

LAZER Z[®]
E-SERIES

For Serial Nos.
417,930,746 & Higher
Lazer Z (LRE) Models
Part No. 4507-693 Rev. A

Operator's Manual

⚠ WARNING

**CALIFORNIA
Proposition 65 Warning**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, 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.

Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Important: It is a violation of California Public Resource Code Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire.

To acquire a spark arrester for your unit, see your Engine Service Dealer.

For all models that do not have Exmark engines, please refer to the engine manufacturer's information included with the machine.

For models with Exmark engines, refer to this manual for information.

The gross or net horsepower (or torque) of this engine was laboratory rated by the engine manufacturer in accordance with the Society of Automotive Engineers (SAE) J1940 or J2723. As configured to meet safety, emission, and operating requirements, the actual engine horsepower (or torque) on this class of mower will be significantly lower.

Introduction

CONGRATULATIONS on the purchase of your Exmark Mower. This product has been carefully designed and manufactured to give you a maximum amount of dependability and years of trouble-free operation.

This rotary-blade, riding lawn mower is intended to be used by professional, hired operators. It is designed primarily for cutting grass on well-maintained lawns on residential or commercial properties. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

This manual contains operating, maintenance, adjustment, and safety instructions for your Exmark mower.

BEFORE OPERATING YOUR MOWER, CAREFULLY READ THIS MANUAL IN ITS ENTIRETY.

By following the operating, maintenance, and safety instructions, you will prolong the life of your mower, maintain its maximum efficiency, and promote safe operation.

To maximize safety, performance, and proper operation of this machine, it is essential that all operators carefully read and fully understand the contents of the Operator's manual provided with the product. Failure to comply with the operating instructions or receive proper training may result in injury. Go to <https://www.Exmark.com> for additional safe operation information, such as safety tips, training materials, and Operator's manuals.

If additional information is needed, or should you require trained mechanic service, contact your authorized Exmark equipment dealer or distributor.

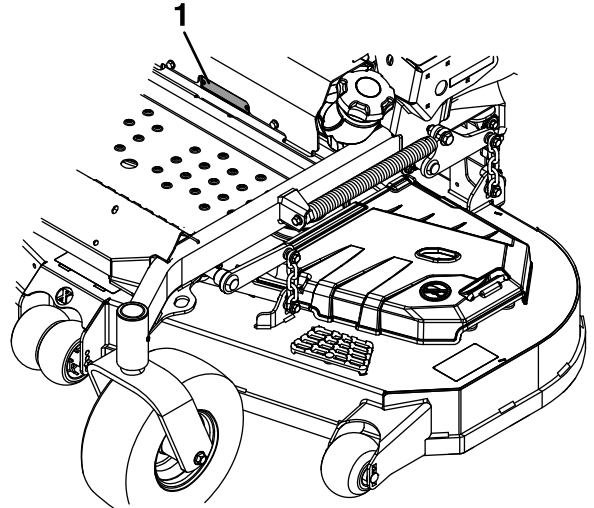
All Exmark equipment dealers and distributors are kept informed of the latest methods of servicing and are equipped to provide prompt and efficient service in the field or at their service stations. They carry ample stock of service parts or can secure them promptly for you from the factory.

All Exmark parts are thoroughly tested and inspected before leaving the factory, however, attention is required on your part if you are to obtain the fullest measure of satisfaction and performance.

Whenever you need service, genuine Exmark parts, or additional information, contact an Authorized

Service Dealer or Exmark Customer Service and have the model and serial numbers of your product ready.

Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.



g484851

Figure 1

1. Model and serial number location

Model No. _____
Serial No. _____

For complete warranty details, see <https://www.Exmark.com>. You may also call us 402-223-6375 to request a written copy of the product's warranty.

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Safety

Safety Alert Symbol

This Safety Alert Symbol (Figure 2) is used both in this manual and on the machine to identify important safety messages which must be followed to avoid accidents.

This symbol means: **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Figure 2
Safety Alert Symbol

g000502

The safety alert symbol appears above information which alerts you to unsafe actions or situations and will be followed by the word **DANGER**, **WARNING**, or **CAUTION**.

DANGER: Indicates an imminently hazardous situation which, if not avoided, **Will** result in death or serious injury.

WARNING: Indicates a potentially hazardous situation which, if not avoided, **Could** result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, **May** result in minor or moderate injury.

This manual uses two other words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

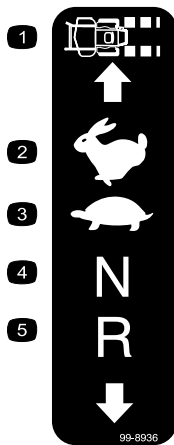
General Safety

This machine is capable of amputating hands and feet and of throwing objects. Always follow all safety instructions to avoid serious personal injury or death.

- Read, understand, and follow all instructions and warnings in the Operator's Manual and on the machine, engine, and attachments. All operators and mechanics should be trained. If the operator(s) or mechanic(s) can not read this manual, it is the owner's responsibility to explain this material to them; other languages may be available on our website.
- Only allow trained, responsible, and physically capable operators that are familiar with the safe operation, operator controls, and safety signs and instructions to operate the machine. Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- Always keep the roll bar in the fully raised and locked position and use the seat belt.
- Do Not operate the machine near drop-offs, ditches, embankments, water, or other hazards, or on slopes greater than 15 degrees.
- Keep bystanders and children out of the operating area.
- Do Not put your hands or feet near moving parts.
- Do Not operate the machine without all safety shields, guards, switches, and other devices in place and in proper working condition.
- Park machine on level ground, disengage drives, set parking brake, stop engine, and remove key. Wait for all moving parts to stop before leaving the operator's position. Allow the machine to cool before servicing, adjusting, fueling, cleaning, or storing.

Safety and Instructional Decals

- Keep all safety signs legible. Remove all grease, dirt and debris from safety signs and instructional labels.
- Replace all worn, damaged, or missing safety signs.
- When replacement components are installed, be sure that current safety signs are affixed to the replaced components.
- If an attachment or accessory has been installed, make sure current safety signs are visible.
- New safety signs may be obtained from your authorized Exmark equipment dealer or distributor or from Exmark Mfg. Co. Inc.
- Safety signs may be affixed by peeling off the backing to expose the adhesive surface. Apply only to a clean, dry surface. Smooth to remove any air bubbles.
- Familiarize yourself with the following safety signs and instruction labels. They are critical to the safe operation of your Exmark commercial mower.



99-8936

decal99-8936

- | | |
|------------------|------------|
| 1. Machine speed | 4. Neutral |
| 2. Fast | 5. Reverse |
| 3. Slow | |



106-5517

decal106-5517

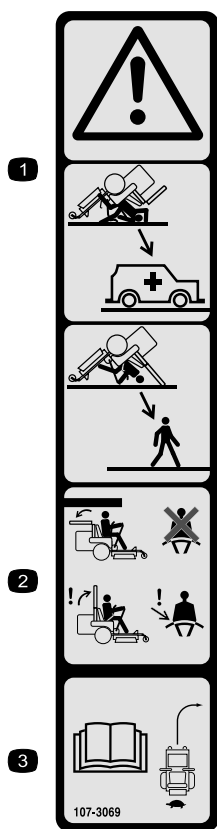
1. Warning—do not touch the hot surface.



106-2655

decal106-2655

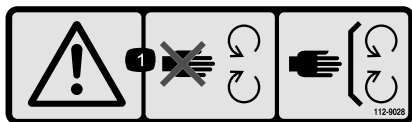
1. Warning—do not touch or approach moving belts; remove the key and read the instructions before servicing or performing maintenance.



107-3069

decal107-3069

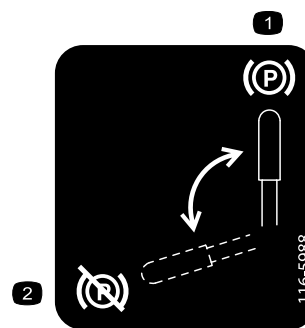
1. Warning—there is no rollover protection when the roll bar is down.
2. To avoid injury or death from a rollover accident, keep the roll bar in the fully raised and locked position and wear the seat belt. Lower the roll bar only when absolutely necessary; do not wear the seat belt when the roll bar is down.
3. Read the Operator's manual; drive slowly and carefully.



112-9028

decal112-9028

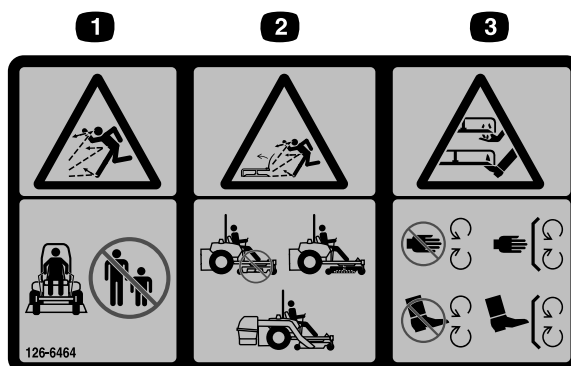
1. Warning—stay away from moving parts; keep all guards and shields in place.



116-5988

decal116-5988

1. Parking brake—engaged
2. Parking brake—disengaged



126-6464

decal126-6464

Side Discharge Models

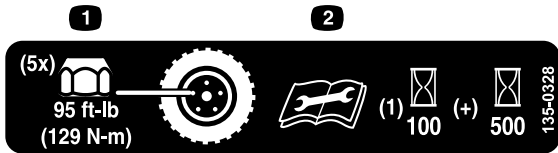
1. Thrown object hazard—keep bystanders away.
2. Thrown object hazard, mower—do not operate without the deflector, discharge cover, or grass collection system in place.
3. Cutting/dismemberment of hand or foot—stay away from moving parts; keep all guards and shields in place.

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
 For more information, please visit www.ttcoCAProp65.com
CALIFORNIA SPARK ARRESTER WARNING
 Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

133-8062

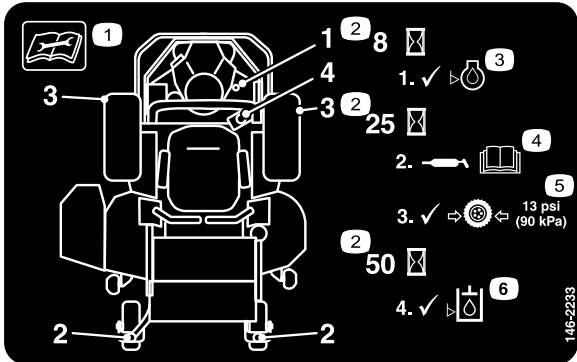
decal133-8062

Safety



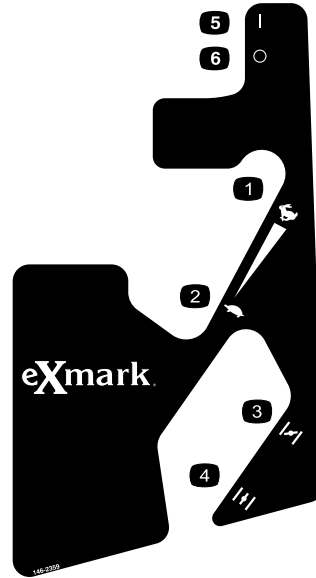
135-0328

1. Wheel lug nut torque 95 ft-lb (129 N-m) (5x)
2. Read and understand the Operator's manual before performing any maintenance, check torque after first 100 hours then every 500 hours thereafter.



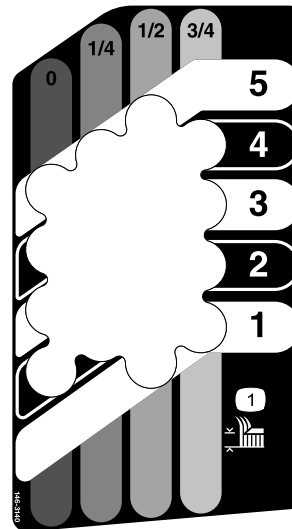
146-2233

- | | |
|---|---|
| 1. Read the instructions before servicing or performing maintenance | 4. Refer to the Operator's manual for grease instructions |
| 2. Time interval | 5. Check tire pressure |
| 3. Check oil level | 6. Check hydraulic oil level |



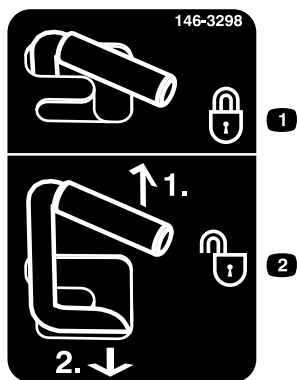
146-2359

- | | |
|------------------|--------------|
| 1. Throttle-fast | 4. Choke-off |
| 2. Throttle-slow | 5. PTO-on |
| 3. Choke-on | 6. PTO-off |



146-3140

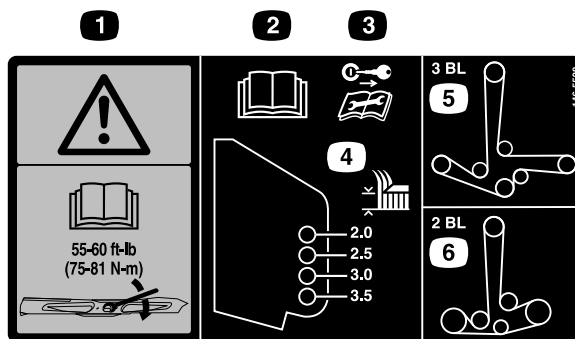
1. Height of cut



146-3298

decal146-3298

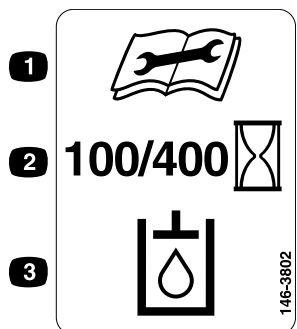
1. Lock - Latch forward and
2. Unlock - Pull latch up then move rearward.



146-5528

decal146-5528

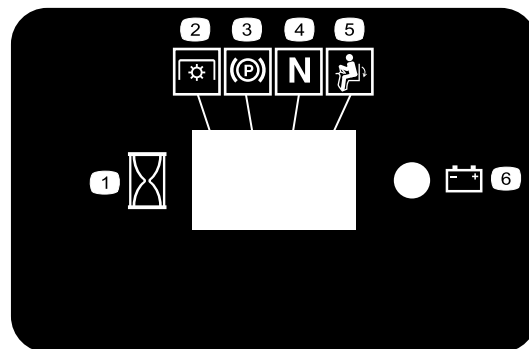
1. Warning—read the Operator's Manual for instructions on torquing the blade bolt/nut to 55-60 ft-lb (75-81 N-m).
2. Read the Operator's manual
3. Remove the ignition key and read the instructions before servicing or performing maintenance.
4. Height of cut
5. Belt routing—3 Blade cutting deck
6. Belt routing—2 Blade cutting deck



146-3802

decal146-3802

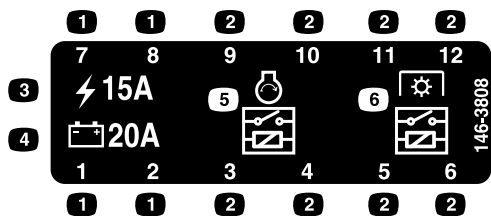
1. Read the instructions before servicing or performing maintenance.
2. Time interval
3. Change hydraulic fluid after first 100 hours, then every 400 hours thereafter.



Message Display

decal116-5610

1. Hour
2. PTO
3. Parking brake
4. Neutral
5. Operator presence switch
6. Battery



146-3808

decal146-3808

1. Fuse location
2. Relay location
3. Main, 15A
4. Charge, 20A
5. Start relay
6. PTO relay



PTO Symbol

decalptoengage

1. PTO-engage



132-0871

decal132-0871

This machine complies with the industry standard stability test in the static lateral and longitudinal tests with the maximum recommended slope indicated on the decal. It is important that each operator review the slope operation instructions in the operator's manual and review the conditions in which the machine is being operated to determine if the machine may be operated in the conditions that day and on that site. Changes to terrain can result in a change in slope operation for any machine.

1. Warning—read the *Operator's Manual*; do not operate this machine unless you are trained; wear hearing protection.
2. Cutting and pinching hazard—keep hands and feet away from moving parts; keep all guards and shields in place.
3. Thrown object hazard—keep bystanders away.
4. Ramp hazard—when loading onto a trailer, do not use dual ramps; only use a singular ramp wide enough for the machine and that has an incline less than 15 degrees; back up the ramp (in reverse) and drive forward off the ramp.
5. Bodily harm hazard—do not carry passengers; look behind you when mowing in reverse.
6. Tipping hazard on slopes—do not use on slopes near open water; do not use on slopes greater than 15 degrees.

Specifications

Systems

Engine

- Engine Specifications: See your Engine Owner's Manual
- Engine Oil Type: Exmark 4-Cycle Premium Engine Oil
- RPM:
 - Full Speed (PTO not engaged):
All Engines: 3700 +50/-25 RPM
 - Idle:
 - ◇ Kawasaki: 1550 ±150 RPM
 - ◇ Briggs and Stratton: 1750 ±100 RPM

Fuel System

- Capacity: 9.5 gal. (36 L)
- Fuel Recommendations:
 - For best results, use only clean, fresh, unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).
 - Oxygenated fuel with up to 10% ethanol or 15% MTBE by volume is acceptable.
 - **Do Not** use ethanol blends of gasoline (such as E15 or E85) with more than 10% ethanol by volume. Performance problems and/or engine damage may result which may not be covered under warranty.
 - **Do Not** use gasoline containing methanol.
 - **Do Not** store fuel either in the fuel tank or fuel containers over the winter unless a fuel stabilizer is used.
 - **Do Not** add oil to gasoline.
- Fuel Filter: Replaceable In-line
- Fuel Shut-Off Valve: 1/4 turn (“ON”, “OFF”).
- Fuel gauge in left side of fuel tank.

