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Identifying unmarked wires for 12 lead dual voltage motor to Delta – High Voltage connection

1. You require a multimeter, a battery and some wires.
2. With multimeter in continuity mode identify the 6 pairs of coils
3. Mark them **1-2,3-4,5-6,7-8,9-10,11-12** temporarily
4. Now you need to identify the group coils.
5. Connect +ve of battery to wire marked with **1**. Connect multimeter in appropriate range in dc voltage measuring mode to **3-4**. Touch the –ve of battery to the wire marked with **2**. If you could see +ve deflection observe the range. If you observe –ve deflection swap multimeter probes in **3-4**. Try connecting multimeter with rest of the pairs (**5-6, 7-8, 9-10, and 11-12**) and observe the maximum voltage deflection. The wires which have maximum +ve deflection is the group coil of **1-2**. For example, if **3-4** has maximum deflection then **1-2** and **3-4** are one coil group. Identify rest of the **2** sets with the above method.
6. Now you need to make the group coils to make them suitable for high voltage delta connection with proper polarity.
7. As you have identified coil groups **1-2** and **3-4** in step 5. Connect +ve of battery to **1**. Connect multimeter +ve probe to **3** and –ve probe to **4**. Touch –ve of battery to **2**. Observe the deflection. If deflection is +ve then mark **1S** (Starting), **2E** (Ending) and mark **3E** (Ending), **4S** (Starting). For high voltage

delta connection tie **2-3**. Now you have got coil for a phase with lead **1** as starting and **4** as ending. If deflection is -ve then mark **1S** (Starting), **2E** (Ending) and mark **3E** (Starting), **4S** (Ending). For high voltage delta connection tie **2E-4E**. Now you have got coil for a phase with lead **1** as starting and **3** as ending.

8. Proceed with the step 7 for rest of the coils and identify 3 groups of coils.
9. Now you have got 3 sets of coils with six wires. Do the same exercise as mentioned in step 7 to identify starting and ending of coils and connect in delta as usual.