At the speed of life.

EXIDE

Light vehicle battery solutions for every demand.



Creating the future - the Exide way:











ENERGIZING

The world is changing.

That's why we are energizing a new world.

For Exide, now is the time to release new energies to move even more into the future. Our new alignment "Energizing a new world" is designed to convey this aspiration. We want to bring change to life, face challenges together with our partners, and develop solutions for today and tomorrow. Let's create the future – the Exide way:



Innovation is the engine of technology leadership. That's why we are constantly evolving, remaining self-critical, and continue to inspire our customers.



Reliability defines our business. This applies to our products as well as our innovative development, services, and partnerships. Our responsibility does not end with our products, but starts right there.



Sustainability is an important part of our responsibility. That's why we rely on renewable energies and intelligent recycling concepts.



High Performance is the standard we set for our products and services. All our solutions are best of class. This means our customers are optimally equipped for any task.

When the demands raise the bar of expectations. We just jump even higher.

Never stop rethinking.

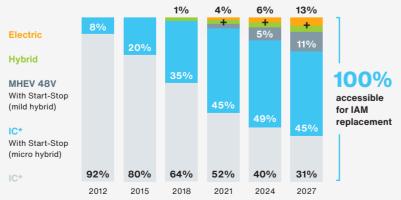
Times change constantly – and there is even one more important constant in our industry: Exide Technologies' aspiration for innovation and pushing things forward. And we prove it with our premium products. We offer one of the largest ranges of diverse batteries for a wide variety of powertrain technologies. Based on expertise in the original equipment business, we are at the forefront of delivering the most advanced solutions. The unparalleled performance in our products allows us to underline our reliability as a leading OE brand. Exide also offers a suite of professional accessories, allowing workshops to provide customers with the highest level of service.

Exploring new horizons.

The ambition for more sustainability and a greener environment has led to an irreversible trend in the evolution of alternative drive systems, thus reducing fuel consumption and CO₂ emissions. This has resulted in a rapidly increasing number of Start-Stop vehicles, which need all OE-compliant AGM and EFB batteries. The change from conventional to alternative and advanced powertrains, like hybrid or full electric, is experiencing a huge shift. As a result, registrations of electric vehicles are breaking records every year. But all alternative powertrains will need the support of lead-acid batteries, meaning that a new generation is just underway.

European car parc and changing powertrains.

- In 2021, cars with Start-Stop powertrains accounted for approximately 45% of the total car parc in Europe
- By 2024, the majority (54%) of vehicles in the car parc will feature a Start-Stop system (micro & mild hybrids)
- The number of cars with Start-Stop systems will have risen from 1% to 54% in just 15 years
- By 2027, 13% of the car parc will either be hybrid (FHEV and PHEV) or full electric (BEV), needing 12V batteries for either cranking or auxiliary functions
- 100% of the car parc will still need a 12V battery by 2027



*IC = Internal combustion engine

Source: Exide estimation, EU28+EFTA (European Free Trade Association inc: Iceland, Liechtenstein, Switzerland and Norway)

















Feature AGM EFB Premium Excell Classic

Vehicle requirements

Start-Stop powertrain	Replace Recommended OE replacement	Replace Recommended OE replacement	\otimes	\otimes	\otimes
Non Start-Stop powertrain	Unless specified by vehicle manufacturer	Extra life for conventional vehicles	Faster recharge for high equipment level	Widest range to fit al- most 100% of car parc	Cost effective for older and more basic vehicles
Regenerative braking			\otimes	\otimes	\otimes
Intensive urban use					
Power-hungry equipment					

Battery performance

CCA (cold cranking amperes)	 	 	
Charge acceptance*	 	 	
Cycle life	 	 	
Extra energy**	 	 	

^{*} Charge acceptance (in A/Ah)

^{**} Energy throughput during lifetime



Equipment DRIGINAL

Trusted by leading carmakers.

Exide has been supplying lead-acid batteries to carmakers for over 100 years. We design the most technically advanced products in the industry, and were the first to introduce Start-Stop technology to the European market in 2004. Carmakers trust the quality of our products and our commitment to excellence in manufacturing.

