Inspecting Eyewear using the CL-300

Single Vision

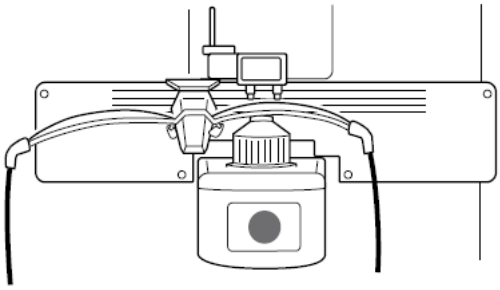
1. Set the lens meter to the single vision setting:

1A: If needed, use the Measurement Mode button to change lens type to SV.
1B: Press the Clear icon to erase previous readings.

Note: The CL-300 defaults to the single vision Measurement Mode when first powered on.

2. Place the right eye over the lens stop:

2A: Position the frame so the bottom is placed against the frame table.

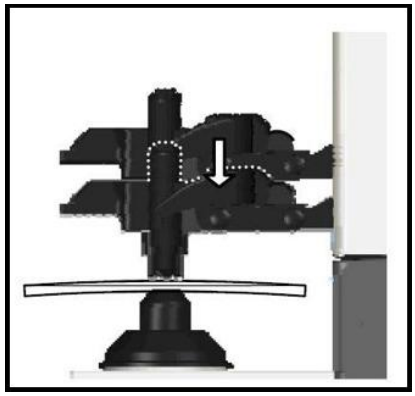


3. Move the cross to the center of the target:

3A: While keeping the frame against the frame table, center the cross within the target. Use your hand to move the cross right or left and the frame table lever to move it up or down.
3B: Make fine movements to get the cross in the exact center of the target. As the cross approaches the center it will change from blue to green and the screen will display Alignment OK. When the cross is perfectly centered, it will change color from green to pink and the screen will display Marking OK.

4. Clamp the lens:

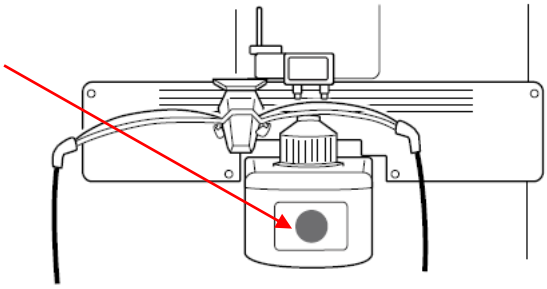
4A: After the cross is centered in the target and the screen displays Marking OK, clamp the lens in place.
4B: When the lens is clamped, the cross may move a little out of alignment and need to be readjusted. With one hand, release just a bit of pressure from the lens clamp, and readjust the alignment cross so it's perfectly centered and re-clamp.



Single Vision

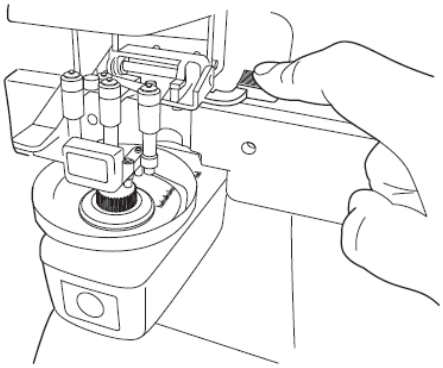
5. Press the Memory Button:

5A: When the lens is perfectly placed and clamped, press the Memory Button and the measurement values are saved for the Right lens.



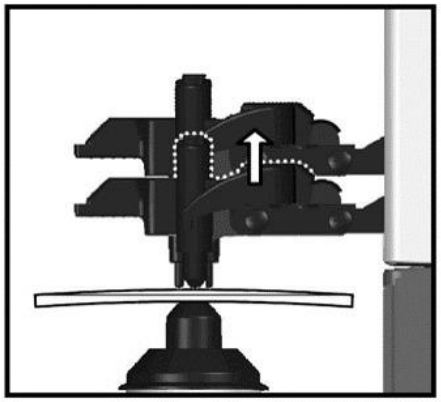
6. Mark the lens:

6A: After the measurements are saved, use the Marking Pin Lever to spot the optical center of the lens. This marking will be used later in the process to inspect PD and OC Height.



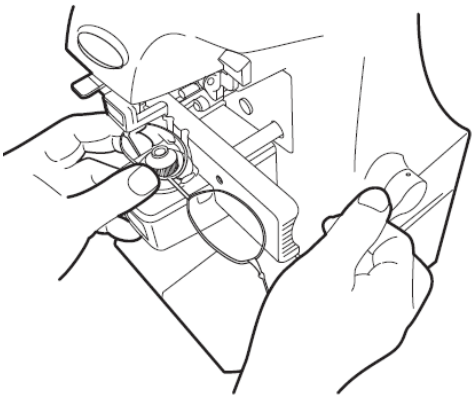
7. Remove the right lens:

7A: Lift the lens clamp and remove the right lens.



8. Repeat Steps 2 – 7 for the left lens:

8A: After the measurement of R lens, place the L lens on the lens then hold the lens in place with the lens clamp. The CL-300 will automatically switch to the left lens when the right lens is removed.



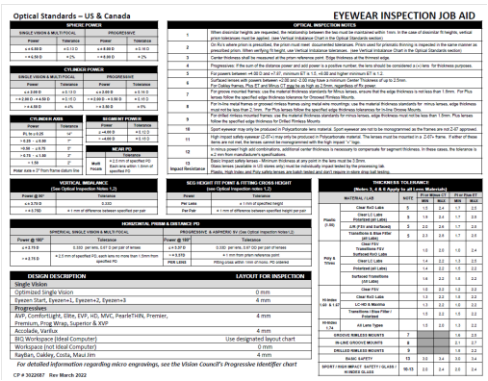
Single Vision

9. Compare Sphere power, Cylinder power, & Axis readings to the Quality Standards:

9A: Compare the recorded values for Sphere power, Cylinder power, & Axis to the allowable tolerances documented on the RxO work ticket or Quality Standards.

Note: Use the "Inspection Tolerance" for optimized prescriptions from RxO.

INSP . TOLERANCE				
Sphere	Tol	Cyl	Tol	Axis
R: + 1.75	0.13	- 2.00	0.13	180
L: + 2.00	0.13	- 2.00	0.13	170



10. Measure the PD Using the EIP Job Aid:

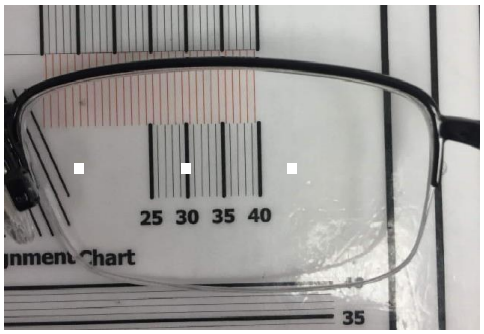
10A: Use the Alignment Grid on the EIP Job aid by centering the bridge and reading off the scale.

