

**EXCLUSIVE
BINOCULAR GUARANTEE
AND SERVICE OFFER**

SWIFT & ANDERSON guarantees the quality and performance of each binocular to be exactly as represented. These binoculars are made of superior materials to strict standards of optical perfection, the result of over 26 years experience with optical equipment. If your binocular doesn't function as stated or is defective in any way, return it to the dealer from whom you purchased it in its original condition and your money will be returned in full, or you may exchange the glass for another. With proper care your binocular will render a lifetime of service.

Should your binocular require service, we ask that you send your binocular direct to SWIFT & ANDERSON, 952 Dorchester Ave., Boston 25, Mass., making sure your binocular is carefully packed, insured and with your return address. We will forward an estimate of the work and await your confirmation before proceeding.

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SWIFT & ANDERSON, INC.
952 Dorchester Ave., Boston 25, Mass.



**TO
HELP YOU
SELECT**

*The right
binocular*

SWIFT

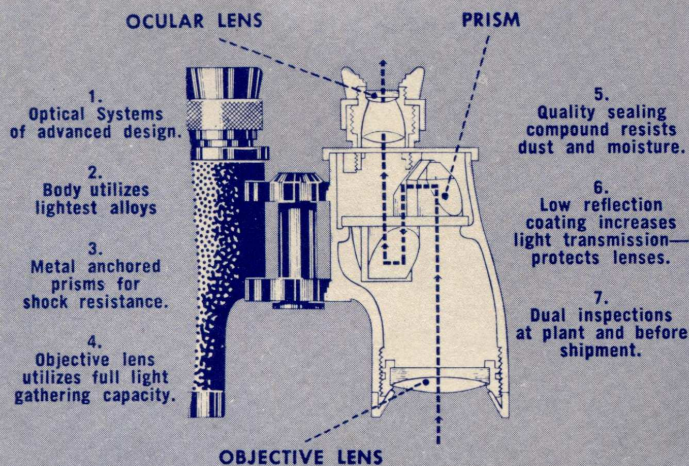
**FOR
YOUR
OWN USE**

There never was a binocular line

. . . so constructed, so jampacked with extras, so reasonably priced as our line of imported binoculars.

Until we helped to pioneer the foreign market, only the very rich were able to afford a binocular. Today, after 26 years experience with imported binoculars we have, in cooperation with our manufacturers come up with a binocular line that is nationally recognized as being truly great . . . glasses that despite their low price, compare most favorably with the world's most expensive . . . yet are only a fraction of the cost.

There are many different types of binoculars and it is to your advantage to select the one best fitted to your purpose. To help you determine these needs, as well as open up new worlds of viewing pleasure, this booklet is sincerely dedicated.



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Galileo first brought distant objects closer. .

To aid in his exciting discoveries of the universe, Galileo in 1608 invented the telescope. Essentially the telescope as used today is merely a refinement of the one that was originally invented by Galileo. Therefore to the technician, it is still called a Galilean glass. Light passes through the telescope in a straight line to the eye. It followed in time that two small telescopes were joined together thereby providing an eye piece for each eye with a simple focusing attachment.

Field glasses . . . nothing more than joined telescopes . . .

In the early 1800's these joined telescopes known as field glasses or Galilean glasses (sometimes binocular field glasses) came into use. This is essentially the same as the field glasses we know today. Here too, light passes through the lenses in a straight line to the eye.

Prismatic design permits higher power . . . less weight

It was not until approximately a century later, about 1900, that the prismatic binocular was invented. The prismatic binocular represented a tremendous advance in the field and has enabled higher powers to be used without necessitating a very long ungainly instrument. Further, this optical design greatly broadened the field of view that could be seen at one time through this instrument as well as improving depth perception or stereoscopic effect.

Note from the illustration opposite, the light enters the larger lens known as the objective lens and is reflected back and forth through the prisms to the ocular lens, the one nearest the eye, and finally to the eye itself. The optical distance between lenses is maintained but physical distance is greatly reduced.

Swift & Anderson prismatic binoculars are all basically of the construction of the glass shown in diagram, opposite page.