 $\label{prop:eq:expectation} \textbf{Exide works with leading car manufacturers, including:}$

Abarth, Alfa Romeo, Audi, Citroen, Dacia, Ferrari, Fiat, Ford, Hyundai, IVECO, Jaguar, Jeep, Kia, Lancia, Land Rover, Maserati, Mazda, Mitsubishi, Nissan, Opel, Peugeot, Piaggio, Porsche, Renault, Seat, Skoda, Suzuki, Toyota, Volkswagen, Volvo.

70% of European car brands work with Exide batteries.

Exide AGM

For toughest electrical needs of Start-Stop vehicles.

Continuous investments in R&D have allowed Exide to propose the latest innovative AGM batteries from OE to the aftermarket, too. They feature a new innovative framed grid, perfect for advanced Start-Stop systems where the battery needs to be quickly recharged through the energy provided by the regenerative braking system.





• High dynamic charge acceptance over battery lifespan



 Higher energy throughput over battery lifespan thanks to new LifeGrid® technology



· Optimized for partial state of charge operations (PSoC)



• Ideal for large cars, SUVs, vans, and vehicles with Start-Stop and power-hungry electrical equipment



· Top-level safety features and absolutely no free acid



Absorbent glass mat



Regenerative braking

consistent power and longer battery life



• Recombinant VRLA (valve regulated)



· Latest generation approved by car manufacturers



• Great car parc coverage from a limited number of SKUs



· Long shelf life



· Designed and built to endure continuous battery discharge and recharge of Start-Stop



Typical pattern of State of Charge during a journey with Start-

Sealed double security lid with degassing outlet and flame arrestor Exide unique valve regulated venting Tall plate group with high compression Negative plate Framed negative plate Positive plate New framed grid design with hightech alloy. The high-capillarity glass mat separator provides extra absorption for maximum electrolyte volume and to avoid stratification. A new innovative framed grid Exide's new grid design provides

Exide EFB

OEM experience for the aftermarket.

First invented by Exide in 2008, EFB batteries have come to play an increasingly crucial role for car manufacturers in order to reduce fuel consumption and emissions. Now Exide brings the latest OE generation to the aftermarket, featuring Carbon Boost 2.0.

Spare ORIGINAL Part

The new Exide EFB battery supports all vehicles, with and without Start-Stop systems, with high cycling requirements. When installed in cars with a Start-Stop system, Exide's new EFB battery shows an unmatched energy recovery and exceptional dynamic charge acceptance. The battery also benefits from a longer overall lifespan, when installed in cars with conventional powertrain.



EFB battery

with Carbon Boost 2.0

Conventional

Charge acceptance

Energy availability

Start-Stop system.

Exide FFB offers significant performance advantages

over a conventional battery also when fitted into a car without

Cycle life

EFB Technology



• High dynamic charge acceptance over battery lifespan



· Extra energy and extra life for vehicles with and without Start-Stop systems



· Optimised regenerative braking functionality in vehicles with Start-Stop systems - ensuring maximum fuel savings and less CO2 emissions



· High-level safety features



Optimal operation in engine compartment



3DX grid technology



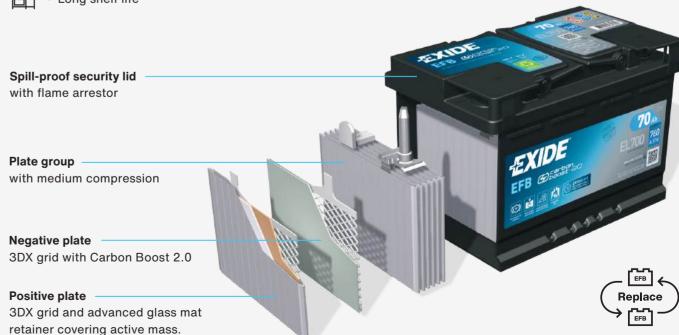
Latest generation approved by car manufacturers



· Great car parc coverage from a limited number of SKUs



· Long shelf life



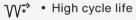
Exide Start-Stop Auxiliary

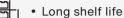
Auxiliary batteries power the electrical equipment in certain cars, as a complement to the main starter battery.





