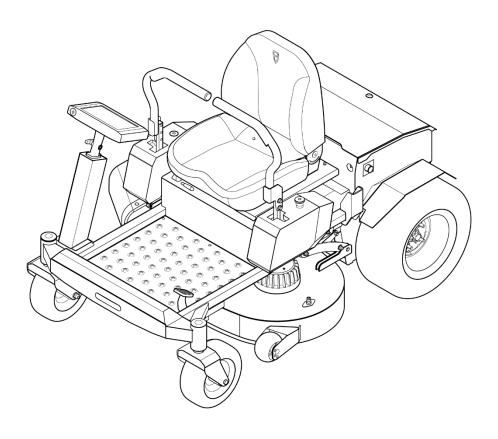


FJDZ42P

48 V Ternary Lithium-ion Battery

Electric Zero-turn Mower User Manual



■ July 18, 2022 | Rev. 1.0

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Revisions:

Version	Date	Description
1.0	2022.07.18	First release

Read Before Use:



To reduce the risk of injury, the user must read and understand this manual before using the mower.



Keep this manual properly for future reference.



Safety Instructions

This symbol indicates important safety instructions. Failure to follow these instructions could endanger the personal or property safety of the operator and others. Before attempting to operate the mower, read and understand all the instructions in this manual.

When using the mower, assess the severity of hazards according to the following signal words.

Safety Symbol	Signal Word	Explanation
	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.
	NOTICE	(Without the safety symbol) Indicates a potential situation which could result in property loss.

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WARNING

Before using the mower, ensure that you have read and understand all the safety instructions in this manual, including the safety symbols. If there is anything in the manual that you do not understand, do not use the mower. The mower can only be used by people who have read, understand, and will follow all the safety instructions and warnings in this manual and on the mower, and have reached the minimum age required by local laws and regulations.



WARNING

When operating the mower, always follow the basic safety instructions to reduce the risk of explosion, electric shock, fire, and other accidents that could result in serious personal injury.





WARNING

California Proposition 65: Battery posts, terminals, and related accessories contain lead and lead compounds known to the State of California to cause cancer, birth defects, or other reproductive harm. See www.p65warnings.ca.gov for details. Wash your hands after handling.

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WARNING

Failure to follow the operation instructions could cause injury to the operator or others. The owner must understand all the instructions and only allow approved personnel who understand these instructions to operate the mower. The operator must be sound in body and mind and not under the influence of mind altering substances such as medicines, alcohol, and drugs.



DANGER

Ensure that the mower is operated according to the safety instructions in this manual. Any carelessness or mistake could result in serious personal injury. When the mower is working, there are risks of amputating hands and feet and thrown objects. Failure to follow the safety instructions in this manual could result in serious personal injury or death.



DANGER

People wearing pacemakers or other medical electronic devices must consult a doctor before using the mower. Operating the electrical equipment nearby could interfere with or result in a failure of the pacemaker.

NOTICE

Only qualified technicians are allowed to maintain and repair the mower. We suggest you have your mower serviced by a local dealer. When servicing, use only identical replacement parts.

Operator

- 1. People under eighteen or not meeting the age requirement of local laws and regulations are not allowed to operate this product.
- 2. Do not drive under the influence of medicines, alcohol, and drugs.
- 3. Do not drive when feeling tired.

Operating Environment

- 1. Drive in an open field far from the crowd and ensure that there are no irrelevant personnel or vehicles in the operation area.
- 2. Stay away from people, livestock, obstacles, wires, tall buildings, airports, and signal towers to avoid interference with signals.
- 3. Do not operate the mower in extreme weathers such as heavy rain, thick fog, snow, lightning, and strong wind.



Ensure that there is no human or obstacle around the mower's path during testing, calibration, adjustment, or autosteering to prevent personal injury or property damage.

Operation

- 1. Do not get on or off the mower during operation.
- 2. During operation, the driver must monitor the operation condition in real time to ensure timely intervention when necessary.
- 3. Ensure that you drive this mower manually on public roads or in public places.

Inspection

- 1. Ensure that the mower is fully charged.
- 2. Ensure that parameter calibration is complete on the control terminal before autosteering operation.
- 3. Ensure that antennas and other related parts are properly installed. If any is moved, calibrate it again before use.
- 4. Ensure that all cables are intact. If any damage is found, stop the operation and replace the cable.

Others

- 1. Unauthorized disassembly may invalidate the warranty.
- Damage caused by force majeure events, such as lightning strikes, overvoltage, and collision, is not covered by the warranty.
- 3. Connect the devices strictly in accordance with this manual. When connecting cables such as data cables, hold the end of the plug and gently plug or unplug it. Do not pull the plug by force or twist it, which may break the pins.



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1 Overview

1.1 User Instructions

This manual is aimed to help the owners and operators understand how to maintain and operate this ride-on mower. Read this manual carefully. Information and instructions in this manual can help you obtain reliable mower performance. It is the owner's responsibility to ensure that the operators and technicians read and understand this manual. Before operating, read this manual and all the safety symbols. It is also the owner's responsibility to ensure that the operators and technicians are qualified for and capable of operating the mower. All the dealer technicians must be familiar with the safe operation of the mower. Never allow children or untrained personnel to operate or repair the mower. Note that local laws may have the minimum age requirements for the operators.

1.2 Use of Manual

This manual applies to the FJDZ42P series. It provides users with the basic operation, assembling, adjusting, and maintenance instructions of the mower. As operating conditions may vary, this manual cannot cover all scenarios. In this manual, directions such as rightward and leftward are used in relation to the mower's usual driving direction or the direction you are facing. All the figures used in this manual are up to date at the time of printing, but they may differ from the mower you receive due to upgrades and modifications. FJDynamics (FJD) reserves the right to re-design and modify the mower without notice. If you notice any change that is not shown in this manual, consult your local dealer about the updates.

1.3 Intended Use of this Electric Zero-turn Mower

This 48V electric zero-turn mower is only intended to be sued for cutting grass. Do not use it for other purpose.

1.4 General Safety Rules

- 1. Before attempting to assemble and operate the mower, read, understand, and follow all the instructions and warnings in this manual. Keep this manual properly for future reference.
- 2. Be familiar with all controls and their correct operation. Learn how to stop the mower and disengage all controls quickly.
- 3. Never allow children or untrained personnel to operate or repair the mower. Note that there can



be an age limit on the operator according to your local laws and regulations.

4. If you come across a situation that is not covered in this manual, use extreme caution and contact the customer service for help.

1.5 Modifications

Users are allowed to modify the mower configuration by themselves to improve the performance, but cannot make any legal claims based on this manual. Use only genuine FJD parts for modifications. Using other parts will void the warranty. Do not install non-standard devices on the mower without the consent from FJD. Otherwise, it may cause personal injury or damage the mower.

1.6 Maintenance and Repair

1.6.1 Warranty Registration Form

The owner must fill out the Warranty Registration Form provided in the owner's package to register the mower. As the new owner of the mower, when you use the form, it must be filled out and signed by both the authorized dealer and the initial purchaser.

1.6.2 Serial Number

The nameplate is located on the right side of the power unit, and it states the following information:

- · Name, model, and serial number
- Key specifications and symbols
- Manufacturer and manufacture date

You need to register the serial number and the model of the mower on the Warranty Registration Form if repair or replacement is required.



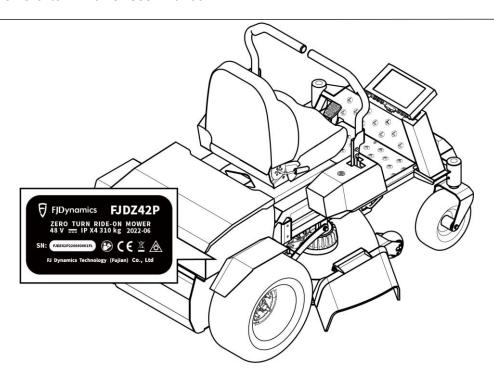


Figure 1. Nameplate location and illustration

Note: Any unauthorized modification or use of non-approved parts will void the warranty. FJD will not be responsible for any subsequent consequences. All warranty services and repairs must be performed by authorized FJD dealers.



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Reference: chapter 12 "Limited Warranty"



2 General Power Tool Safety Warnings

WARNING Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your battery-operated (cordless) power tool.

2.1 Work Area Safety

- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids,
 gases or dust. power tools create sparks which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2.2 Electrical Safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter
 plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce
 risk of electric shock.
- Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.
 Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of an RCD reduces the risk of electric shock



2.3 Personal Safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not
 use a power tool while you are tired or under the influence of drugs, alcohol or medication. A
 moment of inattention while operating power tools may result in serious personal injury.
- Use personal protective equipment. Always wear eye protection. Protective equipment such as a
 dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions
 will reduce personal injuries.
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.
- Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.
- Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles. A careless action can cause severe injury within a fraction of a second.

2.4 Power Tool Use and Care

- Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- Disconnect the plug from the power source and/or remove the battery pack, if detachable, from
 the power tool before making any adjustments, changing accessories, or storing power tools. Such
 preventive safety measures reduce the risk of starting the power tool accidentally.



- Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. power tools are dangerous in the hands of untrained users.
- Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into
 account the working conditions and the work to be performed. Use of the power tool for
 operations different from those intended could result in a hazardous situation.
- Keep handles and grasping surfaces dry, clean and free from oil and grease. Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

2.5 Battery Tool Use and Care

- Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.
 Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
- Do not use a battery pack or tool that is damaged or modified. Damaged or modified batteries
 may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 130 °C may cause explosion.
- Follow all charging instructions and do not charge the battery pack or tool outside the



temperature range specified in the instructions. Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

2.6 Service

- Have your power tool serviced by a qualified repair person using only identical replacement parts.
 This will ensure that the safety of the power tool is maintained.
- Never service damaged battery packs. Service of battery packs should only be performed by the manufacturer or authorized service providers.



3 Precautions

3.1 Operator Instructions

- During operation, operators must wear approved personal protective equipment, at least including safety helmets, protective eyewear, hearing protection, appropriate clothing, and safety shoes. Personal protective equipment cannot eliminate the risk of injury, but it will reduce the injury severity if an accident does occur.
- Only allow operators, who are responsible, trained, familiar with the instructions, and physically capable to operate the machine.
- Do not wear scarves, loose clothing, shorts, and sandals that may be caught up by moving parts.
 Do not use the mower barefoot.
- Always wear a full face shield or dust mask when operating in a dusty environment.
- Always wear gloves when handling the blades.
- Always wear hearing protection to avoid damage to hearing when operating. Do not use radios or music headphones.
- The operator must concentrate on the mowing task, and always look ahead of the mower's path while staying aware of the surroundings.
- Pay full attention in case any abnormality occurs.
- Ensure that the first aid equipment is available nearby when operating the mower.
- Do not operate the mower when feeling tired.
- Do not operate the mower under the influence of medicines, alcohol, and drugs.

3.2 Mowing Operation

- Before operating, read, understand, and follow all the instructions on the machine and in this manual.
- You are recommended to let someone know that you are mowing so that he or she can offer help when an injury or accident occurs.
- People who operate, maintain, and repair the mower must read and understand this manual. Abide by the age limit set by the local laws and regulations. The owner is responsible for training them.



- The owner and the operator of the mower should take safety precautions against accidents and are responsible for accidents or injury occurring to themselves and others, and property damage.
- The operator must remain seated in the manual mode.
- Do not put your hands or feet near rotating parts or under the mower. Always stay away from the discharge opening.
- Ensure that the mowing area is free of bystanders and animals. Stop the mower if anyone enters the mowing area.
- Do not mow in reverse unless necessary. Always look down and behind before and while moving backwards.
- Do not operate the mower when safety devices are not in place or damaged.
- Do not operate the mower lacking proper maintenance.
- Slow down before turning.
- Do not drive at high speeds, especially in crowded areas or on slopes.
- To move in reverse, pull the left and right lap bars backwards slowly to avoid sudden movement.
 Quickly moving the lap bars in either direction can cause sudden movement of the mower, resulting in serious injury.
- Do not carry passengers. The mower is only intended for use by the operator.
- Do not mow slopes steeper than 15 degrees.
- Do not leave a running mower unattended. Always park on level ground, set parking brake, and power off the mower.
- Mow only in daylight or good artificial light.
- Pay attention to the traffic when operating near or crossing a road.
- Clean oil spills before operating or storing the mower.
- In case of abnormal vibration, stop the mower and troubleshoot immediately. Abnormal vibration
 often indicates that the mower is not working normally.
- Stop the blades and turn off the power supply when not mowing. Wait for all parts to stop before
 cleaning the mower or removing the discharge chute. After the mower is turned off, the blades
 will still rotate for a few seconds. Do not put any parts of your body near the blades before the
 blades stop completely.



- If the mower runs into a foreign object, stop the mower immediately and check for damage when safety is ensured.
- If situations occur that are not covered in this manual, use care and good judgment. Contact Local
 Dealer for assistance.

3.3 Mowing Area

- Before mowing any area, thoroughly check the area for holes, falling objects, and hidden objects
 that may cause danger. Remove objects that can be thrown by the blades, such as stones, toys,
 and wires.
- Do not operate within 100 feet of people and animals. Do not mow when children or others are around.
- Make a mowing plan to avoid discharging grass clippings toward roads, sidewalks, bystanders, vehicles, and windows.
- Do not mow anything other than grass.
- During mowing, do not drive through leaves or other debris that may cause build-up.
- Stop the blades when driving across dirt roads, gravel roads, or paved roads.
- Use extreme caution when approaching blind corners, doorways, shrubs, trees, or other objects that can block your view and impede mowing.
- To reduce the risk of electric shock, do not operate the mower in rain, on wet roads, or on wet grass.
- To avoid loss of control and rollover, do not operate the mower near drop-offs or near water, and reduce the driving speed and use extreme caution on slopes.

