



SM 500R

Manual - Operation - Maintenance

PRESENTATION

Welcome to the SWM motorcycling Family!

Your new SWM motorcycle is designed and manufactured to be the best in its field.

The instructions in this book have been prepared to provide a simple and understandable guide for your motorcycle's operation and care.

Follow the instructions carefully to obtain maximum performance and your personal motorcycling pleasure. Your owner's manual contains instructions for owner care and maintenance.

The main repair or maintenance work requires the attention of a skilled mechanic and the use of special tools and equipment.

Your SWM Dealer has the facilities, experience and original parts necessary to properly render this valuable service.

This "Owner's Manual" is part and parcel of the motorcycle, hence, it shall remain with the motorcycle even when sold to another user.

This motorcycle uses components designed thanks to systems and state-of-the-art technologies which are thereafter tested in competitions.

In racing motorcycles, every detail is verified after each race in order to always guarantee better performance.

To ensure trouble-free operation of the vehicle, it is necessary to follow the maintenance and inspection table found under Appendix A.

IMPORTANT NOTICES

1) SM models are STREET LEGAL motorcycles; they are guaranteed exempt from functional defects and covered with legal guarantee, as far as the STANDARD CONFIGURATION IS MAINTAINED and the suggested maintenance table, shown in Appendix A, is observed.

2) All the motorcycles and any of their parts used in competitions of any type are excluded from the warranty.



IMPORTANT

In order to maintain the vehicle's "Guarantee of Functionality", the client must follow the maintenance programme indicated in the user's manual by carrying out maintenance inspections at authorised SWM dealers.

The cost for changing parts and for the labour necessary in order to comply with the maintenance plan is charged to the Client.

Note*: the warranty is NULL AND VOID if the motorcycle is rented.

Important Notice

Read this manual carefully and pay special attention to statements preceded by the following words:

WARNING*: Indicates the possibility of severe personal injury or death if instructions are not followed.

CAUTION*: Indicates the possibility of personal injury or vehicle damage if instructions are not followed.

Note*: Gives helpful information.

Parts Replacement

When parts replacement is required, use only SWM ORIGINAL parts.

WARNING*: After a crash, inspect the motorcycle carefully. Make sure that the throttle, brake, clutch and all other systems are undamaged. Riding with a damaged motorcycle can lead to a serious accident.

WARNING*: Never attempt to start or operate your motorcycle unless you are wearing appropriate protective clothing. Always wear a motorcycle helmet, boots, gloves, goggles and other appropriate protective clothing.

WARNING*:

- Park the vehicle where it is unlikely to be bumped into or damaged. Even slight or involuntary bumps can cause the vehicle to tip over, with subsequent risk of serious harm to people or children.
- To prevent the vehicle from tipping over, never park it on soft or uneven ground, nor on asphalt strongly heated by the sun.
- Engine and exhaust pipes become very hot during riding. Always park your motorcycle where people or children can not easily reach these parts, in order to avoid serious scalds.

SAFE RIDING AND MOTORCYCLE SAFETY

Here are some basic principles for riding your motorcycle safely.

- Remember that your safety and the safety of your passenger come first. Reaching your destination safely must be your main aim.
- The rider and the passenger must wear appropriate protective clothing, such as suit, gloves, shoes and helmet homologated for motorcycle use.
- The rider must be seated on the motorcycle in a position that gives the best possible visibility of the road ahead.
- Ride the motorcycle carefully and set the speed according to traffic and the type of road. Smooth riding helps you to assess danger and enter bends more precisely.
- Always observe road signs and adjust your speed accordingly.
- Always observe speed limits.

- Always assess the road conditions and adjust your speed accordingly.
- Reduce speed if it is raining and especially if there are puddles of water on the road.
- When riding on wet or low grip surfaces (snow, ice, mud, etc.) keep a moderate speed and avoid sudden braking and manoeuvres.
- Keep a safe distance from the vehicles in front of you.
- Before overtaking, check there are no obstacles in front of the vehicle you want to overtake and always check in the rear-view mirrors that there are no vehicles coming up from behind.
- Brake using both the front and the rear brake at the same time: this helps to maintain the stability of the vehicle.
- Release the clutch gradually when downshifting.
- If you feel tired or sleepy, take a break.

- Downshift in the following instances:
When going downhill and when braking to increase the braking action through engine compression; using only brakes when going downhill could cause the brake pads to overheat and reduce the braking action;
When going uphill or on the flat when the gear does not match the speed of the motorcycle (high gear and low speed);

WARNING*: Downshift one gear at a time; downshifting more than one gear at a time may cause the engine to overrev and/or block the rear wheel.

- Do not switch off the engine when going downhill.
- When you ride with a passenger, increase the distance from the vehicles in front of you and bear in mind your weight when you brake and when you have to round a bend or overtake.
- The riding position of both the rider and the passenger is important for motorcycle control.
- While riding, the rider must keep both hands on the handlebar and both feet on the footrests in order to keep the motorcycle under control.
- The passenger must always hold on to the rider or the passenger handle with both hands and keep both feet on the passenger footrests. Never carry a passenger that is unable to firmly place both feet on the passenger footrests.

- Never ride under the influence of alcohol or drugs.
- This motorcycle is designed exclusively for road use. It is not suitable for off-road use.

Risks related to carbon monoxide

Exhaust gas contains carbon monoxide, a colourless and odourless gas. Breathing in carbon monoxide may cause loss of consciousness and death.

If you start the engine in a fully or partially closed environment, the air you breathe in may contain a hazardous amount of carbon monoxide. Never start the motorcycle in a garage or other closed places.

WARNING*: Carbon monoxide is a toxic gas. Breathing in carbon monoxide may cause loss of consciousness and death. Avoid any areas or activities where you may be exposed to carbon monoxide.



SUMMARY

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Note

- References to the “left” or “right” of the motor-cycle are considered from the point of view of a person facing forward.
 - Z: number of teeth
 - A: Austria
 - AUS: Australia
 - B: Belgium
 - BR: Brazil
 - CDN: Canada
 - CH: Switzerland
 - D: Germany
 - E: Spain
 - F: France
 - FIN: Finland
 - GB: Great Britain
 - I: Italy
 - J: Japan
 - USA: United States of America
-
- Unless otherwise specified, all the data and the instructions are referred to any and all Countries.

IDENTIFICATION DATA

The engine identification number is stamped at the top of the crankcase, while vehicle serial number or Vehicle Identification Number is stamped on the steering head tube.

Always quote **the number stamped on the frame** when ordering spare parts or requesting further details about your vehicle and note it on this booklet.

CHASSIS NUMBER

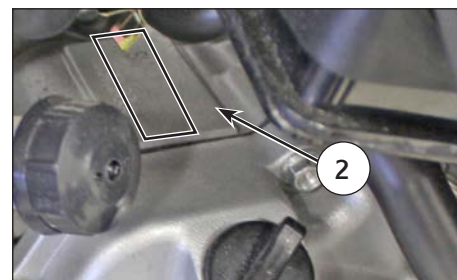
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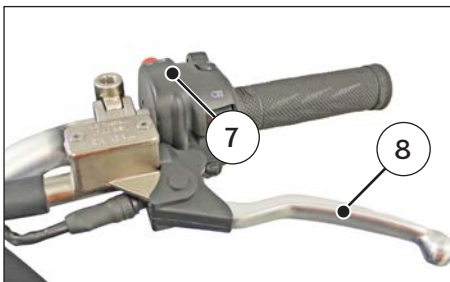
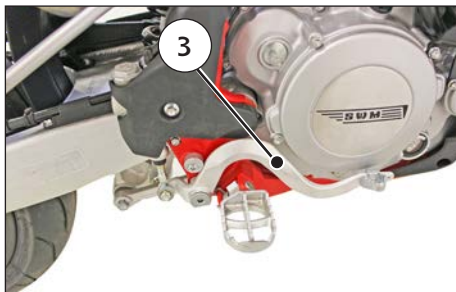
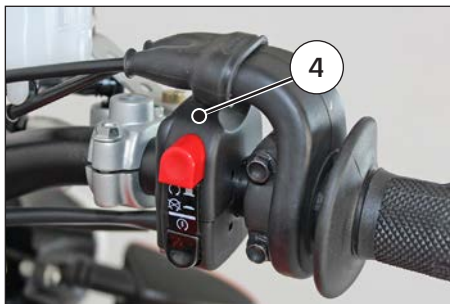
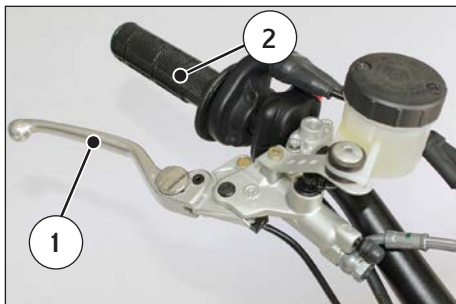
VEHICLE IDENTIFICATION NUMBER (V.I.N.)

The full 17-digit serial, or Vehicle Identification Number, is stamped on the steering tube (R.H. side).

- (●) = Model designation
- (▲) = Model Year (2018)
- (◆) = Progressive no.



1. Chassis serial number
2. Engine serial number



CONTROLS LOCATION

1. Front brake lever
2. Throttle grip
3. Rear brake control pedal
4. Right handlebar switch
5. Digital instrument
6. Ignition switch
7. Left handlebar switch
8. Clutch control lever
9. Gearbox control pedal (to engage first gear, push the lever down, for other gears push it upwards. The "idle" gear is between the first and second gear).

TECHNICAL DATA

ENGINE

Type single cylinder, 4 stroke
Cooling liquid with electric fan
Bore 3.81 in.
Stroke 2.67 in.
Displacement 30.56 cu. in
Compression ratio 12,9:1
Starting electric
(with automatic decompressor)

TIMING SYSTEM

Type double overhead camshaft; 4 valve
Valve clearance (with engine cold)
Intake 0.004 ÷ 0.006 in.
Exhaust 0.007 ÷ 0.009 in.

LUBRICATION

Type Dry sump with two oil pump
rotor and cartridge filter

IGNITION

Type Electronic, inductive discharge,
with adjustable advance (digital control)
Spark plug type NGK CR8E
Spark plug gap 0.027 in.

FUEL SYSTEM

Type Electronic injection feed

PRIMARY DRIVE

Drive pinion gear- Clutch ring gear Z 23- Z 63

Transmission ratio 2,739

CLUTCH

Type oil bath multiple disc clutch,
hydraulic control

TRANSMISSION

Type constant mesh gear type

Transmission ratio

1st gear 2,000 (z 28/14)

2nd gear 1,611 (z 29/18)

3rd gear 1,333 (z 24/18)

4th gear 1,086 (z 25/23)

5 th gear 0,920 (z 23/25)

6 th gear 0,814 (z 22/27)

SECONDARY DRIVE

Transmission sprocket-

Rear wheel sprocket. Z 15- Z 42

Transmission ratio 2,800

FRAME

Type single beam, double cradle in steel tubes;
rear frame in light alloy.

FRONT SUSPENSION

Type "Upside-down" telescopic hydraulic
front fork with advanced axle
(adjustable in compression and
rebound stroke); stanchions tubes Ø 1.89 in.

Legs axis stroke 9,84 in.

REAR SUSPENSION

Type progressive with hydraulic single
shock absorber (adjustable in compression
and rebound stroke)

Wheel stroke 11,41 in.

FRONT BRAKE

Type floating disc Ø 12.59 mm
"Wave" type with hydraulic control
and fixed radial caliper

REAR BRAKE

Type fixed disc, ø 9.45 in. with
hydraulic control and floating caliper

RIMS

Front in light alloy: 3,50x17"

Rear in light alloy 4,25x17"

TIRES

Front.....120/70-17"

Rear.....150/60x17"

COLD TYRE PRESSURE

Rider only

Front.....2.0 psi

Rear.....2.2 psi

Rider and passenger

Front.....2.2 psi

Rear.....2.4 psi

DIMENSION, WEIGHT, CAPACITY

Wheelbase.....57.68 in.

Overall length.....83.15 in.

Overall width.....32.30 in.

Overall height.....48.03 in.

Saddle height.....37.01 in.

Minimum ground clearance.....11.73 in.

Dry weight.....lb. 293.21

Fuel tank capacity (1.58 Imp. Qt./ 1.9 U.S. Qt.

reserve included).....1.58 Imp. Gall./ 1.9 U.S. Gall

Coolant capacity.....2.0÷2.4 Imp. Pints;

2.3÷2.7 U.S. Pints

Transmission oil

Oil and oil filter replacement.....Imp. Quarts 1.5,

U.S. Quarts 1.8

Oil replacement.....Imp. Quarts 1.3,

U.S. Quarts 1.6

TABLE FOR LUBRICATION, SUPPLIES

Engine, gearbox and primary drive lubricating oil
MOTUL 7100 TECHNOSYNTHÈSE 5W40

Engine coolant

MOTUL MOTOCOOL EXPERT

Brake system fluid

MOTUL DOT 3&4

Clutch fluid

SAE 10 MINERAL OIL FOR HYDRAULIC CIRCUITS

Grease lubrication

MOTUL GREASE 100

Final drive chain lubrication

MOTUL CHAIN LUBE

Front fork oil

MOTUL FORK OIL LIGHT 5W

Oil for rear shock absorber

MOTUL MOTUL SHOCK OIL FL

Electric contact protection

MOTUL EZ LUBE

CONTROLS

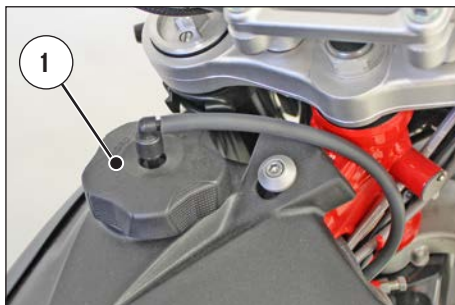
FUEL

Recommended fuel: premium grade UNLEADED fuel (R.O.N. 98).

WARNING*: Do not continue operation if the engine pings or knocks. The engine will be damaged and could seize.

WARNING*: Fuel is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke or allow flames or sparks in the area where the motorcycle is refuelled or fuel is stored.

WARNING*: Do not overfill the tank. Refer to the lower mark on filler. After refuelling, make sure the tank cap (1) is closed securely.



SIDESTAND

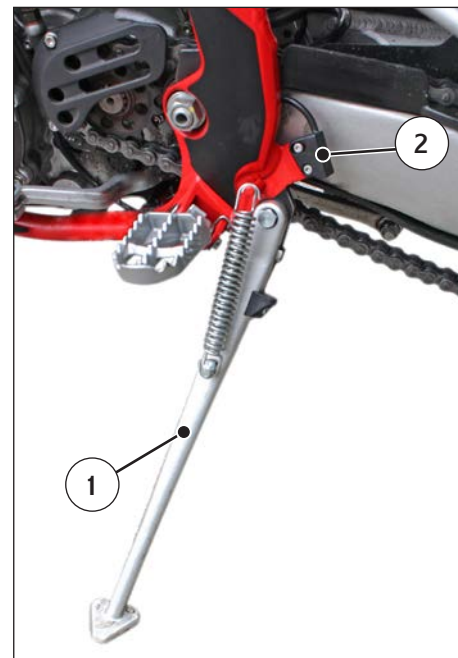
A kickstand (1) is supplied with every motorcycle.

WARNING*: The stand is designed to support the weight of the MOTORCYCLE ONLY. Do not sit on the motorcycle using the stand for support as this could cause structural failure to the stand and could cause serious bodily injury.

WARNING*:

The motorcycle must ONLY be stood on its kickstand AFTER the rider has dismounted. Once the motorbike has been brought from its rest position on the ground into vertical position, the driver has to raise the stand from the lowered to the raised position with his left foot.

WARNING*: A safety sensor (2) is fitted on the motorbike, which allows starting it with the stand lowered and the gear in neutral. If a gear is engaged with the stand lowered, the engine turns off.



DIGITAL INSTRUMENT, WARNING LIGHTS

The motorcycle is equipped with a digital instrument with 5 indicator lights: high-beam headlight, engine malfunction, direction indicators, neutral, and ABS.

1) High-beam light  (BLUE).

Turns on when the low-beam headlights are activated.

2) Engine malfunction indicator light  (ORANGE).

Turns on when the engine is not functioning properly; in this case, it is recommended to visit an SWM service centre as soon as possible.

The indicator light turns off once the malfunction has been resolved.

3) Turning indicator light  (GREEN).

Starts flashing when the right or left direction indicator is activated.

4) Neutral warning light  (GREEN).

Turns on when the gear shift lever is in the neutral position.

5) ABS warning light  (ORANGE).

Starts flashing when the rear wheel's ABS function is deactivated.

Remains on if an ABS system malfunction is detected; in this case, it is recommended to visit an SWM service centre as soon as possible.

The indicator light turns off once the malfunction has been resolved.

NOTE:

- The display check will be carried out for the first few seconds after turning the key; once the check phase has been completed, the instrument will display the last function set.
- When the engine is turned off, the instrument does not show any functions.
- To select instrument functions and reset functions, use the SCROLL button (A)



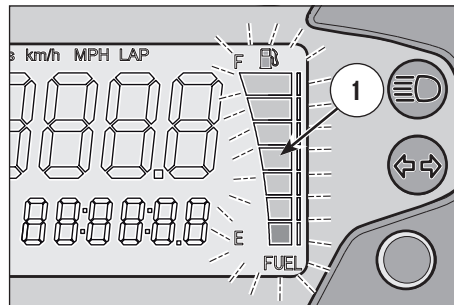
- The functions, which can be selected in order are as follows:

- 1- SPEED / ODO / FUEL
- 2- SPEED / H / FUEL
- 3- SPEED / CLOCK / FUEL
- 4- SPEED / TRIP 1 / FUEL
- 5- SPEED / STP 1 / FUEL
- 6- SPEED / AVS 1 / FUEL
- 7- SPEED / SPEED MAX / FUEL
- 8- SPEED / TRIP 2 / FUEL
- 9- TRP 2 / CLOCK / FUEL
- 10- SPEED / RPM (engine r.p.m. numerical value) / FUEL

.....

RESERVE FUEL LEVEL INDICATOR

When the fuel inside the tank reaches the reserve level, bar (1), will begin flashing; in this case, it is recommended to refuel as soon as possible.



1- SPEED (kmh or mph) / ODO / FUEL (figure 1)

- SPEED: 299 kmh or 299 mph;
- ODO: odometer- maximum value: 99999 km;

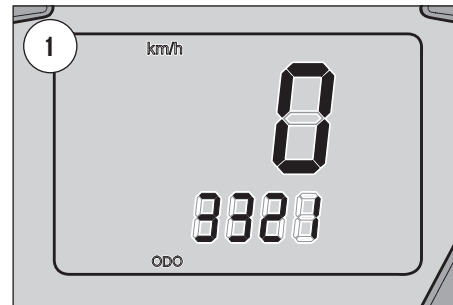
To replace kilometers with miles or miles with kilometers proceed as follows:

- 1) set to figure 1, place the ignition key in the OFF position and push the knob SCROLL (A);
- 2) place the ignition key in the ON position while pressing the SCROLL wheel for 3 seconds (A)

To confirm the conversion, the "SET" and the Miles and mph or km and kmh segment will activate for 3 seconds; afterwards the standard function in Fig.1 will reappear.

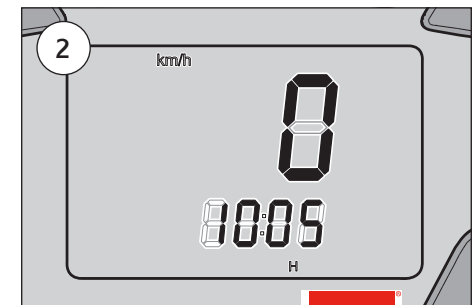
NOTE

After the previously described operation, the ODO setting will be converted and all other data reset (the H Counter is unchanged).



2- SPEED / H / FUEL (figure 2)

- SPEED: 299 kmh or 299 mph;
- H: shows the running hours of the engine (data are saved in permanent memory every 10 minutes). Maximum value: 9999:59.



