

OPERATOR'S MANUAL

Utility Vehicle Challenger 400 Series 4x2

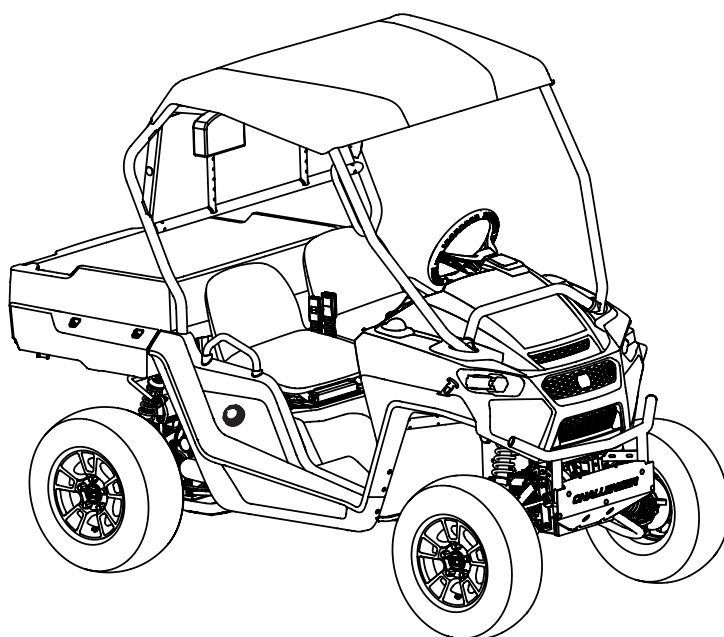


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⚠ WARNING

**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.**

NOTE: This Operator's Manual covers several models. Features may vary by model. Not all features in this manual are applicable to all models and the model depicted may differ from yours.



Thank You

Thank you for purchasing a Cub Cadet Utility Vehicle. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the vehicle. It instructs you how to safely and easily set up, operate and maintain your vehicle. Please be sure that you, and any other persons who will operate the vehicle, 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 vehicle, 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. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

If applicable, the power testing information used to establish the power rating of the engine equipped on this vehicle can be found at www.opei.org or the engine manufacturer's web site.

If you have any problems or questions concerning the vehicle, 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.

Product Registration and Customer Support

Please do NOT return the machine to the retailer or dealer without first contacting the Customer Support Department.

Please register your product on our website, www.cubcadet.com.

If you have difficulty assembling this product, have questions regarding the controls, operation or maintenance of this machine, want to order replacement parts/attachments/accessories or want to view an online How-To video; you can seek help from the experts. Have your full model number and serial number ready. Choose from the options below:

- ◇ Web: www.cubcadet.com/equipment/cubcadet/service-and-parts
- ◇ Phone: (800) 965-4CUB
- ◇ Mail: Cub Cadet LLC • P.O. Box 361131 • Cleveland, OH • 44136-0019

Record Product Information

Before setting up and operating your new vehicle, please locate the model plate on the vehicle and record the information in the provided area to the right. You can locate the model plate under the operator's seat. Flip the seat forward to view the model plate. 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

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

PRODUCT IDENTIFICATION NUMBER

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

⚠ 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!**

⚠ WARNING

California Proposition 65

Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 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. Failure to observe the following safety instructions could result in serious injury or death.

Operation

General Operation

1. Read, understand and follow all instructions on the vehicle and in the manual before attempting to operate or service vehicle. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. This is an off-road utility vehicle and it should not be operated on public highways. Know and comply with all laws and regulations governing the use of off-highway vehicles in your area.
3. This vehicle handles and maneuvers differently than a normal passenger car. High speed turns and abrupt maneuvers can cause vehicle to roll over or go out of control. Slow down when turning and avoid abrupt maneuvers.
4. Handling and maneuvering characteristics of vehicle change depending upon driving mode and cargo load, particularly when operating on paved surfaces. Heavy loads affect steering, braking, stability and overall handling of vehicle.
5. Be familiar with all instructions and controls and their proper operation before starting vehicle.
6. Never allow adults to operate this vehicle without proper instruction.
7. Never allow children under 16 years old to operate this vehicle. Children 16 years old and over should read and understand the operation instructions and safety rules in this manual and should be trained and supervised by a parent unless driver has obtained a state-issued motor vehicle driver's license.
8. Watch for traffic when operating near or crossing roadways. This vehicle is not intended for use on any public roadway.
9. Do not operate this vehicle while under the influence of alcohol or drugs.
10. Never carry more than one passenger. This vehicle is designed to carry the driver and one passenger only. No riders are allowed in cargo bed or anywhere else on vehicle, except in the driver and passenger seats.
11. Keep all body parts (i.e. head, arms, hands, legs, feet) inside vehicle when vehicle is in motion.
12. Always remain seated and keep both hands on the steering wheel when driving the vehicle.
13. Sit on the center of the seat and keep both feet within the foot platform perimeter. Clean foot platform if dirty and remove any debris from around foot controls, e.g. brake pedal.
14. Do not misuse the utility vehicle. It is a utility vehicle, not a recreation vehicle or toy. Recreational riding can lead to accidents, severe bodily injury or death.
15. Inspect area around vehicle before moving, especially in reverse. Back up slowly. Always look down and behind before and while backing to avoid a back-over accident. Keep bystanders out of area.
16. Avoid driving through water, since loss of control may occur. Drive belt may slip if exposed to water, thus reducing vehicle pulling power and stopping vehicle entirely.
17. Always use vehicle lights while operating in low light situations.
18. Do not enter or leave vehicle while it is in motion or in actual operation.
19. Avoid sudden starts, stops or turns and always use a level turn-around area.
20. Never leave vehicle unattended with the key in the ignition. Always turn key to the STOP position, set the parking brake and remove key.
21. Check overhead clearances carefully before driving under low hanging tree branches, wires, power lines, bridges, before entering or leaving buildings, or in any other situation where the operator and/or operator protective structure (OPS) may be struck, which could result in serious injury.
22. Use the seat belt for safe operation. Overturning the utility vehicle without the seat belt fastened, can result in death or injury.
23. Improper use of the vehicle or failure to properly maintain it could result in decreased vehicle performance or personal injury.
24. Engine must be stopped when cleaning, servicing, adjusting, repairing or installing attachments on utility vehicle.
25. After an unexpected impact, stop the unit and shut off the engine. Inspect for damage and repair the damage before restarting and operating equipment.
26. Do not start or operate vehicle indoors, unless it is adequately ventilated. Engine exhaust contains carbon monoxide fumes, which are very poisonous and can be deadly.
27. Do not change engine governor setting or over speed the engine. The governor is set at the factory for safe operating speed.
28. Assure neutral safety interlock switch is adjusted correctly so engine cannot be started unless shift lever is in the NEUTRAL position.
29. Do not touch engine or muffler while engine is running or within 30 minutes after it is stopped. They will be hot and can cause a burn.
30. Always inspect your vehicle each time you use it to make sure it is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in this manual.
31. If situations occur which are not covered in this manual, use care and good judgement. Contact your local service center or call toll free 1-877-282-8684 for the name of your nearest service center.

Occupant Size and Capacity

1. Make sure operators are at least 16 years old and have a valid driver's license.
2. Each occupant should be able to sit with their back against the seat, feet flat on the floor, and hands on the steering wheel or handholds.
3. The operator should be tall enough to wear the seat belt properly and reach all controls.
4. Passengers should also be tall enough for the seat belt to fit properly and be able to brace themselves, as necessary, by placing both feet firmly on the floor while gripping the handholds. Keep all body parts completely inside the vehicle.

Dress Properly

1. Proper clothing can reduce the severity of injury in the event of an accident.
2. Always wear appropriate eye protection and protective clothing. It is also recommended that you wear a properly fitting D.O.T. approved helmet.

Slope Operation

Slopes are a major factor related to loss of control and rollover accidents, which can result in severe injury or death. If a slope is steeper than a 15° incline, do not operate this unit on that area. Exercise extreme caution while operating on slopes.

Do:

1. Travel straight up and down slopes, not across. Exercise extreme caution when changing direction on slopes.
2. Travel slowly while on a slope. Always keep the speed limited when going down slopes to take advantage of the engine braking action.
3. Keep all movement on the slopes slow and gradual. Avoid starting or stopping on a slope.
4. Avoid slopes with slippery, loose or bumpy surfaces as they are especially hazardous.
5. Use extra care while carrying cargo. It may affect the stability of the vehicle. Spread the load evenly and secure to prevent movement.

Do Not:

1. Do not travel near drop-offs, ditches or embankments. The vehicle could suddenly turn over if a wheel goes over the edge of a cliff, ditch or if an edge caves in.
2. Do not stop or start suddenly when going uphill or downhill. Be especially cautious when changing direction on slopes.
3. Do not turn sideways to the hill. The vehicle may roll over. If you must turn, go slow and do so carefully and gradually.
4. Do not carry cargo or tow loads on steep slopes.

Towing

1. Always use an approved hitch and hitch point provided on the utility vehicle.
2. Do not tow more than 500 lbs. rolling weight (i.e. trailer plus cargo).
3. Never load more than 85 lbs. tongue weight on tow bracket provided.
4. Go slow and use extra care when towing a trailer. Allow for increased braking distance. Load trailer properly.
5. Do not tow heavy loads on slopes greater than 5° incline. When going downhill or turning, the extra weight tends to push the tow vehicle and may cause you to lose control (i.e. braking and steering ability are reduced, towed equipment may jack-knife and cause utility vehicle to overturn).

Cargo Bed Loading/ Operation

1. Do not exceed vehicle's Total Payload Capacity rating of 850 lbs. This includes operator, passenger, accessories, attachments, tongue weight and cargo.
2. Do not exceed 350 lbs. load in cargo bed.
3. Spread load evenly and secure to prevent movement.
4. Do not load above height of cargo bed. Load could shift forward and injure driver or passenger.
5. Avoid loads which exceed the physical dimensions of cargo bed.
6. Go slow. Heavy loads will affect steering, braking, stability and overall handling of the vehicle. Limit loads to those that can be safely controlled.
7. Avoid sudden starts, stops and turns which could cause load to shift.

