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Book Descriptions:

compass military manual

Soldiers should be thoroughly familiar with the compass and its uses. Part One of this manual discussed the techniques of map reading. To complement these techniques, a mastery of field movement techniques is essential. This chapter describes the lensatic compass and its uses, and some of the field expedient methods used to find directions when compasses are not available. It is discussed in detail in paragraph 92. The artillery M2 compass is a specialpurpose instrument designed for accuracy; it will be discussed in Appendix G. It contains a northseeking arrow and a dial in degrees. A protractor can be used to determine azimuths when a compass is not available. However, it should be noted that when using the protractor on a map, only grid azimuths are obtained. It contains the sighting wire front sight and two luminous sighting slots or dots used for night navigation. There are two scales; the outer scale denotes mils and the inner scale normally in red denotes degrees. A short luminous line that is used in conjunction with the northseeking arrow during navigation is contained in the glass face of the bezel ring. The rear sight also serves as a lock and clamps the dial when closed for its protection. This scale can be used with a 150,000scale map, but the values read must be halved. Check the scale. One of the most important parts to check is the floating dial, which contains the magnetic needle. The user must also make sure the sighting wire is straight, the glass and crystal parts are not broken, the numbers on the dial are readable, and most important, that the dial does not stick. Metal objects and electrical sources can affect the performance of a compass. However, nonmagnetic metals and alloys do not affect compass readings. The following separation distances are suggested to ensure proper functioning of a compass. However, a compass has to be checked periodically on a known line of direction, such as a surveyed azimuth using a declination station. <http://www.andone.cz/userfiles/6es7-235-0kd22-0xa0-manual.xml>

- **military compass manual, military compass user manual, 1.0, military compass manual, military compass user manual.**

This will lock the floating dial and prevent vibration, as well as protect the crystal and rear sight from damage. The techniques employed when using the lensatic compass are as follows First, open the compass to its fullest so that the cover forms a straightedge with the base. Move the lens rear sight to the rearmost position, allowing the dial to float freely. Next, place your thumb through the thumb loop, form a steady base with your third and fourth fingers, and extend your index finger along the side of the compass. Place the thumb of the other hand between the lens rear sight and the bezel ring; extend the index finger along the remaining side of the compass, and the remaining fingers around the fingers of the other hand. Pull your elbows firmly into your sides; this will place the compass between your chin and your belt. To measure an azimuth, simply turn your entire body toward the object, pointing the compass cover directly at the object. Once you are pointing at the object, look down and read the azimuth from beneath the fixed black index line Figure 92 . This preferred method offers the following advantages over the sighting technique Fold the cover of the compass containing the sighting wire to a vertical position; then fold the rear sight slightly forward. Look through the rearsight slot and align the front sight hairline with the desired object in the distance. Then glance down at the dial through the eye lens to read the azimuth Figure 93 . Although different models of the lensatic compass vary somewhat in the details of their use, the principles are the same. Once the alignment is obtained, the compass is preset. Then proceed forward in the direction of the front covers sighting wire, which is aligned with the fixed black index line that contains the desired azimuth. The result is the number of clicks that you have to rotate the bezel ring. Count them in a clockwise

direction. <http://www.cheermoon.com.tw/file/6es7-215-2bd00-0xb0-manual.xml>

Then proceed forward in the direction of the front covers luminous dots, which are aligned with the fixed black index line containing the azimuth. With the initial azimuth as a base, any other azimuth that is a multiple of three can be established through the use of the clicking feature of the bezel ring. If the azimuth is rounded up, this causes an increase in the value of the azimuth, and the object is to be found on the left. If the azimuth is rounded down, this causes a decrease in the value of the azimuth, and the object is to be found on the right. To bypass enemy positions or obstacles and still stay oriented, detour around the obstacle by moving at right angles for specified distances. Use it when the objective is located along or in the vicinity of a linear feature such as a road or stream. Because of errors in the compass or in map reading, the linear feature may be reached without knowing whether the objective lies to the right or left. A deliberate offset by a known number of degrees in a known direction compensates for possible errors and ensures that upon reaching the linear feature, the user knows whether to go right or left to reach the objective. Ten degrees is an adequate offset for most tactical uses. Each degree offset moves the course about 18 meters to the right or left for each 1,000 meters traveled. For example, in Figure 96, the number of degrees offset is 10. Mark the shadow tip with a stone, twig, or other means. This first shadow mark is always the west direction. Mark the new position of the shadow tip in the same way as the first. If you are uncertain which direction is east and which is west, observe this simple rule: the first shadow tip mark is always in the west direction, everywhere on earth. The west part of the east-west line indicates 0600 hours, and the east part is 1800 hours, anywhere on earth, because the basic rule always applies.

