TECH BULLETIN

9/3/2023

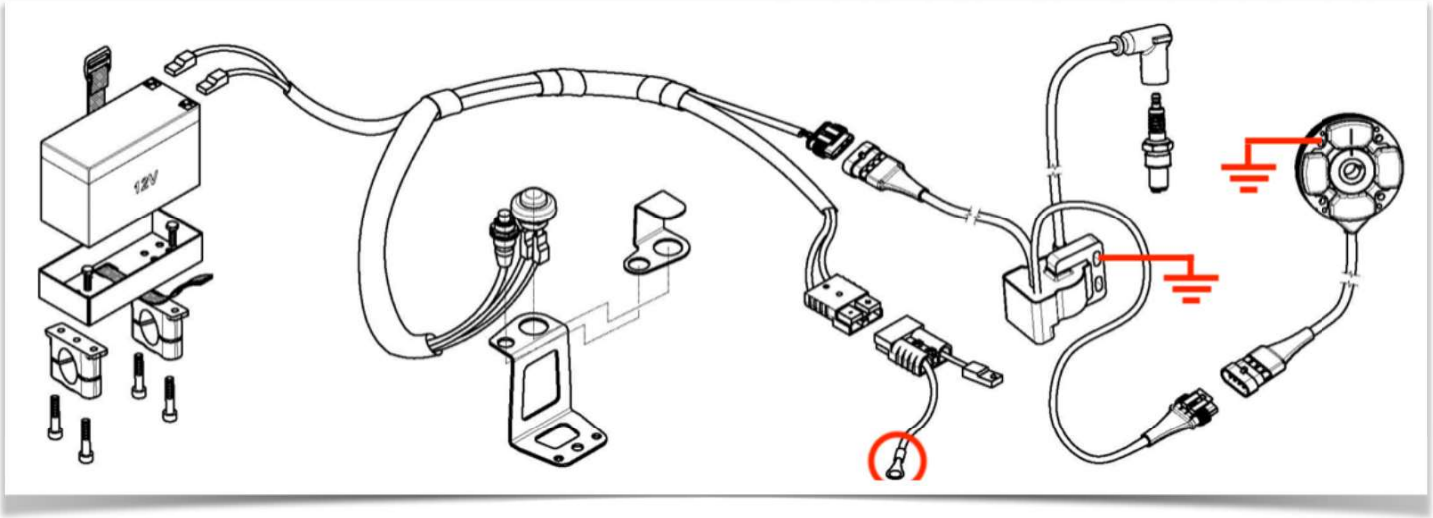
X30 & KA100 Coil Earth Connection

On rare occasions we have seen coils from customers that have burnt out seemingly with no explanation, recently we learned the cause for this failure is the result of an unsteady connection between the negative (-) pole of the battery and the starter motor body. The unsteady connection is generally between the ground eyelet and the starter motor or within the big red connector.

When the Start button is pushed the large current (80A approx.) feeding the starter motor passes from the battery to the button, then to the terminal in the red connector, then to the starter motor wire for the "+", through the starter motor body then to the eyelet (circled in red) and the crankcase (ground).

If the ground connection "-" is weak, the 80A current cannot pass fully through the eyelet from the starter motor, so the current looks for an alternative path. In the case it finds its way to the coil the circuit board inside cannot tolerate such high current so a component burns out immediately when the Start button is pushed.

To avoid this situation check that the eyelet (circled in red) is firmly fixed directly under one of the screws mounting the starter motor contacting the metal case. Also check the terminals inside the red connector are clean and all crimps/connections are making firm contact, this check should be performed regularly as routine maintenance. As this type of failure is not a fault of the coil it is not something that can be claimed as a warranty issue.



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