· Absorbent glass mat







• VRLA (valve regulated) for leak-proof security



Original equipment experience inside





Installation advice on top labels always equipped safely.

Exide is the first in the market to add a distinctive 'CAUTION' label on its Premium, Excell, and Classic standard flooded batteries to ensure that they are not installed into cars that are equipped with a Start-Stop system.





Battery replacement will be a breeze.

Our Online Battery Finder makes battery replacements safer. quicker, and more cost-efficient thanks to its newly integrated battery replacement instructions. Once the correct battery is identified, the tool guides

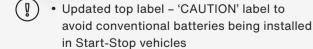


mechanics to the battery location, estimates the approximate labour time, and provides helpful information on the installation, and registration process.

Use the app or visit our website to see the Online Battery Finder: exidegroup.com/eu/en/brand/exide

Exide Excell







• 15% extra starting power



All-round battery for standard use



3DX grid technology



Original equipment experience inside

Exide Classic





· Updated top label - 'CAUTION' label to avoid conventional batteries being installed in Start-Stop vehicles



Economy solution



· Ideal for cars with basic power needs



3DX grid technology

Exide Premium

The latest Premium with Carbon Boost 2.0 now recharges up to two times faster compared to other conventional batteries, thanks to Exide's proprietary application of carbon additives on the negative plates. While battery failure remains the number one cause of car breakdowns*, fast recharging considerably reduces the risk of breakdowns by helping the battery retain a healthy state of charge for longer.



The Premium Carbon Boost battery is designed to withstand extreme temperature, powerhungry electrical equipment, and intensive urban driving.



*Source: ADAC 2019



• New recycled plastic components to reduce CO2 emissions by over 2,700 tons and to save 8 million liters of water and 1.2 million liters of crude oil every year



• Recharges up to 2 times faster compared to other conventional batteries



· Latest plate design for greater robustness and increased resistance to high temperatures



• Updated top label - 'CAUTION' label to prevent conventional batteries being installed in Start-Stop vehicles



• 30% extra starting power



· Ideal for highly equipped cars with powerful engines and demanding electrical needs



· Ideal for extreme weather and urban driving conditions



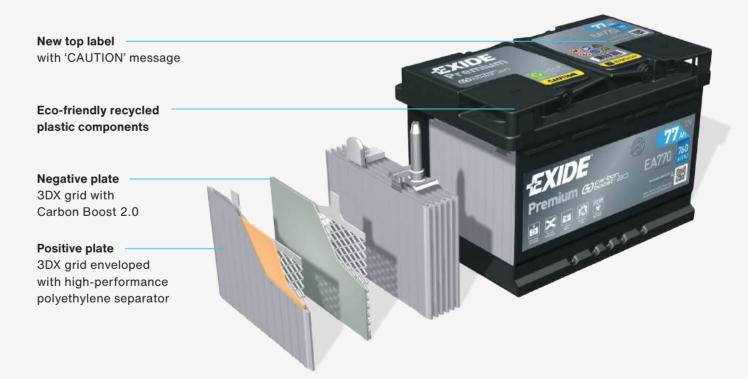
· 3DX grid technology



• Original equipment experience inside



Meets OE requirements



Good to know!

Cold weather significantly impairs battery performance. But it is during the cold season that more energy is needed for light and heating. Hot weather accelerates self-discharge, grid corrosion and active material shedding. It could lead to shorter service life if batteries are not reinforced for extreme climates. In urban environments the engine is often turned off or idles, and the electrical system may consume more power than the alternator can supply. This puts extra pressure on the battery.

Power-hungry electrical equipment, such as media players or navigation equipment, put extra pressure on the battery.