The shadow of the stick is an hour hand in the shadow clock, and with it you can estimate the time using the noon line and the 6 o'clock line as your guides. Depending on your location and the season, the shadow may move either clockwise or counterclockwise, but this does not alter your manner of reading the shadow clock. It makes every day 12 unequal hours long, and always reads 0600 hours at sunrise and 1800 hours at sunset. The shadow clock time is closest to conventional clock time at midday, but the spacing of the other hours compared to conventional time varies somewhat with the locality and the date. However, it does provide a satisfactory means of telling time in the absence of properly set watches. The presence and location of all aircraft and ground parties in polar regions are reported to and checked regularly by governmental or other agencies, and any need for help becomes quickly known. In the north temperate zone only, the hour hand is pointed toward the sun. A south line can be found midway between the hour hand and 1200 hours, standard time. If on daylight saving time, the north-south line is found between the hour hand and 1300 hours. If there is any doubt as to which end of the line is north, remember that the sun is in the east before noon and in the west after noon. The 1200-hour dial is pointed toward the sun, and halfway between 1200 hours and the hour hand will be a north line. If on daylight saving time, the north line lies midway between the hour hand and 1300 hours. Figure 98. To avoid this, make a shadow clock and set your watch to the time indicated. After traveling for an hour, take another shadow clock reading. Reset your watch if necessary. The stars seen as we look up at the sky at night are not evenly scattered across the whole sky. Instead they are in groups called constellations.

The night changes with the seasons because of the journey of the earth around the sun, and it also changes from hour to hour because the turning of the earth makes some constellations seem to travel in a circle. But there is one star that is in almost exactly the same place in the sky all night long every night. It is the North Star, also known as the Polar Star or Polaris. The North Star is in the group of stars called the Little Dipper. It is the last star in the handle of the dipper. There are two stars in the Big Dipper, which are a big help when trying to find the North Star. They are called the Pointers, and an imaginary line drawn through them five times their distance points to the North Star. There are many stars brighter than the North Star, but none is more important because of its

location. However, the North Star can only be seen in the northern hemisphere so it cannot serve as a guide south of the equator. A star near the north horizon serves for about half an hour. When moving south, azimuth checks should be made every 15 minutes. When traveling east or west, the difficulty of staying on azimuth is caused more by the likelihood of the star climbing too high in the sky or losing itself behind the western horizon than it is by the star changing direction angle. When this happens, it is necessary to change to another guide star. The Southern Cross is the main constellation used as a guide south of the equator, and the above general directions for using north and south stars are reversed. When navigating using the stars as guides, the user must know the different constellation shapes and their locations throughout the world Figure 910 and Figure 911 . It is highly accurate in determining position location derived from signal triangulation from a satellite constellation system. It is capable of determining latitude, longitude, and altitude of the individual user. It is being fielded in handheld, manpack, vehicular, aircraft, and watercraft configurations.

<http://kampongtourist.com/images/calculus-of-a-single-variable-8th-edition-solutions-manual.pdf>

The GPS receives and processes data from satellites on either a simultaneous or sequential basis. It measures the velocity and range with respect to each satellite, processes the data in terms of an earthcentered, earthfixed coordinate system, and displays the information to the user in geographic or military grid coordinates. The receiver can accept many checkpoints entered in any coordinate system by the user and convert them to the desired coordinate system. The user then calls up the desired checkpoint and the receiver will display direction and distance to the checkpoint. The GPS does not have inherent drift, an improvement over the Inertial Navigation System, and the receiver will automatically update its position. The receiver can also compute time to the next checkpoint. The GPS also has the potential to allow units to train their soldiers and provide the following Site maintained by John Pike. Get my Land Navigation course here. Enroll in my personalized stepbystep videobased online course. Well start from the beginning, and go through everything you need to know to find your way over the terrain. Some of the components terms are used in the explanations below. Put that hand up to the compass, steadying the compass by placing your index finger along the compass side, and wrapping your thumb between the bezel ring and the rear sight. 4. Now, hold the compass level and squarely in front of you. Imagine that you want to hold it as if it were firmly mounted in that position. You dont want to hold it crooked, cockeyed, or off level. Hold it square and straight in front of you like you mean business. Looking at the photo below, lets say youre at the north end of Sheeler Lake, where the penciled X is. You want to go cross country directly to Devils Wash Basin, a deep and beautiful lake youve heard a lot about.

