

ATN PS-22

NIGHT VISION ATTACHMENT



u s e r ' s g u i d e

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**AMERICAN
TECHNOLOGIES
NETWORK
CORP.**

FAST CATADIOPTIC
FRONT LENS
SYSTEM WITH
MULTI-COATED ALL
GLASS OPTICS



BATTERY CAP

REMOTE
CONTROL
CAP

FOCUSING RING



OPERATION SWITCH



FRONT LENS CAP/
DAYLIGHT FILTER



RUBBER LIGHT
SUPPRESSOR



7/8" WEAVER MOUNT



BACK CAP



PICATINNY RAIL



IR ILLUMINATOR
IR450



REMOTE CONTROL



A.R.M.S. ADAPTER
(OPTIONAL)



DAY SCOPE LIGHT
SUPPRESSOR (OPTIONAL)



PLATFORM RING
(OPTIONAL)



SCOPE MOUNTING
SYSTEM (OPTIONAL)



**ATN PS-22 with ATN 5x33L and IR 450
(with 7/8" weaver mount and platform
ring for IR450)**



**ATN PS-22 with ATN 3,5x26 and IR 450
(with Scope Mounting System)**



**ATN PS-22 with ATN 5x33L and IR 450
(with Scope Mounting System and picatinny
rail for IR illuminator)**



**ATN PS-22 with Leupold daytime scope
(with the 7/8" weaver mount)**



**ATN PS-22 with Trijicon daytime scope
(with 7/8" weaver mount)**



ATN PS-22 with a spotting scope

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APPLICATION

The PS-22 is an attachment for daytime scopes with 1x-6x (2.5x-4x are optimal) magnification that converts the scope into a high quality compact night vision scope .

The PS-22 mounts in front of a daytime scope. Re-zeroing of a scope is not required. PS-22 comes with a standard 7/8" weaver mount. There is also A.R.M.S. Adapter (optional) for A.R.M.S. quick release mount. Optional Scope Mounting System allow to mount the unit onto the objective of a day scope with 25-58mm diameter. The powerfull IR450 illuminator can be mounted onto the Picatinny Rail.

The PS-22 utilizes a 2nd Gen.+ or 3rd Gen. Image Intensifier Tube. This ingenious scheme allows the shooter to go from day to night in less then 30 seconds without tools, without changes in eye relief remaining zeroed all around the clock.

The PS-22 is a complex optical-electronic system. The device contains an image intensifier tube assembly with an integrated high voltage power source and a three volt battery housing.

Objective lens protective cover is intended to protect objective lens from dust, scratches and high-level illumination. The pinhole in cover allows the user to check the operation ability of the device in highlight conditions.

The device has a built in Automatic Brightness Control. This system automatically adjusts the brightness of Image Intensifier Tube to the optimal level.

FEATURES

- Easily changes daytime scope to Night Vision
- Mounts in front of daytime scope, no re-zeroing required
- Available in 2nd + and 3rd generation
- Multi-coated all glass optics
- Fast catadioptric front lens system
- 21mm output window
- Light weight and rugged
- Tactical Digital Remote Control
- Comes with a standard 7/8" weaver mount
- Optional A.R.M.S. Adapter for A.R.M.S. quick release mount included
- Optional Scope Mounting System for mounting onto the objective of the day scope (25-62 mm diameter)

