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**SERVICE BULLETIN No. 012-2009**

**21-12-2009**

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**Topic: Technical Update – Aprilia SXV and RXV 450-550**

**Subject: Installing the automatic starter kit**

Dear Dealer,

our research to improve the functional characteristics of our products has revealed the possibility of starter system malfunction on the SXV and RXV MY'06 and MY'07.

To rectify this fault, an automatic starter kit must be installed as described by the attached technical procedure.

This procedure must be carried out on motorcycles already owned by clients, whom we have informed by letter (a facsimile of this letter is attached to this bulletin.)

Please note that this procedure has already been performed on vehicles in stock transformed to the Pikes Peak version.

**You are kindly requested to perform this procedure for any client presenting the aforementioned letter at your service centre.**

The list of vehicles involved in this campaign is viewable on the website [www.serviceaprilia.com](http://www.serviceaprilia.com), under the warranties section in the recall campaign menu.

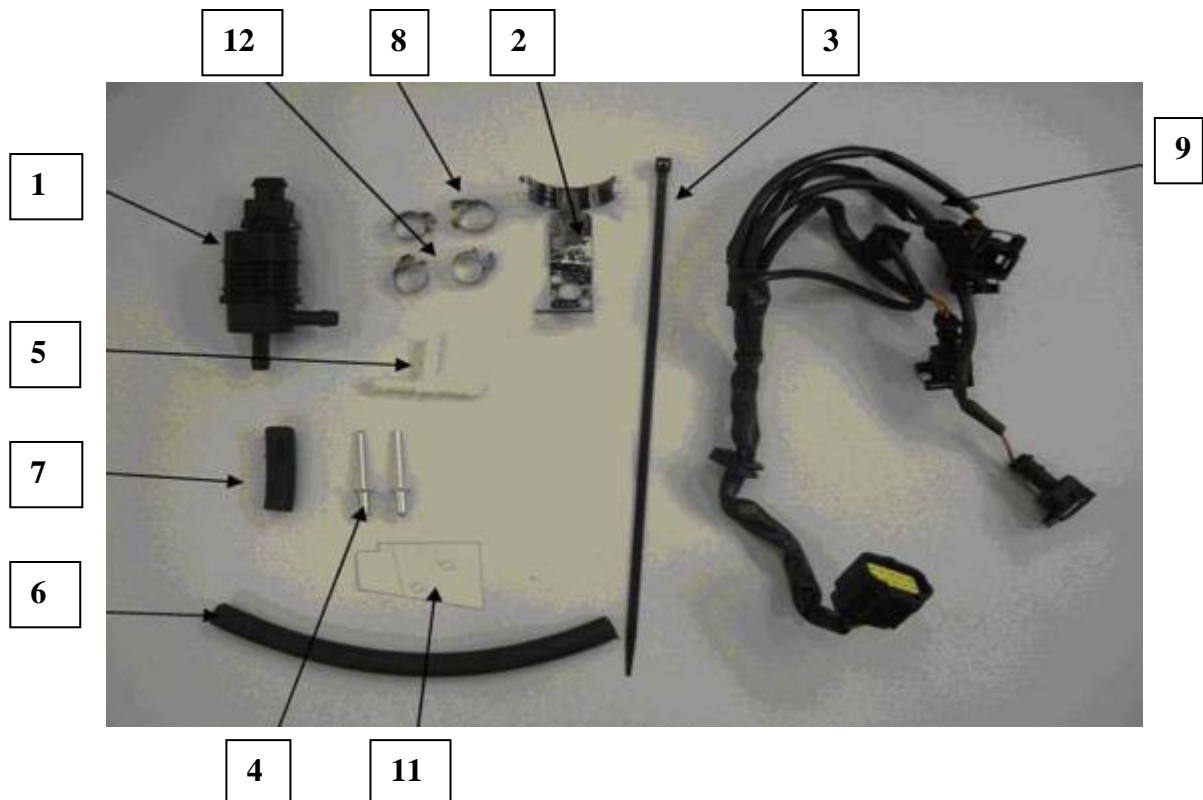
#### **LABOUR REIMBURSED VIA GGP SYSTEM**

- Installation of automatic starter Kit => **180 minutes** inclusive of entering job in GGP system

When the Technical Update service coupon is registered, GGP will automatically ship the spare parts necessary for the procedure, as indicated in the list in the attached technical procedure.