<http://hcberg.com/images/calculus-manual.pdf>

Then, you place your protractor on the map with its center point at your current position, making sure the northsouth lines on the protractor line up with the northsouth lines on the map. You then see where the line you drew intersects with the protractors numbers, in this case 062 degrees. In your case, however, your declination is 004 degrees West, meaning youll have to add 004 degrees before you set your compass. Be sure you understand magnetic declination. The bezel clicks as it movesthree degrees for every click. You can use this feature to set your compass in the dark. 4. Your compass is now set. Whenever the luminous magnetic arrow lines up with the luminous short line, youre following your intended azimuth. Well, that is, unless youre doing something silly like holding the compass backwards. Hey, it happens! But not to you, I trust. At night, however, or in other periods of limited visibility fog, blizzard, etc keeping these two luminous bits lined up will be your only remedy. The fact that they glow in the dark especially, if theyre the tritium kind which will glow for years without having to be exposed to light means you can use your compass without a light for night navigation. The degrees are in red, and are the rings inner measurements. The mils are in black, and are the outer measurements on the ring. I guess the military needs the extra accuracy

now and then say, for example, to precisely place artillery fire. Close is good enough in horsehoses, but I'm hoping exact is the standard for artillery fire. Let's say you see a water tower off in the distance. You want to find your position using the technique of partial resection, so you need to know that towers bearing with a high degree of accuracy. To find the towers bearing with your lensatic compass 1. Turn the compass cover more or less perpendicular to the base. 2.

Hold the compass with your thumb fully in the thumb ring, and your index finger wrapped around and gripping the circular part of the underneath of the compass base. Steady the compass by allowing the hand holding the compass to rest in the cupped palm of your other hand. As long as you can hold the compass level and steady, the exact grip doesn't matter. 3. Holding the compass up to your face, angle the rear sight so that you can read the compass dial clearly through the lens while peering through the sighting slot and lining your distant target the water tower, in this case up with the sighting wire. Now, read the degree marking under the fixed black index line. You now have your target's bearing. My 159-page, fully illustrated book is yours for the asking. Modern man lives in a highly synthetic kind of existence. He specializes in this and that. Rarely does he test all his powers or find himself whole. But in the hills and on the water the character of a man comes out. For the average man, it is often the case that as our technology has increased, our knowledge has subsequently decreased. The skills that were known to every man just two or three generations back have withered, and technology has become a crutch. The advent of the internet and the all-powerful Google has put worlds of knowledge at our fingertips, but as information becomes more and more readily available, man has no motivation to retain it within himself. In the following sections we will review the construction and handling of the compass and will examine the technique for basic compass-based navigation. The instructions for use that follow will be based on the lensatic model, since it is the more durable of the two. However, the basic concepts involved in navigation by compass apply to both models. Covered in various markings and with multiple moving parts, it looks as though it demands a high level of skill to operate.

Quite to the contrary, with a little bit of knowledge of the basic functions, anyone can work a lensatic like a pro. The cover is essentially the lid, and contains the sighting wire. The base is the bottom half of the compass, and contains the floating compass dial with markers for South, East, and West and an arrow pointing North, the bezel that surrounds it, and the thumb loop. The dial itself is actually floating in liquid, usually kerosene or a type of oil. Protecting the dial is a glass cover with a fixed index line etched into it. There is also a smaller line on the lens that rotates with the bezel. The reading lens is mounted in a moveable arm attached to the base of the compass, and folds to lay flat on the dial for protection when the compass is closed. There are two predominant techniques for properly handling a lensatic compass when taking a reading; the centerhold technique and the compass-to-cheek technique. Now fold the thumb loop to its fully opened position and grasp the compass as shown in the diagram above. As you stand with your elbows tight at your sides, the compass should be held out in front of your midsection. To take a reading, point your entire body at a target object in the distance while holding this stance. Once you are centered in on the object, look down and take note of the degree marked underneath the fixed index line on the dial. With the cover opened up to 90 degrees and the reading lens opened to 45 degrees, fold the thumb hook to its fully opened position. Place your thumb inside the thumb hook and grasp the compass with a grip as shown above. Locate the target object distant mountain, radio tower, etc you will be using for a bearing. If you are using the centerhold technique, point the compass at the target. If you are using the compass-to-cheek technique, locate the object by looking through the sighting wire, centering the sighting wire on your target. While holding this position, take note of the degree mark.

