

IPR ANALYTICS

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PATENTABILITY SEARCH

Title: "AIR FILTER HOUSING FOR AUTOMOBILE INTERNAL COMBUSTION ENGINE"

Submitted to:

Address:

Email:

Client Reference No:

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Feature to Search

E1. An air intake filter for an automobile having an internal combustion engine disposed in an automobile engine compartment beneath a hood and behind a radiator exposed to air entering the compartment, the radiator causing turbulence in the air entering the compartment when the automobile is in motion.

E2. The air intake filter comprising, housing sized for mounting beneath the hood and having means for in taking air in front of the radiator, the air entering the housing before becoming turbulent due to flow around the radiator.

E3. The housing comprising, an upper portion and a removable lower portion and the removable lower portion includes the means for in taking air and means for communicating air entering the housing to the internal combustion engine.

Search Strategy

Database: AcclaimIP, USPTO, Patentscope, Espacenet, Google Patents, Inpass.

Keywords:

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Set 1	Air intake, air-intake port, air entering
Set 2	Filter, purifier
Set 3	Automobile, vehicle, motor cycle
Set 4	internal combustion engine, combustion chamber
Set 5	Radiator, grille

US CLASSIFICATIONS

180/68.1 With means to guide and/or control air for power plant cooling:

180/69.2 Hoods:

180/68.3 With means to guide and/or control combustion air for power plant:

INTERNATIONAL CLASSIFICATIONS

B62D25/08 Front or rear portions

B62D25/10 Bonnets or lids

B60K13/02 Concerning intake

Search Results Reference

1:

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Patent/Publication Number: [US6880655](#)

Title: Air-intake structure around front grille for vehicle

Assignee/Applicant: Honda Giken Kogyo Kabushiki Kaisha

Filing Date: 15 Aug 2002

Priority Date: 31 Aug 2001

Also Published as: CN1403315A, CN100346997C, US20030042055

Relevant Excerpt E1

IN ABSTRACT:

An air-intake structure around a front grille for a vehicle in which an engine radiator is disposed at a front part of the body

of a vehicle, and a front of the engine radiator is covered with the front grille. An air-intake port for an engine air-induction duct is disposed above the engine radiator. The air-intake port is offset to the left from a transverse center and is oriented toward the front grille. A closed portion is provided on the front grille which closes the entirety of a portion of the front grille which faces the air-intake port.

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Relevant Excerpt E2	<p><u>IN DESCRIPTION:</u></p> <p>Col. no 3, Lines 26 – 35.</p> <p>FIG. 1 is a perspective view (Part 1) of an air-intake structure around a front grille for a vehicle according to the invention in which an engine radiator 30 is disposed at a front part of a vehicle 10 and at a transverse center of the vehicle 10, and a front of the radiator 30 is covered with a front grille 40, the perspective view representing a view of the structure as viewed from the front. The radiator 30 is disposed in front of a front bulkhead 21, and a running air produced when running the vehicle 10 is designed to be taken in from the front through the front grille 40.</p>
Relevant Excerpt E3	<p><u>IN DESCRIPTION:</u></p> <p>Col. no 2, Lines 4 – 18.</p> <p>Running air can be taken in through a front grille by running a vehicle. Since the entirety of the portion of the front grill which faces the air-intake port is closed, there is no case where running air enters the air-intake port directly from the front grille. Running are taken in from the remaining part of the front grill which is free of such a closed portion is redirected to enter the air-intake port.....an amount of running air</p>
	<p>that should be taken into the air-induction duct for the engine can be secured.</p>

Reference 2:

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Patent/Publication Number: [US20060048986](#)

Title: Vehicle hood opening for cooling airflow and method of cooling a heat-dissipating component

Assignee/Applicant: Daniel Christopher Bracciano

Filing Date: 9 Sep 2004

Priority Date: 9 Sep 2004

Also Published as: NONE

Relevant Excerpt E1

IN SUMMARY:

Paragraph No. 05.

By utilizing a novel vehicle hood and novel placement of a heatdissipating component, **the invention provides an efficient design for cooling a heat-dissipating component such as an air conditioning condenser or a radiator in a front compartment of a vehicle.****The invention provides a vehicle hood having an air inlet positioned in air flow relationship with respect to a heat-dissipating component to permit outside air to flow through the air inlet and across the heat-dissipating component, thereby cooling the heat-dissipating component. Preferably, the vehicle hood includes a generally upward-facing surface and the air inlet is formed in this surface such that it is also generally upward-facing.**

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Relevant Excerpt E2	<p><u>IN SUMMARY:</u></p> <p>Paragraph No. 11.</p> <p>In yet another aspect of the invention, the vehicle includes a steering system.....The invention increases radiator cooling efficiency by enabling alternate placement of the condenser: by moving the condenser away from the radiator and providing separate, dedicated air flow for cooling the condenser, cooling air at the radiator may be completely dedicated to the radiator. Thus, smaller fans may be utilized, as the large pressure drop across a stacked condenser and radiator is avoided.</p>
Relevant Excerpt E3	<p><u>IN ABSTRACT:</u></p> <p>A vehicle hood is formed to define an air inlet in fluid communication with a heat-dissipating component such as an air conditioning condenser to permit outside air to flow through the inlet for cooling of the heat-dissipating component. Notably, the air inlet is different from the grille opening traditionally used to cool a condenser and a vehicle radiator; the inlet is located rearward on the hood, permitting the condenser to be located apart from the radiator in the front compartment. A method of cooling a heat-dissipating component is also provided.</p> <p><u>IN DESCRIPTION:</u></p> <p>Paragraph No. 21.</p> <p>A radiator 28 utilized to cool a vehicle power plant (such as a fuel cell) is positioned frontward in the front compartment 16 adjacent to a grille opening 30.....air flow generated</p>

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	during vehicle movement enters through the grille opening 30 for cooling the radiator 28.
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Reference 3:

Patent/Publication Number: [US8528679](#)

Title: Air separating intake scoop for air intake system

Assignee/Applicant: Honda Motor Co., Ltd.

Filing Date: 9 Nov 2010

Priority Date: 9 Nov 2010

Also Published as: US20120111653

Relevant Excerpt E1	<u>IN ABSTRACT:</u> An air intake system for a vehicle includes a grille disposed at a forward end of the vehicle for admitting airflow into an engine compartment of the vehicle and a scoop having a ramped surface for directing at least a portion of the airflow admitted through the grille upward toward an air intake of the vehicle. The ramped surface has an aperture defined therein for removing entrained particles from the portion of the airflow directed upward by the ramped surface.
Relevant Excerpt E2	<u>IN CLAIMS:</u> 10. The air intake system of claim 1, further including:

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	<p>a radiator disposed in longitudinally spaced relation behind the grille, the primary and secondary scoops interposed between the grille and the radiator and configured to direct the portion of the airflow upward over the radiator to the air intake.</p>
Relevant Excerpt E3	<p><u>IN SUMMARY:</u></p> <p>Col. no 1, Lines 45 – 53.</p> <p>According to another aspect, an air separating intake scoop disposed behind a grille on a vehicle includes a ramped surface for directing at least a portion of the airflow admitted through the grille upward toward an air intake inlet port of the vehicle. The air separating intake scoop further includes an aperture defined in the ramped surface that removes entrained particles from the portion of the airflow directed upward by the ramped surface so the removed particles are prevented from entering the air intake inlet port.</p>
