

Gradient Lens Corporation
207 Tremont Street, Rochester, NY 14608

HAWKEYE **V2** VIDEO BORESCOPIES

*The next generation of fully-portable,
articulating videoscopes!*



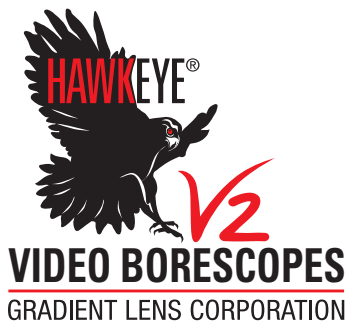
Your Eye Inside™

Gradient Lens Corporation®

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(800) 536-0790



gradientlens.com/V2



Made in USA

FAST, PORTABLE, VISUAL INSPECTION... ANYWHERE!



***Best value on the market...
Made in the USA***

Hawkeye V2's Deliver:

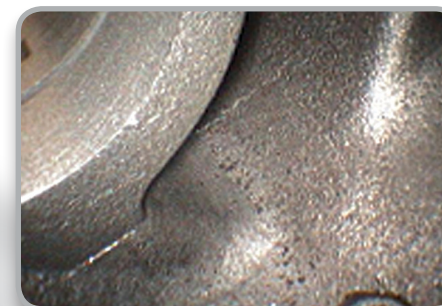
- Sharp, Clear Photos & Video
- Large 5-inch LCD Monitor
- Easy-to-Use Controls
- Annotation Feature
- Rugged Tungsten Sheathing
- Quality Construction
- Precise 4-Way Articulation
- Fully portable... under 3 lbs.
- Starting at only \$8,995

BRIGHT, CRISP, CLEAR IMAGES!

...and image capture at the touch of a button



Gearbox



Complex Casting



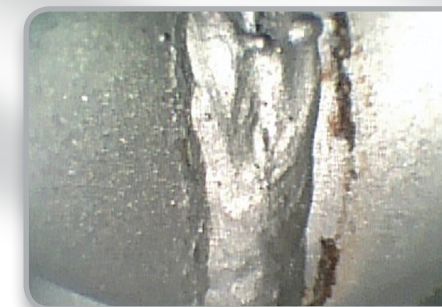
Aircraft Combustion Chamber



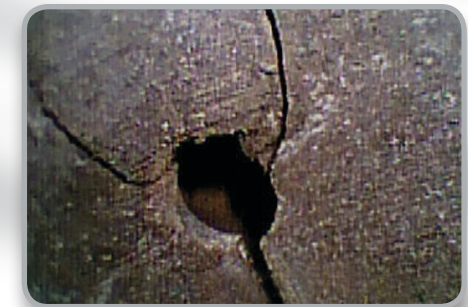
Engine Valve



Hawkeye® V2 Video Borescopes are fully portable, finely constructed, and deliver clear, bright high resolution photos and video! The 5" LCD monitor allows comfortable viewing, and intuitive, easy-to-use controls provide photo and video capture at the touch of a button! V2's have a wide, 4-way articulation range, and are small, lightweight, and priced starting at only \$8995. V2's are available in both 4 and 6 mm diameters. Optional 90° Prism and Close-Focus adapter tips.

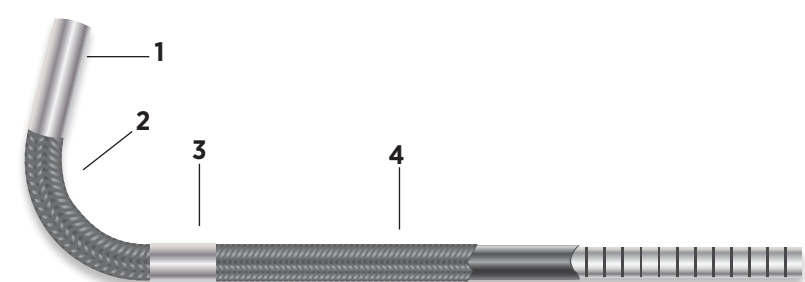


Orbital Weld
(Using a 90° Prism Tip)



