

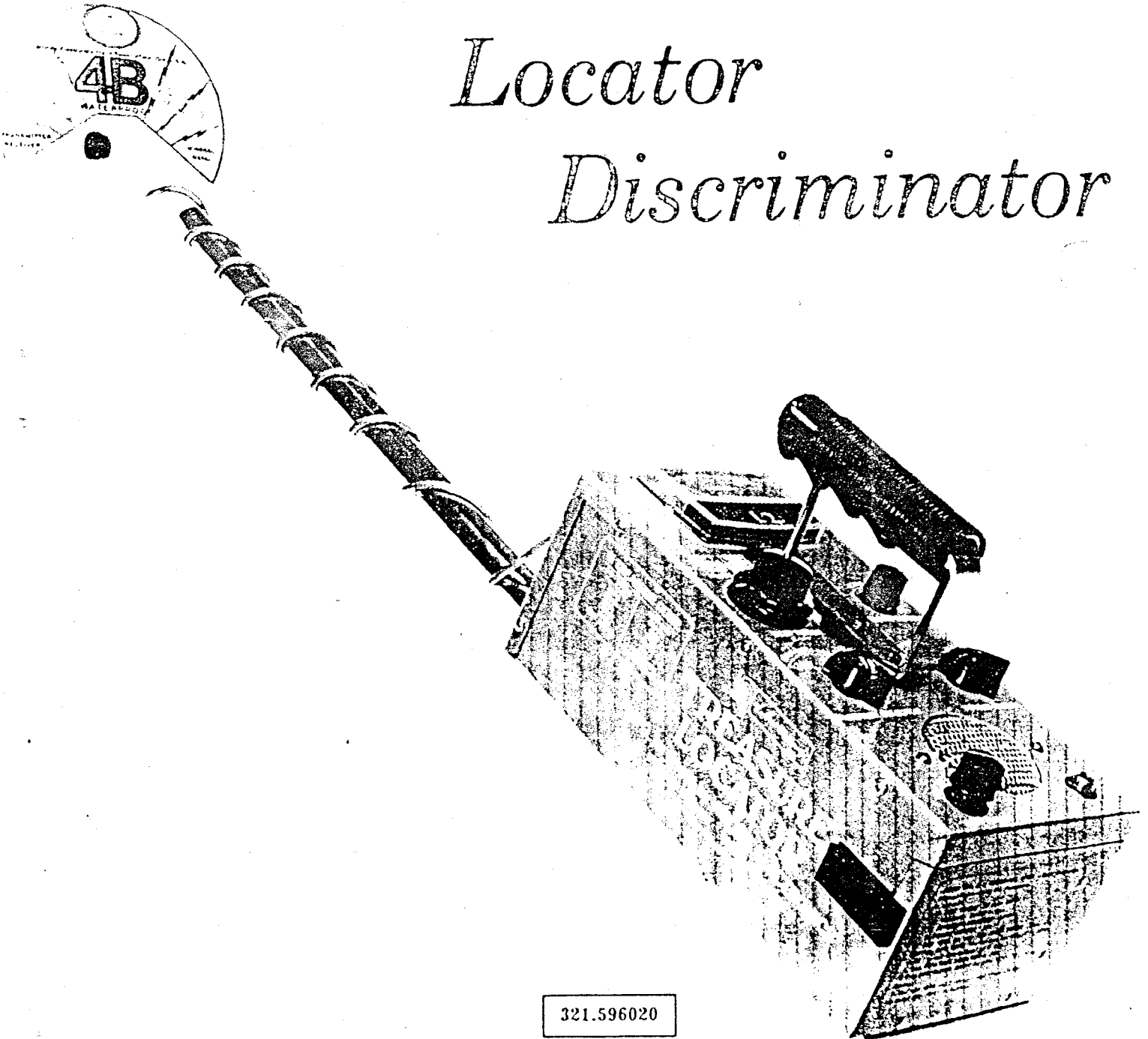
SEARS

Ted Williams

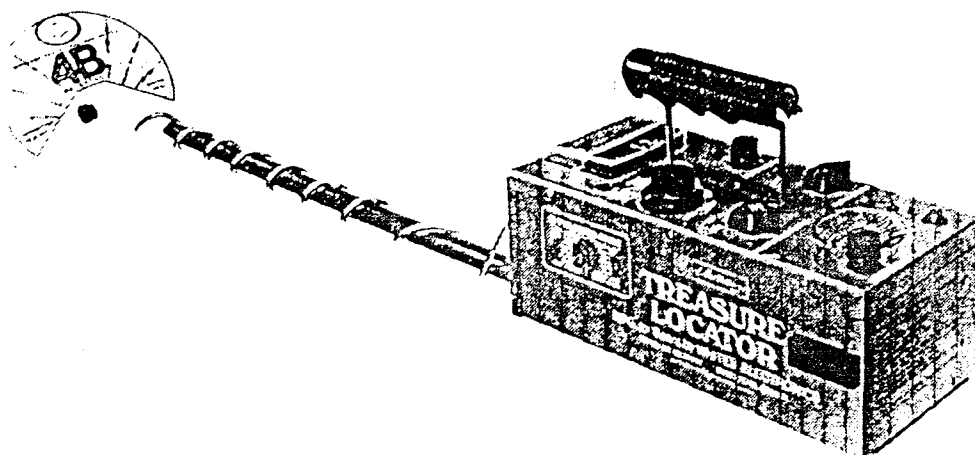
Treasure

Locator

Discriminator



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Sears
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Treasure Locator
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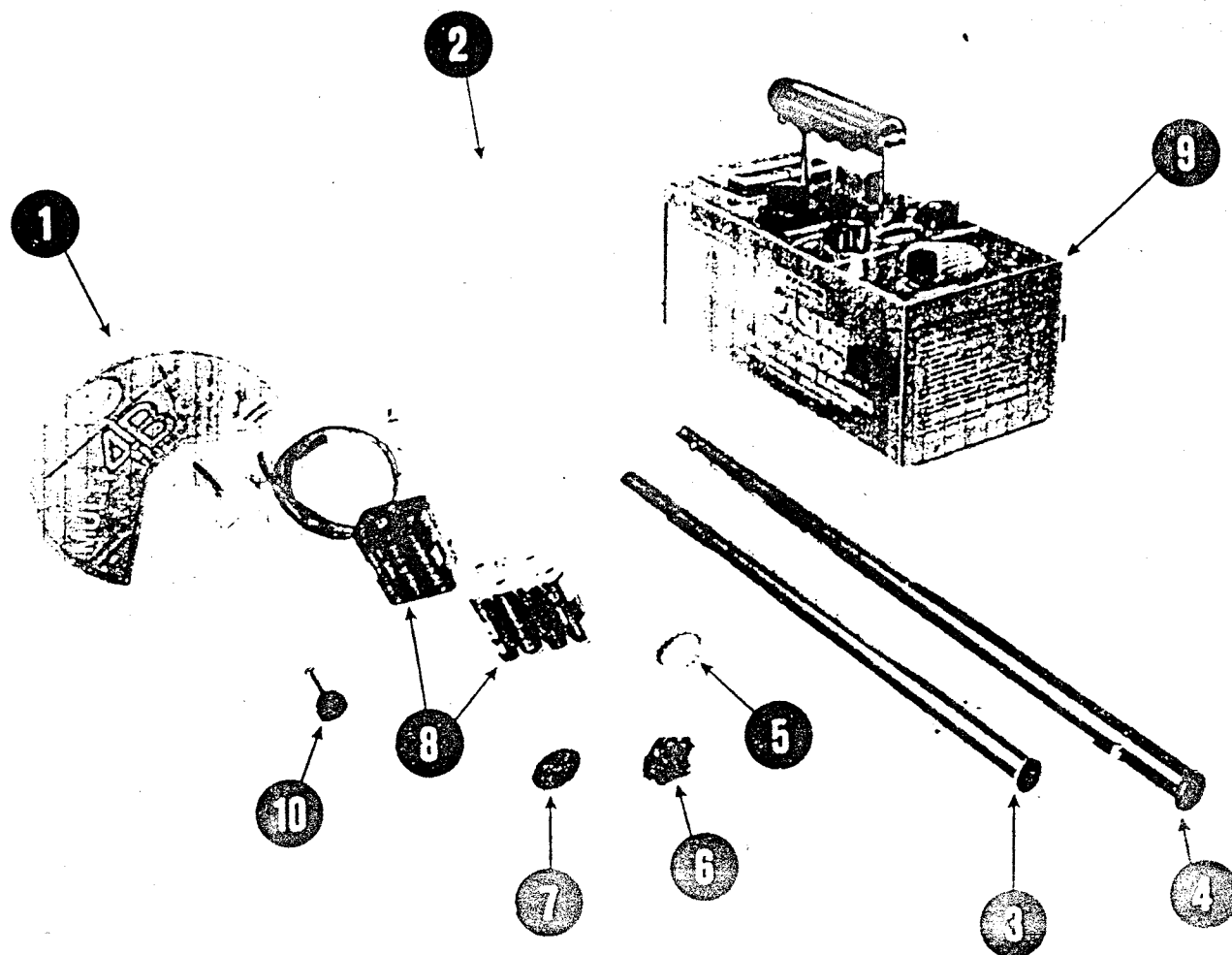
Introduction

There are two main types of metal detector currently available: Beat Frequency Oscillators (BFO) and Transmitter-Receiver (TR). For many years the BFO was the best available, but recent developments have made the TR instruments much more sensitive, reliable, and easier to use. The Sears TR-Discriminator by White's Electronics incorporates the very latest of these advances and is unexcelled for performance among metal-mineral detectors.

Developed primarily for the "coinshooter", the Sears Discriminator can be tuned to reject such unwanted items as bottlecaps, tinfoil, and nails. The coinshooter equipped with this instrument can therefore spend much more time digging up valuable coins and less time chasing after gum wrappers and other refuse.

Unlike most competitive equipment, the Sears Discriminator is actually three metal detectors in one. In the LOW position it is a highly sensitive metal-mineral detector. When the operator selects HI, the Sears Discriminator will suppress most of the unwanted false signals caused by highly mineralized soil conditions. In the DISC MODE the instrument assumes its discriminator role. No other detector on the market can match this performance.

This USER'S MANUAL, is designed to help you get the most out of your Sears Discriminator. Read the instructions carefully, practice often, and take care of your instrument - you have the finest equipment money can buy. The rest, of course, is up to you!



Unpacking Your Sears Discriminator

When you unpack your Sears Discriminator, compare what you've got with the picture above. Fill out the Warranty Card and mail it within ten days of purchase.

IF ANY PARTS ARE MISSING, CONTACT YOUR SEARS STORE AT ONCE. Your problem will receive prompt attention. In any case, this is what you should have:

SEARS DISCRIMINATOR

- | | |
|--------------------------|----------------------------------|
| 1. Detector Loop | 6. Mineral sample |
| 2. Protective Loop Cover | 7. Coin Sample |
| 3. Lower Loop Rod | 8. Battery Packs (2) |
| 4. Upper Loop Rod | 9. Ted Williams Treasure Locator |
| 5. Bottlecap | 10. Loop Bolt and Thumbnut. |

SHIPPING DAMAGE

If your Sears Discriminator appears to have been damaged in shipment, contact the Sears store where you purchased your instrument. Please save the original packing materials and all labels—these may be required for insurance coverage.

