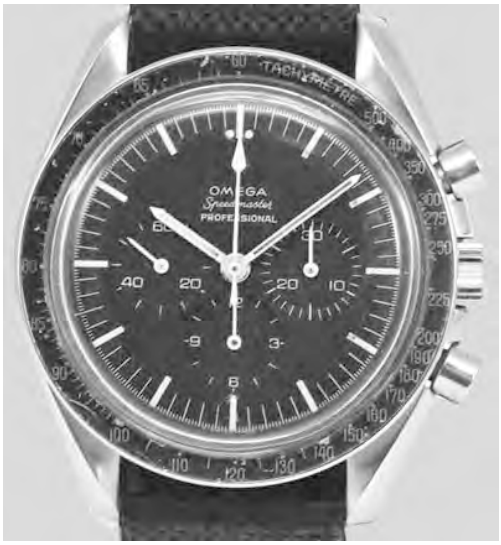
Omega Speedmaster Professional



NASA supplied each of the Apollo astronauts with a standard issue Omega Speedmaster Professional manual-wind wristwatch (pictured above) together with Velcro strap. Unlike almost all other Apollo equipment, the watch was not manufactured for use specifically by NASA or in space but had been on sale in retail outlets in Houston and all of the United States from 1957-c1966 as the "Speedmaster" and as the "Speedmaster Professional" thereafter. Beginning in about 1962, NASA purchased examples of a number of commercially available watches for evaluation.

Aside from its primary and obvious function, the Omega Speedmaster Professional also incorporated a chronograph (stopwatch) via the large third hand on the watch dial. The three interior dials on the face provided respectively a) a second-hand, ancillary to the conventional time function b) a minute elapsed counter for the chronograph and c) an hour elapsed counter, again related to the chronograph function. The outside of the dial included a fixed bezel incremented to act as a Tachymeter (to measure miles per hour) in conjunction with the stopwatch function, hence the title "Speedmaster".

The timepiece was intended to be worn for intra and extra vehicular activties including the moonwalks on all the missions. Inside a pressurised environment the watch was worn conventionally but during EVA (extra vehicular activity) the astronauts wore the watch on the outside of their pressure suits, the long Velcro strap was designed to accommodate this change in 'wrist' dimension.

The Speedmaster had initially been worn on many of the pre-Apollo NASA manned space missions after satisfactorily passing exhaustive tests aimed at determining performance reliability in the conditions likely to be experienced during EVA. The first American to walk in space Edward H. White wore a Speedmaster during his Gemini 4 spacewalk and there are some unconfirmed reports that suggest the manufacturer only discovered its use by NASA after that event.

This model is still worn by many present day astronauts on Shuttle missions.

Full records are not available on the present whereabouts of all the Speedmasters worn on the moon but the list set out below is believed to be the best record available.Of special note, it is understood that Buzz Aldrin's watch was lost in transit in or about 1971 whilst en route to the Smithsonian Air and Space Museum whilst Buzz was attempting to loan the item for display. Its current whereabouts are not therefore known. It may well be the first watch worn on the moon. Buzz recounted in his autobiography that, during the EVA, Neil Armstrong left his own Speedmaster in the Lunar Module as a replacement for the in-cabin timer which had malfunctioned.The following table combines information from Robert Pearlman's CollectSpace website with additional information provided by Ulrich Lotzmann.

Flown Omega Speedmaster Professional Chronographs currently on public display			
Serial Number	Mission	Crewman	Last Known Location (2004)
044	Apollo 8	Bill Anders	U.S. Naval Academy, Annapolis
060	Apollo 8	Jim Lovell	Museum of Science and Industry, Chicago
027	Apollo 10	Tom Stafford	National Air and Space Museum, Washington DC
046	Apollo 11	Neil Armstrong	National Air and Space Museum, Washington DC
073	Apollo 11	Mike Collins	National Air and Space Museum, Washington DC
057	Apollo 12	Dick Gordon	The Omega Museum, Bienne, Switzerland
068	Apollo 13	Fred Haise	Penn-Harris-Madison Planetarium, Mishawaka, Indiana

