

NEW! Luxxor® Portable Video Camera

The new Luxxor® Portable Video Camera quickly and easily attaches to any Hawkeye® Rigid or Flexible Borescope, and most other brands as well. Now, any borescope can instantly become a videoscope!

See pages 8 - 9 for details.



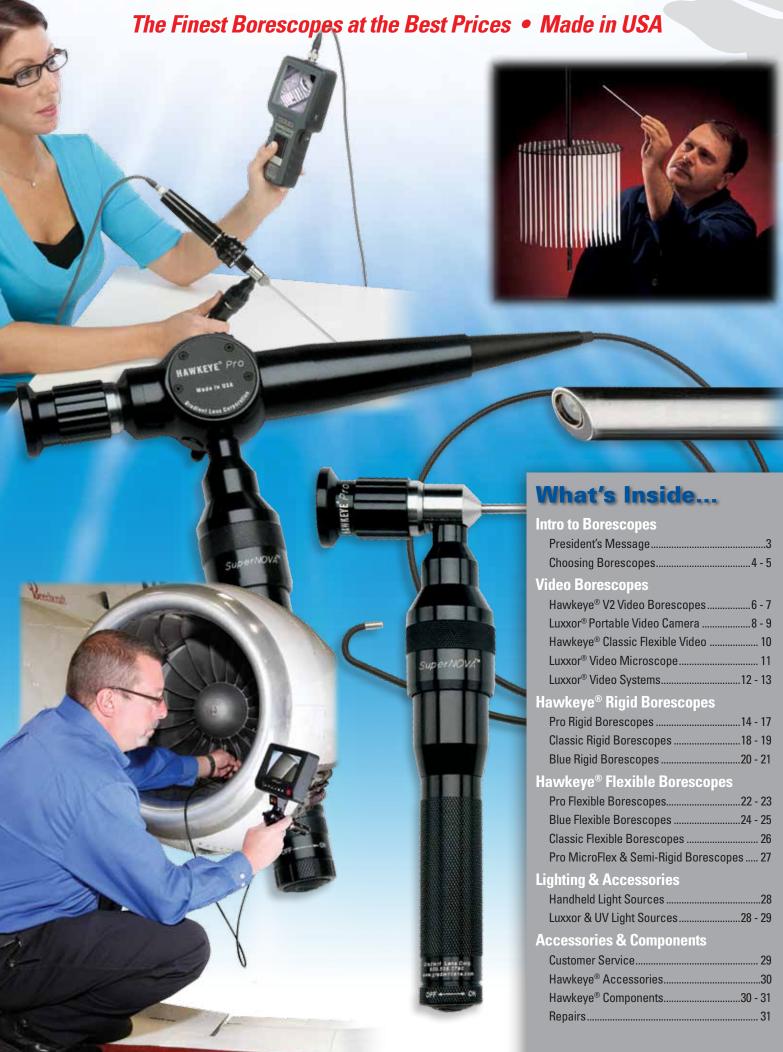
NEW! Hawkeye® **V2** Video Borescope

Hawkeye® V2 Video Borescopes deliver world-class image quality, 4-way articulation, superior construction, in 4 or 6 mm diameters, all starting at only \$8995! Video and still image capture is quick and easy. Made in USA.

See pages 6 - 7 for details.









Gradient Lens Corporation®

Gradient Lens Corporation is very proud to introduce the latest addition to our line of Hawkeye Precision Borescopes — the new V2 Video Borescope! Our newly redesigned Hawkeye V2 Video Borescopes (pgs. 6 - 7) are leading the industry in high quality, affordable, light weight, portable, visual inspection. We designed and manufacture the Hawkeye V2's to offer the best quality, at the best price, delivering bright, high-resolution video and still images, large range of focus, smooth articulation, and durable



tungsten sheathing. The new Hawkeye V2's are the best value of any videoscope on the market today!

We have also launched our new Luxxor® Portable Video Camera (pgs. 8 - 9), which allows any Hawkeye Rigid or Flexible Borescope to instantly become a videoscope. The Luxxor Camera quickly and easily attaches to virtually any borescope so that images can be displayed on a hand-held portable video monitor. Still images and video footage can also be captured on an SD Memory Card.

Hawkeye Precision Borescopes have been known for their world-class optics and great value for over 18 years... those are the business principles we built our company on over 30 years ago. Today, with over 80 different models of rigid, fiberoptic, and video borescopes, all Hawkeye® Precision Borescopes continue to be manufactured according to those same values.

Our Hawkeye Rigid, and fiberoptic Hawkeye Flexible Borescopes, continue to be the foundation of our product lines. Manufactured in our Rochester NY facility, Hawkeye Pro Rigids incorporate our latest, patented, e2 endoGRINs® relay lenses, and are hands down the best quality and value in the industry. Our Hawkeye Pro and Blue Flexible fiberoptic scopes, manufactured in our Southern CA plant are top notch, both optically and mechanically, and designed and manufactured to continue our tradition of quality and value. We invite you to compare our Hawkeye scopes to the competition, and see the difference.

Sincerely,

Dr. Douglas S. Kindred

President and Chief Scientist





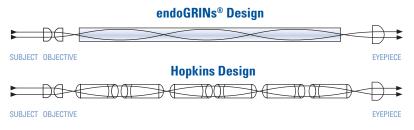
Gradient Lens Corporation
207 Tremont Street, Rochester, NY 14608
Phone: (585) 235-2620 • Fax: (585) 235-6645

Gradient Lens Corporation West 4647 Jackson Lane, Unit D, Phelan, CA 92371 Phone: (760) 868-5812 • Fax: (760) 868-5813

Choosing Borescopes

Rigid Borescopes

The heart of a rigid borescope design is the relay lens system. Gradient Lens Corporation's patented endoGRINs® design makes lens manufacturing and assembly easier and less costly, without sacrificing image quality.

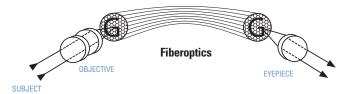


Our patented endoGRINs® gradient index lenses are the core technology of Hawkeye® Pro and Classic Rigid Borescopes. The elegant simplicity of the endoGRINs design gives excellent optical quality at a much lower cost than traditional alternatives, like the Hopkins design, which uses many expensive micro-lenses and optical glass rods.

As described above, rigid borescopes use traditional, glass optics to relay the image. If your entry path is straight, a rigid borescope delivers excellent image quality and can be more cost-efficient than either fiberoptic or video borescopes.

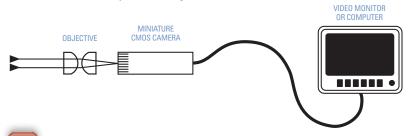
Fiberoptic Borescopes

Fiberoptic borescopes use optical glass fibers to relay the image. Resolution depends on the number of fibers and their diameter. Each fiber forms a pixel in the final image. If your entry path is not straight, fiberoptic borescopes have the advantages of flexibility and articulation.



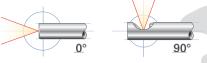
Video Borescopes

When compared with any other type of borescope, video borescopes deliver the best combination of image quality and convenience. Videoscopes transmit light through the objective lens to miniature video cameras, which then convey the image to a portable handheld monitor, or, laptop and desktop computers. When portability, still and video image capture, and image storage and documentation are key factors, a videoscope is the right choice.



