

Work Instruction		WO No.	
		Date:	
Scope:			
Team Leader:		Air Control Unit Type:	
Activity: EP Point Air Control Unit Like For Like Renewal			
Reference: PR S 40010, PR S 40011			
Activity No.	Task No.	Work Description	Completed Name/Sign
APPARATUS INSPECTION & PREPARATION			
1	1A	Ensure the new control unit is of correct configuration and bench tested. Inspect equipment type and configuration in accordance with the specific design and compare to the existing control unit.	
	1B	Bell test and wire/null count internal wiring of the new control unit, compare to the specific circuit design and existing control unit. Include a correlation of connected links and bridges to the circuit book. Visually inspect and insulation test the internal wiring.	
2	2A	Confirm the Normal position of points.	
	2B	Identify and mark air lines at control unit and air motor.	
	2C	On the existing control unit, wire/null count the incoming terminals, including bridges and links and identify tail cable core numbers on the terminals and compare to specific circuit diagram. Identification of tail cable core numbers may be omitted if connection is plug coupled (E/ES units).	
	2D	Document the disconnections on attached circuit diagram. (Not required for plug coupled connections)	
	2E	Conduct an apparatus inspection of the condition of the existing control unit mounting/fixings and air lines. Prepare to replace as required.	
SAFeworkING & DISCONNECTION FROM INTERLOCKING			
3	3A	Ensure affected signalling apparatus is booked out of use in accordance with PR S 40008. Obtain authorisation for any temporary bridging in accordance with PR S 40002 as necessary.	
	3B	Disconnect the affected signalling apparatus and clip & lock points in accordance with PR S 40009 – Disconnection of Signalling Apparatus.	
	3C	If applicable, apply temporary bridging in accordance with PR S 40002. Test bridging and any contacts remaining in circuit as functional.	
DISCONNECTION, REMOVAL AND INSTALLATION			
4	4A	Open links in location for point tail cable(s) and turn off air supply valve to control unit (points air supply).	
	4B	Disconnect cable(s) air hoses in control unit (if applicable), protect ends and withdraw clear.	
	4C	Remove control unit.	
5	5A	Install new control unit. Check/fill the oil level in the lubricator (if applicable), adjust the flow rate as required.	
6	6A	Inspect the cable(s) and air hoses for any signs of damage. Conduct an insulation test of the tail cable(s) and record on circuit diagrams (not required for plug coupled connections).	
	6B	Connect all cables and air hoses in accordance with previously correlated circuit diagram.	
	6C	Conduct an apparatus inspection to ensure the installation is physically correct (all bolts, hoses, nuts and unions should be tight) including inspection of cables and hoses for damage. Ensure any orifice plates correctly installed.	

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ADJUSTMENT			
7	7A	Reopen the air valve and manually operate the control unit to ensure correct point operation in each direction. Ensure no air leaks.	
	7B	Make any adjustments necessary to the control unit exhaust regulator port (E unit).	
CERTIFICATION			
8	8A	Wire count all terminals with incoming tail cable installation to circuit diagram (NB: links to be counted as wire). Record on circuit diagram. (Not required for plug coupled connections)	
9	9A	Close all associated terminal links in location and remove any temporary bridging (if applicable).	
10*	10A*	Conduct a Points Correspondence Test Normal - Operate points to the Normal position and open each contact in the Normal detection circuit in turn (including the E unit plug coupler and the spool position micro-switch if applicable) and ensure Normal detection is lost and restored. Remove and replace EOL (if applicable) and ensure Normal detection is lost and restored. Each contact# tested during the correspondence test shall be observed to “open” when the points are operated to the Reverse position. (# denotes not required for encapsulated contacts which are back-proved in the opposite position.)	
	10B*	Conduct a Points Correspondence Test Reverse - Operate the points to the Reverse position and open each contact in the Reverse detection circuit in turn (including the E unit plug coupler and the spool position micro-switch if applicable) and ensure Reverse detection is lost and restored. Remove and replace EOL (if applicable) and ensure Reverse detection is lost and restored. Each contact# tested during the correspondence test shall be observed to “open” when the points are operated to the Normal position. (# denotes not required for encapsulated contacts which are back-proved in the opposite position.)	
	10C*	Conduct an Out of Correspondence test of the following combinations and ensure no detection. Note: The following combinations only apply for an existing double-ended layout. A Signal Engineer shall be consulted if the layout consists of more than two ends.	
Out of correspondence test for existing double-ended layout	Operate points to Normal (both ends Normal)		
	A end hold Normal	Operate points lever Reverse	B end Reverse
	B end hold Reverse	Operate points lever Normal (ensure NWR is energised)	A end Normal
	Operate points to Reverse (both ends Reverse)		
	A end hold Reverse	Operate points lever Normal	B end Normal
	B end hold Normal	Operate points lever Reverse (ensure RWR is energised)	A end Reverse
10D Applicable where control units are fitted with pressure switches	Function each pressure switch in detector circuit by operating points Normal and removing air, then Reverse and removing air		
	Position	Remove Air	Detection Lost
	Normal		
Reverse			
11	11A	Arrange for the signaller to check the operation of the points, and associated signalling apparatus. Ensure the control unit is secure.	
	11B	Book affected signalling apparatus back into use.	
<p>I certify _____ points at _____ location have been inspected and tested and are fit for service.</p> <p>_____ Position _____</p> <p>_____ Date _____</p> <p>Print Name Signature</p>			

*Applicable where air control units incorporate detection circuitry.