



Owner's Manual

Congratulations on your decision to purchase an SSR SR-E500 motorcycle. In your possession is a state of the art motorsports vehicle that will provide your child with endless excitement so long as you maintain it properly. It is our hope that your child will enjoy many safe and fun rides! Read through this Owner's Manual carefully, practice caution when checking important safety concerns. This manual provides an overview of the main functions of the vehicle.

This Owner's Manual serves as a technical instruction manual & explains the vehicle. Contact an authorized SSR MOTORSPORTS dealer if you have any questions.

This Owner's Manual is only intended for personal use.

This Owner's Manual is not intended for commercial use.

This Owner's Manual contains the latest information at the time of printing.

However, minor differences due to further developments in design may still be present.

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This Owner's Manual applies to the following model:

SR-E500

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1 SYMBOL DEFINITIONS

1.1 Symbols Used

The meaning of specific symbols is described below.



Indicates a correct(ly) completed step (e.g., of a repair step or a function).



Indicates an incorrect(ly) completed step (e.g., of a repair step or a function).



All work marked with this symbol requires special knowledge and technical understanding. In the interest of safety of your child, have these jobs performed by an authorized SSR Motorsports dealer.

Your motorcycle will be optimally cared for by their specially trained experts using any special tools required.



Indicates information with more details or tips.

SYMBOL DEFINITIONS 1



Indicates the result of a testing step.



Indicates the end of an activity, including potential reworking.

2.1 Intended Use

This vehicle was designed and constructed to withstand the stresses and strains of regular riding if the maximum rider weight is not exceeded.



info

Only operate this vehicle in closed off areas away from public road traffic.

Only use the provided lithium-ion battery!

2.2 Misuse

This vehicle must only be used as intended.

Dangers can arise for people, property, and the environment if the product is misused.

Misuse also includes the use of operating and auxiliary fluids which do not meet the required specification for the respective use.

2.3 Notes / Warnings

Pay close attention to notes/warnings.



info

Various information and warning labels are affixed to the vehicle. Do not remove these information/warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.4 Warning Symbols



Warning

Identifies a danger that will immediately and invariably lead to fatal or serious injury if the appropriate measures are not taken.



Caution

Identifies a danger that may lead to minor injuries if the appropriate measures are not taken.

Note

Identifies a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.



Warning

Identifies a danger that will lead to environmental damage if the appropriate measures are not taken.

2.5 Modification Warning

No mechanical, electrical, or electronic modification may be made to the vehicle, since safe operation cannot be guaranteed. Examples of inadmissible manipulation and modifications:

- 1. Opening the rechargeable lithium-ion battery.
- 2. Using the vehicle or the rechargeable lithium-ion battery when proper maintenance has not been performed.
- 3. Using the vehicle or the rechargeable lithium-ion battery outside of it's defined use.
- 4. Using a damaged lithium-ion battery.

2.6 Safe Operation



Warning

Danger of crashes A lack or physical and mental readiness on the part of the child poses a major risk.

Children often underestimate or fail to recognize dangerous situations.

- Your child must already be able to ride a bicycle.
- Your child must be able to pick the vehicle up independently after a fall.

- Your child must understand that rules and instructions for you or from another responsible person must be followed.
- Make it clear to your child that they should not, under any circumstances, operate the vehicle without supervision.
- Do not ask too much of your child.
- Do not consider participation in competitive activities until your child's stamina, riding techniques and motivation are at the necessary levels.
- Only let your child ride the vehicle if they are physically and mentally ready to do so.



Warning

Danger of burns Some vehicle components become very hot when the vehicle is operated.

- Do not touch any parts such as the motor, lithium-ion battery, damper, or brake system before these vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work.

This vehicle is a low-voltage (48V) electric motorcycle. For this reason, follow the safety and care instructions that apply when using an electric motor.

As with a conventional drive with a combustion engine, the operating temperature rises according to use and depending on the ambient temperature and the cleanliness of the cooling surfaces. If the temperature of the motor, lithium-ion battery, or the electronics rises above the permissible operating temperature, the power of the vehicle will be reduced considerably. This protects the system against damage from overheating.

This vehicle does not have a manual transmission, there is no clutch. Only operate the vehicle when it is in proper technical condition, in accordance with it's intended use, and in a safe and environmentally compatible manner.

Adhere to the information and warning labels on the vehicle.

2.7 Fall or Accident

After a fall or accident, evaluate the condition of your vehicle before you attempt to ride the vehicle again.

2.8 Protective Apparel



Warning

Risk of injury Missing or poor protective apparel presents an increased safety risk.

- Ensure your child wears appropriate protective apparel such as a helmet, gloves, and eye protection as well as pants and a long sleeve shirt or jersey on all rides.
- Always use protective apparel for your child that is in good condition and meets the legal requirements.
- When you ride a motorcycle, set an example for your child and wear suitable protective apparel.

2.9 Repair Warnings



Warning

Risk of Injury There is a risk of electric shock when working on live components.

Working on live components requires special training, qualifications, and tools.

- Do not open the electric motor or the lithium-ion battery.



Warning

Risk of Injury The vehicle will start moving in an uncontrolled manner if the throttle grip is accidentally touched while work is being performed on the vehicle.

- Ensure that the vehicle is switched off with the key and remains switched off before starting any work on the vehicle.
- Protect the vehicle against access by unauthorized persons while you are performing work on the vehicle.

2.10 Environment

When your respect the rights of others and use your motorcycle legally, you will help protect the future of motorcycling and avoid many conflicts and problems.

When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the applicable laws and regulations in your state or country.

When disposing of lithium-ion batteries, observe the relevant laws and guidelines of your country.

Your authorized SSR Motorsports dealer can dispose of lithium-ion batteries free of charge and in an environmentally friendly manner.

Electrical devices like the battery charger may not be disposed of with household waste. Electrical devices must be disposed of through an appropriate recycling center. Contact your authorized dealer if needed.

2.11 Owner's Manual

It is important that you read this Owner's Manual carefully and completely before your child first rides this motorcycle.

This Owner's Manual contains useful information and many tips for you and your child on how to operate, handle, and service your motorcycle. This is the only way for you to find out how to ideally tune the vehicle and how to help protect your child from injury.

Keep this Owner's Manual in an accessible place to enable you to refer to it as needed.

If you would like to know more about the vehicle or have questions on the material you read, please contact an authorized SSR dealer.

The Owner's Manual is an important component of the vehicle and must be handed over to the new owner if the vehicle is sold.

2.12 Fire Hazard



Warning

Fire hazard Damaged rechargeable lithium-ion batteries present a fire hazard.

Mechanical damage may cause an internal cell short circuit and as a consequence may cause the battery to self-ignite.

- Contact an SSR Motorsports dealer immediately if major damage to the rechargeable lithium-ion battery has occurred.

There is no particular fire hazard for this vehicle when the rechargeable lithium-ion battery is intact.

However, should the vehicle catch fire, inform the responding fire department that an electrical vehicle with a rechargeable lithium-ion battery is on fire.

3.1 Manufacturer Warranty

Parts found to be defective during the motorcycle's stated warranty period according to limitations of this warranty policy will be repaired or replaced free of charge.

Modification, alteration, and installation of parts that are not genuine SSR Motorsports parts are not covered by the manufacturer warranty.

3.2 Oil & Auxiliary Substances

Use the operating and auxiliary substances (such as oils and lubricants) specified in this Owner's Manual.

3.3 Spare Parts & Accessories

For your child's safety, SSR Motorsports recommends using our spare parts and accessories, SSR Motorsports accepts no liability for other products and any resulting damage or loss.

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work is properly carried out as described in this Owner's Manual.

Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can result in significantly increased wear of components, such as the drive train, brake system, or suspension components.

For this reason, it may be necessary to inspect of replace parts before the next scheduled service interval.

It is imperative that you adhere to the stipulated service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

3.5 Customer Service

Your authorized SSR Motorsports dealer will be happy to answer any questions you may have about your vehicle.

