



*"The Name That Means Treasure"*

*Tejón*



**OPERATOR INSTRUCTION MANUAL**

# TEJÓN

## OPERATOR INSTRUCTION MANUAL

### CONGRATULATIONS!

Your new Tesoro Tejón metal detector is part of a new series of detectors designed to provide you with many happy hours of enjoyment in the most rewarding hobby I can think of—treasure hunting. Ahead of you lie fascinating and exciting experiences as you step into the past—uncovering artifacts lost by past generations, or as you take pleasure in the great outdoors with family and friends searching for precious metals. I wish we could share these experiences with you, and all of us at Tesoro wish you the best of success.

Your Tesoro detector is capable of meeting your needs in a wide range of treasure hunting situations. As with any other metal detector, familiarity with this instrument is probably the limiting factor in determining how successful you can be. I recommend that you read this manual and fully understand how to operate this detector before attempting to use it in the field. As you become more familiar with your detector through practice, your rate of success will increase dramatically.

The Tejón is a precision electronic instrument that will last for years if properly cared for. Treat it right and it won't let you down.

Good Hunting!

Jack Gifford

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# GETTING STARTED

## UNPACKING THE BOX

Your Tejón was shipped with these parts:

### 1 Upper Pole Assembly

Fully assembled, including upper pole stem with handle grip, padded arm bracket and control housing.

### 1 Middle Pole Assembly With Pole Lock

### 1 ABS Lower Pole Assembly

Fully assembled, complete with two friction washers, mounting screw, and thumb nut.

### 1 9 x 8 Monolithic Searchcoil With 42" Cable and Scuff Cover

### 2 Battery Packs, Each With 4 AA Batteries

### 1 Warranty Card

### 1 Operator Instruction Manual

If any of these items are missing, immediately contact the Tesoro Authorized Dealer where you purchased your detector.



Assembling the Tejón is simple and requires no special tools. Just install the battery packs, mount the searchcoil on the lower pole assembly, connect the pole assemblies together, wrap the excess cable around the pole, and plug the cable into the control housing. Finally, adjust the pole length and searchcoil angle and you're ready!

## INSTALLING THE BATTERY

The Tejón is powered by 8 AA batteries divided into 2 compartments, which are located in the armrest housing.

Open the battery compartment under the armrest by gently grasping the bottom edge of the door and pulling outward and upward. (The door is hinged at the top.)

Remove the batteries by pressing down on the right side of the 4-pack battery holder so that the left side of the holder will pop up. Pull out the holder and replace the batteries as needed.

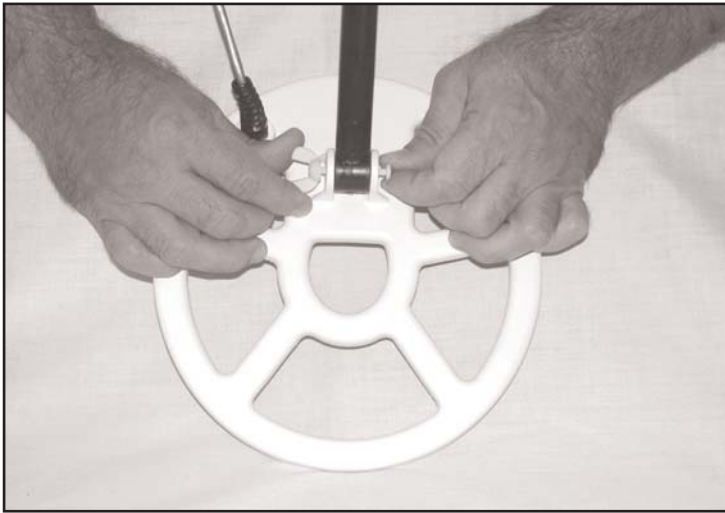


When returning the holder, note the position of the spring clips inside the armrest housing and make sure that the battery pack contacts fit snugly against the springs. Insert the side with the contacts first and then press down on the left edge of the battery holder to reseal the holder.

Snap compartment cover to close.

## ASSEMBLING YOUR DETECTOR

- 1) On the lower pole assembly, remove the mounting screw and thumb nut from the pole tip.
- 2) Insert the pole tip between the mounting ears of the searchcoil and align the holes of the pole tip and washers with those of the mounting ears.



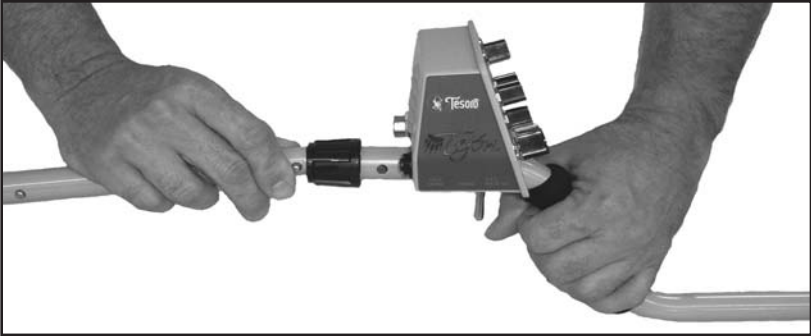
*Note: The pole tip should fit very snugly into the mounting ears.*

- 3) Insert the mounting screw through the holes in the mounting ears and pole tip—entering from the side opposite the cable connection.
- 4) Install the thumb nut on the mounting screw and tighten by hand.

