

NIVISYS[™]_{LLC}

OPERATOR MANUAL

GCP-1

Ground Commander Pointer



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**OPERATOR
MANUAL
for**

GCP-1 Series

Ground Commander Pointer

GCP-1A (NSN: 5855-01-420-0849)

GCP-1B (NSN: 5855-01-420-0851)

GCP-1C (NSN: 5855-01-485-4327)

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ADVISORY OVERVIEW

The following description categorizes the level of risk associated with each cautionary statement displayed throughout the manual.

WARNING

HIGHLIGHTS AN OPERATION OR PROCEDURE WHICH, IF NOT STRICTLY OBSERVED, COULD RESULT IN INJURY TO OR DEATH OF PERSONNEL.

CAUTION

HIGHLIGHTS AN OPERATION OR PROCEDURE WHICH, IF NOT STRICTLY OBSERVED, COULD RESULT IN DAMAGE TO OR DESTRUCTION OF EQUIPMENT OR LOSS OF MISSION EFFECTIVENESS.

NOTE

HIGHLIGHTS AN ESSENTIAL OPERATION, PROCEDURE, CONDITION OR STATEMENT.

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LASER SAFETY DATA

This electronic product has been exempted from FDA radiation safety performance standards prescribed in the Code of Federal Regulations, Title 21, Chapter I, Subchapter J, pursuant to Exemption No. 76EL-01DOD issued on July 26, 1976.

Laser Safety Data*			
Description	GCP-1A	GCP-1B	GCP-1C
Laser Power Output Max	50mW	100mW	175mW
Laser Power Output Min	0.7mW	0.7mW	0.7mW
Laser Beam Divergence	0.5mR maximum	0.5mR maximum	0.3mR maximum
Laser Safety Class	3B	3B	3B
Nominal Ocular Hazard Distance (NOHD) for the unaided eye	384ft (117m)	541 ft (165 m)	1,178 ft (359 m)
Laser Wavelength	830–840 (± 20 nm)	830–840 (± 20 nm)	830–840 (± 20 nm)

*The above data is based on Laser Hazard Safety Analysis, Air Force Research Lab Human Effectiveness Directorate Optical Software. Data is based on a <10 second exposure for IR wavelength. All output power readings are maximum values at 73°F (23°C).

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SAFETY INFORMATION

The following section outlines general risks, safety precautions and warnings associated with the safe use of a laser. Read the following before any operation of the GCP-1.

WARNING

THERE ARE EYE AND OTHER HAZARDS ASSOCIATED WITH THE USE OF THE GCP-1 SERIES. SAFE OPERATION OF THIS PRODUCT REQUIRES FOLLOWING WARNINGS, CAUTIONS AND NOTES CONTAINED IN THIS OPERATOR MANUAL.

WARNING

A LASER SAFETY OFFICER (LSO) SHOULD BE ASSIGNED TO SUPPORT OPERATIONAL AND TRAINING ACTIVITIES USING THE GCP-1. THE LSO SHOULD BE ADEQUATELY TRAINED AND PROVIDE TRAINING IAW ANSI Z136.1-2000 (OR LATEST VERSION).

WARNING

ALL PERSONNEL PARTICIPATING IN TRAINING OR OPERATIONS THAT INVOLVE THE USE OF LASERS SHOULD COMPLY WITH COMMAND / ORGANIZATIONAL UNIT AND LSO GUIDANCE.

WARNING

IT IS NECESSARY AND INTENDED THAT LASER EYE PROTECTION (NIGHT VISION DEVICES) BE WORN BY THE OPERATOR WHEN OPERATING, MAINTAINING, SERVICING, OR TESTING THE GCP-1 SERIES.

WARNING

WHEN IN HOSTILE TERRITORY, OPERATE THE GCP-1 WITH CAUTION. ANY PERSON USING NIGHT VISION DEVICES CAN DETECT THE IR SOURCE USED IN THE GCP-1.

WARNING

NEVER VIEW THE BEAM DIRECTLY ON AXIS THROUGH MAGNIFYING OPTICS SUCH AS BINOCULARS OR TELESCOPES WITHOUT APPROPRIATE SAFETY FILTERS AS MAGNIFYING OPTICS HAVE THE ABILITY TO REFOCUS LASER LIGHT AND TO INCREASE THE NOMINAL OCULAR HAZARD DISTANCE (NOHD).

WARNING

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIC HEREIN MAY RESULT IN HAZARDOUS LASER RADIATION EXPOSURE.

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CHAPTER 1:

GENERAL INFORMATION

1.1 Introduction:

This manual provides operation and maintenance instructions for the GCP-1. It also provides specifications and data on the performance of the laser. The instructions will cover all variants of the GCP-1. To ensure the safety of the operator and the correct operation of the weapon sight, it is recommended that this manual is read carefully in its entirety before any deployment or field application.