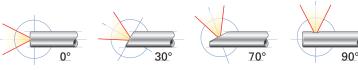
Direction-of-View (DOV)

Hawkeye Pro and Classic Rigid Borescopes see straight-ahead (0°) and sideways (90°) with a mirror tube that slides over the borescope tube, making them two borescopes in one.

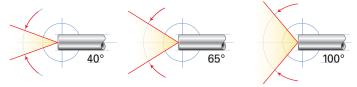


The mirror tube rotates the view over a full 360°, using the knurled knob. Our new mirrors are robust and durable for easy cleaning.

Hawkeye® Blue Rigid Borescopes use prisms to achieve the direction-of-view.



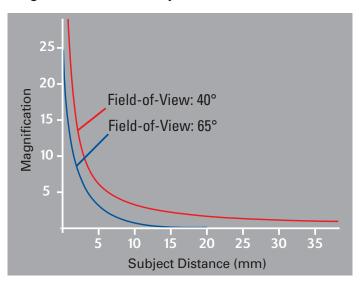
Field-of-View (FOV)



Most inspection situations need a "normal" objective lens (like a typical camera) with an angle of about 40°.

Wider lenses see more, but at a lower magnification, giving less detail. Magnification increases as the borescope approaches the subject, unlike a microscope objective, which gives a fixed magnification at one object distance.

Magnification Versus Subject Distance



In 1995, Gradient Lens Corporation made only one model of borescope. Now we offer more than 80 rigid, flexible, and video Hawkeye® borescopes, and a complete system of interchangeable accessories.



Hawkeye® Rigid Borescopes

Choose a Hawkeye® Rigid Borescope when the entry path is straight. Rigids have better image quality, and are more durable and less expensive, than flexible scopes. Hawkeye® Classic and Pro Rigid Borescopes have DOV's of 0°, 30°, and 90°. Hawkeye® Blue Rigid Borescopes offer a wider selection of DOV's and lengths. Pgs. 14 - 21



Button rifled .204 Ruger as seen with a Hawkeye Pro Slim 17"



Diesel injector body taken with a Hawkeye Pro Hardy 7"



Burr in a cross hole in an ABS brake manifold viewed with a Hawkeye Pro Slim 7"



Hawkeye® Flexible Borescopes

When your entry path is curved, you'll need a Hawkeye® Pro, Classic, or Blue Flexible Borescope. With 0-, 2-, or 4-way articulation, up to 25,000 pixel image resolution, and flexible, durable, tungsten sheathing, Hawkeye® Flexible Borescopes are the finest fiberscopes on the market. Pgs. 22 - 26



A complex casting is inspected using a Hawkeye Pro Flexible

A Hawkeye Pro MicroFlex

Semi-Rigid borescope

inspecting a very small

electrical socket

Hawkeye® Semi-Rigid Borescopes



Interior of aluminum casting viewed with a Hawkeye Pro 500 cc motorcycle engine Flexible with 90° adapter using a Hawkeye Pro Flexible

Hawkeye® Pro MicroFlex Semi-Rigid and Flexible Borescopes offer

diameters as small as 0.5 mm, and a 10,000 or 30,000 fiber image bundle,

Medical tubing is inspected

for flaws or defects with a

0.9 mm Hawkeve Pro

MicroFlex Flexible



Timing chain in Honda

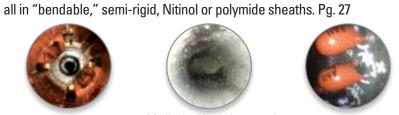


Luxxor Portable Camera.

Connect any Hawkeye® Rigid or Flexible Borescope to a video camera and display the image on a computer or video

monitor. Store, document and e-mail images as well. Pgs. 12 - 13





An electrical circuit board as seen with a 0.9 mm Hawkeye Pro MicroFlex Flexible









Choosing Borescopes

Hawkeye® Video Borescopes

The new Hawkeye® Pro V2

our next generation of fully

portable, articulating, video-

scopes. The V2 has a large

focus range, is bright, and

delivers high-res images

4-way articulation. Pgs. 6 - 7

Flexible Video Borescopes are

 ${f Luxxor}^{\scriptscriptstyle (\!arGet)}$

Portable

Video Borescopes represent

The new Luxxor Camera allows users to view internal visual inspection images on portable or benchtop video monitors, or on laptop or desktop computers. Video footage, and photos, can then be viewed "live," and saved, documented, and e-mailed. Pgs. 8 - 9

attaching the borescope to the video coupler of the

Luxxor® Video Systems





The next generation of fully-portable, articulating video borescopes!

Made in USA

VIDEO BORESCOPES

- Bright, High-Res **Video and Photos**
- Large Range-of-Focus
- Quality Construction
- 4-Way Articulation
- 4 & 6 mm Diameters
- Starting at Only \$8,995

We've improved the image quality in the new Hawkeye® V2 with a higher resolution, more light sensitive camera delivering bright, crisp, clear images! The new 5" LCD Monitor provides comfortable viewing, and intuitive, easy-to-use controls, allow photo and video capture at the touch of a button! We've increased the 4-way articulation range, as well as the field-of-view and depth-of-field. It's still small, lightweight, portable, delivers great image quality, and is priced starting at only \$8995. Available in 4 and 6 mm diameters. Optional 90° Prism and Close-Focus adapter tips available.

SD Memory Card

Bright, High-Res Video and Still Images



Integrated 5" **LCD Monitor**

4-Way Articulation

Remotely controlled

Close-Focus Tip

90° Prism Tip (Optional)

4 and 6 mm **Diameters** .157" and .240" (

Sheathing

Hawkeye® V2 Video Borescopes

Diameter	Length	Articulation	Model #	Price
4 mm	1.5 m (4'11")	2-way	V2 040 1500 2	\$9,995
4 mm	1.5 m (4'11")	4-way	V2 040 1500 4	\$10,995
4 mm	3.0 m (9'10")	4-way	V2 040 3000 4	\$12,995
4 mm	90° Prism Tip	NA	V2 PTIP 4 90	\$995
4 mm	Close-Focus Tip	NA	V2 TIP 4CF	\$995
6 mm	1.5 m (4'11")	4-way	V2 060 1500 4	\$8,995
6 mm	3.0 m (9'10")	4-way	V2 060 3000 4	\$9,995
6 mm	6.0 m (19'8")	4-way	V2 060 6000 4	\$13,995
6 mm	90° Prism Tip	NA	V2 PTIP 6 90	\$995
6 mm	Close-Focus Tip	NA	V2 TIP 6CF	\$995

All models are usually in stock. However, occasionally due to overwhelming demand, stock levels fluctuate. Please call our sales team for delivery estimates.



Aircraft and Power Generation maintenance teams can quickly and easily inspect turbine blades, combustion chambers, cooling tubes, and much more, all without the need for costly and time consuming engine and system tear-down. Foundries can inspect for flash, sand, and voids inside complex castings.

Hawkeye V2 Video Borescopes deliver the same image quality, portability, and articulation of scopes costing three times as much.



