

UNEQUIVOCALLY THE WORLD'S FASTEST CAR THROUGH TRAFFIC ARGUABLY THE SAFEST CAR ON THE FREEWAY

# **LANGO**

### • UNEQUIVOCALLY THE WORLD'S FASTEST CAR THROUGH TRAFFIC

- One of the fastest street cars at the drag strip (Zero to 60 in under 4 seconds: Even quicker with taller gear ratio—also achieving a sub 12-second ½-mile)
- Fastest car through "Moose Test" as documented by Consumer Reports during the Automotive X-Prize emergency-avoidance maneuver
- Integrated, FIA-certified racecar roll cage designed for 200 mph crashes
- Over 4 times more door protection bars than a production car or SUV
- 4-point jet pilot's harnesses for front and rear seats (similar to race car harnesses, but easier to get into.
- The Tango weights 3,300 lbs, about the same as a NASCAR car, and the same weight as a Subaru Outback.
- With 2,000 lbs under the floor, it has a NHTSA-defined 5-star rollover threshold of 56° (Tango's half-width is 1.5 times the height of the center of mass, "CG")
- ARGUABLY THE SAFEST CAR ON THE FREEWAY OF ANY CAR EVER BUILT (learn why in paragraphs below)
- HOV lane access with a single occupant in some states
- Parks in as little as  $\frac{1}{4}$  of a parallel parking space
- Fits two 6'6" tall adults comfortably
- Progressive Automotive X-Prize finalist
- At only 87 MPGe according to X-Prize regulations, not the most fuel efficient car in the contest. However, the electricity to charge is <sup>1</sup>/<sub>6</sub> the cost per mile of gasoline, figuring \$.10 a kilowatt hour, gasoline at \$3.00 a gallon and comparing with a gasoline car at 25 MPG—that equates to a 150 MPG equivalent.
- Carbon fiber exterior panels
- THE TANGO HAS BEEN DESIGNED TO BE THE FASTEST, SAFEST, MOST CONVENIENT CAR IN EXISTENCE FOR ROUGHLY 90% OF ALL URBAN TRIPS
- Currently available as an easily-assembled kit

These may sound like bold claims, but as you familiarize yourself with the Tango, you'll find them easily defended. The following pages do just that.



Two Tangos fitting easily in a single lane • massive side impact protection • perpendicular parking • comes in all colors—any color you'd like • steep approach and departure angles and a 10-gauge stainless steel bottom "skid plate", makes offroad surprisingly easy despite its low ground clearance • With two motors delivering over 1,000 ft lbs of torque, can smoke the tires even with slicks, and in the same gear that redlines at 172 mph • Same kind of motors used by freight trains can even run under water • great fun on windy roads • in the mountains • in the snow • or as a wedding coach

#### SAFETY

The Tango's racecar-style roll cage design, its 4-point harnesses, its low center of gravity, and a weight comparable to a midsize sedan combine to make the Tango extremely safe.

Avoiding a semi coming into your lane, uninvited has never been easier. You can accelerate or brake, while moving out of the way better than any other vehicle. Even a motorcycle cannot react as quickly. Avoid head-on collisions like no other car in history.

Because of the extreme density of the Tango, an unprecedented weight-to-profile ratio, it is virtually impervious to the wind.

If you are unfortunate enough to get into a crash, why not enjoy the safety that race car drivers use to survive 200 mph crashes, as regulary happen in NASCAR. The only difference, in essence, between the cage in a NASCAR stock car and a Tango is that with the Tango you don't have to climb in the window. Side protection is more than 4 times that of a typical SUV. *(see door bars photo above left)* 

Chrome-moly FIA-certified race car roll cage and 10-gauge stainless steel make up the chassis *(right)* 

Four-point pilot's harnesses on both front and rear seats with inertia reels are similar to those used in racing, but easy to get into. *(below)* 





#### IMAGINE A WORLD WITHOUT TRAFFIC AND PARKING CONGESTION

This is a distinct possibility for the future with the advent of the Tango, which does a better job than any other form of transportation for about 90% of all urban trips. The Tango can fit in a 6-foot half-lane with more clearance than a truck has in a full 12-foot freeway lane. This virtual doubling of lane capacity can make the traffic jam a fading memory.

It all starts here. Like Apple and Microsoft, every revolution starts out small, but factors of usefulness cause certain products to reach a tipping point and go viral. The tipping point for the ultra-narrow vehicle will be the advent of lanes split in half—a natural government decision once enough people are driving narrow vehicles. Then, people will have a choice between driving at 70 mph in a narrow lane or sitting in traffic in the wide lane. Gradually traffic jams will become a thing of the past, just as emission controls have made Los Angeles air breathable again.

