

Company offers first independently controlled auto A/C system

May 4 2012, by Bob Yirka

(Phys.org) -- Automobile air conditioner maker Denso Corporation has announced a first for cars, an air conditioning system that allows for true independent heating and cooling of driver, passenger and back seat areas, resulting in energy savings on average of twenty percent per year per vehicle.

Japanese company Denso is a worldwide leader in automotive supply systems with a tradition of technology innovation. Here they are announcing a new air conditioning system that allows the driver to independently control temperature levels for three different sections of the vehicle; the driver's area, the passenger section and the entire back seat. Heating, cooling and venting can be turned on or off for each area focusing energy use on just those parts of the car that are occupied during transit.

Denso has achieved this feat by completely redesigning the way A/C, venting and heating units work in a car, which has traditionally taken an all or nothing approach (except for independent physical control of vents). They began by subdividing a car into separate components: driver dashboard, driver front window, driver legs, passenger dash, passenger window, passenger legs, and rear seat area. Each component is run independently via computer control near the driver, which means each can be assigned a different temperature goal and means for reaching that goal, i.e. using heat, cooling or venting.

When the car is in heat mode, for example, in current systems, large

amounts of outside-the-car air is pulled in because it is almost always lower in humidity than air inside the cabin, to prevent window condensation. With Denso's new system, this is only done for the components up front. Systems in back can use recycled air, saving on energy lost when colder outside air is brought into the system to be heated.

As another example, if a driver is alone in the vehicle, air can be cooled in the new system and sent through the vents near the driver, but not to the rest of the car. Since the cooling system is based on turning the A/C on and off automatically via a thermostat, less on-time is required if only the driver area is being cooled, reducing the amount of time the A/C's compressor needs to be run. That in turn helps improve gas mileage.

Denso also is reporting that its new A/C system is being incorporated into current model Lexus GS cars and will soon be available for other makes and models as well.

© 2012 Phys.Org

Citation: Company offers first independently controlled auto A/C system (2012, May 4)
retrieved 22 June 2024 from <https://phys.org/news/2012-05-company-independently-auto-ac.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.