Carbon Boost 2.0

Carbon Boost® is Exide's unique recipe for carbon additives on the negative plates that ORIGINAL was first developed for Exide's Start-Stop OEM batteries. Continuous investments in R&D, tighter emissions regulations, and the increasing demands from the OEMs in regards to charge acceptance and energy availability have lead to the development of the new Carbon Boost 2.0.

Carbon Boost 2.0 uses improved carbon additives, combining an optimized surface structure with significantly better conductivity. This enables a better current flow within the battery, resulting in unmatched charge acceptance.



The plates are covered with sulfate



Sulfate is reduced due to Carbon Boost technology

It also helps to dissolve the lead sulfate deposits that usually consolidate on a battery's discharged negative plates, reducing its ability to charge back efficiently.

Exide Premium

Carbon Boost was first introduced in the aftermarket Premium range in 2014. The new Carbon Boost 2.0. brings performance to the next level.



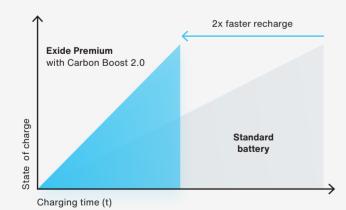




 Faster recharging (2x times faster than other conventional batteries)



• Longer lifespan (higher average state-ofcharge throughout battery life)



Lab tests show that it takes significantly less time to recharge an Exide Premium Carbon Boost battery than a standard battery under the same conditions.

Exide EFB

Exide's new EFB batteries feature Carbon Boost 2.0. with exceptional dynamic charge acceptance, offering important benefits for drivers, especially in intensive urban driving conditions.



Carbon boost: 20



• 75% more energy recovered in the same amount of time compared to older EFB



Optimized regenerative braking functionality ensuring fuel savings and reduction of CO2 emissions



· Longer overall lifespan

WLTP

Worldwide Harmonised Light Vehicle Test Procedure

Strict new EU regulations have imposed a CO2 emissions limit of 95g/km in vehicle homologation testing by 2021*. The WLTP test measures how much battery capacity is depleted in testing and converts it to equivalent fuel consumed and CO2 emitted. The battery should retain a high percentage of its initial capacity to help car makers avoid being penalized when passing certain thresholds. Since the recharging process accounts for only 8% of test duration, the battery needs to achieve the highest possible energy recovery in a short time. With Carbon Boost 2.0, the dynamic charge acceptance of EFB batteries is maximized:

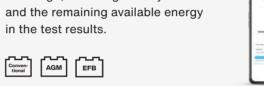
- The battery accepts 75% higher average recharging current than previous generation
- It preserves a higher capacity at the end of the test (2.5x less state-of-charge loss compared to previous generations)

Innovative workshop tools.

Exide has a comprehensive range of accessories and support. We help you test, charge, select, replace, and recycle batteries - everything workshops need to keep work in house, provide quality service, and grow profitability.

Battery Tester EBT-965P and EBTP Battery Tester program

Our advanced and easy-to-use nextgeneration tester is designed for the most reliable diagnostics of any make or type of battery. It enables preventative maintenance and ensures maximum customer satisfaction. Previous testers only measured the conductance, but the new EBT-965P also features Conductance Profiling[™], including battery health and the remaining available energy in the test results.





Standard Testers Conductance















Our EBTP Web app lets workshops analyse battery test results and give customers battery replacement options - all within five minutes. Discover the EBTP on ebtp.exidegroup.com/login

Battery Charger

Exide chargers can be used on cars, boats, motorcycles, trucks, and motorhomes and are ideal for both consumers and professionals alike.

Workshops use the device to ensure customers leave with a fully charged battery every time.











BRT-12 Battery Replacement Tool

Our Battery Replacement Tool comes pre-loaded with battery codes, and makes it easy to replace batteries and clear faults from the dashboard.



Battery Finder App

Search by car model or registration number to quickly find the right battery on the go.







