/// Race Louvers

Professional R&D - Wind Tunnel Tested - Track Proven

info@racelouvers.com - www.racelouvers.com

908-447-5788

Race Louvers Mustang Track Testing 5/5/19

Track testing a fox mustang with some Race Louvers and Grill Blockers. This American Iron mustang is our low budget but well sorted shop car. Prior to testing the car had a common plywood splitter, air dam, ducted nose opening to the radiator, some diy canards and a APR GTC-300 rear wing. Although the weather did not give us the best test weekend we did confirm two things. One, when using Race Louvers the front grill opening can be reduced to gain front downforce while still maintaining reasonable coolant temperatures. Two, that added front downforce requires some rear grip typically achieved with some added rear wind angle and this combination results in reduced lap times. Saturday was dry, partly cloudy and 75 degrees and we spend the day establishing how much more we could restrict the front grill opening and we were able to get it down to 95 sqin from 135sqin. Sunday was light rain all day and not the best testing situation but we did compare qualifying with Race Louvers and Grill Blockers vs no hood vents and the usual larger grill opening in the race and was able to see a solid half second difference. While not a significant improvement it was still a gain.

Results:

- **Added Race Louvers**. Pair of small center and a pair of side Race Louvers.
- **Reduced front grill opening.** Grill blockers were used to reduce front grill opening from 135 sqin to 95 sqin while maintaining 215 deg coolant temps.
- **Added 3 degrees of wing**. More wing angle was needed to balance the car, settling on +3 degrees, indicating an increase in front downforce from the Race Louvers and smaller grill opening.
- **Reduced laptimes.** half of a second in the rain.

Race Louvers LLC
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Race Louvers Track Test Data

Driver Al Watson
Racing class American Iron
Car year/make/model 93 Mustang
Test date 5/4/19
Test track Nanp Lightning
Weather Part cloudy 75°F

Thermostat rating 180° Splitter type/size 3" flat Front of radiator sealed to nose Yes Back of radiator open to engine bay Yes Wing type/size GTC-300 - 5° center
Other brand hood vent 4 small drop duct types with ½" wicker Other aero aids Cervards/Airdam

Race Louver part(s) being tested: RB, 12.8 sf centers + RX, 19.7 sf sides
Primary objective (circle): more cooling / more front downforce / combination

~~Baseline session~~ 1 or ~~previous track~~ data (No Race Louvers or Grill Blockers)
Average coolant temps 225°F Front grill opening size (sq in) 135 sq in
Best lap — 2nd best lap — 3rd best lap — Average lap —

Session 2 Practice
Car setup changes (circle): Race Louvers/Grill Blockers/Other 6" side blockers
Front grill opening size (sq in) 95 sq in Wing angle -2° center Suspension adjustments — Average coolant temps 195°F Best lap —
2nd best lap — 3rd best lap — Average lap —
* 65 Deg

Session 3 Qualifying
Car setup changes (circle): Race Louvers/Grill Blockers/Other 6" side blockers
Front grill opening size (sq in) 95 sq in Wing angle -2° center Suspension adjustments — Average coolant temps 200°F Best lap —
2nd best lap — 3rd best lap — Average lap —
*75 Deg

Session 3 Race, 30min.
Car setup changes (circle): Race Louvers/Grill Blockers/Other 6" side blockers
Front grill opening size (sq in) 95 sq in Wing angle -2° center Suspension adjustments — Average coolant temps 215°F Best lap —
2nd best lap — 3rd best lap — Average lap —
*80 Deg

Conclusion/comments 3 degrees of wing was added and balance of car good with new hood louvers. Was able to significantly reduce the front grill opening ~~to~~ and run similar temps. No laptimes compared as following day called for rain.

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Race Louvers Track Test Data

Driver Al Watson
Racing class American Iron
Car year/make/model '93 Mustang
Test date 5/5/19
Test track NJMP Lightning
Weather Light Rain all day 60°F

Thermostat rating 180° Splitter type/size 3" flat Front of radiator sealed to nose Yes Back of radiator open to engine bay Yes Wing type/size GTC-300
Other brand hood vent — Other aero aids Corners/Air dam

Race Louver part(s) being tested: RC. 12.8 cl centers / RX. 19.7 sl sides
Primary objective (circle): more cooling / more front downforce / combination

~~**Baseline session 1 or previous track data** (No Race Louvers or Grill Blockers)~~
~~Average coolant temps 170°F Front grill opening size (sq in)~~
~~Best lap 2nd best lap 3rd best lap Average lap~~

Session ~~1~~ 1 Qualifying
Car setup ~~changes~~ (circle): Race Louvers/Grill Blockers/~~Other~~ 6" side blockers
Front grill opening size (sq in) 75 sqin Wing angle -2° center Suspension
adjustments — Average coolant temps 170°F Best lap 1:34.263
2nd best lap 1:36.053 3rd best lap 1:36.306 Average lap 1:35.541 (top 3)
*Top 5 lap avg = 1:36.053 - Grill blockers removed.
- All Race Louvers removed and holes sealed flat sheets.

Session ~~2~~ 2 Race
Car setup changes (circle): ~~Race Louvers/Grill Blockers~~/Other
Front grill opening size (sq in) 135 sqin Wing angle -5° center Suspension
adjustments — Average coolant temps 170°F Best lap 1:35.163
2nd best lap 1:35.837 3rd best lap 1:36.774 Average lap 1:35.925 (top 3)
*Top 5 lap avg = 1:36.402

Session 3
Car setup changes (circle): Race Louvers/Grill Blockers/Other
Front grill opening size (sq in) Wing angle Suspension
adjustments Average coolant temps Best lap
2nd best lap 3rd best lap Average lap

Conclusion/comments Not the best way to compare especially in the rain, but this does indicate more front downforce from Race Louvers with Grill Blockers from needing more rear wing to balance the car and that added downforce reduces laptimes, 4 tenths on this day.

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