



# U.S. Market Development of Electric Vehicles and Fastener Demand

*Auto manufacturers are quickly introducing electric vehicle models. Have the recent years of electric vehicle production ramped up fastener demand in the U.S.? Will the demand continue to grow as auto manufacturers continue to increase production?*

by Sabrina Rodriguez

Data note: The data for this article is derived from Descartes™ Datamyne's US Census trade statistics. US Import and Export Census trade statistics is based on all modes of transportation. That value is calculated in USD by CIF (imports). In this article fasteners are defined as any product under HS Code 7318 (screws, bolts, nuts, coach screws, rivets, cotters, cotter pins, washers and similar articles or iron or steel), as well as the subcategories of 7318.

Chances are the word 'Tesla' will ring a bell for many in 2021, not just for being a successful electric vehicle manufacturer, but also for the modern innovation of a concept that auto manufacturers across the globe have contemplated for centuries. Versions of electric cars have been introduced since the 1880s, all with limited speeds and miles per hour, not to mention limited features. The U.S. Department of Energy has time capsuled the history of electric cars and identified the electric wagon of 1889 the first of its kind. It was a step up from the gas and steam fueled cars that emitted harsh pollutants into the environment. Fast forward to 2006 and Tesla introduces its first 200-mile range electric car, including all the bells and whistles of a modern-day car.

Other electric vehicles have entered the U.S. market including the Chevy Volt by GM and the Nissan Leaf. With the increase in electric cars comes the demand for accessible charging stations. The U.S. Department of Energy installed over 18,000 residential and commercial charging stations around the country between 2009 and 2013. Undoubtedly one of the main factors of electric vehicles are the batteries which originally came with a high cost. Lower cost batteries ultimately made electric vehicles more affordable to the end consumer, making the switch to an electric car extremely attractive.

**For the most part, U.S. auto manufacturers import most auto parts and raw materials from their overseas trading partners. One of the most sought-after commodities for auto manufacturing is fasteners, which are by and large imported from Taiwan, China, and Japan.** Considering the current U.S. administration, we may begin to see more efforts to create clean energy, one of which could be incentives for electric car consumers. In the U.S., about 91% of all households have access to at least one car. That should not come as a surprise considering the lack of public transportation in the vast majority of the country, which leads to the need for access to a vehicle.



Table 1. U.S. Fastener Imports

Product HS (4)	01/01/2020 - 02/29/2020				01/01/2021 - 02/28/2021				Volume Change			
	General Total Value CIF (USD)	%	General Quantity (kg)	%	General Total Value CIF (USD)	%	General Quantity (kg)	%	General Total Value CIF (USD)	%	General Quantity (kg)	%
7318 - Screws, Bolts, Nuts, Coach Screws, Screw Hooks, Rivets, Cotter Pins, Washers and Similar Articles, of Iron or Steel	890,047,378	100	247,614,300	100	880,164,670	100	250,633,955	100	-9,882,708	-1.12	3,019,655	1.22

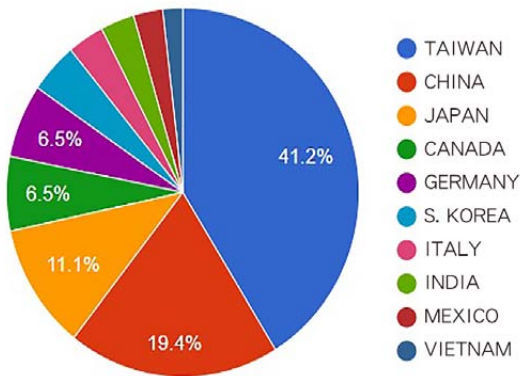
Table 2. U.S. Fastener Imports (Subcategories)

