LUXOTTICA | Global Rx Operations

EIP Qualification Review Class

Objective

To deliver superior quality eyewear to our customers has been and always will be a fundamental focus of Luxottica Retail. We have an obligation to dispense to each customer the highest quality eyewear. To meet our obligation and exceed customer expectations, we must strive for **100% Quality all of the time**.

EIP Qualification is designed to enhance associates skills in checking for optical quality, but also emphasizes the presentation of the eyewear with cosmetic and alignment inspection knowledge.

Inspection Station Tools

- Calibrated Lensometer – Contact your Rx Operations Manager (ROM) for assistance
- Luxottica Quality Manufacturing Standards
    1. Alignment & Cosmetic Standards - CP# 3006471
    2. Optical & Mechanical Tolerances – CP# US 3000884, New Jersey 3000885, Canada 3003657
    3. Eyewear Inspection Process Checklist – CP# TBD
- PD Ruler – CP#3001075 (Stainless Steel) / CP#3001074 (Plastic)
- Inspection Lamp – CP#3001799 or purchase at local Staples / Office Depot
- Polarization Verification Tool – CP#3000487
- EIP Job AID – CP#TBD
- Cosmetic Paddle – CP#3029759

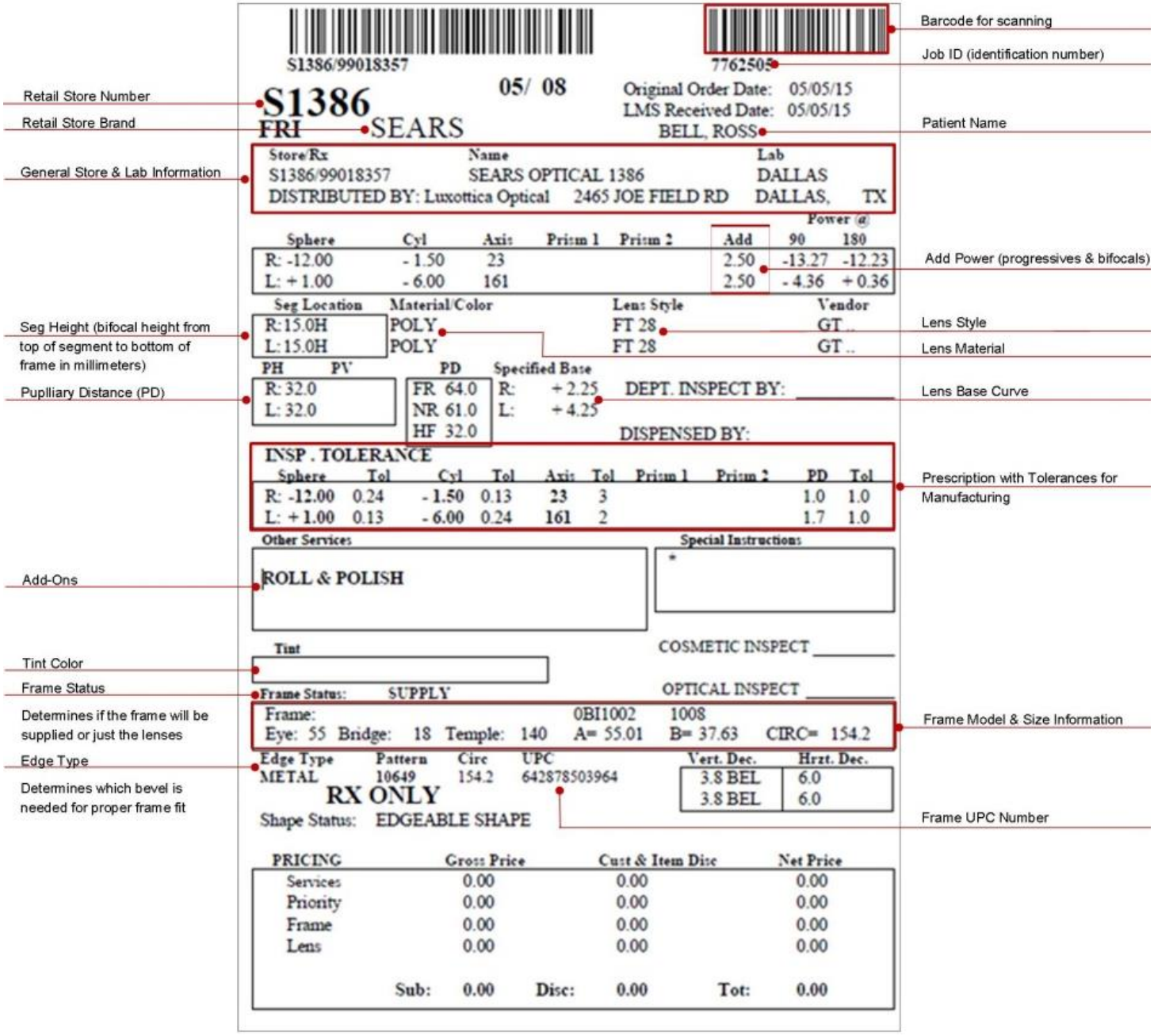
Inspection Station Tools

- Frame warmer – used to heat frames for adjusting or inserting lenses. Hilco Deluxe frame warmer – CP# 3001017
  - Heat concentrator – used to concentrate heat on a specific part of the frame while making adjustments (helps prevent damage to sensitive frames & lens products. **Only available for the Hilco Deluxe frame warmer.** CP# 3009992

• Eyewear Inspection Checklist

1. **Order (Confirm Order Was Completed As Ordered)**
   - Verify Style (Frame and Lens)
   - Verify Additional Services Match Order (Tints/Add Ons/Coatings)
   - Verify Safety Requirements (If Applicable)
2. **Lens Fit**
   - Verify Lens Sizing
   - Verify Lens /Bifocal Symmetry
3. **Optical Inspection**
   - Verify Power/Axis/Add
   - Check OC Height/Vertical Imbalance
   - Verify PD (Far/Near) Horizontal Prism
   - Verify Bifocal Seg Height/Fitting Height
4. **Visual Lens Inspection (Cosmetic Paddle Standard)**
   - Check Lenses (Scratches/Pits/Chips/Crazing)
5. **Customer Pick Up Ready**
   - Check Frame Alignment
   - Clean Frame and Lens
   - Place In Vendor Case

- States Requiring Licensed Inspection: Refer to the “Luxottica Manufacturing Inspection Checklist”


S1386/99018357
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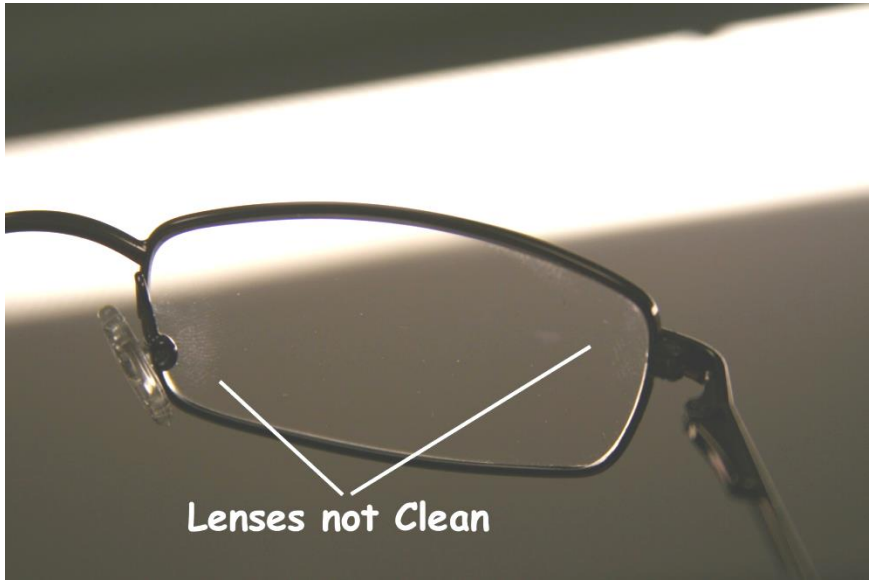
Job ID (identification number)
Retail Store Number
S1386
05/ 08
Original Order Date: 05/05/15
LMS Received Date: 05/05/15
Retail Store Brand
FRI
SEARS
BELL, ROSS
Patient Name
General Store & Lab Information
Store/Rx
Name
Lab
S1386/99018357
SEARS OPTICAL 1386
DALLAS
DISTRIBUTED BY: Luxottica Optical 2465 JOE FIELD RD DALLAS, TX
Power @
Sphere Cyl Axis Prism 1 Prism 2 Add 90 180
R: -12.00 - 1.50 23 2.50 -13.27 -12.23
L: + 1.00 - 6.00 161 2.50 - 4.36 + 0.36
Add Power (progressives & bifocals)
Seg Location
Material/Color
Lens Style
Vendor
Seg Height (bifocal height from top of segment to bottom of frame in millimeters)
R:15.0H POLY FT 28 GT
L:15.0H POLY FT 28 GT
Lens Style
Lens Material
PH PV
PD
Specified Base
Pupllary Distance (PD)
R: 32.0
L: 32.0
FR 64.0
NR 61.0
HF 32.0
R: + 2.25
L: + 4.25
DEPT. INSPECT BY:
Lens Base Curve
DISPENSED BY:
INSP . TOLERANCE
Sphere Tol Cyl Tol Axis Tol Prism 1 Prism 2 PD Tol
R: -12.00 0.24 - 1.50 0.13 23 3 1.0 1.0
L: + 1.00 0.13 - 6.00 0.24 161 2 1.7 1.0
Prescription with Tolerances for Manufacturing
Other Services
Special Instructions
Add-Ons
ROLL & POLISH
*
Tint
COSMETIC INSPECT
Tint Color
Frame Status
Frame Status: SUPPLY
OPTICAL INSPECT
Determines if the frame will be supplied or just the lenses
Frame: 0BI1002 1008
Eye: 55 Bridge: 18 Temple: 140 A= 55.01 B= 37.63 CIRC= 154.2
Frame Model & Size Information
Edge Type
Pattern
Circ
UPC
Vert. Dec.
Hrzt. Dec.
Edge Type
METAL 10649 154.2 642878503964
3.8 BEL 6.0
3.8 BEL 6.0
Determines which bevel is needed for proper frame fit
RX ONLY
Shape Status: EDGEABLE SHAPE
Frame UPC Number
PRICING Gross Price Cust & Item Disc Net Price
Services 0.00 0.00 0.00
Priority 0.00 0.00 0.00
Frame 0.00 0.00 0.00
Lens 0.00 0.00 0.00
Sub: 0.00 Disc: 0.00 Tot: 0.00

