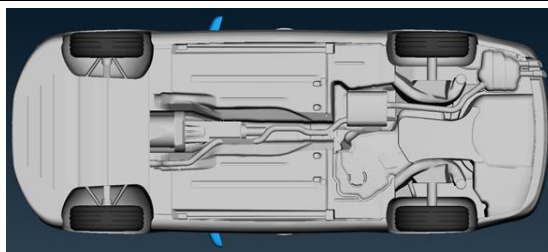
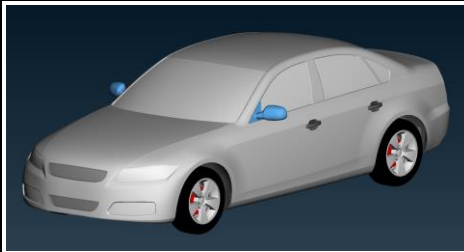


COMPANY	Ford Motor Company	DATE	27/11/2017	CONTACT	Brendan Luneman
DrivAer Configuration	N_EB_wM_wW_woL_cG	EMAIL	bluneman@ford.com		

CFD Solver		Mesh Settings		Tunnel Size	
Vendor	CD-adapco	Mesh Type	Trim	WT length upstream [m]	20
Software	STAR-CCM+	Minimum Cell Size [mm]	2.5	WT length downstream [m]	40
Version	v11.06.011	Total Number Cells [x10 ⁶]	66.73	WT width / height [m]	22 / 9

Flow Boundary Conditions		Turbulence Settings		Vehicle Options	
Yaw Angle [deg]	0	Turbulence Model Class	DES	Bodystyle	Notchback
Vehicle Speed [ms ⁻¹]	38.89	Turbulence Model	k-w SST	Mirrors	OCDA
Density [kg m ⁻³]	1.204	Near wall treatment	Hybrid	Front Ride Height (mm)	686
Absolute Ref. Pressure [Pa]	101325	Compressible Flow	No	Rear Ride Height (mm)	682
Solution Method	NS-Transient				

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 ²)	0				



CFD Model

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

Drag (Cx) [-]	0.280	Radiator Mass Flow [kg/s]	0.000	Wheelhouse LHS Flow [kg/s]	-0.024
Frontal Area [m ²]	2.170	Upper Grill Flow [kg/s]	0.000	Wheelhouse RHS Flow [kg/s]	-0.019
Front Lift (Czf) [-]	-0.057	Lower Grill Flow [kg/s]	0.000	Tunnel Flow [kg/s]	0.044
Rear Lift (Czr) [-]	0.123				
Underhood Ref Pressure (#415) (Cp) [-]:	-0.302	Wheel-house Ref Pressure (#566) (Cp) [-]:	-0.252		

