

OPERATING INSTRUCTIONS



for

D-TEX

METAL — MINERAL
DETECTORS

PRICE \$2.50

LET'S TELL IT LIKE IT IS...

D-Tex Electronics has been building metal detectors for over twenty-five years. During that period, we have pioneered many innovations and improvements in metal detector technology. Success is noted and copied; however, we have watched the number of other companies building metal detectors increase over eight times since our first detector came off the line. This competition has served to prove the value of the American free enterprise system by encouraging rapid advancement of metal detector technology available to the consumer.

In order to occupy a position of leadership in the metal detector industry for the 1980's we felt it necessary to do a complete overhaul of the D-Tex Electronics equipment and programs. No company can continue in a top position, relying on past accomplishments; continual and innovative progress must be made. Our new efforts are comprehensive and complete. We kept none of our previous detectors or their circuitry for this new program — All D-Tex detectors are totally redesigned and dramatically improved over any D-Tex units ever built! We believe they reflect the highest levels of technology in the industry.

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OPERATING INSTRUCTIONS

BEFORE YOU TURN ON THE DETECTOR

Your D-Tex Metal Detector is delivered to you partially assembled. Please accomplish the following steps for a fully assembled unit.

1. See Figure 1 and familiarize yourself with the basic terminology for items discussed in this section and refer back to it when needed.
2. Select the lower stem / upper stem assembly from the packing carton. Extend the lower stem, so that approximately 12 inches of lower stem extends from the upper stem. Insert the open end of the upper stem over the $\frac{3}{4}$ " tubing which extends from the control housing or Body Mount handle. The snap button on the control housing / body mount tubing must snap into the hole in the upper stem. Next, the black knurled nut must be reversed threaded such that the back side of the black knurled nut is firmly binding on the shoulder of the $\frac{7}{8}$ " handle tubing. **(DO NOT USE TOOLS — USE HANDS ONLY).**
3. Now install the searchcoil on the flatted lower stem. Notice the (B) square-head (4 sided) bolt and wingnut that attach the Searchcoil to the (C) lower stem. When changing or removing Searchcoils for any reason always be sure the bolt is inserted from the left side with the 4 sides on the bolt head fitting securely into the 4 sided hole in the searchcoil bracket. Next tighten the wingnut on the bolt as tightly as possible with your fingers — **DO NOT USE TOOLS TO TIGHTEN. If the wingnut is not adequately tightened, you will find it difficult to keep the detector properly tuned while using the detector.**
4. Now adjust the stem length to your own preference by first loosening the stem tightening nut (Figure 1 Letter D.) and locking the snap-lock into the desired hole on the bottom side of the upper stem. After adjusting the stem to the desired length use your hand to tighten the (D) stem tightening nut as securely as possible. The entire stem should now become

rigid without annoying slop. To determine what length is best for your operation of the detector stand straight, relax, and let the back of the detector Searchcoil touch the ground about 14"-18" in front of the toe of your shoe.

DO NOT bend your arm at the elbow or bend your wrist as you hunt. Discomfort and soreness may result after a period of time if you do. Also make sure that the detector searchcoil is parallel to the ground (the distance from the ground to the bottom of the Searchcoil should be the same at the front of the coil as at the back of the coil) as you operate the detector (with the exception of operating over rough terrain — here rocks or holes may cause necessary deviation from this procedure).

5. Wrap your search coil cable securely around the stem leaving no loose loops of it to dangle freely (this causes tuning difficulties). Check your (H) Searchcoil cable connector to make sure that it is tightened securely. Do not **force** the connector into the control box plug. If properly aligned the connector will plug smoothly in with a small amount of firm pressure. The outer locking ring on the searchcoil cable connector should be tightened securely (it turns about 1/4 turn).
6. (A) All D-Tex Searchcoils are waterproof as long as the (H) Searchcoil cable connector itself does not get wet. Optional Searchcoil skid plates may be purchased to protect the bottom of your Searchcoil from wear and scratches. (Caution — after using in water, your detector should be leaned in an upright position to permit all water to drain from stem cavity.)
7. If your detector is a Body Mount style, you will note an extra control box plug. This extra plug is for use with the connector attached via cable to the Body Mount handle. Both plug and connector are labeled "RAM". The other set is labeled "COIL". These connectors and plugs should be joined. The searchcoil cable connector should be attached to the plug on the Body Mount handle.

Detector Parts

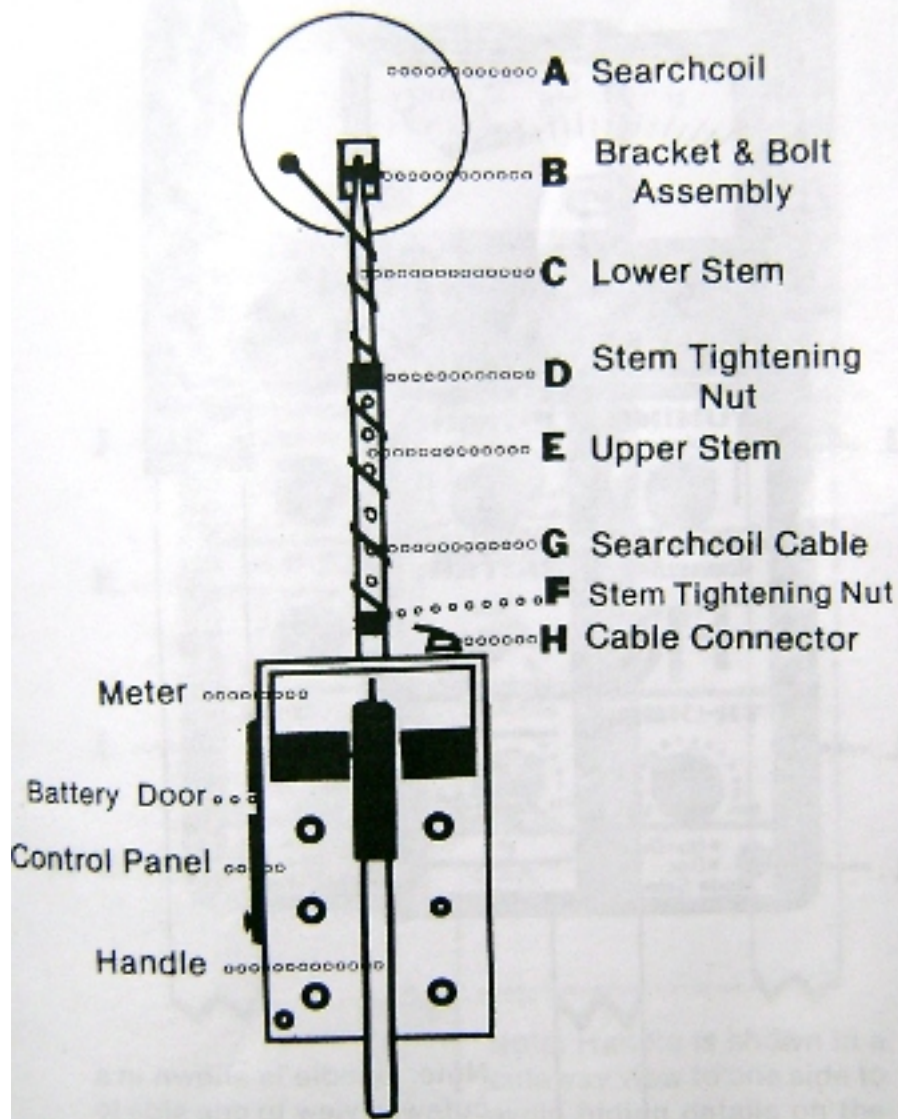
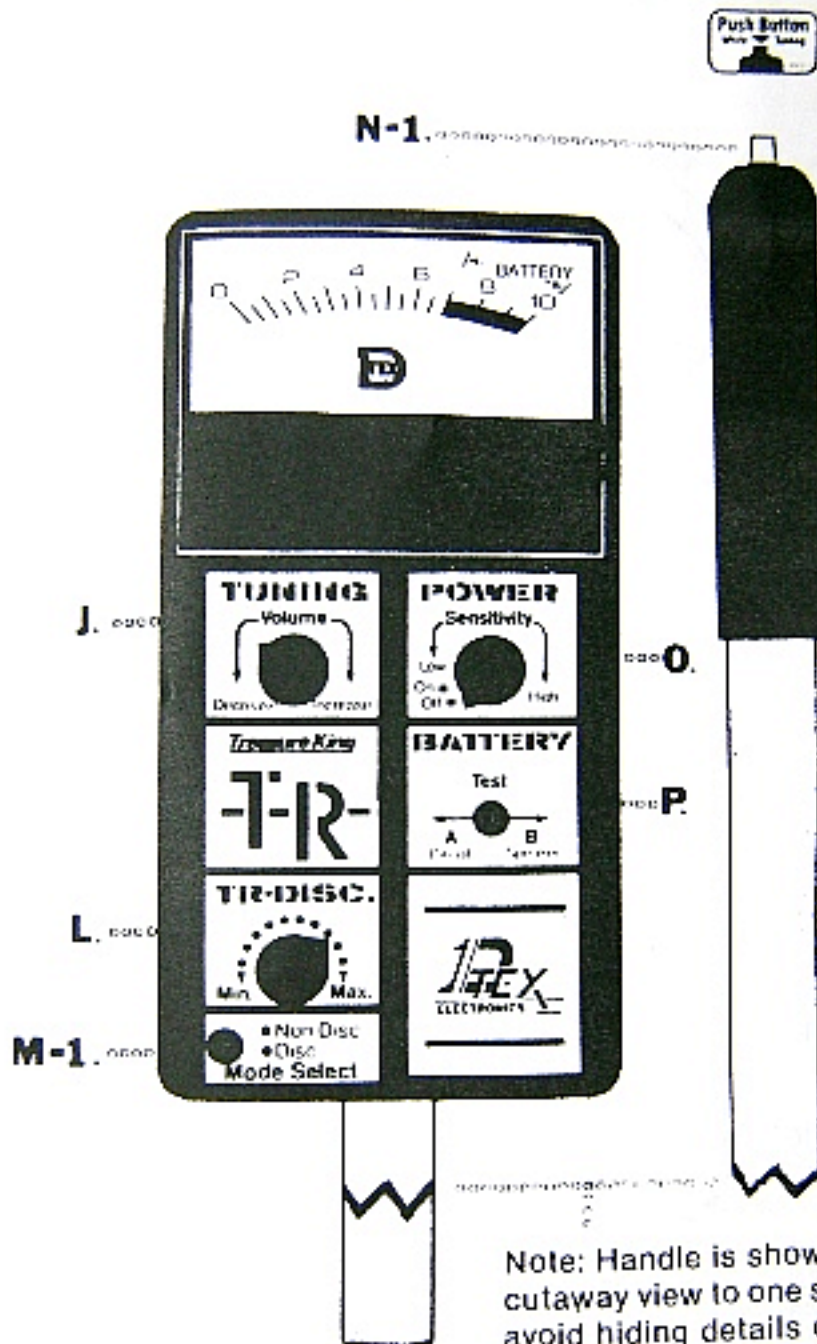