*Note: Do not overtighten the thumb nut. It should be snug but not too difficult to loosen up.*

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- 5) On the middle pole assembly, depress the two spring buttons and slide the middle pole assembly into the upper pole assembly until the spring buttons click into the holes, locking the two assemblies into place. Tighten the pole lock to secure the two assemblies together.



- 6) Slide the lower pole into the middle pole until the spring buttons click into the first set of adjustment holes. Turn pole lock to tighten the assemblies into place.
- 7) Wrap the cable around the pole leaving enough slack near the searchcoil to permit searchcoil adjustment.

***Note: Do not allow the cable to flop loosely over the searchcoil. Since the detector is sensitive enough to “see” the tiny wires in the cable, a floppy cable can cause false signals as the searchcoil senses the moving wires.***

- 8) Plug the male cable end into the female connector on the control housing and tighten the cable thumb nut. You are finished!

***Note: You will want to adjust the pole length and the searchcoil angle to your preference.***



## ADJUSTING THE POLE & SEARCHCOIL

The pole length should be adjusted so that the detector does not become uncomfortable or tiring after long periods of use. The detector grip should rest in your hand with your arm relaxed, your elbow straight but not locked, with the pole extending out in front of you at the approximate angle shown in the photo.

You should be able to swing the detector back and forth in front of you—using relaxed *shoulder movement*—while keeping the searchcoil as close to the ground as possible. This swinging movement is often called a “sweep.”

The searchcoil should not touch the ground during your sweep. The pole length should be adjusted to allow this without having to lift the detector with your elbow or shoulder. The searchcoil should rest about one inch above the ground while you are standing erect. The angle of the searchcoil should allow the bottom to be parallel to the ground.

The pole length is adjusted by loosening the pole lock, then depressing the spring buttons and extending or shortening the pole until the spring buttons click into the set of holes that gives you the most comfortable pole length.

To adjust the searchcoil angle, simply loosen the searchcoil thumb nut slightly and move the searchcoil into the desired position. Tighten the searchcoil thumb nut by hand so that the searchcoil will hold in place.



## QUICKSTART SELF-GUIDED TUTORIAL

The Quickstart is designed to teach you how to use your new Tejón. It provides a quick and easy means of learning your detector and the concepts behind all of the functions.

You will need the following items:

- 1) Your fully assembled Tejón
- 2) An iron target (a small nail or screw will do), a nickel, a zinc penny (1982 or later), a quarter, and a couple of different pulltabs
- 3) A nonmetal tabletop or counter

Here's what you will do:

- 1) Prepare for the Quickstart
- 2) Perform Audio Battery Test
- 3) Adjust THRESHOLD
- 4) Adjust Ground Balance for Air Test
- 5) Perform Air Test in All Metal Mode
- 6) Adjust TONE Control for All Metal Mode
- 7) Adjust TONE Control for Disc Mode
- 8) Adjust SENSITIVITY
- 9) Perform Air Test in Disc Mode
- 10) Activate TRIGGER SWITCH Mode
- 11) Perform Air Test in ALT DISC LEVEL Mode
- 12) Perform Air Test in Pinpoint Mode

### Prepare for the Quickstart

Place your assembled Tejón on the nonmetal surface. Make sure that there are no metal objects near the coil and remove any jewelry from your hands and wrists.



Start with the controls as shown in the photo below:

- 1) SENSITIVITY, DISC LEVEL and TONE turned completely counterclockwise past the click.
- 2) THRESHOLD and ALT DISC LEVEL turned completely counterclockwise.
- 3) GROUND ADJUST turned to the 12 o'clock position.
- 4) TRIGGER SWITCH Mode in the center position (underneath housing).



## Perform Audio Battery Test

Turn the SENSITIVITY knob clockwise just past the click to about 3 or 4. You should hear 6 to 7 quick beeps. This indicates that your batter-



ies are fully charged and ready to go. As the batteries drain, you will hear fewer beeps. When you only hear 1 or 2 beeps, it will be time to replace your batteries. This test should be performed once or twice during your detecting outing. This will ensure that your machine has the correct battery power to maintain optimum detector performance.

## Adjust THRESHOLD

To adjust the threshold tone, turn the THRESHOLD knob clockwise until you hear a slight but steady tone. You may have to turn the knob to somewhere between the 1 o'clock and 3 o'clock position to get the best hum. Please remember that the threshold only affects the all metal mode.



The purpose of the threshold tone is to give a reference to judge targets for pinpointing and to adjust the ground balance. (For more information on ground balancing, see the “Adjust Ground Balance for Air Test” section on the next page and the “Ground Balancing in the Field” section on page 16.)

In the field, some targets may be small enough or deep enough that they will not be able to generate an audio signal by themselves. By monitoring a threshold tone, you already have a slight audio tone so changes are easier to hear. However, if your threshold tone is set too soft or too loud, small changes in the signal will be hard to hear. Take some time and find a threshold level that is right for you.