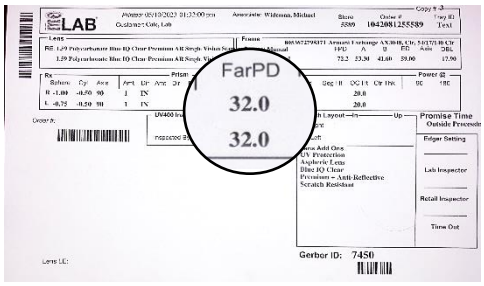
Note: the image to the right is an example of a Right eye with the white OC mark reading 30 mm on the scale.

10B: Determine the values on the Right and Left Lenses.

10C: Compare values to the work ticket- If the values match, continue to checking OC Height

If the values do not match continue to the next step

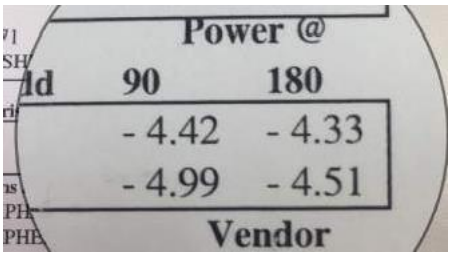




10-1. Determine the power of the lenses at 180°:

10-1A: Use the Lab Ticket to determine the power of the lens at 180- The image on the right shows the Right lens is over 2.75. Go to the next step.

10-1B: If the power is less than 2.75 go to Checking Lenses under 2.75



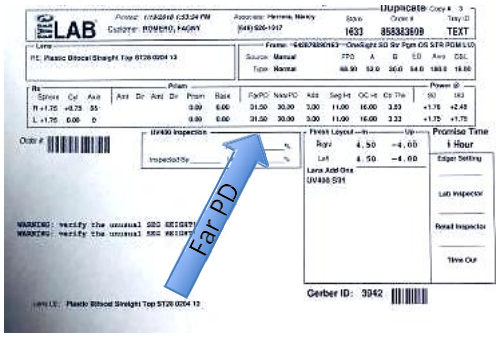
10-2a. Checking Lenses over 2.75D

10-2A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:

10-2B: Is the Right OC within 1.5 mm of the prescribed value? If YES, the lens passes.

10-2C: Is the Left lens within 1.5 mm? If YES, the lens passes.

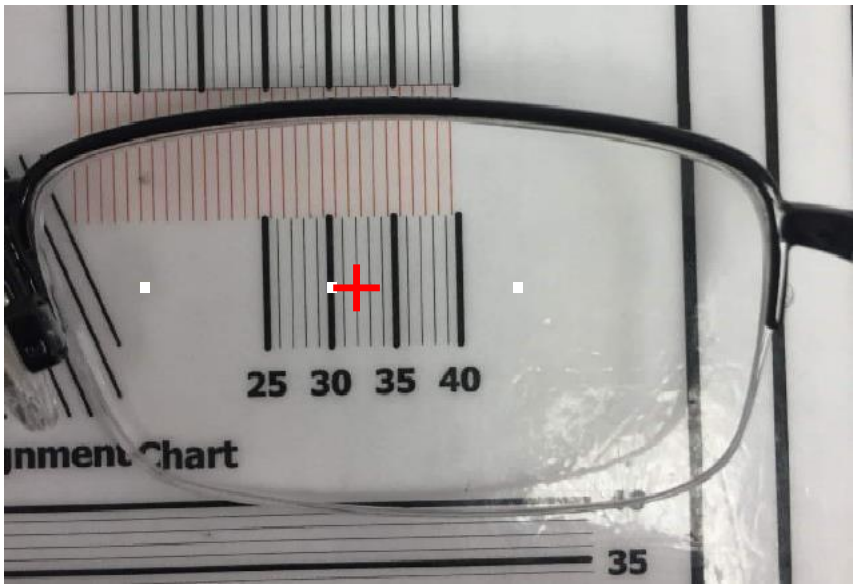
10-2D: Is the pair within a total of 2.5 mm from prescribed? If YES, the eyewear passes inspection for PD Continue to the Check OC Height.



10-2b. Checking PD in lenses under 2.75 D:

10-2A: 1. Use an AR pen to mark where the OC should be both horizontally and vertically.

For example- the lens below marked in the lensometer at 30 mm. The lab ticket listed 32 as the correct PD. Mark a cross at 32 mm



10-2B: Center the cross in the Lens Stop. Use the Axis Marking Pins to ensure the middle pin is directly over the center of the cross.
10-2C: Clamp the lens and press the memory button to capture the prism value.
10-2D: The horizontal prism values may be up to 0.33D in each eye.
10-2E: If both lenses are equal to or less than 0.33, for a total of 0.67, the pair passes inspection for PD

In tolerance below .33D

Single Vision

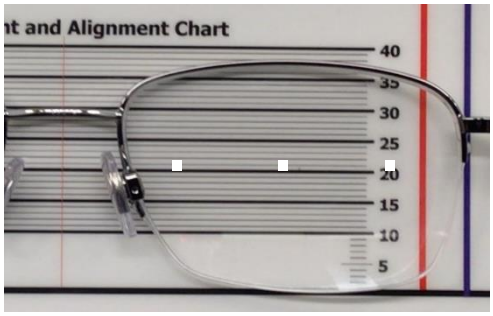
11. The OC's were spotted in Step 1. If needed re-spot by:

11A: Align the Right Lens until the Target is centered and the screen reads "Marking Ok"
11B: Use the marking pins to mark the Right OC
11C: Align the Left lens until the Target is centered and the screen reads "Marking OK"
11D: Use the marking pins to mark the Left OC

12. Measure the OC Height Using the EIP JobAid:

12A: Use the Alignment Grid on the EIP Job aid by aligning the frame to the dark bottom line and reading off the scale.

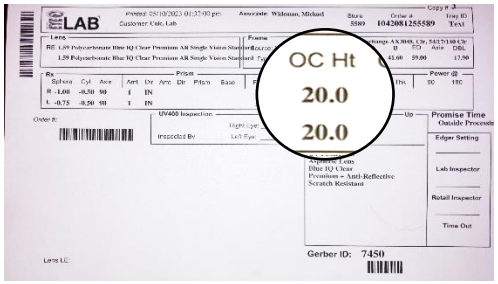
Note: the image to the right is an example of a Right eye with the OC mark reading 20 mm on the scale.



12B: Determine the values on the Right and Left Lenses.

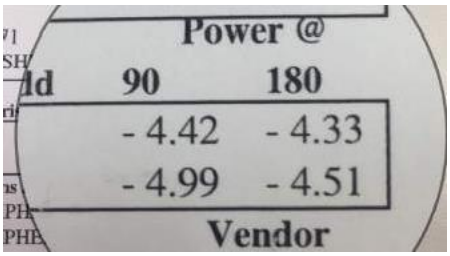
12C: Compare to the work ticket- If the values match the pair passes.

