

MiTo Battery Guide

By now you will know that your MiTo needs a good battery charge to avoid both erroneous and genuine issues. From small but occasionally worrying warning lights to major issues such as power steering, many components on the MiTo need a strong voltage from the battery, and as most of our MiTos start to get over three or four years old, a new battery is something you should be considering.

But the question is, what battery do you need?



If you need spark plugs, you can just look up which ones you need in the back of your owner's manual (or look in the Useful Info section of our website to download the owner's manual for your car). But the section in the owners' manual for replacing the battery simply states "replace the battery with another original battery with the same specifications". Not very helpful, particularly if your MiTo is already fitted with what is clearly a replacement brand battery.

So this article aims to give you the information you need to choose a new battery for your MiTo. We do not recommend any specific brand, though we do give some examples for cost comparison and we've highlighted which ones we think are the best buy. But like all components that are important to the MiTo and, even more importantly, your safety, choose a reputable brand with a long history and recognise that quality sometimes costs money and a brand

you have never heard of are unlikely to give you years of trouble-free motoring. Though I will share a little information about certain brands that may surprise you.

Battery Basics

Let's start with some basics about car batteries. Broadly, in modern cars, there are three types of battery. The lead-acid battery and the EFB battery (both called "wet" or "flooded" batteries) and the AGM battery (a "dry" battery).

[Warning: nerd paragraph]
The lead-acid battery has been in use since the late 19th century, and consists of cells of two plates, one being made of lead and the other of lead dioxide. Each cell can produce about 2-volts of energy, so most car batteries have six cells making them a 12-volt battery. The plates are submerged in sulphuric acid that acts as a catalyst to trigger a reaction on the lead dioxide plates that creates ions and lead sulphate. Those ions then react to the adjacent plate to produce hydrogen and lead sulphate which results in a chemical reaction to produce electrons. Those electrons race around the plates and generate

electricity which flows out of the battery terminals. By applying the correct current to the battery (charging it) lead and lead dioxide forms on the plates so you can keep using the battery for several years.

Lead-acid batteries, having been in use for years, are well-established and were of course fitted to all early MiTos before stop/start was introduced. Wet batteries typically arrive charged and ready to use, and should be maintenance-free.

EFB batteries, or "Enhanced Flooded Batteries" basically follow the same structure and process



that is used in standard lead-acid batteries, but they have been improved to more effectively cope with the increased demands of a car with stop/start (when the MiTo stops the engine in traffic, your lights, radio and air-conditioning keep working so are a drain on your battery, then your battery needs to start the engine to move on). EFB batteries typically have thicker lead plates and are equipped with forms of polyfleece linings to those lead plates. Over time, the lead plates in a standard lead-acid battery degrade (or sulphate) and become less effective, so



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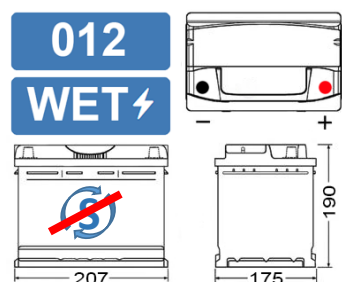
the polyfleece covering and thicker plates in an EFB battery enables more punishment over longer periods, so in theory last longer than standard lead-acid batteries.

AGM batteries, or “Absorbent Glass Mat” batteries contain a special glass mat separator between the battery plates. This material can be saturated with electrolyte and therefore store it in a “dry” or suspended state rather than in liquid form. AGM batteries were developed for use by the military in the 1980s, though in recent years some car manufacturers have started fitting them as standard in modern road cars. AGM batteries last longer and can run many more cycles of stop/start than both lead acid and EFB batteries, but that is also reflected in the price.

MiToS without stop/start can be fitted with a standard lead-acid battery. MiToS with stop/start were fitted with an EFB battery from the factory and must be fitted with either an EFB or AGM battery.