Electrical System

- Charging System: Flywheel Alternator
- Charging Capacity: 15 amps
- Battery Type: BCI Group U1
- Recommended Minimum Battery CCA: 260 CCA
- Battery Voltage: 12 Volt

- Low Voltage Light/Error Message — RH control panel
- Polarity: Negative Ground
- Fuses:
 - All Models:
 - 15 amp main fuse
 - 20 amp charging system fuse

Safety Interlock System

- LCD indicators appear for the PTO, park brake, drive levers, and operator presence in the message display on the RH control panel.
- PTO must be disengaged, brake engaged, and motion control levers out (neutral lock) to start engine. (It is not necessary for the operator to be in the seat to start the engine.)
- Operator must be in seat when PTO is engaged, brake is disengaged, or motion control levers are moved in or engine will stop.
- Engine will stop if either the left, the right, or both levers are moved from neutral lock position while brake is engaged.

Operator Controls

- Steering and Motion Control:
 - Note:** Motion control levers are adjustable to two heights.
 - Separate levers, on each side of the console, control speed and direction of travel of the respective drive wheels.
 - Steering is controlled by varying the position of the levers relative to each other.
 - Moving motion control levers outward (in slots) locks the drive system in neutral.
- PTO Engagement Switch: Engages electric clutch (to drive belt) which engages mower blades.
- Parking Brake Lever: Engages/Disengages parking brake.
- Deck Height Adjustment Lever: Sets cutting height to desired position.
- Deck Lift Pedal: Foot pedal that lifts deck.
- Transport Lock:
 - Latching position: Automatically latches at the transport position.
 - Unlatching position: Deck does not latch at the transport position.

Specifications

Seat

- Deluxe suspension seat with high back, (adjustable spring suspension), armrests, and integral safety switch. Adds approximately 1/2 inch (1.3 cm) to seat height.
- Seat Safety Switch: Integrated seat switch. Time delay seat switch eliminates rough ground cut-outs.

Hydrostatic Ground Drive System

- Two unitized Hydro-Gear 4400 hydrostatic transmissions:
- Hydraulic Oil Type: Exmark Premium Hydro Oil.
- Hydraulic Oil Capacity: 118 oz (3.5 L) per side
- Hydraulic Filter: P/N 144-6598
- Speeds:
 - 0-11 mph (17.7 km/hr) forward.
 - 0-5 mph (8.0 km/hr) reverse.
- Drive wheel release valves allow machine to be moved when engine is not running.

Tires and Wheels

Drive		
Pneumatic (Air filled)		
Deck Size	48 & 52	60
Quantity	2	2
Tread	Super Turf	Super Turf
Size	24 x 9.50-12	24 x 12.00-12
Ply Rating	4	4
Pressure	13 psi (90 kPa)	13 psi (90 kPa)

Front Caster	
Pneumatic (Air filled)	
Deck Size	All
Quantity	2
Tread	Smooth
Size	13 x 6.50-12
Ply Rating	4
Pressure	13 psi (90 kPa)

Cutting Deck

- Cutting Width:
 - 48 inch Deck: (121.9 cm)
 - 52 inch Deck: (132.1 cm)
 - 60 inch Deck: (152.4 cm)
- Discharge: Side Discharge
- Blade Size: (3 ea.)
 - 48 inch Deck: 24.50 inches (62.2 cm)
 - 52 inch Deck: 18.00 inches (45.7 cm)
 - 60 inch Deck: 20.50 inches (52.1 cm)
- Blade Spindles: Solid steel spindles with .984 inch (25 mm) I.D. bearings.
- Deck Drive:

Electric clutch: “B” Section belt with self-tensioning idler.
- Deck:

Side Discharge: Full floating deck is attached to out-front support frame. Anti-scalp rollers provide maximum turf protection. Deck design allows for bagging, mulching or side discharge.

 - 48 inch Deck: 3 anti-scalp rollers
 - 52 inch Deck: 3 anti-scalp rollers
 - 60 inch Deck: 4 anti-scalp rollers
- Deck Depth—All Deck Series: 5.5 inches (14 cm)
- Cutting Height Adjustment: Foot activated lever is used to adjust the cutting height from 1 1/2 inch (3.8 cm) to 5 1/2 inches (14 cm) in 1/4 inch (6.4 mm) increments.
- Mulching Kit: Optional.

Dimensions

Overall Width

	48 inch Deck	52 inch Deck	60 inch Deck
Without Deck	51.5 inches (130.8 cm)	51.5 inches (130.8 cm)	55.3 inches (140.5 cm)
Deflector Up	54.1 inches (137.4 cm)	57.4 inches (145.8 cm)	65.4 inches (166.2 cm)
Deflector Down	61.2 inches (155.5 cm)	64.7 inches (164.3 cm)	72.7 inches (184.7 cm)

Overall Length:

Side Discharge Models:

	48 inch Deck	52 and 60 inch Deck
Roll Bar - Up	87.8 inches (223.0 cm)	84.6 inches (214.9 cm)
Roll Bar - Down	88.6 inches (225.0 cm)	85.4 inches (217.0 cm)

Overall Height:

Roll Bar - Up	Roll Bar - Down
70.1 inches (178.1 cm)	46.3 inches (117.6 cm)

Tread Width: (Center to Center of Tires, Widthwise)

	48 and 52 inch Deck	60 inch Deck
Drive Wheels	41.8 inches (106.2 cm)	43.9 inches (111.5 cm)
Caster Wheels	31.1 inches (79.0 cm)	38.3 inches (97.3 cm)

Wheel Base: (Center of Caster Tire to Center of Drive Tire)

Side Discharge Models:

48 inch Deck	52 and 60 inch Deck
53.5 inches (135.9 cm)	50.3 inches (127.8 cm)

Curb Weight:

Models with 48 Inch Side Discharge Decks	1017 lb (461 kg)
Models with 52 Inch Side Discharge Decks	1019 lb-1037 lb (462 kg-470 kg)
Models with 60 Inch Side Discharge Decks	1062 lb-1093 lb (482 kg- 496 kg)

Required Accessory Weights:

Use the table below to determine if an extra weight kit is required for the machine when installing accessories.

	Kawasaki 801 Model with 52 Inch Deck	Kawasaki 801 Model with 60 Inch Deck	Briggs 810 Model with 60 Inch Deck
Sunshade Kit	Weight Kit 116-1238	Weight Kit 146-5925 or 116-1238	Weight Kit 146-5925 or 116-1238

Specifications

Torque Requirements

Bolt Location	Torque
Blade Drive Sheave Mounting Nut	130-160 ft-lb (176-217 N-m)
Blade Mounting Bolt (lubricate with anti-seize)	50-60 ft-lb (68-81 N-m)
Engine Mounting Bolts	27-33 ft-lb (37-45 N-m)
Wheel Lug Nuts	85-105 ft-lb (115-142 N-m)
Wheel Motor Mounting Bolts	95-115 ft-lb (129-156 N-m)
Rollover Protection System (Roll Bar) 1/2 inch Mounting Bolts	67-83 ft-lb (90-113 N-m)
Clutch Retaining Bolt (secured with threadlocker)	55-60 ft-lb (75-81 N-m)
Motion Control Link to Hydro	175-225 in-lb (20-26 N-m)
Damper to Frame	135-165 in-lb (15-19 N-m)
Damper to Motion Control Assembly	80-100 in-lb (9-11 N-m)

Product Overview

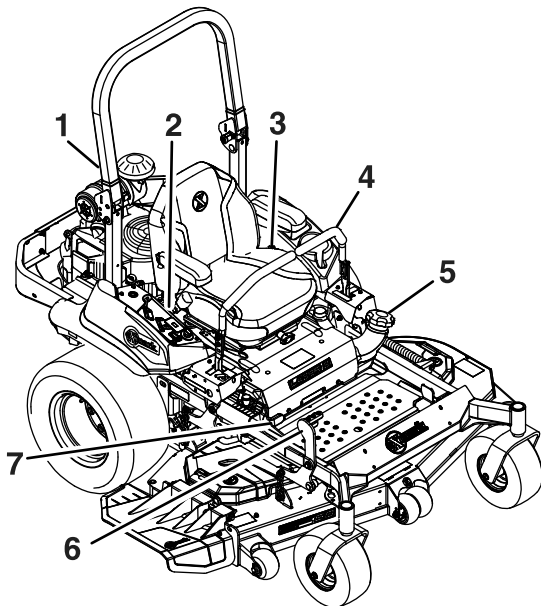


Figure 3

g484779

- | | |
|--------------------------------------|----------------------------------|
| 1. Rollover Protection System (ROPS) | 5. Fuel cap |
| 2. Engine Controls (right console) | 6. Height of cut deck lift pedal |
| 3. Seat belt | 7. Parking brake lever |
| 4. Motion control levers | |

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Controls

Become familiar with all the controls before starting the engine and operating the machine.

Motion Control Levers

The motion control levers located on each side of the console control the forward and reverse motion of the machine.

Moving the levers forward or backward turns the wheel on the same side forward or reverse respectively. Wheel speed is proportional to the amount the lever is moved.

Moving the levers outward from the center position into the T-slot locks them in the neutral position (Figure 4).

Note: When the motion control levers are in the neutral position, a LCD indicator displays on the message display.

Operation

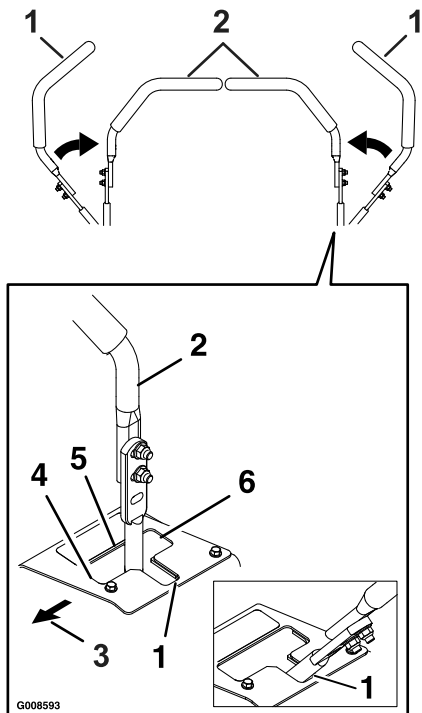


Figure 4

- | | |
|---|----------------------|
| 1. Neutral lock position
(handles out) | 4. Forward |
| 2. Neutral operate position
(handles in) | 5. Neutral (operate) |
| 3. Front of machine | 6. Reverse |

Choke Control

Located on right console (black lever) (Figure 5). The choke is used to aid in starting a cold engine. Moving the choke lever forward will put the choke in the “ON” position and moving the choke lever to the rear, to the detent, will put the choke in the “OFF” position. Do Not run a warm engine with choke in the “ON” position.

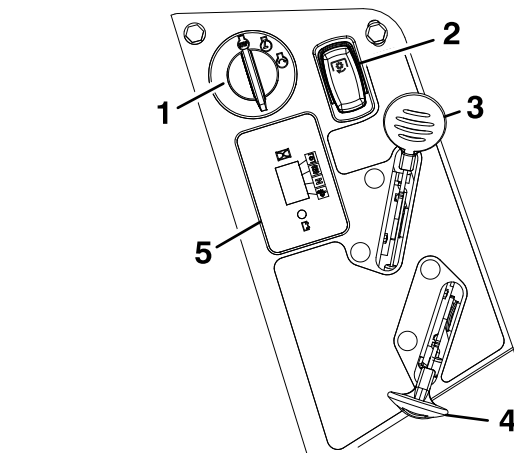


Figure 5

- | | |
|--------------------------|--------------------|
| 1. Ignition switch | 4. Choke |
| 2. PTO engagement switch | 5. Message display |
| 3. Throttle | |

Throttle Control

Located on right console (red lever) (see Figure 5).

The throttle is used to control engine speed. Moving the throttle lever forward will increase engine speed and moving the throttle lever to the rear will decrease engine speed. Moving the throttle forward into the detent is full throttle.

Brake Lever

Located on right side of the machine, just to the front of the RH motion control lever.

The brake lever engages a parking brake on the drive wheels.

Note: The LCD indicator appears in the message display on the RH console when the park brake is engaged (reference Figure 7).

Pull the lever up and rearward to engage the brake.

Push the lever forward and down to disengage the brake.

The machine must be tied down and brake engaged when transporting.

Ignition Switch

Located on right console.

The ignition switch is used to start and stop the engine. The switch has three positions “OFF”, “ON”

and “START”. Insert key into switch and rotate clockwise to the “ON” position. Rotate clockwise to the next position to engage the starter (key must be held against spring pressure in this position). Allow the key to return to the “on” position immediately after the engine starts.

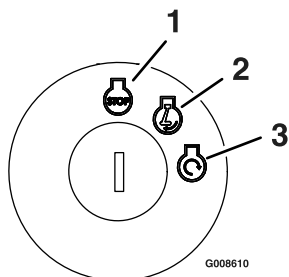


Figure 6

g008610

1. Off
2. On
3. Start

Note: Brake must be engaged, motion control levers out (neutral lock position) and PTO switch disengaged to start engine. (It is not necessary for the operator to be in the seat to start the engine.)

Note: The LCD indicators appear when each control meets the “safe to start” mode (e.g. the indicator turns on when the operator is in the seat.)

Hour Meter

Located on the right console in the message display (reference Figure 5 and Figure 7).

The hour meter records the number of hours that the engine has run.

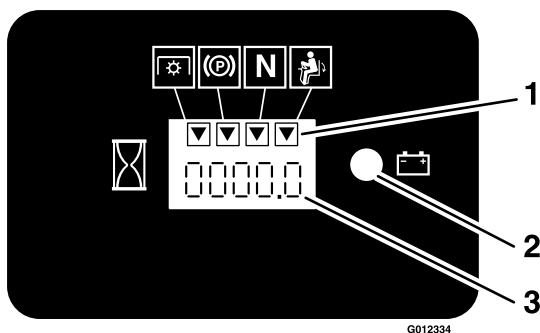


Figure 7

g012334

1. LCD indicators
2. Low voltage indicator light
3. Hour/Voltage display

PTO Engagement Switch

Located on right console (see Figure 5).

Pushing down on the front of the switch will put the PTO in the “ON” (engage) position. Pushing down on the back of the switch will put the PTO in the “OFF” (disengage) position.

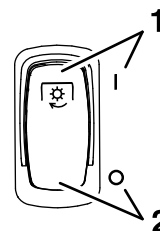


Figure 8

g391899

1. “ON” (engage)
2. “OFF” (disengage)

Fuel Shut-Off Valve

Located behind and below the seat.

The fuel shut-off valve is used to shut off the fuel when the machine will not be used for a few days, during transport to and from the jobsite, and when parked inside a building.

Align valve handle with the fuel line to open. Rotate 90° to close.

Fuel Gauge

Located below the LH motion control cover on the fuel tank.

The dial gauge monitors the amount of fuel in the fuel tank.

Drive Wheel Release Valves

⚠ WARNING

Hands may become entangled in the rotating drive components below the engine deck, which could result in serious injury or death.

Stop engine, remove key, allow all the moving parts to stop before accessing the drive wheel release valves.

Operation

▲ WARNING

The engine and hydraulic drive units can become very hot. Touching a hot engine or hydraulic drive units can cause severe burns.

Allow the engine and hydraulic drive units to cool completely before accessing the drive wheel release valves.

Located on the back of the unitized hydraulic drive units, below the engine deck.

During normal operating conditions, the drive wheel release valves are in the forward position. If the machine has to be pushed by hand, the valves must be in the “released” position (see Figure 9).

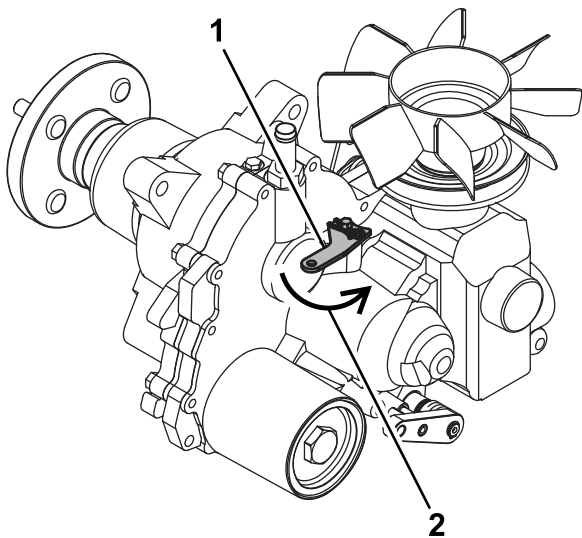


Figure 9

g430243

1. Handle in “operating” position
2. Rotate towards machine to release

To release the drive system, rotate the handle towards the front of the machine until it hits against the stop.

To reset the drive system, rotate the handle towards the rear of the machine until it hits against the stop.

Note: The handle must be facing rearward against the stop for operation.

Do Not tow machine.

Low Voltage Indicator

Located on the right console in the message display

A low voltage condition (less than 12.3 volts) exists when the LCD indicator appears on the message display while the engine is running.

If the ignition key is turned to the “ON” position for a few seconds before cranking the engine, the battery voltage will display in the area where the hours are normally displayed.

