



## MAGNIFYING COMPARATORS & RETICLES

A precision 6 power magnifier and any one of more than 30 transparent scales called Reticles assembled to make a convenient POCKET INSTRUMENT.



ENLARGED ILLUSTRATION

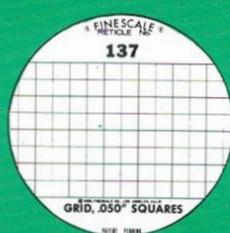
*"THE STANDARD OF THE  
INDUSTRY FOR OVER  
A DECADE"*

- ACCURATE
- EASY TO USE. Just place it on the work and read, as you do with any other scale.
- VERSATILE. Over 30 Reticles for making all types of measurements and comparisons. One scale to a Reticle.
- CONVENIENT. Easily applied to any object large or small. No depth-of-throat limitations.
- RUGGED. An unbreakable tool with optical precision.
- TRULY PORTABLE. You can really carry it in your pocket – COMFORTABLY.
- INEXPENSIVE. Everyone can have his own and all exactly alike.

For greater accuracy when measuring small objects.

- Replacing
- Machinists' steel scales
  - Draftsmen's scales
  - Scientists' metric scales
  - Inspector jigs

Actually better for many purposes than measuring microscopes or projection comparators costing **A HUNDRED TIMES** as much.



ILLUSTRATIONS ENLARGED AND IMPERFECT DUE TO FINENESS OF LINES ON ORIGINALS



# MAGNIFYING COMPARATORS & RETICLES



**FULL SIZE**

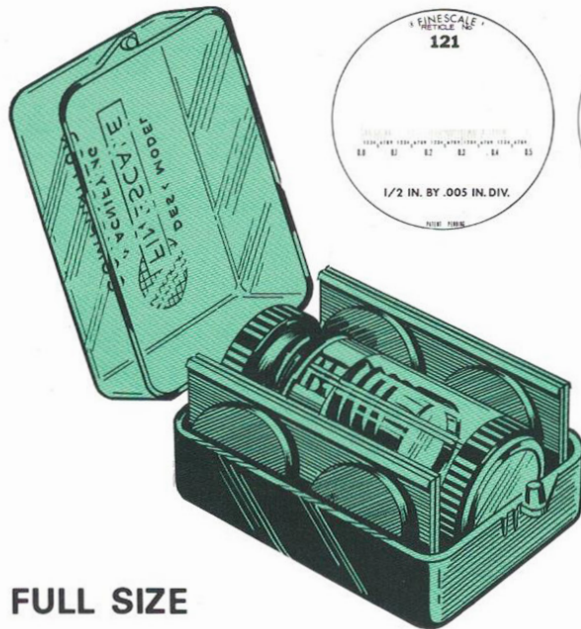
No. 121  
(Enlarged)



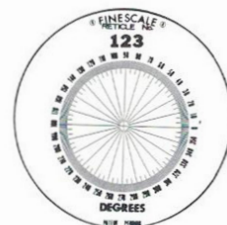
## POCKET MODEL COMPARATOR NO. 10

WITH MAGNIFIER,  
ONE PAIR RETICLES  
No. 121, AND POCKET  
CARRYING CASE

FOR ADDITIONAL RETICLES SEE RETICLE CATALOG SHEET



**FULL SIZE**



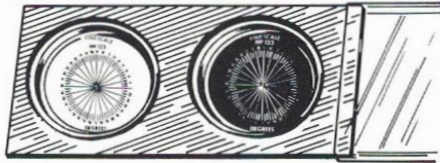
## DESK MODEL COMPARATOR NO. 20

WITH MAGNIFIER AND  
FOUR PAIRS OF RETICLES,  
Nos. 121, 122, 123, 124,  
IN COMPACT CASE

FOR ADDITIONAL RETICLES SEE RETICLE CATALOG SHEET

# RETICLE SHEET

ILLUSTRATIONS ENLARGED AND IMPERFECT  
DUE TO FINENESS OF LINES ON ORIGINALS

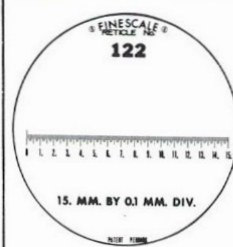


ADDITIONAL RETICLE PAIRS \$3.00  
SUPPLIED IN PAIRS, ONE BLACK-LINE  
AND ONE WHITE-LINE OF SAME PATTERN,  
IN PLASTIC CASE