3.4 Slope Operation

- Slopes are a major factor related to loss of control and rollover that could result in serious injury
 or death. Use extreme caution when operating on slopes. Do not mow the slope if you are not
 sure whether it is suitable for operation.
- Do not start or stop the mower on slopes.
- Do not mow slopes steeper than 15 degrees.
- Do not operate the mower when the traction, steering, or stability is in question. Tires can slide

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even if the mower is stopped.

- Always keep the mower in gear when driving down slopes. Do not use the neutral gear and coast down slopes.
- Watch for holes, ruts, stones, or other unnoticeable obstacles. Be extremely careful in tall grass areas where obstacles may be hidden. Uneven terrain and obstacles could overturn the mower.
- Drive at low speeds so that you do not have to stop on slopes.
- Do not mow on wet grass. Wet grass can cause the tires to slip on slopes.
- Move slowly and gradually on slopes. Do not change the speed or direction suddenly. Otherwise,
 the mower could roll over.
- Use extreme caution when operating the mower with grass collectors or other attachments,
 because they can affect the stability of the mower.
- Do not attempt to stabilize the mower by putting a foot on the ground.

3.5 Child Safety

- Tragic accidents can occur if the operator does not notice the presence of children. Children tend
 to be attracted by mowers and mowing activities. Do not assume that children will remain where
 you last saw them.
- Keep children away from the mowing area and supervised by a responsible adult other than the operator.
- Stay alert and turn off the mower if a child enters the mowing area.
- Always look behind and down for children before and while moving backwards.
- Do not carry children even if the blades are stopped. They may fall off and be seriously injured or interfere with the safe operation of the mower.
- Never allow children to operate the mower.
- Use extreme caution when mowing near blind corners, shrubs, trees, or other objects that may block your view.

3.6 Battery and Charging Safety



WARNING

The battery may present a risk of fire or chemical burn if misused. Do not disassemble, overheat



or incinerate the battery. Leakage from the battery may occur under extreme usage, charging or temperature conditions or if the battery is damaged, crushed or punctured. This leakage indicates a failure of the battery and the battery should be properly disposed of.



Note: Only use batteries and the charger provided by FJD to avoid damage to the mower.

- Do not charge the mower in rain, in wet locations or near flammable liquids or gases.
- The recommended voltage is marked on the charger. Do not connect the charger to a different AC voltage.
- An extension cord should not be used unless absolutely necessary. Use of an improper extension
 cord could result in a risk of fire, electric shock, or electrocution. If an extension cord must be used,
 ensure that it can withstand the current of the charger. Otherwise, the voltage will drop, resulting
 in charging failure and overheat.
- Do not use multiple extension cords.
- Ensure that the power cord is in good condition. Regularly check the power cord and the extension cord to see whether the insulation is broken, damaged, or cracked. Disconnect the damaged cord from the outlet and the charger and repair or replace it immediately.
- Use the power cord properly and keep it away from heat, oil, water, sharp edges and moving objects. Hold the plug when disconnecting the power cord from the outlet. Do not drag the charger by the power cord.
- Do not modify the plug or power cord in any way.
- Properly place the charger to avoid being stepped on, tripped over, or damaged.
- Store the charger and the power cord in a cool and dry place.
- Keep the charger and the power cord away from all liquids.
- Ensure that no small metal objects or other foreign matters such as steel wool and aluminum foil enter the charging port.
- To avoid overheat, do not cover the charger.
- Allow the batteries and the charger to cool down before charging. Only charge the batteries at an ambient temperature between 0°C and 40°C (32°F–104°F).
- Provide adequate ventilation during charging.



- Do not smoke during charging, as a cigarette lighter or spark could cause fire.
- Do not operate this mower while charging. Following this rule will reduce the risk of electric shock, explosion, or serious injury.
- Always use personal protective equipment such as protective eyewear, protective clothing, and insulated tools when charging and discharging the batteries and the mower.
- Explosive gases generated by the batteries could result in serious injury or death. If the poisonous liquid from the battery gets onto your skin or clothes or into your eyes, it can cause serious chemical burns.
- Incorrect battery cable routing could damage the mower and cause the battery to spark or even explode, resulting in serious injury.
- Do not expose the battery to fire or a temperature exceeding 60°C (140°F), as it could result in explosion.
- Handle the batteries with care. When not in use, the battery pack should be kept away from other
 metal objects like paper clips, coins, keys, nails, and screws. These objects will short circuit the
 battery terminals, causing sparks, burns, or explosion.
- Do not use or charge damaged batteries or batteries showing signs of leakage or corrosion.
- Do not throw the battery into a fire. The battery could explode.
- The battery or conductor can be hot and cause burns.
- If the battery leakage gets onto your skin or into your eyes, perform the following steps.
 - Rinse your skin or eyes with clean cold water for at least 20 minutes, and then seek immediate medical attention.
 - The battery content could cause respiratory irritation. Breathing in fresh air can help ease the symptoms. Seek immediate medical attention if symptoms persist.
 - If smoke or gases are generated during use, charging, or storage of the batteries, ventilate
 and leave the room immediately. Gases or smoke in a confined or unventilated area could
 present potential health risks.
 - If liquid leakage from the battery splashes onto your clothes or shoes, take it off and wash immediately.



3.7 Transport

- Use extra care when loading the mower onto a truck or a trailer with a ramp. The mower falling from the ramp could result in serious injury or death.
- Use a full width ramp for loading the mower onto a trailer or truck.
- Only transport the mower with approved trailers. Open the lap bars to the parking position, press
 the start/stop button to power off the mower with the indicator off, and fix the front and rear
 wheels and the body with heavy-duty belts to prevent mower movement in any direction and
 avoid damage during transport.
- Applying the parking brake is not sufficient to lock the mower in place during transport. You should also fix the mower firmly and horizontally on the carrier and lift the deck to its highest position.
- The angle between the ramp and the ground should not exceed 15 degrees.
- Load the mower onto truck or trailer by driving up ramps of suitable strength using a slow speed.
 Do not lift the mower by hand.
- Be familiar with the control devices before driving the mower up or down a ramp.
- Do not operate the mower on public roadways.
- Check and abide by local traffic regulations before transporting the mower on roads.

3.8 Towing

- Do not tow a weight exceeding 68 kg (150 lbs).
- Attach the towed equipment only to the hitch point.
- · Never allow any person in or on the towed equipment.
- Do not tow on slopes of more than 5 degrees. The weight of the towed equipment may cause loss
 of traction, control, and the ability to stop when towing on slopes.
- Always use extra caution when towing with the zero-turn mower. Make wide turns to avoid jack-knifing.
- Drive at a slow speed and allow an extra distance to stop.



3.9 Storage

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WARNING

Store the mower indoors. Power off the mower before cleaning.

- Allow the mower to cool before storage.
- When not in use, the mower should be stored indoors in a dry and locked-up place, out of reach
 of children, and prolonged direct sunlight.

3.10 Service

- Remove the batteries or disconnect the power supply before repairing, cleaning, or taking parts
 off the mower.
- Do not reach below the blade guards. Keep your hands, feet, and clothes away from rotating blades.
- · Only use accessories authorized by FJD.
- Electrical maintenance should only be performed by trained professionals.
- Keep the blades sharp and clean for best performance and safe operation.
- Check the daily and weekly maintenance lists to ensure that electrical connection is firm and bolts are tightened.
- Never remove or tamper with safety devices. Regularly check their proper operation. Never do
 anything to interfere with the intended function of a safety device or to reduce the protection
 provided by the safety device.
- Repair or replace damaged parts before restarting and operating the mower.
- Periodically inspect the mower cables. Damaged cables should be repaired by an authorized service agency.
- Use caution when replacing blades. Wrap the blade(s) or wear gloves. Replace damaged blades.
 Do not repair or alter blade(s).
- Keep the mower free from accumulation of grease, dirt, and other possibly combustible materials.
- To avoid personal injury and mower damage, do not clean the mower with a pressure washer.
- Do not use battery-operated riding mower in rain.



- Never remove or tamper with safety devices. Regularly check their proper operation. Never do
 anything to interfere with the intended function of a safety device or to reduce the protection
 provided by the safety device.
- Tires must be inflated to the pressure specified in the manual. Too much air in the tire could cause the tire to burst, causing personal injury. Do not use tires with scratches or cracks, as such tires may burst. Contact FJD or a local dealer for replacement or repair of tires, tubes, and rims.



4 Symbols

Symbols that may appear on the product are listed below. Read and understand their meanings for better and safer operation of the product.

Symbol	Name	Description
V	Volt	Voltage
А	Ampere	Current
Hz	Hertz	Frequency
W	Watt	Power
min	Minute	Time
===	Direct current	Type or characteristic of current
km/h	Kilometer per hour	Driving speed of the mower
	Safety alert	Indicates a potential personal injury hazard.
	Wet condition alert	Do not use the mower in rain or in wet conditions.
	Read user manual	To reduce the risk of injury, users must read and understand the user manual before using the product.
	Eye protection	Always wear protective eyewear or protective eyewear with side shields.



Symbol	Name	Description
	Keep hands and feet away	Keep hands and feet away from the blades and cutting area. Stay clear of the area under the cutting deck.
>15	Steep slope hazard	Do not mow on slopes of greater than 15°.
100 ft.	Keep distance	Keep a distance of at least 100 feet from all bystanders.
	Thrown objects	Stay away from the mower when it is running, as objects could be thrown by the blades in any direction.
	Keep bystanders away	Do not mow when people are around.
	Look behind while backing	Look down and behind before and while backing.
6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Never carry children or other passengers	Do not carry children or other passengers, even when the blades are off.
	Never carry passengers on trailer	To avoid blocking the operator's view, never carry people on the trailer.



Symbol	Name	Description
	Electric shock hazard	Switch off the power supply before working on the mower.
	Do not step	Do not step.
	Maintain safety devices	Do not open or remove safety shields while the mower is running.
	Pinch points	Moving parts can crush or cut. Keep clear.
	Mind your hands	Mind your hands.
	Falling hazard	Operation on steep slopes or near edges can cause sliding and loss of control.



5 Introduction

5.1 Specifications

Weight	Weight (with battery pack)	335±10 kg (738 lbs ± 22.05 lbs)	
	Overall length	1,635 mm (64.37 inches)	
	Overall width (discharge chute down)	1,305 mm (51.38 inches)	
Dimensions	Overall width (discharge chute up)	1,103 mm (43.43 inches)	
	Overall height	1,160 mm (45.67 inches)	
	Blades	2	
Cutting Deck	Deck size	1,067 mm (42 inches)	
	Cutting height	30–127 mm (1.2–5 inches)	
	Max. permissible slope	20°	
	Max. driving speed	12 km/h (7 mph)	
Performance	Operating voltage (nominal)	48 V	
Performance	Battery pack capacity	6.79 kWh	
	Charging time	7H (220V) / 9.5H (110V)	
	Max. mowing area	24,281 m ² (6 acres)	
	Automatic path planning	Yes	
Smout Driving		Manual	
Smart Driving	Operation mode	Remote control	
		Automatic	



5.2 Description

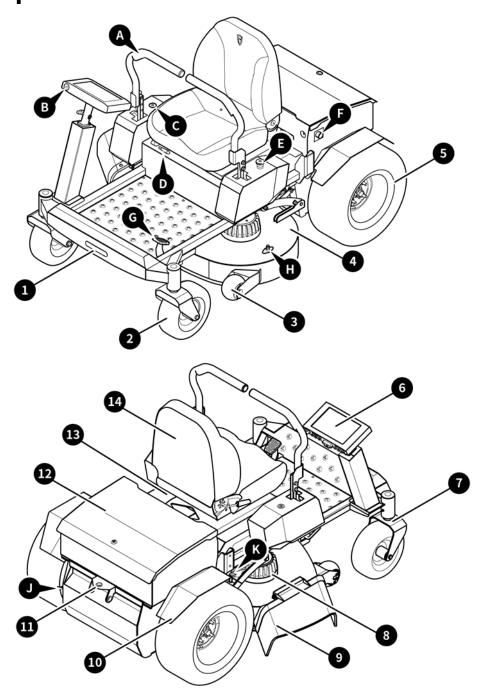


Figure 2. Description

Main controls and ports

ltem	Name	ltem	Name
А	Lap bar	В	Control terminal switch



Item	Name	ltem	Name
С	Start/stop button	D	Seat position adjustment lever
E	Emergency stop button	F	Charging port
G	Brake pedal	Н	Wash port
J	Lever to manually release the electromagnetic brake of the left drive motor	K	Lever to manually release the electromagnetic brake of the right drive motor

Main components

No.	Name	No.	Name
1	LED headlight	2	Front wheel
3	Anti-scalp wheel	4	Cutting deck
5	Rear wheel	6	Control terminal
7	Yoke	8	Blade motor
9	Discharge chute	10	Fender
11	Hitch point	12	Power unit
13	Chassis	14	Seat

5.3 Control Terminal

With the encrypted chip technology, the FJD mower cannot be operated unless you enter the password on the lock screen of the control terminal.



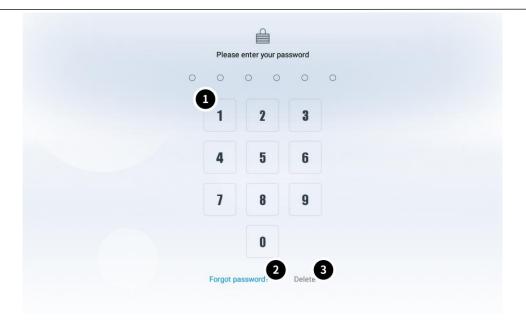


Figure 3. Lock screen of the control terminal

No.	Name	Function
1	Keypad	Enter the password 000000 to unlock the home screen.
2	Forgot password	Tap Forgot password to contact a local dealer for the admin password.
3	Delete	Tap Delete to undo wrong entry.

The control terminal features a simple and intuitive home screen design, using a model to display the real time status of the mower.

