

Field Test Report

VK30

(Treasure Hunting, December 2000)

On opening the box that the Viking VK30 is sent in, you are presented with an attractive new design of metal detector. The upper part of the two-piece stem which is still of the "S" configuration but the main "newness" about this model is its two control boxes - one mounted above the handgrip the other fitted at the end of the metal detector underneath the arm grip.

The small forward-mounted control box includes the LCD screen and the detector's speaker; the headphone socket is also to be found on the underside of this unit. The larger rear-mounted box houses the main electronics and the remaining three controls not included on the smaller control box. Both boxes are made of a tough green plastic.

Despite the additional box, not present on earlier models, the metal detector remains lightweight and well balanced.

The arm grip is provided with a Velcro-strap to secure the metal detector and prevent accidents (such as accidentally dropping the detector) or arm fatigue. This arm cup can also be adjusted to suit the individual build of the user. The box fitted beneath the arm grip also doubles as the metal detector stand.

Both parts of the two-piece stem are finished in black. The upper part is metal while the lower stem section is of tough plastic and serves as an isolator to prevent the coil from picking up false signals. The stem adjustment system incorporates both a push button and a locking collar. The 8in standard search head is hard wired into the control box. The battery

compartment is located at the rear of the control box and the single PP3 used provides excellent battery life.

The users instruction manual for the VK30 is extremely easy to follow and certainly won't baffle you with technical details or complex set-up procedures. It is only 10 pages long and even those pages provide other information, such as useful search tips, besides the actual instructions.

The green box positioned above the rubber handgrip contains the speaker to the rear and, on the underside, the headphone socket. The latter is of the standard quarter inch plug size. The metal detector can therefore be operated with or without the use of headphones. However, bear in mind that faint signals from deeper targets are best picked up through headphones.

The display panel on the front of the box is mainly in black with all wording in yellow. The LCD screen display itself has a green background. Screen printed beneath this is a small coloured bar marked "0" on the left and "99" to the right. The coloured bar is divided into eight segments: two red segments on the left, four orange segments in the middle, and two green segments to the right.

The LCD screen provides you with all the target identification information, as well as the mode you are working in (e.g. Pinpoint/All Metal is represented by a "P" at the side of the screen, or Beach mode will display a "B" at the side of the screen). If you are searching in Normal Motion mode, the screen will not display any letters.

When you receive an audio signal from a good target its probable identity will be displayed on the screen in both number and block form.

On this particular metal detector the low numbers tend to be rubbish, while the high numbers represent the better targets. The lower the conductivity of the target, the more likely it is to be iron. For example, if you receive a signal that gives you a target ID number of 10, and only one block appearing on the block scale, then the target is probably a nail. If the conductivity is higher and gives you a number of, say, 95 and shows the block scale completely filled with eight blocks, then the target could be a silver shilling. Another useful thing about the LCD screen is that it instantly shows the changes you make to sensitivity and discrimination settings.

There are only two function controls positioned under the LCD screen. One is the Motion/Non-Motion toggle switch, and the other a red Pinpoint/Retune button. The other three controls are to be found on the control panel of the rear control box. The first rotary control is the On/Off and Sensitivity. The second rotary control is Audio Discrimination Control goes from 0 to 90 on its scale. The control is toggle switch that is marked Inland/Beach. This is a mode switch that can be set depending on whether you are searching a beach or an inland site.

On/Off - Sensitivity

This control has two functions:-

1. When turned clockwise switches the metal detector on and the Viking logo temporarily appears on the LCD screen. Turning the control all the way anticlockwise will switch the metal detector it back off.

2. Turning the control further clockwise from the initial "on" position will increase the sensitivity level. set to maximum sensitivity better depths can often be achieved, but this depends on ground conditions. The higher you set the sensitivity, the deeper a target will be picked up. However, in some instances you may get false signals occurring or the metal detector may become too noisy due to mineralisation in the ground. If this happens you may have to reduce the level of sensitivity. When this control is being adjusted, the actual setting is being shown on the LCD screen. This means that you don't have to constantly look at the rear control panel. In addition, "S" will be displayed on either side of the block scale to indicate that you are in Sensitivity.