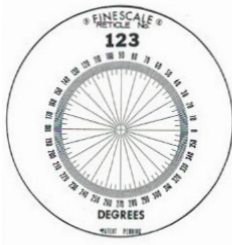
**No. 121 – 1/2 in.  
By .005 in. Div.**

This is the most popular scale for mechanics, toolmakers, and engineers working with decimal measurements.



**No. 122 – 15. mm  
By 0.1 mm Div.**

This is the most useful scale for scientists, laboratory technicians, and others using the metric system.



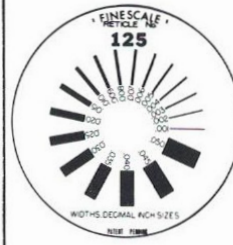
**No. 123 – Degrees.**

A full circle protractor with 1° divisions. A generally useful scale.



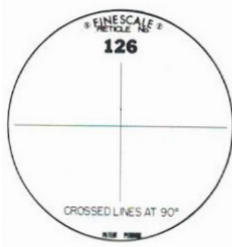
**No. 124 – 1/2 in.  
By 64ths.**

Open scale and fine lines permit very accurate measurements for those preferring fractional dimensions.



**No. 125 – Widths,  
Decimal inch sizes.**

Eighteen sizes, .001" to .050". Used in checking the width of drawn or scribed lines; slots, etc. Compare with No. 140.



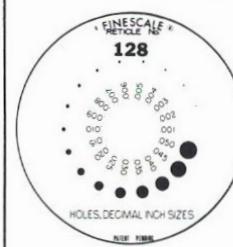
**No. 126 – Crossed  
lines at 90°**

For quickly checking the squareness of small layouts and parts.



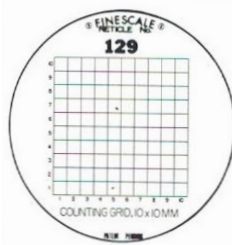
**No. 127 – Holes,  
Fractional inch  
sizes.**

Nine holes ranging from 1/128 in. to 1/8 in. in diameter. For checking holes, voids, flaws, etc.



**No. 128 – Holes,  
Decimal inch sizes.**

Eighteen sizes from .001 in. to .050 in. For checking holes in spray nozzles, gas jets, ball-point pens, instruments, watches, etc.



**No. 129 – Counting  
Grid, 10 x 10 mm.**

Used in many biological sciences, for soil analysis, spray pattern studies, etc.



**No. 130 – Inch  
scale for "H-O"  
Gage Trains.**

For the adult train hobbyist making accurate scale models.



**No. 131 – Printers  
Points.**

For printers, lithographers, advertising specialists, etc. in checking height and spacing of small type.



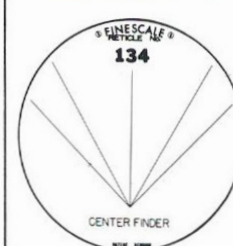
**No. 132 – Thread  
Pitch, NM series.**

For checking threads in the new "miniature" series. See Reticle No. 135 for others.



**No. 133 – Radii,  
Fractional inch  
sizes.**

From 1/32 in. to 3/8 in. by 1/32 in. steps. See No. 139 for decimal inch sizes.



**No. 134 – Center  
Finder.**

For checking accuracy of centers and keyways of small shafts, layouts, etc.



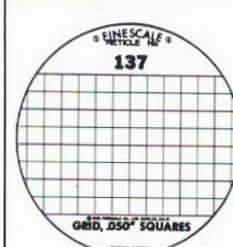
**No. 135 – Thread  
Pitch, NF and NC  
series.**

All threads from smallest to 20 THDS/IN in both series. See Reticle No. 132 for pitch of new NM series.



