

# M-18A9 Gold Tester Owner's Manual



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# INTRODUCTION

***IMPORTANT – Before testing, read the entire manual.***

Congratulations on your purchase of the M-18A9 Gold Tester. You will be pleased by the fast and easy operation of the unit; and with minimal care, you will have years of accurate service.

Feedback from users of the M-18A9 Gold Tester indicate an overwhelming response in acceptance and ease of use testing all Gold in the jewelry business.

Dymond, Inc. worked to develop a new way to test gold reliably with a Patented\* process that gives an accurate and non-destructive test result which is the best and fastest in the industry. This process can distinguish non-gold and gold plate from true “Karat Gold” without the destructive Fire Assay testing which would change the value of the jewelry.

Dymond, Inc. brings you one of the fastest and easiest Gold Analyzer for all the trades where jewelry and “Karat Golds” have to be quickly and accurately evaluated – The M-18A9 Gold Tester.

\*U.S. PATENTS 5080766, 5128016  
OTHER U.S. & INTERNATIONAL PATENTS PENDING

# OPERATING INSTRUCTIONS



Step 1 – Move the power switch up for Yellow Gold or down for White Gold testing.

Step 2 – Dispense exactly 1 drop of the Activator into the Test Well.

Step 3 – Dispense exactly 3 drops of the Electrolyte into the Test Well.

Step 4 – If required, carefully clean the test Gold with the gray side of the eraser at the area to be immersed in the Test Well.

Step 5 - Attach the alligator clip to the test Gold.

Step 6 – Carefully immerse enough of the test Gold into the liquid to start the “Testing” light without touching the reference gold at the bottom of the Test Well and without touching the alligator clip to the liquid. (Note: Clip must be thoroughly cleaned and dried after any accidental immersion into the liquid.)

Step 7 – Hold test Gold in the liquid without moving for about 2 seconds (until reading on the Karat indicators is obtained) User should brace a part of the hand on the same surface that the M-18A9 rests on and when possible, brace test gold on the inside of the Test Well just under the surface of the liquid being very careful not to touch the reference Gold at the bottom of the Test Well.

**IT IS IMPORTANT THAT THE TEST GOLD NOT BE MOVED ABOUT IN THE ELECTROLYTE AFTER THE TEST HAS STARTED UNTIL A READING IS OBTAINED!**

Step 8 – When Karat indicator lights go on, (Testing light will go out) remove test Gold from liquid and read from the Karat indicator display “bar graph” **the highest value that is lit at this time.** The display will automatically reset and be ready for the next test.

Step 9 – After the test, use a paper towel or other disposable soft absorbent item to wipe the area of the test Gold that was immersed in the liquid as soon as possible after each use. Also absorb the liquid from the Test Well and safely discard when finished testing or in 5 minutes. If the liquid is allowed to stay on the test Gold for an extended time, it may discolor the test Gold slightly. This can be removed with almost any jewelry-brightening product.

**Warning: Do not allow any chemicals to enter the opening around the switch; this may damage the unit and void the warranty.**

Please read warning on bottle labels and the following before performing any tests.

The “ACTIVATOR” is a Peroxide similar to peroxides used in the home but stronger. If contamination occurs, you must then safely dispose of the Activator. (i.e. drops dispensed and then drawn back into the bottle) Peroxide will gradually release oxygen under pressure. **DO NOT** keep contaminated Activator bottle. Replacement bottle(s) of Activator are available (separately from 2 part kits), at a nominal charge through both distributors and the manufacturer.

## CONTENTS OF PACKAGE

1. Activator
2. Electrolyte
3. Eraser and Cotton Swabs
4. Owner's Manual
5. M-18A9 Gold Tester

## SPECIFICATIONS

Dimensions:	Length.....	6.3”
	Width.....	4.0”
	Depth.....	1.5”
Weight:	With Batteries.....	8.5 oz