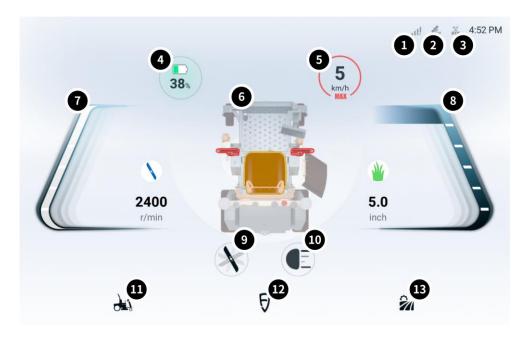


Figure 4. Home screen of the control terminal



No.	Name	Function
1	Mobile network signal	SIM card signal. It displays the cellular data communication of the autosteering system in real time.
2	GNSS signal	Satellite signal. It displays the status of connection to satellite navigation systems in real time.
3	RTK signal	Carrier phase differential signal. It displays the differential signal strength in real time. The mobile base station and network RTK modes are available.
4	Battery level	It displays the battery status of the mower, mainly the battery level. It will show the charging status during charging and give a prompt when the battery level is below 10%.
5	Max. driving speed	Current maximum permissible driving speed of the mower. Tap the button to adjust the speed.
6	Mower status	Current mower status. Operating mower components such as left and right lap bars, the seat, and the LED headlight will be highlighted.
7	Blade speed adjustment switch	When the blade is on, its speed (r/min) can be adjusted in six levels with the slider.
8	Deck height adjustment switch	The deck height (inch) can be adjusted in six levels with the slider.
9	Blade switch	Tap to turn on the blade, and a prompt will pop up for confirmation. While the blade is running, tap to stop the blade.
10	LED headlight switch	Tap to turn on or off the LED headlight.
11	Driving record	Record while the mower is running.
12	Settings	Go to the Settings screen.
13	Operation mode	Customize the blade operation mode depending on mowing scenarios.



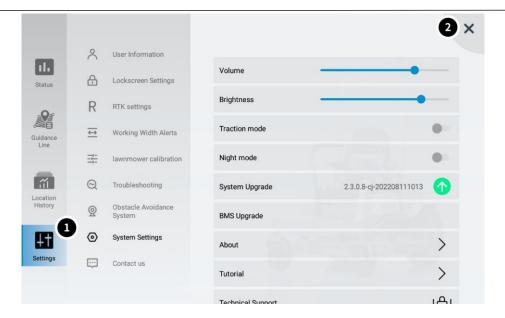


Figure 5. Settings screen of the control terminal

No.	Name	Function
1	Settings menu	Includes settings and real-time status.
2	Exit button	Tap to return to the home screen.

5.4 Lap Bars

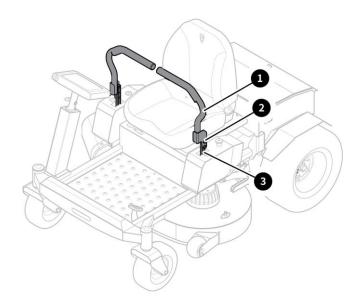


Figure 6. Left and right lap bars and structure

Use the left and right lap bars to control the driving speed and direction, stop the mower, and apply the parking brake.

The mower will not move, when the two lap bars are in the parking position.

No.	Name
1	Upper lever



2	Adjusting bolt
3	Lower lever

5.5 Speed Adjusting Bolts

Adjusting bolt **1** controls the maximum forward speed of the mower. To increase the speed, loosen the nut, rotate the bolt anticlockwise to screw it out a little bit, and tighten the nut.

Adjusting bolt **2** controls the maximum reverse speed of the mower. To increase the speed, loosen the nut, rotate the bolt anticlockwise to screw it out a little bit, and tighten the nut.

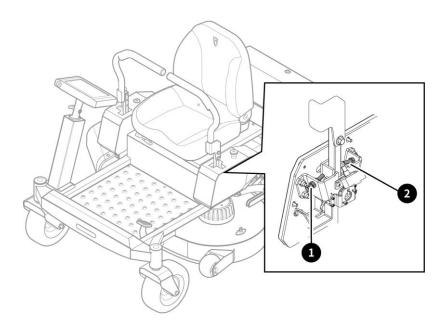


Figure 7. Speed adjusting bolts

No.	Name
1	Forward speed adjusting bolt (on both sides of the mower)
2	Reverse speed adjusting bolt (on both sides of the mower)

Note: The speeds are already set before delivery. Do not change them unless necessary.

5.6 Safety Start Interlock System

The mower comes with a safety start interlock system consisting of the parking brake switch, seat switch, control terminal, and blade motor switch. This system is designed to protect the operator and others from accidental injury due to unintentional mower starting. Check the system before operation and contact FJD immediately for repair in case of malfunction. The seat switch will stop the



mower and blade motors when the operator leaves the seat for whatever reason. This safety feature aims to prevent loss of control or accidents.



WARNING

Do not disconnect or bypass the safety start interlock system. Otherwise, the mower could operate unexpectedly, causing personal injury.

Testing:

- 1. With the lap bars in the parking position, sit down, press the start/stop button, turn on the control terminal, and enter the lock screen password. If there is no alarm, it means the safety start interlock system is functional.
 - Note: The operator must be seated while testing the seat switch.
- 2. Tap the blade switch on the screen to turn on the blade motors.
- 3. Slowly raise yourself off the seat, and the blades should stop.
 - Note: If the blades are still running after the operator is off the seat and the cause cannot be determined, contact a local dealer immediately.

5.7 LED Headlight

LED headlight • is located in the middle of the mower's head. Tap the LED headlight switch on the screen to turn on the light when operating at night or in dim light.

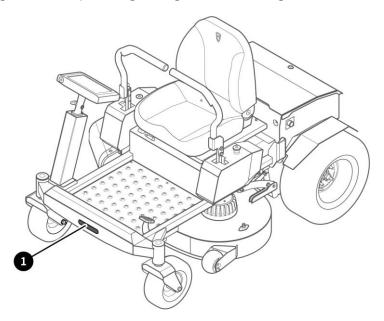


Figure 8. LED headlight



5.8 Anti-scalp Wheel

Anti-scalp wheel • comes standard on the FJD mower. They are designed to minimize scalping when mowing on rough and uneven terrain. After the cutting height is set, adjust the anti-scalp wheels so they extend below the deck but do not touch the ground. Always keep the anti-scalp wheels 20 mm (0.78 inches) below the blades. The anti-scalp wheels can be adjusted upward or downward as needed in the range of 20–70 mm (0.78–2.75 inches) below the blades after parking the mower on a level surface.

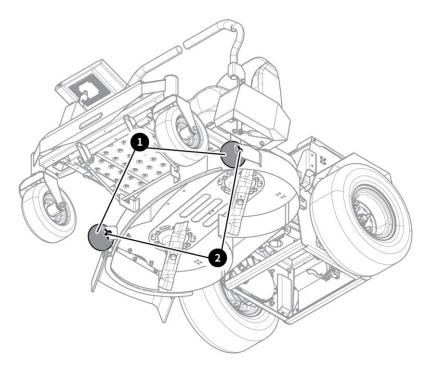


Figure 9. Anti-scalp wheels and axle mount holes

Move the wheels upward or downward by using the different axle mount holes **2** in the wheel mount bracket.

5.9 Manual Release of Electromagnetic Brakes

When a power failure occurs or the battery pack is depleted, you can release the electromagnetic brakes of drive motors manually so that you can push the mower out of the operation area. While the mower is running, ensure that the electromagnetic brakes are functional.



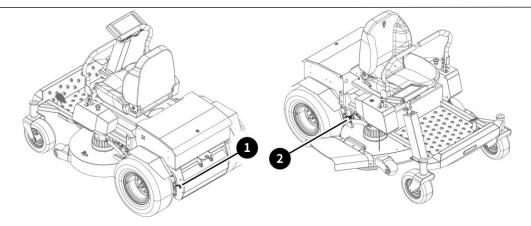


Figure 10. Manual release levers of brakes

No.	Name	
1	Lever to manually release the electromagnetic brake of the left drive motor	
2	Lever to manually release the electromagnetic brake of the right drive motor	

Rotate the levers **①** and **②** anticlockwise to release the electromagnetic brakes and clockwise to engage them.



Note: After maintenance, return the electromagnetic brakes to the engaged state.



WARNING

Do not operate the mower when the electromagnetic brakes are released. Ensure that the electromagnetic brakes are engaged before operation. Failure to do so could cause serious damage to the mower and void the warranty.



5.10 Towing

The mower provides a hitch point **1** in the rear for towing carts, sprinklers, or grass collectors. Do not tow a weight exceeding 68 kg (150 lbs).

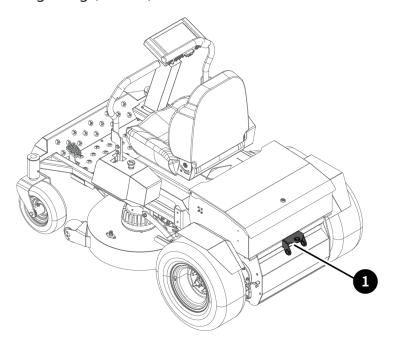


Figure 11. Hitch point



6 Assembly

6.1 Packing List

The actual packing list may vary.

No.	Name	Quantity
1	Mower body assembly	1
2	Seat assembly	1
3	Lap bar	2 (one on the left and one on the right)
4	Control terminal kit	1
5	Charger	1
6	Battery	3
7	Pole	1

6.2 Installing the Batteries

1. Unscrew the screws **1** and **2** and remove the battery compartment cover **3**.

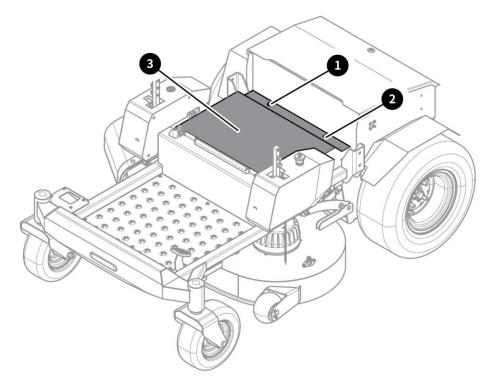


Figure 12. Remove the battery compartment cover

2. Place the batteries **3** in the battery compartment **5**, connect the battery harnesses **3**, and press the battery power switches **7**.



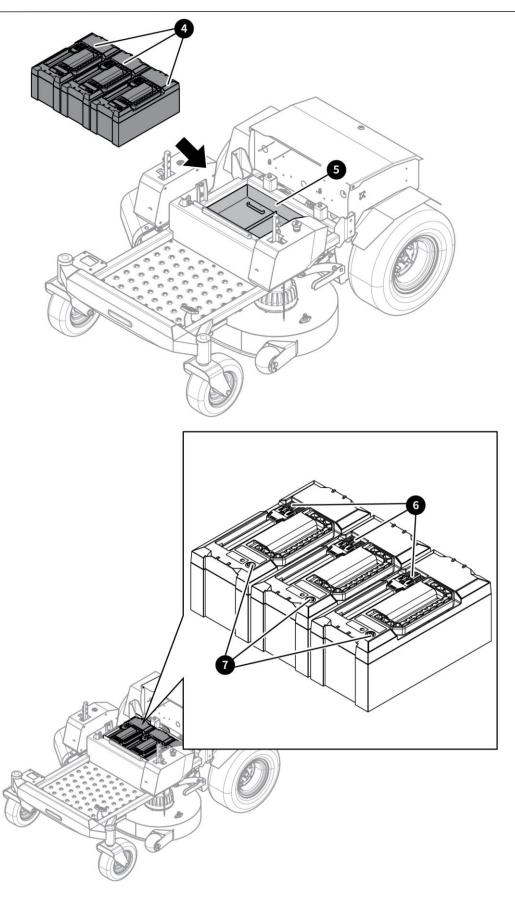


Figure 13.Install the batteries

3. Close and lock the battery compartment cover with a torque of 18–25 N·m.



6.3 Installing the Seat

Install the seat assembly on the mower frame and fasten the nuts **1** and **2** with a torque of 18–25 N·m. Then, connect the seat sensor harness **3** and put the seat back.

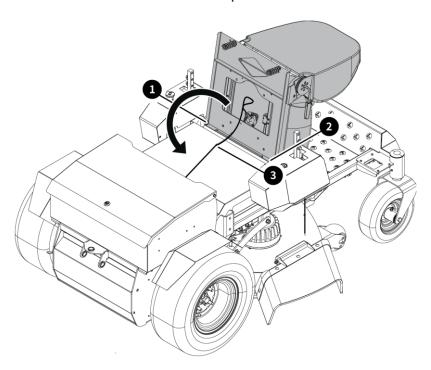


Figure 14.Install the seat

6.4 Installing the Lap Bars

Loosely attach the lap bars to the mounting poles, align the lap bars in the central position, and then tighten the nuts **1** and **2** with a torque of 35–45 N·m (25.8–33.1 lb-ft).

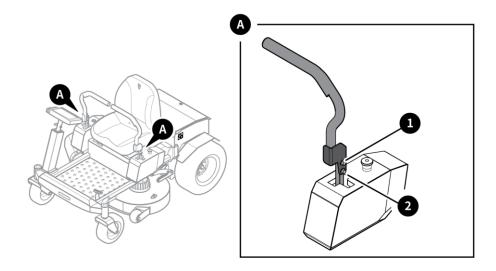


Figure 15.Install the lap bars

6.5 Installing the Control Terminal

1. Install the pole **①** on the mounting plate, and fasten the four screws **②** with a torque of 9–12

N·m.

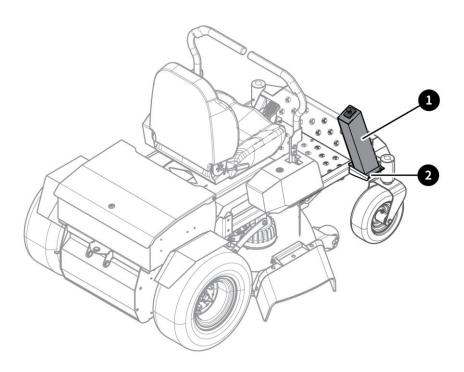


Figure 16.Install the pole on the mower body

2. Plug the ball head **3** of the control terminal mounting plate into the ball socket **4** of the support rod, and lock the handle **5**.

