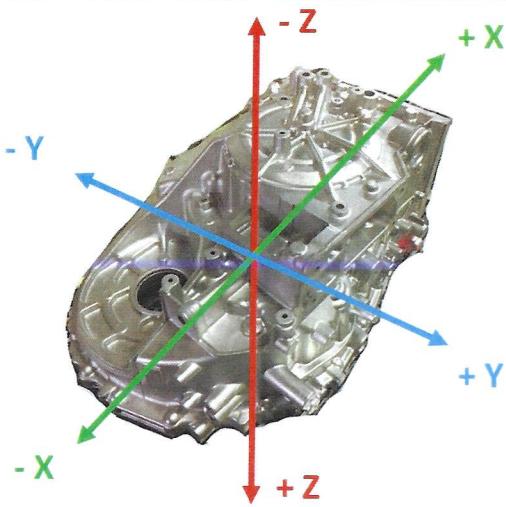
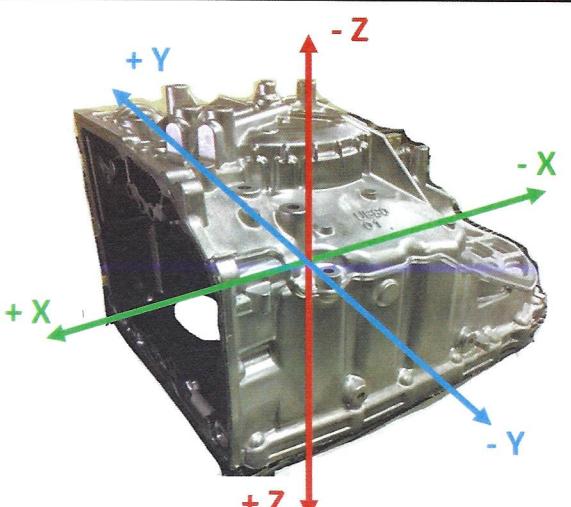
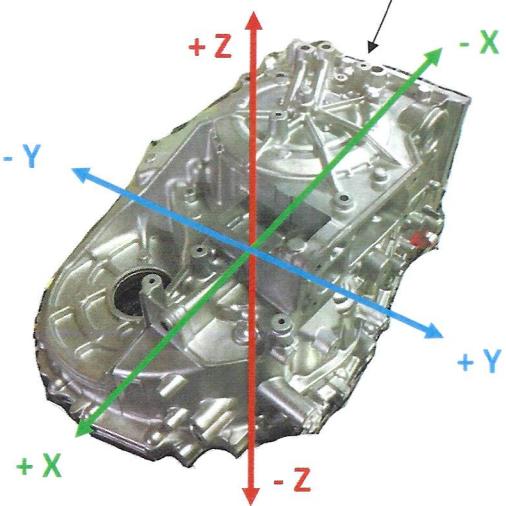
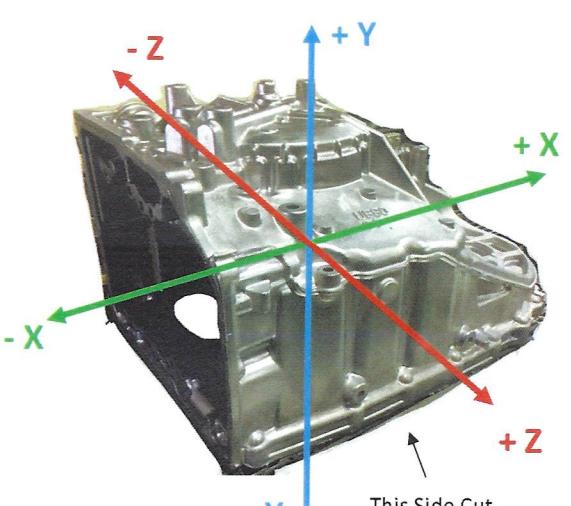
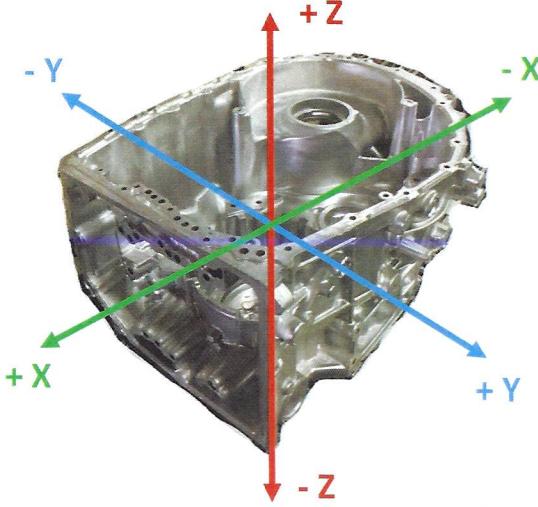
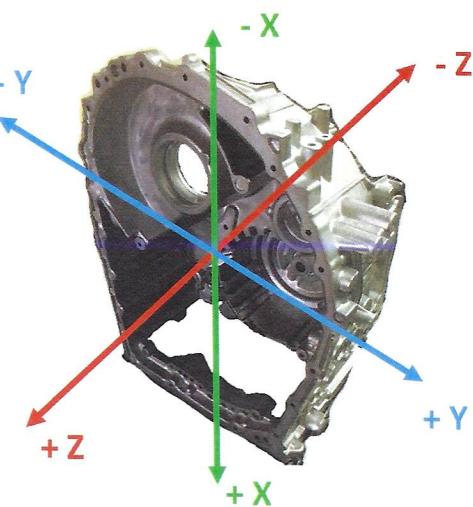