3- SPEED / CLOCK / FUEL (figure 3)

- SPEED: 299 kmh or 299mph;
- CLOCK: Clock- reading from 0:00 to 23:59:59 (the data will be lost after detaching battery);

To set clock, press the SCROLL button (A) for 3 seconds or more to increase the hour; release button and after 3 seconds the minutes can be increased.

4- SPEED / TRIP 1 / FUEL (figure 4)

- SPEED: 299 kmh or 299mph;
- TRIP 1: distance- maximum value: 999.9 km (the data will be lost after detaching battery).

If the STP 1 is set to zero, the functions TRIP 1 and AVSI will also be set to zero.

The function TRIP 1 is ON together with the function STP 1 (*).

(*): see figure 5

5- SPEED / STP 1 / FUEL (figure 5)

- SPEED: 299 kmh or 299mph;
- STP 1: miles/kilometers covered time
- Reading from 0:00 to 23:59:59 (the data will be lost after detaching battery).

To activate the function STP 1, push the knob SCROLL (A) for more than 3 seconds.

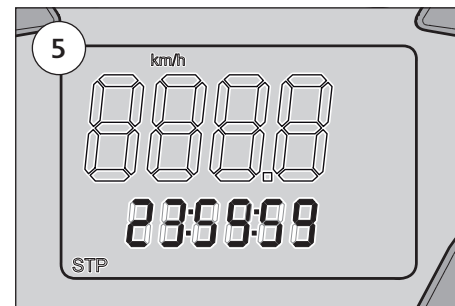
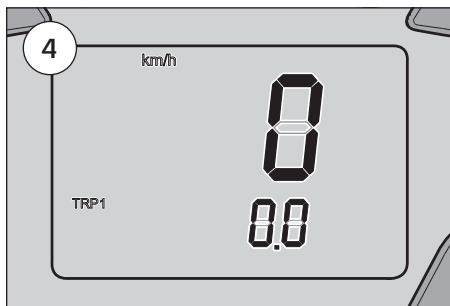
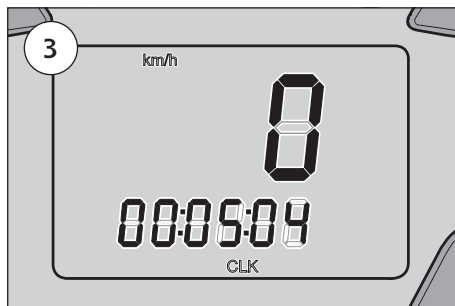
- 1st step: function ON;
- 2nd step: stop counters;
- 3rd step: reset STP 1, TRIP and AVS 1 data;
- 4th step: activate function;
- 5th step: stop counters

and so on

NOTE

STP 1 data + TRIP 1 data = AVS 1 (*).

(*): see figure 6



6- SPEED / AVS 1 / FUEL (figure 6)

- SPEED: 299 kmh or 299 mph;
- AVS 1: shows the average speed for vehicle coverage, distance data (TRIP 1) and covered time (STP1) (the data will be lost after detaching battery).

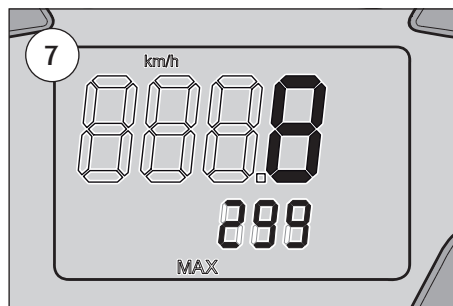
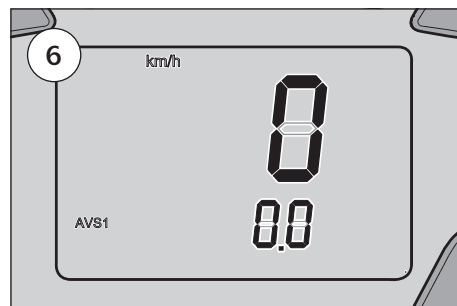
NOTE

Resetting the STP 1 also resets the TRIP 1 and AVS 1 data.

7- SPEED / V MAX / FUEL (figure 7)

- SPEED: m 299 kmh or 299 mph;
- V MAX: Shows the maximum speed reached by the vehicle, in kmh or mph.

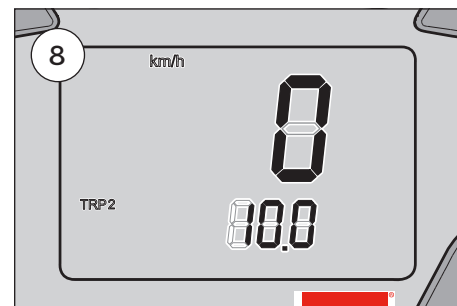
Maximum value: 299 kmh or 299 mph. To set to zero V MAX, push the knob SCROLL (A) for more than 3 seconds.



8- SPEED / TRIP 2 / FUEL (figure 8)

- SPEED: 299 kmh or 299 mph;
- TRIP 2: distance- maximum value: 999.9 km/ miles (the data will be lost after detaching battery);

To set TRIP 2 to zero, push the knob SCROLL (A) for more than 3 seconds.



9- TRP 2 / CLOCK / FUEL (figure 9)

- TRIP 2: distance- Max value: 999.9 km / miles (the data will be lost after detaching battery).

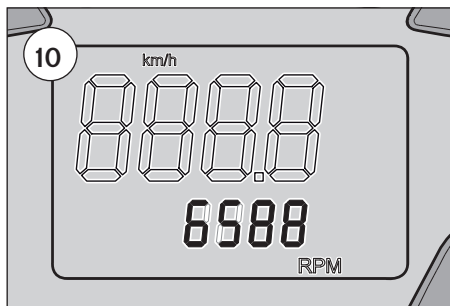
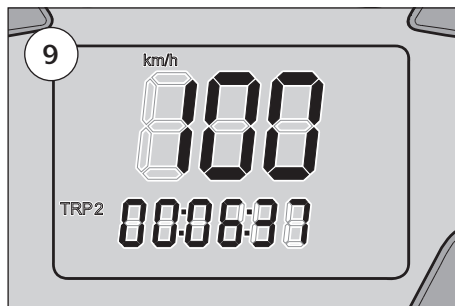
To set TRIP 2 to zero, push the knob SCROLL (A) for more than 3 seconds;

- CLOCK: Clock-reading from 0:00 to 23:59:59 (the data will be lost after detaching battery).

To reset the clock, push the knob SCROLL (A) for more than 3 seconds in order to increase the hours; release the knob then, after 3 seconds, it is possible to increase the minutes.

10- SPEED /RPM / FUEL (engine r.p.m. numerical value) (figure 10)

- SPEED: 299 kmh or 299 mph.



THROTTLE CONTROL

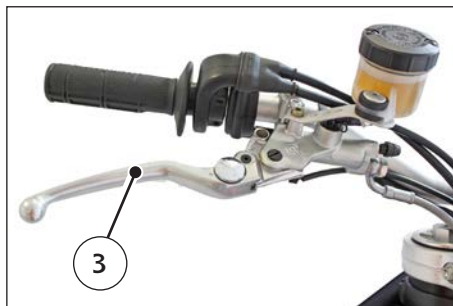
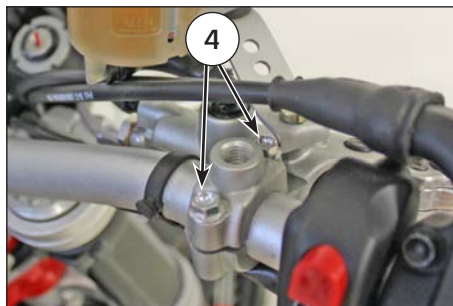
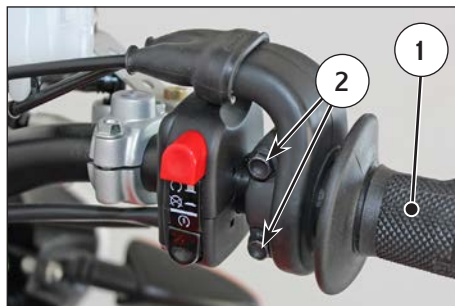
The throttle twistgrip (1) is located on the right-hand side of the handlebar. The position of the throttle control can be adjusted by loosening the two retaining screws (2).

CAUTION*: Do not forget to tighten the screws (2) after the adjustment.

FRONT BRAKE CONTROL

The brake control lever (3) is located on the right-hand side of the handlebar. The position of the throttle control can be adjusted by loosening the two retaining screws (4).

CAUTION*: Do not forget to tighten the screws (4) after the adjustment.









IGNITION SWITCH

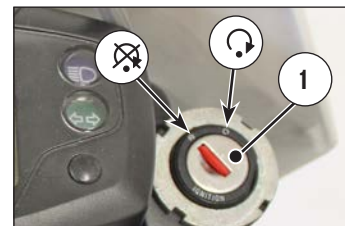
The ignition switch has two positions:

 motorcycle start position (key not removable)

 key removal position

- **Key removal position**  
Turning the key to position , the engine and the lights go off and you can remove the key from the ignition block.

- **Start position** 
From the key removal position , turn the key (1) clockwise to the start position ; the lights and the display will come and you can start the motorcycle.



STEERING LOCK

The motorcycle is equipped with a steering lock (1) on the R.H. side of the steering head tube.

To lock it, proceed as follows:

turn the handlebar leftwards, place the key in lock and turn counterclockwise. Push the key inwards (if necessary, turn to and from). Turn the key clockwise and remove it from the lock.

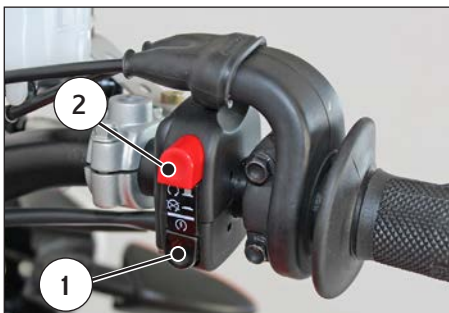
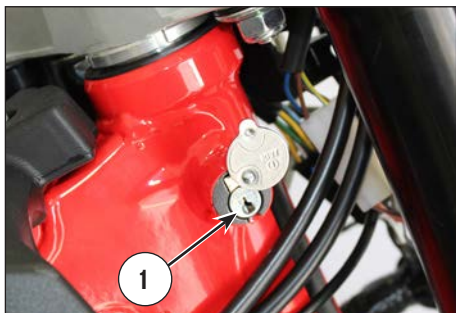
To unlock the steering lock, reverse the above procedure.

WARNING*: Do not turn the handlebar while the key is in the steering lock, to avoid breaking the key.

R.H. HANDLEBAR SWITCH

The right-hand switch features the following controls:

- 1) Engine start button
- 2) Engine KILL SWITCH.



LEFT HAND HANDLEBAR SWITCH

The left hand handlebar switch contains the following commands:

Headlamp (A)

- 1) High beam flasher (automatic turn-off)
- 2) High beam switch
- Low beam switch

Indicators (turning signals) (B), (C)

- 3) Left turn indicator
- Right turn indicator

To deactivate the indicators, press the control level after it has returned to centre.

4) Horn



5) Rear wheel ABS exclusion selector

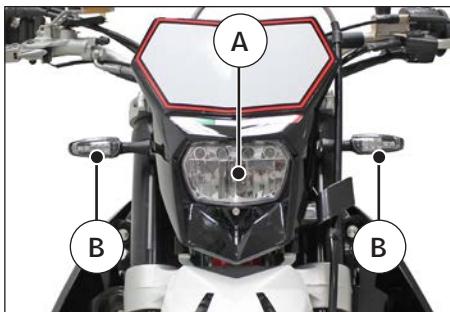
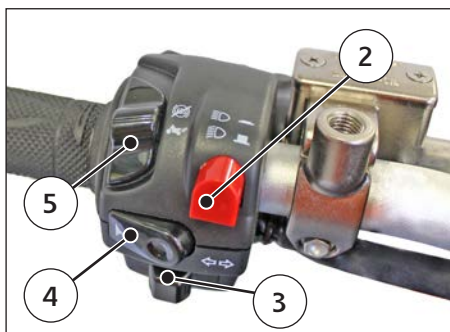
- The ABS function on the rear wheel can be deactivated for circuit riding.

NOTE


In order to activate or deactivate the ABS function on the rear wheel, the motorcycle must be stationary.

Rear wheel ABS deactivation

- To deactivate the ABS function on the rear wheel, move the selector (5) towards “



Rear wheel ABS activation

- To reactivate the ABS function, move the selector to “

NOTE

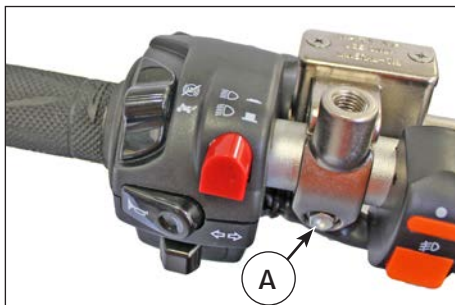
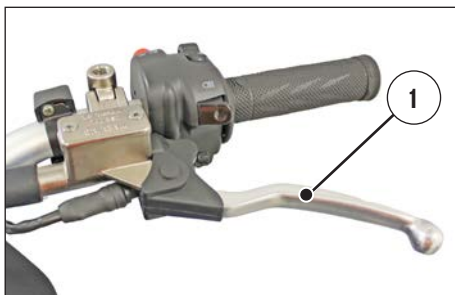
Each time the ignition key is moved from the “OFF” position to the “ON” position, the ABS system will be automatically reactivated.

CLUTCH CONTROL

The hydraulic clutch control lever (1) is located on the left-hand side of the handlebar and is protected against dirt.

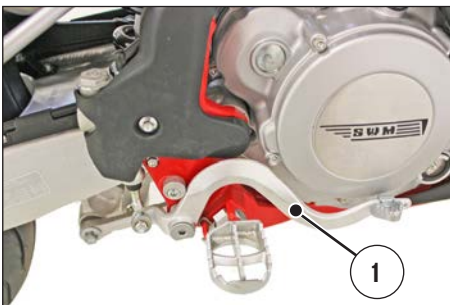
The clutch control position on the handlebar can be adjusted by loosening the lower retaining screw (A).

CAUTION*: Do not forget to tighten the screw after the adjustment.



REAR BRAKE CONTROL

The rear brake control (1) is placed on the right-hand side of the motorcycle.



GEAR SHIFT CONTROL

The lever (1) is placed on the left-hand side of the engine. The operator must release the lever after each gear change to allow it to return to its central position. Neutral position (N) is between the first and second gears.

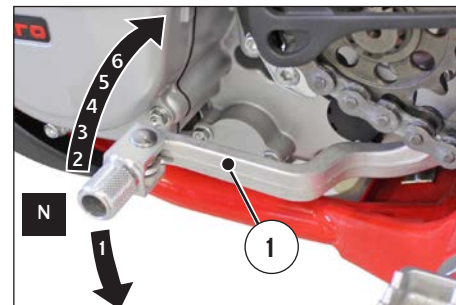
First gear is engaged by pushing the lever downwards; the other gears are engaged in a sequence by pushing the lever upwards.

The position of the gear shift lever on the shaft can be varied as follows: loosen the screw, pull the lever out, and place the lever in a new position on the shaft.

Tighten the screw once operation is completed.

CAUTION*: Do not shift gears without disengaging the clutch and closing the throttle. The engine could be damaged by overspeed.

WARNING*: Do not downshift when travelling at a speed that would force the engine to over-rev in the next lower gear, or cause the rear wheel to lose grip.





RIDING

Note*: If you are not familiar with the motorcycle operation, read paragraphs on “CONTROLS” before riding this motorcycle.

PRE-RIDE CHECKS

Any time you ride your motorcycle, make a general inspection first and proceed to check the following:

- check fuel level and engine oil level;
- check the brake and clutch fluids level;
- check the steering by turning the handlebar both ways, fully home;
- check the tyre pressure;
- check the chain tension;
- check the throttle twistgrip and adjust it, if necessary;
- turn the ignition switch to ON position: check the lighting of instrument display and, with gearbox in neutral, make sure that the neutral warning light comes on;
- operate the turning indicators and check that the warning light comes on;
- operate the turning indicators and check that the warning light comes on;
- check if the rear stop light is functioning.
- check that, after starting, the " "Engine fault" and the " "ABS fault" lights are not on.

ANTI-LOCK BRAKING SYSTEM - ABS

The ABS is an electromechanical braking-aid system:

it prevents the wheels from locking during braking and helps keep the vehicle stable whenever the road surface is slippery, wet or dirty.

When road-holding conditions are bad, the system can operate to extend the braking distance (e.g., whenever there is gravel on the road or the road surface is slippery). In any case, it provides the minimum distance required for that particular road surface.

- The ABS system does not engage at speeds of less than 10 km/h.

When the system operates during braking, pulsations are felt on the brake lever: this feeling should not cause the rider to reduce pressure on the lever, as this would cancel out the action of the system.

Nor should the fact that an ABS system is fitted provoke careless riding. The rider should always take every care on the road.

- Always use the recommended pads and tyres to ensure the ABS system's proper functionality.

INSTRUCTIONS FOR RUNNING-IN

The exclusivity of the design, coupled to the high quality of the materials used and the accuracy of the assembly, guarantee the higher comfort right from the start. However, when running for the first 1500 Km. (932,05 mi), SCRUPULOUSLY follow the rules mentioned herebelow. Please note that FAILURE TO COMPLY WITH THESE RULES MAY COMPROMISE THE LIFE AND THE PERFORMANCE OF THE MOTORCYCLE:

- warm up the engine by running at low revs before using the motorcycle;
- avoid quick starts and never rev up the engine when in low gear;
- ride at low speed until the engine is warmed up;
- apply both brakes several times to settle the pads and the discs;
- do not maintain the same speed for a long time;
- do not ride for a long time without stopping;
- NEVER drive downhill with GEARBOX IN NEUTRAL, but shift into gear to brake with the engine if necessary, thus preventing the fast wear of the brake pads.

TROUBLESHOOTING

The following list is used for troubleshooting and to find the necessary remedies.

The engine does not start

- the starting procedures are not correctly followed: follow the instructions given on paragraph "Starting the engine"
- dirty spark plug: clean
- the spark plug does not spark: adjust the electrodes gap
- faulty starter motor: repair or replace;
- faulty start button: replace the switch

The engine has starting troubles

- dirty or worn out spark plug: clean or replace

The engine starts, but it is erratic

- dirty or worn out spark plug: clean or replace
- faulty spark plug electrode gap: adjust;

The spark plug gets easily dirt:

- unfit spark plug: replace

The engine overheats

- the air flow on the radiators is blocked: clean
- Faulty electric fan: replace it
- Insufficient amount of coolant: top up.

The engine lacks power

- dirty air filter: clean
- the spark plug electrode gap is too large: adjust;
- incorrect valve clearance: adjust;
- insufficient compression: check for the cause

The engine knocks

- excessive carbon deposit on the piston crown, or in the combustion chamber: clean
- faulty spark plug or wrong heat rating: replace

The alternator fails to charge, or its charge is insufficient

- the cables on the voltage regulator are badly connected, or in short-circuit: correctly connect, or replace
- faulty alternator coil: replace
- de-magnetised alternator rotor: replace
- faulty voltage regulator: replace

The battery overheats

- faulty voltage regulator: replace

Difficulty in shifting gears

- engine oil with too high viscosity rating: replace with the recommended oil

The clutch slips

- insufficient spring load: replace
- worn-out clutch plates: replace

Faulty brakes

- worn-out pads: replace

MOUNTING/DISMOUNTING OF RIDER AND PASSENGER

General

Carefully read the instructions below as they provide important information for rider and passenger safety and to prevent harm to persons or damage to the motorcycle.

The motorcycle must always be mounted and dismounted from the left-hand side, with free hands, without obstructions and with the side stand lowered.

The rider must be the first to get on and the last to get off the motorcycle and must control the stability of the motorcycle while the passengers mounts and dismounts.