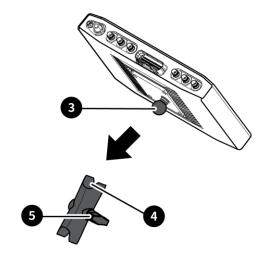


Figure 17.Install the support rod on the control terminal

- 3. Plug the ball socket **6** of the support rod of the control terminal onto the ball head **7** of the mounting plate on the pole.
- 4. Connect the main harness 3 to the corresponding port of the control terminal.



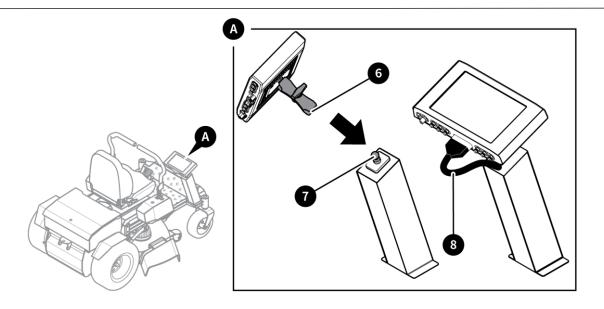


Figure 18.Install the control terminal on the pole



7 Operations

7.1 Safety Instructions



DANGER

Understand proper use of the mower and read this manual before any operations. Start with slow maneuvers to familiarize yourself with the mower operations before working at the normal speed. Inexperienced operators should not mow on slopes or uneven terrains.



WARNING

If you lose control of steering during an operation, immediately place the two lap bars in the parking position, and press the start/stop button. Ensure that the indicator is off, check the mower, and then contact the dealer for troubleshooting.



WARNING

The two lap bars of the mower are designed for sensitive response. To avoid abrupt movement of the mower, operate the lap bars slowly. With more practice, you can operate the mower skillfully. Use caution when making a turn, and decelerate before a sharp turn.

Inexperienced operators may oversteer or lose control of the mower. Therefore, you are advised to operate slowly for practice before working at the normal speed.



WARNING

Approach depressions or raised obstacles at a slow speed to avoid falling off the mower. When driving on wet turf, keep both driving wheels rolling in the same direction. Driving with one wheel stopped may damage the turf. Keep the blades sharp and ensure that spare blades are available for replacement. Dull blades and blades improperly sharpened may lead to various problems. For details about blade sharpening, see chapter 9 "Maintenance". Check blade sharpness every day.



DANGER

Power off the mower when you must work under it. To do that, tap the blade switch on the control terminal screen to stop the blades, place the lap bars in the parking position, press the start/stop button, and ensure that the indicator goes off. Wear gloves when handling the blades. Always check for blade damage if the mower hits a rock, a tree branch, or other foreign objects during an operation.





WARNING

Do not operate the mower when the discharge chute is not installed.

Mowing Lawns

When mowing a lawn for the first time, cut the grass slightly longer than normal to avoid scalping on uneven terrains. Use the cutting height that you have used before if possible. If the grass is taller than six inches, you may need to mow the lawn twice to achieve better mowing quality.

For normal mowing, cut approximately one third of the total grass height.

Alternate the mowing direction to keep the grass growing straight and even spreading of the grass clippings.

Keep in mind that the grass growth rate varies at different time of the year. Mow more often in early spring at the same cutting height, and mow less frequently in midsummer when the grass grows slower. If you cannot mow the lawn regularly, use a higher cutting height at first, and mow again at a lower cutting height after two days.

Increasing the Cutting Height

Increase the cutting height if the cutting width of the mower is wider than that of the previous mower. This ensures that uneven turf is not cut too short.

If the grass is slightly taller than normal, mow the lawn at a higher cutting height. Then, lower the cutting height and mow the lawn again. If you stop the mower's forward motion while mowing, a clump of grass clippings may drop onto your lawn. To avoid this, move the mower to a previously cut area with the blades engaged.

Charging the Batteries Immediately

When the battery level is between 5% and 10%, a low battery alarm is displayed on the control terminal. When the battery level is below 5%, the blades automatically stop, and you need to return the mower to the charging area immediately for charging.

Cooling Down the Motor

The motor slows down when its temperature exceeds the overheat protection threshold. When this occurs, wait for 30 to 60 minutes until the motor cools down. If the motor temperature continues increasing, the drive will forcibly stop the motor.



7.2 Powering On the Mower

- 1. Press the start/stop button to power on the mower. The indicator illuminates.
- 2. Turn on the control terminal. The screen illuminates.
- 3. Enter the password to unlock the control terminal.
 - Note: It is recommended that you always start an operation with a slow driving speed and blade speed.
- 4. Pull the two lap bars inward until they come into contact with the limits.
- 5. Press the blade switch on the control terminal screen to start the blades.
 - Note: Only start the blade motor when the lap bars are in the neutral position.
- 6. Push the lap bars forward to drive forward, and pull them backward to drive in reverse.
 - Note: The electromagnetic brake engages when the lap bars are placed back in the parking position.
 - Note: The mower is not suited for road traffic. Do not drive it on public roads. Use trucks to transport the mower.

7.3 Powering Off the Mower



DANGER

Do not suddenly stop the mower or reverse the direction, especially when working on a slope. Rapid movement of the lap bars in either direction may result in loss of control that can cause serious injuries.

- 1. Place the lap bars in the neutral position.
- 2. Turn off the blade switch on the control terminal screen to stop the blades.
- 3. Push the lap bars outward to the parking position.
- 4. Press the start/stop button to power off the mower.

7.4 Driving the Mower

After powering on the mower, engage the lap bars and steer the mower as follows:

To go forward	Push the two lap bars forward the same distance.
---------------	--



To go in reverse		Pull the two lap bars backward the same distance.	
To turn	Method 1	Push the right lap bar forward farther from the neutral position than the left lap bar.	
left Method 2		To make a left turn when driving forward, hold the right lap bar and pull back the left lap bar.	
Method 1 To turn		Push the left lap bar forward farther from the neutral position than the right lap bar.	
right Method 2	Method 2	To make a right turn when driving forward, hold the left lap bar and pull back the right lap bar.	
	right zero- us turn	Push the left lap bar forward while pulling back the right lap bar.	
To make a left zero- radius turn		Push the right lap bar forward while pulling back the left lap bar.	
To stop or decelerate the mower		Place the two lap bars in the parking position for parking. Slightly pull back the two lap bars when driving forward to decelerate. Slightly push forward the two lap bars when driving in reverse to decelerate.	
To make a right turn when driving in reverse		Pull back the left lap bar farther from the neutral position than the right lap bar.	
Method 1		Immediately place the lap bars in the parking position when driving forward or backward.	
emergenc y stop	Method 2	Press the emergency stop button to power off the drive system.	



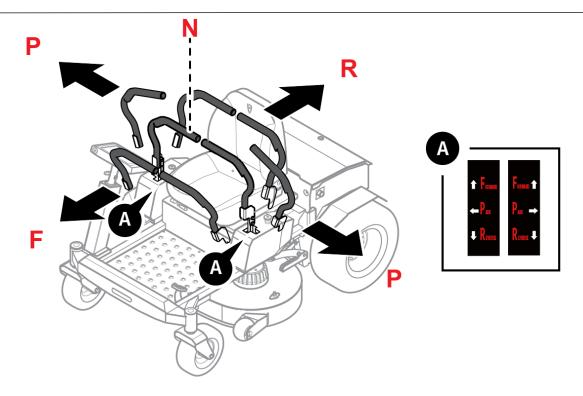


Figure 19.Lap bar positions

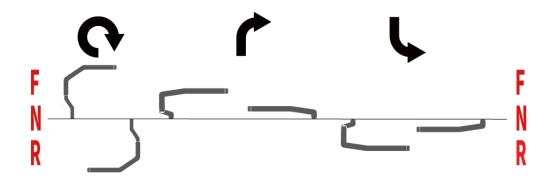


Figure 20. Right turn operations (the arrows indicate the movement directions)

Symbol	Name	
F	Forward position	
N	Neutral position	
R	Reverse position	
Р	Parking position	
	Left lap bar	
	Right lap bar	



A

WARNING

Always be aware of what is behind the mower before driving in reverse.

Always stop the mower before making a sharp turn.

Do not mow in reverse unless it is absolutely necessary. Always look back before and when driving in reverse.

NOTICE

Rapid movement of the lap bars should be avoided as the electrical system components may be damaged.

To accelerate the mower, increase the distance between the lap bars and the neutral position. The farther you push the lap bars from the neutral position, the faster the mower travels forward. The farther you pull the lap bars from the neutral position, the faster the mower travels backward.

7.5 Using the Cutting Deck

7.5.1 Precautions

- 1. When using the mower for the first time, select a flat ground, and mow the lawn slowly.
- 2. Select a work mode based on the size and shape of the lawn, taking trees, fences, buildings, and other obstacles into consideration.
- 3. The recommended grass height before mowing is 50–80 mm (1.97–3.15 inches). Do not cut more than 1/3 of the grass height or more than 25 mm (0.98 inches) once. When the grass is tall, raise the cutting deck and cut the grass multiple times to avoid poor discharge of grass clippings.
- 4. To make the lawn more beautiful, mow the lawn in the afternoon or evening when the humidity is lower.

7.5.2 Adjusting the Cutting Deck Height



DANGER

Do not adjust the blades after the mower is powered on. The mower blades cannot be seen and are located very close to the deck housing. Fingers and toes can be cut off instantly when



touching the blades.

The cutting deck height may be adjusted in a range of 30–127 mm (1.2–5 inches). During mowing, raise the cutting deck to prevent stumps, rocks, or other objects from damaging the cutting deck.

7.5.3 Cleaning the Cutting Deck



DANGER

Do not adjust the blades after the mower is powered on. The mower blades cannot be seen and are located very close to the deck housing. Fingers and toes can be cut off instantly when touching the blades.

Connect the water pipe to the wash port **①** of the cutting deck, and turn on the water tap and the blades.

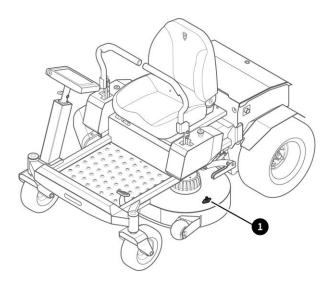


Figure 21. Wash port

7.6 Adjusting the Lap Bars



WARNING

If the mower is still operating when the left and right lap bars are in the parking position, contact the local dealer for adjustment.

Check the vertical distance (A) and horizontal distance (B) between the left and right lap bars in the neutral position. If the distance is out of the recommended range, adjust the lap bars.

Distance	Recommended Range	
А	0–3 mm (0–0.12 inches)	
В	40–50 mm (1.57–1.97 inches)	



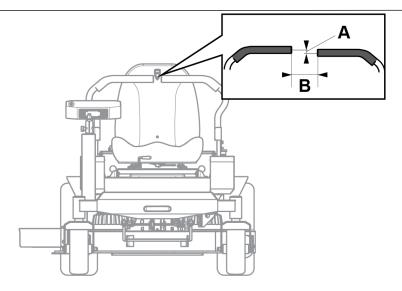


Figure 22. Distances between the left and right lap bars

Adjust the bolts **1** to ensure that the left and right lap bars have the same verticality.

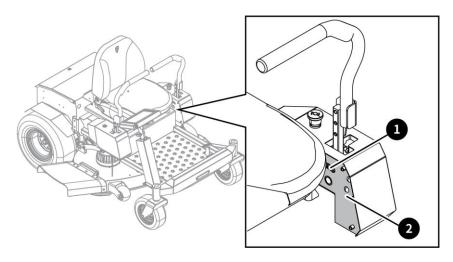


Figure 23. Adjust the verticality of the lap bar

No.	Name	
1	Bolt (on both sides)	
2	Lap bar mounting plate (on both sides)	

When the left and right lap bars are of the same verticality, adjust the lap bars forward and backward in the kidney-shaped holes ② through the bolts ①, so that the left and right lap bars are on the same plane.



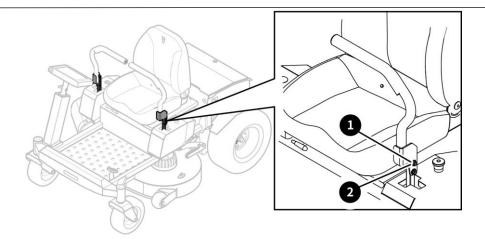


Figure 24. Adjust the lap bar forward and backward

No.	Name	
1	Bolt (on both sides)	
2	Kidney-shaped hole (on both sides)	

7.7 Adjusting the Seat

A

WARNING

Adjust the seat only after the mower is powered off. Ensure that the seat base is secured with bolts to prevent the seat from moving or tilting in the event of mower tipping or rollover.

Pull the seat position adjustment lever **①** rightward, and slide the seat forward or backward to the most comfortable position where you have the best control of the mower.

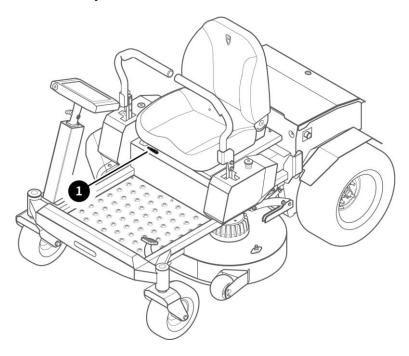


Figure 25. Seat position adjustment lever

The seat can be turned forward by 100 degrees, and the seat limit secures the seat.



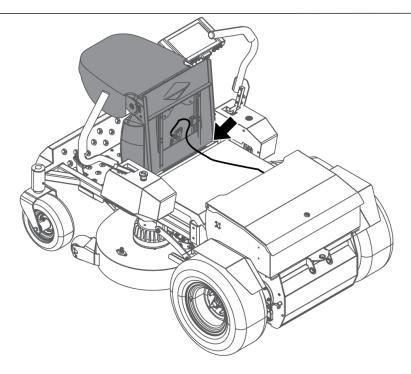


Figure 26. Turn over the seat

7.8 Installing, Disassembling, and Adjusting the Cutting Deck



WARNING

Before disassembling the cutting deck, ensure that the mower is powered off and the lap bars are in the parking position.