Team Members had issues determining which direction they should adjust the CNC programming to make one change rather than several. In the end, this reduced time spent waiting on the CMM measuring machine to measure the work piece and reduced the number of scrapped parts.

OP 10	
Coordinate Measuring Machine	Toyoda Machine Axis
	
 <p>Note: This is the machine axis reference after the table is rotated to cut this top face</p> <p>G Code:</p>	 <p>Table Position: 0 Degree</p> <p>G Code:</p>

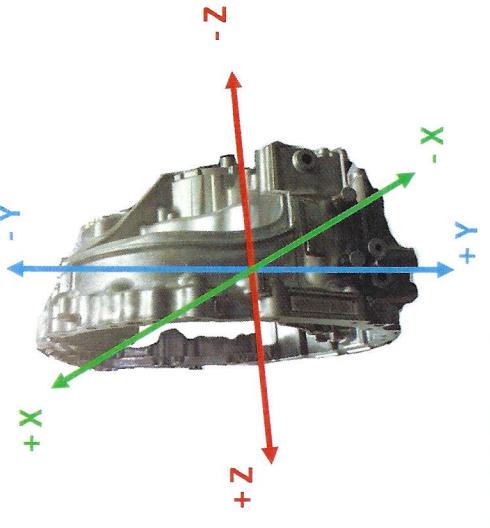
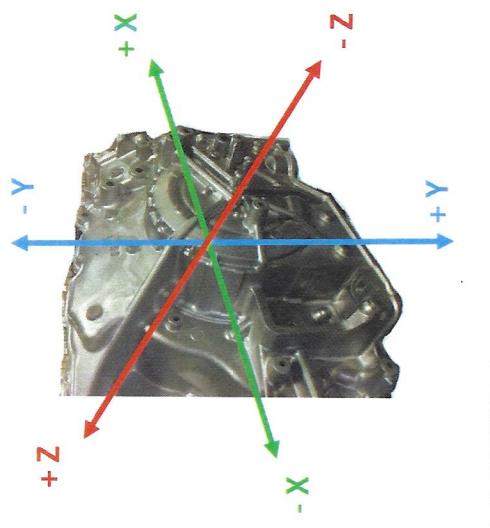
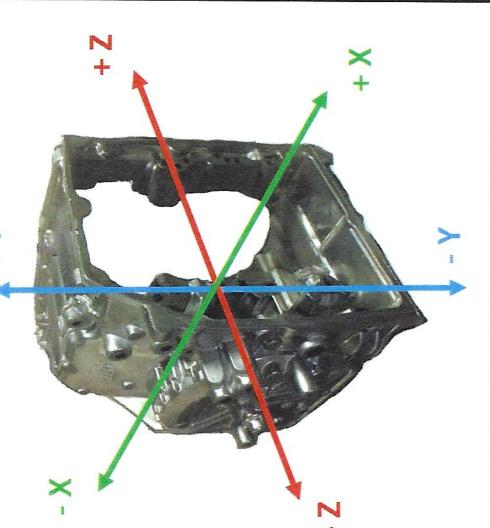
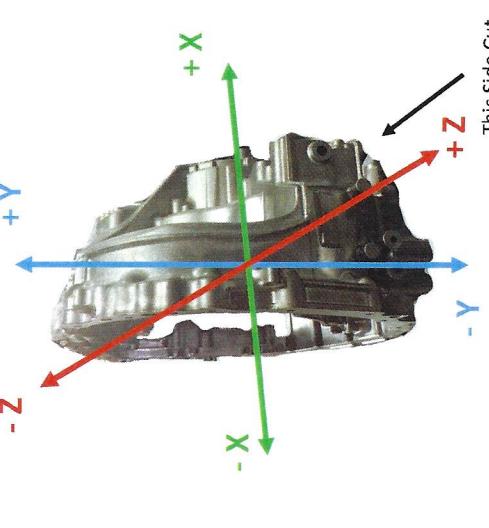
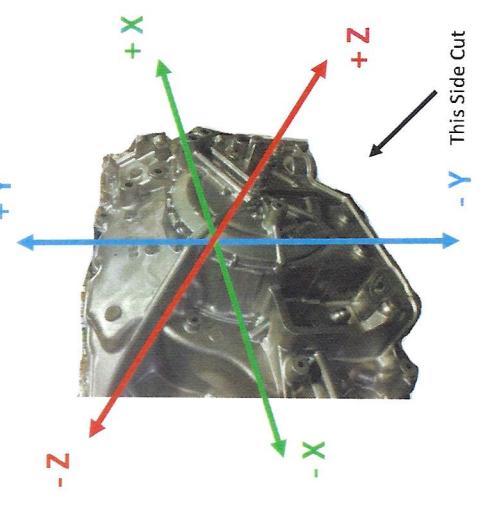
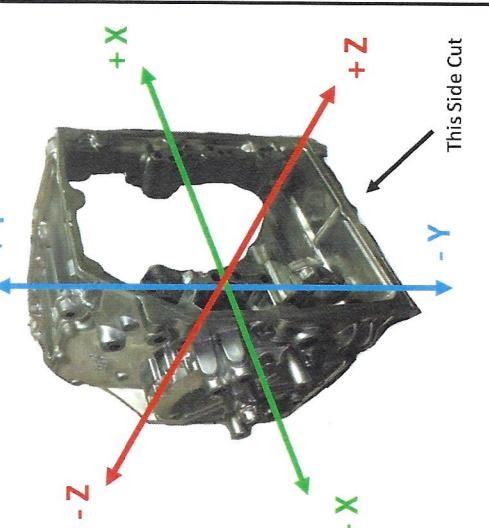
OP 20	
Coordinate Measuring Machine	Toyoda Machine Axis
	
This Side Cut Table Position: 0 Degree G Code:	This Side Cut Table Position: CCW 90 Degrees G Code:

Coordinate Measuring Machine	Toyoda Machine Axis
OP 30, 40, 50, 60	
OP 70	

OP 80

Coordinate Measuring Machine

Toyoda Machine Axis

B Axis 90 Deg

G Code:

B Axis 180 Deg

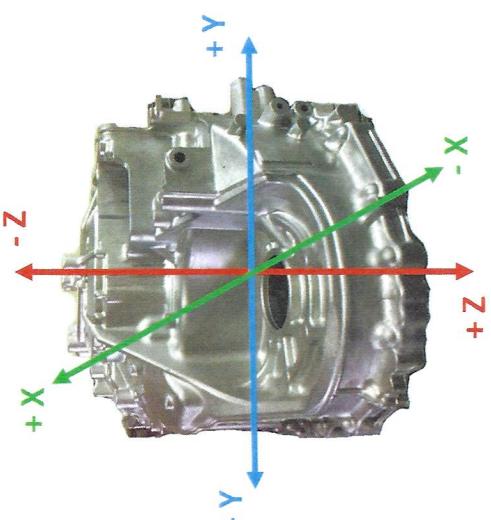
G Code:

B Axis 270 Deg

G Code:

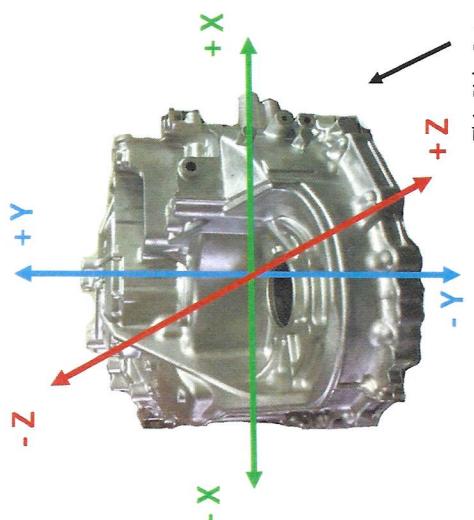
Coordinate Measuring Machine

OP 90

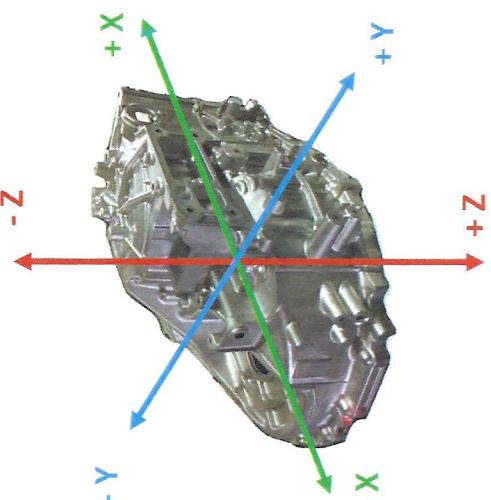


Toyoda Machine Axis

B Axis 90 Deg

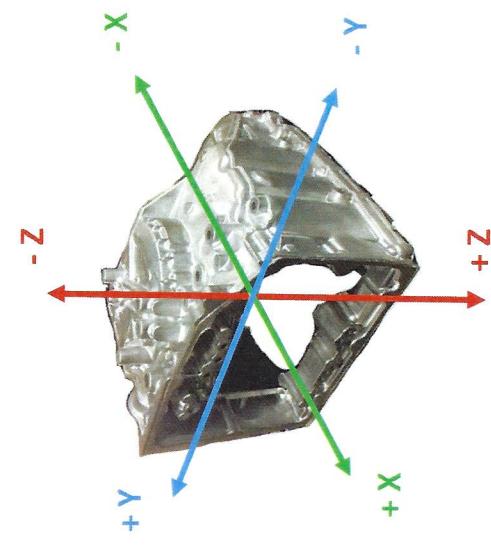


G-Code:
G0



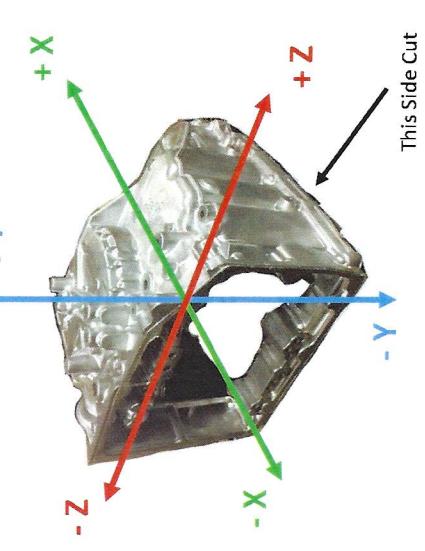
B Axis 0 Deg

G-Code:
G0



B Axis 180

G-Code:
G0



This Side Cut

+

-

+

-

+

-

+

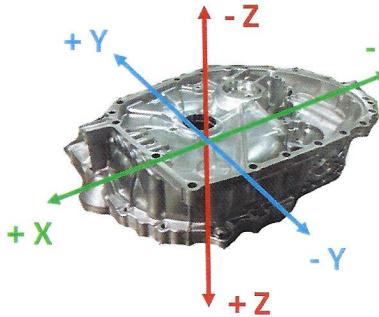
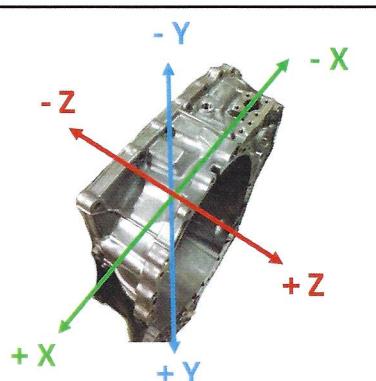