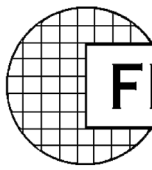
**No. 136 – .300 in.  
By .002 in. Div.**

Similar to No. 121, but with finer divisions for still more accurate measurements. By reading on the lines or between them measurements



**No. 137 – Grid.  
.050" x .050"  
squares.**

First made for checking layouts and inspecting of electronic wiring boards (printed circuits).



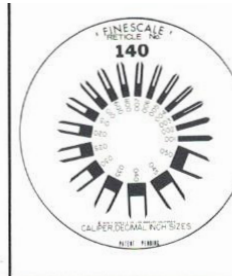

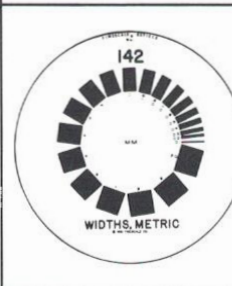
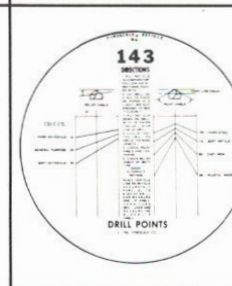
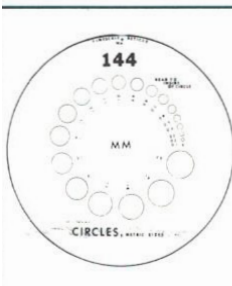
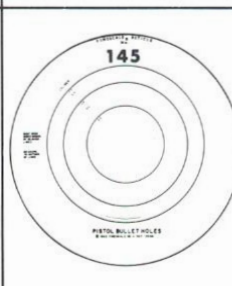
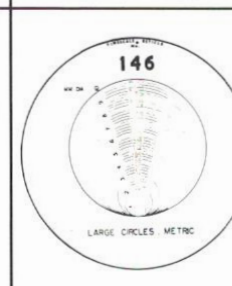
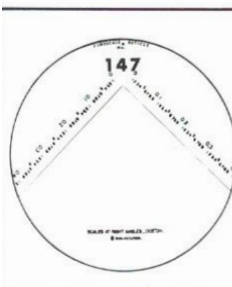
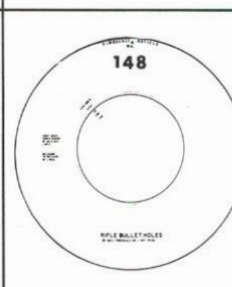
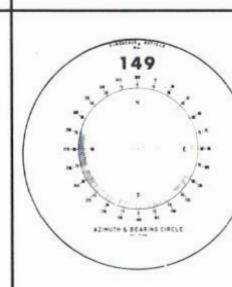








# FINESCALE®

TOOLS FOR MINIATURE MEASUREMENT

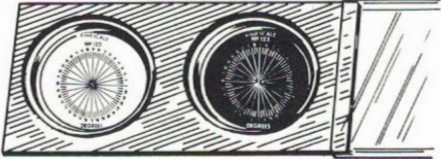
## RETICLE SHEET

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DUE TO FINENESS OF LINES ON ORIGINALS

