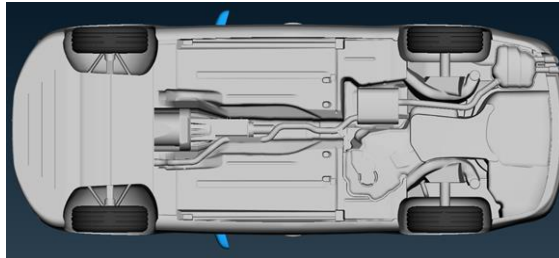
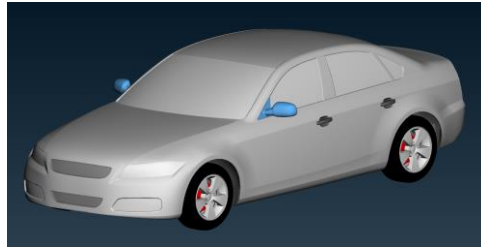


COMPANY	Ford Motor Company	DATE	12/4/2017	CONTACT	Pedro Costa
DrivAer Configuration	N EB wM wW woL cG	EMAIL	pocosta37@ford.com		

CFD Solver		Mesh Settings		Tunnel Size	
Vendor	EXA	Mesh Type	Trim	WT length upstream [m]	47
Software	PowerFLOW	Minimum Cell Size [mm]	2.5	WT length downstream [m]	56
Version	5.2a	Fine Equivalent Voxels [x10 <sup>6</sup> ]	65.85	WT width / height [m]	54 / 38

Flow Boundary Conditions		Turbulence Settings		Vehicle Options	
Yaw Angle [deg]	0	Turbulence Model Class	VLES	Bodystyle	Notchback
Vehicle Speed [ms-1]	38.89	Turbulence Model	k-epsilon	Mirrors	OCDA
Density [kg m-3]	1.204	Near wall treatment	Enhanced WF	Front Ride Height (mm)	686
Absolute Ref. Pressure [Pa]	101325	Compressible Flow	Yes	Rear Ride Height (mm)	682
Solution Method	LBM				

Heat Exchanger/Cooling Package Data		Cooling Configuration		Vehicle Configuration	
Heat Exchanger	Ford HX1 (baseline)		Cooling Package (CAD)	UPPER COOLING INTAKE	Closed
HX Pressure Drop	A: 5.78			LOWER COOLING INTAKE	Closed
$\Delta p = A*v + B*v^2$	B: 17.31			Wheel Type	OC DrivAer
HX x-Position [mm]	35			Wheel Type (Comments)	- rigid / no deformation - solid contact patch
HX Thickness [mm]	27			Road Simulation	Static
Fan Shroud x-Pos. [mm]	209.44			Rim Simulation	Static
Sealing	Fully sealed			Tire Simulation	Static
Leakage Area (mm <sup>2</sup> )	0				



CFD Model

COMMENTS	<p>standard closed grill inserts mirrors included solid wheels (milled, as CAD data) wheel house air exit open rear lower engine exit open</p>
----------	--

CFD Results					
Drag (Cx) [-]	0.264	Radiator Mass Flow [kg/s]	0.000	Wheelhouse LHS Flow [kg/s]	-0.048
Frontal Area [m <sup>2</sup> ]	2.170	Upper Grill Flow [kg/s]	0.000	Wheelhouse RHS Flow [kg/s]	-0.042
Front Lift (Czf) [-]	-0.077	Lower Grill Flow [kg/s]	0.000	Tunnel Flow [kg/s]	0.092
Rear Lift (Czr) [-]	0.123				
Underhood Ref Pressure (#415) (Cp) [-]:	-0.357	Wheel-house Ref Pressure (#566) (Cp) [-]:	-0.264		