FIGURE 1 — For All Models

TK Panel



Note: Handle is shown in a cutaway view to one side to avoid hiding details on the Control Panel.

FIGURE 2 — For TK1 and TK-1A Models Only

MK Panel

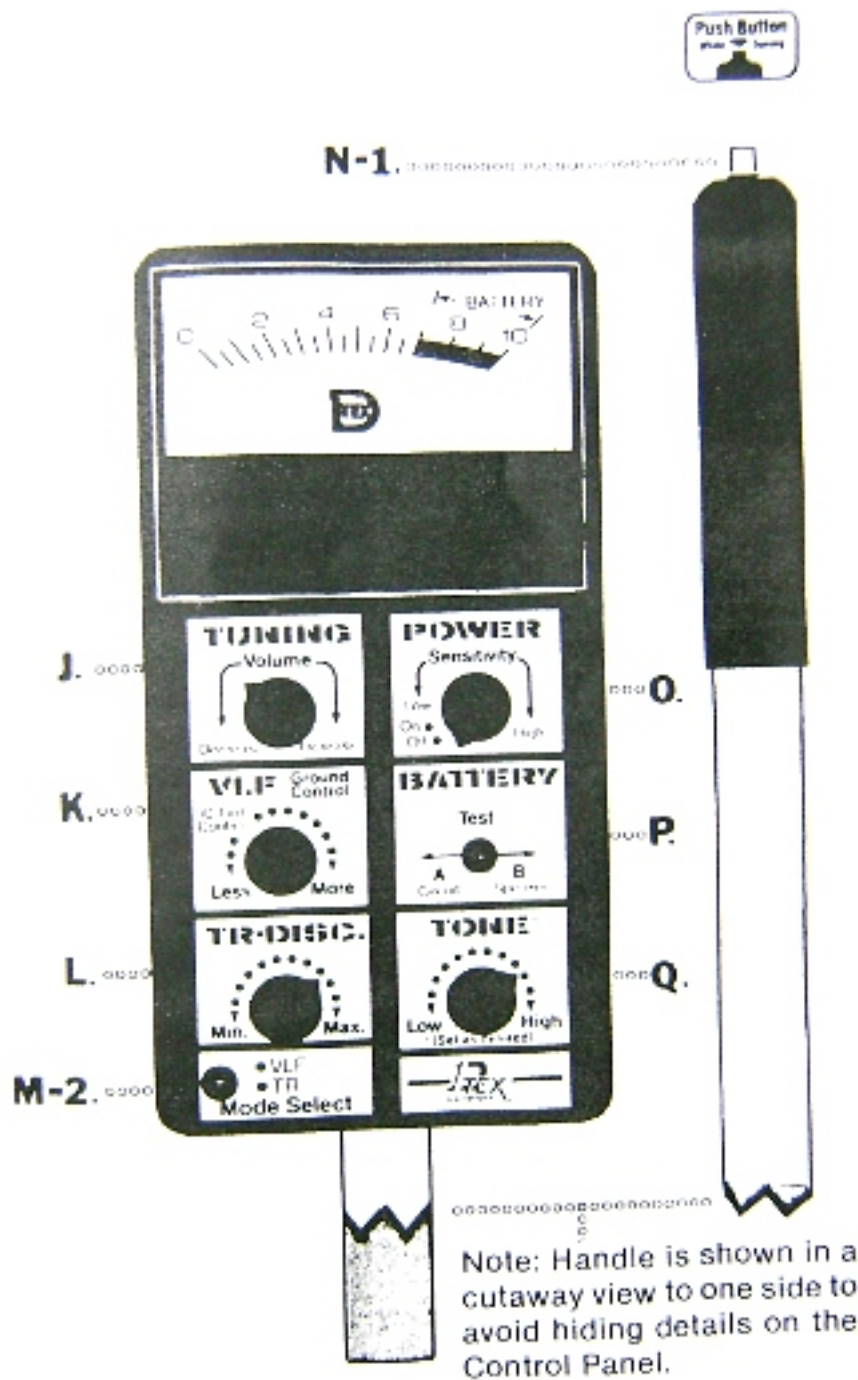


FIGURE 3 — For MK-5 and MK-10 Models Only

CK/SK/RS Panel

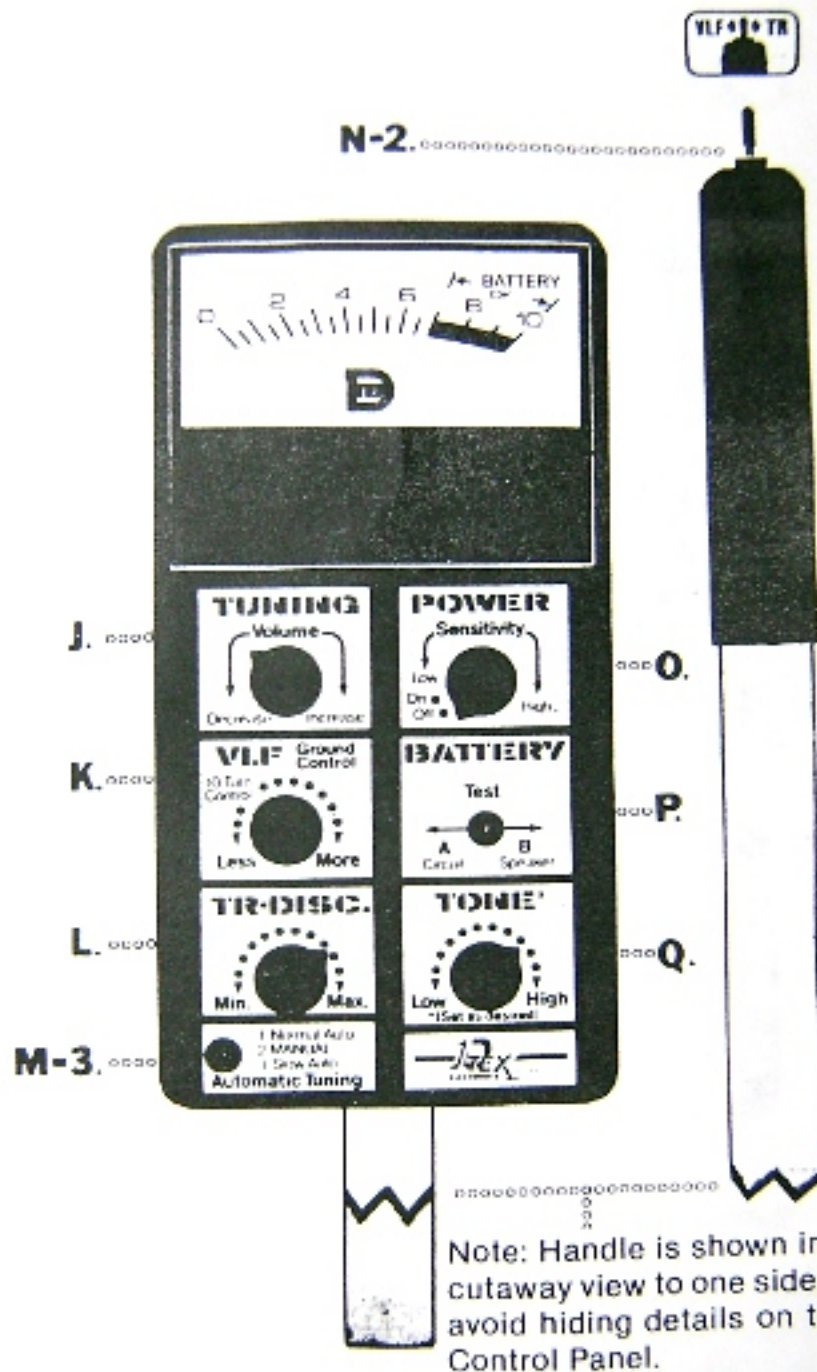


FIGURE 4 — For CK20, CK30, CK40, SK50, SK60, SK70, RS100, RS200 Models Only

Battery Change Diagram

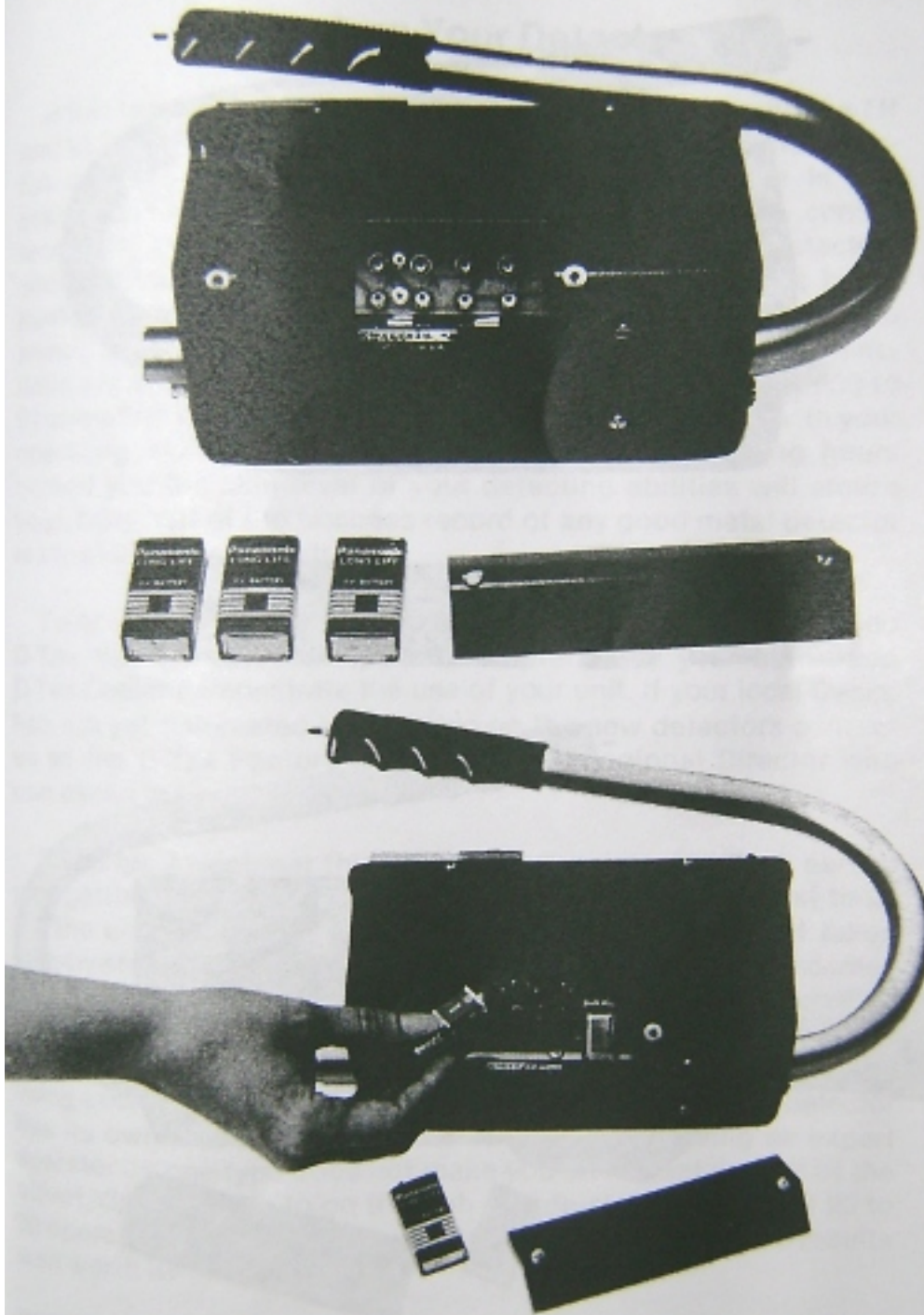


FIGURE 5 — For TK, MK, CK and RS-100 Models Only

Battery Change Diagram

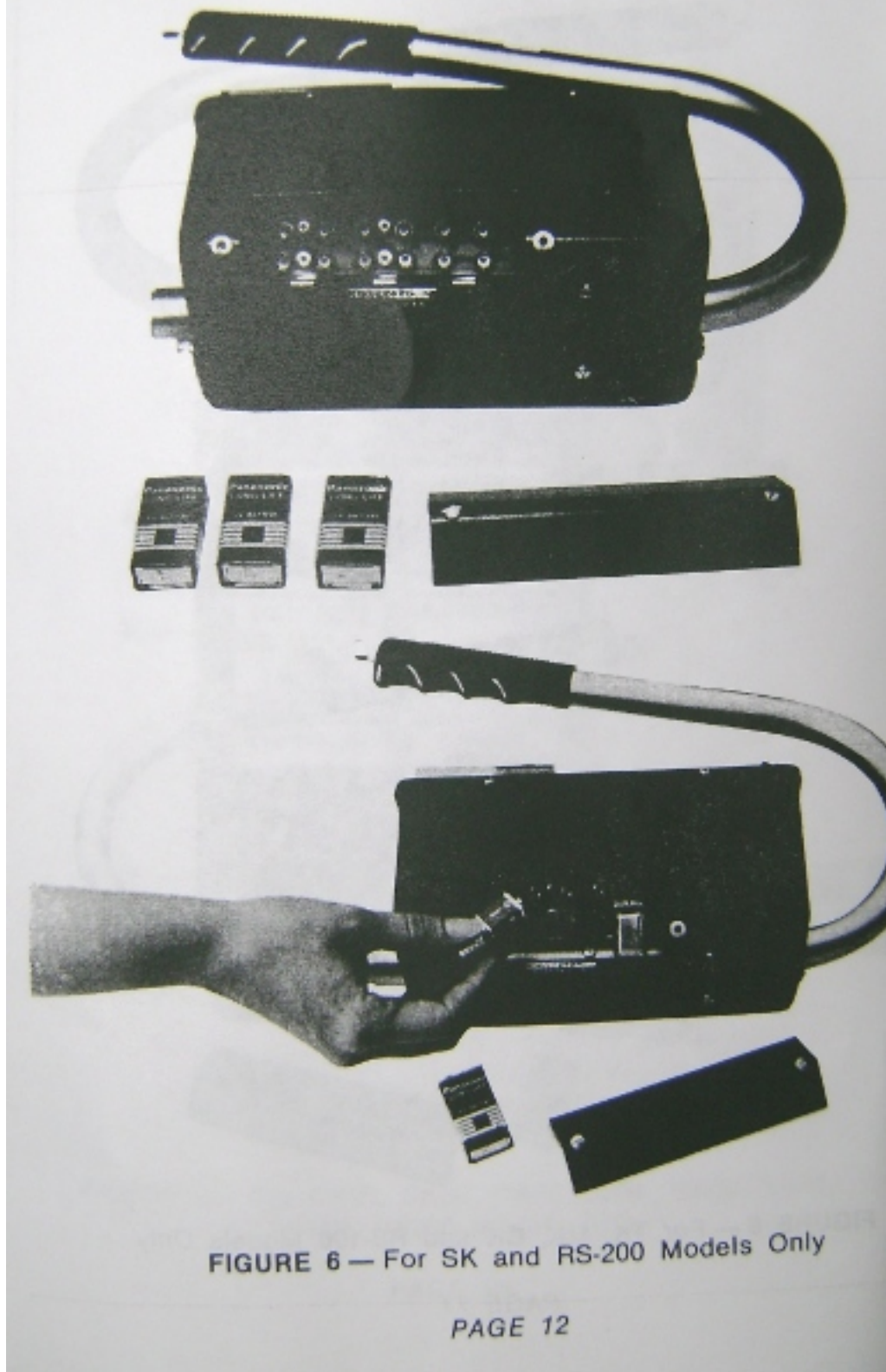


FIGURE 6 — For SK and RS-200 Models Only

Operating Your Detector

If this is your first detector or if you are not familiar with the TR and VLF/TR type detectors don't get in too big a hurry. The potential of these units for almost any detecting challenge is outstanding! To achieve superior results requires that the control functions be properly adjusted for each different detecting situation (such as changing soil conditions, the objects being hunted, how much metal is present on the site, etc.). While you should enjoy immediate results once the basic operating functions are mastered you will find that it takes a minimum of 30 to 50 operating hours before you begin to feel truly at ease with your operating skills. When you have 150 to 200 operating hours behind you the skill level of your detecting abilities will amaze you! Truly half of the success record of **any** good metal detector is the skill of the operator.

To speed your progress if at all possible have an experienced D-Tex VLF/TR detector operator — preferably your authorized D-Tex Dealer demonstrate the use of your unit. If your local Dealer has not yet completed his training on the new detectors contact us at the D-Tex Factory for our nearest Regional Director who can assist you.

If you are a beginner think of using your detector like a person just getting behind the steering wheel of a car for the first time. All the controls may seem a little confusing at first but taken step-by-step and with enough practice, driving a car soon becomes an easy thing to do. So it is with metal detecting.

If you are an experienced detector operator but are used to using another brand or type of detector be cautious. Each detector has its own methods and "tricks" of operation. Being an expert operator on one type does not make you an instant master of the other! You will have to go through an adjustment period of 20 to 30 operating hours but you will find your greatly improved results well worth it!