Battery Size

All car batteries have to physically fit a given maximum space, and that can often vary through the years of production of a car. But the MiTo has always been relatively consistent. Car batteries are measured, pretty obviously, by length, width and height, based on the space in the engine bay and the standard size of the battery tray. But there are also less-common battery configurations with the positive and neg-



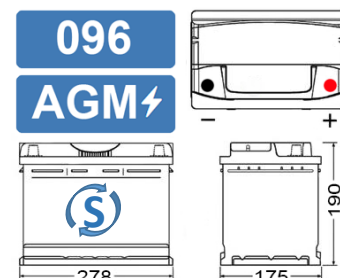
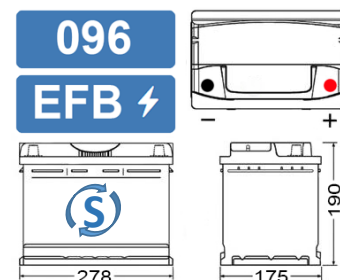
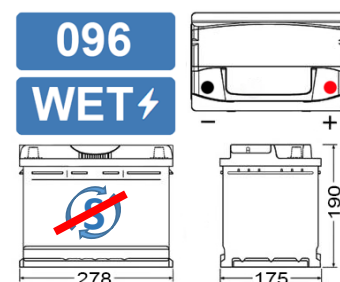
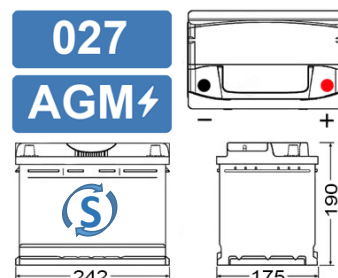
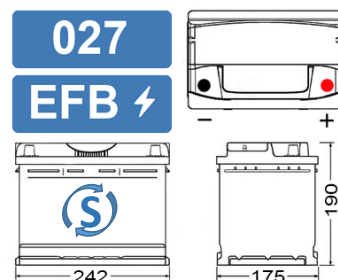
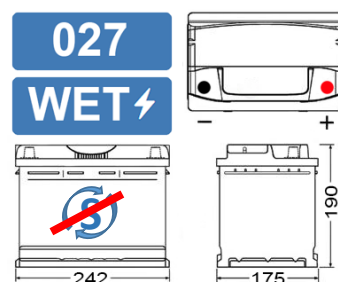
ative terminals the wrong way round for the MiTo. So it is good practice to lift your bonnet, measure your current battery size and take a picture of it for reference whilst you look for a new battery.

There are three sizes of battery used in the MiTo, with the majority having an ‘027’ type which measures 242mm (l) x 175mm (w) x 190mm (h). Some of the 1.6 diesel MiToS have a slightly longer ‘096’ type battery measuring 278mm long. If you have a non-turbo petrol MiTo or an early 120/155TB, there is a chance that your MiTo may have the smaller length ‘012’ type battery (207mm long).

Most batteries will have a type designation label or sticker (‘012’, ‘027’ or ‘096’) so for simplicity you should stay with that size, though there is a larger selection of suitable batteries in the more common ‘027’ (242mm) size if there are good deals to be had. But you should only buy a battery with at least (or more) power than your existing battery.

Obviously, the battery tray allows up to 278mm length for the larger ‘096’ batteries, but there should be a detachable plastic retainer for smaller batteries, so if your MiTo has the 278mm battery this will have been removed so it is likely simpler just to stay with an ‘096’.

In truth, the physical size of the battery makes little difference other than ensuring it is securely attached to your MiTo with the hold-down strap. So choose the battery based on getting the most power for your money, coupled with the guarantee that comes with it. But be



careful not to trust online sites where you have to enter your registration or model of MiTo for it to tell you what battery size you need - I tested dozens of these and almost all of them produced incorrect results.

Finally, a quick word about Halfords battery size coding; the industry standard of ‘027’ for 242mm seems to have been needlessly re-invented at Halfords. Instead, they use the code “013” for no apparent rea-

son, whereas every other outlet manage to sell the exact same batteries with the correct coding. Halfords still, inexplicably, use the ‘012’ and ‘096’ codes.

Battery Power

The power and longevity of car batteries is graded in Amp Hour (Ah, e.g. 60Ah) ratings. This is a common grade across all car batteries to help people understand how long a battery would last if it was not charged. But



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batteries are also graded by Cold Cranking Amps (CCA, but often just labelled as A e.g. 540A) which is the amount of power they have to start the engine in cold weather. For both grades, the higher the better (and more expensive).

Amp Hour ratings can be complicated to understand for any given vehicle and will vary significantly based on the kind of use the vehicle has. But a battery with, say, 60Ah, can produce 60 amps for one hour, 6 amps for ten hours, 0.6 amps for a hundred hours and so on. A typical car like a MiTo might draw perhaps 0.03 amps per hour just sitting switched off, so a battery with a good Amp Hour rating will last a few months without charge (e.g. a 60Ah battery drawing 0.03 amps should, in theory, last 2,000 hours or 83 days). But of course most of our cars get used often so receive charge to maintain them when the engine is running.