Cargo Bed Lift

1. Stop vehicle on level ground and set Parking Brake before raising cargo bed.
2. Empty heavy cargo by hand.
3. Do not operate vehicle with cargo bed in raised position.
4. Do not operate vehicle with cargo bed unlatched. Always latch upon manually lowering cargo bed.

Safety Frame (OPS)

1. Your vehicle is equipped with an operator protective structure (OPS) which must be maintained in a fully functional condition. Use care when driving through doorways or spaces with a low overhead.
 - a. Never modify the OPS in any way.
 - b. Never attempt to straighten or reweld any part of the main frame if damaged. Doing so may weaken the structure and endanger your safety. Replace a damaged OPS immediately.
 - c. Never secure any parts other than Cub Cadet approved accessories on the main frame or attach the safety frame with anything other than the special fasteners specified.

- d. Never attach ropes, chains or cables to the OPS for pulling purposes.
- e. Although the OPS, when used with a properly secured seat belt, provides a crush-protective environment in the event of a tip-over or rollover, never take unnecessary risks.

Children

1. Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the vehicle. They do not understand the dangers. Never assume that children will remain where you last saw them. Avoid run over accidents.
 - a. Keep children out of the immediate area of the vehicle and in watchful care of a responsible adult other than the operator.
 - b. Be alert and turn the vehicle off if a child enters the area.
 - c. Before and while backing, look behind and down for small children.
 - d. Never carry small children, they may fall off and be seriously injured or interfere with safe vehicle operation.
 - e. Use extreme care while 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 vehicle.
 - f. Remove key when vehicle is unattended to prevent unauthorized operation.
2. Never allow children under 16 years old to operate this vehicle. Children 16 years old and over should read and understand the operation instructions and safety rules in this manual, should be trained and supervised by a parent and have obtained a state-issued motor vehicle driver's license.
3. Do not let children ride in the cargo bed, in the driver's or passenger's lap or anywhere other than the passenger seat. Never give small children a ride; not even in the passenger seat. The passenger seat belts, handholds and seat height are not designed to accommodate the safe transport of small children.

Service

Safe Handling Of Fuel:

1. To avoid personal injury or property damage, use extreme care in handling fuel. Fuel is extremely flammable and the vapors are explosive. Serious personal injury can occur when fuel is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.
 - a. Use only an approved fuel container.
 - b. Never fill containers in the cargo bed 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 fuel 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 vehicle indoors.

- g. Never remove gas cap or add fuel while the engine is hot or running. Allow engine to cool at least 5 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 fuel cap and tighten securely.
- j. If fuel is spilled, wipe it off the equipment. Push vehicle away from spilled fuel. Wait 5 minutes before starting the engine.
- k. To reduce fire hazards, keep engine compartment and exhaust system 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 vehicle 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. Avoid injury from explosion or fire. DO NOT carry fuel or other flammable liquids in vehicle or cargo bed.

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 all moving parts have stopped. Remove the ignition key to prevent unintended starting.
3. Check brake and parking brake operation frequently as it is subjected to wear during normal operation. Adjust and service as required.
4. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
5. Never tamper with the safety interlock system or other safety devices. Check their proper operation regularly.
6. Never attempt to make adjustments or repairs to the machine while the engine is running.
7. Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
8. Maintain or replace safety and instruction labels, as necessary.
9. According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), units in this product category have an Average Useful Life of seven (7) years, or approximately 400 hours of operation. To extend the life of your unit, and specifically after (7) years of ownership or at 400 hours of operation, have the unit 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. See Section 4 of this Operators Manual for Maintenance and Service schedules.
10. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
11. Prior to disposal, determine the proper method to dispose of waste from your local Environmental Protection Agency. Recycling centers are established to properly dispose of materials in an environmentally safe fashion.
12. Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them. Properly dispose of the containers immediately following the draining of fluids.

- 13. DO NOT pour oil or other fluids into the ground, down a drain or into a stream, pond, lake or other body of water. Observe Environmental Protection Agency regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, tires and other harmful waste.
- 14. We do not recommend the use of a pressure washer to clean your unit. High pressure water may cause damage to electrical components, spindles, pulleys, bearings or the engine resulting in shortened life and reduced serviceability.

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

Gasoline powered products may be equipped with the following emission control systems: Engine Modification (EM), Oxidizing Catalyst (OC), Oxygen Sensor (O2S), Multi-port Fuel Injection (MPI), Electronic Control Module (ECM), Secondary Air Injection (SAI) and Three Way Catalyst (TWC). When required, models are equipped with low permeation fuel lines and fuel tanks for evaporative emission control. Please contact Customer Support for information regarding the evaporative emission control configuration for your model.

Spark Arrestor

WARNING

This unit is equipped with an internal combustion engine, muffler and spark arrestor. Do not use on or near any unimproved forest-covered, brush-covered or grass-covered land without the proper muffler and spark arrestor in place.

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

Safety Symbols

This page depicts and describes safety symbols that may appear on this product. Read, understand and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	READ THE OPERATOR'S MANUAL(S) Read, understand and follow all instructions in the manual(s) before attempting to assemble and operate.
 UNDER 16	WARNING — DRIVER MUST BE AT LEAST 16 YEARS-OLD AND HAVE OBTAINED A STATE-ISSUED MOTOR VEHICLE DRIVER'S LICENSE Young drivers may not be able to safely control vehicle.
	WARNING — IMPAIRED OPERATION Never operate the vehicle under the influence of alcohol or drugs.
	WARNING— SEAT BELTS Always wear the seat belt when operating the utility vehicle.
	WARNING— ROLL OVER Falling off or roll over may cause serious injury or death.
	WARNING— ONE RIDER PER SEAT Only one person in each seat.
	WARNING— RIDERS MUST BE IN SEATS No riders in cargo bed or anywhere other than seats.
	WARNING — RIDERS FALLING Riders can fall off and be seriously injured or killed.

Symbol	Description
	WARNING— SLOPES Do not operate on slopes greater than 15°.
	WARNING— CRUSH HAZARD Keep hands and other body parts safely away when lowering cargo bed.
	WARNING — GAS CONTAINER OR OTHER FLAMMABLE LIQUIDS Avoid injury from explosion or fire. Do not carry fuel or other flammable liquids in vehicle or cargo bed.
	WARNING— HOT SURFACE Hot Surface - Do not touch.

⚠ 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!

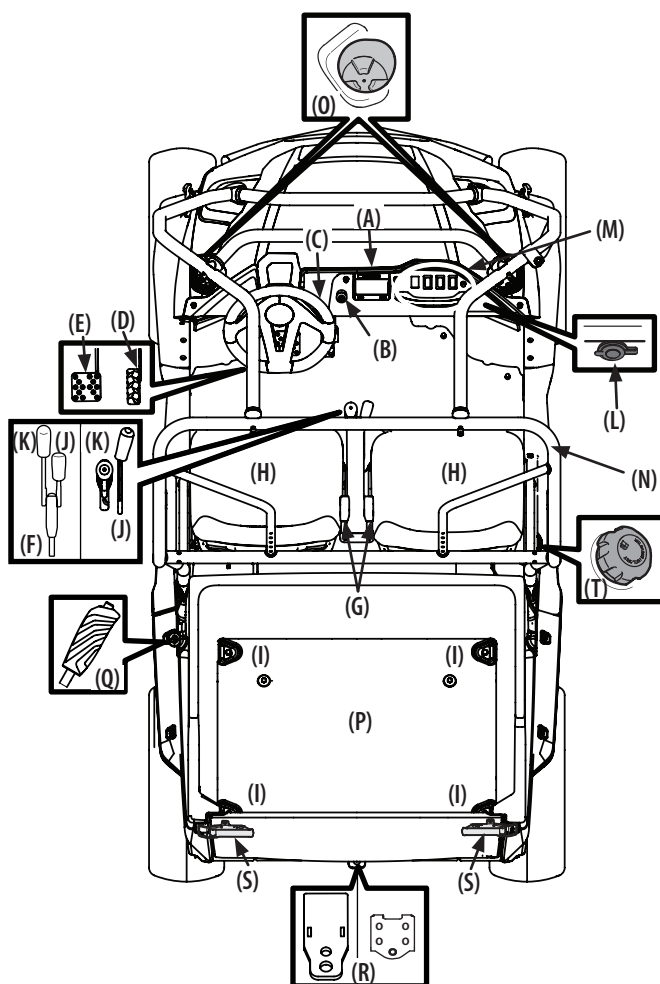


Figure 3-1

Read this operator's manual, safety symbols and operating instructions on the vehicle before operating. Compare the illustrations in this manual with your unit to familiarize yourself with the location of various controls and adjustments. Reference to the right or left hand side of unit is observed from the operating position. Save this manual for future reference.

IMPORTANT: Refer to the Engine Operator's Manual before operating this vehicle to familiarize yourself with the engine controls and adjustments.

Instrument Cluster (A)

The instrument cluster (See Figure 3-2) is located in the middle of the dash panel. It contains multiple displays, indicator lights and mode buttons. It displays Fuel Level, Vehicle Speed (KM/H, MPH), Gear Selection (F, N or R) and the Odometer reading when the key is turned to the ON position. In addition, the Seat Belt Warning Indicator will flash for 8 seconds to remind the operator and passenger to fasten their seat belt.

The MODE (a) button switch changes the display from distance driven (KM/MILE) to time of use (Hrs.).

The KM/MILE (b) button switch changes the display from KM/H to MPH.

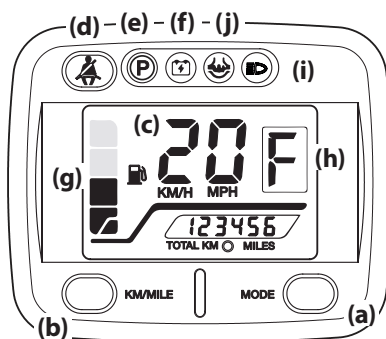


Figure 3-2

Hour Meter (c)

The hour meter is located in the instrument cluster. To display the hour meter, press the MODE button switch to change the display from distance driven to time of use. It records the elapsed time when the key is in the Run or High Beam positions.

Seat Belt Warning Indicator (d)

The Seat Belt Warning Indicator located in the instrument cluster will flash for 8 seconds once the key is turned to the ON position to remind the operator and passenger to fasten their seat belt.

Parking Brake Indicator (If equipped) (e)

The Parking Brake Indicator will illuminate when the parking brake is engaged.