Battery Finder Online

The Exide Battery Finder tool helps guide mechanics through the replacement process for passenger cars, including hybrid and electric, and light commercial vehicles. Exide offers



accessible and detailed instructions on battery location, labour time, precise guidelines on how to replace the battery, and much more!

exidegroup.com/eu/en/brand/exide

^{*}Fleet average/bonus included

Especially when you go full speed ahead.



It is enormously important to have someone by your side











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Batteries that every vehicle is keen on.

And some are even more electrified.

In any modern vehicle, a 12 volt power source is essential for a number of devices and uses:

- For all electrical vehicles types, to guarantee the functioning of driver assistance systems (ADAS), lighting, navigation, heating and conditioning, door locking, and more.
- For micro hybrid and mild hybrid, to crank the internal combustion engine (ICE) at low temperatures.
- For BEV (battery electrical vehicles), to activate and connect the high-voltage battery to the board net and the electric engine.

Plug-in hybrid 12V* (IC) (IC **1** <=400V 12V* 48V 300V 12V* 12V* Electric drive Internal combustion Internal combustion engine + electric drive engine + electric drive Propulsion (200-500km range) engine engine (50-100km range) (10-30km range) Petrol/diesel Petrol/diesel Petrol Petrol + electric MHEV (mild) FHEV BEV (Hybrid) type 12V AGM or FFR 500-800V Li-lon 150-300V Li-lon or NiMh 200-400V Li-lon (cold cranking) 12V AGM or EFB 48V Li-lon (electric drive & (electric drive & ICE boosting) 1 or 2 12V AGM or Li-lon (warm cranking -**Battery type** boosting) (auxiliary) & technology (function) 12V AGM or Li-lon 12V AGM or Li-lon 12V AGM or Li-lon 12V AGM (auxiliary) 12V AGM or EFB 12V AGM or EFB (auxiliary) (cold cranking) (cold cranking) 500-800V Li-lon 12V AGM or 200-400V Li-lon 12V AGM or EFB 60-90Ah Li-lon 2-4 kWh 8-20 kWh EFB 50-70Ah 48V Li-lon 0.5-1 kWh 12V auxiliary 20-30Ah 12V auxiliary 20-30Ah 12V auxiliary 30-45Ah **Battery size** 12V auxiliary 10-15Ah 12V auxiliary 10-15Ah 12V AGM or EFB 60-70Ah 12V AGM or EFB 60-70Ah Fiat Panda S&S Mercedes C200d Mild Hybrid Toyota Yaris Hybrid Toyota Prius Plug-in Example Tesla Model 3 BMW 320d Mild Hybrid Jeep Renegade 4xe Volvo XC60 Suzuki Vitara Strong Hybrid ΓT

Supporting the change of tomorrow.

A 12V lead-acid battery is a reliable source of power for electric vehicles. It provides the necessary energy to activate the safety relay and connect the high-voltage battery to the board net and the electric engine.

When the lead-acid battery is discharged, the car cannot be started. It keeps the entire electrical system running before the traction battery is connected and while the electric car is parked. This includes the security system, the keyless system sensors, the clock, and the memory in many of the car's computer systems.

Once on the road, the **Auxiliary battery** is the crucial back-up item to support relevant features such as power steering, brake boosting, and door locks in case of a breakdown of the main power unit.

All these exceptional features are provided within a highly safe and reliable setup with wide operational temperature windows compared to lithium-ion batteries.

When the battery comes to the end of its useful life, the entire battery can be **recycled up to almost 100%**, as it is part of a closed-loop manufacturing process and therefore has a positive effect on the carbon footprint.

Battery recommendations for the most popular BEV (battery electrical vehicles) models.

Best-fit options for selected full-electric vehicles. Please use our Online Battery Finder to discover more models and other available manufacturers.