075	Apollo 14	Alan Shepard	Kansas Cosmosphere, Hutchinson
077	Apollo 14	Ed Mitchell	US Astronaut Hall of Fame, Titusville
045	Apollo 15	Al Worden	on loan from Worden to the Smithsonian
047	Apollo 15	Jim Irwin	Penn-Harris-Madison Planetarium, Mishawaka, Indiana
061	Apollo 17	Ron Evans	Kansas Cosmosphere, Hutchinson

Ed Mitchell's Flown Speedmaster. Displayed at the Astronaut Hall of Fame, Titusville, Florida.
Photo by Ulli Lotzmann.

The following table includes information from Omega, from Amanda Young at the National Air and Space Museum, and from other sources. It is used with permission from its authors.

"Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it." -*Samuel Johnson*-

NASA flown Speedmasters

Watch (NASA S/N)	NASM Cat. No.	picture availability	Astronaut	Mission (s)	Case Ref.no.	movement Serial no.	Mission Date	Location	production date	Delivery Omega (N.M.C.)	SEB no.
??			Grissom	Gemini			3/23/1				

				3			965				
??			Young	Gemini 3			3/23/1965				
??			Mc Divitt	Gemini 4			6/3/1965				
??		Y	White	Gemini 4, Apollo 1	105,003		6/3/1965	presented by NASA to family			
??			Armstrong	Gemini 8			3/16/1966				
??			Young	Gemini 10			7/18/1966				
??			Collins	Gemini 10			7/18/1966				
??			Conrad	Gemini 11			9/12/1966				
??			Grissom	Apollo 1			1/27/1967				
??			Chaffee	Apollo 1			1/27/1967				
2	**1977-1137-000**	**Y**	Lovell	Gemini 7	**105,003**	**20.525.xxx**	12/4/1965	National Air and Space Museum - Washington	***unknown***	**6/26/1964**	SEB1210 0039-001
3	**1977-1138-000**	**Y**	Young	Gemini 10	**105,003**	**20.525.xxx**	7/18/1965	National Air and Space Museum - Washington	***unknown***	**6/26/1964**	SEB1210 0039-001
4	**1977-1139-000**	**Y**	Borman	Gemini 7	**105,003**	**20.525.xxx**	12/4/1965	National Air and Space Museum - Washington	**??/??/1964**	**6/26/1964**	SEB1210 0039-001
8			Scott (?)	Gemini 8			3/16/1966				
9 (CF55033)	**1977-1140-000**	**Y**	Cooper	Gemini 5	**105,003**	**22.082.xxx**	8/21/1965	National Air and Space Museum - Washington	**??/04/1965**	4/23/1965	SEB1210 0039-001
10	**1977-1141-000**		Conrad	Gemini 5	**105,003**	**22.082.xxx**	8/21/1965	National Air and Space Museum	**4/12/1965**	**4/23/1965**	SEB1210 0039-001

								- Washington			
15	1977-1142-000		Lovell	Gemini 12	***UNABLE***	***TO OPEN***	11/11/1966	National Air and Space Museum - Washington			SEB1210 0039-001
19	1977-1143-000		Schirra	Gemini 6	105,003	29.115.xxx(?!)	12/15/1965	National Air and Space Museum - Washington			SEB1210 0039-001
20	1977-1144-000		Stafford	Gemini 6	105,003	22.082.xxx	12/15/1965	National Air and Space Museum - Washington		4/23/1965	SEB1210 0039-001
23	1977-1145-000		Aldrin	Gemini 12			11/15/1966	National Air and Space Museum - Washington			SEB1210 0039-001
24	1977-1146-000		***TRAINING***	////////	105,012	22.089.xxx		National Air and Space Museum - Washington		12/6/1965	SEB1210 0039-001
27(CF55033)	1977-1147-000	Y	Stafford	Gemini 6 & 9, Apollo 10	145022 (!?)105.003-64	27.324.xxx(!?)	15/12/1965 03/06/1966 18/05/1969	on loan to Omega Museum - Bienne		12/20/1965	SEB1210 0039-001
28(CF55033)	1977-1148-000	Y	Cernan	Gemini 9	105,003	22.089.xxx	6/3/1966	on loan to Omega Museum - Bienne	12/6/1965	12/20/1965	SEB1210 0039-001
32	1977-1149-000		Schirra	Apollo 7			10/11/1968	National Air and Space Museum - Washington			
34	1977-1150-000		Eisele	Apollo 7			10/11/1968	National Air and Space			