If the values do not match continue to the next step



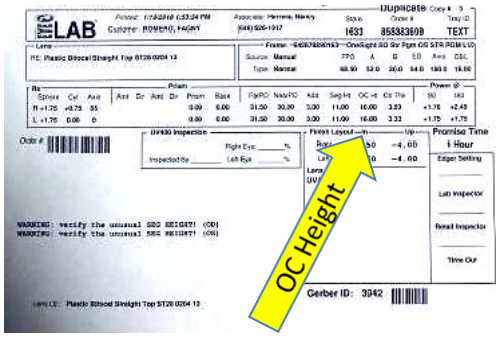
12-1. Determine the power of the lenses at 90°:

12-1A: Use the Lab Ticket to determine the power of the lens at 90- The image on the right shows the Right lens is over 3.75. Go to the next step.
12-1B: If the power is less than 3.75 go to Checking Lenses under 3.75



12-2a. Checking Lenses over 3.75D:

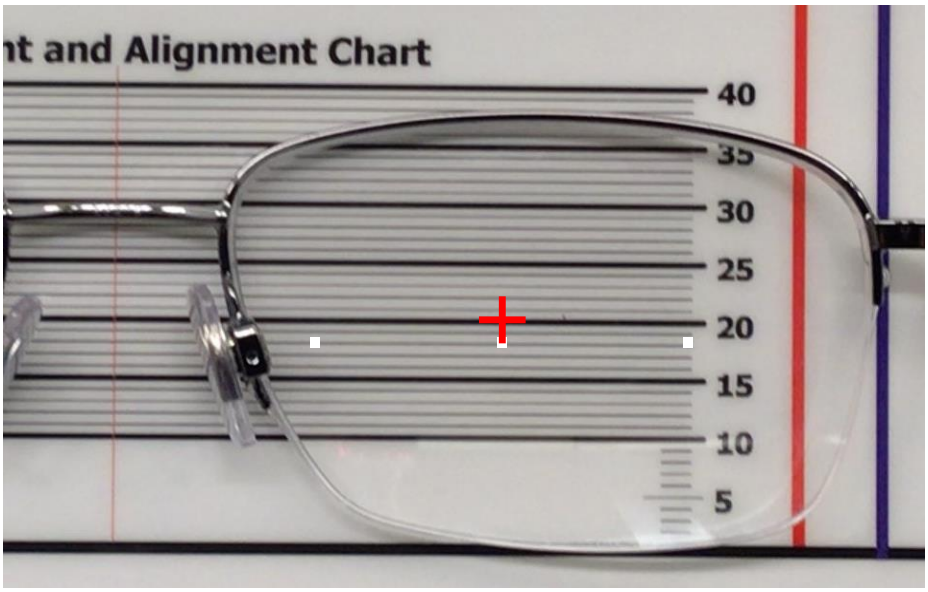
12-2A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:
12-2B: Is the Right OC within 1.0 mm of the prescribed value? If YES, the lens passes.
12-2C: Is the Left lens within 1.0 mm? If YES, the lens passes.
12-2D: Are they within 1.0 mm of each other? If YES, the pair passes inspection for OC Height



12-2b. Checking OC's in lenses under 3.75 D:

12-2A: Use an AR pen to mark where the OC should be both horizontally and vertically.

For example- the lens below marked in the lensometer at 18 mm. The lab ticket listed 20 as the correct OC. Mark a cross at 20 mm.



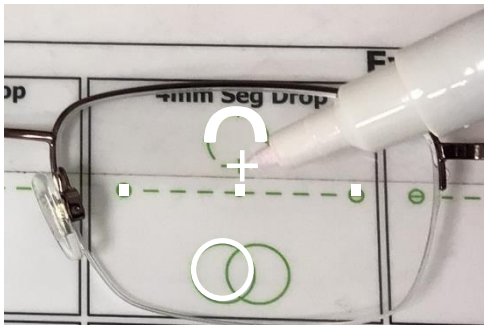
12-2B: Center the cross in the Lens Meter. Use the Axis Marking pins to ensure the middle pin is directly over the center of the cross.
12-2C: Clamp the lens and press the memory button to capture the prismvalue.
12-2D: The values may be up to 0.33D in each eye.17-2*E:* If both lenses have prism check the direction. If both down or both up and each lens passed individually the pair passes. If one lens has UP prism and one DOWN- add the values together, the result must be equal to or less than 0.33D.

In tolerance below .33D

Progressive

1. Recreate the manufacturers lens markings using the EIP job aid:

1A: The following markings are required to final inspect progressive lenses; DRP, NRP, Fitting Cross, PRP and 180-degree engravings.
1B: Determine the lens type from the Job Ticket and recreate the progressive markings using the appropriate layout from the EIP Job aid.

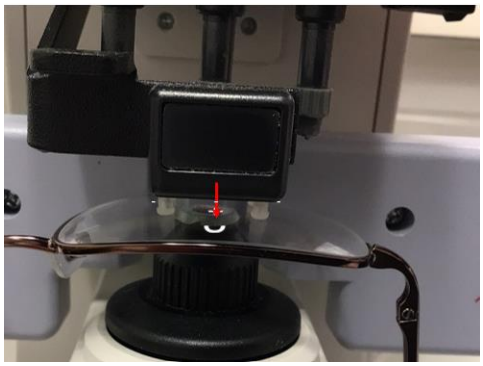


2. Set the lens meter to Progressive lens mode:

2A: Press the Measurement Mode button until the Progressive image appears on the main display screen.

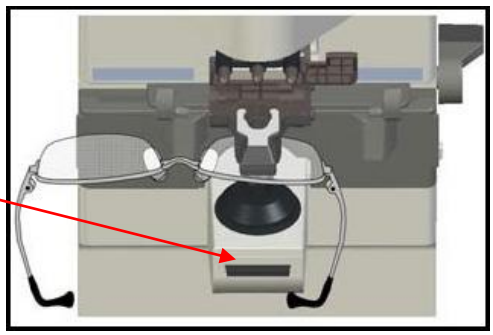
3. Center the Distance Reference Point (DRP) over the lens stop:

3A: With the bottom of the frame resting against the frame table, center the lens stop within the DRP of the right lens.
3B: Secure the lens in place with the lens clamp.



4. Press the Memory button to save the measurements:

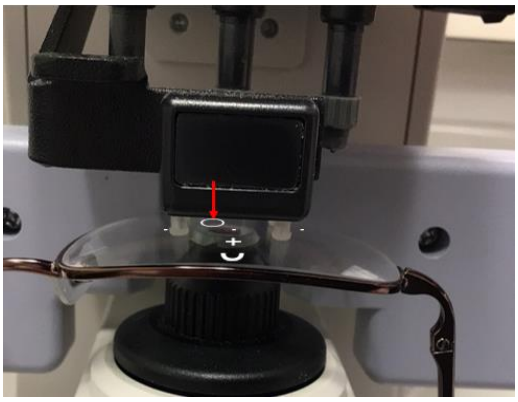
4A: Make sure the R lens is clamped and the frame is resting against the table before measuring it, unclamped lenses will read inaccurately.
4B: A measurement can be taken even if the messages of Alignment OK and Marking OK are not displayed.



Progressive

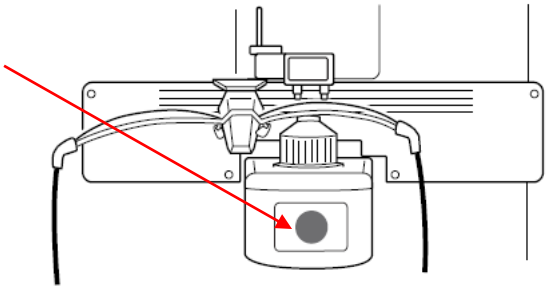
5. Unclamp and position the lens over the Near Reference Point (NRP):

5A: Release the lens clamp and use the frame table lever to move the table towards yourself until the NRP is positioned over the lens stop, then re-clamp the lens.
5B: Use your right hand to move the frame table lever and your left hand to keep the lens in position against the lens stop and the bottom of the frame against the frame table.
5C: If some of the NRP has been cut off and cannot be centered over the lens stop, position as much of the NRP as possible over the lens stop.



