

FUNCTIONAL TEST CHECK LIST FOR PCAP SWITCHGEAR MB-D4-CTE5S/C-1

STEPS	STATUS	EATON	POS	Cx
1	Verify System is in normal double ended line up with TIE BREAKER open and the secondary MAIN BREAKERS 52-A (D2-M4-27A-1) & 52-B (D2-M4-27A-2) are closed.			
2	Check Sync relay for indication of both sources within tolerance for close transition transfer.			
3	Verify System is in automatic. (Place control switch 43-1 in the "AUTO" position and control switch 43-2 is in the "CLOSED" position. The TRIP SELECTOR switch is set at 52-T position)			
4	Verify no electrical loads have energized			
5	Align system to 52-A; TIE BREAKER is in the closed configuration by placing control switch 43-2 in the "CLOSED" position; Place control switch 43-1 in the "MANUAL" position; Place the TRIP SELECTOR switch to the 52-B position and closing TIE BREAKER 52-T with its associated switch. Verify the TIE BREAKER closed prior to MAIN BREAKER 52-B (D2-M4-27A-2) opening.			
6	Restore the system to normal double ended line up (Control switch 43-1 is in the "CLOSED" position and the TRIP SELECTOR switch is set to the 52-T position and closing MAIN BREAKER 52-B (D2-M4-27A-2) with its associated switch.) Verify closed transition takes place.			
7	With system in normal double ended line up and control switch 43-2 in "OPEN" position. Attempt to close TIE BREAKER 52-T. The TIE BREAKER should not operate.			
8	Align system to 52-B; TIE BREAKER is in the closed configuration by placing control switch 43-2 in "CLOSED" position; Place the TRIP SELECTOR switch to 52-A position and closing TIE BREAKER 52-T with it's associated switch. Verify TIE BREAKER closed prior to MAIN BREAKERS 52-A (D2-M4-27A-1) opening.			
9	Restore the system to normal by placing control switch 43-2 in the "CLOSED" position and the TRIP SELECTOR switch to 52-T position and closing MAIN BREAKER 52-B (D2-M4-27A-2) with its associated switch. Verify closed transition takes place.			
10	Verify that the System is in normal double ended line up with the TIE BREAKER open and MAIN BREAKERS 52-A (D2-M4-27A-1) & MAIN BREAKER 52-B (D2-M4-27A-2) closed.			
11	Check Sync relay for indication of both sources within tolerance for close transition transfers.			
12	Verify System is in Automatic (Control switch 43-1 is in the "AUTO" position. Control switch 43-2 is in the "CLOSED" position . TRIP SELECTOR switch is in the 52-T position.)			
13	Open switch D2-PSN1-27A-5			
14	Verify MAIN BREAKERS 52-A (D2-M4-27A-1) opens after 3 seconds.			
15	Verify TIE BREAKER 52-T closes 6 seconds after loss of power.			

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STEPS	STATUS	EATON	POS	Cx
16	With system in single ended line up and control switch 43-1 in the "MANUAL" position and control switch 43-2 in the "OPEN" position. Attempt to close MAIN BREAKER 52-A (D2-M4-27A-1). MAIN BREAKER 52-A (D2-M4-27A-1) should not operate.			
17	With system in single ended line up and control switch 43-1 is in the "AUTO" position and control switch 43-2 is in the "OPEN" position. Attempt to close MAIN BREAKER 52-A (D2-M4-27A-1). MAIN BREAKER 52-A (D2-M4-27A-1) should not operate.			
18	With system in single ended line up and control switch 43-1 is in the "MANUAL" position and control switch 43-2 is in the "CLOSED" position. Attempt to close MAIN BREAKER 52-A (D2-M4-27A-1). MAIN BREAKER 52-A (D2-M4-27A-1) should not operate.			
19	With system in single ended line up and control switch 43-1 is in the "AUTO" position and control switch 43-2 is in the "CLOSED" position. Attempt to close MAIN BREAKER 52-A (D2-M4-27A-1). MAIN BREAKER 52-A (D2-M4-27A-1) should not operate.			
20	Verify System is in automatic (Control switch 43-1 is in the "AUTO" position. Place control switch 43-2 in the "CLOSED" position . TRIP SELECTOR switch is in the 52-T position.)			
21	Open switch D2-PSN1-27A-1. No change in line up, equipment is de-energized.			
22	Close switch D2-PSN1-27A-1. No change in line up, equipment is energized in single ended line up on D2-PSN1-27A-1 source.			
23	Open switch D2-PSN1-27A-1. No change in line up, equipment is de-energized.			
24	Close switch D2-PSN1-27A-5. Equipment shifts to energized single ended line up on D2-PSN1-27A-5 source.			
25	Close switch D2-PSN1-27A-1			
26	Restore system to normal by placing control switch 43-2 in the "CLOSED" position; Place control switch 43-1 in the "MANUAL" position and the TRIP SELECTOR switch to the 52-T position and close MAIN BREAKER 52-B (D2-M4-27A-2) with its associated switch. Verify closed transition takes place.			
27	Verify System is in normal double ended line up with TIE BREAKER open and the secondary MAIN BREAKER 52-A (D2-M4-27A-1) & MAIN BREAKER 52-B (D2-M4-27A-2) closed.			
28	Check Sync relay for indication of both sources within tolerance for closed transition transfers			
29	Verify System is in Automatic (Control switch 43-1 is in the "AUTO" position. Control switch 43-2 is in the "CLOSED" position . TRIP SELECTOR switch is in the 52-T position.)			
30	Open switch D2-PSN1-27A-1			
31	Verify MAIN BREAKER 52-B (D2-M4-27A-2) opens after 3 seconds.			
32	Verify TIE BREAKER 52-T closes 6 seconds after loss of power.			

