

## Differences of Dynamic Brake Holding on CPR Locomotives

This job aid is a reference. Should clarification or interpretation be required contact the Central Locomotive Specialist 403-260-5860.  
The following are the differences in design of Dynamic Brake holding on various locomotives

<b>GE AC4400 &amp; ES44AC (including CEFX 1026-1059)</b>	<b>EMD SD90MAC (except CEFX100-119)</b>	<b>Union Pacific &amp; CEFX 100-119 &amp; CN Locomotives</b>	<b>SD40-2, SD60, GP9 road, GP38, GP38-2</b>
<ul style="list-style-type: none"> <li>• DB holding is in effect in emergency or penalty.</li> <li>• Independent brake level will not affect dynamic braking effort.</li> <li>• Brake cylinder pressure will automatically rise to 60 psi in emergency or penalty</li> <li>• Locomotive Engineers are required to bail off automatic brakes and apply as much independent as required.</li> <li>• The amount of independent brake cylinder pressure will <b>not</b> de-rate the DB setting.</li> <li>• Retarding force level of combined DB &amp; Independent brake will be automatically adjusted to avoid wheel slide.</li> </ul>	<ul style="list-style-type: none"> <li>• DB holding is in effect in emergency or penalty.</li> <li>• <b>Independent brake level will reduce DB effort. At 15 psi BC pressure, the braking effort will reduce and at 23 psi, DB effort is reduced to zero.</b></li> <li>• Brake cylinder pressure will automatically rise to 60 psi in emergency or penalty.</li> <li>• Locomotive Engineers are required to bail off automatic brakes and apply as much independent as required.</li> </ul>	<ul style="list-style-type: none"> <li>• DB holding is in effect in emergency or penalty.</li> <li>• <b>Independent brake level will reduce DB effort. At 15 psi BC pressure, the braking effort will reduce and at 23 psi, DB effort is reduced to zero.</b></li> <li>• <b>Reduce brake cylinder pressure to 10 psi to restore full dynamic brake.</b></li> <li>• Brake cylinder pressure will <b>not</b> automatically rise in emergency or penalty, it is necessary for the operator to manually operate independent brake as required.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Not</b> equipped with dynamic brake holding, DB will reduce to zero effort in emergency or penalty.</li> <li>• Brake cylinder pressure will automatically rise to 60 psi in emergency or penalty,</li> <li>• In emergency or penalty, it is necessary for the operator to manually bail off the brake cylinders and apply independent as necessary.</li> </ul>
<p>Full DB is available down to zero mph</p>	<p>Full DB is available down to 0.5 mph (providing DB is not reduced by independent brake).</p>		<p>Full DB is not available down to zero speed.</p>