## Adjust Ground Balance for Air Test

The ground balance function for your Tejón is a form of discrimination that allows you to tune out the mineralization in the ground that may mask targets or decrease the detector's depth and sensitivity. The GROUND ADJUST knob is on a 3 and  $\frac{3}{4}$ -turn potentiometer. While the knob will turn endlessly in either direction, when the potentiometer is at the end of its range, a slight drag may be felt.

*Note: The following procedure is for the air test only. For directions on ground balancing your Tejón in the field, see the "Ground Balancing in the Field" section on page 16. For the best performance of your Tejón in the field, the machine must be ground balanced to the location in which you will be working.*

To set the GROUND ADJUST knob for the air test, turn the knob four turns clockwise and then turn the knob one half turn counterclockwise. No further turns will be needed for the air test.

## Perform Air Test in All Metal Mode

Once you have set the correct threshold tone and adjusted the ground balance, you are ready to perform the air test in the all metal mode. Your Tejón is currently in the VCO-style of all metal mode. You will find that as targets get closer to the coil, the threshold tone will get louder and higher in pitch.

Try waving your targets in front of the coil. Start from a distance of 10 to 12 inches away from the coil and slowly work your way closer to the coil. Then try starting from 6 inches from the left or right of the coil and work your way into the center of the coil. Notice the changes of the audio signal. Your strongest signal will always be closest to the center of the coil. Additional target information can also be learned by the signal strength and pitch. A smaller or deeper target will give a less noticeable change in the threshold tone than a larger or shallower target will give. Take some time and try all of your targets at different depths to find out how your detector sounds.

## Adjust TONE Control for All Metal Mode

The Tejón has the ability to adjust the pitch of the all metal and discriminate audio signals to suit your audio tone preferences. Turn the TONE knob clockwise just past the click. Your Tejón will no longer operate in the VCO mode. The all metal will now only respond with a single tone for threshold tone and any target. Wave a target in front of the coil and notice the pitch of the audio tone. Continue waving the target as you slowly turn the TONE knob. You will find that the farther the TONE knob is turned clockwise, the higher in pitch the audio tone becomes. Take some time to try different tone settings.



## Adjust TONE Control for Disc Mode

To adjust the tone for the discriminate mode, turn the DISC LEVEL knob clockwise just past the click. You are now in the discriminate mode. The first thing that you will notice is that the threshold has gone away. The Tejón works in a silent search discriminate mode. You will only hear a signal when there is a target beneath the coil. The TONE knob works the same way in discriminate as it does in the all metal mode. You may want to switch back and forth between the discriminate and all metal modes. You will notice that once the pitch has been set with the TONE knob, it remains the same in both modes. If you set the TONE knob back into the VCO setting, the discriminate will operate on a preset audio

pitch. Take some time to try your targets with various settings and find the tone setting that is most comfortable for you.



## Adjust SENSITIVITY

The most common use of the detector is to hunt in the disc mode and switch to the all metal to pinpoint a target. This will give you the advantage of ignoring unwanted targets and not having to listen to the threshold hum until you are ready to pinpoint and dig a target.

The all metal circuit uses a single channel to detect various metals. The discriminate circuit uses two different channels, then amplifies and filters them. The detector will then compare the signals and determine whether or not to beep at the target. While there is a great advantage to ignoring unwanted targets, it can make the circuitry more susceptible to interference. A number of outside conditions such as power lines, highly mineralized soil, and wet salt sand can cause interference.

The SENSITIVITY knob is used to raise or lower the power to the operational amplifiers, which changes the gain. Gain is a measurement of how much a signal is amplified. The higher the gain the more depth and sensitivity to small objects a detector has. Unfortunately, any small interference that is amplified can cause the detector to become erratic. The SENSITIVITY control is used to find the best gain setting in any location without letting the detector become unstable.

The SENSITIVITY knob is numbered from 1 to 10 with an orange area called the Max Boost Zone. For normal hunting, anywhere in the numbered zone will work very well. However, the Max Boost will allow you to increase the power to the operational amplifiers to the point of overload. This may cause your detector to become unstable and force you to turn the SENSITIVITY knob to a lower setting. An overload situation *will not* hurt your detector, but it will maximize the gain that is used by your detector. This can, in certain conditions such as low mineralization in the soil, cause your detector to penetrate deeper into the ground and become more sensitive to small targets.



Take some time to wave targets in front of the coil with different sensitivity settings. If you are indoors, you may find that you are unable to turn the SENSITIVITY knob as high as you would if you were outdoors. Notice that the higher the sensitivity setting, the farther away from the coil that a target can be and still respond with an audio signal.

