

/// Race Louvers

Professional R&D - Wind Tunnel Tested - Track Proven

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Audi A4 Wind Tunnel Data

Welcome to Race Louvers. Below is some data we have gathered from our wind tunnel test car. [Video Here](#). The data shows Race Louvers out perform all of the leading competition with more radiator cooling, lower engine compartment temperatures, quicker cool down once parked and more front downforce. Race Louvers are not simply a vent like most others but are designed to pull air from under the hood to greatly increase the airflow thru the radiator and engine compartment. Race Louvers can be configured for maximum cooling or maximum front downforce or anywhere in the middle simply by restricting the grill opening, ie nose tape. These can be used on street cars to get significant cooling benefits or on a track car to get significant cooling and/or front downforce.

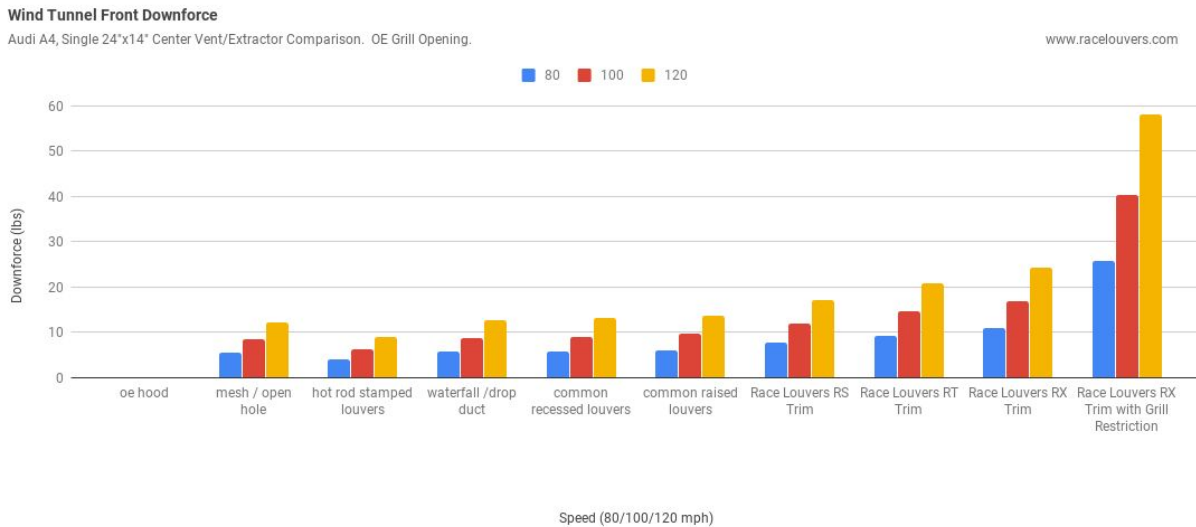


Figure 1

Front downforce numbers based on speed. Most of the competition did have some front downforce but Race Louvers had up to 188% more in maximum cooling configuration. In maximum front downforce configuration Race Louvers had up to 447% more front downforce.

Wind Tunnel Drag

Audi A4, Single 24"x14" Center Vent/Extractor Comparison. OE Grill Opening.

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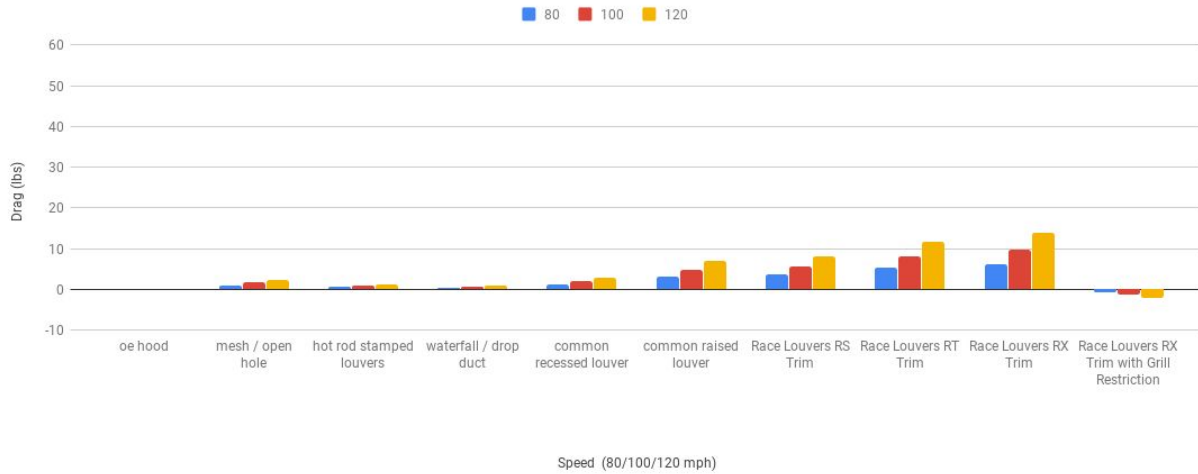


Figure 2

Additional drag based on speed. This shows that Race Louvers come with some additional drag in maximum cooling configuration. This is primarily due to the significant increase in airflow thru the radiator and engine compartment. In maximum downforce configuration Race Louvers actually reduces drag.

Wind Tunnel Horsepower

Audi A4, Single 24"x14" Center Vent/Extractor Comparison. OE Grill Opening.