Low Voltage Indicator (f)

The Low Voltage Indicator will illuminate when battery reaches 11.6 volts.

Fuel Level Indicator (g)

The Fuel Level is divided into 5 segments and flashes at the lowest increment.

Gear Position Indicator (h)

The Gear Position Indicator displays the gear (F, N or R) that the gear selector is in. It will also flash when the parking brake is engaged.

High Beam Indicator (i)

The High Beam Indicator illuminates when the ignition switch is in the high beam position and the high beams are in use.

Differential Lock Indicator (j)

The Differential Lock Indicator illuminates when the differential lock lever is pulled into the ON position and the differential lock is being used.

Choke Knob (B)

The Choke Knob is located to the right of the ignition switch on the dash. The choke is used when starting a cold engine. To set, pull out to engage, push in to disengage.

Ignition Switch (C)

⚠ WARNING

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

The ignition switch is located to the right of the steering wheel. To start the engine, insert the key into the ignition switch and turn clockwise to the START position. Release the key into the RUN position once engine has started. To use the high beam feature, turn the key back to the high beam position. The high beam indicator in the instrument cluster will illuminate. See Figure 3-2 and Figure 3-3.

Refer to Starting Engine in the Operation section of this manual for detailed starting instructions.

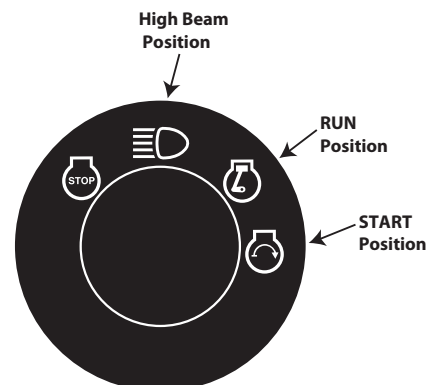


Figure 3-3

Gas Pedal (D)

The gas pedal is located to the right of the brake pedal, beneath the dash panel. See Figure 3-1. Depressing the gas pedal will move the vehicle in the direction selected on the shift lever. As the pedal is slowly depressed, speed will continue to increase to the desired speed. Releasing the pedal will reduce the speed, but will not completely stop the vehicle. The brake must be applied to stop vehicle.

Brake Pedal (E)

The brake pedal is located to the left of the gas pedal, beneath the dash panel. See Figure 3-1. Remove foot from gas pedal and apply pressure to the brake pedal until vehicle slows down and stops.

Parking Brake Lever (F, If Equipped)

The parking brake lever is located between the driver and passenger's seat. It holds the parking brake in the engaged position, once engaged.

To engage the parking brake, pull up on the parking brake lever. The parking brake indicator on the instrument cluster will illuminate and the gear position indicator will flash to remind you the parking brake is engaged. See Figure 3-2.

To release the parking brake, push down on the brake pedal, pull slightly up on the parking brake lever while depressing button, and move the lever to the disengaged position. The parking brake indicator will go out and the gear position indicator will stop flashing. See Figure 3-4.

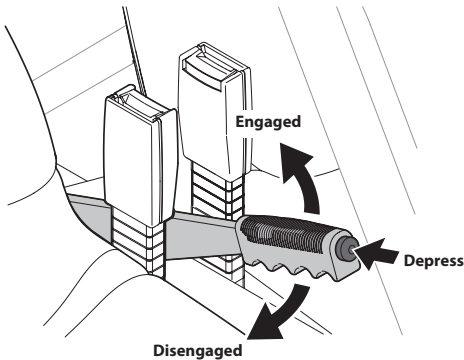


Figure 3-4

Seat Belts (G)

The seat belts are located on the outside of the driver and passenger seats. Pull across your chest and lap and secure it to the seat belt latch located near the center console.

NOTE: Seat belt warning indicator will flash for 8 seconds once the key is turned to the ON position to remind the operator and passenger to fasten their seat belt.

⚠ WARNING

Always wear the seat belt when operating the utility vehicle.

The position of the lap belt portion of the seat belt should be positioned for both the operator and the passenger before driving. See Figure 3-5.

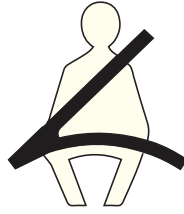


Figure 3-5

Seats (H)

The seats can be adjusted to either the forward or rearward position by removing the (4) bolts securing them to the seat pan and reinstalling them into the seat in the other (4) holes of the seat pan. Tighten bolts to 170 in-lb. See Figure 3-6.

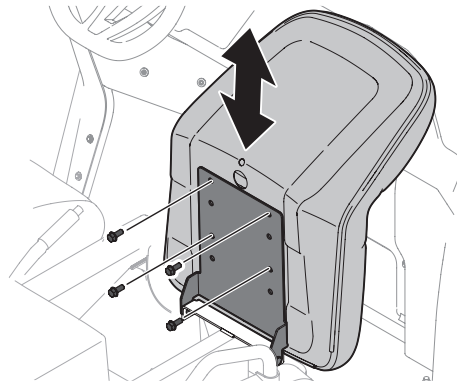
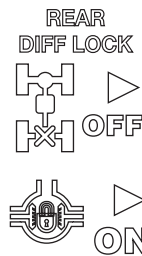


Figure 3-6

Bed Tie-Down Rings (I)

The bed tie-down rings can be used to secure items for transporting.

Differential Lock Lever (J)



The differential lock lever is located in the center console between the seats. When engaged, the differential lever locks the rear differential, giving equal power to both rear wheels. In addition, when the differential lock lever is in the ON position, the Differential Lock Indicator located in the instrument cluster will illuminate. See Figure 3-2.

Shift Lever (K)

The shift lever is located in the center console between the seats and has three positions (FORWARD, NEUTRAL and REVERSE). The brake pedal must be fully depressed when moving the shift lever. One of the three gear positions will be displayed in the instrument cluster. See Figure 3-2.

IMPORTANT: Never force the shift lever or attempt to shift while in motion. Doing so may result in serious damage to the utility vehicle's transmission.

12V Power Outlet (L)

The 12V power outlet is located on the right side of the dash panel. It is used for the convenience of plugging in accessories that require a power source with a maximum load of 5A at 12V.

Auxiliary Switch Panel (M)

The auxiliary switch panel is located on the right hand side of the dash panel above the handhold. When adding accessories requiring switches, use this area of the dash panel to install the desired switches.

Operator Protective Structure (OPS) (N)

This utility vehicle is equipped with an Operator Protective Structure (OPS) and seat belts. When used together they are effective in reducing crushing injuries to the operator and passenger in the event of an accidental rollover or tip-over. The safety provided by the OPS is minimized if the seat belt is not properly adjusted AND buckled.

⚠ WARNING

Always wear the seat belt when operating the utility vehicle.

Use the following guidelines when using a utility vehicle equipped with OPS:

1. Be aware of overhead clearances in the area of operation. Check for clearance of door (or gate) openings and other overhead objects such as utility lines and tree branches. Overhead objects could catch the OPS and upset the utility vehicle.
2. Do not modify the OPS by drilling holes for, or welding accessories to, the structure.
3. Do not use the OPS to pull objects with the utility vehicle. Use ONLY the utility vehicle hitch for pulling.
4. Do not operate the utility vehicle without the OPS and do not remove the OPS.
5. In the event of an accident, have the OPS carefully inspected and, if necessary, replaced by your Cub Cadet dealer. Do not attempt to repair the OPS.

Cup Holders (O)

The cup holders are located on top of the dash panel on both the left and right hand sides.

⚠ WARNING

Never operate this vehicle while under the influence of alcohol or drugs. Doing so can result in serious personal injury or death.

Cargo Bed (P)

The cargo bed maximum capacity is 350 lbs (158 kg). The cargo bed may be tilted for dumping loads. Push forward on the cargo bed latch lever to unlock the bed and manually lift the cargo bed. See Figure 3-1.

NOTE: Access to the engine is achieved by raising the cargo bed.

IMPORTANT: Do not exceed the vehicle's Total Payload Capacity of 850 lb (385 kg), which includes driver, passenger, accessories, tongue load and cargo. Do not exceed 350 lbs (158 kg) in the cargo bed.

Cargo Bed Latch Lever (Q)

The cargo bed latch lever is located on the left/driver's side of the utility vehicle and is used to dump/tilt the cargo bed.

Hitch (R)

The hitch is located on the rear of the utility vehicle on the frame. The max towing capacity is 500 lbs. (85 lbs. max tongue weight).

Tailgate Levers (S)

The tailgate levers are located on the tailgate and are used to open the tailgate.

Fuel Cap (T)

The fuel cap is located on the left/driver's side of the vehicle to the rear of the driver's door.

Operation

Tire Inflation

IMPORTANT: Inflation pressure in all tires is 14 psi. Overinflating above recommended tire pressure can reduce the life of the tire. Check tire pressures before each use.

⚠ WARNING

Excessive pressure (above 14 psi) may cause the tire/ rim assembly to burst with sufficient force to cause severe injury or death.

Starting Engine

⚠ WARNING

This is an off-road utility vehicle and it should not be operated on public highways. Know and comply with all laws and regulations governing the use of off-highway vehicles in your area.

IMPORTANT: Before starting the engine, read this manual and the Engine Operator Manual thoroughly to understand all instructions.

⚠ WARNING

DO NOT run an engine in an enclosed area. Engine exhaust contains carbon monoxide, which is very poisonous and can cause death. Move the vehicle outside or to a well ventilated area.

1. While sitting in the seat with your seat belt fastened, insert key into ignition switch.
2. Move shift lever into NEUTRAL.
NOTE: Engine will not start if the shift lever is not in NEUTRAL.
3. Verify parking brake is set.
4. Pull out the choke knob if engine is cold.
5. Turn key to the START position.

IMPORTANT: DO NOT run the starter continuously for more than 5 seconds, otherwise the battery may discharge quickly.

6. Release key to the RUN position when engine starts.
7. If engine does not start, wait a few seconds and repeat steps 5 and 6.
8. After engine starts, push in choke knob.
9. Release parking brake while your foot is on the brake pedal, place shift lever in the desired gear, release brake and press gas pedal slowly.

IMPORTANT: Do not operate the engine under full load until engine has warmed up.

