

# */// Race Louvers*

Professional R&D - Wind Tunnel Tested - Track Proven

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Jeep Wrangler Wind Tunnel Test Data

Welcome to Race Louvers. Here we've tested a few different hood vent designs along with our new RST Truck louvers on a Jeep Wrangler. Wind speed was set to 60 mph to see how the different vent designs on the market function while on the highway or towing.

Test car prep level:

- Stock Jeep Wrangler

Hood vents tested:

- Stock hood no vents
- Mesh / open hole style vent
- Stamped hood rod style louvers
- Recessed louvers
- Race Louvers RST Truck louvers

Test procedure:

- Simply swap out hood vents with no other changes for back to back testing

Conclusions:

- As seen on the many other vehicles we have tested not all hood vents function the same
- Our new RST truck louvers outperform all others on the market
- The Jeep from the factory lacks any kind of ducting or panels between the grill and front of the radiator. These gaps allow air to go around the radiator instead of thru it significantly reducing differential pressure across the radiator and significantly reducing cooling. Whether a truck or car these gaps need to be minimized so as to maximize airflow thru the radiator. Front ducting and hood extraction behind the radiator are key to maximizing cooling.

Video: [https://www.youtube.com/watch?v=QYItM\\_yWGjU](https://www.youtube.com/watch?v=QYItM_yWGjU)

### Wind Tunnel Radiator Differential Pressure Increase (Cooling Air Flow Increase)

Jeep Wrangler, Single 24"x14" Center Vent Comparison. OE Grill Opening.

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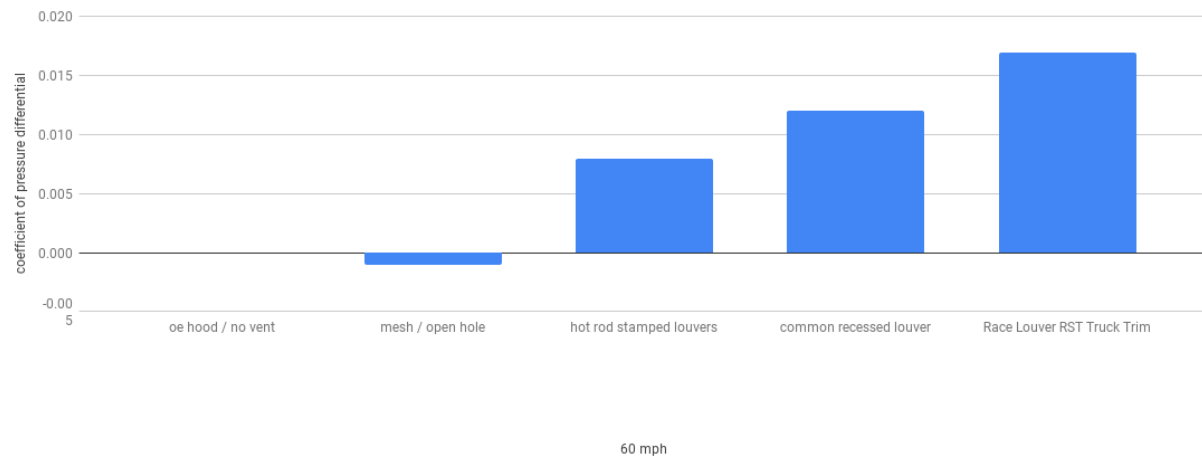


Figure 1 - Cooling

This is the change in coefficient of pressure differential between the front of the radiator and the rear of the radiator. Increased pressure differential across the radiator equates to increased airflow thru the radiator netting improved cooling.

### Wind Tunnel Drag

Jeep Wrangler, Single 24"x14" Center Vent/Extractor Comparison. OE Grill Opening.