								Museum - Washington			
35	1977-1151-000	Y	Cunningham	Apollo 7	105,012		10/11/1968	National Air and Space Museum - Washington			
36	1977-1152-000	Y	Conrad	Apollo 12	105,012	24.003.xxx	11/14/1969	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
37	1977-1153-000	Y	Carr	Skylab SL4	105,012	24.003.xxx	11/16/1973	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
39	1977-1154-000		Brand	Apollo-Soyuz			7/15/1975	National Air and Space Museum - Washington		8/12/1966	
40	1977-1155-000	Y	Young	Apollo 10	105,012	24.003.xxx	5/18/1969	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
41	1977-1156-000	Y	Cernan	Apollo 10	105,012	24.002.xxx	5/18/1969	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
42	1977-1157-000		Scott	Apollo 15			7/26/1971	National Air and Space Museum - Washington			
43			Aldrin	Apollo 11	145012 (?)		11/16/1969	unknown			
44			Anders	Apollo 8	105.012 (?)		12/21/1968	on loan to him from the Smithso			

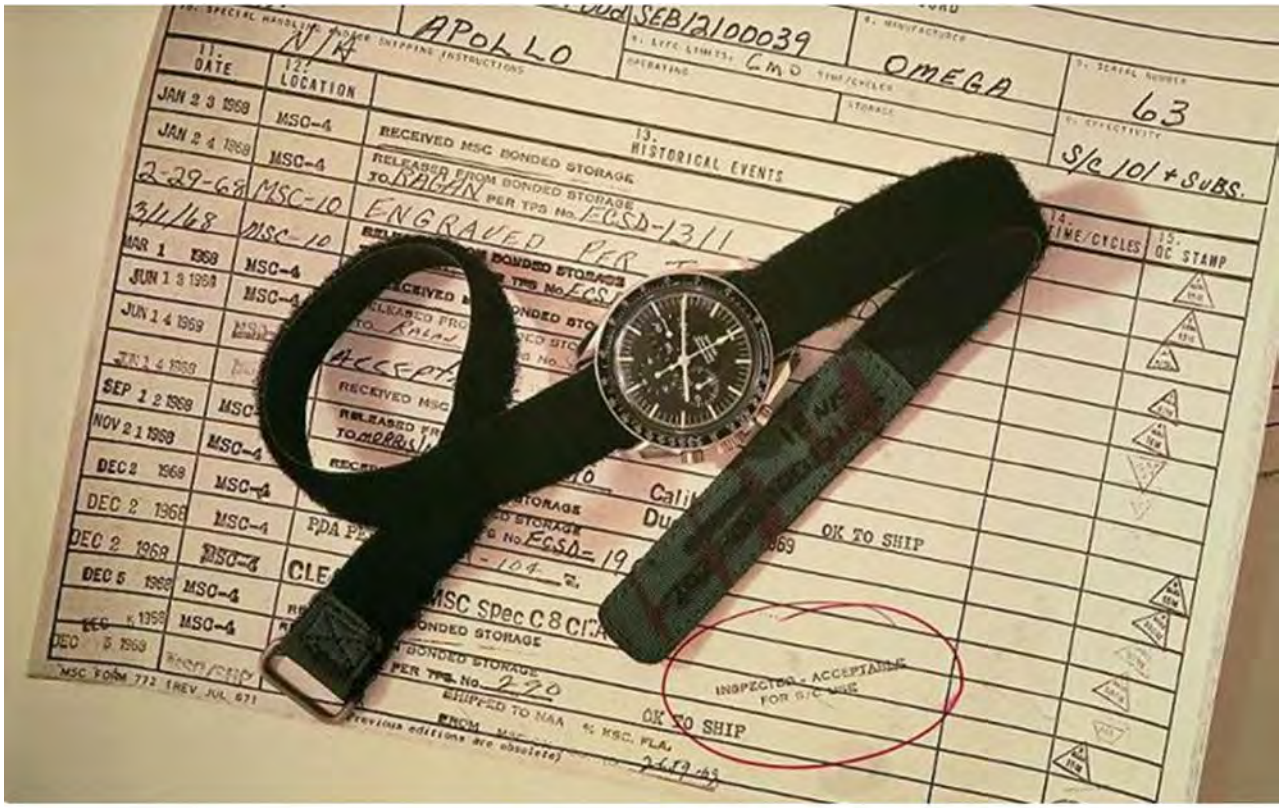
								nian			
45	1977-1158-000		Worden	Apollo 15			7/26/1971	on loan to him from the Smithsonian (?)			
46	1973-1247-000	Y	Armstrong	Apollo 11	105,012	24.002.xxx	7/16/1969	National Air and Space Museum - Washington	??/07/1966	8/12/1966	SEB1210 0039-002
47	1977-1159-000		Irwin	Apollo 15			7/26/1971	National Air and Space Museum - Washington			
48	1977-1160-000	Y	Brand	Apollo-Soyuz	105,012	24.002.xxx	7/15/1975	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
49	1977-1161-000	Y	Young	Apollo 16	105,012		4/16/1972	National Air and Space Museum - Washington			
50	1977-1162-000		Mattingly	Apollo 16	105,012	24.003.xxx	4/16/1972	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
51	1977-1163-000		Bean	Skylab SL3	105,012	24.002.xxx	7/28/1973	National Air and Space Museum - Washington		8/12/1966	SEB1210 0039-002
52	1977-1164-000		Garriott	Skylab SL3			7/28/1973	National Air and Space Museum - Washington			SEB1210 0039-002
53	1977-1165-000		Lousma	Skylab SL3			7/28/1973	National Air and Space Museum			SEB1210 0039-002