Do not get off the vehicle by jumping or extending your legs and always dismount by following the instructions given in the relevant section.

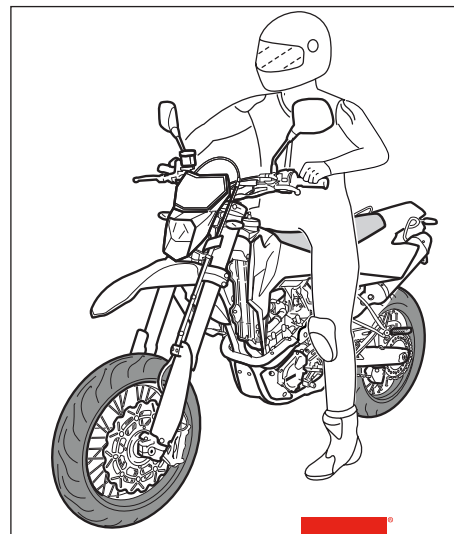
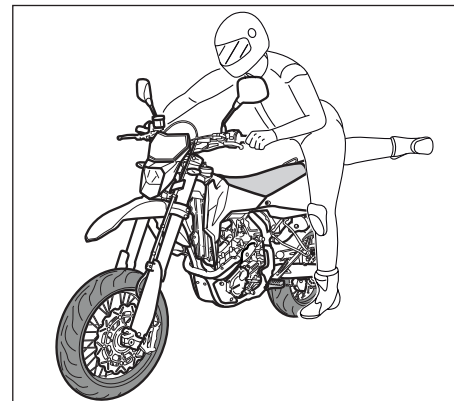
Mounting of rider

With the motorcycle on the side stand, do the following:

- From the left side, hold the handlebar correctly with both hands and extend your right leg over the saddle.
- Sit on the motorcycle and place both feet on the ground. Balance the vehicle without putting all your weight on the side stand.

CAUTION*: If you are unable to place both feet on the ground, put your right leg down with your left leg poised.

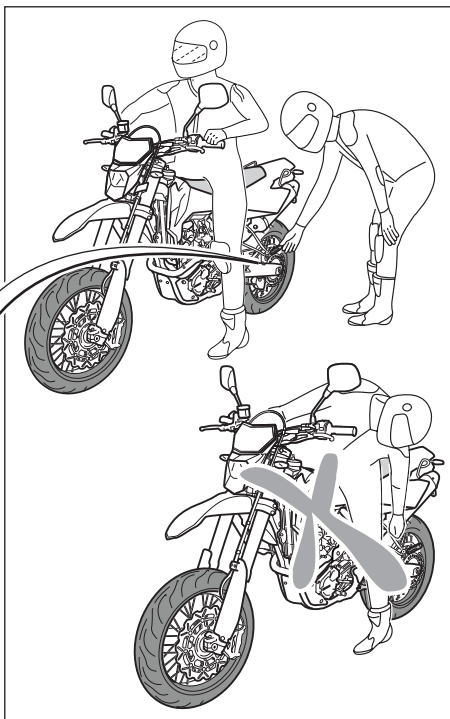
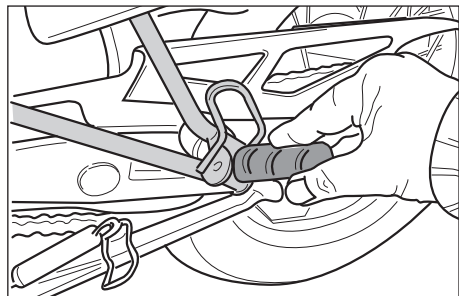
- Start the motorcycle as described in the relevant section.
- Using your left leg, fully retract the stand.



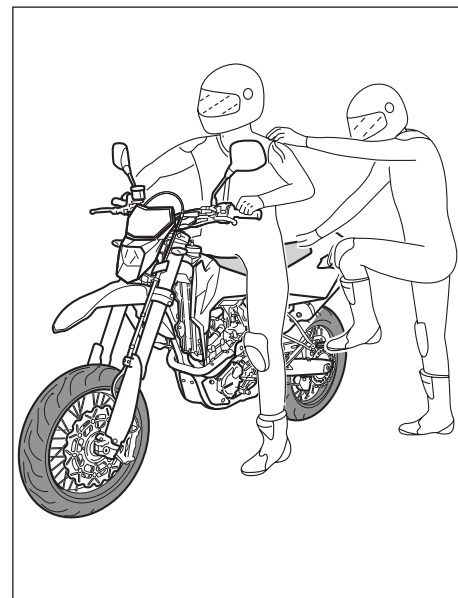
Mounting of passenger

- Get the passenger to put the passenger footrests (i) down.

CAUTION*: When in a riding position, the rider must not pull out or attempt to pull out the rear passenger footrests since this may unbalance the vehicle.



Place your left hand on the rider's shoulder, your left foot on the footrest and then mount the motorcycle by lifting your right leg and moving carefully to avoid unbalancing the vehicle and the rider.



- Hold onto the special handles (2).
- The rider must use his left foot to retract the side stand completely.
- Start the motorcycle as described in the relevant section.

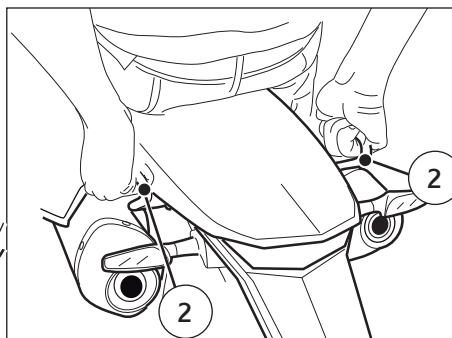
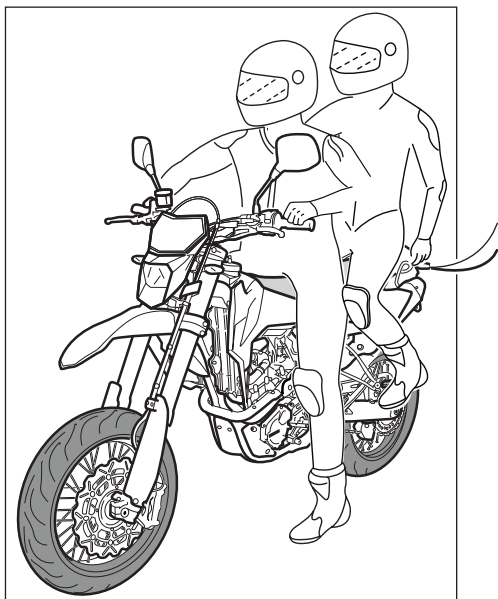
Dismounting the motorcycle

- Stop the vehicle and switch off the engine.

CAUTION*: Make sure that the area where you want to park the vehicle is stable and level.

- Place both feet on the ground.
- Switch off the motorcycle as described in the relevant section.

- Using your left leg, fully extend the stand.
- Allow the passenger to dismount first from the left side of the vehicle. In order to dismount, the passenger must place his foot on the left footrest and raise the right leg.
- Tilt the motorcycle to the left until it rests on the stand.
- Firmly grasp the handlebar and dismount on the left-hand side by lifting your right leg.



ADJUSTING THE REAR-VIEW MIRRORS

Sit on the motorcycle as described in the relative paragraph.

Adjust both mirrors (1) so that you can clearly see the road behind you when seated.



STARTING THE ENGINE

While the engine is cold, i.e., after the motorcycle has not been used for a while or in low ambient temperatures, operate in the following manner:

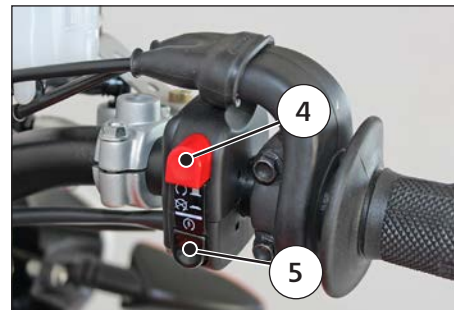
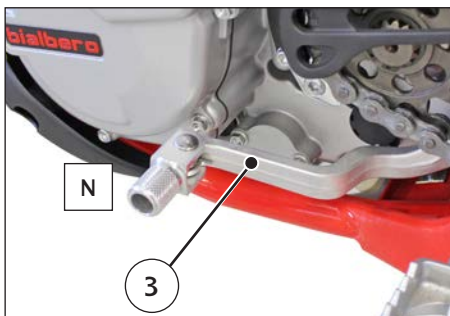
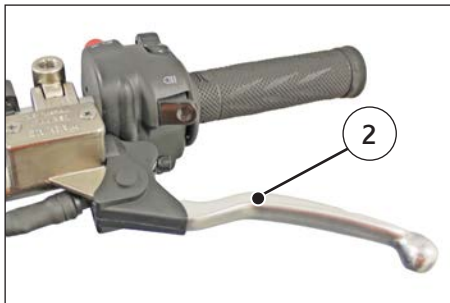
- 1) Place ignition key (1) to ON position;
- 2) pull the clutch lever (2);
- 3) position the gearbox pedal (3) in neutral;
- 4) Check that the button (4) is in the out position and press it, followed by the start button (5).

When a cold engine has just been started, do not increase revs, to ensure an adequate oil warm-up and circulation.

NOTE

A safety switch is mounted on the clutch lever's support, which ONLY allows the engine to be started with the clutch lever pulled.

With the stand lowered, the bike can only be started with the gear in neutral.



IMPORTANT NOTE IN CASE OF COLD START AT LOW TEMPERATURES

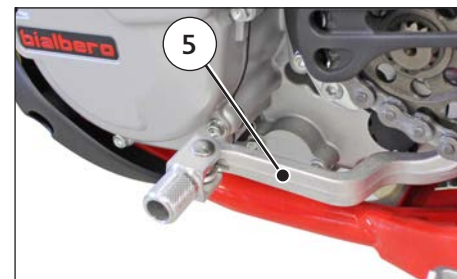
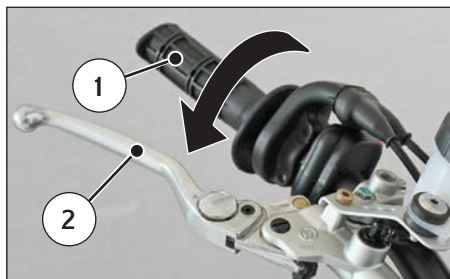
It is recommended to heat briefly with motor ticking over, until there is normal response from the motor to the openings of the throttle.

In this way, the oil can reach all the surface requiring lubrication and the coolant can reach the temperature required for correct engine function.

Avoid warming up the engine for an excessive period of time.

STOPPING THE MOTORCYCLE AND THE ENGINE

- Close the throttle (1) completely so that the engine will help slow down the motorcycle.
- Apply both front (2) and rear (3) brakes while downshifting (for fast deceleration, press firmly on both brake pedal and lever).
- When stopped, pull the clutch lever (4) and shift gear lever (5) into the neutral position
- Turn the ignition key (6) to the OFF position (position for removing key).

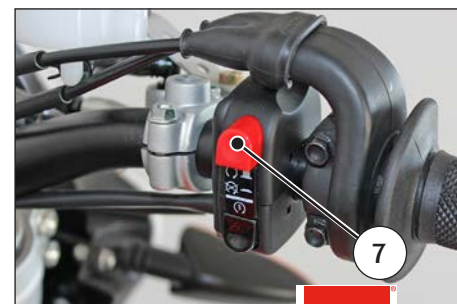
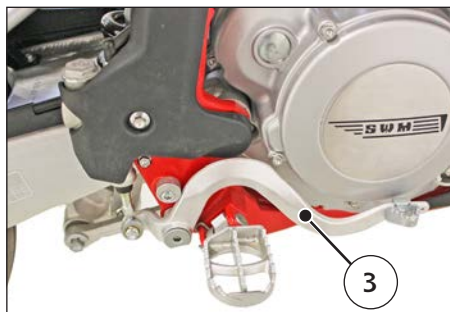


STOPPING THE MOTOR IN AN EMERGENCY

- Press the red button (7) to stop the motor; after use, bring it back to the "out" position.
- When the bike is off, place it on its side stand.

WARNING*: Independent use of the front or rear brake may be advantageous under certain conditions. Be careful when using the front brake, especially on slippery surfaces. Improper use of the brakes can lead to a serious crash.

WARNING*: In the event of stuck throttle or other malfunction which causes the engine to run uncontrollably, IMMEDIATELY depress the engine kill switch (7). Control the motorcycle by normal use of the brakes and steering while pressing the engine kill switch.



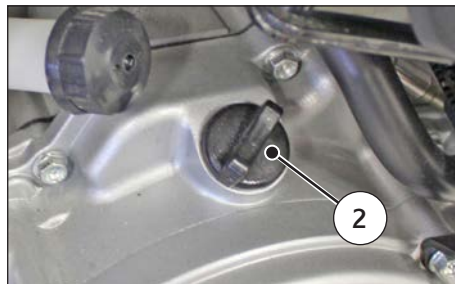
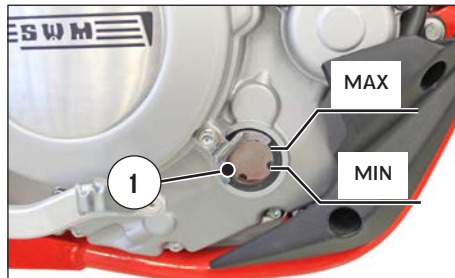
CHECKING THE OIL LEVEL

Keeping the motorbike level and in a vertical position, check the oil level through the inspection (1) window on the right crankcase. Make sure the level is in between the MIN and MAX notches.

To top up, remove the filler cap (2).

Note*: Have this operation made with warm engine.

WARNING*: Be careful not to touch hot engine oil.

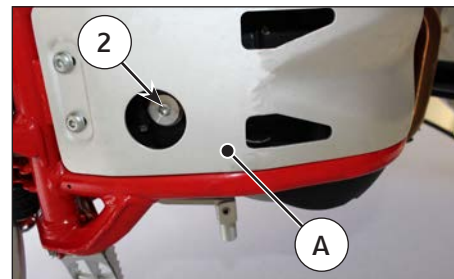
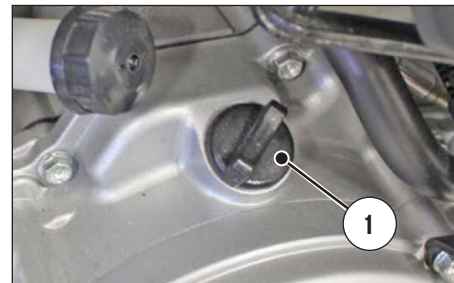


ENGINE OIL REPLACEMENT AND BAG FILTERS-FILTER CARTRIDGE CLEANING OR REPLACEMENT

WARNING*: Be careful not to touch hot engine oil.

Drain the oil with WARM ENGINE; proceed as follows:

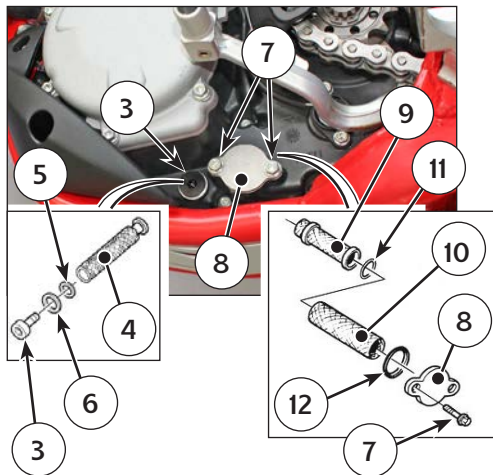
- remove oil filler cap (1);
- remove the engine guard (A)
- place an oil drain pan under the engine block
- remove the oil drain cap (2)
- drain the used oil completely then clean the magnet on the cap;
- replace the filters as described below.



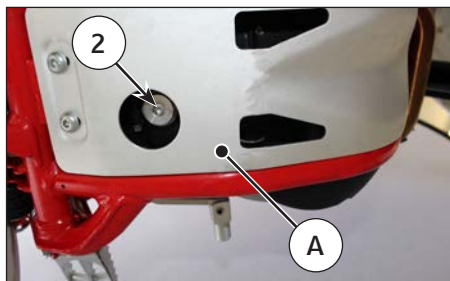
CLEANING THE METAL FILTERS

After draining the oil as described above, operate as follows:

- Unscrew the cap (3) and remove the filter (4).
- Clean the filter (4) using petrol.
- Check the condition of the O-ring (5) and replace it if worn.
- Refit everything operating in reverse order from removal taking care to correctly position the aluminium washer (6) (coupling torque 25 Nm/ 2,5 kgm/ 18,44 ft/lb).
- Undo the two screws (7) and remove the cap (8).
- Clean the filters (9) and (10) using petrol.
- Check the condition of the O-rings (11) and (12) and replace them if worn.



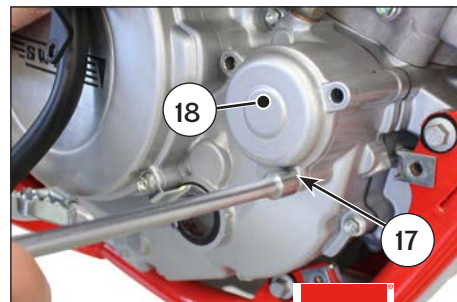
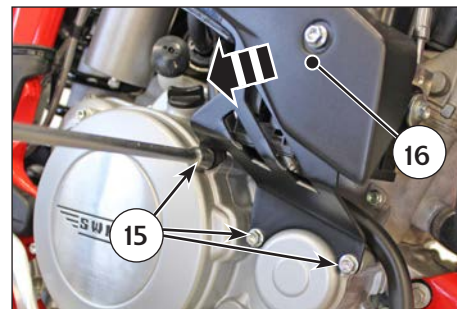
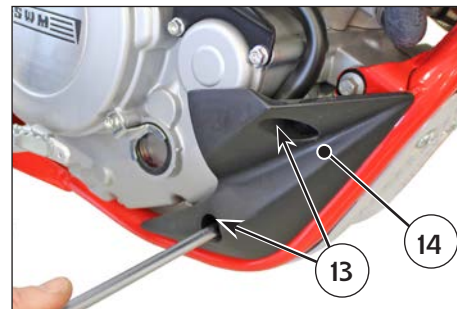
- Refit everything operating in reverse order from removal taking care to correctly position the O-rings (11) and (12) (coupling torque 8 Nm/ 0,8 kgm/ 5,9 ft/lb with loctite 243).
- Once you have replaced the filters, refit the drain cap (2) and the engine guard (A) and pour in the required amount of oil [coupling torque (2) 25 Nm/ 2,5 kgm/ 18,44 ft/lb], (coupling torque of motor protection screws 12 Nm/ 1,2 kgm/ 8,85 ft/lb).



REPLACING THE FILTER CARTRIDGE

After draining the oil as described above, operate as follows:

- Undo the two screws (13) and remove the guard (14).
- Unscrew the three screws (15) and move the canister and the ABS control unit (16).
- Unscrew the screw (17) and remove the cover (18).
- Replace the filter (19).
- Check the condition of the O-ring (20) and replace it if worn.



- Refit everything operating in reverse order from removal taking care to correctly position the O-ring (20) and the spring (21).

WARNING*: The screw (15a) is longer and must be mounted exactly in the position indicated in the figure.

[Coupling torque of screws (13), (15) e (15a) 10 Nm/ 1 Kgm/ 7,38 ft./lb.]