3.6 Power Supply



A rechargeable lithium-ion battery 1 is installed in the vehicle. The lithium-ion battery supplies the electric motor 2 with voltage. The lithium-ion battery is slid into the frame and secured in place.

3.7 Operation at low temperatures

In order to protect the lithium-ion battery, the motor control reduces the power at low component temperatures.

If the temperature of the lithium-ion battery is too low, the vehicle can continue to be operated. The lithium-ion battery is not damaged by this power reduction.

The lithium-ion battery heats up when the vehicle is in operation.

When the temperature of the lithium-ion battery exceeds a threshold value, full vehicle power is restored after the vehicle is restarted.

4 VEHICLE OVERVIEW

4.1 Vehicle Overview



VEHICLE OVERVIEW 4



5 SERIAL NUMBER

5.1 Vehicle Identification Number



The vehicle identification number 1 is stamped into the right side of the steering stem.

5.2 Vehicle Nameplate



The vehicle nameplate 1 is located on the left side of the frame.

SERIAL NUMBER 5

5.3 Battery Label



The battery label 1 is located on the bottom end of the battery.

5.4 Motor Number



The motor number 1 is located on the right side of the motor.

6 CONTROLS

6.1 Rear Brake Lever



The left hand brake lever 1 is located on the left side of the handlebar.

The left brake lever is used to activate the rear brake.

6.2 Front Brake Lever



The right hand brake lever 1 is located on the right side of the handlebar.

The right hand brake lever is used to activate the front brake.

CONTROLS 6

6.3 Throttle Grip

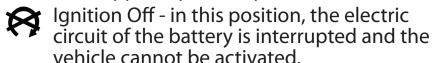


The throttle grip 1 is located on the right side of the handlebar. Rotation of the throttle engages the motor and the amount of rotation is related to engine power.

6.4 Ignition Lock/Key



The ignition switch 1 is located to the right rear of the upper triple clamp.



Ignition On - in this position, the electric circuit of the battery is opened and the vehicle can be started.

6 CONTROLS

6.5 Start Button



The start button 1 is located on the left side of the handlebar.

The start button is only enabled when the ignition is switched on.

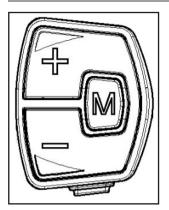
When the start button is pressed, the vehicle switches into standby mode.

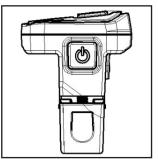
1

Info

Selecting a power level switches the vehicle from standby mode to riding mode. If the vehicle is not moved for 120 seconds, the vehicle automatically switches to standby mode.

7.1 Combination Display Overview





There are four function keys on the right handlebar switch.

On/Off switch on the bottom. Plus button on the front/top. Minus button the front/bottom. M button in the front/middle.

- Press the 🖒 button to control on/off.
- Press the + button to adjust the power level up.
- Press the button to adjust the power level down.
- Press the **M** button to adjust between trip meter and odometer.

; Info

- Turning the power on, the display automatically powers on.
 - Turning the power off, the display automatically powers off.

7.2 Display Functions



7.3 Boot Screen





Turn on the ignition switch (p.41) the vehicle is activated and the display shows "PAS 0" state and is in standby mode.

Press the "+" button to activate "PAS 1" for riding.

7.4 Specifications

Power	48V
Rated Operation Current	42mA/36V
Maximum Operation Current	42mA
Key Off Current Drain	< 1uA
Output Current	42mA
Operating Temperature	-4 °F ~ 140 °F
Storage Temperature	-22 °F ~ 158 °F

7.5 Display Interface





After the display is turned on, the display defaults to display real-time speed (MPH) and trip mileage (miles).

Briefly press the "M" button to switch between total mileage (miles), and trip mileage (miles).

$oldsymbol{i}$ Info

If the vehicle is not moved for 120 seconds, the vehicle automatically switches to standby mode until the start button is pressed again.

7.6 Power Level Selection



Press the "+" or "-" buttons to adjust the power level. Pressing the "+" button will increase the PAS level from 0 to 1, then 1 to 2, and finally 2 to 3.

🕻 Info

During the normal power on state, the display will show 0 by default.

7.7 Error Code Display



When the electric vehicle electronic control system encounters an error, the display will automatically display the error code, the fault code is displayed in the speedometer digital segment, the format is E**.

When there is an error code on the display interface, please troubleshoot it quickly. After the fault occurs, the electric vehicle may not run normally.

7.8 Resetting the Trip Odometer





Condition

The motorcycle is stationary. Under power on state, power level "0" is displayed.

Operation

Press the "M" button for more than 2 seconds, the display will change to "N", press the "+" button to change it to "Y" then press the "M" button again, the display will be reset to 0.0.

7.9 Setting Kilometers or Miles



Condition

The motorcycle is stationary.

Operation

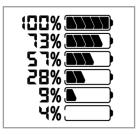
- Long press the "M" button (3 seconds) within 10 seconds of the ignition being switched on.
- Under the user setting state short press the "M" button to turn off the "01" displayed at the top of the meter. Then short press the "+" or "-" button to adjust the MPH and KPH settings.
- Make your adjustment and short press "M" again to lock the adjustment.
- Long press the "M" button (3 seconds) again to return to the main display.



Info

The instrument default is MPH.

7.10 Power Display



- The five-segment battery power display. When the battery is full, the five-segment lights are all on. When the battery is depleted, the outer frame of the battery flashes, indicating that it needs to be charged immediately.

7.11 Fault Codes

Fault Code	Definition
E01	Hall Sensor Wire Failure
E02	Throttle Failure
E03	Overvoltage Protection
E04	Phase Current Overcurrent
E05	Voltage Failure
E07	Motor Temp. Too High
E08	Controller Temp. Too High
E09	Phase Current Overflow
EOA	Phase Current Failure
EOB	Phase Wire Short Circuit
E0C	Wire Current Failure
E10	Brake Failure
E30	Communication Failure

8.1 Notes On Preparing For Use



Warning

Danger of crashes A lack of physical and mental readiness on the part of the child poses a major risk.

Children often underestimate or fail to recognize dangerous situations.

- Your child must already be able to ride a bicycle.
- Your child must be able to pick the vehicle up after a fall.
- Your child must understand that rules and instructions from you or from another responsible person must be followed.
- Make it clear to your child that they should not, under any circumstances, operate the vehicle without supervision.

- Do not ask too much of your child.

Do not consider participation in competitive activities until your child's stamina, riding techniques and motivation are at the necessary levels.

- Only let your child ride the vehicle if they are physically and mentally ready.



Warning

Risk of injury Missing or poor quality protective apparel presents an increased safety risk.

- Ensure your child wears appropriate protective clothing such as a helmet, boots, eye protection, gloves, pants, a long-sleeved jersey, and a shirt of jacket on all rides.
- Always use protective apparel for your child that is in good condition and meets the legal requirements.

- When you ride a motorcycle, set an example for your child and wear suitable protective apparel.



Warning

Danger of crashing Different tire tread patterns on the front & rear wheel impair the handling characteristics.

Different tire tread patterns can make the vehicle significantly more difficult to control.

- Make sure that only tires with a similar tire tread pattern are fitted to the front and rear wheels.



Warning

Danger of crashes This vehicle is not designed to carry passengers.

- Make it clear to your child that they must not carry a passenger.



Warning

Danger of crashes The brake system fails in the event of overheating.

If the brake lever is not released, the brake pads will drag continuously.

- Ensure that your child releases their hand from the brake lever if they do not want to brake.

Note

Overloading The suspension components will become damaged or destroyed if overloaded.

- Do not exceed the maximum permissible weight of the rider.



Warning

Risk of misappropriation People who act without authorization endanger themselves and others.

- Never leave the vehicle unattended.
- Protect the vehicle against access by unauthorized persons.
- Ensure that the pre-sales inspection work has been completed by an authorized SSR Motorsports dealer. (PDI = Pre-Delivery Inspection)
- Rear through the entire Owner's Manual together with your child before riding for the first time.

i Info

Pay special attention to the safety instructions and to the risk of injury.

