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Find the *Davidson Optronics D-212* at our website: ***Click HERE***

TOOLING AUTOCOLLIMATOR -- D-657

The **Model D-657 Tooling Autocollimator** provides industry with an autocollimator economical enough to permanently install as part of a tooling fixture, thereby offering low cost in-process inspection. The instrument's operational simplicity makes it extremely fast for revealing the degree of perpendicularity of a reflector to the optical axis.

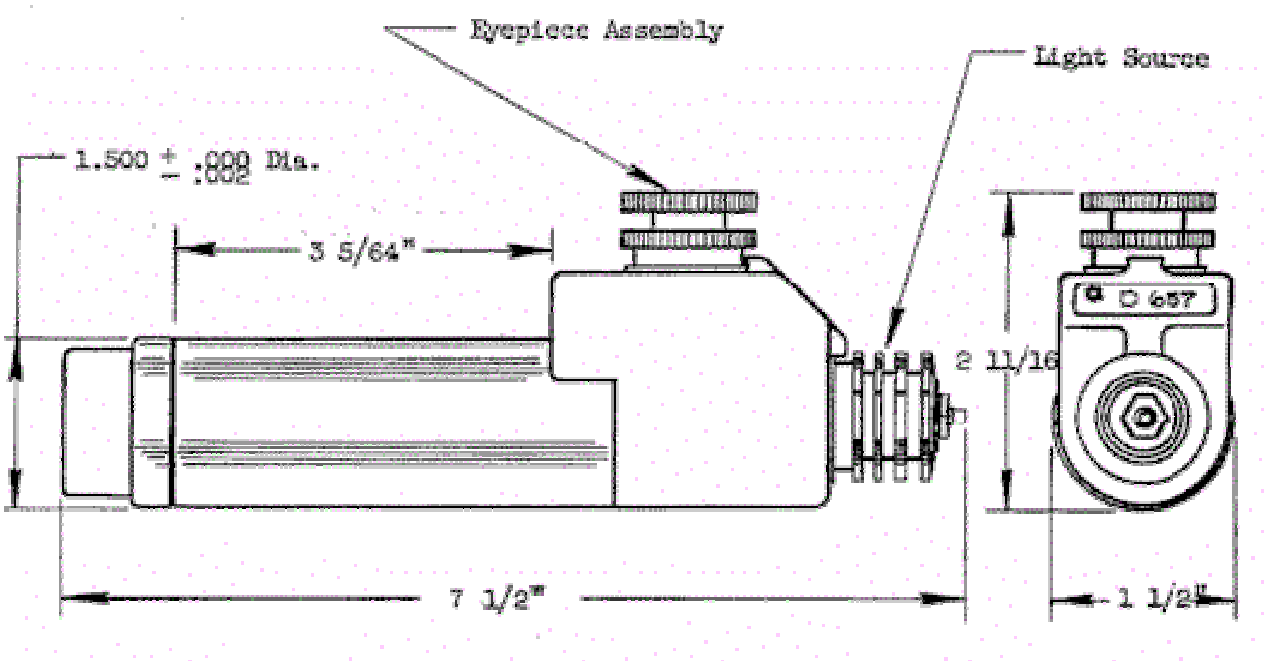
Features:



- Measures angular deviation of a one degree about either vertical or horizontal axis (500 - 30 arc minutes),
- Eyepiece and light source assemblies interchangeable for right angle viewing
- Economical cost permits permanent installation in tooling fixtures
- Certification of accuracy traceable to **National Institute of Standards and Technology**

Applications:

The **Model D-657 Tooling Autocollimator** incorporates such features as a 90° interchangeable line of sight eyepiece, wide angle field (one degree), average nulling sensitivity of 3 arc seconds, autocollimates from small reflectors. Comes complete with power pack and variable intensity light source.



Autocollimator functions:
The basic function of an **autocollimator** is to detect and measure a deviation in the position of a reference reflective surface. The autocollimator projects a collimated beam of light onto a reflective surface. When a deviation in the position of that reflective surface occurs, a deviated beam of collimated light returns to the autocollimator.

For theory of operation, please refer to the Principles of Autocollimation Application Note.

Detailed Specifications for **Model D-657-100:**

Sensitivity	Nulls to 3 arc seconds
Accuracy	10 arc seconds at 30 arc minutes
Nulling Repeatability	±1 arc second or better (standard deviation)
Measuring range	1 degree at 3 feet
Aperture Diameter	0.9"
Eyepiece Magnification	12X (24X available)
Focal Length	5"
Eyepiece Reticle	Dark 3 arc seconds wide line cross hair on clear field
Projected Reticle	Dark orthogonal graticle, 1 arc minute increments with 5 arc second diameter center dot on bright field

Light Source		GE #328 lamp (2 spares included)
115V Power Supply		Model D-416 Power Pack, variable from 0 though 6 volts DC
Material	**Housing**	Aluminum
	Barrel	Hardened Stainless Steel
Overall Dimensions	**Height**	2-11/16"
	Width	1½"
	Length	7¾"
	Base Length	1.93"
	Barrel Diameter	1.500" (+.000/-.002)
	Height to Aperture Center	¾"
Finish	**Housing**	Ivory Enamel
	Barrel	Polished
Carrying Case		Finished Hardwood, Ethafoam fitted for instrument and light source
Instrument Weight		2 pounds
Shipping Weight		10 pounds

The **Model D-657-500** is identical to the **Model D-657** except the two piece barrel is approximately 11 inches long. With graduation in 30 second increments, measurment to 15 arc second or better is possible. With twice the resolution nulling to ±1 arc second may be achieved.

Detailed Specifications for **Model D-657-500:**

Sensitivity	Nulls to 1 arc second
Accuracy	5 arc seconds at 15 arc minutes
Nulling Repeatability	±0.5 arc seconds or better (standard deviation)
Measuring range	30 arc minutes at 3 feet
Aperture Diameter	0.9"
Eyepiece Magnification	12X (24X available)
Focal Length	12"
Eyepiece Reticle	Dark 3 arc seconds wide line cross hair on clear field

Projected Reticle		Dark orthogonal graticle, 30 arc second increments with 3 arc seconds diameter center dot on bright field
Light Source		GE #328 lamp (2 spares included)
115V Power Supply		Model D-416 Power Pack, variable from 6 though 9 volt VDC
Material	**Housing**	Aluminum
	Barrel	Hardened Stainless Steel
Overall Dimensions	**Height**	2-11/16"
	Width	1½"
	Length	14½"
	Base Length	1.93"
	Barrel Diameter	1.500" (+.000/-.002)
	Height to Aperture Center	¾"
Finish	**Housing**	Ivory Enamel
	Barrel	Polished
Carrying Case		Finished Hardwood, Ethafoam fitted for instrument and light source
Instrument Weight		3 pounds
Shipping Weight		15 pounds

Optional Accessories:

- Model D-165 High Intensity Light Source. This option may be required when autocollimating off of low reflectivity surfaces or small mirrors.
- Model D-212 Adjustable Stand
- Model D-266 Adjustable Instrument Stand
- Model D-416B 220V 50Hz Power Supply
- P/N **105-2761-657** Video Camera & Monitor with integral power supply. With this option readings become very easy even for unskilled personnel. Repeat readings are more accurate and faster. The camera eliminates any errors from parallax and greatly reduces eye fatigue. This option is easily added to existing **Model D-657**'s.
- Reticles

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