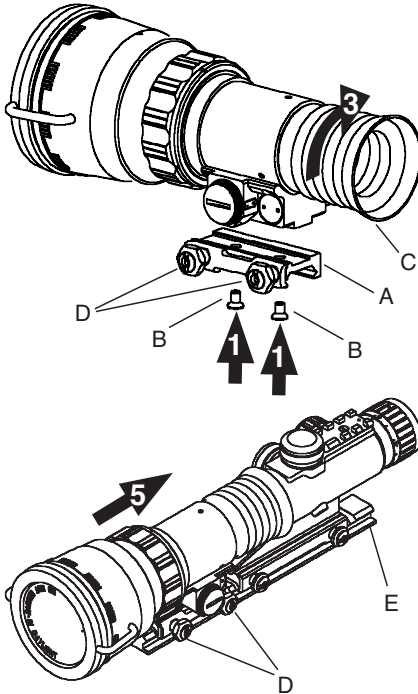
SPECIFICATIONS

Magnification.....	1X
Intensifier Tube.....	2nd Gen+ or 3rd Gen
Lens System.....	F1:1.44, 80mm
FOV	13°
Power Supply	one 3 Volt Battery(CR123A)
Range Of Focus	10 m to Infinity
Battery Life.....	60 hours (Gen.2+); 50 hours (Gen.3)
Operating Temperature	-40°C to +50°C
Storage Temperature	-50°C to +70°C
Dimensions	139mm X 80mm X 72mm
Weight	0.6kg

* ATN reserves the right to change the above specifications at any time without notice

CAUTION:
THIS PRODUCT CONTAINS NATURAL RUBBER LATEX WHICH MAY CAUSE ALLERGIC REACTIONS.

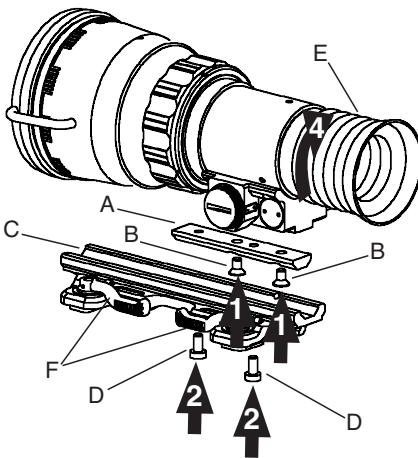
MOUNTING



Mounting onto the Weaver rail with 7/8" Weaver Mount

- 1) Mount the 7/8" Weaver Mount (A) onto the body of PS-22 with two screws M4x7 (B) from the kit.
- 2) Unscrew the protective back cap from PS-22.
- 3) Screw the Rubber Light Suppressor (C) into the thread at the PS-22 back side.
- 4) Loosen slightly the fixing screws (D) of the mount.
- 5) Place the PS-22 onto the weaver rail (E) of the fire arm before objective of daytime scope at the minimal distance from it. The optical axis of PS-22 must have divergence with the optical axis of daytime scope not more than 3mm. The height of PS-22 optical axis over the weaver rail is equal to 40mm with a standard mount that also matches ATN 3.5x26 scope.
- 6) Tighten the fixing screws (D).

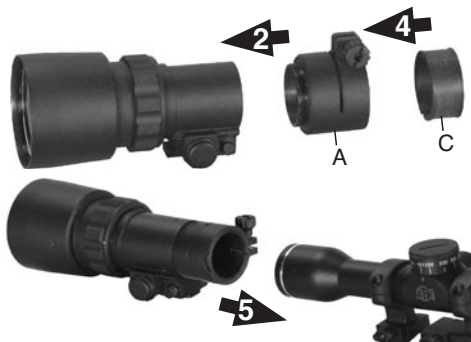
NOTE: Fixing screws may need to be tightened again after continuous shooting.



Mounting onto the Weaver rail with A.R.M.S. Mount

- 1) Mount the A.R.M.S. Adapter (optional) (A) onto the body of PS-22 with two screws M4x7 (B) from the kit.
- 2) Mount the PS-22 with A.R.M.S. Adapter onto the A.R.M.S. #10 or A.R.M.S. #19 ACOG (C) with two screws M5x8 (D).
- 3) Unscrew the protective back cap from PS-22.
- 4) Screw the Rubber Light Suppressor (E) into the thread at the PS-22 back side.
- 5) Loosen slightly the fixing screws or levers (F) of the mount.
- 6) Place the PS-22 onto the weaver rail of the fire arm before objective of daytime scope at the minimal distance from it. The optical axis of PS-22 must have divergence with the optical axis of daytime scope not more than 3mm. The height of PS-22 optical axis over the with A.R.M.S. #19 ACOG is equal to 49mm.
- 7) Tighten the fixing screws or levers (F) of mount.

NOTE: Fixing screws may need to be tightened again after continuous shooting.