You have now oriented yourself. Regardless of visibility, you will always know that when the north arrow is lined up with this line, your target object is in the direction of the sighting wire. Be sure to retake your bearings whenever you can, so as to leave as little room for error as possible. For

example, if you're standing with a kit full of metal tent poles on your back trying to take a reading, you may get a false north and end up walking laps around Yellowstone all day. A detailed guide to more advanced compass techniques can be found in any Army Field Manual, available online or at your local bookstore. Keep in mind that while a GPS unit is very handy, circuit boards do short circuit and batteries do run down, and when they do, you'll be glad to have your trusty compass in hand to guide you home. If you continue to use this site we will assume that you are happy with it. Ok Privacy policy. But it's important to understand the different types of navigational tools—including a lensatic compass. From the compass, to GPS, to now even your mobile device—there's no shortage of navigational tools. Though GPS and smartphones are reliable, it's still vital to carry a compass, and know how to use it, as a backup or lifesaving form of navigation. A lensatic compass is just one of the many navigational tools we have built. The term "lensatic" comes from the fact that there is a lens on the rear side of the compass that aids in the orienteering process. The cover is used to protect the compass and also incorporates the sighting wire—which helps you determine direction. The base is the compass dial, bezel, and the thumb loop—the thumb loop is used for stability to garner a more accurate reading. Lastly, the reading lens also helps cover the compass and folds out; this is where the term "lensatic" comes from. In this video below, the user walks through the elements of a USGI lensatic compass, and how to properly use one.

Buying something through these links doesnt cost you anything and helps support Know Prepare Survive. For some light reading, check out our affiliate disclosure. That's iron. Our payment security system encrypts your information during transmission. We don't share your credit card details with thirdparty sellers, and we don't sell your information to others. Please try again. Please try again. Show details In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. Register a free business account Please try your search again later. To calculate the overall star rating and percentage breakdown by star, we don't use a simple average. Instead, our system considers things like how recent a review is and if the reviewer bought the item on Amazon. It also analyzes reviews to verify trustworthiness. Please try again later. Harry 1.0 out of 5 stars The dial is not luminous, contrary to what the description says. There are two glowinthedark points at the ends of the sighting wire, but thats useless if you cant even see the dial. The card is liquid damped, but it moves VERY slowly, and even then it requires jiggling the compass body to settle on north. I know this because I know where north is relative to my house which means I cannot trust this compass anywhere that I dont already know where north is. Its a cast metal case, so it feels solid, but what counts for a compass is accuracy, and I dont feel that this one can be trusted. As far as finding north i was able to come within 2 degrees of north with this compass. Being liquid filled it dampens the shock from walking but is slow when changing your heading. The case is made out of what i assume is stamped steel and the lens holder is thick plastic. The illumination does work but for a short time after being charged with a bright light source. If you plan on using this at night your going to need a small led flashlight.

Overall i see no problem with the design and quality for the price range with this product. It would make a great first compass for children and adults. The compass comes with no directions for using it but learning proper use is simple. If you are looking for a basic compass to come within 2 degrees of a heading than it will serve you well. I own a Cammenga 3H and it has never let me down and is less than a degree off of north but that accuracy comes at a cost over 80 bucks. I would suggest this product for anyone over the age of 6. I checked it against my Cammenga lensatic unit and found that the one I received is accurate. Unlike the Cammenga, this light weight Brunton model would not stand up to rough treatment for long, but with proper care it will serve its owner well. Even so, if youre going deep into the woods for several days, dont hesitate to spend the extra money for the Cammenga. Cammenga supplies the U.S. Military and the durability of their compasses is worth the additional cost. Its disappointing because the build quality is really quite nice but it does a subpar job of. well. its only job. I like that it folds up, but because of the way the lens is sandwiched between

the top and bottom when closed, it actually scratches the surface of the compass if you put it in a bag or something, which is probably what you're gonna do with it. Luckily I bought this really as more of a novelty than to use it on any sort of excursion. I would probably buy a more reliable one even if I were just going camping or something. The thumb holder seems loose as does the lensatic arm, but overall it should work fine for my needs. I would have given it a 4 star rating if they were a little tighter and not as much free motion in them, but I think I can find my way out of the woods with this, and for the price, it was worth it. You get what you pay for. If you are buying this as a toy for your kid like I did, go for it.

