

# SHERCO

MANUAL DE TALLER / MANUEL D'ATELIER / WORKSHOP MANUAL

Ryan Young Products



800-607-8742



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# PROLOGUE

All the information contained in this manual has been prepared to provide the most information on possible operations on a Sherco motorcycle within ST trial line. Bearing in mind that many of the specific operations must be performed in a specialised workshop, this manual is intended as a very useful guide for operators carrying out these tasks, bearing in mind that, in many cases, they are exceptional, infrequent tasks, this manual will help you to follow an order of assembly and action upon elements to be verified or substituted. It also seeks to help any operator or technician to become familiarised with the processes and resolve any doubts.

Sherco is committed to providing its technical centres with maximum information in order to perform maintenance and repair work on its motorcycles with maximum guarantees. It must be taken into account that all the processes described in this manual, as well as the measurements, refer to standard procedures, always using original Sherco parts.

Neatness and the correct execution of all verification or changing of parts, maintaining rigour in developing all processes, and ensuring perfect dynamic operation is Sherco's objective, in order for ST owners to be able to enjoy their qualities.

Sherco's commitment to continual research and development ensures that its motorcycles are constantly evolving. On account of the informative nature of this manual, Sherco Motorcycles reserves the right to make changes without prior notice.

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Motorcycles



# LIST OF SPECIAL TOOLS AND EQUIPMENT

## » SPECIAL TOOLS

Clutch block R-037  
Magnetic flywheel extractor R-075  
Bearing HK 808 (water pump) 2080  
Engine starter shaft seal 2074  
Pump shaft cap R232  
Desmodromic bearing R465  
Filter cover 4179

## » ENGINE TIGHTENING TORQUES

Cylinder head screws	10Nm
Cylinder nuts	22Nm
Magnetic flywheel cover screws	0.7Nm
Stator screws	0.7Nm
Magnetic flywheel nut	100Nm
Clutch spring screws	0,7Nm
Clutch nut	40Nm (with Loctite 243 sealer)
Intake nozzle screws	0.7Nm
Engine closure screws (carter)	15Nm
Primary cog nut	60Nm
M-5 Screws	0.6Nm
M-6 Screws	12Nm
M-8 Screws	24Nm
M-10 Screws	40Nm
Rear wheel axle nut	100Nm
Front wheel axle	100Nm
Lower steering nut	20Nm
Upper steering nut	20Nm
Tilting axle	50Nm



# TECHNICAL FEATURES OF THE ENGINE

## ENGINE

	80 ST	125 ST	250 ST	290 ST	305 ST
Engine	2 stroke by Sherco				
Capacity	74.60 cc	123.70 cc	249.70 cc	272 cc	294 cc
Diameter x Stroke	44.50 x 50.70	54 x 54	72.80 x 60	76 x 60	79 x 60
Nikasil cylinder piston tolerance	0.02 mm	0.04 mm	0.03 mm	0.035 mm	0.05 mm
Piston	Alclad aluminium				
Electronic ignition	Leonelli Digital	Hidria Digital	Hidria Digital	Hidria Digital	Hidria Digital
Spark plug	W16EPR-U3021	W16EPR-U3021	W16EPR-U3021	W16EPR-U3021	W16EPR-U3021
Electrode distance	0.7	0.7	0.7	0.7	0.7
Lubrication	2 % oil mixture				
Fuel	98 oct. unleaded gasoline				
Carburettor	Dell'Orto PHBL26BS	Keihin Ø 28 mm	Dell'Orto PHBL26BS	Keihin Ø 28 mm	Keihin Ø 28 mm
Carburettor adjustment	Main jet 105 Edle jet 45	Main jet 122 Edle jet 50	Main jet 122 Edle jet 33	Main jet 125 Edle jet 42	Main jet 128 Edle jet 42
Needle position	P3	P5	P2 +0.5	P4+0.5	P4+0.5
Refrigeration	Forced-circulation liquid cooled				
Starter	Cog system with retracting pedal				
Exhaust	Stainless steel tube with aluminium muffler				
Primary transmission	5 sp. sequential selection with neutral selector.				
1st	13:33				
2nd	15:35				
3rd	18:33				
4th	24:26				
5th	31:20				
Final transmission	9:54	9:48	10:42	10:42	10:42
Clutch	Wet hydraulic multi-plate				
Oil capacity	450c.c 10W50W Minerva				

# TECHNICAL FEATURES OF THE FRAME

## » CHASSIS

	80 ST	125 ST	250 ST	290 ST	305 ST
Frame	Tubular Chrome-moly				
Gasoline tank	Ergal aluminium with integrated fuel pump				
Tank capacity	2.6 L	2.6 L	2.6 L	2.6 L	2.6 L
Front brake	Hydraulic, Ø 185 mm disc				
Rear brake	Hydraulic, Ø 145 mm disc				
Brake fluid	DOT 4 Minerva				
Front suspension	39 mm. telescopic Tech fork 165 mm range				
Oil capacity	Right bar 280 c.c. SAE 5 / Left bar 110 mm from the end of the compressed bar SAE 5				
Rear suspension	Progressive system of link rods. Alclad aluminium swivel				
Damper travel	175 mm	175 mm	175 mm	175 mm	175 mm
Damper	Ole	R16V	R16V	R16V	R16V
Front wheel	21" aluminium hub				
Michelin front tyre c/c	2.75x21 (2.50x19)	2.75x21	2.75x21	2.75x21	2.75x21
Inflated pressure	0.4 bar	0.4 bar	0.4 bar	0.4 bar	0.4 bar
Rear wheel	18" Morad aluminium hub				
Michelin rear tyre s/c	4.00x18 (3.50x17)	4.00x18	4.00x18	4.00x18	4.00x18
Inflated pressure	0.3 bar	0.3 bar	0.3 bar	0.3 bar	0.3 bar
Weight	67 kg	67 kg	68 kg	68 kg	68 kg
Distance between axles	1322 mm	1322 mm	1322 mm	1322 mm	1322 mm
Minimum clearance from ground	310 mm	310 mm	310 mm	310 mm	310 mm
Seat height	645 mm	645 mm	645 mm	645 mm	645 mm



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# CHANGING WHEEL BEARING

- Loosen axle block nut
- Loosen and remove front axle



- Release the wheel. The bearings are mounted on either side of the bushing. When changing the bearings, note the separator sleeve mounted between them.



- Loosen the rear axle and remove the axle towards the left.



- As with the front wheel, the bearings go on either side of the bushing with the inner separator between them. Bear in mind the separator that goes between the bearing and the swivel when reassembling.



- When dismantling, it is convenient to heat the surface where the bearing is lodged and remove it using a  $\varnothing 20$  pushing tube. Decant the pusher slightly on the front wheel in order to remove the bearing.





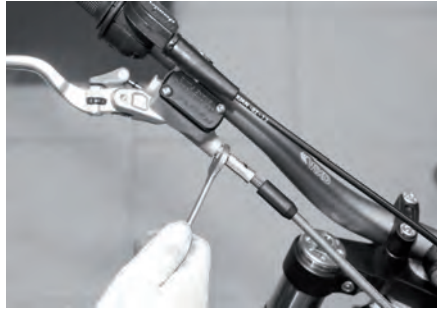
# CHANGING FRONT FLEXIBLE BRAKE HOSE

## FORMULA

- Dismantle the front fork bridge and remove the flexible brake hose from the bridge, as well as the upper flange. Dismantle the flexible brake hose.



- Once the flexible brake hose has been changed, fill up the tank with DOT4 Minerva brake fluid.
- Loosen the grasper bleeder and purge the flexible brake hose by pressing successively until the brake lever limit is reached. Repeat this operation until the lever at pressure feels to have reached maximum hardness.
- Fluid level must be checked once bleeding has been completed.



## AJP

- Dismantle the flexible brake hose.



# CHANGING FRONT FLEXIBLE BRAKE HOSE

- Once the flexible brake hose has been changed, fill up the tank with DOT4 Minerva brake fluid.



- Loosen the grasper bleeder and purge the flexible brake hose by pressing successively until the brake lever limit is reached. Repeat this operation until the lever at pressure feels to have reached maximum hardness.



- Fluid level must be checked once bleeding has been completed. Fluid level must reach half way up the viewer.



## ▶ BRAKTEC

- Disassemble the flexible brake hose.
- Once the flexible brake hose has been changed, fill tank half way with new brake fluid.



- Loosen the grasper bleeder and purge the flexible brake hose by pressing successively until the brake lever limit is reached. Repeat this operation until the lever at pressure feels to have reached maximum hardness.



- Fluid level must be checked once bleeding has been completed.



# FRONT BRAKE MAINTENANCE

## FORMULA

- Remove the safety clip.
- Loosen the brake pad fixation screw.
- Loosen the grasper securing screws.
- Clean the assembly with Minerva Brake Cleaner.
- Remove the brake pads.
- Measure the depth of the sheathing. The inner groove measurement should be no less than 1mm.



- Remove the safety clip.
- Loosen the brake pad fastening screw.
- Loosen the grasper securing screws.
- Remove the brake pads.
- Measure the depth of the lining. This cannot be less than 1mm.

## AJP



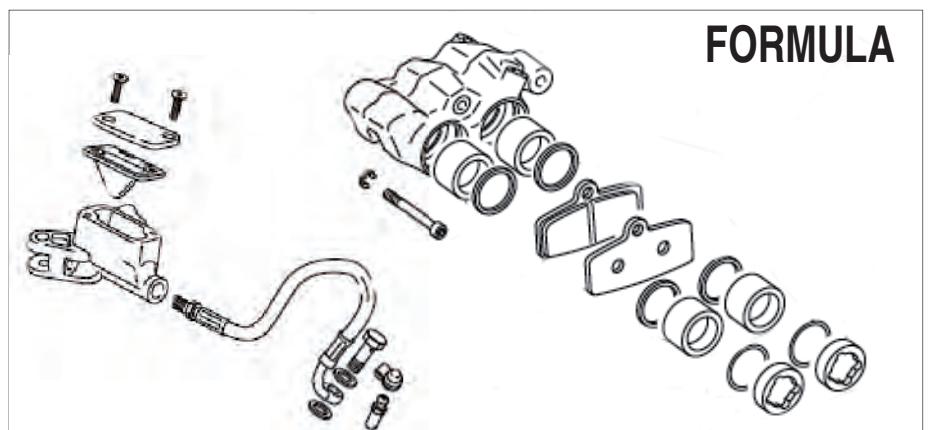
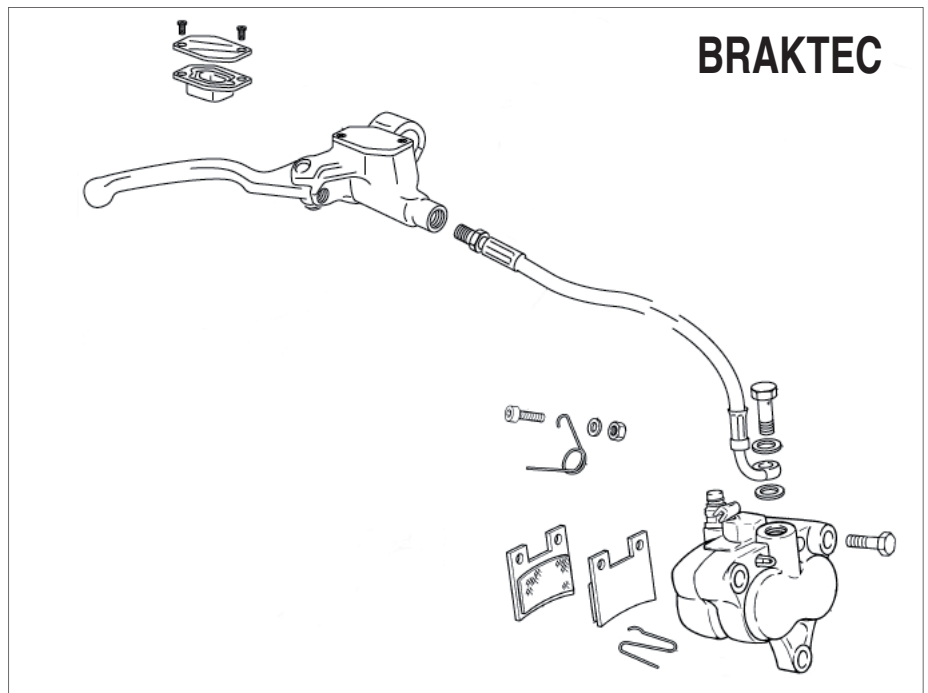
# FRONT BRAKE MAINTENANCE

## » BRAKTEC

- Remove the safety clip.
- Loosen the brake pad fastening screw.
- Loosen the grasper securing screws.
- Remove the brake pads.
- Measure the depth of the lining. This cannot be less than 1mm.