Cosmetic Standards

- **<u>Thoroughly clean lenses</u>**

  Eyewear must be free of dirt, debris, ink, watermarks and fingerprints. There should be no swarf on the lens edges.



Cosmetic Standards Continued

- **Verify correct lens Material and Style**

  Lens material, type and treatments must meet specifications of the RX Work Ticket.

- **Verify tint, roll/polish and AR color (if requested)**

  Lens color to visually match sample using tint comparative board. For tint and AR defects, reference Primary Visual Inspection.* Rolled edges should be smooth, consistent and free of swarf. AR color must match between right and left lenses. There should be no traces of edging overcoat remaining on the lens.

Note: Stores that process AR in store must verify the AR color matches between the front and back of each lens.

Cosmetic Standards Continued

- **<u>Inspect for Visible chips/stars, scratches or other cosmetic imperfection in the lens</u>**

Using Primary Visual Inspection*, inspect for visible defects in completed eyewear. Any visible defects observed in uncut lenses must be compared to the cosmetic paddle to ensure that they meet cosmetic standards.

* **Primary Visual Inspection -** Hold the lens/complete pair at a distance of 12 inches from approved light source, while in motion against the light/dark border, each lens is to be evaluated no more than 5 seconds.

* **Approved light source –** A lamp with a 9 watt fluorescent bulb against a dark background. All inspection is to be carried out without the aid of magnifying optics.

Cosmetic Standards Continued

- **Eyewire is not rolled, burnt, or discolored**

  A mounting that exposes one or both sides of the v bevel or the lens groove is non-conforming. Any irregularities in frame color or finish due to overheating is cause for rejection.

- **No gaps between the lens and eyewire**

  Gaps between the frame and lens are non-conforming. A gap is defined as light (from light source) visible between the eyewire and lens. Reference the Primary Visual Inspection Method.*

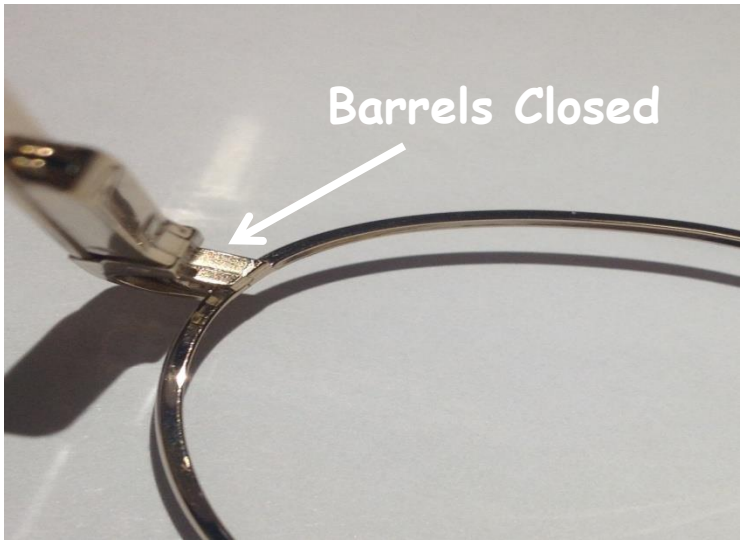
Cosmetic Standards Continued

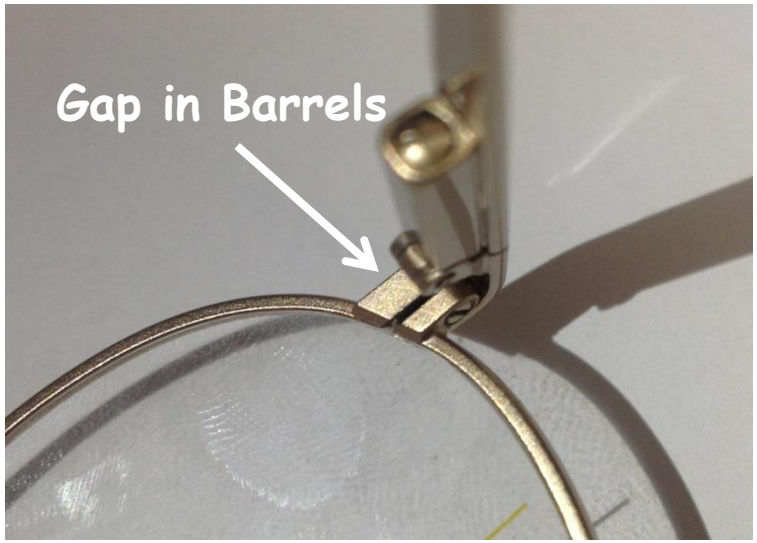
- **No gaps in the eyewear barrels**

  For lenses processed in an in-store lab - Metal eyewire barrels must close completely.

  For lenses processed in an off-site lab - Exposed barrels must close completely, hidden barrels may have a gap of no more than .5mm.

  In all cases, barrels must be parallel. There should be no indications of stress on the lens (pinch marks).





Cosmetic Standards Continued

- **Lenses tight in the frame**

  A lens that can be rotated in or removed from the frame by hand is non-conforming. Reference Complete Size Method.**

  ** **Complete Size Method** - Lens held between thumb and fingers with towel / tissue. With slight pressure exerted to lens try to twist or remove lens from the mounting.

  - **Edged lens only size**

  Lenses for all frame styles must be within ± 0.5mm of circumference specification.

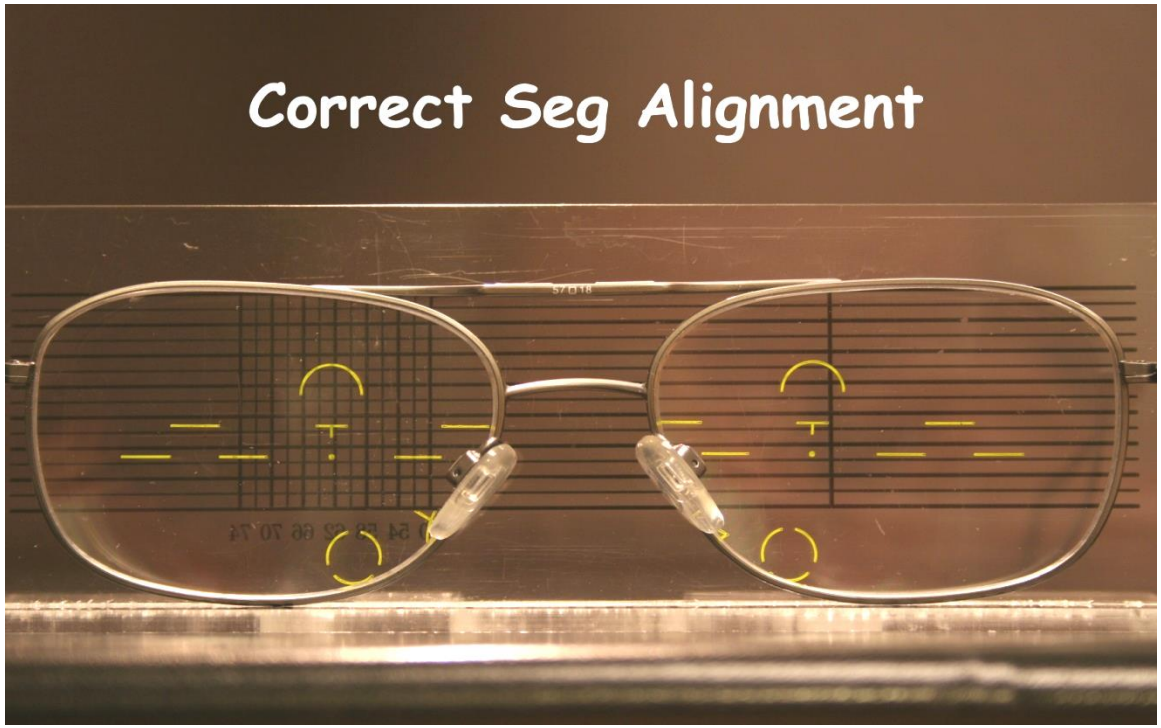
- **Lenses are symmetrical in the eyewire**

