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JEWISH MOLADS OF TISHRI AND ACTUAL NEW MOON TIMES

In this article we'll compare the times when the Jewish molads claim the new moons take place, and when the real new moons actually do take place, as calculated by astronomical algorithms. The error margin in these astronomical tables is less than 1 minute in each instance.

The source material for all of the new moon times is a book entitled: "ASTRONOMICAL TABLES OF THE SUN, MOON, AND PLANETS", compiled by Jean Meeus and published by WILLMANN-BELL Inc., Richmond, VA, USA

Some clarifying comments:

1) The new moon tables express time as "ephemeris time", which is around one minute ahead of Universal Time (UT), which most of us think of as "Greenwich Mean Time" (GMT). For our purposes here we can ignore this difference of around one minute.

2) Jerusalem is located slightly over 35 degrees east of Greenwich. This amounts to 2 hours 20 minutes ahead of Greenwich.

3) Therefore to convert the new moon tables to local Jerusalem time, we need to add 2 hours 20 minutes to the times expressed in the tables.

4) The molads of Tishri are taken from the calculations of the Jewish calendar and are taken as expressing "Jerusalem time". Some may argue that the molads express "Babylon time". Babylon was approximately 36 minutes ahead of Jerusalem; so it is a simple matter to make this adjustment for those who are so inclined. But here we will compare the molads with the new moons expressed in local Jerusalem time.

THE YEAR 2000 A.D.

1) The molad of Tishri is: September 28 19 hours 310 parts

2) This is equal to: September 28 1:17:13 p.m.

3) The actual new moon is: September 27 19 hours 54 m 00s

4) Add 2 hours 20 minutes: September 27 22 hours 14 m 00s

5) This is in Jerusalem time: September 27 10:14:00 p.m.

6) Comments: The Jewish molad is here OVER 15 HOURS LATER than the actual new moon.

THE YEAR 2001 A.D.

1) The molad of Tishri is: September 18 4 hours 106 parts

2) This is equal to: September 17 10:05:53 p.m.

3) The actual new moon is: September 17 10 hours 28m 25s

4) Add 2 hours 20 minutes: September 17 12 hours 48m 25s

5) This is in Jerusalem time: September 17 12:48:25 p.m.

6) Comments: The Jewish molad is here OVER 9 HOURS LATER than the actual new moon.

THE YEAR 2002 A.D.

1) The molad of Tishri is: September 7 12 hours 982 parts

2) This is equal to: September 7 6:54:33 a.m.

3) The actual new moon is: September 7 3 hours 11m 22s

4) Add 2 hours 20 minutes: September 7 5 hours 31m 22s

5) This is in Jerusalem time: September 7 5:31:22 a.m.

6) Comments: The Jewish molad is here ONE HOUR 23 MINUTES LATER than the actual new moon.

THE YEAR 2003 A.D.

1) The molad of Tishri is: September 26 10 hours 491 parts

2) This is equal to: September 26 4:27:16 a.m.

3) The actual new moon is: September 26 3 hours 10m 15s

4) Add 2 hours 20 minutes: September 26 5 hours 30m 15s

5) This is in Jerusalem time: September 26 5:30:15 a.m.

6) Comments: The Jewish molad is here OVER ONE HOUR BEFORE the actual new moon.

THE YEAR 2004 A.D.

1) The molad of Tishri is: September 14 19 hours 287 parts

2) This is equal to: September 14 1:15:56 p.m.

3) The actual new moon is: September 14 14 hours 30m 06s

4) Add 2 hours 20 minutes: September 14 16 hours 50m 06s

5) This is in Jerusalem time: September 14 4:50:06 p.m.

6) Comments: The Jewish molad is here OVER THREE AND ONE-HALF HOURS BEFORE the actual new moon.

THE YEAR 2005 A.D.

1) The molad of Tishri is: October 3 16 hours 876 parts

2) This is equal to: October 3 10:48:40 a.m.

3) The actual new moon is: October 3 10 hours 28m 56s

4) Add 2 hours 20 minutes: October 3 12 hours 48m 56s

5) This is in Jerusalem time: October 3 12:48:56 p.m.

6) Comments: The Jewish molad is here EXACTLY 2 HOURS BEFORE the actual new moon.

THE YEAR 2006 A.D.

1) The molad of Tishri is: September 23 1 hour 672 parts

2) This is equal to: September 22 7:37:20 p.m.