Disassemble the cutting deck on a flat ground, and ensure that the mower brake is engaged.

7.8.1 Installing the Cutting Deck

1. Put the cutting deck on the right side of the mower, and slide it under the mower chassis as shown in the figure below.



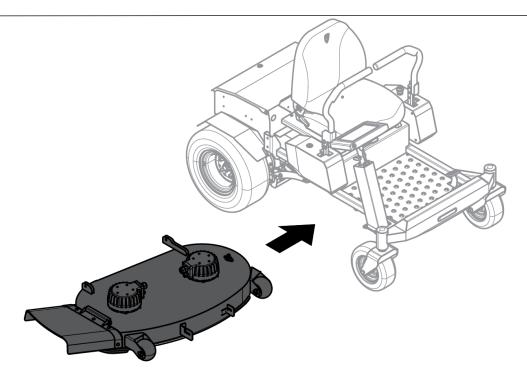


Figure 27. Slide the cutting deck under the mower chassis

2. Connect the rear bracket **②** of the cutting deck to the linkage rod **①** with the clevis pin **③** and the cotter pin **④**.

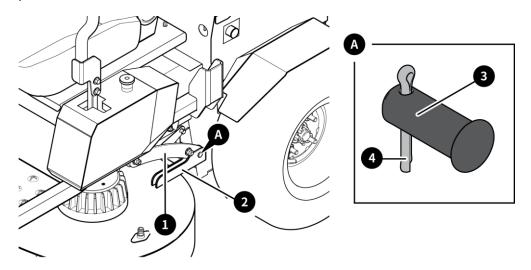


Figure 28. Rear connection of the cutting deck

No.	Name	
1	Linkage rod (on both sides)	
2	Rear cutting deck bracket (on both sides)	
3	Clevis pin (on both sides)	
4	Cotter pin (on both sides)	

3. Raise the cutting deck, and attach the adjustment lever **2** to the front bracket **1** of the cutting deck.



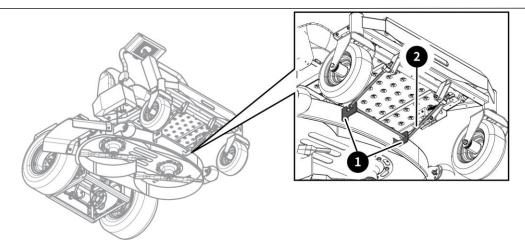


Figure 29. Front connection of the cutting deck

No.	Name	
1	Front cutting deck bracket	
2	Adjustment lever	

- 4. Connect the wire terminal of the blade motor to the drive wire terminal.
- 5. Adjust the levelness and height of the cutting deck, and tighten the fasteners to complete installation.

7.8.2 Adjusting the Levelness and Height of the Cutting Deck

After installing the cutting deck, check its levelness and height. If necessary, adjust the levelness and height of the cutting deck. When the cutting deck is not parallel to the ground, adjust the adjustment lever • and the rear rod •. Check the cutting deck height. When the cutting deck is in the lowest position, ensure that the vertical distance between the blade tip and the ground is 30 mm (1.2 inches).

Note: Before checking the cutting deck height, ensure that the tire pressure is at the specified level. If the tire pressure is abnormal, the deck cannot be adjusted to the correct cutting height.



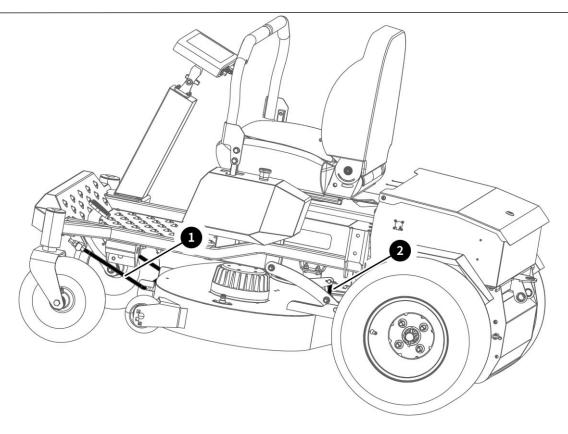


Figure 30. Adjust the levelness and height of the cutting deck

No.	Name	
1	Adjustment lever	
2	Rear rod (on both sides)	

7.8.3 Disassembling the Cutting Deck

To disassemble the cutting deck, reverse the foregoing steps.



WARNING

The cutting deck needs to be installed or disassembled by professionals with professional devices.

7.9 Slope Operation

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Note: Do not operate on a slope greater than 15°. Slopes are a major cause related to loss of control and tip-over accidents, which can result in severe injury or death. Operations on slopes require extra caution. If you feel uneasy to drive the mower on the slope, stop the operation.

• Pay extra caution when operating on a slope.



- Be very careful when making a turn on a slope.
- Drive slowly on a slope.
- Do not operate on the ground where the mower may slide or tilt.
- · Make a turn slowly.
- For maximum traction, keep the front of the mower uphill.
- The loss of traction of the driving wheels may cause loss of steering control, which may result in severe injury or death.
- Drive slowly when turning downhill.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain may overturn the mower.
- Note that tall grass can hide obstacles.
- Clean rocks, tree branches, and other obstacles.
- Move slowly and gradually on a slope. Do not make sudden changes in speed or direction.
- Do not power on or off the mower on a slope. If the wheels lose traction, turn off the blade motor and drive slowly straight down the slope.
- During mowing, keep a safe distance (minimum of 3,050 mm or 120 inches) away from drainage ditches, retaining walls, embankments, water, and other types of hazards to avoid a wheel dropping over the edge or the ground breaking away. This will reduce the risk of the mower suddenly rolling over, which could cause either serious injury or death.
- Use a walk-behind push mower or a handheld trimmer on slopes and near drainage ditches,
 retaining walls, embankments, and water to avoid rollover of the mower.
- Do not mow on wet lawns. Reduced traction may cause sliding and loss of steering control.
- Do not tow on slopes. The weight of the towed equipment may cause loss of traction and control.
- If the mower tires lose traction when operating on slopes, turn off the blade motor, place the left and right lap bars in the parking position, and press the start/stop button. Ensure that the indicator is off, and get help.
- Do not make sudden starts, stops, and turns, or suddenly reverse the direction, especially when mowing on slopes.



 The FJD mower can operate on moderate slopes horizontally (transversely). When operating on slopes up to 15 degrees, be aware of any condition that may cause the driving tires to lose traction, resulting in loss of control of the mower. Do not operate on a slope until you are thoroughly familiar with the equipment.

Do not operate on slopes greater than 15 degrees.

Drive the mower off the slope with extreme caution if any sign of traction loss is detected. Operate on the slope again after the problem is resolved. Terrain conditions can affect traction, resulting in loss of control of the mower. Some of the conditions to be aware of are:

- · Wet terrain
- Depressions in the ground, such as holes, ruts, and washouts
- Mounds of dirt
- Certain types of soil, such as sand, loose dirt, gravel, and clay
- · Grass type, density, and height
- · Extremely dry conditions
- Tire pressure

These are only some examples requiring extra caution when you operate on slopes. There are many other possible conditions that cannot be all listed here. Be extremely careful when operating on slopes.

7.10 Slope Guide

Use the following diagram (for reference only) when determining the degree of a slope to be mowed.



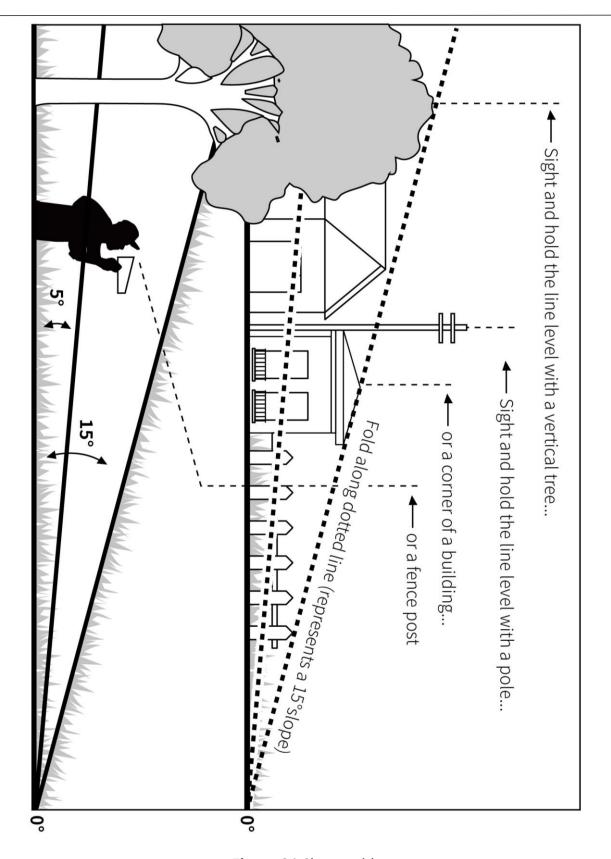


Figure 31. Slope guide



8 Electrical System Safety

- Before operating the electrical system, press the start/stop button to power off the mower and disconnect the lithium-ion batteries. Read the user manual before adjusting or repairing any components.
- During transportation, ensure that the start/stop button is pressed to power off the mower and the lithium-ion batteries are disconnected.
- Keep the power unit free of grass clippings, leaves, and other debris. Do not clean the power unit with water.
- When operating near the lithium-ion batteries, wear safety glasses and protective gears, and use insulated tools.
- Do not use solvents, hard cleaners, or abrasives to clean dirt or clippings off the battery compartment, the power unit, the cutting deck, and the seat.
- Keep a distance from bystanders when starting or stopping the blades.

8.1 Battery Charging Port

The battery charging port **①** is on the left housing of the mower.

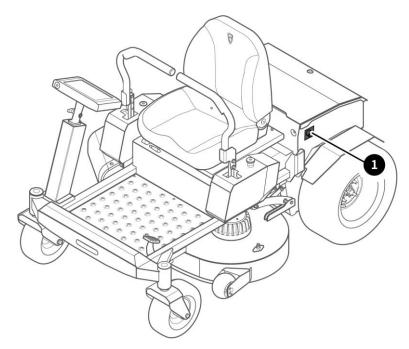


Figure 32. Battery charging port

8.2 Battery Charger

The FJD mower is provided with a battery charger approved by FJDynamics. Do not charge the



batteries with a charger not designed for this product.

8.3 Charging the Lithium-ion Batteries

- 1. Press the start/stop button to power off the mower, and ensure that the indicator is off and the mower comes to a complete stop.
- 2. Remove the dust cap from the battery charging port of the mower, and plug the charger into the port.
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Note: The plug will only fit one way into the port. Ensure that it is properly aligned before plugging.

3. Plug the other end of the charger into a 110 V/15 A or 220 V/10 A power socket.



DANGER

Do not adjust the blades after the blade motor is started. The mower blades cannot be seen and are located very close to the deck housing. Fingers and toes can be cut off instantly when touching the blades.

4. It takes five to seven hours to fully charge the batteries with 220 V mains, and seven to nine hours with 110 V mains. Remove the charger from the charging port after the batteries are fully charged.

Remove the charger after the batteries are fully charged to avoid affecting the battery life and battery lifespan.

5. Cover the battery charging port with the dust cap and start operating the mower.

Charging suggestions:

- Each lithium-ion battery includes a battery management system (BMS), and therefore, does not need to be fully discharged before recharging.
- Batteries left uncharged will slowly discharge. Ensure that the mower batteries are fully charged before using the mower for the first time after a long period of storage.
- Fully charge the batteries every 30 days to maintain the battery lifespan when storing the mower for a long period of time. Do not charge the batteries for too long.
- During charging, ensure that the charger cooling fan inlet and outlet are not blocked.





Reference: Read and understand all the safety warnings and instructions. Failure to follow these suggestions may result in electrical shock or serious injury.

8.4 Disassembling the Lithium-ion Batteries

- 1. Turn over the seat to the limit.
- 2. Disconnect the seat sensor harness, loosen the two bolts on the battery compartment cover with a wrench, and remove the battery compartment cover.
- 3. Ensure that all batteries are turned off, that is, the battery power switches are in the pop-up position.
- 4. Disconnect all the battery harnesses.
- 5. Take all batteries out of the battery compartment at an angle of 25 degrees.



WARNING

Do not take apart the batteries. Exposure of the inner structure can damage the battery and cause personal injury.



WARNING

Before maintaining the mower, press the start/stop button to power off the mower, and ensure that the lithium-ion batteries are disconnected.

8.5 Installing the Lithium-ion Batteries

- 1. Put the batteries into the battery compartment under the seat.
- 2. Connect the battery harnesses.
- 3. Press the battery power switches to turn on all the batteries.
- 4. Close the battery compartment cover, and use a wrench to tighten the screws with a torque of 18–25 N·m.
- 5. Connect the seat sensor harness, and put the seat back.



WARNING

Do not take apart the batteries. Exposure of the inner structure can damage the battery and cause personal injury.



8.6 Faults

When a fault is detected, the control system takes measures to protect the user and the mower. While powering off the mower or a component, the control system displays the fault on the control terminal. Most faults can be quickly rectified by noting the causes, restarting the mower (pressing the start/stop button), and changing the way that the operator uses the mower. Refer to the following table for the faults that may occur during operations. If a fault persists, it needs to be resolved by a trained professional using a more detailed solution.

