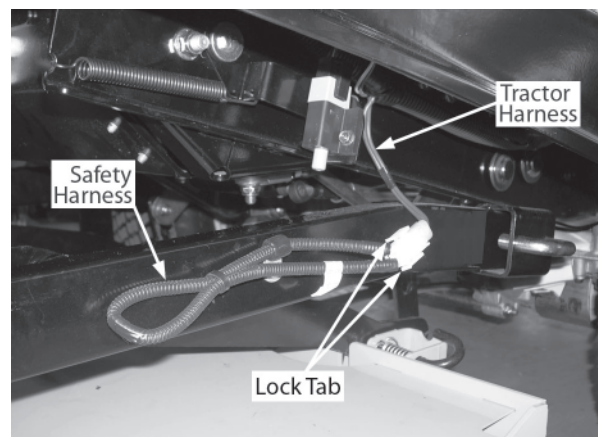


Figure 7-8

- At the front of the deck frame, remove the internal cotter pin and withdraw the clevis pin to unlock shock absorber pivot handle. See Figure 7-9.

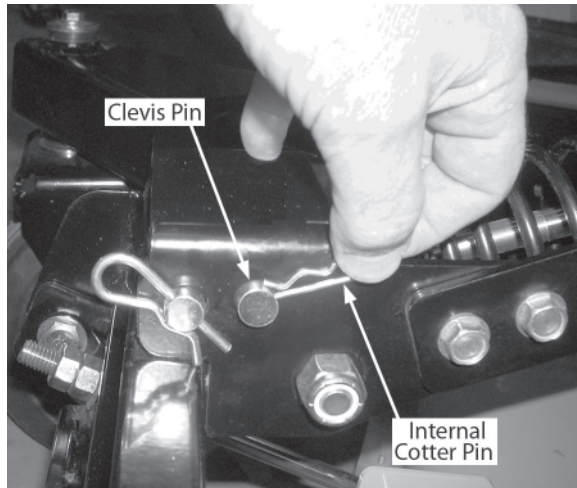


Figure 7-9

- Grasp the shock absorber pivot handle and pull upward and forward to pivot the handle fully forward. Refer to Figure 7-10.
- Remove the internal cotter pin securing the shock absorber handle pivot clevis pin. Hold the shock absorber pivot handle and withdraw the clevis pin. Refer to Figure 7-10.

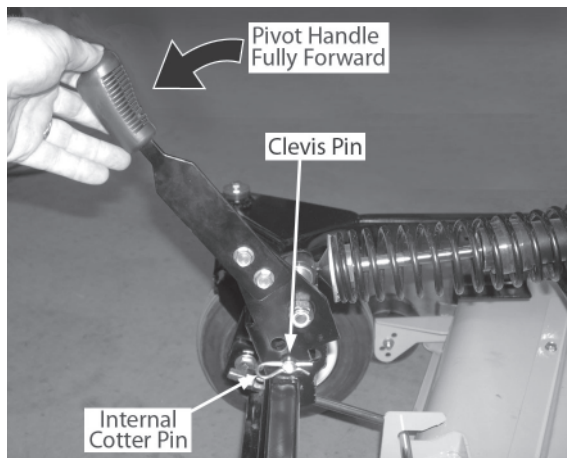


Figure 7-10

- From either side of the tractor, at the rear of the deck frame, pull the release pin outward to disengage the deck frame from the tractor. Turn the release pin slightly so that it is held outward in the disengaged position. Refer to Figure 7-11.
- Grasp the shock absorber pivot handle and lift upward off the deck frame mounting bracket. Hold the shock absorber up while rolling the deck frame and deck away from the front of the tractor. Refer to Figure 7-12.