3) The actual new moon is: September 22 11 hours 46m 06s

4) Add 2 hours 20 minutes: September 22 14 hours 06m 06s

5) This is in Jerusalem time: September 22 2:06:06 p.m.

6) Comments: The Jewish molad is here OVER 5 HOURS LATER than the actual new moon.

THE YEAR 2007 A.D.

1) The molad of Tishri is: September 12 10 hours 468 parts

2) This is equal to: September 12 4:26:00 a.m.

3) The actual new moon is: September 11 12 hours 45m 17s

4) Add 2 hours 20 minutes: September 11 15 hours 05m 17s

5) This is in Jerusalem time: September 11 3:05:07 p.m.

6) Comments: The Jewish molad is here OVER 13 HOURS LATER than the actual new moon.

THE YEAR 2008 A.D.

1) The molad of Tishri is: September 30 7 hours 1057 parts

2) This is equal to: September 30 1:58:43 a.m.

3) The actual new moon is: September 29 8 hours 13m 18s

4) Add 2 hours 20 minutes: September 29 10 hours 33m 18s

5) This is in Jerusalem time: September 29 10:33:18 a.m.

6) Comments: The Jewish molad is here OVER 15 HOURS LATER than the actual new moon.

THE YEAR 2009 A.D.

1) The molad of Tishri is: September 19 16 hours 853 parts

2) This is equal to: September 19 10:47:23 a.m.

3) The actual new moon is: September 18 18 hours 45m 23s

4) Add 2 hours 20 minutes: September 18 21 hours 05m 23s

5) This is in Jerusalem time: September 18 9:05:23 p.m.

6) Comments: The Jewish molad is here OVER 13 HOURS LATER than the actual new moon.

THE YEAR 2010 A.D.

1) The molad of Tishri is: September 9 1 hour 649 parts

2) This is equal to: September 8 7:36:03 p.m.

3) The actual new moon is: September 8 10 hours 30m 55s

4) Add 2 hours 20 minutes: September 8 12 hours 50m 55s

5) This is in Jerusalem time: September 8 12:50:55 p.m.

6) Comments: The Jewish molad is here OVER SIX HOURS LATER than the actual new moon.

THE YEAR 2011 A.D.

1) The molad of Tishri is: September 27 23 hours 158 parts

2) This is equal to: September 27 5:08:46 p.m.

3) The actual new moon is: September 27 11 hours 09m 46s

4) Add 2 hours 20 minutes: September 27 13 hours 29m 46s

5) This is in Jerusalem time: September 27 1:29:46 p.m.

6) Comments: The Jewish molad is here OVER THREE AND ONE-HALF HOURS LATER than the actual new moon.

THE YEAR 2012 A.D.

1) The molad of Tishri is: September 16 7 hours 1034 parts

2) This is equal to: September 16 1:57:26 a.m.

3) The actual new moon is: September 16 2 hours 11m 44s

4) Add 2 hours 20 minutes: September 16 4 hours 31m 44s

5) This is in Jerusalem time: September 16 4:31:44 a.m.

6) Comments: The Jewish molad is here OVER TWO AND ONE-HALF HOURS EARLIER than the actual new moon.

THE YEAR 2013 A.D.

1) The molad of Tishri is: September 5 16 hours 830 parts

2) This is equal to: September 5 10:46:06 a.m.

3) The actual new moon is: September 5 11 hours 37m 15s

4) Add 2 hours 20 minutes: September 5 13 hours 57m 15s

5) This is in Jerusalem time: September 5 1:57:15 p.m.

6) Comments: The Jewish molad is here OVER 3 HOURS EARLIER than the actual new moon.

THE YEAR 2014 A.D.

1) The molad of Tishri is: September 24 14 hours 339 parts

2) This is equal to: September 24 8:18:50 a.m.

3) The actual new moon is: September 24 6 hours 14m 52s

4) Add 2 hours 20 minutes September 24 8 hours 34m 52s

5) This is in Jerusalem time: September 24 8:34:52 a.m.

6) Comments: THIS IS THE BEST THE MOLAD HAS BEEN SO FAR, WITHIN 16 MINUTES OF THE ACTUAL NEW MOON! PURE COINCIDENCE!

THE YEAR 2015 A.D.

1) The molad of Tishri is: September 13 23 hours 135 parts

2) This is equal to: September 13 5:07:30 p.m.