Fault Description		
Battery charging undertemperature protection	Battery charging overtemperature protection	Battery discharging overcurrent protection
Battery undervoltage protection	Single-cell undervoltage protection	Battery charging overcurrent protection
Battery overvoltage protection	Single-cell overvoltage protection	Battery discharging undertemperature protection
Battery discharging overtemperature protection	Battery ambient undertemperature protection	Battery ambient overtemperature protection
Battery overtemperature protection	Low battery level protection	Battery voltage sampling fault
Battery short-circuit protection	Battery temperature sampling fault	Battery charging undertemperature alarm
Battery charging overtemperature alarm	Battery discharging overcurrent alarm	Battery undervoltage alarm
Single-cell undervoltage alarm	Battery charging overcurrent alarm	Battery overvoltage alarm
Single-cell overvoltage alarm	Battery discharging undertemperature alarm	Battery discharging overtemperature alarm
Battery ambient undertemperature alarm	Battery ambient overtemperature alarm	Battery overtemperature alarm
Low battery level alarm	Battery software communication fault	Left drive motor and controller mismatch
Left drive motor overvoltage protection	Left drive motor undervoltage protection	Left drive motor communication fault
Left drive motor locked-rotor protection	Abnormal left drive motor voltage	Left drive motor overtemperature protection



Fault Description		
Left drive motor resetting	Left drive motor Hall sensor fault	Right drive motor and controller mismatch
Right drive motor overvoltage protection	Right drive motor undervoltage protection	Right drive motor communication fault
Right drive motor locked-rotor protection	Abnormal right drive motor voltage	Right drive motor overtemperature protection
Right drive motor resetting	Right drive motor Hall sensor fault	Left blade motor and controller mismatch
Left blade motor overvoltage protection	Left blade motor undervoltage protection	Left blade motor communication fault
Left blade motor locked-rotor protection	Abnormal left blade motor voltage	Left blade motor overtemperature protection
Left blade motor resetting	Left blade motor Hall sensor fault	Right blade motor and controller mismatch
Right blade motor overvoltage protection	Right blade motor undervoltage protection	Right blade motor communication fault
Right blade motor locked-rotor protection	Abnormal right blade motor voltage	Right blade motor overtemperature protection
Right blade motor resetting	Right blade motor Hall sensor fault	VCU communication timeout
VCU left lap bar sensor fault	VCU right lap bar sensor fault	VCU deck lifting/descending sensor fault
VCU lap bar not identified	VCU deck not identified	ECU communication timeout
VCU left blade motor communication timeout	VCU right blade motor communication timeout	VCU left drive motor communication timeout
VCU right drive motor communication timeout	VCU drive motor stall protection	BMS communication timeout
VCU deck lifting timeout	VCU deck descending timeout	



9 Maintenance

Maintenance Service Interval	Maintenance Procedure
	 Inspect the safety-interlock system.
	 Visually check whether the tires are flat.
	 Inspect the blades.
Daily or before each use	 Inspect the entire mower for damaged,
	missing, or loose parts, such as the discharge
	chute, screws, nuts, and bolts, ensuring that all
	protections are in place and working properly.
After each use	Clean the blades.
Every 25 hours	Check the tire pressure.
5	• Check the rear wheels, ensuring that the nuts
Every 100 hours	are fastened at the recommended torque.
5	Check the front wheels, ensuring that they can
Every 200 hours	turn freely.
Every 500 hours	Change the drive axle reducer oil.
	Fully charge the mower.
	Perform all maintenance procedures listed
Poforo storago	above and thoroughly clean the mower.
Before storage	 Inspect the entire mower for damaged,
	missing, or loose parts, and replace or tighten the
	corresponding ones before storage.
	 Inspect the parking brake system. Place the lap
	bars in the parking position. After powering off
Appually	the mower, push the mower to check whether it
Annually	can be moved. If the mower can be moved,
	contact the local dealer.
	 Add grease to the grease nipple.

9.1 Regular Maintenance

Regular maintenance is the best prevention. The following sections provide proper maintenance suggestions and schedules that the operators should follow. Remain alert to unusual noises, as they could be signaling a problem. Visually inspect the mower for any abnormal wear or damage. When performing scheduled maintenance service, you can also detect potential problems. Inspect the mower daily for grass clippings, and wire and string tangles. Grass clippings and dirt may accumulate under the cutting deck, especially when the grass is wet or has high moisture content.



The accumulated grass clippings and dirt will harden, restricting blade rotation, and will probably result in poorer cutting quality. Therefore, the grass clippings and dirt should be removed routinely. To remove them, raise the cutting deck to the full up position with jack stands or blocks, and scrape the grass clippings and dirt from underneath.

9.2 Tires and Wheels

9.2.1 Tires

The tire pressure must comply with the requirements of this manual. High tire pressure could lead to tire burst, especially the front tires, resulting in injuries or even death. Inflating the tires with compressed air will lead to a sharp increase in tire pressure. Specialized skills and tools are required for tire repair. Contact the dealer for replacement or repair of tires, inner tubes, and rims.



WARNING

It is important to use the specified tires.

Tire Pressure

Although the tire pressure has been preset to the specified value, it gradually decreases with time. Check the tire pressure and inflate the tires as needed based on the tire appearance as follows.

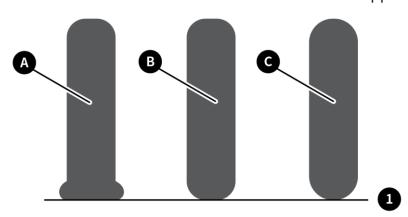


Figure 33. Tires in different tire pressures

Item	Description
1	Ground
А	Low
В	Normal
С	High



Standard tire pressure

Tire	Specifications	Pressure
Front	10 × 4–6 inches	42 PSI
Rear	20 × 8–10 inches	22 PSI

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Note: Inspect the tires on a daily basis and replace the damaged tires immediately.



WARNING

Do not use the mower when the wheel and axle bolts are loose. Ensure that the bolts are tightened.

9.2.2 Wheels

Tighten the bolt **①** with a torque of 80–90 N⋅m after replacing the wheel, drive the mower for about 200 m, and then check the torque again.

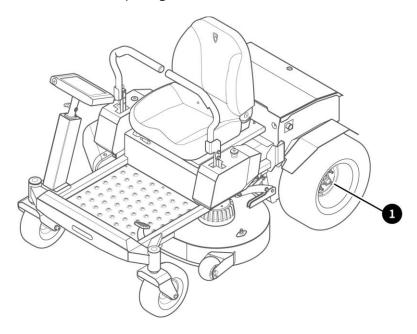


Figure 34. Rear wheel bolt

Bolt torque: 80-90 N·m (59-66 lb-ft)

Removing the Front Wheel

- 1. Park the mower on a flat ground.
- 2. Place the lap bars in the parking position, press the start/stop button and press the emergency stop button to power off the mower.



- 3. Lift the forepart of the mower properly with dedicated tools.
- 4. Remove the locknut **1** and pull out the front wheel bolt **2**.
- 5. Remove the front wheel from the yoke 3.

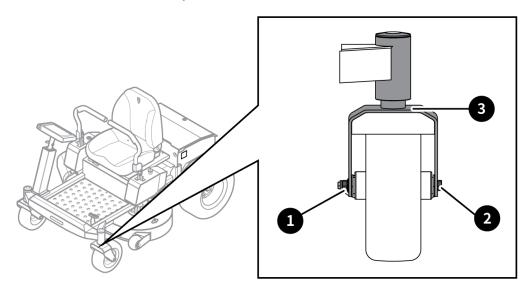


Figure 35. Remove the front wheel

No.	Name
1	Locknut
2	Front wheel bolt
3	Yoke

Installing the Front Wheel

- 1. Place the front wheel in the correct position.
- 2. Insert the front wheel bolt **2** and mount the locknut **1**.
- 3. Tighten the locknut with the required torque.

Tightening torque of the front wheel: 80–90 N·m (59–66 lb-ft)

NOTICE

Insert the front wheel bolt from the external side of the yoke. Gradually tighten the locknut until there is no gap between it and the front wheel bearing and the front wheel can be turned by hand.



9.2.3 Filling the Lubricating Grease

Inject the lubricating grease into the grease nipple **①**.

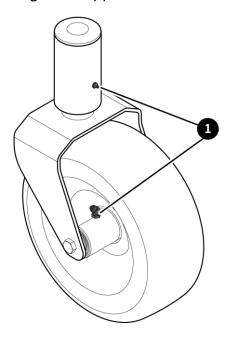


Figure 36. Fill the lubricating grease

No.	Name
1	Grease nipple (on both sides)

9.3 Drive Axle Reducer Oil Maintenance

Recommended oil maintenance period: 500 h or 6000 km; oil: SAE85W-140; oil capacity: 400 ± 20 ml.

- 1. Unscrew the drain plug **1** to drain the oil.
- 2. Tighten the drain plug with a torque of 5-7 N·m.
- 3. Unscrew the oil cap **2** and fill oil.
- 4. Tighten the oil cap with a torque of 3-5 N·m.



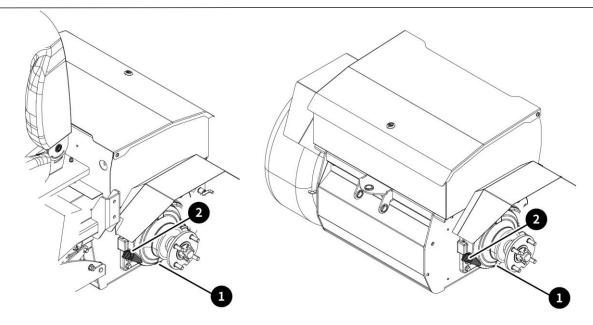


Figure 37. Drive axle reducer oil maintenance

9.4 Mower Blade Maintenance

Inspect the blades on a daily basis. Blades are the key to mowing efficiency and quality. Keep the blades sharp, because a dull blade will tear rather than cut the grass and increase the power consumption. Replace any bent, cracked, or damaged blades immediately.



WARNING

Do not try to straighten a blade by heating or weld a cracked or broken blade.



WARNING

Press the start/stop button to power off the mower, ensure that the motor is turned off, and disconnect the battery cables. Always wear gloves to work on the blades. Check whether the blades are damaged whenever the mower hits rocks, branches, or other foreign objects.

9.4.1 Inspection

The blades must be sharp. In the case of shown in the figure below, sharpen the blade. In the case of replace the blade. Check whether the blade bolts are loose and tighten the loose bolts with the specified torque if necessary.



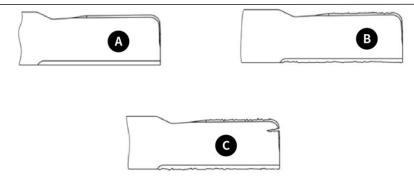


Figure 38. Blade states

Item	State
Α	New
В	Worn
С	Cracked



WARNING

It is important to wear protective eyewear when grinding and polishing mower blades.

9.4.2 Replacing Mower Blades

- 1. Press the emergency stop button and the start/stop button to power off the mower, and ensure that all batteries are powered off with all indicators off.
- 2. Dismount the cutting deck with its bottom facing up.
- 3. Place a wooden block 2 between the cutting deck and the blade to retain the blade.
- 4. Put on leather gloves and loosen the bolt **1** with a 15/16" wrench.
- 5. Turn the bolt **1** counterclockwise to loosen it and clockwise to tighten it.

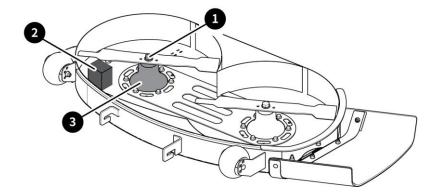


Figure 39. Remove a mower blade



No.	Name
1	Bolt
2	Wooden block
3	Blade holder

When mounting a new blade, make its edge face the ground.

Place the disc spring ② between the blade ③ and the bolt ①, as shown in the figure below. Tighten the bolt ① with a torque of 160–200 N·m (118–147 lb-ft).

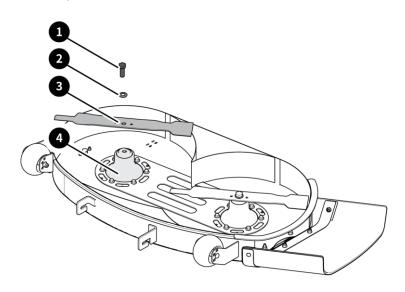


Figure 40. Mount a mower blade

No.	Name
1	Bolt
2	Disc spring
3	Blade
4	Blade holder

9.4.3 Torque



WARNING

Tighten the wheel bolts and the blade bolts, otherwise, the wheels or blades may be lost, resulting in serious machine damage or personal injury.

The torque values are as follows:



Part	lb-ft	N•m
Rear wheel bolt	59–66	80–90
Blade bolt	118–147	160–200

It is recommended to check the wheel bolts after the first 2 hours of operation, and then every 100 hours, and repair or replace them in time.

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Note: Check the blade balance. Buy a balancing tool in a hardware supply store, or test the blade balance by placing the blade on an inverted line punch or a 1/2" bolt. The blade should not lean or tilt. Spin the blade slowly, and the blade should not wobble. If the blade is out of balance, true it up before reinstalling it. Place the blade on a flat surface to check whether it is distorted. If distorted, replace it in time.



WARNING

To ensure proper cutting, the curved part of the blade must point upward towards the inner side of the cutting deck.



WARNING

After mounting blades, rotate them to ensure that the blade tips do not touch each other or the underside of the cutting deck.



WARNING

If you fail to torque the bolts correctly, the blades may be lost, resulting in serious injury.



WARNING

Before operating the mower, ensure that the seat base is bolted securely to prevent the seat from moving or tilting when the mower tips over or rolls.

9.5 Cleaning the Mower

Cleaning with Water

Pressure washer is not recommended, because it may result in a broken, damaged, and faulty machine. To avoid machine damage, adjust the nozzle spray pattern to reduce pressure of the water jets and flush the mower from at least 2 m away. Wash the mower with solid jet or within a close range can cause the following hazards:

1. Damage or disconnection of electrical wiring, which may cause fires;



- 2. Damage of tires, oil seals, and other rubber and resin parts;
- 3. Film peeling on the coating surface;
- 4. Battery damage.



WARNING

While using the pressure washer, avoid water splashing on the batteries.