#### USING THE RIGHT TOOL FOR THE JOB

Just as one chooses the proper hammer to do a particular job, now one can choose the right vehicle for the job to be done. It is unlikely that one would choose a sledge hammer to pound a finish nail, so why use a 4-person car when a narrow commuter vehicle is available to make commuting and errand-running so much faster, safer, easier and more fun. By the same token, one would not choose a claw hammer to drive a railroad spike—nor would an electric semi

The Tango is 3.5-inches narrower than a BMW KT1200LT and 5-inches narrower than a Honda Gold Wing. At 3,300 lbs., it is nearly 4 times heavier than the BMW.



truck make sense, as it would have to charge every hour on a trip across the country. Electric power does commuting better than gasoline. It doesn't do well for long trips. Now, over 300 miles on a charge is possible with a Tango with very expensive Lithium cells, however the Tango can be customized for the perfect sized battery pack for one's particular usage. It can also be upgraded very easily any time in the future. The battery box is modular and easy to swap.

#### BEAT TRAFFIC

The Tango's ability to maneuver through traffic is second to none. Like a motorcycle, it can change lanes to gain advantage in traffic better than any car in history. Unlike a motorcycle, it is safe, dry, climate controlled, and can securely carry a reasonable amount of cargo.

Where lane splitting is permitted (i.e., driving between lanes of stopped or slow-moving traffic), such as California, Europe, and Asia, the advantage can be staggering. In extremely heavy traffic, a Tango or motorcycle can travel in 20 seconds the distance that a car travels in 20 minutes.



Every crowded parking area has spaces perfect for Tangos and motorcycles.

#### PARKING

A Tango can park perpendicular to the curb, in left-over spaces between cars or driveways, next to buildings, or in unused corners of parking lots—in thousands of heretofore-unusable parking spaces.

#### STABILITY

With 2,000 lbs. (mostly batteries) under the floor, the Tango's static rollover threshold is equivalent to a 5-star NHTSA rating, placing it in company with the lowest slung sports cars.



#### ACCELERATION AND TOP SPEED

With over 1,000 ft-lbs. of torque, the Tango can accelerate from zero to over 130 mph in one gear. Without needing an energy-robbing transmission or differential, it accelerates from zero to 60 mph in under 4 seconds and finishes the standing  $\frac{1}{4}$  mile in under 12 seconds at over 100 mph.

#### ECONOMIC JUSTIFICATION

If an executive who earns \$200,000 per year (or about \$100 per hour) saves 20 minutes each way to work and back by lane-splitting, filtering, and parking, that's a savings of \$1,400 per month. Monthly parking fees in San Francisco are typically \$250 for a car, or \$50 for a motorcycle, giving a \$200 monthly advantage to the Tango driver in these circumstances. The combined savings of \$1,600 per month would pay for the \$150,000 T600 carbon fiber Tango in under 8 years. What else could you drive that would pay back the purchase price?

#### IT ONLY WORKS FOR 90% OF YOUR TRIPS

The Tango was not designed to replace the family car. It was designed to add a transportation option that gives speed and convenience never available before. According to the US Bureau of Transportation Statistics, of 140-million



Burnout in the equivalent to 5th gear—the only gear it has. Can do this even with tall gearing with a redline of  $_{172}$  mph.

Each of the two motors have more torque starting at zero rpm than a Viper V-10 at peak. They are series-wound DC motors, the same kind that freight train loco-motives have been using for a century. Reliability is obviously a strong trait, probably good for millions of miles.



workers in the U.S., 106-million are single occupant drivers (with 4 empty seats). Roughly 90% of all automobile trips have a single occupant, and the average round-trip commute is 20 miles. The Tango, depending on battery selection, can go from 40 to over 300 miles of freeway driving on a single charge. Driving a traditional car to work instead of a Tango is like driving a motor home across town to run an errand.

#### CONVENIENCE, RANGE, AND CHARGING

Would it be easier to fill your cell phone with gasoline every few days—or just plug it in every night? It's the same for the Tango. With a standard charger using 220 volts and 40 amps from a dryer or stove outlet, you can drive about 25 miles for every hour of charging. With dual chargers 50 miles. With the largest pack, 300 miles would take 12 hours, or 6 hours respectively. With a 110-volt outlet, you can drive about 5 miles per hour of charging. Where fast charging is available, 125 miles per hour of charging is possible.