Assembly

Detector Loop to Loop Rod (Figure 1).

A. Put white plastic end of Lower Loop Rod (1) between mounting flanges of Detector Loop (2); line up bolt holes.

B. Gently push Loop Rod Bolt (3) through holes; screw Thumbnut (4) onto Loop Rod Bolt (3).

C. Tighten Thumbnut (4) FINGERTIGHT.

CAUTION!!
DO NOT USE PLIERS ON THUMBNUT - TIGHTEN IT FINGERTIGHT ONLY!

DOUBLE CAUTION!!
DO NOT DISTURB LOOP CABLE CONNECTOR (5) IN ANY WAY - LOOP CABLE CONNECTOR HAS A WATER-TIGHT SEAL THAT WILL BE DESTROYED IF YOU TRY TO TIGHTEN IT OR LOOSEN IT. THIS WILL VOID YOUR WARRANTY!

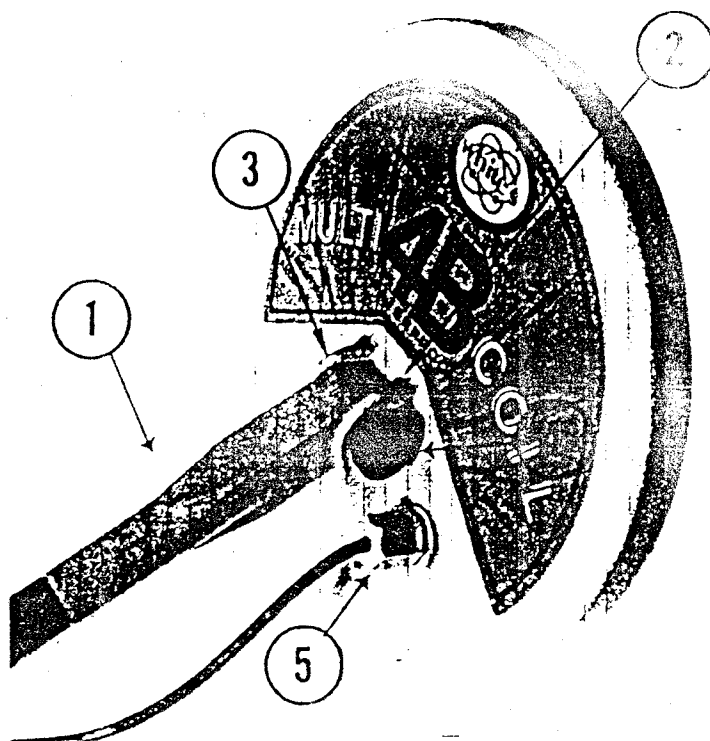


Figure 1

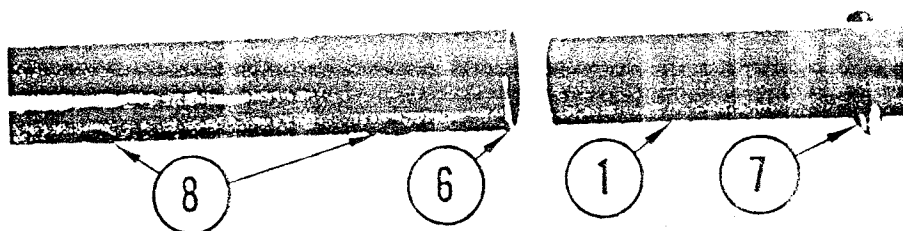


Figure 2

I. Lower Loop Rod to Upper Loop Rod (Figure 2):

A. Insert Lower Loop Rod (1) into Upper Loop Rod (6); press Retainer Buttons (7) so that they go inside upper rod.

B. Line up the Retainer Buttons (7) with one of four sets of holes (8) in Upper Loop Rod (6) they will "click" into place.

C. Which set of holes (8) you choose will be determined by how tall you are and what you find to be comfortable when you start to use your Sears Discriminator.

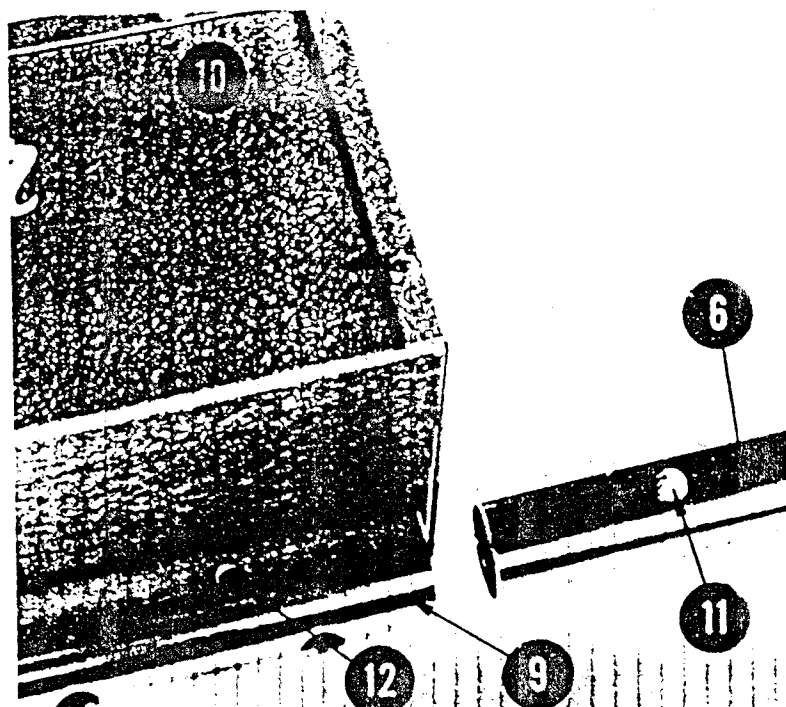


Figure 3

III. Loop Rod to Instrument Case (Figure 3):

A. Slip the Loop Rod (6) inside the Loop Rod Holder (9) on the bottom of the Instrument Case (10); press the Retainer Buttons (11) and push them inside the Loop Rod Holder (9).

