/// Race Louvers

Professional R&D - Wind Tunnel Tested - Track Proven

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Race Louvers Track Testing 4/6/19

Special thanks to Ryan Walton for successful testing of a set of Race Louvers on his fox mustang american iron road race car.

Walton is a previous class champion and his fox mustang is well developed making the pair a great choice for testing. Prior to testing the mustang already had a G-stream wing, a front splitter, a GT nose trimmed to supply just enough cooling and a set of morgan aero hood vents. The car was well balanced and had been raced in this configuration for many events. The only changes to the car for testing were the addition of a single center RX trim Race Louvers hood louvers and a new GT nose with the smaller untrimmed OE grill opening. Grill blockers were not used as the OE GT grill opening was to small and required slight trimming vs being to large and requiring restriction.

Results:

- **Added Race Louvers**. Single center RX trim Race Louver replaced the morgan aero hood vents.
- **Added 4 Degrees of Wing**. More wing angle was needed to balance the car, settling on +4 degrees, indicating an increase in front downforce from the Race Louvers and smaller grill opening.
- **Reduced laptimes by 1.4 seconds.** While adding wing angle in each test session to balance the car Walton was able to maintain the same 1:56.200 lap times while the rest of the run group lost lap time from a group average best lap of 1:54.935 during qualifying to a slower 1:56.481 during the race due to increasing track temperatures realizing a gain of 1.4 seconds for Walton once the car was dialed in plus double wins.

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Race Louvers Track Test Data

Driver Ryan Walton
Racing class AI
Car year/make/model 1989 Ford mustang

Test date 4-6-19
Test track Button willow
Weather 53° — 72°

Thermostat rating 160 Splitter type/size wood 5" Front of radiator sealed to nose yes Back of radiator open to engine bay yes Wing type/size Gurney 62"
Other brand hood vent Morgan zero 8 Other aero aids fender vents side skirts

Race Louver part(s) being tested: RX 24x16 Center vents
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 180 Front grill opening size (sq in) ~~112~~ 176
Best lap ~~1:56.26~~ 2nd best lap ~~1:56.51~~ 3rd best lap ~~1:56.67~~ Average lap

Session 2
Car setup changes (circle): Race Louvers/Grill Blockers/Other 53°
Front grill opening size (sq in) 112 Wing angle 0 Suspension adjustments Average coolant temps 210 Best lap 1:56.26
2nd best lap 1:56.~~51~~ 3rd best lap 1:56.67 Average lap 1:56.48

Session 3
Car setup changes (circle): Race Louvers/Grill Blockers/Other 63°
Front grill opening size (sq in) 112 Wing angle 2 Suspension adjustments Average coolant temps 220 Best lap 1:56.22
2nd best lap 1:56.67 3rd best lap 1:56.96 Average lap 1:56.63

Session 3
Car setup changes (circle): Race Louvers/Grill Blockers/Other Opened Air intake 72°
Front grill opening size (sq in) 132 Wing angle 4 Suspension adjustments Average coolant temps 225 Best lap 1:56.29
2nd best lap 1:56.51 3rd best lap 1:56.92 Average lap 1:56.57

Conclusion/comments 4° more rear wing. I was not able to keep the coolant temps down with out cutting the bumper back out to 176 sq in

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Race Louvers Track Test Post Event Download

Driver Ryan Walton
Racing class AI
Car year/make/model 1989 Mustang

Test date 4/6/19
Test track Bottom Willow
Weather 53° → 72° F Sunny

Interviewer/Date Al Watson 4/9/19

Session/comments Test car raced with previous setup for several years. Driver was tops and previous class champion. Car already had generic hood vents, GT nose with opening trimmed just enough for cooling, car was well balanced and nuetral handling.

Session/comments Warm up session yielded an oversteering condition and good temps. Setup was the same with only changes being a Race Louvers hood extractor and a new GT nose with smaller OE opening. Best lap 1:56.267

Session/comments Qualifying Session 2 degrees of rear wing was added to help the oversteering condition. Track temps were increasing along with coolant temps but still ok. Car still slightly oversteering Best lap 1:56.227. Average best lap of run group was 1:54.935.

Session/comments Race session 2 more degrees of wing was added for a total change of +4 degs to help oversteer. GT nose opening was trimmed slightly for cooling. Track temps and coolant temps were up but still good. Car was now fairly balanced and nuetral. Best lap 1:56.292. Average best lap of run group was 1:56.481.

Conclusions
1) The addition of rear wing angle to balance the car was a clear indication of more front downforce from the Race Louvers and Grill size.
2) Although the OE nose required slight trimming for cooling its size reduction from previous GT nose added in front downforce when combined with Race Louvers.
3) Net laptime reduction of 1.4 seconds. While the field lost about 1.4 seconds from Qual to Race the test car was able to maintain the same laptime netting an overall gain.

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