								- Washington			
54	**1977-1166-000**		Duke	Apollo 16			4/16/1972	National Air and Space Museum - Washington			SEB1210 0039-002
55	**1977-1167-000**		Schweickart	Apollo 9	**105,012**	**24.957.xxx**	3/3/1969	National Air and Space Museum - Washington		11/7/1967	SEB1210 0039-002
56	**1977-1168-000**		Slayton	Apollo-Soyuz	**105,012**	**24.957.xxx**	7/15/1975	National Air and Space Museum - Washington		11/7/1967	SEB1210 0039-002
57	**1977-1169-000**	**Y**	Gordon	Apollo 12	**105,012**	**24.957.xxx**	11/14/1969	**on loan to Omega Museum - Bienne**	**9/14/1967**	11/7/1967	SEB1210 0039-002
58	**1977-1170-000**		Slayton	Apollo-Soyuz	**105,012**	**24.957.xxx**	7/15/1975	National Air and Space Museum - Washington		11/7/1967	SEB1210 0039-002
59	**1977-1171-000**		Gibson	Skylab SL4	**105,012**	**24.957.xxx**	11/16/1973	National Air and Space Museum - Washington		11/7/1967	SEB1210 0039-002
60	**1977-1172-000**	**Y**	Lovell	Apollo 8			12/21/1968	Museum of Science & Industry - Chicago			SEB1210 0039-002
61	**1977-1173-000**	**Y**	Evans	Apollo 17	145.012 (?)		12/7/1972	National Air and Space Museum - Washington			SEB1210 0039-002
62	**1977-1174-**		Bean	Apollo 12	**105,012**	**24.957.xxx**	11/14/1969	National Air and	9/15/1967	11/7/1967	SEB1210 0039-002

