

Gary Faulkner, The Bowlers Edge Pro Shop, LLC

Expanded 2 Handed/No Thumb Layouts

Dual Angle Layouts based on Vertical Axis Coordinates

Purpose

This white paper expands on the 2 handed/No Thumb bowler layouts, developed by Mo Pinel and Mikey Pinel, based on the bowler's Vertical Axis Coordinate (VAC) in relation to the bowler's Horizontal Axis Line (HAL) and converts Mo's and Mikey's into the Dual Angle Layout notation equivalent.

In Memory of Mo Pinel

This paper is dedicated to Mo and the bowling ball genius that he was. Mo was one of a kind and will never be replaced. Mo was not only my friend, he was like a brother to me. His presence will be greatly missed. For Mopey.



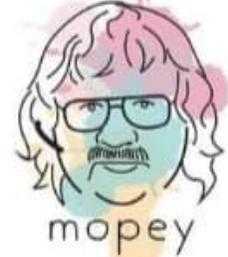
Mo's and Mikey's Layouts

Both Mo and Mikey saw the need for specific layouts for the growing number of 2 Handed and No Thumb bowlers. They established 6 different layouts that, when used properly, created a Pin Safe zone that would keep the ball from tracking over the finger holes. These

types of layouts were needed in response to the new USBC rules that eliminated the use of thumb holes for 2 hander/No thumb bowlers. The layouts use a Pin to PAP Distance, Pin to PSA Distance, and Pin above a line drawn from the ring finger to PAP.



NO THUMB Layouts



**PIN to
PAP**



**PSA to
PAP**



**PIN above
RF Line**

For symmetrical balls, draw a theoretical PSA $6 \frac{3}{4}$ " from the PIN through the CG
RF Line is a line drawn from the center of the ring finger to the PAP

REACTION

LAYOUT:

Short Pin (less hook)
Short Pin (more hook)
Strong Angular
Heavy Roll
Control
No Flare

$1 \frac{1}{4}$ " x $6 \frac{1}{4}$ " x $\frac{3}{4}$ " up
 $2 \frac{1}{4}$ " x $5 \frac{1}{4}$ " x $1 \frac{1}{2}$ " up
 $4 \frac{1}{4}$ " x $5 \frac{1}{4}$ " x $2 \frac{1}{4}$ " up
 $4 \frac{3}{4}$ " x $6 \frac{1}{4}$ " x 2" up
 $5 \frac{1}{2}$ " x $6 \frac{1}{4}$ " x 1" up
 $\frac{3}{4}$ " x $6 \frac{1}{2}$ " x $\frac{1}{2}$ " up

Dual Angle Layout Equivalent

There is a need for a “cheat sheet” that converts Mo’s and Mikey’s layouts into Dual Angle Notation. These Dual Angle Layouts do not replace the layouts developed by Mo and Mikey, but rather, they expanded on the work that they started by creating the Dual Angle Layout equivalent based on the bowlers VAC to maintain the proper distance of the Pin above the line drawn from the ring finger hole to the PAP. Each of the following sections will have 7 different layouts, corresponding Mo and Mikey layout, for different ranges of the bowler’s VAC. These ranges are,

- 3” or more
- 2” to 2 15/16”
- 1/2” to 1 15/16”
- - 7/16” to 7/16
- -1/2” to -1 15/16”
- -2” to -2 15/16”
- -3” or more

Where a positive number is above the Horizontal Axis Line (UP) and a negative number is below the Horizontal Axis Line (DOWN). The last section of this paper will have illustrations of the flare pattern of each Dual Angle Layout.