The Cold Cranking Amps (CCA) rating indicates how many amps a 12v car battery can deliver to start an engine at 0°F (-18°C) for 30 seconds without dropping below 7.2 volts. Most low compression MiTos (e.g. 1.4) will start fine in the UK winters with over 400 amps, though Alfa Romeo typically installed at least 450A/CCA batteries from the factory. Higher compression (e.g. 1.6 diesels) need higher.

In markets such as Denmark this number is much more important, but as more and more MiTos adopted stop/start it became more common to see 540A, 560A and 640A ratings as

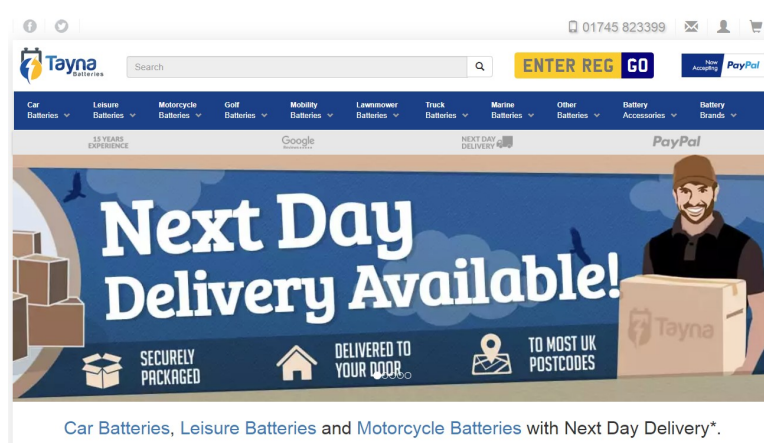
a matter of course. If you live further up North or in Scotland, pay a little more attention to this rating as even though your MiTo may only need 400A, an extra hundred or so more amps for cold starting could make your life that little easier for half the year.

Brands

Like many parts for your car, there can be brand snobbery about batteries. In truth, as long as the battery is of a reputable manufacturer with good standing and comes with a good guarantee then the make of battery is not hugely important for the MiTo. The original batteries installed on FCA vehicles are from Exide, a USA-based manufacturer with a global footprint, and in many of the battery sizes the Exide batteries represent the best buy for the MiTo. German batteries from Varta and Bosch



are good quality as are some UK-based manufacturers such as Numax (Lucas batteries now also being made by Numax). Go into any Halfords store and you'll have two choices of either the Japanese Yuasa or the Halfords own-brand (which are actually re-packaged Yuasa batteries, so



The screenshot shows the Tayna website with a navigation menu for various battery types: Car Batteries, Leisure Batteries, Motorcycle Batteries, Golf Batteries, Mobility Batteries, Lawnmower Batteries, Truck Batteries, Marine Batteries, Other Batteries, Battery Accessories, and Battery Brands. A prominent banner advertises 'Next Day Delivery Available!' with icons for 'SECURELY PACKAGED', 'DELIVERED TO YOUR DOOR', and 'TO MOST UK POSTCODES'. A PayPal logo is also visible.

really only one choice!). Buy a RAC-branded battery from the RAC and it's actually a re-packaged Varta, just more expensive. Visit any ATS Euromaster, KwikFit or National Tyres and Autocare centres and your option will be a Platinum battery.

Fundamentally, your decision is likely to come down to which brand offers the most power in the correct size for the least amount of money. And your only other consideration should be the guarantee that is offered which, hopefully, will be a good sign of both longevity and reputation.

Where to buy

Buying a car battery normally comes down to three options: buying online (e.g. tayna.co.uk), buying at a local service/MOT location (e.g. KwikFit, ATS) or buying from a local motor factors

(e.g. Halfords). Of course, you could buy from your local Alfa Romeo dealer if you're happy to buy an Exide battery for twice the price that you can get one anywhere else.

It is worth mentioning that one of the most costly places to buy a battery seems to be at a local service/MOT station. I visited my local ATS Euromaster, KwikFit and National Tyres centres for comparison (politely pretending I knew nothing about my odd little Italian car or batteries in general) and I was surprised that all of them sold the (very good) Platinum batteries, and without exception pushed me towards their most expensive AGM batteries which were significantly higher cost than could be found from other outlets and manufacturers in the UK. All offered an all-inclusive



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price with fitting, but even without this service the pricing was very expensive.