### **Perform Air Test in Disc Mode**

As discussed before, the discriminate mode is used to filter unwanted targets from good targets. The principle behind this is pretty simple. The detector sends out a signal and then receives it back creating a small electronic field. As metal passes through the field that the detector generates, it causes a change in the received signal. The amount of change that each type of metal causes is fairly constant; therefore, we can tune our detectors to miss targets that we don't want to find. The change is based on the amount of conductivity of each target type. The general list of conductive targets is as follows: iron, foil, nickels, gold jewelry, pulltabs, screw tabs, pennies, and silver coins starting with dimes and working up to silver dollars. This list is meant to be a guide only. There is a point that some pulltabs, nickels, and gold jewelry overlap. Also, the depth of the target and its orientation in the ground can change the received signal. A coin that is flat to the coil will produce a better signal than a coin that is

on edge. Take some time to try different combinations of depths and orientations of your targets to find out how your detector responds.



We are now ready to discriminate targets from each other. We will start with the DISC LEVEL at ALL METAL. Please notice that the DISC LEVEL knob has words that correspond to the items that are discriminated out. All of your targets will respond with a good audio signal at the ALL METAL setting. Next, we will turn the DISC LEVEL up to the 5¢ setting. This level is typically high enough to knock out the nickel. At this time, the iron target and the nickel should give no response, while most of the pulltabs, the zinc penny, and the quarter will give a solid response. Next, turn the DISC LEVEL knob just past the TAB marking. At this time, most or all of the pulltabs should not give any audio signal. The zinc penny and the quarter should give a strong signal. Now, roll the DISC LEVEL all the way to SCAP. Notice that the penny has stopped responding and only the quarter is still responding. The discrimination will not go high enough to lose most of the silver coins. When you are done with your air test, turn the DISC LEVEL knob counterclockwise to the IRON position.

This air test is designed to quickly show you how your discriminate mode works. Each machine may be a little different from all of the others, so you may want to take some time and try different targets to find responses of your machine. At a later date, you may want to build a test garden to test your detector in the field.

## Activate TRIGGER SWITCH Mode

Your Tejón uses a TRIGGER SWITCH to change the operating mode. The TRIGGER SWITCH is a three-position switch that is spring-loaded on both ends and will always return to the center position when released (switch is located underneath housing).

The center position is the regular discriminate and is controlled by the lower discriminate knob marked DISC LEVEL. The knob is used to set the amount of discrimination that you would like to hunt with or to place the Tejón in a slow retune all metal mode.

Pulling the TRIGGER SWITCH toward the handle will place your Tejón into the pinpointing mode. This is a fast retune all metal mode. While the switch is pulled, you will hear a threshold tone.

Pushing the TRIGGER SWITCH forward away from the handle will place your Tejón into the alternate discriminate mode. The upper discriminate knob marked ALT DISC LEVEL controls this mode.



Flip the TRIGGER SWITCH back and forth and let it return to the center position.

## Perform Air Test in ALT DISC LEVEL Mode

Leave the TRIGGER SWITCH in the center position and check all of your targets. The iron target should be knocked out, but all other targets should generate an audio response. If you are getting a target response from the iron, turn the DISC LEVEL knob high enough to discriminate it out.

Push the TRIGGER SWITCH forward and check the iron target again. At this time, you should get a target response. Take a moment or two flipping from the DISC LEVEL to the ALT DISC LEVEL using only

the iron target. Notice how easy it is to discriminate out the target.

Set the ALT DISC LEVEL to the SCAP (screw cap) position. Leave the TRIGGER SWITCH in the center position. Check all of your targets. They should all sound off except the iron target. Push the TRIGGER SWITCH forward and check the targets again. The only target response should be from the quarter. With this particular DISC/ALT DISC setting, you will hunt for targets in the regular discriminate and check any targets that you find to see if they are silver coins or jewelry using the ALT DISC LEVEL mode.

Take some time to try other combinations of DISC LEVEL and ALT DISC LEVEL settings to find the ones that match your detecting style.

## **Perform Air Test in Pinpoint Mode**

Turn the DISC LEVEL knob all the way counterclockwise until it clicks. This will put you into the slow retune all metal mode. Hold a target over the center of the coil. After eight to ten seconds, the target signal will fade to the normal threshold signal. Move the target very slightly from left to right and forward and backward. As you move the target away from the center of the coil, the signal will fade into silence. Bringing the target back over the coil will result in a target signal. Take some time to find the strongest all metal signal over your coil.

Hold your target over the center of the coil and pull the TRIGGER SWITCH toward the handle of your Tejón. This will put you into the fast retune all metal or pinpointing mode. You will notice that the threshold hum will fade down to normal within three to four seconds. Move your target from right to left and forward and backward. Due to the fast retune, you will be able to move your target in shorter, faster arcs for fast pinpointing. When in the field, pulling the TRIGGER SWITCH into the pinpointing mode will allow you to tighten your coil sweeps to just a few inches and quickly pinpoint your target. Take some time to try the slow vs. fast retune features for the all metal mode.

## **Conclusion**

Congratulations, you have just finished the Quickstart for your new Tejón detector and in the process have learned quite a lot about your detector. But experience is the best teacher. I recommend that you get out and practice with your detector as much as possible. Any time spent using your detector will give you valuable experience.

## OPERATING TECHNIQUES

### Ground Balancing in the Field

Ground balancing is not a difficult procedure, but it is critical if you desire maximum depth and stability. It is especially important if you plan to find deep relics or prospect for gold nuggets.