## » PARTS BREAKDOWN



# CHANGING FRONT FLEXIBLE BRAKE HOSE

- Loosen axle block nut
- Loosen and remove front axle



- Loosen the nuts that secure the discs, taking care not to damage the edges of the discs which may present burrs from the wear and tear.

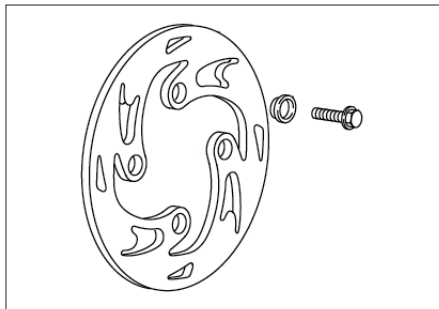


- When assembling the discs, apply Loctite 243 to the screws in order to ensure greater adherence.



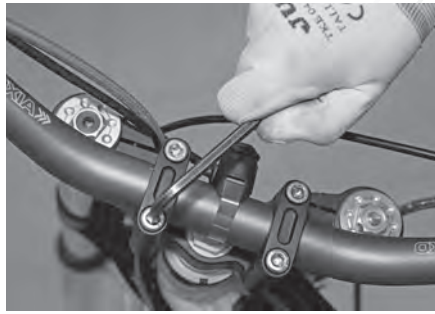
- Tighten the screws to 12NM using a dynamometric spanner.

## ► PARTS BREAKDOWN



# STEERING SHAFT

- Dismantle handlebar securing flanges.
- Turn the lower locknut clockwise 1/4 of a turn and then loosen the upper nut.



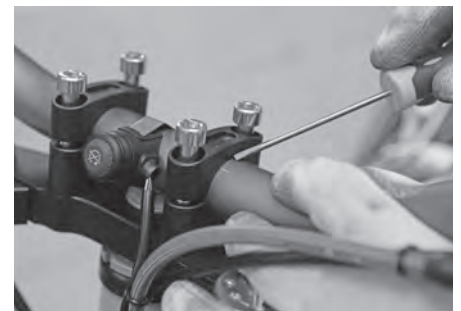
- Loosen the platen screws and release the suspension bars.



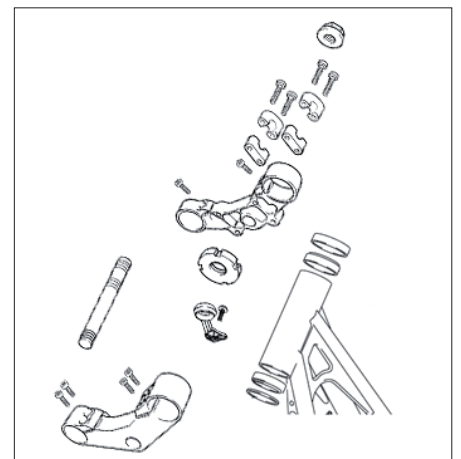
- Remove the lower nut.
- From the underside, release the steering shaft from its position in the chassis.
- Clean all parts.
- Check and replace the bearing if necessary. Before reassembling, lubricate with plenty of Minerva grease.



- Upon reassembling, once the upper platen is mounted, first tighten the upper nut to 20NM and then lock it with the lower nut until the assembly is released and is able to turn freely and precisely. Use the marks to adjust the final handlebar position.



## ▶ PARTS BREAKDOWN



# FRONT SUSPENSION

- Loosen the front bridge that joins the two suspension bars and the mudguard support.
- Remove the front wheel.
- Remove the front mudguard.



- Loosen the locking screws from the upper and lower platens.
- Release the front brake grasper.

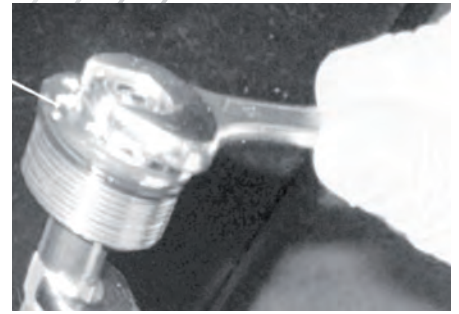


- Cut the securing flange of the headlight bracket.
- Slide the bar along the underside.



# CHANGING RIGHT SUSPENSION BAR SEAL

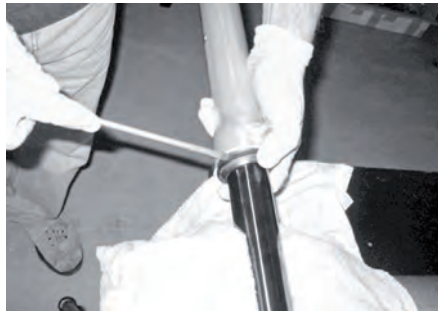
- Upon fixing the bar on the bench, add a protective element to avoid erosion.
- Loosen the upper plug.
- Loosen the locknut.
- Hold the axle plug.
- Insert a tube in the axle drill and loosen the cartridge plug.
- Remove the cartridge locking screw and the oil retaining washer.
- Remove the cartridge from the bar.
- Turn the bar and remove the end-of-run cone.
- Push the compression group inward and remove the circlip from its seat.
- Place the hydraulic group back in the cartridge.
- Insert the end-of-run cone.



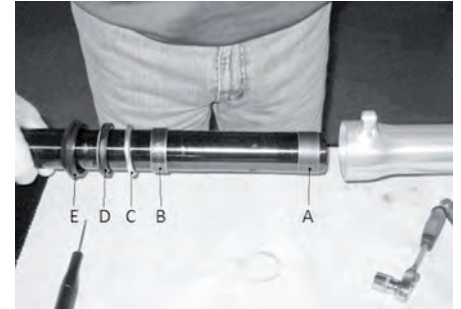


# CHANGING RIGHT SUSPENSION BAR SEAL

- Lever the edge of the dust cover and remove it from the bottle.



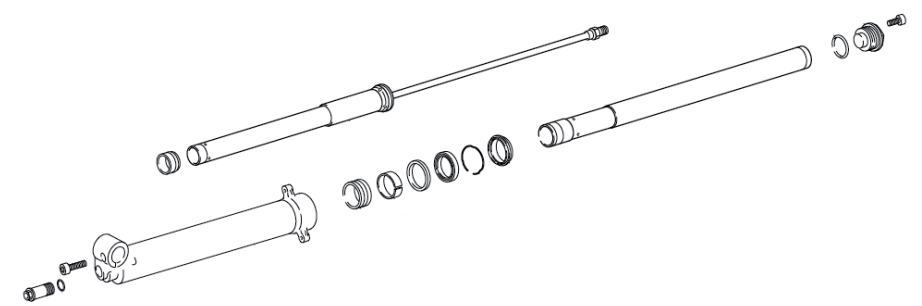
- Remove the circlip from its seat.



- Dismantle the bottle seal and cap.



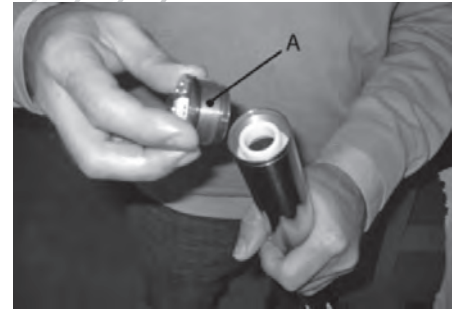
- Apply grease to the bottle mouth to make assembly easier.



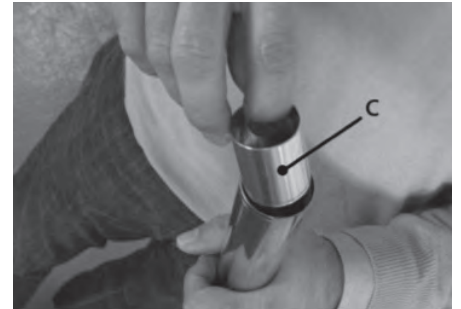
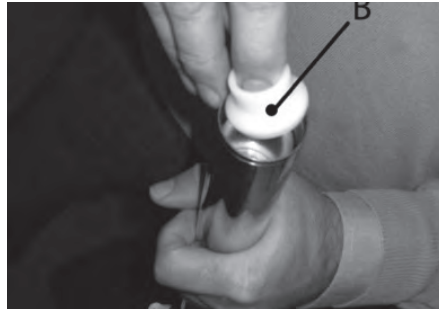
## ▶ PARTS BREAKDOWN

# CHANGING LEFT SUSPENSION BAR SEAL

- Before fixing the bar on the screw, use protective material to prevent scratching.
- Loosen the plug and remove it completely.



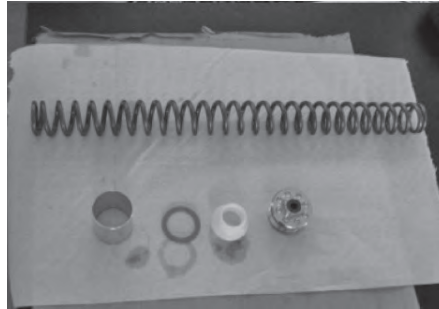
- Remove both tapered separators.



- Remove the washer and the spring slowly to avoid splashing oil.



- Place all the elements on a clean surface and empty the oil into a container.

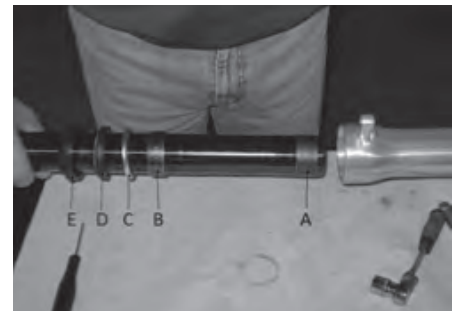


- Secure the protected bottle and loosen the pumping die to be able to remove the oil-retaining washer and screw.



# CHANGING LEFT SUSPENSION BAR SEAL

- Fully remove the pumping group.
- Invert the bar and remove the end-of-run cone.
- Lever the edge of the dust cover and remove it from its seat on the bar.
- Remove the circlip from its seat.
- Secure the protected bar with the screw and slide the bottle until it is fully removed.
- Slide all parts indicated from the tube and replace part A.
- Grease the sleeve and seal seat before starting reassembly.
- Place the sleeve on its seat using the appropriate tools.
- Insert the washer, paying special attention to place its lip facing upward.
- Grease the tube with special sealing grease.



# CHANGING LEFT SUSPENSION BAR SEAL

- Slide the dust cover down the bar turning slightly to find its correct position on the bottle.



- Insert the pumping group with the end-of-run cone ready mounted.
- While holding the tube at the end of its run with the help of the spring within the bar, fully tighten the pumping screw.



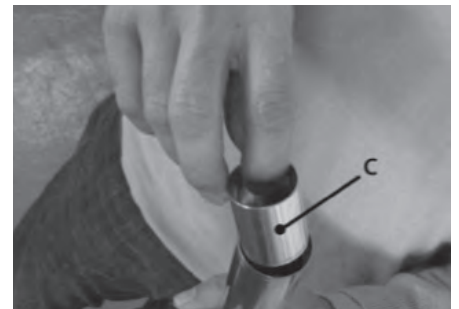
- Tighten the plug to 23.5--25.5 NM using a dynamometric spanner.
- Position the bar vertically and pour in some of the new oil.



- Pump a few times, pushing the tube to the end of its run. Fill with oil up to 110mm from the brim.
- Insert the spring.

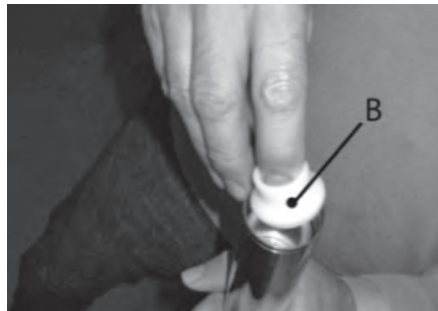


- Insert the separating washer.
- Insert the spacer.