With these thoughts in mind let's start learning how to operate your D-Tex Detector.

TREASURE KING (TK) MODELS — (See Figure 2)

1. TURNING IT ON

Rotate the power switch (O) clockwise until it clicks. This control once turned to the "on" position now becomes a sensitivity or depth adjustment.

If you are a beginner or unfamiliar with VLF-TR detectors, then leave the Power-sensitivity control (O) in the 9 o'clock position for the first 5 or 6 hours of use. This is the minimum sensitivity and depth setting. While it does not detect as deep as full sensitivity (the (O) control in the 6 o'clock position gives maximum depth), this setting makes the detector easier to tune and use while learning. More will be explained about this control as it relates to other controls. Note — this control (O) is not a volume control.

2. INITIAL TUNING

Tune your detector out in the open away from all large metal objects. Hold the detector such that the control box and coil are approximately waist high with the coil extended in front of you.

Locate MODE SELECT switch (M-1) and set its position in the forward Non-Disc position. This switch has 3-positions with the center position being neutral. The detector will not tune nor function properly when the MODE SELECT switch is in the neutral-center position.

While holding the detector by the grip, depress the push-button (N-1) in the end of the handle as far as possible and hold in. Now rotate the TUNING control (J) until a faint sound is heard. At this point, release the push-button. Your detector is tuned!

Once tuning has been achieved, do not move the TUNING control to readjust tuning or loudness. Leave it alone. This control will not require further adjusting unless accidentally moved. If this happens, simply repeat the tuning procedure.

3. RE-TUNING AFTER CONTROL MOVEMENT

After initial tuning, your detector may be re-tuned by simply

depressing the push-button (N-1). Note — if the sensitivity control (0) is moved, the INITIAL TUNING procedure must be followed.

4. **DISCRIMINATION — HOW TO SET**

In order to adjust the TR-DISC control (L), the MODE SELECT (M-1) switch must be moved into the DISC (rear) position.

Assemble a nail, bottlecap, aluminum pull-tab, nickel, penny and a quarter. Use the following settings as guidelines only — test your own detector to be sure.