3) The actual new moon is: September 13 6 hours 42m 22s

4) Add 2 hours 20 minutes: September 13 9 hours 02m 22s

5) This is in Jerusalem time: September 13 9:02:22 a.m.

6) Comments: The Jewish molad is here OVER 8 HOURS LATER than the actual new moon.

THE YEAR 2016 A.D.

1) The molad of Tishri is: October 1 20 hours 724 parts

2) This is equal to: October 1 2:40:13 p.m.

3) The actual new moon is: October 1 00 hours 12m 28s

4) Add 2 hours 20 minutes: October 1 2 hours 32m 28s

5) This is in Jerusalem time: October 1 2:32:28 a.m.

6) Comments: The Jewish molad is here OVER 12 HOURS LATER than the actual new moon.

THE YEAR 2017 A.D.

1) The molad of Tishri is: September 21 5 hours 520 parts

2) This is equal to: September 20 11:28:53 p.m.

3) The actual new moon is: September 20 5 hours 30m 59s

4) Add 2 hours 20 minutes: September 20 7 hours 50m 59s

5) This is in Jerusalem time: September 20 7:50:59 a.m.

6) Comments: The Jewish molad is here OVER 15 AND ONE-HALF HOURS LATER than the actual new moon.

THE YEAR 2018 A.D.

1) The molad of Tishri is: September 10 14 hours 316 parts

2) This is equal to: September 10 8:17:33 a.m.

3) The actual new moon is: September 9 18 hours 02m 35s

4) Add 2 hours 20 minutes: September 9 20 hours 22m 35s

5) This is in Jerusalem time: September 9 8:22:35 p.m.

6) Comments: The Jewish molad is here ALMOST 12 HOURS LATER than the actual new moon.

THE YEAR 2019 A.D.

1) The molad of Tishri is: September 29 11 hours 905 parts

2) This is equal to: September 29 5:50:16 a.m.

3) The actual new moon is: September 28 18 hours 27m 29s

4) Add 2 hours 20 minutes: September 28 20 hours 47m 29s

5) This is in Jerusalem time: September 28 8:47:29 p.m.

6) Comments: The Jewish molad is here OVER 9 HOURS LATER than the actual new moon.

THE YEAR 2020 A.D.

1) The molad of Tishri is: September 17 20 hours 701 parts

2) This is equal to: September 17 2:38:56 p.m.

3) The actual new moon is: September 17 11 hours 01m 20s

4) Add 2 hours 20 minutes: September 17 13 hours 21m 20s

5) This is in Jerusalem time: September 17 1:21:20 p.m.

6) Comments: The Jewish molad is here just OVER 1 HOUR LATER than the actual new moon.

THE YEAR 2021 A.D.

1) The molad of Tishri is: September 7 5 hours 497 parts

2) This is equal to: September 6 11:27:36 p.m.

3) The actual new moon is: September 7 00 hours 52m 54s

4) Add 2 hours 20 minutes: September 7 3 hours 12m 54s

5) This is in Jerusalem time: September 7 3:12:54 a.m.

6) Comments: The Jewish molad is here 3 AND THREE-QUARTER HOURS EARLIER than the actual new moon.

THE YEAR 2022 A.D.

1) The molad of Tishri is: September 26 3 hours 6 parts

2) This is equal to: September 25 9:00:20 p.m.

3) The actual new moon is: September 25 21 hours 55m 42s

4) Add 2 hours 20 minutes: September 26 00 hours 15m 42s

5) This is in Jerusalem time: September 26 00:15:42 a.m.

6) Comments: The Jewish molad is here OVER 3 HOURS EARLIER than the actual new moon.

THE YEAR 2023 A.D.

1) The molad of Tishri is: September 15 11 hours 882 parts

2) This is equal to: September 15 5:49:00 a.m.

3) The actual new moon is: September 15 1 hour 40m 56s

4) Add 2 hours 20 minutes: September 15 4 hours 00m 56s

5) This is in Jerusalem time: September 15 4:00:56 a.m.

6) Comments: The Jewish molad is here 1 HOUR 48 MINUTES LATER than the actual new moon.

THE YEAR 2024 A.D.

1) The molad of Tishri is: October 3 9 hours 391 parts

2) This is equal to: October 3 3:21:43 a.m.

3) The actual new moon is: October 2 18 hours 50m 23s

4) Add 2 hours 20 minutes: October 2 21 hours 10m 23s

5) This is in Jerusalem time: October 2 9:10:23 p.m.

