INSTALLATION INSTRUCTIONS • DUCT-O-BAR

I. TYPICAL INSTALLATIONS:
A. Standard Vertical Mounted Conductors
   (3-Phase System — Bottom Contact)

B. Lateral Mounted Conductors

C. Monorail Application

NOTES: 1) Spring type hanger clamps may also be used as shown
        except on curves and runs less than 30 ft. long.
        2) Install two conductors on one side of the beam and
           one conductor on the opposite side to balance the
           collector spring forces, particularly on lightweight hoists.

CAUTION
MAKE CERTAIN POWER SUPPLY IS DISCONNECTED BEFORE INSTALLING,
REPAIRING, OR WORKING IN THE PROXIMITY OF ANY ELECTRICAL SYSTEM.
ONLY QUALIFIED ELECTRICAL PERSONNEL SHOULD INSTALL OR REPAIR THESE PRODUCTS.
Steel Snap-In Hanger Clamps

With Insulator

Plastic Snap-In Hanger Clamps

IV. EXPANSION GAP AND ANCHORING REQUIREMENTS

EXPANSION GAP INSTALLATION
A 10' Expansion Gap Assembly is installed in the same manner as other 10' sections of conductor bar. The connector pins have been left off and attached to the lead wire in a bag. This will allow you to position the expansion gap assembly in the proper direction to match the support location with your mounting bracket. It is critical that the expansion gap is mounted as shown in the above picture to secure the assembly and allow the bar to expand as designed. For shipping purposes, the gap has been completely closed and must be adjusted accordingly to the ambient temperature during installation. Set the gap according to the table below. Install the anchor clamps (also attached to the expansion gap) as shown on the enclosed supplementary installation instructions. Recheck the gap setting after installation of conductor bars.

OPERATING TEMPERATURES

<table>
<thead>
<tr>
<th>Min.</th>
<th>Max.</th>
<th>Ambient Temperature</th>
<th>Gap Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100°F</td>
<td>25°F</td>
<td>1-1/2&quot;</td>
</tr>
<tr>
<td>50°F</td>
<td>75°F</td>
<td>75°F</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>25°F</td>
<td>125°F</td>
<td>100°F</td>
<td>1-1/2&quot;</td>
</tr>
<tr>
<td>50°F</td>
<td>150°F</td>
<td>75°F</td>
<td>1&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100°F</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125°F</td>
<td></td>
</tr>
</tbody>
</table>
INSTALLATION DIMENSIONS — COLLECTORS

Pantograph lateral mount collector assemblies are provided with spring balance. 3" conductor spacing required.

<table>
<thead>
<tr>
<th>DIMENSION A (MINIMUM)</th>
<th>DIMENSION B</th>
<th>C</th>
<th>DIMENSION D</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot; — Minimum collectors are adjacent</td>
<td>B Series Collectors</td>
<td>5-1/2&quot;</td>
<td>40 AMP Collectors</td>
</tr>
<tr>
<td>1-1/2&quot; — Minimum collectors are staggered</td>
<td>P Series Collectors</td>
<td>5-1/4&quot;</td>
<td>100 AMP Collectors</td>
</tr>
<tr>
<td>3&quot; or 4&quot; — When pickup guides are used</td>
<td>C Series Collectors</td>
<td>5-1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>2&quot; — When insulators are used</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Joining Conductor Bar Sections

Draw the adjacent conductor bars together with the connector tool. Snap splice cover over completed joint. Proceed to the next joint.

8-A Anchor Clamp

The use of two 8-A anchor clamps as shown in the following illustration provides positive anchoring for the conductor. This will prevent conductors from sliding out of position in systems which use spring type hangers. In systems with expansion gap assemblies anchors are used to keep the gap settings in calibration. Follow the instructions which come with the expansion gap assemblies.

Clamping pair eliminates movement in either direction.
Power Feed Installation

(1) Locate at conductor joint or notch the conductor insulating cover to accept the connector clamp. (2) Install the Connector clamp and (3) the power feed-in cable. (4) Place the power feed insulating case halves around the connector clamp and (5) secure with the two spring clips.

End Cap Installation

Cut off the exposed ends of all conductors flush with the cover and install the end cap all the way on.

TRANSFER CAP

The transfer cap is installed in lieu of end cap at all switches, interlocks and discontinuous circuits with pickup guides.

INTERLOCKS, SWITCHES, OR FIXED GAPS
For fixed gaps occurring at interlocks, the maximum gap is 1". By using transfer caps, the collector brushes are able to transfer evenly and smoothly. Round both ends of collector brush to ensure a smooth transfer. 100 AMP P-series collectors are recommended to properly bridge the gap without loss of power.

General Comments — Final Inspection

In either type of mounting, sight down the installed conductors and straighten any chance bends or misalignment. Make sure that the hanger clamps are not drawn too tightly.

Check to be sure that the collector shoe passes freely around the cover, and that the collector brush passes freely between the lips of the cover without rubbing, and that makes good contact with the conductor bar.

SPRAY PAINTING
If at all possible, all spray painting of the surroundings should be done prior to installation of the DUCT-O-BAR run. If spray painting must be done after the installation has been made, extreme care must be taken, by the use of masks, tape or similar methods, to protect the contact surfaces of the conductors. Paint on these surfaces will cause serious inoperative difficulties.

HEAT
Standard DUCT-O-BAR Vinyl Cover is not meant to be used in high heat areas. The standard cover will not support combustion, but will start to flow at 160°F. A special High Temperature Vinyl Cover is recommended when surface heat exceeds 150°F. Consult the factory.