## INSTRUCTIONS FOR INSTALLING THE AUTOMATIC STARTER KIT FOR THE SXV and RXV 450/550 MY 06/07

AUTOMATIC STARTER KIT FOR 450			
AUTOMATIC STARTER KIT FOR 550			
POS.	ITEM	P/N	Q. TY
1	Solenoid valve	855836	1
2	Solenoid mounting bracket	855818	1
3	Solenoid fastener clamp	709519	1
4	Rivets for fastening bracket on filter box	245736	2
5	T union	AP8102431	1
6	LONG pipe, diam. 13 mm, length 255 mm	855838	1
7	SHORT pipe, diam. 13 mm, length 55 mm	855839	1
8	13 mm diam. snap clamp	258469	1
9	Filter box wiring harness	855804	1
10	Modification to vehicle wiring harness	/	1
11	Template for drilling filter box	/	
12	12.5 mm diam. snap clamps	257814	3



Set the motorcycle on the stand on a level, stable surface.

Remove the saddle, the fuel tank, the filter box cover and the intermediate filter box section to allow access to the throttle body

**Intermediate  
section of filter  
box**

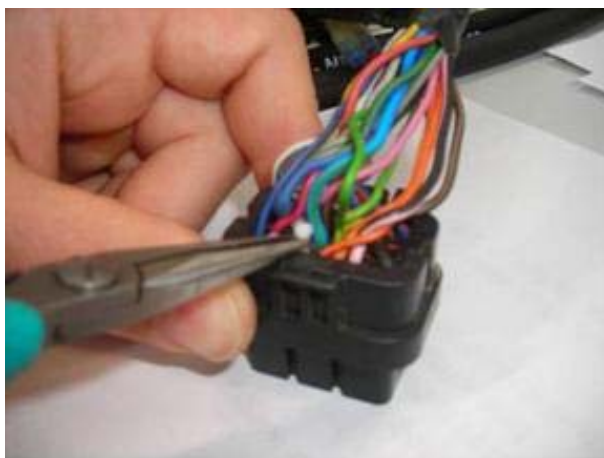


## **1. INSTALLING THE NEW FILTER BOX WIRING HARNESS**

- 1.1. Remove the old filter box wiring harness, disconnecting from the two connectors, the TPS, the temperature sensor and the fall sensor
- 1.2. Remove the fall sensor between the two throttle bodies;
- 1.3. Install and connect the new filter box wiring harness without connecting the solenoid connector. Take particular care to connect the injector connectors correctly as shown as follows:
  - 1.3.1. front injector: shorter cable connector with yellow/red and orange/black wires
  - 1.3.2. rear injector: longer cable connector with yellow/red and purple/black wires
  - 1.3.3. solenoid: connector with green and yellow/red wires.
- 1.4. Modify the main vehicle wiring harness, swapping the position of one pin in the ECU side connector as shown as follows:
  - 1.4.1. Disconnect the connector from the ECU and press the white cable grip out completely as shown in the image below,



- 1.4.2. Using pliers, remove the plug from the ECU connector corresponding to the empty position 29 (see following image). The position of the cable is stamped on the connector itself;



