

**Smithsonian Institution
National Air and Space Museum
Conservation Condition Report**

Object:	Chronograph, Schmitt, Apollo 17
NASM Cat. No.:	A19771177000
Department:	DSH
Curator:	Jennifer Levasseur
Examination Date:	10/16/2018
Examiner:	Lauren Horelick
Purpose:	Outgoing loan to New Mexico Museum of Space History

Materials:

Case: Stainless steel

Lens: Hesalite (synthetic crystal)

Interior mechanism: Brass, stainless steel, jewels

Manufacturer: Omega Watch Co.

History: Harrison Schmitt, the only scientist-astronaut to go to the Moon, wore this chronograph during the Apollo 17 mission. The Omega Speedmaster Chronograph was chosen by NASA for the U.S. space program after a series of rigorous tests demonstrated its high level of precision and reliability. Program requirements called for a manual-winding wrist chronograph that was water-proof, shock-proof, anti-magnetic, and able to withstand temperatures ranging from 0 to 200 degrees Fahrenheit and accelerations of 12 g's. The Omega Speedmaster was certified by NASA as the chronograph for the Gemini program in June 1965, and was also purchased for all programs that followed through today. NASA transferred the chronographs to the Museum in 1977 (NASM TMS).

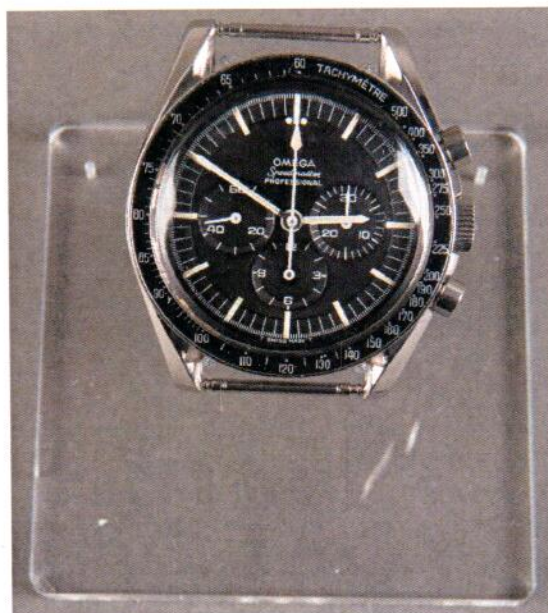


Figure 1: Overall, front on exhibit mount

Description: Black-faced chronograph with three dials, second sweep. Tachymetre numbers around face. One winding, and two additional stems on right of face. Spring-loaded band bars.

Dimensions (maximum dimensions all around):

W: 40.5 mm

H: 50 mm

Condition:

Exterior

Structure: The chronograph is in excellent condition with no major breaks, areas of loss, chips or scratches.

Surface: The glass face is optically clear and shows no signs of glass disease, accretions, chips or scratches.

All markings are clear and readable along the bezel.

The plating on the case is in excellent condition with no active corrosion, chips, or small losses and has a high degree of polish.

On the reverse the engraved emblem is faint but still readable. There are many small scratches across the back on visible with close observation.

Interior:

The interior of the object was inspected by Omega at the National Air and Space Museum in 2013. The condition information from their inspection is as follows:

This chronographs appears to be in good condition overall, and presents much original material. Pushers and crown have been replaced with new one during servicing. It looks as if the watch has been through the hands of many watchmakers (not all of them authorized), as the inner side of the case back has many watchmakers' markings/signatures. During one such service, the case and case back have unfortunately been highly "over polished", and the case & case back have lost their original polishing features (the matt surfaces have been turned into glossy shiny ones). During unauthorized servicing of the watch at some point one of the two screws that retain the dial onto the movement has been replaced by the incorrect one. The color of minute hand peels off, and the luminous material on the following indexes breaks off: 1,2,3,9,10 and 12. As there appear to be issues with the dial and hands of the watch, special care has to be taken during the proposed action by the watchmaker of the OMEGA Museum. Special consideration should be given to the color of the minute hand peeling off and the luminous material breaking off the dial before the recommended preservation action can take place.

Exhibit Conservation Guidelines:

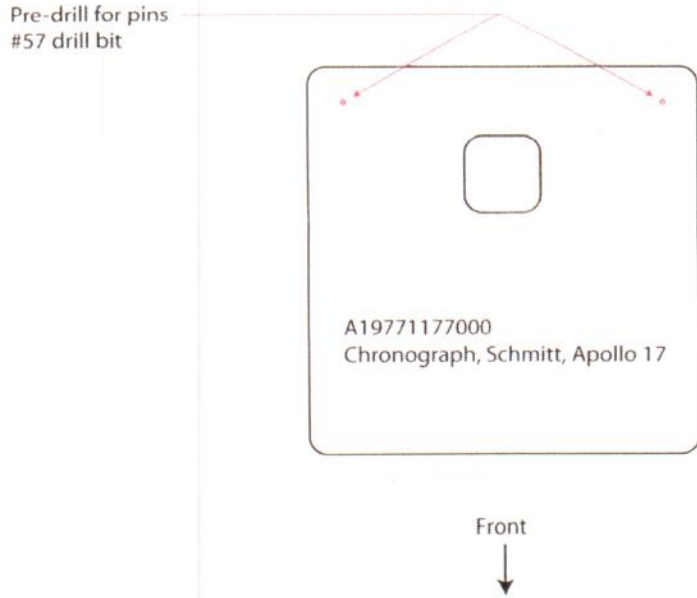
These environmental conditions allow limited seasonal variation, which results in an energy savings of nearly 20% over the standard "70/50" T/RH standards. These criteria are:

- Temperature (T) set point:
 - Summer: 75oF ± 2oF
 - Winter: 68oF ± 2oF
- Relative humidity (RH):
 - 45% ± 8% over the course of a year. This assumes seasonal adjustments to the RH.
 - 45% ± 3% in the spring and fall
 - 40% ± 3% in the winter, and
- 50% ± 3% in the summer
- Visible Light: 100 lux
- Ultraviolet Radiation: Less than 75 microwatts/Lumen
- Pollutants: Exhibit area should be free of gaseous and particulate pollution

Handling Guidelines: Handle with clean disposable nitrile gloves.