  Orientation of eyewire openings must be symmetrical. Any deformation of the frame shape to align segments or resolve axis errors is cause for rejection.

Cosmetic Standards Continued

- **Bifocals positioned correctly (straight & symmetrical)**

  Using a seg aligner, verify the height of the upper corners of D segs or progressive etchings. The variation between the highest and lowest of the 4 points must be within 1.0mm on drilled rimless, 0.5mm on all other mountings.



Cosmetic Standards Continued

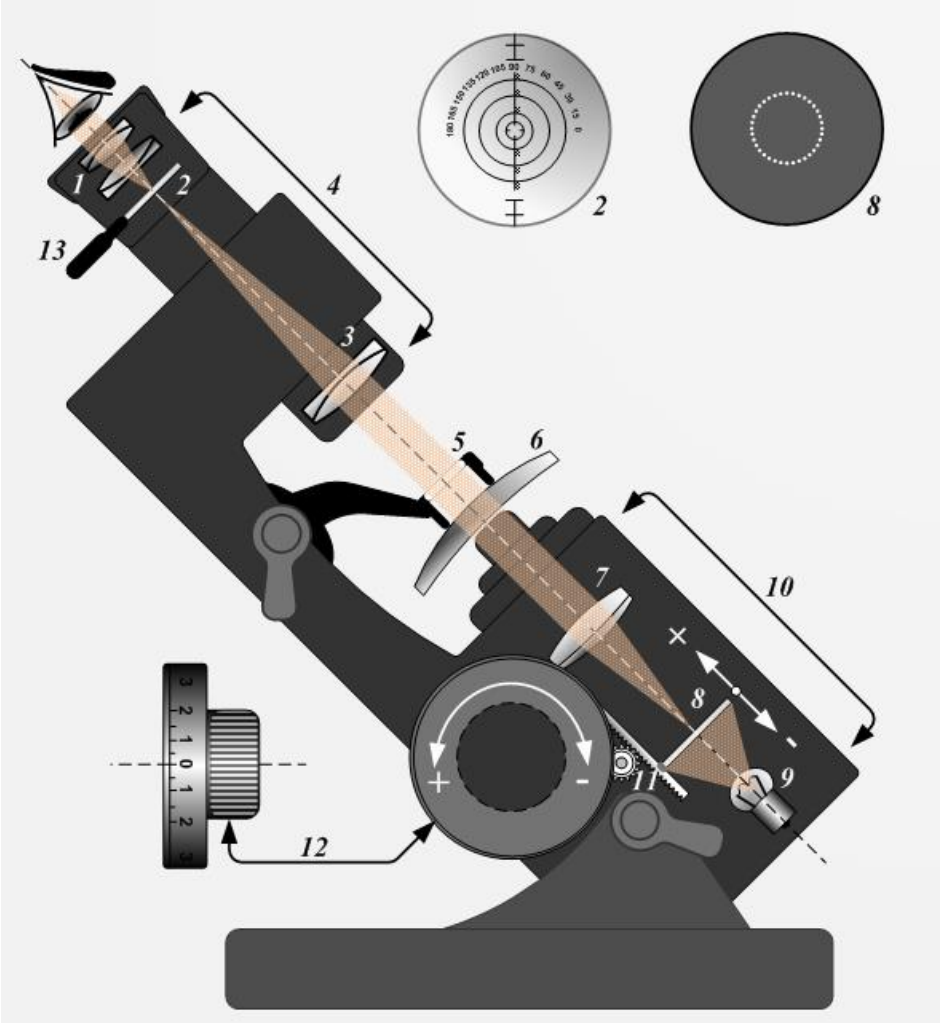
- **Verify Proper Groove / Bevel location**

Groove is to be placed no less than .5mm from the front or back of the lens and must run the entire circumference of the lens.
Bevel / Groove position relative to the front surface of the lens can deviate no more than 1 mm over any 10mm length of the lens circumference.

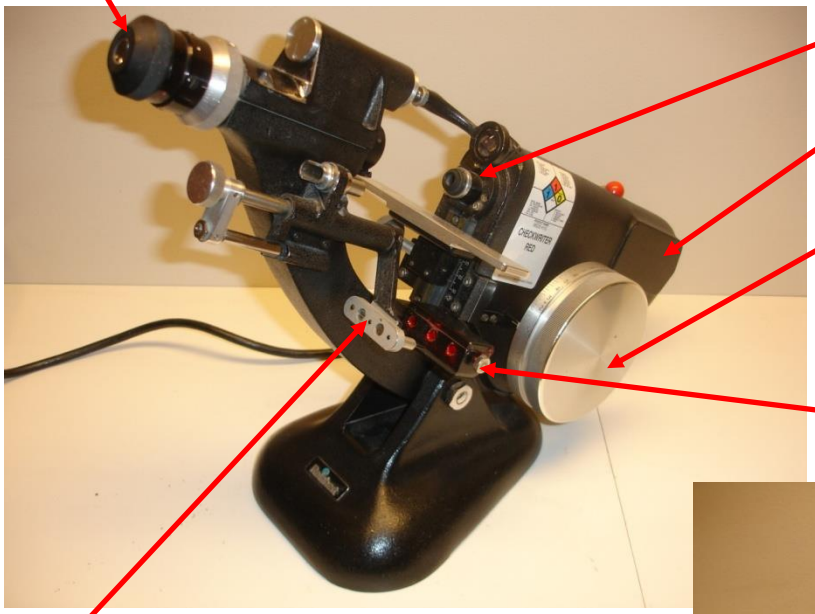
V Bevel must have two complete sides for the entire circumference of the lens.

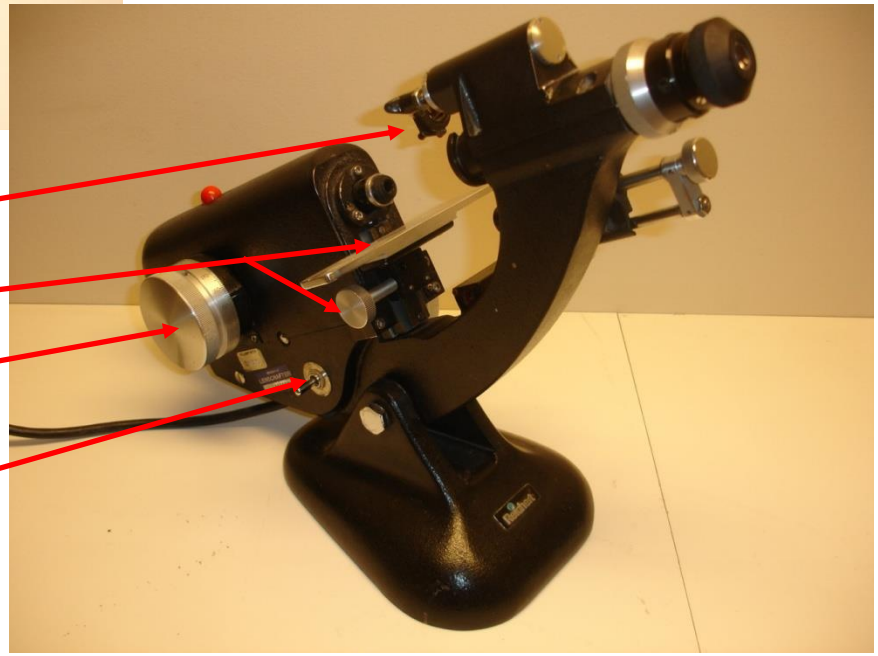
Safety bevel width must be consistent and no more than .3mm wide. "Rolled“ edges and edges that are chamfered to accommodate hinges/nose pad arms are exempt from this requirement.