The binocular for you

Whether you are a yachtsman, who must have an especially fine marine binocular for sighting objects at sea, a hunter going after varmints or Rocky Mountain goats, or a sports fan: Swift & Anderson has the perfect binocular for you.

There are, however, certain basic facts that you should know and consider carefully before you buy a binocular. The advantages and disadvantages must be tallied and your selection must be of the type that will give you the greatest number of advantages to get maximum usage and enjoyment.



BINOCULAR PURPOSE CHART

USES	6x,15	6x,30	7x,35	7x,50	8x,25	8x,30	10x,50	16x,50
ALL PURPOSE	C	A	A	B	C	B	D	D
INDOOR SPORTS	A	A	A	B	C	C	D	D
HORSE RACING	B	A	A	A	C	B	D	D
OUTDOOR SPORTS	B	A	A	B	B	B	D	D
YACHTING	C	A	A	A	D	B	C	D
HUNTING (wooded)	C	A	B	C	B	B	D	D
HUNTING (semi-wooded)	B	A	B	B	C	A	D	D
HUNTING (open)	D	B	A	B	B	A	A	B
HUNTING (Mountains)	D	C	A	B	B	B	A	A
BIRDING	C	A	A	B	C	B	B	C
HIKING	A	A	A	C	B	B	D	D
TOURING	B	A	A	B	B	A	B	C
FLYING	B	A	A	B	C	B	C	D
NIGHT USE	D	B	B	A	D	C	B	D

LEGEND: (A) Excellent (B) Good (C) Fair (D) Not Recommended

HOW MUCH POWER AND POWER DEFINED

Prismatic binoculars are referred to as 6x,15, 8x,25, 7x,35, 7x,50, etc. The 6x, 7x, 8x, etc. refers to the power of the glass; namely, to the extent it magnifies the object being viewed. Thus a glass of 8x makes an object look eight times larger than it does to the naked eye and consequently makes it appear eight times nearer. The last figure refers to the diameter of the objective lens in millimeters. The objective lens is the large lens furthest from the eye; the ocular lens is the small lens which is closest to the eye when the binoculars are in use. (See diagram, page 1)

Too many binocular users select their glass solely on the basis of power, believing that the higher the power the better must be the binocular.

This is by no means true. The power of the glass selected must be carefully chosen to provide exactly the right power for your special use or uses, neither too much nor too little.

Remember, the higher the power the smaller the field of view and the lower the brilliance of the image that reaches the eye. The clarity and definition also decrease as the power increases and, most important, not only does a binocular magnify the object being viewed but also any motion of the hand holding it and the motion of the object you are in or on, such as, the floor of a car, the deck of a boat, etc.

It is generally recognized, therefore, that above 8x, a glass should be used in conjunction with a rest or tripod to obtain best results. The higher power glasses are only recommended (10x and above) for special uses such as long range game stalking, mountain scenery, etc.

This is why you will find binoculars of 6x, 7x, and 8x recommended for nine out of ten uses. See purpose chart.

RELATIVE BRIGHTNESS AND EXIT PUPIL

Relative Brightness and Exit Pupil are determined mathematically. The exit pupil of a binocular is the disc of light one sees in the eyepiece when holding a binocular at arms length towards a bright light. To compute Exit Pupil: divide the diameter of the objective lens in millimeters by the power of the binocular. To compute Relative Brightness: square the Exit Pupil. Example: 7x,35, means the prism binocular described magnifies seven times and has an objective lens of 35 millimeters. Exit pupil equals 5 and 5 squared equals a relative brightness of 25.

Relative Light Efficiency is a new term used by some in

connection with coated prism binoculars and is based upon the assumption that coated optics increase light transmission by 50%. R.L.E., is computed by increasing Relative Brightness by 50%. The Relative Brightness figure of 25 given above would equal a Relative Light Efficiency of 37.5.