COOLANT LEVEL CHECK

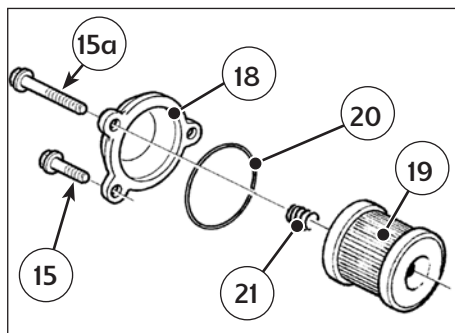
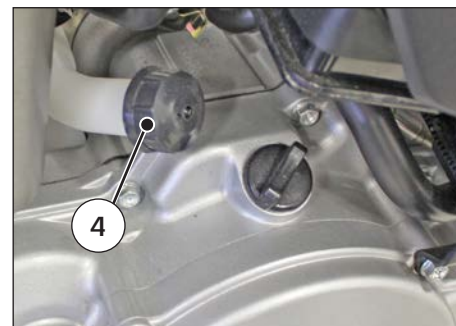
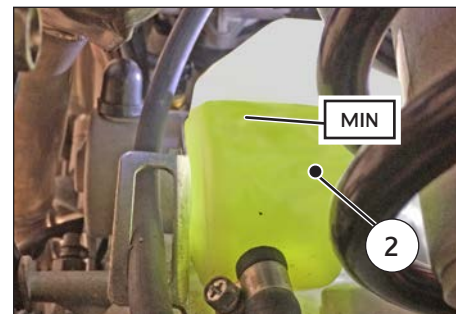
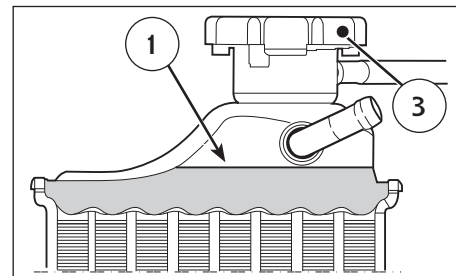
Check level (1) in right-hand radiator when engine is cold (place the motorbike fully upright). The coolant must be 10 mm above the elements.

The coolant must always be present in the expansion tank (2); its level must always be above the MIN mark indicated in the figure.

If that is not the case, top up through the cap (4). The radiator cap (3) is provided with two locking positions: the first one is for prior discharge of pressure in the cooling system.

CAUTION*: Avoid removing radiator cap (3) when engine is hot, as coolant may spout out and cause scalding.

Note*: Difficulties may arise in eliminating coolant from painted surfaces. If this occurs, wash off with water.



SOSTITUZIONE LIQUIDO DI RAFFREDDAMENTO

- Unscrew the three screws (1).
- Move the clamp (2) with the ABS control unit and the canister.

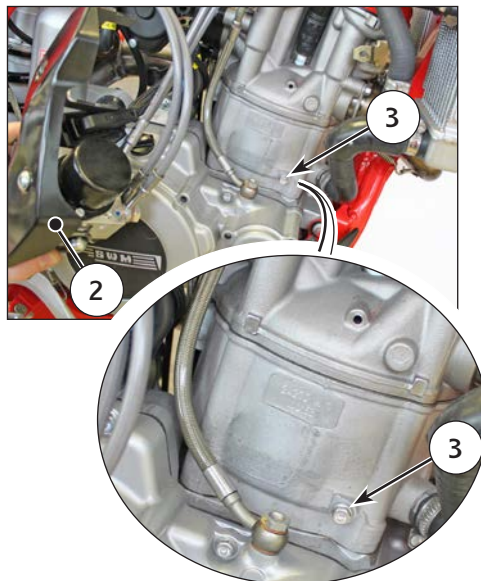
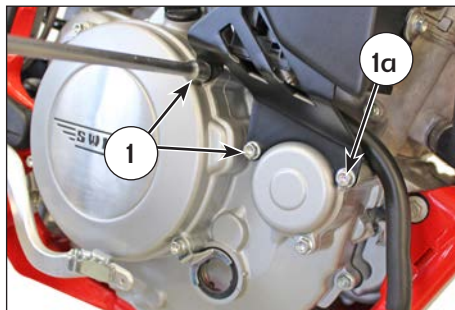
WARNING*: Coolant shall be replaced with cold engine and coolant.

Emptying procedure

- Place a vessel on the R.H. side of the cylinder, under the coolant drain screw (3). FIRST remove the screw (3) then SLOWLY open the R.H. radiator cap (4); slope the motorcycle on the right side to drain the coolant easily in the vessel. Reassemble the screw (3) (coupling torque 10 Nm/ 1 Kgm/ 7,38 ft/lb).

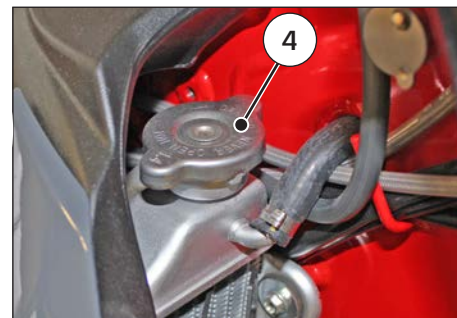
Filling procedure

- Pour the amount of liquid prescribed into the radiator and re-position the cap (4)
- Take the motor to temperature to eliminate any air bubbles.

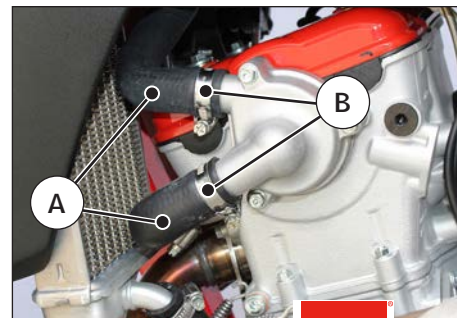


- Check the correct tightening of the clamps (B).
- Re-mount the clamp with the ABS control unit and the three screws (1).

WARNING*: The screw (15a) is longer and must be mounted exactly in the position indicated in the figure.



- Allow the coolant to cool down then remove cap (4) and check the level as explained under "Coolant level check".
- Periodically check the connecting hoses (see "Scheduled Maintenance Chart"): this will avoid coolant leakage and consequent engine seizure: If hoses (A) show cracks, swelling or hardening due to sheaths desiccation, their replacement shall be advisable.



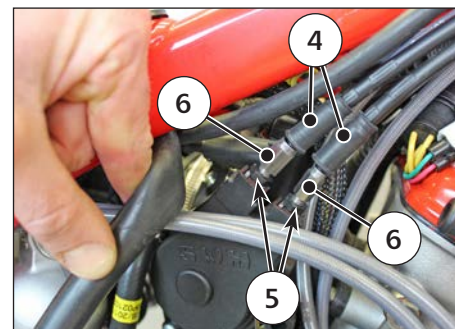
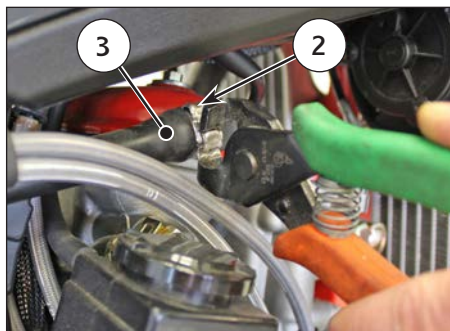
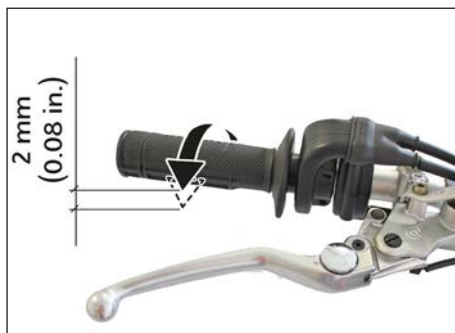
THROTTLE CABLE ADJUSTMENT

To check the correct adjustment of the throttle operate as follows:

- turn throttle twistgrip (1) and make sure it has about 0.08 in. free play;
- Whenever this should not happen, open the clamp (2) and move the pipe (3);
- move the upper rubber cap (4);
- Unscrew the counter-nuts (5) and appropriately rotate the adjusting screws (6) (unscrew to decrease play, tighten to increase it);
- tighten back the lock nuts (5);
- re-mount everything in the reverse order.

WARNING*: Operation with damaged throttle cable could result in an unsafe riding condition.

WARNING*: Exhaust gas contains poisonous carbon monoxide gas. Never run the engine in a closed area or in a confined area.



SPARK PLUG CHECK

Spark plug (2) gap shall be 0.028 in.

A wider gap may cause difficulties in starting the engine and overload the coil.

A gap that is too narrow may cause difficulties when accelerating, when idling or poor performance at low speed.

To remove the spark plug, do the following:

- Unscrew the screws (1).
- Lift the coil (2) complete with clamp (3) and disconnect the connector (4).
- Clean the base of the spark plug (5) and then remove it.

It is very useful to examine the state of the spark plug just after it has been removed from the engine since the scale deposits on the plug and the colour of the insulator provide useful indications.

Correct heat rating:

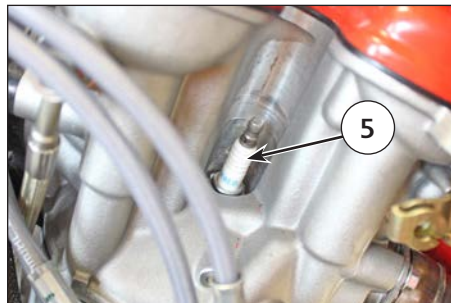
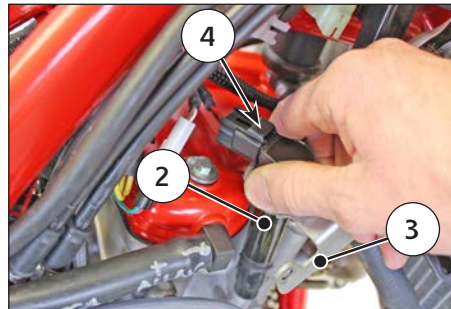
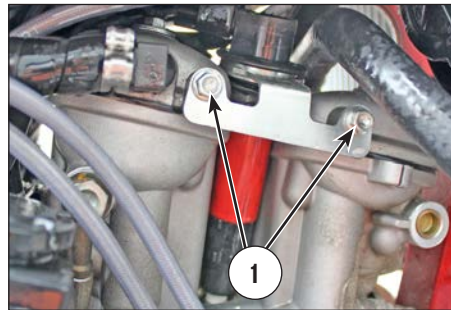
The tip of the insulator should be dry and the colour should be light brown or grey.

High heat rating:

In this case, the insulator tip is dry and covered with dark deposits.

Low heat rating:

In this case, the spark plug has overheated and insulator tip is vitrified (glazed), white or grey in colour.

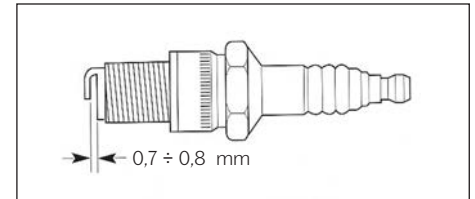


WARNING*: If the spark plug is replaced, use one with the same rating.

CAUTION*: A spark plug with too hot a heat range may lead to preignition and possible engine damage. A spark plug with too cold a heat range may foul as the result of too much carbon buildup.

Before refitting the plug, thoroughly clean the electrodes and the insulator using a metal brush. Smear some graphite grease on spark plug thread, do it fully home finger tight then tighten it to 7.37÷8.85 ft-lb. torque. Loosen the spark plug then tighten it again to 7.37÷8.85 ft-lb.

Spark plugs which have cracked insulators or corroded electrodes should be replaced.



SADDLE REMOVAL

To access to some components it is necessary to remove the saddle by working as follows:

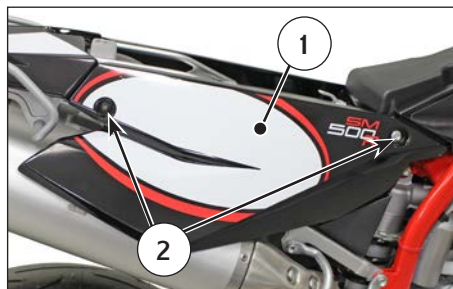
- Turn the fixing pin (1) anticlockwise in order to release the saddle (2) from the locking position.
- Lift the saddle from the rear part (3) and release it from the locking positions by pulling it towards the motorcycle rear part (4).



RIGHT LATERAL PANEL REMOVAL

For its removal work as follows:

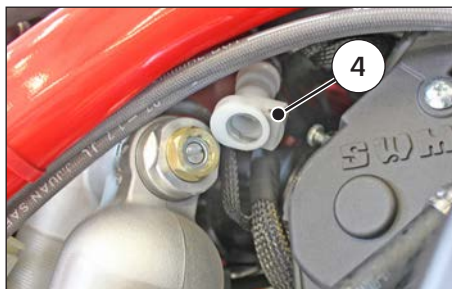
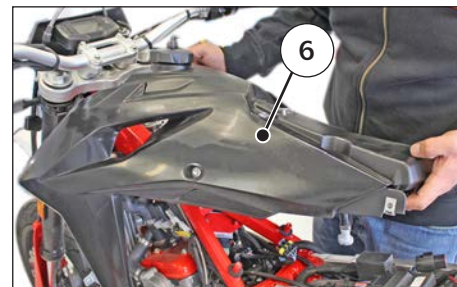
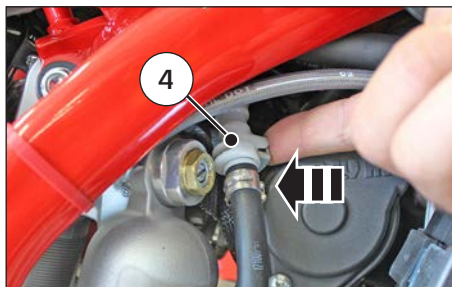
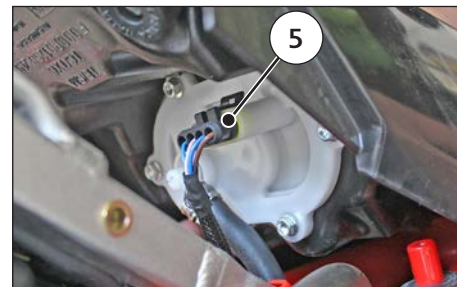
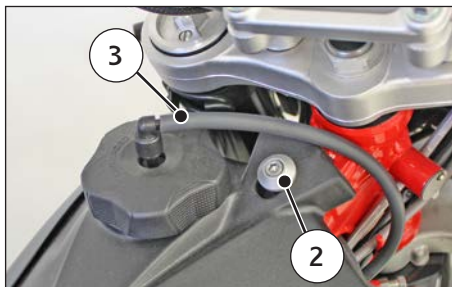
- Remove the saddle as indicated in the related paragraph.
- Unscrew the screws (2) and remove the panel (1).



RESERVOIR REMOVAL

- Remove the saddle and lateral panels as described in the relevant paragraphs.
- Unscrew the two conveyor lower screws (1).
- Unscrew the reservoir upper clamping screw (2) and detach the tank vent hose (3).
- Position a rag under the quick coupling (4) of the fuel pipe; press the coupling (4) and detach the fuel pipe.
- Lift the reservoir slightly from the rear and disconnect the fuel pump connector (5).
- Lift and remove the reservoir (6).

Note*: On re-mounting the reservoir, make sure that the reservoir fuel pipe, with relative fitting (4), passes inside the frame.

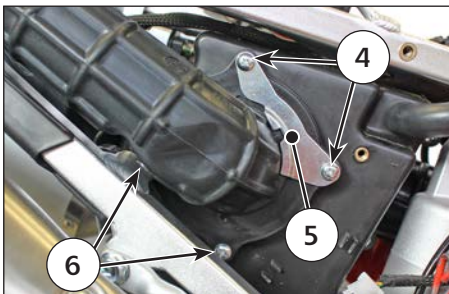
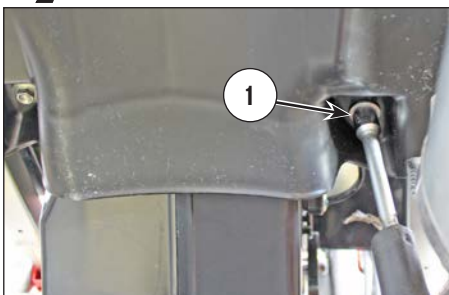
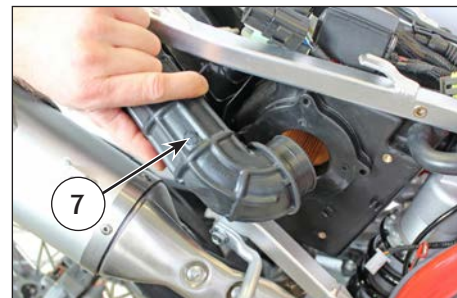
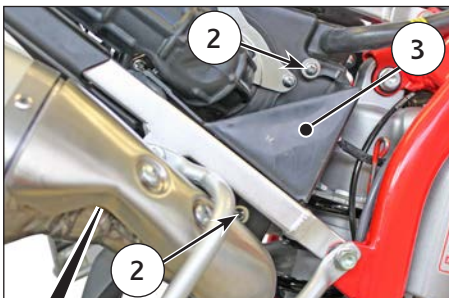


AIR FILTER CHECK, CLEANING AND/OR REPLACEMENT

To access to the air filter work as follows:

- Remove the saddle and the right lateral panel as described in the previous paragraphs.
- Unscrew the screw (1) placed under the rear mudguard.
- Unscrew the two screws (2) and remove the protection (3).
- Unscrew the two screws (4) and remove the plate (5).
- Unscrew the two screws (6).
- Remove the aspiration sleeve (7).
- Remove the filter (8) from the filter box.
- Check that it's not clogged and clean it by blowing compressed air from inside to outside if necessary. Replace it if too dirty.

Note*: Re-mount everything in reverse order to disassembly, paying attention to the status of the gasket (9) and that it is correctly positioned in the relative seat.



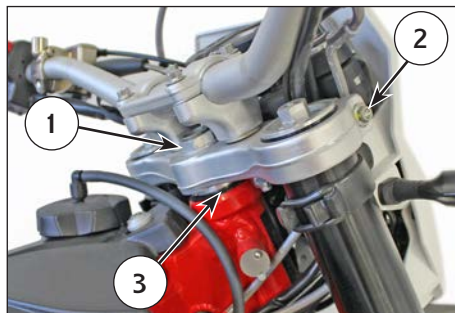
STEERING WHEEL BALL PLAY ADJUSTMENT

To ensure maximum safety, the steering wheel should always be regulated so that the handlebars steering the motorcycle rotate freely without play. To check steering wheel adjustment, place kick stand or other support under the engine so that the front wheel is raised from ground.

Place slight pressure on the tips of the handlebars to rotate steering wheel; the handlebars should also rotate without effort.

Stand in front of the motorcycle and grasp the lower end of the fork rods sliders moving them in the direction of their axis. Se si avverte gioco occorrerà eseguire la regolazione operando come segue:

- loosen steering sleeve nut (1).
- Loosen screws that fix steering head to fork rods (2).



Turn the steering ring nut (3) clockwise of the steering sleeve proper tool, to adjust play properly.

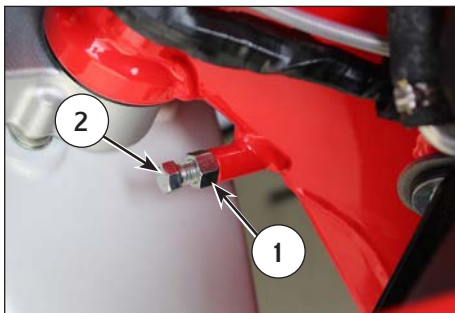
- Tighten steering sleeve nut (1) to a torque setting of 80±90 Nm/ 8±9 Kg_m / 59±66 ft/lb
- Tighten screws on the steering head (2) to a torque of 22,5±26,5 Nm/ 2,29±2,7 Kg_m / 16,6±19,55 ft/lb.