Set the TR-DISC control at or near the 9 o'clock position for "first level nail discrimination." Retune your detector with the PUSH-BUTTON (N-1). Remove all metal items (jewelry) from hands and arms. Pass the test nail in front of either the top or bottom of the searchcoil at a distance of about 3 inches. If no sound is heard, the detector is rejecting the nail properly. Now set the TR-DISC control to approximately the 2 o'clock position. Retune your detector with the PUSH-BUTTON. Pass the bottlecap within about 3 inches of the searchcoil. If no sound is heard, the detector is rejecting the bottlecap properly. Without changing control position, pass a nickel within about 3 inches of the searchcoil — a sharp clear increase in sound should be observed. These are proper results. Now set the TR-DISC control at or near the 4 to 5 o'clock position. Retune your detector with the PUSH-BUTTON. Pass a pull-tab or nickel, penny and quarter within about 3 inches of the searchcoil. The pull-tab or nickel should produce negative results (lack of sound and negative meter movement). The penny and quarter should produce positive results (increase in sound and positive meter movement). Maximum or screwcap discrimination should be achieved with the TR-DISC control in about the 6 o'clock position. Due to loss of sensitivity, it is not recommended that hunting be done at this level.

The "Double-Blip" — Don't be deceived!

If the object you are detecting is within $\frac{1}{2}$ " from the bottom of your coil (and you're operating with maximum sensitivity TR Disc.-manual tuning) you will hear a sharp "blip-blip" target sound. The searchcoil due to its great sensitivity is not

“focusing” on the object to determine whether it is a good target or a bad one. This is because of the close proximity of the metal object to the searchcoil's internal structure. Now that the unusual “blip-blip” sound has alerted you to the piece of metal close to the surface simply raise your detector up an inch higher and go back over the target signal. The coil will now properly “focus” and discriminate the target by no sound if it's bad and a good solid tone if it's good. Also a large piece of iron metal like an axe-head, etc. may give a “double-blip” signal if detected within a few inches of the surface.

NOTE — Use no more discrimination than is necessary for any specific hunting site. Bottlecap discrimination is best for most sites.

5. **CHECKING BATTERIES (See Figure 2)**

Your TK detector is powered by 4 each 9 Volt transistor radio batteries. The batteries may be tested for charge level by using the toggle switch (P) labeled on the panel as BATTERY. Move the switch to left to “A” in order to check the batteries which power the circuit. Move the switch to the right “B” to check the speaker batteries. If the meter needle moves anywhere in the green area, you are getting full performance from your detector.