Note: The indicator normally appears when the engine is off and the key switch is turned to the “ON” position.

Deck Lift Pedal

Located at the right front corner of the floor pan.

Push the pedal forward with your foot to raise the cutting deck. Allow the pedal to move rearward to lower the cutting deck to the cut height that has been set.

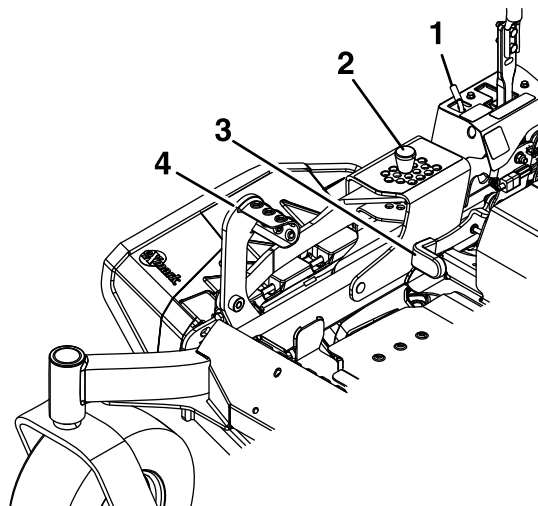


Figure 10

g488574

1. Transport lock
2. Height of cut
3. Park brake
4. Deck lift pedal

Transport Lock

Located on RH console in front of the motion control lever (reference Figure 10).

The transport latching position will automatically latch when the cutting deck is raised to the transport position using the deck lift pedal.

Pulling the transport lock handle up and rearward will release the lock and allow the deck to lower to the predetermined cut height when the pedal is lowered.

Before Operation

Before Operation Safety

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by Exmark.
- Inspect the area where the machine is to be used and remove all rocks, toys, sticks, wires, bones, and other foreign objects. These can be thrown or interfere with the operation of the machine and may cause personal injury to the operator or bystanders.
- This mower was designed for one operator only. Do not carry passengers.
- Wear appropriate personal protective equipment such as safety glasses, long pants, substantial slip-resistant footwear, and hearing protection. Tie back long hair and avoid loose clothing and loose jewelry which may get tangled in moving parts.
- This machine produces sound levels in excess of 85 dBA at the operator's ear and can cause hearing loss through extended periods of exposure. Wear hearing protection when operating this machine.
- Check that the following items are in place and in proper working condition: the operator presence controls, safety switches, guards, shields, discharge deflector and/or the entire grass catcher system. Do not operate the machine unless they are in proper working condition. Replace worn or deteriorated parts with genuine Exmark parts when necessary.

⚠ DANGER

It is essential that operator safety mechanisms be connected and in proper operating condition prior to use. Contacting the blade will result in serious personal injury.

Shut off the engine, remove the key, and wait for all moving parts to stop before leaving the operating position. When the key is turned to the "OFF" position, the engine should shut off and the blade should stop. If not, stop using the machine immediately and contact an Authorized Service Dealer.

- Do Not operate the mower when people, especially children, or pets are in the area. Shut

off the machine and attachment(s) if anyone enters the area.

- Do Not operate the machine without the entire grass collection system, discharge deflector, or other safety devices in place and in proper working condition. Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check for worn or deteriorating components and replace them with the manufacturer's recommended parts when necessary.

Fuel Safety

⚠ DANGER

Gasoline is extremely flammable and vapors are explosive.

A fire or explosion from gasoline can burn you, others, and cause property damage.

- **Fill the fuel tank outdoors on level ground, in an open area, when the engine is cold. If fuel is spilled, Do Not attempt to start the engine. Move away from the area of the spill and avoid creating any source of ignition until fuel vapors have dissipated.**
- **Do Not refill the fuel tank or drain the machine indoors or inside an enclosed trailer.**
- **Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by spark.**
- **Add fuel before starting the engine. Never remove the cap of the fuel tank or add fuel when engine is running or when the engine is hot.**
- **Store gasoline in an approved container and keep it out of the reach of children.**
- **Do Not operate without entire exhaust system in place and in proper working condition.**
- In certain conditions during fueling, static electricity can be released causing a spark which can ignite gasoline vapors.
 - Do Not fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground and away from your vehicle before filling.

Operation

- When practical, remove gas-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground. If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.
- If a gasoline dispenser nozzle is used, 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.
- Do Not overfill the fuel tank. Fill the fuel tank to the bottom of the filler neck. The empty space in the tank allows gasoline to expand. Overfilling may result in fuel leakage or damage to the engine or emission system.
- Gasoline is harmful or fatal if swallowed. Long-term exposure to vapors may cause serious injury and illness.
 - Avoid prolonged breathing of vapors.
 - Keep face away from nozzle and gas tank/container opening.
 - Keep away from eyes and skin.
- To help prevent fires:
 - Keep engine and engine area free from accumulation of grass, leaves, excessive grease or oil, and other debris which can accumulate in these areas.
 - Clean up oil and fuel spills and remove fuel soaked debris.
 - Allow the machine to cool before storing the machine in any enclosure. Do Not store the machine or fuel container, or refuel, where there is an open flame, spark, or pilot light such as on a water heater or other appliance.

▲ WARNING

Operating engine parts, especially the muffler, become extremely hot. Severe burns can occur on contact and debris, such as leaves, grass, brush, etc. can catch fire.

Clean the machine as stated in the Maintenance section. Keep engine and engine area free from accumulation of grass, leaves, excessive grease or oil, and other debris which can accumulate in these areas.

- Operate the engine only in well-ventilated areas. Exhaust gases contain carbon monoxide, which is an odorless deadly poison.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- Operate the machine only in good visibility and appropriate weather conditions. Do not operate the machine when there is the risk of lightning.
- Keep away from holes, ruts, bumps, rocks, and other hidden hazards. Use care when approaching blind corners, shrubs, trees, tall grass or other objects that may hide obstacles or obscure vision. Uneven terrain could overturn the machine.
- Start the engine with your feet well away from the blades.
- Do not operate the machine without all safety shields, guards, switches, and other devices in place and in proper working condition.
- Keep your hands and feet away from the moving parts. Keep clear of the discharge opening.
- Do not mow with the discharge deflector raised, removed, or altered unless there is a grass-collection system or mulch kit in place and working properly.
- Never raise the deck with blades running.
- Be aware of the mower discharge path and direct discharge away from others. Avoid discharging material against a wall or obstruction as the material may ricochet back toward the operator. Stop the blades, slow down, and use caution when crossing surfaces other than grass and when transporting the mower to and from the area to be mowed.
- Be alert, slow down and use caution when making turns. Do not mow in reverse unless it

Operating Instructions

During Operation Safety

General Safety

The operator must use their full attention when operating the machine. **Do Not** engage in any activity that causes distractions; otherwise, injury or property damage may occur.

is absolutely necessary. Always look down and behind you before moving the machine in reverse.

- Park the machine on level ground. Stop engine, wait for all moving parts to stop, and remove key.
 - Before checking, cleaning or working on the mower.
 - After striking a foreign object or abnormal vibration occurs (inspect the mower for damage and make repairs before restarting and operating the mower).
 - Before clearing blockages.
 - Whenever you leave the mower. Do Not leave a running machine unattended.
- Stop engine, wait for all moving parts to stop:
 - Before refueling
 - Before dumping the grass catcher.
 - Before making height adjustments.
- Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.
 - Keep children out of the mowing area and under the watchful care of another responsible adult, not the operator.
 - Be alert and turn the machine off if children enter the area.
 - Before and while backing or changing direction, look behind, down, and side-to-side for small children.
 - Never allow children to operate the machine.
 - Do Not carry children, even with the blades shut off. Children could fall off and be seriously injured or interfere with the safe operation of the machine. Children that have been given rides in the past could suddenly appear in the working area for another ride and be run over or backed over by the machine.
- Do not use the machine as a towing vehicle unless it has a hitch installed. Attach towed equipment to the machine only at the hitch point.

Slope Safety

- Slopes are a major factor related to loss of control and rollover accidents, which can result in severe injury or death. The operator is responsible for safe slope operation. Operating the machine on

any slope requires extra caution. Before using the machine on a slope, the operator must:

- Review and understand the slope instructions in the manual and on the machine.
- Use an angle indicator to determine the approximate slope angle of the area.
- Never operate on slopes greater than 15 degrees.
- Evaluate the site conditions of the day to determine if the slope is safe for machine operation. Use common sense and good judgment when performing this evaluation. Changes in the terrain, such as moisture, can quickly affect the operation of the machine on a slope.
- Identify hazards at the base of the slope. Do Not operate the machine near drop offs, ditches, embankments, water or other hazards. The machine could suddenly roll over if a wheel goes over the edge or the edge collapses. Keep a safe distance (twice the width of the machine) between the machine and any hazard. Use a walk behind machine or a hand trimmer to mow the grass in these areas.

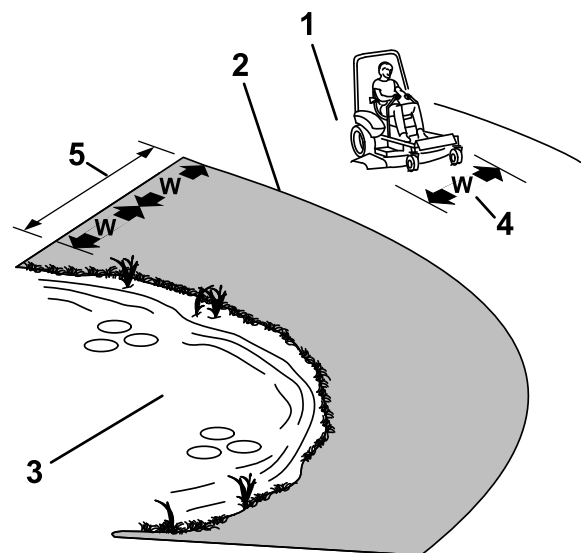


Figure 11

g221745

1. Safe Zone-Use the mower here on slopes less than 15 degrees
2. Danger Zone-Use a walk-behind mower and/or hand trimmer on slopes greater than 15 degrees
3. Water
4. W=width of the machine
5. Keep a safe distance (twice the width of the machine) between the machine and any hazard.

Operation

- Avoid starting, stopping or turning the machine on slopes. Avoid making sudden changes in speed or direction; turn slowly and gradually.
- Do Not operate a machine under any conditions where traction, steering or stability is in question. Be aware that operating the machine on wet grass, across slopes or downhill may cause the machine to lose traction. Loss of traction to the drive wheels may result in sliding and a loss of braking and steering. The machine can slide even if the drive wheels are stopped.
- Remove or mark obstacles such as ditches, holes, ruts, bumps, rocks or other hidden hazards. Tall grass can hide obstacles. Uneven terrain could overturn the machine.
- Use extra care while operating with accessories or attachments, such as grass collection systems. These can change the stability of the machine and cause a loss of control. Follow directions for counter weights.
- Keep the deck lowered to the ground while operating on slopes. Raising the deck while operating on slopes can cause the machine to become unstable.
- Check carefully for overhead clearances (i.e. branches, doorways, and electrical wires) before driving under any objects and Do Not contact them.
- In the event of a rollover, take the machine to an Authorized Service Dealer to have the ROPS inspected. Replace damaged ROPS components. Do not repair or alter them.
- Only Exmark approved accessories or attachments may be added to the ROPS.

Raise the Rollover Protection System (ROPS)

Important: The roll bar is an integral and effective safety device. Keep the roll bar in the raised and locked position when operating the mower. Lower the roll bar temporarily only when absolutely necessary.

1. The knob must be completely latched with the tabs interlocking as shown in Figure 12 to lock the roll bar in the raised, operate position.
2. Apply forward pressure to the upper hoop of the roll bar.
3. Pull the knob and rotate 90° to hold in the unlatched position to lower the roll bar.
4. To return to the operate position, raise the roll bar, and then rotate knobs 90° so that the tabs interlock partially. Apply forward pressure to the roll bar upper hoop and observe that the knobs return to the completely latched position.

Rollover Protection System (ROPS) Safety

▲ WARNING

There is no rollover protection when the ROPS (roll bar) is down. Wheels dropping over edges, ditches, steep banks, or water can cause rollovers, which may result in serious injury, death or drowning.

- Do Not remove the ROPS.
- Keep the roll bar in the fully raised and locked position and always wear your seat belt whenever the roll bar is up.
- Lower the roll bar only when absolutely necessary.
- Do Not wear seat belt when the roll bar is down.
- Drive slowly and carefully.
- Raise the roll bar as soon as clearance permits.
- Be certain that the seat belt can be released quickly in the event of an emergency.

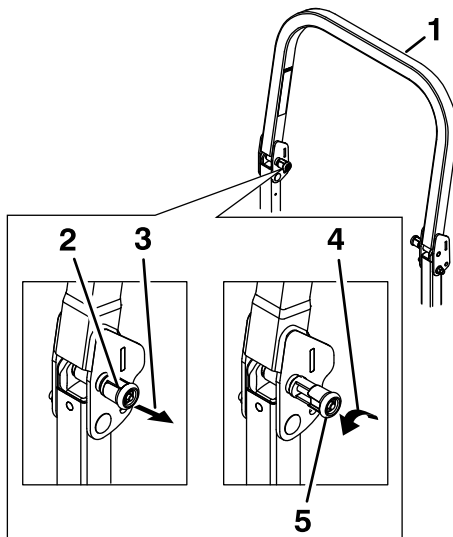


Figure 12

g450937

1. Roll bar upper hoop
2. Knob in "latched" position
3. Pull knob to unlatch
4. Rotate 90° to hold unlatched
5. Knob in "unlatched" position

5. Make sure the knobs are fully engaged with the roll bar in the raised position. The upper hoop of the roll bar may need to be pushed forward or pulled rearward to get both knobs fully engaged (see Figure 13).

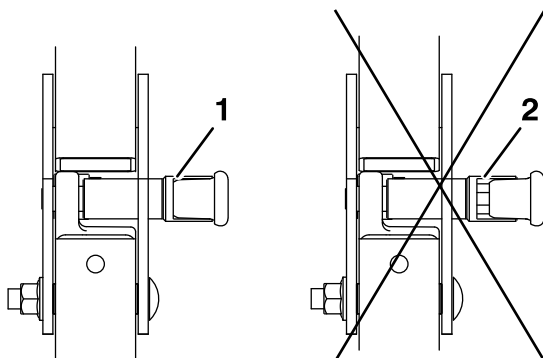


Figure 13

g450218

1. Engaged
2. Partially engaged — Do Not operate with ROPS in this condition.

Important: Always use the seat belt with the roll bar in the operate (raised) position. Ensure that the rear part of the seat is secured with the seat latch.

Open the Fuel Shut-Off Valve

Rotate the valve and align with the fuel line to open.

Starting the Engine

1. Move the motion control levers out to the neutral lock position.
2. Pull up and back on the parking brake lever to engage the parking brake.
3. Push down on the back of the PTO switch to the "disengage" position.

Note: It is not necessary for the operator to be in the seat to start the engine.

4. Place the throttle midway between the "SLOW" and "FAST" positions.
5. Turn ignition switch to the "START" position. Release the switch as soon as the engine starts.

Important: Do Not crank the engine continuously for more than ten seconds at a time. If the engine does not start, allow a 60 second cool-down period between starting attempts. Failure to follow these guidelines can burn out the starter motor.

6. If the choke is in the "ON" position, gradually return choke to the "OFF" position as the engine warms up.

Engaging the PTO

⚠ DANGER

The rotating blades under the mower deck are dangerous. Blade contact will cause serious injury or death.

Do Not put hands or feet under the mower or mower deck when the blades are engaged.

⚠ DANGER

An uncovered discharge opening will allow objects to be thrown in an operator's or bystander's direction. Also, contact with the blade could occur. Thrown objects or blade contact can cause serious injury or death.

Never operate the mower with the discharge deflector raised, removed, or altered unless there is a grass collection system or mulch kit in place and working properly.

Operation

The PTO switch engages the cutting blades. Be sure that all persons are clear of the mower deck and discharge area before engaging PTO.

Important: Operator must be in seat before the PTO can be engaged.

1. Set the throttle midway between the “SLOW” and “FAST” positions.
2. Push down on the front of the PTO switch to engage the blades (reference Figure 8).
3. Place the throttle in the “FAST” position to begin mowing.

Disengaging the PTO

1. Set the throttle midway between the “SLOW” and “FAST” positions.
2. Push down on the back of the PTO switch to disengage the blades (reference Figure 8).

Stopping the Engine

1. Bring the machine to a full stop.
2. Move the motion control levers out to the neutral lock position.
3. Engage the parking brake.
4. Place the throttle midway between the “SLOW” and “FAST” positions.
5. Disengage the PTO.
6. Allow the engine to run for a minimum of 15 seconds, then turn the ignition switch to the “OFF” position to stop the engine.
7. Remove the key to prevent children or other unauthorized persons from starting engine.
8. Close the fuel shut-off valve when the machine will not be in use for a few days, when transporting, or when the unit is parked inside a building.

Driving the Machine

⚠ CAUTION

Machine can spin very rapidly by positioning one lever too much ahead of the other. Operator may lose control of the machine, which may cause damage to the machine or injury.

- Use caution when making turns.
- Slow the machine down before making sharp turns.

Important: To begin movement (forward or backward) the operator must be in the seat, the brake lever must be disengaged (pushed down) before the motion control levers can be moved in or the engine will stop.

When the motion control levers are positioned fully outward (apart) in the T-slot, the drive system is in the neutral lock position (Figure 14).

Note: The “N” LCD indicator appears when both levers are in the neutral lock position.