Mounting onto the objective of the day scope with Scope Mounting System

- 1) Unscrew the protective back cap from PS-22.
- 2) Screw the Scope Mounting System body (A) into the thread at the PS-22 back side.
- 3) Slightly loosen the fixing screw (B) of the Scope Mounting System.
- 4) Put the Insert (C) with the required diameter* into the System's body.
- 5) Slide the PS-22 with the Scope Mounting System to the objective of a day scope.
- 6) Tighten hard the fixing screw (B) of the Scope Mounting System.

Mounting Picatinny Rail and IR450

- 1) Mount Picatinny Rail (A) onto the body of PS-22 with two screws M4x7 (B) from the kit.
- 2) Place IR Illuminator (C) onto the Picatinny Rail.

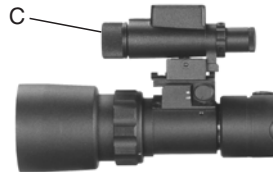
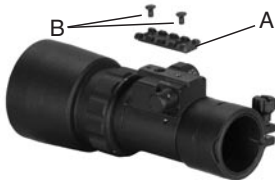


TABLE 1. SCOPE MOUNTING SYSTEM PARAMETERS AND SCOPE EXAMPLES

Scope Mounting System #	Diameter of the Scope Objective (Insert Size)	Examples of Scopes
1	25.4 mm	Leupold 1.5-5x20 PR
	30 mm	Leupold 1.5-5x20 MR/T M2; Zeiss 1.1-4x24 T
2	38 mm	Meopta Artemis 2000 4x32
	42 mm	Leupold Mark 4 3-9x36; Leupold Mark 4 2.5-8x36; Kahles 4x36
3	46.7 mm	Leupold 3.5-10x40; Leupold VX-II 3-9x40
	48 mm	Zeiss 1.5-6x42; Swarovski PV-N 2.5-10x42
	from 48.7 to 49.0 mm	Meopta Artemis 3000 3-9x42
	49.5 mm	Meopta Artemis 3000 4-12x40
4	50 mm	Schmidt@Bender 10x42 PMII
	56 mm	Zeiss 2.5-10x50
	57 mm	Schmidt@Bender 3-12x50
6	58.7 mm	Leupold 4.4-14x50; Leupold VX-III 3.5-10x50
	62	Zeiss 3-12x56; Swarovski 2.5-10x56; Kahles CSX 3-12x56

CAUTION: Never use an Insert with the Scope Mounting System that do not correspond each other (are in different rows) at the Table 1.

How to select Scope Mounting System required for your daytime scope

Owing to Scope Mounting Systems (with Inserts) having different diameters you can mount PS-22 Attachment onto a daytime scope with objective tube diameter from 25 to 62 mm the way the tube glowing will be absolutely invisible for others. At the Table 1 Scope Mounting System sizes (#1-6) and Insert sizes for different scope examples are provided.

You may not find your daytime scope (and Scope Mounting Systems with Insert needed) at the Scope Examples column. In this case, before mounting procedure you have to select Scope Mounting System (and Insert) required for your daytime scope. To do this perform the following actions:

1) Determine your daytime scope **objective tube diameter (external - not diameter of the glass lens!)** with a millimeter ruler (with a trammel for more accurate results) as shown at the picture.

2) Select from the Table 1 the Insert size **closest (larger)** to the value measured (Insert size is also specified at an Insert body). Do the selection in Insert group that corresponds to the **same** Scope Mounting System (for example, Scope Mounting System #2).

3) The Scope Mounting System you need is the one that corresponds to Insert size selected at the Table 1.

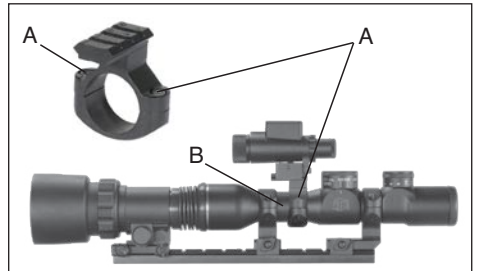
For example, if your scope objective tube diameter is equal to 46 mm then you should select Insert with size of 46,7 mm and corresponding Scope Mounting Systems #3 from the Table 1.