 <p><b>No. 138 – Index Line.</b> First made for use in comparators which are built into special layout and measuring machines.</p>	 <p><b>No. 139 – Radii, Decimal inch sizes.</b> A companion to Reticle No. 133. This one has decimal inch sizes while the other has fractional inch sizes.</p>	 <p><b>No. 140 – Caliper, Decimal inch sizes.</b> Somewhat similar to Reticle No. 125. Consider No. 125 as a feeler-gage and this one as a snapgage for miniature parts and dimensions.</p>
 <p><b>No. 141 – Circles, inch sizes.</b> Like No. 128 except open circles. Both fractional and decimal inch sizes.</p>	 <p><b>No. 142 – Widths, metric sizes.</b> Like No. 125 but with bars varying in width from 0.1 mm to 2.0 mm by 0.1 mm increments.</p>	 <p><b>No. 143 – Drill Points.</b> For checking the sharpening of small drills. Shows correct point angle and lip clearance for drilling various materials.</p>
 <p><b>No. 144 – Circles, metric sizes.</b> Open circles like No. 141 but metric sizes from 0.1 to 2.0 mm dia. by 0.1 mm increments.</p>	 <p><b>No. 145 – Pistol Bullet Holes</b> Scoring gage for all N.R.A. listed sizes.</p>	 <p><b>No. 146 – Large Circles, Metric</b> Sizes from 1.0 to 10.0 mm by 0.1 mm div. See No. 144 for smaller ones.</p>
 <p><b>No. 147 – Scales at Right Angles, .005" Div.</b> Preferred to No. 121 for some measurements.</p>	 <p><b>No. 148 – Rifle Bullet Holes.</b> Scoring gage for all N.R.A. listed sizes.</p>	 <p><b>No. 149 – Azimuth and Bearing Circle</b> 1.0 degree div. Preferred over No. 123 for map reading.</p>
 <p><b>150 Mag. Tape I.R.I.G. 7-14 track</b></p>	 <p><b>151 Mag. Tape I.R.I.G. 16 track digital</b></p>	 <p><b>152 Mag. Tape I.R.I.G. 31 track digital</b></p>
 <p><b>153 Mag. Tape In-Line 7-14 track</b></p>	 <p><b>154 Mag. Tape IBM 7 track</b></p>	 <p><b>155 Mag. Tape IBM 9 track</b></p>

# RETICLE SHEET


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**ADDITIONAL RETICLE PAIRS \$3.00**  
SUPPLIED IN PAIRS, ONE BLACK-LINE  
AND ONE WHITE-LINE OF SAME PATTERN,  
IN PLASTIC CASE




**No. 156 – Widths, Fractional Inch Sizes**  
Like No. 125 and No. 142 but with 12 fractional inch bars from 1/128" to 3/32" by 1/128" divisions.



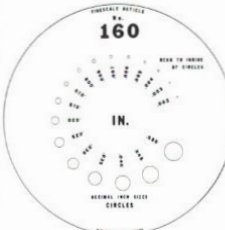
**No. 157 – Caliper, Fractional Inch Sizes**  
Like No. 140 but with 11 fractional inch sizes from 1/128" to 3/32" in 1/128" steps to 5/64" plus 3/32". This is a "snap gage."



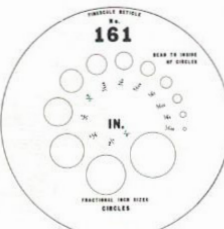
**No. 158 – Caliper, Metric Sizes**  
Another "snap gage" like No. 140 and No. 157 with 13 metric sizes from .1 mm to 2.0 mm. Sizes are .1, .2, .3, .4, .5, .6, .8, 1.0, 1.2, 1.4, 1.6, 1.8, and 2.0 mm.




**No. 159 – Holes, Metric Sizes**  
Like No. 127 and No. 128. It has 20 holes from .1 mm to 2.0 mm by .1 mm steps. For checking small metric size holes.




**No. 160 – Circles, Decimal Inch Sizes**  
Like No. 140 but includes only decimal inch size holes. 17 holes from .002 in. to .050 in. by .001 in. steps to .010 in. and by .005 in. to .050 in.




**No. 161 – Circles, Fractional Inch Sizes**  
Like No. 140 but includes only fractional inch size holes. 12 holes from 1/128" to 1/8" by 1/128" to 1/4" and by 1/64" to 1/8".




**No. 162 – Crossed Scales, Decimal Inch Sizes**  
Crossed lines with decimal inch scales. Vertical scale is .4 in. long and horizontal scale .5 in. long. All scales marked to .005 in. increments.




**No. 163 – Crossed Scales, Fractional Inch Sizes**  
Like No. 162 but marked in 1/64" increments. Vertical scale is 3/16" long and horizontal scale 1/2" long.




**No. 164 – Crossed Scales, Metric Sizes**  
Crossed lines with metric scales. Vertical scale is 10 mm long and horizontal scale is 14 mm long. All scales marked to .1 mm.




**No. 165 – Counting Grid, Fractional Inches**  
Like No. 129 and No. 137 except 1/2 in. by 3/8 in. in size with 48 squares 1/16 in. in size.