Combustion Chamber
(Using a Close-Focus Tip)

QUALITY CONSTRUCTION

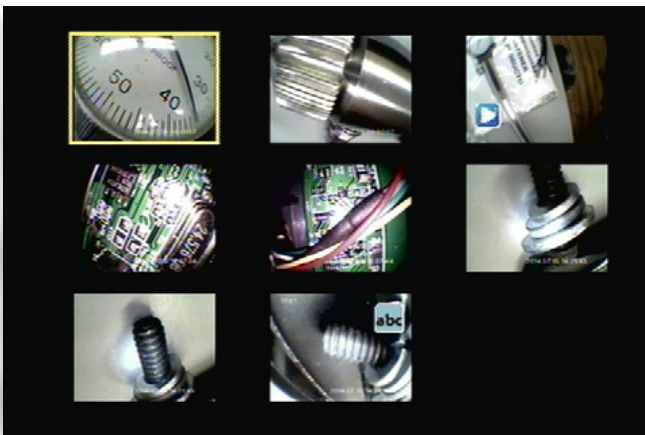


- 1. Ruggedized camera and optics.
- 2. Custom-designed articulation collars for smooth function.
- 3. Laser welded joints for strength.
- 4. Durable multi-layer construction with Tungsten braid outer layer and stainless steel monocoil inner layer.

EASY TO USE

Easy Operator Controls

Simple, user-friendly controls, and on-screen menus, make operation easy. Smooth, precise, 4-way articulation is a hallmark of the V2's two, independent, articulation controls.

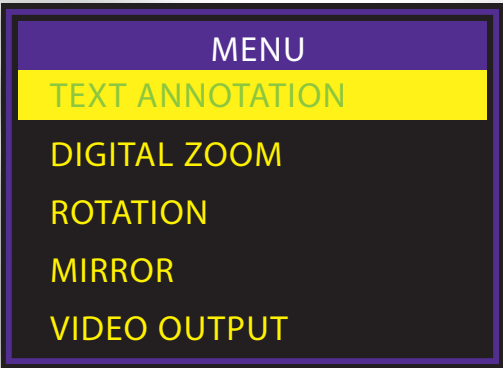


Fast, Intuitive Capture of Video and Stills

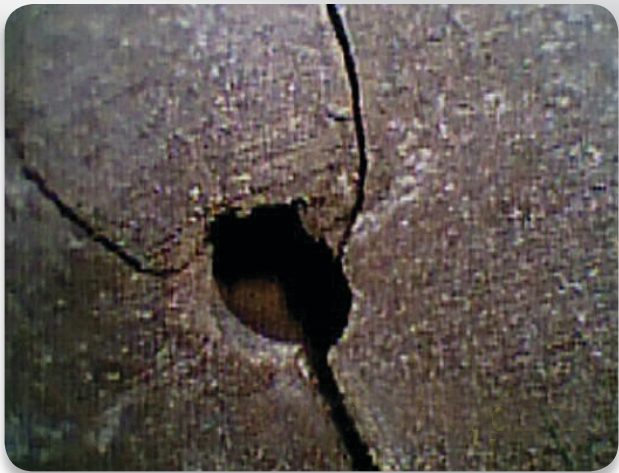
Photo and Video capture buttons quickly record any inspection you want to document. Images can also easily be annotated, sorted, stored, and transferred to computer via SD Memory Card.

Simple Navigation with On-Screen Menus

Intuitive, easy to understand on-screen menus make operation simple. 26 available languages, 2X digital zoom quickly magnifies the subject, mirror feature corrects image inversion of the prism tip, and much more!



SMOOTH, PRECISE, 4-WAY ARTICULATION



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

Hawkeye V2 Video Borescopes have a proprietary articulation design resulting in a smooth, tactile feel and precise orientation. Laser welded joints provide strength and durability. 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 twice as much.