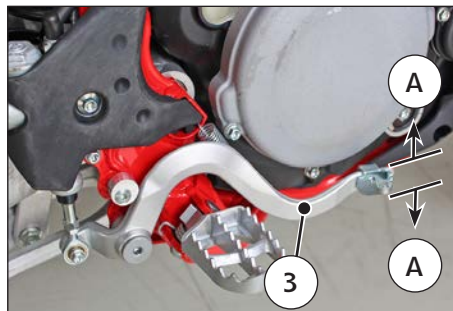
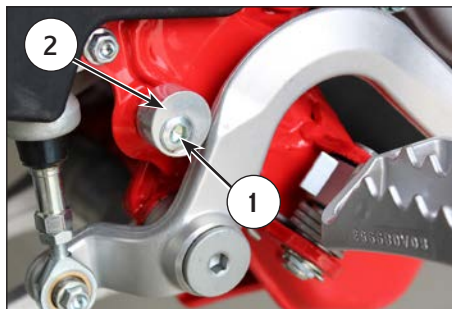
CAUTION*: Do not ride a motorcycle with damaged steering stem bearings. An unsafe handling condition can result.

LOCK ADJUSTMENT

The lock can be changed, using the adjusting units on the sides of the steering tube, as follows: loosen the ring nut (1) and turn the adjusting screw (2) until you have the desired angle, then tighten the ring nut again (1). Change by the same amount on both sides.



- the operation done, tighten the screw (1). Once this adjustment is completed, adjust the free play of the pedal as follows.



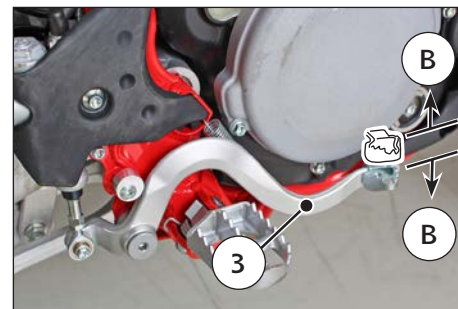
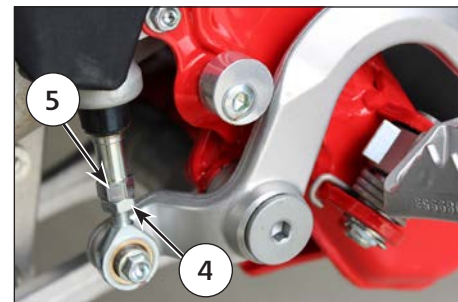
REAR BRAKE PEDAL FREE PLAY ADJUSTMENT

The rear brake pedal (3) should have a free play (B) (0.2 in.) before the brakes begin to bite.

Should this not happen, operate as follows:

- loosen nut (4);
- operate the pump rod (5) to increase or decrease the free play;
- tighten nut (4) at the end of the operation.

WARNING*: When the free play requirement is not met, the brake pads will be subjected to an early wear that may lead to **TOTAL BRAKE INEFFECTIVENESS**.

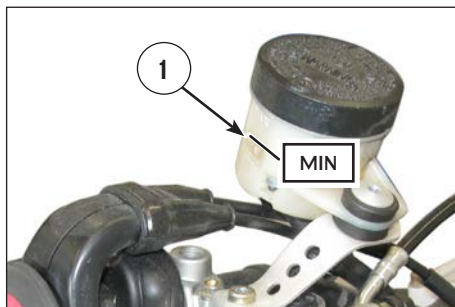
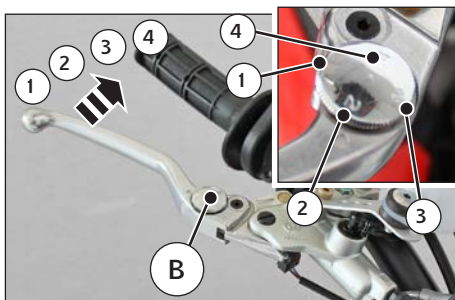


ADJUSTMENT OF THE CONTROL LEVER AND FRONT BRAKE FLUID LEVEL CHECK

The lever on the handlebar can be adjusted to 4 positions, according to the size of the rider's hand.

To decrease the lever distance from the handgrip, turn the adjuster (B) CLOCKWISE. To increase the lever distance from the handgrip, turn the adjuster (B) COUNTER CLOCKWISE.

Free play (a) must be at least 0.1 in.



The level of fluid in the pump reservoir must never be below the minimum value (1) indicated on the see-through reservoir.

A decrease of the fluid level will let air into the system, hence an extension of the lever stroke.

WARNING*: If the brake lever feels mushy when pulled, there may be air in the brake lines or the brake may be defective. Since it is dangerous to operate the motorcycle under such conditions, have the brake system immediately checked by the SWM Dealer.

CAUTION*: Do not spill brake fluid onto any painted surface or light lens.

CAUTION*: Do not mix two brands of fluid. Completely change the brake fluid in the brake system if you wish to switch to another fluid brand.

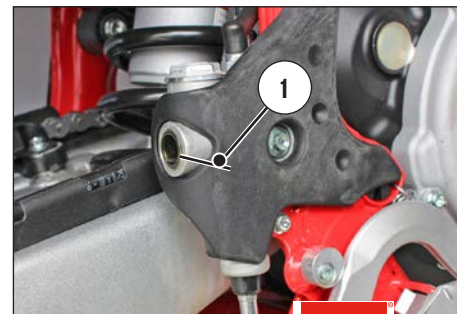
CAUTION*: Brake fluid may cause irritation. Avoid contact with skin or eyes. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.

REAR BRAKE FLUID LEVEL CHECK

The level must be above the mark (1) indicated in the figure.

A decrease of the fluid level will let air into the system, hence an extension of the lever stroke.

WARNING*: If the brake pedal feels mushy when pulled, there may be air in the brake lines or the brake may be defective. Since it is dangerous to operate the motorcycle under such conditions, have the brake system immediately checked by the SWM Dealer.



CAUTION*: Do not spill brake fluid onto any painted surface or light lens.

CAUTION*: Do not mix two brands of fluid. Completely change the brake fluid in the brake system if you wish to switch to another fluid brand.

CAUTION*: Brake fluid may cause irritation. Avoid contact with skin or eyes. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.

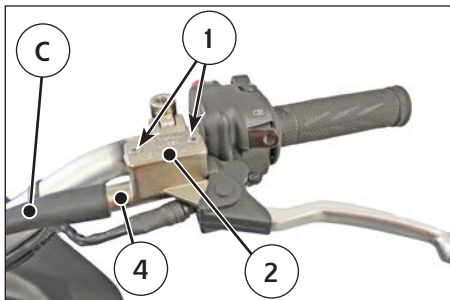
HYDRAULIC CLUTCH FLUID LEVEL CHECK

To check the fluid level, proceed as follows:

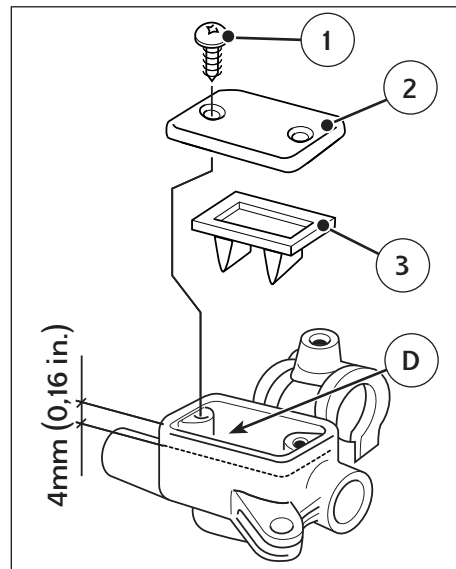
- remove screws (1), cover (2) and rubber (3) pump diaphragm on the handlebar clutch control;
- by keeping the master cylinder (4) in horizontal position, check the fluid level is NOT BELOW 4 mm (0.16 in.) from the upper surface (D) of the pump body;
- if necessary, add fluid until the correct level is reached see TABLE FOR LUBRICATION-SUPPLIES for the fluid type.

CAUTION*: NEVER use brake fluid.

Reassemble the removed parts using the reverse procedure.



Periodically check the connecting hose (see "Periodical maintenance card"): if the hose (C) show is bent or cracked, its replacement is advised.



HYDRAULIC CLUTCH BLEEDING

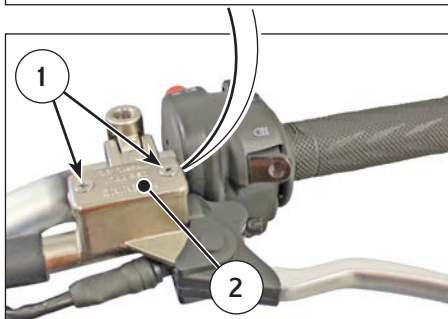
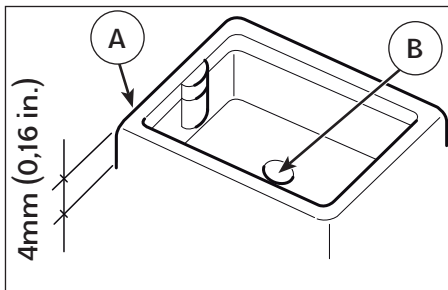
Proceed as follows:

- remove screws (1), cap (2) and rubber pump diaphragm;
- remove the bleeding nipple (3);
- mount a syringe in the bleeding nipple hole, then refill with fresh fluid.

CAUTION *: NEVER use brake fluid.

- refill until fluid is discharged from the lower hole (B) on the pump body WITHOUT BUBBLES.

The fluid level MUST NEVER BE below 4 mm from the top (A) of the clutch pump body (see picture). Reassemble the removed parts.



SUSPENSIONS

Standard suspensions setting derives from several extensive demanding tests in various usage conditions of the vehicles. If you intend to use them on more specific ground, following are a few guidelines for setup. Always start from the suspensions standard setting before making any change. Afterwards, increase or decrease the adjusting clicks, one at a time.

WARNING*: ALWAYS remember that all the motorcycles and their parts used in competitions of any type are excluded from the warranty and that all modifications to standard configuration cause THE VEHICLE NON COMPLIANCE WITH TYPE-APPROVAL REQUIREMENTS and it is hence unsuitable for circulating on public roads: consequently it may be used only in "CLOSED CIRCUITS" by authorised subjects holding the relevant driving licence or authorisation.



ADJUSTING THE FRONT FORK

a) REBOUND (TOP ADJUSTER)

Standard setting: 8 clicks.

To reset standard calibration, turn adjuster (C) clockwise to reach the fully closed position; then, turn it back by the mentioned clicks. In order to obtain a smooth braking action, turn the adjuster counter clockwise. Vice versa to obtain a harder braking action.

b) COMPRESSION (UPPER REGISTER)

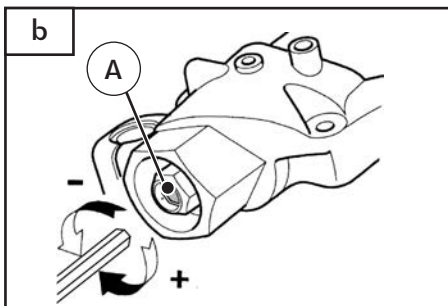
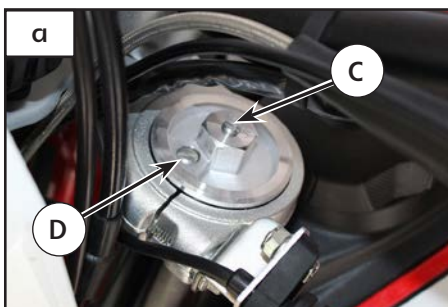
Standard calibration : 8 clicks.

To reset to the standard calibration turn register (A) clockwise until the position of fully closed is reached then, turn back by the mentioned clicks. To obtain a smoother braking action, turn the register anti-clockwise. Reverse the operation in order to obtain a harder action.

- AIR VENT (to carry out monthly).

Set the motorcycle on a central stand, release the fork fully extended and loosen the air vent valve (D). Once this operation is over, tighten the valve.

Note*: Never force the adjusting screws beyond the maximum open and closed positions.



FORK OIL LEVEL

For regular fork operation, both legs must be provided with the necessary oil quantity. Remove the fork legs from the fork to check the oil level. Work as follows:

- remove the damper rod caps;
- remove springs from the legs letting the oil drain

into the legs;

- bring fork to stroke end;
- check that the level is at distance "A" below the upper limit of damper rod.

OIL QUANTITY IN EACH FORK LEG

- Oil quantity : 41.06 in³. (673 cm³)

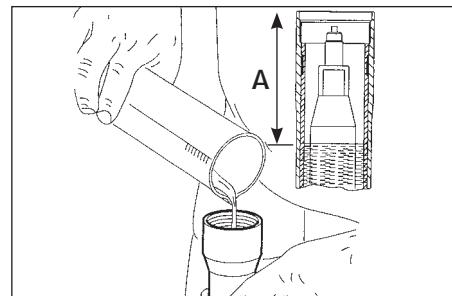
- Height A: 4.72 in. (120 mm)
with fork leg fully compressed and without spring.

Note*:

Standard spring elastic constant:
K= 5 N/mm

Note*:

Always replace both the spring and the spacers to keep the preload value unchanged.



ADJUSTING THE SHOCK ABSORBER

The rear shock absorber must be adjusted according to the rider weight and track conditions.

Proceed as follows:

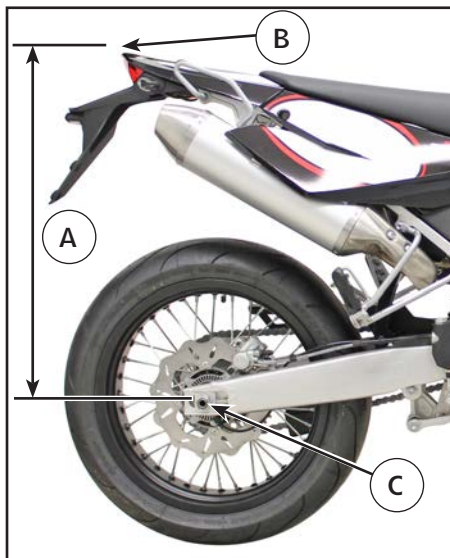
1. With the motorcycle on the ground in vertical position, measure the distance (A).
2. Take the normal riding position on the motorcycle with all your riding apparel.
3. With somebody's help, take the new distance (A).
4. The difference between these two measurements constitutes the "SAG" of the motorcycle's rear end.
The recommended SAG is 0.98/1.18 (25-30 mm).
5. To get the right SAG according to your weight, adjust the shock absorber spring preload as described at side.

B: rear mudguard top height

C: rear wheel axle height

WARNING*: The shock absorber adjustment affects both the stability and the handling of the motorcycle. After changing the standard suspension setting, ride with care. We advise measuring the reference distance "A" before making any change.

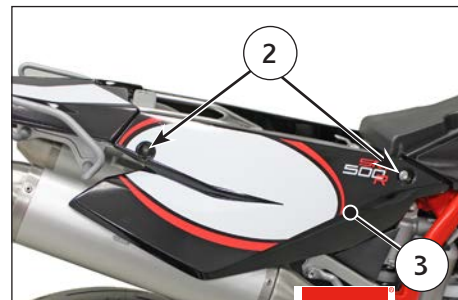
WARNING*: Never disassemble the shock absorber, which contains compressed gas. Contact your SWM Dealer for any major service.



ADJUSTING THE SHOCK ABSORBER SPRING PRELOAD

Proceed as follows:

1. Remove the saddler and rear panel as described in the relevant paragraphs.



2. Clean ringnut (1) and adjusting nut (2) of the spring (3).
3. Either with a hook wrench or an aluminium punch, loosen the lock ring nut.
4. Turn the adjuster ring nut as required.
5. When the adjusting operation is over (according to your weight and riding style), tighten the lock ring nut. (Torque: 10 Nm/ 1,02 Kgm / 7,38 ft/lb).
6. Refit the R.H. side panel and the saddle.

WARNING*: Be careful not to touch hot exhaust pipe while adjusting the shock absorber.

Standard spring elastic constant: 63 N/mm

ADJUSTING THE SHOCK ABSORBER HYDRAULIC DAMPING

Adjustment of the compression stroke is independent from the rebound stroke.

A) COMPRESSION - Standard setting:

1) Low damping speed: 10 clicks (adjuster 7)

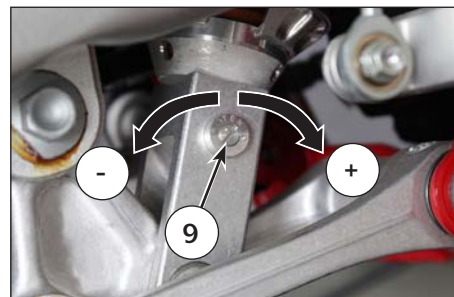
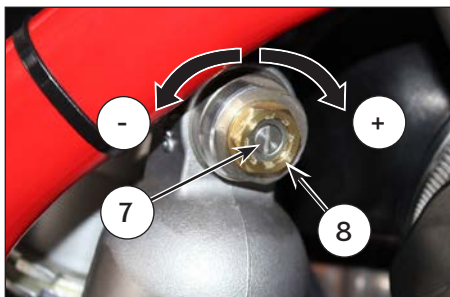
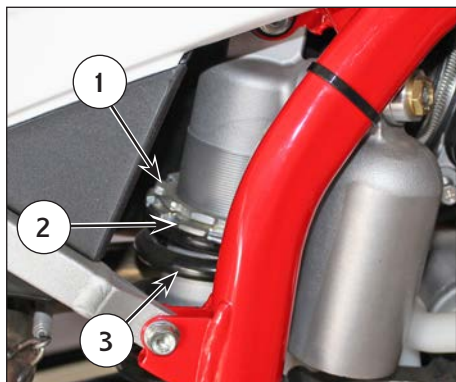
2) High damping speed: $1\frac{1}{4}$ turn (adjuster 8)

To reset the standard setting, turn upper adjusters (7) and (8) clockwise until reaching fully closed position. Then turn them back to the above-mentioned positions. In order to obtain a smooth braking action, turn the adjusters counter clockwise. Vice versa to obtain a harder braking action.

B) REBOUND - Standard setting: 12 clicks (adjuster 9)

To reset the standard setting, turn lower adjuster (9) clockwise until reaching fully closed position. Then turn it back by the mentioned clicks.

In order to obtain a smooth braking action, turn the adjuster counter clockwise. Vice versa to obtain a harder braking action.



CHAIN ADJUSTMENT (FIG. A)

Chain should be checked, adjusted and lubricated as per the Maintenance Chart to ensure security and prevent excessive wear. If the chains becomes badly worn or is poorly adjusted (i.e., if it is too loose or too taut), it could escape from sprocket or break. To adjust the rear chain it is necessary to lower the rear part of motorcycle so to line up the drive sprocket axle, the rear swing arm axle and the rear wheel axle as shown on drawing. Then let turn three times the rear wheel. Now the chain should not be tight.

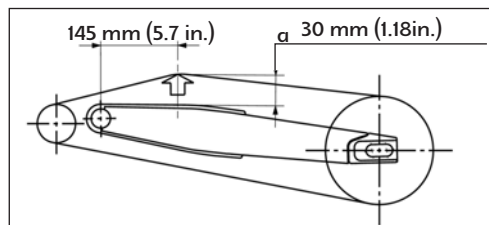
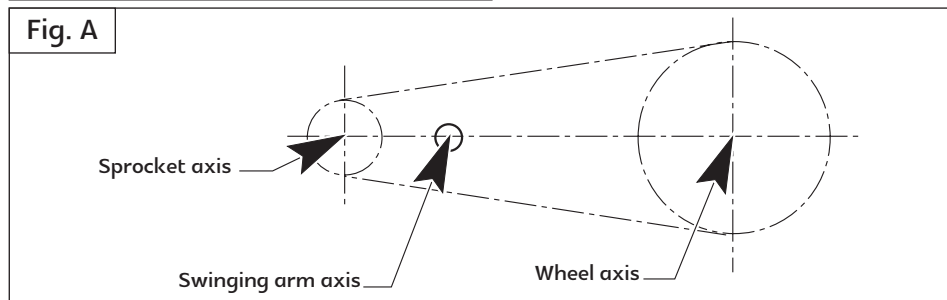


Fig. A



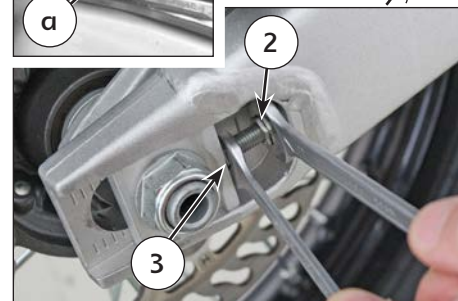
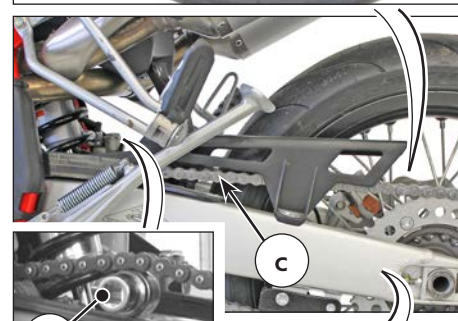
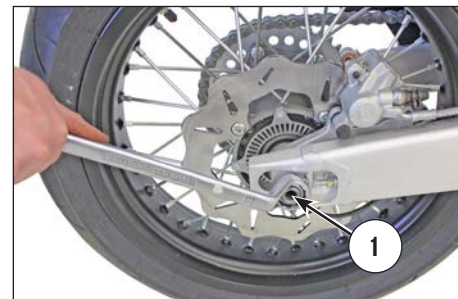
FAST ADJUSTMENT (FIG. B)

In the point shown in the figure, fit a bush (a), 1.37 in. (30 mm) diameter (or alternatively a shim in the same size) and make sure the lower branch (C) of the chain is slightly taut.