When the motion control levers are moved directly inward (together) the drive system is in the neutral operate position.

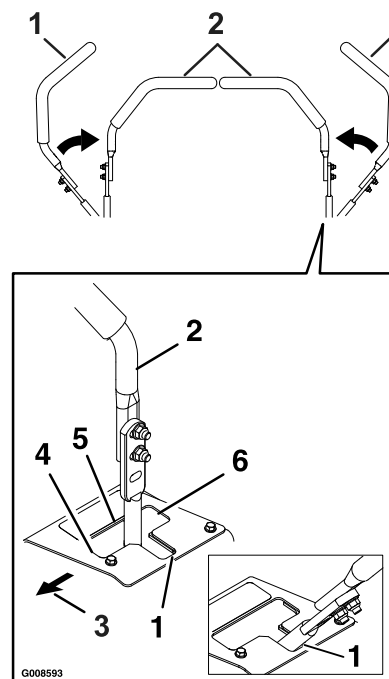


Figure 14

- | | |
|--|----------------------|
| 1. Neutral lock position (handles out) | 4. Forward |
| 2. Neutral operate position (handles in) | 5. Neutral (operate) |
| 3. Front of Unit | 6. Reverse |

Driving Forward

1. Release the parking brake.
2. Move the motion control levers inward to the center to the neutral position.
3. To move forward in a straight line, move both levers forward with equal pressure.

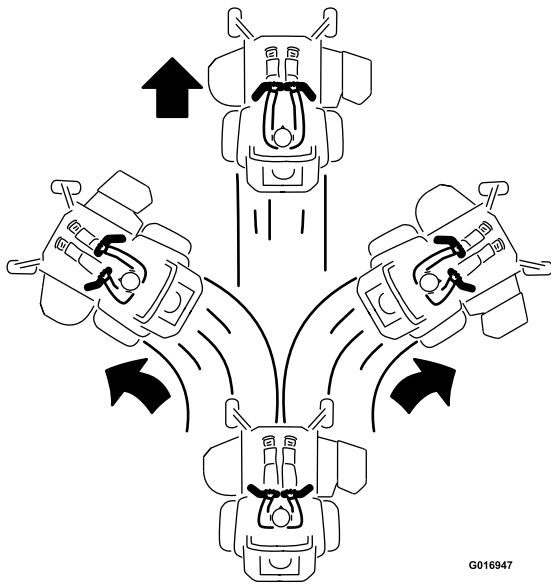


Figure 15

G016947

g016947

To turn left or right, pull the motion control lever back toward neutral in the desired turn direction.

The machine will move faster the farther the motion control levers are moved from the neutral position.

4. To stop, position both motion control levers in the neutral operate position.

Driving in Reverse

1. Move the motion control levers inward to the neutral operate position.
2. To move rearward in a straight line, move both levers rearward with equal pressure.

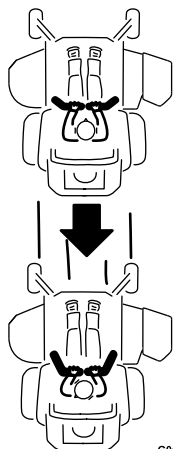


Figure 16

G016948

g016948

To turn right, release pressure on the RH motion control lever and the rear of the machine will move towards the rear and to the right.

To turn left, release pressure on the LH motion control lever and the rear of the machine will move towards the rear and to the left.

3. To stop, position both motion control levers in the neutral operate position.

Adjusting the Cutting Height

1. Stop the machine and move the motion control levers outward to the neutral locked position.
2. Disengage the PTO.
3. Position the transport lock in the latching position.
4. Raise and lock the deck to the 5 1/2 inch (14 cm) transport position (Figure 17).

The deck is raised by pushing the foot operated deck lift pedal forward. The pedal is located at the front right corner of the floor pan.

Note: When changing the cutting height positions, always come to a complete stop and disengage the PTO.

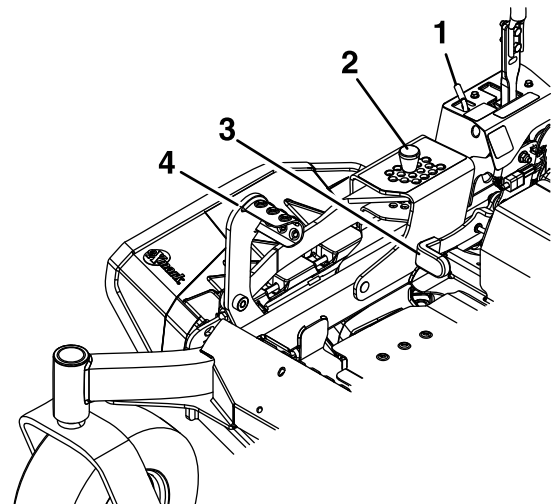


Figure 17

g488574

1. Transport lock
2. Height of cut
3. Park brake
4. Deck lift pedal

5. Insert the height adjustment pin into the hole corresponding to the desired cutting height.

Operation

See the decal on the side of the deck lift plate for cut heights.

6. Push the deck lift pedal, release the transport lock and allow the deck to lower to the cutting height.

Adjusting the Anti-Scalp Rollers

It is recommended to change the anti-scalp roller position when the height of cut has changed.

1. Stop the machine and move the motion control levers outward to the neutral locked position.
2. Disengage the PTO.
3. Engage the park brake.
4. Stop the engine, remove the key and wait for all moving parts to stop.
5. After adjusting the height of cut, adjust the anti-scalp rollers by removing the mounting hardware.
6. Place the rollers in one of the positions shown (Figure 18). Rollers will maintain 3/4 inch (19 mm) clearance to the ground to minimize gouging and roller wear or damage.

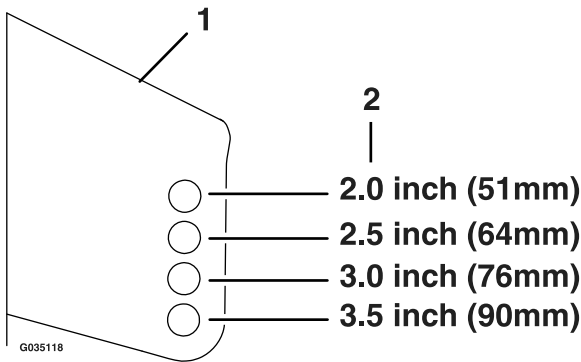


Figure 18

For cutting heights above 3.5 inches (90 mm) use the bottom hole. The rollers will still be effective against scalping.

1. Anti-scalp roller mounting bracket
2. Cutting height

For Maximum Deck Flotation, place the rollers one hole position lower. Rollers should maintain 1/4 inch (6.4 mm) clearance to the ground. **Do Not** adjust the rollers to support the deck.

7. Reinstall the mounting hardware as shown in Figure 19.

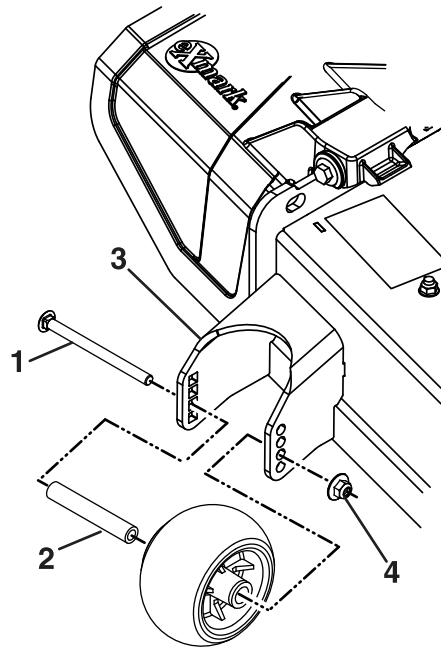


Figure 19

1. 3/8-16 X 5 inch bolt
2. Spacer
3. Front right anti-scalp bracket shown
4. 3/8 inch nyloc nut

Note: The foot operated deck lift assist lever can be used to momentarily lift the deck to clear objects. Be sure that PTO is disengaged.

After Operation

General Safety

- Park machine on level ground, disengage drives, set parking brake, stop engine, and remove key. Wait for all moving parts to stop before leaving the operator's position. Allow the machine to cool before servicing, adjusting, fueling, cleaning, or storing.
- Clean grass, leaves, excessive grease or oil, and other debris from the mower deck, muffler, drives, grass catcher, and engine area to help prevent fires.
- Close the fuel shut-off valve before storing or transporting the machine.

Transporting

Transporting the Machine

Use a heavy-duty trailer or truck to transport the machine. Ensure that the trailer or truck has all necessary lighting and marking as required by law. Thoroughly read all of the safety instructions. Knowing this information could help you, your family, pets, or bystanders avoid injury.

To transport the machine:

- Lock the brake and block the wheels.
- Be sure the fuel shut-off valve is closed.
- Securely fasten the machine to the trailer or truck with straps, chains, cable, or ropes. Only use the four designated tie-down locations on the mower—two on the left side and two on the right (see Figure 21). Use these locations even when transporting the mower with an attached accessory. Using non-designated locations may cause damage to the mower and/or attachment.

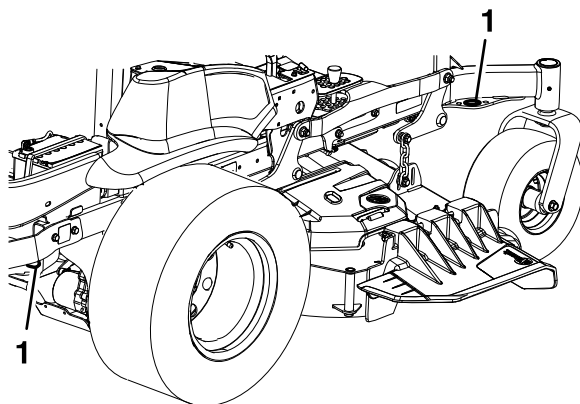


Figure 20

1. Tie-down location

- Secure a trailer to the towing vehicle with safety chains.

⚠ WARNING

Driving on the street or roadway without turn signals, lights, reflective markings, or a slow moving vehicle emblem is dangerous and can lead to accidents causing personal injury.

Do not drive machine on a public street or roadway.

Loading the Machine

Use extreme caution when loading or unloading machines onto a trailer or a truck. Use a full-width ramp that is wider than the machine for this procedure. Back up ramps and drive forward down ramps (Figure 21).

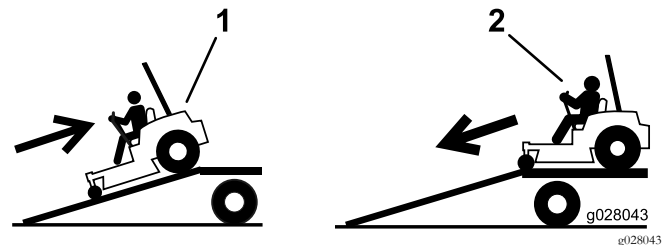


Figure 21

1. Back up ramps
2. Drive forward down ramps

Important: Do not use narrow individual ramps for each side of the machine.

Ensure the ramp is long enough so that the angle with the ground does not exceed 15 degrees (Figure 22). On flat ground, this requires a ramp to be at least four times (4X) as long as the height of the trailer or truck bed to the ground. A steeper angle may cause mower components to get caught as the unit moves from the ramp to the trailer or truck. Steeper angles may also cause the machine to tip or lose control. If loading on or near a slope, position the trailer or truck so that it is on the down side of the slope and the ramp extends up the slope. This will minimize the ramp angle.

Operation

▲ WARNING

Loading a machine onto a trailer or truck increases the possibility of tip-over and could cause serious injury or death.

- Use extreme caution when operating a machine on a ramp.
- Ensure that the ROPS is in the up position and use the seat belt when loading or unloading the machine. Ensure that the ROPS will clear the top of an enclosed trailer.
- Use only a full-width ramp; do not use individual ramps for each side of the machine.
- Do not exceed a 15-degree angle between the ramp and the ground or between the ramp and the trailer or truck.
- Ensure the length of ramp is at least four times (4X) as long as the height of the trailer or truck bed to the ground. This will ensure that ramp angle does not exceed 15 degrees on flat ground.
- Back up ramps and drive forward down ramps.
- Avoid sudden acceleration or deceleration while driving the machine on a ramp as this could cause a loss of control or a tip-over situation.

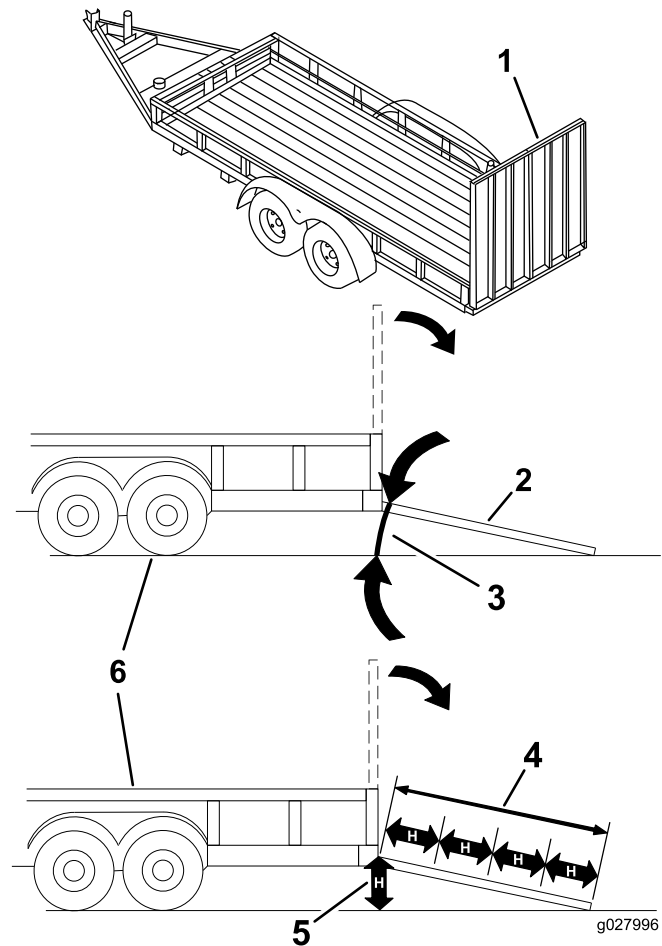


Figure 22

- | | |
|---|---|
| 1. Full-width ramp in stowed position | 4. Ramp is at least four times (4X) as long as the height of the trailer or truck bed to the ground |
| 2. Side view of full-width ramp in loading position | 5. H= height of the trailer or truck bed to the ground |
| 3. Not greater than 15 degrees | 6. Trailer |

Towing the Machine

- Do not attach towed equipment except at the hitch point.
- Follow the attachment manufacturer's recommendation for weight limits for towed equipment and towing on slopes. Towed weight must not exceed the weight of the machine, operator, and ballast; otherwise hydrostatic transmission failure may occur. Use counterweights or wheel weights as described in the attachment manufacturer's manual.

- Never allow children or others in or on towed equipment.
- On slopes, the weight of the towed equipment may cause loss of traction, increased risk of rollover, and loss of control. Reduce the towed weight and slow down.
- Stopping distance increases with the weight of the towed load. Travel slowly and allow extra distance to stop.
- Make wide turns to keep the attachment clear of the machine.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Maintenance Safety

- Park machine on level ground, disengage drives, set parking brake, stop engine, and remove key. Wait for all moving parts to stop before leaving the operator's position. Allow the machine to cool before servicing, adjusting, fueling, cleaning, or storing.
- If you leave the key in the switch, someone could accidentally start the engine and seriously injure you or other bystanders. Remove the key from the switch before you perform any maintenance.
- Never allow untrained personnel to service machine.
- Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Keep all guards, shields, switches, and all safety devices in place and in proper working condition. Frequently check for worn or deteriorating components and replace them with genuine Exmark parts when necessary.

⚠ WARNING

Removal or modification of original equipment, parts and/or accessories may alter the warranty, controllability, and safety of the machine. Unauthorized modifications to the original equipment or failure to use original Exmark parts could lead to serious injury or death. Unauthorized changes to the machine, engine, fuel or venting system, may violate applicable safety standards such as: ANSI, OSHA and NFPA and/or government regulations such as EPA and CARB.

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid accidentally injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

- **If equipped, make sure all hydraulic fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to hydraulic system.**
- **Keep body and hands away from pinhole leaks or nozzles that eject high pressure hydraulic fluid.**
- **Use cardboard or paper, not your hands, to find hydraulic leaks.**
- **Safely relieve all pressure in the hydraulic system by placing the motion control levers in neutral and shutting off the engine before performing any work on the hydraulic system.**
- Use care when checking blades. Wrap the blade(s) or wear gloves, and use caution when servicing them. Only replace damaged blades. Never straighten or weld them.
- Do not rely solely on mechanical or hydraulic jacks for support. Use adequate jack stands.
- Carefully release pressure from components with stored energy
- Keep your hands and feet away from moving parts or hot surfaces. If possible, do not make adjustments with the engine running.
- Keep all parts in good working condition and all hardware tightened, especially the blade-attachment hardware.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 5 hours	<ul style="list-style-type: none"> • Change the engine oil.
After the first 100 hours	<ul style="list-style-type: none"> • Change the hydraulic filter and fluid. • Check the park brake adjustment.
Before each use or daily	<ul style="list-style-type: none"> • Check the engine oil level. • Check the mower blades. • Check the safety interlock system. • Check the rollover protections systems (roll bar) knobs. • Check the seat belt. • Check for loose hardware. • Check hydraulic oil and tank level. • Clean the grass and debris build-up from the machine and cutting deck. • Clean the engine and exhaust system area. • Clean the grass build-up from under the cutting deck.
Every 50 hours	<ul style="list-style-type: none"> • Check the tire pressures. • Check the condition of the belts. • Check spark arrester (if equipped).
Every 100 hours	<ul style="list-style-type: none"> • Clean or Replace (if necessary) the primary air cleaner element — check secondary air cleaner element; replace if dirty. (May need more often under severe conditions. See the Engine Owner's Manual for additional information.) • Change the engine oil. (May need more often under severe conditions.) • Remove the engine shrouds and clean the cooling fins.
Every 200 hours	<ul style="list-style-type: none"> • Check the spark plugs.
Every 250 hours	<ul style="list-style-type: none"> • Replace the primary air cleaner element — check secondary air cleaner element; replace if dirty. (May need more often under severe conditions. See the Engine Owner's Manual for additional information.)
Every 400 hours	<ul style="list-style-type: none"> • Change the hydraulic filter and fluid (Every 250 hours if using Mobil 1 15W50).
Every 500 hours	<ul style="list-style-type: none"> • Replace the secondary air cleaner element (May need more often under severe conditions. See the Engine Owner's Manual for additional information.) • Check the park brake adjustment.
Monthly	<ul style="list-style-type: none"> • Check the battery charge.
Yearly	<ul style="list-style-type: none"> • Grease the front caster pivots.