Average battery life is 25 to 40 hours. Rechargeables may be used. Do not attempt to recharge standard 9 volt batteries.

Battery charge level should be closely monitored. Low charged batteries will result in excessive drift, improper re-tuning, and/or erraticness. Don't mistake this for an electronic malfunction.

6. **CHANGING BATTERIES (SEE FIGURE 5)**

To change batteries, unscrew the battery panel screws on the left bottom side of the control box. Once the panel is removed, all batteries are exposed. Batteries are easily extracted.

MONEY KING (MK) MODELS (See Figure 3)

1. TURNING IT ON

Rotate the power switch (O) clockwise until it clicks. This control once turned to the "on" position now becomes a sensitivity or depth adjustment.

If you are a beginner or unfamiliar with VLF-TR detectors then leave the Power-sensitivity control (O) in the 9 o'clock position for the first 5 or 6 hours of use. This is the minimum sensitivity and depth setting. While it does not detect as deep as full sensitivity (the (O) control in the 6 o'clock position gives maximum depth), this setting makes the detector easier to tune and use while learning. More will be explained about this control as it relates to other controls. Note — this control (O) is not a volume control.

2. INITIAL TUNING

Tune your detector out in the open away from all large metal objects. Hold the detector such that the control box and coil are approximately waist high with the coil extended in front of you.

Locate MODE SELECT switch (M-1) and set its position in the forward VLF position. This switch has 3-positions with the center position being neutral. The detector will not tune nor function properly when the MODE SELECT switch is in the neutral-center position.

While holding the detector by the grip, depress the push-button (N-1) in the end of the handle as far as possible and hold in. Now rotate the TUNING control (J) until a faint sound is heard. At this point, release the push button. Your detector is tuned!

Once tuning has been achieved, do not move the TUNING control to readjust tuning or loudness. Leave it alone. This control will not require further adjusting unless accidentally moved. If this happens, simply repeat the tuning procedure.

3. RE-TUNING AFTER CONTROL MOVEMENT

After initial tuning, your detector may be re-tuned by simply

depressing the push-button (N-1). Note — if the sensitivity control (0) is moved, the INITIAL TUNING procedure must be followed.

4. **DISCRIMINATION — HOW TO SET (See Figure 3)**

In order to adjust the TR-DISC control (I), the MODE SELECT (M-1) switch must be moved into the TR (rear) position.

Assemble a nail, bottlecap, aluminum pull-tab, nickel, penny and a quarter. Use the following settings as guidelines only — test your own detector to be sure.

Set the TR-DISC control at or near the 9 o'clock position for "first level nail discrimination." Retune your detector with the PUSH-BUTTON (N-1). Remove all metal items (jewelry) from hands and arms. Pass the test nail in front of either the top or bottom of the searchcoil at a distance of about 3 inches. If no sound is heard, the detector is rejecting the nail properly. Now set the TR-DISC control to approximately the 2 o'clock position. Retune your detector with the PUSH-BUTTON. Pass the bottlecap within about 3 inches of the searchcoil. If no sound is heard, the detector is rejecting the bottlecap properly. Without changing control position, pass a nickel within about 3 inches of the searchcoil — a sharp clear increase in sound should be heard and movement toward positive on the meter should be observed. These are proper results. Now set the TR-DISC control at or near the 4 to 5 o'clock position. Retune your detector with the PUSH-BUTTON. Pass a pull-tab or nickel, penny and quarter within about 3 inches of the searchcoil. The pull-tab or nickel should produce negative results (lack of sound and negative meter movement). The penny and quarter should produce positive results (increase in sound and positive meter movement). Maximum or screwcap discrimination should be achieved with the TR-DISC control in about the 6 o'clock position. Due to loss of sensitivity, it is not recommended that hunting be done at this level.

The "Double-Blip" — Don't be deceived!

If the object you are detecting is within $\frac{1}{2}$ " from the bottom of your coil (and you're operating with maximum sensitivity TR-DISC.-manual tuning) you will hear a sharp "blip-blip" target sound. The searchcoil due to its great sensitivity is not

“focusing” on the object to determine whether it is a good target or a bad one. This is because of the close proximity of the metal object to the searchcoil's internal structure. Now that the unusual “blip-blip” sound has alerted you to the piece of metal close to the surface simply raise your detector up an inch higher and go back over the target signal. The coil will now properly “focus” and discriminate the target by no sound if it's bad and a good solid tone if it's good. Also a large piece of iron metal like an axe-head, etc. may give a “double-blip” signal if detected within a few inches of the surface.

NOTE — Use no more discrimination than is necessary for any specific hunting site. Bottlecap discrimination is best for most sites.

5. CHECKING BATTERIES (See Figure 3)

Your MK detector is powered by 4 each 9 volt transistor radio batteries. The batteries may be tested for charge level by using the toggle switch (P) labeled on the panel as BATTERY. Move the switch to left to “A” in order to check the batteries which power the circuit. Move the switch to the right “B” to check the speaker batteries. If the meter needle moves anywhere in the green area, you are getting full performance from your detector.

Average battery life is 25 to 40 hours. Rechargeables may be used. Do not attempt to recharge standard 9 volt batteries.

Battery charge level should be closely monitored. Low charged batteries will result in excessive drift, improper retuning, and/or erraticness. Don't mistake this for an electronic malfunction.

6. CHANGING BATTERIES (SEE FIGURE 5)

To change batteries, unscrew the battery panel screws on the left bottom side of the control box. Once the panel is removed, all batteries are exposed. Batteries are easily extracted.

7. **SELECTING SOUND PITCH (See Figure 3)**

The D-Tex high-low pitch TONE control (Q) is provided to allow you to adjust the pitch of your detector sound to your own personal preference and hearing requirements. Some folks will find they can hear weak detector signals better at a low frequency while others have more success with the sound at a higher frequency. Adjust this control as you wish. No retuning is necessary when you do this. Practice will tell you which tone is best for you.

8. **MINERAL COMPENSATION (See Figure 3)**

The ability to compensate/offset soil mineralization is provided by the VLF GROUND CONTROL (K).

This remarkable electronic feature allows you to control the effects of iron minerals in the ground on your detecting capabilities. This is like having a second different type of detector within the same control box.

Before going into a detailed explanation of ground minerals and their effects on the detector operation lets cover how to basically tune the VLF ground control (K). This control has 10 full turns on it. There is only a slight drag or resistance in tuning the control further past the end of its range. This drag can be felt if the control is turned with one finger **only**. If you turn the control with two fingers it is difficult to tell when you reach the end. Practice turning this control both directions with the detector turned off until you can recognize the stopping point on each end of the control function. You cannot damage this control by continuing to turn it past either end of its control range so go ahead and practice.

Having followed the previous tuning and control adjusting instructions switch your detector to the VLF all-metal mode. If your detector is a Model MK5 or MK10 depress your push-button (N-1) and throw your VLF to TR mode switch (M-2) to the VLF position. Release the push-button (N-1) holding the detector in the waist high position — coil at belt level. Now lower your detector searchcoil toward the ground bringing it all the way down. Move it around a little to be sure that you are not over a piece of metal. The detector will do one of three things: 1) The sound will quit 2) The sound will increase 3) The sound will stay the same. If the sound quits you need

more ground control. Raise the detector searchcoil off the ground, rotate the VLF ground control (K) in a clockwise motion one or two turns — retune with your push-button (N-1) and lower the coil back to the ground. Keep repeating this process until the detector sound does not change when you lower the searchcoil to the ground. At this point the detector is correctly adjusted for VLF searching. If when you lower the detector to the ground, the sound increases as though the entire surface of the ground was one big piece of metal you have **too much** ground control. Rotate the VLF ground control **counter-clockwise** one or two turns and retune with push-button and lower to the ground. Repeat this procedure as necessary until the sound does not increase or decrease but stays right at the same faint level when you lower the detector searchcoil to the ground. This may seem a little confusing but is not really complicated at all once you get used to the sequence of adjusting this control (K).

COIN KING (CK)/ SEARCH KING (SK) and RELIC SEARCH (RS-100/RS-200) MODELS

1. TURNING IT ON (See Figure 4)

Rotate the power switch (0) clockwise until it clicks. This control once turned to the "on" position now becomes a sensitivity or depth adjustment.