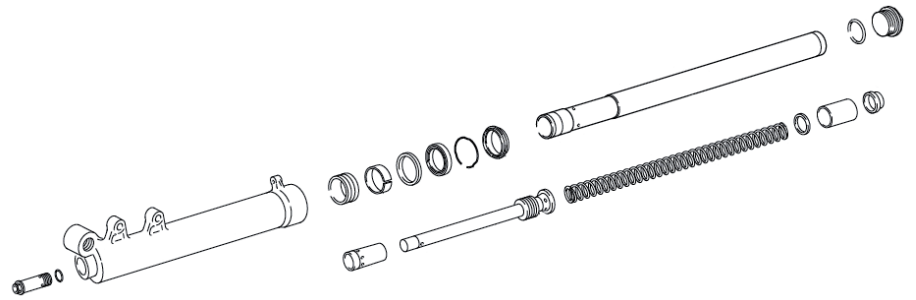


# CHANGING LEFT SUSPENSION BAR SEAL

- Insert the tapered spacer.
- Fully tighten the upper plug of the tube to 17NM using a dynamometric spanner.



## ► PARTS BREAKDOWN



# CARBURETTOR AND REED BLOCK

- Remove the rubber cap and cover from the throttle grip and release the cable.
- Open the cover and remove the air filter. Loosen the 2 screws fastening the filter box and the 3 screws from the rear mudguard.



- Remove the CDI and the clamps securing the carburettor to the inlet nozzles and filter.



- Close the fuel petcock valve. Remove the carburettor towards one side and dismantle the draining tube.

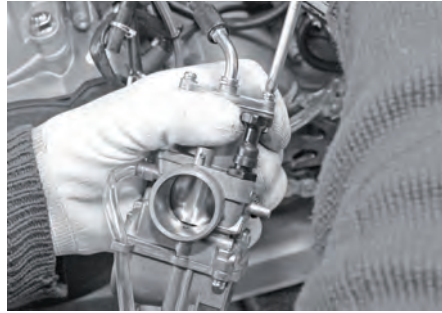


# CARBURETTOR AND REED BLOCK

- Dismantle the fuel input tube. Open the upper cap and remove the sliding hood. This leaves the carburettor completely unfastened.



- On a clean table, loosen and remove the float chamber by rotating it slightly. In an inverted position, test the height of the floats. (See float height measures in the specific instructions). Reassemble the carburettor, inverting the dismantling process.



- Loosen the 4 M5 screws and remove the nozzle from the reed block.



- Check the height of the 5.5mm stoppers. The joint plane between the nozzle and the reed block must be



# CARBURETTOR AND REED BLOCK

perfect to avoid carburettor failure. If it is not, replace gasket ref: 5045

- Reassemble the reed block.
- Reassemble the carburettor, connecting the tubes and assembling the fuel cable. Assemble the filter box.



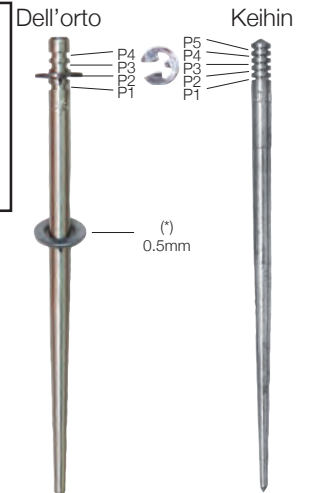
- Position the carburettor and secure it with the flanges. Place the air filter, the cover and the CDI.



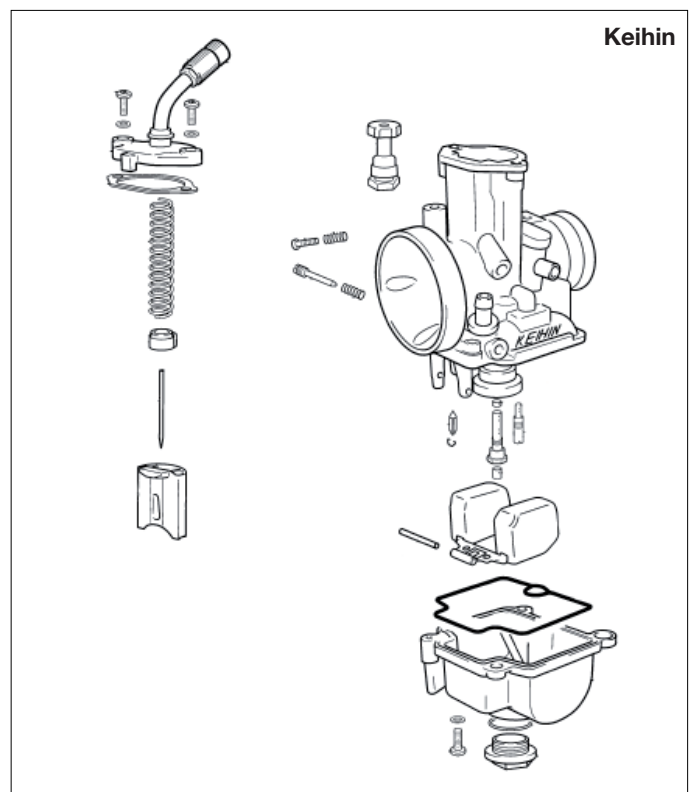
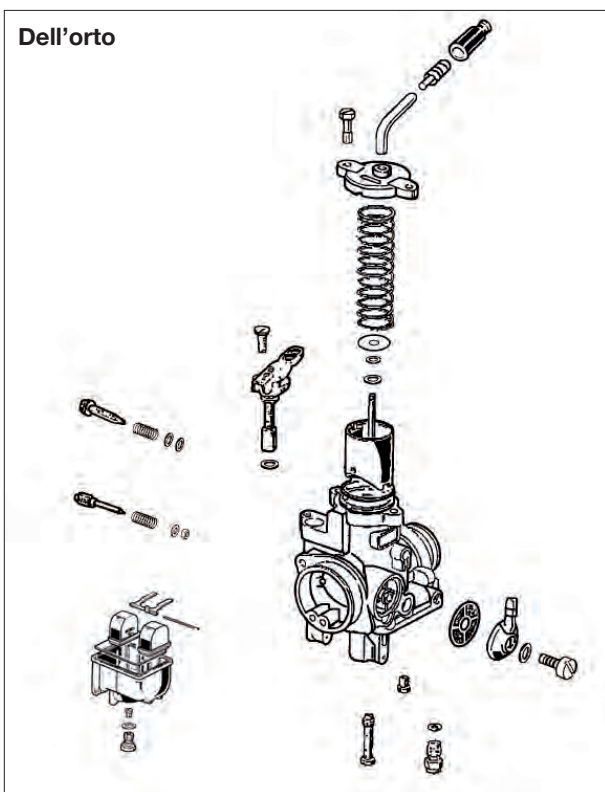
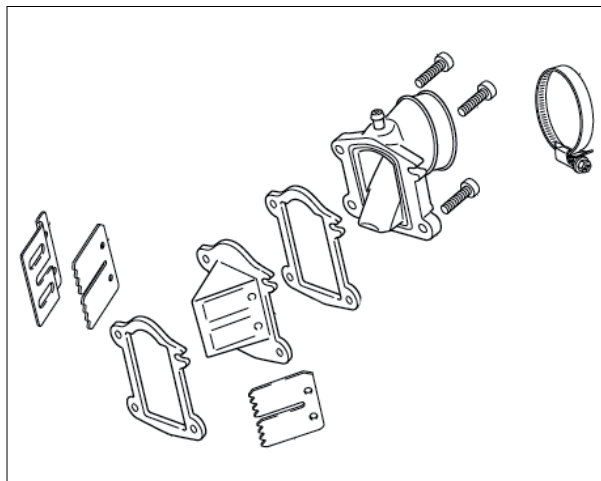


# CARBURETTOR AND REED BLOCK

	80c.c.	125 c.c.	250 c.c.	290 c.c.	300 c.c.
Carburettor float height	18.5	19	19	20	20
Idle jet	45	50	33	42	42
Main jet	110	122	122	125	128
Needle position	P3	P5	P2 +0.5(*)	P4+0.5(*)	P4+0.5(*)



## ► PARTS BREAKDOWN





# RADIATOR

- Loosen and remove the radiator cap.



- Have a receptacle ready to collect the fluid.

- Loosen and remove the cooling circuit draining screw.



- Empty the fluid from the engine.

- Replace and close the draining screw.

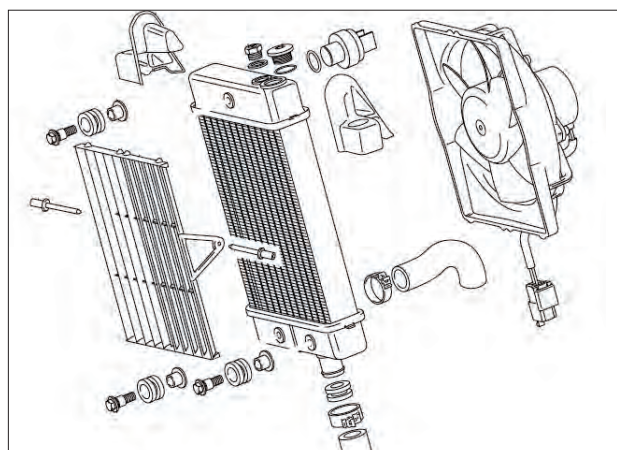
- Release the sleeves.



- To change the radiator, loosen the 3 front fastening screws.



## ▶ PARTS BREAKDOWN

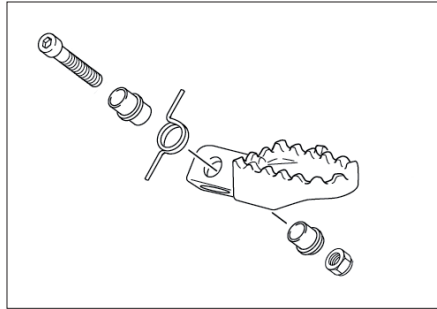


# FOOTRESTS / ENGINE PROTECTOR

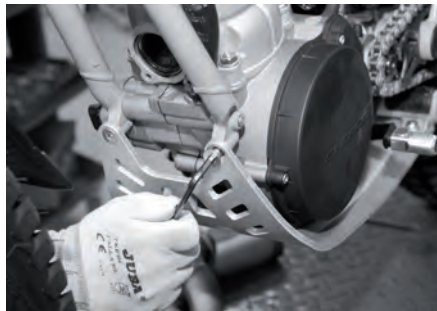
- Loosen the footrest shaft-screw.
- Check the condition of the spring and the sleeve.
- Clean and lubricate when reassembling.



## » PARTS BREAKDOWN



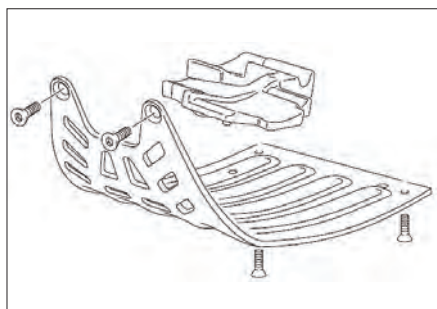
- It is necessary to check the engine protector periodically, as well as its position and the condition of the rubber damper mounted between the protector and the engine carter.



- Ensure it is correctly positioned at its anchoring points.



## » PARTS BREAKDOWN



# ELECTRICAL SYSTEM

- Most of the Sherco's electrical circuit is practically integrated into the chassis and only the connectors are visible. All the connection points, as well as the spark plug, coil, CDI, magnetic flywheel, and the ground anchoring point are accessed by dismantling the filter box.