Each Hawkeye® V2 Video Borescope Kit Contains:

- Hawkeye® V2 Video Borescope
- Video Borescope Charger
- LED Light Source, Batteries and Charger
- USB and Video Output Cables
- SD Memory Card
- Luxxor® 24 Light Source, Power Supply, and Power Cord (all optional)
- Optional Tips



Using the Close-Focus tip, fine cracks are detected inside a combustion chamber.

nawkeye" vz video borescope Specifications				
	4.0 or 6.0 mm			
Lengths	1.5, 3.0, and 6.0 meters			
Articulation	150° up/down, 150° right/left			
Field-of-View	70° diagonal			
Depth-of-Field	15 mm - ∞			
Depth-of-Field with (Close-Focus Tip, 0°4 mm - 22 mm			
Direction-of-View	0°, 90° with optional Prism Tip			
Sheath2 mil tung	sten braid, durable 4-layer construction			
Illumination	Detachable micro LED			
	with intensity adjustment			
Display	5" TFT LCD			
Interfaces	Mini USB 1.1 and AV/out			
Power	DC 5V			
Battery	2.5 hr. run time, rechargeable lithium			
Recording Media	SD card (up to 2GB)			
Digital Photo Format	JPEG (640 X 480)			
Video Format	ASF (640 X 480),			
	Playback with Windows Media Player			



Luxxor Portable Video Camera		
Product	Model#	Price
Luxxor Portable Video Camera*	LPC	\$1,095
Luxxor Portable Video Camera Kit**	LPC-PVM	\$2,475
Viewing Options		
Portable Video Monitor***	PVM-DV	\$1,095
USB2 Image Capture Device & Software	VC-USB2	\$435
Sony® Professional Video Monitor	SVM-15	\$1,350
Accessories		
Video Cable (LPC to PVM)	DV-MCBL	\$150
Video Cable (LPC to ext. monitor, VC-USB2, or, RCA)	DV-YCBL	\$225
Hawkeye® LED Light	HAWKEYE LED	\$135
Tripod (Attaches to PVM)	DV-Tripod	\$50
BNC Adaptor (BNC input to RCA output from DV-YCBL adaptor)	DV-BNC	\$6
Aluminum Carrying Case (w/die cut foam insert)	PCC	\$195
* Included Luyver Portable Comerc & Video Cable DV VCPL /PCA output	٠١	

* Includes Luxxor Portable Camera & Video Cable DV-YCBL (RCA output)

When connected to any Hawkeye® Rigid or Flexible Borescope, and most other brands, the new Luxxor® Portable Video Camera delivers sharp, bright video and still images. Inspection images can be viewed "live," and captured, stored, and documented. You can view video on our Portable Video

Monitor, or any computer or benchtop video monitor.

- ** Includes Luxxor Portable Camera, Portable Video Monitor, Hawkeye® LED Light , PVM Video Cable, #DV-MCBL Video Cable, Video Cable for Additional Monitor, DV-YCBL, Tripod Stand, SD Memory Card, & PCC Carrying Case



3 Viewing Options:

Portable Video Monitor:

Portable video monitor with image capture



Computer Ready: **USB** capture device with software



Sony® Professional Video Monitor: 15" LCD monitor

Each Luxxor® Portable Video Camera Kit contains:

- Luxxor® Portable Camera
- Portable Video Monitor
- Video Cables
- SD Memory Card
- Tripod
- AC Power Adaptor
- Rugged Hawkeye® Pro Carrying Case

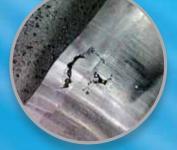


Completely Portable Visual Inspection Inside...



Machined Parts

Castings





Luxxor® Portable Video Camera Specifications

Image Sensor1/4" Color CCD
LensBuilt in 25 mm borescope coupler lens
MountQuick release, ball bearing mount couples
32 mm borescope eyecup securely to the camera
Video FormatNTSC
Resolution768 x 494 pixels (520 TV lines)
S/N Ratio48DB +
Min. Illumination0.2 Lux at F/1.2 (without borescope)
Shutter Speed
Working Temperature10 to 45° C
Power Supply 5 - 12 V DC, 80 mA
Output Standard cable is RCA composite video,
or, 12 PinHi-ROSE with portable video monitor
Length160 mm
Handle Diameter32 mm
Coupler Lens Diameter44.5 mm



Made in USA

Low-cost, non-articulating, high quality, and fully portable!

PRECISION BORESCOPES

Hawkeye® Classic Flexible Video Borescopes are the perfect choice when portability, and easy image capture, are key factors. These high quality, affordably priced video borescopes are much more durable than fiberoptic borescopes,

low cost, and completely portable. Hawkeye Classic Flexible Video Borescopes come complete with video monitor, LED light source, and image capture capability, all in one, easy-to-use device.

Classic models are 8 mm in diameter, non-articulating, and come with plastic coated stainless steel gooseneck sheathing which takes a set before insertion into a cavity. Hawkeye Classic Flexible Video Borescopes are available in standard lengths of 1.5, 3.0, 6.0, and 12.0 meters. Custom length scopes are available by special order.

Hawkeye® Classic Flexible Video

Dorescope Specifications	
Diameter	8.0 mm
Lengths	1.5, 3.0, 6.0, and 12.0 meters
Articulation	None
Field-of-View	50°
Direction-of-View	0°, or use 90° tip
SheathStainless stee	el gooseneck covered with PVC
	o LED with intensity adjustment
Display	3.5" TFT LCD
Interfaces	Mini USB 1.1 and AV/out
Power	DC 5V
Battery2.5 hr	: run time, rechargeable lithium
Recording Media	SD card (up to 2GB)
Digital Photo Format	JPEG (640 X 480)
Video Format	. ASF (320 X 240), playback with
	Windows Media Player





Hawkeye® Classic Flexible Video Borescopes

•				•	
Diameter	Length	Articulation	Sheath	Model #	Price
8.0 mm	1.5 m	None	Gooseneck	CVS 080 1500	\$2,695
8.0 mm	3.0 m	None	Gooseneck	CVS 080 3000	\$3,195
8.0 mm	6.0 m	None	Gooseneck	CVS 080 6000	\$5,995
8.0 mm	12.0 m	None	Gooseneck	CVS 080 12000	\$8,995

Microscope / Borescope Inspection Station

Easily converts from microscope to borescope, for external or internal inspections

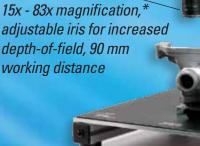
Luxxor®

VIDEO MICROSCOPE

The Luxxor® Video Microscope can be used both as a microscope or with a borescope. The high quality, f/4.5 zoom lens delivers sharp, close-up views of the exterior of any object placed on the microscope's 15" x 10" table. Built-in, flexible gooseneck, LED illumination provides ample, versatile, convenient illumination. Generous column height allows viewing of objects up to 16 inches high. Additionally, any Hawkeye® Precision Borescope, and most other borescopes, can be quickly and easily mounted with an optional adapter, allowing high-quality, close-up, internal inspection.



f/4.5 Zoom Lens 15x - 83x magnification,* adjustable iris for increased depth-of-field, 90 mm









As a microscope



With a borescope (with optional VC-35 Video Coupler)

Luxxor [®] Video Microscope & Accessories		
Product	Model #	Price
Luxxor® Video Microscope	LVM-1	\$4,995
Borescope Adapter (optional)	VC-35	\$395
25 mm Lens (~ 7x magnification)	LVML-25	\$590
12 mm Lens (~ 3.5x magnification)	LVML-12	\$500
1.5x Converter	1.5X CVTR	\$55
2.5x Converter	2.5X CVTR	\$55
·		

Borescopes and video coupler sold separately. Computer and monitor not included. *Based on 19" monitor.