If you are a beginner or unfamiliar with VLF-TR detectors, then leave the Power-sensitivity control (0) in the 9 o'clock position for the first 5 or 6 hours of use. This is the minimum sensitivity and depth setting. While it does not detect as deep as full sensitivity (the (0) control in the 6 o'clock position gives maximum depth), this setting makes the detector easier to tune and use while learning. More will be explained about this control as it relates to other controls. Note — this control (0) is not a volume control.

2. INITIAL TUNING

Tune your detector out in the open away from all large metal objects. Hold the detector such that the control box and coil are approximately waist high with the coil extended in front of you.

Locate AUTOMATIC TUNING switch (M-3) and set its position in the forward "Normal Auto" position. While holding the detector by the grip, rotate the TUNING control (J) until a faint sound is heard. Release the TUNING control (J) and set the position of the AUTOMATIC TUNING switch (M-3) to the middle "Manual" position.

Your detector is tuned!

Once tuning has been achieved, do not move the TUNING control to readjust tuning or loudness. Leave it alone! This control requires no further adjusting unless accidentally moved. If this happens, simply repeat the tuning procedure.

RETUNING AND MODE CONTROL (See Figure 4)

Your detector is equipped with a handle-mounted RAM switch (N-2). RAM is an abbreviation for "retuning and mode". The switch allows you to switch from VLF to TR Discriminate plus retune at the same time. You must throw the switch to the right (and release) if you desire to operate in the TR Discriminate mode or to the left (and release) if you desire to operate in the VLF ground control mode. Either of these actions will not only retune the detector but establish mode selection.

Note — If the sensitivity control (O) is moved, the INITIAL TUNING procedure must be followed.

DISCRIMINATION — HOW TO SET (See Figure 4)

In order to adjust the TR-DISC control (L), the MODE SELECT (M-1) switch must be moved into the "Manual" (middle) position.

Assemble a nail, bottlecap, aluminum pull-tab, nickel, penny and a quarter. Use the following settings as guidelines only — test your own detector to be sure. Set the TR-DISC control at or near the 9 o'clock position for "first level nail discrimination". Retune your detector with the RAM switch (N-2). Move this switch to the right (TR) and hold about 1 second. Remove all metal items (jewelry) from hands and arms. Pass the test nail in front of either the top or bottom of the search-coil at a distance of about 3 inches. If no sound is heard, the detector is rejecting the nail properly. Now set the TR-DISC

control to approximately the 2 o'clock position. Retune your detector with the RAM switch (N-2). Pass the bottlecap within about 3 inches of the searchcoil. If no sound is heard, the detector is rejecting the bottlecap properly. Without changing control position, pass a nickel within about 3 inches of the searchcoil — a sharp clear increase in sound should be heard and movement toward positive on the meter should be observed. These are proper results. Now set the TR-DISC control at or near the 4 to 5 o'clock position. Retune your detector with the RAM SWITCH. Pass a pull-tab or nickel, penny and quarter within about 3 inches of the searchcoil. The pull-tab or nickel should produce negative results (lack of sound and negative meter movement). The penny and quarter should produce positive results (increase in sound and positive meter movement). Maximum or screwcap discrimination should be achieved with the TR-DISC control in about the 6 o'clock position. Due to loss of sensitivity, it is not recommended that hunting be done at this level. **Adjustment positions vary between 5Khz and 15Khz units.**

The "Double-Blip" — Don't be deceived!

If the object you are detecting is within 1/2" from the bottom of your coil (and you're operating with maximum sensitivity TR Disc.-manual tuning) you will hear a sharp "blip-blip" target sound. The searchcoil due to its great sensitivity is not "focusing" on the object to determine whether it is a good target or a bad one. This is because of the close proximity of the metal object to the searchcoil's internal structure. Now that the unusual "blip-blip" sound has alerted you to the piece of metal close to the surface simply raise your detector up an inch higher and go back over the target signal. The coil will now properly "focus" and discriminate the target by no sound if it's bad and a good solid tone if it's good. Also a large piece of iron metal like an axe-head, etc. may give a "double-blip" signal if detected within a few inches of the surface.

NOTE — use no more discrimination than is necessary for any specific hunting site. Bottlecap discrimination is best for most sites.

5. **CHECKING BATTERIES (See Figure 4)**

Your detector is powered by 4 or 6 each 9 volt transistor radio

batteries. The batteries may be tested for charge level by using the toggle switch (P) labeled on the panel as BATTERY. Move the switch to left to "A" in order to check the batteries which power the circuit. Move the switch to the right "B" to check the speaker batteries. If the meter needle moves anywhere in the green area, you are getting full performance from you detector.

Average battery life is 25 to 40 hours. Rechargeables may be used. Do not attempt to recharge standard 9 volt batteries.

Battery charge level should be closely monitored. Low charged batteries will result in excessive drift, improper retuning, and/or erraticness. Don't mistake this for an electronic malfunction.

CHANGING BATTERIES (SEE FIGURE 5)

To change batteries, unscrew the battery panel screws on the left bottom side of the control box. Once the panel is removed, all batteries are exposed. Batteries are easily extracted.

SELECTING SOUND PITCH (See Figure 4)

The D-Tex high-low pitch TONE control (Q) is provided to allow you to adjust the pitch of your detector sound to your own personal preference and hearing requirements. Some folks will find they can hear weak detector signals better at a low frequency while others have more success with the sound at a higher frequency. Adjust this control as you wish. No retuning is necessary when you do this. Practice will tell you which tone is best for you.

MINERAL COMPENSATION (See Figure 4)

The ability to compensate/offset soil mineralization is provided by the VLF GROUND CONTROL. This remarkable electronic feature allows you to control the effects of iron minerals in the ground on your detecting capabilities. This is like having a second different type of detector within the same control box.

Before going into a detailed explanation of ground minerals and their effects on the detector operation lets cover how to basically tune the VLF ground control (K). This control has 10 full turns on it. There is only a slight drag or resistance in tuning the control further past the end of its range. This drag can be felt if the control is turned with one finger **only**. If you turn the control with two fingers it is difficult to tell when you reach the end. Practice turning this control both directions with the detector turned off until you can recognize the stopping point on each end of the control function. You cannot damage this control by continuing to turn it past either end of its control range so go ahead and practice.

Having followed the previous tuning and control adjusting instructions switch your detector to the VLF all-metal mode. Simply move the RAM switch (N-2) to the left and release. You will have instantly switched to the VLF mode and retuned your detector at the same time.

Now lower your detector searchcoil toward the ground, bringing it all the way down. Move it around a little to be sure that you are not over a piece of metal. The detector will do one of three things: 1) The sound will quit 2) The sound will increase 3) The sound will stay the same. If the sound quits you need more ground control. Raise the detector searchcoil off the ground rotate the VLF ground control (K) in a clockwise motion one or two turns — retune with your RAM switch (N-2) to the left and lower the coil back to the ground. Keep repeating this process until the detector sound does not change when you lower the searchcoil to the ground. At this point the detector is correctly adjusted for VLF searching. If when you lower the detector to the ground the sound increases as though the entire surface of the ground was one big piece of metal you have **too much** ground control. Rotate the VLF ground control **counter-clockwise** one or two turns and retune with push-button or RAM switch and lower to the ground. Repeat this procedure as necessary until the sound does not increase or decrease but stays right at the same faint level when you lower the detector searchcoil to the ground.

This may seem a little confusing but is not really complicated at all once you get used to the sequence of adjusting this control (K).

USING AUTOMATIC TUNING (Refer to Figure 4)

Your detector is equipped with a unique 2-speed automatic tuning system that gives you greater versatility for additional hunting applications. After you've mastered the manual tuning operation and all the other controls previously described, you can work on the more sophisticated operation techniques of automatic tuning.

When the detector is put into "Normal Auto" it is constantly retuning. You can even set the detector on a big piece of metal and in a moment the detector will retune itself back to its original faint volume level. You can then run a coin in front of the searchcoil while it's on the piece of metal and the detector will read the coin. The detector retunes itself within a second or two if your sensitivity control (0) is set on maximum. If the control (0) is set on minimum, the automatic tuning is slower and takes several seconds to retune. When in TR mode and in automatic tuning, the detector, if set on full sensitivity, will give a sound on trash objects called a backreading. This is a "ringing" sound that occurs after the searchcoil passes over the trash metal object as the detector retunes itself. A coin or good target signal will give a sharp "blip" sound right over the target. With a little practice you can easily distinguish between the good and bad signals. In VLF mode and "normal auto" all metal objects will give a sharp "blip" sound.