To ground balance in the field, we will start by assuming your detector is turned off. This will be the normal condition of your detector when you start hunting. Ground balancing can be done at any time while you are using the detector. It is *not* necessary to turn the machine off each time that you ground balance.

Start with the controls in the following positions:

- 1) SENSITIVITY on OFF.
- 2) Mode in the ALL METAL position. Your Tejón can be set into ALL METAL by turning the DISC LEVEL knob counterclockwise until it clicks and leaving the TRIGGER SWITCH in the center position or by simply pulling the TRIGGER SWITCH back toward the handle and holding it in place.
- 3) All other controls will be set during the ground balancing procedure or are not applicable at this time.

Turn the detector on by rolling the SENSITIVITY knob clockwise to about 9 or 10 on the dial. You will hear the battery test to let you know the detector is operating. Next, adjust the THRESHOLD knob until a slight, steady hum is heard. The machine is now ready to be ground balanced. Next, find an area that has no metal targets in the ground, as this may give false readings while in the ground balancing procedure.

As shown in the photos, raise your searchcoil about 6 to 8 inches off the ground. This is high enough so that the detector will no longer read the minerals in the ground. While listening to the threshold sound, lower the searchcoil to about 1 inch off the ground. As the coil is



dropped, the detector will start to read the ground minerals and will give you one of three sounds: 1) The threshold tone will get louder. This is a positive response. 2) The threshold tone will go quiet, followed by a quick tone. This is called a negative response. 3) There will be no change in the threshold tone as the coil is dropped. This is the balanced response. When you get a balanced response, the detector is telling you that it is ready to hunt.



The positive and negative responses are easy to adjust. If you get a positive response, turn the GROUND ADJUST knob toward the minus sign on the face or in a counterclockwise direction. Getting a negative response means turning the GROUND ADJUST knob toward the plus sign on the faceplate or in a clockwise direction.

Here is an example of balancing: After setting up the detector, you raise the coil and then push it to the ground. As the coil drops, the threshold hum gets louder. You then turn the GROUND ADJUST knob counterclockwise toward the minus sign. You pick up the coil and push down again. This time you get a slightly negative response. Turn the GROUND ADJUST knob a little bit toward the positive or in a clockwise direction. When raising and lowering the coil, the threshold makes no change as the coil is dropped. At this point, the detector is balanced for the area and is ready to hunt.



Ground balancing is a learned skill, one that you should practice often. It is easy to practice almost anywhere—your front or back-

**AVOID THIS!** Never tilt your searchcoil when "pumping" your detector to ground balance.

yard, a local park, or a fair-sized flower garden. When you are practicing, make sure that there are no pieces of metal underneath your coil that may cause a target sound.

*NOTE: Please remember that the coil must be lifted straight off the ground. Swinging the coil in an arc, like a pendulum, will cause false readings and will result in an improper ground balance.*

## Handling Your Detector

The detector should be held in a position that is comfortable for you as shown in the “**Adjusting The Pole & Searchcoil**” section in *GETTING STARTED*. Swing the detector from side to side in about a three foot arc, overlapping succeeding strokes well. This motion is called a “sweep.” The Tejón is designed to get maximum depth without the frantic pace required of earlier motion detectors, so go at a pace that is comfortable for you. In fact, trying to hunt too fast may even cause a loss of depth in heavily mineralized locations.

Regardless of which mode you are using, try to keep your searchcoil height constant and close to the ground. Most people tend to raise the coil at the end of a sweep—much like a pendulum—especially if they are in a hurry. Try to avoid this as any increase in height from the ground will cause a corresponding loss of depth.

In areas with well-kept lawns, the easiest way to maintain a constant searchcoil height is to allow the coil to rest on the grass as you sweep from side to side. In rough and rocky areas, it is best not to “scrub” the coil on the ground, as the rocks will act like abrasives and wear away the coil bottom (a coil scuff cover will protect against this). Sweep the coil as close to the ground as possible without touching. Hitting the ground or rocks may cause a false signal. Sweeping the coil too high above the ground results in a loss of depth.

## Pinpointing a Target

When pinpointing a target, the all metal mode can offer advantages over the discriminate mode, such as no false signals and no need to move the searchcoil to get a target response.

A good method for pinpointing in the all metal mode is “X-ing” the target with the searchcoil. Remember that the target's response sound is always greatest when the target is directly under the center of the search-

coil. To “X” a target, sweep the searchcoil over the target from side to side and then from front to back until you can identify the center of the X—the spot on the ground where the target response sound is the greatest.

Pinpointing a target in the discriminate mode is probably best done by “X-ing” as well. Remember that the detector will beep just as the target passes under the center of the searchcoil. Slowing the sweep speed down will help you pick out the center of the X because the target response is reduced at very slow speeds making it easier to correlate the sound with the coil center.

Another easy method is to sweep the coil from side to side across the target in very short sweeps as you slowly move forward and backward across the target. Slow down the sweep rate and shorten the sweeps until you just barely get a response at one spot. The target will be directly below the coil center at this response time.