Halfords pricing is not too bad, though again I visited a few Halfords stores along with various local independent motor factors in my area who sell the same Yuasa batteries as Halfords and the local independent prices were overwhelmingly less than the Halfords prices (though of course AROC members can receive 10% discount at Halfords). So give your local motorist shops a chance before diving straight to your keyboard or your local Halfords. Outlets such as Euro Car Parts, GSF Car Parts and Car Parts 4 Less have hugely inflated battery prices to cover their never-ending discount codes of 50% or 60% online so it's often worth checking those sites as, occasionally, they have realistically

priced batteries which, with up to 60% off, can be the cheapest price bar far. But never buy from those sellers without a discount code as all their prices are inflated to cater for discounts at the checkout.

Without question though, the most expensive places to buy your battery seem to be the AA and the RAC, both charging significantly more than can be obtained anywhere else, though I suspect that simply plays to the immediacy of a poor soul who needs a battery from a patrol who has been called to a dead battery.

If you are confident changing your battery yourself, buying online can often achieve the best price, but take a little time to check who you are buying from. Having a 4 or 5 year guarantee on a battery has little value unless you've first ascertained what you need to do if you have a

problem. Reputable online sellers such as tayna.co.uk have real people to speak to who know about batteries; eBay sellers who bought a job-lot of unbranded batteries may be less useful in the event of a guarantee issue.

Changing your battery

Actually changing your battery is a simple process that you should not be afraid of. That said, there are some important points to mention, primarily for your safety. Always disconnect the negative terminal of the battery first and place the battery connector safely away (I always pop it in a small Tupperware container so it doesn't touch anything). The car is earthed with the negative terminal, so if you disconnect the positive first you could touch the car with a spanner and cause a short, so always disconnect the negative

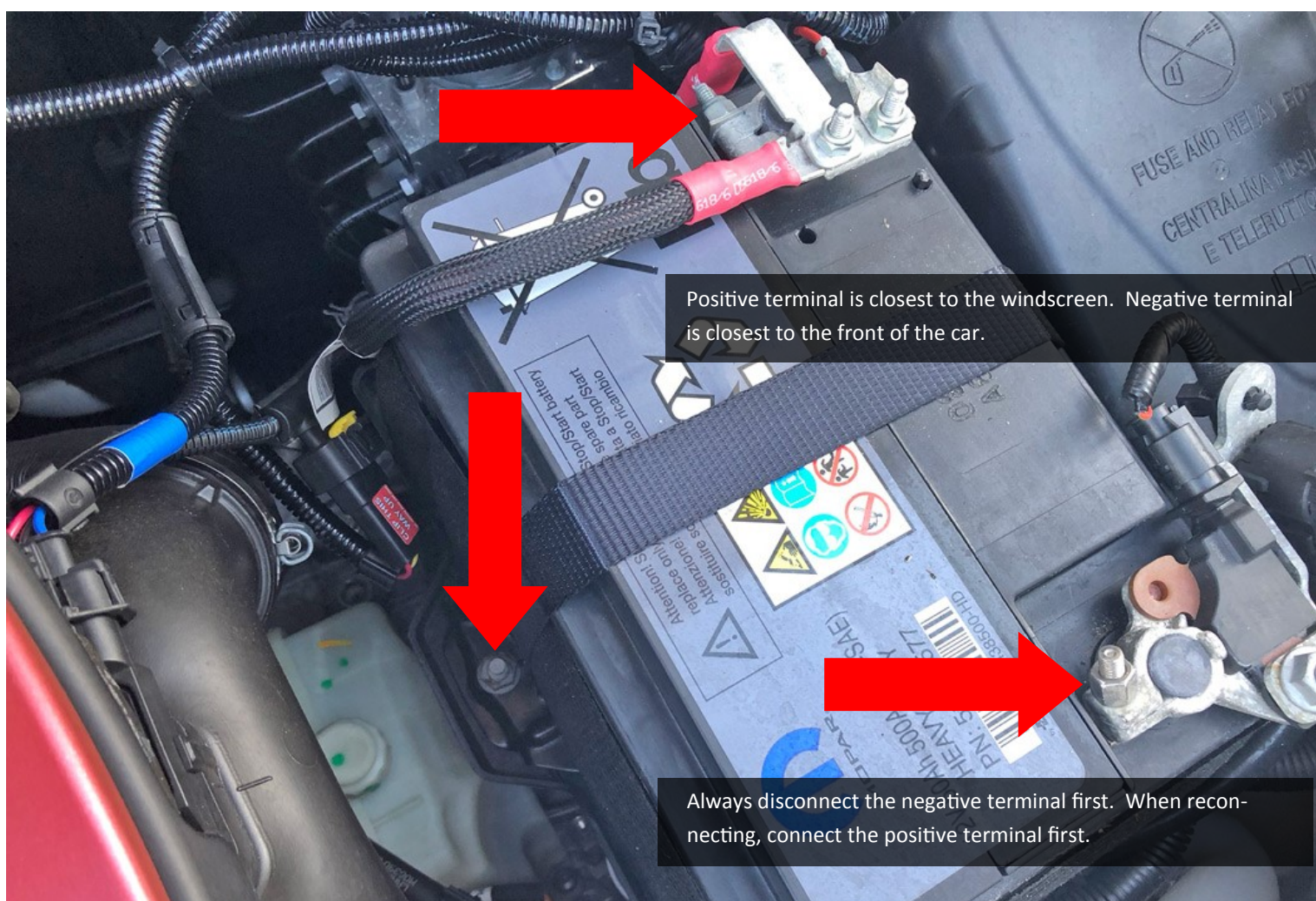
terminal before the positive.