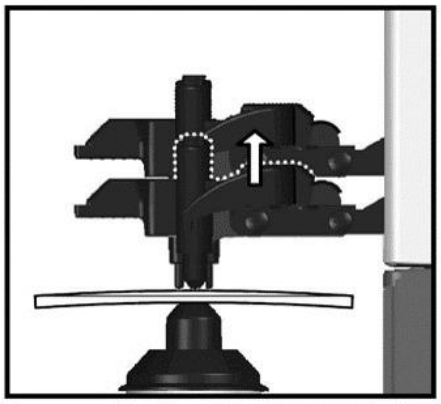
6. Press the Memory button to capture the Add power:

6A: Make sure the lens is clamped and the frame is resting against the table before capturing the Add power, unclamped lenses will read inaccurately.



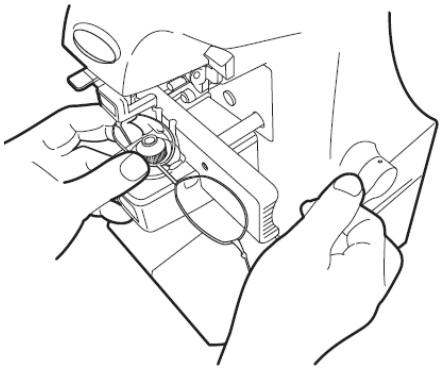
7. Remove the right lens:

7A: Lift the lens clamp and remove the R lens.



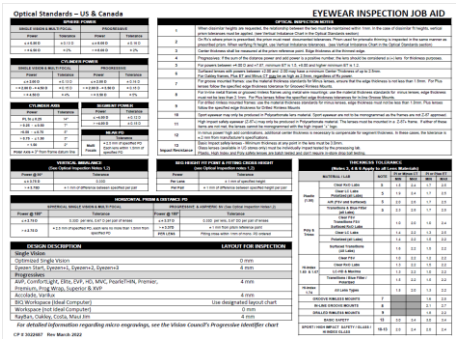
8. Repeat Steps 3 – 7 for the left lens:

8A: After the measurement of R lens, place the L lens on the lens then hold the lens in place with the lens clamp. The CL-300 will automatically switch to the left lens when the right lens is removed.



Progressive

9. Compare Sphere power, Cylinder power, & Axis readings to the Quality Standards:

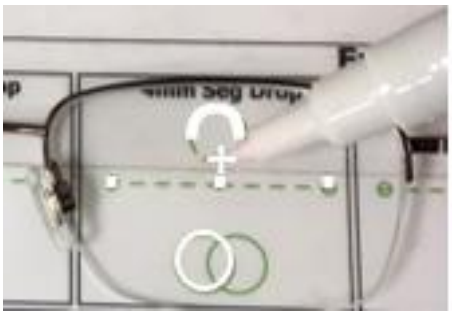


9A: Compare the recorded values for Sphere power, Cylinder power, & Axis to the allowable tolerances documented on the RxO work ticket or Quality Standards.

Note: Use the "Inspection Tolerance" for optimized prescriptions from RxO.

INSP . TOLERANCE				
Sphere	Tol	Cyl	Tol	Axis
R: + 1.75	0.13	- 2.00	0.13	180
L: + 2.00	0.13	- 2.00	0.13	170

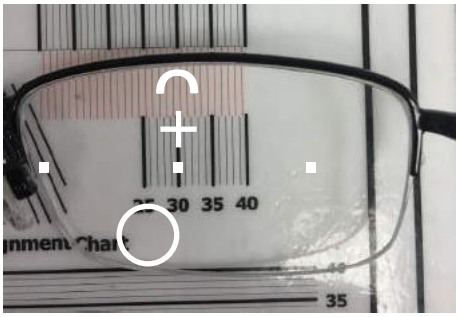
10. The Progressive Markings were spotted in Step 1. If needed re-spot by:



10A: The following markings are required to final inspect progressive lenses; DRP, NRP, Fitting Cross, PRP and 180-degree engravings.

10B: Determine the lens type from the Job Ticket and recreate the progressive markings using the appropriate layout from the EIP Job aid.

11. Measure the PD Using the EIP Job Aid:



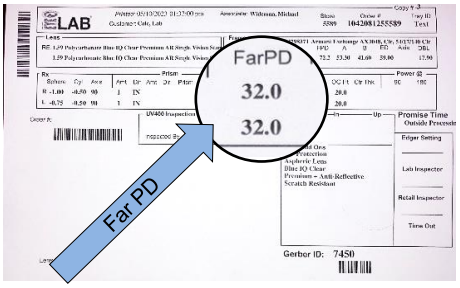
11A: Use the Alignment Grid on the EIP Job aid by centering the bridge and reading off the scale.

Note: the image to the right is an example of a Right eye with the white fitting cross reading 30 mm on the scale.

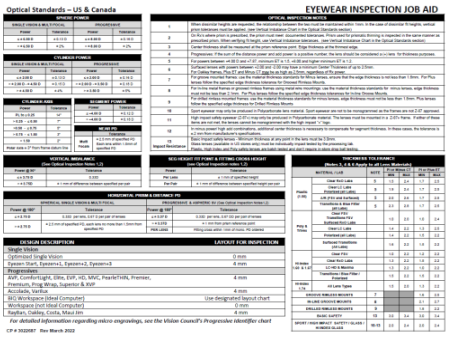
11B: Determine the values on the Right and Left Lenses.

11C: Compare values to the work ticket- If the values match, continue to checking Fitting Cross Height

If the values do not match continue to the next step



11-1. Determine the allowable Far PD tolerance.



11-1A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:

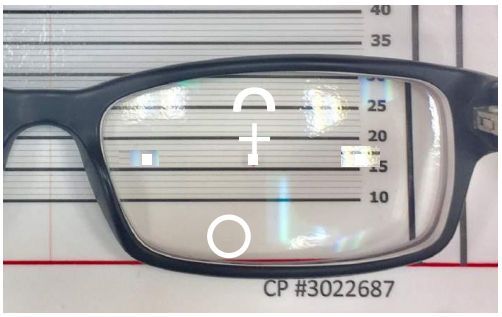
11-1B: Is the Right lens within 1mm of specified PD? If YES, the lens passes.

11-1C: Is the Left lens within 1 mm? If YES, the lens passes.

11-1D: Is the pair within a total of 2 mm from prescribed? If YES, the eyewear passes inspection for PD. Continue to the Check OC Height.

Progressive

12. Measure the Fitting Cross Height Using the EIP JobAid:

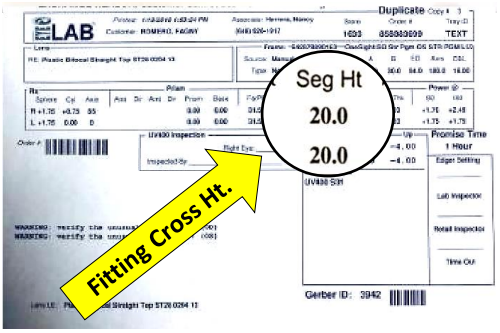


12A: Use the Alignment Grid on the EIP Job aid by aligning the frame to the dark bottom line and reading off the scale.