Short Pin (less hook) 1 1/4” x 6 1/4” x 3/4” up

Dual Angle Layouts

- | | |
|----------------------|-----------------|
| • 3” or more | 70 x 1 1/4 x 90 |
| • 2” to 2 15/16” | 70 x 1 1/4 x 75 |
| • 1/2” to 1 15/16” | 70 x 1 1/4 x 70 |
| • - 7/16” to 7/16 | 70 x 1 1/4 x 60 |
| • -1/2” to -1 15/16” | 70 x 1 1/4 x 50 |
| • -2” to -2 15/16” | 70 x 1 1/4 x 45 |
| • -3” or more | 70 x 1 1/4 x 30 |

Short Pin (more hook) 2 1/4" x 5 1/4" x 1 1/2" up

Dual Angle Layouts

- 3" or more 45 x 2 1/4 x 80
- 2" to 2 15/16" 45 x 2 1/4 x 75
- 1/2" to 1 15/16" 45 x 2 1/4 x 65
- - 7/16" to 7/16 45 x 2 1/4 x 50
- -1/2" to -1 15/16" 45 x 2 1/4 x 45
- -2" to -2 15/16" 45 x 2 1/4 x 45
- -3" or more 45 x 2 1/4 x 30

Strong Angular 4 1/4" x 5 1/4" x 2 1/4" up

Dual Angle Layouts

- 3" or more 80 x 4 1/4 x 80
- 2" to 2 15/16" 80 x 4 1/4 x 75
- 1/2" to 1 15/16" 80 x 4 1/4 x 65
- - 7/16" to 7/16 80 x 4 1/4 x 60
- -1/2" to -1 15/16" 80 x 4 1/4 x 55
- -2" to -2 15/16" 80 x 4 1/4 x 45
- -3" or more 80 x 4 1/4 x 40

Heavy Roll 4 3/4" x 6 1/4" x 2" up

Dual Angle Layouts

- 3" or more 60 x 4 3/4 x 85
- 2" to 2 15/16" 60 x 4 3/4 x 80
- 1/2" to 1 15/16" 60 x 4 3/4 x 70
- - 7/16" to 7/16 60 x 4 3/4 x 65
- -1/2" to -1 15/16" 60 x 4 3/4 x 60
- -2" to -2 15/16" 60 x 4 3/4 x 50
- -3" or more 60 x 4 3/4 x 45

Control 5 1/2" x 6 1/4" x 1" up

Dual Angle Layouts

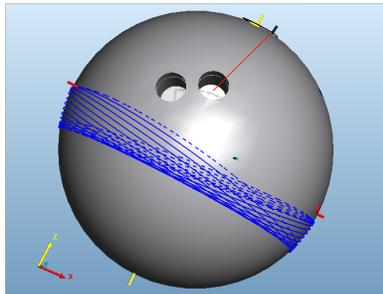
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- -3" or more 80 x 5 1/2 x 55

No Flare 3/4" x 6 1/2" x 1/2" up

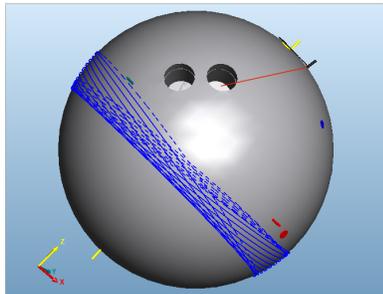
Dual Angle Layouts

- 3" or more 70 x 3/4 x 75
- 2" to 2 15/16" 70 x 3/4 x 60
- 1/2" to 1 15/16" 70 x 3/4 x 55
- - 7/16" to 7/16 70 x 3/4 x 50
- -1/2" to -1 15/16" 70 x 3/4 x 45
- -2" to -2 15/16" 70 x 3/4 x 40
- -3" or more 70 x 3/4 x 35

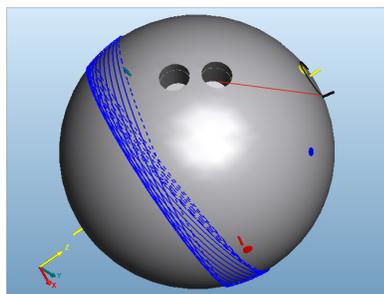
Short Pin (less hook) 1 1/4" x 6 1/4" x 3/4" up