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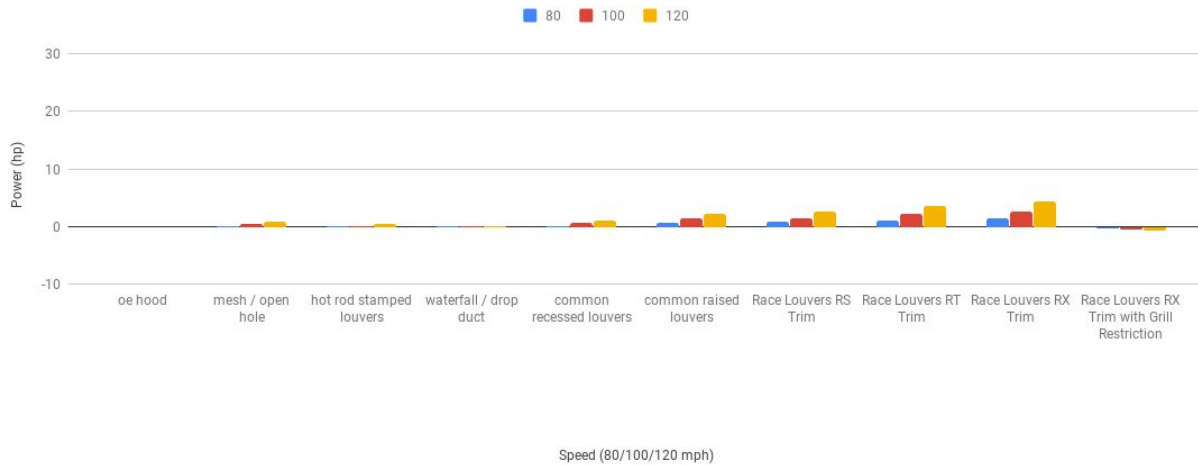


Figure 3

Amount of additional HP required to maintain speed. Similar to drag the additional airflow created by Race Louvers takes a few extra HP to maintain speed, however in maximum downforce configuration there is a reduction in required HP.

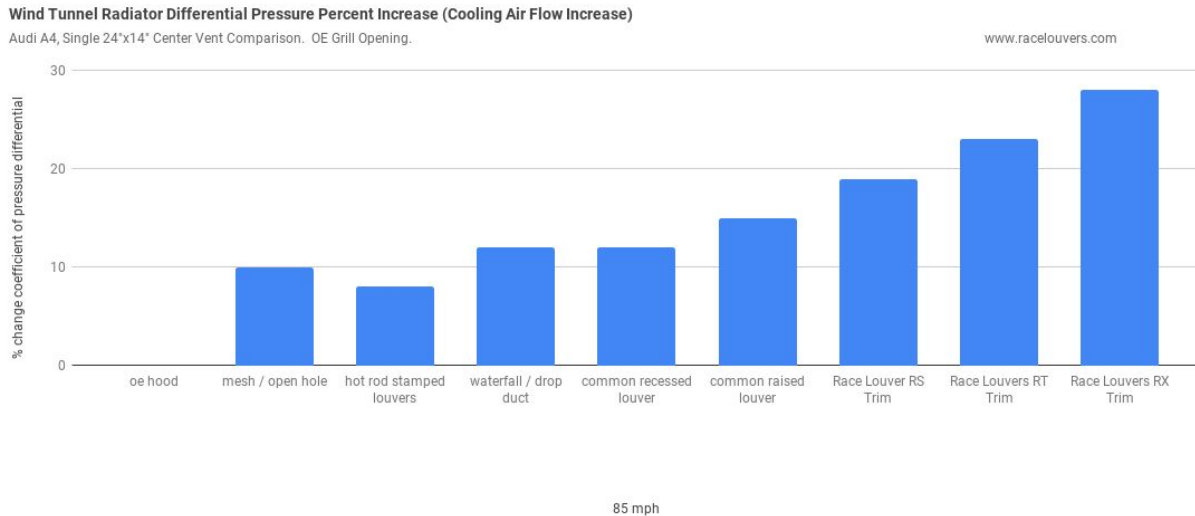


Figure 4

This is the percent change in coefficient of pressure differential between the front of the radiator and the rear of the radiator. Increased pressure differential equates to increased airflow thru the radiator and engine compartment. The Race Louvers have up to 233% more in maximum cooling configuration. In maximum downforce configuration there is significantly less airflow but just enough to keep a race car cool.

Summing up, wind tunnel test results confirm our development data. As expected radiator flow is greatly increased which provides increased cooling in the radiator and engine compartment. Front downforce is improved as expected but one thing we did not anticipate was how much added front downforce we achieved by limiting the grill opening. Traditionally vehicles rely on air being pushed thru the radiator, now with our louvers air is being pushed thru and pulled out creating much more airflow allowing for significantly reduced grill openings which reduce drag and greatly increase front downforce. With a OE grill opening our louvers did create some drag, it should be noted that it is not like drag in a wing which uses some energy to produce one gain, downforce, drag in our louvers produce four gains, downforce, radiator cooling, engine compartment cooling and time to cool once parked.

Customers can set up Race Louvers for maximum cooling or maximum front downforce or anywhere in between. Race louvers are design to increase airflow thru the radiator by providing suction behind the radiator, this rear suction combined with the front pressure can double the flow thru the radiator. This would provide a maximum cooling setup at the cost of some drag. Combining the rear suction of a Race Louver with a grill opening as small as possible to still sufficiently cool will provide huge gains in front downforce. This would be a maximum front downforce setup with a reduction in drag. Grill blockers or nose tape are easy ways to establish a setup right for your car and can easily be changed as needed. We recommend blockers/tape on the sides of the grill opening vs top or bottom as this performs the best.