B. Line up the Retainer Buttons (11) with the holes on the SIDES of the holder (12); the holes on the bottom are the WRONG HOLES.

NOTE: Several types of Loop Cable Connectors (4) are used on Sears detectors. Your instrument may not be equipped with a Twistlock as shown in figure 5.

IV. Connecting Loop Cable (Figure 4 & 5)

A. Wrap Loop Cable (1) around Loop Rod (2) as in picture on Page 1.

B. Line up Ridge (3) on inside of Twistlock Connector (4) with Slot (5) on inside of Plug (6) on front of Instrument Case (7).

C. Insert Twistlock Connector (4) into Plug (6) taking care not to use too much force - it should go in very easily.

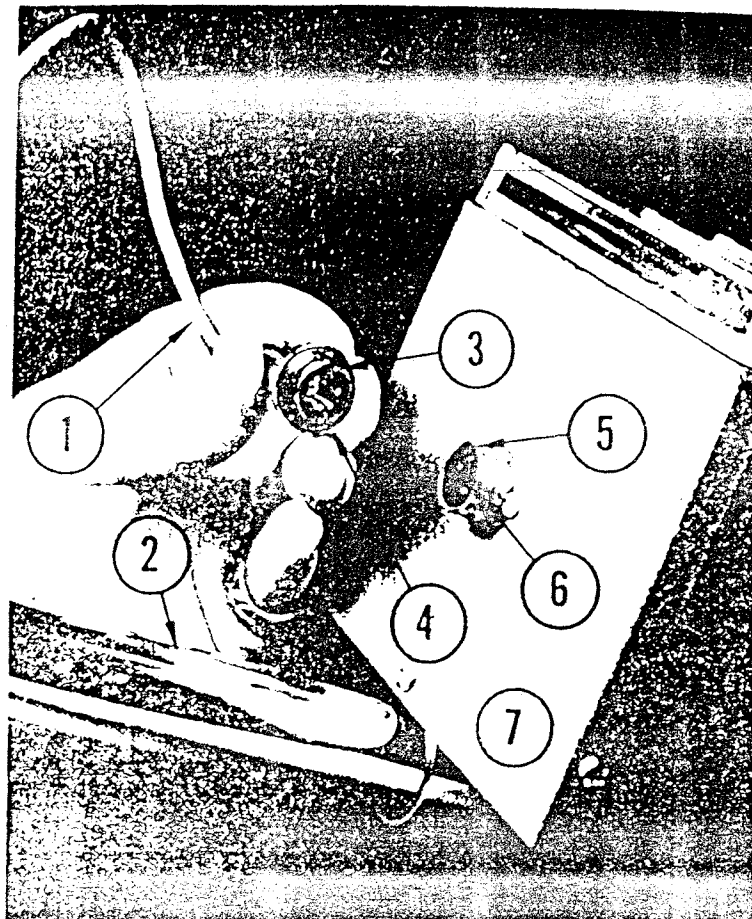
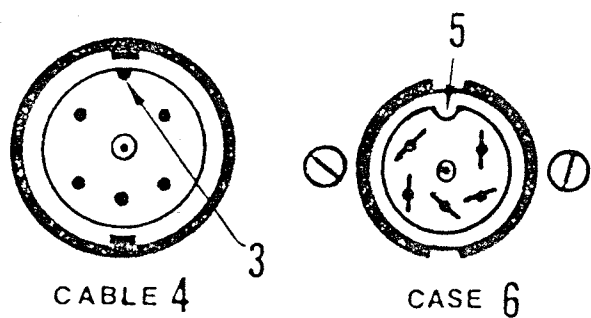