Stopping Engine

1. To stop utility vehicle, release gas pedal and depress brake pedal until vehicle comes to a complete stop.
2. Move shifter back into NEUTRAL.
3. Set parking brake and turn key switch to STOP position.
4. Remove the key when not in use.

⚠ WARNING

The vehicle may roll if the parking brake is not engaged. Always set the parking brake, especially on slopes.

Refueling Fuel Tank

⚠ WARNING

Avoid injury from explosion or fire. Do not carry fuel or other flammable liquids in vehicle or cargo bed.

1. Stop vehicle on a level surface and apply parking brake.
2. Turn the ignition key to the STOP position and remove key.
3. Allow engine to cool for 5 minutes before adding fuel.
4. Clean area around fuel cap and remove.
5. Fill tank with fresh, unleaded, regular grade fuel only to bottom of filler neck. Use a minimum of 87 Octane (10% Ethanol Max.).
6. After refueling, push the fuel cap downward on the fuel tank fill neck and turn clockwise until it clicks to tighten. Always re-install the fuel cap tightly onto the fuel tank after removing.

Driving Utility Vehicle

1. Adjust the operator's seat to the most comfortable position that allows you to operate all controls and pedals. See Seats section in Controls & Operation, page 8.
2. Adjust the seat belt to fit comfortably around your lap, then buckle the seat belt.

⚠ WARNING

DO NOT operate the vehicle without the OPS in place and the seat belt fastened securely around your waist and chest.

3. Start the engine as instructed earlier and make sure the front wheels are turned to the desired direction of travel.
4. Push down on brake pedal and pull slightly up on the parking brake lever while depressing the lock button and then slowly lower the lever to release parking brake.
5. Move the shift lever in the center console to the desired setting. To avoid damaging transmission, depress brake pedal fully and make sure vehicle is completely stopped before shifting into FORWARD or REVERSE.

⚠ WARNING

DO NOT stop or start suddenly when going uphill or downhill. Be cautious when changing direction on slopes. Apply brakes when going down slopes to maintain control of vehicle.

6. Release brake pedal and slowly apply pressure to the gas pedal.
7. Release gas pedal and apply brake pedal evenly and firmly to slow down or stop.

Differential Lock

⚠ WARNING

To avoid transmission damage, injury or turf damage, drive slow when operating utility vehicle with differential lock engaged as steering response is noticeably reduced. Also, do not drive the utility vehicle with the differential lock engaged on concrete, asphalt or any high traction surfaces.

The differential lock lever is located in the center console between the seats. See Figure 3-1.

1. To engage; stop utility vehicle, place into NEUTRAL, and pull the lever upward into the ON position. The differential will then lock and remain so until it is disengaged, giving equal power to both rear wheels.

IMPORTANT: Engage the differential as the last option when stuck in mud or similar situation or when the left and right side wheels are turning at slightly different speeds.

2. To disengage the differential lock; stop the utility vehicle, place the shift lever in NEUTRAL, and push the differential lock lever downward to the OFF position.

Loading the Cargo Bed

⚠ WARNING

The utility vehicle may become unstable if the cargo bed is loaded incorrectly. Avoid loose and unsecured loads or uneven loading of material.

1. Verify cargo bed is securely latched before loading.
2. Securely anchor all loads in cargo bed and do not load beyond maximum capacity.
Note: The maximum bed capacity is 350 lb (158 kg).
3. When loading objects into cargo bed, be sure load is securely anchored and evenly distributed.
4. Do not load above height of cargo bed. Load could shift forward striking driver or passenger or cause driver to lose control of vehicle.
5. Avoid loads which exceed physical dimensions of cargo bed.
6. Avoid concentrated loads at rear or sides of cargo bed. Be sure load is distributed evenly.
7. Reduce load and ground speed when operating over rough or hilly terrain. DO NOT overload vehicle. Limit loads to those that can be safely controlled.

Raising & Lowering the Tailgate

1. Unlatch the tailgate from cargo bed and lower. See Figure 3-7 and Figure 3-8.

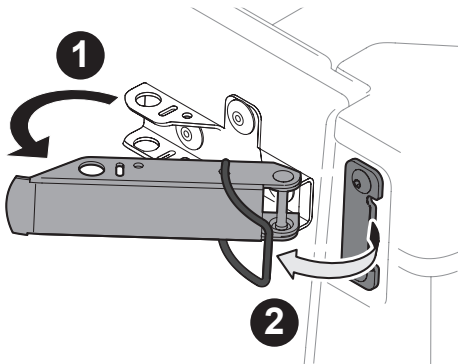


Figure 3-7

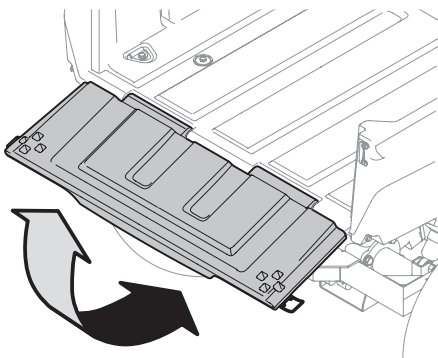


Figure 3-8

2. Raise and re-latch the tailgate to the cargo bed. See Figure 3-8 and Figure 3-9. Do not drive the vehicle with tailgate in the lowered position.

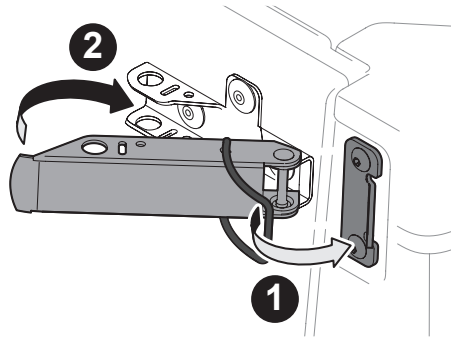


Figure 3-9

Raising & Lowering Cargo Bed (Dumping Loads)

⚠ WARNING

To prevent the possibility of bodily injury from unintentional lowering of the cargo bed, be sure vehicle is on a level and stable surface and parking brake is set before raising cargo bed.

⚠ WARNING

A loaded cargo bed can be very heavy. Do not attempt to dump a heavily loaded cargo bed.

1. Park the vehicle safely on level ground and set parking brake.
2. Empty heavy cargo by hand.
3. For light loads, unlatch cargo bed by pushing forward on the cargo bed latch lever. While holding the latch lever forward with one hand, lift the cargo bed with your other hand. See Figure 3-10.

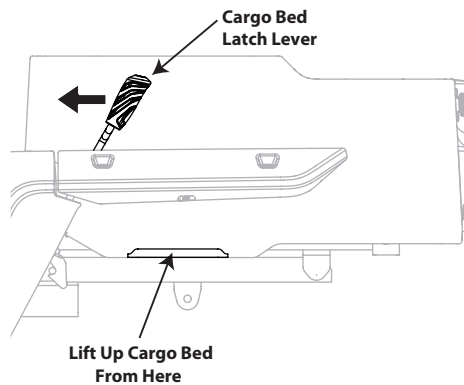


Figure 3-10

4. Once unloaded, lower bed and securely latch before operating unit. Do not drive the vehicle with cargo bed in the raised position.

Towing Loads

⚠ WARNING

To help prevent personal injury due to loss of control or tipping, always tow a load slow enough to maintain control.

1. Do not tow a load that exceeds 500 lb (226 kg) rolling weight (i.e. trailer plus cargo) and never exceed 85 lb (38 kg) tongue weight.

2. Go slow when towing a heavy load. Allow for increased braking distance. Tow load at a speed slow enough to maintain control.
3. Do not tow on slopes greater than 5°.
4. Be cautious when towing downhill, even on a gradual slope or when turning. The extra weight tends to push the tow vehicle and may cause you to lose control (braking and steering ability are reduced; towed equipment may jack-knife).
IMPORTANT: Extreme angles such as high railroad crossings can place high bending loads on hitch connection.
5. Do not modify the hitch in any way.

How to load a Utility Vehicle into a Truck or onto a Trailer

⚠ WARNING

Always park the truck or trailer in a flat area, set the parking brake, turn the ignition off and chock the wheels to prevent any unexpected movement while loading the utility vehicle.

⚠ WARNING

Fully secure the loading ramps to the truck or trailer with tie-down straps or cables to prevent the ramps from sliding off while loading. Keep bystanders and/or helpers away from ramps while loading.

Due to the overall size and dimensions, loading a utility vehicle into a truck or onto a trailer is a task that requires precision and the proper equipment to be achieved safely. By following the steps outlined below you'll be able to select the proper equipment to do the job and safely load and unload your utility vehicle.

Determine if your truck or trailer is sufficient for the task

Loading a utility vehicle into a truck or trailer that can't support its weight is extremely dangerous. It is important that before any actual loading is done, make sure your truck or trailer and loading ramps are sufficient for loading and hauling the utility vehicle. Here are some of the variables you need to take into account:

- **Length and width:** Measure the size of your truck or trailer by taking width and length measurements at the floor level. Compare these measurements to the width and length of your utility vehicle to make sure it will fit comfortably.
- **Weight Capacity:** Making sure your truck or trailer can handle the payload of your utility vehicle is another critical task before any loading is done. If using a truck, the payload capacity must be a minimum of ¾ ton. If hauling on a trailer, remember that the towing capacity of the vehicle will be reduced by the added weight of the utility vehicle.
- **Tailgate Considerations:** If the payload capacity is sufficient for hauling in a truck, the last thing left to consider is your truck's bed length. Make certain that your truck bed is long enough to allow the truck's tailgate to close completely when the utility vehicle is loaded into the truck bed.

Choosing the proper loading ramp(s)

Choosing a reliable ramp and understanding how to properly use it is far and above the best option for safely loading a utility vehicle into your truck or onto your trailer. Take a look at the considerations you should have in mind when choosing the proper ramp(s):

- **Capacity:** Utility vehicles are not evenly balanced, meaning it's necessary to check the axle weights before you make any choices regarding ramps. A typical ramp's capacity is based upon two axles with equally distributed loads. We recommend 3,000-lb minimum capacity ramp(s) as the appropriate option for your two-person utility vehicle.
- **Offset track widths:** Your utility vehicle has an offset track width front and rear, it's important to factor this in to your ramp placement and ramp width needs. Ramps need to be wide enough to accommodate the difference in the distances between the front two wheels and the rear two wheels.
- **Ground clearance and wheelbase:** Utility vehicles which have low ground clearance (under 4") and a relatively long wheelbase (98" or more), make them prone to bottoming out at the crest when using straight ramps. As a solution to this issue we suggest using arched ramps.
- **Load Height:** As with any ramp application, the distance from the ground to the truck bed or trailer impacts the overall length of the ramp you will need, the greater the load height, the longer the ramp should be. Some ramp manufacturers and retailers provide load height calculators to help you determine the correct ramp length you will need to safely load your vehicle.