Platform Ring

IR Illuminator can be mounted not only onto PS-22 with Picatinny Rail Adapter but also onto a daytime scope using optional Platform Ring. To perform this do the following:

- 1) Unscrew the two screws set (A) from the Platform Ring.
- 2) Place the top and lower parts of the Platform Ring around your daytime scope tube (B), as shown on the picture.
- 3) Tighten hard the two screws set (A).



Daytime Scope Light Suppressor

There is a rubber Daytime Scope Light Suppressor (DSLS). The DSLS slides over the eyepiece of your daytime scope.

The DSLS was designed to achieve several missions:

- 1) Prevent back glow from the device that could give away position
- 2) Prevent surrounding light from interfering with image on eyepiece

The DSLS can be adjusted for the eye relief of your scope by cutting the rubber at the desired distance.



OPERATION

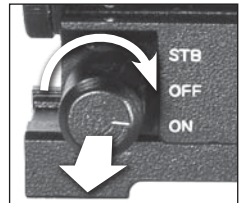
Place the PS-22 before objective of daytime scope.

Make sure the power switch is at the OFF-position.

Install the battery into the housing with the polarity order shown at the devices body.

To turn the device on, draw and rotate the operation switch to the ON-position. The greenish-lit screen of the image tube (when looking through the eyepiece) means that the image tube is powered on.

Do not turn the unit on during daytime without the protective lens cap/ daylight filter on.



NOTE: The protective lens cap has several small holes in it to allow it to be used as a daylight filter. When using this as a daylight filter you will notice a double vision, this is normal due to the catadioptric lens system.

Next move to a dark environment and remove the lens cap.

Observe the scene and adjust the focusing of PS-22 by rotation the focusing ring. Also focus the daytime scope for optimal clarity.

Turn on the illumination of daytime scope reticle (if any) and adjust its brightness (see your daytime scope's user manual).

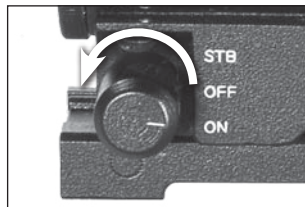
To turn the PS22 off, draw and turn the operation switch to the OFF-position.

REMOTE CONTROL

Attach the Remote Control cable to connector on the side of the body of device. Place the Remote Control on the weapon, suiting your shooting style best and grip. Fix the Remote Control in this position with a montage strap.

For using the device with Remote control, rotate the Operation Switch from the OFF position to STB position. To turn the device on push the button of remote control. Keep pressed button when observing scene. The scope is turned off immediately after releasing remote control button.

To switch the Remote Control mode OFF rotate the Operation Switch from the STB position.



IR ILLUMINATOR

The IR illuminator greatly enhances the performance of your PS22, while remaining almost totally invisible to the naked eye.

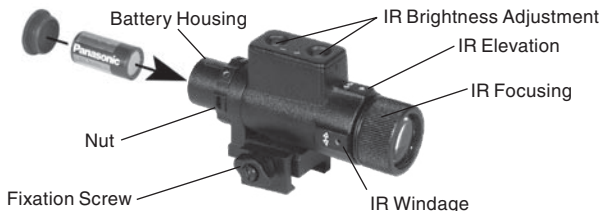
NOTE: It is important to remember that the IR illuminator is simply an infra red light source, and like any light source it may lose its effectiveness over a great distance.

IR450 illuminator is mounted onto the picatinny rail.

The IR illuminator control buttons are located on its side. To switch the Digital IR illuminator on/off press "+" and "-" buttons simultaneously. When the IR illuminator is switched on you can see the green LED lit. By pushing the buttons "+" and "-" you may adjust the IR brightness.

The IR beam is focusable to change the field of coverage. To change the beam width slightly turn the IR lens.

You could change the IR control panel fitting your needs. The wrench included into the set should be used for weakening the fixing nut located on the IR. Rotate the IR placing at in the most convenient position. Tighten the nut with the wrench to fix the new position.