NIGHT AND DAY GLASSES

All binoculars can be used at night or during the daytime. But certain glasses are better adapted to night viewing than others, and these are often called "night glasses". Models with the largest objective lenses are desired because more light can be admitted. The average diameter of an individual's eye during the daytime under average conditions is about 4 to 4½ millimeters but at night expands to about 7 to 7½ millimeters. Therefore, a binocular which utilizes the full diameter of the expanded pupil is better for night use. Thus, a 7x50 which has a large exit pupil (7MM) and does utilize the full diameter of the expanded pupil of the eye is considered to be an especially fine night glass.

FIELD OF VIEW

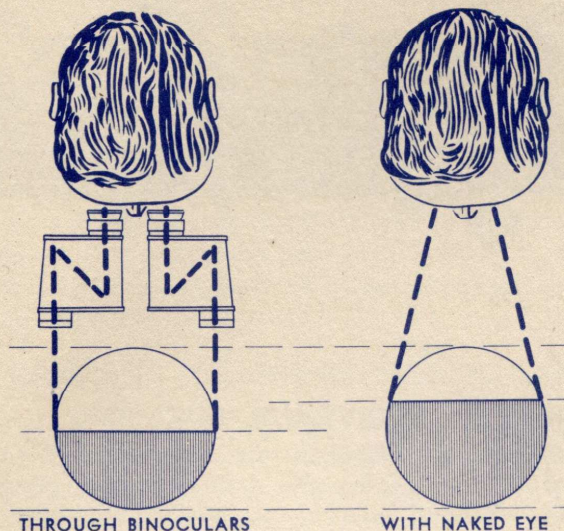
Field of view refers to the diameter of the area seen through the glasses. As wide a field of view as possible is most desirable under all conditions and Swift binoculars are especially selected to provide the maximum field of view consistent with other necessary factors. It should be noted again that in line with the laws of physics, the higher the power the smaller must be the field of view and vice versa. Field of view is often expressed as an angle.

ALIGNMENT

It is important that both barrels of a binocular be optically parallel so that the image from both barrels will merge into one perfect circle; otherwise undue strain is caused and in extreme cases it is impossible to resolve the two images. All Swift binoculars are very carefully checked for alignment.

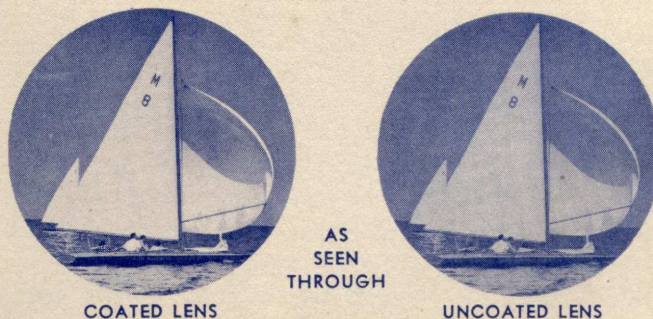
CONSTRUCTION

Consistent with strength, all Swift binoculars are manufactured of the lightest materials available and are as light weight and compact as the optical formula and built-in ruggedness will permit.



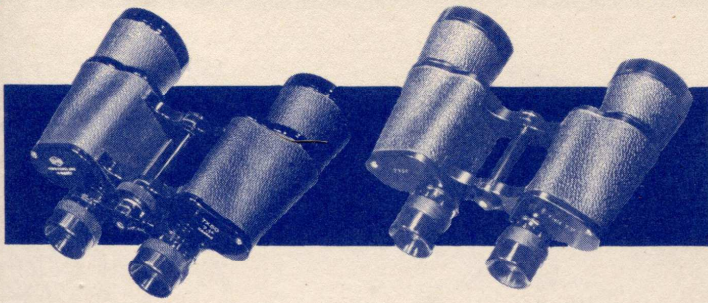
STEREOSCOPIC EFFECT

Viewing an object with two eyes enables us to see around each side of an object slightly. This gives us an effect of depth which is known as stereoscopic. Because objective lenses of most prismatic binoculars are actually wider apart than the eyes of the average individual they permit much better depth perception and this is especially important in hunting.