1.2 Equipment Description:

The GCP-1 Series is a hand-held Class 3B laser infrared (IR) pointer and illuminator as rated by the Food and Drug Administration (FDA). The IR light is invisible to the unaided eye but fully visible to night vision devices.

The laser output may be continually adjusted by the user from a pencil beam to a floodlight beam (approximately a 30° spread). The pencil beam may be used to mark targets at various ranges. In the floodlight mode, large areas are illuminated. As beam size is increased, the area of illumination is broadened and range is shortened.

The GCP-1 Series is designed to provide covert target marking and illumination for night vision device users. The hand-held, lightweight device incorporates a built-in OFF/momentary ON switch that is conveniently placed for easy thumb activation.

A laser Hi/Low Power Selector permits reduction of the laser output to eye-safe levels for training and force-on-force maneuvers. Output reduction is achieved via a 180° rotation of

the laser Hi/Low Power Selector with a small slot screwdriver.

The GCP-1 is issued in three different models. The difference between models are listed below.

GCP-1 Model Variations			
Varying Specification	GCP-1A	GCP-1B	GCP-1C
Laser Power Output	50mW maximum	100mW maximum	175mW maximum
Laser Beam Divergence	0.5mR maximum	0.5mR maximum	0.3mR maximum
Nominal Ocular Hazard Distance (NOHD) for the unaided eye	384ft (117m)	541 ft (165 m)	1,178 ft (359 m)
Target Marking	8,000m	10,000m	18,000m
Provided Batteries	Alkaline	Alkaline	Lithium

Table 1-1 GCP-1 Model Variations

1.3 Standard Kit Parts List:

The standard GCP-1 kit comes with the items listed in the following table.

Item	Part No.	Description	Qty.
1	GCP-1A GCP-1B GCP-1C	50mW IR Laser 100mW IR Laser 175mW IR Laser	1
2	NV-NLPP	Soft Carrying Case	1
3	580-0001-0 580-0006-0	Battery, AA Alkaline (GCP-1A, 1B) Battery, AA Lithium (GCP-1C)	2
4	830-0065-0	Operation Manual, GCP-1	1
5	830-0066-0	Quick Reference Guide, GCP-1	1
6	LSRU516	Canopy Reflection Shield	1

Table 1-2 Standard Kit Parts List

1.4 Standard Kit Parts Illustration:

The illustration below is provided for quick identification of the standard parts of the GCP-1 kit.

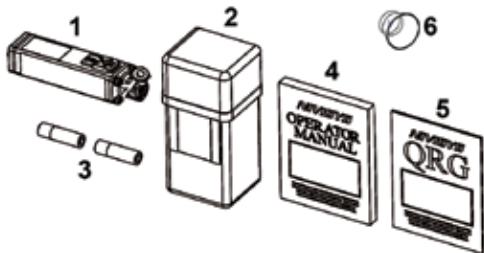


Figure 1-1 Standard Kit Parts Illustration

1.5 Optional Items List:

The GCP-1 is compatible with the following optional items and accessories listed in the following table.

Item	Part No.	Description
1	SWCH509	Remote Switch (18in)
2	A3144306	Neck Cord
3	SWCH525	Remote Switch (6ft)

Table 1-3 Optional Items List

1.6 Optional Items Illustration:

The illustration is provided as a visual key to optional items that can be used with the standard GCP-1.

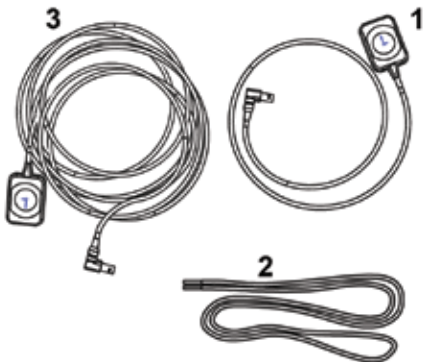


Figure 1-2 Optional Parts Illustration

1.7 System Performance and Data:

The table below lists the technical specifications and data of the GCP-1 system. The data contained herein is subject to change without notice.