WARNINGS AND CAUTIONS

- Do not forget to turn off the PS-22 when it is not in use. If you do not plan to use your unit for a period of more than 10 days, you should remove the batteries.
- **Keep lens cap on when PS-22 is not in use.**
- Avoid contact with dust, steam, and gas.
- The PS-22 is not harmful for its user or environment.
- Do not disassemble: **it will void your warranty.**
- Never use in daylight conditions without the lens cap on.
- **Never point the PS-22 at a bright light source.** If the device shuts off automatically after directing it at a bright light source, turn the unit off and wait for 1-2 minutes before turning the unit back on.
- Adverse atmospheric conditions such as fog, smog, or haze and a lack of ambient light (moon or starlight) may decrease the effective viewing distance. All technical data for this unit was compiled in a controlled environment.
- If you use the rubber eyecaps for a long period of time, you may suffer skin inflammation. If you develop any symptoms, consult a doctor immediately.

TROUBLESHOOTING

Q: Flashes, flickers or clicking occur while operating

S: If it occurs within the first five minutes of inserting new batteries, it is normal and the device will resume normal operation soon thereafter. If it occurs for more than 10 minutes, contact for service instructions.

Q: Dark spots on screen.

S: These are either cosmetic blemishes in the intensifier tube or dust particles.

Q: Screen becomes darker than at previous use.

S: Replace batteries. If problem persists, contact your dealer or other authorized service representative for service instructions.

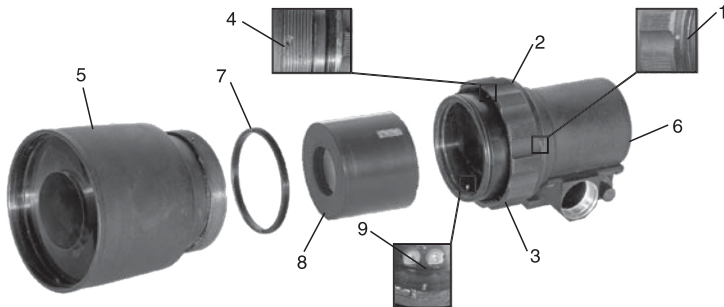
Q: Image not clear.

S: Adjust objective lens, and/or the eyepiece.

TUBE MAINTENANCE / REPLACEMENT

Tube maintenance/replacement is to be performed by qualified technicians only. These procedures attempted by non-qualified personnel will void warranty.

- 1) Loosen slightly (do not remove completely) three set screws (1) at the Objective Locking Ring side (2).
- 2) Unscrew the Objective Locking Ring (2) and the Objective Focusing Ring (3).
- 3) Unscrew the Objective Directive Screw (4).
- 5) Disassemble the Objective (5) from the Body (6).
- 6) Unscrew the IIT Locking Ring (7) from the Body.
- 7) Replace IIT (8) with another one. During this step pay attention to Locking-finger (9) that must consist with the groove in IIT body.
- 8) Do the steps 1-7 mentioned above in reverse order to assemble the PS-22.



2 YEAR PRODUCT WARRANTY

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of 2 (two) years from the date of purchase. In the event a defect that is covered by the foregoing warranty occurs during the applicable period stated above, ATN, at its option, will either repair or replace the product, and such action on the part of ATN shall be the full extent of ATN's liability, and the Customer's sole and exclusive remedy. This warranty does not cover a product (a) used in other than its normal and customary manner; (b) subjected to misuse; (c) subjected to alterations, modifications or repairs by the Customer or by any party other than ATN without prior written consent of ATN; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either ATN or the ATN dealer; or (e) merchandise that has been discontinued by the manufacturer and either parts or replacement units are not available due to reasons beyond the control of ATN. ATN shall not be responsible for any defects or damage that in ATN's opinion is a result from the mishandling, abuse, misuse, improper storage or improper operation, including use in conjunction with equipment which is electrically or mechanically incompatible with or of inferior quality to the product, as well as failure to maintain the environmental conditions specified by the manufacturer. **CUSTOMER IS HEREBY NOTIFIED THAT OPERATION OF THE EQUIPMENT DURING DAYLIGHT HOURS OR UNDER ANY EXCESSIVE LIGHT CONDITIONS MAY PERMANENTLY DAMAGE THE INTERNAL COMPONENTS OF THE UNIT AND SAID DAMAGE WILL NOT BE COVERED UNDER THIS WARRANTY.** This warranty is extended only to the original purchaser. Any breach of this warranty shall be waived unless the customer notifies ATN at the address noted below within the applicable warranty period.