- Lamp connectors plus switches  
- Grounds



- High coil connections



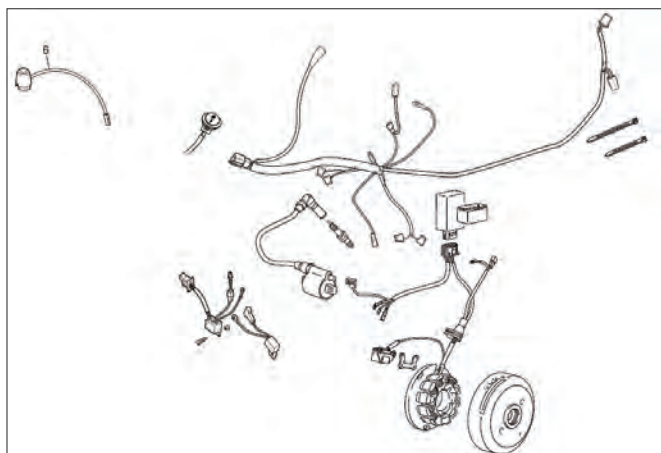
- Flanged outlet of ignition cables

- CDI connector



- Regulator and rectifier connections

## » PARTS BREAKDOWN

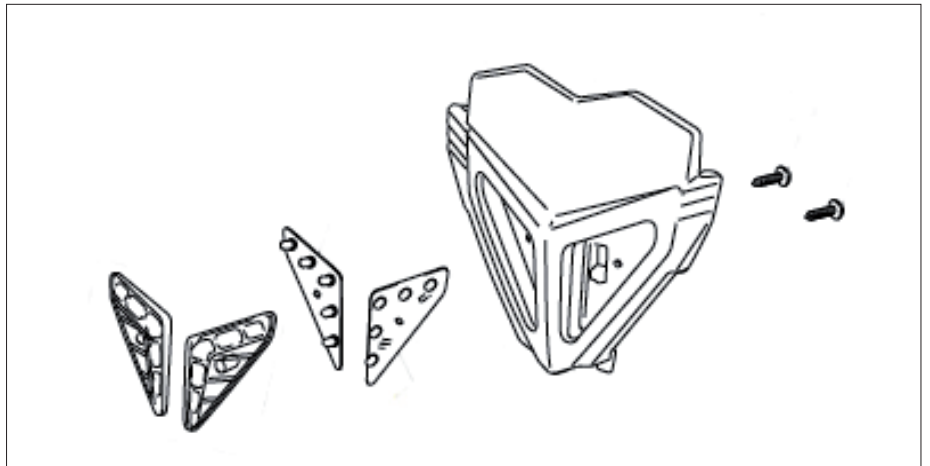


# CHANGING HEADLIGHT LEDs

- To release the headlight support plate, cut the supporting flange
- Disconnect the plate feed
- Separate the headlight plate with clear-glass covering and the incorporated LEDs using the central fixing screw.

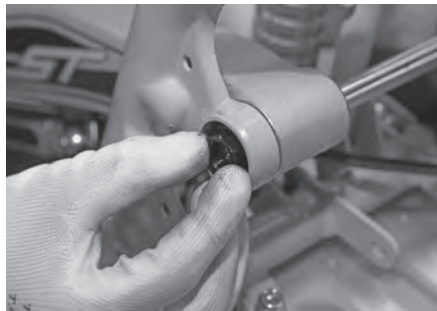
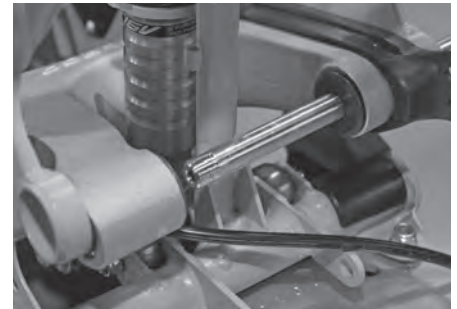


## ► PARTS BREAKDOWN

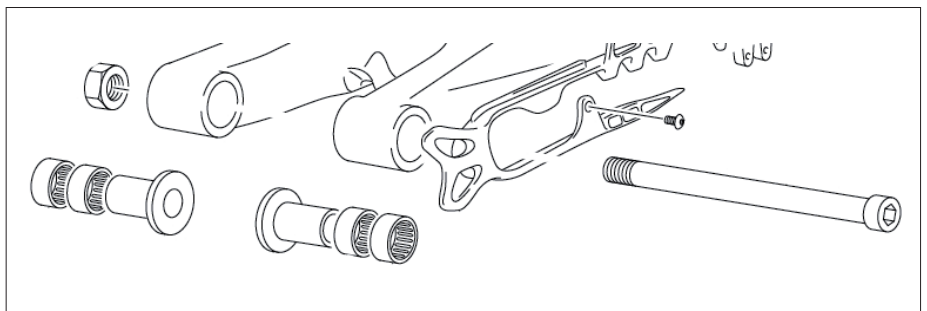


# TILTING AXLE

- Loosen and remove the shaft.
- Check the condition of the sleeve and the bearings that are fixed into the swivel itself. Check and replace if necessary.
- Use a pusher to remove the bearings.
- Place the shaft and correctly tighten the nut to 50NM. The tilting axle is one of the engine's main anchoring points.

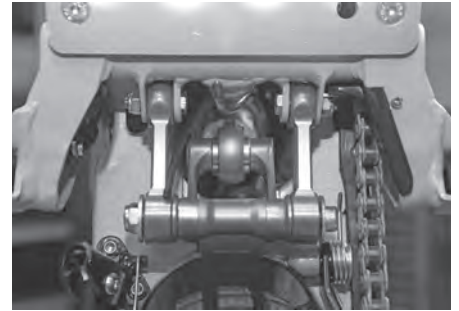


## ► PARTS BREAKDOWN

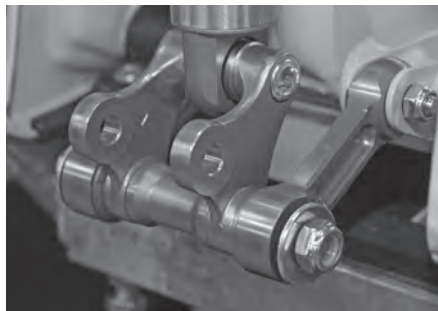


# REAR SUSPENSION

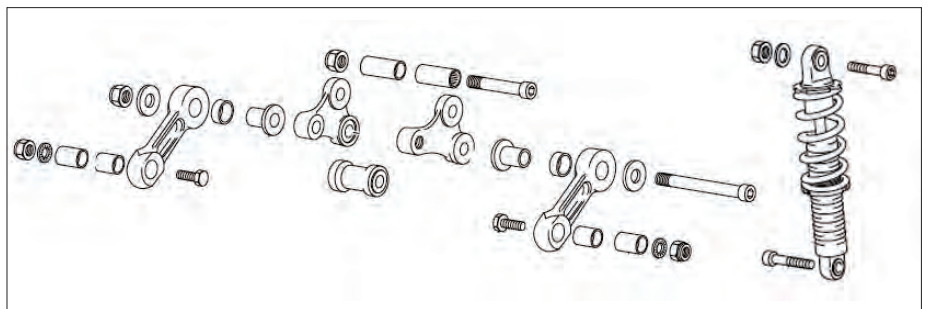
- To change the rear damper, it is necessary to dismantle the filter box, the rear mudguard and the muffler to access the upper anchorage. Also loosen the anchorage from the group of lower connecting rods and the damper is free to be removed.



- The damper can also be removed from below by loosening the upper screw and dismantling the group of connecting rods. The connecting rod is forwarded. Check the condition of the sleeves and the bearings and replace them if necessary. Adequately grease the parts before reassembling them.



## » PARTS BREAKDOWN





# REAR BRAKE AND TRANSMISSION MAINTENANCE

- Loosen the rear axle and remove the axle towards the left.



- Release the wheel from the chain so that it can easily be removed.



- Carry out maintenance operations on the rear brake, dismantling the brake pads and checking the height of the friction lining with the help of a calliper gauge.



- Remove the stoppers from both sides of the bushing in the wheel.



- Loosen the screws that hold the brake disc.



# REAR BRAKE AND TRANSMISSION MAINTENANCE

- When reassembling the brake disc, apply Loctite 243 to the screws and tighten using a dynamometer.



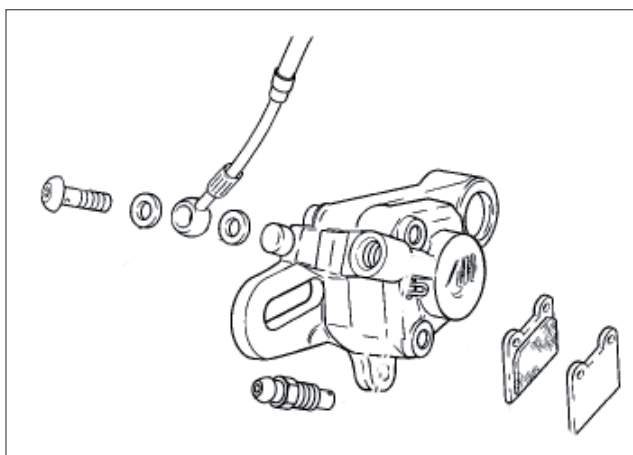
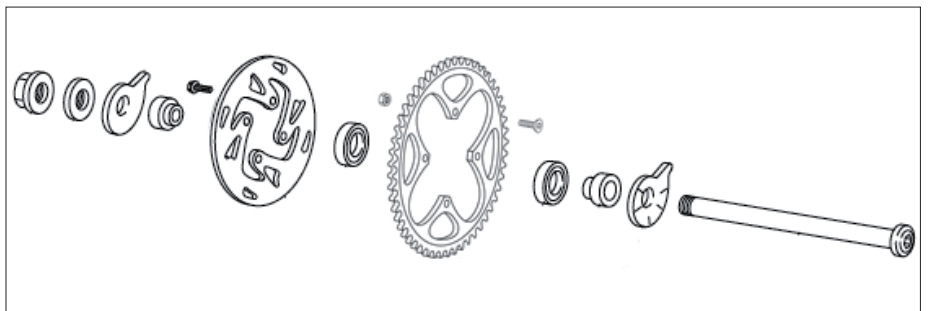
- Whether the sprocket is changed or not, check that the securing screws are correctly tightened.



- Replace the wheel, taking care to place the bushing stoppers correctly, place the chain and center the wheel using the cams before finally tightening the axle.

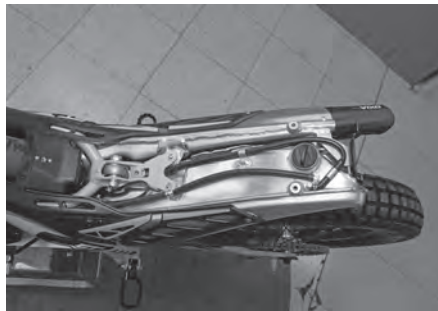


## ► PARTS BREAKDOWN

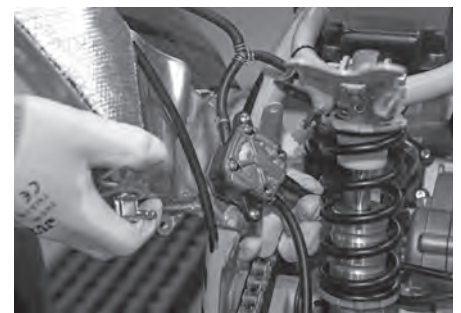
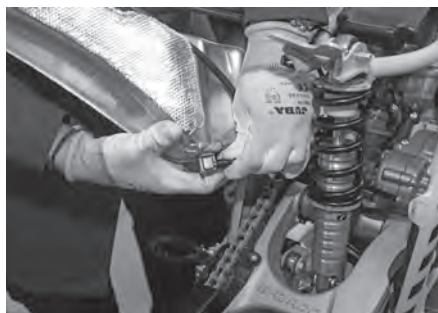


# FUEL TANK

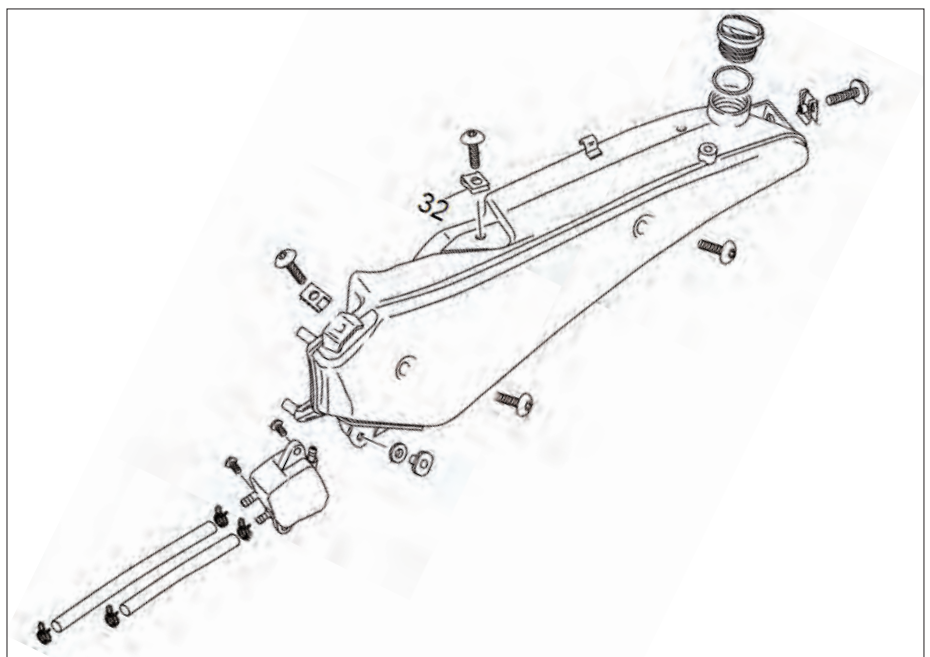
- With the fuel tank in view after dismantling the rear mudguard, remove the protector and loosen the securing screws.