Virtually maintenance-free, the Tango has no oil change or tune-up requirements to consume your time and money.

The Tango has front and rear trailer hitch receivers that can be used to push or pull a plane in and out of a hangar, tow a generator trailer for extended range and additional storage, or allow the Tango to be towed by a car or motor home.

#### ECONOMY

The average commute uses just 4 kWh. That's the same amount of electricity used to power a 1,500-watt portable heater for 2 hours and 40 minutes. Thus, at \$.10 per kWh and gasoline at \$3.00 per gallon, the equivalent fuel efficiency of the Tango exceeds 150 mpg, or \$.02 per mile.

Battery replacement is the largest recurring cost for an electric car. We can help you to choose a battery pack that will be priced competitively with the cost of gasoline.

#### SPECIFICATIONS

Length:	8-ft 6-in	(2.59 m)
Width:	39-inches	(0.99 m)
Height:	61-inches	(1.55 m)
Weight:	3,326 lbs.	(1,512 kg)
Body:	Carbon fiber	
Roll Cage:	Chrome moly steel	
Chassis:	Stainless steel	
HVAC:	12,000 BTU A/C; 3,000 Watts heat	
Performance:	o-60 mph <4 seconds; <sup>1</sup> / <sub>4</sub> -mile <12 seconds	
Specifications subje	ect to change. Some d	lepend on battery selection.
See www.commute	ercars.com for more	details

#### ENERGY INDEPENDENCE

The electricity to charge a Tango would almost never be dependent on oil, foreign or domestic, as power plants rarely use oil. If 50-million of the 106-million single-occupant commuters in the U.S. drove Tangos, over \$50-billion in oil at retail would be replaced by \$7.3 billion of electricity at retail—a savings of over one billion barrels of oil per year. For assumptions, see chart on our web page under downloads.

#### AVAILABILITY

The Tango is available world wide. Commuter Cars is presently taking orders for kit cars to be delivered within six months. These cars will require less than 8 hours of easy assembly. Please check your state's or country's laws regarding registering kit cars for the road. Typically, it involves a simple inspection and the installation of a vehicle identification number. You would then show your receipts, pay tax and registration fees, and receive a title. For more information on availability, schedules, and deposit information, please check our website: www.commutercars.com.

#### WHY BUY NOW INSTEAD OF WAITING FOR LESS EXPENSIVE MODELS?

The Tango T600 sells for \$150,000 plus or minus \$30,000 depending on battery selection. The few that can afford to purchase the current model are the innovators, as defined by Geoffrey Moore in *Crossing the Chasm*. Innovators have insight into the future based on observation and logic and want to

contribute to it. They do not rely on what their peers think, or history in the form of market studies or focus groups. They see a problem and recognize a solution to it. All disruptive products go through this phase before reaching the early adopters, and eventually cross the chasm to the early majority, that require their peers to have endorsed it first. When enough innovators are driving and enjoying the benefits that the Tango provides, funding will naturally become available to bring the product to the early adopters. Pricing will then be in the \$30,000 to \$50,000 range, requiring \$50million or more in capital. The early majority will require mass produced Tangos in the \$10,000 to \$20,000 range, requiring \$billions in capital and hundreds of thousands of units per year production.

If purchasing simply for personal convenience, here are some of the issues to be considered. You may be affected by some of them:

- Qualifications for the perfect T600 buyer:
- 1. Can afford a second car costing over \$120,000
- 2. Has the legal right to lanesplit, as in California, Europe, and Asia.
- 3. Would be comfortable lane splitting. i.e., not shy about passing others that are stuck in traffic.
- 4. Has the need to lanesplit, as they spend too much time stuck in traffic, and it's impractical to move closer to work.
- 5. Has the self-confidence to drive a car that may cause their peers to tease them, however, may also like to blow their minds with the performance.
- 6. Doesn't have the bravery to ride a motorbike, or needs space to carry things (a portable locker), wants protection from rain and snow; climate control, doesn't want helmet hair, or to have to don all of the protective gear.
- 7. Doesn't mind being constantly photographed while driving, or having crowds gather when parked.
- 8. Benefits from perpendicular parking, as in San Francisco where you can park between any two houses in the 4-foot space between every-other driveway.
- 9. Benefits from HOV lane access with a single occupant.
- 10. Drives less than 300 miles between charge opportunities.

## COMMUTER CARS

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