15 Minute Break



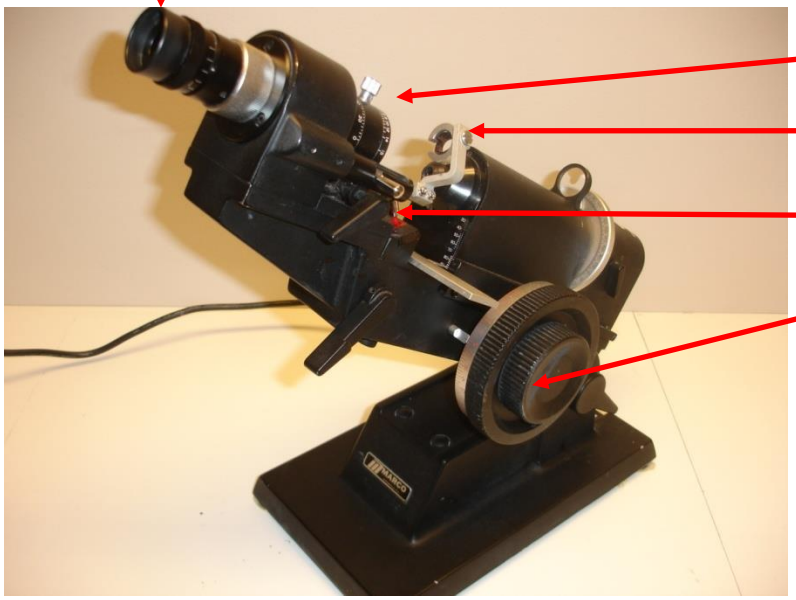
Lens Meter


Eyepiece
Lens Stop
Lamp Access Cover
Power Drum
Ink well
Axis Pins


Lens Clamp
Frame Table
Axis Drum
On/Off Switch

Marco & Topcon

Eyepiece



Prism Assembly

Lens Clamp

Inker Assembly / Axis Pins

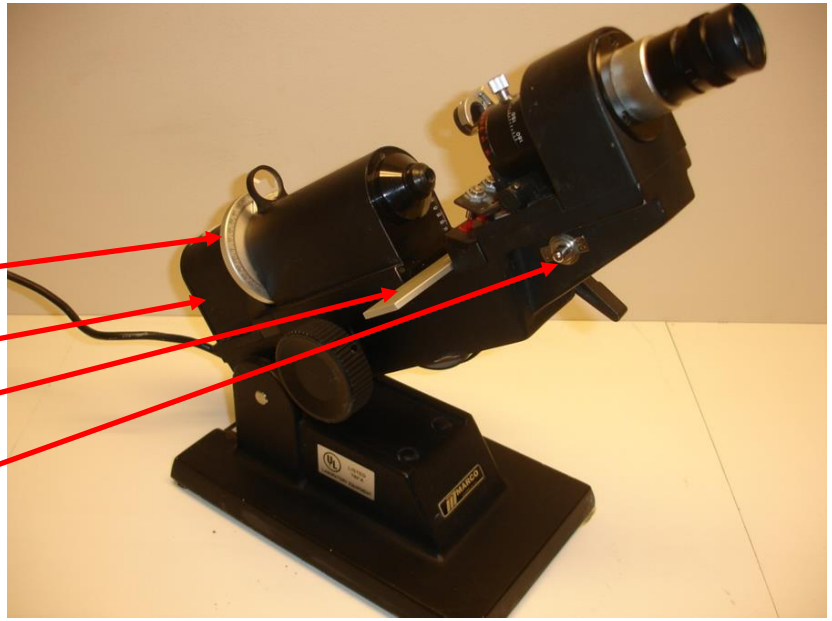
Power Drum

Axis Drum

Lamp Access Cover (Marco)

Frame Table

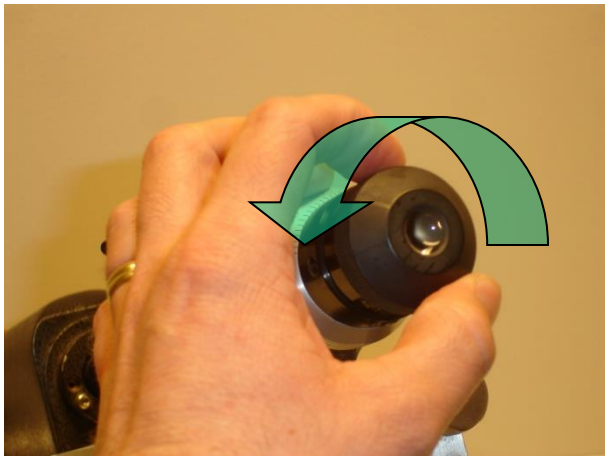
On/Off Switch



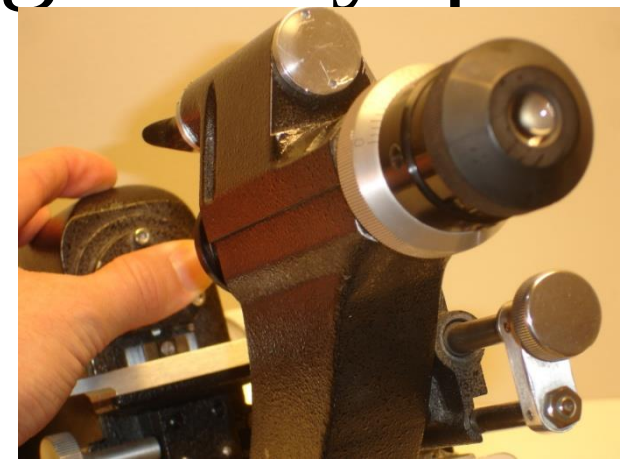
Setting the Eyepiece

- Calibrates lensometer to each unique user
- Must be done every time a new user steps up to the lensometer, or periodically if there is only one user
- There are specific steps to follow…

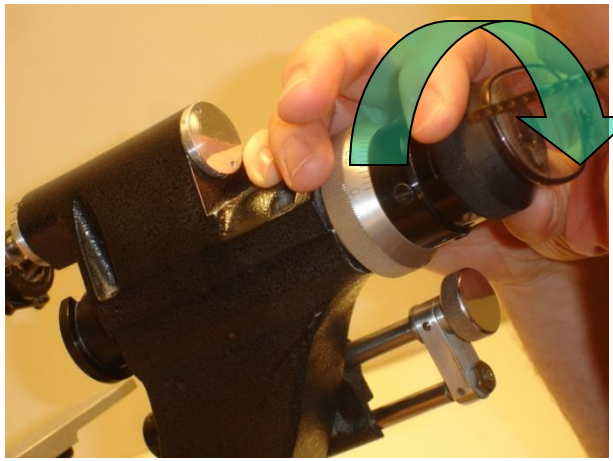
Setting the Eyepiece



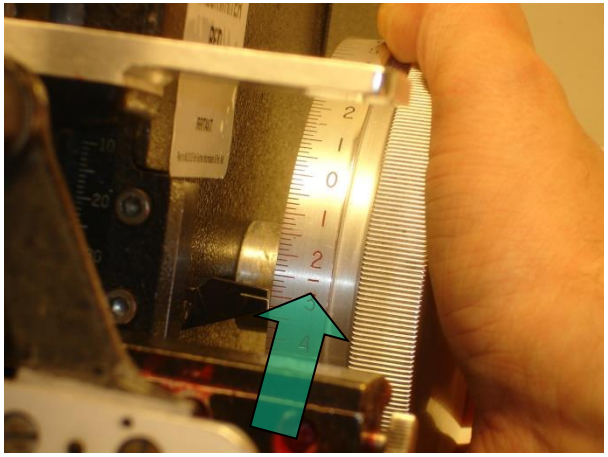
Turn eyepiece counterclockwise until it stops



With the Lensometer in the Off position, cover the lens stop

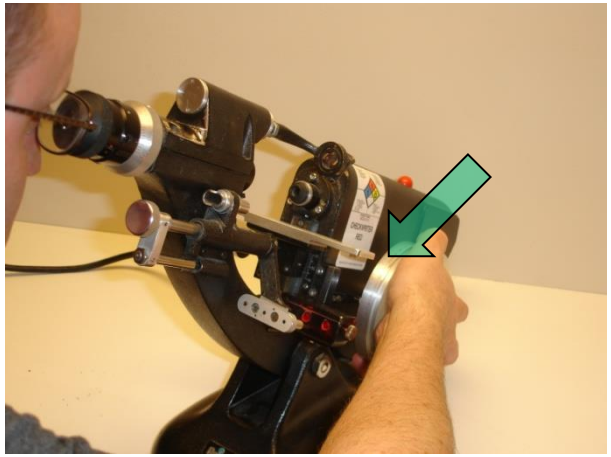


Turn eyepiece clockwise until the 1.00 diopter circle is clear

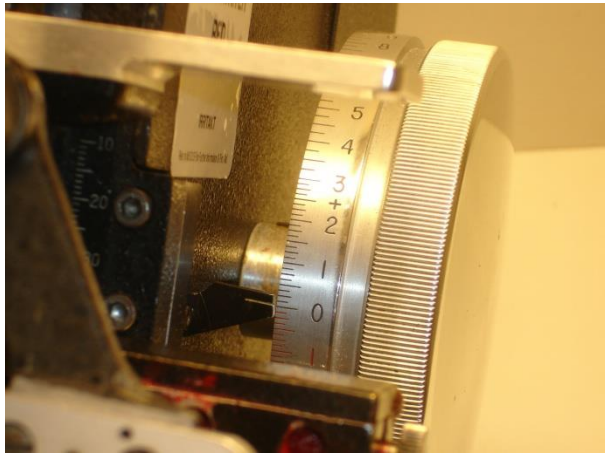


Uncover the lens stop.