Product HS (6)	01/01/2020 - 02/29/2020				01/01/2021 - 02/28/2021				Volume Change			
	General Total Value CIF (USD)	%	General Quantity (kg)	%	General Total Value CIF (USD)	%	General Quantity (kg)	%	General Total Value CIF (USD)	%	General Quantity (kg)	%
731815 - Threaded Screws and Bolts Others, With or Without Their Nuts or Washers, of Iron or Steel	388,445,288	43.65	118,875,422	48.01	356,207,730	40.48	107,821,050	43.02	-32,237,558	-8.30	-11,054,372	-9.30
731816 - Nuts, Threaded, of Iron or Steel	195,781,748	22.00	46,229,519	18.67	180,908,862	20.56	41,200,079	16.44	-14,872,886	-7.60	-5,029,440	-10.88
731814 - Self-Tapping Screws, Threaded, of Iron or Steel	145,889,895	16.40	52,275,222	21.12	182,988,870	20.80	68,531,141	27.35	37,098,975	25.43	16,255,919	31.10
731829 - Nonthreaded Articles (Fasteners) Others, of Iron or Steel	57,112,999	6.42	6,776,943	2.74	55,999,277	6.37	6,755,701	2.70	-1,113,722	-1.96	-21,242	-0.32
731822 - Washers, Other Than Lock Washers, of Iron or Steel	43,234,485	4.86	13,296,432	5.37	42,776,162	4.87	13,266,091	5.30	-458,323	-1.07	-30,341	-0.23
731819 - Threaded Articles of Iron or Steel Others	19,981,982	2.25	2,587,746	1.05	15,972,513	1.82	2,313,566	0.93	-4,009,469	-20.07	-274,180	-10.60
731821 - Spring Washers and Other Lock Washers, of Iron or Steel	10,963,777	1.24	1,169,951	0.48	10,861,293	1.24	1,309,899	0.53	-102,484	-0.94	139,948	11.97
731823 - Rivets of Iron or Steel	10,774,848	1.22	1,936,646	0.79	11,776,797	1.34	1,987,031	0.80	1,001,949	9.30	50,385	2.61
731824 - Cotter Pins, of Iron or Steel	8,399,785	0.95	861,526	0.35	9,147,780	1.04	1,015,327	0.41	747,995	8.91	153,801	17.86
731812 - Wood Screws Other than Coach Screws, Threaded, of Iron or Steel	4,922,163	0.56	1,390,950	0.57	6,102,902	0.70	2,383,546	0.96	1,180,739	23.99	992,596	71.37
Totals	890,047,378	100.00	247,614,300	100.00	880,164,670	100.00	250,633,955	100.00	-9,882,708	-1.12	3,019,655	1.22

Table 3. U.S. Fastener Imports (Main Country of Origin)

Country of Origin	01/01/2020 - 02/29/2020				01/01/2021 - 02/28/2021				Volume Change			
	General Total Value CIF (USD)	%	General Quantity (kg)	%	General Total Value CIF (USD)	%	General Quantity (kg)	%	General Total Value CIF (USD)	%	General Quantity (kg)	%
Taiwan	303,753,023	34.13	96,188,546	38.85	329,754,798	37.47	101,425,131	40.47	26,001,775	8.57	5,236,585	5.45
China	164,272,934	18.46	73,058,391	29.51	155,138,347	17.63	66,589,913	26.57	-9,134,587	-5.57	-6,468,478	-8.86
Japan	102,282,495	11.50	15,243,747	6.16	88,449,160	10.05	13,942,325	5.57	-13,833,335	-13.53	-1,301,422	-8.54
Germany	64,990,844	7.31	8,040,892	3.25	51,635,800	5.87	6,489,052	2.59	-13,355,044	-20.55	-1,551,840	-19.30
Canada	53,521,900	6.02	12,461,641	5.04	51,993,301	5.91	11,394,014	4.55	-1,528,599	-2.86	-1,067,627	-8.57
S. Korea	31,947,366	3.59	7,503,691	3.04	35,564,734	4.05	12,548,892	5.01	3,617,368	11.33	5,045,201	67.24
Italy	23,123,186	2.60	2,422,965	0.98	26,768,255	3.05	3,031,405	1.21	3,645,069	15.77	608,440	25.12
India	21,320,848	2.40	10,256,088	4.15	24,903,128	2.83	12,243,627	4.89	3,582,280	16.81	1,987,539	19.38
Mexico	21,300,534	2.40	2,142,053	0.87	21,458,951	2.44	2,524,351	1.01	158,417	0.75	382,298	17.85
U.K.	16,080,607	1.81	1,201,109	0.49	12,000,238	1.37	609,988	0.25	-4,080,369	-25.38	-591,121	-49.22
Totals	890,047,378	100.00	247,614,300	100.00	880,164,670	100.00	250,633,955	100.00	-9,882,708	-1.12	3,019,655	1.22





### What Trends Can Already be Seen

#### When It Comes to Fastener Imports into the U.S.?

According to U.S. Census trade statistics, January - February 2021 have shown a slight 1.2% increase when it comes to the quantity of fasteners being imported when compared to the same time frame in 2020. Trade at the beginning of 2020 was already beginning to be impacted due to the start of the pandemic. Fasteners within subcategory 731814 increased by 25% in value and 31% in quantity in 2021, while 731819 decreased by 20% in value and 10.6% in quantity. Subcategory 731812 increased by 24% in value and a staggering 71% in quantity.