If you are looking for survival type gear, pay the extra money for a higher grade product. The parts are wellmachined, robust and precisionfitted. Its light, accurate and compact, a nonsense tool for a host of applications. I bought one as a gift, and one for myself. Very happy, after a miserable experience buying a nonreturnable, engraved, very expensive, very inferior brass Asian knockoff of a lensatic engineers compass in a really nasty leather case from another internet purveyor. Caveat emptor. The Brunton compass is everything it should be, and at a very good price. Sorry, we failed to record your vote. Please try again The only concern is the delicate cross hair which is exposed to damage so we'll see how that works out. The actual compass needle is immersed in liquid and takes some time to reset direction so just be patient since it will eventually point north. And I live in the wilds of Northern Ontario so I'll be counting on it to find my way home. Sorry, we failed to record your vote. Please try again Sorry, we failed to record your vote. Please try again Good to practice and learn about compass. nothing to worry if kids will use it to learn. Thanks Sorry, we failed to record your vote. Please try again So fund myself wondering if it's the real north or else. Sorry, we failed to record your vote. Please try again Okay for the casual user. Sorry, we failed to record your vote. Please try again In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. We don't share your credit card details with thirdparty sellers, and we don't sell your information to others. Please try again. Please try again. This compass is made of high strength engineering metal, which is sturdy and durable. IP 54 waterproof grade and solid metal construction so that it works well under extreme weather condition.

Perfect for hiking, navigation, camping, marine, boating, adventure, travel, hunting, geology and other outdoor activities Field scientists and search and rescue professionals also like to have a clinometer. Lights up the dial in the dark for data reading. Show details In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. Register a free business account Please try your search again later. It is also a clinometer, enable to measure height and slopes by giving accurate readings for directions Lights up the dial in the dark for data reading. Please note the longer hours the irradiation, the more durable the luminous effect. It can help you locating the direction. To calculate the overall star rating and percentage breakdown by star, we don't use a simple average. It also analyzes reviews to verify trustworthiness. Please try again later. The optics on the adjustable reading eyepiece are clear. Compass movement is smooth and true, so long as you pay attention to level; which is easy to do given this compass has a level bubble. The instructions are brief but will should enable a novice to triangulate their position on a map or chart. The instructions also show you how to measure distances but those instructions may be a bit confusing to a novice. I will be keeping it with my coastal navigation tools and using it to chart and record my course over a multiday sailing excursion on Lake Superior. It dial spins smoothly and easily. The bezel turns cleanly and stays put where it was left. The Gradient Inclinometer, when positioned correctly works as expected. Easy to gather your reading. I recommend this compass My 10 yo son was exposed to compasses this in school and wanted one. This product is "fun", easy to use, and sturdy. It is a great way for him to explore his interests.

Only caveat it might be heavy relative to other options if you are looking to carry it on a hiking trip. It will sometimes move if I tap on it. I bought it for the good reviews but the one I got is useless since the needle sticks. This compass was as exactly described by the seller. It was delivered as promised, but the quality was more than I expected. It comes in a camo pouch that is weather resistant and has a sturdy clip. I would consider a must for hiker, explorer, or a bug out bag. Weight is 190gms. A QUALITY purchase! Other than that, I was very satisfied. It comes with small catalog with really good information.

Page 1 of 1 Start over Page 1 of 1 In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. If trimming the map, be careful not to cut. Maps must be protected because they. The colors vary with different. These, as a rule, will be. The North Magnetic Pole is located in Canada at Hudson. Bay. The variation between. The GM angle is. Illustrates and identifies some of the. Other information. Normally, the scale for meters, yards, statute miles. A line from 0 0 to 180 0 is called. Where the base line intersects the horizontal. Every tenth line is made heavier in weight. This will. Each grid line on the map has its. Four digit. Six digits identify a. Eight digits identify a 10meter grid square. To locate. We follow a simple rule of map. When using an azimuth, the point from which the azimuth originates is imagined. Compass the. While pointing the compass cover directly at the. The top glass bezel ring rotates; Your compass is now. Location by Map and Compass Use this formula. That person must travel. The students pace count is 65 paces for 100. DISTANCE divide by 100 x Pace Count 65. A line representing an imaginary line. Each contour. On most maps, the contour lines. Every fifth contour line is. These heavy lines are known as index contour lines. Also, the elevation will be given along this heavy brown line.