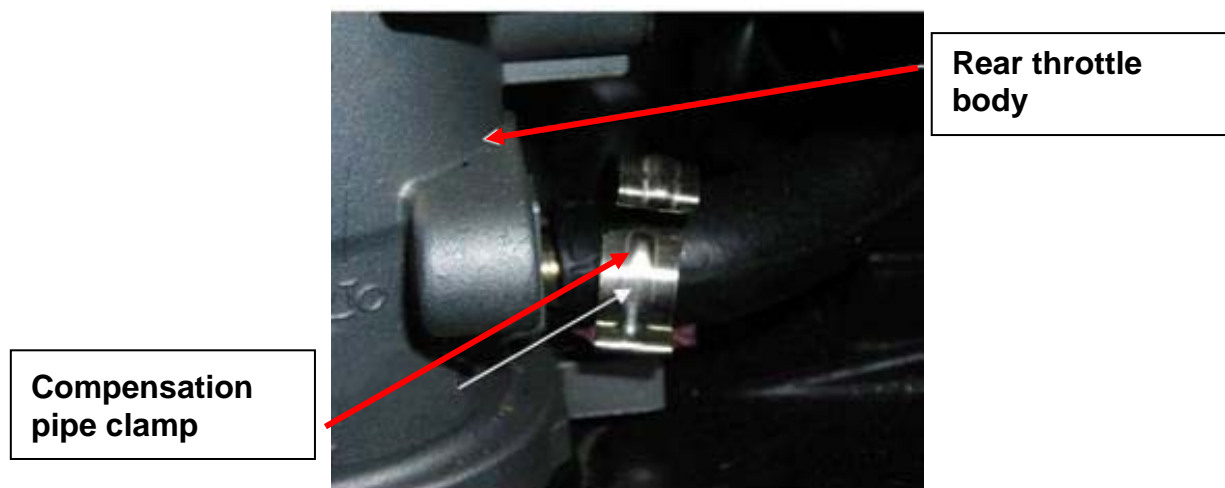
- 1.4.3. Pull out the green wire corresponding to position 22, taking care not to pull out any of the other wires, and fit into position 29, using pliers to push completely into place.
- 1.4.4. Now fit the plug removed from position 29 and fit into the empty position 22
- 1.4.5. Refit the cable grip in its original position, pushing in the opposite direction from the direction in which it was detached

## 2. INSTALLING THE SOLENOID

Installing the solenoid will allow the vehicle to start automatically: the ECU will detect and use the engine and air temperature in order to control the solenoid and allow supplementary air to pass under the throttle valve, for optimum starting in all conditions.

Once installation is complete, the solenoid will be fixed inside the filter box in the rear right hand corner (opposite the idle speed adjustment screw).

2.1. Remove the clamp on the rear throttle body compensation pipe



2.2. Disconnect the compensation pipe underneath the throttle valve from the rear throttle body



2.3. Shorten the compensation pipe connected to the front throttle body by 55 mm.

2.4. Fit the snap clamp on the compensation pipe.

- 2.5. Install the solenoid kit as shown in the following figure, ensuring that the clamps on the T union (12.5 mm snap clamps) and on the solenoid (13 mm snap clamps) are correctly and tightly fitted.



