

**PART 573 Defect and Noncompliance Report**

On December 19, 2008, Aprilia, Noale, Italy decided that a defect which relates to motor vehicle safety exists in the motor vehicle listed below, and Aprilia's designated agent Piaggio Group Americas, Inc. New York, NY, is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

2008 and 2009 model year Aprilia Scarabeo 100 motor scooters

**Date this report was prepared:** January 20, 2009

**Furnish the manufacturer's identification code for this recall (if applicable):** Code not yet issued.

**1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.**

Piaggio Group Americas, Inc.  
140 45<sup>th</sup> Street, 17<sup>th</sup> Floor  
New York, New York 10017

**Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.**

Pat Raymond  
Director Aftersales  
Piaggio Group Americas, Inc.

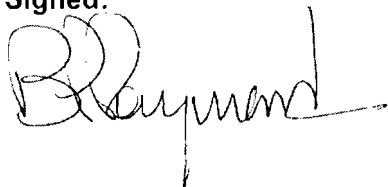
**Telephone Number:** (212) 380 4431

**Fax No.:** (212) 380 4458

**Name and Title of Person who prepared this report.**

Pat Raymond  
Director Aftersales  
Piaggio Group America, Inc.

**Signed:**



Pat Raymond  
Director Aftersales

RECEIVED  
2009 JANUARY 29 - 1:00 PM  
OFFICE OF RECALL  
MANAGEMENT DIVISION

**I. Identify the Vehicle Models Involved in the Recall:** Aprilia Scarabeo 100

**2. Identify the Vehicles Involved in the Recall, for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide:**

**Make(s):** Aprilia                      **Model Years Involved:** 2008 and 2009

**Model(s):** Scarabeo 100

**Production Dates: Beginning:** 07/23/2007                      **Ending:** 07/30/2008

**VIN Range: Beginning:** ZD4VAC0038S\_\_\_\_\_ **Ending:** ZD4VAC0029S\_\_\_\_\_

**Vehicle Type:** Motorcycle                      **Bodystyle:** Motor scooter

**Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:** Model year and VIN range.

**Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period?** 100%

**II. Identify the Recall Population**

**3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.**

**Number of Vehicles:** 740

**Model Year Potentially Involved:** 2008 and 2009 model year Aprilia Scarabeo 100 motor scooters within the identified VIN range.

**Total Number Potentially Affected by the Recall:** 740

**4. Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance:** 100%

**Identify and describe how the recall population was determined--in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled vehicles:** The problems affecting the Scarabeo 100 model were noticed on the 2008 model year variant of the Scarabeo 100 model as manufactured and shipped from the Aprilia scooter factory in Italy. As such the recall population was defined as all 2008 and 2009 model year examples of this model, from the beginning of production in Italy until the solution was defined and implemented in production.

At this time PGA is waiting for confirmation on the status of 75 examples of the Scarabeo 100 from December 2008 production. If these units are confirmed to need the updates described in this report, then the VINs will be added to the affected VIN range in a subsequent update of this report. The next scheduled production for this model to US specifications will be February 2009. It has been confirmed that all elements of the solution are to be implemented starting with the February production run.

### **III. Describe the Defect or Noncompliance**

**5. Describe the defect or noncompliance. The description should address the nature and physical location of the defect or noncompliance. Illustrations should be provided as appropriate.** There are two conditions being addressed: 1) an incorrect installation of the evaporative emissions system and 2) a too lean running condition.

Point 1) In the evaporative emission system there are hoses connecting the fuel tank to charcoal canister through which the evaporative emission from the gasoline in the fuel tank pass. Investigation of the problem has shown that on some examples the emission hoses to the canister were pinched and/or crimped; in other cases the hoses in and out of the charcoal canister were installed backwards. In other cases the roll over valve for the fuel tank was installed incorrectly. In other cases there was dirt in the carburetor and in still others there were faulty float valves in the carburetor.