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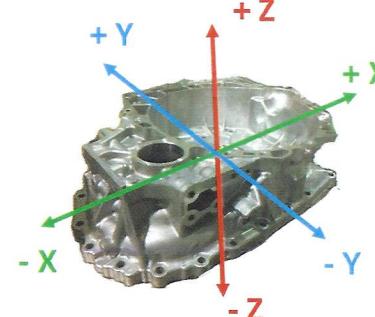
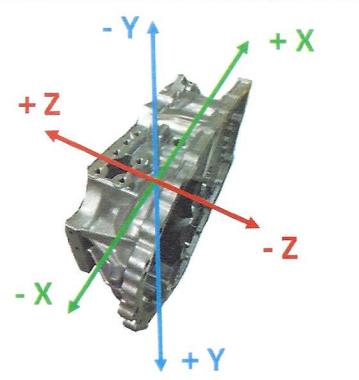
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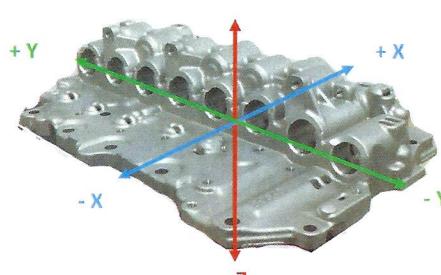
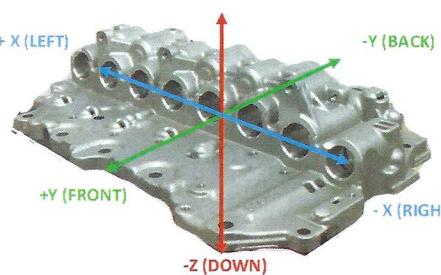
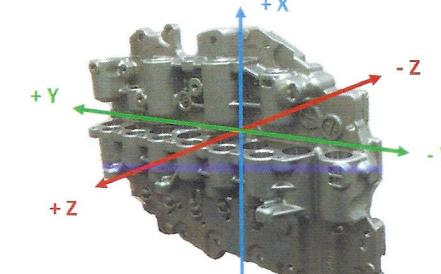
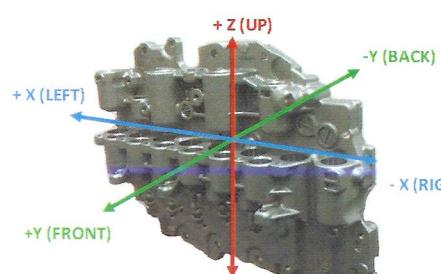
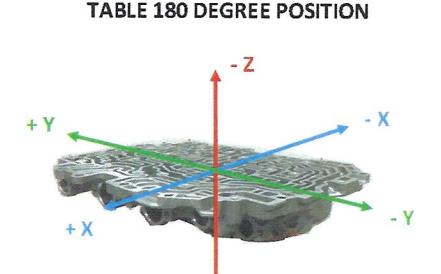
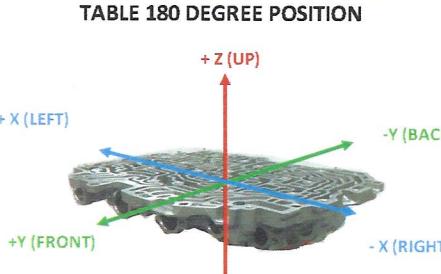
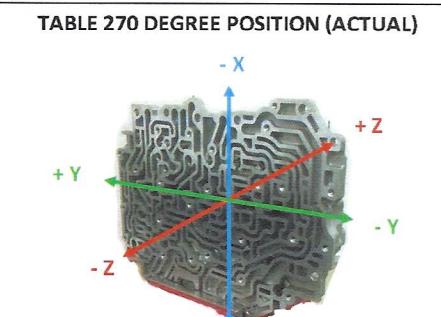
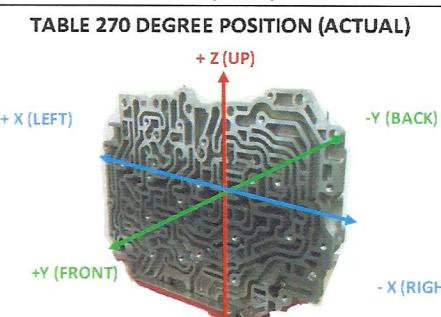