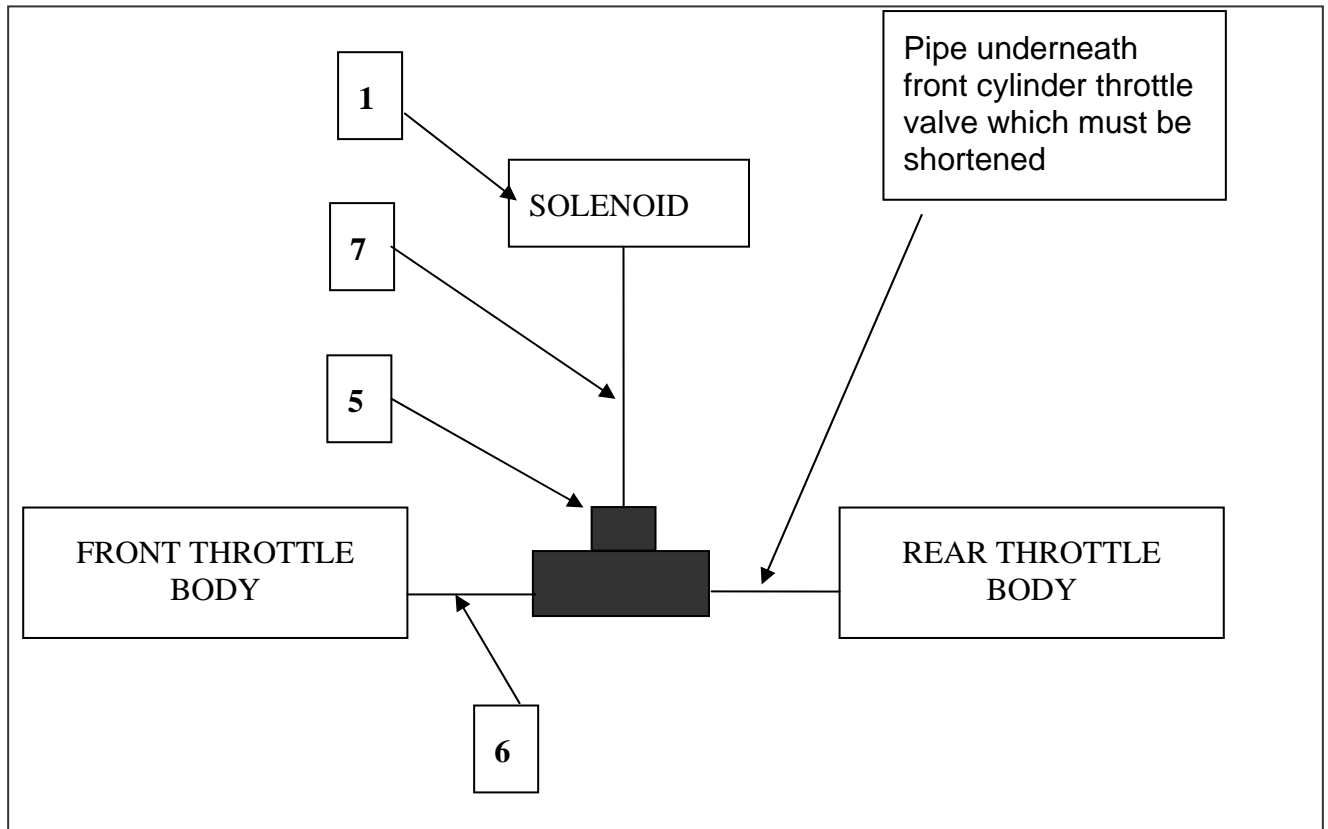
- 2.6. Fit the T union on the front cylinder compensation pipe and tighten the clamp
- 2.7. Route the connection pipes as shown in the following figure, taking care not to obstruct the air flow



- 2.8. Connect the short pipe from the T union to the rear throttle body and tighten the clamp as shown in the layout below to ensure that all components are correctly connected.

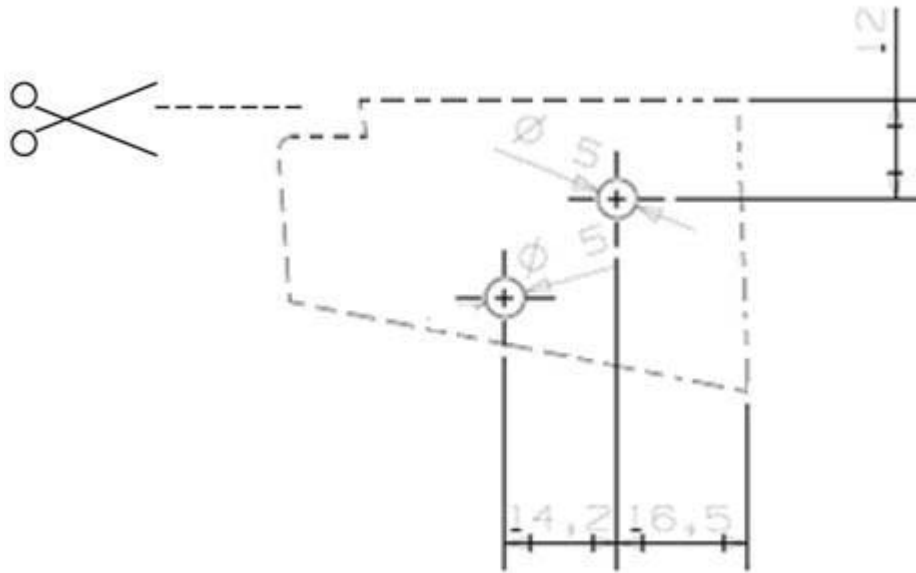


### COMPONENT CONNECTION LAYOUT





- 2.9. Print (at 100%) and cut out the paper template given below, place it as shown in the figure and mark the positions of the two holes on the filter box.



