

S90004 Series
Student Microscopes

Users Guide

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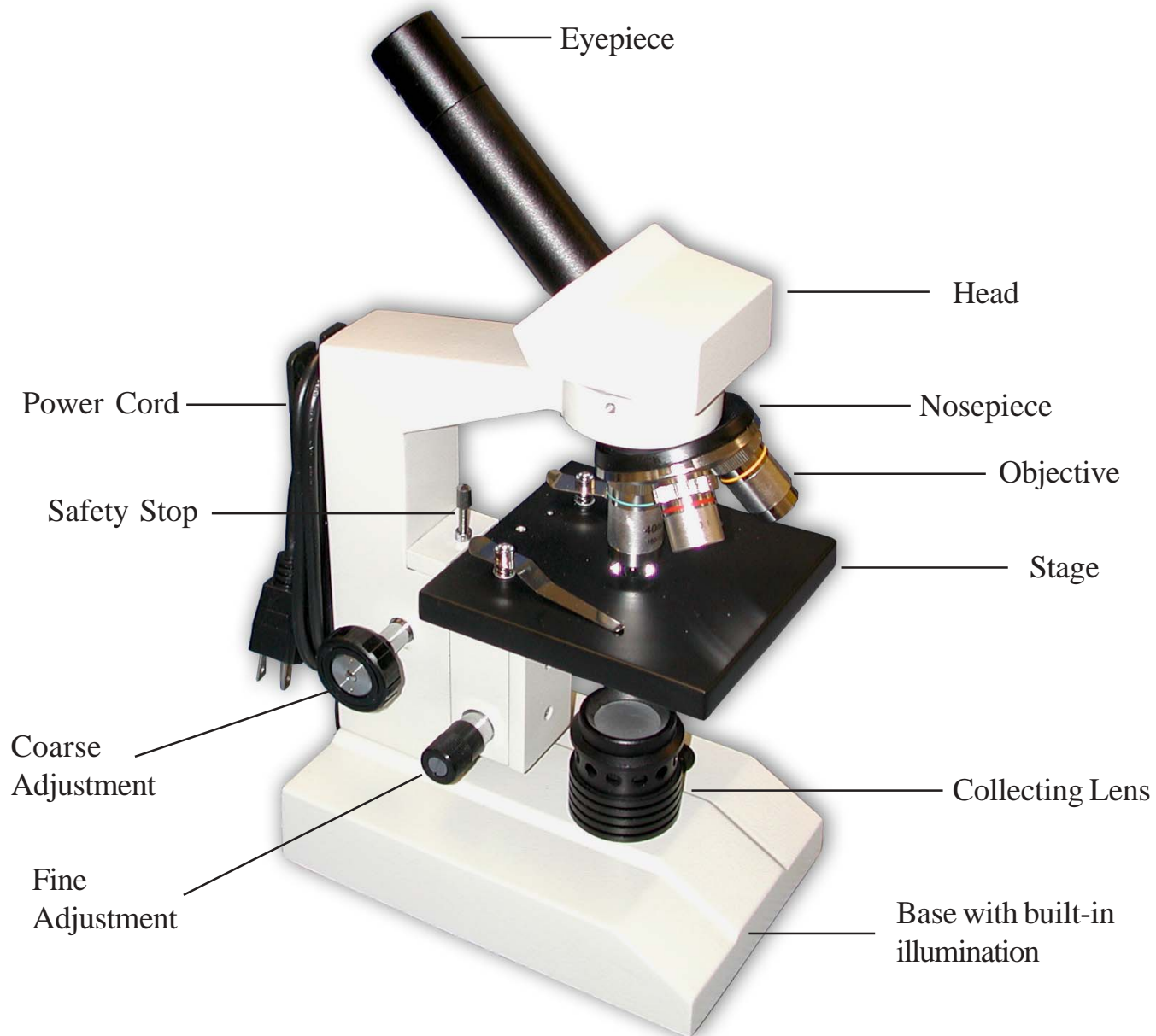


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S90004 Series Microscope Nomenclature



Warranty Information

All Fisher Educational Microscopes are warranted to be free of all defects in material and workmanship for a period of 60 months (5 years) from the date of delivery.

Statement of Limited Product Warranty

The warranty does not apply to any instrument, which has become worn, defective, damaged or broken due to abuse, misuse, and tampering, or unauthorized repairs. Under this warranty, Westover Scientific will repair or replace, without charge to the purchaser, any part, which upon our examination, appears to be defective in materials or workmanship.