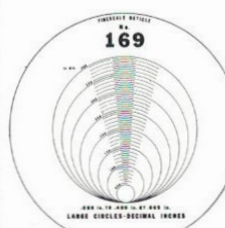
**No. 166 – Fine Grid, Decimal Inches**  
Like No. 137 but with 2000 squares .01 in. on a side. Overall size .4 in. by .5 in. Used for small particle counting. Accented each .05 in.



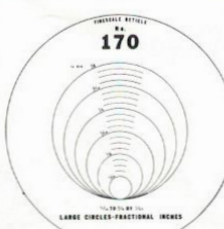
**No. 167 – Fine Grid, Fractional Inches**  
Like No. 165 but divided into 768 squares 1/64 in. on a side. Overall size 3/8 in. by 1/2 in. accented each 1/16 in.



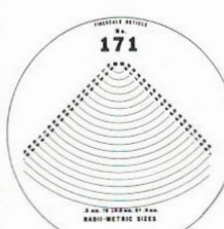
**No. 168 – Fine Grid, Metric**  
Like No. 129 – but divided into 2500 squares .2 mm on a side. Overall size 10 mm by 10 mm accented each mm.



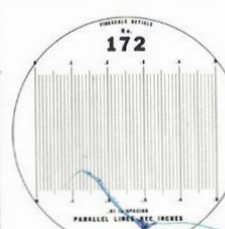
**No. 169 – Large Circles, Decimal Inch Sizes**  
Like No. 146 but with decimal inch sizes. Sizes go from .050 in. to .400 in. by .005 in. increment with full circles each .050 in. and arcs for intermediate sizes.



**No. 170 – Large Circles, Fractional Inch Sizes**  
Like No. 169 but with fractional inch circles from 1/16 in. to 3/8 in. by 1/64 in. increments. Full circles every 1/16 in. and arcs for inter-



**No. 171 – Radii, Metric Sizes**  
Like No. 133 and No. 139 but in 20 metric sizes from .5 mm to 10.0 mm by .5 mm increments.



**No. 172 – Parallel Lines, Decimal Inch Sizes**  
Parallel lines spaced .01 in. apart and marked each .1 in. This is like the counting grids without the horizontal lines. Total of 51 lines covering .5 in.

# RETICLE SHEET

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**No. 173 – Parallel Lines, Fractional Inch Sizes**

Like No. 172 but with lines spaced every 1/64 inch and marked every 1/8 in. Total of 33 lines covering 1/2 in. in width.



**No. 174 – Parallel Lines, Metric Sizes**

Like No. 172 and No. 173 but spaced in metric increments. There are a total of 21 lines spaced .5 mm apart for a total width of 10 mm.



**No. 175 – Bore Sight Target**

This reticle is the familiar crossed lines, but with a .050 in. dia. circle in the center to form a "bore sight" or "window" at the intersection of the lines.



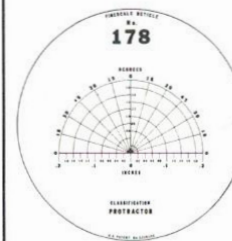
**No. 176 – L & N Strip Chart Scale**

For measuring L & N strip chart recorder information. Axial scale is compressed 5% in true measure to accommodate 9.5" scale travel. The "width" scale is true measure.



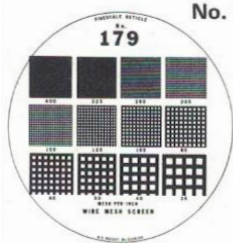
**No. 177 – Thread Pitch, Metric Sizes**

Like No. 135 but with 13 metric thread pitches from .20 mm to 1.00 mm. Pitches increase in .5 mm increments to .5 mm and by .1 mm increments to 1.00 mm plus .75 mm.



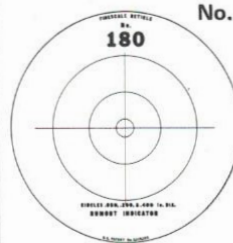
**No. 178 – Protractor**

This is another special purpose reticle originally designed for use by crime laboratories for fingerprint classification. Its unique combination of angular and linear information make it useful in other fields.



