



ACCU-SCOPE®

MANUAL



3052-GEM
STEREO MICROSCOPE



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SAFETY NOTES

1. Open the shipping carton carefully to prevent any accessory, i.e. objectives or eyepieces, from dropping and being damaged.
2. Keep the instrument out of direct sunlight, high temperature or humidity, and dusty environments.
3. If any specimen solutions or other liquids splash onto the stage, objective or any other component, disconnect the power cord immediately and wipe up the spillage. Otherwise, the instrument may be damaged.
4.  **LAMP REPLACEMENT -- CAUTION:** the glass housing of the lamp may be extremely hot. DO NOT attempt to change the lamp before it is completely cooled or without wearing adequate skin protection.
5. All electrical connectors (power cord) should be inserted into an electrical surge protector to prevent damage due to voltage fluctuations.
6.  **FUSE REPLACEMENT --** For safety when replacing the fuse (ONLY replace with the same size, type and rating of original fuse), be sure the main switch is in the off position, disconnect the power cord from outlet, and replace the fuse. Reconnect the power cord and turn unit on.
7. Confirm that the input voltage indicated on your microscope corresponds to your line voltage. The use of a different input voltage other than indicated will cause severe damage to the microscope.
NOTE: Always plug the microscope power cord into a suitable grounded electrical outlet. A grounded 3-wire cord is provided.

CARE AND MAINTENANCE

1. Do not attempt to disassemble any component including eyepieces, objectives or the focusing assembly.
2. Keep the instrument clean; remove dirt and debris regularly. Accumulated dirt on metal surfaces should be cleaned with a damp cloth. More persistent dirt should be removed using a mild soap solution. Do not use organic solvents for cleansing.
3. The outer surface of the optics should be inspected and cleaned periodically using an air bulb. If dirt remains on the optical surface, use a soft, lint free cloth or cotton swab dampened with a lens cleaning solution (available at camera stores). All optical lenses should be swabbed using a circular motion. A small amount of absorbent cotton wound on the end of a tapered stick makes a useful tool for cleaning recessed optical surfaces. Avoid using an excessive amount of solvents as this may cause problems with optical coatings or cemented optics or the flowing solvent may pick up grease making cleaning more difficult.
4. Store the instrument in a cool, dry environment. Cover the microscope with the dust cover when not in use.
5. ACCU-SCOPE® microscopes are precision instruments which require periodic preventative maintenance to maintain proper performance and to compensate for normal wear. An annual schedule of preventative maintenance by qualified personnel is highly recommended. Your authorized ACCU-SCOPE® distributor can arrange for this service.