Returned Goods Policy for Repair or Replacement Parts.

Warranty repair is free when the instruments are returned to us prepaid. Domestic return shipment will be made at our expense in a manner similar to your shipment to us. All international shipping charges are to be prepaid.

To return goods for repair or replacement, please contact Westover Scientific Customer Service at 1-800-304-3202 or 1-425-398-1298. Please be prepared to supply the following information:

- . Your name, return shipping address and telephone number
- . Catalog/Model number of the item/s you are returning
- . Serial Numbers if applicable
- . Description of the product's problem or reason for return
- . Date the item was purchased.

The Customer Service Representative will issue you a Return Materials Authorization (RMA) number. Please label the outside of your shipping container with this number.

Lamp Replacement and General Maintenance:

Warning: Unplug the power cord from the wall outlet, or remove batteries from the microscope, and allow the lamp to cool down before replacing!

Unscrew the four rubber feet on the bottom of the base and remove the bulb from the lamp socket. Insert replacement bulb into lamp socket, making sure to not touch the bulb with your bare hands. Use a tissue or cloth, oils from the skin will lessen the life of the bulb. To order replacement bulbs, contact Fisher Education Customer Service at 1-800-955-1177.

Replacement Bulbs:

- Cat. No. S68034 Tungsten bulb, 110V/20W for models S90004, S90004A, S90004C, S90004D, S90004F, S90004G, S90004J, S90004K
- Cat. No. S68035 LED bulb, 3.6V for models S90004B, S90004E
- Cat. No. S68036 Fluorescent bulb, 110V/5W for models S90004H, S90004I

General Maintenance:

When not in use, protect the instrument with the dust cover provided.

Use filtered air to remove dust particles, and lens cleaner on a Q-tip for routine lens cleaning.

Introduction:

This biological microscope is well designed and sturdily built. It has high quality optics and precision mechanics which meet the requirements of junior and senior high schools. All objectives are parfocal, parcentered, and the 40x objective is spring loaded which prevents damage to the specimen and/or objective. The head rotates 360 °.

Specifications:

Optical specifications with 10x widefield eyepiece:

Objective	Field of View	N.A.	Magnification
4X	4.3mm	0.1	40X
10X	1.72mm	0.25	100X
40X	0.42mm	0.65	400X

Mechanical tube length: 160mm

Coarse focusing distance: 20mm

Graduated fine focusing knob: 0.0002mm

Illumination:

All of the S90004 series microscopes have built-in illumination. There are three different illumination systems depending on the model you purchased: Halogen, Fluorescent, or cordless LED. The bulb has been installed in your microscope unless otherwise specified on your order.

Unpacking:

The microscope is packed in a styrofoam container inside of a cardboard shipping box. Carefully check the shipment and assure no damage has occurred. Shipping damage is excluded from the warranty coverage.

The container should include the following items:

1 each	S90004 series microscope with monocular or dual-view head and locked on 10x eyepiece
1 each	Objectives: 4x, 10x, 40x
1 each	Dust cover
1 each	Users guide

Assembly:

No assembly required, objectives and eyepieces are pre-installed at the factory for your convenience.

Using your microscope:

Connect the power cord to an outlet and turn on the power switch. Note: some models are cordless, and do not require an electrical outlet for use. Open the diaphragm underneath the stage to its full open position. Place your slide on the stage and secure with the stage clips or optional mechanical stage.

Using your microscope:

Select the 4x objective to “scan” and locate the image of your specimen, and then switch to the 10x objective. Use the coarse and fine adjustments to bring the specimen into focus. Now switch to the 40x objective and focus using the fine focus knob. View the image with the 40x objective as there is less depth of focus and this will assure parfocality when you use a lower power objective.

You may need to rotate the disc diaphragm or adjust the iris diaphragm (models S90004D and S90004E include an iris diaphragm) to get better contrast. To get the best contrast, use the diaphragm chart below:

Number on Disc	Objective	Diaphragm Size
1	4x	Smallest in diameter, least amount of light
2	10x	Larger than 1, more light
3	40x	Larger than 2, more light
4		Larger than 3, more light
5		Largest, maximum light to objective

The 40x objective is a “dry” objective. Do not use immersion oil which makes the image blurred and difficult to clean.

The microscope is now ready for general use.