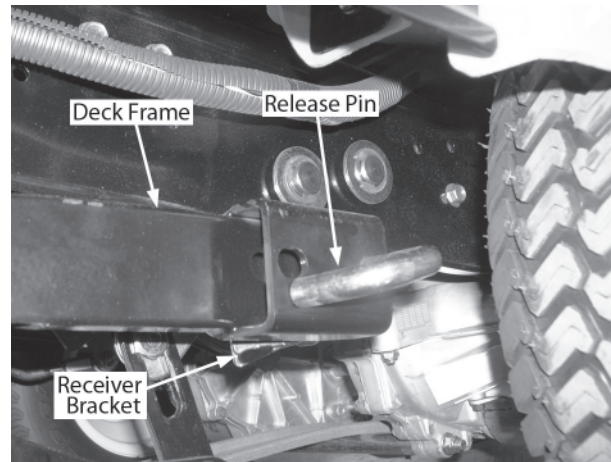


Figure 7-11



Figure 7-12

Reinstall the Deck Frame/Deck

- Align the deck and deck frame with the front of the tractor. Lift the shock absorber handle and carefully roll the deck frame/deck rearward to the tractor frame.
- Make certain the deck frame aligns with the receiver brackets on each side of the frame; then push the deck frame rearward onto the outside of the receiver brackets.
- Pivot the deck frame release pins to align with the holes in each side of the deck frame and release. Refer to Figure 7-11. Maneuver the deck frame as necessary to engage the release pins fully through the receiver bracket holes.
- Install the shock absorber pivot handle on the outside of the mounting brackets on the deck frame. Align the forward holes of the pivot handle and mounting brackets, insert the long clevis pin and secure with the internal cotter pin removed when removing the deck frame. Refer to Figure 7-10.
- Pivot the shock absorber pivot handle fully rearward and align the rearward hole on the right front of pivot handle with the rear hole of the right mounting bracket. Insert the short clevis pin and secure with the internal cotter pin removed during the removal procedure. Refer to Figure 7-9.
- Connect the safety harness to the tractor harness. Refer to Figure 7-8.

- Make certain the tractor lift links are inside of the deck frame lift arms. Align the lift link and lift arm holes on either side of the tractor and insert the clevis pin removed earlier. Secure with the internal cotter. Refer to Figure 7-7. Connect the lift link and lift arm on the other side of the tractor in the same manner.
- After first making sure the deck V-belt is still pulled tight behind the deck idler pulleys, route the deck belt rearward above the spacer between the two front drive transmissions and toward the PTO pulley on the bottom of the engine.
- Using the deck lift handle, raise the deck to the position that gives you the most horizontal run of the belt between the deck pulleys and the PTO pulley on the bottom of the engine.
- Remove the wire tie, string, or clamp holding the V-belt behind the deck idler pulleys. Then roll the belt onto the PTO pulley and place the narrow side of the left run of the belt in the V-idler pulley.
- Pivot the idler bracket handle fully rearward and hold in position while routing the backside of the left run of the V-belt around the inside of the flat idler pulley. Refer to Figure 7-2.
- After making certain the V-belt is properly placed in the PTO pulley and idler pulleys, carefully pivot the idler bracket handle forward to tension the belt.

Replacing the Headlight Bulb

The head light bulb must be accessed from inside the steering column cover. Proceed as follows:

- Remove the two torx head screws from the top rear of the steering column cover. See Figure 7-13.

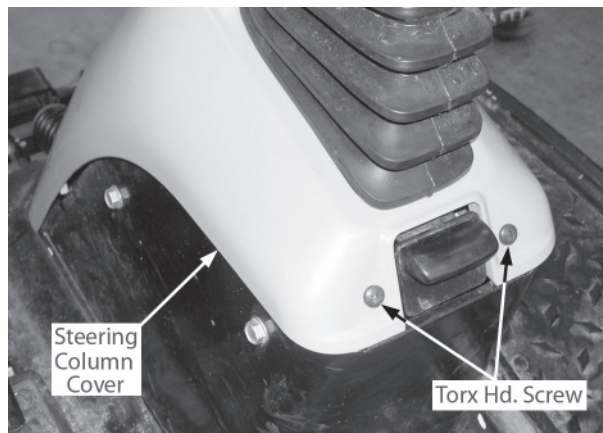


Figure 7-13

- Lift the cover upward and rearward to remove the tabs on the front of the cover from the slots of the running board.
- Continue to lift the cover until the cover can be rotated to the side enough to provide access to the rear of the headlight housing.
- Disconnect the wire harness and turn the headlight socket approximately 1/4 turn counterclockwise to remove from the light housing.

- Install the new light bulb and connect the wire harness.
- Reposition the steering column cover and insert the cover front tabs into the running board slots.
- Align the cover holes with the holes of the steer shaft housing and secure with the two torx head screws.

Off Season Storage

If the machine is to be inoperative for a period longer than 30 days, the following procedures are recommended:



WARNING: Never store the machine or fuel container indoors where there is an open flame, spark or pilot light such as on water heater, furnace, clothes dryer or other gas appliance.

IMPORTANT: Fuel left in the fuel tank during warm weather deteriorates and will cause serious starting problems.

To prevent gum deposits from forming inside the engine's carburetor and causing possible malfunction of the engine, the fuel system must be either completely emptied, or the gasoline must be treated with a stabilizer to prevent deterioration.