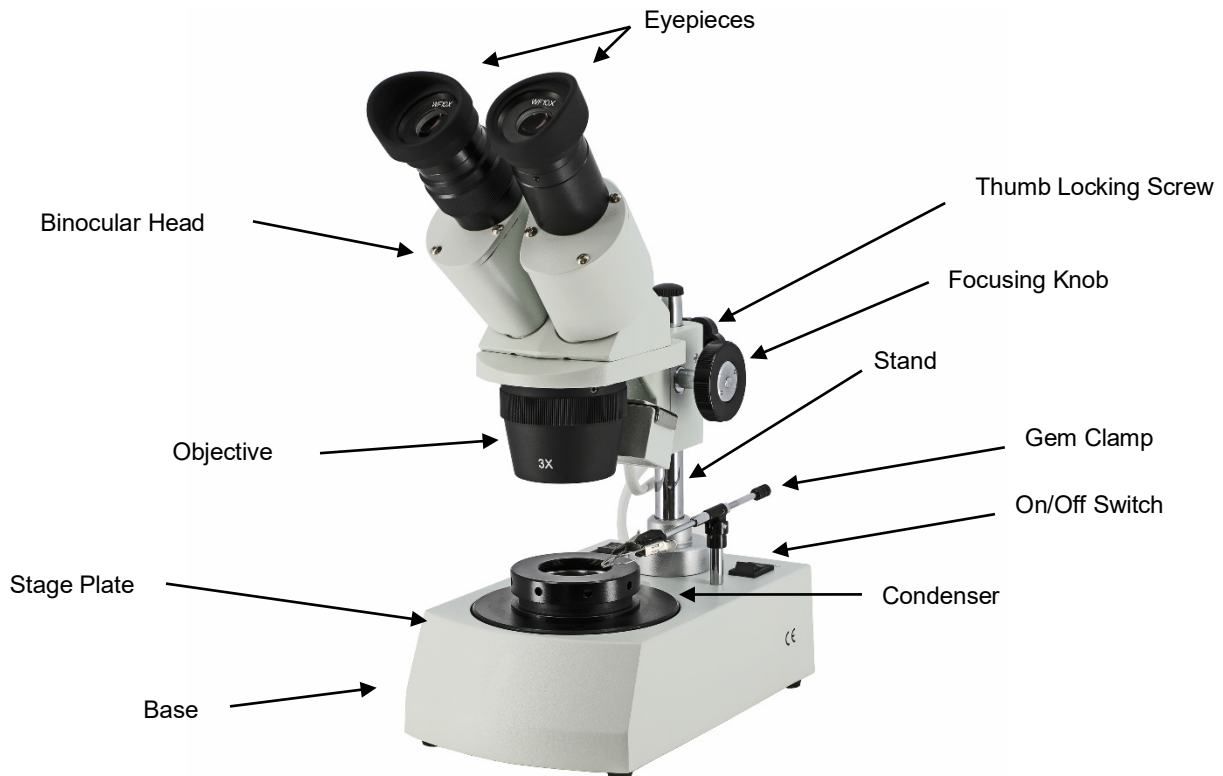
INTRODUCTION

Congratulations on the purchase of your new ACCU-SCOPE Stereo microscope. ACCU-SCOPE'S 3052-GEM Stereo microscope series incorporates the highest quality optical elements to produce high resolution, three-dimensional images at all magnifications. Versatile, multi-functional and built to withstand years of heavy use, the 3052-GEM Stereo microscope series is ideal for electronics, industry, research, life science and educational applications.

UNPACKING AND COMPONENTS

Your microscope arrived packed in a molded Styrofoam container. **Do not discard the container:** the Styrofoam container should be retained for reshipment of your microscope if needed. Avoid placing the microscope in dusty surroundings or in high temperature or humid areas as mold and mildew will form. Carefully remove the microscope from the Styrofoam container by its arm and base and place the microscope on a flat, vibration-free surface.

COMPONENTS DIAGRAM



IMPORTANT FEATURES

ACCU-SCOPE'S Stereo microscopes have fixed magnification systems. Total magnification power is the product of objective magnification multiplied by the eyepiece magnification:

Catalog #	Eyepieces	x	Objective	=	Total Magnification
3052	10x		1x/3x		10x/30x

Inclined eyepiece tubes allow for interpupillary distance of 55mm to 75mm and diopter adjustment of ± 5 . Working distance is 57mm. ACCU-SCOPE'S Stereo microscopes feature a two-way illumination system which may be used to provide transmitted light or reflected light. Your Stereo microscope comes completely assembled and ready for use. Simply follow the step-by step operating procedure outlined in section 5.0 for years of use from your stereo microscope.

MAGNIFICATION SYSTEM

Each microscope in the 3052-GEM Stereo microscope series has two objectives. The rotatable turret housing the two objectives allows the user to easily change magnifications while the specimen remains in focus. Additional magnification ranges can be obtained through the use of different eyepieces. Information, product availability and pricing information is available from your authorized ACCU-SCOPE distributor.

ILLUMINATION SYSTEM

The 3052-GEM Stereo microscope series is equipped with a built-in, two way illuminator system. The convenient on/off switch is located on the base of the instrument and controls both the incident and transmitted illumination. The illumination system consists of a LED illumination from above and below.

OPERATING INSTRUCTIONS

Follow these simple instructions to begin using your Stereo microscope:

1. Your stereo microscope should always be used on a hard, flat and stable surface.
2. Plug the stereo microscope power cord into a grounded electrical outlet. A grounded 3-wire line cord is provided.
3. Select the appropriate light switch for the specimen. There are two types of illumination:
 - Incident Light (top) - to view opaque specimens.
 - Transmitted Light (bottom) - to observe translucent specimens.
4. Place a specimen on the stage plate area directly below the center of the stereo microscope body. While looking through the eyepieces with both eyes, slowly adjust the distance between the eyepiece tubes until you see a complete circle of light at the same time without moving your head. The eyepiece tubes are inclined at 45 degrees to maximize your viewing comfort.
5. Focus the stereo microscope at the highest power by turning the objective turret to the highest magnification power and then use the large focusing knob to bring the specimen into focus. Rotate the turret to the lower power, making focal corrections by rotating the diopter collar off of the zero setting for proper focus. This will keep the specimen in close focus at any magnification. A slight turn of the focus knob may be needed to sharpen the focus.

CLEANING THE OPTICS

Do not attempt to disassemble the inclined binocular body or focusing mechanisms. These have been aligned and sealed for protection against dust, dirt, or other particles by our factory technicians. Only exposed surfaces should require cleaning. To clean the Stereo microscope:

1. Blow dust particles from the lens surface with an ear syringe.
2. Using a lens cleaning solution (available from most camera stores) moisten a cotton swab, cover the swab with lens paper and carefully clean the lenses and eyepieces. This method may also be used to remove oily smears and fingerprints, which detract from the image quality. Glass surfaces should be cleaned very carefully and only when necessary. Use a circular motion when cleaning glass surfaces.