NOTE: If you are still unsure of what types of ramps you will need to get the job done and are having trouble understanding these instructions, check with your local ramp or utility vehicle retailer for assistance.

Loading the Utility Vehicle

If your truck or trailer's load capacity is sufficient to transport the utility vehicle and you obtain the proper loading ramps and equipment to safely secure the utility vehicle to the truck or trailer, the only thing left to do is load it. Here's how to best accomplish this task:

1. Proceed with extreme caution. It is very difficult to overcome a mistake while in the loading process.
2. Park the truck or trailer in a flat area, set the parking brake, turn the ignition off and chock the wheels.
3. Face the truck bed or trailer towards a slight incline, which will reduce the steepness of the loading angle by bringing the bottom of the ramps up on the slight incline. See Figure 3-11.

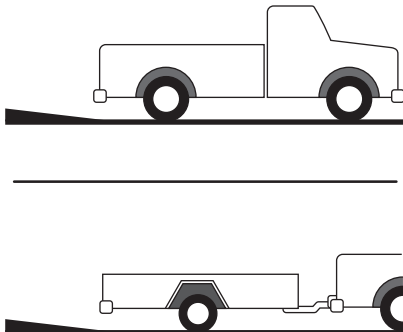


Figure 3-11

4. Place the ramp fingers or plate edges on the edge of the trailer or truck bed. See Figure 3-12.

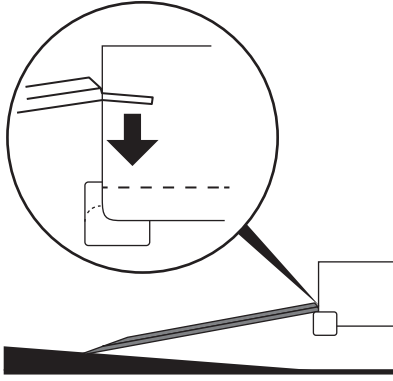


Figure 3-12

5. Use tie-down straps or cables to secure the ramps to the trailer or truck, via the bumper (steel bumpers only) or trailer hitch safety chain loops. Refer to instructions provided with the ramp.
6. If your utility vehicle is supplied with a roof and/or windshield, remove or fully secure them prior to loading. Roofs and windshields are not designed to withstand wind speeds the open road can generate, so it's best to remove them entirely to prevent any damage or accidents.
7. Follow all safety rules provided in this manual along with the manuals supplied by the trailer and ramp manufacturer. Carefully load the utility vehicle onto the truck or trailer.
8. Once the utility vehicle is on the truck or trailer, set the utility vehicle's parking brake and secure the utility vehicle to the truck or trailer. Tie-down strap placement will depend on your truck or trailer. Be sure to use only tie-down straps sufficient for the load capacity. If loaded onto a truck, close the tailgate once the utility vehicle is secured to the truck bed.
9. Stop periodically to ensure that your tie-down straps have not loosened and that the utility vehicle remains securely in place.

IMPORTANT: Know the total height of your vehicle with the utility vehicle loaded before transporting. Be sure to check for low clearance bridges, doorways, etc. prior to traveling under them, the added height above the height of your truck could cause clearance issues and damage to both vehicles.

Storage Box (if equipped)

There is an optional storage box located under the hood. To gain access, follow these steps:

1. Unhook the hood latches and lower the hood. See Figure 3-13.

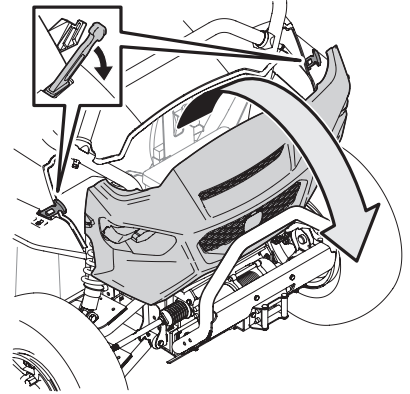


Figure 3-13

2. Unhook the two rubber straps holding the top cover on and remove the top cover. See Figure 3-14.

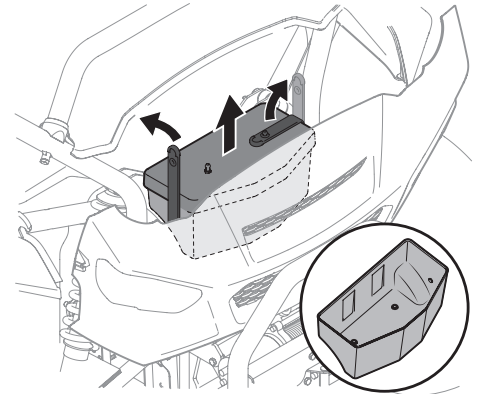


Figure 3-14

	Before Each Use	First 10 Hours	Every 20 Hours/ 2 Months	Every 50 Hours	Every 100 Hours or Yearly	Every 500 Hours or 2 Years	Service Dates
Change Air Filter [^]	Inspect/ Clean			✓			
Inspect Ball Joints					✓		
Inspect Brakes			✓				
Inspect/ Clean CVT Air Filter				✓			
Inspect Front and Rear Shocks					✓		
Lubricate A-Arms †				✓			
Tighten Lug Nuts		✓					
Inspect OPS and Seat Belts	✓						
Inspect Tires	✓						
Change Transaxle Oil					✓		

[^] Change more frequently if unit is operated in extremely dusty conditions.

[†] Lubricate after each use if unit is run through water deeper than axle.

NOTE: For information regarding engine service, see the separate Engine Owner's Manual included with your unit.

Cleaning

The body panels can scratch easily. Do not use car wax on the body panels. The use of standard car wash soap is acceptable for cleaning the body panels. Avoid any abrasive cleaner or rubbing compounds for these will damage the body panels. Dry thoroughly to avoid water spots.

⚠ WARNING

DO NOT use a pressure washer. Damage may occur if direct hose spray comes in contact with intake openings, or any other electrical components, i.e. at instrument cluster or under dash.

Tire Pressure

⚠ WARNING

Excessive pressure (above 14 psi) may cause the tire/rim assembly to burst with sufficient force to cause severe injury or death.

The recommended operating tire pressure is 14 psi for all tires. Overinflating above recommended tire pressure can reduce the life of the tire. Check tire pressures before each use.

Seat Belts

Check proper function before each use. Replace seat belt assembly if any damage is found. If damage is noted, contact your Cub Cadet dealer.

Lug Nuts

Check torque of lug nuts after first 10 hours of use. Tighten lug nuts in a diagonal pattern. Torque lug nuts to 65-75 lb-ft using a torque wrench.

Air Filter

1. Pull up on latch and turn counter-clockwise to release air cleaner cover. See Figure 4-1.

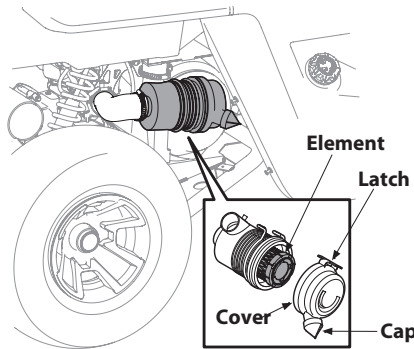


Figure 4-1

2. Remove cover. Remove and inspect air cleaner element. If excessively dirty or damaged, replace element.
3. Reattach cover and secure with latch.

IMPORTANT: When reattaching cover, make certain that the cap is pointing downward. See Figure 4-1 inset.

Engine Oil

⚠ WARNING

If the engine has been recently run, the engine, muffler and surrounding metal surfaces may be hot and can cause burns to the skin. Allow to cool for 30 minutes. Exercise caution to avoid burns.

Refer to your Engine Owner's Manual for how often to check and change your engine oil. To drain the oil follow the steps below:

1. Place the oil drain hose down through the hole closest to the oil drain hose. See Figure 4-2.

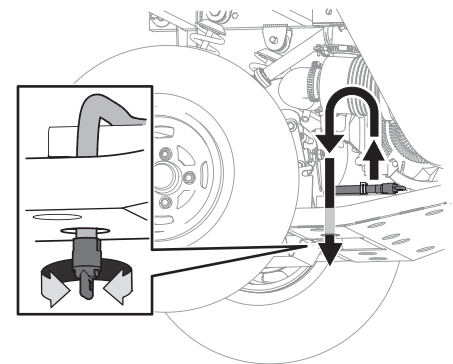


Figure 4-2

2. Turn the plug counter-clockwise and allow oil to drain into a suitable container. See Figure 4-2.
3. Turn the plug clockwise, wipe any residue oil from the oil drain hose and take the oil drain hose out of the hole to return to its normal position.

4. Refill the engine with new oil as instructed in the engine operator's manual. See Figure 4-3 for engine fill/dipstick location.

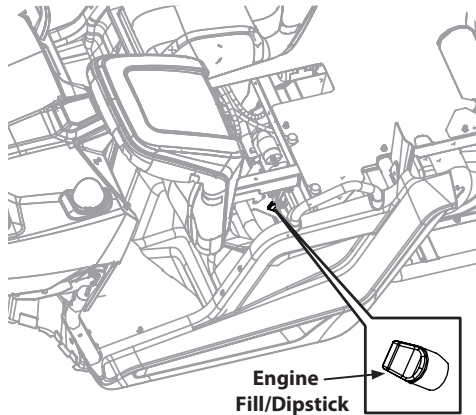


Figure 4-3

CVT Air Filter

To access the CVT air filter element, remove the CVT filter housing by removing the two screws and the hose clamp. Inspect and clean the CVT air filter element with mild soap and water. Allow to dry and install. See Figure 4-4.