Another method of pinpointing in the discriminate mode is to quickly change to the all metal mode to check the target response. Remember that the all metal mode is not susceptible to the false signals of the discriminate mode and can sometimes give a clearer and more consistent response to difficult targets such as a dime buried next to a pulltab. By switching back and forth between modes and comparing the target response sound in all metal to the target response sound in discriminate, you can often better identify the likely location of the target.

Finally, raising the searchcoil during pinpointing can also help by narrowing the response to the target. Practice pinpointing often, and you will soon become more accurate and faster.

## **Planting a Test Garden**

To better learn how your detector performs in the field, it is helpful to bury some coins and trash metal junk items in an area that you know is clear of other metal objects, and then try the Tejón in the all metal & discriminate modes. Check the area in the all metal mode to be sure it's clear of trash. Then bury the targets at least 1 foot apart and from 2 to 4 inches deep to start. Make a map of the area to be sure you know what each target is and how deep it is. Practice on these targets to familiarize yourself with your detector's target response. This will also help you learn the proper sweep speed for best operation. This type of practice area is often called a “test garden” or “test bed” and is one of the best tools to help you develop your metal detecting skills.

## RECOMMENDED RECOVERY METHODS

Adapted from “Tools ’N Techniques” By Robert H. Sickler

### METHOD 1 - “PROBE AND DRIVER”

Used in less moist lawns where targets are not so deep (1 to 4 inches) and where “plugging” is objectionable. This method requires more practice but is much less damaging to grass than Method 2- “Plugging” shown on the next page.

After pinpointing the target, use a nonmetallic probe such as a modified fiberglass fishing rod or a metallic probe such as a blunted ice pick (the former causes less damage to the target) to locate the target depth (Figure 1A). Next, insert an eight-inch screwdriver on center just above the target and rotate slightly to open the ground (Figure 1B). Now insert the screwdriver just under the target at an angle and lever the target to the surface (Figure 1C). Brush all loose dirt back into the hole and close the hole by exerting pressure all around the opening (Figure 1D).

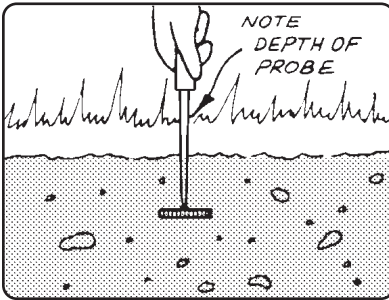


Figure 1A

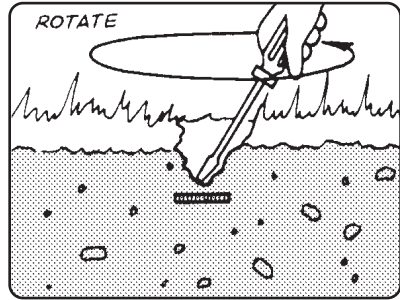


Figure 1B

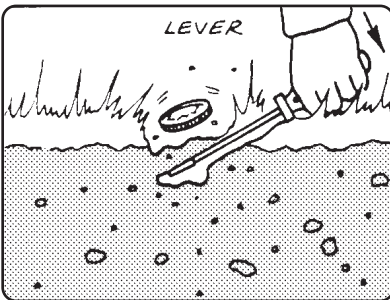


Figure 1C

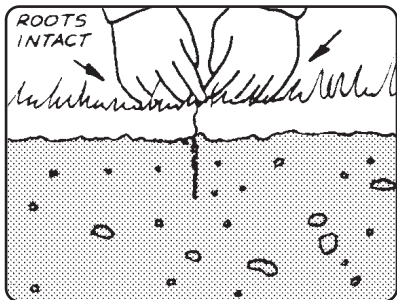


Figure 1D

## RECOMMENDED RECOVERY METHODS

Adapted from "Tools 'N Techniques" By Robert H. Sickler

### METHOD 2 - "PLUGGING"

Used only where allowed in natural wooded areas and very moist lawn areas. Plugging in hard dry ground can damage grass roots leaving yellow "dead spots" in time.

After pinpointing the target, use a six-inch sturdy hunting knife to cut three sides of a four-inch cube around the target center (Figure 2A). Cutting a "hinged" cube-shaped plug rather than a complete cone-shaped plug will properly orient its return, prevent its removal by a lawnmower, and lessen the chance of scratching the target. With the knife blade, carefully pry against the cube side opposite the "hinge" and fold back (Figure 2B). Sweep the searchcoil over the plug and hole to isolate the target location. If the target is in the plug, carefully probe until located. If the target is in the hole and is not visible, probe the bottom and sides until located, then remove it (Figure 2C). Repeat sweep for additional targets. Replace all loose dirt with the plug. Seat the plug firmly with your foot (Figure 2D).