1. If using a fuel stabilizer:
 - Read the product manufacturer's instructions and recommendations.
 - Add to clean, fresh gasoline the correct amount of stabilizer for the capacity of the fuel system.
 - Fill the fuel tank with treated fuel and run the engine for 2-3 minutes to get stabilized fuel into the carburetor.
2. If emptying the fuel system:
 - Do not drain fuel when the engine is hot. Allow the engine adequate time to cool. Drain fuel into an approved container outdoors, away from open flame.
 - Drain any large volume of fuel from the tank by disconnecting the fuel line from the in-line fuel filter near the engine.
 - Reconnect the fuel line and run the engine until it starts to falter, then use the choke to keep the engine running until all fuel in the carburetor has been exhausted.
 - Again disconnect the fuel line and drain any remaining gasoline from the system.



WARNING: Drain fuel only into an approved container outdoors, away from an open flame. Allow engine to cool. Extinguish cigarettes, cigars, pipes, and other sources of ignition prior to draining fuel.

Remove the spark plug and pour one (1) ounce of engine oil through the spark plug hole into the cylinder. Crank the engine several times to distribute the oil. Replace the spark plug.

Before storing for an extended period, clean and lubricate the tractor as instructed in "Maintenance and Adjustments."

Problem	Cause	Remedy
Engine fails to start	1. PTO/Blade Engage knob engaged. 2. Parking brake not engaged. 3. Spark plug wire(s) disconnected. 4. Throttle control lever not in correct starting position. 5. Choke not activated 6. Fuel tank empty, or stale fuel. 7. Blocked fuel line. 8. Faulty spark plug(s). 9. Engine flooded.	1. Place knob in disengaged (OFF) position. 2. Engage parking brake. 3. Connect wire(s) to spark plug(s). 4. Place throttle lever to FAST position. 5. Pull the CHOKE control outward. 6. Fill tank with clean, fresh (less than 30 days old) gas. 7. Clean fuel line and replace fuel filter. 8. Clean, adjust gap or replace plug(s). 9. Crank engine with throttle in FAST position.
Engine runs erratic	1. Unit running with CHOKE activated. 2. Spark plug wire(s) loose. 3. Blocked fuel line or stale fuel. 4. Vent in gas cap plugged. 5. Water or dirt in fuel system. 6. Dirty air cleaner.	1. Push CHOKE control in. 2. Connect spark plug wire(s). 3. Clean fuel line; fill tank with clean, fresh gasoline and replace fuel filter. 4. Clear vent or replace cap if damaged. 5. Drain fuel tank. Refill with clean, fresh gasoline. 6. Replace air cleaner paper element or clean foam pre-cleaner.
Engine overheats	1. Engine oil level low. 2. Air flow restricted.	1. Fill crankcase with proper amount and weight of oil. 2. Clean grass clippings and debris from around the engine's cooling fins and blower housing.
Engine hesitates at high RPM	1. Spark plug(s) gap too close.	1. Remove spark plug(s) and reset the gap.
Engine Idles rough	1. Spark plug(s) fouled, faulty or gap too wide. 2. Dirty air cleaner.	1. Replace spark plug(s). Set plug gap. 2. Replace air cleaner element and/or clean pre-cleaner.
Excessive vibration	1. Cutting blade loose or unbalanced. 2. Damaged or bent cutting blade.	1. Tighten blade and spindle. 2. Replace blade.
Mower will not mulch grass (If Applicable)	1. Engine speed too low. 2. Wet grass. 3. Excessively high grass. 4. Dull blade.	1. Place throttle in FAST (rabbit) position. 2. Do not mulch when grass is wet. 3. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting swath. 4. Sharpen or replace blade.
Uneven cut	1. Deck not leveled properly. 2. Dull blade. 3. Uneven tire pressure.	1. Perform side-to-side deck adjustment. 2. Sharpen or replace blade. 3. Check tire pressure in all four tires.

Contact your Cub Cadet dealer to order replacement parts. If you do not have a dealer, call the Customer Dealer Referral Line at 1-877-282-8684 or visit www.cubcadet.com to find the nearest Cub Cadet dealer in your area. Phone (800) 965-4CUB to order replacement parts or a complete Parts Manual (have your full model number and serial number ready). Parts Manual downloads are also available free of charge at www.cubcadet.com.