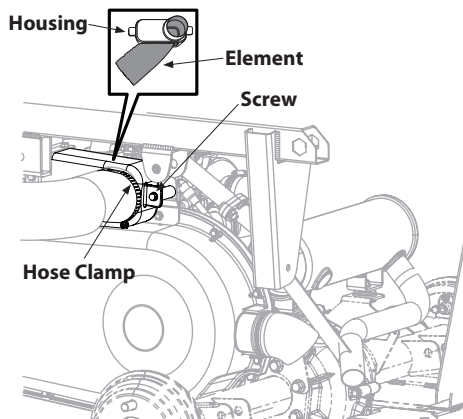


Figure 4-4

Lubrication

Use a grease-gun filled with No. 2 Multipurpose Lithium Base Grease for the eight zerk fittings (four on each side) on the A-Arms. See Figure 4-5.

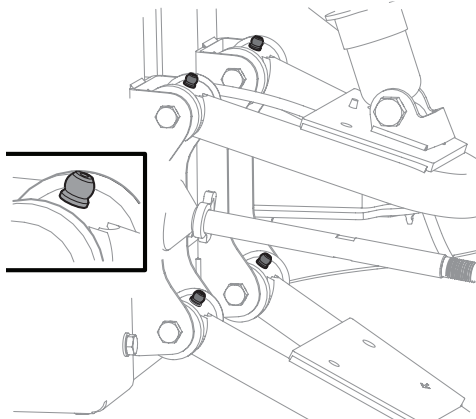


Figure 4-5

Transaxle

⚠ WARNING

The fluid for your transaxle has been specially formulated to ensure the safe and proper operation of your vehicle. When changing your transaxle fluid replace it with part no. 490-000-V045 – Shell Spirax 80W-90 GL5. Failure to use Shell Spirax 80W-90 GL5 oil may result in a failure of your transaxle which could result in property damage or personal injury. DO NOT substitute.

1. Park vehicle on level surface, place shift lever in NEUTRAL and set parking brake.
2. Allow the unit sufficient time to cool (30 minutes) before attempting any maintenance or repairs.
3. Locate the transaxle below the cargo bed in the rear of the vehicle.
4. Access drain plug on underside of machine and remove plug. See Figure 4-6.

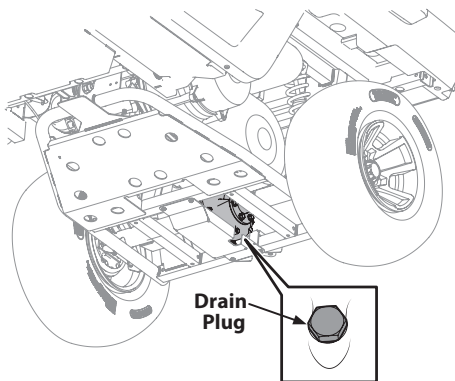


Figure 4-6

5. Allow oil to drain into a suitable container.
6. Check O-ring on drain plug and replace if missing, damaged or in poor condition.
7. Remove fill plug. See Figure 4-7.

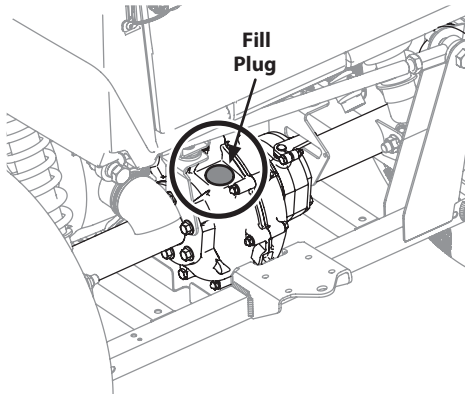


Figure 4-7

8. Add 24 oz of Shell Spirax 80W-90 GL5 oil part no. 490-000-V045 through the fill plug port.
9. Re-install fill plug. See Figure 4-7.

Adjusting the Throttle Cable

An adjustment is provided in the throttle cable, should such an action ever be necessary. Locate the adjustment nut in the throttle cable running along the right side of the unit in front of the rear tire. See Figure 4-8.

1. Slide the rubber boot back that covers the adjustment nut and the locking nut.
2. Loosen the locking nut and thread the adjustment nut inward or outward in order to maintain at minimum 1/16 of an inch play in the cable when the pedal is in a fully released (idle) position.
3. Once adjustment is complete, retighten the locking nut.

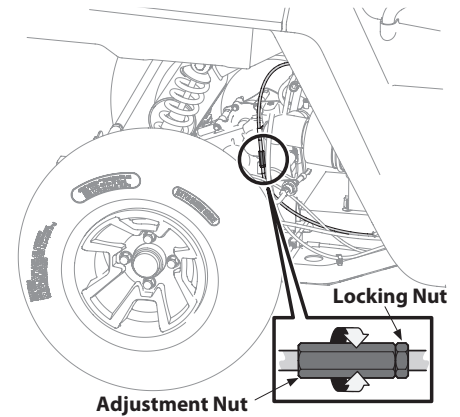


Figure 4-8

Parking Brake Adjustment

If the vehicle's rear wheels can roll with the parking brake set, then the parking brake is in need of adjustment. See your Cub Cadet dealer to have the brake properly adjusted.

Battery

⚠ WARNING

The battery produces a flammable and explosive gas. Do not smoke near battery. Wear eye protection and gloves when handling the battery. Do not allow direct metal contact across battery posts or between the positive battery post or terminal and adjacent metal parts. The battery is sealed and is maintenance free. Acid levels cannot be checked and fluid can not be added.

⚠ WARNING

CALIFORNIA PROPOSITION 65 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.

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

Cleaning Battery & Terminals

1. Remove battery from vehicle. Always remove NEGATIVE cable first when disconnecting.
2. Wash battery with solution of four tablespoons of baking soda to one gallon of water.
3. Rinse the battery with plain water and dry.

- Clean terminals and battery cable ends with wire brush until bright.
- Apply petroleum jelly or silicone spray to terminals to prevent corrosion.
- Install battery. Always install negative cable last when connecting.

Charging Battery

⚠ WARNING

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.

If the vehicle has not been put into use for an extended period of time, charge the battery with an automotive type 12V charger for a minimum of one hour at six amps. The Low Voltage Indicator on the instrument cluster will illuminate when your battery reaches 11.6 volts.

Jumping Battery

⚠ WARNING

DO NOT attempt to jump start a battery. Do not smoke near battery and wear eye protection and gloves when handling battery.

IMPORTANT: If your battery is dead, follow the instructions for charging the battery.

Fuses

- Remove hood latches and lower the hood. See Figure 4-9.

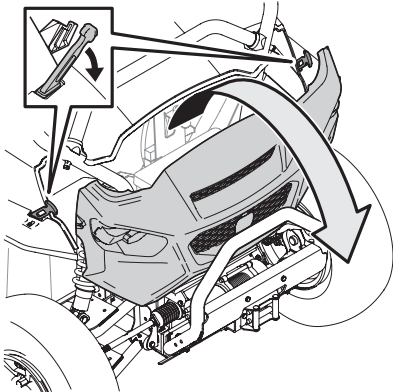


Figure 4-9

- Remove the Acc (accessory) electrical fuse and replace if needed with proper rated amp fuse. See Figure 4-10.

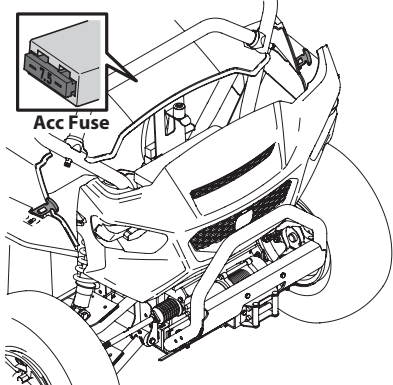


Figure 4-10

- Raise and secure hood.
- Raise the driver's seat.
- Remove the appropriate electrical fuse and replace if needed with proper rated amp fuse. See Figure 4-11.
- Lower the seat.

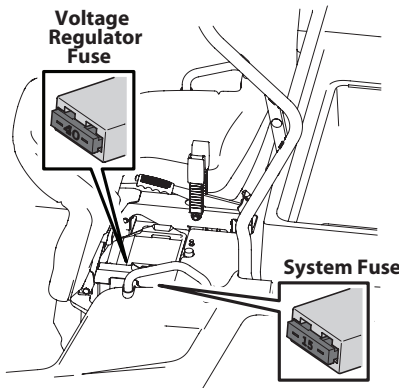


Figure 4-11

Changing Brake Pads

⚠ WARNING

Using an unstable lifting device and vehicle supports may result in bodily injury. Use a safe lifting device and supports to work on raised vehicle.

To gain access to the brake pads, remove the wheel as described below. If less than .030" of material remains on the pad, replace.

NOTE: Brake pads must be replaced as a set, i.e., right rear and left rear.

Removing the Wheels

- Stop the vehicle on a level surface and set parking brake.
- Turn the ignition key to the STOP position and remove the key.
- Loosen but do not remove the four lug nuts from the axle hub. See Figure 4-12.

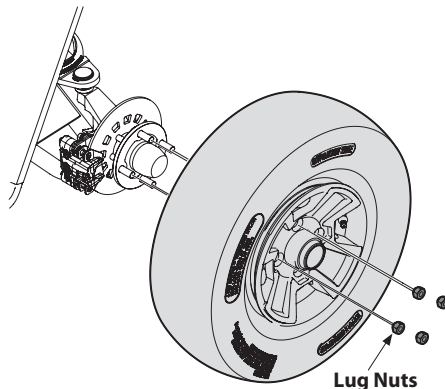


Figure 4-12

- Raise the front of vehicle with a safe lifting device and place support stands under vehicle frame.

⚠ WARNING

When lifting the rear of the vehicle for any reason, DO NOT engage the rear wheels.

- Remove the four lug nuts and the wheel. To change the brake pads, follow the steps below.

Removing Brake Pads

- Remove mounting bolts securing caliper and brake pads to steering knuckle. See Figure 4-13.

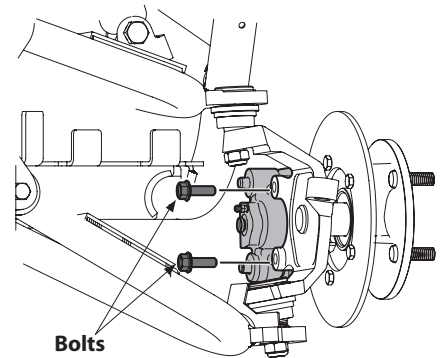


Figure 4-13

- Remove brake caliper assembly from brake disc. See Figure 4-14.