Explain to your child the techniques of riding and falling, e.g., how shifting weight can influence handling characteristics

- Familiarize your child with the controls.
- Before using the vehicle for the first time, ensure that the basic settings of the chassis are suitable for the weight of your child.
- Allow your child to become accustomed to the handling of the motorcycle on suitable terrain, preferably on a large, open field.

i Info

To give your child a feeling for the brake system, start by pushing your child. Do not start the motor until your child is able to apply the necessary front brake pressure.

Your child should begin by riding to another person, who can help your child stop and turn.

- Erect obstacles for your child to navigate around so that your child becomes accustomed to the vehicles handling characteristics.

- Your child should also try to ride as slowly as possible and in a standing position to get a better feel for the motorcycle.
- Your child should not ride on terrain that exceeds your child's capabilities and experience.
- Your child should hold the handlebar firmly with both hands and keep their feet on the footpegs at all times while riding.
- Make sure the maximum permissible weight of the rider does not exceed the guideline below.

Guideline:

Maximum Rider Weight	88 lbs. (40kg)
Maximum Rider Height	< 51.2 in (< 130cm)

Check the spoke tension (p.152)



Info

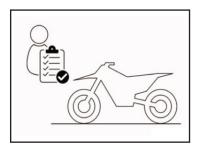
The spoke tension must be checked after 30 minutes of operation.

9.1 Pre-ride Inspections

i Info

Before every ride, check the condition of the vehicle and ensure that it is safe to operate.

The vehicle must be in proper technical condition when it is being operated.



- Check the throttle grip, Lithium-ion battery, and electric motor for external damage.
- Check the front brake fluid level. (p.121)
- Check the rear brake fluid level. (p.121)
- Check the front brake pads. (p.129)
- Check the rear brake pads. (p.133)

- Check that the brake system is functioning properly.
- Check the drive chain for dirt. (p.102)
- Check the chain, front & rear sprockets, and chain guide. (p.111)
- Check the chain tension. (p.105)
- Check the tire condition. (p.149)
- Check the tire pressures. (p.151)
- Check the spoke tension. (p.152)

i

Info

The spoke tension must be checked regularly as incorrect spoke tension will strongly impair riding safety.

- Check the settings of all controls and ensure that they can be operated smoothly.
- Check the tightness of the easily accessible, safety-relevant bolts and nuts.
- Check the charging level of the lithium-ion battery.

9.2 Starting the Vehicle



- Fold up the side stand.
- Turn On the ignition key switch.
 The vehicle is in standby mode.
- Push the start button. (p.42)

9.3 Starting Off

i

Info

The side stand must be folded up before riding.

Open the throttle carefully.

9.4 Applying the Brakes



Warning

Danger of crashes Moisture and dirt impair the brake system.

- Explain to your child that they must brake carefully several times to dry out and remove dirt from the brake pads and rotors.
- On sandy, wet, or slippery surfaces, use the rear brake.
- Always finish braking before you begin a turn.

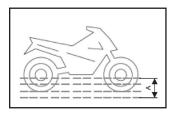
9.5 Riding and Water

i Info

If you are riding on a rainy day, please slow down, brake slowly, judge the road conditions as soon as possible, and do not brake suddenly to avoid wheel slippage.

Do not cross water without thinking first, and be careful not to cross water in places that is too deep. Although the motor, battery, controller, and other important parts of the motorcycle have been water-proofed, this does not mean you may cross water at will. Do not rush toward water crossings that you are not aware of the depth of. Don't let water flood the motor which could lead to motor malfunction.

After use in the wet or rain, don't charge the battery immediately. This may lead to a short circuit. Instead leave the motorcycle in a well ventilated place to allow it to dry first. Before plugging in the charger, wipe the battery and connection socket first to avoid accidents.



i

Info

For the safety of your vehicle, the wading depth under normal operation is less than "A" (100mm / 4 inches).

9.6 Stopping and Parking



Warning

Risk of Misappropriation People who act without authorization endanger themselves and others.

- Never leave the vehicle unattended.
- Protect the vehicle against access by unauthorized persons.



Warning

Danger of Burns Some vehicle components become very hot when the vehicle is operated.

- Do not touch any parts such as the motor, lithium-ion battery, or brake system before these vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Note

Material Damage The vehicle may be damaged if parked incorrectly. Significant damage may be caused if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

- Park the vehicle on a firm and level surface.
- Ensure that nobody sits on the vehicle when the vehicle is parked on the side stand.

9.7 Transporting

Note

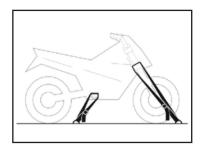
Danger of Damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.

Note

Fire Hazard Hot vehicle components pose a fire hazard and explosion risk.

- Do not park the vehicle near to materials which are highly flammable or explosive.
- Allow the vehicle to cool down before covering it.



- Turn off the ignition switch to power off the vehicle.
- Use tie downs or other suitable devices to secure the motorcycle against falling over or rolling away.

10.1 Additional Information

For the riding safety of your child, you must regularly check the vehicle.

Any authorized SSR Motorsports dealer would be pleased to help you if you have any issues performing this repair work.

10.2 Service Schedule

Every 80 Operating Hours			ırs		
Every 40 Operating Hours					
Every 20 Operating Hours					
After 10 Operating Hours					
Check the battery and charger plug for damage and dirt.		0	•	•	•

One-time interval

Every 80 Operating Hours			s	
Every 40 Operat	ing F	lou	rs	
Every 20 Operating	Hour	S		
After 10 Operating Hou	ırs			
Check that the electrical system is functioning properly.	0	•		
Check and charge the Lithium-ion battery.	0			
Check the front brake pads. (p.129)	0			
Check the rear brake pads. (p.133)	0			
Check the brake rotors. (p.119)	0			
Check the brake hoses for damage and leakage.	0	•		
Check the front brake fluid level. (p.121)	0	•		

One-time interval

Every 80 Operating Hours			S		
	Every 40 Operatin	ng H	loui	'S	
	Every 20 Operating Ho	our	s		
	After 10 Operating Hour	S			
Check the rear brake fluid level. (p.121)		0	•	•	
Check the frame. (p.115)			•	•	
Check the swingarm. (p.116)			•	•	
Check the swingarm bearing play.			•		
Check the tire condition. (p.149)		0	•	•	
Check the tire pressure. (p.151)		0	•	•	
Check the wheel bearings for play.			•	•	
Check the wheel hubs.			•	•	

One-time interval

Every 80 Operating Hours			S	
Every 40 Operat	ing F	loui	rs	
Every 20 Operating	Hour	S		
After 10 Operating Hou	ırs			
Check the rim run-out.	0	•	•	•
Check the spoke tension. (p.152)	0	•	•	•
Check the chain, rear sprocket, motor sprocket, and chain guide. (p.111)	0	•	•	•
Check the chain tension. (p.105)	0	•	•	
Grease all moving parts (e.g., levers, drive chain,) and check for smooth operation.	0	•	•	•
Check the steering stem bearing play. (p.92)	0			

One-time interval

Every 80 Operating Hours			S	
Every 40 Operati	ng l	Hour	'S	
Every 20 Operating H	loui	rs		
After 10 Operating Hou	rs			
Check cables and wires for damage and kink-free installation.	0	•	•	•
Service the front forks.			•	
Service the rear shock absorber.				
Check the tightness of the easily accessible, safety-relevant bolts, screws, and nuts.	EV	ERY	' RI	DE
Final Check: Check the vehicle for safe operation and take a test ride.	0	•		

One-time interval

SERVICE SCHEDULE 10

10.3 Recommended Work

Every 40 Operating Hours				'S
Every 20 Operating Hours				
After 10 Operating Hours				
	Every 12 Months			
Change the front brake fluid.	•			
Change the rear brake fluid.	•			
Service the front forks.		0		
Service the rear shock absorber.			0	
Lubricate the steering stem bearings. (p.96)	•			

One-time interval

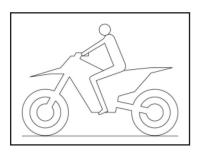
Periodic interval

11.1 Setting Suspension Sag for Rider's Weight

1

Info

When adjusting the suspension sag, first adjust the rear shock absorber and then the front forks.