Key Benefits:

- Conduct internal and external inspection
- Capture video or still images
- · Metrology feature allows accurate measurement
- · Document, store, and e-mail results
- A more comfortable, ergonomic alternative to stereo microscopes

Luxxor® Video Microscope Specifications:

System Magnification	15x - 200x*
F/#	4.
Working Distance	90 mn
Field-of-View	24 mm - 4.0 mn
Resolution in Object Space	5 micron
Camera1.3	MP (1280 x 1024 pixels), 1/2" CMO
Stage2	-axis with rack and pinion focusing
Measurement Accuracy	+/- 0.001" at 15x
Illumination Unit	2 adjustable, LED Gooseneck
Video Output	USB 2.
Power Supply	110 VA
Table Size	15" x 10
Maximum Object Height	16
Communication and an incommunication in the communication in the communi	2000/VDA/ICTA a amountain Danations

Computer requirements: Windows 2000/XP/VISTA computer, Pentium 1.8 GHz processor or better, Minimum 512KB RAM, Free USB 2.0 high speed port.

**With 2.5x Converter.





We'll help you put together the right system for your specific inspection needs!

Luxxor® Video System

The Luxxor® Video System connects to **any** rigid or flexible Hawkeye® Precision Borescope, as well as most other borescope brands. The benefits of using the Luxxor Video System include the ability to:

- Easily document inspections and store video or still images
- · Share inspection images via e-mail or hard copy
- · Hold group reviews of inspection images displayed on a video monitor
- Easily and quickly conduct repetitive inspections by relieving the physical and mental fatigue of inspectors

Made in USA

Live video using any Hawkeye® Borescope!



Sony® Video Camera 1/3-type Super HAD II CCD —

Luxxor®

1/3-type Super HAD II CCD – High resolution and true color

The Hawkeye® Video Borescope Slide makes

inspections faster, and the resulting video images much more stable. The video slide was expressly designed for repetitive inspections and capturing borescope images. The Hawkeye Video Borescope Slide features:

- Three axis adjustments providing flexibility and easy setup
- An adjustable stop that sets the inspection depth to easily locate a point of interest and prevents damage to the borescope tip
- Locking mechanisms on all three axes that ensure repeatable results and allow users to slide either the borescope, or the part being inspected
- A standard, aluminum V-Block that can handle mounting most parts. (Users can modify the V-Block or replace it with a custom mount for oddly shaped parts.)

Luxxor® Video Coupler Lens

Clamps to borescope eyecup and fits video camera C-Mount



Hawkeye® Video Slide

Luxxor® Video Camera System	LXX-VBSM	\$3,640
Sony® Video Camera	XC-505	\$1,995
Luxxor® Video Coupler Lens	VC-25	\$395
Luxxor® 24 Light	LXX24	\$775
Luxxor® Light Guide	LXXLG	\$225
Hawkeye® SuperKit Carrying Case	HSC	\$250
Other Items Sold Separately	Model #	Price
Other Items Sold Separately Sony® Professional Video Monitor	Model # SVM-15	Price \$1,350
Sony® Professional Video Monitor	SVM-15	\$1,350
Sony® Professional Video Monitor USB 2.0 Image Capture Interface	SVM-15 VC-USB2	\$1,350 \$435





Hawkeye® Pro Rigid Borescopes

PRESIDENT PROPERTY.

PRECISION BORESCOPES

Sharper, brighter images with all the powerful Pro features:

e2 endoGRINs® lenses, multi-coated objective lenses, easy-to-clean mirror tubes, LightConcentrator™, and SuperNOVA™ Light. Independent focusing makes video and still photography easy.

Pro MicroSlim[™] .073"(1.85 mm)

Hawkeye® Pro MicroSlim Borescopes are just .073 inches in diameter, or .084 inches with a mirror tube. Use them to inspect diesel fuel-injection nozzles miniature hydraulic components and much more.

Pro SuperSlim[™] .098"(2.40 mm)*

At .098 inches in diameter, or .109 inches with a mirror tube, the Hawkeye® Pro SuperSlim Borescopes give sharp, clear views of the microscopic holes in spray tips and nozzles. Use them to inspect small bores for burrs, surface finish irregularities, and more.

* The 10, 14, and 17 inch models are .110" (2.80 mm) in diameter.

Made in USA

Pro MicroSlim FOV 40°, DOV 0°

Outside Diameter .073 inches (1.85 mm) o



Pro SuperSlim FOV 40°, DOV 0°

Outside Diameter .098 inches (2.49 mm) 4" and 8" models O Outside Diameter .110 inches (2.80 mm) 10", 14" and 17" models O



Outside Diameter .109 inches (2.77 mm) 4" and 8" models O
Outside Diameter .150 inches (3.80 mm) 10", 14" and 17" models O

Hawkeye® Pro MicroSlim Borescope Kits

Lengths: 3" 5" and 7"	Model#	Price
3" Pro MicroSlim Kit (80 mm)	MS03-NVK	\$1,695
5" Pro MicroSlim Kit (120 mm)	MS05-NVK	\$1,895
7" Pro MicroSlim Kit (178 mm)	MS07-NVK	\$2,095

Hawkeye® Pro SuperSlim Borescope Kits

Lengths: 4" 8" 10" 14" and 17"	Model#	Price
4" Pro SuperSlim Kit (102 mm)	PSS04-NVK	\$1,495
8" Pro SuperSlim Kit (185 mm)	PSS08-NVK	\$1,595
*10" Pro SuperSlim Kit (265 mm)	PSS10-NVK	\$1,695
*14" Pro SuperSlim Kit (350 mm)	PSS14-NVK	\$1,795
*17" Pro SuperSlim Kit (435 mm)	PSS17-NVK	\$1,895
* The 10, 14, and 17 inch models are .110" (2.8	0 mm) in diameter.	

Every Hawkeye® Pro MicroSlim and SuperSlim Borescope Kit contains:

- Hawkeye[®] Pro Precision Borescope
- Hawkeye[®] Mirror Tube
- Hawkeye[®] Shipping Sheath
- Hawkeye[®] SuperNOVA[™] Light and Charger
- Rugged Hawkeye® Carrying Case
- Hawkeye® Cleaning Kit



kit components see pages 30 - 31.

Pro Hardy FOV 50°, DOV 0°

Outside Diameter .250 inches (6.35 mm)

Mirror Tube DOV 90°

Outside Diameter .313 inches (8.00 mm)

Hawkeye® Pro Hardy Borescope Kits

Lengths: 7" 12" 17" and 22"	Model #	Price
7" Pro Hardy Kit (180 mm)	PH07-NVK	\$1,395
12" Pro Hardy Kit (305 mm)	PH12-NVK	\$1,495
17" Pro Hardy Kit (435 mm)	PH17-NVK	\$1,595
22" Pro Hardy Kit (559 mm)	PH22-NVK	\$1,995

Pro Super Hardy 37"

Outside Diameter .283 inches (7.20 mm)

Outside Diameter .312 inches (8.0 mm)

Pro Super Hardy 28"

Outside Diameter .283 inches (7.20 mm)

Outside Diameter .312 inches (8.00 mm)

Hawkeye® Pro Super Hardy Borescope Kits

Lengths: 28" and 37"	Model #	Price
28" Pro Super Hardy Kit (711 mm)	PSH28-NVK	\$3,395
37" Pro Super Hardy Kit (940 mm)	PSH37-NVK	\$3,695



Video and lighting sold separately. See pages 12 - 13 and 28 - 29.