Cleaning the Cutting Deck

Clean the cutting deck (especially the underside) carefully after each use, because grass clippings, leaves, dirt, and other debris accumulate at the underside of the cutting deck, causing rust and corrosion. Power off the mower before cleaning the cutting deck. Keep the mower from water source while cleaning the grass clippings and leaves accumulated on or around the motor cover, which can be cleaned off by wiping with a dry cloth. If debris accumulates on the underside of the cutting deck during mowing, turn off the blades, power off the mower, and scrape the cutting deck clean with a proper tool.

If the mower is used in harsh environments, such as wet lawn and low mowing height, it is recommended to remove and clean the cutting deck, and check the blades and fastening bolts when necessary.

9.6 Storing the Mower

If the mower is not used for a long time, perform the following steps to prepare the mower for storage.

- Clean the mower as described in the previous section.
- Inspect the blades, and replace or grind them when necessary (refer to chapter 9 "Maintenance").
- Store the mower in a dry and clean place. Do not store it next to fertilizer, rock salt, and other corrosive materials.
- Store the mower in a cool and dry place indoors, out of the reach of children. Do not cover the mower with a plastic cloth, as it traps moisture around the mower, causing rust and corrosion.
- Check the mower thoroughly for any worn or damaged parts and order the replacement parts from the dealer.
- Lubricate the machine thoroughly as instructed.



- Fully charge the batteries and maintain them when necessary.
- Ensure that the tire pressure is higher than normal to prevent air leakage.
- Store the mower in a well-ventilated, clean, and dry place, because the battery charger cannot be
 used in a humid environment. Connect the battery charger to the charging port.
- Keep the batteries fully charged. Prevent battery damages at a temperature below 0°C (32°F).
- Plug the charger into the correct port. For details on using the charger and charging batteries,
 refer to sections "Battery Charger", "Charging the Lithium-ion Batteries", and "Charging suggestions" in chapter 8 "Electrical System Safety".
- For details on maintaining the batteries, refer to section "Battery Maintenance" in this manual.
- To maximize the battery lifespan, fully charge the batteries immediately after each use.

9.7 Before Using a Mower in Storage

Follow the procedure below before using a mower in storage:

- Clean the mower, and remove the trash and dirt.
- Tighten all loose bolts, and ensure that all pins are in place.
- Mount all safety shields and covers, and check whether the safety precautions in this manual are followed.
- Inflate the front tires to 42 PSI and the rear tires to 22 PSI.
- Connect the charger harness to the charging port to fully charge the batteries in accordance with section "Charging the Lithium-ion Batteries" in chapter 8 "Electrical System Safety".



WARNING

Before operating the mower, always ensure that the seat base is bolted securely to prevent the seat from moving or tilting when the mower tips over or rolls.

9.8 Battery Maintenance



WARNING

The batteries can only be replaced with batteries designated by FJD. Any other parts may cause hazards or product damages.



WARNING



Do not smoke while maintaining the batteries.



WARNING

Wear protective eyewear and clothing, and use insulated tools when maintaining batteries.



WARNING

Do not clean the charger with compressed dry air. If there are no other alternatives, always wear protective eyewear or protective eyewear with side shields. A dust mask is also required in a dusty environment.

Your FJD mower is powered by lithium-ion batteries. If maintained properly, the batteries will provide years of useful life. Maintain the batteries as instructed below:

 Charge batteries after each use, regardless of the remaining battery power. When the mower is not in use, power off the mower in time to reduce power consumption.



WARNING

Do not use battery chargers other than those specified by FJD. Improper charging will void your warranty, and may cause equipment damage, serious injury, or death.

- During each battery maintenance, check whether the battery cables are securely connected to batteries.
- Ensure that grass, dirt, and debris are not accumulated near battery terminals.
- Do not keep batteries discharged for a long time after undervoltage protection, otherwise it will cause battery damage.
- Charge batteries in a well-ventilated and dry place indoors away from sparks or airflow. Keep the charger away from rain, vapor, or other liquids.
- Charge FJD batteries with the recommended charger.
- Do not touch the uninsulated portion of the charger (terminal pins) or the output connector.
- Replace any defective wires immediately.

To prolong the service life of the batteries and keep them in good conditions, maintain the batteries as instructed below.

Do not use the battery pack when it is fully discharged and powered off. Over-discharge may



shorten the battery lifespan and result in permanent battery damage.

- When the battery pack is fully discharged and powered off, it is recommended to charge it within 24 hours even for 5 to 10 minutes.
- Before connecting batteries, whether these batteries have been used separately and are
 reconnected or these batteries are connected and mounted in the mower for the first time, fully
 charge each battery to ensure that voltage difference between the batteries is within a proper
 range during connection. After connection, fully charge each battery as soon as possible to reduce
 the voltage difference and charging and discharging current between the batteries.
- Before connecting batteries, ensure that each battery has the same battery level (voltage),
 otherwise the large charging and discharging current may cause damage to the batteries.
- If the batteries are not used for a long time (for days or weeks), press the start/stop button to reduce the power consumption in the standby mode and prolong the storage time of the batteries.
- Ensure that the battery level is at least 50% before long-term storage and recharge the batteries every three months during storage to maintain battery health.
- The recommended storage temperature is 25°C (77°F). It is recommended to store the batteries for no more than one month at -20°C to 45°C (-4°F to 113°F), and no more than six months at 0°C to 35°C (32°F to 95°F);
- The optimum charging temperature of the batteries is 0°C to 40°C (32°F to 104°F), and the optimum discharging temperature is -15°C to 50°C (5°F to 122°F).
- Avoid violent vibration during the use and storage of batteries.

9.9 Precautions for Maintenance

Park the mower on the level ground. Ensure that the lap bars are in the parking position, and that
the blade switch is turned off. Raise the cutting deck and press the start/stop button to power off
the mower.

NOTICE

Wait for all movement to stop before adjusting, cleaning, or servicing the mower. Servicing or maintenance requiring electrical power should be performed by trained maintenance personnel only. Read and follow the safety precautions in this manual.

 Any maintenance requiring the removal of safety shields must be performed by a trained service technician.



- Before inspecting the underside of the cutting deck, press the start/stop button to power off the mower, and ensure that the indicator is off and the blade switch cannot be accidentally turned on.
- Clean the underside of the cutting deck with a stick or similar tool, and ensure that no part of the body is close to the cutting deck.
- Keep the battery compartment, cutting deck, and operator position clean of trash, grass clippings, and other debris.
- Keep the battery compartment, electric cabinet, cutting deck, and seat clean of dirt and debris.
 Do not use water, solvents, hard cleaners, or abrasives.
- Always wear protective eyewear when maintaining batteries, grinding mower blades, and cleaning
 off accumulated debris. When the traction drive system is running, never attempt to make any
 adjustment or servicing to the drive system, cutting deck, or any attachment of the mower.
- Do not work under the mower or its attachment unless it is safely supported with jack stands.

 Ensure that the mower is secure when it is raised and placed on the jack stands.
- Do not touch the hot parts of the mower.
- Tighten the nuts and bolts, especially the blade bolts. Keep the equipment in good working conditions.
- Do not damage the safety devices. Check whether they are functioning normally on a regular basis.
- Do not clean the cutting deck while the mower is running. Press the start/stop button to power
 off the mower and ensure that the blades have stopped before cleaning the cutting deck. Clean
 the discharge area with a stick if it is blocked. Never use your hands.
- Take care when inspecting the underside of the cutting deck as the blades are extremely sharp.
 Wear gloves and take extra care during servicing.
- Use only genuine FJD mower parts to ensure that original standards are maintained.
- Always disconnect the batteries when transporting the mower. Keep it free of grass clippings, leaves, and other debris.



10 Environmentally Safe Battery Disposal

The batteries of this mower contain the following toxic and corrosive material: lithium-ion.



WARNING

All toxic materials must be disposed of in a specified manner to prevent environmental contamination. Before disposing of damaged or worn-out lithium-ion battery packs, contact the local waste disposal agency or Environmental Protection Agency office for information and specific instructions. Send the batteries back to a local recycler certified for lithium-ion disposal.

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WARNING

If the battery pack breaks, with or without leaks, do not recharge or use it. Discard the broken battery pack and replace it with a new one. Do not attempt to repair it. To avoid injury, explosion, electric shock, and environmental contamination, cover the battery terminals with insulated rubber tape.

- Do not attempt to remove or destroy any battery pack components.
- Do not attempt to open the battery pack.
- The electrolytes released after battery leakage are corrosive and toxic. Do not discharge the solution into the river, and avoid skin contact or swallowing.
- Do not mix these batteries with your household trash.
- Do not incinerate these batteries.
- Do not discard them in any place that will become a landfill.



11 Troubleshooting

11.1 Cutting Deck

Contact your local dealer if you have any doubt.

Problem	Cause	Solution
The mower does not discharge clippings properly.	The grass is wet.	Mow the grass after it dries.
	The grass is tall.	Raise the cutting height, and mow the grass twice.
	The cutting height is low.	Raise the cutting height.
	The driving speed is high.	Slow down the driving speed.
	The driving speed is high.	Slow down the driving speed.
There are grass or debris remaining on the ground after mowing.	The grass is tall.	Raise the cutting height, and mow the grass twice.
	The blades are worn or damaged.	Replace the blades.
	The grass builds up within the cutting deck.	Clean the inner side of the cutting deck.
	The driving speed is high.	Slow down the driving speed.
The mower cuts unevenly.	The blades are dull.	Sharpen the blades.
	The blades are bent.	Replace the blades.
	The cutting deck is not leveled.	Level the deck as instructed in the section "Adjusting the Levelness and Height of the



Problem	Cause	Solution
		Cutting Deck".
	The blades are worn.	Replace the blades.
	The anti-scalp wheels are set incorrectly.	Adjust the height of the anti- scalp wheels.
	The tire pressure is low.	Inflate the tires to the normal pressure.
	The cutting height is low.	Raise the cutting height.
	The turning speed is high.	Slow down the turning speed.
The lawn is scalped, and the soil is exposed.	The ground is bumpy.	Change the mowing mode, such as the mowing direction.
	The blades are bent.	Replace the blades.
	The tire pressure is low.	Inflate the tires to the normal pressure.
	The grass builds up within the cutting deck.	Clean the cutting deck.
The mower vibrates too much.	The blades are bent or out of balance.	Replace or balance the blades.
	The bolts fixing the blades are loose.	Fasten the bolts.
The cutting deck is	The driving speed is high.	Slow down the driving speed.
overloaded.	The grass builds up on or	Clean the cutting deck.



Problem	Cause	Solution
	sticks to the deck spindle.	
	The blades are dull.	Sharpen the blades.
The lawn appears yellow,	The blades are worn.	Replace the blades.
brown, and raggedy.	The cutting deck is not leveled.	Level the deck.
The control terminal displays faults.	Refer to section 7.6 "Faults".	Refer to section 7.6 "Faults".
The mower cannot be started.	The start/stop button indicator is off.	Press the start/stop button and ensure that the indicator is on.
	The battery level is low.	Check all connections to the batteries within the battery pack.
	The circuit breaker is tripped.	Ensure that no circuit breaker trips.

11.2 Batteries

Read carefully and keep in mind the following precautions for the batteries.

Problem	Cause	Solution
The mower cannot be started.	The battery level is low.	Charge the batteries.
	The battery terminal connections are bad or failing.	Clean the terminals and fasten the bolts and nuts.
	The batteries reach the end of	Replace the batteries.



Problem	Cause	Solution
	their lifespan.	
	The wiring harnesses and switches are faulty.	Contact the dealer for maintenance.
The battery charging fails.	The batteries reach the end of their lifespan.	Replace the batteries.
The terminals are severely corroded and overheated.	The terminals are not securely fastened.	Clean the terminals and fasten the bolts and nuts.
The battery electrolyte level is reduced.	There are cracks and holes in the battery.	Replace the battery.
reduced.	The charging voltage is high.	Inspect the charger.

11.3 Mower Motor and Mower Motor Controller



WARNING

Before these steps, ensure that your digital multimeter is capable of measuring up to 1.2 million ohms (Ω).

Always disconnect the batteries before performing any maintenance or repair.

Wait for five minutes after disconnecting the batteries before working on the mower.

- 1. Remove any debris build-up from all deck components.
- 2. Verify all power connections on the blade motor and the blade motor controller are torqued properly. If lock screws on the motor controller are loose, tighten them to the torque values of 8-10 N·m and ensure that the cutting deck works properly. If loose connections are not found, perform the following steps.
- 3. Label all 2 blade motor controller connection points so they are easily viewed for correct reconnections.
- 4. To ensure correct re-connections, mark all wire connections with the corresponding connection point labels in step 3.



- 5. Remove all wire connections from the blade motor controller.
- 6. Measure the blade motor controller resistance (Ω):
 - (1) Set the multimeter to the continuity mode.
 - (2) Place the positive (+) probe of the digital multimeter on the positive (+) terminal of the blade motor controller, and place the negative (-) probe of the digital multimeter on the negative (-) terminal of the blade motor controller.
 - (3) If the multimeter beeps, the controller is damaged and needs to be replaced.
- 7. If no issues are found, reinstall the wire connections from the blade motor controller to the motor.
- 8. Measure blade motor resistance (Ω):
 - (1) Set the multimeter to the resistance mode.
 - (2) Place the positive (+) probe of the digital multimeter on the motor terminal U, place the negative (-) probe of the digital multimeter on the motor terminal V, and check the reading.
 - (3) Place the positive (+) probe of the digital multimeter on the motor terminal U, place the negative (-) probe of the digital multimeter on the motor terminal W, and check the reading.
 - (4) Place the positive (+) probe of the digital multimeter on the motor terminal V, place the negative (-) probe of the digital multimeter on the motor terminal W, and check the reading.
 - (5) If the above three readings are greater than 5 Ω , replace the blade motor. Repeat this process as required to other blade motors.
 - 9. Measure the resistance in the six-pin motor connector by placing the negative (-) probe of the digital multimeter on pin 2 and the positive (+) probe of the digital multimeter on pin 3. Resistance should read between 800k and 1.2m ohms (Ω). Resistance between pin 2 and pins 1, 4, 5 and 6 should be 0 ohms. If resistances are above or below these ranges, replace the blade motor. Repeat the process as required for other motors.
- 10. If steps 1-9 are completed and the issues persist, refer to the following troubleshooting processes for wiring harnesses.