- Slightly lift the tank to be able to manipulate and unhook the gas tubes connected to the gas pump. Always close the fuel petcock valve.



## ▶ PARTS BREAKDOWN





# EXHAUST PIPE ASSEMBLY MAINTENANCE

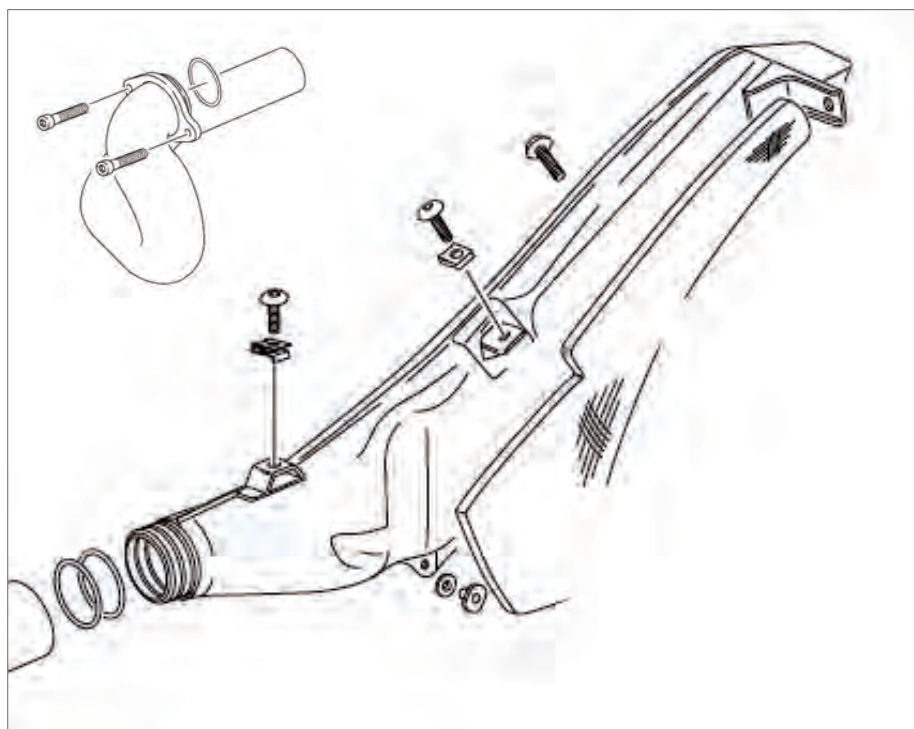
- Apply lubricant to the collector to make it easier to assemble it with the muffler.



- Assemble the collector and tighten the screws that join the collector to the cylinder.



## » PARTS BREAKDOWN



# CHANGING MUFFLER FIBRES

- Loosen and remove the muffler's fastening screws in order to remove it, following the steps shown on page 36.



- Loosen the fastening screws of the muffler cone.



- Remove the cone.



- Remove the inner tube and replace the fibres.



- Place the new fibres inside the muffler, taking care not to obstruct the inner tube.



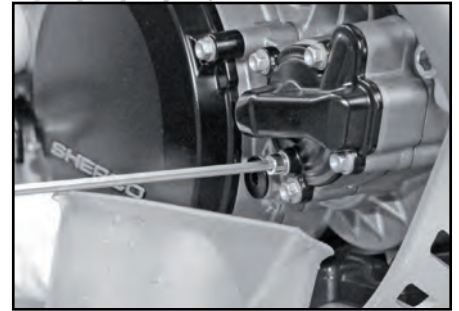
- Replace the removable part of the tube as well as the protective fastening cone.



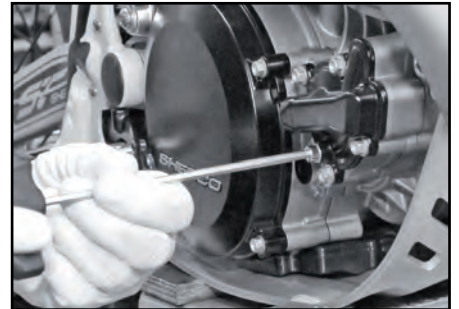


# CHANGING THE PISTON

- Loosen and remove the radiator cap.
- Loosen and remove the cooling circuit draining screw.
- Have a receptacle ready to collect the fluid.



- Empty the cooling fluid from the engine.
- Replace and close the draining screw.



- Open the cover and remove the air filter.



Loosen and remove the filter box's fastening screws as well as those of the rear mudguard.



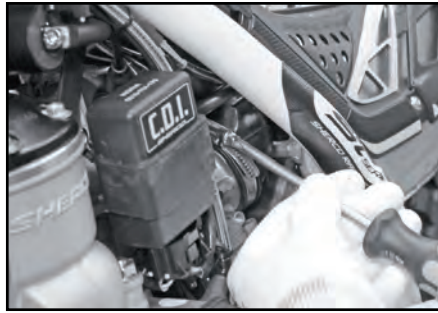
Loosen the rear mudguard.  
Remove the CDI





# CHANGING THE PISTON

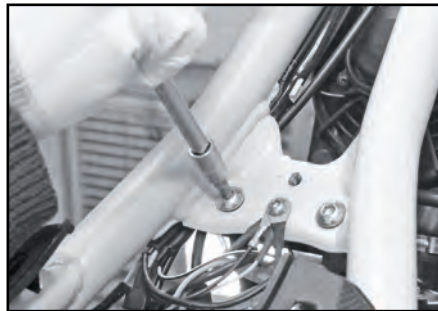
- Loosen the clamps that secure the carburettor to the inlet nozzles and the filter box.



- Remove the filter box.
- Remove the spark plug.

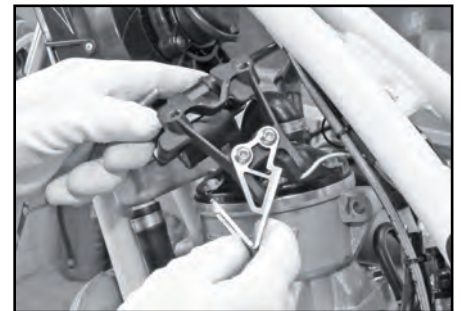
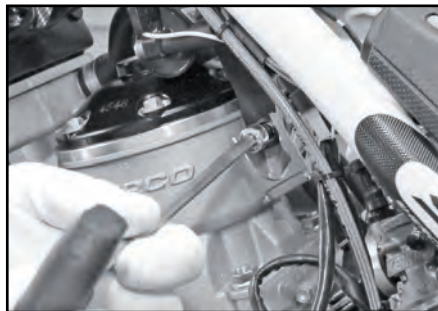


- Loosen the screws from the joining beam between the cylinder head to the chassis.

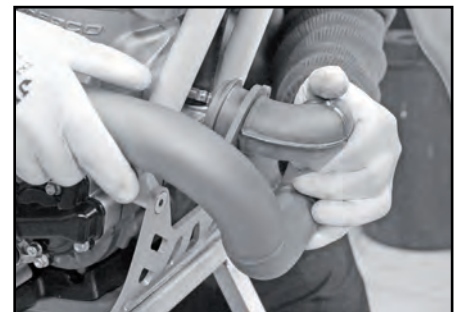


Disconnect the coil.

- Loosen and remove the coil bracket.



- Loosen the screws that secure the exhaust pipe to the cylinder.



# CHANGING THE PISTON

- Remove the clamps from the sleeve of the cooling circuit that join the cylinder head to the radiator.
- Release the sleeve from the cylinder head.



- Loosen the screws and lift the cylinder head, paying attention not to damage the small o-ring seals.



- Loosen the screws that hold the cylinder and lift it.



- Remove the clips that fasten the bolt to the piston using pointed pliers.

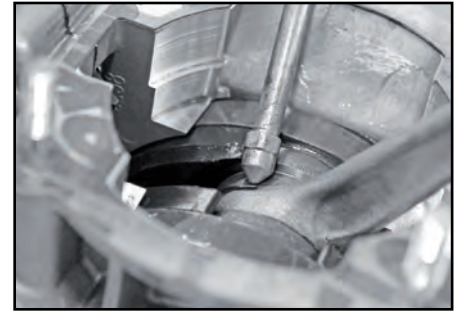


- Remove the bolt by pushing with a special tool.
- Check the condition of the connecting rod ball bearing.
- Replace the gasket between the en-



# CHANGING THE PISTON

- Lubricate the ends of the connecting rod and the roller bearings.



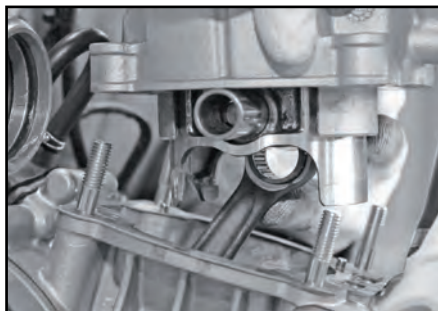
- Check the tolerance between piston and cylinder. See tolerance table.

Prepare the piston with the compressed rings to be introduced into the cylinder.



With the piston fitted into the cylinder,

- insert the bolt into the piston without reaching the connecting rod's anchoring area.



- Align with the connecting rod and press the piston fully.

- Place the piston's securing clips, making sure they are correctly placed.

Finish placing the cylinder in its final position and tighten the cylinder's fastening screws with a dynamometer at 22NM. Check the height of the cylinder, piston and transfers.



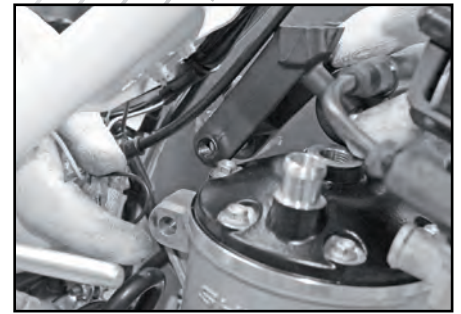
- Prepare the cylinder head and its corresponding o-ring seals, making sure they are correctly located in the grooves.

- Place the 6 small o-ring seals.

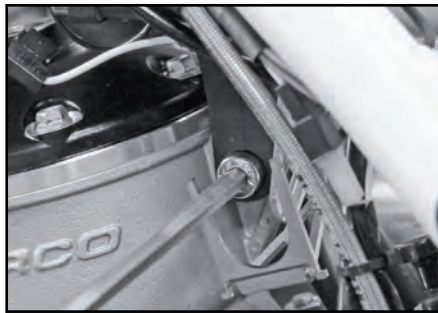


# CHANGING THE PISTON

- Tighten the cylinder head fastening screws using a dynamometer gauged at 11NM.
- Place and tighten the bracket joining the chassis to the cylinder head.

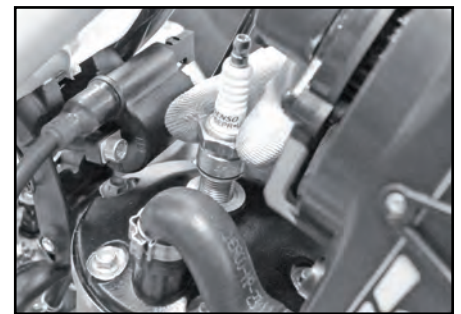
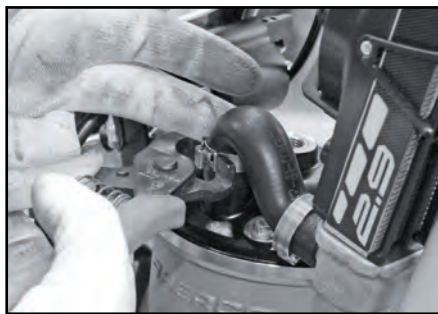


- Place the cooling circuit sleeves.