- For optimal motorcycle riding characteristics and to avoid damage to the forks, shock absorbers, and swingarm, the basic settings of the suspension components must match the rider's weight.
- This vehicle is delivered preset for a standard rider's weight (with full protective apparel).

Guideline

Standard Rider Weight | 25 - 40 kg (55 - 88 lbs)

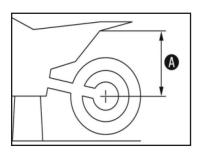


- If the rider's weight is above or below this range, the basic setting of the suspension components must be adjusted accordingly.
- Small weight differences can be compensated by adjusting the spring preload, but in the case of larger weight differences, the springs must be replaced.

11.2 Rear Shock Absorber

The rear shock absorber is mounted between the frame and swingarm.

11.3 Unloaded Sag Measurement



Preparatory Work

- Place the motorcycle on a lift stand. (p.83)

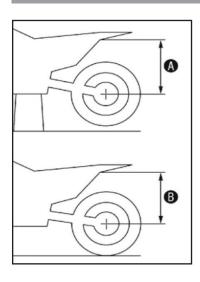
Main Work

- Measure the vertical distance between the rear axle and a fixed point such as the side cover.
- Note the value as dimension A.

Finishing Work

Remove the motorcycle from the lift stand.
 (p.83)

11.4 Checking the Static Sag of the Rear Shock Absorber



- Measure dimension A of rear wheel unloaded. (p.76)
- Hold the motorcycle upright with aid of an assistant.
- Measure the distance between the rear axle and a fixed point again.
- Note the value as dimension B.



Info

The static sag is the difference between measurements A and B.

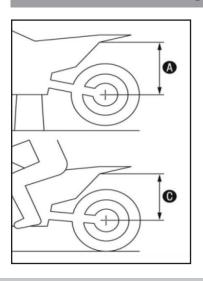
Check the static sag.

Static Sag	6 mm (0.23in)
------------	---------------

>> If the static sag is less or more than the specified value:

- Adjust the spring preload of the rear shock absorber. (p.79)

11.5 Loaded Sag Measurement



- Measure dimension A or rear wheel unloaded. (p.76)
- With another person holding the motorcycle, the rider, wearing full protective apparel, sits on the seat in a normal seating position (feet on footpegs) and bounces up and down a few times.
- **/**

The rear wheel suspension levels out.

- Another person now measures the distance between the rear axle and the fixed point.
- Note the value as dimension C.



Info

The riding sag is the difference between measurements A and C.

Check the riding sag.

Riding Sag

60mm (2.34in)



If the riding sag differs from the specified measurement:

Adjust the spring preload. (p.79) (END)





11.6 Adjusting Rear Shock Absorber Spring Preload



Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)
- Remove the rear shock absorber. (p.98)
- After removing the rear shock absorber, clean it throughly.

Main Work

- Measure the full spring length while it is under tension and write down the value.
- Turn the adjusting ring 1 until the spring is no longer under tension

Hook Wrench Tool (45-52)

- Measure the total spring length while the spring is not under tension.

Tighten the spring to the specified measurement by turning the adjusting ring 2. Guideline

Spring Preload	10 mm (0.39in)

Info

The spring preload is the difference between the relaxed spring length and the tensioned spring length. Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.

Finishing Work

Install the shock absorber. (p.99)



Remove the motorcycle from the lift stand. (p.83)

11.7 Handlebar Warning



Warning

Danger of crashes A repaired handlebar poses a safety risk. If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.

Change the handlebar if the handlebar is damaged or bent.



Info

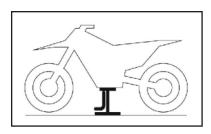
Make sure the cables and wiring are routed correctly.

12.1 Raising the Motorcycle Using a Stand

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



- Lift the motorcycle at the frame under the electric motor.



Neither wheel is in contact with the ground.

- Secure the motorcycle against falling over.

12.2 Removing the Motorcycle From the Stand

Note

Danger of damage The parked vehicle can roll away or fall over.

Park the vehicle on a firm and level surface.



- Remove the motorcycle from the lift stand.
- Remove the lift stand.
- To park the motorcycle, press the side stand
 down to the ground with your foot and lean the motorcycle on it.

i

Info

When you are riding, the side stand 1 must be folded up.

Finishing Work



- Remove the motorcycle from the lift stand. (p.83)

12.3 Removing the Front Forks



Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)
- Remove the front wheel. (p.140)



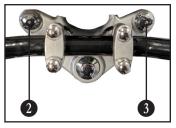
Main Work

- Remove the bolts 1 and remove the brake caliper.
- Allow the brake caliper and the brake hose to hang loosely to the side.



Info

Do not kink the brake hose.





- Note the installation position of the fork legs.
- Loosen bolts 2 then remove the left fork leg.
- Loosen bolts 3 then remove the right fork leg.

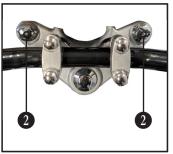
12.4 Installing the Front Forks



- Position the brake caliper over the rotor, secure with bolts 1, and tighten.

Guideline

Bolts, Front Brake Caliper	M8	20Nm (14.8lbf.ft)
----------------------------	----	-------------------







Tighten Bolts 2

Guideline

45Nm (33.1lbf.ft) M10 Bolts, Upper Triple Clamp

Tighten Bolts 3

Guideline

Bolts, Lower Triple Clamp	M8	15Nm (11.1lbf.ft)
---------------------------	----	-------------------

Finishing Work

Install the front wheel. (p.141)



12.5 Removing the Lower Triple Clamp

Preparatory Work

Raise the motorcycle with a lift stand. (p.83)







Remove the front forks. (p.85)



- Remove the front cover. (p.96)
- Remove the front fender. (p.97)

Main Work

- Remove nut 1





Info

Cover the components to protect them against damage.

Do not kink the brake hoses or cables.

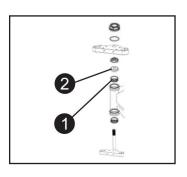
Remove the locking nut 2

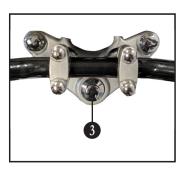


- Remove the lower triple clamp with steering stem.
- Remove the upper steering head bearing.



12.6 Installing the Lower Triple Clamp





Main Work

- Clean the bearing and, check for damage, then grease.

High Viscosity Waterproof Grease

- Insert the lower triple clamp with the steering stem. Install the upper steering stem bearing 1.
- Push on protective ring 2.
- Position the upper triple clamp with the handlebar.
- Install the bolt 3, but do not tighten it yet.



- Tighten bolts **5**.

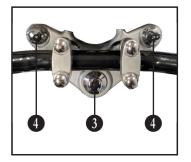
Guideline

Bolts, Lower Triple Clamp	M8	15Nm (11.1lbf.ft)
---------------------------	----	-------------------

Tighten bolt 3.

Guideline

Bolt, Steering Stem M10x1.5 45Nm (33.1lbf.ft)



Tighten bolt **4**.

Guideline

Bolts, Fork Crown M10 45Nm (33.1lbf.ft)



- Position the brake caliper over the rotor, install bolts 6 and tighten.

Guideline

Bolts, Front Brake Caliper	M8	20Nm (14.8lbf.ft)
----------------------------	----	-------------------

Finishing Work

- Install the front fender. (p.98)
- Install the front cover. (p.97)
- Check that the cables and brake hose are routed correctly.
- Install the front wheel. 🌊 (p.141)
- Check the steering head bearing play. (p.92)
- Remove the motorcycle from the lift stand. (p.83)

12.7 Checking the Steering Stem Bearing Play



Warning

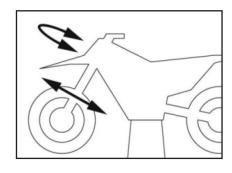
Danger of crashes Incorrect steering stem bearing play impairs the handling characteristics and damages components.

