

## **Signalling Revision Questions: Block (with answers)**

1. There are three relays classed as A, B & C, which are inside a controlling relay for the block, what is this called?  
**THE BZR**
2. What would the block do with the state of the following relays: A-up B-up & C-down?  
**LINE CLEAR**
3. The block users a 'centre tap' battery, what is meant by 'centre-tap'?  
**THE SENDING VOLTAGE IS SPLIT IN WHICH HALF THE VOLTAGE IS SENT AND THE OTHER HALF IS AT THE RECEIVING END TO MAKE UP THE FULL VOLTAGE, THE BATTERY IS CENTRE TAPPED TO MAKE UP HALF THE VOLTAGE.**
4. What signal cannot be cleared without a line clear?  
**THE STARTING SIGNAL**
5. What would be painted on the signal lever that indicates a line clear must be gained before that signal can be cleared?  
**A WHITE BAND PAINTED HALF WAY DOWN THE LEVER**
6. What is the BJN and what does it do?  
**'BLOCK TIME RELEASE' IT IS A WINDING (MANUAL TIMING DEVICE) THAT RESETS THE BLOCK IN THE EVENT OF FAILURE, ERROR OR EMERGENCY**
7. What part of the block instrument is the non-pegger?  
**THE INSTRUMENT THAT REPEATS WHAT THE OTHER SB HAS SENT**
8. What is the difference between Absolute block & permissive block?  
**ABSOLUTE BLOCK CAN PERMIT ONLY ONE TRAIN INTO ANY ONE SECTION, PERMISSIVE BLOCK CAN HANDLE UPTO TO A TOTAL OF NINE TRAINS AT ONCE**
9. What is track circuit block?  
**THE OPERATION OF TC'S INDICATE TO THE SIGNALLER WHERE THE TRAIN IS**
10. What instrument is not used in a track circuit block section?  
**ALL THE INSTRUMENTS ARE ABOLISHED APART FROM THE BLOCK BELL**
11. Why is the C relay in the BZR slow-to-drop?  
**THE 'A' RELAY NEEDS TO PICK OVER A FRONT CONTACT OF THE 'C' RELAY WHEN IT IS UP, 'A' RELAY PICKING WILL DROP 'C' RELAY, SO THE RELAY IS SLOW TO DROP TO ALLOW 'A' TO PICK FIRST**
12. Name three things that have to be proved before a line clear can be given.  
**TC'S NEED TO BE CLEAR BETWEEN SECTIONS, STARTER MUST HAVE A LIGHT IN (ECPR) & BE PROVED AT RED (RGPR), (THE DISTANT SIGNAL MUST ALSO BE LIT-IF FITTED), AND THE HOME SIGNAL MUST BE PROVED NORMAL BY THE 'NA' BAND**
13. Why is the Normal (line blocked) section of the block indicator in the centre?  
**GRAVITY WILL ALLOW NEEDLE TO HANG DOWN SHOULD NO VOLTAGE BE PRESENT**
14. By what method changes a line clear to a train on line indication?  
**THE SIGNALLER PLACING THE PEGGER TO 'TOL', IF NOT 'B' RELAY WILL DROP OUT CAUSED BY THE TPR'S BEING IN 'B' RELAYS FEED CIRCUIT, THIS WILL AUTOMATICALLY PUT THE BLOCK TO 'TOL'.**
15. How would you check the voltage on a block bell line?  
**HOLD DOWN THE TAPPER, THIS WILL 'HOLD' THE FEED**
16. What MUST you check at all times before resetting a tokenless block system & why?

**ALWAYS ASK (BY PHONE) AT BOTH BOXES IF POSSIBLE AND ASK THE SIGNALLER(S) IF THE SECTION IS CLEAR OF TRAINS AND ASK PERMISSION TO RESET, THE CONVERSTATION WILL PROBABLY BE RECORDED. IF THE SYSTEM IS RESET, THE SECTION WILL BE ABLE TO RECEIVE A TRAIN FROM ANY END, THIS IS EVEN POSSIBLE IF THERE IS A TRAIN ALREADY IN SECTION**

17. In modern SB's, the BJN unit is replaced by a push button, how long should this button be held in for and what other additional circuitry may be present?  
**2 MINUTES, THE ADDITIONAL CIRCUITRY WILL MOST LIKELY INCLUDE RELAYS THAT CONFIRM THE TIMER IS TIMING AND HAS FINISHED TIMING.**
18. During part of the SMTH test of a BJN unit (old style), the tester starts winding the handle, he stops momentarily and then does a quick check, to check what?  
**TO CHECK THAT THE WINDER CANNOT BE WOUND BACKWARDS, IF THIS WAS POSSIBLE THE SIGNALLER COULD WIND THE WINDER SLIGHTLY FORWARD THEN BACK AGAIN TO RESET THE BLOCK PREMATURELY**
19. How many rings on the bell is the test code, and at what time of day is this test done?  
**16 BELLS IN QUICK SUCCESSION, USUALLY AT 10AM**
20. What is RETB, and by what method does it operate?  
**RADIO ELECTRIC TOKEN BLOCK, THIS REPLACES THE CONVENTIONAL BLOCK SYSTEM WITH RADIO WAVES AND THE DRIVER AND SIGNALLER WILL 'HOLD' TOKENS BY DISPLAY INSTRUMENTS IN THE SB & CAB, THIS SYSTEM IS USUALLY USED IN VERY REMOTE AREAS SUCH AS THE SCOTTISH HIGHLANDS.**