Figure 4



D. With Twistlock Connector (4) firmly seated, turn Locking Ring (8) to the RIGHT as shown in Figure 5. (See Note Above)

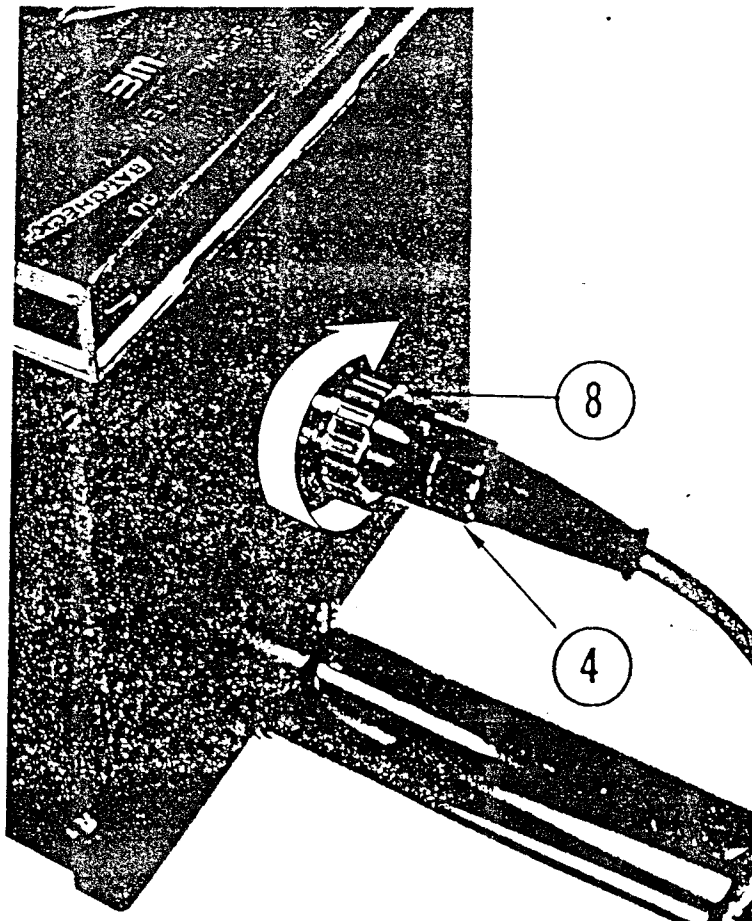


Figure 5

Battery Installation

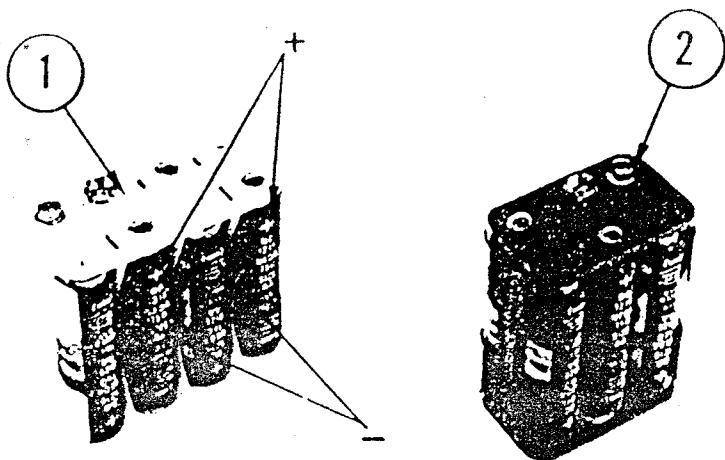
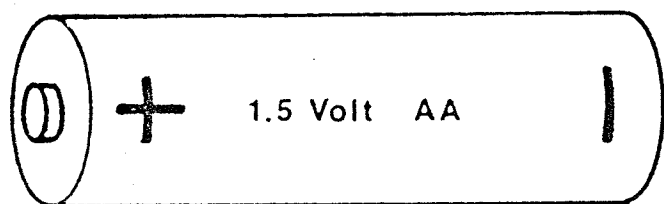


Figure 6



V. Battery Installation (Figures 6 & 7):

A. Check both White Battery Pack (1) and Black Battery Pack (2) for polarity - each AA penlight battery should have negative (-) end compressing the spring inside its holder and the positive (+) end should be at the end without spring. **POSITIVE (+) AND NEGATIVE (-) ENDS OF THE BATTERIES SHOULD ALTERNATE AS SHOWN IN FIGURE 6.**

B. Connect White Battery Pack (1) to White Battery Connector (3) and Black Battery Pack (2) to Black Connector (4). **NOTE THAT CONNECTOR WILL ONLY FIT ONE WAY.**

C. Install Battery Packs (1 & 2) inside Battery Compartment (5).

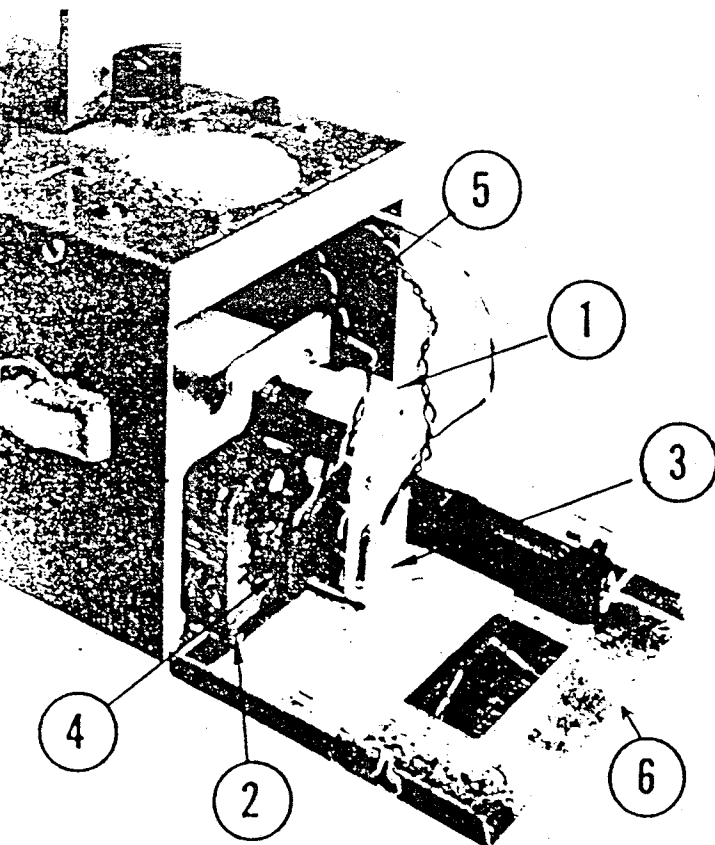


Figure 7

NOTE:

When closing Battery Access Door (6), always make sure that wires are not pinched between door and instrument case.