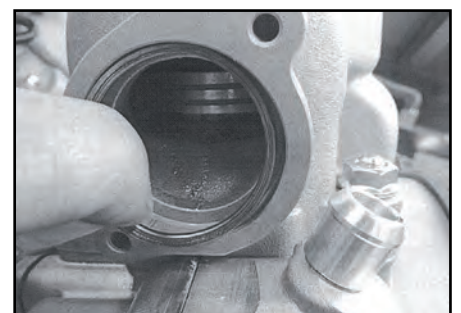
Place and tighten the sleeve fastening

- clamps using specific pliers.
- Screw in the spark plug.



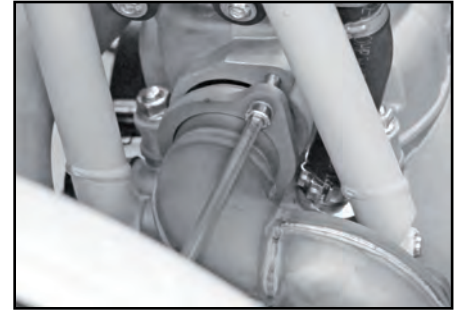
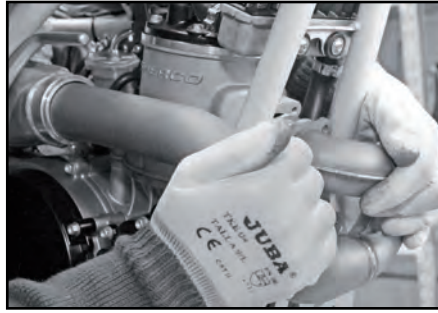
Apply lubricant to the area where the exhaust pipe joins the muffler in

- order to facilitate the connection.
- Place the exhaust pipe gasket and make sure it fits correctly.



# CHANGING THE PISTON

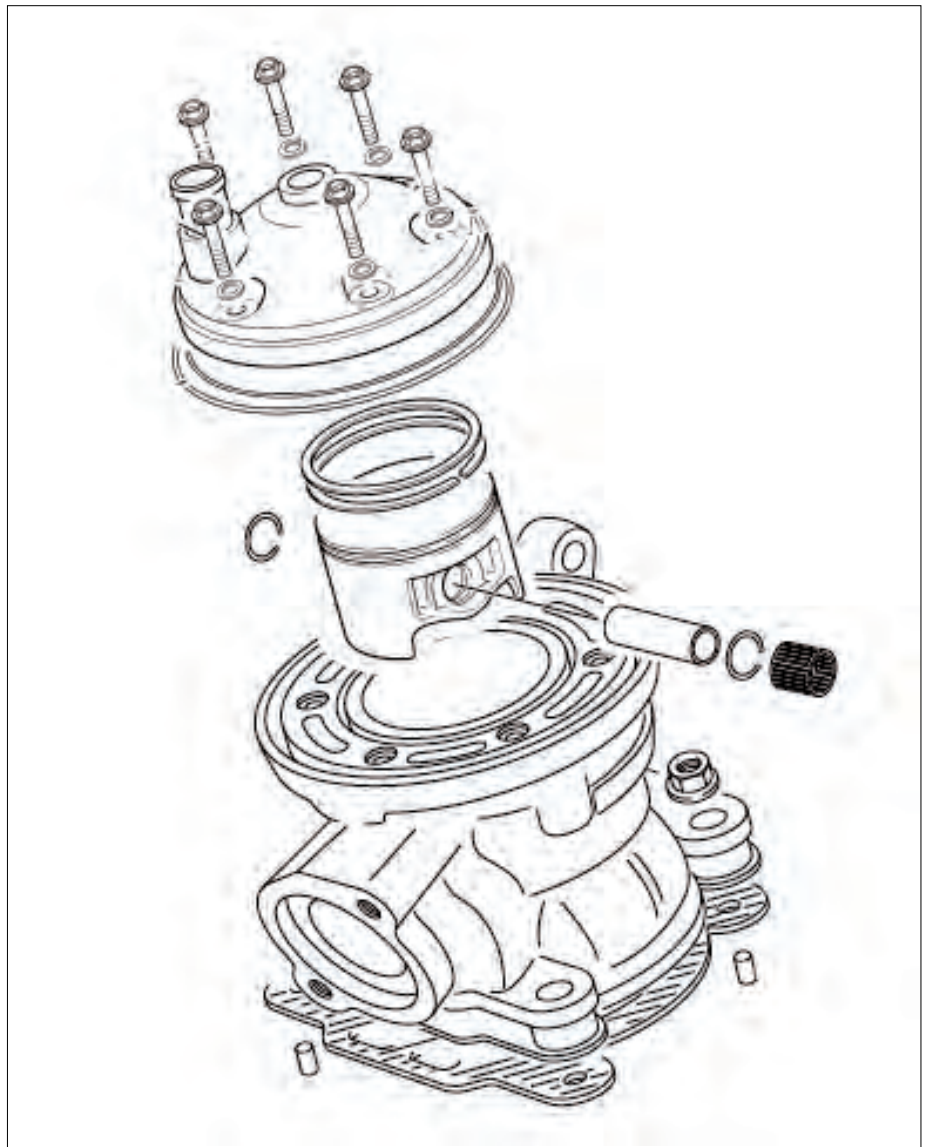
- Tighten the screws that anchor the exhaust pipe to the cylinder.



- Fill the cooling circuit with anti-freezing fluid (430cc).
- Place the cap on the radiator.



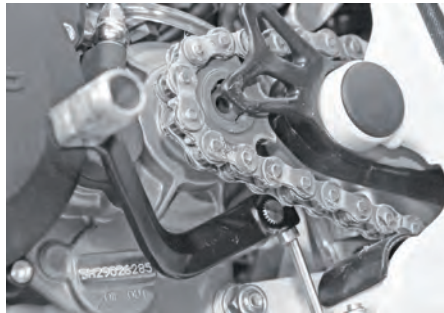
## ► PARTS BREAKDOWN





# IGNITION

- Remove the drive sprocket circlip.  
Shift the pinion and chain assembly outward. Loosen and remove the gear-shift lever.



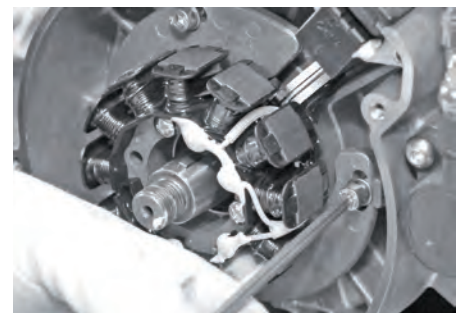
- Loosen and remove the ignition cover.  
Check and gauge the pick-up distance using a 0.7-1mm gauge.



- Loosen the rotor using special tool ref: R075. Remove the rotor and loosen the pick-up.

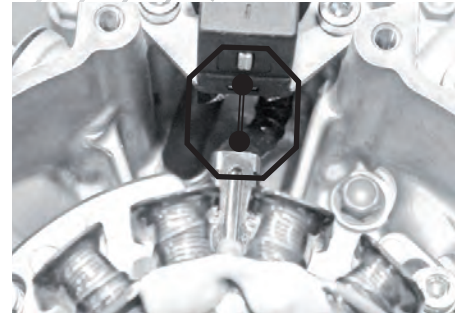


- Loosen the stator and remove it.



# IGNITION

- When replacing the stator, pay special attention to positioning and aligning the pick-up before tightening the fastening screws.



- Once the flywheel has been replaced, impregnate the nut with Loctite 243 fastener and set the dynamometer to 100NM.

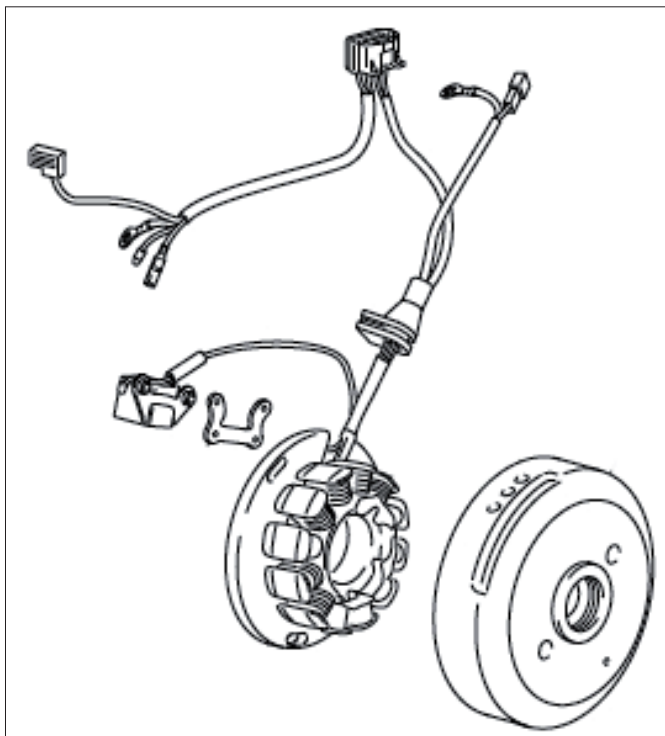


- Before replacing the cover, make sure the o-ring seal has been correctly placed on the cover.



- Replace the ignition cover.

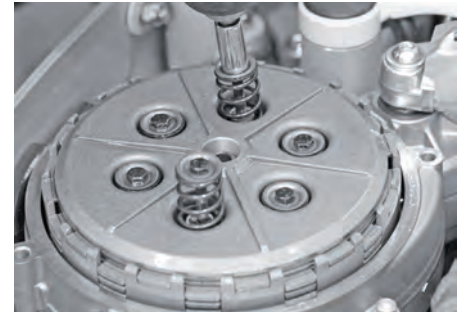
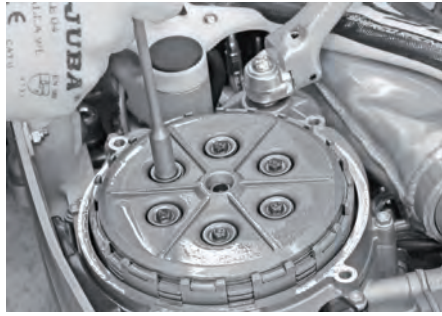
## ► PARTS BREAKDOWN



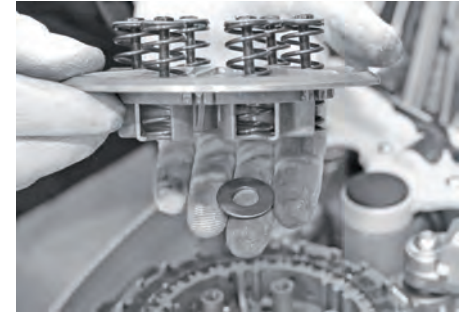


# CLUTCH DISCS

- First remove the brake pedal. Loosen and remove the clutch cover screws.
- Loosen the clutch spring screws.



- Remove the spring-bearing plate. - Pay attention to the position of the washer.



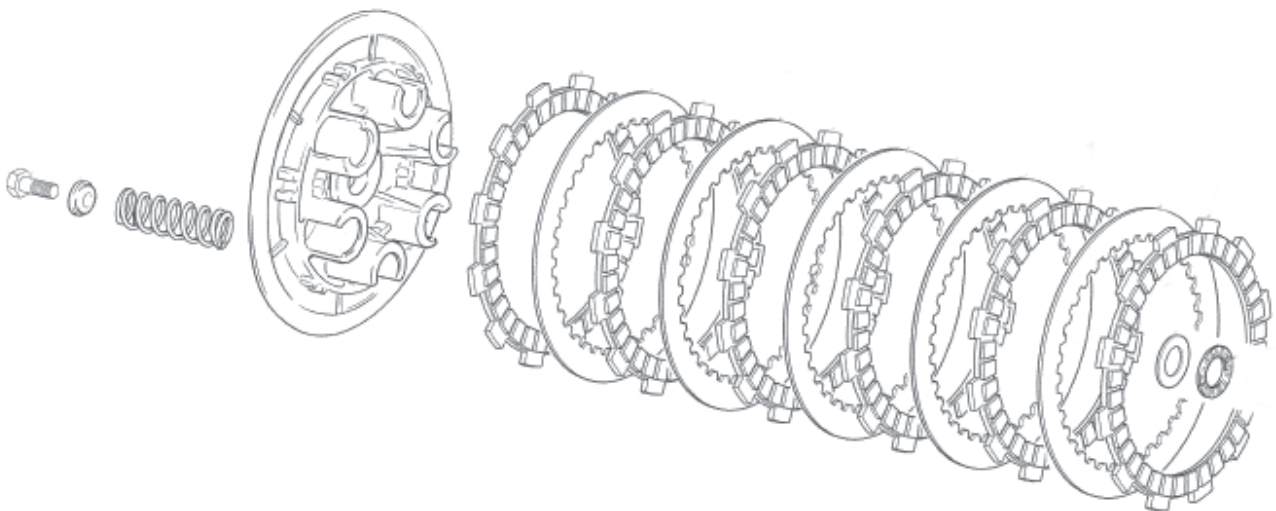
- Using a calliper gauge, check the wear and tear of the disc lining, max 2.6mm, min 2.4mm.