Never, ever allow a spanner or any metal object to touch both the positive and negative terminals. This would be extremely hazardous.

When re-connecting your new battery, connect the positive terminal first, then the negative.

There are only three bolts to undo to change your battery: the negative terminal, the positive terminal and the bolt for the hold-down strap. However, whilst a couple of spanners will work for the terminals, you will need a socket set with an extension long enough to reach down to the base of the battery to release the strap, so check you have the right length of tool before ordering a new battery.

If your MiTo has its' original stereo, you will not need to re-enter a radio code. This only happens if you have fitted a different head unit.



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The MiTo can have one of three different physical sizes of battery: the '012' type which is 207mm long, the '027' type which is 242mm long, or the '096' type which is 278mm long. All types are 175mm wide and 190mm tall.

Your existing battery will likely have the '012', '027' or '096' designation written on it, but you can check by measuring your battery. For simplicity, stay with

the same size battery as your existing one when choosing a new battery.

If your MiTo does not have the stop/start feature, you may fit an appropriately sized WET battery from the first page. If your MiTo does have the stop/start feature (even if it does not appear to work) you must fit the correctly sized EFB or AGM battery from the second page. EFB batteries were fitted to stop/

start MiTos by the factory and are more than adequate for the MiTo, however, newer technology in AGM batteries can deliver benefits albeit at a premium.

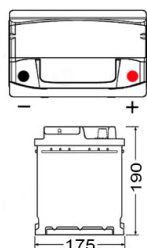
Online sites such as tayna.co.uk provide good search facilities and extremely competitive prices, but do not use online site search facilities using your registration or MiTo model as a criteria - almost all sites produce incorrect results.

Simply identify your battery size ('012', '027' or '096') then decide on the best performance and guarantee available within your budget.

Once you have decided on your battery, search and contact all outlets with your battery information to obtain the best possible price.

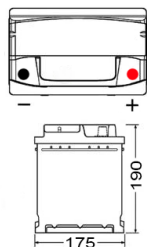
Prices and notes are only for comparison and correct at November 2018 so will vary.

012
WET



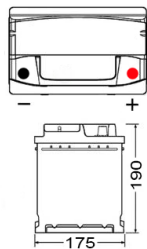
	Exide EB500 079SE	BEST DEAL Exide EA530 Premium	Varta 012 C22 Blue Dynamic	Bosch S4 002	Halfords HCB012	Yuasa YBX5012
Ah	50	53	52	52	50	52
CCA (A)	450	540	470	470	440	480
Guarantee	3 years	4 years	4 years	4 years	4 years	5 years
Price Guide	£50	£55	£55	£60	£85	£75
Notes	£96 at Euro Car Parts	£81 at Car Parts 4 Less		£135 at Euro Car Parts £113 at The RAC	Re-packaged Yuasa YBX3012 (available for £54 elsewhere)	In Halfords as HSB012 for £103