6) Comments: The Jewish molad is here OVER 6 HOURS LATER than the actual new moon.

THE YEAR 2025 A.D.

1) The molad of Tishri is: September 22 18 hours 187 parts

2) This is equal to: September 22 12:10:23 p.m.

3) The actual new moon is: September 21 19 hours 55m 15s

4) Add 2 hours 20 minutes: September 21 22 hours 15m 15s

5) This is in Jerusalem time: September 21 10:15:15 p.m.

6) Comments: The Jewish molad is here ALMOST 14 HOURS LATER than the actual new moon.

EVALUATION OF THE ABOVE 26 YEARS DATA:

Compared to the ACTUAL NEW MOON CONJUNCTIONS, the molads of Tishri of the Jewish calendar calculations differ as follows:

For the following years the molad of Tishri is:

2000 AD = 15 hours LATER

2001 AD = 9 hours LATER

2002 AD = 1 hour 23 minutes LATER

2003 AD = 1 hour EARLIER

2004 AD = 3 and one-half hours EARLIER

2005 AD = 2 hours EARLIER

2006 AD = 5 hours LATER

2007 AD = 13 hours LATER

2008 AD = 15 hours LATER

2009 AD = 13 hours LATER

2010 AD = 6 hours LATER

2011 AD = 3 and one-half hours LATER

2012 AD = 2 and one-half hours EARLIER

2013 AD = 3 hours EARLIER

2014 AD = WITHIN 16 MINUTES OF THE NEW MOON!!

2015 AD = 8 hours LATER

2016 AD = 12 hours LATER

2017 AD = 15 and one-half hours LATER

2018 AD = 12 hours LATER

Start of the next 19 years:

2019 AD = 9 hours LATER

2020 AD = 1 HOUR later

2021 AD = 3 and three-quarter hours EARLIER

2022 AD = 3 HOURS EARLIER

2023 AD = 1 and three-quarters hours LATER

2024 AD = 6 hours LATER

2025 AD = 14 hours LATER

etc.

So the molads of the Jewish calendar are MOSTLY LATER THAN THE ACTUAL NEW MOON CONJUNCTIONS! Occasionally they are earlier than the new moons. THE RANGE OF ERROR is from over 15 hours too late to being almost 4 hours too early! This is a range of 19 hours!

So the facts presented above prove the following:

1) The molads of the Jewish calendar CLAIM to accurately calculate the new moon conjunctions to the nearest "halak" (which is a period of time equal to three-and-one-third seconds). Yet they fluctuate from

being over 15 hours LATER than the new moons to being almost 4 hours EARLIER than the new moons. So the molads are spread over a band of 19 HOURS AROUND THE TRUE NEW MOONS.

Thus they bear no resemblance to reality!

2) The errors do not appear in a readily recognizable pattern which is linked to 19-year cycles. Thus the error of year 1 is not mirrored in the error of year 20. The errors are not tied to the 19-year cycles at all.

3) IF we are going to base our calendar on the new moons of the 1st and the 7th months, then we have no option but to REJECT THE DATES ARRIVED AT BY THE JEWISH MOLADS!

4) Since the molads err on BOTH sides of the actual new moons (sometimes the molads are too late and at other times they are too early), THEREFORE it does not really matter from which particular location on earth (i.e. Jerusalem or Babylon or any other place) we evaluate the molads. If we use some longitude to reduce the time the molads are too late, then we automatically increase the time when the molads are too early at other times. Any decrease in the error on the one side will automatically increase the error on the other side.

5) When you realize that two or three hours can make a major difference to the present Jewish calendar (e.g. a molad at a specific time on a certain day may require a 1-day or even a 2-day postponement; but a molad 1 hour earlier may require no postponements at all, thus changing the whole calendar for the year), then you realize the major impact an error of 15 HOURS has on the Jewish calendar.

The molads of Tishri are nothing more than very rough approximations for the supposed new moon conjunctions. The information I have presented in this section proves this beyond any doubts.

6) The molads at the start of the year (i.e. for the first month) present the same problems. The reason for these problems is that the molads are based on assuming that all lunations are of equal length. But this is simply not so, as is clearly demonstrated in the above data.

> THUS THE CHURCHES OF GOD NEED TO DEVISE A CALENDAR THAT IS MORE ACCURATE THAN THE ONE USED BY THE JEWS!

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