LENSOMETER
OPERATIONAL PROCEDURES and PARTS

PART I – PROPER SET UP

A. NEUTRALIZE THE EYE PIECE

1. Using a white piece of paper or your thumb, cover the lens stop.
2. Rotate the eyepiece counterclockwise until it stops.
3. Look into the lensometer and rotate the eyepiece clockwise until the reticle is no longer blurry and visibly clear. This adjusts the lensometer to your eye.
4. Uncover the lens stop and turn on the lensometer.

B. VERIFY THE POWER SETTING

1. With the lensometer on, rotate the power drum into the minus area of the power scale (red numbers).
2. Look into the lensometer and slowly turn the power wheel in the plus direction (towards you) until the target (sphere and cylinders lines) becomes clear.
3. Read the power drum.
    a. If the power drum reads plano (0) proceed to step C
    b. If the power drum doesn't read plano (0), repeat all of the above starting from neutralizing the eyepiece.
    c. If you have repeated all the above-mentioned steps and the power drum still does not read plano (0), you must compensate for the error in the lensometer. Note the power on the power drum. Algebraically subtract that amount from the sphere power of the lens in the lensometer. **The error will not change the cylinder value.

C. CHECK FOR UNWANTED PRISM

1. Look into the eyepiece and find the center junction of the sphere and cylinder lines
2. The intersection of the sphere and middle cylinder lines should be in the center of the reticle. If they are not in the center, the lensometer has unwanted prism.
    a. With the Marco lensometer rotate the prism compensating knob until the sphere and center cylinder lines are center of the reticle.
    b. With other lensometer check to make sure that the auxiliary prism is not in the lensometer.

PART II

NEUTRALIZING THE POWER, IN MINUS CYLINDER FORM, OF A PAIR OF SINGLE VISION SPECTACLES.

A. Place the right lens in the lensometer with the ocular (concave) side against the lens-stop.

B. Rotate the power drum until you can see the target come into focus.

C. Rotate the axis drum until you can see either sphere lines or cylinder lines (if both sets of lines are in focus at the same time the lens is a spherical).

D. Center the lens, so both sphere and cylinder lines are centered in the reticle.

E. Note the two powers on the lens where the sphere and cylinder lines come into focus.

F. Decide which power needs to be the sphere power.

1. For minus cylinder form you should have to turn the power drum away from you to move from sphere to cylinder lines.
2. If you must turn the power drum towards you to move from sphere to cylinder lines, you are in plus cylinder form.
3. To change from plus cylinder to minus cylinder, rotate the axis wheel 090 degrees.

G. Rotate the power drum to the power that you want to be the sphere (usually minus cylinder form).

H. Look into the lensometer and rotate the axis drum until you see sphere lines that are straight, completely unbroken, and in focus.

I. Record that power, leave a space, and record the axis from the axis wheel.

J. Rotate the power drum until you can see cylinder lines.

K. Record the direction you had to turn the power drum (plus or minus) and the amount of diopters traveled (NOT THE ACTUAL READING ON THE POWER DRUM); this is your cylinder power.

L. Keeping the lens centered, dot the lens with the marking device.

M. Repeat the steps with the left lens.

Figure 1

1 Eyepiece
2 Chrome Knurled Sleeve
3 P.C.D. Knob
4 Lens Holder Handle
5 Marking Device Control
6 Gimbal
7 Ink Pad
8 Spectacle Table Lever
9 Spectacle Table
10 Power Drum
11 Locking Lever
12 Prism Axis Scale
13 P.C.D. (Prism Compensating Device)
14 Prism Diopter Power Scale
15 On-Off Switch (left side)
16 Lens Stop
17 Cylinder Axis Wheel
18 Filter Lever
19 Lamp Access Cover
20 Fuse

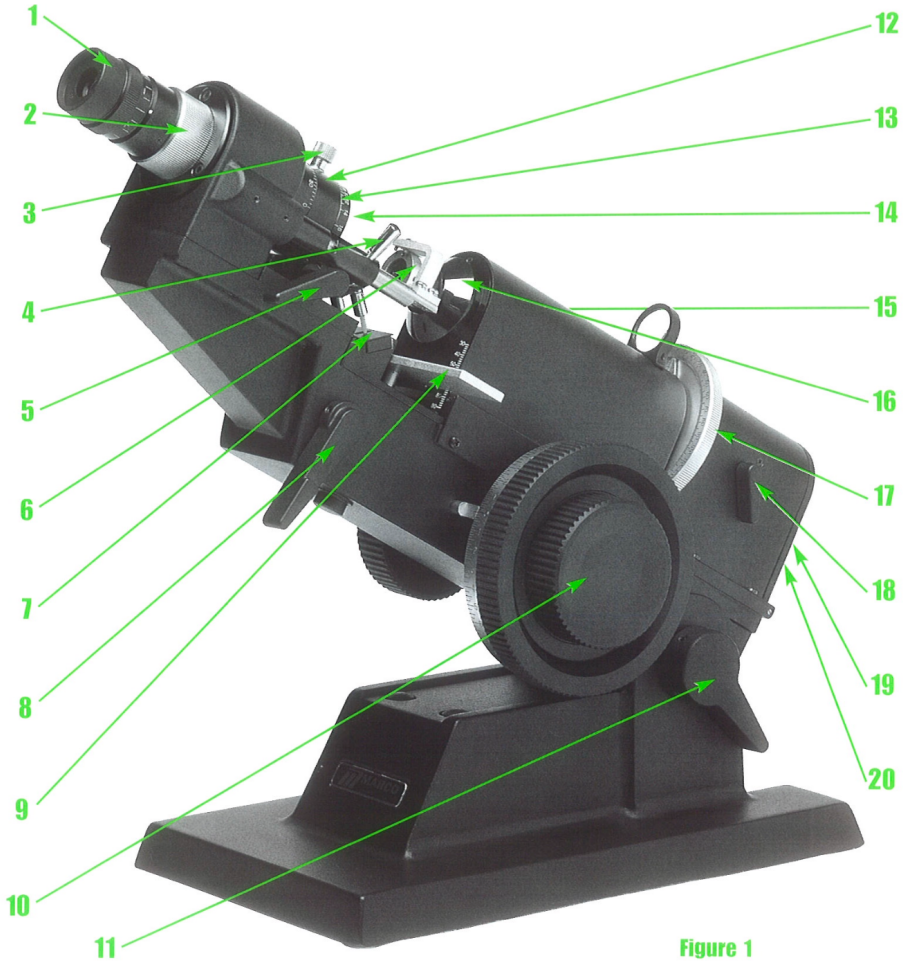

Figure 1