ITEM	LIMITS
Electrical Data	
Power Source	3 VDC Maximum
Battery Type GCP-1A and GCP-1B	Alkaline 1.5 V AA (2 ea)
Battery Type GCP-1C	Lithium 1.5 V AA (2 ea)
Battery Life AA 1.5 V Alkaline @ 73°F (23°C)	+6 hrs – 50 mW GCP-1A +5 hrs – 100 mW GCP-1B
Battery Life AA 1.5 V Lithium @ 73°F (23°C)	+10 hrs – 175 mW GCP-1C
Physical Data	
Overall Dimensions	5.9 x 1.9 x 1.2in (15cm x 4.8cm x 3cm)
Weight (with batteries)	4.5oz (127g)
Environmental Data	
Operation Temperature	-26°F to +124°F (-32°C to +51°C)
Storage	-71°F to +160°F (-57°C to +71°C)

Table 1-4 System Performance and Data

Laser Specifications Data	
Wavelength	830-840 \pm 20 nm
Beam Shape GCP-1A, GCP-1B	Oval 1X high x 4X wide (approx)
Beam Shape GCP-1C	Circular
Beam Divergence GCP-1A, GCP-1B GCP-1C	0.5 mR to 500 mR 0.3 mR to 500 mR
Power Output GCP-1A GCP-1B GCP-1C	Maximum 50 mW Continuous Wave 100 mW Continuous Wave 175 mW Continuous Wave
Current Draw	110-225 mA
Laser /Diode Life (typical)	10,000 hrs

Table 1-4 System Performance and Data, (cont.)

1.8 Nominal Ocular Hazard Distance (NOHD)

The distance at which beam irradiance or radiant exposure becomes equal to the maximum allowable exposure on the cornea. Care must be taken against laser exposure within this distance. However, it does not mean that continuously looking at the laser beam at a distance longer than NOHD is safe or has no hazardous influence.

NOHD Summary for the GCP-1 Series		
	Type of Viewing	NOHD
GCP-1A	Unaided	384ft (117m)
	5 cm optics (7x50 binoculars)	2,274ft (693m)
	8 cm optics (Tanks)	1,203yd (1.1km)
	12 cm optics (Big Eyes)	1,750yd (1.6km)
	Type of Viewing	NOHD
GCP-1B	Unaided	548ft (167m)
	5 cm optics (7x50 binoculars)	3,202ft (976m)
	8 cm optics (Tanks)	1,640yd (1.5km)
	12 cm optics (Big Eyes)	2,515yd (2.3km)
	Type of Viewing	NOHD
GCP-1C	Unaided	1,181ft (360m)
	5 cm optics (7x50 binoculars)	2,297yd (2.1km)
	8 cm optics (Tanks)	3,500yd (3.2km)
	12 cm optics (Big Eyes)	5,031yd (4.6km)

Table 1-5 NOHD Summary

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CHAPTER 2: PREPARATION FOR USE

2.1 Introduction:

This section contains instructions for installing and attaching various components and accessories to the GCP-1 for operation under normal conditions.

2.2 Safety Slide:

The safety slide is designed to reveal one of two features of the laser device. In the SAFE position, the HI/LOW power selector is revealed and the laser is unable to be fired. In the ARMED position, the fire button is revealed and the laser is ARMED.

WARNING

ANYTIME THE LASER DEVICE IS NOT BEING FIRED, THE SAFETY SLIDE SHOULD BE IN THE SAFE POSITION.

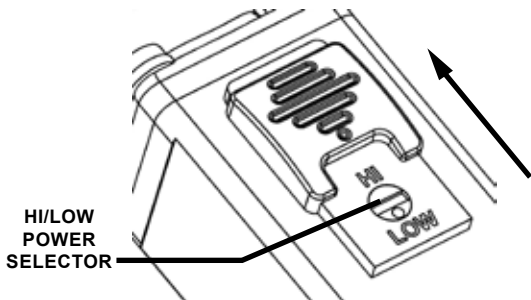


Figure 2-1 Safety Slide shown in SAFE Position

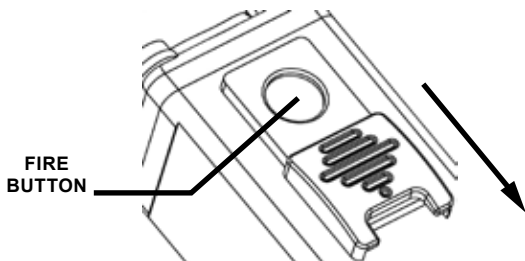


Figure 2-2 Safety Slide shown in ARMED Position

2.3 Hi/Low Power Selector:

The Hi/Low power selector permits reduction of the laser output to eye-safe levels for training and force-on-force maneuvers. To select Hi or Low power perform the following procedure.