Pro Hardy[™] .250"(6.35 mm)

Hawkeye® Pro Hardy Borescopes are rugged and bright. The quarterinch diameter Pro Hardy gives 3x the illumination of the Pro Slim.

The Hawkeye Pro Hardy Borescope excels at looking into the larger, dark spaces of diesel and aircraft cylinders, tanks, pressure vessels, pipes, and even wall cavities.

Pro Super Hardy™ .283"(7.20 mm)

The slightly larger, 7.2 mm diameter Hawkeye® Pro Super Hardy Borescope, is invaluable when a 28- or 37-inch reach is required. The larger diameter, in combination with our patented e2 endoGRINs® lens relays, deliver an image almost 2.5x larger and 1.5x brighter than a regular Pro Hardy. Now, you can see clearly inside very deep bores, pipes, or tubes. As with all Hawkeye® Pro Precision Borescopes, the rugged Pro Super Hardy easily attaches to all Hawkeye® or Luxxor® Light Sources and Video Systems.

Made in USA

The Mini Maglite® flashlight is bright enough for most upgrade to the Hawkeye® SuperNOVA™ Light for brighter light and economy in heavy use. See page 30.

borescopes.

For individual borescopes and Made in USA kit components see pages 30 - 31. \$1,595

HH22-AF-KIT 22" Classic Hardy Kit (560 mm)

Luxxor®

Video and lighting sold separately. See pages 12 - 13 and 28 - 29.

Classic Slim™ .165" (4.20 mm)

At .165 inches in diameter, Hawkeye® Classic Slim Bore-

> scopes are by far our best selling borescopes. They are slim enough to fit into small holes.

but provide plenty of light. The result is sharp, bright, clear images. Use Hawkeye Classic Slim Borescopes to inspect bores and cross-holes in machined metal parts.

Classic Hardy[™] .**250**" (6.35 mm)

When access holes are large enough, Hawkeye® Classic Hardy Borescopes bring much more light to the subject. Their rugged, thick-walled stainless steel tubes have an outside diameter of a quarter-inch. Classic Hardys deliver 3x the illumination of the Classic Slim.

The Classic Hardy is ideal for inspecting castings, engine cylinders, internal welds, and pipes.

Hawkeye Classic Borescopes focus by rotating the eyecup. Cameras attach to the eyecup, so they turn too, rotating the image. We recommend Hawkeye® Pro Borescopes with cameras. because their independent focusing rings avoid camera and image rotation

Made in USA



Hawkeye® Blue Rigid Swing Prism Borescopes

	Diameter	Length	DOV	FOV	Model #	Price
	.237" (6.0 mm)	9.60" (245 mm)	16° to 118°	45°	HBS 060 245 045	\$5,495
_	.237" (6.0 mm)	17.91" (455 mm)	16° to 118°	45°	HBS 060 455 045	\$5,995
\bigcap	.315" (8.0 mm)	12.80" (325 mm)	16° to 118°	45°	HBS 080 325 045	\$5,495
\preceq	.355" (9.0 mm)	23.80" (605 mm)	16° to 118°	45°	HBS 090 605 045	\$5,995
	.355" (9.0 mm)	31.69" (805 mm)	16° to 118°	45°	HBS 090 805 045	\$6,195
	Other lengths available	a hy snacial ordar				

Luxxor®

Video and lighting

.228" (5.8 mm)

.315" (8.0 mm)

.315" (8.0 mm)

.315" (8.0 mm)

Other lengths available by special order.

sold separately. See pages 12 - 13 and 28 - 29. Blue Swing and Fixed Prism Borescope in a lockable, fitted carrying case, for security and protection.

We deliver each Hawkeye

Made in Germany

cylinders, pistons, and

valves. Aircraft engine

Swing Prism to locate and investigate FOD

(foreign object damage

and debris) in jet

engines.

mechanics use the

90°

70°

90°

90°

90°

90°

90°

0°

65°

65°

65°

65°

65°

65°

65°

100°

8.07" (205 mm)

13.58" (345 mm)

13.58" (345 mm)

19.09" (485 mm)

24.6" (625 mm)

12.79" (325 mm)

28.54" (725 mm)

32.91" (836 mm)