	000							Space Museum - Washington			
63	1977-1175-000	Y	Borman	Apollo 8	105,012	24.957.xxx	12/21/1968	National Air and Space Museum - Washington	9/15/1967	11/7/1967	SEB1210 0039-002
64	1977-1176-000		Scott	Apollo 9			3/3/1969	National Air and Space Museum - Washington			SEB1210 0039-002
65	1977-1177-000		Schmitt	Apollo 17			12/7/1972	National Air and Space Museum - Washington			SEB1210 0039-002
66	1977-1178-000		McDivitt	Apollo 9			3/3/1969	National Air and Space Museum - Washington			SEB1210 0039-002
67	1977-1179-000		Cernan	Apollo 17			12/7/1972	National Air and Space Museum - Washington			SEB1210 0039-002
68	1977-1180-000		Haise	Apollo 13	145.012 (?)		4/11/1970	National Air and Space Museum - Washington			SEB1210 0039-002
69	1977-1181-000		Swigert	Apollo 13	145.012 (?)		4/11/1970	National Air and Space Museum - Washington			
70	1977-1182-000		Lovell	Apollo 13	145.012 (?)		4/11/1970	National Air and Space Museum -			SEB1210 0039-002

								Washington			
71	1977-1183-000		Roosa	Apollo 14			1/31/1971	National Air and Space Museum - Washington			SEB1210 0039-002
72	1977-1184-000		Pougue	Skylab SL4	145,012	20.552.xxx(!?)	11/16/1973	National Air and Space Museum - Washington		3/19/1964	SEB1210 0039-002
73	1990-0272-000		Collins	Apollo 11	145,012	26.552.xxx	7/16/1969	National Air & Space Museum - Washington	??/12/1968	12/6/1968	SEB1210 0039-002
75	1977-1185-000	Y	Shepard	Apollo 14	145,012		1/31/1971	Kansas Cosmosphere & Space Center - Hutchinson			SEB1210 0039-002
76	1977-1186-000		Stafford	Apollo-Soyuz	145,012	20.552.xxx(!?)	7/15/1975	National Air & Space Museum - Washington		3/19/1964	SEB1210 0039-002
77	1977-1187-000	Y	Mitchell	Apollo 14	145,012		1/31/1971	U.S. Astronaut Hall of Fame - Titusville			SEB1210 0039-002
79	1977-1188-000		Stafford	Apollo-Soyuz	145,012	20.552.xxx(!?)	7/15/1975	National Air and Space Museum - Washington		3/19/1964	SEB1210 0039-002
80	1977-1189-000		Weitz	Skylab SL2			5/25/1973	National Air and Space Museum - Washington			
81	1977-1190-000		Conrad	Skylab SL2	145,012	20.552.xxx(!?)	5/25/1973	National Air and Space		3/19/1964	SEB1210 0039-002

								Museum - Washington			
82	**1977-1191-000**		Kerwin	Skylab SL2	**145,012**	**20.552.xxx(!?)**	5/25/1973	National Air and Space Museum - Washington		3/19/1964	SEB1210 0039-002
none		**Y**	**Schirra**	**Mercury (Sigma 7)**	**CK2998**		10/3/1962	**Omega Museum - Bienne**	**11/15/1961**		none
???			Stafford	??????? ????	145,022	**27.324.xxx**	5/15/1969	National Air & Space Museum - Washington			
Notes:											
	(*) in BLUE: N.A.S.M. source			**(**) in RED: Omega source**							
	(***) in BLACK: other sources					*All rights reserved. This chart may not be used or reproduced without permission of the authors.* **wwww.speedmaster.it**					



Accoding to Imai's Time Capsule:

Speedmaster's relationship with outer space began when NASA's flight equipment buyer went to Corrigan's watch shop in Texas to purchase a chronograph. This was in 1961. At that time, the NASA flight equipment buyer purchased five chronographs, all of different brands, including the Omega Speedmaster. The intended use for the chronographs was not made clear. What brought the NASA equipment buyer to a jeweler's on a Texas street comer was most likely none other than President Kennedy's speech.