1. Rotate the Hi/Low power selector 180° clockwise or counter-clockwise with a small slot screwdriver (not provided).

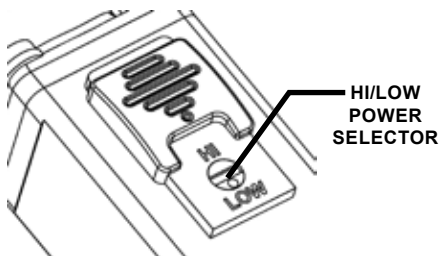


Figure 2-3 Hi/Low Power Selector

2.4 Battery Precautions:

WARNING

DO NOT MIX ALKALINE AND LITHIUM BATTERIES. DO NOT MIX OLD AND NEW BATTERIES. DO NOT MIX BRANDS OF BATTERIES. DO NOT MIX DISPOSABLE AND RECHARGEABLE BATTERIES. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN DEATH, INJURY OR IMPOSITION OF LONG-TERM HEALTH HAZARDS.

WARNING

INSPECT BATTERIES FOR BULGING PRIOR TO USE. IF THE BATTERY SHOWS SIGNS OF BULGING, DO NOT USE.

WARNING

DO NOT HEAT, PUNCTURE, DISASSEMBLE, SHORT CIRCUIT, INCINERATE, ATTEMPT TO RECHARGE OR OTHERWISE TAMPER WITH THE BATTERIES. TURN OFF THE GCP-1 IF THE BATTERY COMPARTMENT BECOMES UNDULY HOT.

IF POSSIBLE, WAIT UNTIL THE BATTERIES HAVE COOLED BEFORE REMOVING THEM.

WARNING

DO NOT REPLACE BATTERIES IN A POTENTIALLY EXPLOSIVE ATMOSPHERE. CONTACT SPARKING MAY OCCUR WHILE INSTALLING OR REMOVING BATTERIES AND CAUSE AN EXPLOSION. FAILURE TO FOLLOW

THESE INSTRUCTIONS COULD RESULT IN DEATH, INJURY OR IMPOSITION OF LONG-TERM HEALTH HAZARDS.

CAUTION

OBEY THE BATTERY MANUFACTURER'S DIRECTIONS FOR BATTERY DISPOSAL.

2.5 Battery Installation:

The electronic circuit is powered by two (2) AA battery cells. Install the batteries as follows.

WARNING

THE SAFETY SLIDE SHOULD BE IN THE SAFE POSITION BEFORE BEGINNING THE BATTERY CHANGE PROCEDURE TO PREVENT ACCIDENTAL DEPRESSION OF THE FIRING SWITCH AND INVISIBLE LASER BEAM EMISSIONS.

1. Remove the battery cap by turning the retaining knob counter-clockwise.
2. Pull and turn the battery cap away from the body of the GCP-1 until a stop occurs.
3. Insert the batteries into the battery compartment according to the printed polarity symbology.
4. Replace battery cap and turn the retaining knob clockwise until it the battery cap is tightly secured.

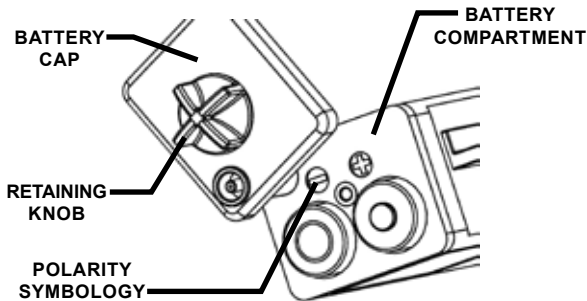


Figure 2-4 Battery Installation

2.6 Removing the Exit Port Cap:

Perform the following procedure to remove the exit port cap from the GCP-1.

WARNING

LASER EYE PROTECTION MUST BE WORN WHEN SERVICING, TESTING OR OPERATING THE GCP-1 SERIES.

WARNING

COVER EYES FULLY WITH LASER EYE PROTECTION BEFORE REMOVING THE EXIT PORT CAP FROM THE GCP-1 SERIES.

1. Using the finger tabs, firmly hold the exit port cap.
2. Pull the exit port cap away from the GCP-1 and place it on lens shroud closest to the safety slide.

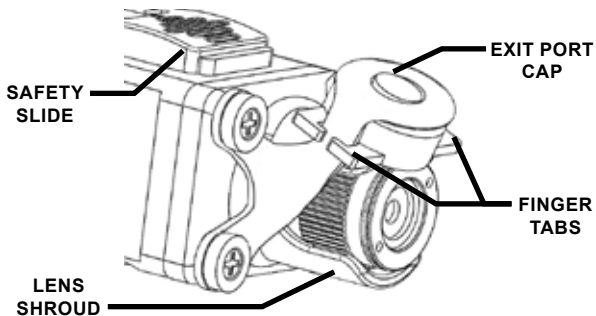


Figure 2-5 Exit Port Cap Removal

2.7 Canopy Reflection Shield Installation:

The canopy reflection shield is fitted to the front of the GCP-1, then pressed against the window to eliminate unnecessary emission reflection in an aircraft cockpit or vehicle. Perform the following procedures to install the Canopy Reflection Shield.