Periodic Maintenance

Engine Maintenance

Important: Refer to the Engine Owner's Manual for additional maintenance procedures.

Engine Safety

⚠ WARNING

The engine can become very hot, especially the muffler and exhaust components. Touching a hot engine can cause severe burns.

Allow the engine to cool completely before service or making repairs around the engine area.

Do Not change the engine governor setting or overspeed the engine.

Maintenance

Check Engine Oil Level

Service Interval: Before each use or daily

1. Stop engine and wait for all moving parts to stop. Make sure unit is on a level surface.
2. Check with engine cold.
3. Clean area around dipstick. Remove dipstick and wipe oil off. Reinsert the dipstick according to the engine manufacturer's recommendations. Remove the dipstick and read the oil level.
4. If the oil level is low, wipe off the area around the oil fill cap, remove cap and fill to the "FULL" mark on the dipstick. Exmark 4-Cycle Premium Engine Oil is recommended; refer to the Engine Owner's manual for an appropriate API rating and viscosity. **Do Not** overfill.

Important: Do Not operate the engine with the oil level below the "LOW" (or "ADD") mark on the dipstick, or over the "FULL" mark.

Check Battery Charge

Service Interval: Monthly

Allowing batteries to stand for an extended period of time without recharging them will result in reduced performance and service life. To preserve optimum battery performance and life, recharge batteries in storage when the open circuit voltage drops to 12.4 volts.

Note: To prevent damage due to freezing, battery should be fully charged before putting away for winter storage.

Charge batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

▲ DANGER

Charging or jump starting the battery may produce explosive gases. Battery gases can explode causing serious injury.

- Keep sparks, flames, or cigarettes away from battery.
- Ventilate when charging or using battery in an enclosed space.
- Make sure venting path of battery is always open once battery is filled with acid.
- Always shield eyes and face from battery.

▲ DANGER

Battery electrolyte contains sulfuric acid, which is poisonous and can cause severe burns. Swallowing electrolyte can be fatal or if it touches skin can cause severe burns.

- Wear safety glasses to shield eyes, and rubber gloves to protect skin and clothing when handling electrolyte.
- Do Not swallow electrolyte.
- In the event of an accident, flush with water and call a doctor immediately.

▲ CAUTION

If the ignition is in the "ON" position there is potential for sparks and engagement of components. Sparks could cause an explosion or moving parts could accidentally engage causing personal injury.

Be sure ignition switch is in the "OFF" position before charging the battery.

Check the voltage of the battery with a digital voltmeter. Locate the voltage reading of the battery in the table and charge the battery for the recommended time interval to bring the charge up to a full charge of 12.6 volts or greater.

Important: Make sure the negative battery cable is disconnected and the battery charger used for charging the battery has an output of 16 volts and 7 amps or less to avoid damaging the battery (see chart for recommended charger settings).

Voltage Reading	Percent Charge	Maximum Charger Settings	Charging Interval
12.6 or greater	100%	16 volts/7 amps	No Charging Required
12.4 – 12.6	75–100%	16 volts/7 amps	30 Minutes
12.2 – 12.4	50–75%	16 volts/7 amps	1 Hour
12.0–12.2	25–50%	14.4 volts/4 amps	2 Hours

Voltage Reading	Percent Charge	Maximum Charger Settings	Charging Interval
11.7–12.0	0–25%	14.4 volts/4 amps	3 Hours
11.7 or less	0%	14.4 volts/2 amps	6 Hours or More

Recommended Jump Starting Procedure

Service Interval: As required

1. Check the weak battery for terminal corrosion (white, green, or blue “snow”), it must be cleaned off prior to jump starting. Clean and tighten connections as necessary.

⚠ CAUTION

Corrosion or loose connections can cause unwanted electrical voltage spikes at anytime during the jump starting procedure.

Do Not attempt to jump start with loose or corroded battery terminals or damage to the engine may occur.

⚠ DANGER

Jump starting a weak battery that is cracked, frozen, has low electrolyte level, or an open/shorted battery cell, can cause an explosion resulting in serious personal injury.

Do Not jump start a weak battery if these conditions exist.

2. Make sure the booster is a good and fully charged lead acid battery at 12.6 volts or greater. Use properly sized jumper cables (4 to 6 AWG) with short lengths to reduce voltage drop between systems. Make sure the cables are color coded or labeled for the correct polarity.

⚠ CAUTION

Connecting the jumper cables incorrectly (wrong polarity) can immediately damage the electrical system.

Be certain of battery terminal polarity and jumper cable polarity when hooking up batteries.

Note: The following instructions are adapted from the SAE J1494 Rev. Dec. 2001 – Battery Booster Cables – Surface Vehicle Recommended Practice (SAE – Society of Automotive Engineers).

⚠ WARNING

Batteries contain acid and produce explosive gases.

- Shield the eyes and face from the batteries at all times.
- Do Not lean over the batteries.

Note: Be sure the vent caps are tight and level. Place a damp cloth, if available, over any vent caps on both batteries. Be sure the vehicles do not touch and that both electrical systems are off and at the same rated system voltage. These instructions are for negative ground systems only.

3. Connect the positive (+) cable to the positive (+) terminal of the discharged battery that is wired to the starter or solenoid as shown in Figure 23.

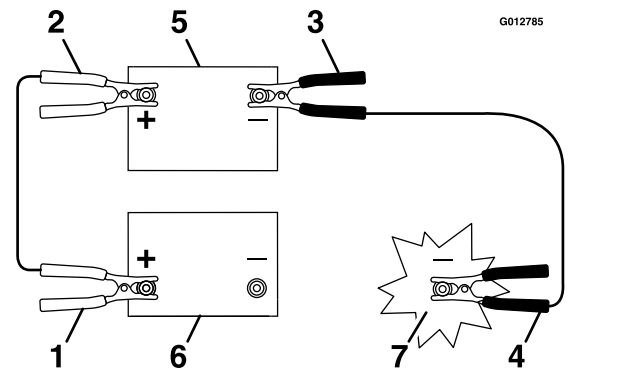


Figure 23

1. Positive (+) cable on discharged battery
2. Positive (+) cable on booster battery
3. Negative (-) cable on the booster battery
4. Negative (-) cable on the engine block
5. Booster battery
6. Discharged battery
7. Engine block

4. Connect the other end of the positive cable to the positive terminal of the booster battery.
5. Connect the black negative (-) cable to the other terminal (negative) of the booster battery.
6. MAKE THE FINAL CONNECTION ON THE ENGINE BLOCK OF THE STALLED

Maintenance

VEHICLE (NOT TO THE NEGATIVE POST)
AWAY FROM THE BATTERY. STAND BACK.

7. Start the vehicle and remove the cables in the reverse order of connection (the engine block (black) connection is the first to disconnect).

Check Mower Blades

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Lift deck and secure in raised position as stated in the **Clean Grass Build-Up Under Deck** section.
3. Inspect blades and sharpen or replace as required.
4. Reinstall the blades (if they were removed) in the following order:
 - A. Install bushing through blade with bushing flange on bottom (grass) side of blade.

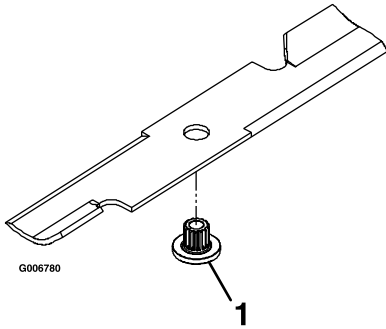


Figure 24

1. Install bushing in blade prior to installing bushing in spindle.

- B. Install bushing/blade assembly into spindle. Make sure the splines on the bushing are engaged in the spindle before tightening the bolt.

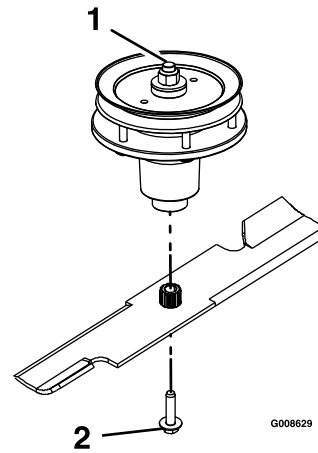


Figure 25

1. Use wrench here for blade installation. This nut has been torqued to 90 ft-lb (122 N-m) minimum
 2. Torque to 50-60 ft-lb (68-81 N-m) Apply lubricant to threads as needed to prevent seizing. Copper-based anti-seize preferable. Grease acceptable substitute.
-
- C. Apply lubricant to threads of blade bolt to prevent seizing. Copper-based anti-seize preferable. Grease acceptable substitute. Install blade bolt finger tight. Place wrench on the top spindle nut then torque the blade bolts to 50-60 ft-lb (68-81 N-m).

⚠ WARNING

Incorrect installation of the blade or components used to retain the blade can be dangerous. Failure to use all original components and assembled as shown could allow a blade or blade component to be thrown out from under the deck resulting in serious personal injury or death.

Always install the original Exmark blades, blade bushings, and blade bolts as shown.

Check Safety Interlock System



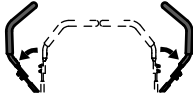


Service Interval: Before each use or daily

Important: It is essential that operator safety mechanisms be connected and in proper operating condition prior to use.

Note: If machine does not pass any of these tests, **Do Not** operate. Contact an Authorized Service Dealer.

Note: To prevent engine cut-outs on rough terrain, the seat has a 1/2 second time delay before the engine begins to shutdown.



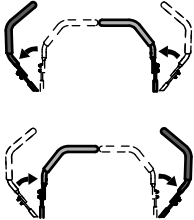




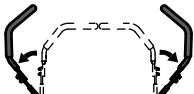




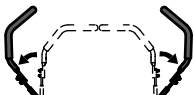


Check the Normal Engine Starting Chart

	System				
	Parking Brake	PTO	Motion Control Levers	Operator	Outcome
State of System	Engaged 	Disengaged (Blades) 	Both levers out (neutral lock) 	In seat or out of the seat 	Starter should crank 

Maintenance




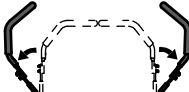

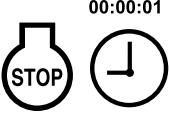



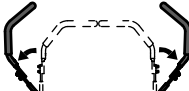

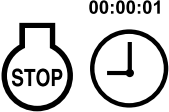



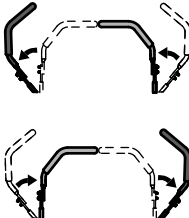

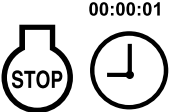



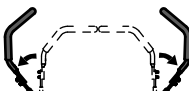

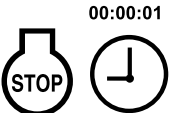
Check Engine Starting Circuit Chart

Note: In the **Check Engine Starting Circuit Chart**, the state of system item that is bold is being checked in each scenario.

		System				
		Parking Brake	PTO (Blades)	Motion Control Levers	Operator	Outcome
State of System	Engaged 	Disengaged 	Right lever moved in. Left lever moved in. 	Operator in seat 	Starter must not crank 	
	Disengaged 	Disengaged 	Both levers out (neutral lock) 	Operator in seat 	Starter must not crank 	
	Engaged 	Engaged 	Both levers out (neutral lock) 	Operator in seat 	Starter must not crank 	

Check Shutdown Circuit Chart

Note: The state of system item(s) that is bold is being checked in each scenario.

	System					Outcome
	Engine	Parking Brake	PTO (Blades)	Motion Control Levers	Operator	
State of System	Running idle (1/3 throttle) 	Disengaged 	Disengaged 	Both levers moved out (neutral lock) 	Raise off of seat (but don't get off) 	Engine must begin shutdown within 1 second 
	Running idle (1/3 throttle) 	Disengaged 	Engaged 	Both levers moved out (neutral lock) 	Raise off of seat (but don't get off) 	Engine must begin shutdown within 1 second 
	Running idle (1/3 throttle) 	Engaged 	Disengaged 	Right lever moved in. Left lever moved in. 	Operator in seat 	Engine must begin shutdown within 1 second 
	Running idle (1/3 throttle) 	Engaged 	Engaged 	Both levers moved out (neutral lock) 	Raise off of seat (but don't get off) 	Engine must begin shutdown within 1 second 

Check Rollover Protections Systems (Roll Bar) Knobs

Service Interval: Before each use or daily

Check that both the mounting hardware and the knobs are in good working condition. Make sure the knobs are fully engaged with the ROPS in the raised position. The upper hoop of the roll bar may need to be pushed forward or pulled rearward to get both knobs fully engaged.

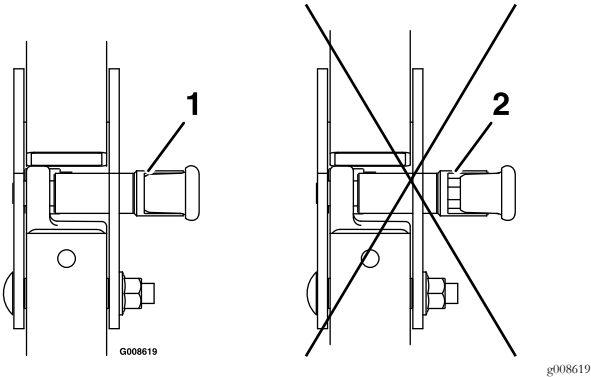


Figure 26

1. Engaged
2. Partially engaged — Do Not operate with ROPS in this condition.

element — check secondary air cleaner element; replace if dirty. (May need more often under severe conditions. See the Engine Owner's Manual for additional information.)

Every 250 hours—Replace the primary air cleaner element — check secondary air cleaner element; replace if dirty. (May need more often under severe conditions. See the Engine Owner's Manual for additional information.)

Every 500 hours—Replace the secondary air cleaner element (May need more often under severe conditions. See the Engine Owner's Manual for additional information.)

Check Seat Belt

Service Interval: Before each use or daily

Visually inspect seat belt for wear, cuts, and proper operation of retractor and buckle. Replace before operating if damaged.

Check for Loose Hardware

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Visually inspect machine for any loose hardware or any other possible problem. Tighten hardware or correct the problem before operating.

Service Air Cleaner

Service Interval: Every 100 hours—Clean or Replace (if necessary) the primary air cleaner

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. See the Engine Owner's Manual for maintenance instructions.

Check Air Filter Assembly (if equipped)

Service Interval: As required

Important: To prevent engine damage, always operate the engine with both air filters and cover installed.

1. When checking or replacing the air filter element, make sure the air filter assembly is installed in the brackets.
2. Position the air cleaner cover so that the breather valve does not interfere with the throttle mechanism.

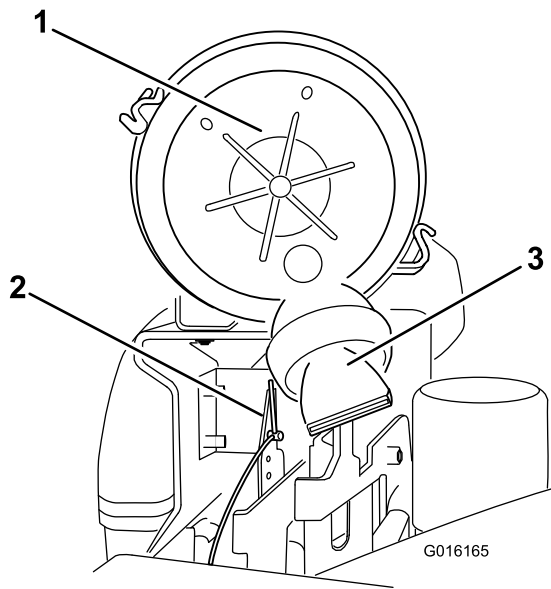


Figure 27

- | | |
|-----------------------|-------------------|
| 1. Air cleaner cover | 3. Breather valve |
| 2. Throttle mechanism | |

- Secure the cover with latches.

Change Engine Oil

Service Interval: After the first 5 hours

**Every 100 hours/Yearly
(whichever comes first)
(May need more often
under severe conditions.)**

- Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
- Drain oil while engine is warm from operation.
- Remove dip stick. The oil drain hose is located on right hand side of engine at the rear. Place pan under machine to catch oil. Remove plug from end of drain hose. Allow oil to drain.
- Replace the oil filter every other oil change. Clean around oil filter and unscrew filter to remove. Before reinstalling new filter, apply a thin coating of Exmark 4-Cycle Premium Engine oil on the surface of the rubber seal. Turn filter clockwise until rubber seal contacts the filter adapter then tighten filter an additional 1/2 to 3/4 turn.
- Clean around oil fill cover and remove cap. Fill to specified capacity and replace cap.