COATED LENSES & PRISMS

Coated lenses and prisms are those that have been coated with a microscopically thin, transparent film of magnesium fluoride. A relatively new treatment of optical surfaces that reduces reflection, and increases brilliance, in the case of prism binoculars as much as 50 percent. In eliminating this high percentage of light loss, the efficiency of the binocular is enhanced by the fact that more light is gathered under dim light conditions and under bright light a high reduction of glare increases vision immeasurably.



CENTRAL FOCUS

INDIVIDUAL FOCUS

CENTRAL VS INDIVIDUAL FOCUSING

Central Focusing binoculars are focused by a single knurled wheel. An adjustable right eyepiece is provided for any difference between the eyes. Because they are convenient to use, Central Focusing binoculars are in the greatest demand today.

Individual focusing binoculars are adjusted for each eye at the eyepiece. Because they are more nearly moisture proof, simple, and sturdy in construction, military services require individual focusing on binoculars they procure. Mariners and sportsmen, who are the sole user of a binocular, focus each eyepiece on infinity and either note the setting on an eyepiece for later use or tape eyepieces in position.

INTERPUPILLARY ADJUSTMENT

The distance between eyepieces on a prism binocular may be increased or decreased by rotating binocular barrels on the center post. This basic interpupillary adjustment should be accomplished first. For if you are to get the maximum brightness in any binocular, your eye must line up exactly with the exit pupil.

HOW TO FOCUS

In general, it is important to always leave *both eyes open* when focusing a binocular. Instead of closing one eye while focusing the opposite barrel, block off one barrel by placing your hand in front of the objective lens — not too close, for that might fog the lens.

Individual Focus: Leaving both eyes open, block off one barrel, as above, and focus for the other. Then reverse the procedure. Since a binocular is in focus from about 50 feet to infinity (depending on model) many prefer to tape the ocular lenses permanently in position. Obviously, this is o.k. except for very close range work.

Central Focus: Set the adjustable right eye piece at zero. Again leaving both eyes open, as above, block off the right hand barrel and focus for the left eye with the center wheel. Now block off the left barrel and focus for the

right eye by turning the eye piece. Note the setting for the right eye — plus or minus so many points.

The above procedure is necessary only when focusing for the first time and to obtain your right eye correction. Having obtained this correction you need only set the right eyepiece to this setting and then focus for both barrels using the center wheel.

The right eye piece correction is necessary because there is a slight difference between most individual's eyes, which becomes apparent in glasses of 6x and above. No correction necessary below this power.

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CARE AND FEEDING OF A BINOCULAR

A binocular is a fine optical instrument. It should be given the same care and consideration as your camera. Although ruggedly built to stand up and maintain collimation (optical alignment) under normal usage, a sharp blow or a drop of a few feet may throw it out of alignment and, at the worst, crack or chip a lens or prism, or injure the focusing mechanism.

CLEANING: It will occasionally be necessary to clean the *exterior* surfaces of the objective and ocular lenses because of an accumulation of dust and dirt. First, blow on the lens to remove most of the particles. Then use a fine camels hair brush to complete the job. Blowing will not remove all of the particles and if you clean the lenses by rubbing even with the finest and softest material, you run the risk of scratching the highly polished surfaces. Some dust will eventually accumulate inside your binocular.

Condition of the prisms and the interior of the ocular and objective lenses can be checked by looking through the objective end of the binocular. If an excessive amount of dust specks is visible or the lenses and prisms appear cloudy, the binocular probably needs cleaning. Only a qualified optical repair man can do this job since it is necessary to disassemble, clean, reassemble and realign the binocular — a highly specialized job. If in doubt, always get the opinion of a qualified technician.

DON'T attempt to unscrew any of the lenses yourself. The optical and actual centers of a given lens do not necessarily coincide. This is a very good way to throw a binocular out of alignment.

LUBRICATION: The central focusing mechanism of a central focus binocular and the individual eye pieces of individual focus binoculars are packed with a special grease. Do not attempt to oil them. Oil will dilute the grease and nine times out of ten, will cause the focusing arrangement to become too loose. If the focusing mechanism seems too stiff, consult your repair man. It probably needs repacking.