If it is not, proceed as follows:

- on the right side, with a 1.06 in. (27 mm) Allen screwdriver, loosen the locking nut (1) of the wheel pin;
- with a 0.47 in. (12 mm) screwdriver, loosen the check nuts (2) on both chain stretchers and work on the screws (3) to achieve the right tension;
- when the adjustment is over, tighten the check nuts (2), coupling torque 22 Nm / 2,24 Kgm / 16,23 ft/lb), and the wheel pin nut (1) coupling torque 142 Nm / 14,48 Kgm / 104,73 ft/lb).

When the adjustment is over check the wheel for alignment.



CHECKING THE WEAR OF CHAIN, PINION AND SPROCKET

Proceed as follows:

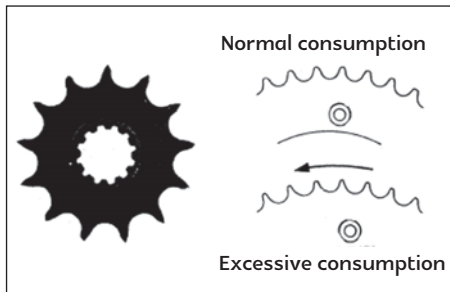
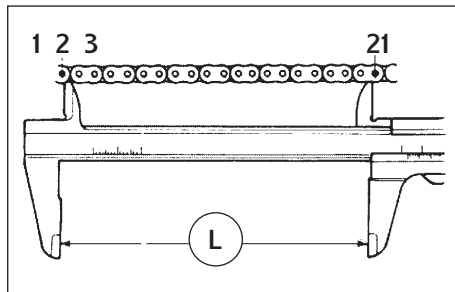
- fully stretch the chain with the adjusting screws.
- mark 20 chain links.
- measure the distance "L" between 1st pin center and 21st pin center.

STANDARD	WEAR LIMIT
12.5 in.	12.71 in.

Check the pinion damages or wear and replace it should the wear degree be as the one shown in figure.

Remove the wheel and check the wear of the rear sprocket teeth. The below figure shows the outline of teeth in normal and excessive wear. Should the sprocket be badly worn out, replace it by loosening the six fastening screws to the hub.

WARNING*: Misalignment of the wheel will result in abnormal wear and may result in an unsafe riding condition.



Washing the chain with O-rings

Was using specific sprays for chains with OR rings; do not use fuel, trichlorethylene or solvents so as not to damage the OR rings. Alternatively, was using petroleum, naphta or liquid paraffin.

Lubricating the chain with O-rings

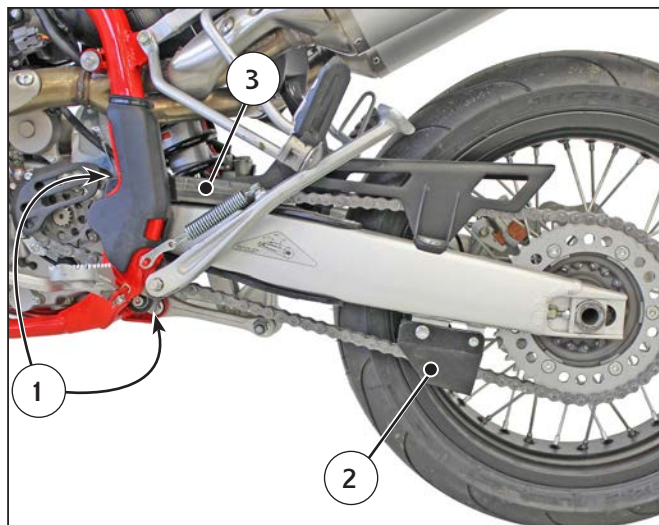
Using specific sprays with the aid of a brush, lubricate the metal and rubber parts (OR) both internally and externally; alternatively use engine oil with SAE 80-90 viscosity.

CAUTION*: The chain lubricant shall NEVER get in contact with the tyres or the rear brake disc.

Chain guide roller, chain guide eye, chain slider

Check the wear of the above-mentioned elements and replace them when necessary.

CAUTION*: Check the chain guide alignment, and remember that a bent element can cause chain early wear. In this case, chain might un-wrap from the sprocket.



- 1 - Chain tensioner roller
- 2 - Chain guide eye
- 3 - Chain slider

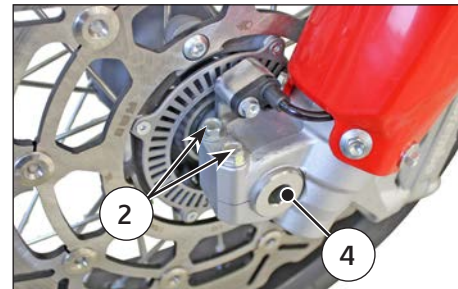
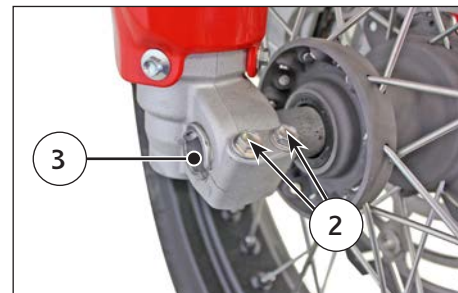
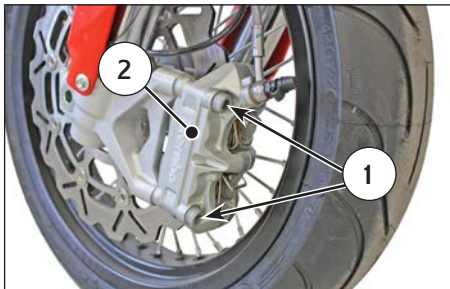
REMOVING THE FRONT WHEEL

Set a stand or a block under the engine and see that the front wheel is lifted from the ground.

Remove the two screws (1) and the brake calliper (2).

Loosen the bolts (2) holding the wheel axle (3) to the front fork mounts. Hold the head of the wheel axle in place, and unscrew the bolt (4) on the opposite side; draw the wheel axle out.

Note*: Do not operate the front brake lever when the wheel has been removed; this causes the calliper pistons to move outwards. After removal, lay down the wheel with brake disc on top.



REASSEMBLING THE FRONT WHEEL

Fit the L.H. spacer (D) on the wheel hub.

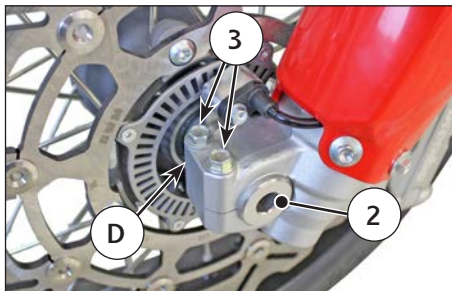
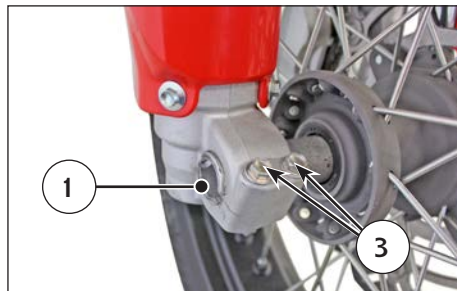
Fit the wheel between the fork legs.

Fit the wheel axle (1) from the R.H. side, after greasing it and push it fully home against the L.H. fork leg; during this operation, the wheel should be turned. Tighten the screw (2) on the fork L.H. side but DO NOT lock it.

Now, pump for a while, pushing the handlebar downwards until you are sure that the fork legs are perfectly aligned. Lock: the screws (3) on the R.H. leg (7.67 ft-lb), the screw (2) on the L.H. side (37.95 ft-lb), the screws (3) on the L.H. leg (7.67 ft-lb).

Fit the brake calliper on the disc; assemble the calliper on its mounting plate and tighten the two screws (4) at 25.5 Nm/ 2.6 Kgm/ 18.8 ft-lb. Ensure that the brake disc slides between the calliper pads without any friction or hard spots.

Note*: After reassembly, pull the brake control lever until the pads are against the brake disc.



REMOVING THE REAR WHEEL

Unscrew the nut (1) of the wheel axle (3) and extract it. It is not necessary to loosen the chain tensioners (2); in this way, the chain tension will remain unchanged after reassembly. Extract the complete rear wheel, keeping the spacers located at the hub sides.

To reassemble, reverse the above procedure remembering to insert the brake disc into the calliper. (Coupling torque of the nut (1) 142 Nm / 14,48 Kgm / 104, 73 ft./lb.)

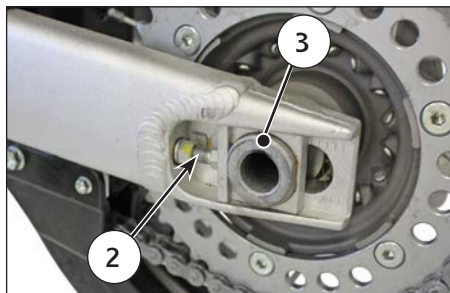
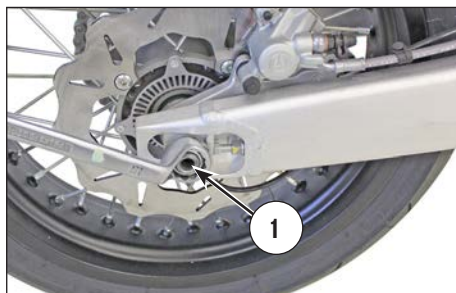
Note*: Do not operate the rear brake pedal when the wheel has been removed; this causes the calliper pistons to move outwards. After removal, lay down the wheel with brake disc on top. After reassembly, depress the brake pedal until the pads are against the brake disc.

TYRES

Care should be taken to keep the tyres properly inflated. See "Technical data" chart at the beginning of the manual for correct tyre inflation pressure. Replace the tyre if its wear exceeds reference values on the table below.

MINIMUM HEIGHT
OF THE TREAD

FRONT	0.08 in.
REAR	0.08 in.

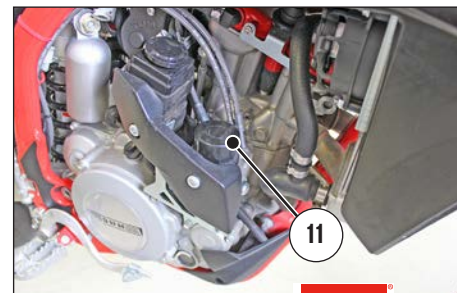
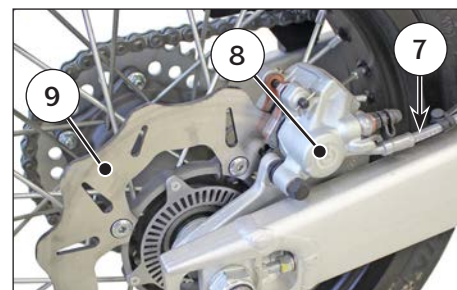
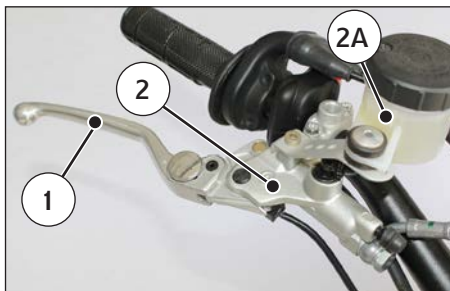


BRAKES

The key components of the braking systems are: brake master cylinder with its lever (front) or pedal (rear), brake lines, calliper assembly and disc.

LEGEND

1. Front brake control lever
2. Front brake master cylinder
- 2A. Fluid reservoir
3. Front brake line
4. Front brake calliper
5. Front brake disc
6. Rear brake pump with oil tank
7. Rear brake line
8. Rear brake calliper
9. Rear brake disc
10. Rear brake control pedal
11. ABS control unit



BRAKE PADS REMOVAL

REAR

- Remove clips (1).
- Slide out pin (2).
- Remove pads.

FRONT

- Press on clips (3).
- Slide out pins (4).
- Remove clips (3).
- Remove pads.

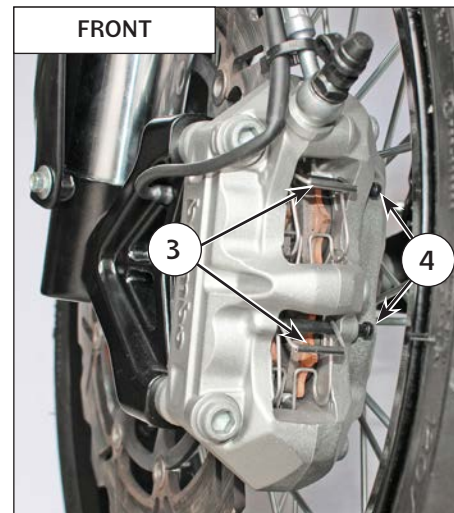
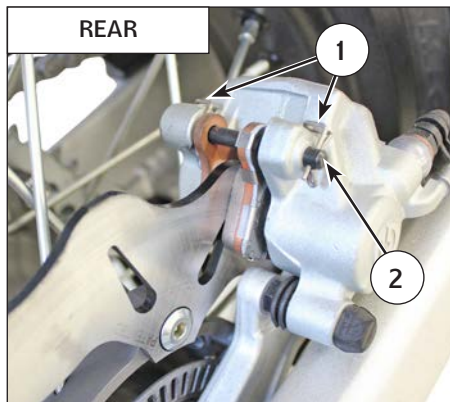
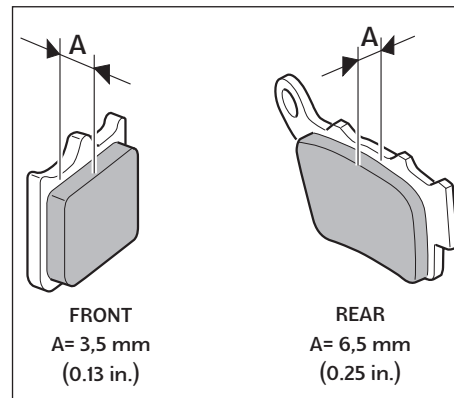
WARNING*: Do not work the brake lever or pedal while removing the pads.

PADS WEAR

Check brake pad wear.

Respect the service limit "A" indicated in the relative figures.

If service limit is exceeded, always replace the pads in pairs.



PADS CLEANING

Be careful that no brake fluid or any oil gets on brake pads or discs. Clean off with alcohol any fluid or oil that inadvertently gets on the pads or disc. Replace the pads with new ones if they cannot be cleaned satisfactorily.

PADS INSTALLATION

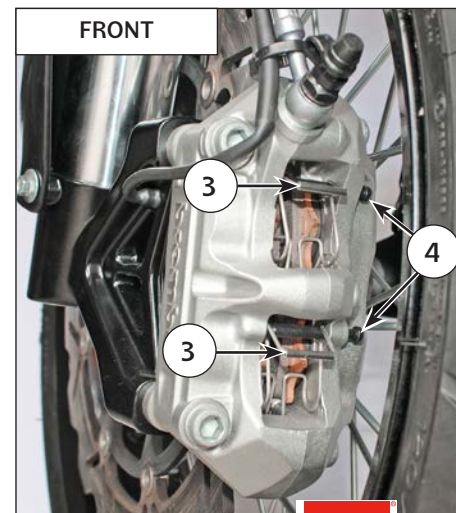
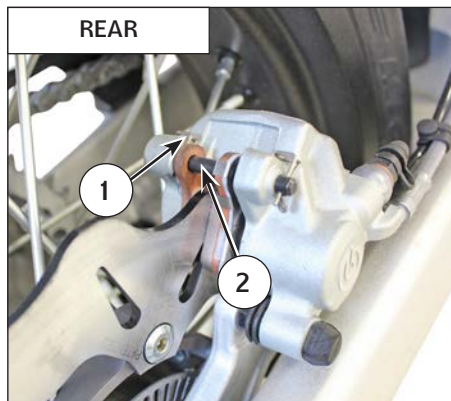
REAR

- Install new brake pads.
- Reassemble the two pins (2) and the clips (1).

FRONT

- Install new brake pads.
- Install clips (3) by pushing them toward the caliper.
- Install the pins (4).
- Pull clips (3) out, to make sure they are engaged on pins (4)

WARNING*: Do not attempt to ride the motorcycle until the brake lever or pedal are fully effective. "Pump" with the brake lever or pedal until the pads are against the discs. The brake will not function on the first application of the lever or pedal.



BRAKE DISC WEAR

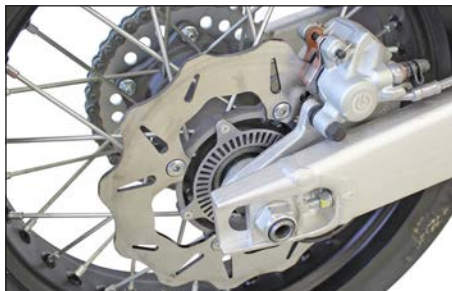
Measure the thickness of each disc at the point where it has worn the most. Replace the disc if it has worn past the service limit.

Disc thickness

DISC	STANDARD	SERVICE LIMIT
Front	0.19 in. (5 mm)	0.17 in. (4,5 mm)
Rear	0.15 in. (4 mm)	0.14 in. (3,6 mm)

DISC CLEANING

Poor braking can also be caused by oil on the disc. Oil or grease on the disc must be cleaned off with a high flash-point oil free solvent, such as acetone or lacquer thinner.



FLUID CHANGE

The brake fluid should be checked and changed in accordance with the Periodic Maintenance Chart or whenever it is contaminated with dirt or water.

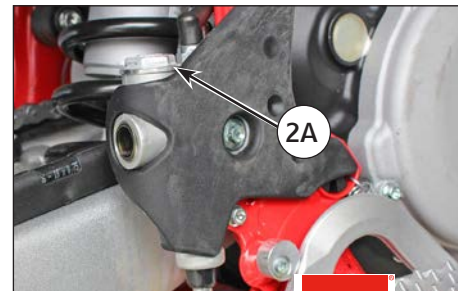
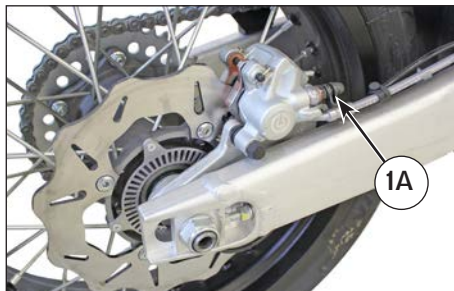
CAUTION*:

- * Use only brake fluid from a sealed container (DOT 4). Never use old brake fluid.
- * Never allow contaminants (dirt, water, etc.) to enter the brake fluid reservoir.
- * Don't leave the reservoir cap off any length of time to avoid moisture contamination of the fluid.
- * Handle brake fluid with care because it can damage paint.