Battery Testing

Condition of batteries may be tested at any time by turning Power Switch (1) to either the "9" or "12" positions. In both positions the meter needle (Fig. 10) should go well into the BAT CHECK zone (2). The "9" position tests the nine-volt (black) battery pack and the "12" position tests the 12-volt (white) battery pack. IF THE METER NEEDLE DOES NOT COME ALL THE WAY UP TO THE "BAT CHECK" ZONE WHEN THE SEARS DISCRIMINATOR IS FIRST ASSEMBLED, THEN AT LEAST ONE BATTERY IN THE PACK BEING TESTED IS PROBABLY INSTALLED BACKWARDS. In this case, remove the battery packs and repeat step V. A. If the batteries should ever fail to measure up after a long period of use, then they are probably running down. Remove the battery packs and test each battery separately as below.

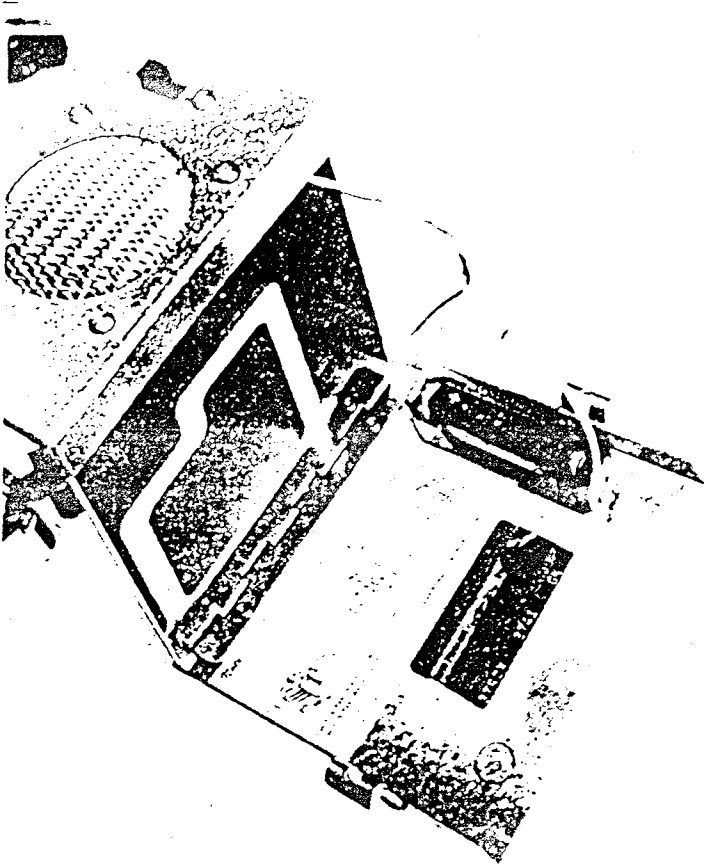


Figure 8

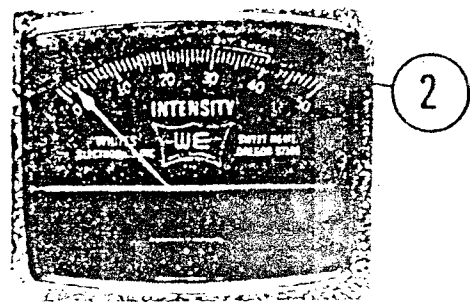


Figure 10

The Sears Discriminator has a single-battery tester inside the battery access door. Single batteries may be removed from the battery packs and tested in this tester as shown in Figure 8. When testing single batteries in this way, the Power Switch (1) has to be in the "Off-1-cell" position.

Tuning Procedure

DISCRIMINATOR CONTROLS

The Treasure Locator Discriminator has five operating controls:

- (1) Power Switch
- (2) Main Turner
- (3) Function Selector
- (4) Discriminate Turner
- (5) Volume Control

In addition the instrument is equipped with a signal intensity meter (6); audio-speaker (7); and a headphone jack (8).

TUNING THE TREASURE LOCATOR DISCRIMINATOR

Set your Treasure Locator on a table with the loop extending into the air, AWAY FROM ANY METAL, as shown in Figure 12. Place a medium thick book under each side of the instrument case so that it remains steady while you are getting familiar with this operation. NOTE: The fellow in the picture has removed his watch and rings so that there is no metal on his hands that might interfere with the tuning of the Treasure Locator. You should do the same.

To tune the Treasure Locator for maximum sensitivity follow these simple steps carefully. If you have never used a metal detector before BE SURE that you "test tune" as outlined below before you try it on the ground. In some areas of the country the ground itself can cause false signals that make first time tuning for a novice very difficult.