HBR 058 217 065

HBR 058 355 065

HBR 058 357 065

HBR 058 497 065

HBR 058 627 065

HBR 080 327 065

HBR 080 727 065

HBR 080 840 100

\$3,395

\$3,795

\$3,795

\$3,895

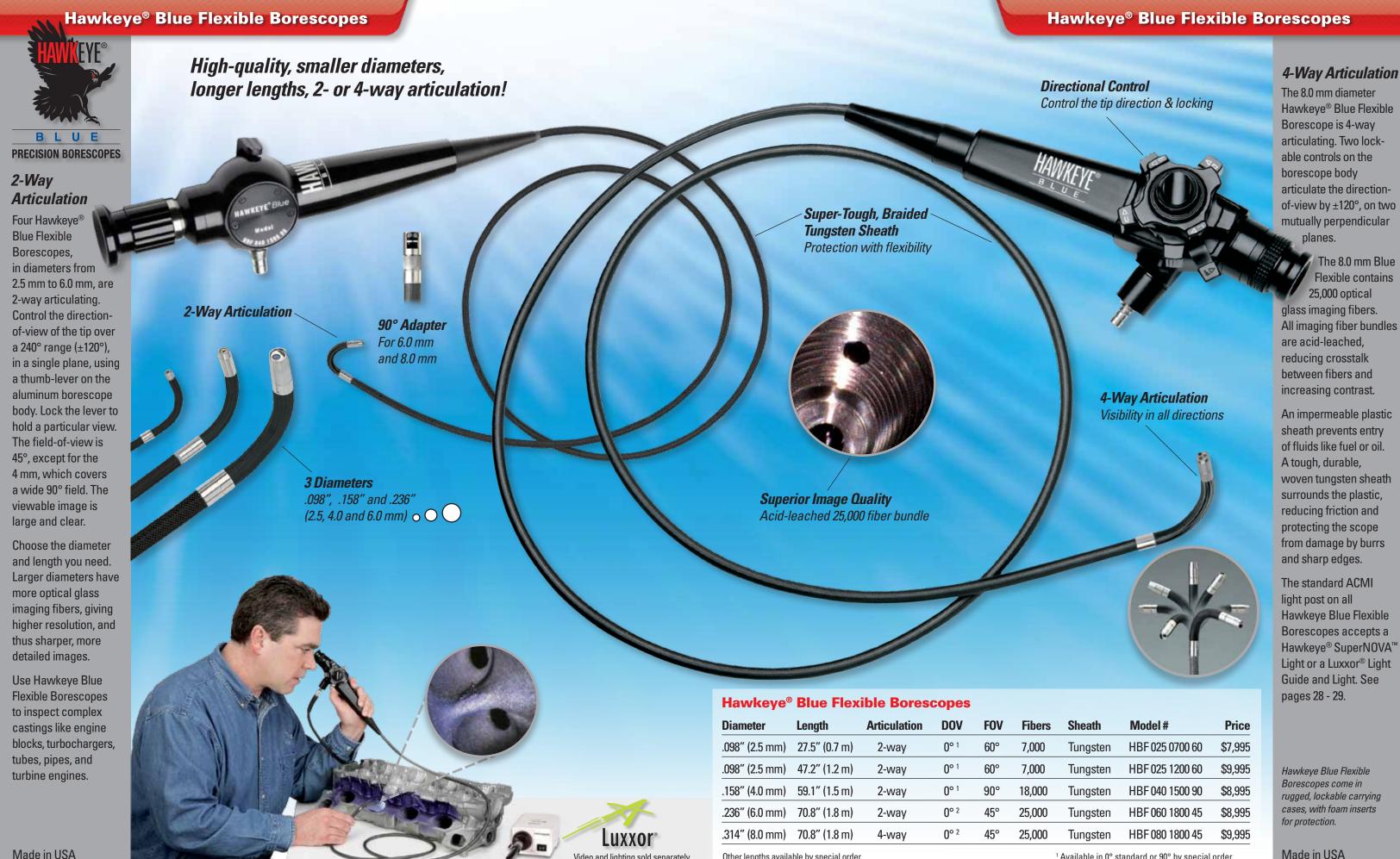
\$3,895

\$3,395

\$3,895

\$3,895





Made in USA Available in 0° standard or 90° by special order.

Video and lighting sold separately.

See pages 12 - 13 and 28 - 29.

Other lengths available by special order.

The 8.0 mm Blue

Flexible contains

25,000 optical





PRECISION BORESCOPES

The Hawkeye® Classic Flexible Borescope has 18,000 optical glass

delivering high resolution. sharpness,

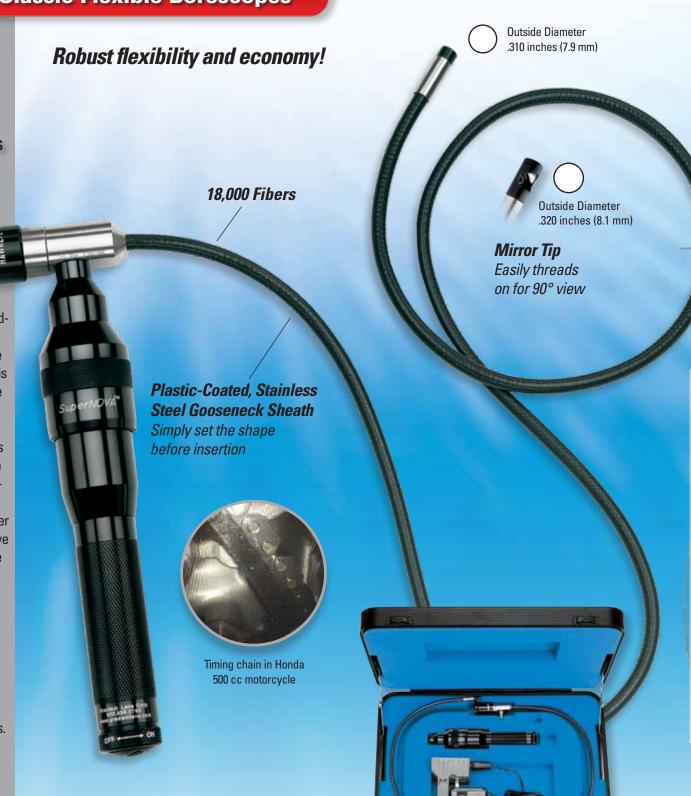
and image detail. An acidleached fiber imaging bundle increases image contrast. Image quality is further enhanced by the super bright Hawkeye® SuperNOVA[™] Light. The plastic-coated, stainless steel gooseneck sheath takes a set before insertion into a cavity. The Classic Flexible is simpler and much less expensive than articulating flexible borescopes.

The 90° Mirror Tip changes the directionof-view of the Hawkeye Classic Flexible Borescope, just as mirror tubes do for the Hawkeye® Pro and Classic Rigid Borescopes.

Use the Classic Flexible when indirect access is required, but the path is simple enough to set the borescope before entry.

Hawkeve Classic Flexible Borescopes are not repairable; we offer a 10% discount on their replacement.

Made in USA



Hawkeye® Classic Flexible Borescope Kit

Diameter	Length	Articulation	DOV	FOV	Fibers	Sheath	Model #	Price
.310" (7.9 mm)	39.4" (1.0 m)	None	0° & 90°	45°	18,000	Coated Stainless	HFB2-NVK	\$2,995

For individual borescopes and kit components see pages 30 - 31.

MicroFlex Semi-Rigid FOV 55°, DOV 0° or 90°

Outside Diameter .035 inches (0.9 mm)

MicroFlex Flexible FOV 55°, DOV 0°

Three Outside Diameters • • • •

.020, .035, and .059 inches (0.5 mm, 0.9 mm, and 1.5 mm)

Every Hawkeye® Pro MicroFlex Borescope Includes:

- Hawkeye® Semi-Rigid or Flexible Borescope
- C-Mount Adapter
- Rugged Hawkeye® Carrying Case
- Hawkeye® Cleaning Kit

(Light Sources and Light Guides sold separately)

Hawkeye® MicroFlex Semi-Rigid Borescopes

Diameter	Length	DOV	Model	Model #	Price
.035" (0.9 mm)	6" (150 mm)	0°	Semi-Rigid	HSR 009 0150 55	\$3,195
.035" (0.9 mm)	6" (150 mm)	90°	Semi-Rigid	HSR 009 0159 55	\$4,795

Hawkeye® MicroFlex Flexible Borescopes

.020" (0.5 mm)	19.6" (0.5 m)	0°	Flexible	HSF 005 0600 55	\$4,795
.035" (0.9 mm)	39.4" (1.0 m)	0°	Flexible	HSF 009 1000 55	\$4,695
.059" (1.5 mm)	31.5 " (0.8 m)	0°	Flexible	HSF 015 0800 70	\$4,795

Optional Accessories

Luxxor

Video and lighting sold separately.

See pages 12 - 13 and 28 - 29.

Luxxor® Video Camera System (Pgs. 12 -	· 13) LXX-VBSM	\$3,640
Luxxor® 24 Light Source	LXX24	\$775
Luxxor® Light Guide	LXXLG	\$225
Sony® Professional Video Monitor	SVM-15	\$1,350
USB 2.0 Image Capture Interface	VC-USB2	\$435



Hawkeye® Pro MicroFlex Borescopes

The Nitinol-sheathed Hawkeye® MicroFlex Semi-Rigid Borescopes contain 10,000 fiber imaging bundles, are 6 inches long, and offer 0° and 90° views.

Flexible .020" (0.5 mm) .035" (0.9 mm) .059" (1.5 mm) The excellent image

quality Hawkeye® MicroFlex Flexible Borescopes deliver, in these very small micro diameters, is nothing short of amazing! You can access even the smallest opening, and utilize a 9-inch bend radius when the entry path is not straight. The polyamide-sheathed 0.5 and 0.9 mm models have 10,000 pixel fiber imaging bundles, and the plastic-sheathed 1.5 mm has a 30,000

fiber bundle. The eyepiece is easily replaced with a video adapter to use a C-Mount camera. Quickly and easily inspect cooling holes inside turbine blades, cannulas,

catheters, needles, trocars, valves in medical devices, and many other micro manufactured parts.

Made in USA



Mini Maglite® Flashlight

and reflective surfaces.