Audio Discrimination Control

This control is used to discriminate against the ferrous targets you don't want. When turned fully anticlockwise the metal detector will pick up all metals. The further the control is turned clockwise, the greater the discrimination and the better the odds of the metal detector picking up only desirable targets. However, it must be remembered that the higher you place this setting, the more the risk of the small good targets being rejected and missed. If possible only place discrimination at the mid-way level if junk contamination means that it has to be set slightly higher than normal.

Once again this control can be used in conjunction with the LCD screen. When adjusting the discrimination, "D" will appear on either side of the block scale.

Beach/Inland Mode Selector Switch

If you choose to use the metal detector on a salt water beach rather than an inland field, the Beach/Inland mode toggle switch should be set

to the beach setting. The letter "B" will appear at the side of the LCD screen display to indicate that you are in this mode of operation. In this mode the metal detector will not detect iron objects but will still provide an audio signal and ID number for non-ferrous targets.

Target ID

The target ID part of the LCD display provides an indication of the identity of each target. When the search head passes over a target, a number between 0 to 95 appears on the display and the block or bar scale fills up to a certain point. If only one or two blocks appear and the number is low then the target is likely to be iron. If seven or eight blocks are shown and the number is high then the target is likely to be of high conductivity worth digging up.

Some typical examples given in the instruction manual are as follows:-

- 10 and one block - small iron nail
- 55 and four blocks - modern 5p
- 95 and eight blocks - Victorian silver shilling.

Motion/Non-Motion Selector Switch

By using this control you can select whether you want to conduct your searches in the Motion mode with set discrimination or Non-Motion mode which is the all-metal setting. The latter will register all metals and the search head does not need to be kept in motion to register a target. It is therefore a very useful setting for accurate pinpointing of targets.

Pinpoint/Retune Button

When you hold this button in it switches the metal detector from whichever mode has been chosen by the Motion/Non-Motion selector switch to the opposite mode. When the metal detector is in Non-Motion mode, whether chosen

by the toggle switch or the push button, the display shows a "P" at the side of the display screen. In Non-Motion mode the display gives the target ID of the object as in the motion mode. However, although there is increased sensitivity when using the non-motion mode, the display is not capable of accurate ID for small signals that would not be detected in the motion mode.

Battery Check

The state of the battery condition is monitored by the detector in two ways. When the metal detector is first switched on a single beep is given which indicates that the battery is okay. If two beeps are heard then the battery is starting to fade, and if no beeps are heard then the battery should be replaced. Secondly, if when looking at the LCD screen you start to notice that the blocks on the scale decreasing in size it is showing the battery is exhausting. If the blocks become nothing more than a series of dashes then you will need to replace the battery.

Signal Overloads

The LCD screen can also indicate if the metal detector is experiencing a target signal overload. This can save you wasting time in digging up junk. In many cases an overloaded signal is caused by a large object close to the surface or just lying under the ground surface. When you have an overloaded signal the display shows two arrows pointing upwards. However, don't always assume that the overloaded signal is going to be rubbish such as a big piece of iron. When you get such a signal try lifting the search coil up above the target area and try sweeping again. Keep an eye on the target ID number coming up - if it's iron it should be low, but if it's non-ferrous it should be high.

Experimental Bench Testing

While I was checking out the controls of the VK30 at home I spent a couple of hours putting it through some experimental bench tests. I was interested to see where certain coins would register on the display and what the ID numbers would read like. My findings are as follows:-

VK30 Set to Motion

The metal detector was left on the normal motion mode and Inland setting and the discrimination at 0.

- Roman silver denarius of Trajan - **95**
- Roman copper as of Antoninus Pius - **85**
- Full size Edward I silver penny - **65**
- Clipped Edward I silver penny - **60**
- Damaged hammered groat of King Robert of Scotland - **60**
- William III shilling - **90**
- Silver threepence - **85**
- Jetton - **60**
- Lead flax seal - **70**
- Musket ball - **80**
- Cartwheel penny - **95**
- George III penny - **95**
- Medieval buckle - **75**

The above examples are from "in air" bench test readings but are probably reasonably representative of the actual readings you would get on similar objects in the ground. However, these readings may differ slightly in actual search condition due to ground mineralisation or the depth at which the target is buried.