The customer understands and agrees that except for the foregoing warranty, no other warranties written or oral, statutory, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, shall apply to the product. All such implied warranties are hereby and expressly disclaimed.

LIMITATION OF LIABILITY

ATN will not be liable for any claims, actions, suits, proceedings, costs, expenses, damages or liabilities arising out of the use of this product. Operation and use of the product are the sole responsibility of the Customer. ATN's sole undertaking is limited to providing the products and services outlined herein in accordance with the terms and conditions of this Agreement. The provision of products sold and services performed by ATN to the Customer shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit of or creating any obligation toward any third party of legal entity outside ATN and the Customer; ATN's obligations under this Agreement extend solely to the Customer. **ATN's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to ATN by the customer or customer's dealer. ATN shall not, in any event, be liable for special, indirect, incidental, or consequential damages, including, but not limited to, lost income, lost revenue, or lost profit, whether such damages were foreseeable or not at the time of purchase, and whether or not such damages arise out of a breach of warranty, a breach of agreement, negligence, strict liability or any other theory of liability.**

PRODUCT WARRANTY REGISTRATION

In order to validate the warranty on your product, ATN must receive a completed Product Warranty Registration Card for each unit or complete warranty registration on our website at www.atncorp.com. Please complete the included form and immediately mail it to our Service Center: ATN Corporation, 1341 San Mateo Avenue, South San Francisco, CA 94080.

OBTAINING WARRANTY SERVICE

To obtain warranty service on your unit, End-user must notify ATN service department by calling **800-910-2862** or **650-989-5100** or via e-mail **service@atncorp.com** to receive a Return Merchandise Authorization number (RMA). When returning please take or send the product, postage paid, with a copy of your sales receipt to our service center, ATN Corporation at the address noted above. All merchandise must be fully insured with the correct postage; ATN will not be responsible for improper postage or, missing or damaged merchandise during shipment. When sending product back, please clearly mark the RMA# on the outside of the shipping box. Please include a letter that indicates your RMA#, Name, Return Address, reason for service return, Contact information such as valid telephone numbers and/or e-mail address and proof of purchases that will help us to establish the valid start date of the warranty. **Product merchandise returns that do not have an RMA listed may be refused or a significant delay in processing may occur.** Estimated Warranty service time is 10-20 business days. End-user/customer is responsible for postage to ATN for warranty service. ATN will cover return postage/shipping after warranty repair to end-user/customer only if product is covered by aforementioned warranty. ATN will return product after warranty service by domestic UPS ground and/or domestic mail. Any other requested or required shipping method the postage/shipping fee will be the responsibility of the end-user/customer.

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APPENDIX A

SPARE PARTS LIST

The Spare Parts List is an illustrated catalog of main parts and assemblies completing the Night Vision Attachment PS-22, here in after referred to as PS-22.

Therefore, in case of failure of any part or assembly User could replace it by ordering the corresponding part/assembly from the Spare Parts List. The amount and assortment of the spare parts needed should be arranged with each contract individually.

TABLE A1. ATN PS-22 SPARE PARTS LIST

PART NO.	DESCRIPTION	FIG.	ITEM
AT 146531.700	Attachment	A1	
AT 146531.701	Front Lens Cap	A1	1
AT 146531.702	Objective Assembly	A1	2
AT 146531.704	Objective Directive Screw	A1	3
AT 146531.705	Body (with Objective Focusing and Locking Rings)	A1	4
CR123A	Lithium Battery CR123A	A1	5
AT 146531.706	Battery Cap	A1	6
AT 146531.707	Image Intensifier Tube	A1	7
AT 146531.708	IIT Locking Ring	A1	8
AT 146531.709	Back Cap	A1	9
AT 146532.700	Accessories 1 (From the Kit)	A2	
AT 146532.701	Rubber Light Suppressor	A2	1
AT 541002.702	7/8" Weaver Mount (with two M4x7 screws)	A2	2
AT 541002.713	Remote Control	A2	3
AT 146533.704	Picatinny Rail	A2	4
AT 146533.555	IR Illuminator IR450	A2	5
AT 541002.703	User's Manual	A2	6
AT 146533.700	Accessories 2 (Optional)	A3	
AT 146533.701	A.R.M.S. Adapter	A3	1
AT 146533.702	Platform Ring	A3	2
AT 146533.706	Day Scope Light Suppressor	A3	3
AT 146533.751	Scope Mounting System #1	A3	4
AT 146533.752	Scope Mounting System #2	A3	4
AT 146533.753	Scope Mounting System #3	A3	4
AT 146533.754	Scope Mounting System #4	A3	4
AT 146533.755	Scope Mounting System #6	A3	4
AT 146534.751	Scope Mounting System Insert with 25.4 mm diameter	A3	5
AT 146534.752	Scope Mounting System Insert with 30 mm diameter	A3	5
AT 146534.753	Scope Mounting System Insert with 38 mm diameter	A3	5