- * Don't mix two types of fluid for use in the brake. This lowers the brake fluid boiling point and could cause the brake to be ineffective. It may also cause the rubber brake part to deteriorate.

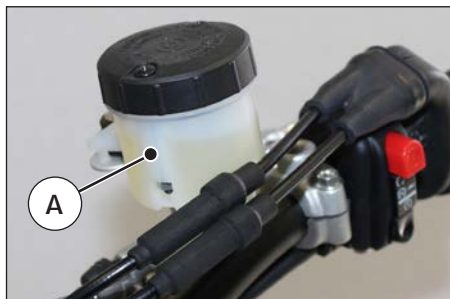
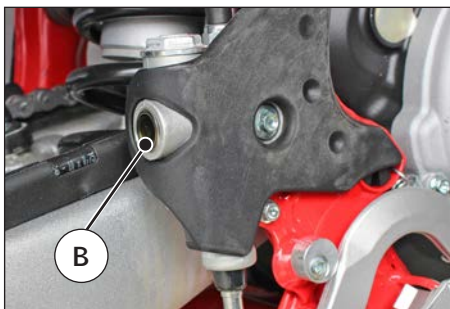
To replace the fluid, proceed as follows:

- Remove the rubber cap on the bleeding valve (1) or (1A).
- Attach a clear plastic hose to the bleeding valve on the brake caliper and turn the other end of the hose into a container.
- Remove fluid reservoir cap (2) or (2A: 21 mm wrench) and the rubber.
- Loosen bleeding valve on the brake caliper.



- Pump with brake lever (3) or brake pedal (3A) in order to push brake fluid out of line.
- Close the bleeding valve and fill the reservoir with fresh brake fluid.
- Open the bleeding valve, apply the brake using the brake lever or pedal, close the bleeding valve with the brake lever or pedal applied and then quickly release the lever or pedal.
- Repeat this operation until the brake line is filled and clear fluid starts coming out of the plastic hose: now close the bleeding valve.
- Restore the brake fluid level (A) or (B) then reassemble the rubber and the fluid reservoir cap.

After changing the fluid, bleed the system as described in the relative paragraph.

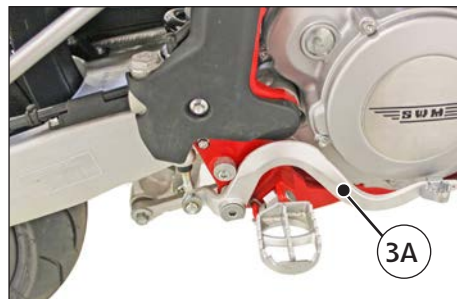


WARNING*:

Brake fluid quickly ruins painted surfaces; any spilled fluid should be completely wiped up immediately.

* Brake fluid may cause irritation. Avoid contact with skin or eyes. In case of contact, flush thoroughly and call a doctor if your eyes were exposed.

Periodically check the connecting hoses (see "Periodical maintenance card"): if the hoses (A) and (B) are worn or cracked, their replacement is advised



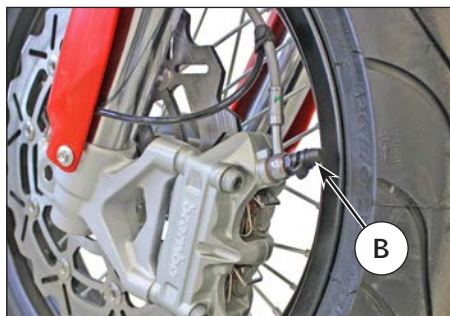
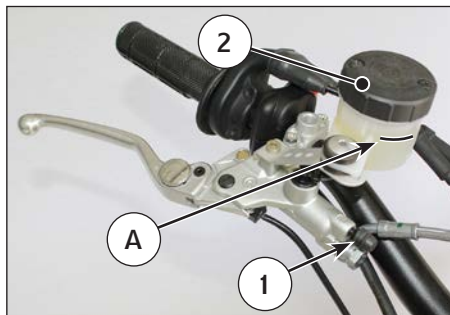
FRONT BRAKING SYSTEM BLEEDING

The braking system must be bled after the fluid replacement or when, due to air in the circuit, the lever stroke is long and spongy.

Regarding the front braking system, first proceed to bleed the upper braking system control, then the brake caliper.

In both cases, proceed as follows:

- Remove the rubber cap on the bleeding valve (1).
- Fit a transparent plastic tube on the bleeding valve (1) and insert the other end of the tube in a container (make sure that the end of the tube stays immersed in the fluid throughout the operation).
- Remove fluid reservoir cap (2), the rubber and fill the reservoir with fresh brake fluid.
- Open the bleeding valve (1) and pump with brake lever several times until the fluid, clear and without bubbles, comes out of the hose: now close the bleeding valve (1).
- Repeat the same operations acting on the bleeding valve (1A) positioned on the brake caliper.
- Restore the brake fluid level (A) then reassemble the rubber and the fluid reservoir cap (2).



WARNING*:

During the bleed operation the fluid level inside the reservoir must never be lower than the minimum level.

Tightening torque for bleed valve is $1,2 \div 1,6$ kgm ($12 \div 16$ Nm; $8,8 \div 11,8$ ft-lb).

As the braking fluid is a very corrosive substance, in the case it comes in contact with your eyes wash them abundantly with water.

During the bleeding of the braking circuit keep the handlebar turned leftwards. This is the way to lift the pump tank and to make easier the bleeding of the braking system.

If following falls or workshop repairs, the brake lever stroke is stretchy resulting in insufficient braking action, repeat circuit bleeding as described above.

As the bleeding operation does not fully eliminate the air inside the circuit, the small quantity of air remaining inside will be eliminated after a short time of use of the brake. In this case however, the action of the lever will be harder and the stroke shorter.

REAR BRAKING SYSTEM BLEEDING

The braking system must be bled after the fluid replacement or when, due to air in the circuit, the pedal stroke is long and spongy.

To bleed the system:

- Remove the reservoir cover (A) (21 mm wrench) rubber boot and top up with (DOT 4) brake fluid.
- Attach a clear plastic hose to the bleed valve (1) on the caliper and turn the other end of the hose into a container.

- Depress the pedal (2) and keep it full down.
- Loosen the bleed union letting out fluid (at first, only air will come out), then, closing the union slightly.
- Release the pedal and wait for a few seconds before repeating the operation until only fluid come out of the tube.
- Close the bleed union to the prescribed torque and check the fluid level (B) inside the reservoir before reassemble the cap (1).

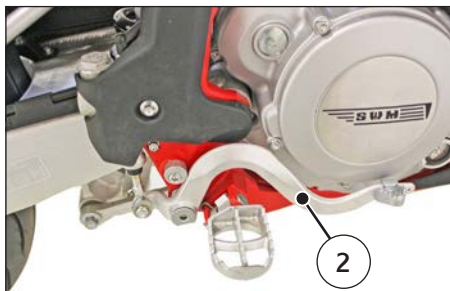
If the bleeding operation has been done correctly, the pedal will have no mushy feel. If not, repeat the operation.

Note*: If following falls or repairs, the brake lever or pedal stroke is stretchy resulting in reduced braking efficiency, repeat circuit bleeding as described above.

WARNING*:

During the bleed operation the fluid level inside the reservoir must never be lower than the minimum level.

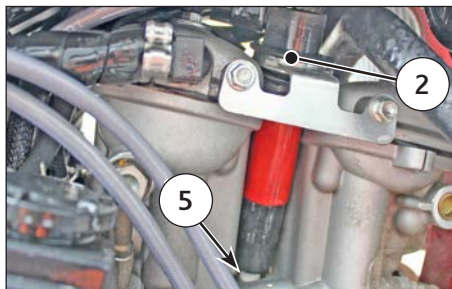
Tightening torque for bleed valve is 1,2 ÷ 1,6 kgm (12 ÷ 16 Nm; 8.8 ÷ 11.8 ft-lb).



EXHAUST MUFFLER

The muffler reduces the noise of the exhaust gases, but it is an integral part of the exhaust as well. As such, its conditions affect the motorcycle performance.

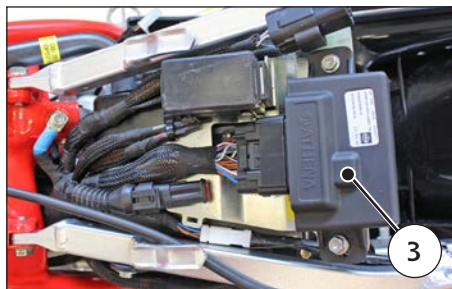
When the noise on the exhaust is too high, it means that the deadening material set on the holed tube inside the muffler is deteriorated.



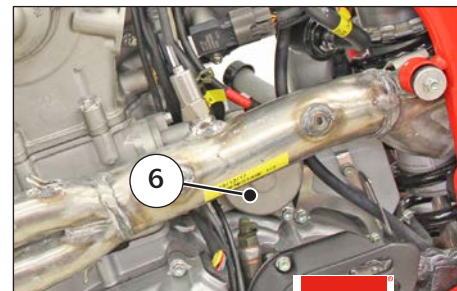
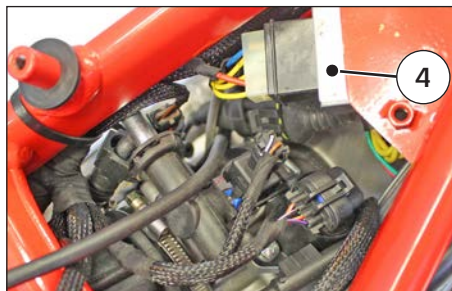
ELECTRICAL COMPONENTS LOCATION

The ignition system includes the following elements:

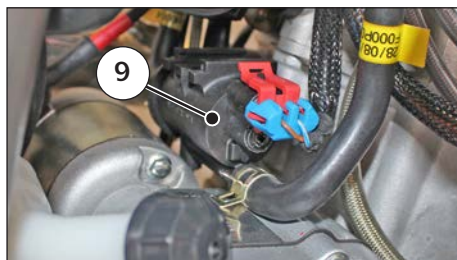
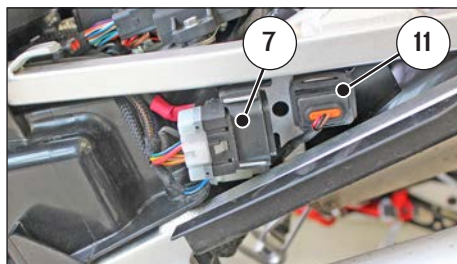
- Generator (1), in oil bath, on the inner side of L.H. crankcase cover;
- Electronic coil (2) on the spark plug cap;
- Electronic control unit (3) under the saddle;
- Voltage regulator (4) under the fuel tank;



- Spark plug (5) on the R.H. side of cylinder head;
- Starting motor 12V-450W (6) behind the cylinder;

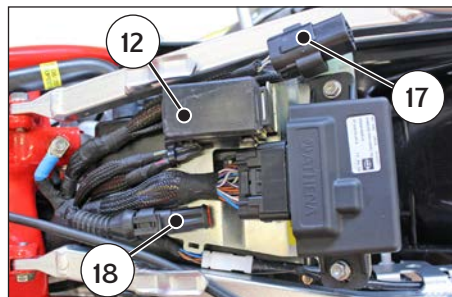


- Electric start remote control switch (7) on the left side of the rear frame;
- TPS sensor (8) on the throttle body;
- Purge valve (9) behind the motor cylinder.

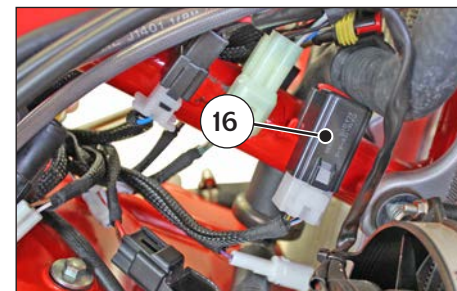
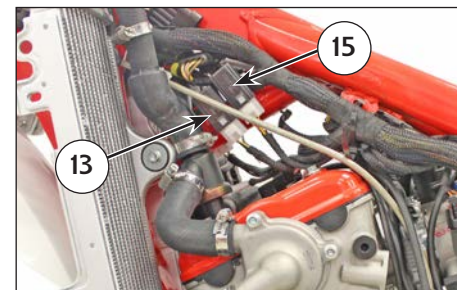


The electric system includes the following elements:

- Battery 12V-6Ah (10) under the saddle;
- Direction indicators blinker device (11) positioned on the left of the rear subframe;
- Fuses (12) positioned on the utilities holder plate under the saddle;

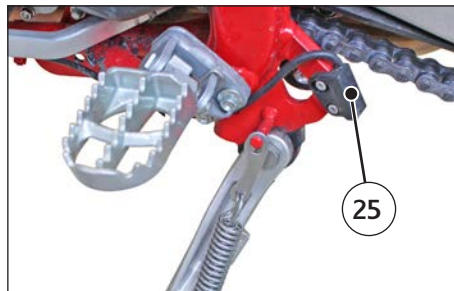
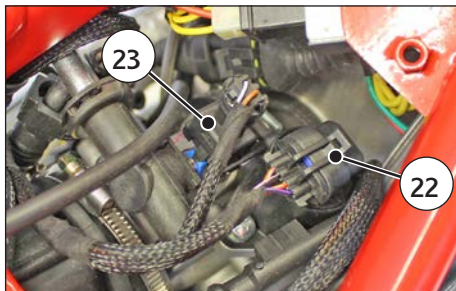
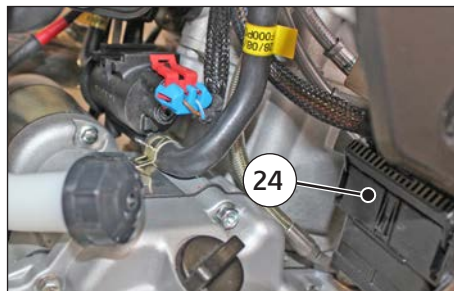
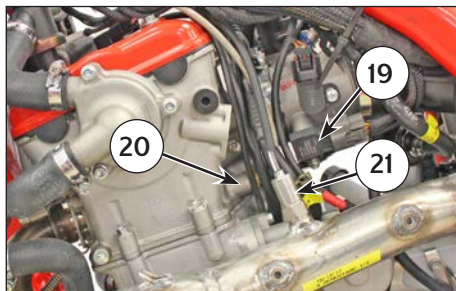


- Relay (13): warning horn, turning indicators, stop lights, low-beam lights, high-beam lights;
- Fuel pump (14): inside the fuel tank;
- Relay (15): injector, Lambda sensor, fuel pump, coil;
- Solenoid valve relay (16);
- Diagnostics connector (17);
- 12 V auxiliary socket (18);



- Air pressure temperature sensor (19);
- Coolant temperature sensor (20);
- Lambda probe (21);
- Stepper motor (22);
- Injector (23);

- ABS (24);
- Power off switch (25);
- LED-SW projector (26)W;
- LED tail light (27);
- LED direction indicators (28).



FUSES

Fuse malfunction could cause problems for the motorcycle. In order to access the fuses, do the following:

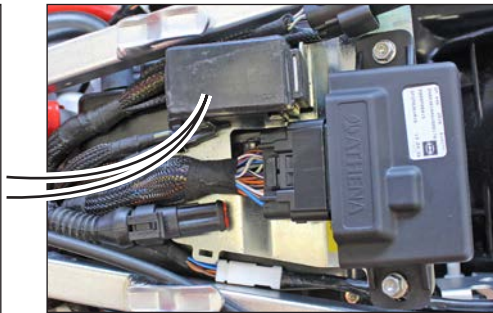
Remove the saddle (1) after turning the rear fastening pin (2) anticlockwise.

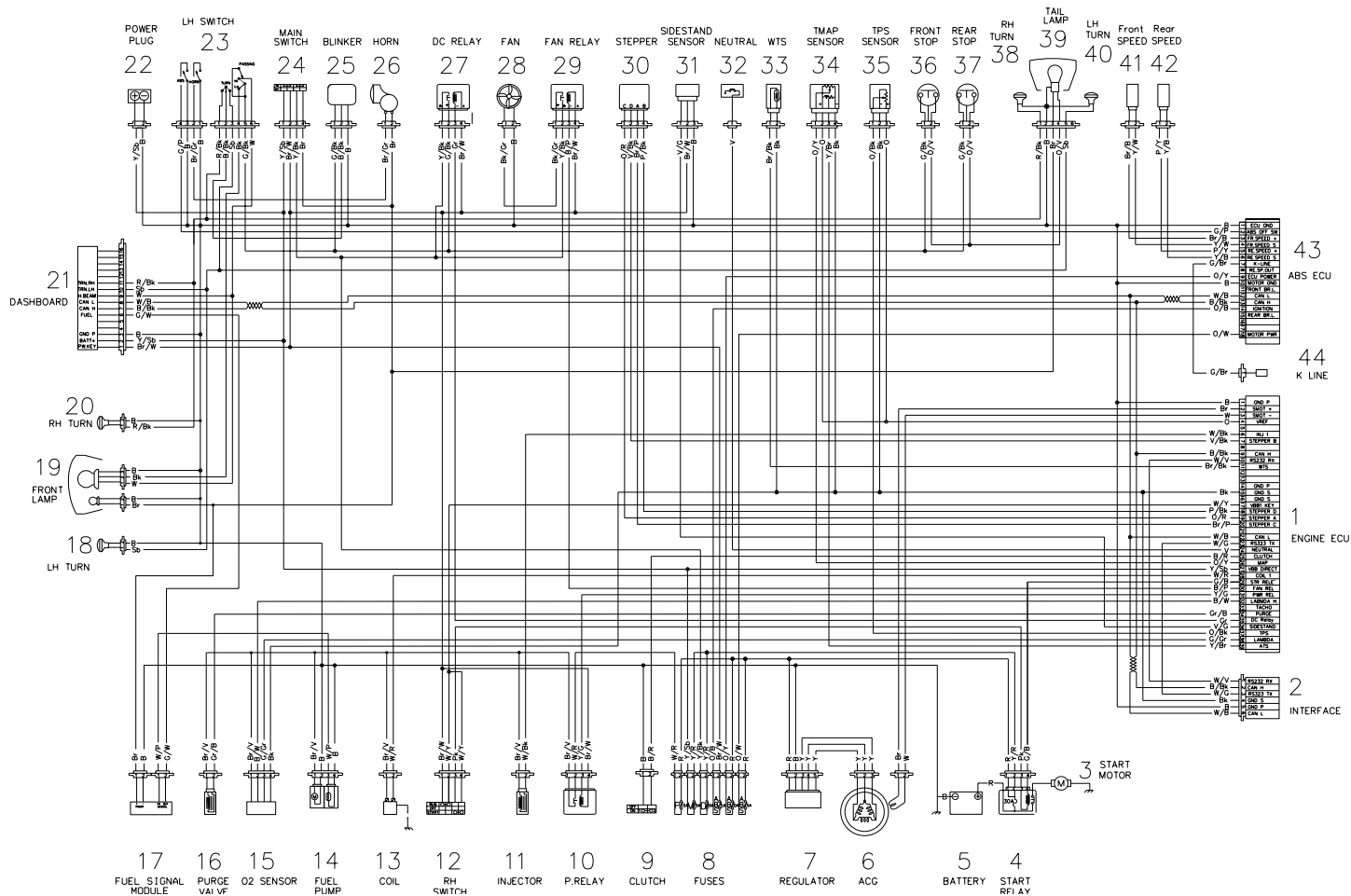
Unhook and lift the lid (3) from the fuse box (4).