IMPORTANT: Do not let the caliper hang from the brake hose. Stressing the brake hose can damage it and cause leaks.

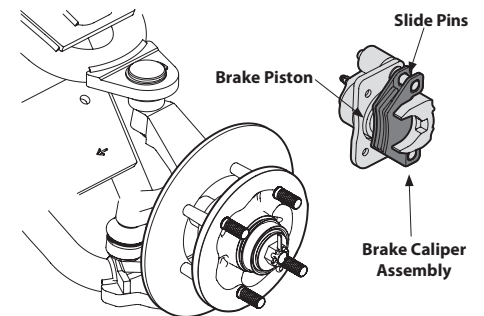


Figure 4-14

- Remove brake pads from brake caliper assembly.
- Clean and lube slide pins. See Figure 4-14.
- Press in brake piston. See Figure 4-14.
- IMPORTANT:** When pressing in brake piston, take care not to damage rubber piston seal.
- Place brake pads on slide pins.
- Move caliper into place, making sure brake disc is between the two brake pads.
- Apply Loctite® 242 to the threads of the bolts removed earlier.
- Secure caliper and brake pads with mounting bolts. Torque the mounting bolts to 22-26 ft. lbs.

Reinstalling the Wheels

- Place the wheel on the axle hub and secure with the four lug nuts.
- Tighten the lug nuts diagonally until snug.
- Remove support stands and lower vehicle.
- Finish tightening the lug nuts to 65-75 lb-ft using a torque wrench.

Front & Rear Shocks

All four shocks are adjustable. Adjust as needed for comfort/load level. Turn the collar at the bottom of the shocks to one of the five positions. Adjust the left and right side equally. See Figure 4-15.

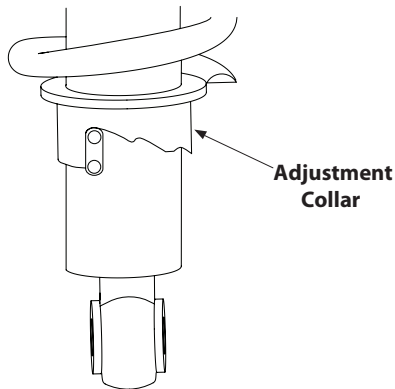


Figure 4-15

See Figure 4-16. If excessive oil leakage appears, have shocks repaired or replaced by your local Cub Cadet dealer.

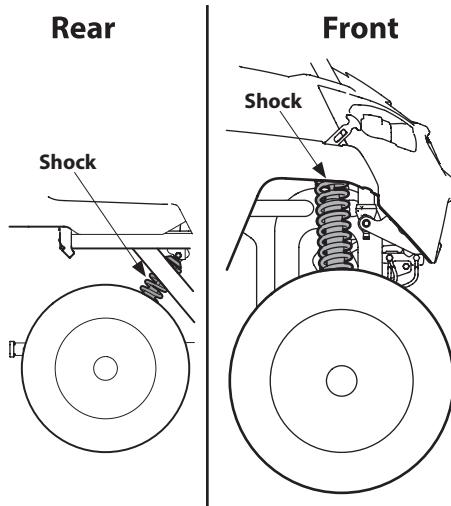


Figure 4-16

Ball Joints

See Figure 4-17. If excessive wear appears, have ball joints or tie rod ends replaced by your local Cub Cadet dealer.

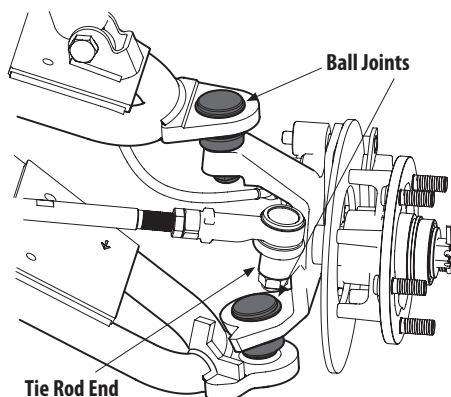


Figure 4-17

Neutral Safety Interlock Switch

Your unit is equipped with a neutral safety interlock switch. The engine cannot be started unless the shift lever is in the NEUTRAL position. If the switch is out of adjustment or needs replacement contact your Cub Cadet dealer.

Operator Protective Structure (OPS)

Periodically (at least every six months), visually inspect the OPS and seat belts. It is important that these features be inspected for damage and proper function before each use, or daily. Contact your Cub Cadet dealer and replace the belt assembly if any damage is found.

If an accident has occurred which may have damaged the OPS, have the OPS thoroughly inspected by your Cub Cadet dealer.

⚠ WARNING

To ensure the structural integrity of the OPS to provide operator protection, do not attempt to straighten or weld the OPS. A damaged OPS should be replaced.

If the OPS is removed for any reason, make sure the proper hardware is used to reinstall it, and that the recommended torque values are applied to the fasteners.

If you are not installing new bolts when replacing or reinstalling the OPS, apply Loctite® 242 to the threads of the bolts that were removed. Torque the bolts to 50-55 ft. lbs using a torque wrench.

Drive Belt

IMPORTANT: See your Cub Cadet dealer to have your drive belt replaced.

Troubleshooting

- Engine will not start
 - Battery has low voltage.
 - Loose or corroded battery connections.
 - Fuse is blown.
 - Spark plug wire is loose or disconnected.
 - Faulty spark plug or coil.
 - No fuel or improper fuel.
 - Plugged fuel filter.
 - Defective starter solenoid.
 - Open-circuit in wiring.
- Engine is difficult to start
 - Engine is cold.
 - Choke not being used or adjusted properly.
 - Plugged fuel filter.
 - Carburetor not adjusted properly or dirty.
 - Engine oil viscosity too heavy.
 - Spark plug is fouled.
 - Faulty spark plug or wire.
 - Loose or corroded electrical connections.
 - Stale or improper fuel.
- Engine misfires under load
 - Faulty spark plug.
 - Stale or dirty fuel.
 - Plugged fuel filter.
 - Faulty coil or wire.
- Engine does not restart when warm
 - Poor quality fuel.
 - Very hot weather conditions.
 - Fuel tank vent plugged.
 - Dirt in fuel filter.
- Entire electrical system does not work
 - Blown fuse.
 - Loose or corroded connections.
 - Dead or faulty battery.
- Dead battery
 - Shorted starter solenoid.
 - Key switch not turned to STOP position.
 - Faulty battery.
- Battery will not take a charge
 - Dead battery.
 - Loose or corroded connections.
- Difficult to shift
 - Idle speed too fast.
 - Gears not lined up. Tap throttle and let it return to idle. If still hard to shift, contact your nearest Cub Cadet dealer.
- Indicator lights do not come on when key switch is in START position
 - Faulty bulb.
 - Faulty wiring.
 - Faulty sensor.
- Engine runs unevenly
 - Loose electrical connections.
 - Choke (if equipped) or throttle cable sticking.
 - Fuel line or fuel filter plugged.
 - Stale or dirty fuel.
 - Improper fuel.
 - Air cleaner element plugged.
 - Carburetor not adjusted correctly.
 - Spark plug is fouled.
- Engine overheats
 - Air cleaner element missing or plugged.
 - Carburetor air intake tube plugged.
 - Engine oil low.
 - Engine operated too long at slow engine speed.
- Engine knocks
 - Stale or low octane fuel.
 - Engine overloaded.

Challenger 400 Models

NOTE: Specifications subject to change without notice.

Engine/Electrical	
Make	Subaru, EX40
Type/ Cylinders	4 Cycle Gas/ 1 Cylinder
Displacement	404cc
Maximum Torque	27 N-m/ 19.9 ft-lb*
Ignition	Magneto
Lubrication	Splash w/ chain carry
Speed (No Load)	1400 rpm (idle) 4,000 rpm (fast)
Cooling System	Air-Cooled
Air Cleaner	Replaceable, dual element
Battery	12V 14AH 230 CCA
Alternator	12V-16A Regulated
Headlights	Two, 8.4 Watt LED
Wiring	Automotive - Style Fused Control System
Suspension	Front - A-Arm Rear - Swing Arm

* As rated by engine manufacturer.

Transmission	
Type	Continuously Variable
Drive	Belt
Ground Speed	24 mph (max.)
Transaxle	Fully Enclosed, Oil Bath
Gear Selection	Forward, Neutral, Reverse
Overall Reduction Ratio	Forward 13.25, Reverse 14.36
Rear Axle Housing	Aluminum

Features	
Dual Cup Holders	Standard
Additional Storage	Dash Box
Power Port	12V, Dash Mounted
Front Bumper	Standard
LED headlights	Standard

Cargo Bed	
Material	Plastic Composite

Dimensions	
Length/ Width	98.6" x 49.0" (98.6" x 51.6" w/ roof)
Tread Center	F: 41.8" / R: 39.5"
Height (Overall)	75.2" (76.2" w/ roof)
Wheelbase	64"
Weight (Not Including Fuel & Fluids)	940 lbs.
Ground Clearance (Under Transaxle)	5.5"
Ground Clearance (Under Footboard)	7.5"
Turning Radius	15.0 ft
Bed	28" L x 37" W x 12" H

Operation	
Brake Type	Front: Hydraulic Disk Rear: Hydraulic Drum
Parking Position	Hand Operated Mechanical Drum
Steering	Rack & Pinion

Fuel System	
Capacity	5 Gallons
Low Fuel Indicator	Dash Mounted Indicator Gauge

Capacity	
Volume - Cargo Bed	6.94 ft ³
Cargo Bed Capacity	350 lbs.
Seating - Capacity/ Type	2/ Mid Back
Towing Capacity	500 lbs (85 lbs. max tongue weight)
Payload Capacity**	850 lbs.

** Includes 250 lb operator, 250 lb passenger, and maximum bed capacity.

Tires	
Trail Front	21" x 10" - 7" (14 psi)
Trail Rear	22" x 10" - 9" (14 psi)

Notes

[illegible]

CUB CADET LLC -- LIMITED WARRANTY

The limited warranty set forth herein is given by Cub Cadet LLC with respect to a new Cub Cadet® product (hereinafter "Product") purchased and used in the United States and/or Canada to the Initial Purchaser (as defined herein). This limited warranty does not cover Emission Control Systems and is not a Federal Emission Control Warranty Statement, as defined by U.S. federal law. Please refer to the Federal Emission Control Warranty Statement in the operator's manual for warranties covering Emission Control Systems.