TABLE A1. ATN PS-22 SPARE PARTS LIST (CONT.)

PART NO.	DESCRIPTION	FIG.	ITEM
AT 146534.754	Scope Mounting System Insert with 42 mm diameter	A3	5
AT 146534.755	Scope Mounting System Insert with 46.7 mm diameter	A3	5
AT 146534.756	Scope Mounting System Insert with 48 mm diameter	A3	5
AT 146534.757	Scope Mounting System Insert with 48.7-49 mm diameter	A3	5
AT 146534.758	Scope Mounting System Insert with 49.5 mm diameter	A3	5
AT 146534.759	Scope Mounting System Insert with 50 mm diameter	A3	5
AT 146534.760	Scope Mounting System Insert with 56 mm diameter	A3	5
AT 146534.761	Scope Mounting System Insert with 57 mm diameter	A3	5
AT 146534.762	Scope Mounting System Insert with 58.7 mm diameter	A3	5
AT 146534.763	Scope Mounting System Insert with 62 mm diameter	A3	5

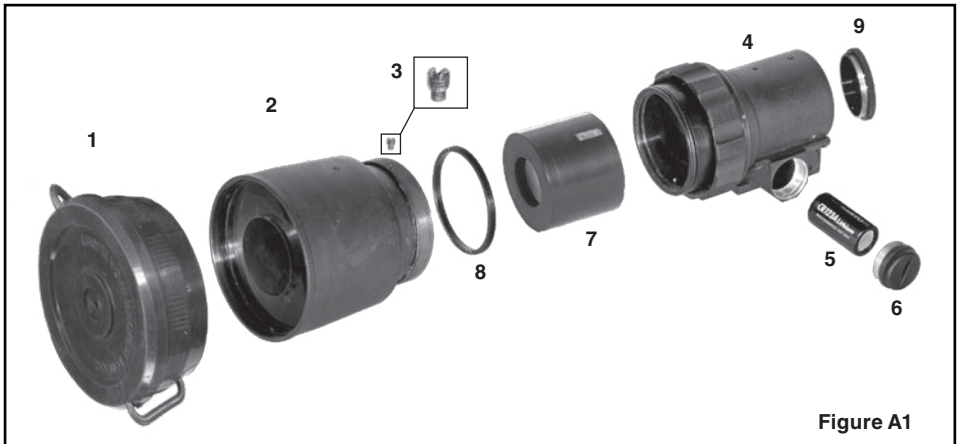


Figure A1

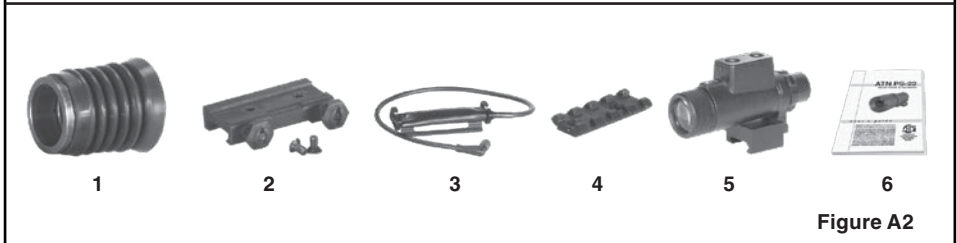


Figure A2



Figure A3



For customer service and technical support, please contact
American Technologies Network Corp.

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