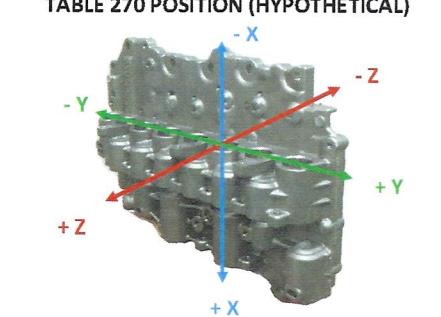
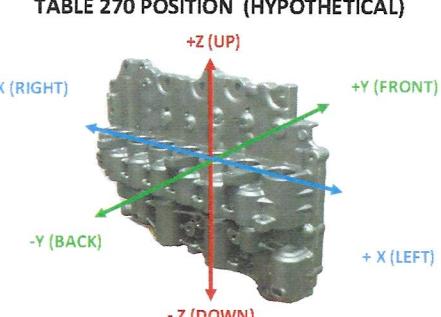
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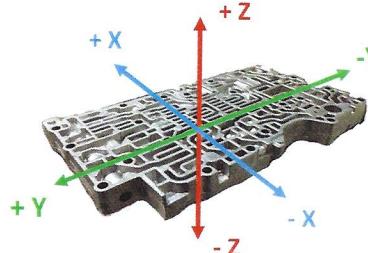
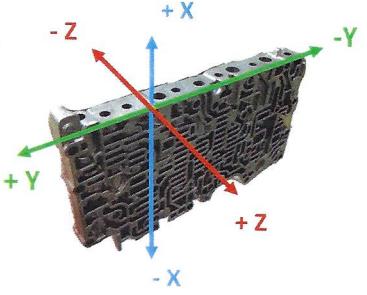
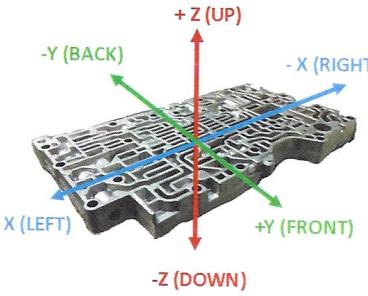
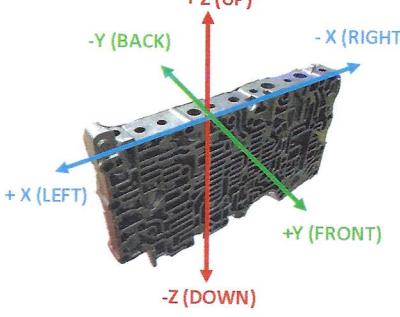
OP 10		TABLE MOVEMENT			
Coordinate Measuring Machine					
NTC Komatsu Machine Axis					
	Table Position (0 Degrees)	G-Code	Table Position (CCW 90 Degrees)	G-Code	