Use TR and "normal auto" for areas of light minerals without a great amount of trash objects. In this application the searchcoil will not be affected by the ground minerals to any great degree and will give a wider and deeper searchcoil scanning performance.

When in automatic, notice that if you stop over a signal the signal goes away as the detector automatically retunes itself. To more easily pinpoint, first flip from "normal auto" to "manual". After you've pinpointed the target the detector can then be shifted back into "normal auto". For heavily trashed areas use TR mode and "normal auto" with the sensitivity set on minimum. This will eliminate most of the annoying "backreadings" from trash objects.

Use TR and "normal auto" for hunting wet salt beaches.

Salt water is **positively** mineralized and carries an electrical charge that creates false signals that vary in intensity as each wave comes washing in. This makes the VLF mode virtually useless for this application as it is designed to handle **negatively** charged mineralization. Use the TR mode and "normal auto" and allow yourself 8 to 10 hours to get use to the responses. Your success at the beach should then be very good. (Some beaches containing high amounts of magnetic black sand may however be exceptions to this rule and necessitate the VLF mode operation as their mass counteracts the salt water effect).

The slow automatic feature on your detector (slow auto) is experimental in nature. After you've mastered all the other operational procedures on your detector, play with it and give us your comments as to its capabilities. A bit mysterious perhaps but you could help build the detectors of the future with your use and evaluation of this item. Good luck!

Automatic Tuning Summary:

Gives you greater overall capability of superior detector performance in more metal detecting situations. Remember though it is not designed to excel in **every** detecting circumstance. Master your basic detector functions before beginning to hunt in Automatic Tuning.

DISCRIMINATION — GENERAL DISCUSSION

Discrimination or rejection of unwanted metal object signals on your detector is possible to a high degree with your D-Tex TR Discriminator circuitry. Before explaining how to set your discrimination control let's briefly cover a few facts about discrimination in general.

The four basic levels of discrimination with fine-tuning capabilities between each one. **The First level is Nail Discriminate:** We reject nails, iron wire, and small bits of rusty metal. This level is used by relic hunters hunting bigger iron objects like guns and cannonballs among small bits of metal trash. **The Second level is Bottlecap Discriminate:** We are now also rejecting foil, bottlecaps and many bigger rusty metal objects like tin cans as well as the nails and iron wire. This increased discrimination level provides the best all round sensitivity and performance for coin-

hunting being especially sensitive to small gold coins and rings as well as nickels. About the only trash items not rejected on this setting are aluminum pull-tabs, screwcaps and drink cans and certain large iron objects like safes, cooking pots, axe heads, etc. **The Third level is Pull-tab Discriminate:** At this point we are rejecting all the trash items previously mentioned except aluminum screw-caps and drink cans. We are rejecting 95% of all the discarded aluminum pull-tabs that many modern sites have become infested with. The disadvantages at this point are that we are now **rejecting** small gold items and nickels as junk. All other coins and jewelry will still read. There is also about 15% loss of sensitivity (depth of detection) at this setting. **The Fourth level is Aluminum Screwcap Discriminate:** We now reject all small aluminum items including most drink cans as well as the iron trash. We lose another 10% in sensitivity. This is the maximum amount of discrimination you can use on the detector without rejecting all coins. We do not recommend this level for most detecting applications.

How to Discriminate in Heavy Mineralized Ground

Tune your detector in VLF properly and begin hunting. When you get a target signal put the searchcoil right on top of the signal and flip your RAM Switch right to the TR Discriminate mode. Now keeping the bottom of the coil on the ground and level move it carefully about 2 or 3 inches to one side. If the sound on the detector goes up — **Don't Dig it-It's Junk.** If the sound goes down or quits — **dig it!** It really works — no rapid swinging or "whipping" of the searchcoil is necessary!

GROUND MINERALS — AND YOUR DETECTOR!

These minerals are basically comprised of various forms of mineralized iron, negatively charged, and often invisible to the human eye. They are found in some concentration in about 90% of the soil on the earth. They can be found in either rocks and water as well. These minerals may be present in the soil in either light, medium, or heavy quantities. Ground minerals reduce the depth at which many detectors can detect metal objects and also they can reduce the scanning area of the searchcoil sometimes making it as small as 2". Some of the worst mineralized areas in the U.S. that absolutely require a VLF type detector for successful hunting are almost all of Colorado, California, Alaska, Hawaii, Arizona, New Mexico, parts of Texas, Wisconsin, parts of West Virginia, Kentucky, Pennsylvania, and Georgia.

The first step in overcoming the detrimental effects of ground minerals is to determine what concentration — light, medium, or heavy is present where you intend to search. This is done in the TR Discriminate mode as it is much more sensitive to the effects of iron minerals. Tune the detector as described in the previous pages of this manual. Rotate the Power/sensitivity control (0) all the way clockwise as far as it will go to maximum sensitivity. Retune your detector with push-button or RAM switch with the searchcoil held waist high. If properly tuned you now have a faint sound on the detector and you are in the TR Discriminate mode (Discrimination Control (I) should be set at the 3 o'clock position). Lower the detector searchcoil towards the ground. Note how far above the ground the sound quits on the detector. If light mineralization is present you will get within 6" of the ground before the sound quits. If medium mineralization is present you will have the searchcoil within about 6" to 12" of the ground before the sound quits. If heavy minerals are present the detector sound will quit when the searchcoil is 12" to 24" off the ground. Light minerals mean that you can expect excellent depth on coins and other good targets in the TR discrimination or the VLF ground control mode of operation. Medium minerals means that you will get good performance in TR discriminate (estimate a 25% loss of depth penetration) mode and **excellent** depth penetration in VLF (when properly tuned). Heavy mineralization means generally unsatisfactory results in the TR Discriminate mode and very good results in the VLF Ground control mode. It is possible however to hunt heavy mineralized soil in the VLF all metal mode and to check your signals in the TR discriminate mode before you dig them.

Another way to test for ground minerals is to bury a penny 4" deep in the ground you will be hunting. Tune and adjust the detector in the TR discrimination mode and lower it to ground sweeping over the penny. A loud signal means light minerals and good depth on targets. A faint signal means medium minerals with some loss of depth and scan width on the searchcoil. No signal means heavy minerals — switch to VLF mode for hunting.

Even when you adjust the VLF ground control to get rid of the mineral interference you may occasionally pick up signals from mineralized rocks called "Hot Rocks" or pockets of charcoal. They give you a positive signal in VLF because of their different content of iron based minerals, hot rocks may be quickly identified with the CK, SK, and RS Model Detectors by simply moving

the searchcoil 6" to the side of the reading and moving the RAM switch to the right into TR discriminate. Next move the coil keeping it on the ground back over the reading. A negative response (no sound) will indicate that what the VLF mode detected was a "hot rock" or pocket of charcoal. As you hunt in the VLF mode you may find it necessary to readjust the VLF ground control as ground mineral conditions will change from one area to the next. If you aren't sure that your detector is still properly tuned in the VLF mode, simply raise the searchcoil up off the ground (waist high) and hit the RAM switch to the left for a moment or depress the push-button and release. Go back to the ground with the searchcoil. If you are properly tuned the faint sound will not change. If it does repeat the VLF tuning procedure described under "**VLF Ground control (K)**".

Detector Coil Scan Width:

When you are hunting in the VLF mode and properly tuned, your entire coil is detecting even small objects. When you are hunting in the TR Disc. mode and ground minerals make the sound quit, your searchcoil detection area on small objects like coins is reduced to an area roughly from the top of the searchcoil label to the back of the coil bracket. When this happens, hunt slowly and overlap the area hunted like mowing the lawn.

How to Pinpoint Your Signals:

Upon getting a positive reading on your detector, hold the searchcoil directly over the reading and A) TK and MK Models: Depress the push-button for 1/2 second and release B) CK, SK, and RS Models: quickly flick RAM switch to the left or right and release. This procedure has the effect of shrinking the detection area of the searchcoil to the size of a fifty cent piece with the "Target Center" on the label as the center. You can use this effect to actually trace the shape of many metal objects before you dig them. After "pinpointing" your target under the "X", raise the searchcoil waist high and **retune** with the push-button or RAM switch. A little practice and you can pinpoint even a BB sized object with comparative ease.