Scope of the Limited Warranty

Cub Cadet LLC warrants that the Product (except with regard to the components and circumstances defined below as "Exclusions") will be free from defects in materials and workmanship during the Warranty Period, as defined below. For purposes of this limited warranty, the "Initial Purchaser" is the first person/company to purchase this new Product from an authorized Cub Cadet dealer, distributor, and/or retailer of such products, including a party for whom said Product was purchased as a gift. This limited warranty is non-transferrable. During the Warranty Period, Cub Cadet LLC will, at its option, either repair or replace any original part that is covered by this limited warranty and is determined to be defective in workmanship or material. "Commercial Use" shall be defined as any commercial, professional, agricultural, institutional, or income-producing use of the Product. See notes below as to Commercial Use Warranty.

Cub Cadet® Warranty Information	
Handheld Product*	Warranty Period
Chainsaws, Cultivators, Blowers, Brushcutters, Trimmers	3 Year
Wheeled Chore and Snow Product*	
Chipper-Shredders, Chipper-Shredder Vacuums, Blowers, Log Splitters, Snow Blowers	3 Year
Tillers, String Trimmers, Lawn Edgers, Pressure Washers CC3224, CC3425 & CC4033	3 Year†
Pressure Washers	2 Year†
Battery Powered Product	
60 Volt Max Product Series, CC30E, XT1 LT42E, ZT1 42E	3 Year†
60 Volt Max Product Series, CC30E, XT1 LT42E, ZT1 42E Batteries	4 Year†
Gas Powered Product	
Ultima ZTX Series	4 Year/500 hour (whichever comes first)
Z-Force SX	4 Year/500 hour (whichever comes first)
Walk-Behinds, Wide-Area Walk-Behinds, CC30 Riders, XT1 & XT2 Enduro Series, RZT S/SX, Ultima ZT Series, Z-Force S	3 Year†
23" Walk-Behinds, XT3 Enduro Series	4 Year†
Rotary Spreader	1 Year
Gas Blowers, PRO HW	2 Year
PRO Z 500/700/900, PRO X-600, TANK LZ/SZ	3 Year
PRO Z 100 S	2 Year/NHL (No Hour Limit) or 4 Year/500 hour (whichever comes first)
Utility Vehicle*	
Challenger Series, Volunteer Series	1 Year

Additional Warranty Notes
Lead-Acid Batteries: Are covered by a one (1) year prorated limited warranty against defects in material and workmanship, with 100% replacement during the first three (3) months, from the date of original purchase by the Initial Purchaser. After three (3) months, the battery replacement credit is based on the months remaining in the twelve (12) month period, dating back to the date of original purchase by the Initial Purchaser. Any replacement battery will be warranted only for the remainder of the original warranty period.
Frames: The frame, chassis, and front axle on all XT1, XT2 and XT3 products are covered for "Residential Use" by a five (5) year limited warranty. The frame on all Ultima ZT and ZTX series products are covered for "Residential Use" by a seven year Limited Lifetime Warranty.
Mowing Decks: 1) Cub Cadet LLC warrants the mowing decks under the warranty of the product it came with unless otherwise stated. 2) When so equipped, the optional fabricated cutting deck shell (excluding wear parts, etc. thereon) shall be warranted against defects in material and workmanship for the lifetime of the product, namely for as long as it is owned by its Initial Purchaser or the party for whom it was originally purchased as a gift, or seven (7) years from the date of its initial sale to an Initial Purchaser, whichever comes first. 3) The deck shell, deck spindles, and deck steel pulleys (collectively the "Deck Assembly") on PRO Z 500 / 700 / 900 and PRO X-600 product only, shall also be warranted to be free from defects in material and workmanship for up to an additional two (2) years (a total of five (5) years from date of purchase) or 1,750 cumulative hours of operation, whichever comes first. For purposes of clarity, no hour limitation applies during the initial three (3) year period described above.
Snow Blowers: Three-Stage and Two-Stage (excluding 2X 24 models) - Auger gear boxes have a five (5) year limited warranty.
L and S Series: RZT L/LX, Z-Force L/LX/SZ, PRO Z 100 L, Z-Force Commercial (LZ/SZ), and Tank (L/S): Please refer to warranty included with Operator's Manual.
Attachments/Accessories: Please refer to warranty with Operator's Manual.
*Limited Commercial Use Warranty: Handheld products – 90 days; Chipper-Shredder Vacuums, Blowers, Log Splitters, Snow Blowers – 1 year; Utility Vehicle – 6 month.
† No Commercial Use Warranty: Tillers, String Trimmers, Lawn Edgers, Pressure Washers, Battery Powered Product, Walk Behind Mowers, 60 Volt Max Product Series, CC30 Riders, Enduro Series, RZT S/SX, Ultima ZT Series, and Z-Force.

The limited warranty is non-transferrable

How to Get Service Under This Limited Warranty

In order to qualify for the limited warranty, as set forth herein, the repairs made under this warranty must be performed by an authorized Cub Cadet service provider. To locate a Cub Cadet service provider, contact your authorized Cub Cadet dealer, distributor, or retailer, or contact Cub Cadet LLC at P.O. Box 368023, Cleveland, Ohio 44136-0019, or call 1-877-282-8684, or log on to our Website at www.cubcadet.com. For Canada, contact MTD Products Limited, 97 Kent Ave, Kitchener, ON N2G 3R2, or call 1-800-668-1238, or log on to our Website at www.cubcadet.ca. This limited product warranty is provided by Cub Cadet LLC and is the only product warranty provided by Cub Cadet LLC for the Product. A COPY OF YOUR SALES RECEIPT IS REQUIRED FOR WARRANTY SERVICE.

What This Limited Warranty Does Not Cover

This limited warranty does not cover the following (the "Exclusions"):

1. Product purchased outside of the United States or Canada.
2. Emission Control Systems. These items are subject to a separate warranty under the applicable Federal Emission Control Warranty Statement. Please refer to the applicable Federal Emission Control Warranty Statement for terms and conditions relating to Emission Control Systems.
3. Damage due to lack of maintenance and/or improper maintenance, as described in the operator's manual.
4. Normal wear and tear resulting from use of the Product.
5. Normal Wear Parts (as defined herein) are warranted to be free from defects in material and workmanship for a period of thirty (30) days from the date of original purchase by the Initial Purchaser for residential use, and for 30 days or 100 hours (whichever occurs first) for Product used commercially. Depending on Product, Normal Wear Parts include, but are not limited to items such as: belts, blades, blade adapters, grass bags, rider deck wheels, seats, shave plates, skid shoes, tines, filters, nozzles, hoses, O-rings, spray guns, wands, tires, spark plugs, fuses, bump knobs, outer spools, cutting line, inner belts, starter pulley, starter rope, drive belts, saw chains, guide bars, and other consumable items.
6. Log splitter pumps, valves, and cylinders are covered for a period of one (1) year.
7. Use of the product that is not consistent with the intended use thereof, as described in the operating instructions, including, but not limited to, abuse, misuse and/or neglect of the Product, or any use inconsistent with and/or non-compliant with instructions contained in the Operator's Manual. This includes operation in sandy and/or corrosive environments.
8. Any Product that has been altered or modified in a manner not consistent with the original design of the Product or in a manner not approved by Cub Cadet LLC.
9. Paint repairs or replacements for defective paint (including materials and application) are covered for a period of three (3) months.
10. Wheel rims (when so equipped) are covered for a period of three (3) months for manufacturing defects.

This warranty does not cover, and Cub Cadet LLC disclaims any responsibility for, matters including, but not limited to, the following:

1. Loss of time or loss of use of the Product.
2. Transportation costs and other expenses incurred in connection with the transport of the Product to and from the authorized Cub Cadet service provider.
3. Any loss or damage to other equipment or personal items.
4. Damages caused by improper maintenance or the use of other than the specified fuel, oil, or lubricants, as approved in the operator's manual.
5. Damage resulting from the installation or use of any accessory or part not approved by Cub Cadet LLC for use with the Product.

Limitations

1. THERE ARE NO IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY SHALL APPLY AFTER THE APPLICABLE WARRANTY PERIOD, AS SET FORTH ABOVE, AS TO THE PARTS AS IDENTIFIED. NO OTHER EXPRESS WARRANTY OR GUARANTY, WHETHER WRITTEN OR ORAL, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON OR ENTITY, INCLUDING A DEALER OR RETAILER, WITH RESPECT TO ANY, PRODUCT SHALL BIND CUB CADET LLC. DURING THE WARRANTY PERIOD, THE EXCLUSIVE REMEDY IS REPAIR OR REPLACEMENT OF THE DEFECTIVE PART, AS SET FORTH ABOVE. (SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.)
2. THE PROVISIONS, AS SET FORTH HEREIN, PROVIDE THE SOLE AND EXCLUSIVE REMEDY ARISING FROM THE SALE. CUB CADET LLC SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGES INCLUDING, WITHOUT LIMITATION, FOR TRANSPORTATION OR FOR RELATED EXPENSES, OR FOR RENTAL EXPENSES TO TEMPORARILY REPLACE A WARRANTED PRODUCT. (SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU.)
3. IN NO EVENT SHALL RECOVERY OF ANY KIND BE GREATER THAN THE AMOUNT OF THE PURCHASE PRICE OF THE PRODUCT SOLD. ALTERATION OF THE SAFETY FEATURES OF THE PRODUCT SHALL VOID THIS LIMITED 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 USE OR MISUSE OR INABILITY TO USE THE PRODUCT.
4. This limited warranty extends to the Initial Purchaser only and, except as otherwise stated herein, the applicable Warranty Period will begin on the original date of purchase of the Product. In the event that the original date of purchase of the Product is indeterminable, then the Warranty Period shall be established as beginning on the Product's date of manufacture, as determined by Cub Cadet LLC, and ending six (6) months after the applicable Product Warranty Period, as defined above. In no event shall a Product's warranty extend beyond the applicable Warranty Period.

How State Law Relates to This Warranty

This limited warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.