The Mini Maglite® flashlight comes with

Hawkeye® Classic Borescope Kits. It gives

plenty of light for shorter working distances

Hawkeye® Portable Light Sources are powerful, delivering go-anywhere convenience!

Any Hawkeye® or Luxxor® Light Source can be used with any Hawkeye® Rigid or Flexible Borescope



Hawkeye® LED Light

This adjustable LED light source delivers brighter, whiter light than the Mini Maglite® flashlight, and offers much longer lamp life. Operates on standard AA batteries.



Hawkeye® SuperNOVA®

The Hawkeye® SuperNOVA™ Light comes with all Hawkeye® Pro Borescope kits, rigid and flexible. This xenon doped halogen light is bright enough for all but the largest and darkest cavities. It shows detail you would miss with a less powerful light.

	Rel. Intens.	Adj. Intens.	Power Source	Run Time	Lamp Life	Weight	Model #	Price
Mini-Maglite® Flashlight	1X	Yes	AA Alkaline	1 hr. (cont.)	2 hrs. (approx.)	5 oz. (142 g)	MMAA (incl.	\$25 adapter)
Hawkeye® LED Light	12X	Yes	AA Alkaline	3 hrs. (cont.)	50,000 hrs.	4 oz. (113 g)	HAWKEYE LED	\$135
Hawkeye [®] SuperNOVA™	10X	Yes	Rechrg. Li-lon	3 hrs. (cont.)	25 hrs.	13.5 oz. (380 g)	SuperNOVA	\$225

Luxxor® Light Sources

Luxxor® Benchtop Light Sources use super-bright and efficient metal-halide arc lamps.

Luxxor® 24 Light Source



The Luxxor® 24 Light has a 24-watt metal-halide arc lamp, for very high brightness. It is 60% brighter than a typical 150-watt halogen light. Use it for dark, deep subjects and video or still photography.



Luxxor® 50 Light Source

To photograph very large, dark cavities, like the combustion chambers of turbine engines, marine diesel cylinders, or tanks, the Luxxor 50 Light Source is incredibly powerful. Its 50-watt metal-halide arc lamp is twice as bright as the Luxxor 24.

	Rel. Intens.	Adj. Intens.	Power Source	Run Time	Lamp Life	Weight	Model #	Price
Luxxor® 241	30X	Yes	110V - 240V	Indefinite	500 hrs.	2.3 lbs. (1.0 kg)	LXX24	\$775
Luxxor® 501	60X	Yes	110V	Indefinite	2500 hrs.	5.3 lbs. (2.4 kg)	LXX50	\$2,995
Luxxor® Light Guide (Required to connect all Luxxor® Light Sources to Hawkeye® Borescopes) Length 7' LXXLG							h 7′LXXLG	\$225

¹ Luxxor Light Guide required.

Dual UV & White Light Inspection

UV Light Source

The 200-watt, Mercury Arc Lamp, UV Light Source is amazingly bright, and allows users to easily switch from white light to ultraviolet (UV) light! In the UV mode it works best with shorter length Hawkeye rigid borescopes. When used in conjunction with fluorescent dye penetrants, it provides reliable, non-destructive inspection of missioncritical parts, such as those used in aerospace and automotive applications. A Liquid Light Guide is required.



	Rel. Intens.	Adj. Intens.	Power Source	Run Time	Lamp Life	Weight	Model #	Price
UV-Light Source ²	90X	Yes	10V - 260V	Indefinite	1500 hrs.	20 lbs. (9.0 kg)	UV-LIGHT	\$6,900

Liquid Light Guide (Connects Lumatec UV Light to Hawkeye® Borescopes) Length 6'

²Liquid Light Guide required.

\$500

UV-LIGHT GUIDE

Luxxor®

30-Day Customer Satisfaction Guarantee for Direct Customers

If, for any reason, you are not satisfied with your purchase

- Contact customer service within 30 days.
- We give you a Return Merchandise Authorization (RMA) number.
- You ship the product back, in *original condition*, with all packaging.
- We refund the purchase price, minus our shipping and handling costs.
- If you bought from one of our dealers, please contact them directly.

Please call for an RMA number first. We will not accept products without it.

Limited Warranty

Gradient Lens Corporation warrants that all Hawkeye borescopes and accessories will be free of defects in materials and workmanship for one year from the date of first retail purchase, with the exception of broken optics.

Video and lighting products have manufacturers' warranties of one year.

Service

For warranty claims, repairs, or if you are not sure which:

- Contact customer service
- We give you a Return Merchandise Authorization number
- · You ship the product back. Pack it well.

Customer Service

- If the product meets our warranty conditions, we will repair or replace it. If it does not, there are two options:
 - Get an estimate of repair or replacement cost.
 - Have us repair it without an estimate.
- If we cannot repair a Hawkeye Pro or Classic Rigid Borescope, we will replace it at a 20% discount off the current list price, in return for the broken one.
- Service charges for Hawkeye Blue Borescopes require individual factory estimates, which take longer. We offer a 10% discount on replacement, if not repairable.
- We offer a 10% discount on the replacement of Hawkeye Pro MicroFlex, Classic Flexible, and Pro Flexible borescopes when they are not repairable.

All prices and specifications subject to change without notice.

Payment

Domestic customers: We accept most major credit cards, bank and personal checks (subject to clearance). We offer net 30-day accounts for approved businesses, subject to delay for processing.

International customers: We accept credit cards, wire transfers, or US dollar bank drafts. There is a US \$30 export-processing fee, for international shipments. Contact us for more information.

Shipping

UPS, FedEx, and DHL Global (Not the US Postal Service)

Contact:

Gradient Lens Corporation

Phone: 1.800.536.0790 or 1.585.235.2620 East Coast: 207 Tremont St., Rochester, NY 14608

West Coast: 4647 Jackson Lane, Unit D. Phelan, CA 92371



Hawkeye® Angled Eyepiece

When you cannot position your eye close to a borescope eyecup, the Hawkeye Angled Eyepiece makes it accessible. It clamps onto the eyecup and reflects the image 90° through its own focusing eyepiece.

Angled Eyepiece (AE-9003) \$275



The Hawkeye Angled Eyepiece inverts the image, correcting the image inversion of a mirror tube. Its excellent optics sustain the high image quality of the borescopes.

|--|

Video Coupler Lens

The Video Coupler Lens connects borescopes to video cameras for live video inspection and documentation. They deliver a full field-of-view and are available in 25 mm, 35 mm and 75 mm focal lengths.

Item	Catalog #	Price
25 mm Focal Length Coupler	VC-25	\$395
35 mm Focal Length Coupler	VC-35	\$395
35 mm Adjustable Focus Coupler	HVA-2	\$495
75 mm Focal Length Coupler	VC-75	\$595

PSS04



Protective sheaths fit over Pro or Classic rigid borescopes. We offer them in all diameters for 3" - 22" scopes. Call, or visit, our website for Catalog #.

Item	Price
Protective Sheaths	\$75

Price

\$1,095

Components

Most customers buy complete Hawkeye® Pro and Classic Borescope Kits. However, all of the kit components are also available separately and are listed below. Prices are for borescopes only. Light sources and cases are sold separately.