- Pay attention to how the discs are placed when reassembling and tightening the disc assembly.



## ► PARTS BREAKDOWN

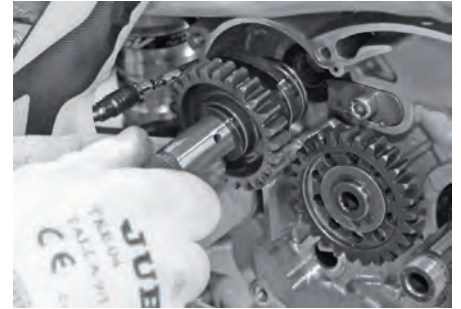
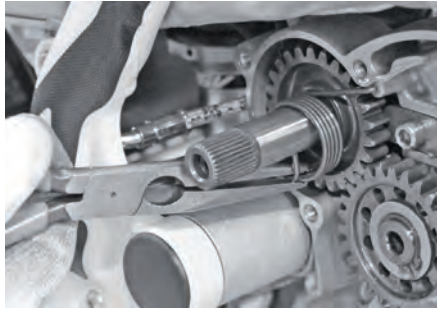


# START ROUTINE

- First see - gear selector - page 53
- Remove the washer, the sleeve and the spring from its positioning hole in order to remove it.



- Remove the starter axle, remove the spring.



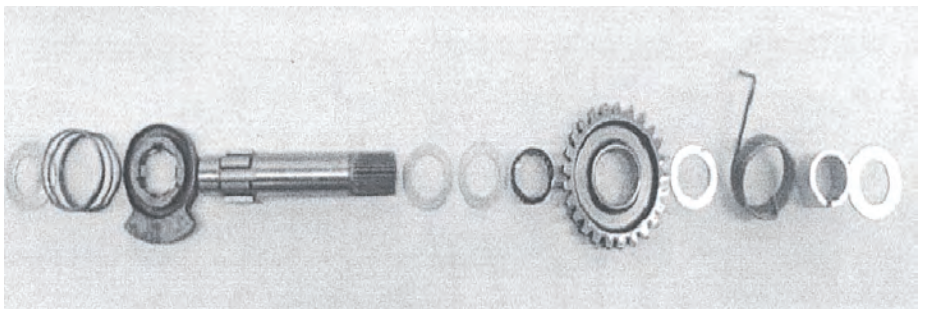
- Remove the washer and check sliding and wear and tear on the pawl and ratchet.



- Before assembling, check the axle and pawl are of the same brand.



- Lay out the pieces in the same order in which they were dismantled in order to facilitate the assembly process.

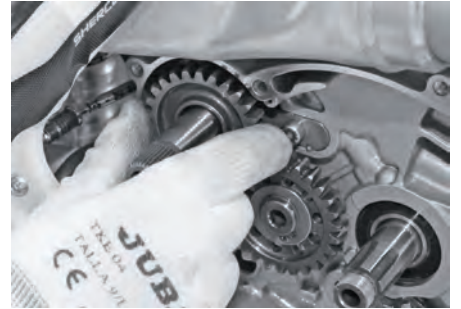


# START ROUTINE

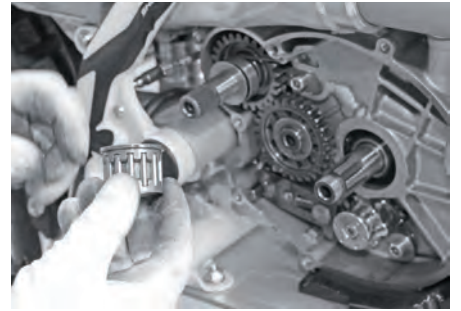
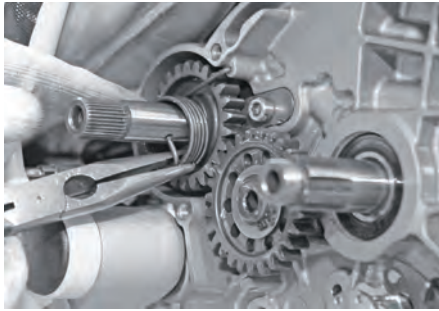
- Incorporate the washers.



- Assemble the bearing and pawl pinion.



- Place the spring and washer in position.



- Place the clutch sleeve and bearing.



- Assemble the clutch bearing.

- Apply Loctite 243 to the nut.

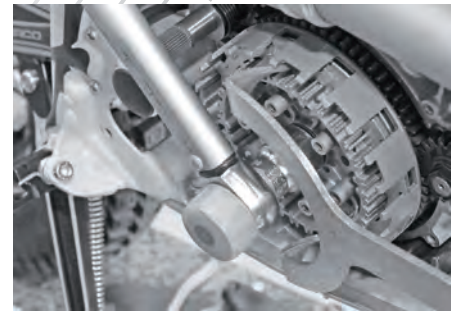
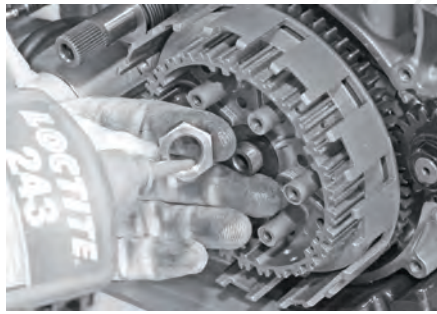
- Tighten using special tool ref: R037 and



# START ROUTINE

the dynamometer adjusted to 50NM.

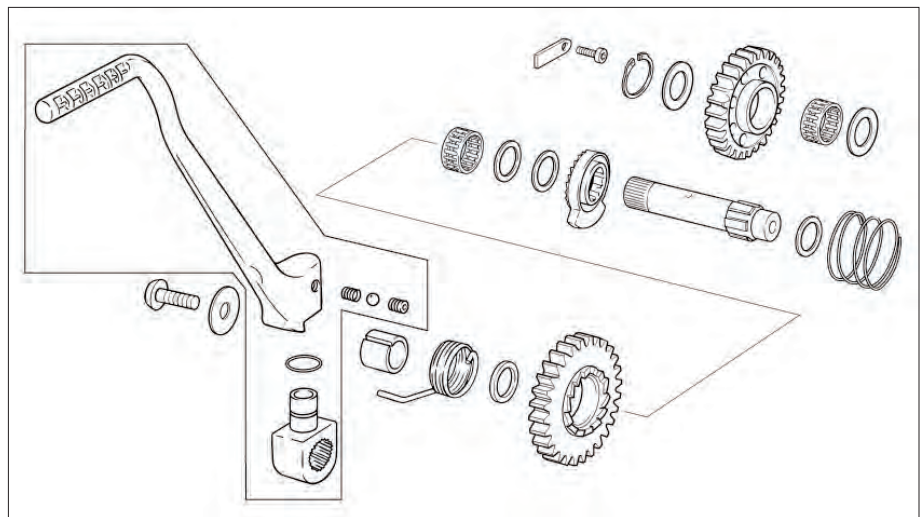
- Mount the discs, starting with a lined disc. Alternate 1 lined and 1 unlined disc.



- Complete the process by assembling the semi-carter, screwing it in and mounting the starter lever.

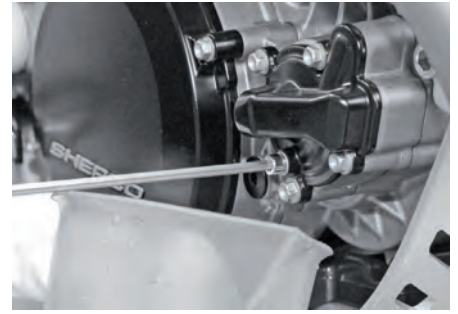


## ► PARTS BREAKDOWN

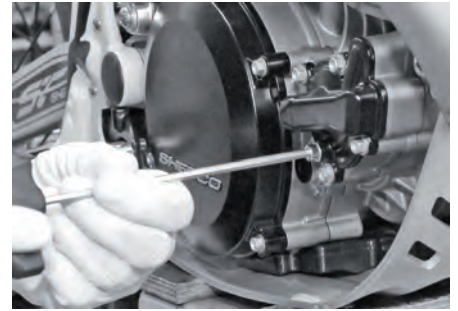


# GEAR SELECTOR

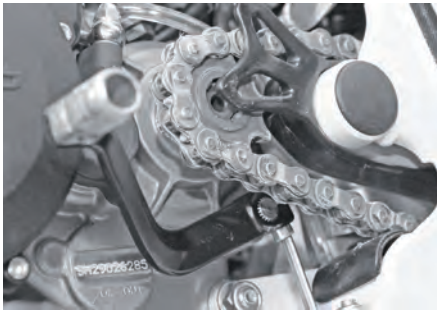
- Loosen and remove the radiator.
- Loosen and remove the cooling circuit draining screw.



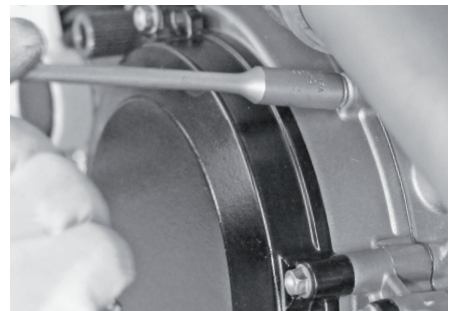
- Have a receptacle ready to collect the fluid. Empty the cooling fluid from the engine.
- Replace and close the draining screw.



- Loosen and remove the gear-shift lever.
- Empty the oil from the engine carter.



- Dismantle the starter pedal.
- Loosen the screws from the engine's right-hand semi-carter. Remove the semi-carter, including its cover.



- Loosen the clutch spring screws.
- After removing the cover with the springs, remove the clutch peg and rod.

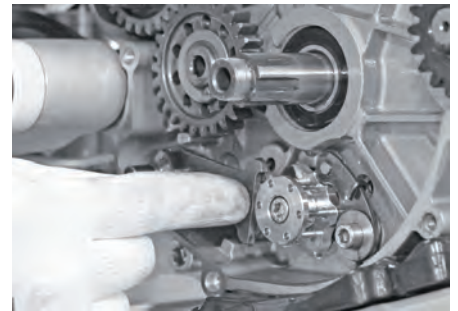
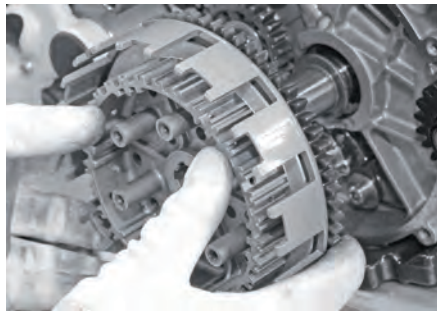
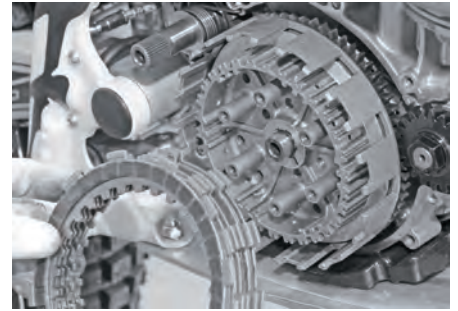


# GEAR SELECTOR

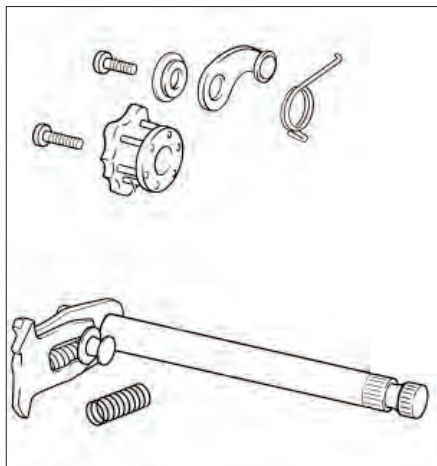
- Loosen the sprocket, remove the discs and dismantle the assembly.