Operating Temperature: .....65 to 90 degrees Fahrenheit

## DO'S AND DON'TS

- **Don't leave liquid in the Test Well. Do clean after each test or 5 minutes.**
- Do occasionally clean reference Gold at the bottom of the Test Well with a cotton swab, especially if you suspect any test error.
- Do clean the test Gold, before testing. Unclean Gold may result in inaccurate readings. In any case, do clean the Gold before retesting in the same area.
- Do keep Gold chains very tight (link to link) during testing. Use the fewest number of links (one if possible) between the alligator clip and the Gold link to be immersed into the liquid. Three problems can exist when testing chains.
  1. There may be dirt or contamination between the links that would require intensive cleaning (i.e. Ultrasonic) before testing.
  2. Some chains, especially certain European manufactured chains have a thin non-metallic coating that must be removed before testing that area. The eraser may be used to remove this coating.
  3. When testing chains, remember that the solder often used at the link(s) is of a lower Karat than the rest of the chain. Therefore, avoid testing in that area.
- Do make sure good contact is achieved between the test Gold and the alligator clip. If the object to be tested is too large to fit in the clip, hold the clip tightly against the test Gold during testing.
- Do always clean the test Gold surface with the eraser before any repeat testing.
- Do replace the Electrolyte and Activator kit every 18 months.
- Don't use chemicals for more than 5 minutes. Once chemicals are dispensed in the Test Well, they may be used for multiple testing for a period of up to 5 minutes.
- Don't touch the test Gold or alligator clip to the reference Gold at the bottom of the Test Well. If this happens, remove liquid, carefully clean reference Gold at the bottom of the Well with a cotton swab.
- Don't let the alligator clip touch the liquid.

# TESTING FOR GOLD PLATE

## INTRODUCTION

Probably most of the Gold plated items referred to as “costume jewelry” or “fashion jewelry” contain Gold at the surface which is no thicker than 8 millionths of an inch. Such a Gold plate is referred to as Gold flash. A large percentage of Gold flash is sufficiently thin and/or microscopically porous that the M-18A9 Gold Tester will “read through” the plate and indicate “NOT GOLD”. A thicker plate will read as Karat Gold unless a portion of the surface that is being tested is erased with the eraser or filed to expose the metal underneath. The eraser should be used as first choice since it is easier to use and non-destructive. However, the eraser will not work on Gold plate.

## GENERAL DESCRIPTION OF PROCEDURE

To determine that an item is Gold plated “non-Gold”, the user of the M18-A9 Gold Tester must take at least two different readings, one reading of a surface that has not been erased or filed. The reading of the erased or filed surface will be lower if the metal underneath is NOT GOLD. (To be sure the metal underneath is not Palladium, see the section on “TESTING FOR PALLADIUM”) The M-18A9 Gold Tester will read as “NOT GOLD” if a sufficient area of non-Gold is exposed to the liquid but the un-erased or un-filed Gold plate exposed to the liquid does have some effect on the reading; that is why number two of the following section under “PRECAUTIONS” is important.

When testing for heavy Gold plate, it may be necessary to use a fast drying lacquer or a material such as clear fingernail polish. The area to be tested must be coated with the lacquer and allowed to dry. Next make a file mark in the center of the coating deep enough to expose the base metal. Then test the exposed base metal with the M-18A Gold Tester. Do not allow the electrolyte to touch any part of the Gold that has not been coated.

## TESTING FOR PALLADIUM

Both Palladium and Platinum will indicate Karat Gold if tested. Platinum jewelry is usually traded at a higher price than Gold jewelry, so Platinum is seldom marked as Gold. Palladium, however, is one-quarter to one-third the price of pure Gold, so it should be noted that pure Palladium might read as medium Karat gold. Palladium prong settings are sometimes soldered into diamond solitaire White Gold rings. If Palladium is suspected, it is easily distinguished from Gold, as nitric acid will quickly turn Palladium dark, Gold is not affected in this way.

**Table of Standards**

<b>Karat</b>	<b>Decimal Gold</b>	<b>% Gold</b>	<b>Parts per 1000th</b>
18k	.750	75.0	750
14k	.583	58.3	583
12k	.500	50.0	500
10k	.417	41.7	417
8k	.333	33.3	333



## **PRECAUTIONS**

1. When testing the un-erased or un-filed portion, be sure that the test area has been relatively unaffected by wear. Flat or thin Gold plated items will tend to be “worn around the edges”. If it is difficult not to expose a worn area when testing an un-erased or unfilled area, the user may wish to selectively mask any area in question with fast drying lacquer. The reason for masking a worn surface first is that you may obtain the lower Karat reading before any erasing or filing has been accomplished. Therefore you may not get a lower Karat value on your second test and not be able to determine that you are testing Gold Plate.
2. When testing the erased or filed portion, be sure that enough of the surface area immersed in the liquid is erased or filed down to expose the suspected “base metal” underneath.
3. The same Electrolyte can be used for the two comparisons, (the un-erased or un-filed area test and the erased or filed test).

