HOW IMPORTANT ARE THE MEASUREMENTS YOU TAKE?

Shamir Insight, Inc.

www.shamirlens.com

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SV, BIFOCALS, PALS

We've Come a Long Way!

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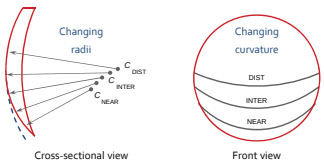
PROGRESSIVE LENS SURFACE

✓ A progressive surface varies in curvature to provide a gradual increase in power down along a central corridor or 'umbilical line'



Cross-sectional view Front view

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FIRST AND FOREMOST:

A good fit is worth a thousand remakes!

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Single Vision Optical Center Placement

With frames getting larger and most high index lenses being Aspheric this becomes more important. It is essential on Free Form SV which can give not only better optical results but a more pleasing balanced thickness than Aspheric SV lenses

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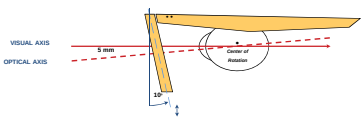
Applying Martin's Rule for Panto Tilt to SV

***2° of pantoscopic tilt for every 1 mm of OC drop**

✓ There are two ways to correct for lens tilt

✓ Spot the pupil normally, then determine the tilt

✓ Have patient raise chin, then spot pupil



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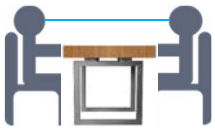
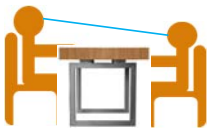
Center in front of the patient

Avoid Parallax Error

No Parallax Error



Avoid Parallax Error



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7

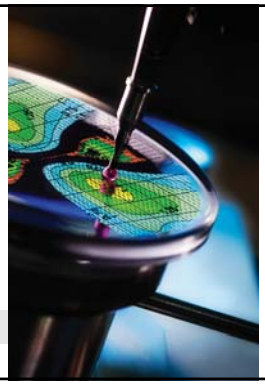
SHAMIR EYEPOINT TECHNOLOGY III™

The Eyepoint Technology III™ simulates exactly how the eye will see and then calculates the optical performance of thousands of points covering the surface of the lens.

The software takes into consideration the following parameters:

- Lens Index Refraction
- Prescription
- Lens Thickness
- Distance from the eye to the back vertex of the lens
- Pantoscopic tilt of the frame
- Pupil Distance
- Thickness Reduction prism
- Angular position of the object in the eye's field of vision

This technology enables Shamir to create the most advanced progressive lenses in the world



Steps for proper fitting:

✓Make a cross at each dot

✓Put glasses back on patient.

✓Cross should bisect pupil, client should see image of cross at distance

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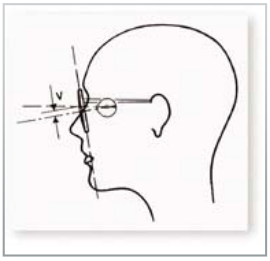
8

Compensation

- Martin's Rule shows us that if we tilt a lens from an even plane vertically or horizontally it will change the effective power of the lens.
- Tilting the lens changes three Rx components:
  1. Sphere power
  2. Cylinder power
  3. Cylinder axis



A WORD OF CAUTION...

The frame must be adjusted to the client before you begin!

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9

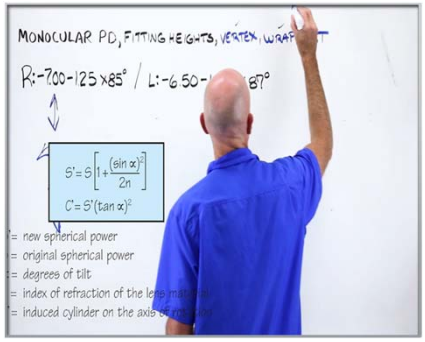
Basic Compensation Formula

- The Compensation Formula is a two part formula.
- First calculate new SPH power then induced CYL power.