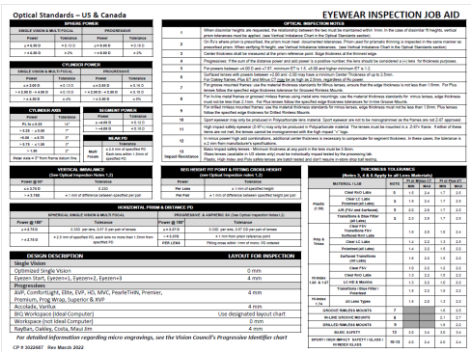
Note: the image to the right is an example of a Right eye with the Seg Ht. mark reading 20 mm on the scale.

12B: Determine the values on the Right and Left Lenses.
12C: Compare to the work ticket- If the values Match, continue to Prism inspection.

If the values do not match continue to the next step



12-1. Determine the allowable Fitting Cross tolerance.



12-1A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:
12-1B: Is the Right lens within 1mm of specified Fitting Cross height? If YES, the lens passes.
12-1C: Is the Left lens within 1 mm? If YES, the lens passes.
12-1D: Is the pair within a total of 1 mm difference of prescribed? If YES, the eyewear passes inspection for Fitting Cross. Continue to inspecting Prism.

13. Inspect Progressive Prism:

13A: Press the Clear button to erase previous readings and return to SV mode to measure prism.
13B: The manufacturer's markings, specifically the Prism Reference Point (PRP) is required for this step. If needed, you can remark the lens using the EIP job aid.

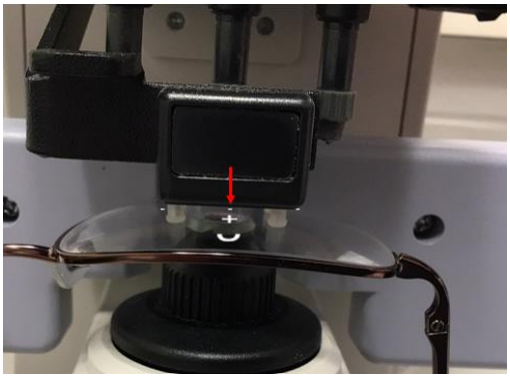
14. Center the right lens Prism Reference Point (PRP) over the lens stop:

14A: Center the PRP on the R lens over the lens stop and clamp the lens in place.

Progressive

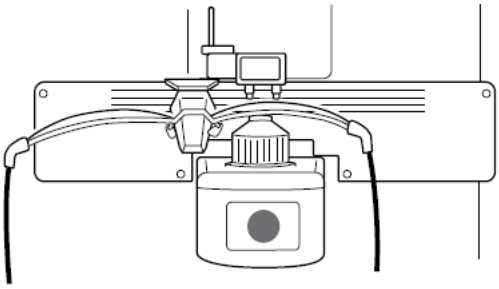
15. Confirm the lens is properly placed at the PRP:

15A: With the bottom of the frame resting against the frame table, verify the R lens PRP is properly placed by using the Marking Lever to spot the lens. The center dot must be superimposed over the PRP for accurate Prism readings.



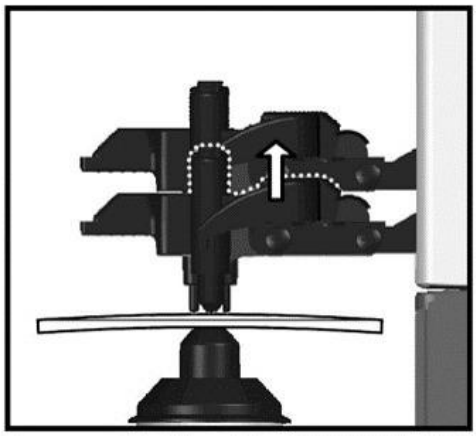
16. Press the Memory button to capture the Prism readings:

16A: Make sure the R lens is clamped and the frame is resting against the table before pressing the Memory button, unclamped lenses will read inaccurately.



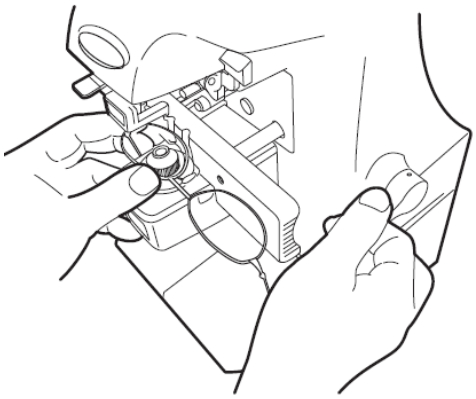
17. Unclamp and remove the right lens:

17A: Release the lens clamp and remove the R lens.

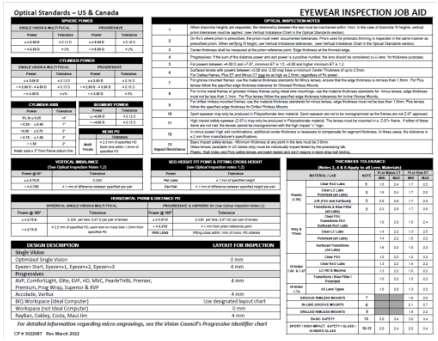


18. Repeat Steps 10 – 16 for the left lens:

18A: The CL-300 will automatically switch to the left lens when the right lens is removed.
18B: Repeat steps 10-16 for the left lens.



19. Compare the horizontal and vertical prism readings to the Quality standards:


Optical Standards – US & Canada

EYEWEAR INSPECTION JOB AID

19A: Compare the In & Out prism readings to the allowable tolerance for Horizontal Prism listed in the Quality Standards on the EIP job aid.

19B: Compare the Up & Down prism readings to the allowable tolerance for Vertical Imbalance listed in the Quality Standards on the EIP job aid.

Note: Use the "Inspection Tolerance" for optimized prescriptions from RxO.

INSP . TOLERANCE

Sphere	Tol	Cyl	Tol	Axis	Tol	Prism 1	Prism 2
R: + 1.75	0.13	- 2.00	0.13	180	2	0.12Δ	0.37Δ
L: + 2.00	0.13	- 2.00	0.13	170	2	0.12Δ	0.37Δ

Progressive

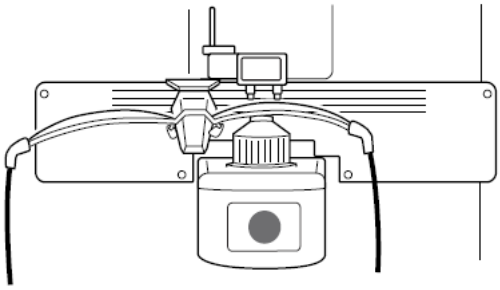
Flat-top Bifocal

1. Set the lens meter to the single vision setting:

1A: If needed, use the Measurement selection icon to change lens type.
1B: Press the Clear icon to erase previous readings.

2. Place the right eye over the lens stop:

2A: Position the frame so the bottom is placed against the frame table.