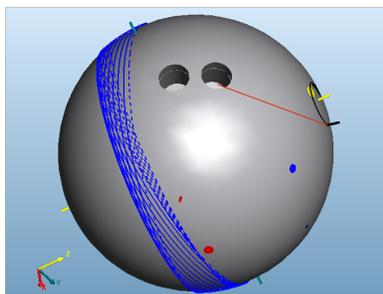
70 x 1 1/4 x 90



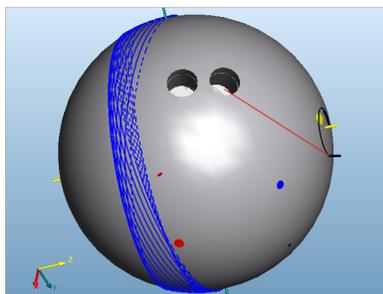
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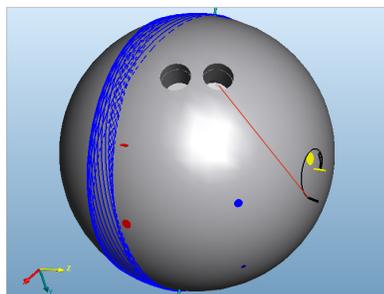
70 x 1 1/4 x 70



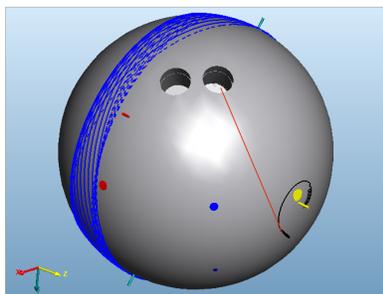
70 x 1 1/4 x 60



70 x 1 1/4 x 50



70 x 1 1/4 x 45

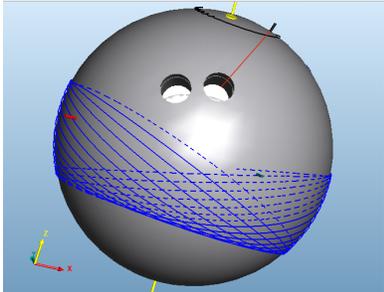


70 x 1 1/4 x 30

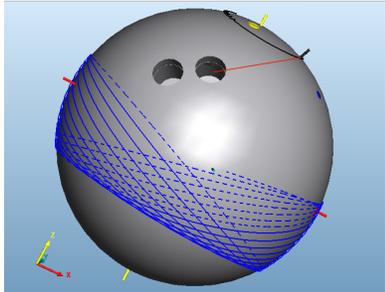
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Horizontal Axis Line distance was 5 1/2".

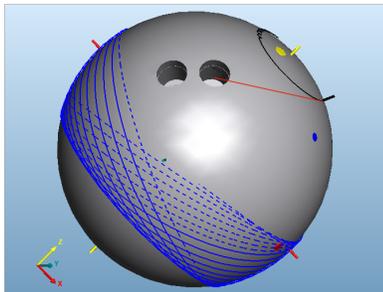
Short Pin (more hook) 2 1/4" x 5 1/4" x 1 1/2" up



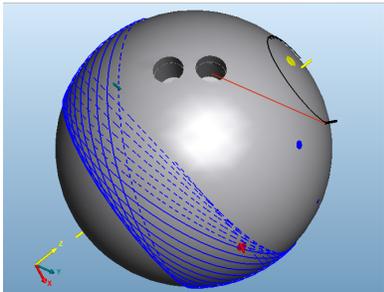
45 x 2 1/4 x 80



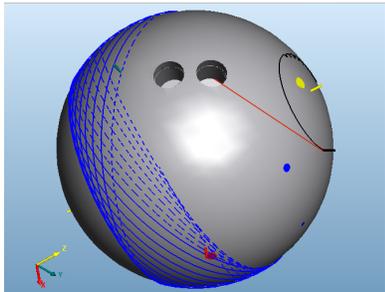
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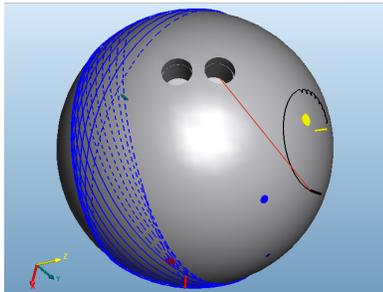
45 x 2 1/4 x 65