$$S' = S\left[1 + \frac{(\sin \alpha)^2}{2n}\right]$$

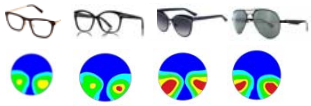
$$C' = S'(\tan \alpha)^2$$

S' = new spherical power
S = original sphere power
α = degrees of tilt
n = index of refraction of the lens material
C' = induced cylinder on the axis of rotation



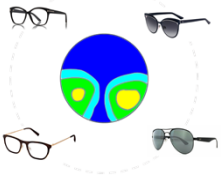
AS-WORN QUADRO™

Perfect vision for any frame choice



As-Worn compensates for the RX in the Distance, Intermediate And Near Zones .

AS –WORN QUADRO Compensates for the RX In all three zones And gives A 4 times more consistent Peripheral blend zone



PART 1
Calculate New SPH Power

SOLVE for S'

- S= +12.00 x= 15 degrees n= 1.586 poly
- S' = S[1+(sin x)² /2n]
- S' = (+12.00) (1+[sin 15]² / 2[1.586])
- Sin of 15 = 0.258819 $0.258819^2 = 0.066987$ 2 x 1.586 = 3.172
- S' = (+12.00) (1+ 0.0066987 / 3.172) 0.0669 / 3.172= 0.0211183
- 0.0211183 +1 = 1.0211183 S' = (+12.00) (1.0211183)

S' = +12.253 Perceived +0.25 Strong

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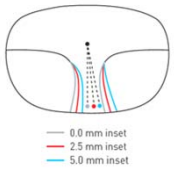
AUTOGRAPH II+®

NOW FEATURING **CLOSE-UP™**



Vital for Optimal Visual Performance

Shamir's Close-Up technology adjusts the reading zone inset of every lens to the individual patient's convergence during near viewing.

Adjustments are made in 0.1 mm steps within a range of 0 - 5 mm. The lens is custom-adjusted to the individual's near PD, relative to their far PD.

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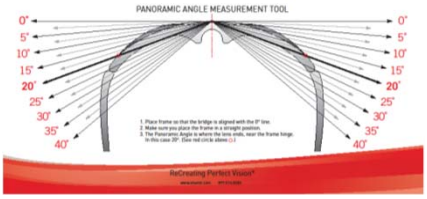
PART 2
Calculate Induced CYL

- Solve for C'
- C' = S' (tan x)²
- C' =+12.25 (tan 15)²
- Tan $15^0 = 0.267949$ $0.267949^2 = 0.071796$
- C' = (=12.25) (0.071796) = +0.879
- PANTO/RETRO/NEUT 90^0 CYL CREATED @ 90^0
-
- +12.00 is now +12.25 +0.87 x 180

We have an Easy Tool!

- If You Don't Take the Measurements



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SHAMIR PANORAMETER III

Shamir Panorameter III is ergonomically designed for easy manual measuring and operation. It measures face panoramic form angle on a scale from 0º to 40º, and pantoscopic tilt with easy-to-read 1° intervals for the highest accuracy. Its patented user-friendly design secures it on the eyeglass lens, compliant with a natural head and frame position. The kit includes the Panorameter, a Pantometer, an advanced PD ruler and special marking pen packed in protective box.

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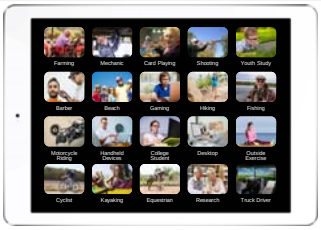
SHAMIR DESIGNS & TECHNOLOGY FOR EVERYDAY, WORK & PLAY

We have a lens for that!



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Thank You

Default Measurements

- Default vertex distance is 13 mm
- Default pantoscopic tilt is 4 degrees
- Default panoramic angle
  - Non-wrap frame is about 5 degrees
  - Wrap frame can is about 15 degrees

We are not all average!

Personal Measurements

- Taking custom measurements ensures that the design integrity is not compromised.
- Provides optimal wearing performance for the most technically advanced products.
- Providing personal measurements to the laboratory ensures a more accurate prescription.
- There are many measuring devices currently available.