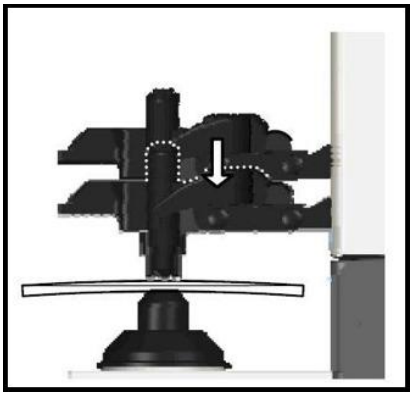


3. Move the cross to the center of the target:

3A: While keeping the frame against the frame table, center the cross within the target. Use your hand to move the cross right or left and the frame table lever to move it up or down.
3B: Make fine movements to get the cross in the exact center of the target. As the cross approaches the center it will change from blue to green and the screen will display. Alignment OK. When the cross is perfectly centered, it will change color from green to pink and the screen will display Marking OK.

4. Clamp the lens:

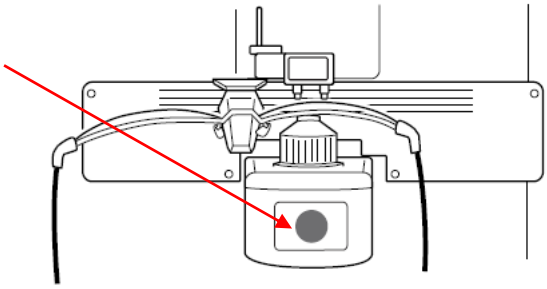
4A: After the cross is centered in the target and the screen displays Marking OK, clamp the lens in place.
4B: When the lens is clamped, the cross may move a little out of alignment and need to be readjusted. With one hand, release just a bit of pressure from the lens clamp and readjust the alignment cross so it's perfectly centered and re-clamp.



Flat-top Bifocal

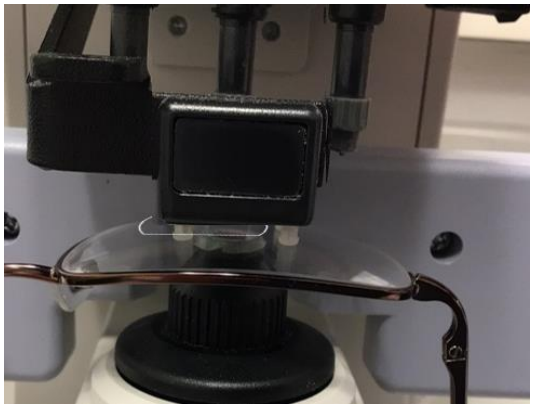
5. Press the Memory Button:

5A: When the lens is perfectly placed and clamped, press the Memory Button and the measurement values are saved for the Right lens.



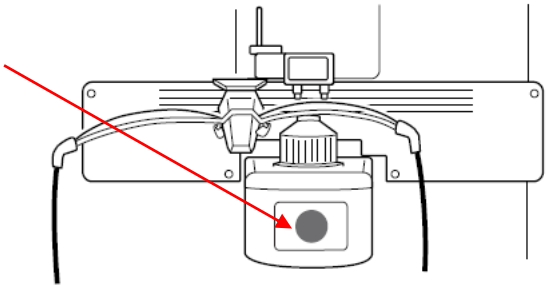
6. Unclamp and position the lens over the Bifocal:

6A: Release the lens clamp and use the frame table lever to move the table towards yourself until the Bifocal is centered over the lens stop, then re-clamp the lens.



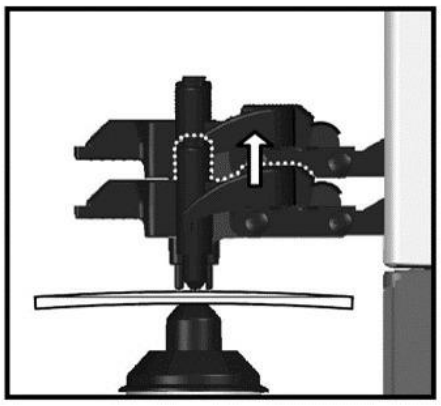
7. Press the Memory button to capture the Add power:

7A: Make sure the lens is clamped and the frame is resting against the table before capturing the Add power, unclamped lenses will read inaccurately.



8. Remove the right lens:

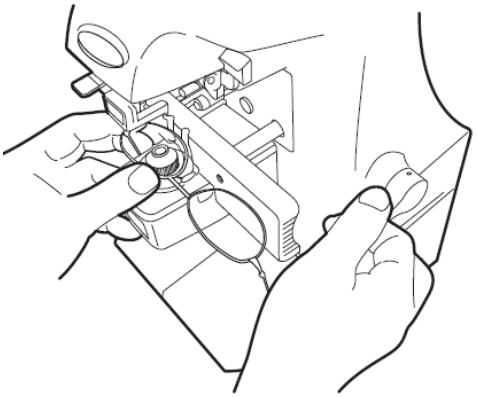
8A: Lift the lens clamp and remove the R lens.



Flat-top Bifocal

9. Repeat Steps 2 – 8 for the left lens:

9A: After the measurement of R lens, place the L lens on the lens stop with the left side nose pad/bridge in contact with the right nose pad that's attached to the frame table, then hold the lens in place with the lens clamp. At this time, the measurement box automatically switches from R lens to L lens based on the position of the fixed nose pad.

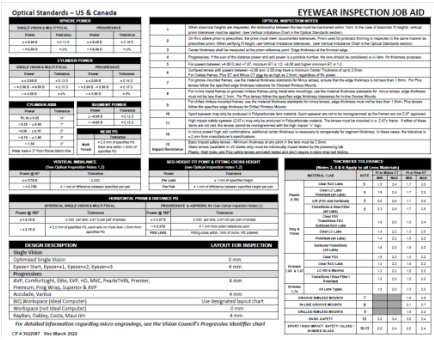


10. Compare Sphere power, Cylinder power, & Axis readings to the Quality Standards:

10A: Compare the recorded values for Sphere power, Cylinder power, & Axis to the allowable tolerances documented on the RxO work ticket or Quality Standards.

Note: Use the "Inspection Tolerance" for optimized prescriptions from RxO.

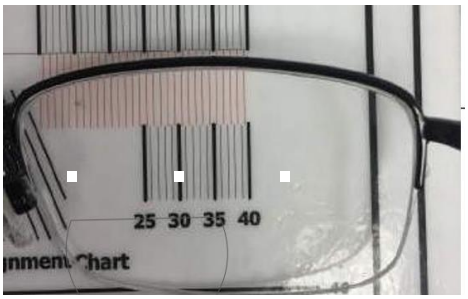
INSP . TOLERANCE				
Sphere	Tol	Cyl	Tol	Axis
R: + 1.75	0.13	- 2.00	0.13	180
L: + 2.00	0.13	- 2.00	0.13	170



11. Measure the Distance PD using the EIP Job Aid:

11A: Use the Alignment Grid on the EIP Job aid by centering the bridge and reading off the scale.

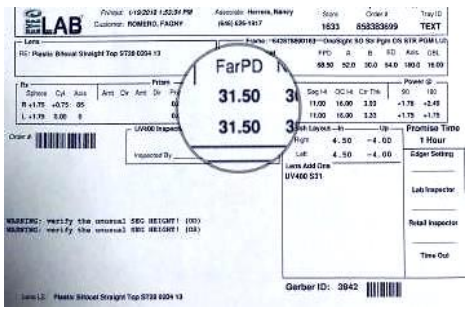
Note: the image to the right is an example of a Right eye with the white fitting cross reading 30 mm on the scale.



