MagnetManeuvers

GTIsMagnetInGripper
Tool 0
can start from P1, P18 or anywhere inside dewar (except inside cassette ports)
ends at P52 (temporary point where picker is in line with P3 and cradle placer edge)
ends at P3 ''latest code

GTPickMagnet
Tool 0
can start from P1, P18 or anywhere inside dewar (except inside cassette ports)
ends at P3

GTCheckAndPickMagnet
NoMove, GTPickMagnet, GTIsMagnetInGripper, GTPickMagnet->GTIsMagnetInGripper

GTReturnMagnet
Tool 0
can start from P1, P18 or anywhere inside dewar (except inside cassette ports)
ends at P3

GTMoveToGoniometer
Tool 0
can start from P0, P18 or anywhere inside dewar (except inside cassette ports)
ends at P22

GTGoHome
Tool 0
can start from P1 or anywhere inside dewar (except inside cassette ports) or
P18 or anywhere from goniometer side
ends at P0

DismountSample

GTCheckMagnetForDismount
GTDismountToInterestedPort
GTReturnMagnetAndGoHome

GTCheckMagnetForDismount

GTReturnMagnet, GTIsMagnetInGripper->GTReturnMagnet, GTPickMagnet->GTIsMagnetInGripper->GTReturnMagnet, NoMove

GTDismountToInterestedPort

GTMoveToGoniometer
GTCavityGripSampleFromGonio
GTMoveGoniometerToPlacer
GTReleaseSampleToPlacer
GTPickMagnet
GTMoveToInterestPortStandbyPoint
GTPutSampleIntoInterestPort
GTMoveBackToCassetteStandbyPoint
GTMoveCassetteStandbyToCradle

GTReturnMagnetAndGoHome

GTReturnMagnet
GTGoHome

GTMoveCassetteStandbyToCradle

Tool 0
starts from cassette standby point i.e.
GTperfectSPPortOffset(cassette_position, puckPortIndex, puckIndex, standbyDistanceFromSPSurface, ByRef dummyVariable, ByRef dummyVariable, ByRef ZoffsetFromBottom, ByRef dummyVariable)
standby_circle_radius = m_SP_Puck_Thickness(PUCK_A) * CASSETTE_SHRINK_FACTOR + standbyDistanceFromSPSurface
GTSetCircumferencePointFromU(cassette_position, g_UForPuckStandby(cassette_position), standby_circle_radius, ZoffsetFromBottom, SPStandbyPoint)

ZoffsetFromBottom = (CASSETTE_A1_HEIGHT + CASSETTE_ROW_HEIGHT * rowIndex) * CASSETTE_SHRINK_FACTOR
standby_circle_radius = CASSETTE_RADIUS * CASSETTE_SHRINK_FACTOR + standbyDistanceFromCASSurface
GTSetCircumferencePointFromU(cassette_position, g_UForNormalStandby(cassette_position), standby_circle_radius, ZoffsetFromBottom, cassetteStandbyPoint)

ends at P4

MountSamplePort

(without dismount)
GTJumpHomeToCoolingPointAndWait
GTCheckAndPickMagnet
GTMountInterestedPort

(with dismount)
GTCheckMagnetForDismount
GTDismountToInterestedPort
GTJumpHomeToCoolingPointAndWait
GTCheckAndPickMagnet
GTMountInterestedPort

GTJumpHomeToCoolingPointAndWait
Tool 0
Can Start from P0 or anywhere inside dewar (except from inside cassette ports) or from P18
ends at P3

GTMountInterestedPort
GTMoveToInterestPortStandbyPoint
GetSampleFromInterestPort
GTMoveBackToCassetteStandbyPoint
GTMoveCassetteStandbyToCradle
GTReturnMagnet
GTCavityGripSampleFromPicker
GTMoveToGoniometer
GTReleaseSampleToGonio
GTMoveGoniometerToDewarSide
GTGoHome

GTMoveToInterestPortStandbyPoint
Recommended to start from P3

Runs with picker as well as placer tool

ends at cassette standby point i.e.
GTperfectSPPortOffset(cassette_position, puckPortIndex, puckIndex, standbyDistanceFromSPSurface, ByRef dummyVariable, ByRef dummyVariable, ByRef ZoffsetFromBottom, ByRef dummyVariable)
standby_circle_radius = m_SP_Puck_Thickness(PUCK_A) * CASSETTE_SHRINK_FACTOR + standbyDistanceFromSPSurface
GTSetCircumferencePointFromU(cassette_position, g_UForPuckStandby(cassette_position), standby_circle_radius, ZoffsetFromBottom, SPStandbyPoint)

ZoffsetFromBottom = (CASSETTE_A1_HEIGHT + CASSETTE_ROW_HEIGHT * rowIndex) * CASSETTE_SHRINK_FACTOR
standby_circle_radius = CASSETTE_RADIUS * CASSETTE_SHRINK_FACTOR + standbyDistanceFromCASSurface
GTSetCircumferencePointFromU(cassette_position, g_UForNormalStandby(cassette_position), standby_circle_radius, ZoffsetFromBottom, cassetteStandbyPoint)

GTMoveGoniometerToDewarSide
can start from anywhere on Goniometer side
ends at P18

Mount Troubleshooting functions

TransportSamplePickerToPlacer
GTReturnMagnet
GTCavityGripSampleFromPicker
Arc P3, P27 CP "Arc via Cool Point to Placer Standby Point
GTReleaseSampleToPlacer

PutCradlePlacerSampleIntoPort
Tool 0
GTCheckAndPickMagnet
Tool PLACER_TOOL
GTMoveToInterestPortStandbyPoint
GTPutSampleIntoInterestPort

GTReleaseSampleToPlacer
can only start from P27
ends at P3

GTPutSampleIntoInterestPort
tool PLACER_TOOL
starts at stanbypoint in front of cassette port
ends at stanbypoint in front of cassette port