

Tesla Cybertruck

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You can use my referral to buy or lease a [Tesla Model S, Model X or Model 3](#).

<https://www.teslarati.com/tesla-cybertruck-features-design-auto-expert-defense/>

I assume that Tesla set the following requirements that the Tesla pickup truck (Cybertruck) design must satisfy:

1. Tough exterior.
2. Low aerodynamic resistance to allow long range and high efficiency.
3. Large and comfortable interior.
4. Variable ground clearance, low for ingress and egress and highway driving and quite high for rough terrain.
5. Good storage, bed and towing capacity.
6. Battery capacity to provide long range and high efficiency.

It is not necessary to state that Tesla will make the Cybertruck have the longest range and be the most efficient of any electric truck in its price range.

Item 1 above is best achieved by thick [hardened \(cold-rolled\) stainless steel](#). Such steel is difficult to stamp into curvature form. So, such a tough exterior is usually composed of flat sheets. Since the Cybertruck's exterior is made of hardened stainless steel, it has flat panels joined by angles.

Item 2 above requires that the Cybertruck have an upward-sloping hood and windshield and an inward-sloping nose:



Item 2 also requires that the Cybertruck have a “[spoiler](#)” rear to reduce turbulence and rear lift:



Note the spoiler effect behind the cab when the cover is retracted and behind the Cybertruck when the cover is in place.

The combination of items 1 and 2 must be arranged such as to provide items 3 and 5. The Cybertruck has done this very well!

Item 4 is well provided for by the design of the Cybertruck.

Tesla is the world leader in proving the needed battery capacity of item 6.

Dimensions

Length = 231.7" = 19.31', width = 79.8" = 6.65', height = 75" = 6.25

Cameras Instead of Mirrors

- The rearview mirror is replaced by a camera.
- Side mirrors are replaced by cameras on the back of the front fenders:



The screens are on the short front side pillars.

Unanswered Questions

- What is the makeup of a front crumple zone?
- Will the Cybertruck automatically lower to a user-selected height when the owner approaches?
- Will the smartphone app be able to raise and lower the Cybertruck and open and close the bed cover?

Storage

- 100 ft² bed with a retractable cover, which will have a solar panel option
- Large trunk in front
- Locking compartment under back seat
- Compartment under the rear of the bed
- Compartments inside the two wings beside the front of the bed