In the cases where there were pinched hoses in the emissions system, evaporative pressure builds up in the fuel tank as there is no outlet for the evaporative gases under pressure to pass to the canister. As a result the pressure inside the fuel tank overcame the resistance of the vacuum operated fuel valve to the carburetor allowing fuel to fill and possibly overflow the carburetor float bowl. Where there were faulty parts in the carburetor or where dirt in the carburetor caused otherwise correctly operating parts to stick open or malfunction, fuel was allowed to fill and overflow the carburetor float bowl.

Point 2) As a separate issue, the vehicles, as set up at the factory, were too lean to start and perform correctly.

**Describe the cause(s) of the defect or noncompliance condition.** See points #1 and #2 two above.

**Describe the consequence(s) of the defect or noncompliance condition.**

Point 1) Fuel flooding the engine, causing difficulty in starting and the possibility of stalling. It is also possible for fuel to leak from the carburetor onto the ground.

Point 2) Difficult in starting; possible stalling; slow to come to operating temperature; low on power, performance and top speed for its engine capacity.

**Identify any warning which can (a) precede or (b) occur.**

Point 1) Fuel leaking on the ground, difficult starting and running due to an over rich mixture.

Point 2) Difficult to start, stalling, low performance for its engine capacity due to a too lean condition.

**If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.**

Point 1) The problem was associated with the installation of the evaporative emissions components rather than the failure of a specific component or assembly.

Point 2) The problem was the result of the air funnel from the air box to the carburetor being too large for the displacement of the engine.

**Identify the name and title of the chief executive officer or knowledgeable representative of the supplier: NA**

#### **IV. Provide the Chronology in Determining the Defect/Noncompliance**

***If the recall is for a defect, complete item 6, otherwise item 7.***

**6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.**

Complaints from dealers and customers concerning poor performance, running and starting problems were received from the models first introduction. Complaints about fuel leaking into the air box and on the ground were also received. PGA monitored warranty claims and dealer contacts, investigating and preparing information for Aprilia Italy. Aprilia Italy's initial directions centered on excessive piston ring gap, "dirt" or other contaminants in the carburetor and/ or possible bad float needle. Addressing these points had positive effects with these repairs accounting for approximately 52 of 80 related warranty claims (65%). Over a longer term there were additional running problems and it became obvious that there was more than one problem to address involving more than one component or system.

In May of 2008 PGA asked Aprilia Italy to perform a full investigation of the vehicle's systems as during this time complaints were handled depending on the individual situation as some examples exhibited all problems, some examples some of the problems and some there were no complaints.

Complaints increased with the warm weather and PGA stopped the sale of the Scarabeo 100 on August 14, 2008 as there was no across the board "fix" for this model.

On August 20<sup>th</sup> PGA received information on four (4) points that were possible contributors to the running and flooding problems associated with the Scarabeo 100. The four 4 points were:

The roll over valve was installed incorrectly

The emission hoses to the carbon canister were installed incorrectly

Dirt and/or other contaminants in the carburetor  
Air reducer for the air box not installed

Aprilia Italy requested feedback from PGA on all of these points. PGA found that points 1, 2 and 4 to be present on virtually all examples checked; point number 3 was present in approximately 52 vehicles as illustrated by the 52 warranty claims mentioned above.

During PGA's checking of these points, an additional problem was found and reported back to Italy. It was found that the emission hose attached to the carburetor float bowl did not allow the float chamber to breath correctly. Removal of the hose from the carburetor corrected this problem, but initially this was not a viable solution as this "opened" an emissions system designed to be a "closed" system.

PGA reported its findings to Aprilia Italy and through October 2008 emissions testing was being completed in Italy.

In November initial, draft copies of a Service Bulletin were received from Aprilia Italy detailing checks and adjustments to the evaporative emissions system of the Scarabeo 100. These instructions included corrections to points 1 and 2 as forwarded in Aprilia Italy's information of August 20<sup>th</sup>. PGA checked and tested these procedures and found that only the issues regarding the correct instillation of the emissions systems were addressed and nothing regarding the lean running condition. During this time Aprilia Italy indicated that since there were changes to the evaporative emissions system (the unplugging of the emissions hose to the carburetor float chamber) that even though this model still met emissions specifications that a new Emissions Hose Routing decal would have to be made as well as approval from CARB and EPA. These approvals may take as long as March 2009.