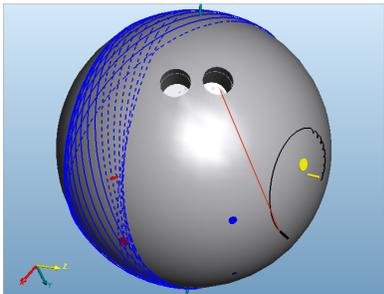
45 x 2 1/4 x 50



45 x 2 1/4 x 45 (-1/2 to -15/16)



45 x 2 1/4 x 45

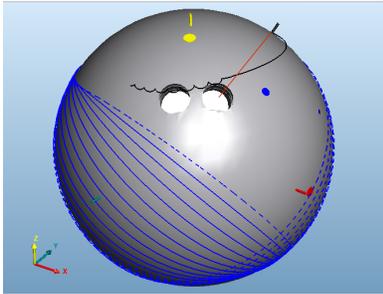


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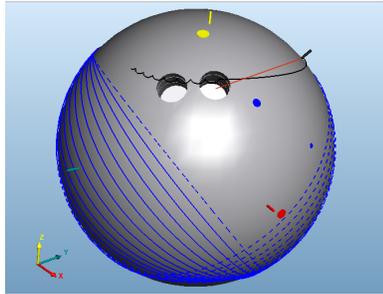
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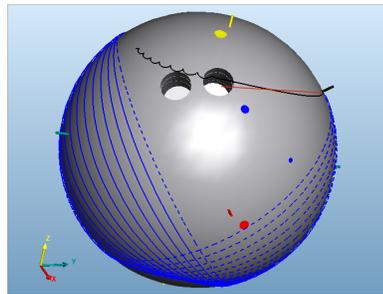
Strong Angular 4 1/4" x 5 1/4" x 2 1/4" up



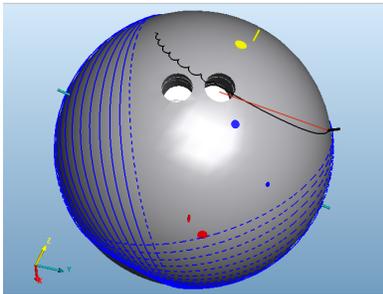
80 x 4 1/4 x 80



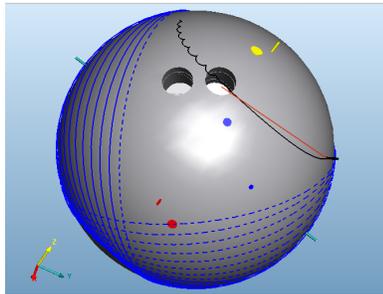
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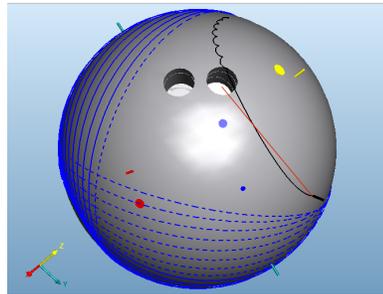
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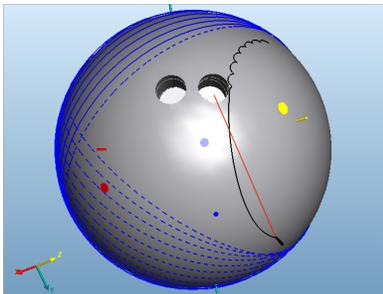
80 x 4 1/4 x 60