- 2.10. Drill the filter box with a  $\varnothing 5$  mm bit in the positions marked previously using the paper template
- 2.11. Fit the metal plate (2) inside the filter box, ensuring that it adheres correctly to the filter box

2.12. Fit the rivets as shown in the following figure, using a specific rivet tool.



2.13. Fasten the solenoid onto the plate with the plastic clamp, with the connector facing upward.



2.14. Fasten the solenoid wiring harness

2.15. Refit all the components removed during the procedure



### 3. MAPPING AND BALANCING

Follow the procedure described. Note that all maps are already available from AXONE version 7.0.5, whereas maps for use with the NAVIGATOR will be released with the next update.

A dedicated subsection for these maps has been created in the Off Road area of the website [www.serviceaprilia.com](http://www.serviceaprilia.com), named:

#### SXV RXV Starter Kit Maps (Download)

This area contains all the maps loadable onto your NAVIGATOR by copying to the following location on your PC:

**C:\Programmi\Piaggiogroup\Bin\Bike\autodia\maps**

3.1. Connect AXONE or NAVIGATOR and select the map version specifically for the exhaust system used on your client's motorcycle from the following table:

MODEL	MAP ID	MAP DESCRIPTION
<b>SXV 450</b>	14033	starter solenoid with <b>standard</b> exhaust
	14036	starter solenoid with <b>Arrow</b> exhaust
	14037	starter solenoid with <b>Silmotor</b> exhaust
	14038	starter solenoid with <b>Akrapovic</b> exhaust
<b>RXV 450</b>	24033	starter solenoid with <b>standard</b> exhaust
	24035	starter solenoid with <b>Akrapovic</b> exhaust
	24036	starter solenoid with <b>Arrow</b> exhaust
<b>SXV 550</b>	15031	starter solenoid with <b>standard</b> exhaust
	15033	starter solenoid with <b>Arrow</b> exhaust
	15034	starter solenoid with <b>Silmotor</b> exhaust
	15035	starter solenoid with <b>Akrapovic</b> exhaust
<b>RXV 550</b>	25029	starter solenoid with <b>standard</b> exhaust
	25031	starter solenoid with <b>Akrapovic</b> exhaust
	25032	starter solenoid with <b>Arrow</b> exhaust

- 3.2. then set the maximum and minimum physical travel of the throttle valve
- 3.3. Start the motorcycle and warm the engine in order to set the idle speed with a warm engine
- 3.4. balance the cylinders using the standard procedure



## REIMBURSEMENT PROCEDURE

Reimbursement for the job will be effected via the GGP system, upon registering the specifically created service coupon available from the "Technical Update – Campaigns" option in the main menu.

**Please note** that the service coupon must be reopened and completed with the date of the job in order to allow the system to issue the necessary pre-invoice. For details, see service bulletins No. 4-2009 and 11-2009, viewable on the website [www.serviceaprilia.com](http://www.serviceaprilia.com).

Best regards,

Piaggio & C S.p.A.  
Brand Aprilia  
Technical service



**Annexe 1 – FACSIMILE of Letter to Client**

Noale, date.....

Dear Mr/Mrs .....  
Street ....  
City

Subject: Technical Update, Vehicle, chassis No. ....Model:.....

*Dear Customer,*

We would like to thank you for relying on us and having acquired an Aprilia vehicle.

While checking on our products, aimed at improving their characteristics, we have found that in a batch of vehicles the start-up system performance may be poor.

Aprilia has implemented a mechanical improvement that will help to keep the pleasure of riding unchanged while safeguarding the engine components.

For this reason, we kindly ask you to contact the Aprilia Off Road Dealer of your choice in order to carry out this technical update.

Our official service network for Off Road vehicles has already received all the instructions needed to carry out these checks. We would also like to inform you that the cost of this operation will be covered completely by Aprilia.

Our Customer Service (800 122 337) is at your complete disposal to provide any further information and support that you may require.

If the vehicle has been sold or is no longer available, please contact the Customer Service (800 122 337) or fill in the specific form attached to this letter to provide the name and address of the new owner. Then, you can fax the form to 041 5055926.

Thanks in advance for your co-operation.  
Best regards,

Massimo Di Silverio  
Head of Customer & Dealer Service  
Piaggio & C. S.p.a.