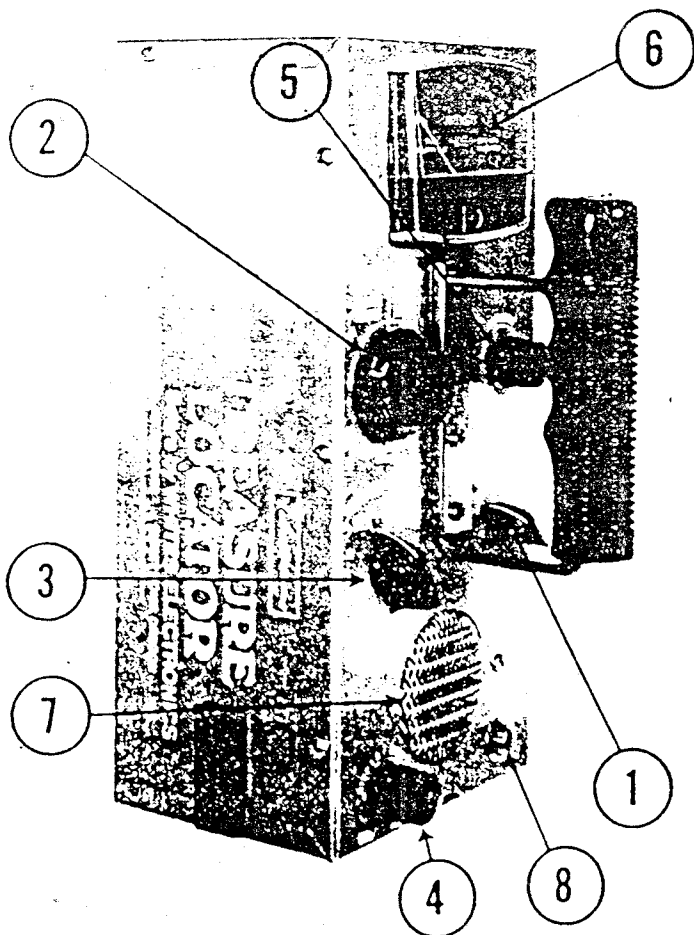
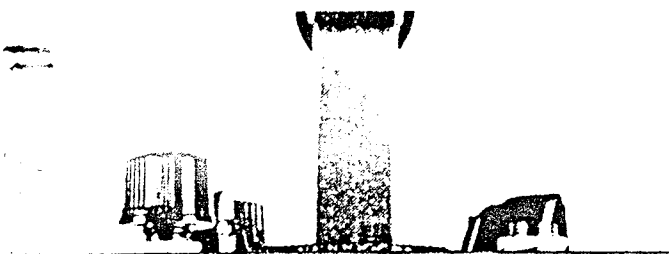


Figure 9



NOTE: This is a REMINDER ONLY - Read Instruction Manual before tuning this instrument.

1. Controls:

- A. DISC TUNER - 10 turns LEFT
- B. VOLUME - RIGHT to limit
- C. FUNCTION SELECTOR - LOW
- D. POWER SWITCH - ON.

2. Find NULL (no tone with MAIN TUNER - then turn LEFT for LOW TONE. You can now use detector in LOW or HI - to tone discriminator go to Step 3).

3. Turn FUNCTION SELECTOR to DISC.

4. Turn DISC TUNER RIGHT for LOW TONE (10 to 50 on Meter).

5. Test with nickel and bottlecap - tone should INCREASE on nickel, GO AWAY on bottlecap.

These simplified tuning instructions appear on the rear of the Sears Discriminator. They are placed there to aid you in tuning your instrument while working in the field.



Figure 12

I. Set controls:

- A. Disc tuner (4)—ten turns to the LEFT.
- B. Volume Control (5)—FULL RIGHT (maximum).
- C. Function Selector (3)—LOW FUNCTION
- D. Power Switch (1)—ON

DO YOU HEAR A TONE FROM SPEAKER?

IF YES - Then find the NULL - Turn Main Tuner (2) either LEFT or RIGHT until tone goes away. You will not have to turn the knob more than five turns in either direction.

IF NO - You either have the NULL or the batteries are not properly connected. Check for NULL by turning the main tuner (2) LEFT up to two full turns. If you get a tone, go back to NULL. If you do not get a tone, go to BATTERY INSTALLATION on Page 5 and check the proper installation.

II. SET MAIN TUNER (2) for A SOFT METAL THRESHOLD. From the NULL turn Main Tuner LEFT (towards soft metal arrow) until tone just starts (10 to 40 on Signal Intensity Meter).

Hold a coin in front of loop face and note how the tone changes as you move the coin closer to the loop and back and forth across the loop face. NOTE: Do not place the coin directly on the loop when making these tests.

You have now tuned the Treasure Locator for the best search sensitivity in both LOW and HIGH functions. Coins, rings, bottle caps, jewelry, pull tabs, and many other metal objects will now cause the tone to increase sharply as they come into the loop field. Objects that are mostly iron or steel will cause the THRESHOLD TONE to disappear.

III. Turn FUNCTION SELECTOR (3) to DISC FUNCTION.

IV. Turn DISC TUNER (4) RIGHT until tone ALMOST goes away.

V. Hold a bottle cap in front of loop face, as in Figure 12. Notice how the Threshold Tone disappears when the bottle cap gets close to the loop. This means that the Discriminator Circuit is causing the bottle cap to act like an iron object would act in LOW FUNCTION. In DISC FUNCTION only "good finds" (coins, rings, etc.) and pull tabs will cause an increase in tone. (You can increase the Discrimination to the point where pull tabs will also be rejected, but this setting will also reject nickels and many rings.)

VI. Turn DISC TUNER (4) LEFT reducing Discrimination a small amount. Adjust the main TUNER (2) RIGHT for Threshold Tone. Try the bottle cap again as in Step V.

VII. Repeat Step VI. until you reach a point where the tone does not go away when you bring the bottle cap near the loop face. At this point you have eliminated all DISCRIMINATION but you should be right on the edge of this point.

VIII. JUST BARELY restore Discrimination by turning DISC TUNER (4) RIGHT a small amount, readjusting MAIN TUNER for Threshold Tone. The idea is to obtain the smallest amount of Discrimination that will still reject the bottle cap but maintain maximum sensitivity to other types of finds.

At this point the Treasure Locator Discriminator is fully "BENCH TUNED". Make a final test with both the coin and the bottle cap to make sure that the instrument will detect the coin and reject the bottle cap. Further adjustment, should it become necessary, will be done with the loop on the ground to compensate for mineralization of the soil which can cause "false readings" in some parts of the country.