LAMP REPLACEMENT

Your new LED (Light Emitting Diode) Cordless Rechargeable Microscope will provide many years of enjoyment when used and maintained properly.

The LED cordless rechargeable microscope is completely portable and can be used indoors or outdoors or in any location of your institution where there is no electrical outlet access.

The reflected (top) and transmitted (bottom) lights can be used simultaneously. The lux rating for the reflected illuminator is 7000lux, and the transmitted 18,000 lux by a distance of 70mm. The life expectancy of the LED bulbs is 10,000 hours, with a Kelvin temperature range of 6300K – 7000K. The LED bulbs are covered by a 1 year manufacturer's warranty. Should your LED bulbs need replacing, please contact an authorized ACCU-SCOPE service center or call ACCU-SCOPE Inc.'s technical service department at 631-864-1000 for an authorized service center near you.

The LED cordless microscope is powered with four **1.2v NiMH AA 1800mAh** (Nickel Metal Hydride) rechargeable batteries, and when used properly you can sustain approximately 2 hours (depending on the user) before a charge is required.

Each Microscope is supplied with its own 6v/500mA line cord charger and would require approximately 8 hours for a full charge. The life expectancy of the rechargeable batteries is approximately 10,000 hours or equivalent to 250 recharges before needing to place them.

NOTE: Your LED microscope can be used while charging.

TROUBLESHOOTING

Under certain conditions, performance of this unit may be adversely affected by factors other than defects. If a problem occurs, please review the following list and take remedial action as needed. If you cannot solve the problem after checking the entire list, please contact your local dealer for assistance.

Trouble	Cause	Remedy
Double images	Interpupillary distance is not correct	Readjust it
	Diopter adjustment is not correct	Readjust it
Dirt appears in the view field	Dirt on the specimen	Clean specimen
	Dirt on the surfaces of eyepieces	Clean eyepieces
Image is not clear	Dirt on the surface of objectives	Clear objectives
Image is not clear while focusing change	Diopter adjustment is not correct	Readjust diopter
	Focusing is not correct	Readjust it
The focusing knob is not smooth	The focusing knob is too tight	Loosen it to a suitable position
The image is obscure because of the head slipping down during observation	The focusing knob is too loose	Tighten it to a suitable position

MAINTENANCE

Please remember to **never** leave the microscope with any of the objectives or eyepieces removed and always protect the microscope with the dust cover when not in use.

SERVICE

ACCU-SCOPE® microscopes are precision instruments which require periodic servicing to keep them performing properly and to compensate for normal wear. A regular schedule of preventative maintenance by qualified personnel is highly recommended. Your authorized ACCU-SCOPE® distributor can arrange for this service. Should unexpected problems be experienced with your instrument, proceed as follows:

1. Contact the ACCU-SCOPE® distributor from whom you purchased the microscope. Some problems can be resolved simply over the telephone.
2. If it is determined that the microscope should be returned to your ACCU-SCOPE® distributor or to ACCU-SCOPE® for warranty repair, pack the instrument in its original Styrofoam shipping carton. If you no longer have this carton, pack the microscope in a crush-resistant carton with a minimum of three inches of a shock absorbing material surrounding it to prevent in-transit damage. The microscope should be wrapped in a plastic bag to prevent Styrofoam dust from damaging the microscope. Always ship the microscope in an upright position; **NEVER SHIP A MICROSCOPE ON ITS SIDE**. The microscope or component should be shipped prepaid and insured.

LIMITED MICROSCOPE WARRANTY

This microscope and its electronic components are warranted to be free from defects in material and workmanship for a period of five years from the date of invoice to the original (end user) purchaser. The LED lamp is warranted for a period of one year from the date of invoice to the original (end user) purchaser. This warranty does not cover damage caused in-transit, misuse, neglect, abuse or damage resulting from improper servicing or modification by other than ACCU-SCOPE approved service personnel. This warranty does not cover any routine maintenance work or any other work, which is reasonably expected to be performed by the purchaser. Normal wear is excluded from this warranty. No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage or other conditions beyond the control of ACCU-SCOPE INC. This warranty expressly excludes any liability by ACCU-SCOPE INC. for consequential loss or damage on any grounds, such as (but not limited to) the non-availability to the End User of the product(s) under warranty or the need to repair work processes. Should any defect in material, workmanship or electronic component occur under this warranty contact your ACCU-SCOPE distributor or ACCU-SCOPE at (631) 864-1000. This warranty is limited to the continental United States of America. All items returned for warranty repair must be sent freight prepaid and insured to ACCU-SCOPE INC., 73 Mall Drive, Commack, NY 11725 – USA. All warranty repairs will be returned freight prepaid to any destination within the continental United States of America, for all foreign warranty repairs return freight charges are the responsibility of the individual/company who returned the merchandise for repair.

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