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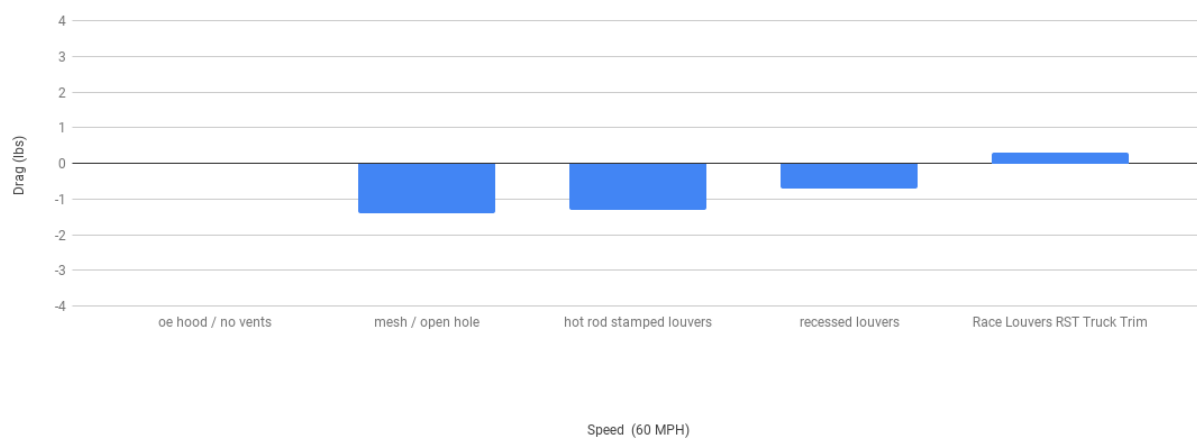


Figure 2 - Drag

Drag changes per vent design. As shown in the above chart there is little to no drag penalty for hood venting and therefore no loss in fuel mileage.



Baseline (no hood vents)