027
WET



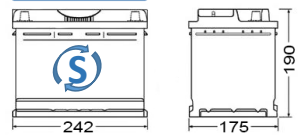






	BEST DEAL Exide EB620 Excell	Numax 027	Varta 027 D15 Silver Dynamic	Bosch S5 005	Halfords HCB013	Yuasa YBX5027
Ah	62	60	63	63	60	62
CCA (A)	540	540	610	610	540	620
Guarantee	3 years	3 years	5 years	5 years	4 years	5 years
Price Guide	£50	£55	£70	£79	£92	£79
Notes	£119 at Euro Car Parts		Also as RAC003 (re- packaged) from the RAC for £155 fitted	£166 at Euro Car Parts £145 at RAC	Re-packaged Yuasa YBX3027 (available for £66 elsewhere)	In Halfords as HSB013 for £110








096
WET

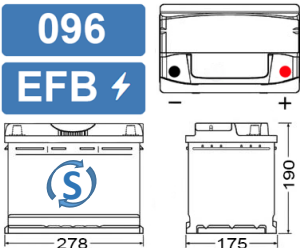







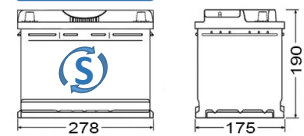






	BEST DEAL Exide EA770 067TE	Bosch S5 008	Varta E44 Silver Dynamic	Lucas LS096 Supreme	Halfords HCB096	Yuasa YBX5096
Ah	77	77	77	78	75	80
CCA (A)	760	780	780	780	680	760
Guarantee	4 years	5 years	4 years	4 years	4 years	5 years
Price Guide	£69	£87	£80	£78	£101	£80
Notes	£174 at Euro Car Parts	£129 at Car Parts 4 Less £198 at Euro Car Parts	Also as RAC002 (re- packaged) from the RAC for £178 fitted		Re-packaged Yuasa YBX3096 available for £70 elsewhere	In Halfords as HSB096 for £120

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027 EFB ⚡ 						
	BEST DEAL Exide 027 EL600 EFB	Varta D53 Start-Stop EFB	Bosch S4 E05	Halfords EFB013	Yuasa YBX7027 EFB Start Stop	Enduroline 027 EFB
	Ah	60	60	60	60	60
	CCA (A)	640	560	560	560	640
	Guarantee	3 years	4 years	4 years	4 years	4 years
	Price Guide	£85	£95	£98	£124	£87
	Notes	£250 at Euro Car Parts		£212 at RAC £260 at Euro Car Parts	Re-packaged Yuasa YBX7027	£195 at The AA £220 at GSF Car Parts

027 AGM ⚡ 						
	BEST DEAL Lucas LF027 Fusion AGM	Exide EK600 027 AGM	Varta D62 Start-Stop Plus 027 AGM	Bosch S5 A05 AGM	Yuasa YBX9027 AGM	Platinum AGM027E
	Ah	60	60	60	60	60
	CCA (A)	680	680	680	680	680
	Guarantee	4 years	3 years	4 years	5 years	3 years
	Price Guide	£90	£115	£125	£140	£152
	Notes		£299 at Euro Car Parts		£234 at The RAC	£115 at Halfords £152 at KwikFit £175 at ATS Inc fitting

<div><div>096</div><div>EFB ⚡</div><div></div></div>						
	<div><div>BEST DEAL</div><div>Yuasa YBX7096</div></div>	Exide EL700 096 EFB	Varta E45 Start-Stop EFB 096	Bosch S4 E08 096 EFB	Enduroline 096 EFB	
	Ah	70	70	70	70	70
	CCA (A)	650	720	650	650	720
	Guarantee	4 years	3 years	4 years	4 years	4 years
	Price Guide	£92	£97	£107	£109	£99
	Notes	In Halfords for £97	£176 at Euro Car Parts		£218 at RAC £280 at Euro Car Parts	

096 AGM ⚡ 						
	BEST DEAL Exide EK700 096 AGM	Varta E39 Start-Stop Plus 096 AGM	Bosch S5 A08 096 AGM	Halfords 096AGM	Yuasa YBX9096	Lucas LF096 Fusion AGM
	Ah	70	77	70	70	70
	CCA (A)	760	760	760	760	760
	Guarantee	3 years	4 years	5 years	4 years	4 years
	Price Guide	£116	£133	£140	£157	£150
	Notes	£292 at the RAC £299 at Euro Car Parts		£329 at Euro Car Parts £260 at the RAC	Re-packaged Yuasa YBX9096	Made by Numax