On December 12/18 and 12/19 PGA took two test Scarabeo 100s and completed all of the corrections detailed in the bulletin and then tested the bike with and without the air box restrictor that was mentioned as point 4 in the August 20<sup>th</sup> communication. Until the August 20<sup>th</sup> communication, no official mention was made of the air box restrictor or its use.

When PGA testing proved that the installation of this restrictor effectively richened the air fuel mixture, curing the lean running condition and allowing this model to perform as designed, PGA pressed Aprilia Italy for transparency on this part, its use and its effect on the exhaust emissions and homologation approvals. Late on December 19<sup>th</sup> PGA received word from Aprilia Italy that the Scarabeo 100 met all specifications and requirements for emissions and homologation with the stated changes to the emission system in place and with the installation of the restrictor in the air box. On January 13, 2009, PGA received the official emission certification documents of the Scarabeo 100 with changes made.

Point 1) The correct repair was defined as the checking of the routing and installation of the evaporative emission system hoses and components to ensure that there were no pinches or crimps in the system hoses and that all connections to the canister were correct. In addition disconnecting the system hose to the carburetor and the correct installation of the one way valve was defined.

Point 2) Aprilia Italy indicated that the installation of an air restrictor in the air box to carburetor air funnel would cure the lean running condition and resulting problems described as Point 2.

Through 12/31/08 there were 80 warranty claims received for the Scarabeo 100 covering parts and repairs to the fuel and evaporative emissions systems, the replacement of float needles, petcocks, rollover valves and entire carburetors. This represents 57% of the total claims received in 2007 for this model, affecting 11% of vehicles.

An additional shipment of 75 units from December 2008 production of the Scarabeo 100 is in transit to the US. PGA is working with Aprilia Italy to confirm if these 75 units have been updated as described above. Depending on this confirmation, these 75 additional VINs will, or will not, be added to the VIN list of affected vehicles to be included in the recall through an update of this report.

It was not until December 19, 2008 that Aprilia Italy fully defined what the problem was and provided a solution that both corrected the issue at hand and was approved by the EPA, CARB and did not change homologation approvals.

**7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.**

#### **V. Identify the Remedy**

**8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.**

1) To double check the installation of the evaporative emission systems hoses and components to ensure that there are no restrictions. Perform described re-routing of emission system hose and the installation of one way valves as per approved re-routing instructions. Ensure that the system is assembled and operating correctly.

2) To install an airflow restrictor in the air box to richen the fuel/air mixture ratio, eliminating the lean running condition.

**Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly. NA**

**Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.** The solution regarding the checking and correct installation of the evaporative emissions system is said to be corrected in production starting with December 2008 production of the US specification model. PGA is waiting on confirmation of this point. The solution to point 2 of this information will not have been completed in December 2008 production.

The solution to both points 1 and 2 described above is to be implemented starting with February 2009 production, the next scheduled production for the US specification model.

PGA has received information that the solution to be used in production will be different than that described for the recall. PGA is working to confirm this information and if correct to correctly detail the production solution in an update of this report.

#### **VI. Identify the Recall Schedule**

**Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.** Replacement parts are in stock and on order to arrive by the end of January 2009. Draft versions of the dealer and consumer notification will be submitted to NHTSA during the fourth week of January and will be sent to dealers and consumers by the end of February 2009.

#### **VII. Furnish Recall Communications**

**9. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.** "As mailed" examples of the dealer and consumer notifications will be provided to NHTSA directly after the actual mailing date.

**Note that these documents are to be submitted separately from those provided in accordance with Part 573.8 requirements.**

**The Privacy Act of 1974 - Public Law 93-579, As Amended:** *This information is requested pursuant to the authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond to this questionnaire. Your response may be used to assist the NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect. If the NHTSA proceeds with administration enforcement or litigation against a manufacturer, your response, or statistical summary thereof, may be used in support of the agency's action.*

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