



| INSPECTION DEPARTMENT                        |
|----------------------------------------------|
| Main Tower Expansion Joints<br>North & South |
| DATE. 2013.08.09                             |

(E2.1 Bridge)  
REPORT No 401  
MAIN SPAN EXPANSION JOINTS N & S

DATE: 07.08.13 to 09.08.13

A visual inspection of the north and South Main Tower Expansion Joints was carried out on the above dates, general information and current status is as follows:

**Structural Steelwork:** All the steelwork remains in a satisfactory condition.

**Fixings:** All associated fixings are satisfactory remaining secure and intact. At time of inspection there was evidence of the protective covering breaking down with medium to heavy corrosion on the bolt heads.

**Expansion Plate Failsafe System:** Regular monthly inspections remain to be carried out with all the plate failsafe system trains remaining in a satisfactory condition; all fixings are secure and functioning correctly.

**Pins, Springs & Bushes:** Pins and bushes located in the plate ends are still showing a state of deterioration. North Main Tower expansion joint tongue plate, west spring located in cell MW5 has been replaced since last inspection and South Main Tower expansion joint tongue plate spring located in SE3 requires be replaced, Maintenance Supervisor has been notified. Some of the springs have evidence of paint breakdown but remain in a satisfactory condition.

**Surface Plates:** A cracked weld was detected on tongue plate ME5 (east perimeter) since the last inspection, this was recorded and passed to the relevant Maintenance Supervisor and has since been repaired. All other surface plates remain in a satisfactory condition.

**Spring Dimensions:** Spring dimensions were taken on all Rocker and Tongue Plate springs, these remain satisfactory. At time of inspection there was still evidence of paint breakdown. (Survey Sheet Attached)

Bridge Inspector:



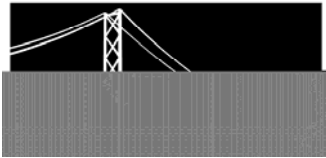
| INSPECTION DEPARTMENT                                     |
|-----------------------------------------------------------|
| South main tower Main tower expansion joint spring checks |
| DATE. 2013. 08. 07.                                       |

| DIMENSION OF SPRING CHECK. 01/08/12..  |        |        |        |        |        |        |
|----------------------------------------|--------|--------|--------|--------|--------|--------|
| SOUTH EAST (MAINSpan)                  | ME1    | ME2    | ME3    | ME4    | ME5    | ME6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 140 mm | 140 mm | 136 mm | 139 mm | 139 mm | 139 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 70 mm  | 70 mm  | 71 mm  | 70 mm  | 70 mm  | 70 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 69 mm  | 70 mm  | 70 mm  | 70 mm  | 69 mm  | 69 mm  |
| DIMENSION OF SPRING CHECK . 23/01/11.  |        |        |        |        |        |        |
| SOUTH EAST (SIDESpan)                  | SE1    | SE2    | SE3    | SE4    | SE5    | SE6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 140 mm | 141 mm | 139 mm | 140 mm | 139 mm | 139 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 70 mm  | 69 mm  | 71 mm  | 68 mm  | 69 mm  | 69 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 70 mm  | 68 mm  | 63 mm  | 69 mm  | 69 mm  | 69 mm  |

| DIMENSION OF SPRING CHECK . 01/08/12.  |        |        |        |        |        |        |
|----------------------------------------|--------|--------|--------|--------|--------|--------|
| SOUTH WEST (MAINSpan)                  | MW1    | MW2    | MW3    | MW4    | MW5    | MW6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 140 mm | 141 mm | 140 mm | 139 mm | 140 mm | 141 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 68 mm  | 69 mm  | 69 mm  | 68 mm  | 69 mm  | 70 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 68 mm  | 68 mm  | 69 mm  | 69 mm  | 69 mm  | 70 mm  |
| DIMENSION OF SPRING CHECK . 23/01/11.  |        |        |        |        |        |        |
| SOUTH WEST (SIDESpan)                  | SW1    | SW2    | SW3    | SW4    | SW5    | SW6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 139 mm | 139 mm | 139 mm | 138 mm | 139 mm | 138 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 69 mm  | 68 mm  | 69 mm  | 68 mm  | 68 mm  | 69 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 66 mm  | 69 mm  | 69 mm  | 68 mm  | 69 mm  | 70 mm  |

### SE3. Tongue Plate Spring West Cracked

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| INSPECTION DEPARTMENT                                                |
|----------------------------------------------------------------------|
| Main Tower expansion joint<br>North Expansion Joint<br>Spring Checks |
| DATE. 2013.08.07                                                     |

| DIMENSION OF SPRING PRE-COMPRESSION    |         |        |        |        |        |        |
|----------------------------------------|---------|--------|--------|--------|--------|--------|
| NORTH EAST (MAINSpan)                  | ME1     | ME2    | ME3    | ME4    | ME5    | ME6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 140 mm. | 140mm  | 138mm  | 140mm  | 140mm  | 137mm  |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 72 mm   | 71mm   | 71 mm  | 70 mm  | 71 mm  | 70 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 72mm    | 71 mm  | 71 mm  | 71 mm  | 72 mm  | 71 mm  |
| DIMENSION OF SPRING CHECK              |         |        |        |        |        |        |
| NORTH EAST (SIDESPAN)                  | SE1     | SE2    | SE3    | SE4    | SE5    | SE6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 141mm   | 136 mm | 140 mm | 139 mm | 138 mm | 138 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 68 mm   | 68 mm  | 71 mm  | 65 mm  | 66 mm  | 66 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 65mm    | 67mm   | 67 mm  | 65 mm  | 66 mm  | 67 mm  |

| DIMENSION OF SPRING PRE-COMPRESSION    |       |        |       |        |        |        |
|----------------------------------------|-------|--------|-------|--------|--------|--------|
| NORTH WEST (MAINSpan)                  | MW1   | MW2    | MW3   | MW4    | MW5    | MW6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 141mm | 141 mm | 141mm | 140 mm | 139 mm | 140 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 70 mm | 71 mm  | 72 mm | 71 mm  | 70 mm  | 70 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 70mm  | 71 mm  | 72 mm | 69 mm  | 68 mm  | 71 mm  |
| DIMENSION OF SPRING CHECK              |       |        |       |        |        |        |
| NORTH WEST (SIDESPAN)                  | SW1   | SW2    | SW3   | SW4    | SW5    | SW6    |
| ROCKER PLT. SPRING COMPRESSION DIM.    | 141mm | 141 mm | 141mm | 140 mm | 139 mm | 140 mm |
| TONGUE PLT. SPRING /E COMPRESSION DIM. | 75 mm | 75 mm  | 75 mm | 76 mm  | 76 mm  | 79 mm  |
| TONGUE PLT. SPRING /W COMPRESSION DIM. | 74mm  | 76 mm  | 76 mm | 77 mm  | 77 mm  | 75 mm  |

MW5 Tongue Plate spring replaced since last inspection.

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