11.4 Mower Wiring Harnesses

Problem	Cause	Solution
	Connections to the wiring	If the connectors are loose,



Problem	Cause	Solution
The mower cannot be started.	harness terminals below the start/stop button are bad or failing.	reconnect them to the start/stop button. If the pins of the wiring harness are loose, contact your dealer for repair.
	Harness connections below the seat and connectors to the batteries are loose.	Check and plug in the connectors.
The motor does not work.	Power harnesses or communication harnesses to motors are faulty.	Check for loose connectors or continuity of the power harnesses and communication harnesses, and contact your dealer for repair if necessary.
The switches do not work.	The connectors are loose or the pins are loose.	Locate the faulty switch according to instructions shown on the screen, check for abnormality in the connectors of the switch, and contact the dealer for repair if necessary.



12Warranty

According to the applicable consumer rights law, the purchaser of the zero-turn ride-on mowers sold by FJDynamics (hereinafter referred to as "FJD") or an authorized agent may have the right to choose to have defective goods or goods that do not comply with the purchase agreement repaired or replaced free of charge. In addition, when the initial purchaser purchases products from FJD, FJD's limited 1 year warranty is included. This warranty applies together with, and in addition to, purchasers statutory rights under applicable consumer law. FJD warrants—the zero-turn ride-on mowers sold by FJD or an authorized agent thereof against defects in materials and workmanship free or charge when used in accordance with FJD's operating instructions, technical information, and other published guidelines for FJD products for a period of ONE (1) YEAR from the original date of purchase of the end user. In case that any defects in materials or workmanship occur in one year from the date of purchase of the product, you will receive the remedies available under the one-year limited warranty for your FJD product, and claims made under FJD's one-year limited warranty will be governed by the terms and conditions set forth in this warranty document. FJD or its authorized dealers will subject to any applicable statutory limitation perform the obligations of warranty according to the terms, conditions, limitations set forth hereunder.

12.1 Scope of Warranty

To the extent permitted by law, the following warranties apply only to the initial purchaser, where the consumer law rights are extended to the end user other than the initial purchaser, to the extent permitted by law, the following warranties do not apply to the end user and the consumer rights of the end user shall be governed by the applicable consumer law:

• A. Residential Use: The product used for normal residential purposes is warranted for one (1) year from the date that the product is activated. The batteries are warranted for one (1) year from the date that the product is activated.

If the purchaser discovers within this warranty period defects in materials or workmanships:

- 1. The purchaser must notify FJD or an authorized dealer thereof in writing of the defect.
- 2. Within a reasonable time after such notification, FJD shall correct such defects in materials or workmanship by repairing or replacing parts.
- 3. Such repair, including parts and labor, shall be at the expense of FJD.

Note: The "normal residential purposes" shall be construed in accordance with its ordinary meaning,



such as use of the product on day-to-day basis for the ordinary lot or residential property or premises without reasonably unexpected circumstances. . Unreasonable se use for more than one place other than for normal residential purpose such as generating profits, may be considered commercial use and the terms and condition of the warranty may differ from the products used for normal residential purposes

• **B. Commercial Use:** The mowers used in commercial and organizational applications are warranted for one (1) year from the date that the product is activated. The batteries are warranted for one year from the date that the product is activated.

If the purchaser discovers within this warranty period defects in materials or workmanship:

- 1. The purchaser must notify FJD or an authorized dealer thereof in writing of the defect.
- FJD or the authorized dealer will respond to such notification in 24 months from the date of delivery.
- 3. Within a reasonable period after such notification, FJD or its authorized dealer at its discretion will correct such defects in materials or workmanship by repairing or replacing parts.
- 4. Such repair, including parts and labor, will be at the expense of FJD.
- C. Exclusion of warranty: Improper use or maintenance including maintenance or operation contrary to FJD's instructions or guidelines or advice may reduce the lifespan of the batteries, and to the extent caused by the improper use or maintenance exclude FJD's warranty for batteries. Faults, defects or malfunction caused by the following acts will not be covered by this warranty:
- Unauthorized abusive or negligent use, such that to an abnormal level, use by way of loosen connections or by rusty or corrosive components.
- Lack of proper maintenance: damages caused by improper installation of batteries, mower's operation with the overcharged batteries or in case of low battery level which is strong advised against by FJD.
- 3. Usage of chargers other than the charger provided or authorized by FJD.
- D. Rental use: The warranty for mowers and batteries thereof for rental use are governed by the terms and conditions of the rental agreement and this warranty shall be applicable. To avoid doubt, "rental use" means that the lessee by operation of a rental agreement with the lessor who is either FJD or its authorized dealer, takes possession of and uses the rented product in exchange for the consideration paid by the lessee.



Who Must Perform the Warranty Services

After-sales service will be performed by authorized dealers or agents of FJD. Unless otherwise provided by applicable consumer law, after-sale service calls or transportation expenses of the product to and from the authorized dealerfor after-sales service or warranty purpose, shall be paid by the purchaser or current end user of the product. Forany inquiry, contact an authorized dealer or agent of FJD in your jurisdiction.

What is NOT Covered by This Warranty (without limiting the scope of 12.1(C)):

- 1) Routine machinery maintenance including, but not limited to, oil refilling, cleaning, lubrication, or steering adjustments.
- 2) Normal wear and tear of the product or part of the product(parts and components worn with usage of the mower), including but not limited to blades, bolts fixing the blades, blade holders, dampers, and mower deck, rupture of tires by external sources, natural discoloration of materials, or dull or damaged blades due to contact with abrasives, rocks, rods, or other foreign matters, unless the blades are defective. Replacement of such parts and components due to normal wear is not covered by this warranty. Any defect, damage or degradation caused by normal usage, wear or exposure, including but not limited to scratches, indentations, and paint chipping, or any corrosion or discoloration caused by heating, abrasives, and chemical cleaning agents, shall not be covered by the warranty.
- 3) Damage caused by misuse, abusive or negligent use (including overloading and immersing into water or other liquids), accidents, negligent or improper installation, and improper maintenance or storage.
- 4) Repairs or replacement caused by failure to follow the product's user manual or other operational instructions provided by FJD.
- 5) Repairs caused by any unauthorized alterations or modifications to the mower, or use of the mower for purposes other than permitted use reasonably foreseen by FJD, which adversely affects the operation, performance or durability of the mower.
- 6) Repairs caused by use of parts, accessories or attachments not compatible with the mower, or authorized repairs or replacement not in accordance with the user manual or other operational instructions provided by FJD.
- 7) Unauthorized repairs or replacement of parts or accessories that adversely affect the mower's operation, performance or durability.



8) Repairs made to the mower by persons other than FJD or authorized dealers thereof, or damages or defects caused by installation of parts other than the parts recommended or authorized by FJD.

12.2 Limitation of Liability and Disclaimer

TO THE EXTENT PERMITTED BY LAW, ANY IMPLIED WARRANTY EITHER BY COMMON LAW OR APPLICABLE STATUTES ON CONSUMER RIGHTS, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR SATISFACTORY QUALITY OR DURABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED AND REPLACED BY THIS WARRANTY.

TO THE FULL EXTENT PERMITTED BY LAW, IN NO CIRCUMSTANCES OTHER THAN THE CASE OF PERSONAL INJURY OR DAMAGE OF PROPERTY SHALL FJD BE LIABLE FOR ANY SPECIAL, INCIDENTAL, PUNITIVE, R CONSEQUENTIAL DAMAGES AND/OR COSTS ASSOCIATED WITH PURCHASE OR USE OF THE PRODUCT.

THIS MAUNAL AND ITS CONTENT ARE DELIVERED ON AN "AS-IS" AND "AS-AVAILABLE" BASIS. ALL INFORMATION PROVIDED ON THIS MANUAL IS SUBJECT TO CHANGE WITHOUT NOTICE. WE MAKE REASONABLE EFFORTS TO ENSURE THAT OUR CONTENT IS COMPLETE, ACCURATE, AND UP TO DATE, BUT TO THE EXTENT PERMITTED BY LAW, WE MAKE NO WARRANTIES, REPRESENTATIONS, OR GUARANTEES (EXPRESS OR IMPLIED) THAT THIS WILL ALWAYS BE THE CASE.

THE MOWER IS NOT DESIGNED TO TOW ANY OBJECT HEAVIER THAN 150 POUNDS (68 KILOGRAMS), NOR TO TOW AN OBJECT AT A POINT OTHER THAN THE TOWING HITCH. DO NOT TOW ANY OBJECT AT A SLOPE GREATER THAN 5 DEGREES. IN CASE OF TOWING AT A SLOPE, THE TOWED OBJECT MAY RESULT IN LOSS OF FRICTION, CONTROL OR STOP CAPABILITY OF THE MOWER. BE CAUTIOUS WHEN USING A MOWER CAPABLE OF MAKING A SUDDEN TURN SUCH AS A ZERO TURN MOWER FOR TOWING. IN ORDER TO AVOID BENDING OF THE MOWER, DRIVE SLOWLY TO LEAVE EXTRA SPACE FOR BRAKING. KEEP CHILDREN OR OTHER PEOPLE OUT OF THE TOWED OBJECT.

Read the SAFETY INSTRUCTIONS AND OTHER SAFETY REQUIREMENTS before using the product. DO NOT START USING the product unless you are fully aware of and will comply with the SAFETY REQUIREMENTS SET FORTH IN THE SAFETY INSTRUCTIONS AND OTHER PART OF THE MANUAL. To the full extent permitted by law, FJDynamics shall not be liable for any loss, damage, penalty, fine or costs whether directly or indirectly arising out of the law of contract or negligence or by operation of applicable statutes on consumer rights, solely in connection with the purchaser or other end user's failure to comply with FJDynamics's safety instructions.

The product is supplied and purchased STRICTLY FOR THE PURPOSE OF ORDINARY USE OF MOWER. FJDynamics does not recommend nor foresee at the point of the sale any use other



than ordinary use of mower, including but noy limited to the purpose of entertainment, sports, emergency rescue, transport of goods, and substitute for day-to-day motor vehicle whether on public or private roads.

Subject to the warranty and to the full extent permitted by law FJDynamics shall not be liable for any loss, damage, penalty, fine or costs connected with purchaser or end user's unauthorized use out of the scope of use allowed and reasonably foreseen by FJDynamics. It is the purchaser or end user's responsibility to obtain or keep in place an appropriate and valid insurance policy to cover possible loss, damage, penalty, fine or costs arising from the use and operation of FJDynamics's products.

12.3 Purchaser's Responsibilities

You must maintain your mower as described in the user manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

The mower, like any other powered equipment, need to be properly operated. The operator must be cautious and keep safety in mind at all times. The operator, prior to using FJD's lawnmower, should thoroughly familiarize himself or herself with the user manual regarding operation and safety of the mower, as well as all safety warnings on the mower itself.

12.4 Warranty Registration

- To access warranty service, the purchaser or current owner must register the mower by filling out the Warranty Registration Form in accordance with this section and subsections thereof, which is provided in the user manual.
- To promptly verify and register and customer ID,,FJD strongly advises the completed Warranty
 Registration Form be forwarded to FJD or its authorized dealer within 10 days after the date of
 purchase.

12.5 Governing Law and Dispute Resolution

If you are a resident of the United States, this manual as part of the contract of sale shall be governed by and construed in accordance with the laws of Nevada, without regard to its principles of conflict of laws. Any dispute, controversy or claim arising out of or in connection with this manual, including the clause of limitation of liability and disclaimer shall be adjudicated and settled by and within the

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exclusive jurisdiction of the US courts in Nevada.

If you are a resident of the European Union, this manual as part of the contract of sale shall be governed by and construed in accordance with the laws of Sweden, without regard to its principles of conflict of laws. Any dispute, controversy or claim arising out of or in connection with this manual, including the clause of limitation of liability and disclaimer shall be adjudicated and settled by and within the exclusive jurisdiction of the courts in the city of Stockholm.

If you are a resident of Australia, this manual as part of the contract of sale shall be governed by and construed in accordance with the laws of Victoria, without regard to its principles of conflict of laws. Any dispute, controversy or claim arising out of or in connection with this manual, including the clause of limitation of liability and disclaimer shall be adjudicated and settled by and within the exclusive jurisdiction of the courts in Victoria.

If you are a resident of Japan, this manual as part of the contract of sale shall be governed by and construed in accordance with the laws of Japan, without regard to its principles of conflict of laws. Any dispute, controversy or claim arising out of or in connection with this manual, including the clause of limitation of liability and disclaimer shall be adjudicated and settled by and within the exclusive jurisdiction of the courts in Tokyo.

If you are a resident of any of the following countries or regions, this manual as part of the contract of sale shall be governed by and construed in accordance with the laws of Singapore, without regard to its principles of conflict of laws. Any dispute, controversy or claim arising out of or in connection with this manual, including the clause of limitation of liability and disclaimer shall be adjudicated and settled by and within the exclusive jurisdiction of the courts in Singapore:

- 1. Cambodia;
- 2. Lau;
- 3. Myanmar;
- 4. Vietnam:
- 5. Thailand;
- 6. Malaysia;
- 7. Brunei;
- 8. East Timor;



- 9. Indonesia;
- 10. Philippines
- 11. Singapore
- 12. India;
- 13. Pakistan;
- 14. Bangladesh.

If you are a resident of Hong Kong SAR or China, this manual as part of the contract of sale shall be governed by and construed in accordance with the laws of China, without regard to its principles of conflict of laws. Any dispute, controversy or claim arising out of or in connection with this manual, including the clause of limitation of liability and disclaimer shall be adjudicated and settled by and within the exclusive jurisdiction of the courts in Hong Kong (if Hong Kong resident involved) or the courts in the city of Shenzhen, China (if Chinese resident involved).

In case of any inconsistency between this clause and other agreement by and between the purchaser and FJDynamics or its authorized dealer, this clause shall prevail.