- Correct incorrect steering head bearing play immediately. (Your authorized SSR Motorsports dealer will be happy to help.)



Info

If the vehicle is operated for a lengthy period with play in the steering stem bearings, the bearings and the bearings seats in the frame will become damaged over time.



Preparatory Work

Raise the motorcycle with a lift stand. (p.83)

Main Work

Move the handlebar to the straight-ahead position. Move the fork legs back and forth in the direction of travel.

Play should not be detectable in the steering head bearings.



If there is detectable play:



- Adjust the steering stem bearing play. (p.94)
- Move the handlebar back and forth over the entire steering range.

It must be possible to move the handlebar easily over the entire steering range. There should be no detectable detent positions.

- >> If detent positions are detected:
- Check the steering stem bearings and replace if required.

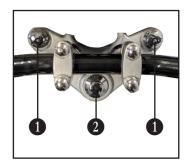
Finishing Work

- Remove the motorcycle from the lift stand. (p.83)

12.8 Adjusting the Steering Stem Bearing Play

Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)



Main Work

- Loosen the bolts $oldsymbol{1}$.
- Loosen and re-tighten bolt 2.

Guideline

Bolt, Steering Stem	M10x1.5	45Nm (33.1lbf.ft)
---------------------	---------	-------------------

- Using a plastic hammer, gently tap on the upper triple clamp to avoid stresses.
- Tighten bolts 1.

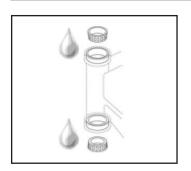
Guideline

Bolts, Fork Crown	M10	45Nm (33.1lbf.ft)
-------------------	-----	-------------------

Finishing Work

- Check the steering stem bearing play. (p.90)
- Remove the motorcycle from the lift stand. (p.83)

12.9 Lubricating the Steering Stem Bearings



- Remove the lower triple clamp. (p.87)
- Install the lower triple clamp. (p.89)

i Info

The steering stem bearings are cleaned and lubricated in the course of removal and installation of the lower triple clamp.

12.10 Removing the Front Cover



- Remove the bolt **1**.
- Remove the front cover from the front fender.



12.11 Installing the Front Cover



- Position the front cover.
- Mounting lugs 2 engage the front fender.
- Install and tighten the bolt $oldsymbol{0}$.

Bolt, Front Cover	M6	4Nm (3 lbf.ft)
,	i .	. , ,

12.12 Removing the Front Fender



- Remove the bolts **1**, take off the front fender.

12.13 Installing the Front Fender





- Position the fender with the drill holes 1 in the holding lugs on the front number plate.
- Position the front fender. Mount and tighten bolts 2.

Guideline:

Bolt, Fender	M6	6Nm (4.4 lbf.ft)
--------------	----	------------------

12.14 Removing the Rear Shock Absorber



Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)

Main Work

Note the installation position of the rear shock absorber.

- Remove bolt 1 and the lower the swingarm carefully.
- Remove bolt 2 then remove the rear shock absorber.

12.15 Installing the Rear Shock Absorber



Danger of crashes Modifications to the suspension settings may seriously alter the handling characteristics.



Main Work

- Mount the shock absorber with bolt 1.

Guideline

If necessary, observe the installation position noted during removal.

Bolt, Top Shock	M8	25Nm (18.4lbf.ft)
Absorber		

- Mount the shock absorber with bolt 1.
- Lift the swingarm, install bolt **2** and tighten it.

Bolt, Bottom Shock	M8	25Nm (18.4lbf.ft)
Absorber		

Finishing Work

- Remove the motorcycle from the lift stand. (p.83)

12.16 Removing the Seat



- Remove the wingnut **1** and raise the rear of the seat.
- Pull the seat toward the rear of the unit to remove it.

12.17 Installing the Seat



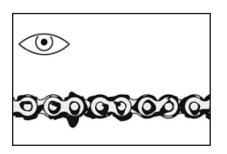
- The seat retainer hook 2 must be fitted into the frame seat lug 1, lower the rear of the seat and push it forward.



- Install the wingnut **①**.



12.18 Checking the Chain for Dirt



- Check the chain for coarse dirt accumulation.
- >> If the chain is very dirty:
- Clean the chain. (p.103)



12.19 Cleaning the Chain



Warning

Danger of Crashes Lubricants on the tires reduces road grip.

- Remove lubricants from the tires using a suitable cleaning agent.



Warning

Danger of Crashes Oil or grease on the brake rotors reduces the braking effect.

- Always keep the brake rotors free of oil and grease.
- Clean the brake rotors with brake cleaner when necessary.

Note



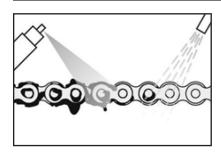
Environmental Hazard Hazardous substances cause environmental damage.

- Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with the applicable regulations



Info

The service life of the chain depends largely on its maintenance.



Preparatory Work

- Raise the motorcycle with a lift stand.

Main Work

- Rinse off loose dirt with a soft jet of water.
- Remove old grease residue with a chain cleaner.

Chain Cleaner

After drying, apply chain lubricant.

Off-road Chain Lubricant

- Raise the motorcycle with a lift stand.

Finishing Work

- Remove the motorcycle from the lift stand. (p.83)

12.20 Checking the Chain Tension



Warning

Danger of crashes Incorrect chain tension damages components and results in crashes.

If the chain is tensioned too much, the chain, motor sprocket, rear sprocket, and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the motor sprocket or the rear sprocket. As a result, the rear wheel locks or the motor will be damaged.

- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.



Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)

Main Work

- Press the chain upward at the end of the chain sliding piece and determine chain tension **A**.

i

Info

The top part of the chain 1 must be taut. Chain wear is not always even, so you should repeat this measurement at different chain positions.

Chain Tension	25 - 40mm (0.98 - 1.57in)
---------------	---------------------------

- >> If the chain tension does not meet the specification.
- Adjust the chain tension.

Finishing Work

- Remove the motorcycle from the lift stand. (p.83)

12.21 Adjusting the Chain Tension



Warning

Danger or crashes Incorrect chain tension damaged components and results in crashes.

If the chain is tensioned too much, the chain, motor sprocket, rear sprocket, and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the motor sprocket or the rear sprocket. As a result, the rear wheel locks or the motor will be damaged.

- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.





Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)
- Check the chain tension. (p.105)

Main Work

- Loosen nut **1**.
- Loosen nut 2.
- Adjust the chain tension by turning the adjusting nuts 3 left and right.

Guideline

25 - 40mm (0.98 - 1.57in)

Turn the adjusting nuts 3 on the left and right so that the markings on the left and right chain adjuster 4 are in the same position relative to the reference marks A. The rear wheel is then correctly aligned.

- Tighten nuts 2.
- Make sure that the chain adjusters **4** are fitted correctly on the swingarm.
- Tighten nut 1.

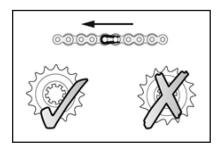
Guideline

Nut, rear wheel	M12x1.5	75Nm (55.3
spindle		lbf.ft)

Finishing Work

Remove the motorcycle from the lift stand. (p.83)

12.22 Checking the chain, rear sprocket, motor sprocket, and chain guide



Preparatory Work

Raise the motorcycle with a lift stand. (p.83)

Main Work

- Check the chain, rear sprocket and motor sprocket for wear.
- If the chain, rear sprocket or motor sprocket is worn:
- Change the drivetrain kit.



Info

The motor sprocket, rear sprocket, and chain should always be replaced together. When fitting the chain link, always make sure that the closed side of the link faces forward (riding direction).

- Check the chain for wear.
- If the chain is worn:
- Change the drive chain kit.



Info

When a new chain is mounted, the rear sprocket and motor sprocket should also be changed. New chains wear out faster on old, worn sprockets.



- Check the chain sliding guard for wear.
- If the lower edge of the chain pins is in line with, or below the chain sliding guard.
- Change the chain sliding guard.



- Check that the chain sliding guard is firmly seated.
- If the chain sliding guard is loose.
- Tighten the screw of the chain sliding guard.