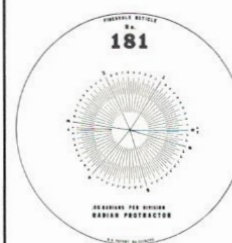
**No. 179 – Wire Mesh Screen**

The size of the many fine mesh screens used for filters and other purposes. It has sections of 12 sizes of screen. Sizes are 35, 40, 50, 60, 80, 100, 120, 150, 200, 250, 325, and 400 mesh per inch.



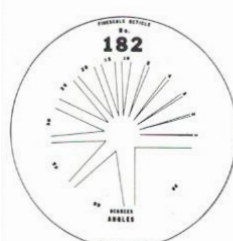
**No. 180 – Runout Indicator**

We call this a "Runout Indicator" since it was first used to check drill runout on flat layouts. It consists of two crossed lines at 90° with three concentric circles .050, .200, and .400 inches in diameter.



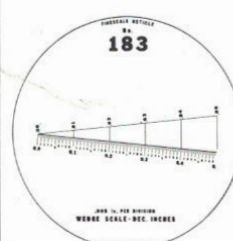
**No. 181 – Radian Protractor**

The familiar protractor divided into radians instead of degrees. There are 2π radians by .05 radian increments running counter-clockwise.



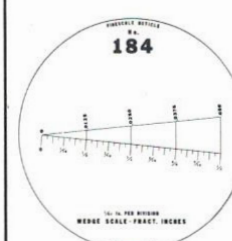
**No. 182 – Angles**

13 discrete angles arranged in a circle. Angles shown are 1, 2, 3, 4, 5, 10, 15, 20, 25, 30, 45, 60, and 90 degrees. Has application where a protractor becomes difficult to read.



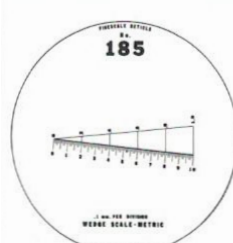
**No. 183 – Wedge Scale, Decimal Inch Sizes**

This scale provides a "vertical vernier" in the ratio of 10:1. The space between lines is exactly 1/10 the reading on the horizontal scale. The scale itself is .500 in. long by .005 in. increments.



**No. 184 – Wedge Scale, Fractional Inch Sizes**

Like No. 183 but calibrated in fractional inch sizes. The horizontal scale reads 1/2 in. by 1/64 in. increments. The vertical height is 1/10 the reading of the horizontal scale.



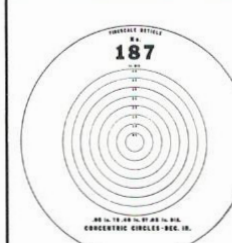
**No. 185 – Wedge Scale, Metric Sizes**

Like No. 183 and No. 184 but calibrated in metric sizes. The horizontal scale reads 10 mm by .1 mm increments. The vertical scale is 1/10 the reading of the horizontal scale.



**No. 186 – Printers Point Rule**

This scale is calibrated in printers points. It reads to 36 points by 1/2 point and can be used in place of reticle No. 131 for all measurements in this system.



**No. 187 – Concentric Circles, Decimal Inch Sizes**

Similar in purpose to No. 169 but with fewer circles arranged on a common center. Sizes range from .050 in. to .400 in. by .050 in.



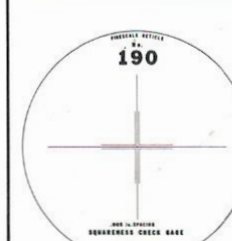
**No. 188 – Concentric Circles, Fractional Inch Sizes**

Like No. 187 but with fractional inch circles 1/16 in. dia. to 3/8 in. dia. by 1/16 in. increments.



**No. 189 – Concentric Circles, Metric**

Like No. 187 and No. 188 but with metric circles 1 mm dia. to 10 mm dia. by 1 mm increments.



**No. 190 – Squareness Check Gage**

This is a set of crossed lines at 90° with parallel lines on each side of each crossed line spaced .005 in. to form a plus or minus .005 in. tolerance for squareness checking.