WARNING

**LASER SAFETY OFFICER INSTRUCTIONS
REGARDING THE SAFE USE OF THE
GCP-1 MUST BE FOLLOWED TO AVOID
INADVERTENT REFLECTION OF LASER
EMISSIONS INSIDE THE COCKPIT OR
VEHICLE.**

1. Remove the exit port cap from the lens housing.
2. Place the canopy reflection shield over the red lens housing.
3. Squarely push the shield onto the lens housing until it catches.

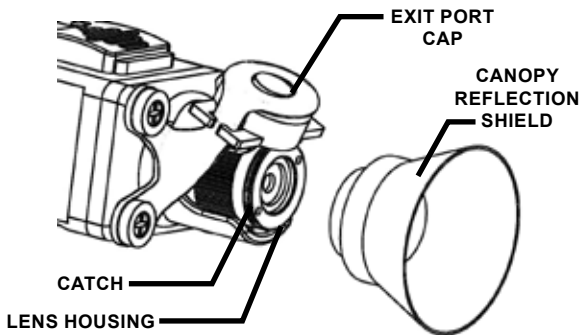


Figure 2-6 Canopy Reflection Shield Installation

2.8 Remote Switch Installation (Optional):

An optional remote switch allows for an additional method of firing the laser. Install the remote switch as follows.

1. Locate the remote switch port on the battery cap.
2. Fully insert the remote switch connector into the port.

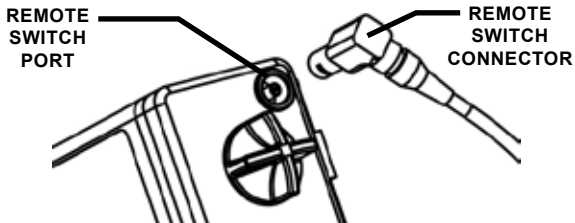


Figure 2-7 Remote Switch Installation

2.9 Neck Cord Installation (Optional):

A neck cord is an optional piece of equipment that may be installed when the GCP-1 is being operated as a hand held device. Install the neck cord as follows.

1. Locate the neck cord eyelet on the side of the GCP-1.
2. Thread one end of the neck cord through the neck cord eyelet.
3. Tie a knot in the two ends of the neck cord.

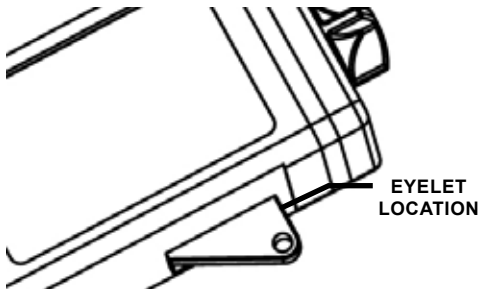


Figure 2-8 Neck Cord Eyelet Location

CHAPTER 3: OPERATING INSTRUCTIONS

3.1 Introduction:

This chapter contains instructions for the safe operation of the GCP-1 under normal circumstances and environments.

3.2 Operating Precautions:

WARNING

THERE ARE EYE AND OTHER HAZARDS ASSOCIATED WITH THE USE OF THE GCP-1 SERIES. SAFE OPERATION OF THIS PRODUCT REQUIRES FOLLOWING WARNINGS, CAUTIONS AND NOTES CONTAINED IN THIS OPERATOR MANUAL.

WARNING

A LASER SAFETY OFFICER (LSO) SHOULD BE ASSIGNED TO SUPPORT OPERATIONAL AND TRAINING ACTIVITIES USING THE GCP-1. THE LSO SHOULD BE ADEQUATELY TRAINED AND PROVIDE TRAINING IAW ANSI Z36.1-2000 (OR LATEST VERSION).

WARNING

ALL PERSONNEL PARTICIPATING IN TRAINING OR OPERATIONS THAT INVOLVE THE USE OF LASERS SHOULD COMPLY WITH COMMAND / ORGANIZATIONAL UNIT AND LSO GUIDANCE.

WARNING

IT IS NECESSARY AND INTENDED THAT LASER EYE PROTECTION (NIGHT VISION DEVICES) BE WORN BY THE OPERATOR WHEN OPERATING, MAINTAINING, SERVICING, OR TESTING THE GCP-1 SERIES.

WARNING

WHEN IN HOSTILE TERRITORY, OPERATE THE GCP-1 WITH CAUTION. ANY PERSON USING NIGHT VISION DEVICES CAN DETECT THE IR SOURCE USED IN THE GCP-1.