OP 20		TABLE MOVEMENT			
Coordinate Measuring Machine					
NTC Komatsu Machine Axis					
	Table Position (0 Degrees)	G-Code	Table Position (CCW 90 Degrees)	G-Code	

OP 30		TABLE MOVEMENT			
Coordinate Measuring Machine					
NTC Komatsu Machine Axis	Coordinate Measuring Machine				
		G-Code		G-Code	
		G-Code		G-Code	

OP 40		TABLE MOVEMENT				
Coordinate Measuring Machine						
NTC Komatsu Machine Axis	Coordinate Measuring Machine					
		G-Code		G-Code		G-Code
		G-Code		G-Code		G-Code

Front Valve Body RoboDrills (TABLE MOVEMENT)	
Coordinate Measuring Machine	Machine Axis
TABLE 0 DEGREE POSITION 	TABLE 0 DEGREE POSITION 
TABLE 90 DEGREE POSITION 	TABLE 90 DEGREE POSITION 
TABLE 180 DEGREE POSITION 	TABLE 180 DEGREE POSITION 
TABLE 270 DEGREE POSITION (ACTUAL) 	TABLE 270 DEGREE POSITION (ACTUAL) 
TABLE 270 POSITION (HYPOTHETICAL) 	TABLE 270 POSITION (HYPOTHETICAL) 

Middle Valve Body CMM vs. Robodrill Machine Axis Guide			
OP 10, 50 (Table Movement)			
Coordinate Measuring Machine	Robodrill Machine Axis	Coordinate Measuring Machine	Robodrill Machine Axis
			
OP 20,30,40 (Table Movement)			