EVERYTHING YOU'LL NEED, ALL IN A STURDY, LOCKABLE, CARRYING CASE



- 1. Monitor Battery Charger
- 2. Monitor Spare Battery Charger
- 3. Hawkeye® V2 Video Borescope
- 4. USB Cable
- 5. Video Cables
- 6. Optional Tips
- 7. V2-LED Light Source & Spare Batteries
- 8. V2-LED Light Source Charger & Batteries
- 9. Spare Monitor Battery
- 10. 2 GB SD Memory Card

ACCESSORIES



Close-Focus Tip

The Close-Focus Tip allows the user to view defects, such as tiny cracks, up close with high magnification. The tip threads directly onto the Hawkeye V2 Video Borescope. Double threads are utilized to prevent the tips from falling off.



90° Prism Tip

The 90° Prism Tip threads directly onto the Hawkeye V2 Video Borescope, allowing the user to view the walls of pipes and tubes and to more easily inspect certain turbine blades or engine valves in difficult engines. Double threads are utilized to prevent the tips from falling off.



V2 Rigidizer

When you push a flexible scope through a hole into a large open cavity it is difficult to direct and orient the scope tip. The V2 Rigidizer tube allows the user to easily direct the scope to whatever you want to see. Available for 4 mm and 6 mm scopes.

Length: 17" **Outside Diameters:** 4 mm, 0.188" (4.8 mm)
6 mm, 0.313" (8 mm)



V2 Stand

When you're working on a benchtop location, in a repair station, factory, or foundry, the V2 Stand allows you to set the scope on the benchtop for hands free operation.

V2 VIDEOSCOPIES

Hawkeye® V2 Video Borescopes

Outside Diam.	Length	Articulation	Sheath	Model #	Price
4 mm	1.5 m (4'11")	2-way	Tungsten	V2 040 1500 2	\$9,995
4 mm	1.5 m (4'11")	4-way	Tungsten	V2 040 1500 4	\$10,995
4 mm	3.0 m (9'10")	4-way	Tungsten	V2 040 3000 4	\$12,995
6 mm	1.5 m (4'11")	4-way	Tungsten	V2 060 1500 4	\$8,995
6 mm	3.0 m (9'10")	4-way	Tungsten	V2 060 3000 4	\$9,995
6 mm	6.0 m (19'8")	4-way	Tungsten	V2 060 6000 4	\$13,995



Hawkeye® V2 Video Borescope Accessories

Item	Model #	Price
4 mm Close-Focus Tip	V2-TIP-4CF	\$995
6 mm Close-Focus Tip	V2-TIP-6CF	\$995
4 mm 90° Prism Tip	V2-PTIP-4-90	\$995
6 mm 90° Prism Tip	V2-PTIP-6-90	\$995
V2 Rigidizer 4 mm	V2-RT4	\$195
V2 Rigidizer 6 mm	V2-RT6	\$195
V2 Stand	V2-Stand	\$95
V2 Charger	V2 Charger	\$30
Spare Battery	PVM50 BATTERY	\$50
Spare Battery Charger	PVM50 Charger	\$30
V2 LED Light Source	V2-LED KIT	\$725
Light Source Batteries	V2-LED BAT	\$10
Light Source Battery Charger	V2-LED CHARGER	\$25