REF.	FUSE NO.	UNIT	CAPACITY	COMPONENTS
5	Fuse 1	ABS	15A	ABS control unit
6	Fuse 2	ABS	10A	ABS pump
7	Fuse 3	ABS	5A	12V Locked with key
8	Fuse 4	POWER	15A	POWER RELAY <ul style="list-style-type: none"> - Injector - Coil - Gas pump - Lambda Probe Heater - Canister Valve
9	Fuse 5	MAIN	15A	ECU POWER PLUG DASHBOARD MAIN SWITCH <ul style="list-style-type: none"> - Dc relay - Power relay - Fan relay - Stand Support - Dashboard - RH Control - Contactor
10	Fuse 6	DC	20A	MAIN SWITCH <ul style="list-style-type: none"> - Position lights - Horn - Gas signal conditioning module DC RELAY (POW) <ul style="list-style-type: none"> - Head light - Brakes - Blinker FAN RELAY (POW) <ul style="list-style-type: none"> - Fan
11	Fuse 7	NC	-	

To prevent short circuits, turn the On/Off switch to OFF, BEFORE working on the fuses.

- Do not use fuses with a different capacity from the original one.





KEY TO ELECTRIC DIAGRAM

- | | | | |
|-----|--------------------------------------|----|---------------------------------|
| 1 | Motor Control Unit | 31 | Stand support sensor |
| 2 | PC interface | 32 | Gear sensor |
| 3 | Starter motor | 33 | Motor temperature sensor |
| 4 | Contactator | 34 | Air Pressure/Temperature Sensor |
| 5 | Battery | 35 | Throttle position sensor |
| 6 | Generator | 36 | Front brake switch |
| 7 | Regulator | 37 | Rear brake switch |
| 8 | Fuses | 38 | Rear right direction indicator |
| 9 | Clutch | 39 | Tail light |
| 10 | Power Relay | 40 | Rear left direction indicator |
| 11 | Injector | 41 | Front speed sensor |
| 12 | Right switch | 42 | Rear speed sensor |
| 13 | Coil | | |
| 14 | Fuel pump | | |
| 15) | Lambda sensor | | |
| 16 | Purge Valve | | |
| 17 | Purge Valve | | |
| 18 | Front left direction indicator | | |
| 19) | Headlight | | |
| 20 | Front right direction indicator | | |
| 21 | Dashboard 43 ABS Control unit | | |
| 22 | Auxiliary Socket 44 K line Connector | | |
| 23 | Left switch | | |
| 24 | Key | | |
| 25 | Blinker | | |
| 26 | -Horn | | |
| 27 | DC Relay | | |
| 28 | Fan | | |
| 29 | Fan Relay | | |
| 30 | Stepper | | |

CABLE COLOUR CODING

Bk	Black
O/W	Orange/White
Bk/Gr	Black/Grey
O/Y	Orange/Yellow
Bl	Blue
P	Pink
Bl/Bk	Blue/Black
P/Bk	Pink/Black
Bl/P	Blue/Pink
P/Y	Pink/Yellow
Bl/R	Blue/Red
R	Red
Bl/W	Blue/White
R/Bk	Red/Black
Br	Brown
Sb	SkyBlue
Br/Bk	Brown/Black
V	Violet
Br/Bl	Brown/Blue
V/Bk	Violet/Black
Br/G	Brown/Grey
V/G	Violet/Green
Br/P	Brown/Pink
W	White
Br/V	Brown/Violet

W/Bk	White/Black
Br/W	Brown/White
W/Bl	White/Blue
G/Bk	Green/Black
W/G	White/Green
G/Bl	Green/Blue
W/P	White/Pink
G/Br	Green/Brown
W/R	White/Red
G/P	Green/Pink
W/V	White/Violet
G/W	Green/White
W/Y	White/Yellow
Gr	Grey
Y	Yellow
Gr/Bl	Grey/Blue
Y/Bk	Yellow/Black
G/Gr	Grey/Green
Y/Bl	Yellow/Blue
O	Orange
Y/Br	Yellow/Brown
O/Bk	Orange/Black
Y/G	Yellow/Green
O/Bl	Orange/Blue
Y/R	Yellow/Red
O/R	Orange/Red
Y/Sb	Yellow/Skyblue

O/V	Orange/Violet
Y/W	Yellow/White

BATTERY

The sealed battery does not require any maintenance. When electrolyte leaks, or other failure of the electrical system is detected, apply to the SWM Dealer.

If the vehicle remains unused for long periods, it is recommended to disconnect the battery from the electrical system and store it in a dry place.

- After an intensive use of the battery, it is advisable to carry out a standard slow charging cycle (12V-6Ah battery: 0,6A for 8 hours).
- Quick charging is advised only in situations of extreme necessity since the life of lead elements is drastically reduced by such cycle (12V-6Ah battery: 6A for 0,5 hours).

BATTERY CHARGER

To gain access to the battery (1):

- first turn counterclockwise fastening rear pin (2) then remove the saddle.
- Release the elastic strap holding the battery;



- first remove the BLACK negative cable, then the RED positive cable (when reassembling, first connect the RED positive cable, then the BLACK negative cable);
- remove the battery (1) from its housing.

Check, using a voltmeter, that battery voltage is not less than 12,5 V.

If it is not so, the battery needs to be charged.

Using a battery charger with a constant voltage, first connect the RED positive cable to the battery positive terminal then the BLACK or BLUE negative cable to the battery negative terminal.

The voltage reaches a constant value only after a few hours, therefore it is suggested NOT to measure it immediately after having charged or discharged the battery.

Always check the battery charge before reinstalling it on the vehicle.

The battery should be kept clean and the terminals coated with grease.

The battery can be charged also with a charge maintainer, by connecting it to the auxiliary socket connector [connector (18) on page 60].



WARNING*: The battery contains sulphuric acid. Avoid contact with skin, eyes or clothing.

SOLUTIONS:

CONTACT WITH THE SKIN: Rinse with plenty of water.

INGESTION: Drink large amounts of water. Immediately call a doctor. Do not induce vomiting.

CONTACT WITH THE EYES: Flush with water for no less than 15 minutes and get prompt medical attention.

WARNING*: If the battery is left unused, it has to be in any case recharged with slow cycle (12V-6Ah battery: 0,6A for 8 hours) at least every 3 weeks.

WARNING*: Batteries produce explosive gas, ventilate when charging or using indoors. When using a battery charger, always connect the battery before turning on the charger. This procedure prevents sparks at the battery terminals which could ignite any battery gases.



TAIL LIGHT

The tail light (1) is a LED light; Replace it when it does not function.

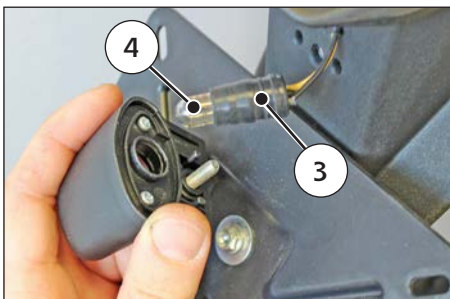
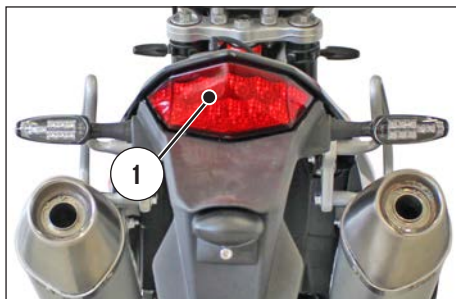
HEADLIGHT

The headlight (2) is a LED light; Replace it when it does not function.

REPLACING THE NUMBER PLATE BULB

- loosen screw (1) and remove the number plate bulb (2) from the mudguard;
- take bulb holder (3) and bulb (4) out of the support;
- pull the bulb (4) to detach it from bulb holder.

Once the bulb has been replaced, reverse the above procedure to reassemble.



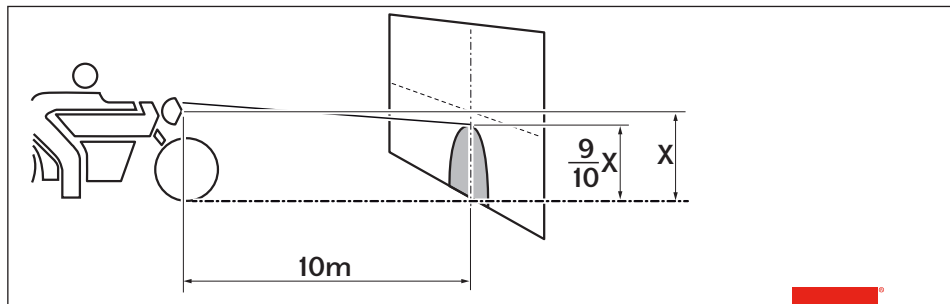
HEADLIGHT ADJUSTMENT

When checking the proper aiming of the headlight beam: inflate tyres at the right pressure, have a person sit astride the motorcycle and set the motorcycle perpendicular to its longitudinal axis at 33 ft from a wall or screen. Then trace a horizontal line at the height of headlight centre and a vertical one, in line with vehicle longitudinal axis.

If possible, execute this operation in a shaded place. When the low beam is on, the upper edge between dark and lit zone should be at $\frac{9}{10}$ th of headlight centre from ground.

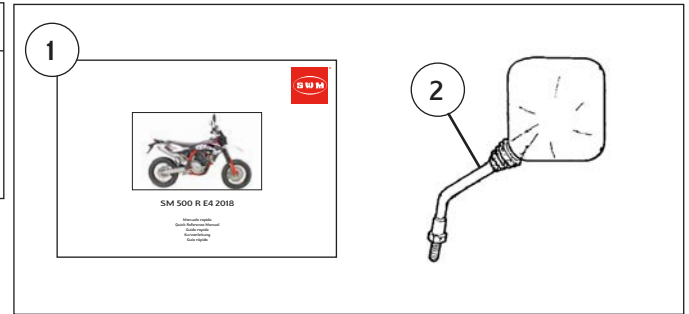
Beam height can be adjusted as follows:

- Work adjuster screw (1);
tighten to lower the beam,
loosen to raise the beam.



EQUIPMENT

Pos.	No. Part no.	DESCRIPTION
1	A000P02069	MULTILANGUAGE QUICK MANUAL (1)
2	FA00P01471	R.H. REAR-VIEW MIRROR (1)
	F000P01471	L.H. REAR-VIEW MIRROR (1)



APPENDIX

LONG PERIOD OF INACTIVITY

When the motorcycle is to be stored for a certain period, it should be prepared for storage as follows:

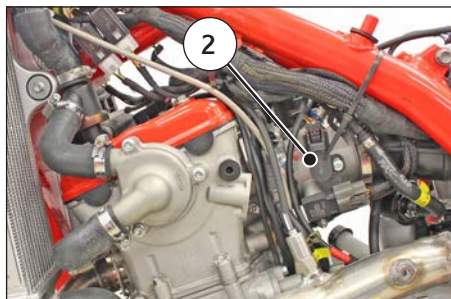
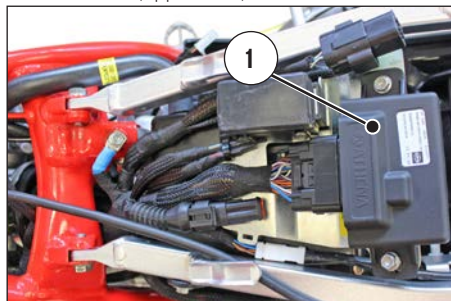
- clean the entire motorcycle thoroughly.
- Drain all fuel from the tank.
- Fill the tank with fuel added with a stabiliser

WARNING*: Never release fuel into the environment or let the engine run indoors.

- Lubricate the final drive chain and all the cables.
- Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or brakes.
- Set the motorcycle on a support or stand so that both wheels are raised off the ground (if this cannot be done, put boards under the wheels to keep moisture away from the tyres).
- Tie a plastic bag over the exhaust pipe to prevent moisture from entering.
- Put a cover over the motorcycle to keep dust and dirt from collecting on it.

To set the motorcycle back ready for use after storage:

- Make sure the spark plug is tight.
- Fill the fuel tank.
- Run the engine to warm the oil up then drain the oil.
- Refill with fresh oil.
- Check all the points listed under the inspection and Adjustment Section (Appendix A).
- Lubricate all the points listed under the "Lubrication" Section (Appendix A).



CLEANING

Before washing the motorcycle, it is necessary to duly protect the following parts:

- a) Rear opening of the muffler;
- b) Air filter intake;
- c) Clutch and brake levers, hand grips, handlebar commutators;
- d) Fork head, wheel bearings;
- e) Rear suspension links.

DO NOT INSIST WITH HIGH PRESSURE JETS OF WATER OR AIR on the ELECTRIC PARTS and on the INJECTION SUPPLY SYSTEM, especially the electronic control unit (1) and the throttle body sensors unit (2).

After washing:

- Lubricate the points listed in the "Maintenance Chart" (Appendix A).
- Briefly warm up the engine
- Test the brakes before riding the motorcycle.

WARNING*: Never wax or lubricate the brake discs. Loss of braking efficiency and an accident could result. Clean the disc with a solvent such as acetone.

PRE-DELIVERY INSPECTION

Description	Operation	Pre-delivery
Engine oil	Check level	<input type="checkbox"/>
Coolant	Check / Restore level	<input type="checkbox"/>
Cooling system	Check for leakage	<input type="checkbox"/>
Electric fans	Check operation	<input type="checkbox"/> ❄ ❄
Spark plugs	Check / Replace	<input type="checkbox"/>
Throttle body / Carburettor	Check and adjust	<input type="checkbox"/>
Brakes / Clutch fluid	Check level	<input type="checkbox"/>
Brakes / Clutch	Check operation	<input type="checkbox"/>
Brakes / Clutch	Check lines for leakage	<input type="checkbox"/>
Throttle control	Check operation	<input type="checkbox"/>
Throttle control	Check / Adjust play	<input type="checkbox"/>
Flexible controls and transm.	Check / Adjust	<input type="checkbox"/>
Drive chain	Check / Adjust	<input type="checkbox"/>

Description	Operation	Pre-delivery
Tyres	Check pressure	<input type="checkbox"/>
Side stand	Check operation	<input type="checkbox"/>
Side stand switch	Check operation	<input type="checkbox"/>
Electrical equipment	Check operation	<input type="checkbox"/>
Instrument panel	Check operation	<input type="checkbox"/>
Lights / Visula signals	Check operation	<input type="checkbox"/>
Horn	Check operation	<input type="checkbox"/>
Headlight	Check operation	<input type="checkbox"/>
Ignition switch	Check operation	<input type="checkbox"/>
Locks	Check operation	<input type="checkbox"/>
Screws and nuts	Check / Tighten	<input type="checkbox"/>
Hose clamps	Check / Tighten	<input type="checkbox"/>
General lubrication		<input type="checkbox"/>
General test		<input type="checkbox"/>

❄ ❄ only for some models

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APPENDIX A



SM 500R	SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)						
	AFTER FIRST 3 HOURS						- REPLACE IF NECESSARY -
	OR EVERY 500 KM		OR EVERY 2000 KM -	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
VALVES	CLEARANCE			CLEARANCE		S (#)	
VALVE SPRING						C	X
VALVE CUP, VALVE HALF CONE						C	X
ROCKER ARM (INTAKE-EXHAUST)						C	X
CAMSHAFT						C	
TIMING CHAIN					C	S	
TIMING CHAIN SLIDER						S	

SM 500R

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

	AFTER FIRST 3 HOURS						
	AFTER FIRST 3 HOURS						
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
VALVE TIMING DRIVEN GEAR						C	X
VALVE TIMING GEAR					C		X
TIMING CHAIN TENSIONER						C	
STARTER DECOMPRESSOR SYSTEM					C		X
INTAKE MANIFOLD			C		S		
CYLINDER ASSY.						C	X
PISTON ASSY					C	S	
CONNECTING ROD ASSY.						S	

A



SM 500R	SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)						
	AFTER FIRST 3 HOURS						- REPLACE IF NECESSARY -
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
CRANKCASE BEARINGS						S	
ENGINE OIL	S		S				
OIL PUMP					C		
OIL FILTER CARTRIDGE / NET OIL FILTER	S, P		S, P				
OIL PUMP / CRANKCASE HOSE						C	
SET OF MATCHED PRIMARY				C			
CLUTCH HUB				C			X
CLUTCH DISCS			C		S		X

SM 500R

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

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	AFTER FIRST 3 HOURS						- REPLACE IF NECESSARY -
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
CLUTCH DISCS PRESSURE PLATE					C		
MOCLUTCH SPRING					C		X
CLUTCH DISCS HOUSING					C		
CLUTCH DISENGAGEMENT ROD					C		
DRIVE SPROCKET		C	S				X
STARTING GEARS					C		X
STARTING PEDAL				L			
GEAR CONTROL PEDAL			C				

A



SM 500R

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

SM 500R	SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)						
	AFTER FIRST 3 HOURS						REPLACE IF NECESSARY
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
PARK PLUG			P	S			
SPARK PLUG CAP				C			
CARBURETOR		P				R	
CARBURETOR THROTTLE VALVE						C	
AIR FILTER		P, L					
RADIATORS		C					
COOLANT HOSES AND CLAMPS		C					
RADIATORS HOSE / WATER PUMP		C					

SM 500R

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

	AFTER FIRST 3 HOURS		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	REPLACE IF NECESSARY
COOLANT		C					X
FOOTRESTS, FOOTRESTS PINS AND SPRINGS			C				X
SADDLE FRAME FASTENING BOLTS, ENGINE FASTENING BOLTS	C			C			
SIDE STAND		C					
CHAIN GUIDE ROLLER, BEARINGS		C					
STEERING HEAD, STEERING CROWN WITH PIN			L				

A



SM 500R	SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)						
	AFTER FIRST 3 HOURS						REPLACE IF NECESSARY
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
FRONT FORK			R				
HANDLEBAR HOLDERS AND FASTENING SET	C			C			
REAR SWING ARM BUSHING				C			
REAR CHAIN SLIDER				C			X
REAR SUSPENSION LINKS BUSHINGS				C			
REAR CHAIN GUIDE / REAR CHIAN GUARD		C					X
REAR SWING ARM PIVOT NEEDLE BEARINGS			L				

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

SM 500R

	AFTER FIRST 3 HOURS							REPLACE IF NECESSARY
REAR SHOCK ABSORBER							R	
REAR SUSPENSION LINKS NEEDLE BEARINGS AND GUDGEON PIN		L						
THROTTLE CONTROL ASSY		C, L						
CLUTCH CONTROL ASSY		C (#)					R (#)	
THROTTLE AND STARTING DECOMPRESSOR CABLES		C		L				X
FRONT BRAKE DISC			C					X
FRONT BRAKE SYSTEM FLUID		C					S	

A



SM 500R

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

	AFTER FIRST 3 HOURS						
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	REPLACE IF NECESSARY
REAR BRAKE DISC			C				X
REAR BRAKE SYSTEM FLUID		C				S	
BRAKE PADS		C					X
BRAKE SYSTEM PUMP / CALIPER HOSES		C					
FUEL HOSES		C				S	X
EXHAUST SILENCER PACKING			S				X
EXHAUST PIPE AND SILENCER		C					X
WHEEL SPOKES TENSION	C		C				

SCHEDULED MAINTENANCE CHART (TO BE CARRIED OUT AT THE SWM DEALER)

SM 500R

							REPLACE IF NECESSARY
	AFTER FIRST 3 HOURS						
	OR EVERY 500 KM		OR EVERY 2000 KM	OR EVERY 4000 KM	OR EVERY 8000 KM	OR EVERY 10000 KM	
WHEEL HUB BEARINGS					S		X
REAR DRIVEN SPROCKET			S				X
REAR DRIVEN SPROCKET SCREWS TIGHTENING	C		C				
CHAIN	C,L		S				X
SERBOLTS AND NUTS TIGHTNESS GENERAL CHECK	C			C			

A



KEY FOR MAINTENANCE SCHEDULE:

h: HOURS

S: REPLACEMENT

C: CHECK

P: CLEAN

R: OVERHAUL

L: IGREASING / LUBRICATION

MX: MOTOCROSS

EN: ENDURO

#: REFER TO MANUAL WORKSHOP

NOTE:

EVERY REMOVAL REPLACE ALL GASKETS

REPLACE SCREWS AND NUTS IF WORN

GENERAL CHECK AFTER RACING USE AND MUDDY OR SANDY GROUNDS



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