80 x 4 1/4 x 55



80 x 4 1/4 x 45

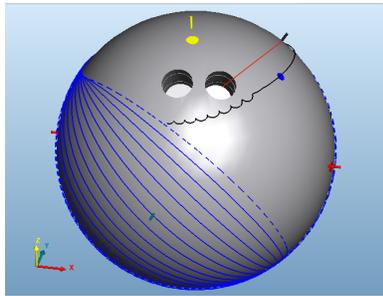


80 x 4 1/4 x 40

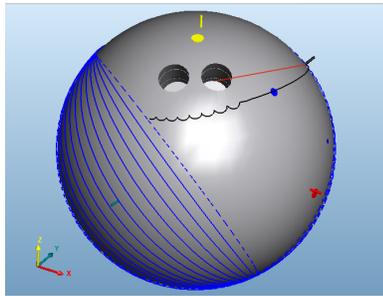
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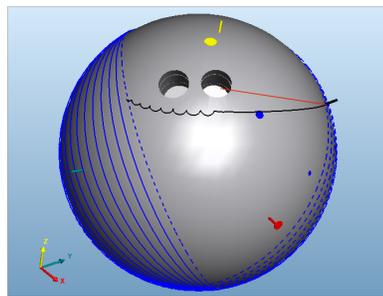
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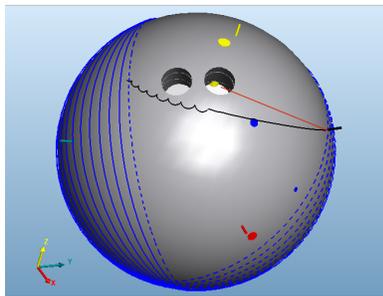
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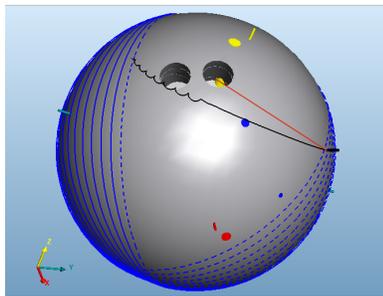
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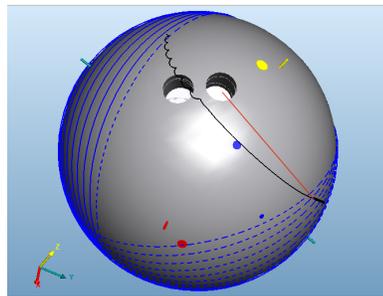
60 x 4 3/4 x 70