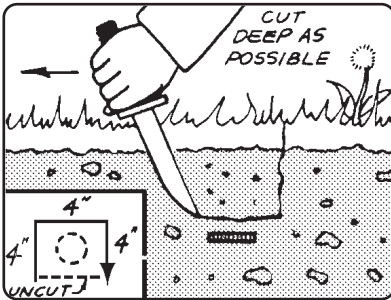


Figure 2A

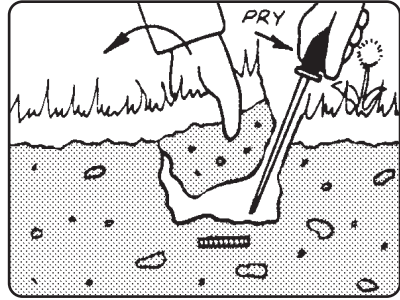


Figure 2B

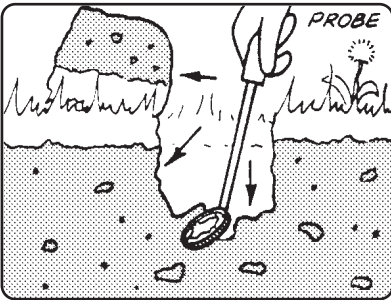


Figure 2C

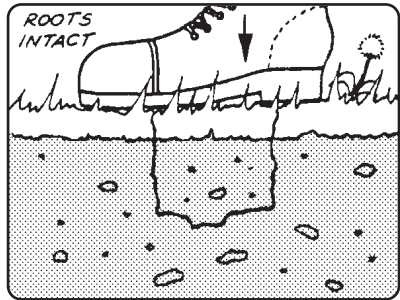


Figure 2D

## **GENERAL INFORMATION CARE AND USE**

### **Basic Care**

The Tejón is a sturdy instrument, but it is not designed to withstand abuse. In caring for your Tejón, there are several important “DO NOTs” to remember. DO NOT use it to pry rocks loose or to beat bushes out of the way. DO NOT drop the machine into water. DO NOT use it unprotected in the rain. DO NOT leave it exposed at night where dew can form on it. DO NOT store it in places that can get extremely hot (next to a woodstove, in an attic). DO NOT leave it in the trunk of a car or in the back of a hatchback-style car where high temperatures can build up. DO NOT store it with the batteries installed as batteries may leak. DO NOT spray lubricants such as WD-40, or any type of cleaners, solvents, sealants or other chemicals into or onto the electronic parts, switches, or controls. And finally, DO NOT attempt to modify or repair the detector’s electronics as this will void your detector’s warranty.

**THE WARRANTY DOES NOT COVER DAMAGE  
RESULTING FROM AN ACCIDENT, NEGLIGENCE, OR ABUSE.**

### **Protecting your investment**

Often detectorists are disappointed when their new detector slowly becomes less and less responsive and seems to have lost some of its original peak performance. You can help avoid this from happening to your detector by following these basic care and protection guidelines:

- ☑ Operate your detector exactly as recommended in this operator instruction manual.
- ☑ Use only high-quality alkaline batteries of the correct voltage. Never substitute a different voltage. When using a Ni-Cad battery, always use a separate convertible pack with the proper voltage output for the detector’s design.
- ☑ Remove the batteries from the detector after each use. This will prevent damage to the detector if the batteries leak.
- ☑ The searchcoil cable is hard-wired to the searchcoil and protected by a strain relief. It is very important that the strain relief remains intact and should *never* be adjusted or tampered with.

- ☑ Keep cables properly wound around the pole stems and protect them during use. Floppy, pinched, or cables that become snagged during use may short, causing erratic noises or unnecessary replacement of the searchcoil.
- ☑ Sweep the searchcoil carefully, especially when using around rocks and building foundations. Avoid hitting the searchcoil against hard, solid objects and surfaces.
- ☑ Keep your searchcoil slightly off the ground during the sweep, especially when using in gravel or hard, rocky dirt.
- ☑ Always use a properly designed protective scuff cover on the searchcoil. (See “**Optional Accessories**” on the next page.)
- ☑ Remove and clean out scuff covers periodically to avoid buildup of mineralized dirt particles which will affect performance.
- ☑ The searchcoil is waterproof and can be submerged in either fresh or salt water. After the searchcoil is used in salt water, rinse it and the lower stem assembly well with fresh water to prevent corrosion of the metal parts.
- ☑ The searchcoil is waterproof but *the electronics are not*, so always prevent any moisture or water from entering the control housing and never allow the cable connectors to become submerged in water.
- ☑ If working in or near water, or if there is a possibility of rain, use a protective weather resistant pouch or plastic bag to cover the control housing. Make sure it can “breathe” in order to ensure against condensation buildup inside.
- ☑ After each use, clean the detector with a soft cloth to remove dust, moisture, or other contaminants.
- ☑ When transporting the detector in a car during hot weather, store it on the floor of the passenger compartment if possible. Using a carry bag gives additional protection. In any case, never allow the detector to roll around unprotected in the trunk or back of a pickup truck.
- ☑ Protect your detector from dust, moisture, and extreme temperatures during storage.
- ☑ When shipping, use the original factory carton or similar heavy-duty container and provide a minimum one inch of padding around all parts.
- ☑ Treat your detector as you would any sensitive electronic instrument. Though ruggedly constructed and designed to withstand the demands of normal treasure hunting, proper care is essential.

