

Signalling Revision Questions: Points

1. The HW4000 is the next generation of the HW range, what is the main change from the other HW's?
2. Which part of a HW machine is the 'throw-bar'?
3. Which part of the HW machine is the 'lock-dog'?
4. Would loss of detection in a HW cause the motor to drive (like clamplocks)?
5. Name one of the symptom's that would be noticeable if a diode should fail in the diode block?
6. What was the model number of the proto-type HW machine?
7. What is the voltage range of a HW1000?
8. What is the voltage range of a HW2000?
9. Why wouldn't you find a HW1000 on OHL area's?
10. What is the maximum stroke of a HW machine?
11. Which types of clamplocks would you find the following type of lock arms:
A6?
B6?
C6?
D6?
E6?
F6?
12. What does a snorkel valve prevent & how do you know one is fitted?
13. What is the main cause of derailments over Clamplocks?
14. What is a 'POCV' & what does this prevent?
15. Where is the fixed cam and the adjustable cam on the clamplocks and what do each cam signify when correctly set up?
16. The 'A6' modification is an uncommon term for what changes for the clamplock in the 80's?
17. Before arranging the parts for a refit of switch diamonds, what information MUST you have (from the track) before ordering/sorting the parts?
18. An invention in which a line was scored down the side of a lock arm was to signify what? (*later abolished-but remains on some Lock arms still fitted*).
19. Why do we use a 1.5mm gauge on all FPL locks?

20. In which blade should the FPL gauges be inserted first on a HW operated set and why?
21. On a M3a machine, what should you check before adjusting the lock blades?
22. What does the WJR do?
23. What does the WZR signify to the interlocking?
24. TRUE or FALSE: the manual switch on a set of points that fails to cut off the feed to the motor is a wrong-side failure?
25. What is the purpose of 'snubbing'?
26. What is meant by 3 or 4 wire operation in HW's and what does it mean?
27. Can you always use the 4-way moulded cables on clamplock bodies?
28. Where would you find 'independent lock blades'?
29. Where shouldn't high-thrust green or blue rams be used?
30. What are self-restoring points?
31. What is the measurement (in mm) at which the centre of the detection mechanism of an HW should be from the running edge of the rail and why?
32. What is 'springing of the toe'?
33. What type of machine is the only one to use a drive belt?
34. What is the switch opening tolerance (min and max) for the following:
 - a) Machines plain lead?
 - b) Machines switch diamonds?
 - c) Clamplocks plain lead?
 - d) Clamplocks switch diamonds?
 - e) Mech points?
35. The locking mechanism on an 'ML' machine (very rare, but still local), is different to any other point machine, why?
36. Apart from the colour, what is the other main visible difference between a cream diode block and a red diode block?
37. On mechanical points, what is the purpose of the barrel adjuster, and which part of the rodding should it be installed?
38. What is a compensator and what is its only purpose?
39. Before cutting the notches out of a mechanical fender, what must be drilled first and why?
40. The adjusting nuts on the drive lug (in the four foot of a mech set of points) are used for what?

41. How is more 'drive' gained on a mechanical set of points?
42. What is 'Lost Motion' better known as and what is it?
43. On the latest [Mk 4] TOP's (train operated points) what is the time tolerance for the points to restore to normal?
44. Draw a diagram for the following cranks and state their purpose;
Accommodating crank, used for?
Pedestal crank, used for?
12" X 16" crank, used for?
Relief crank, used for?
45. Why are the insulations on the stretchers on Clamplock operated switch diamonds always in the central position?
46. A spacing collar MUST be installed on the detection arm assembly on switch diamond's, what is the size of this collar?
47. What is taper packing used for in Clamplocks?
48. How many types of centre thrust brackets are there for clamplocks:
 - a) 1?
 - b) 2?
 - c) 3?
 - d) 4?
 - e) 5?
49. What are half lock nuts on adjustable stretchers?
50. What are hardlock nuts on adjustable/yellow stretchers?
51. What is the torque setting for hardlock nuts on the rail for installation?
52. What is the torque setting for hardlock nuts on the rail for maintenance?
53. What are the Pway track gauge tolerances for Bull Head Rail, Flat bottomed Vertical Rail and Flat bottomed Inclined Rail?
54. What is the latest document for setting up stretchers?
55. What is Flange Back Contact (FBC) & what causes it?
56. How can FBC be prevented or cured?
57. What is Contraflexure Rail?
58. What is Simular Flexure Rail?
59. What is Free-wheel Clearance (FWC), and how is this set?
60. What is the very minimum FWC?

61. What is Supplementary detection & where would you find one?
62. What gauges are used for setting up a supplementary detector?
63. How would you determine the length & type of switch rail?
64. Which part of a stretcher is the kicking strap and what is its purpose and what are the clearances?
65. Can Mechanical lock stretchers be used again once cut?
66. A clamplock fluid indicator in filler cap means what when the fluid is on 'yellow'?
67. Where on mechanical rodding MUST you only lose/gain stroke?
68. Why are there two springs in the LH cam follower as opposed to just one in the RH side?
69. A HW type set of points is thrown and the motor spins but the switches do not move, what is the problem?
70. State the clamplock tappet positions when at;
Points locked & detected
Points at mid-position
Points open (other side locked and detected).
71. On HW new installations, the motor circuit main cable is kept separate from the detection cable (1x4c: motor and 1x 12c: detection) why?
72. Where are the 'datum' marks on HW type machines and what are they used for?
73. How would you determine vertical rail and inclined rail?
74. What is meant by the 'force-down' feature on clamplocks lock arms?
75. Why is there escapement on the drive of all machines at the drive lug on the stretcher?