WARNING

NEVER VIEW THE BEAM DIRECTLY ON AXIS THROUGH MAGNIFYING OPTICS SUCH AS BINOCULARS OR TELESCOPES WITHOUT APPROPRIATE SAFETY FILTERS AS MAGNIFYING OPTICS HAVE THE ABILITY TO REFOCUS LASER LIGHT AND TO INCREASE THE NOMINAL OCULAR HAZARD DISTANCE (NOHD).

WARNING

USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIC HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

3.3 Controls and Indicators:

The controls and indicators for the GCP-1 are shown in Figure 3-1 and are described in Table 3-1.

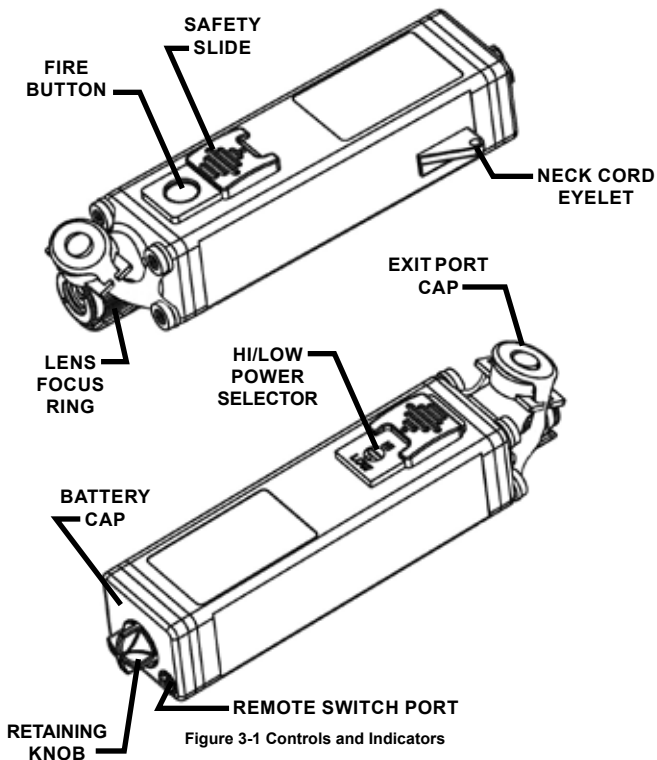


Figure 3-1 Controls and Indicators

Control and Indicators	Functions
Safety Slide	The safety slide is designed to reveal one of two features of the laser device. In the SAFE position, the HI/LOW power selector is revealed and the laser is unable to be fired. In the ARMED position, the fire button is revealed and the laser is ARMED.
Hi/Low Power Selector	The Hi/Low power selector permits reduction of the laser output to eye-safe levels for training and force-on-force maneuvers.
Lens Focus Ring	The focus ring continuously adjustable by the user. Turning the lens of the pointer makes the beam smaller or wider for pointing or area illumination.
Fire Button	Activates the IR laser when depressed.
Battery Cap	The battery cap protects the batteries from exposure and connects the electrical circuit needed for activating the laser.
Retaining Knob	Used to loosen and open the battery cap.
Remote Switch Connector	This connector is used to attach the optional remote control cable switch.
Exit Port Cap	This is located on the front of the GCP-1 Series and protects the lens from damage, dust or dirt. It is attached by a strap to the unit to prevent loss.
Neck Cord Eyelet	Designed to receive a lanyard or neck cord.

Table 3-1 Controls and Indicators

3.4 **Safe Operation:**

Once the batteries are installed, do not point the laser toward any person within the NOHD. Night vision goggles will provide protection by blocking the laser beam from directly entering the eye but the goggles themselves may be damaged. Other than the enemy, do not intentionally illuminate anyone with or without NVG's within the NOHD, whether during operations or training. Refer to the table 1-5 in section 1.8 for NOHD distances.

WARNING

NEVER VIEW THE BEAM DIRECTLY ON AXIS THROUGH MAGNIFYING OPTICS SUCH AS BINOCULARS WITHOUT APPROPRIATE SAFETY FILTERS AS MAGNIFYING OPTICS HAVE THE ABILITY TO REFOCUS LASER LIGHT, INCREASING THE DISTANCE FROM THE LASER WHERE HAZARDS MAY OCCUR (NOMINAL OCULAR HAZARD DISTANCE – NOHD). THE NOHD FOR THE GCP-1 SERIES IS LISTED IN TABLE 1-5 IN SECTION 1.8.

WARNING

DO NOT POINT THE LASER AT SPECULAR SURFACES (I.E. MIRROR-LIKE).