- Use oil recommended in the **Check Engine Oil Level** section. **Do Not** overfill. Start the engine and check for leaks.
- Wipe up any spilled oil from engine deck mounting surfaces.

Check Hydraulic Oil and Tank Level

Service Interval: Before each use or daily

- Stop engine and wait for all moving parts to stop. Engage parking brake.
- Wait until the machine cools before checking the hydraulic oil.
- Check expansion tank and if necessary add Exmark Premium Hydro Oil to the FULL COLD line (see Figure 28).

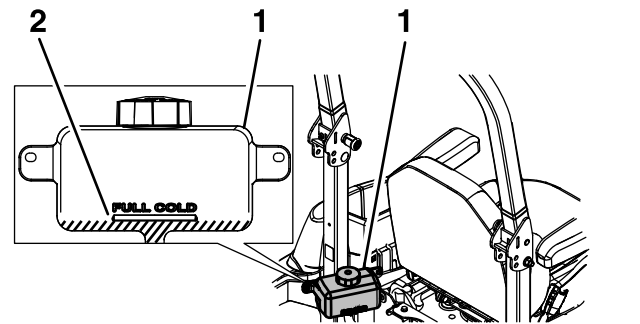


Figure 28

- | | |
|-------------------|-------------------|
| 1. Expansion tank | 2. Full cold line |
|-------------------|-------------------|

Check Tire Pressures

Service Interval: Every 50 hours

- Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
- Check tire pressure in drive tires and pneumatic casters.
- Inflate pneumatic casters to 13 psi (90 kPa).
Inflate drive tires to 13 psi (90 kPa).
- Semi-pneumatic caster tires Do Not need to be inflated.

Note: Do Not add any type of tire liner or foam fill material to the tires. Excessive loads created by foam filled tires may cause failures to the hydro drive system, frame, and other components. Foam filling tires will void the warranty.

Maintenance

Check Condition Of Belts

Service Interval: Every 50 hours

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Remove left and right belt shields on deck and lift up floor pan to inspect deck drive belt.
3. Check under machine to inspect the pump drive belt.

Note: No adjustments are required for belt tension.

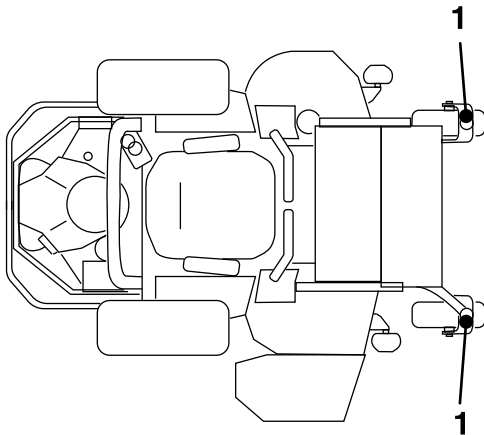
Lubricate Grease Fittings

Note: See chart for service intervals.

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Lubricate fittings with one to two pumps of NLGI grade #2 multi-purpose gun grease.

Refer to the following chart for fitting locations and lubrication schedule.

Lubrication Chart			
Fitting Locations	Initial Pumps	Number of Places	Service Interval
1. Front Caster Pivots	*0	2	*Yearly



3. Lubricate caster pivots once a year. Remove hex plug and cap. Thread grease zerk in hole and pump with grease until it oozes out around top bearing. Remove grease zerk and thread plug back in. Place cap back on.

Check Spark Plugs

Service Interval: Every 200 hours

Remove spark plugs, check condition and reset gaps, or replace with new plugs. See Engine Owner's Manual.

Change Fuel Filter

Service Interval: As required

A fuel filter is installed between the fuel tank and the engine. Replace when necessary.

Note: It is important to reinstall the fuel line hoses and secure with plastic ties the same as they were originally installed at the factory to keep the fuel line away from components that could cause fuel line damage.

Change Hydraulic System Filter and Fluid

Service Interval: After the first 100 hours

Every 400 hours thereafter (Every 250 hours if using Mobil 1 15W50 thereafter)

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Raise the rear of machine up and support with jack stands (or equivalent support) just high enough to allow drive wheels to turn freely.
3. Carefully clean area around the filters. It is important that no dirt or contamination enter the hydraulic system.
4. Place a catch pan under the hydro.
5. Remove and retain the oil filter covers on each of the transaxles. Remove and discard the o-ring from the covers.
6. Allow the oil to drain. Remove and discard the filters from the transaxle housings.

Install a new o-ring onto the filter cover and reinstall the cover. Torque to 200-300 in-lb (23-34 N-m).

7. Remove the top oil fill vent port plug and fill until it reaches the oil fill vent port. Reinstall the vent

port plug and continue to fill as stated in **Check Hydraulic Oil and Tank Level**.

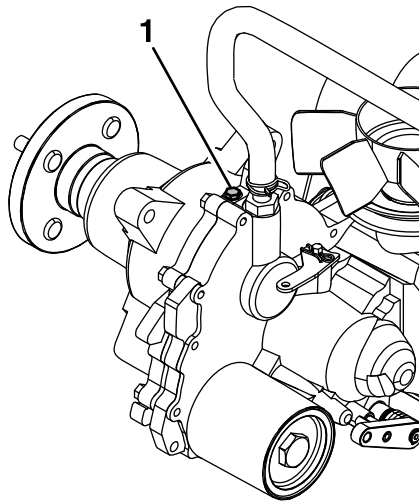


Figure 29

g487342

1. Vent plug

Hydro Oil	Service Interval
Exmark Premium Hydro Oil (Preferred)	After first 100 hours *Every 400 hours thereafter
Mobil 1 15W50	After first 100 hours *Every 250 hours thereafter

*May need more often under severe conditions.

8. Remove the catch pan and properly dispose of hydro oil and filter according to local codes.

Note: Do Not change the hydraulic system oil (except for what can be drained when changing filter), unless it is felt the oil has been contaminated or been extremely hot.

Changing oil unnecessarily could damage hydraulic system by introducing contaminants into the system.

Hydraulic System Air Purge

Service Interval: As required

Air must be purged from the hydraulic system when any hydraulic components, including oil filter are removed.

1. Stop engine and wait for all moving parts to stop. Raise the rear of the machine up onto jack stands high enough to raise the drive wheels off the ground.

2. Check oil level as stated in **Check Hydraulic Oil and Tank Level** section.
3. Start engine and move throttle control ahead to full throttle position. Move the speed control lever to the middle speed position and place the drive levers in the “drive” position.
4. Open the drive wheel release on each pump.
5. With the machine running, slowly stroke the drive levers from forward to reverse several times. Then, retighten the drive wheel release valves. Slowly stroke the drive levers from forward to reverse several times.
6. If either drive wheel still does not rotate, stop and repeat steps 4 and 5 above for the respective pump. If wheels rotate slowly, the system may prime after additional running. Check oil level as stated in **Check Hydraulic Oil and Tank Level** section.
7. Allow the machine to run several minutes after the charge pumps are “primed” with drive system in the full speed position. Check oil level as stated in **Check Hydraulic Oil and Tank Level** section.
8. Check hydro drive linkage adjustment as stated in **Hydro Drive Linkage Adjustment** section in Adjustments.
- 9.

Check Spark Arrester (if equipped)

Service Interval: Every 50 hours

▲ WARNING

Hot exhaust system components may ignite gasoline vapors even after the engine is stopped. Hot particles exhausted during engine operation may ignite flammable materials. Fire may result in personal injury or property damage.

Do Not refuel or run engine unless spark arrester is installed.

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Wait for muffler to cool.
3. If any breaks in the screen or welds are observed, replace arrester.
4. If plugging of the screen is observed, remove arrester and shake loose particles out of the

Maintenance

arrester and clean screen with a wire brush (soak in solvent if necessary). Reinstall arrester on exhaust outlet.

Thread Locking Adhesives

Thread locking adhesives such as “Loctite 242” or “Fel-Pro, Pro-Lock Nut Type” are used on the following fasteners:

- ROPS spring pin housing.
- Hydro park brake anchor mounting bolt
- Deck lift link mounting bolt.

Thread locking adhesives are required for some hardware on engines — see the Engine manual.

Copper-Based Anti-seize

Copper-based anti-seize is used in the following location:

On threads of Blade Bolts. See **Check Mower Blades** section.

Dielectric Grease

Dielectric grease is used on all blade type electrical connections to prevent corrosion and loss of contact. Dielectric grease should not be applied to sealed connectors.

Adjustments

Note: Disengage PTO, shut off engine, wait for all moving parts to stop, engage parking brake, and remove key before servicing, cleaning, or making any adjustments to the machine.

Deck Leveling

1. Position the mower on a flat surface.
2. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
3. Check the tire pressure in the drive tires. Proper inflation pressure for tires is 13 psi (90 kPa). Adjust if necessary.
4. Position the transport lock in the latching position.
5. Carefully rotate the blades from side to side.
6. Measure between the outside cutting edges and the flat surface (Figure 30). If both measurements are not within 3/16 inch (5 mm), an adjustment is required; continue with this procedure.

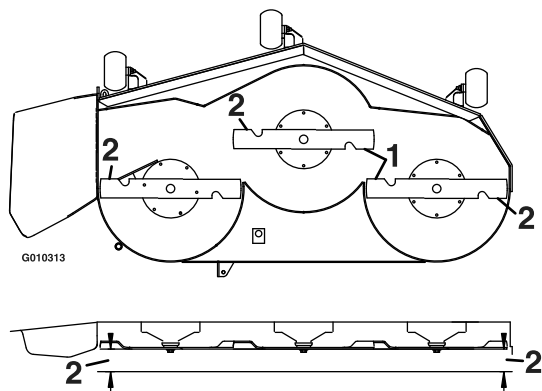


Figure 30

1. Blades side to side
2. Measure here

7. Set anti-scalp rollers to top holes or remove completely for this adjustment.
8. Raise the deck to the transport (5 1/2 inch (14 cm) cutting height) position.
9. Slowly loosen the adjusting screw on the lift assist spring until the screw can be removed (see Figure 31). Save the screw for reinstallation.

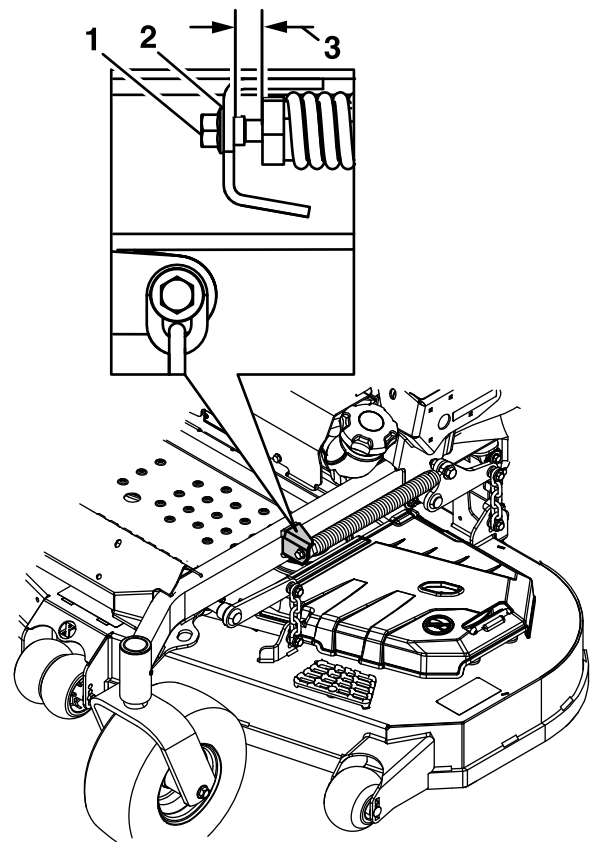


Figure 31

1. Adjusting screw
2. Bracket
3. Set gap to 3/8–5/8 inch (9–16 mm)

10. Set the height-of-cut lever to the 3 inch (76 mm) position. Place two “B” thick blocks (see Block Height and Rake Table) under the rear edge of the cutting deck skirt; one on each side of the cutting deck. Place two “A” thick blocks under each side of the front edge of the deck, but not under the anti-scalp roller brackets.

Deck Size	Front Block Height “A”	Rear Block Height “B”	Rake “R”
48, 52, & 60	2.63 inches (6.7 cm)	2.88 inches (7.3 cm)	1/16–5/16 inch (1.6–7.9 mm)

11. Carefully rotate the blades side to side (Figure 30).
12. Loosen the leveling adjust locking nuts (item 1 Figure 32) on all four corners so that the deck is sitting securely on all four blocks. Make sure that the slack is removed from the deck hangers and the deck lift foot lever is pushed back against the stop, then tighten the four leveling adjust locking nuts.

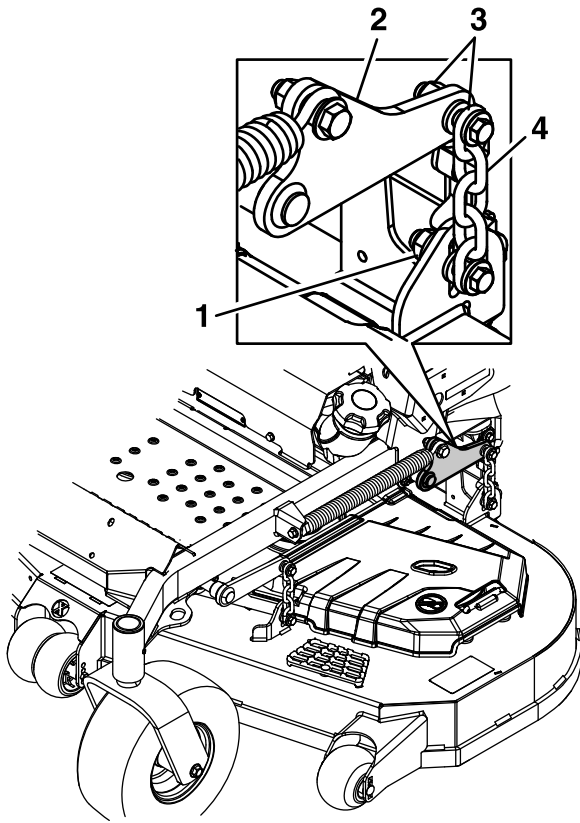


Figure 32

g484930

- | | |
|---------------------------------|----------------|
| 1. Leveling adjust locking nuts | 3. Deck hanger |
| 2. Deck lift arm | 4. Chain |

13. Recheck that blocks fit just snugly under the deck skirt. Make sure all attachment bolts are tight
14. Continue leveling the deck by checking the front-to-rear blade slope; refer to **Adjusting the Blade Slope**.
15. Recheck blades for levelness and repeat deck leveling procedure if necessary.
16. Raise the deck to the transport (5 1/2 inch (14 cm) cutting height) position.
17. Reinstall the lift assist spring adjusting screw that was removed in Step 9.
18. Set the gap between the spring and bracket to 3/8–5/8 inch (9–16 mm).

Pump Drive Belt Tension

Self-tensioning - No adjustment necessary.

Deck Belt Tension

Self-tensioning - No adjustment necessary.

Adjusting the Parking Brake

Service Interval: After the first 100 hours

Every 500 hours thereafter

Check to make sure brake is adjusted properly. This procedure must be followed after the first 100 hours or when a brake component has been removed or replaced.

1. Drive the machine onto a level surface.
2. Disengage the blade control switch (PTO), move the motion control levers to the neutral locked position and set the parking brake.
3. Stop the engine, wait for all moving parts to stop, and remove the key.
4. Setup the machine to be pushed by hand (see **Drive Wheel Release Valves** in the Operation section).
5. Raise the back of the machine up and support the machine with jack stands.
6. Engage/disengage the brake and check each drive tire to make sure each brake engages/disengages.
7. If adjustment is necessary, disengage the park brake. Remove and retain the nut, spacer, and screw from the brake linkage shaft (see Figure 33).

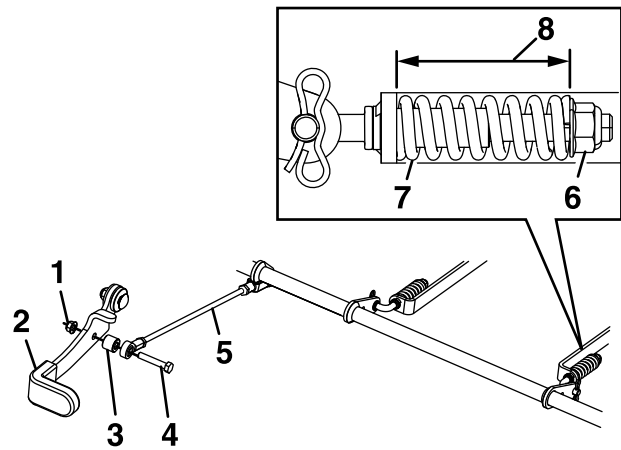


Figure 33

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- | | |
|------------------|-------------------------|
| 1. Nut | 5. Brake linkage shaft |
| 2. Parking brake | 6. Spring retention nut |
| 3. Spacer | 7. Spring |
| 4. Screw | 8. 2 inches (51 mm) |

8. Check both spring lengths as shown in Figure 33. If adjustment is necessary, turn the

spring retention nut clockwise to shorten and counterclockwise to lengthen.