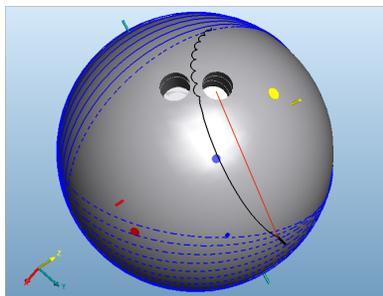
60 x 4 3/4 x 65



60 x 4 3/4 x 60



60 x 4 3/4 x 50

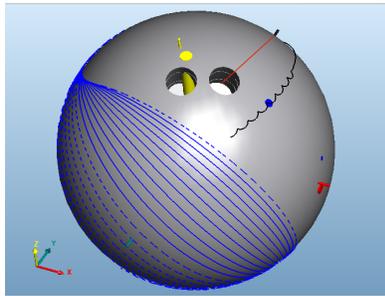


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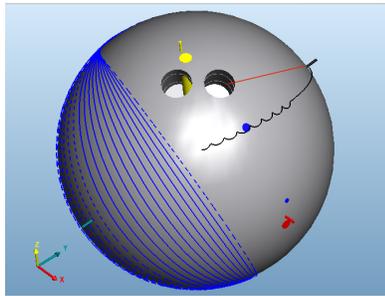
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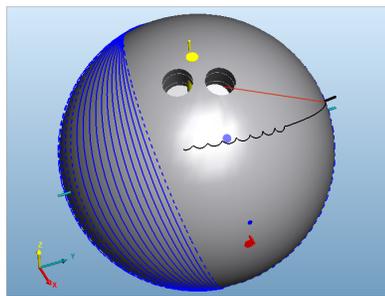
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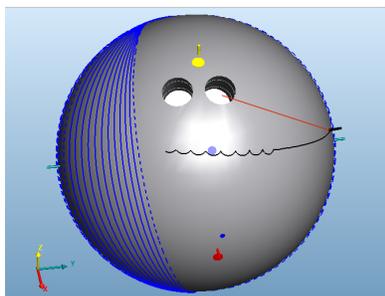
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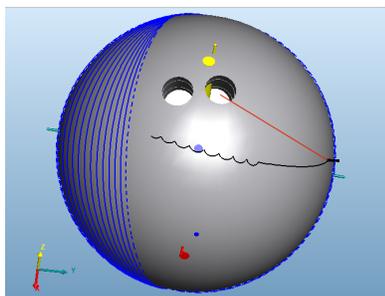
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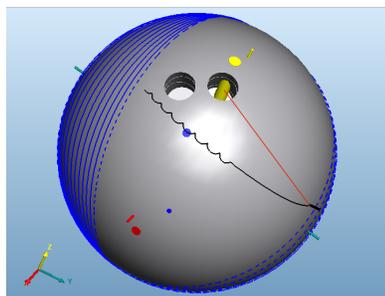
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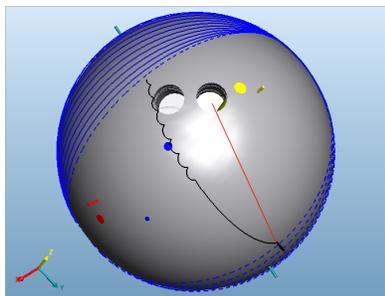
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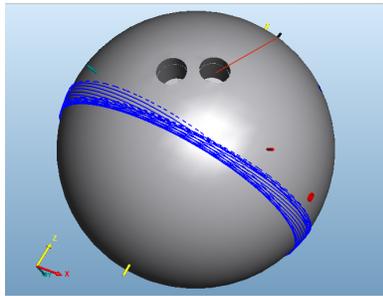


80 x 5 1/2 x 55

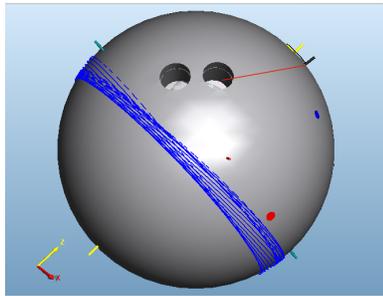
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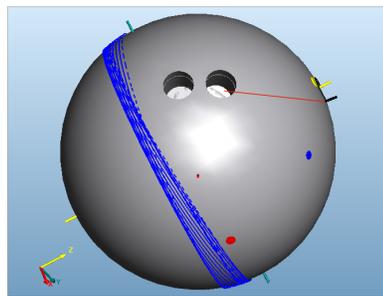
No Flare 3/4" x 6 1/2" x 1/2" up



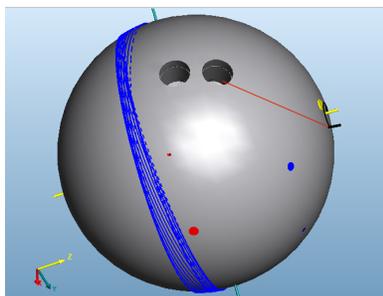
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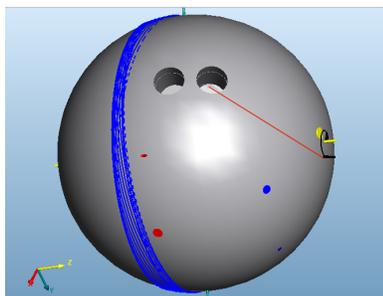
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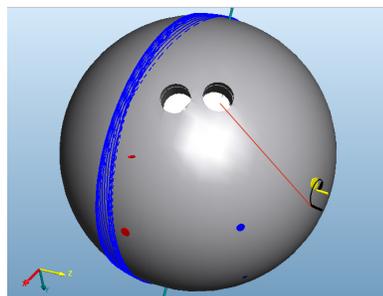
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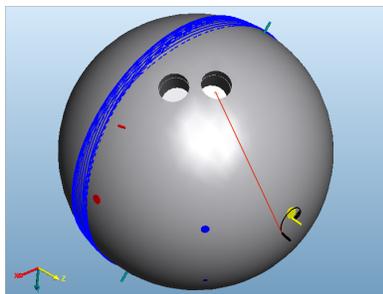
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