Brand	Model	Model year from	AGM	EFB	Aux	Premium	Excell	Classic
Audi	e-Tron	2018/09	EK700					
BMW	i3	2013/08			AGM12-23			
Hyundai	Kona	2018/04		EL550		EA530	EB500	
Hyundai	loniq	2016/03				EA406	EB356	
Jaguar	I-Pace	2018/02				EA640	EB620	
Kia	Niro	2018/08		EL550		EA530	EB504, EB500	
Kia	Soul II	2014/09					EB504	
Mercedes-Benz	EQC	2019/05	EK700					
Nissan	NV200/Evalia Bus, Van	2014/07		EL550		EA530	EB500	
Nissan	Leaf	2010/11		EL550		EA456, EA530	EB454, EB500	
Peugeot	208 II	2019/06		EL600		EA640	EB620	
Renault	Kangoo	2011/10		EL700		EA770	EB740	
Renault	Zoe	2012/06		EL550		EA530	EB500	
Smart	fortwo	2010/12		EL550, EL600		EA530, EA640	EB440, EB620	
Smart	forfour	2017/05		EL600		EA640	EB620	
Tesla	Model 3	2017/01				EA456	EB454	
Tesla	Model X	2016/10					EB357	
VW	Golf VII	2014/03		EL600				
VW	ID.3	2019/11		EL550		EA530	EB500	
vw	Up	2013/07		EL550		EA530	EB440, EB500	EC400, EC440

12 13

Responsible manufacturer with recycling system.

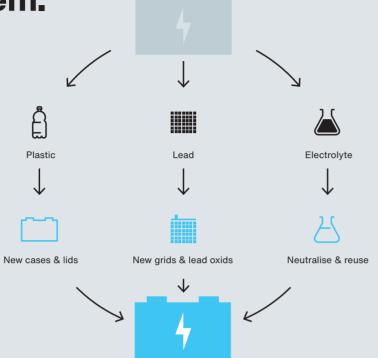
100% of a lead battery

can be recycled

990/

of all automotive lead batteries are recycled in Europe

Exide recycling facilities in Europe



Exide light vehicle batteries type list



Exide Performance				Dimer	sions		Technical characteristics			
Cod	le	Capacity Ah	CCA A (en)	Container	L (mm)	H (mm)	W (mm)	Hold down	Polarity	Terminal
AGM										
EK50	08	50	800	G34	260	173	206	B7	ETN 9	1
EK60	00	60	680	L02	242	175	190	B13	ETN 0	1
EK70	00	70	760	L03	278	175	190	B13	ETN 0	1
EK80	00	80	800	L04	315	175	190	B13	ETN 0	1
EK95	50	95	850	L05	353	175	190	B13	ETN 0	1
EK10	50	105	950	L06	392	175	190	B13	ETN 0	1



E	FB									
	EL550	55	540	L01	207	175	190	B13	ETN 0	1
	EL600	60	640	L02	242	175	190	B13	ETN 0	1
	EL604	60	520	D23	230	173	222	В0	ETN 0	1
	EL605	60	520	D23	230	173	222	В0	ETN 1	1
	EL652	65	650	LB3	278	175	175	B13	ETN 0	1
	EL700	70	760	L03	278	175	190	B13	ETN 0	1
	EL752	75	730	LB4	315	175	175	B13	ETN 0	1
	EL754	75	750	D26	270	173	222	В0	ETN 0	1
	EL800	80	800	L04	315	175	190	B13	ETN 0	1
	EL954	95	800	D31	306	173	222	Korean B1	ETN 0	1
	EL955	95	800	D31	306	173	222	Korean B1	ETN 1	1
	EL1000	100	900	L05	353	175	190	B13	ETN 0	1
	EL1050	105	950	L06	392	175	190	B13	ETN 0	1



Auxiliary									
EK091	9	120	C54	150	90	105	В0	ETN 1	M12
EK131	13	200	C56	150	90	145	В0	ETN 1	M04
EK143	14	80	C76	150	100	100	В0	ETN 3	Screwed/lug
EK151	15	200	C56	150	90	145	В0	ETN 1	Small taper post