9. Push the parking brake lever all the way forward and down. Rotate the brake linkage shaft until the end aligns with hole in lever.
 - Shorten the linkage by turning it clockwise.
 - Lengthen the linkage by turning it counterclockwise.

Insert the brake linkage shaft into parking brake hole and secure with the screw, spacer, and nut as shown in Figure 33. Repeat step 6 and readjust if necessary.

10. When adjustment is complete, remove the jack stands or equivalent support and lower the machine.
11. Place the machine into the “operating” position. Refer to the **Drive Wheel Release Valves** section in Operation.

Motion Control Handle Adjustment

Adjusting the height:

The motion control levers can be adjusted higher or lower for maximum operator comfort.

1. Remove the hardware holding the control lever to the control arm shaft.

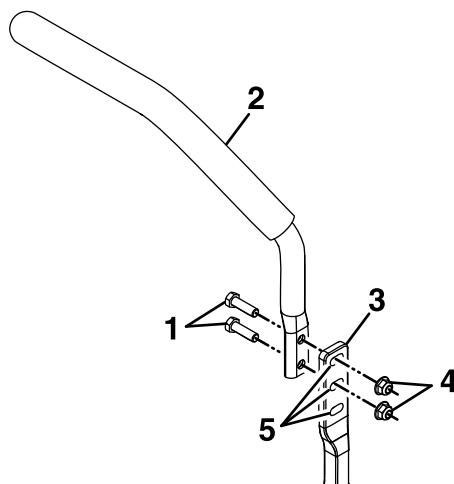


Figure 34

g484967

- | | |
|----------------------|-----------------|
| 1. Bolt | 4. Nut |
| 2. Control lever | 5. Slotted hole |
| 3. Control arm shaft | |

2. Move the control lever to the next set of holes. Secure the lever with the hardware.
3. Repeat the adjustment for the opposite control lever.

Adjusting the Tilt

The motion control levers can be tilted fore or aft for maximum operator comfort.

1. Loosen the upper bolt holding the control lever to the control arm shaft.
2. Loosen the lower bolt just enough to pivot the control lever fore or aft. Tighten both bolts to secure the control in the new position.
3. Repeat the adjustment for the opposite control lever.

Full Forward Tracking Adjustment

If the machine travels or pulls to one side, when the motion control levers are in the full forward position, adjust the tracking screw.

1. Insert a 3/16 inch hex wrench through the access hole on the front cover panel, rotate the tracking screw clockwise or counterclockwise to adjust the travel of the lever.

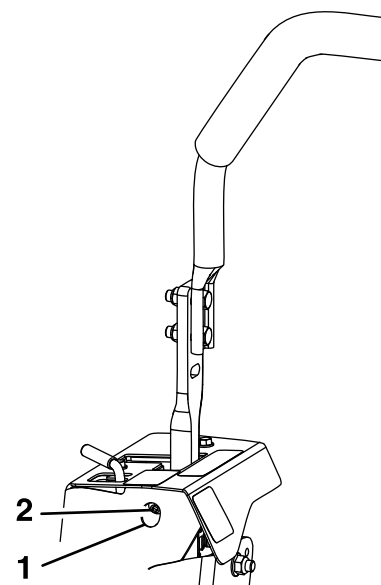


Figure 35

g484938

- | | |
|-------------------------------------|-------------------|
| 1. Access hole on front cover panel | 2. Tracking screw |
|-------------------------------------|-------------------|

Maintenance

2. Drive the machine and check the full forward tracking.
3. Repeat steps 1 and 2 until desired tracking is obtained.

Motion Control Linkage Adjustment

Located on either side of the machine, below the seat are the pump control linkages. Rotating the end nut with a 1/2 inch deep socket wrench allows fine tuning adjustments so that the machine does not move in neutral. Any adjustments should be made for neutral positioning only.

1. Prior to starting the engine, push the deck lift pedal and remove the height of cut pin. Lower deck to the ground.
2. Raise the rear of machine up and support with jack stands (or equivalent support) just high enough to allow drive wheels to turn freely.
3. Remove the electrical connection from the seat safety switch, located under the bottom cushion of the seat. The switch is a part of the seat assembly.
4. **Temporarily** install a jumper wire across the terminals in the connector of the main wiring harness.
5. Start engine. **Brake must be engaged and motion control levers out to start engine. Operator does not have to be in the seat.** Run engine at full throttle and release brake.
6. Run the machine at least 5 minutes with the drive levers at full forward speed to bring hydraulic oil up to operating temperature.
Note: The motion control lever needs to be in neutral while making any necessary adjustments.
7. Bring the motion control levers into the neutral position. The control plate tabs should touch the return to neutral plates on the hydros. Adjust pump control rod lengths by turning the nut in the appropriate direction until the wheels slightly creep in reverse (see Figure 36). Move the motion control levers to the reverse position and while applying slight pressure to the lever allow the reverse indicator springs to bring the levers back to neutral. The wheels must stop turning or slightly creep in reverse.

The motion control cover may need to be removed to gain access.

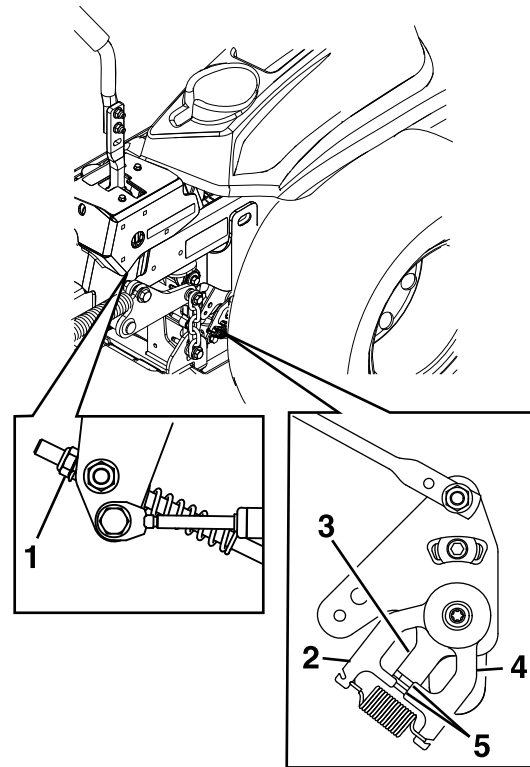


Figure 36

g484955

- | | |
|---------------------|--|
| 1. Nut | 4. Return to neutral plate |
| 2. Stationary plate | 5. Tabs touching return to neutral plate |
| 3. Control plate | |
-
8. Shut off the machine. Remove jumper wire from wire harness and plug connector into seat switch.
 9. Remove the jack stands.
 10. Raise the deck and reinstall the height of cut pin.
 11. Check that the machine does not creep in neutral with the park brake disengaged.

Electric Clutch Adjustment

No adjustment necessary. However, when the clutch brake has worn to the point where the clutch no longer engages consistently, the shim can be removed to extend the clutch life (not applicable for Lazer Z E-Series with 48 inch decks).

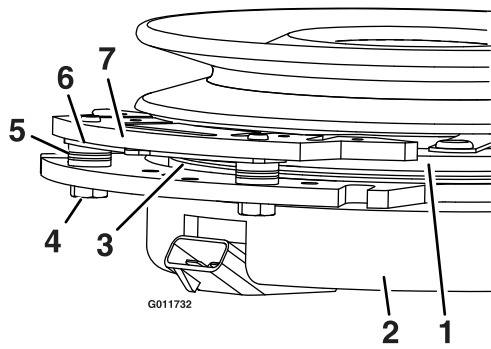


Figure 37

- | | |
|------------------------|-----------------|
| 1. Armature | 5. Brake spacer |
| 2. Field shell | 6. Re-gap shim |
| 3. Rotor | 7. Brake pole |
| 4. Brake mounting bolt | |

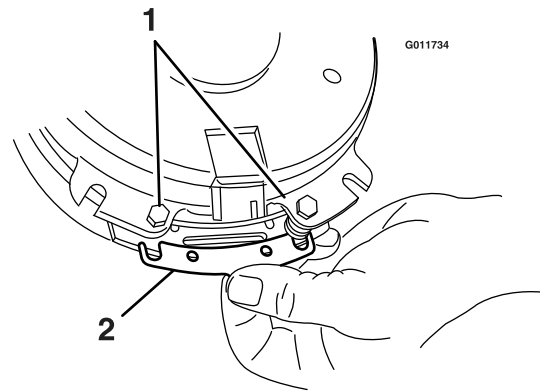


Figure 38

- | | |
|------------------------|---------|
| 1. Brake mounting bolt | 2. Shim |
|------------------------|---------|

g011734

Removing the Shim:

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake. Allow the machine to cool completely before starting these instructions.
2. Using a pneumatic line, blow out any debris from under the brake pole and around the brake spacers.
3. Check the condition of the wire harness leads, connectors, and terminals. Clean or repair as necessary.
4. Verify that 12V is present at the clutch connector when the PTO switch is engaged.
5. Measure the gap between the rotor and armature. If the gap is greater than .04 inch (1 mm), proceed with the following steps:
 - A. Loosen both brake mounting bolts one-half to one full turn (see Figure 38).
 - B. Using needle nose pliers, or by hand, take hold of the tab and remove the shim (Do Not discard the shim until proper clutch function has been confirmed).
 - C. Using a pneumatic line, blow out any debris from under the brake pole and around the brake spacers.
 - D. Re-torque each bolt (M6 x 1) to 10 ft-lb (13 N-m) +/-0.5 ft-lb (0.7 N-m).
 - E. Using a 0.010 inch thick feeler gauge, verify that a gap is present between the rotor and armature face on both sides of the brake pole as shown. (Due to the way the rotor and armature faces wear (peaks and valleys) it is sometimes difficult to measure the true gap.)

Note: Do Not remove the brake pole from the field shell/armature. The brake pole has worn to match the armature and needs to continue to match after the shim is removed to ensure proper brake torque.

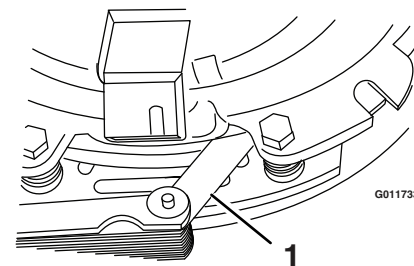


Figure 39

1. Feeler gauge

g011733

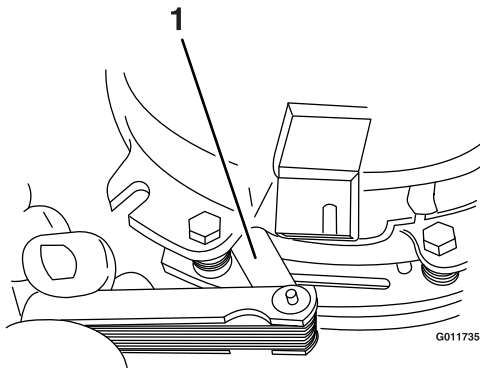


Figure 40

g011735

1. Feeler gauge

- If the gap is less than 0.010 inch, then reinstall the shim and reference the **Troubleshooting** section.
- If the gap is sufficient, proceed to the safety check in step F.

F. Perform the following safety check:

- a. Sit on the seat and start the engine.
- b. Make sure the blades Do Not engage with the PTO switch “off” and the clutch disengaged.

If the clutch does not disengage, reinstall the shim and reference the **Troubleshooting** section.

- c. Engage and disengage the PTO switch ten consecutive times to ensure the clutch is functioning properly. If the clutch does not engage properly, reference the **Troubleshooting** section.

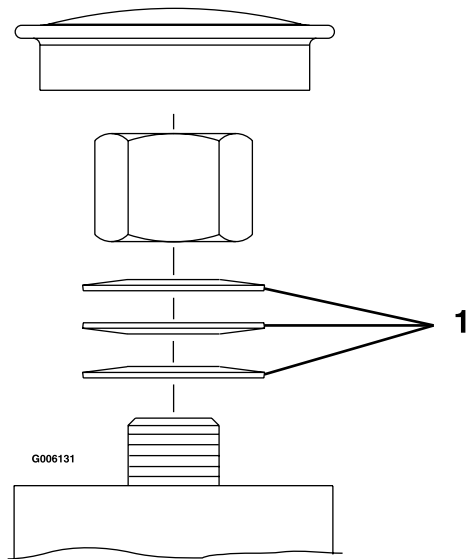


Figure 41

g006131

1. Spring disc washers

Caster Pivot and Gauge Wheel Pivot Bearings Pre-Load Adjustment

Remove dust cap from caster and tighten nyloc nut until washers are flat and back off 1/4 of a turn to properly set the pre-load on the bearings. If disassembled, make sure the spring disc washers are reinstalled as shown in Figure 41.

Cleaning

Cleaning and Storing Safety

- Park machine on level ground, disengage drives, set parking brake, stop engine, and remove key. Wait for all moving parts to stop before leaving the operator's position. Allow the machine to cool before servicing, adjusting, fueling, cleaning, or storing.
- Clean grass and debris from the cutting unit, muffler, drives, grass catcher, and engine compartment to prevent fires.
- Allow the machine to cool before storing the machine in any enclosure. Do Not store the machine or fuel container, or refuel, where there is an open flame, spark, or pilot light such as on a water heater or other appliance.

Clean Debris From Machine

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Clean off any oil, debris, or grass build-up on the machine and cutting deck, especially under deck belt shields, around the fuel tank, around engine and exhaust area.

Important: You can wash the machine with mild detergent and water. Do not pressure wash the machine. Avoid excessive use of water, especially near the control panel, under the seat, around the engine, hydraulic pumps, and motors.

Clean Engine and Exhaust System Area

Service Interval: Before each use or daily (May be required more often in dry or dirty conditions.)

⚠ CAUTION

Excessive debris around engine cooling air intake and exhaust system area can cause engine, exhaust area, and hydraulic system to overheat which can create a fire hazard.

Clean all debris from engine and exhaust system area.

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Clean all debris from rotating engine air intake screen, around engine shrouding, and exhaust system area.
3. Wipe up any excessive grease or oil around the engine and exhaust system area.

Remove Engine Shrouds and Clean Cooling Fins

Service Interval: Every 100 hours

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Remove cooling shrouds from engine and clean cooling fins. Also clean dust, dirt and oil from external surfaces of engine which can cause inadequate cooling.
3. Make sure cooling shrouds are reinstalled. Operating the engine without cooling shrouds will cause engine damage due to overheating.

Clean Grass Build-Up Under Deck

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Raise deck to the transport (5 1/2 inch (14 cm) cutting height) position. Lift the front of unit and support unit using jack stands or equivalent support.
3. Clean out any grass build-up from underside of deck and in discharge deflector.

Waste Disposal

Motor Oil Disposal

Engine oil and hydraulic oil are both pollutants to the environment. Dispose of used oil at a certified recycling center or according to your state and local regulations.

Battery Disposal

⚠ DANGER

Battery electrolyte contains sulfuric acid, which is poisonous and can cause severe burns. Swallowing electrolyte can be fatal or if it touches skin can cause severe burns.

- **Wear safety glasses to shield eyes, and rubber gloves to protect skin and clothing when handling electrolyte.**
- **Do Not swallow electrolyte.**
- **In the event of an accident, flush with water and call a doctor immediately.**

Federal law states that batteries should not be placed in the garbage. Management and disposal practices must be within relevant federal, state, or local laws.

If a battery is being replaced or if the unit containing the battery is no longer operating and is being scrapped, take the battery to a local certified recycling center. If no local recycling is available return the battery to any certified battery reseller.

Troubleshooting

Important: It is essential that all operator safety mechanisms be connected and in proper operating condition prior to mower use.

When a problem occurs, do not overlook the simple causes. For example: starting problems could be caused by an empty fuel tank.

The following table lists some of the common causes of trouble. Do not attempt to service or replace major items or any items that call for special timing of adjustment procedures (such as valves, governor, etc.). Have this work done by your **Engine Service Dealer**.

Note: When disconnecting electrical connectors DO NOT pull on the wires to separate the connectors.