REPAIRING

We, of course, maintain a repair department manned by highly skilled technicians and with a large supply of repair parts.

We can repair any of our own binoculars. If you wish a binocular repaired or checked, forward it to us carefully packed in a corrugated container, insured. Our opinion as to whether it actually needs repairing will be honestly given; if work is necessary we forward an estimate of the cost awaiting your confirmation before going ahead with the work.

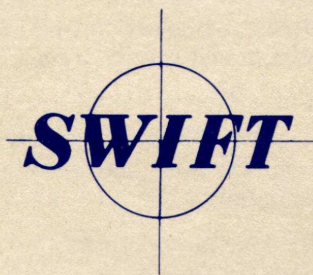
COATING: We are often asked to coat lenses and prisms. Because of the expense involved, often equaling the original cost of the binocular, this is not practical. It is best to purchase a new binocular with the lenses already coated.

LENS SYSTEMS

KELLNER OCULAR SYSTEM: Three part system of lenses between the prism and eye consisting of one achromatic lens and one simple lens. This system is excellent for a standard field of view.

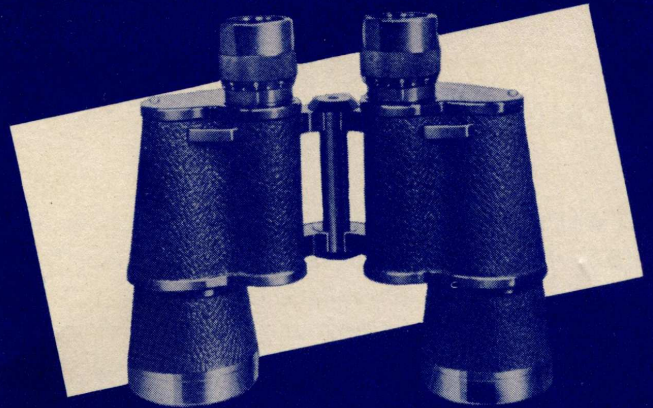
ERFLE OCULAR SYSTEM: Five part system of lenses between your eye and binocular prism consisting of two achromatic lenses and simple lens. This system affords a wide field of view.

ACHROMATIC LENS: two lenses of crown and flint glass cemented together to eliminate color fringes.



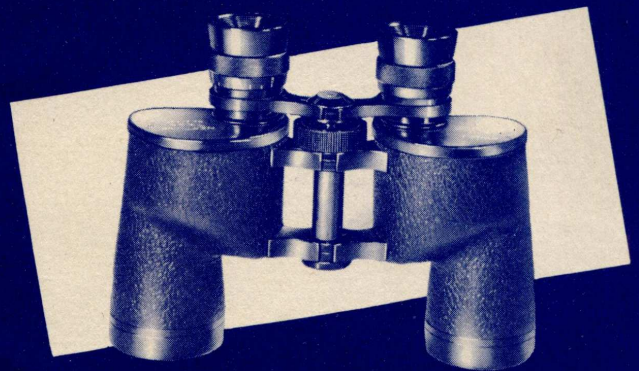
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BINOCULAR PATTERNS



7x,50 GERMAN PATTERN

Conventional binocular design originated in Germany and has been generally copied around the world. Improvements have been made in the optical systems of this style through coating and research in optical glass. Finishes and manufacturing techniques have kept pace with modern engineering in many cases. In this style, however, are manufactured a variety of binoculars which appear similar but which are vastly different in their quality. The consumer's best bet is to buy binoculars from a dealer he knows is reliable.



7x,35 AMERICAN PATTERN

The more modern American design which is both functional and graceful is illustrated above. Binoculars of this design, although at first exclusively manufactured in the United States, are now manufactured in similar quality in the far east at a greatly reduced cost. Swift & Anderson, Inc., one of America's oldest importers and manufacturers, place contracts with Japan's prime manufacturers for a line of American design binoculars of unimpeachable quality and service these units as they do instruments of their own manufacture.