TAKING DATA ON FORM-WOUND MOTORS

By:
Manuel "Manny" Garcia, Jr.
Taking accurate data allows the coil manufacturer:

“TO MAKE THE COILS RIGHT THE FIRST TIME.”
# Nameplate Data Information

<table>
<thead>
<tr>
<th>Customer:</th>
<th>Customer Job Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>Purchase Order #:</td>
</tr>
<tr>
<td>City:</td>
<td></td>
</tr>
<tr>
<td>State:</td>
<td>Zip:</td>
</tr>
<tr>
<td>Customer Contact:</td>
<td>Phone:</td>
</tr>
</tbody>
</table>

## Motor/Generator

<table>
<thead>
<tr>
<th>Manufacturer:</th>
<th>HP/KW:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed (R.P.M.):</td>
<td>Model:</td>
</tr>
<tr>
<td>Voltage:</td>
<td>Phases:</td>
</tr>
<tr>
<td>Current (Amps):</td>
<td>SN:</td>
</tr>
<tr>
<td>Frame:</td>
<td>Hz:</td>
</tr>
<tr>
<td>Type:</td>
<td>Temp rise:</td>
</tr>
</tbody>
</table>
MEASURING TOOLS REQUIRED

The tools require to take accurate data on form-wound coils include:

- Steel ruler (12 inch or 300mm)
- Steel ruler (3 foot or 1 meter)
- Measuring tape
- A combination square (12 inch)
- Adjustable parallels (Starrett S154LZ)
- Vernier Calipers (6 inch or 150mm)
- Set of micrometers (0 to 2 inches or 0 to 100mm)
Taking Stator Data

Core Bore Diameter

Measure and record the largest measurement (to nearest 1/16” or 1mm).
TOTAL CORE LENGTH

Total Core Length
This is the length of the iron excluding the finger plates. (to nearest 1/16” or 1mm)
This is the distance from the bottom of a slot to the outer edge of the stator iron (near the frame). If the back iron dimensions vary, record the maximum and minimum dimensions (to the nearest 1/16” or 1mm).
NUMBER OF VENTS/WIDTH OF VENTS

Measure to the nearest 1/16” or 1mm
FINGER PLATE WIDTH

Measure to the nearest 1/16” or 1mm
OVERALL COIL LENGTH

Measure to the nearest 1/16” or 1mm
CONNECTION AND EXTENSION

Measure to the nearest 1/16” or 1mm
STRAIGHT LENGTH

Measure to the nearest 1/16” or 1mm
SMALL KNuckle DROP

Measure to the nearest 1/16” or 1mm
LARGE KNUCKLE DROP

Measure to the nearest 1/16” or 1mm
Connection end and opposite connection end support ring

Measure to the nearest 1/16” or 1mm

Large Motors Have More Than One Support Ring.
SUPPORT RINGS INSIDE DIAMETER

Measure to the nearest 1/16” or 1mm

*Large Motors Have More Than One Support Ring.
SLOT WIDTH

Accuracy of Measurement .005" or 0.1mm
COIL TYPE

Coil type

Left-Hand Coil

Top

16

Bottom

17

Right-Hand Coil

Top

18

Bottom

19
LEAD LOCATION

![Diagram showing lead locations]

- Long lead
- Short lead
- Leads out
- Leads down
JUMPER-CONNECTION-CIRCUITS-SLOTS

- **JUMPER.** Determine and record the internal connection of the coil group (e.g. 1-4 or 1-7).
- **CONNECTION.** Determine and record the connection of the stator windings: Wye or Delta.
- **NUMBER OF CIRCUITS.** Determine and record the number of parallel circuits.
- **NUMBER OF SLOTS.** Count and record the number of stator slots.
COIL THROW

Coil Span

1 to 8 throw (pitch)

Coil throw (pitch)
TURNS PER COIL

2 wires "in hand"
11 turns per coil

• 1 wire in hand or in parallel = 22 turn terrace wound coil.
• Count several coils to make sure these have the same turns.
Strand Insulation

- Film
- Extra heavy film “Quad”
- Single glass
- Double glass
- Mica Taped
- Other

Is the motor used with an inverter?
IMPORTANT TIPS

- Is the stator fully wedged?
- Do the wedges have vent groves?
- Are the wedges:
  - Glass
  - 100% Magnetic (metal dust and epoxy)
  - Magnetic Permeable
  - Epoxy Glass
- Is the blocking special?
- Count turns on several coils.
- Take a picture of special features.
- Is the motor operated with an inverter?
DATA SHEET IS COMPLETE

“Strip & Wind” IS NEXT!
¿Any Questions?