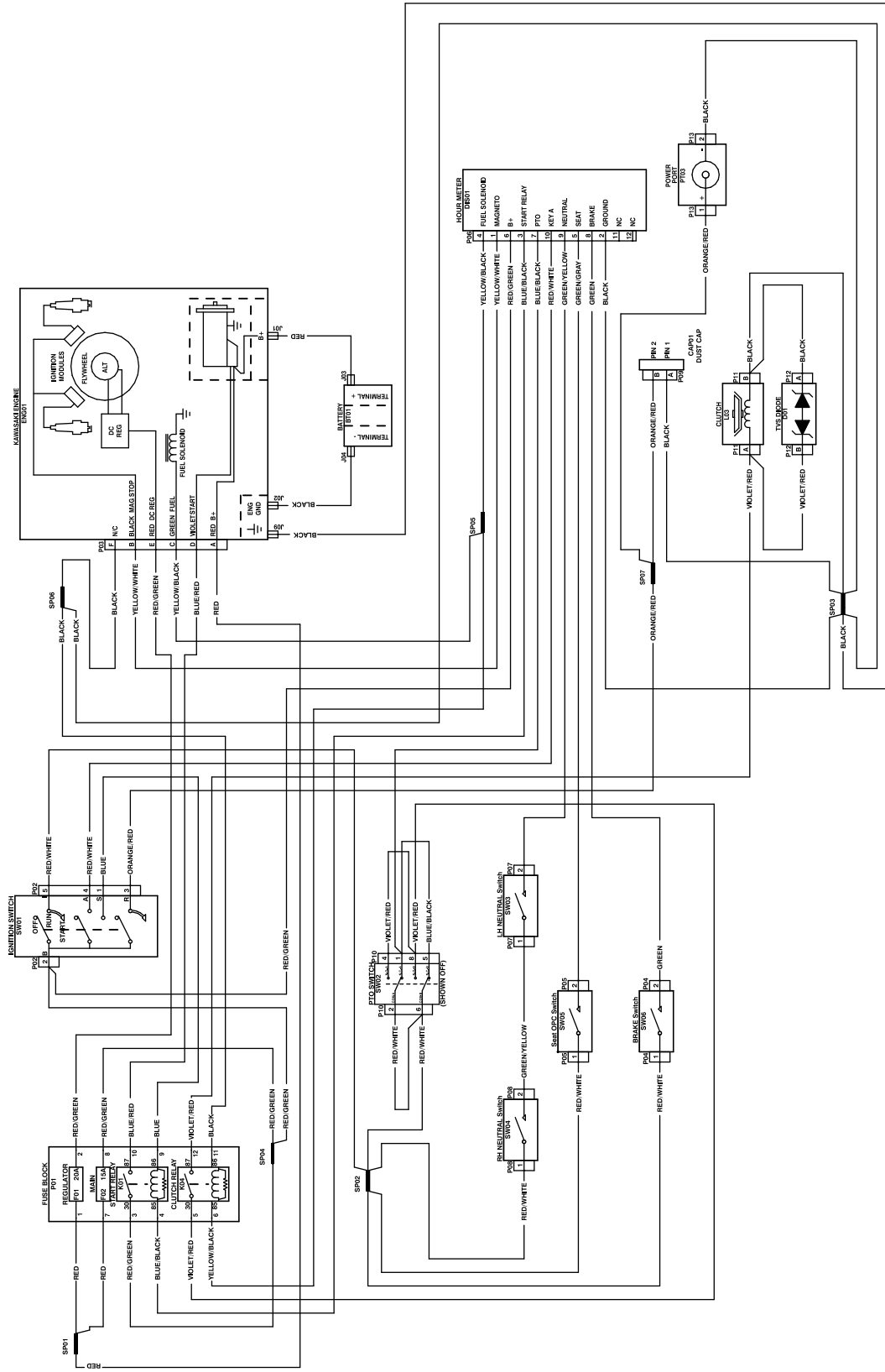
Problem	Possible Cause	Corrective Action
Starter does not crank	<ol style="list-style-type: none"> 1. PTO is engaged. 2. Parking brake is not engaged. 3. Drive levers are not in neutral lock position. 4. Battery does not have a full charge. 5. Electrical connections are corroded, loose or faulty. 6. Fuse is blown. 7. Relay or switch is defective. 8. Faulty module. 9. Faulty battery shutdown during boost. 	<ol style="list-style-type: none"> 1. Disengage the PTO. 2. Set the parking brake. 3. Ensure the drive levers are in the neutral lock position. 4. Charge the battery. See Check Battery Charge and Recommended Jump Starting Procedure sections in Maintenance. 5. Check the electrical connections for good contact. Clean connector terminals thoroughly with electrical contact cleaner, apply dielectric grease and reconnect. 6. Replace the blown fuse. 7. Contact an Authorized Service Dealer. 8. Replace module. 9. Cycle key switch off, then on. If cycling does not resolve issue, replace battery.
Engine will not start, starts hard, or fails to keep running	<ol style="list-style-type: none"> 1. Fuel tank is empty. 2. Fuel shutoff valve is closed. 3. Oil level in the crankcase is low. 4. The throttle and choke are not in the correct position. 5. Dirt in fuel filter. 6. Dirt, water, or stale fuel is in the fuel system. 7. Air cleaner is dirty. 8. Seat switch is not functioning properly. 9. Electrical connections are corroded, loose or faulty. 10. Relay or switch is defective. 11. Faulty spark plug. 12. Spark plug wire is not connected. 13. Faulty module. 	<ol style="list-style-type: none"> 1. Fill the fuel tank. 2. Open the fuel shutoff valve. 3. Add oil to the crankcase. 4. Be sure the throttle control is midway between the "SLOW" and "FAST" positions, and the choke is in the "ON" position for a cold engine or the "OFF" position for a warm engine. 5. Replace the fuel filter. 6. Contact an Authorized Service Dealer. 7. Clean or replace the air cleaner element. 8. Check the seat switch indicator. Replace seat if needed. 9. Check the electrical connections for good contact. Clean connector terminals thoroughly with electrical contact cleaner, apply dielectric grease and reconnect. 10. Contact an Authorized Service Dealer. 11. Clean, adjust or replace spark plug. 12. Check the spark plug wire connection. 13. Replace module.

Troubleshooting

Problem	Possible Cause	Corrective Action
Engine loses power	<ol style="list-style-type: none"> 1. Engine load is excessive 2. Air cleaner is dirty. 3. Oil level in the crankcase is low. 4. Cooling fins and air passages for the engine are plugged. 5. Dirt in fuel filter. 6. Dirt, water, or stale fuel is in the fuel system. 7. Low oil pressure 8. High oil temperature 	<ol style="list-style-type: none"> 1. Reduce the ground speed. 2. Clean or replace the air cleaner element. 3. Add oil to the crankcase. 4. Remove the obstructions from the cooling fins and air passages, hood, screen, and oil cooler. 5. Replace the fuel filter. 6. Contact an Authorized Service Dealer. 7. Check oil level. If level is above “add”, contact an Authorized Service Dealer. 8. Let engine cool and check oil level. If level is above “add”, contact an Authorized Service Dealer.
Mower pulls left or right (with levers fully forward)	<ol style="list-style-type: none"> 1. Tire pressure in drive tires not correct. 	<ol style="list-style-type: none"> 1. Adjust tire pressure in the drive tires.
Machine does not drive	<ol style="list-style-type: none"> 1. Drive release handle not in “operating” position. 2. Drive or pump belt is worn, loose or broken. 3. Drive or pump belt is off a pulley. 4. Broken or missing idler spring. 5. Hydraulic fluid level is low or too hot. 	<ol style="list-style-type: none"> 1. Position handle in “operating” position; see Drive Wheel Release Valves section in Operation. 2. Change the belt. 3. Change the belt. 4. Replace the spring. 5. Add hydraulic fluid to reservoir or let it cool down.
Uneven cutting height.	<ol style="list-style-type: none"> 1. Blade(s) not sharp. 2. Cutting blade(s) is/are bent. 3. Mower deck is not level. 4. Underside of mower is dirty. 5. Tire pressure in drive tires not correct. 6. Blade spindle bent. 7. Tips of adjacent blades are at an uneven cutting height. Blades tips should be even within 3/16 inch which is approximately one blade thickness. 	<ol style="list-style-type: none"> 1. Sharpen the blade(s). 2. Install new cutting blade(s). 3. Level mower deck from side-to-side and front-to-rear. 4. Clean the underside of the mower. 5. Adjust tire pressure in the drive tires. 6. Contact an Authorized Service Dealer. 7. Replace blades, spindles and (or) check for damage to mower deck.
Abnormal vibration	<ol style="list-style-type: none"> 1. Cutting blade(s) is/are bent or unbalanced. 2. Blade mounting bolt is loose. 3. Engine mounting bolts are loose. 4. Loose engine pulley, idler pulley, or blade pulley. 5. Engine pulley is damaged. 6. Blade spindle is bent. 7. Belt is damaged. 	<ol style="list-style-type: none"> 1. Install new cutting blade(s). 2. Tighten the blade mounting bolt. 3. Tighten the engine mounting bolts. 4. Tighten the appropriate pulley. 5. Contact an Authorized Service Dealer. 6. Contact an Authorized Service Dealer. 7. Install new belt.
Blades do not rotate.	<ol style="list-style-type: none"> 1. Deck belt is worn, loose or broken. 2. Deck belt is off pulley. 3. Broken or missing idler spring. 4. Drive belt not routed correctly. 	<ol style="list-style-type: none"> 1. Install new deck belt. 2. Install belt on clutch and deck pulleys, idlers, and tensioning idler per routing decal on deck. 3. Replace the spring. 4. Refer to belt routing decal on deck.

Problem	Possible Cause	Corrective Action
Clutch will not engage.	<ol style="list-style-type: none"><li data-bbox="634 218 808 239">1. Fuse is blown.<li data-bbox="634 338 980 359">2. Low voltage supply at the clutch.<li data-bbox="634 422 808 443">3. Damaged coil.<li data-bbox="634 453 915 474">4. Inadequate current supply.<li data-bbox="634 537 997 558">5. Rotor/armature airgap is too large.	<ol style="list-style-type: none"><li data-bbox="1089 218 1516 323">1. Replace fuse. Check coil resistance, battery charge, charging system, and wiring connections and replace if necessary.<li data-bbox="1089 338 1500 411">2. Check coil resistance, battery charge, charging system, and wiring connections and replace if necessary.<li data-bbox="1089 422 1263 443">3. Replace clutch.<li data-bbox="1089 453 1468 527">4. Repair or replace clutch lead wire or electrical system. Clean connector contacts.<li data-bbox="1089 537 1419 558">5. Remove shim or replace clutch.

Electrical Logic Schematic — Kawasaki Models



California Proposition 65 Warning Information

What is this warning?

You may see a product for sale that has a warning label like the following:



WARNING: Cancer and Reproductive Harm—www.p65Warnings.ca.gov.

What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning “is not the same as a regulatory decision that a product is ‘safe’ or ‘unsafe.’” Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to <https://oag.ca.gov/prop65/faqs-view-all>.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the “no significant risk level”; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

Why does Exmark include this warning?

Exmark has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. Exmark provides warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from Exmark products may be negligible or well within the “no significant risk” range, out of an abundance of caution, Exmark has elected to provide the Prop 65 warnings. Moreover, if Exmark does not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.



MAXIMIZE THE PERFORMANCE OF YOUR EXMARK MACHINE.



EXMARK® PREMIUM ENGINE OIL

Exmark now offers a family of engine oil viscosities to perform well in any environment. Each viscosity has the same synthetic formulation to give you what you need in punishing conditions. We designed each grade to the highest quality, making it ideal even for diesel applications. Coupled with Exmark Premium Fuel Treatment, we have the performance products to make your machine hum.

EXMARK PREMIUM ENGINE OIL SAE 30/10W-30

- Meets zero shear requirements of a straight grade SAE 30 as well as the cold temp properties of a 10W-30.
- Most versatile oil in the industry.
- Superior corrosion protection over conventional oil - even in corrosive, humid environments.

EXMARK PREMIUM ENGINE OIL SAE 20W-50

- Perfect for your big block engine, or any application in severe service.
- Same full synthetic formulation as all other Exmark Premium viscosities.
- Also effective for use in severe service small block engines.

EXMARK PREMIUM ENGINE OIL SAE 10W-50

- Full synthetic formulation gives you peak performance. Don't settle for less.
- Wide span multi-grade combines easy starting in cold weather with maximum protection in high temperature operation.
- Reduce friction & wear over standard mineral formulations.

EXMARK PREMIUM ENGINE OIL SAE 0W-40

- The perfect choice for when the weather turns cold or unpredictable, and your Exmark UTV has to perform.
- Commercial quality for severe service.
- Advanced additive package helps prevent corrosion from long-term storage.

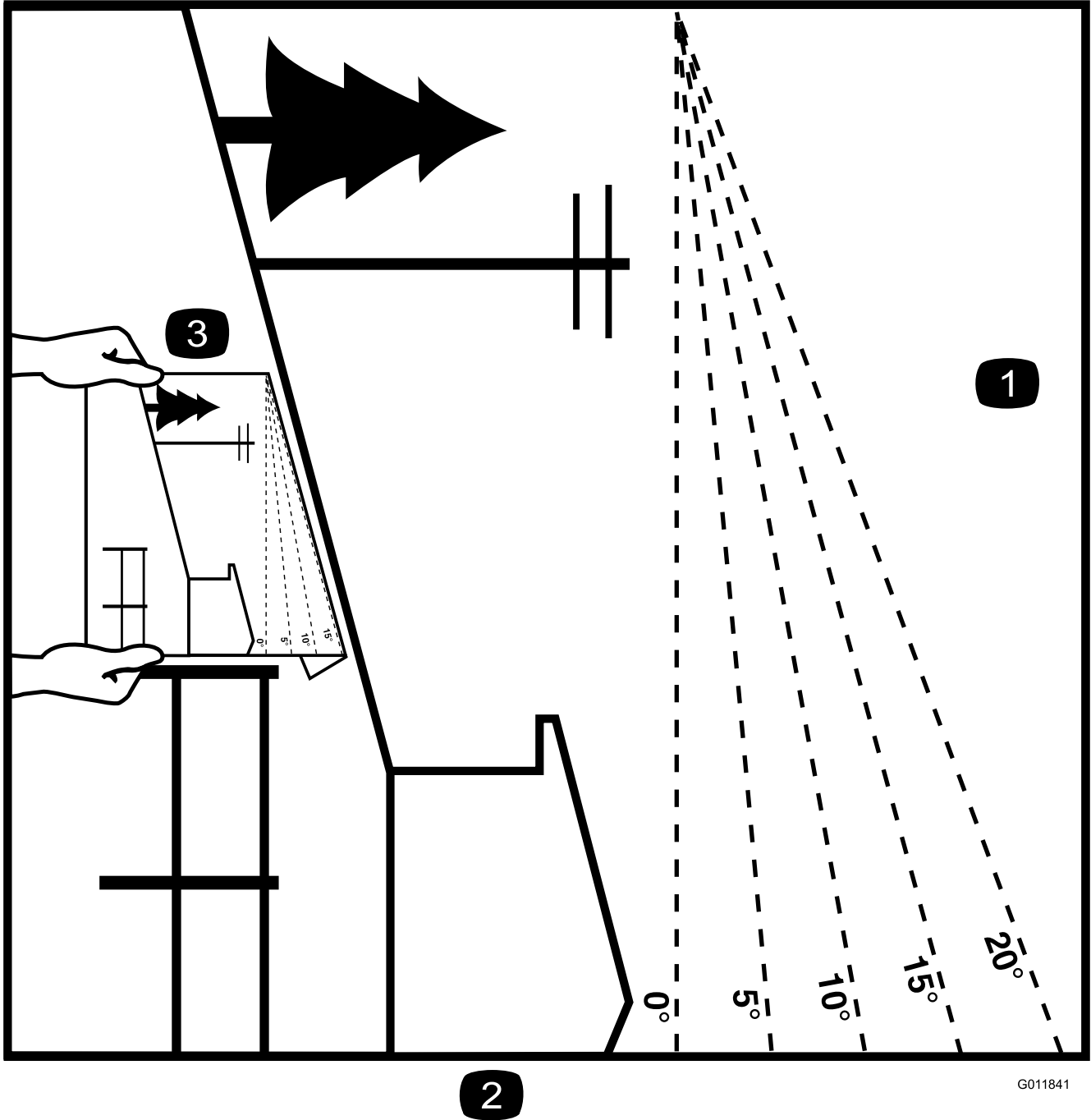
EXMARK PREMIUM ENGINE OIL UTV FORMULATION

- 4-cycle high-temp formulation.
- Heavier viscosity, full synthetic, perfect for your UTV.

EXMARK PREMIUM UTV EXTREME CONDITIONS GEAR OIL

- SAE 80W-90, designed to keep your UTV performing at its peak.
- Shear stable, hypoid gear lube.
- Includes a premium additive system to combat wear, oxidation, rust & corrosion.

Available from your local Exmark dealer. Find your closest dealer at exmark.com



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g011841

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Figure 42

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1. The maximum slope you can operate the machine on is **15 degrees**. Use the slope indicator to determine the degree of slope of hills before operating. **Do Not operate this machine on a slope greater than 15 degrees.** Fold along the appropriate line to match the recommended slope.
2. Align this edge with a vertical surface, a tree, building, fence pole, etc.
3. Example of how to compare slope with folded edge.

EXMARK ACCESSORIES AND OPTIONS*

MID-MOUNT RIDING ACCESSORIES AND OPTIONS

CUSTOM RIDE SEAT SUSPENSION SYSTEM	OPERATOR CONTROLLED DISCHARGE
FULL SUSPENSION SEAT	SUN SHADE
DECK LIFT ASSIST KIT	TRASH CONTAINER
HITCH KIT	TURF STRIPER
LIGHT KIT	ULTRA VAC COLLECTION SYSTEM
12V POWER PORT	ULTRA VAC QUICK DISPOSAL SYSTEM
MICRO-MULCH SYSTEM	

OUT-FRONT RIDING ACCESSORIES AND OPTIONS

CUSTOM RIDE SEAT SUSPENSION SYSTEM	SNOW BLADE
DUAL-TAIL WHEEL	SNOWBLOWER
FLOOR PAN EXTENDER	SUN SHADE
HITCH KIT	TRASH CONTAINER
LIGHT KIT	ULTRA VAC COLLECTION SYSTEM
MICRO-MULCH SYSTEM	ULTRA VAC QUICK DISPOSAL SYSTEM
ROLL OVER PROTECTION SYSTEM (ROPS)	WEATHER CAB

WALK-BEHIND ACCESSORIES AND OPTIONS

GRASS CATCHER	TURF STRIPER
MICRO-MULCH SYSTEM	STANDON

*Some accessories and options not available for some models.

Place Model No. and Serial No.
Label Here (Included in the Literature
Pack) or Fill in Below

Model No. _____

Serial No. _____

Date Purchased _____

Engine Model No. and Spec. No. _____

Engine Serial No. (E/No) _____

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