Turn the Lensometer on. Turn power drum to the –2D position.



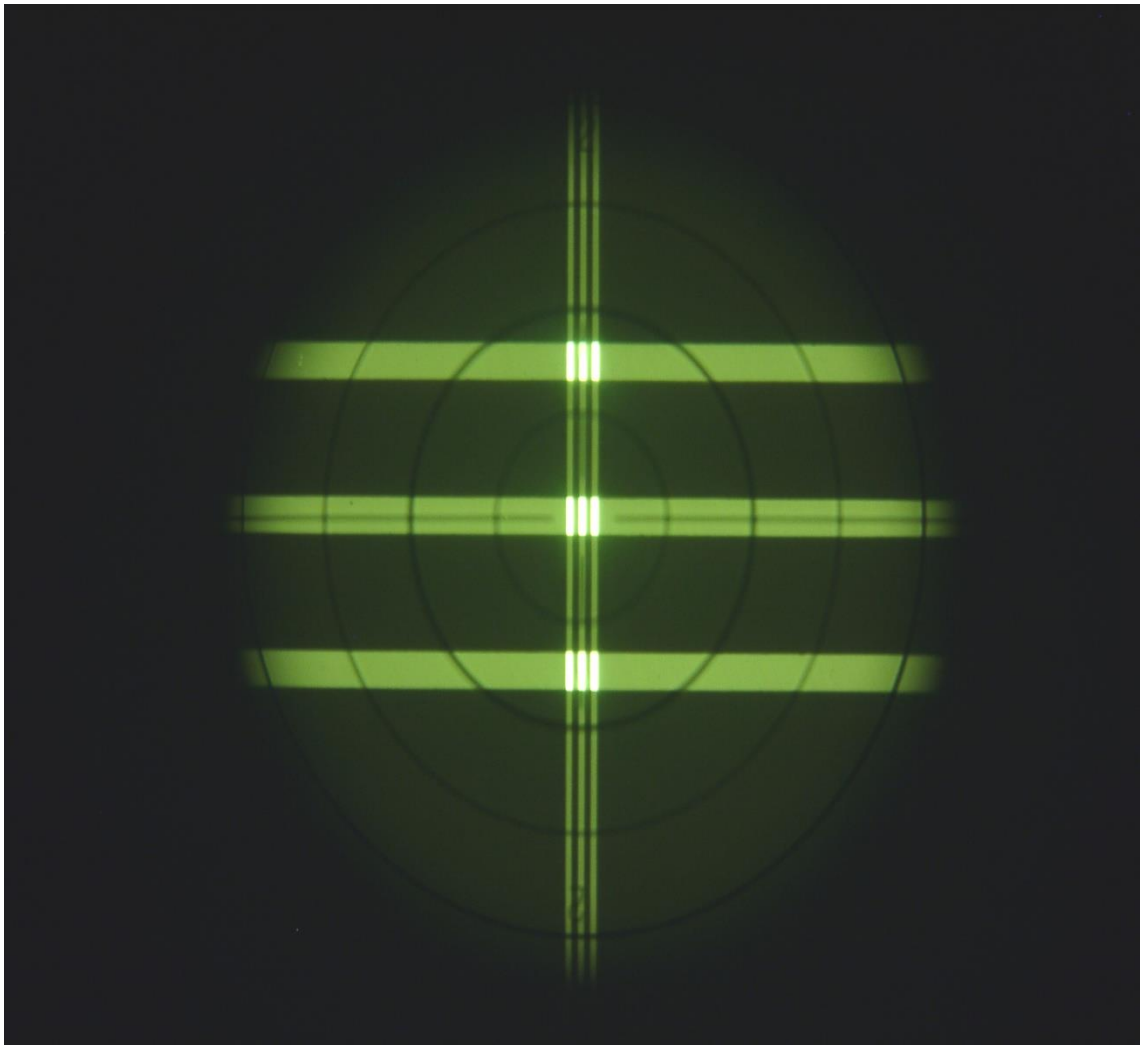
While looking into lensometer, turn power drum topside-towards-you until lines are clear



Verify that lensometer reads Plano when lines are clear

Setting the Lensometer Eyepiece Continued

- Here's how the image should appear if properly calibrated (B&L Model 70 pictured)



Quality Manufacturing Standards
Optical & Mechanical Tolerances

SINGLE VISION / MULTI FOCAL LENSES

SPHERE MERIDIAN

Power	Tolerance
≤ ± 6.50 D	± 0.13 D
> ± 6.50 D	± 2%

CYLINDER POWER

Power	Tolerance
≤ ± 2.00 D	± 0.13 D
> ± 2.00 D - ± 4.50 D	± 0.15 D
> ± 4.50 D	± 4%

PROGRESSIVE ADDITION LENSES

SPHERE MERIDIAN

Power	Tolerance
≤ ± 8.00 D	± 0.16 D
> ± 8.00 D	± 2%

CYLINDER POWER

Power	Tolerance
≤ ± 2.00 D	± 0.16 D
> ± 2.00 D - ± 3.50 D	± 0.18 D
> ± 3.50 D	± 5%

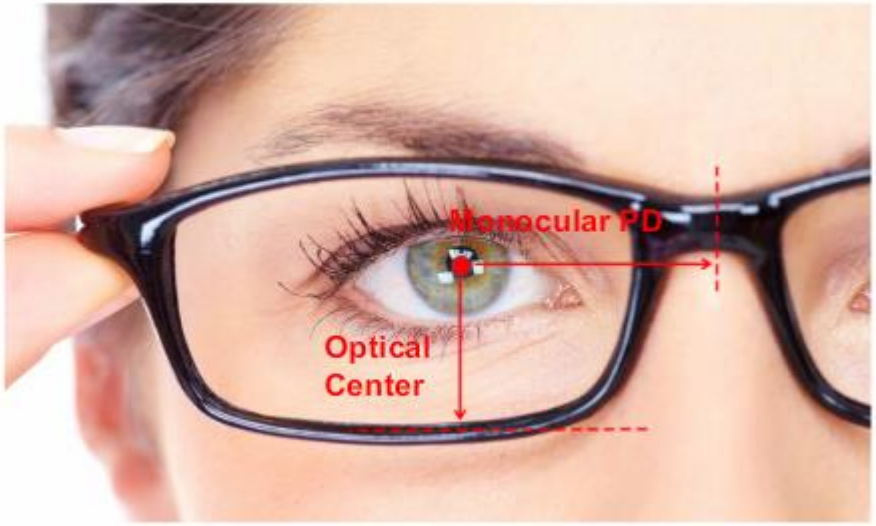
In the Luxottica Retail standard, distance Rx powers will be checked using the “Sphere Meridian” methodology recommended in the ANSI standard.

Optical & Mechanical Tolerances Continued

Here are the steps to be followed when inspecting lenses using this method:

- Using the Lensometer, check the sphere meridian power and compare it to the written Rx.
- Verify that the lens power meets or exceeds the published tolerance for that power.
- Check the amount of cylinder power, (if any) and compare it to the prescribed cylinder power.
- Verify the cylinder power meets or exceeds the published tolerance for that cylinder power.

What is Prism?



The optical center of a lens is the point where light passes straight through. Other locations of the lens refract or bend light. You place that focal point over the center of the pupil. Since the eye is drawn to the optical center, lenses made with the optical center *away from the pupil* will cause the patient discomfort. In extreme cases the patient will see double images. Practically speaking, that is what Prism is- the Optical Center in the wrong spot.

In this picture, the Red Dot represents the ideal location of the Optical Center of a lens.
You need to check the location Vertically (up and down) and Horizontally (in and out).
OC Height is the Vertical Measurement- from OC to the bottom of the lens.
PD is the Horizontal Measurement- from OC to the middle of the bridge.