Check the chain sliding piece for wear.

If the lower edge of the chain pins is in the line with, or below the chain sliding guard.



Change the chain sliding piece.



Check that the chain sliding piece is firmly seated.



Tighten the screw of the chain sliding guard.

Bolt, chain sliding piece	M6	10Nm (7.37 lbf.ft)
---------------------------	----	--------------------





Info

Wear can be seen on the front of the chain guide.

>>> If the light part of the chain guide is worn:

Change the guide.



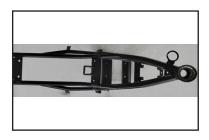
- Check that the chain guide is firmly seated.
- If the chain guide is loose:
- Tighten the screws on the chain guide.

	Screw, chain guide	M6	10Nm (7.37 lbf.ft)
- 1		1	

Finishing Work

Remove the motorcycle from the lift stand. (p.83)

12.23 **Checking the Frame**



- Check the frame for cracks and deformation.
- >>> If the frame exhibits cracks or deformation due to a mechanical impact:
- Change the frame.



Info

Always replace a frame that has been damaged due to a mechanical impact. Repair of the frame is not authorized by SSR Motorsports.

12.24 **Checking the Swingarm**



- Check the swingarm for damage, cracking, and deformation.
- If the swingarm shows signs of damage, cracking, or deformation:
- Change the swingarm.





Info

Always replace a damaged swingarm.

Repairing the swingarm is not authorized by SSR Motorsports.

12.25 Checking the Rubber Grips

- Check the rubber handgrip on the handlebar for damage, wear, and looseness.
- >> If a rubber grip is damaged, worn, or loose:
- Change the rubber grip.



Info

The rubber grips are vulcanized onto a sleeve on the left and onto the handle tube on the throttle grip on the right.

The left sleeve is installed onto the handlebar. The rubber grip can only be replaced with the sleeve of the throttle tube.

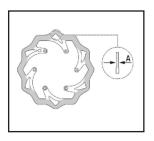
13.1 Checking the Brake Rotors



Warning

Danger or crashes Worn out brake rotors reduce the braking effect.

- Make sure that worn-out brake rotors are replaced immediately (Your authorized SSR Motorsports dealer will be happy to help.)



- Check the front and rear brake rotor thickness at multiple points for the dimension A.

i

Info

Wear reduces the thickness of the brake rotor around the contact surface of the brake pads.

Brake Rotor - Wear Limits		
FRONT	1.2mm (0.047 in)	
REAR	1.2mm (0.047 in)	

If the brake rotor thickness is less than the specified value:

Change the front brake rotor.



Change the rear brake rotor.



Check the front and rear brake rotors for damage, cracking, and deformation.

Change the front brake rotor.



Change the rear brake rotor.



13.2 Checking the Front / Rear Brake Fluid Level



Warning

Danger or crashes An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake pads are worn out.

- Check the brake system and do not continue riding until the problem is corrected. (Your authorized SSR Motorsports dealer will be happy to help.)



Warning

Skin Irritation Brake fluid causes skin irritation.

- Keep brake fluid out of the reach of children.

- Wear suitable protective apparel and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of Crashes Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized SSR Motorsports dealer will be happy to help.)

Note



Environmental Hazard Hazardous substances cause environmental damage.

- Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with the applicable regulations.

i

Info

Never use DOT brake fluid. It is silicone-based and can be purple in color. Oil seals and brake lines are not designed for DOT brake fluid.

Only use clean mineral oil from a sealed container.



- DO NOT remove the master cylinder cap to check the oil level!

This will add air to the system and force you to bleed it!

- Operate the brake levers, if adequate pressure and stopping power is present, no further action is needed.



>> If the brakes feel spongy and/or have inadequate braking effect, replace the fluid:

- Add front/rear brake fluid. 🜊 (p.125)



Immediately clean up any mineral oil that has over-flowed or spilled using soap. (END

13.3 Adding Front / Rear Brake Fluid



Warning

Danger or crashes An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake pads are worn out.

- Check the brake system and do not continue riding until the problem is corrected. (Your authorized SSR Motorsports dealer will be happy to help.)



Warning

Skin Irritation Brake fluid causes skin irritation.

- Keep brake fluid out of the reach of children.

- Wear suitable protective apparel and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of Crashes Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized SSR Motorsports dealer will be happy to help.)

Note



Environmental Hazard Hazardous substances cause environmental damage.

- Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with the applicable regulations.

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Info

Never use DOT brake fluid. It is silicone-based and can be purple in color. Oil seals and brake lines are not designed for DOT brake fluid.

Only use clean mineral oil from a sealed container.













Preparatory Work

- Remove the brake caliper, then remove the brake pads and install the brake pad spacer.

Main Work

- Move the brake fluid reservoir on the handlebar to a horizontal position.
- Remove the filler bolt **1**. *it's the larger bolt
- Install the reservoir bowl 2 into the filler hole.
 - Remove the bleeder screw from the caliper 3.
- Screw the oil filled syringe into the bleeder screw.
- With the caliper hanging, depress the syringe until bubbles come out at the bowl above. You can stop adding fluid when the bubbles stop.
- Remove the syringe and install the bleeder screw.
- Operate the lever until pressure builds and continue until no more bubbles appear in the reservoir bowl.
- Once the lever feels solid, insert the bowl stopper
 and remove the bowl.
- Reinstall the bleeder bolt.

(search for bicycle brake bleed kit to find the kit we used)

i Info

Immediately clean up any mineral oil that has over-flowed or spilled using soap.



Checking the Front Brake Pads 13.4



Warning

Danger or crashes Worn-out brake pads reduce the braking effect.

- If the minimum thickness is less than specified.
- Ensure that worn-out brake pads are replaced immediately.

(Your authorized SSR Motorsports dealer will be happy to help.)



Check the brake pads for minimum thickness

Minimum Thickness **A**



>1mm (>0.04in)

If the minimum thickness is less than specified.

- Change the front brake pads. 🌊 (p.130)
- Check the brake pads for damage and cracking.

 \gg If damage or wear is encountered:

- Change the front brake pads. (p.130)

13.5 Changing the Front Brake Pads



Warning

Danger or crashes Incorrect servicing will cause the brake system to fail.

- Ensure that service work and repairs are performed professionally. (Your authorized SSR Motorsports dealer will be happy to help.)



- Remove bolts 1.
- Loosen the brake pads by slightly tilting the brake caliper laterally on the brake rotor. Carefully pull the brake caliper backward from the rotor.



- Remove the brake pads.
- Clean the brake caliper and the brake caliper bracket.
- Position the new brake pads.



: Info

Always change the brake pads in pairs. Ensure that the brake pads are correctly positioned in the holding spring.





Warning

Danger or crashes Oil or grease on the brake rotors reduces the brake effect.

- Always keep the brake rotors free of oil and grease.
- Clean the brake rotors with brake cleaner when necessary.
- Check the brake rotors.
- Position the brake caliper, install bolts **1**, and tighten.

Guideline

ĺ	Bolt, front brake caliper	M8	20Nm (14.8 lbf.ft)

13.6 Checking the Rear Brake Pads



- Check the brake pads for minimum thickness

A

Minimum Thickness A >1mm (>0.04in)

- If the minimum thickness is less than specified:
 - Change the rear brake pads. 🜊 (p.133)
- Check the brake pads for damage and cracking.
- >> If damage or wear is encountered.
- Change the rear brake pads. (p.133)

13.7 Changing the Rear Brake Pads



Warning

Danger or crashes Incorrect servicing will cause the brake system to fail.

- Ensure that service work and repairs are performed professionally. (Your authorized SSR Motorsports dealer will be happy to help.)



Warning

Skin Irritation Brake fluid causes skin irritation.

- Keep brake fluid out of the reach of children.
- Wear suitable protective apparel and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.

- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of Crashes Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized SSR Motorsports dealer will be happy to help.)



Warning

Danger or crashes Oil or grease on the brake rotors reduces the brake effect.