REPEAT ALL STEPS UNTIL YOU CAN DO THEM WITHOUT LOOKING AT THE MANUAL. THEN YOU WILL BE READY TO WORK IN THE FIELD

HOW TO USE YOUR DISCRIMINATOR

If you were to go outside your house right now and drag a magnet through some loose soil, chances are quite good that it would "grow hair" as particles of magnetic iron collected on its surface. If you are going to use a metal detector in an area like that, you're going to have to cope with the common problem of false signals caused by this "mineralization."

There are at least two ways to test for mineralization. First, lower the loop slowly to the ground after tuning in LOW mode for a metal threshold. Note the height of the loop above the ground when the sound goes away. The closer the loop gets to the ground before the sound disappears, the lower the mineralization. Two to four inches would indicate low to moderate mineralization while eight to ten inches means that it can really be a problem, at least until you learn to handle it. The other method is to tune the detector in LOW mode with the loop on the ground for the metal threshold. The higher you can raise the loop before the sound blares up, the lower the mineralization.



Once you have tuned the detector on the ground and you start sweeping the loop back and fourth, you will notice that you get a "false signal" every time you pass the loop over a depression or raise the loop to go over a clump of grass. There are two ways to cope with this: (I) Detune the detector by turning the Main Tuner back into the NULL; (II) Switch to HI mode and sweep the loop fairly quickly back and forth, switching to LOW or DISC when a sharp "bleep" indicates a find.

IN GENERAL, THE BEST WAY TO USE A DISCRIMINATOR FOR PRODUCTIVE COINSHOOTING IS TO SEARCH IN "LOW" OR "HI" AND CHECK FINDS WITH "DISC" TO WEED OUT THE JUNK. IF YOU ARE USING THE DETECTOR FOR RELIC HUNTING OR PROSPECTING, THERE WILL BE LESS OCCASION TO USE THE "DISC" FEATURE.

In order to get acquainted with the kinds of sounds produced by various kinds of buried objects, the serious coinshooter plants a "test garden" that serves two functions: First, it enables the operator to get familiar with known objects at known depths and the kinds of sounds that can be expected. Second, it provides a method of checking the performance of the instrument over a period of time, making sure that it is still performing at top efficiency. Bury some coins, tinfoil, bottlecaps, and other metal objects at known depths in an area where you can always get to them and will remember where they are. After you have gotten familiar with what you've planted, have someone else plant some of these items where you don't know exactly where they are. See if you cannot only find them, but identify them before you dig them up. NOTE: When you bury coins, do not bury them more than three inches down. This is the limit for a freshly-buried coin (in the ground less than a year); a coin that has been buried for a long time (and is thus more valuable!) causes a chemical "halo effect" in the soil around it and acts like a much larger, and easier to find, target.

MINERAL SETTING

All through the preceeding instructions, you have been told to tune your detector for a SOFT METAL THRESHOLD tone by turning the Main Tuner (2) LEFT out of the quiet NULL. This setting will pick up non-ferrous metal objects - gold, silver, etc. - as an increase in the tone and allow ferrous (iron-containing) objects to drop the tone. You need to know that there is also a MINERAL THRESHOLD on the other side of the NULL where this order is reversed. This is labeled MOST IRON.

NOTE: THE DISC MODE WILL NOT WORK IN A MINERAL SETTING!!

If you wanted to find objects that are primarily made of iron, you would find the NULL as before but turn the Main Tuner (2) out of the NULL to the RIGHT instead of the LEFT. Now, ferrous objects will cause the tone to increase and gold and silver and other non-ferrous objects will cause the tone to decrease or go away. This feature is a useful one, especially if you want to clear a driveway of nails, for instance, or find a chunk of barbed wire in that cow's tummy. Be sure, however, that you don't try to go coinshooting with the detector set for a mineral threshold - you are bound to have a bad day!

FULL ONE YEAR WARRANTY

If, within one year from the date of purchase, your Ted Williams Treasure Locator Discriminator fails due to a defect in material or workmanship, simply return it to your nearest Sears store throughout the United States and we will repair it free of charge.

SEARS, ROEBUCK AND CO.

Parts List

Refer to the serial number plate for the Model Number when requesting service or replacement parts for your Sears Ted Williams Treasure Locator.

All parts listed may be ordered through SEARS, ROEBUCK AND CO., or SIMPSON-SEARS LIMITED.

WHEN ORDERING PARTS, ALWAYS GIVE THE FOLLOWING:

1. Model Number
2. Part number
3. Part Name
4. Quantity

Illustration No.	Key No.	Part No.	Part Description
Unpacking	1	84BS2	8" Loop
Unpacking	2	501-0005	8" Loop Cover
Unpacking	3&4	500-0098	Telescope Rod
Unpacking	5,6&7	NONE	Test Samples
Unpacking	8	523-0005	Black 9V Batt. Holder
Unpacking	8	523-0006	White 12V Batt. Holder
Unpacking	10	528-0047	Loop Bolt
Unpacking	10	402-0004	Loop Knob
Fig. 3	9	500-1098	Rod Holder
Fig. 3	11	500-0100	Retainer Buttons
Fig. 4	4	520-0061	Loop Plug (without lock)
Fig. 4	4	520-0153	Loop Plug (with lock)
Fig. 4	5	520-0062	Loop Socket (without lock)
Fig. 4	5	520-0166	Loop Socket (with lock)
Fig. 7	3	520-0018	White 12V Batt. Connector
Fig. 7	4	520-0017	Black 9V Batt. Connector
Fig. 7	5	501-0009	Batt. Compartment
Fig. 9	1&3	402-0007	Black Pointer Knob
Fig. 9	2	402-0008	Tuner Knob
Fig. 9	4&5	402-0019	Vol. & Disc. Knob
Fig. 9	6	400-0013	Ted Williams Disc. Meter
Fig. 9	6	400-0020	Meter Cover