3.5 **Firing the Laser:**

The GCP-1 fire button is a momentary switch. It will only fire as long as it is depressed. When the fire button is not depressed, the laser is not activated. To fire the GCP-1 perform the following procedure:

1. Move the safety slide to the ARMED position revealing the red fire button.
2. Press the red fire button.

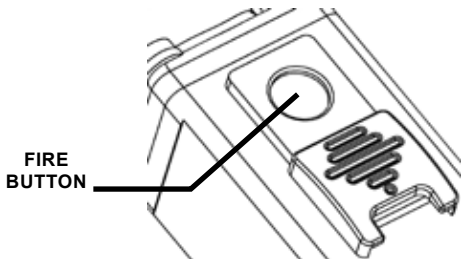


Figure 3-2 Fire Button

3.6 Focusing the Beam for the GCP-1A, -1B:

The lens focus ring can be adjusted to change the size of the beam. The beam shape is oval with a width to height ratio of approximately 4:1. To adjust the beam size perform the following procedure.

1. Turn the lens clockwise to make the beam smaller and increases range.
2. Turn the lens counter-clockwise to makes the beam wider.

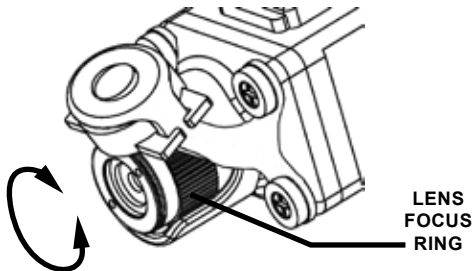


Figure 3-3 Lens Focus Ring

3.7 **Focusing the Beam for the GCP-1C:**

The lens focus ring can be adjusted to change the size of the beam. The beam shape is circular. To adjust the beam size perform the following procedure.

1. Turn the lens counter-clockwise to make the beam smaller and increases range.
2. Turn the lens clockwise to makes the beam wider.

3.8 **Preparation for Storage:**

WARNING

WHEN NOT IN USE, STORE THE GCP-1 SERIES IN A LOCKED CONTAINER. DO NOT TURN THE GCP-1 ON UNTIL IT IS NECESSARY TO OPERATE.

1. Remove batteries from the laser device.
2. Inspect the battery compartment for corrosion or moisture.
3. Clean and dry if necessary.
4. Replace the battery cap.
5. Ensure that the exit port cap is installed.
6. Ensure that the safety slide is in the SAFE position.

NOTE

PRIOR TO PLACING GCP-1 INTO CARRYING CASE, ENSURE THE GCP-1 AND CASE ARE FREE OF DIRT, DUST, AND MOISTURE.

7. Place the laser device and all accessories in the soft carrying case. It is best to place the items in their original locations to prevent any possible damage to the unit and/or accessories.
8. Return to secure storage area.

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CHAPTER 4:

MAINTENANCE INSTRUCTIONS

4.1 Introduction:

The GCP-1 is designed to be used in diverse environments and rugged conditions. It is recommended that regular and simple maintenance is performed for optimal system performance.

CAUTION

**THE LASER DEVICE IS A PRECISION
ELECTRO-OPTICAL INSTRUMENT AND MUST
BE HANDLED CAREFULLY.**

**DO NOT SCRATCH THE EXTERNAL LENS
SURFACES OR TOUCH THEM WITH YOUR
FINGERS.**

4.2 Battery Removal:

Open battery compartment, remove batteries and store in carrying case. Close the battery compartment before cleaning.

4.3 Cleaning the GCP-1:

When necessary, use a moistened clean cloth to wipe the outside of the unit. Be sure to wipe away excess dirt and dust that may restrict the performance or damage moving and mating parts. If needed, the use of a very diluted detergent solution is permissible. Dry with a soft clean cloth, or allow unit to air-dry before storing it.

4.4 Cleaning the Optical Surfaces:

To clean the lens, wipe using a soft cloth with clean water, alcohol, or general purpose glass cleaner. Polish with lens tissue. Clean only the external surface of the lens.

4.5 Checking for Damage and Corrosion:

As a general guideline, conduct an inspection of the GCP-1, accessories, and the case after every use. Look for heavy wear and cracks in rubber or plastic. Inspect for moisture or corrosion in the battery compartment. Check for scratches, condensation and foreign matter on optical surfaces. Report missing or damaged items, for replacement.

4.6 Preventive Maintenance Checks and Services (PMCS):

Action		Not Usable If			Not Usable If
		Before	During	After	
1	Inspect kit and components for presence and serviceability	X		X	Key components are missing
2	Lenses are clean and free of large scratches that affect performance	X	X	X	Scratches affect the pointer performance
3	Check activation switches and power controls for proper function	X	X		Controls do not work properly
4	Focus mechanism opens and closes beam size	X	X		Pointer focus is inoperative
5	Check housing for signs of damage	X		X	Housing is cracked

Table 4-1 Preventive Maintenance Checks and Services

CHAPTER 5: TROUBLESHOOTING

5.1 Troubleshooting Procedures:

Table 5-1 lists common malfunctions that may occur with the GCP-1. Perform the tests, inspections and corrective actions in the order they appear in the table.

