



Universal

Specialist in Rotating Electrics





TECHNICAL BULLETIN 009

Cross references, burn outs, explosions and stop start technology.



O.E numbers

We are often asked to cross reference part numbers from the original manufacturers to one of our own. Obviously having the right O.E number is critical, however we often find that with VAG numbers the last digit or two is left off, possibly as they are letters and not numbers. Below are a couple of examples where the end letter(s) can make all the difference!

 <p>UNA1284 ALTERNATOR 12 V / 120 A Internal Regulated Alternator</p> <p>Price & Availability: Please call</p> <p>Also includes VET O&M core with availability. Click here</p> <p>Enquire about this Product</p> <p>View a trade account with Universal</p>	<p>PRODUCT SEARCH Enter your part number and press enter: 038903018Q e.g. 128043 or 128043</p> <p>Number of parts included in currently viewing: 1</p> <p>Catalogue Downloads Click here</p> <p>LATEST NEWS Latest news information and offers from Universal</p>
 <p>UNA1529 ALTERNATOR 12 V / 90 A Internal Regulated Alternator</p> <p>Price & Availability: Please call</p> <p>Also includes VET O&M core with availability. Click here</p> <p>Enquire about this Product</p> <p>View a trade account with Universal</p>	<p>PRODUCT SEARCH Enter your part number and press enter: 038903018 e.g. 128043 or 128043</p> <p>Number of parts included in currently viewing: 1</p> <p>Catalogue Downloads Click here</p> <p>LATEST NEWS Latest news information and offers from Universal</p>

O.E. Part number: **038903018Q**
x-ref to UNA1284

O.E. Part number: **038903018**
x-ref to UNA1529

Burnt out and exploded starters

With starter motors getting smaller we are seeing a large number of old units coming in either burnt out or "exploded" due to running in mesh. Here is a brief explanation of the two conditions.

1) **Burnt out:** This generally occurs due to a poor starting or fuel starved vehicle, where the unit has been excessively cranked. This causes the components to become over heated and burn out, melt and or become distorted. This is **NOT** a fault of the starter, but simply the unit has been over-worked causing damage. Generally a very distinctive burnt smell accompanies the damage.

Here the starter has been excessively cranked causing the insulation around the field coils to melt, the brush box to break and the armature to overheat and discolour.



2) **Exploded!** Here the feed is maintained to the starter, even when the engine is running. This is normally down to a faulty switch or wiring fault. Centrifugal force eventually blows the starter apart. Again this is clearly **NOT** a starter fault or a warranty issue.



Unit has been run in mesh and has literally exploded due to running at engine speed. The centrifugal force has simply blown the starter apart.

Stop start starters motors: what really is the difference?

So the starter motor in it's current form has been around for many years, so how can it be improved to cope with the rigours of stop/start technology? Well firstly the power or torque is uprated via a number of improvements, such as better gearing through the planetary gears, upgraded and strengthened commutator and bearings strengthened to cope with the heavy loading. The most visible difference however is the brush holder which often goes from the standard four brush set up to six. This not only increases the power but also the life of the starter.

Despite all this, due to the huge workload a stop/start unit may go through, we do expect a relatively short life expectancy on these units, judging by the large number of units being sold.

Bosch stop/start brush holder with six brushes.



The most important point to remember is: If the fault that caused the starter motor to fail in the first place isn't rectified, exactly the same may happen to the replacement unit.