Table 4. U.S. Fastener Imports Between 2010-2020

Product HS (4)	General Total Value CIF (USD)	General Quantity (kg)	General Total Value CIF (USD)	General Quantity (kg)	General Total Value CIF (USD)	General Quantity (kg)	General Total Value CIF (USD)	General Quantity (kg)
	2010		2011		2012		2013	
7318 - Screws, Bolts, Nuts, Coach Screws, Screw Hooks, Rivets, Cotters, Cotter Pins, Washers and Similar Articles, of Iron or Steel	3,652,755,043	1,184,441,689	4,413,558,966	1,354,071,671	4,887,887,114	1,437,079,831	4,778,944,402	1,459,946,322
	2014		2015		2016		2017	
	5,152,781,842	1,539,876,990	5,291,482,711	1,597,974,818	4,785,685,901	1,512,964,397	5,168,791,299	1,546,678,148
	2018		2019		2020			
	6,029,489,521	1,782,518,912	5,841,885,221	1,638,796,650	5,073,308,249	1,491,564,174		



## What Should Auto Manufacturers and Fastener

### Suppliers Expect to Happen in the Future?

Fastener imports from Taiwan accounted for over 37% of the total value imported during the first two months of 2021, while China accounted for 17.6% and Japan for 10%. South Korea increased their fastener exports to the U.S. during the first two months of 2021 by over 67% by comparison to the same period in 2020. Similarly, Italy increased their fastener exports by 25% and India by 19%.

Based on quantity, fastener imports were on a steady rise between 2010 and 2012, and then proceeded to slightly plateau in 2013. There was another increase in 2014/2015, followed by an unexpected dip in 2016 and a very dramatic increase in 2018. Coincidental with the 2018 increase, Tesla had begun production of the widely anticipated Model 3 which generated thousands of pre-orders. In 2020, the quantity of fastener imports into the U.S. was 1,491,564,174 kilograms which is nearly 26% higher than the total quantity imported in 2010. Judging from this increase over a 10-year time span, we can expect the demand for fasteners to have increased by about 20 – 25% in 2030.

Major auto makers have been prototyping their version of electric cars and hybrid cars for decades. In the next few years, U.S. companies like Ford, General Motors and Chrysler will be introducing electric vehicles into the market. Outside of the U.S., Audi, BMW, and Hyundai, many of which will also enter the U.S. market through international trade. This increase in production will either maintain the existing demand for fasteners, or it will increase it as more vehicles will be manufactured. Bearing in mind the competitive landscape of most of the auto manufactures, it would be beneficial for oversea vendors to maintain healthy supply of fasteners to meet the market demand when production begins to ramp up.

Interesting enough, ride share apps do not seem to have driven down the demand for vehicles. The same can be said about the increasingly large population of workers that have transitioned into working from home, reducing (or eliminating) their need for a vehicle to use for daily commutes. Most major metropolitan cities offer public transportation, however, not every city offers reliable and adequate public transportation like New York City and Boston. For those outside of major cities and for all those in less suburban cities, having access to a car creates convenience, and in many cases saves public commuting time.

One thing is certain: we are witnessing the beginning shifts into cleaner energy. Perhaps with the right incentives, environmental awareness and lowered costs, more consumers will opt for an electric vehicle over the gas-fueled comparable. For many, opting to commit to public transportation is for environmental concerns. Not owning a gas-fueled vehicle reduces their overall carbon footprint and the overall contribution to the emissions released by cars. Considering affordability and the reduction in environmental hazards, electric vehicles are predicted to become the favored option for consumers. ■

## Specialist Supplier in Commercial Construction Applications Triangle Fastener Corporation

by Dean Tseng, Fastener World



Triangle Fastener was founded in 1977 in Pittsburgh Pennsylvania. From the very beginning, it focused on distributing various standard and specialty fasteners to the commercial construction industry. Purchased by SFS in 2019 and now a member of the SFS group while operating under the Triangle Fastener Corporation (TFC) brand, the company now provides customers with even more value.

### Purchase Assorted Construction Fasteners in One Place

The company provides fasteners used to attach various framing systems, steel decking, and cladding materials, as well as those for interior construction like steel framing, sheet metal, and drywall attachment. These are available in all types of head styles, drive systems, materials, and finishes including painted heads. Also available are custom types for specific applications.

### Locally-tailored Services & Engineering Support

The company strives to differ itself by developing fasteners that exceed industry standards. Each of its branches focuses on a local market to provide the best services that meet a customer's individual needs like inventory management programs, product training and job site assistance. Customers and specifiers also have free access to the TFC TECH CENTER which provides engineering assistance, application testing and support, product development, and which can be used for training.

### Light at the End of the Tunnel

On the pandemic last year, "We were very fortunate because our team members did a tremendous job in implementing procedures that allowed us to stay open in a safe manner," said Vice President Joe Stager. Some regions in the USA were more affected by shutdowns, but overall the construction industry was able to continue to operate by using safe COVID-19 protocols. "Our suppliers in the USA and Taiwan also did a wonderful job in supporting our needs during these challenging times. We expect business will continue to improve this year and into 2022. The real challenges will be meeting the demand as a result of import shipping delays."

Now with 23 locations in 13 States, Triangle Fastener will continue to invest in new and better ways to fasten various cladding materials and position itself as the industry leader. Look no further and give TFC a try! ■



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