## OPTIONAL ACCESSORIES

Tesoro metal detectors and genuine Tesoro accessories are sold only through independent Tesoro Authorized Dealers, who are almost always metal detectorists themselves. They can answer your questions about your Tesoro detector, what accessories may be helpful, and about metal detecting in general.

See your Tesoro Authorized Dealer for more information and prices on optional accessories.

### Scuff Covers

We highly recommend using a scuff cover to protect your searchcoil at all times. The scuff cover for the Tejón, fitted with the 9 x 8 monolithic searchcoil, is Tesoro part # SCUF-9x8.

### Searchcoils

The 9 x 8 monolithic searchcoil provided with the Tejón is designed for the best all-around performance. Optional searchcoils may add to your detector's performance.

Smaller searchcoils give better “target separation”—that is, more distinct target response for metal objects buried closely together—which is very useful when hunting trashy sites. Very small searchcoils can deliver the best response and depth to small targets such as fine gold chains with some sacrifice in depth on larger objects. Larger searchcoils give a wider sweep, covering more ground, and provide greater depth especially on larger objects; however, they may not detect some very small objects such as half dimes and will have difficulty in very trashy areas.

Widescan searchcoils ignore ground mineralization better than concentric searchcoils and may offer improved performance in extreme ground conditions.

Selecting the right optional searchcoil depends on factors such as what you are searching for and search site conditions. No one searchcoil is better than all the rest. Several optional interchangeable searchcoils are available for the Tejón. They are all easy to mount and require no special tools. See the next page for a list of these searchcoils with the Tesoro part # and description.

## Tesoro Searchcoils

<u>Tesoro Part#</u>	<u>Description</u>
COIL-7EC-G	7" elliptical concentric
COIL-8RC-G	8" round concentric
COIL-8.5RW-G	8.5" round widescan
COIL-10EW-G	10" elliptical widescan
COIL-11RW-G	11" round widescan

Optional scuff covers are also available for any Tesoro searchcoil.

## Headphones

Most metal detectorists prefer to use headphones instead of the detector's built-in speaker. Headphones help block out background noise (such as wind) and make it easier to hear faint signals. Headphones with a built-in volume control will allow you to adjust the sound volume to your preference.

## SPECIFICATIONS

Operating Frequency.....	17.2 to 17.6 kHz
Searchcoil Type .....	Monolithic (Carbon Fiber)
Searchcoil Size .....	9 x 8
Cable Length .....	Approx. 42 inches
Audio Frequency .....	Approx. 215 to 830 Hz
Audio Output .....	2¼" speaker and headphone jack
Headphone Compatibility .....	¼" stereo plug
Weight (may vary slightly).....	2.98 lbs.
Battery Requirement .....	Eight AA (alkaline)
Battery Life (typical) .....	20 to 30 hours
Optimum Temperature Range .....	30° to 100° F
Optimum Humidity .....	0 to 75% R.H.
Operating Modes .....	Slow Auto-Tune All Metal
.....	Silent Search Discriminate
.....	Alternate Silent Search Discriminate
Pinpoint Mode .....	All Metal Fast Auto-Tune

## **METAL DETECTORIST'S CODE OF ETHICS**

1. Always check federal, state, county, and local laws before searching. It is your responsibility to “know the law.”
2. Abide by all laws, ordinances, or regulations that may govern your search and the area you will be in.
3. Never trespass. Always obtain permission prior to entering private property, mineral claims, or underwater salvage leases.
4. Do not damage, deface, destroy, or vandalize any property, including ghost towns and deserted structures, and never tamper with any equipment at the site.
5. Never litter. Always pack out what you take in and remove all trash dug in your search.
6. Fill all holes, regardless how remote the location. Never dig in a way that will damage, be damaging to, or kill any vegetation.
7. Do not build fires, camp at, or park in non-designated or restricted areas.
8. Leave all gates and other accesses to land as found.
9. Never contaminate wells, creeks, or any other water supplies.
10. Be courteous, considerate, and thoughtful at all times.
11. Report the discovery of any items of historic significance to the local historical society or proper authorities.
12. Uphold all finders, search, and salvage agreements.
13. Promote responsible historical research and artifact recovery and the sharing of knowledge with others.

## **WARRANTY SERVICE**

Your Tesoro metal detector is covered by a Lifetime Warranty, the terms of which are listed below. If your metal detector should require service, you may return it to the Tesoro factory at the address below.

## **WARRANTY DESCRIPTION**

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

This instrument is warranted to be free of defects in material and workmanship as long as it is owned by the original consumer purchaser. This warranty is not transferable and is valid only if the warranty registration card has been completed and mailed within 10 days of purchase.

TESORO will, at its option, repair or replace any instrument covered by this warranty, without charge, except for transportation charges, at its factory in Prescott, Arizona.

This warranty excludes batteries, damage caused by leaky batteries, cable breakage due to flexing on body mount units, and wear of the searchcoil housing. Also excluded are instruments which have been abused, altered, or repaired by an unauthorized party.



**Metal Detectors**

*For warranty service, call or write:*

**Tesoro Electronics, Inc.  
Service Department  
715 White Spar Road  
Prescott, AZ 86303  
(928) 771-2646**