Description	FMZ50
Lower Drive Belt - Contact Dealer	954-04189
Engine to Deck/ PTO Belt	954-04188
Blades	942-04068 (Qty. 3)
Deck Spindles	618-04426
Deck Front Ball Wheels	734-04155 (Qty. 2)
Battery	925-1707D
Starter Solenoid	725-04439
Ignition Keys	725-2054A
Engine Oil Filter	KH-12-050-01-S
Engine Oil (Capacity 57.6 ounces)	737-3030A (1qt.)
Engine Air Filter Element & Foam Precleaner	KH-32-883-03-S1
Fuel Filter	KH-25-050-22-S
Spark Plug	759-3336
Deck Discharge Chute Assembly	631-04070A
Headlight Bulb	925-3161A
Deck Roller	731-3305 (Qty. 6)

CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and MTD Consumer Group Inc are pleased to explain the evaporative emission control system warranty on your 2008 lawn mower. In California, new lawn mowers must be designed, built and equipped to meet the State's stringent anti-smog standards. MTD Consumer Group Inc must warrant the EECS on your lawn mower for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your lawn mower.

Your EECS may include parts such as the carburetor, fuel-injection system, the ignition system, catalytic converter, fuel tanks, fuel lines, fuel caps, valves, canisters, filters, vapor hoses, clamps, connectors, and other associated emission-related components.

Where a warrantable condition exists, MTD Consumer Group Inc will repair your lawn mower at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE:

This evaporative emission control system is warranted for two years. If any evaporative emission-related part on your equipment is defective, the part will be repaired or replaced by MTD Consumer Group Inc.

OWNER'S WARRANTY RESPONSIBILITIES:

As the lawn mower owner, you are responsible for performance of the required maintenance listed in your owner's manual. MTD Consumer Group Inc recommends that you retain all receipts covering maintenance on your lawn mower, but MTD Consumer Group Inc cannot deny warranty solely for the lack of receipts.

As the lawn mower owner, you should however be aware that MTD Consumer Group Inc may deny you warranty coverage if your lawn mower or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.

You are responsible for presenting your lawn mower to MTD Consumer Group Inc's distribution center or service center as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact the MTD Consumer Group Inc Service Department at 1-800-800-7310.

GENERAL EMISSIONS WARRANTY COVERAGE:

MTD Consumer Group Inc warrants to the ultimate purchaser and each subsequent purchaser that the lawn mower is: Designed, built and equipped so as to conform with all applicable regulations; and free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to that part as described in MTD Consumer Group Inc's application for certification.

The warranty period begins on the date the lawn mower is delivered to an ultimate purchaser or first placed into service. The warranty period is two years.

Subject to certain conditions and exclusions as stated below, the warranty on emission-related parts is as follows:

1. Any warranted part that is not scheduled for replacement as required maintenance in the written instructions supplied, is warranted for the warranty period stated above. If the part fails during the period of warranty coverage, the part will be repaired or replaced by MTD Consumer Group Inc according to subsection (4) below. Any such part repaired or replaced under warranty will be warranted for the remainder of the period.
 2. Any warranted part that is scheduled only for regular inspection in the written instructions supplied is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
 3. Any warranted part that is scheduled for replacement as required maintenance in the written instructions supplied is warranted for the period of time before the first scheduled replacement date for that part. If the part fails before the first scheduled replacement, the part will be repaired or replaced by MTD Consumer Group Inc according to subsection (4) below. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
 4. Repair or replacement of any warranted part under the warranty provisions herein must be performed at a warranty station at no charge to the owner.
 5. Notwithstanding the provisions herein, warranty services or repairs will be provided at all of our distribution centers that are franchised to service the subject engines or equipment.
 6. The lawn mower owner will not be charged for diagnostic labor that is directly associated with diagnosis of a defective, emission-related warranted part, provided that such diagnostic work is performed at a warranty station.
 7. MTD Consumer Group Inc is liable for damages to other engine or equipment components proximately caused by a failure under warranty of any warranted part.
 8. Throughout the lawn mower warranty period stated above, MTD Consumer Group Inc will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.
 9. Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of MTD Consumer Group Inc.
 10. Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claims. MTD Consumer Group Inc will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.
-

WARRANTED PARTS:

The repair or replacement of any warranted part otherwise eligible for warranty coverage may be excluded from such warranty coverage if MTD Consumer Group Inc demonstrates that the lawn mower has been abused, neglected, or improperly maintained, and that such abuse, neglect, or improper maintenance was the direct cause of the need for repair or replacement of the part. That notwithstanding, any adjustment of a component that has a factory installed, and properly operating, adjustment limiting device is still eligible for warranty coverage. The following emission warranty parts are covered:

(1) Fuel Metering System

- Cold start enrichment system (soft choke)
- Carburetor and internal parts
- Fuel pump
- Fuel tank

(2) Air Induction System

- Air cleaner
- Intake manifold

(3) Ignition System

- Spark plug(s)
- Magneto ignition system

(4) Exhaust System

- Catalytic converter
- SAI (Reed valve)

(5) Miscellaneous Items Used in Above System

- Vacuum, temperature, position, time sensitive valves and switches
- Connectors and assemblies

(6) Evaporative Control

- Fuel hose certified for ARB evaporative emissions 2008
- Fuel hose clamps
- Tethered fuel cap
- Carbon canister
- Vapor lines

CUB CADET LLC

MANUFACTURER'S LIMITED WARRANTY FOR

FMZ TRACTORS

IMPORTANT: To obtain warranty coverage owner must present an original proof of purchase and applicable maintenance records to the servicing dealer. Please see the operator's manual for information on required maintenance and service intervals.