This table cannot list all the malfunctions that may occur, all the tests and inspections needed to find the fault, or all the corrective actions needed to correct the fault. If the equipment malfunction is not listed or actions listed do not correct the fault, notify your maintainer.

Malfunction	Test for Inspection	Corrective Action
Pointer fails to operate	Dirty battery compartment contacts	Clean battery cap and contacts
	Reversed batteries	Reinstall batteries with correct polarity observed
	Dead batteries	Replace batteries
	Bad switch	Turn in for replacement
Intermittent operation of pointer	Dirty battery cap or battery compartment	Clean contacts with alcohol and cotton swab or pencil eraser

Table 5-1 Troubleshooting

Pointer beam is not sharply defined	Dirty lenses Scatched lenses	Clean lenses Turn in for replacement
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Table 5-1 Troubleshooting, (cont.)

APPENDIX A:

SPARE AND REPAIR PARTS LIST

A.1 Introduction:

This section provides information needed to identify, contact and order spare and/or repair parts for the GCP-1.

A.2 Contact Information:

To order spare or repair parts for the GCP-1 or any night vision products contact:

Nivisys, LLC
400 S. Clark Drive, Suite #105
Tempe, Arizona 85281 USA

Phone: 1-480-970-3222

Fax: 1-480-970-3555

A.3 Spare Part List:

The following is a list of parts that may be ordered for spare parts for the GCP-1.

Part No.	Description	Qty.
NV-NLPP	Soft Carrying Case	1
580-0001-0	Battery, AA Alkaline (GCP-1A, 1B)	1
580-0006-0	Battery, AA Lithium (GCP-1C)	1
830-0065-0	Operation Manual, GCP-1	1
830-0066-0	Quick Reference Guide, GCP-1	1

Table A-1 Spare and Repair Parts List

LSRU516	Canopy Reflection Shield	1
SWCH509	Remote Switch (18in)	1
A3144306	Neck Cord	1
SWCH525	Remote Switch (6ft)	1
CAPS503	Laser Dust Cap Assembly	1

Table A-1 Spare and Repair Parts List, (cont.)

APPENDIX B: WARRANTY INFORMATION

Equipment Warranties And Remedy:

Seller warrants that each newly manufactured item sold hereunder and such portion of a repaired/refurbished item as has been repaired or replaced by Seller under this warranty, shall be free from defects in material or workmanship at the time of shipment and shall perform during the warranty period in accordance with the specifications incorporated herein. Should any failure to conform to these warranties be discovered and brought to Seller's attention during the warranty period and be substantiated by examination at Seller's factory or by authorized field personnel, then at its own cost, Seller shall correct such failure by, at Seller's option, repair or replacement of the non-conforming item or portion thereof, or return the unit purchase price of the non-conforming item or component. Buyer agrees that this remedy shall be its sole and exclusive remedy against Seller and that no other remedy shall be available or pursued by Buyer against Seller. In no event shall the Seller be liable for any cost or expense in excess of those described in this paragraph and expressly excluding any liability or damages for special, incidental or consequential damages.

The warranty period for newly-manufactured items shall extend 12 months from the date of shipment by Seller unless a different warranty period is agreed in writing to by Seller. The warranty period for repaired/refurbished electronic components shall extend for the unexpired warranty period or 90 days, whichever is longer, of the item repaired or replaced.

This warranty shall not extend to any item that upon examination by Seller is found to have been subject to:

- A. Mishandling, misuse, negligence or accident.

- B. Installation, operation or maintenance that either was not in accordance with Seller's specifications and instructions, or otherwise improper.
- C. Tampering, as evidenced, for example, by broken seals, damaged packaging containers, etc.
- D. Repair or alteration by anyone other than Seller without Seller's express advance written approval.

Failure to promptly notify Seller in writing upon discovery of any non-conforming item during the warranty period shall void the warranty as to such item. Buyer shall describe any such non-conformity in detail, expressing its position as to return of any article under the remedy provided herein. No returns shall be accepted without prior approval by Seller.

Return Material Authorization Number (RMA#):

Warranty and non-warranty items returned to Nivisys for repair or replacement require a RMA#. Email support@nivisys.com, call 1-480-970-3222 or fax 1-480-970-3555 with a serial number and detailed information to obtain a RMA#.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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NIVISYSTM_{LLC}

Nivisys, LLC
400 S. Clark Drive, Suite 105
Tempe, Arizona 85281 USA

nivisys.com