

LBSC2 - D0900428 - Coordinates Definition

DRAWING #	COORDINATES DEFINITION
	Systems defines the location of the BSC2-L1 0,0,0 Local CS at the origin of the Assy.
D0900429 AdvLIGO VE BSC2-L1, Vacuum Equipment Assembly	<p>The position of the Vacuum Equipment is defined by:</p> <ol style="list-style-type: none"> 1. Positioning the CS in the VE Assy at the intersection of the 2 Nozzles Centerlines of the BSC Lower Shell. (Ref. Point is the origin of the Assy) 2. The orientation of the Chamber with respect to the IFO Global CS is defined by DCC Doc G1000125-v8 3. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the VE Assy, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy
D0900430 AdvLIGO SEI BSC2-L1, XYZ Local CS for ISO Table Assembly	<p>The position of the ISO TABLE is defined by:</p> <ol style="list-style-type: none"> 1. Positioning the CS in the ISO Table Assy at 1661.7 mm below the Table Optical Surface as per DCC DocT010076-v1 Page 29 2. The orientation of the ISO Table with respect to the IFO Global CS is defined by DCC Doc G1000125-v8 3. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the ISO Table Assembly, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy <p>NOTE: The positioning of the CS in the actual SW Model is 1659.17 mm. It was set up at this "Z" Value to compensate a gap of 2.53 mm between the BS and the Optical Table Surface. In real life, this gap is compensated in the HEPI structure by adding a spacer.</p>
D0900431 AdvLIGO SUS BSC2-L1, XYZ Local CS for BS HR Assembly	<p>The position of the BS HR is defined by:</p> <ol style="list-style-type: none"> 1. The Coordinates from DCC P/N D0902216-v8. X = -202.5 mm; Y = -184.0 mm; Z = -82.8 mm; Yaw Angle = 45.1° 2. With these coordinates systems creates the 3D Sketch to position BS HR on the BSC Table 3. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the BS HR Suspension, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy
D0900525 AdvLIGO SUS BSC2-L1, XYZ Local Elliptical Baffles (ITMX,ITMY) Assembly	<p>The position of the Elliptical Baffles (ITMX,ITMY) is defined by:</p> <ol style="list-style-type: none"> 1. Following the "X" (for ITMX) & "Y" (for ITMY) coordinates from the BS HR structure, 2. Then matching the Local "Z" coordinate value from the BS HR Structure. 3. From the SW Model, Systems find out the Local Coordinates of the Elliptical Baffles (ITMX,ITMY) i) ITMX X = 1041.4 mm; Y = -202.0 mm; Z = 83.0 mm; Yaw Angle = 0.0° ii) ITMY X = -202.0 mm; Y = 1117.6 mm; Z = 83.0 mm; Yaw Angle = 0.0° 4. With these coordinates systems creates the 3D Sketch to position Elliptical Baffles (ITMX,ITMY) on the BSC Table 5. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the Elliptical Baffles (ITMX,ITMY) Assembly, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy
D1000513 HEPI, BSC, Chamber Level Assembly, aLIGO SEI	<p>The position of the HEPI is defined by:</p> <ol style="list-style-type: none"> 1. Positioning the CS in the HEPI Assy at 1850.0 mm above the concrete floor as per DCC Doc E1000659-v2 2. The orientation of the HEPI with respect to the IFO Global CS is defined by DCC Doc G1000125-v8 3. Systems insert the assy mating the AdvLIGO 0,0,0 Local CS from the HEPI, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy
D1101852 AdvLIGO BSC2-L1 ISI Table, XYZ Local CS for Balance Masses Assembly	<p>The position of the Balance Masses Assembly is defined by:</p> <ol style="list-style-type: none"> 1. Positioning the CS in the Balance Masses Assy at 1661.7 mm below the Table Optical Surface as per DCC DocT010076-v1 Page 29 2. Systems creates the 3D Sketch to position the Assy D1101852 on the BSC Table 3. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the Balance Masses Assy, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy <p>NOTE: The positioning of the CS in the actual SW Model is 1659.17 mm. It was set up at this "Z" Value to match the "Z" value defined at the ISO Table Assembly above.</p>
D1001245 AdvLIGO SEI BSC2-L1, XYZ Local CS for TCS CO2 Steering Mirror (ITMX,ITMY) Assembly	<p>The position of the TCS CO2 Steering Mirror Assembly is defined by:</p> <ol style="list-style-type: none"> 1. TCS provides the assembly (D1101851) with all components already defined on the BSC Chamber 2. Systems creates the AdvLIGO 0,0,0 Local CS to position the Assy D1001245 on the BSC Table. 3. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the TCS CO2P Steering Mirror Assy, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy

D1200060 ALIGO, CABLE HARNESS ROUTING - BSC2

The position of the Cable Harness is defined by

1. Positioning the CS in the Cable Harness Assy at **1661.7 mm** below the Table Optical Surface as per DCC DocT010076-v1 Page 29
2. Systems creates the 3D Sketch to position the Assy D1200060 on the BSC Table
3. Systems insert the assembly mating the AdvLIGO 0,0,0 Local CS from the Cable Harness Assy, to the BSC2-L1 0,0,0 Local CS at the origin of the Assy

NOTE: The positioning of the CS in the actual SW Model is **1659.17 mm**. It was set up at this "Z" Value to match the "Z" value defined at the ISO Table Assembly above.