SPECIFICATIONS

Hawkeye® V2 Video Borescope Specifications

Part no.	V2 040 1500 4	V2 040 3000 4	V2 060 1500 4	V2 060 3000 4	V2 060 6000 4
Scope diameter	4 mm	4 mm	6 mm	6 mm	6 mm
Scope length	1.5 m	3.0 m	1.5 m	3.0 m	6.0 m
Articulation	4 way, +/- 150 deg	4 way, +/- 150 deg	4 way, +/- 150 deg	4 way, +/- 150 deg	4 way, +/- 120 deg
Direction-of-view	0°, optional 90	0°, optional 90	0°, optional 90	0°, optional 90	0°, optional 90
Field-of-view	70°	70°	70°	70°	70°
Depth-of-field	15 mm - ∞	15 mm - ∞	15 mm - ∞	15 mm - ∞	15 mm - ∞
Outer sheath	Tungsten braid	Tungsten braid	Tungsten braid	Tungsten braid	Tungsten braid
Inner sheath construction	Stainless steel mono-coil with outer polymer layer				
Length of rigid tip	14 mm	14 mm	18.3 mm	18.3 mm	18.3 mm
Minimum bend radius	32 mm	32 mm	45 mm	45 mm	45 mm
Weight of the entire system	2 lbs.	2.2 lbs.	2.1 lbs.	2.3 lbs.	2.9 lbs.
Certified	CE	CE	CE	CE	CE
Color camera	CMoS, color signal NTSC/PAL, sensitivity 2 Lux / F 3.4				
Illumination	Detachable micro LED with intensity adjustment				
Display	5" TFT LCD, 640 x 480 resolution, 4:3 aspect ratio , rubber coating for shock absorption				
Interface	Mini USB 1.1 and AV/out				
Recording media	SD card up to 32 Gb				
Image capture format (resolution)	JPEG (640 X 480)				
Video capture format (resolution)	ASF (640 X 480)				
Power	5VDC				
Display battery	2.5 hr. run time, rechargeable lithium, 3.7 VDC, capacity 3900 mAh, charging time 3 hr.				
Light source battery	2 ea. Tenergy RCR123A circuit protected 3.0V rechargeable Li ion battery, average run time 75 min.				
90° interchangeable tips					
Part no.	V2-PTIP-4-90	V2-PTIP-4-90	V2-PTIP-6-90	V2-PTIP-6-90	V2-PTIP-6-90
Direction-of-view	90°	90°	90°	90°	90°
Field-of-view	70°	70°	70°	70°	70°
Depth-of-field	12 mm - ∞	12 mm - ∞	12 mm - ∞	12 mm - ∞	12 mm - ∞
Distal tip outer diameter	4 mm	4 mm	6 mm	6 mm	6 mm
0° close-focus tips					
Part no.	V2-TIP-4CF	V2-TIP-4CF	V2-TIP-6CF	V2-TIP-6CF	V2-TIP-6CF
Direction-of-view	0°, direct view	0°, direct view	0°, direct view	0°, direct view	0°, direct view
Field-of-view	70°	70°	70°	70°	70°
Depth-of-field	4 mm – 22 mm	4 mm – 22 mm	4 mm – 22 mm	4 mm – 22 mm	4 mm – 22 mm
Distal tip outer diameter	4 mm	4 mm	6 mm	6 mm	6 mm

SPECIFICATIONS

Environmental

Sheath operating temperature: in air : -25° C to 80° C, in water : 10° C to 30° C	
Storage temperature, entire unit: -30° C to +60° C	
Air pressure: 1 atmosphere	
Humidity: 5-95% relative humidity	
Fluid resistance of sheath	Resistant to water up to 5% salinity and most oils (except hydraulic fluid)
Water resistance of sheath	Waterproof
Borescope handle and monitor	Splash resistant only
Gradient Lens Corporation provides no guarantee without a specific material compatibility test.	

V2 Video Borescope – Firmware Interface

Quick access interface	Intuitive image capture and video capture function
Digital zoom	up to 2x
Image rotation	yes
Mirrored image	yes
Time/date	yes
Data export	yes, via USB or SD card
Auto-off option	optional
External on-screen display	yes
Text annotation	yes
Menu language selection	English, German, French, Spanish, Italian, Japanese, Russian, Portuguese, Dutch, Chinese, Polish, Czech, Croatian, Greek, Danish, Swedish, Finnish, Arabic, Korean, Hindi, etc.
Memory device	SD memory card, 32 mm × 24 mm × 2.1 mm, pins: 9, ≤4 Gb, up to 32 Gb
Image capture format (resolution)	JPEG (640 X 480)
Video capture format (resolution)	ASF (640 X 480)
Playback of captured videos and images	Playback supported on Windows Media Player
Input/output connections	Memory interface: 1X SD, USB interface: 1X mini-USB 1.1./USB, image signal output: 1x AV, mains power supply: 1X 5 V DC