The manual recommends that a medium setting of the discrimination at 40-50 is a good place to start. Once you become more familiar with the target numbers the discrimination can then be set higher or lower.

In part two of this Field Test I will let you know just how the VK30 performed when I took out to a number of my sites.

Part 2

(Treasure Hunting, March 2001)

In the first part of this field test I provided an insight into what the Viking VK30 looked like, and a run down on its controls. This was written up fairly quickly in September in order to meet the deadline for the December 2000 issue of the Treasure Hunting. However, I anticipated that by the time the deadline came around for the second part of the test I would have had time to put the detector through its paces out in the fields. During the months of October and November I think most metal detectorists were greatly hindered by the effects of the weather. The amount of rainfall was quite unbelievable in some places, and we all saw on television how many parts of the country were flooded out. Fortunately, Scotland wasn't quite so badly hit by the weather as much as some parts of England and Wales; I therefore did manage to get out and do some metal detecting. However, a lot of places in my area were still waterlogged and I had to abandon the plans I had made to search some of my more productive sites. In fact, I was left with the option of searching land that I knew would produce very little in the way of finds (especially the older material) no matter what metal detector was employed.

Junky Fields

After some time spent using the VK30, I decided that my preferred search mode was that of Non-Motion selected by a toggle switch under the LCD screen. If the metal detector is set-up in this way you are working continually in all-metal and discrimination doesn't have to be adjusted; in fact, you can just leave it at "0". Even working

in this way the LCD screen will still relay likely good targets by means of high ID numbers and blocks. You can therefore, to a reasonable degree, still differentiate between likely good or bad targets. However, if a signal is faint and comes from a deeper target, the object may be too deep for the metal detector to properly analyse. When this happens you may not get a target ID number appearing on the screen, and one or two blocks may or may not appear

If this occurs and you are ever in any doubt as to the nature of the target, dig a hole surrounding it big enough so that the loose soil can be dug up or taken out. After this, recheck the hole. If you find is a small object, such as coin, you may have brought it closer to the surface (or removed enough surface soil to take the search head closer to the target). Thus, when scanning again, you should get a better response and an ID number appearing. If not, repeat the process until you do.

On the main control panel the toggle switch was selected left for the inland setting, and I set the sensitivity initially to three quarters of the way up ("75" on the LCD screen). Depending on the type of soil conditions you will be able either to set this higher if good, or need to take it lower if persistently bad. As already mentioned I leave the discrimination set to "0".

For the type of sites I tend to favour I have found that searching in the Non-Motion/All Metal mode of operation gives me better depths, and is especially good for locating the small faint signals. If I was working in motion as my primary search mode, things might appear quieter, but I believe I would be losing a little depth on the faint, hard to locate targets. For sites infested with unwanted ferrous targets, of course, it would be better to use motion as the primary

search mode.

After digging up the first coin with the VK30 (an old Victorian penny), I reburied it in a clean piece of ground at a depth of around 6in. This was to see how the detector would cope in both its motion and non-motion modes. To my surprise I found that the penny was picked up very clearly and loudly in both these modes, and the target ID number was the same as well (80-85 in both cases)

In the first part of this test I finished by giving results of my "in air" tests (i.e. bench tests of various coins and objects). When I include these in a field test I always emphasise that you may, or may not, get similar results in the ground. As I continued testing the VK30 over one particular junky field it slowly became apparent that this could indeed be the case on some sites. Although the bench testing results are quite accurate in some respects, some of the "in ground" results (the actual ID numbers) may differ.