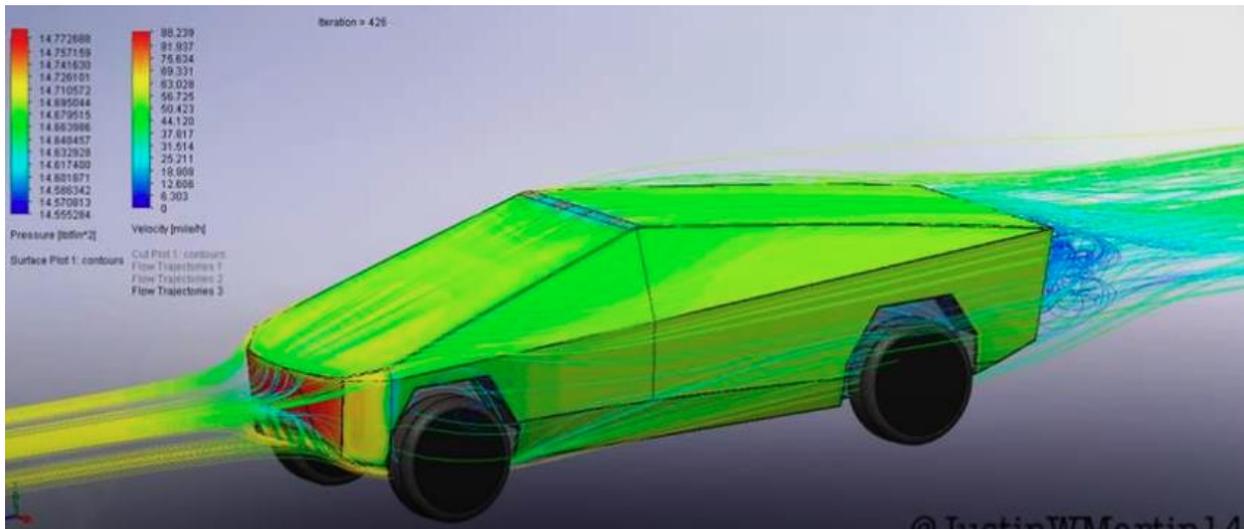
Specifications

- Range: 250, 300 and 500 miles
- Motors: RWD 1 motor, AWD 2 motors and AWD 3 motors
- 0-60 mph: 6.5, 4.5 and 2.9 seconds
- Top speed: 110, 120 and 130 mph
- Payload maximum: 3,500 lbs
- Seating: 6 adults
- Touchscreen: 17" landscape
- Body: ultra-hard 30X cold-rolled stainless steel
- Storage: 100 ft³ of exterior lockable vault, trunk and two sail pillars.
- Vault length: 6.5 ft with 8' end stop
- Charging maximum power: 250-kW
- Electrical outlets: 120-volts and 240-volts
- Towing capacity: 7,500, 10,000 and 14,000 lbs
- Autopilot: standard
- Full Self Driving: \$7,000 at purchase
- Ground clearance: 8" up to 16"
- Adaptive air suspension: standard
- Approach angle: 35°
- Departure angle: 28°

Awards

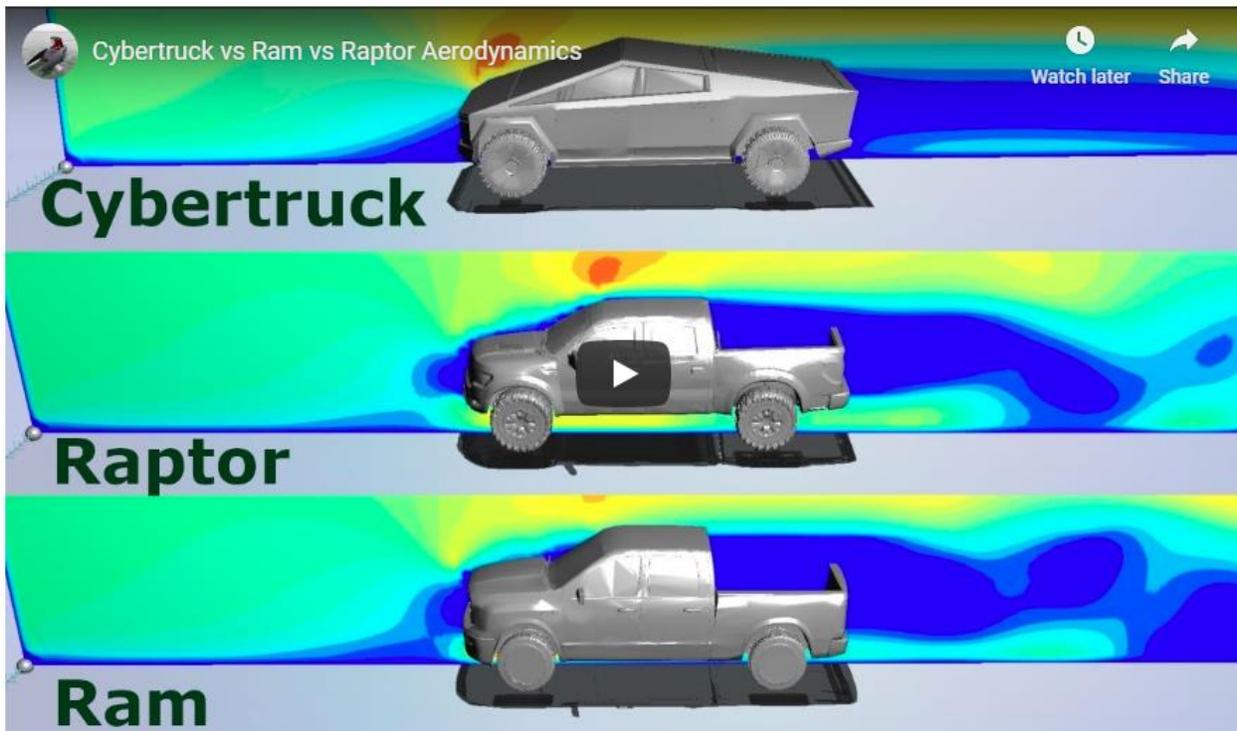
- [Automobile Magazine Concept Car of the Year 2019](#)

Aerodynamics



“The secret to good aerodynamic efficiency is to make sure that the air flows run along the bodywork, without detaching from it, because if the detachment occurs, turbulence is created that can hinder the progress. The images created by the program show instead that the flows do not stand out from the lines of the Cybertruck, even in the traditionally difficult (for pickup trucks) area of the box, thanks to the coverage conceived by the Californian technicians.” The tires are not included in this calculation.

Tesla Cybertruck Tops Ram 1500, Ford F-150 Raptor In Aerodynamics



Conclusion

The design requirements almost force the design selected for the Cybertruck! Using only design requirements 1, 3 and 4, one could select the [Bollinger](#) design:



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