Mesh / Open Hole Vent





Hot Rod Stamped Louvers

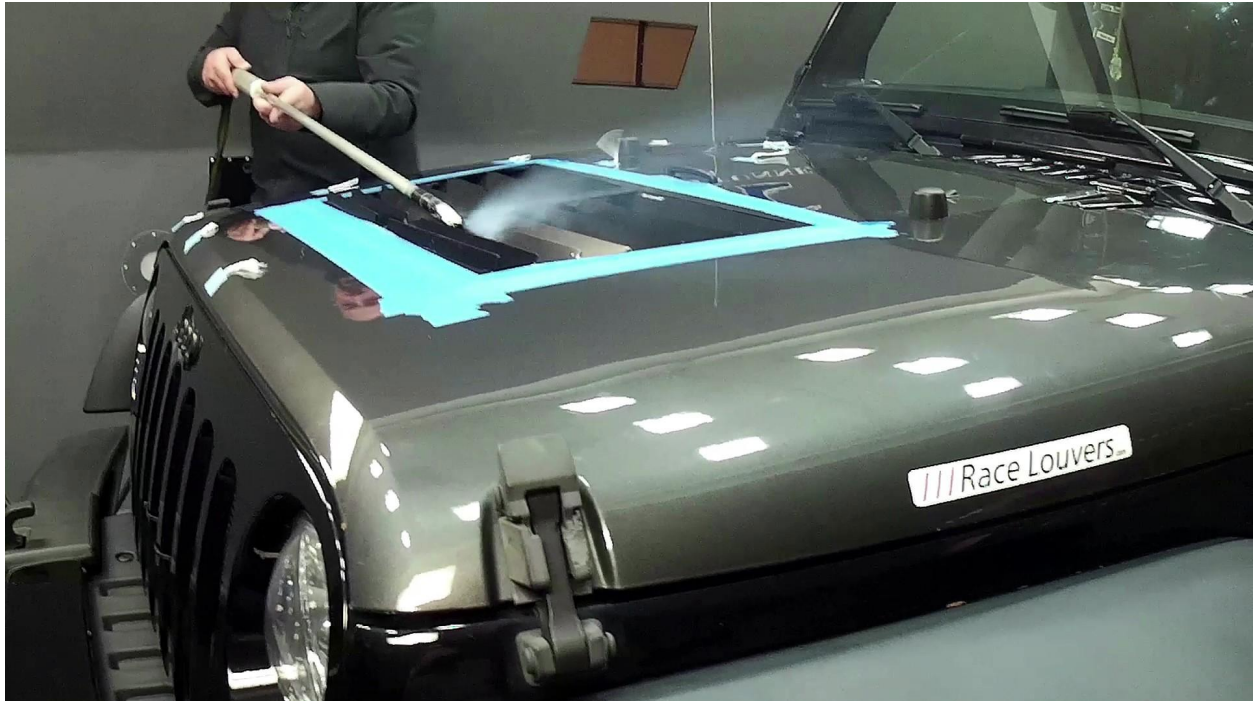


Recessed Louvers

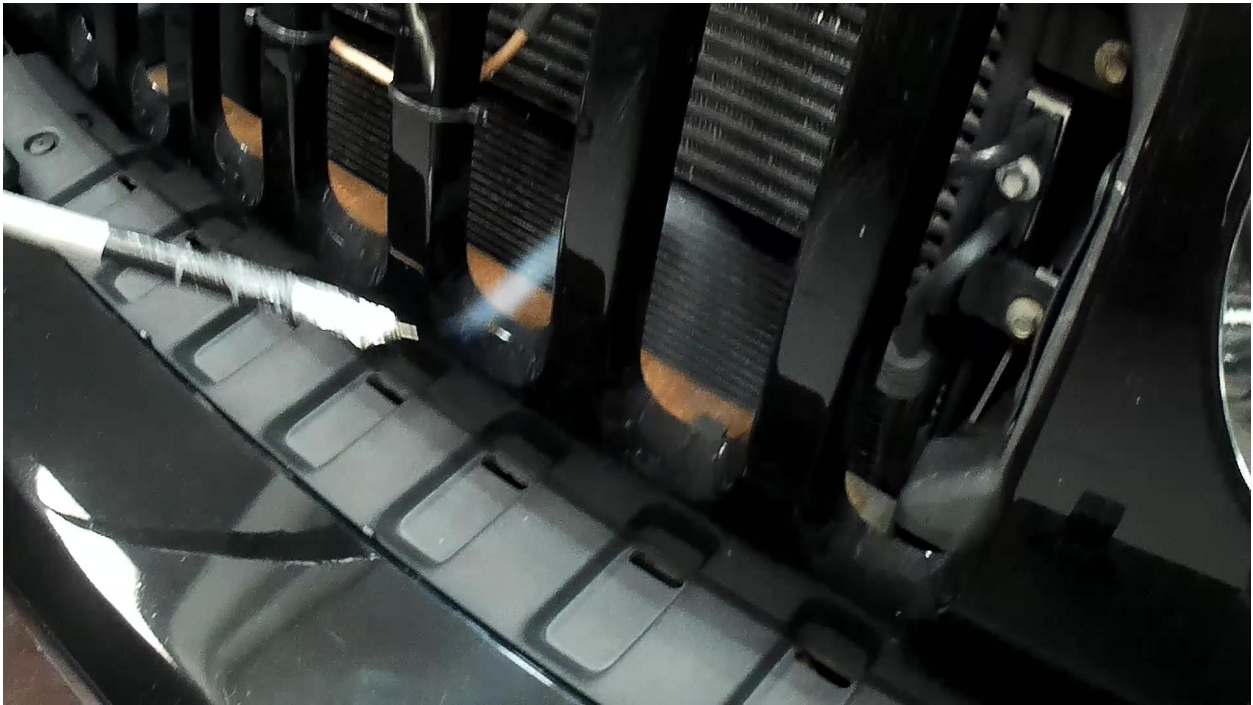




Race Louvers RST Truck Trim Louvers



Smoke Visualization of Exit Airflow



Lack of ducting or panels between the grill and front of the radiator allows air to bypass the radiator reducing cooling. Front ducting and hood extraction behind the radiator are key to maximizing cooling.