For example, in the junky field I opted to search ("junky" in that it contains a lot of material such as coke, iron, scrap lead, brass, and copper) the only coin finds I made with the VK30 were three farthings. Two of these were wren farthings, while the third dated back to William IV. All of these three coins gave good responses through the VK30's audio and visual discrimination. However, on the latter the target ID numbers were noted as all being 40-45. But later, when I tested the detector again at home with the three farthings, the VK30 gave a different target ID number of between 70-80.

The best logical explanation I can suggest for such a difference in readings, is that the three coins were lying in the ground at such an

awkward angle that the VK30 was only able to analyse the feedback coming from a limited amount of the coins' surface. Alternatively, perhaps the field's exceptionally high mineral content was somehow affecting the target analysis.

Having only some junky (but non-waterlogged fields) available to search did give me an insight into the likely problems that may be encountered while conducting searches on such sites. I found that the VK30 operated quite well in the junky conditions, but as with many other detectors (regardless of make or model) you will still pick up the odd piece of iron (e.g. larger pieces with peculiar shapes to them or iron washers etc). If these are close to the surface they will give an overloaded target response, which is indicated on the LCD screen by two arrows pointing upwards. If such targets are deeper in the ground they will give a good audible response as well as a high number (perhaps as much as 90 on the ID scale).

If you do get a lot of overloaded signals caused by targets being big and close to the surface, don't always assume them to be iron. They may come from an object such as a large coin or a buckle just lying under the surface. By raising up and sweeping the search coil above the target you can readjust the target ID number to a more accurate reading. Obviously, if it readjusts to "0" then the target is likely to be rubbish, but if it readjusts to a much higher number with blocks showing then it could be worth digging (ie target numbers of 40 or more).

One major annoyance that you can come across in junky sites is the presence of coke (ferrite oxide). When this is dug up it can resemble a lightweight piece of barbecue charcoal. It can give a good audible target response and - in the

case of the VK30 - a good target ID response. Coke can affect most metal detectors, even the most expensive models, and can be very difficult to eliminate.

When speaking to one of the technical wizards at Viking, I was told of a technique that VK30 owners can use to help counteract against coke. I have now tried this method and found that it works quite effectively. In fact, it will quickly tell you if the target is yet another piece of that dreaded material.

For farmland, pasture fields, commons etc., the normal working setting will be the "Inland" mode selected by means of the toggle switch on the control panel. If, however, you are experiencing suspected problems with coke just flick the "Inland" switch to the "Beach" mode position. If coke is the target there will be no reading on the LCD screen.

Other Findings

During my fields trials I found the VK30 responds well on the types of fields that were available to search (stubble and muddy ploughed and rolled). My own preference of using the Non-Motion/All-Metal setting as the primary search mode worked extremely well, giving very good depth capabilities. In this mode there is a faint, factory-set threshold tone, and I noted no problems with drift. However, if you do experience drift simply press the red Pinpoint/Retune button and that should take care of it.

With the VK30 the target number does not reset back to zero after it has registered a signal (unlike some other computerised detectors I have used). It only changes when the next target is picked up.

Conclusions

I believe that Viking have added some splendid new additions to their range with the VK models. I am more than happy with the VK30's performance. It has style, it has user "turn on and go" friendly controls, and it is capable of achieving excellent depths. For the first time in their range, Viking has added accurate computerised "Target Identification".

With its low running costs, one PP3 battery operation, I believe the VK30 offers excellent value for money. I would describe the VK30 as an "anybody" detector as I believe that anybody can easily master it. This detector should appeal to beginner and professional alike, and has a great deal to offer for all round detecting.

Although a number of sites were unavailable (due to the elements) for my trials, on the dry fields I did have available the VK30 performed well enough. During my tests (as expected from past experience) these sites didn't offer anything in the way of Roman or medieval finds to grace the pages of this magazine. Nevertheless, the VK30 still found coins, buttons, lead seals and musket balls very easily at average depths of between 4 and 6in. My experience is that when working in the Non-Motion/All-Metal as much as 2 to 4in more can be achieved on coin-sized targets. Obviously, bigger targets will be registered at more depth.

I have not, as yet, been able to take advantage of the Beach mode for its specific purpose but, if given the chance, I will endeavour to report back on this.