11B: Determine the values on the Right and Left Lenses.

11C: Compare values to the work ticket- If the values match, continue to checking OC Height

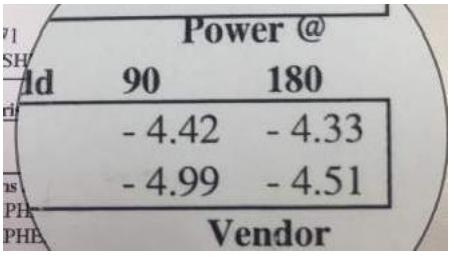
If the values do not match continue to the next step



11-1. Determine the power of the lenses at 180°:

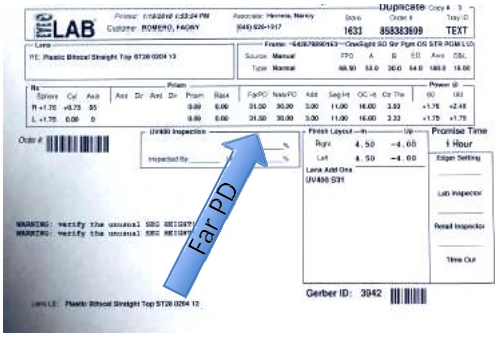
11-1A: Use the Lab Ticket to determine the power of the lens at 180- The image on the right shows the Right lens is over 2.75. Go to the next step.

11-1B: If the power is less than 2.75 go to Checking Lenses under 2.75



Flat-top Bifocal

11-1a. Checking Lenses over 2.75D

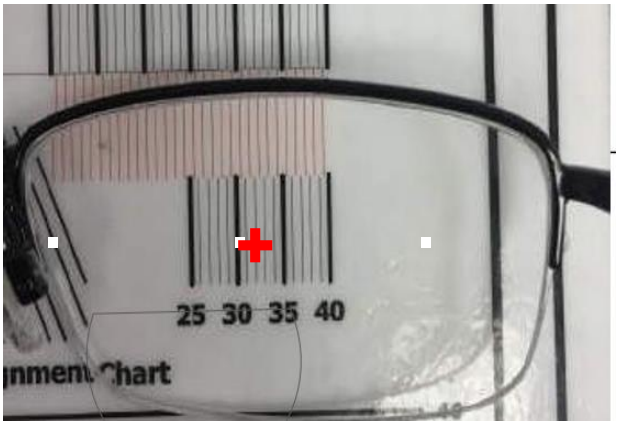


11-1A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:
11-1B: Is the Right OC within 1.5 mm of the prescribed value? If YES, the lens passes.
11-1C: Is the Left lens within 1.5 mm? If YES, the lens passes.
11-1D: Is the pair within a total of 2.5 mm from prescribed? If YES, the eyewear passes inspection for PD Continue to the Check OC Height.

11-1b. Checking Distance PD in lenses under 2.75 D:

11-1A: 1. Use an AR pen to mark where the OC should be both horizontally and vertically.

For example- the lens below marked in the lensometer at 30 mm. The lab ticket listed 32 as the correct PD. Mark a cross at 32 mm



11-1B: Center the cross in the Lens Stop . Use the Axis Marking Pins to ensure the middle pin is directly over the center of the cross.
11-1C: Clamp the lens and press the memory button to capture the prism value.
11-1D: The horizontal prism values may be up to 0.33D in each eye.
11-1E: If both lenses are equal to or less than 0.33, for a total of 0.67, the pair passes inspection for PD

In tolerance below .33D

Flat-top Bifocal

12. The OC's were spotted in Step 1. If needed re-spot by:

12A: Align the Right Lens until the Target is centered and the screen reads "Marking Ok"
12B: Use the marking pins to mark the Right OC
12C: Align the Left lens until the Target is centered and the screen reads "Marking OK"
12D: Use the marking pins to mark the Left OC

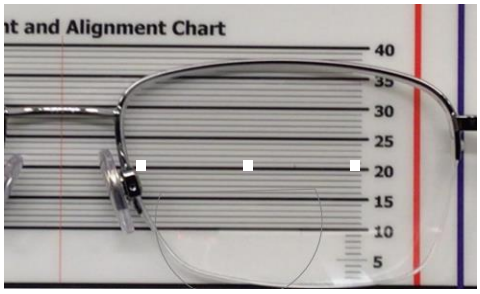
13. Measure the OC Height Using the EIP JobAid:

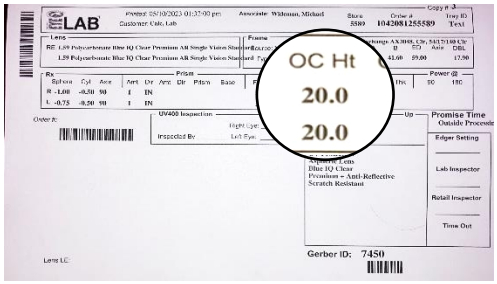
13A: Use the Alignment Grid on the EIP Job aid by aligning the frame to the dark bottom line and reading off the scale.

Note: the image to the right is an example of a Right eye with the red OC mark reading 20 mm on the scale.

13B: Determine the values on the Right and Left Lenses.
13C: Compare to the work ticket- If the values match the pair passes.

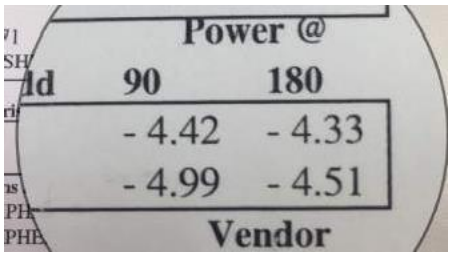
If the values do not match continue to Near PD.





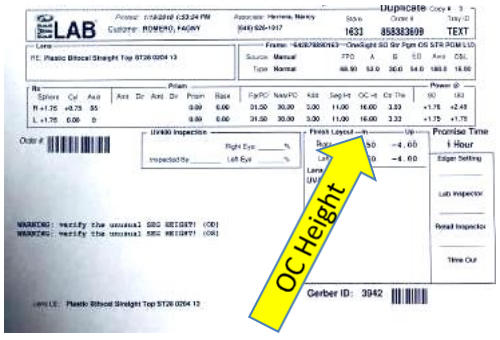
13-1. Determine the power of the lenses at 90°:

13-1A: Use the Lab Ticket to determine the power of the lens at 90- The image on the right shows the Right lens is over 3.75. Go to the next step.
13-1B: If the power is less than 3.75 go to Checking Lenses under 3.75



13-1a. Checking Lenses over 3.75D :