WHAT IS DRIFT?

Drift is a condition whereby the detector volume and meter needle start to climb all by themselves when no metal is present and no control has been adjusted. Most detectors have some

minor drift which can be notably more pronounced when taking the detector from a cool temperature (air-conditioned home) to a hotter one (outside 90 °F. day). Once the coil components adjust to the surrounding temperature which may take 5 to 10 minutes, the "drift" slows down to almost nothing.

To correct drift if present in your unit simply retune with the push-button or the RAM switch as necessary.

WHAT SIZE SEARCHCOILS?

Start out with the 8" searchcoil and master it before tackling the bigger searchcoils. For relic and treasure hunting the 10" and 14" coils are almost a must. You can however get outstanding coin hunting results on the bigger coils if the area is not too heavily "trashed". If you work off shore of the beaches and deeper water get an 8" weighted searchcoil with 10 ft cable. Gold Probe is excellent for rough terrain, thick weeds and for underwater.

SHOULD I USE HEADPHONES?

Using headphones increases your concentration, increases privacy, and eliminates background noises.

CAUTION: AVOID EAR DISCOMFORT

Use only Stereo-mono earphones with adjustable volume control on each ear. Set the earphone volume on **minimum** and test on a large piece of metal before increasing. The extra power that brings in the deep weak signals also greatly amplifies the close to surface signals. Stereo headphones or stereo-mono headphones used in the stereo mode will produce sound from only one earpiece. To obtain sound from both ears, use headphones in mono mode.

DON'T HUNT HERE:

If you are a beginner don't pick ghost towns, torn-down and burned down houses and similar sites to learn your detector operation on. These areas due to trash and man-caused mineralization are very difficult to hunt even for a "pro" and just totally frustrate most beginners. You will have a much easier time learning your detector by sticking to house yards, parks, schools, football fields and places like these for the first 30 to 50 hours on your unit.

If possible, hunt with someone who knows how to use your model of detector — you'll be months ahead for it!

TROUBLE SHOOTING YOUR DETECTOR

D-Tex Metal Detectors are designed and built with sophisticated solid-state electronic technology. Although great effort is exerted to insure the highest standards of quality control, occasionally a detector will experience an electronic malfunction.

While you are protected by the D-Tex lifetime warranty, a few simple checks could save a needless trip to the factory for repair.

AN OUNCE OF PREVENTION:

- 1) When working in the rain or on the salt water beach be sure to protect your detector from moisture and blowing sand getting into the controls. It would be advisable to place a plastic bag around the control housing and tie it tight where the stem meets the control box.
- 2) Also be sure after working in a sandy or salt beach area to disassemble the detector stem and wash and wipe the accumulated grit off and out of it. This insures continued smooth functioning of the stem assembly.
- 3) If working the Push button or RAM switch controls under wet or muddy conditions first put a small balloon or the finger out of an old rubber or plastic glove over the end of the handle and tape it. This will protect the control from excess dirt and moisture.
- 4) Avoid storing your detector in extremely hot places like the trunk of a car on a hot summer day.
- 5) When storing your detector for more than a month without using it, remove batteries from the detector.
- 6) Do not attempt to change the type of or add to the battery system in your D-Tex detector. Electronic failure may result. Modifications not made by the D-Tex factory void the warranty.
- 7) Avoid using cheap batteries that have a reputation for leakage or early failure.
- 8) Avoid electronic "alterations" to your unit by self-professed electronic "experts". This many times leaves the detector operator with a unit that doesn't work and a voided warranty.

- 9) When using your detector a long way from your camp or source of transportation always carry an extra set of batteries.
- 10) At least once every 30 hours of use take a few moments to check all exterior fittings and screws on your detector to make sure none have worked loose.

COMMON PROBLEMS AND CORRECTIVE ACTIONS!

Symptom: **Detector does not operate at all (especially after being dropped).** Solution: Check for loose or defective batteries.

Symptom: **Batteries run down too quickly.** Solution: Check for bare wire touching side of can causing a short circuit.

Symptom: **Detector drifts, acts unstable, won't stay tuned.** Solution: Check for low batteries. Remember: Speaker batteries naturally tend to get low faster than the detector circuit batteries. Rotate battery positions in the battery assembly every 8 to 10 hours of operation and when they become low replace all 4 or 6 at once.

Symptom: **"Pulsing" sound in detector tone:** Usually caused by 60 cycle electrical interference from fluorescent lights, overhead high tension lines, heliarc welders, pieces of powerful electronic equipment or even other metal detectors close by on the same frequency. Solution: Move away from or turn off the interfering piece of equipment or if you must operate in such a situation turn your Power/Sensitivity control down to minimum. This will usually help greatly.

Symptom: **Blurred or unclear sound from the speaker:** Can be nothing more than some dirt or other matter lodged between the speaker and the grill. Solution: Try tuning unit with speaker face down, put on full volume and shake vigorously a few times.

Symptom: **Sound quits completely or intermittently.** Solution: Check for loose connections, loose searchcoil cable (wrap securely around stem), loose screws, etc.

Symptom: **Detector gives false signals on wet grass. Solution:** Over 80% of the time when this complaint is made it is not a detector problem but an operator problem. If you're a beginner and this happens to you first go back and carefully re-read the instructions — especially the parts on tuning and discrimination. If this doesn't solve the problem contact your dealer or the factory if purchased there.

Symptom: **Detector drifts or experiences rapid changes in sound and tuning level even when not being used but turned on. Solution:** Most likely low batteries or a searchcoil malfunction. Try it with another coil. It is normal for some slow drift to occur when taking a detector from one temperature extreme to another — example: air-conditioned room to 105 °F. outside with sun shining or plunging from air temperature to a colder body of water. In these cases detector should stabilize after a 5 to 15 minute "warm-up" or "cool-down" period (which ever applies).

Symptom: **Detector gives false signals and will not hold tune-point when coil is held near soil surface. Solution:** Check position of Automatic Tuning selection switch. This control may have accidentally been switched from manual to one of the automatic positions.

IF THE PROBLEM PERSISTS:

- 1) Take the unit to a D-Tex Regional Headquarters if one is near you as they may possibly be able to repair it there if the problem is of minor nature. If not they can help you box it up for return to the factory.
- 2) Unit must be **securely** packaged in original box or similar container for shipment to the factory, D-Tex cannot assume responsibility for damage caused by improper customer packaging.
- 3) **Most important:** Include a letter explaining in detail the problem you are experiencing with the detector.
- 4) Detector will be repaired under the terms of the warranty at the end of these instructions.
- 5) Allow 2 to 3 weeks round trip for your detector to be received, repaired, and returned to you.

WARRANTY AND REPAIR: D-Tex Electronics warrants each D-Tex Metal Detector against defect in workmanship or material for the lifetime of the original retail purchaser. Units for repair may be shipped directly to the manufacturer by either customer, dealer, or distributor. Distributors are authorized to do minor repairs such as meters, push-buttons, switches, etc...

If a detector does need to be returned to the factory for servicing, the customer should ship the detector, prepaid freight, to the factory. A note should always be included to explain the nature of the problem. Under the guarantee, the detector will be serviced at no charge and returned C.O.D. for the shipping charges plus \$10.00 packing and handling. Additional guarantee: Any new D-Tex Detector experiencing a malfunction due to defective materials or workmanship within thirty days of retail purchase may be replaced by the factory with a new detector of the same model when it is received at the factory (prepaid freight).

This warranty does not cover abnormal use of or accidental physical damage to the metal detector. This warranty gives the purchaser specific legal rights and he or she may also have other rights which may vary from state to state.

Looking Into The Future!

All of us at D-Tex wish you the very best of success with your new metal detector. If we can be of any further assistance just let us know.

We do make one request of you. The way you conduct yourself in your treasure hunting adventures will serve as an example to the rest of the world of what a great bunch of people treasure hunters are. Please carefully fill the holes you dig and respect other people's property. This way, we may all continue to enjoy this modern day search for adventure called treasure hunting for a long time to come.

**Golden Rule of Treasure Hunting —
Leave it as it was when you arrived!**