- Pull back the scorpion and remove the axle. Check the alignment of the selector spring.

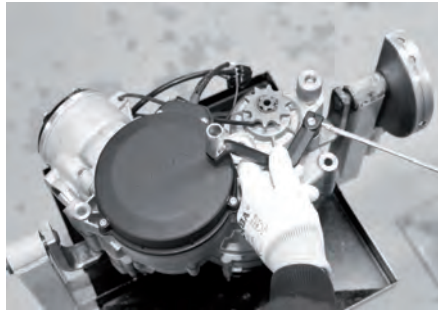


## ► PARTS BREAKDOWN

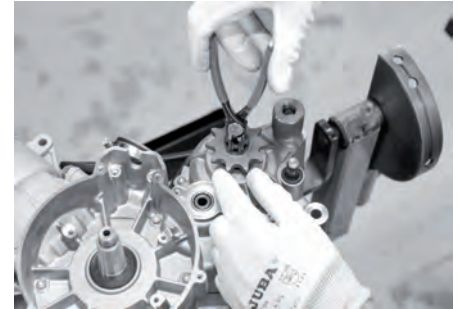


# GEARS AND CRANKSHAFT

- Dismantle the gear-shift lever, the ignition box cover and the ignition system and pick-up.



- Remove the circlip and then the drive sprocket.



- Dismantle the inlet nozzle.



- Loosen and remove the cylinder head.



- Loosen and remove the cylinder.



# GEARS AND CRANKSHAFT

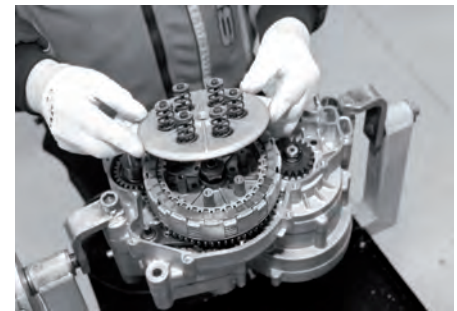
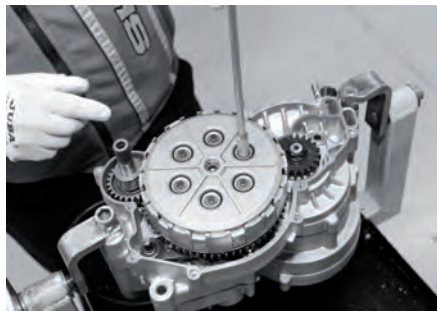
- Loosen the right-hand side carter screws.



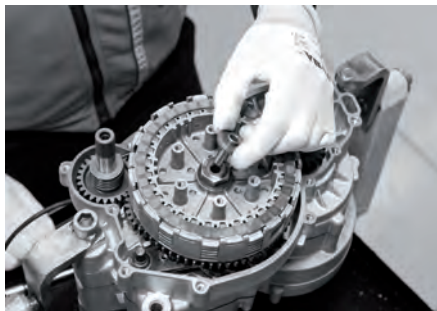
- Remove the carter and remove the centring devices and the gasket.



- Loosen the clutch.



- Dismantle the clutch and remove the clutch rod to be able to loosen the clutch housing.



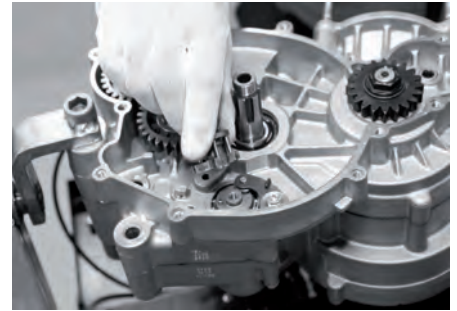
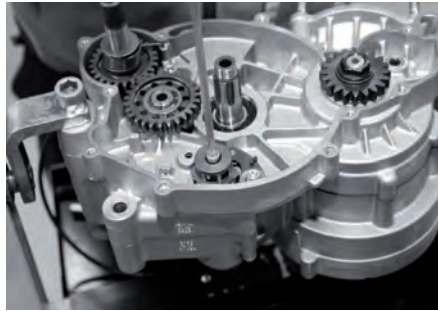
- Remove the clutch housing and the selector shaft.



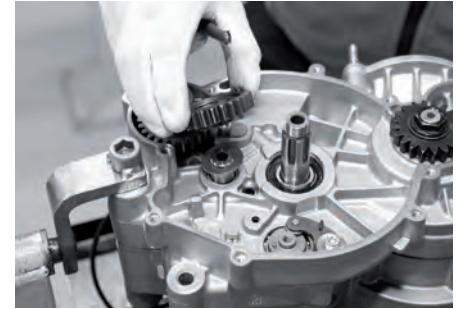
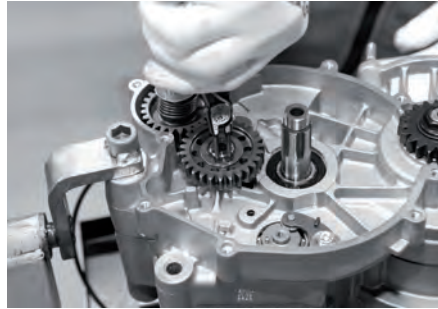


# GEARS AND CRANKSHAFT

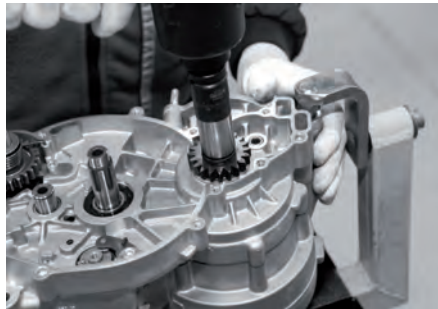
- Loosen and remove toothed washer.  
Take care not to damage the needles.



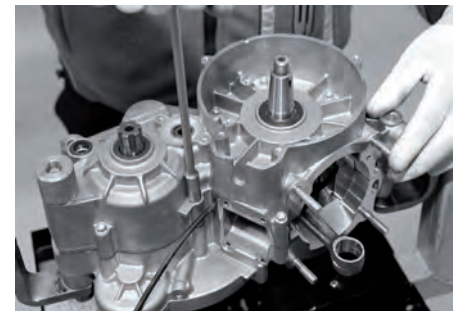
- Remove the circlip and intermediary pinion.



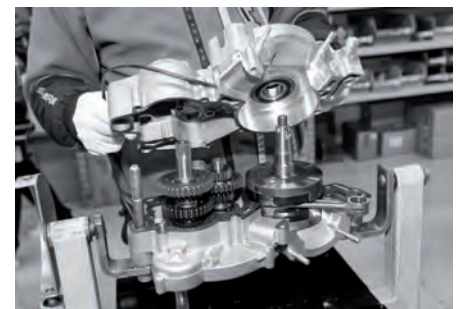
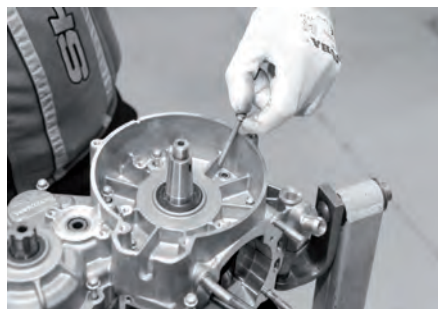
- Loosen the primary transmission pinion.  
Remove the nut and washer.



- Remove the pinion using an extractor.



- Loosen and remove the carter screw plugs.
- Separate the two carters.



# GEARS AND CRANKSHAFT

- Remove and put away the 2 centring devices.
- Remove the adjustment washers.



- Remove the axles from the forks.
- Remove the two upper forks.



- Remove the desmodromic drum and the third fork.



- Remove the complete gear pinion assembly.



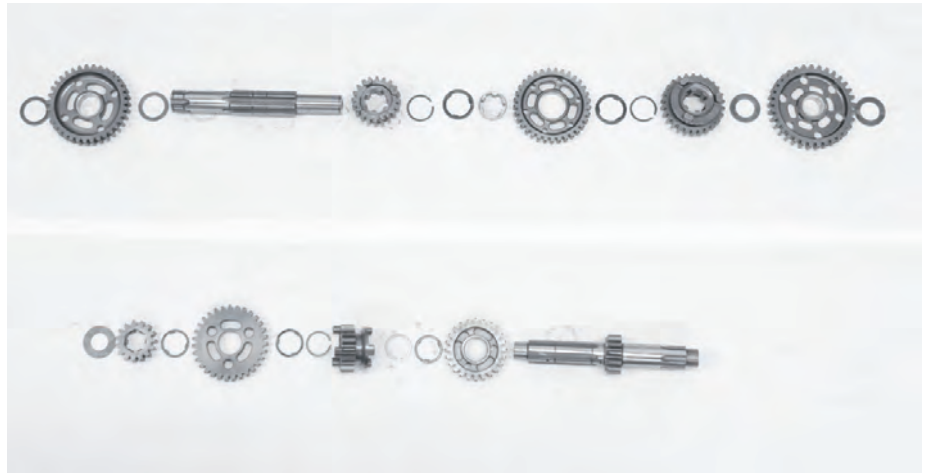
- Dismantle the primary axle using the 4521200 Knipey pliers.
- Repeat the operation with the secondary



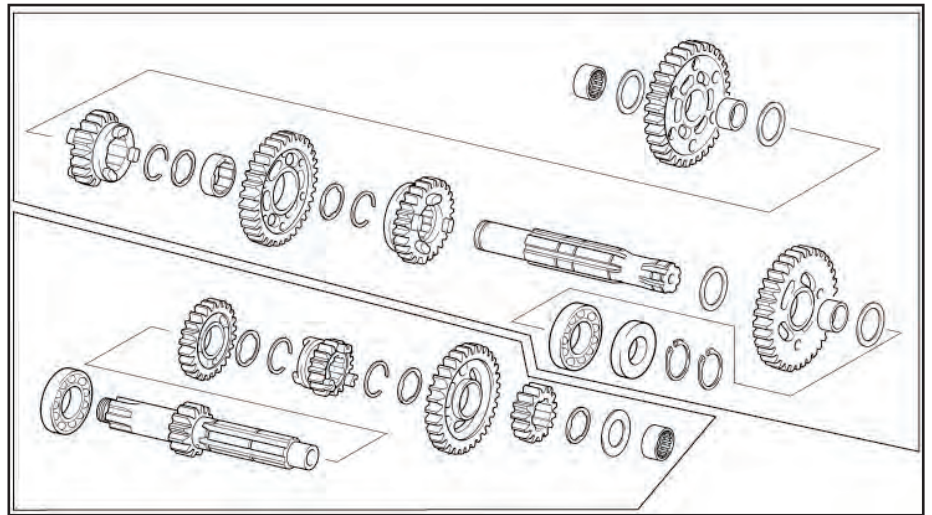
# GEARS AND CRANKSHAFT

axle.

- Keep the parts in the same order to make reassembly easier.



## » PARTS BREAKDOWN

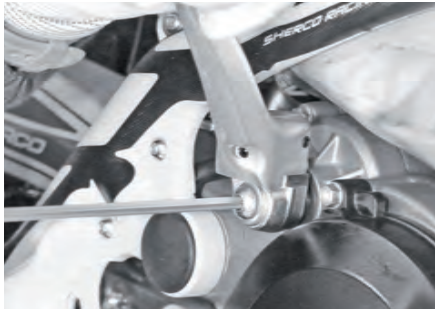


# WATER PUMP

- Loosen and remove the radiator cap.
- Loosen and remove the cooling circuit draining screw.



- Have a receptacle ready to collect the fluid. Empty the cooling fluid from the engine.
- Replace and close the draining screw.



- Dismantle the starter pedal.
- Empty the oil from the engine carter.



- Loosen the screws of the engine's right-hand semi-carter. Remove the semi-carter including its cover.
- Check the axle and make sure that the seal is leak-tight.



## » PARTS BREAKDOWN

