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# QUARTERLY MAINTENANCE OF MQ POWER BALANCE SYSTEM

The Power Balance system is subject to normal wear and tear of components that do require inspection and replacement by a technician. It's important to follow this checklist diligently to ensure the Power Balance System remains in optimal working condition. Following this maintenance inspection guide will help extend the lifespan of the equipment and reduce failures while in operation.

### WORK SAFELY!

**Only a qualified service technician with proper training should perform this procedure.**

- Follow all shop safety rules while performing this procedure
- Disconnect battery prior to any work
- Completely de-energize the system
- Lock-out, Tag-out

### Quarterly Maintenance of Power Balance Resistor Assembly

**User must report any items that fail checklist inspection and should avoid using until corrected**

✓	#	Maintenance/Service Point	Maintenance/Service Procedure(s)
	1	Exterior Access Panel Inspection	<ul style="list-style-type: none"> <li>○ Remove all exterior access panels to the load bank enclosure for inspection</li> </ul>
	2	Intake and Exhaust Opening	<ul style="list-style-type: none"> <li>○ Inspect the intake and exhaust opening</li> <li>○ Blow or brush away any noticeable dirt or debris</li> <li>○ Ensure covers are functional and free of debris</li> <li>○ Replace any panel that is compromised or damaged</li> </ul>
	3	Interior Cleaning	<ul style="list-style-type: none"> <li>○ Clean any and all dirt or debris from the interior of the load bank</li> <li>○ Use clean, dry, compressed air for blowing and removing debris, <i>Do Not Exceed 40 PSI</i></li> </ul>
	4	Resistor Element Inspection	<ul style="list-style-type: none"> <li>○ Inspect all resistor elements</li> <li>○ Ensure all hardware is tightened</li> <li>○ Ensure elements are clear and free of debris</li> </ul>
	5	Resistor Structural Integrity	<ul style="list-style-type: none"> <li>○ Inspect all resistors for mechanical and structural integrity</li> <li>○ Replace any excessive sagging resistor elements and support rods</li> <li>○ Inspect all vibration isolators for damage or normal wear</li> </ul>



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### Quarterly Maintenance of Power Balance Resistor Assembly

**User must report any items that fail checklist inspection and should avoid using until corrected**

✓	#	Maintenance/Service Point	Maintenance/Service Procedure(s)
	6	Resistor Ceramic Insulators	<ul style="list-style-type: none"> <li>○ Inspect all ceramic insulator at resistor case ends (both sides) for breaks</li> <li>○ Inspect all ceramic insulators on the resistor elements for breaks</li> <li>○ Replace any broken termination ceramics</li> <li>○ Inspect vibration isolator grommets for damage or signs of wear (if equipped)</li> </ul>
	7	Support Rod Ceramic Insulators	<ul style="list-style-type: none"> <li>○ Inspect all support rod ceramic insulators for breaks</li> <li>○ Replace broken support rod ceramic insulators</li> <li>○ Inspect vibration isolator grommets for damage or signs of wear (if equipped)</li> </ul>
	8	Enclosure Inspection	<ul style="list-style-type: none"> <li>○ Inspect the entire inside of the enclosure for any loose hardware or loose connections</li> <li>○ Tighten any loose hardware or connections</li> </ul>
	9	Wiring Inspection	<ul style="list-style-type: none"> <li>○ Inspect all load and control wiring for signs of insulation failure or breakdown</li> </ul>
	10	Heat Stress	<ul style="list-style-type: none"> <li>○ Inspect for any signs of heat stress on connections and terminals. This could be a sign of loose hardware or corroded/oxidized connections</li> <li>○ Repair and replace all damaged hardware</li> </ul>
	11	Panel Reinstallation	<ul style="list-style-type: none"> <li>○ Reinstall all covers, ensuring all materials are well in place and all hardware is properly tightened</li> </ul>

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## QUARTERLY MAINTENANCE OF MQ POWER BALANCE SYSTEM

### Quarterly Maintenance of Power Balance Contactor Box

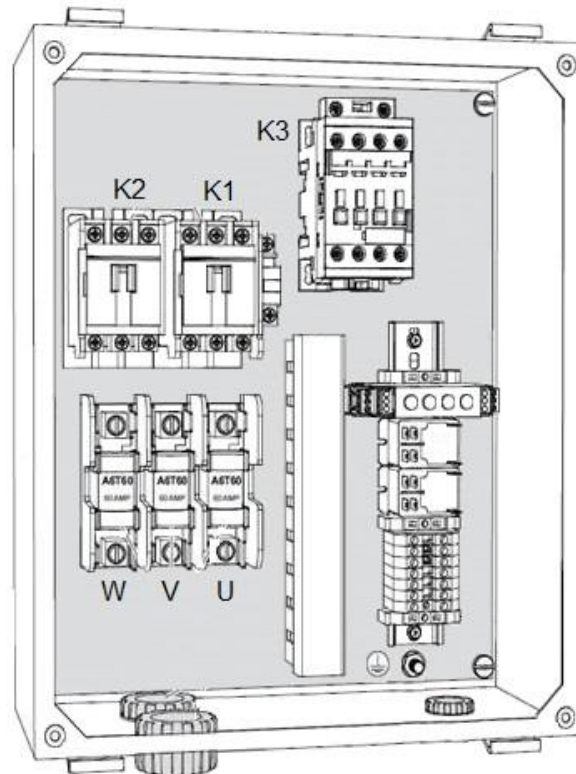
**User must report any items that fail checklist inspection and should avoid using until corrected**

✓	#	Maintenance/Service Point	Maintenance/Service Procedure(s)
	1	External wiring inspection	<ul style="list-style-type: none"> <li>○ Inspect main conductors from resistor assy. to the contactor box for wear and ensure is secured</li> <li>○ Check conductor's connections are tight to the back of the main output lug terminals</li> </ul>
	2	Contactor box	<ul style="list-style-type: none"> <li>○ Remove cover and make visual inspections</li> <li>○ Inspect wiring in the contactor box is secure</li> <li>○ Check the torque on the main output conductors at the fuses for conductors U, V &amp; W, see Fig. 1</li> <li>○ Check the torque of the input conductors at contactors K1, K2 &amp; K3, see Fig. 1</li> <li>○ Remove any debris in the box, light compressed air can be used to remove dirt and dust</li> </ul>

### Torque Specs

Models	K1, K2 Contactors
DCA-45 & 70	K1, K2 = 15 in lbs.
DCA-125	K1, K2 = 40 in lbs.
DCA-150, 180 & 220	K1, K2 = 50 in lbs.
DCA-300, 400 & 600	K1, K2 = 53 in lbs.
K3 Contactor	
DCA-45 & 70	K3 = 22 in lbs.
See Fig. 1	
DCA-45 & 70	UVW = 35 in lbs.
DCA-125	UVW = 60 in lbs.
DCA-150, 180 & 220	UVW = 60 in lbs.
DCA-300, 400 & 600	UVW = 60 in lbs.

**Reference Fig. 1  
For Location of Components**



**Fig.1  
Power Balance  
Contactor Box**