The limited warranty set forth below is given by Cub Cadet LLC with respect to new merchandise purchased or leased and used in the United States and/or its territories and possessions, and by MTD Products Limited with respect to new merchandise purchased or leased and used in Canada and/or its territories and possessions (either entity respectively, "Cub Cadet").

Cub Cadet warrants this product (excluding its *Normal Wear Parts, Batteries, Electric PTO and Attachments* as described below) against defects in material and workmanship for a period of three (3) years or one hundred eighty (180) operation hours, whichever comes first, commencing on the date of original retail purchase or lease and will, at its option, repair or replace, free of charge, any part found to be defective in materials or workmanship.

Normal Wear Parts are warranted to be free from defects in material and workmanship for a period of thirty (30) days from the date of original purchase or lease. Normal wear parts include, but are not limited to items such as: belts, blades, blade adapters, grass bags, rider deck wheels, seats, and tires.

Batteries have a one-year prorated limited warranty against defects in material and workmanship, with 100% replacement during the first three months. After three months, the battery replacement credit is based on the months remaining in the twelve (12) month period dating back to the original date of original sale or lease. Any replacement battery will be warranted only for the remainder of the original warranty period.

Electric PTO—Cub Cadet warrants the Electric PTO (Power Take-Off) against defects in material and workmanship for a period of three (3) years or 120 hours, whichever occurs first, commencing on the date of original purchase or lease.

Attachments —Cub Cadet warrants attachments for this product against defects in material and workmanship for a period of one (1) year, commencing on the date of the attachment's original purchase or lease. Attachments include, but are not limited to items such as: grass collectors and mulch kits.

This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, or damage because of other peril or natural disaster. Damage resulting from the installation or use of any part, accessory or attachment not approved by Cub Cadet for use with the product(s) covered by this manual will void your warranty as to any resulting damage. In addition, Cub Cadet may deny warranty coverage if the hour meter, or any part thereof, is altered, modified, disconnected or otherwise tampered with.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE AND APPLICABLE MAINTENANCE RECORDS, through your local authorized service dealer. To locate the dealer in your area:

In the U.S.A.:

Check your Yellow Pages, or contact Cub Cadet LLC at P.O. Box 361131, Cleveland, Ohio 44136-0019, call 1-877-282- 8684 or log on to our website at www.cubcadet.com.

In Canada:

Contact MTD Products Limited, Kitchener, ON N2G 4J1, call 1-800-668-1238 or log on to our website at www.mtdcanada.com.

Without limiting the foregoing, this limited warranty does not provide coverage in the following cases:

- Routine maintenance items such as lubricants, filters, blade sharpening, tune-ups, brake adjustments, clutch adjustments, deck adjustments, and normal deterioration of the exterior finish due to use or exposure.
- Service completed by someone other than an authorized service dealer.
- Cub Cadet does not extend any warranty for products sold or exported outside of the United States and/or Canada, and their respective possessions and territories, except those sold through Cub Cadet's authorized channels of export distribution.
- Replacement parts and/or accessories that are not genuine Cub Cadet parts.
- Transportation charges and service calls.

There are no implied warranties, including without limitation any implied warranty of merchantability or fitness for a particular purpose. No warranties shall apply after the applicable period of express written warranty above. No other express warranties beyond those mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product, shall bind Cub Cadet. The exclusive remedy is repair or replacement of the product as set forth above. The terms of this warranty provide the sole and exclusive remedy arising from the sale and/or lease of the products covered hereby. Cub Cadet shall not be liable for any incidental or consequential loss or damage including, without limitation, expenses incurred for substitute or replacement lawn care services or for rental expenses to temporarily replace a warranted product.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. **Alteration of safety features of the product shall void this warranty.** You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser or to the person for whom it was purchased as a gift.

HOW LOCAL LAWS RELATE TO THIS WARRANTY: This limited warranty gives you specific legal rights, and you may also have other rights that vary in different jurisdictions.

Cub Cadet LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019, Phone: 1-877-282-8684
MTD Products Limited, Kitchener, ON N2G 4J1, Phone: 1-800-668-1238