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STEPS	STATUS	EATON	POS	Cx
33	With system in single ended line up and control switch 43-1 is in the "MANUAL" position and control switch 43-2 is in the "OPEN" position. Attempt to close MAIN BREAKER 52-B (D2-M4-27A-2) . MAIN BREAKER 52-B (D2-M4-27A-2) should not operate.			
34	With system in single ended line up and control switch 43-1 is in the "MANUAL" position and control switch 43-2 is in the "CLOSED" position. Attempt to close MAIN BREAKER 52-B (D2-M4-27A-2) . MAIN BREAKER 52-B (D2-M4-27A-2) should not operate.			
35	With system in single ended line up and control switch 43-1 is in the "AUTO" position and control switch 43-2 is in the "OPEN" position. Attempt to close MAIN BREAKER 52-B (D2-M4-27A-2) . MAIN BREAKER 52-B (D2-M4-27A-2) should not operate.			
36	With system in single ended line up and control switch 43-1 is in the "AUTO" position and control switch 43-2 is in the "CLOSED" position. Attempt to close MAIN BREAKER 52-B (D2-M4-27A-2) . MAIN BREAKER 52-B (D2-M4-27A-2) should not operate.			
37	Verify System is in Automatic (Control switch 43-1 is in the "AUTO" position. Control switch 43-2 is in the "CLOSED" position. TRIP SELECTOR switch is in the 52-T position.)			
38	Open switch D2-PSN1-27A-5. No change in line up, equipment is de-energized.			
39	Close switch D2-PSN1-27A-5. No change in line up, equipment is energized in single ended line up on D2-PSN1-27A-5 source.			
40	Open switch D2-PSN1-27A-5. No change in line up, equipment is de-energized.			
41	Close switch D2-PSN1-27A-1. Equipment shifts to energized in single ended line up on D2-PSN1-27A-1 source.			
42	Close switch D2-PSN1-27A-5			
43	Restore system to normal by placing control switch 43-2 in the "OPEN" position; Place control switch 43-1 in the "MANUAL" position and the TRIP SELECTOR switch to the 52-T position and open TIE BREAKER 52-T. Close MAIN BREAKERS 52-A (D2-M4-27A-1) . Verify open transition takes place.			
44	Verify system is in Automatic (Control switch 43-1 is in the "AUTO" position. Control switch 43-2 is in the "CLOSED" position . TRIP SELECTOR switch is in the 52-T position.)			
45	Verify System is in normal double ended line up with TIE BREAKER open and the secondary MAIN BREAKERS 52-A (D2-M4-27A-1) & MAIN BREAKER 52-B (D2-M4-27A-2) closed.			
46	Open switch D2-PSN1-27A-5 and D2-PSN1-27A-1 simultaneously. MAIN BREAKERS 52-A and MAIN BREAKER 52-B (D2-M4-27A-2) and the TIE BREAKER should not operate.			

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STEPS	STATUS	EATON	POS	Cx
47	Close switch D2-PSN1-27A-5. Equipment shifts to energized in single ended line up on D2-PSN1-27A-5 source.			
48	Close switch D2-PSN1-27A-1			
49	Restore system to normal by placing control switch 43-2 in the "CLOSED" position; Place control switch 43-1 in the "MANUAL" position and the TRIP SELECTOR switch to the 52-T position and close MAIN BREAKER 52-B (Buss #2). Verify closed transition takes place.			
50	Verify system is in normal operating configuration with the TIE BREAKER in the open position and the MAIN BREAKERS closed. Control switch 43-1 set at "AUTO", control switch 43-2 set at the "CLOSED" position and the TRIP SELECTOR switch set at 52-T per POS SOP.			

COMMENTS & OBSERVATIONS

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