NASA procured a large number of Speedmaster's during the 1960's for use as an Space Flight Crew chronograph after extensive testing prior to the first Gemini flight.

Note: We don't know the number or specific model(s) that were acquired but this was done before the switch over to c.861 movement.

In 1966 Omega added the term "Professional" to the Speedmaster after becoming aware of NASA's adoption of the Speedmaster. I have previously written a companion TZ Classic: 1278 : It was 35 years ago today - (4 June 1965 - 4 June 2000) which details the events leading up to Ed White's space walk.

There are really only two people that are really in a position to know which movement was the first watch worn on the moon for certain: Neil Armstrong and Edwin (Buzz) Aldrin.

It has been documented that Armstrong did not wear his Speedmaster on his walk on the moon. An instrument had malfunctioned during the LEM's Decent and his Speedmaster was left in the LEM to serve as a replacement.

[Armstrong, from the 1969 Technical Debrief - "Now, a preliminary comment (on the EVA Preps) has to do with the longer time that it took than during our simulations. It is attributable to the fact that, when you do simulations of EVA Prep, you have a clean cockpit and you have all the things that you're going to use there in the cockpit and nothing else. In reality, you have a lot of checklists, data, food packages, stowage places filled with odds and ends, binoculars, stop watches, and assorted things, each of which you feel obliged to evaluate as to whether its stowage position is satisfactory for EVA, and whether you might want to change anything from the pre-flight plans. For example, our mission timer was out, and we decided we had better leave one wristwatch inside in case it (the one taken outside) got damaged. We would have at least one working watch to back up the mission timer or to use in place of the mission timer, in case we could not get it going again."] ... [The astronauts each had an Omega Speedmaster Professional.]

Source: Apollo 11 Lunar Surface Journal: EVA Prep...

Later on in the log the following conversation transpires:

108:54:54 McCandless: Neil, this is Houston. Will you give us hack when you start your chronometer. Over.

108:55:03 Armstrong: Roger.

108:55:08 Aldrin: Give it to them later.

108:55:12 Armstrong: Okay. Okay, let's go to dump.

108:55:17 Aldrin: Dump.

108:55:18 Armstrong: Go to dump. (Long Pause)

108:55:40 Aldrin: Houston, I'll set my watch at 56. Over.

108:55:50 McCandless: Roger.

[Buzz is wearing his watch on his suit sleeve and, apparently, is setting his at 56 minutes after the hour, corresponding to the upcoming Ground Elapsed Time of 108:56.]

108:56:00 Aldrin: 3, 2, 1.

108:56:02 Aldrin: Mark.

[Buzz reopened the dump valve on his mark. This is the start of the EVA.]

[Aldrin - "I'm sure that Neil didn't wear his watch out on the surface. I'm sure he put it with the Velcro strap up in the AOT."]

[Armstrong - *"Someone, perhaps in correspondence, asked me about that. And I could not remember, although it seems quite logical, given the mission timer situation, that we would have left one watch inside."*]

Thus it is apparent that Aldrin's Speedmaster was the first worn on the moon.

It has also been documented that Aldrin's Speedmaster was lost and presumed stolen in transit to the Smithsonian for inclusion in it's displays:

[Aldrin - *"I wasn't sure what the reason was, but I thought it was okay. It was your watch, if you wanted to leave it inside. I remember that specifically at that time, because I reflected back on it a little later when I shipped my watch to the Smithsonian and it turned up missing. That's when it refreshed in my mind, years ago, that you had left yours inside and mine was the only one out on the surface."*]

Thus we cannot point to the actual watch to determine it's movement.

Photos of Moon Mission Astronaut watches:

The Time Capsule book has pictures of two of the Moon Astronauts Speedmaster's (Alan Sheppard, commander Apollo 14 [a moonwalker], and Ron Evans [CM Pilot for Apollo 17].

Exhibit 1, Alan Sheppard's Speedmaster:

This watch, manufactured in 1966-1967 is almost certainly a c.321. It couldn't be anything other than a c.321.

Exhibit 2, Ron E. Evan's Speedmaster