SuperSlim .098"



Hawkeye® V2 Video Borescope Accessories

-		
Item	Catalog #	Price
V2 Charger	V2 Charger	\$30
Spare Battery	PVM50 BATTERY	\$50
Spare Battery Charger	PVM50 Charger	\$30
V2 LED Lightsource	PVS LED	\$725
Lightsource Batteries	PVS-LED-BATT	\$20
Lightsource Battery Charger	PVS-LED-BT-CHGR	\$20

Hawkeye® Pro Precision Borescopes (cont'd) Diameter Catalog # Page

Length

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SuperSlim .098"	8"	PSS08	16	\$1,195
SuperSlim .110"	10"	PSS10	16	\$1,295
SuperSlim .110"	14"	PSS14	16	\$1,395
SuperSlim .110"	17"	PSS17	16	\$1,495
Slim .165"	2"	PS02	15	\$895
Slim .165"	7"	PS07	15	\$895
Slim .165"	12"	PS12	15	\$995
Slim .165"	17"	PS17	15	\$1,095
Slim .165"	22"	PS22	15	\$1,495
Slim Prism	7"	PS07-30	15	\$1,595
Slim Prism	12"	PS12-30	15	\$1,695
Slim Prism	17"	PS17-30	15	\$1,795
Hardy .250"	7"	PH07	17	\$995
Hardy .250"	12"	PH12	17	\$1,095
Hardy .250"	17"	PH17	17	\$1,195
Hardy .250"	22"	PH22	17	\$1,595
Super Hardy .283"	28"	PSH28	17	\$2,650
Super Hardy .283"	37"	PSH37	17	\$2,950

Hawkeye® Classic Precision Borescopes

Diameter	Length	Catalog #	Page	Price
Slim .165"	7″	HS07-AF	19	\$775
Slim .165"	12"	HS12-AF	19	\$825
Slim .165"	17"	HS17-AF	19	\$895
Slim .165"	22"	HS22-AF	19	\$1,095
Hardy .250"	7″	HH07-AF	19	\$845
Hardy .250"	12"	HH12-AF	19	\$895
Hardy .250"	17"	HH17-AF	19	\$945
Hardy .250"	22"	HH22-AF	19	\$1,195

Hawkeye® Pro Precision Borescopes

Diameter	Length	Catalog #	Page	Price
MicroSlim .073"	3"	MS03	16	\$1,295
MicroSlim .073"	5″	MS05	16	\$1,495
MicroSlim .073"	7″	MS07	16	\$1,695

Hawkeye® Classic Flexible Borescopes

The state of the s				
Diameter	Length	Catalog #	Page	Price
Classic Flex .310"	39.4"	HFB2	26	\$2,645
Classic 90° Mirror Tip		HFB-90-2	26	\$150
<u>.</u>				

Hawkeye® Pro Flexible Borescopes



Diameter	Length	Catalog #	Page	Price
Pro Flex .130"	33.5"	PFB3	22	\$5,795
Pro Flex .157"	33.5"	PFB4	22	\$5,795
Pro Flex .200"	33.5"	PFB5	22	\$5,795
Pro Flex .236"	33.5"	PFB6	22	\$5,795
Pro Flex .236"	33.5"	PFB6-4	22	\$6,495
90° Prism Tip .200"		FTP-5-90	22	\$995
90° Mirror Tip .200"		FTP-5-PFB	22	\$295

Hawkeye® Blue Flexible 90° Adapters

ltem	Catalog #	Page	Price
6 mm 90° Prism Tip	FTP-6-90	24	\$995
8 mm 90° Prism Tip	FTP-8-90	24	\$995

Replacement Lamps & Batteries

Item	Catalog #	Qty.	Pric
SuperNOVA™Lamps	SN-BULB-KIT	Pkg. of 12	\$7
Mini Maglite® Lamps	MM1-LAMP-KIT	Pkg. of 24	\$3
Luxxor® 24 Lamp	LXX-LAMP-24	one (1)	\$18
Luxxor® 50 Lamp	LXX-LAMP-50	one (1)	\$59
UV Lamp	UV-LAMP	one (1)	\$69
SuperNOVA™ Battery Kit	SN-BATT-KIT	two (2)	\$6

Hawkeye® Pro & Classic Borescope Mirror Tubes

Diameter	Length	Catalog #	Page	Price
MicroSlim .084"	3"	MTMS03	16	\$195
MicroSlim .084"	5"	MTMS05	16	\$225
MicroSlim .084"	7″	MTMS07	16	\$255
SuperSlim .109"	4"	MTSS04	16	\$175
SuperSlim .109"	8"	MTSS08	16	\$195
SuperSlim .150"	10"	MTSS10	16	\$215
SuperSlim .150"	14"	MTSS14	16	\$235
SuperSlim .150"	17"	MTSS17	16	\$255
Slim .188"	2"	MTS02	15, 19	\$150
Slim .188"	7″	MTS07	15, 19	\$135
Slim .188"	12"	MTS12	15, 19	\$145
Slim .188"	17"	MTS17	15, 19	\$155
Slim .188"	22"	MTS22	15, 19	\$195
Hardy .313"	7"	MTH07	17, 19	\$145
Hardy .313"	12"	MTH12	17, 19	\$155
Hardy .313"	17"	MTH17	17, 19	\$165
Hardy .313"	22"	MTH22	17, 19	\$205
Super Hardy .312"	28"	MTSH28	19	\$295
Super Hardy .312"	37"	MTSH37	19	\$295

Best service in borescopes, bar none.

All prices apply to both Hawkeye Pro and Classic rigid borescopes.

Diameter	Length	Description	Catalog #	Price
Hardy .250"	7″	Borescope Repair	REP-HH07	\$195
Hardy .250"	12"	Borescope Repair	REP-HH12	\$225
Hardy .250"	17"	Borescope Repair	REP-HH17	\$245
Hardy .250"	22"	Borescope Repair	REP-HH22	\$345
Super Hardy	28"	Borescope Repair	REP-PSH28	\$695
Super Hardy	37"	Borescope Repair	REP-PSH37	\$695
Slim .165"	7"	Borescope Repair	REP-HS07	\$195
Slim .165"	12"	Borescope Repair	REP-HS12	\$225
Slim .165"	17"	Borescope Repair	REP-HS17	\$245
Slim .165"	22"	Borescope Repair	REP-HS22	\$345
Slim Prism	All	Objective Lens Repair	REP-PSP0	\$600
Slim Prism	7″	Rod Repair	REP-PS07-30	\$195

Repairs

Diameter	Length	Description	Catalog #	Price
Slim Prism	12"	Rod Repair	REP-PS12-30	\$225
Slim Prism	17"	Rod Repair	REP-PS17-30	\$245
Classic to Pro U	ograde		RETRO	\$295
MicroSlim .073"	3"	Borescope Repair	REP-HMS03	\$400
MicroSlim .073"	5"	Borescope Repair	REP-HMS05	\$500
MicroSlim .073"	7"	Borescope Repair	REP-HMS07	\$500
SuperSlim .098 "	4"	Borescope Repair	REP-HSS04	\$270
SuperSlim .098"	8"	Borescope Repair	REP-HSS08	\$290
SuperSlim .110"	10"	Borescope Repair	REP-PSS10	\$345
SuperSlim .110"	14"	Borescope Repair	REP-PSS14	\$395
SuperSlim .110"	17"	Borescope Repair	REP-PSS17	\$445
All	All	Mirror Replacement	MREP	\$85

Please call for an estimate regarding repairs of fiberscopes and videoscopes.

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