# DIAMOND DETAILED INSPECTION

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| --- | --- | --- | --- | --- | --- |
| Location: Track: I.D. No.: | | | | | |
| **Kilometrage: Date:** All measurements in mm | | | | | |
| All speeds in km/h | | | | | |
| V1 Crossing – Least kilometrage V2 Crossing – Greatest kilometrage | | | | | |
| K1 Crossing – Left facing increasing kilometrage K2 Crossing – Right facing increasing kilometrage | | | | | |
| Refer to ETE-03-01 Figure 4 for K crossing measurement naming convention (\*copy at end of form) | | | | | |
| V1 Crossing | | | Measure | Response | Comments |
| Gauge  (At crossing nose) | V1 Mainline | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V1 Mainline | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V1 Mainline | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Gauge  (At crossing nose) | V1 Sec Line | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V1 Sec Line | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V1 Sec Line | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | V1 | |  | 5 to 10 – monitor  >10 – speed 40/40 and monitor |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | V1 | |  | 15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| K1 Crossing | | | Measure | Response | Comments |
| Gauge | K1(a) | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qa | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Ra | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Gauge | K1(b) | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qb | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Rb | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | a | |  | 5 to 10 – monitor  >10 – speed 40/40 and monitor |  |
| Wing Rail Vertical Wear | b | |  | 5 to 10 – monitor  >10 – speed 40/40 and monitor |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | a | |  | 15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | b | |  | 15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| **K2 Crossing** | | | **Measure** | **Response** | **Comments** |
| Gauge | K2(c) | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qc | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Rc | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Gauge | K2(d) | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qd | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Rd | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | c | |  | 5 to 10 – monitor  >10 – speed 40/40 and monitor |  |
| Wing Rail Vertical Wear | d | |  | 5 to 10 – monitor  >10 – speed 40/40 and monitor |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | c | |  | 15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | d | |  | 15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| **V2 Crossing** | | | **Measure** | **Response** | **Comments** |
| Gauge  (At crossing nose) | V2 Mainline | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V2 Mainline | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V2 Mainline | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Gauge  (At crossing nose) | V2 Sec Line | |  | ≥1443 - speed 20/20 and monitor  1442 to 1441 - speed 60/65 and monitor  1440 to 1439 - monitor  1430 to 1428 – monitor  1427 to 1426 – speed 60/65 and monitor  ≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V2 Sec Line | |  | ≥1400 - speed 10/10 and pilot trains  1399 to 1398 - speed 40/40 and monitor  1397 to 1396 - speed 60/65 and monitor  1388 to 1386 – monitor  1385 to 1384 – speed 60/65 and monitor  1383 to 1382 – speed 40/40 and monitor  <1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V2 Sec Line | |  | >49 - speed 60/65 and monitor  49 to 48 – monitor  39 to 38 – monitor  <38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | V2 | |  | 5 to 10 – monitor  >10 – speed 40/40 and monitor  15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | V2 | |  | 15 to 20 – monitor  21 to 25 – speed 40/40 and monitor  >25 – speed 10/10 and pilot trains |  |
| V & K Crossings | | | Measure | Response | Comments |
| Ineffective Bearers/Fasteners  (In critical area) | | |  | 1 only – monitor  2 consecutive – speed 40/40 and monitor  >2 consecutive - speed 10/10 and pilot trains |  |
| Cracks in Cast Crossings | | |  | Monitor  Fully (not affecting running surface) – speed 60/65 and monitor  Fully (affecting running surface) – speed 10/10 and pilot trains |  |
| Spacer Blocks | | |  | Broken/cracked - monitor |  |
| Check Rail Bolts  (Each Check Rail) | | |  | Loose – monitor  Missing/Ineffective:  <2 – monitor except for 60/65 speed 25 tonne, 40/40 speed 30 tonne axle load traffic areas  3 – speed 60/65 except for 40/40 speed in 25/30 tonne axle load areas.  >3 – speed 20/20 and monitor |  |
| Crossing Bolts | | |  | Loose/Missing/Ineffective – record as defect and prioritise |  |
| General | | Ok/Not Ok | | Comments | |