Optical & Mechanical Tolerances Continued

						Power @	
Sphere	**Cyl**	**Axis**	**Prism 1**	**Prism 2**	**Add**	**90**	**180**
R: -1.00	-0.75	180				-1.75	-1.00
L: -0.75	-1.75	180				-2.50	-0.75

Seg Location	**Material/Color**	**Lens Style**	**Vendor**
R: 14.0H	PLASTIC SRC	SV	SO…
L: 14.0H	PLASTIC SRC	SV	SO…

PH	**PV**	**PD**	**Specified Base**		
R: 31.0	20	FR 62.0	R:	+4.00	DEPT. INSPECT BY: _____
L: 31.0	21	NR 58.0	L:	+4.00	
		HF 31.0			DISPENSED BY: _____

INSP. TOLERANCE

Sphere	Tol	Cyl	Tol	Axis	Tol	Prism 1	Prism 2	PD	Tol
R: -1.00	0.13	-.75	0.13	180	3			3.3	1.9
L: -0.75	0.13	-1.75	0.13	180	2			4.4	1.3

When final inspecting eyewear that has been measured with the Accufit Digital Measurements system it is very important to measure each lens individually and confirm that the OC Height is within the stated tolerance. The RXO worksheet has already calculated the amount of mm that we are allowed. PV is the specified OC height. The allowable tolerance in mm is listed in the last column of the INSP TOLERANCE section. Add the values together and you will get a range that the lens must fall between to pass inspection.

Optical & Mechanical Tolerances Continued

						Power @	
Sphere	**Cyl**	**Axis**	**Prism 1**	**Prism 2**	**Add**	**90**	**180**
R: -1.00	-0.75	180				-1.75	-1.00
L: -0.75	-1.75	180				-2.50	-0.75

Seg Location	**Material/Color**	**Lens Style**	**Vendor**
R: 14.0H	PLASTIC SRC	SV	SO…
L: 14.0H	PLASTIC SRC	SV	SO…

PH	**PV**	**PD**	**Specified Base**		
R: 31.0	20	FR 62.0	R:	+4.00	DEPT. INSPECT BY: _____
L: 31.0	21	NR 58.0	L:	+4.00	
		HF 31.0			DISPENSED BY: _____

INSP. TOLERANCE

Sphere	Tol	Cyl	Tol	Axis	Tol	Prism 1	Prism 2	PD	Tol
R: -1.00	0.13	-.75	0.13	180	3			3.3	1.9
L: -0.75	0.13	-1.75	0.13	180	2			4.4	1.3

It is equally important that we check each lens individually while confirming that the PD is within the stated tolerances. We will use the RXO worksheet to calculate an allowable Range. PH (position horizontal) is the specified PD. The mm allowed are listed in the PD Column of the INSP. TOLERANCE section. Add the values together and you will get a range that the PD must fall within.

Optical & Mechanical Tolerances Continued

Example:	**Power @**	**90**	**180**
R: -1.00 -0.75 x180		-1.75	-1.00
L: -0.75 -1.75 x180		-2.50	-0.75

Specified Monocular PD: OD **31**, OS **31**

Measured Monocular PD: OD **29**, OS **29**

Allowable Range PD: OD 27.5-34.5, OS 26.5-35.5

- Place the eyewear in the lensometer, position the mires in the center of the reticle. Spot the lens with the marking device.
- Without adjusting the height of the frame table, proceed to confirm the opposite lens by repositioning the eyewear evenly and securely on the frame table. Center the mires in the reticle, spot the lens with the marking device.
- Measure the actual PD, if it fall within the allowable range it passes!
- OD: Specified PD = 31mm, Allowable Range = 27.5mm-34.5mm, Measured PD = 29mm. It !is within range and passes

  OS: Specified PD = 31mm, Allowable Range = 26.5mm-35.5mm, Measured PD = 29mm, It is within range and passes!

Optical & Mechanical Tolerances Continued

HORIZONTAL PRISM / DISTANCE PD

Power (at 180°)	Tolerance
≤ ± 2.75 D	0.33ΔD per lens, 0.67 ΔD per pair of lenses
> ± 2.75 D	± 2.5 mm of specified PD, each lens no more than 1.5mm from specified PD

						Power @	
Sphere	Cyl	Axis	Prism 1	Prism 2	Add	90	180
R: -1.00	-0.75	180				-1.75	-1.00
L: -0.75	-1.75	180				-2.50	-0.75

Since the measurements were not exact, we must check them for imbalance or as a pair. You will use the Power@ 180 from the RXO worksheet and the amount the measurement was incorrect to determine the amount of prism.

1. Take the power @180 for the right lens =1.00
2. Move the decimal once to the left= .100
3. Multiply it by amount incorrect =2 mm
4. 0.1x 2mm=0.2 diopters of prism
5. Repeat steps 1-4 for the left lens
6. Add left and right lens prism together.
7. 0.2 + 0.15 = .35 diopters
8. The pair passes since we were allowed .67 per pair.

Optical & Mechanical Tolerances Continued

Example:	**Power @**	**90**	**180**
R –4.25 Sph.		-4.25	-4.25
L -3.25 Sph.		-3.25	-3.25

Specified Monocular PD: OD **30**, OS **30**

Measured Monocular PD: OD **28.5**, OS **28.5**

- Place the eyewear in the lensometer, position the mires in the center of the reticle. Spot the lens with the marking device..
- Without adjusting the height of the frame table, proceed to confirm the opposite lens by repositioning the eyewear evenly and securely on the frame table. Center the mires in the reticle, spot the lens with the marking device.
- Measure the actual PD, if there is a difference between the specified and measured PD utilize the 2.5mm (per pair) tolerance for powers > 2.75.
- OD: Specified PD = 30mm, Measured PD = 28.5mm, Difference = 1.5mm
  OS: Specified PD = 30mm, Measured PD = 28.5mm, Difference = 1.5mm

Optical & Mechanical Tolerances Continued

- Add the difference between the specified and measured PD for the OD and OS lenses.

  OD = 1.5mm, OS = 1.5mm, Total = 3.0mm

- Refer to your Optical & Mechanical tolerances for the acceptable horizontal imbalance. In this example, the acceptable horizontal imbalance is ± 2.5 mm of the specified PD (per pair of lenses).
- In this example the eyewear falls outside the stated tolerance per pair of lenses.

Optical & Mechanical Tolerances Continued

SEG. HT., FIT POINT AND FITTING CROSS HT. (1,2)

Power	Tolerance
PER LENS	± 1 mm of specified
PER PAIR	± 1 mm of difference between specified per pair

When dissimilar heights are requested, the relationship between the two must be maintained within 1mm. In the case of dissimilar fit heights, vertical prism tolerances must be applied.

NOTE: Complete pair must meet *both* requirements to pass quality inspection.

Optical & Mechanical Tolerances Continued

NEAR PD	
	Tolerance
Multi Focals	± 2.5 mm of specified PD, each lens within 1.5mm of specified PD

When final inspecting eyewear with Multi Focal Add Segments, lenses must be within ± 2.5 mm of specified Near PD.

NOTE: Complete pair must meet cosmetic requirements to pass quality inspection.

For example, lenses may be ± 2.5 mm of specified near PD however the complete pair may fail if the lenses were not de-centered equally. In this example, the complete pair will fail the cosmetic standard of item (“j”) Bifocals Positioned correctly (straight and symmetrical).

Optical & Mechanical Tolerances Continued

CYLINDER AXIS	
Power	**Tolerance**
PL to 0.11	14°
0.12 - ≤ 0.25	10°
> 0.25 - ≤ 0.50	6°
>0.50 - ≤ 0.75	4°
> 0.75 - ≤ 1.50	3°
> 1.50	2°

When final inspecting eyewear, each lens must meet or exceed published tolerances.

NOTE: For best results each lens axis should be ‘neutralized’. Compare this neutralization reading to the specified axis.

Optical & Mechanical Tolerances Continued

SEGMENT POWER

Power	Tolerance
≤ +4.00 D	± 0.12 D
> +4.00 D	± 0.18 D

NOTE: Segment Power, or Add Power is the difference between the readings of the distance and near powers of a multifocal lens, measured on the lens surface containing the near viewing segment.

Luxottica Retail Manufacturing Best Practices require Segment Power to be verified from the convex side (back) of all multifocals, including progressives.