Mounting the chronograph:

1st: Use the template provided with the mount to pre-drill into the deck of the case using #57 drill bits. See template below (not to scale):



2nd: Vacuum debris from deck of case.

3rd: Place acrylic mount onto base and secure with pins (provided).

4th: Place stem of spider mount into the base of the acrylic mount

5th: Handle chronograph with both hands and place onto the spider mount as shown in figures 1-6.

Outgoing Loan Images



Figure 2: Overall front on mount.

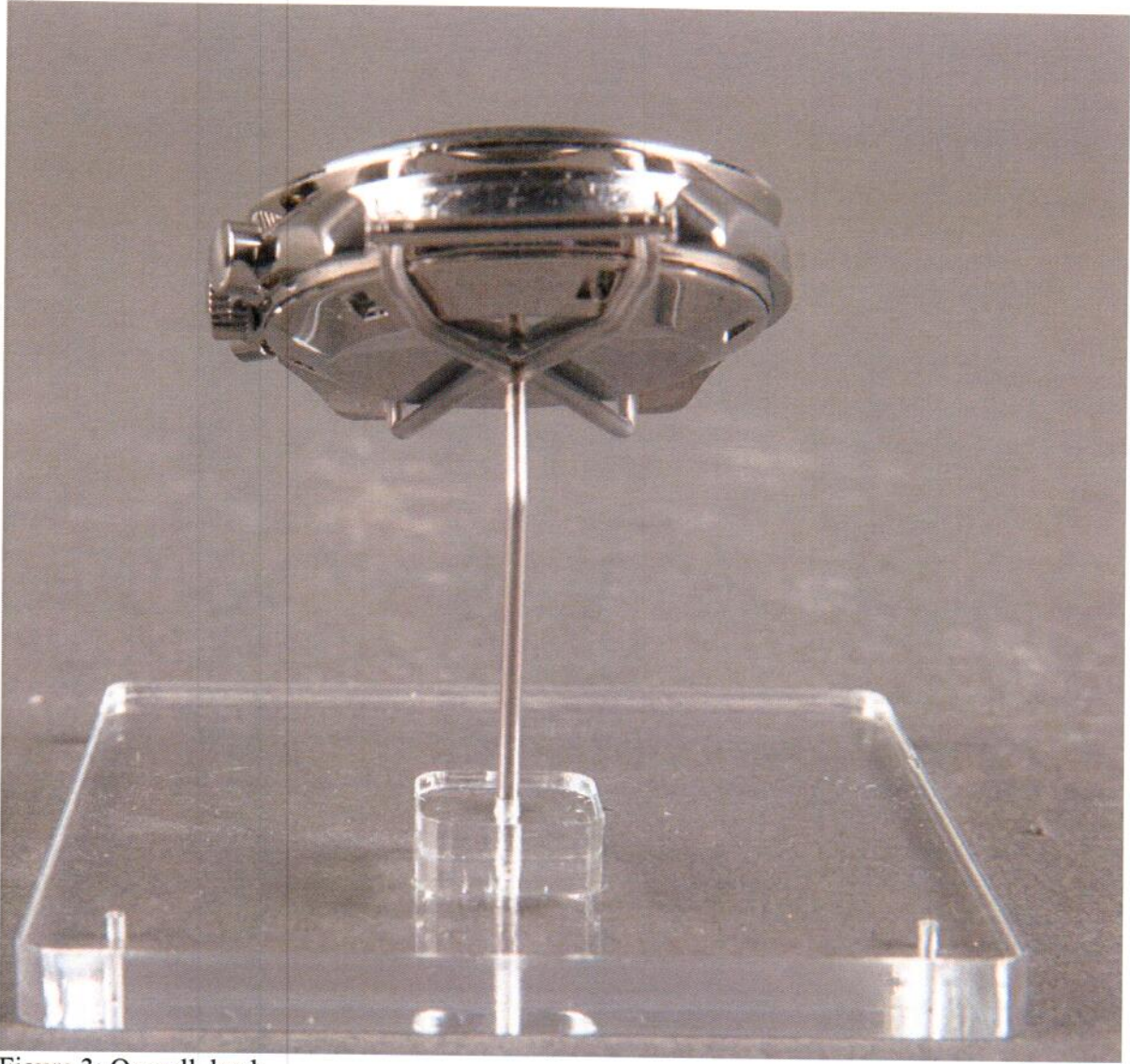


Figure 3: Overall, back.



Figure 4: Overall, side 1



Figure 5: Overall, side 2



Figure 6: Back of the chronograph showing how the spider mount secures on the back.



Figure 7: Overall, front without mount.



Figure 8: Overall, back without mount.