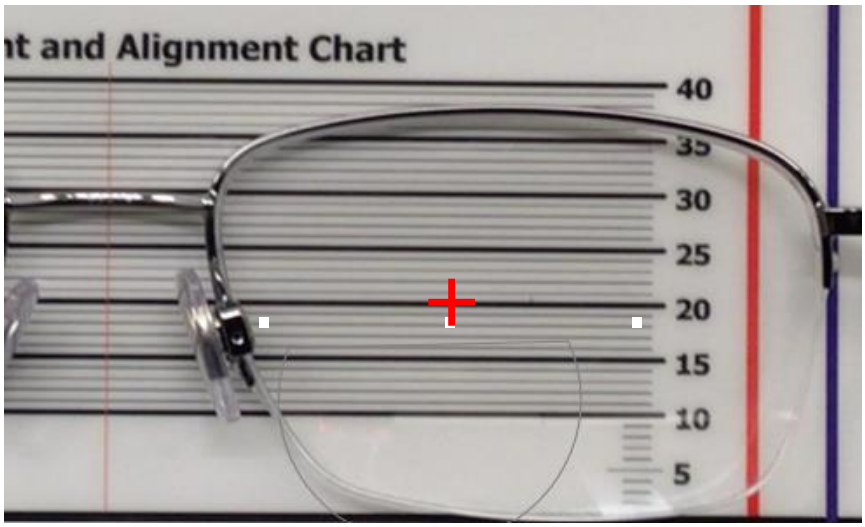
13-1A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:
13-1B: Is the Right OC within 1.0 mm of the prescribed value? If YES, the lens passes.
13-1C: Is the Left lens within 1.0 mm? If YES, the lens passes.
13-1D: Are they within 1.0 mm of each other? If YES, the pair passes inspection for OC Height



13-1b. Checking OC's in lenses under 3.75 D:

13-1A: Use an AR pen to mark where the OC should be both horizontally and vertically.

For example- the lens below marked in the lensometer at 18 mm. The lab ticket listed 20 as the correct OC. Mark a cross at 20 mm.

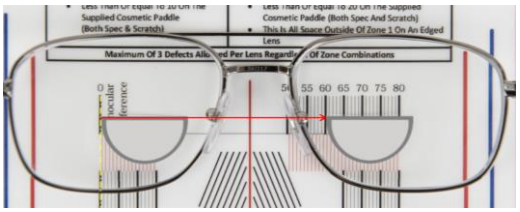


13-1B: Center the cross in the Lens Meter. Use the Axis Marking pins to ensure the middle pin is directly over the center of the cross.
13-1C: Clamp the lens and press the memory button to capture the prismvalue.
13-1D: The values may be up to 0.33D in each eye.
13-1E: If both lenses have prism check the direction. If both down or both up and each lens passed individually the pair passes. If one lens has UP prism and one DOWN- add the values together, the result must be equal to or less than 0.33D.

In tolerance below .33D

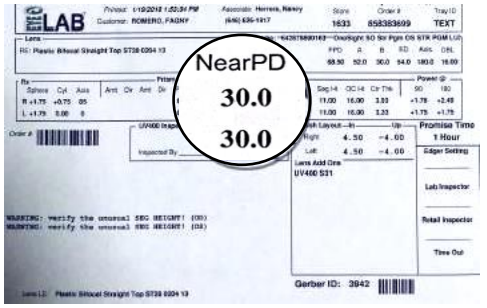
Flat-top Bifocal

14. Measure the Near PD Using the EIP JobAid:



14A: Use the EIP job aid to center the frame on the grid with the outer left edge of the Left Lens seg on the zero line.

Note: The image to the right is an example of a Right eye with the white fitting cross reading 60 mm on the scale.

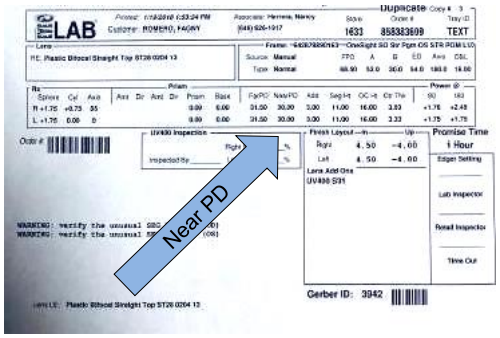


14B: Read the measurement on the inner most left edge of the Right lens for the near PD.

14C: Compare values to the work ticket- If the values match, continue to checking Near PD.

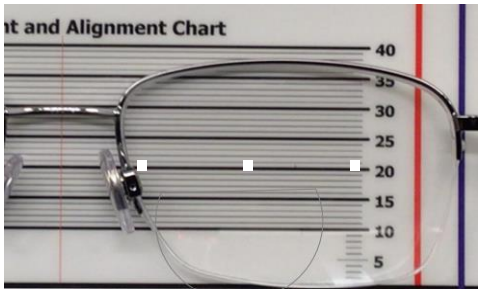
If the values do not match continue to the next step

14-1. Determine the allowable Near PD tolerance.



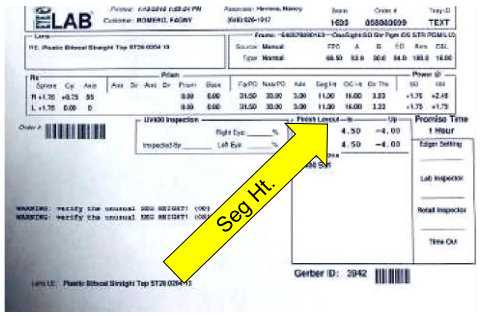
14-1A: Compare the value listed on the Lab Ticket to the value you read using the PD Stick:
14-1B: Is the Right lens within 1.5mm of specified PD? If YES, the lens passes.
14-1C: Is the Left lens within 1.5 mm? If YES, the lens passes.
14-1D: Is the pair within a total of 2.5 mm from prescribed? If YES, the eyewear passes inspection for PD. Continue to the Check Seg Height.

15. Measure the Seg Height Using the EIP JobAid:



15A: Use the Alignment Grid on the EIP Job aid by aligning the frame to the dark bottom line and reading off the scale.

Note: the image to the right is an example of a Right eye with the Seg Ht. mark reading 16.5 mm on the scale.

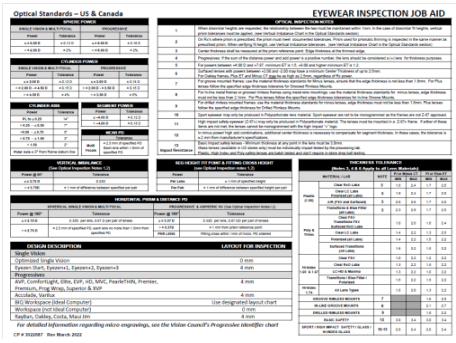


15B: Determine the values on the Right and Left Lenses.
15C: Compare to the work ticket- If the values match the pair passes.

If the values do not match continue to the next step

Flat-top Bifocal

15-1. Determine the allowable She Height tolerance.


Optical Standards – US & Canada

EYEWEAR INSPECTION JOB AID

15-1A: Compare the value listed on the Lab Ticket to the value you read using the EIP Alignment Grid:

15-1B: Is the Right lens within 1mm of specified Fitting Cross height? If YES, the lens passes.

15-1C: Is the Left lens within 1 mm? If YES, the lens passes.

15-1D: Is the pair within a total of 1 mm difference of prescribed? If YES, the eyewear passes inspection for Fitting Cross.

Note: Use the "Inspection Tolerance" for optimized prescriptions from RxO.

INSP . TOLERANCE

	Sphere	Tol	Cyl	Tol	Axis	Tol	Prism 1	Prism 2
R:	+ 1.75	0.13	- 2.00	0.13	180	2	0.12I	0.37D
L:	+ 2.00	0.13	- 2.00	0.13	170	2	0.12I	0.37D