- Always keep the brake rotors free of oil and grease.
- Clean the brake rotors with brake cleaner when necessary.



Warning

Danger of Crashes Brake pads that have not been approved alter the braking efficiency. Not all brake pads are tested and approved for SSR Motorsports motorcycles. The structure and friction coefficient of the brake pads, and thus their braking power, may very greatly from that of the original brake pads. If brake pads are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

Note



Environmental Hazard Hazardous substances cause environmental damage.

- Dispose of oils, grease, cleaning agents, brake fluid etc. properly and in compliance with applicable regulations.

i

Info

Never use DOT brake fluid. It is silicone-based and can be purple in color. Oil seals and brake lines are not designed for DOT brake fluid.

Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.

Only use clean mineral oil from a sealed container.





Preparatory Work

- Raise the motorcycle with a lift stand.
- Remove the nut $oldsymbol{1}$.
- Remove the chain adjuster 2.

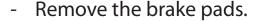


- Remove the wheel spindle **3**.
- Remove the brake caliper.



Info

Do not kink or damage the brake line.



- Clean the brake caliper and the brake caliper bracket.
- Allow the brake caliper and the brake line to hang loosely to the side.
- Check the brake rotors. (p.119)
- Install the new brake pads.





Info

Always change the brake pads as a pair. Ensure that the brake pads are correctly positioned in the holding spring.



- Install the brake caliper over the brake rotor.
- ✓ The brake pads are correctly positioned.
 - Install the wheel axle $oldsymbol{1}$.
- Install and tighten the nut 2.

Finishing Work

- Remove the motorcycle from the lift stand. (p.83)

14.1 Removing the Front Wheel



Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)

Main Work

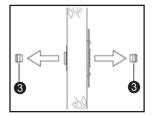
- Loosen nut 1.
- Remove the wheel axle 2.



Warning

Danger or crashes Damaged brake rotors reduce the braking effect.

- Always lay the wheel down in such a way that the brake rotor is not damaged.



- Hold the front wheel and remove the wheel axle. Remove the front wheel from the forks.



Info

Do not actuate the handbrake lever when the front wheel is removed.

- Remove the spacers **3**.

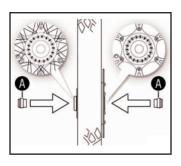
14.2 Installing the Front Wheel



Warning

Danger or crashes Oil or grease on the brake rotors reduces the braking effect.

- Always keep the brake rotors free of oil and grease.
- Clean the brake rotors with brake cleaner when necessary.



- Check the wheel bearings for damage and wear.
- >> If the wheel bearing(s) is damaged or worn:
- Change the front wheel bearings.
- Clean and grease the contact surfaces **A** of the wheel spacers.



- Clean the wheel axle.
- Position the front wheel.
- The brake pads are correctly positioned.
- Insert the wheel axle.



- Install and tighten the nut $oldsymbol{1}$.

Nut, front wheel axle M12x1.5 75Nm (55.3 lbf.ft)

- Operate the handbrake lever several times until the brake pads are seated correctly against the brake rotor.
- Remove the motorcycle from the lift stand.
- Operate the front brake and compress the forks a few times firmly.
- ✓ That the fork legs straighten.



14.3 Removing the Rear Wheel





Preparatory Work

- Raise the motorcycle with a lift stand. (p.83)

Main Work

- Remove the nut **①**.
- Remove the chain adjuster 2.
- Remove the axle **3** far enough to allow the rear wheel to be pushed forward.
- Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.

Info

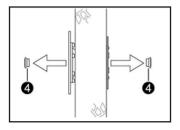
Cover the components to protect them against damage.



Warning

Danger or crashes Damaged brake rotors reduce the braking effect.

- Always lay the wheel down in such a way that the brake rotor is not damaged.
- Hold the rear wheel and remove the wheel axle. Remove the rear wheel from the swingarm.



Info

Do not operate the rear brake lever when the rear wheel is removed.

- Remove the spacers **4**.



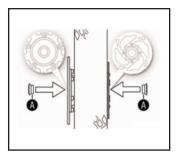
14.4 **Installing the Rear Wheel**



Warning

Danger or crashes Oil or grease on the brake rotors reduces the brake effect.

- Always keep the brake rotors free of oil and grease.
- Clean the brake rotors with brake cleaner when necessary.



Main Work

- Check the wheel bearings for damage and wear.
- \Rightarrow If the wheel bearing(s) are damaged or worn:
 - Change the rear wheel bearings.

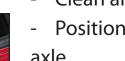


- Clean and grease the contact surfaces (A) of the spacers.
- Insert the spacers.



Info

Insert the wider spacer on the left in the direction of wheel travel.



- Clean and grease the wheel axle **1**.
- Position the rear wheel and insert the wheel axle.
- The brake pads are correctly positioned.
- Mount the chain.
- Position the chain adjuster 2 on both sides and push the wheel axle in all the way.





- Install nut 3, but do not tighten it yet.
- Make sure that the chain adjusters are installed correctly on the adjusting bolts.
- Check the chain tension. (p.105)
- Tighten the nut **3**.

Guideline



Nut, rear wheel axle M12x1.5 75Nm (55.3 lbf.ft)

- Operate the rear brake lever repeatedly until the brake pads are in contact with the brake rotor and a firm feeling returns to the brake lever.

Finishing Work

- Remove the motorcycle from the lift stand. (p.83)

14.5 Checking the Tire Conditions

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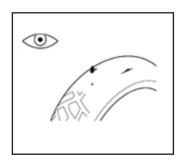
Info

Only mount tires approved and/or recommended by SSR Motor sports. Other tires could have a negative effect on handling characteristics.

The type, condition, and pressure of the tires all have a major impact on the handling characteristics of the motorcycle.

The tires mounted on the front and rear wheels must have a similar profile.

Worn tires have a negative effect on handling characteristics especially on wet surfaces.



- Check the front and rear tires for cuts, embedded objects, and other damage.
- \gg If the tires have cuts, run-in objects, or other damage:
- Change the tires.
- Check the tread depth.
 - Info

Observe the minimum profile depth required by national law.

Minimum tread depth >2mm (>0.08in)

If the tread depth is less than the minimum tread depth:

- Change the tires.

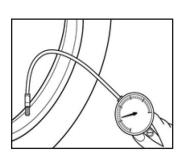


14.6 Checking Tire Pressure

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Info

Low tire pressure leads to abnormal wear and overheating of the tire. Correct tire pressure ensures optimal riding comfort and maximum tire service life.



- Remove the protective cap.
- Check tire pressure when the tires are cold.

Off-road tire pressure		
FRONT	10 - 15 psi	
REAR	10 - 15 psi	

If the tire pressure does not meet specifications:

- Correct the tire pressure.
- Install the valve stem cap.



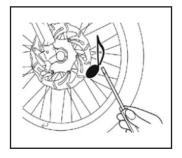
14.7 Checking Spoke Tension



Warning

Danger or crashes Incorrectly tensioned spokes impair the handling characteristics and result in secondary damage. The spokes break due to being overloaded if they are too tightly tensioned. If the tension in the spokes is too low, then lateral and radial run-out will form in the wheel. Other spokes will become loose as a result.

- Check spoke tension regularly, and in particular on a new vehicle. (Your authorized SSR Motorsports dealer will be happy to help.)
 - Rotate each spoke nipple briefly using a spoke wrench.



Info

The frequency of the sound depends on the spoke length and spoke diameter. If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high pitched note.

 \gg If the spoke tension differs:

Correct the spoke torque.



Guideline

15.1 Overview of the Battery



- Carrying Handle
- 2 Charging Port
- 3 Power Display
- 4 Lithium Battery

15.2 Battery Compartment and Replacement



- Battery
- 2 Battery Compartment
- Battery Retainer Bracket



- First place the battery 1 into the frame.
- Install the battery retainer bracket and tighten the 2 screws 2.
- Connect the battery to unit **3**.
 - *i* Info

Be careful not to crush the battery connector under the battery during installation.