Optical & Mechanical Tolerances Continued

Thickness Tolerance Notes for all Material Types (3&4)

MATERIAL			Pl. or MINUS CT		Pl or PLUS ET	
TYPE		NOTES	MIN.	MAX.	MIN.	MAX.
CR-39		5	1.9	2.4	1.7	2.5
Poly & Trivex	FSV		1.0	1.9	1.1	2.5
	Surfaced		1.4	2.2	1.3	2.5
Mid-Index 1.53 - 1.58	FSV	6	1.1	2.4	1.5	2.2
	Surfaced at RXO	6	1.5	2.4	1.5	2.2
	Surfaced in store	6	1.5	2.4	1.5	2.2
Hi-Index 1.59 - 1.74	FSV	6	1.0	2.4	1.3	2.2
	Surfaced at RXO	6	1.6	2.4	1.5	2.2
	Surfaced in store	6	2.0	2.4	1.5	2.2
LC HD Enhanced View	FSV	6	1.0	2.4	1.0	2.2
	Surfaced at RXO	6	1.3	2.4	1.0	2.2
GROOVE RIMLESS MOUNTS		7			1.9	2.5
IN-LINE GROOVE MOUNTS		8			2.3	2.7
DRILLED RIMLESS MOUNTS			1.0	2.2	1.8	2.2
BASIC SAFETY			3.0	3.4	3.0	3.4
SPORT		9	2.0	2.4	2.0	2.4
HIGH IMPACT SAFETY		10	2.0	2.4	2.0	2.4
GLASS		11	2.0	2.4	2.0	2.4
HI-INDEX GLASS		11	2.0	2.4	2.0	2.4

Optical & Mechanical Tolerances Continued

TOLERANCE NOTES

1	When dissimilar heights are requested, the relationship between the two must be maintained within 1mm. In the case of dissimilar fit heights, vertical prism tolerances must be applied.
2	On Rx's where prism is prescribed, the prism must meet the tolerances above. Prism used for prismatic thinning is inspected in the same manner as prescribed prism. When verifying fit ht., use Vertical Imbalance tolerances.
3	Center thickness shall be measured at the prism reference point. Edge thickness at the thinnest edge.
4	Progressive and executive lenses: If the sum of the distance power and add power is a positive number, the lens should be considered a (+) lens for thickness purposes.
5	For powers between +4.00 D and +7.87,minimum ET is 1.5, +8.00 and higher minimum ET is 1.2
6	Minimum thickness for powers between +2.00 D and -2.00 D is 2.0 CT or 1.5 ET per manufacturer's specifications.
7	For groove mounted frames use the material thickness standards for minus lenses. Ensure that the edge thickness is not less then 1.9mm. Plus lenses follow the edge thickness guide written.
8	For in-line metal frames or grooved rimless frames using metal wire mountings, use the material thickness standards for minus lenses. Ensure that the edge thickness is not less then 2.3mm. Plus lenses follow the specified edge thickness tolerances.
9	Sport eyewear may only be produced in Polycarbonate material. They are not to be monogrammed as the frames are not Z-87 approved. Minimum thickness of lenses used in Hilco Leader series frames - 3.0mm (Not monogrammed)
10	High impact safety eyewear (Z-87+) may only be produced in Polycarbonate material. The lenses must be mounted in a Z-87+ frame. If either of these items are not met, the lenses cannot be monogrammed with the high impact "+" logo.
11	In minus power/ high add combinations, additional center thickness is necessary to compensate for segment thickness. In these cases the tolerance is ±.2 mm from manufacturer's specifications.
Impact Resistance	All Monolithic (non-laminated) glass lenses must be treated to be resistant to impact. Special corrective lenses in ANSI Z-80.1-1999 are exempt from this requirement.

Eyewear Inspection Checklist Continued

CLEAN UP:

a) Remove sku/glue from frame

b) Thoroughly clean lenses

c) Check lenses for scratches/pits and place in case.

d) Place warning sticker on left lens of Basic Safety Eyewear

e) Associate initial/number on lab work ticket

f) Stamp “time out”

(Note: With order tracker, the lab copy can be stamped “time out” after mounting and before final inspection)

General Frame Alignment Continued

General Frame Alignment: Frame alignment parameters are intended to be approximate. They do not need to be exact. These parameters are designed to provide the dispensing optician with a good starting point for final customer adjustments.

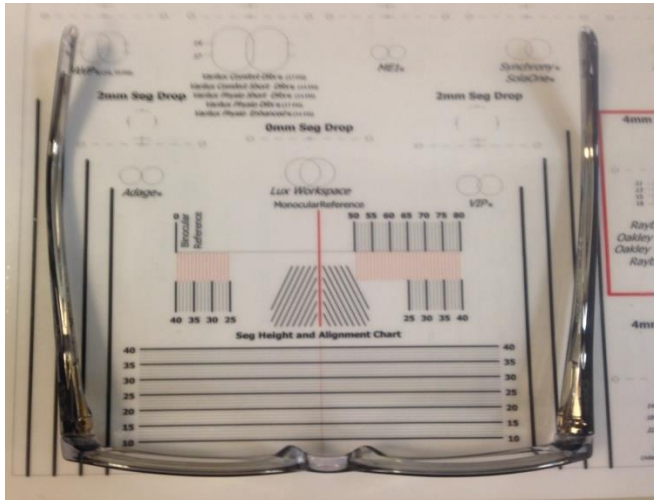
NOTE: Refer to Accufit Measurement Training for specific guidance on proper Custom Fitting principles

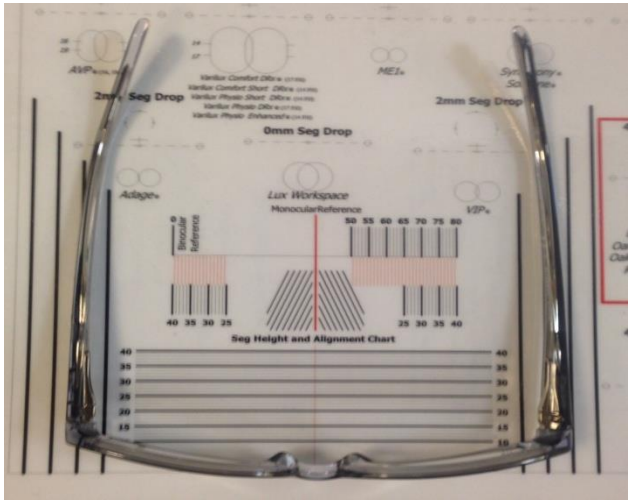
Customer Ready- Frame Alignment

Pre-Adjusted or Custom Fit Eyewear

All Eyewear should be pre-adjusted or custom fit by the optician prior to taking measurements. In these cases the frame should not be bench adjusted or put back into general frame alignment after the manufacturing process has been completed, with the following exception:

- **<u>Temples are perpendicular to frame front</u> -** Temple angles are symmetrical to frame front





Customer Ready- Frame Alignment

- **Temple are Tight** - Test by holding front of frame with temple at 180 degrees, if temple does not move, it passes. When opened or closed, temples should move smoothly without binding
- **Temples Close Evenly**

  When closed, temples should rest on top of one another. A slight downward angle is acceptable if temples cross at center of bridge.