Premium

EA406	40	350	B19	187	136	220	B1	ETN 0	JIS taper post + adapter
EA456	45	390	B24	237	136	227	B1	ETN 0	3 + adapter
EA472	47	450	LB1	207	175	175	B13	ETN 0	1
EA530	53	540	L01	207	175	190	B13	ETN 0	1
EA612	61	600	LB2	242	175	175	B13	ETN 0	1
EA640	64	640	L02	242	175	190	B13	ETN 0	1
EA654	65	580	D23	230	173	222	Korean B1	ETN 0	1
EA722	72	720	LB3	278	175	175	B13	ETN 0	1
EA754	75	630	D26	270	173	222	Korean B1+B6	ETN 0	1
EA770	77	760	L03	278	175	190	B13	ETN 0	1
EA852	85	800	LB4	315	175	175	B13	ETN 0	1
EA900	90	720	L04	315	175	190	B13	ETN 0	1
EA954	95	800	D31	306	173	222	Korean B1	ETN 0	1
EA955	95	800	D31	306	173	222	Korean B1	ETN 1	1
EA1000	100	900	L05	353	175	190	B13	ETN 0	1
EA1050	105	850	LH4	315	175	205	B13	ETN 0	1



Excell

Excell									
EB356	35	240	B19	187	127	220	В0	ETN 0	3
EB356A	35	240	B19	187	136	220	Korean B1 Long	ETN 0	3
EB357	35	240	B19	187	127	220	В0	ETN 1	3
EB440	44	400	L00	175	175	190	B13	ETN 0	1
EB442	44	420	LB1	207	175	175	B13	ETN 0	1
EB450	45	330	E02	220	135	225	B1	ETN 0	1
EB451	45	330	E02	220	135	225	B1	ETN 1	1
EB454	45	330	B24	237	127	227	В0	ETN 0	1
EB455	45	330	B24	237	127	227	В0	ETN 1	1
EB456	45	330	B24	237	127	227	В0	ETN 0	3
EB457	45	330	B24	237	127	227	В0	ETN 1	3
EB500	50	450	L01	207	175	190	B13	ETN 0	1
EB501	50	450	L01	207	175	190	B13	ETN 1	1
EB504	50	360	D20	200	173	222	Korean B1	ETN 0	1
EB558	55	620	575	230	180	186	В7	ETN 1	SAE S side Terminal 3/8"
EB602	60	540	LB2	242	175	175	B13	ETN 0	1
EB604	60	480	D23	230	173	222	Korean B1	ETN 0	1
EB605	60	480	D23	230	173	222	Korean B1	ETN 1	1
EB620	62	540	L02	242	175	190	B13	ETN 0	1
EB621	62	540	L02	242	175	190	B13	ETN 1	1
EB704	70	540	D26	270	173	222	Korean B1+B6	ETN 0	1
EB705	70	540	D26	270	173	222	Korean B1+B6	ETN 1	1
EB708	70	740	G78	260	180	186	В7	ETN 1	SAE S side Terminal 3/8"
EB712	71	670	LB3	278	175	175	B13	ETN 0	1
EB740	74	680	L03	278	175	190	B13	ETN 0	1
EB741	74	680	L03	278	175	190	B13	ETN 1	1
EB800	80	640	L04	315	175	190	B13	ETN 0	1
EB802	80	700	LB4	315	175	175	B13	ETN 0	1
EB852	85	760	LB5	353	175	175	B13	ETN 0	1
EB858	85	800	G65	306	192	192	B1	ETN 1	EN taper post
EB950	95	800	L05	353	175	190	B13	ETN 0	1
EB954	95	760	D31	306	173	222	Korean B1	ETN 0	1
EB955	95	760	D31	306	173	222	Korean B1	ETN 1	1
EB1000	100	720	LH4	315	175	205	B13	ETN 0	1
EB1100	110	850	L06	392	175	190	B13	ETN 0	1



Classic

ı	EC400	40	320	L00	175	175	190	B13	ETN 0	1
	EC440	44	360	L01	207	175	190	B13	ETN 0	1
	EC550	55	460	L02	242	175	190	B13	ETN 0	1
	EC700	70	640	L03	278	175	190	B13	ETN 0	1
	EC900	90	720	L05	353	175	190	B13	ETN 0	1

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