15.3 Overview of the Battery Charger



- Battery Charger
- 2 Charging Cable
- 3 Power Cord

15.4 Positioning the Battery Charger



Warning

Risk of Injury If the battery charger is used incorrectly, its intrinsic safety cannot be guaranteed.

The battery charger is only suitable for use with this battery.

- Only use the battery charger with this battery.
- Only operate the battery charger using household sockets with a ground conductor.
- Do not use any additional adapters or extensions.
- Follow the applicable safety instructions of the power connection.



Warning

Risk of Injury There is a risk of electric shock if the battery charger or the cables have been manipulated or damaged.

The battery charger does not contain any parts which require maintenance.

- Do not modify the battery charger or the charger cables.
- Only use the original cables.
- Never open the battery charger housing.
- Do not insert any objects into the battery charger housing from the outside.
- Do not use the battery charger if the cables, plugs, or parts of the battery charger have been damaged or are soiled.

i

Info

The battery charger contains sensitive electronics and must be handled with appropriate care. The battery charger may be damaged or destroyed if it is dropped, knocked or otherwise subject to mechanical overload.

When transporting the battery charger, ensure appropriate means of securing the cargo.

Damage caused due to improper handling or improper transport is excluded from the manufacturer warranty.



- Place the battery charger on a firm, level, and horizontal surface.

; Info

The battery charger should only be used in a dry environment, as moisture may penetrate into the interior when connecting and disconnecting the charger leads.

Check the battery charger and mains cable for external damage.

- Ensure the battery charger is adequately ventilated.
- Battery Charger Specifications:

Input Voltage	100 ~ 240V
Input Voltage Frequency	50/60HZ
Maximum Charging Voltage	DC54.6 ± 0.2V
Maximum Input Current	90-260V, AC2A
Output Current	2A

i

Info

A change in temperature can cause moisture to condense on the battery charger.

- Ensure that the power plug for the battery charger always remains easily accessible.

15.5 Charging the Battery



Warning

Danger of Burns The plastic housing of the battery charger becomes hot during operation.

- Only touch the battery charger once it has cooled.
- After charging, allow the battery charger to cool before stowing it away.

Battery Characteristics

Guideline

Battery Cell Type	INR18650-26E
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Connection Method	13S 4P
Nominal Voltage	48V
Charging Voltage	54.6 ± 0.2V
Standard Charge	2A, 54.6V
Maximum Charge	3.5A, 54.9V
Standard Discharge	18A discharge, 35.1V cut off, at 103.6~114.4 ° F
Maximum Discharge	20A (continuous)
Operating Temperature	Charge: 32~113 ° F Discharge: -4~149 ° F

Note

Environmental Hazard A lithium-ion battery contains components and elements that are harmful to the environment.

- Never throw a battery into the household trash.
- Dispose of the battery properly and in compliance with the applicable regulations. (Your authorized SSR Motorsports dealer is happy to help.)

i Info

Do not activate the vehicle while the battery charger is connected to the battery.

Info

If the temperature of the battery exceeds the permissible value while it is being charged, the battery charger stops charging.

After the temperature of the battery returns to the permissible range, charging is resumed automatically.





Preparatory Work

- Position the battery charger. (p.156)

Main Work

- Remove the charging socket protection cap 1.
- Charging Plug **2**.
- Make sure that all plugs, ports, and cables are dry.

Warning Risk of Injury

The intrinsic safety of the battery can only be guaranteed if the original battery charger is used.

Only use the original battery charger to charge the battery.



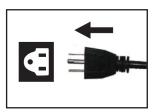
Connect the battery charger to the battery.

Guideline

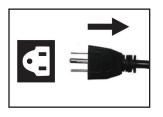




Insert the plug straight so that the contacts are not bent.



- Connect the power plug for the battery charger to the wall outlet.
- ✓ Charging starts automatically.





; Info

Is is recommended not to leave the vehicle unattended for long periods while charging.

- Make sure that all plugs, bushings, and cables are dry.
- Disconnect the battery charger power plugs from the wall outlet.
- Unlock the charging plug lock counterclockwise and disconnect the charging cable from the battery.

Guideline:

- 1. Counterclockwise unlock charging plug nut with your right hand.
- 2. Remove the charging plug.



- Check the charging socket protection cap **1**. If the charging socket protection cap is dirty:
- Clean the charging socket protection cap with out water or compressed air.
 If the charging socket protection cap is damaged or worn:
- Change the charging socket protection cap.

15.6 Checking the Controller Three-Phase Cables, Power Line Hardware

Warning
Risk of Safety If controller three-phase wires, power wire installation screws loosen, spark will be generated and poses a safety risk.



- Park the vehicle on a level surface.
- Check controller three-phase cables, power line installation screws 1 for looseness.
- If controller three-phase cables, power line installation screws 1 are loose.
- Tighten the screws **1**.

Installation bolts M4	5Nm (3.7 lbf.ft)
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Info

Controller three-phase cables, power lines should be checked every six months.

COOLING 16

16.1 Cooling



The battery **1** and the electric motor **2** are air-cooled.

Cooling is effected by air flow from forward motion.

The lower the speed, the less cooling effect.

17.1 Cleaning the Motorcycle

Note

Material Damage The vehicle and the battery are not suitable for pressure cleaning.

The high pressure forces water into the electrical components, connectors, throttle cable, and bearings, etc. As a result, components may be damaged or destroyed.

- Never clean the vehicle and battery with a pressure cleaner or a powerful jet of water.
- Do not point a jet of water toward the battery discharge plug, even if the protection cap has been installed.

Note



Environmental Damage Hazardous substances cause environmental damage.

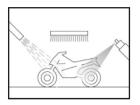
- Dispose of oils, grease, cleaning agents, brake fluid, etc. properly and in compliance with the applicable regulations.

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Info

Clean the motorcycle regularly to maintain its value and appearance over time.

Avoid direct sunlight when cleaning the motorcycle.



- Remove coarse dirt particles with a gentle water jet.
- Spray heavily soiled parts with a normal commercial motorcycle cleaner, working with a soft brush.



Info

Use warm water containing normal motorcycle cleaner and a soft sponge.

Never apply motorcycle cleaner to the dry motorcycle.

Always rinse the motorcycle with water before use.

- After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.



Warning

Danger of Crashes Moisture and dirt impair the brake system.

- Explain to your child that they must brake carefully several times to dry out and remove dirt from the brake pads and brake rotors.
- After cleaning, your child should ride a short distance until the brake system has dried through careful braking.

i Info

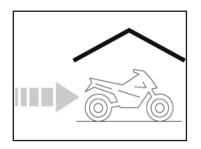
The heat causes the water to evaporate even in inaccessible parts of the vehicle.

- After the motorcycle has cooled down, lubricate all moving parts and pivot points.
- Clean the chain. (p.103)
- Treat bare metal (except for brake rotors) with a corrosion inhibitor.
- Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

18.1 Storage

i Info

If the motorcycle is not being used for an extended length of time, additional measures are recommended, have service work, repairs or replacements performed outside the motorcycling season, if possible this allows you to avoid long waiting periods when the next season starts.



- Check all motorcycle parts for function.
- Clean the motorcycle. (p.169)
- Check tire pressure. (p.151)
- Charge the battery. (p.160)

Guideline:

Empty the battery to below 30% charging level.

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Info

Lithium-ion powered batteries self-discharge over time, long-term storage will lead to over-discharging of the battery and damage the internal structure of the battery, reducing battery life.

Therefore, during long-term storage of the lithium-ion battery, it should be recharged every 3 to 6 months.

- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Ideal storage temperature	50~68°F
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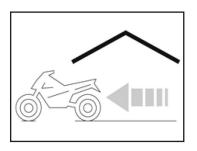
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Info

If the vehicle was placed on a lift stand, the tire and spring elements will be relieved of weight.

- Raise the motorcycle with a lift stand. (p.83)
- Cover the motorcycle with a tarp or cover that is permeable to air.

18.2 Preparing For Use After Storage



- Remove the motorcycle from the lift stand. (p.83)
- Charge the battery. (p.160)
- Perform checks and maintenance measures when preparing for use. (p.52)
- Take a test ride.