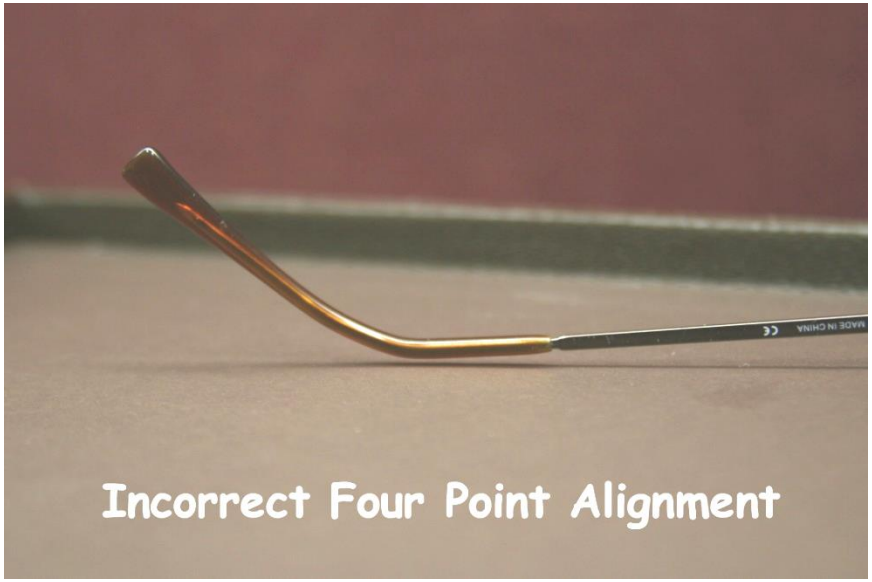
Customer Ready- Frame Alignment

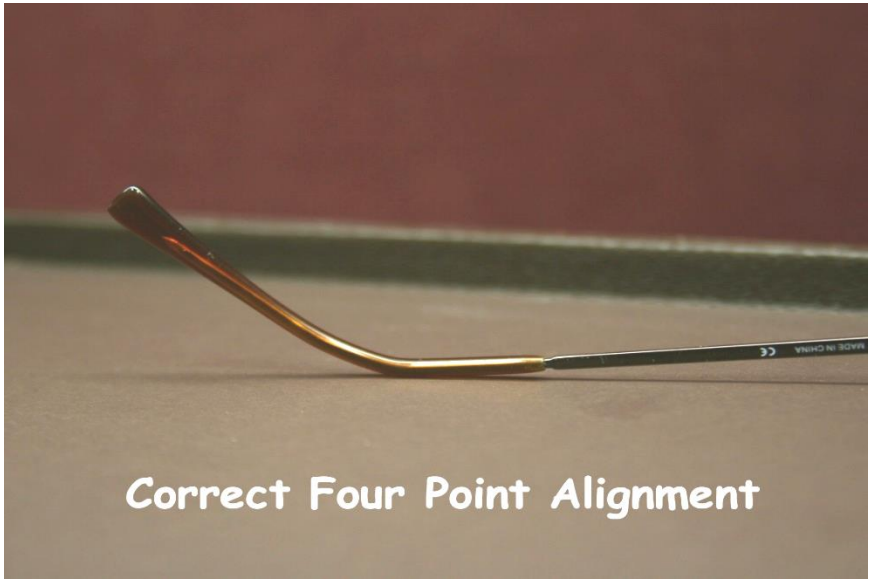
- **10 +/- 2 degrees of pantoscopic tilt**

Place open frame with top of temples on flat surface - examine front for correct amount of tilt.

- **Four Point Alignment**

Place open frame with top of temples on flat surface, temple tops should both be in contact with table (within 1.5mm). There should be no twist in frame front. There is no need to check the reverse with the temple tips in the down position.

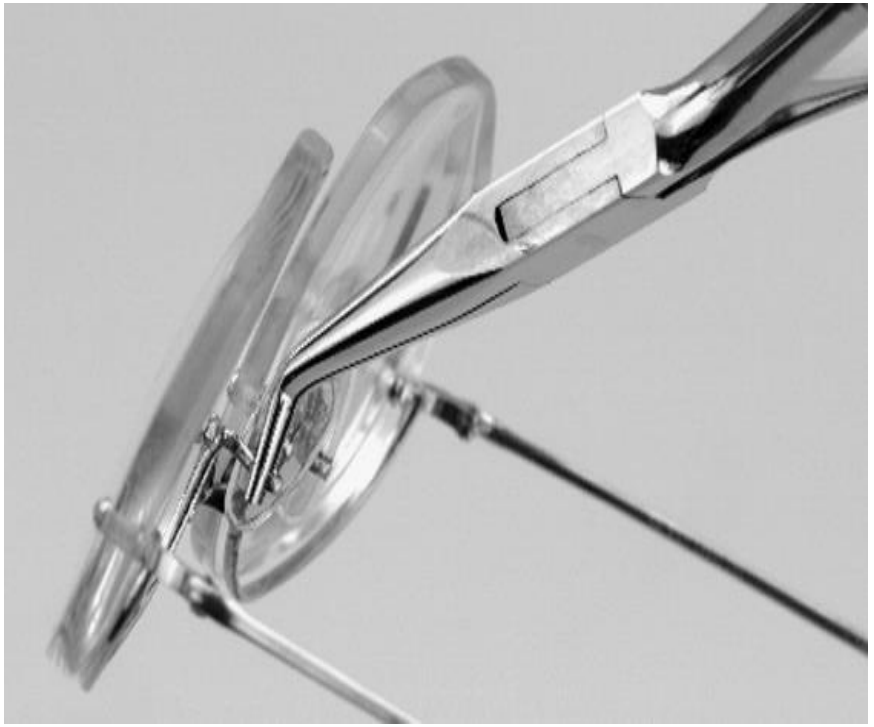




Inspection Station Frame Adjustment Tools

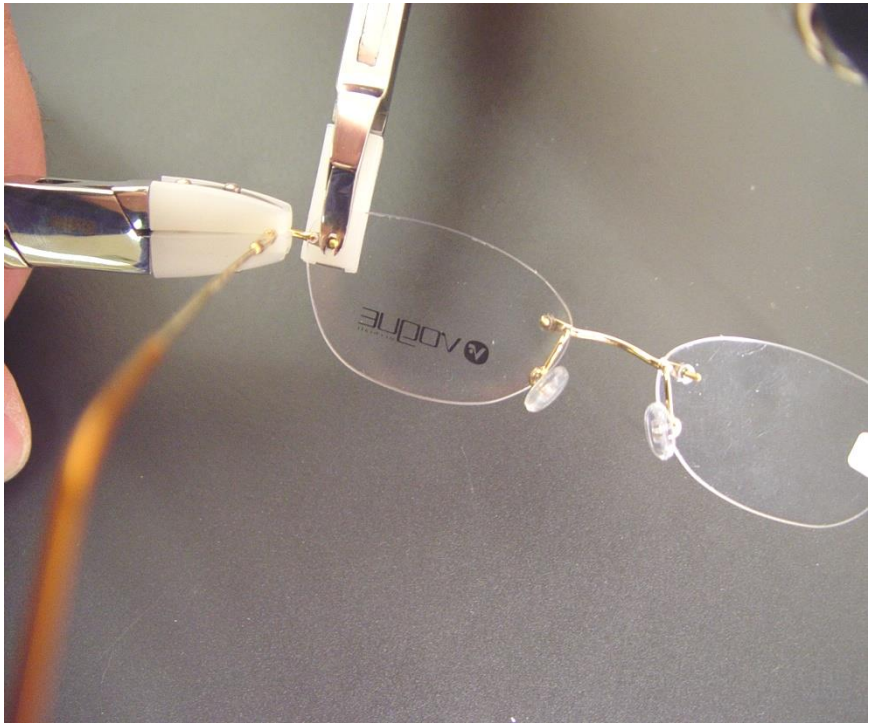
Minimum Required Adjustment Tools

- Needle nose curve tip pliers – jaws are bent at a 30 degree angle for bracing and adjusting hard to reach areas. CP #3001007



- Narrow nose pad pliers - designed for adjusting all of the most common pad & arm configurations including screw-on, snap-in crimp-on and others.
  CP #3000209

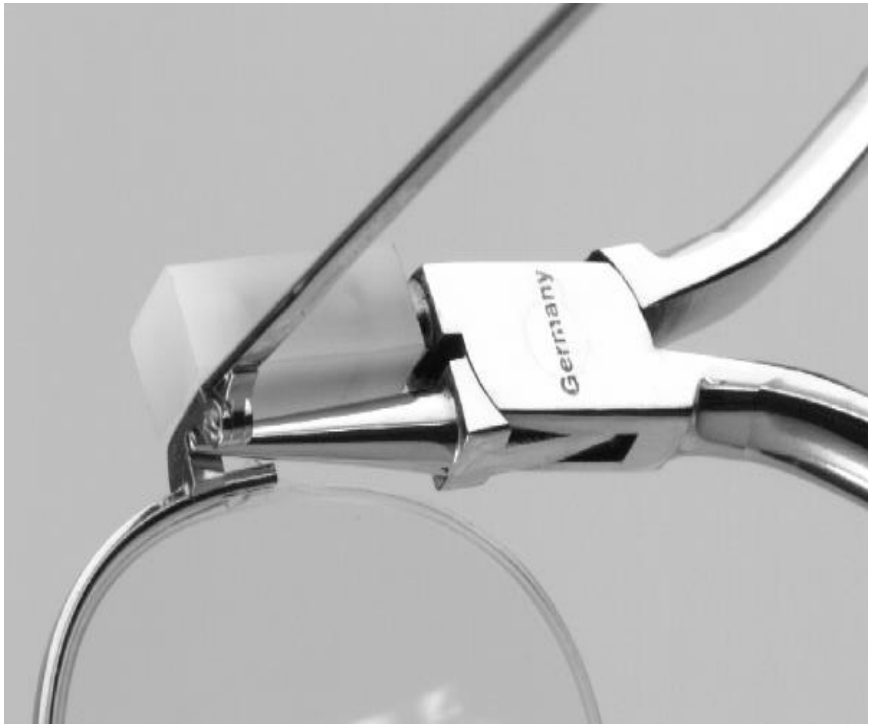
- Double nylon jaw pliers – designed for general bracing & bending/straightening of both metal and plastic frames without marring. CP #3000215



- Temple angling pliers – designed for adjusting pantoscopic tilt and temple angles on all types of frames. CP #3001011

- Wide jaw temple angling pliers – designed for adjusting pantoscopic tilt and temple angles, opens extra wide to accommodate large temples & hinges.
  CP #3000213

- Angling pliers with nylon jaw – used to adjust endpieces on metal frames. The nylon jaw protects the frame finish. CP # 3000217



Now you are ready for your EIP Qualification