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| --- | --- | --- |
| Response assessment by competent person | | |
| Drainage |  |  |
| Ballast |  |  |
| Alignment |  |  |
| Fastenings |  |  |
| Bearers |  |  |
| Check rails |  |  |
| K crossing condition |  |  |
| V crossing condition |  |  |
| Track Geometry |  |  |

**Additional Inspection Notes:**

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Notes:

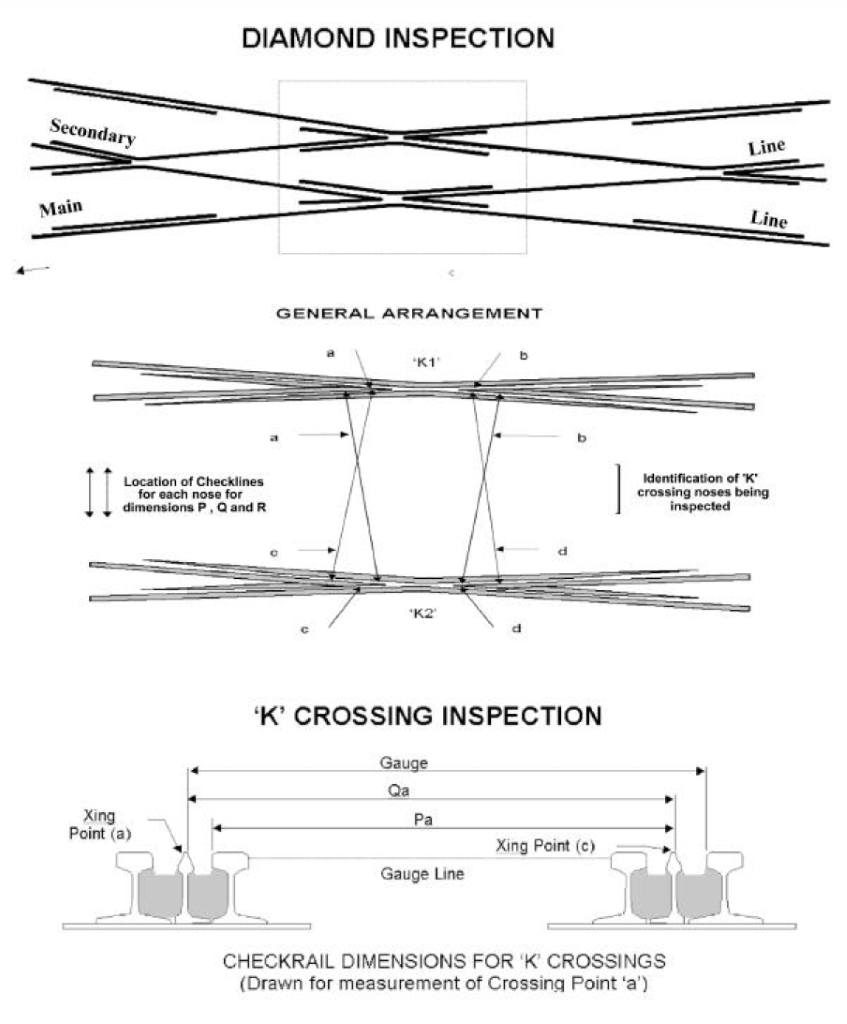
\* “Monitor” means at an appropriate increased frequency compared to the current inspection

\* Responses are default actions pending appropriate repair / renewal action

\* If the cause of a defect is known, and it is known that it will not deteriorate into an unsafe condition an alternate response to that shown is permitted with appropriate documentation

**Name of Inspector: Signature:**

*\*Copy of ETE-03-01, Figure 4- Diamond Crossing Nose and Dimension Identification:*

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