## **MAINTENANCE OF M-18A9**

No maintenance is required outside of cleaning after testing as described in Step 9 of the Operating Instructions. (page 5)

When the Low Battery indicator comes on, it is necessary to replace the batteries before operating the unit. Simply remove the 4 small screws located on the rear of the Gold Tester, under the black rubber screw covers. Carefully remove the rear cover. Locate the three “AA” batteries being very careful to observe the correct polarity as shown on the battery holder. Insert batteries according to the original polarity; replace the rear cover, being careful not to pinch the wire leads with the cover.

**IF THE BATTERIES ARE INSTALLED INCORRECTLY, THE WARRANTY IS VOID AND DAMAGE MAY RESULT.**

## TROUBLE SHOOTING GUIDE

**Problem:** “Yellow Gold” or “White Gold” does not light.  
Low Battery light is on.

**Cause/Solution:** Replace batteries observing the polarity on the holder.

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**Problem:** The testing light does not light.

**Cause/Solution:** Clean test Gold in area to be tested.  
Alligator clip not connected to test Gold.  
Reference Gold coated.  
Thoroughly clean the gold well.

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**Problem:** 18 Karat indication for all tests.

**Cause/Solution:** Test Gold removed before testing light goes out.  
Test Gold or clip being shorted to reference Gold at bottom of well.  
Thoroughly clean the gold well.

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**Problem:** “NOT GOLD” reading for all tests.

**Cause/Solution:** Alligator clip in liquid during test.

## FINAL POINT

It is strongly recommended that users of the M-18A9 Gold Tester practice testing for Gold Plate on a few items believed or known to be Gold Plated. A few sets of practice runs will impart confidence to the point that the user will find testing for Gold Plate to be fast and easy.

### GOLD COMPOSITION

There are four basic colors of Gold

1. Yellow .....most common
2. White .....second most common
3. Red (Pink/Rose) .....uncommon
4. Green .....very uncommon

The colors are obtained by the use of two or more varied quantities of base metals. These base metals are Silver, Copper, Zinc and Nickel. Not only are there four basic colors, but each color can and does vary the percentages of the base metals. As such, there is no specific formula for each color of Gold. This makes for a range of readings in each color, plus a variation in each color at any specific Karat mixture.

The M-18A Gold Tester can distinguish between Karats of the two popular colors, Yellow and White by means of a color selector switch. Most red color Gold can be determined by using the White range selector position. Most green color Gold can be determined by using the Yellow range selector position. There are no ranges that are compatible for use on dental Gold alloys.

**CAUTION** – The M-18A9 Gold Tester is a highly accurate, precision instrument for determining Gold Karat values. However, should any disagreement arise with its use, it is recommended that a confirmation be obtained with a Fire Assay examination process. This device, although highly accurate, should be used as a guide to Gold Karat values. The exactness of the device depends on adherence to the instructions provided in this manual and the knowledge of the base metal alloys that are involved.

## **SERVICE**

Before returning the unit for service or repairs, you must obtain a RETURN MATERIAL AUTHORIZATION (RMA). An RMA may be obtained by calling or writing:

**Dymond, Inc.**  
**3307 Industrial 25<sup>th</sup> Street**  
**Fort Pierce, FL 34946**  
**Phone: 772-429-0045**  
**Fax: 772-429-0170**

## **WARRANTY**

Dymond, Inc. provides that each M-18A9 Gold Tester to be free from defects in material and workmanship for a period of One year from the date of purchase. This warranty becomes void by:

1. Unauthorized repair, misuse, modification, alteration, tampering or breaking the factory seal.
2. Accidental damage, neglect or improper use.
3. Batteries being replaced with the wrong polarity.

(Batteries and chemicals are not included in the warranty)

**Dymond, Inc. shall not be held legally liable or responsible for any error in determining the Gold content of any object or any other error using the M18-A9 Gold Tester. E.& O.E.**