

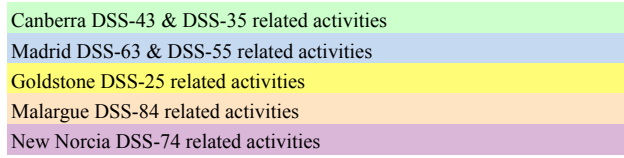
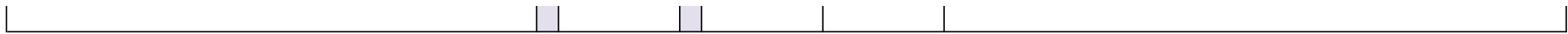
	ERT UTC OWLT = 01:15:15	SCET	PDT ERT-7hrs 07:00:00	Comments
<b>DOY 2017-160</b>				
S/C at Waypoint: X-Band to Earth, POS_X to 299.7/63.6	13:15:15	12:00:00	06:15:15	Spacecraft is Earth-pointed
DSS-55: Start Pre-Cal	19:15:00	17:59:45	12:15:00	
RSSG: Start DSS-55 Open-Loop Recordings	20:15:00	18:59:45	13:15:00	
DSS-55: Beginning Of Track	20:45:00	19:29:45	13:45:00	Spacecraft is Earth-pointed
DSS-55: Begin X-Band 3-Way Acquisition w/DSS-43	20:45:00	19:29:45	13:45:00	Pc/N0 TLM ON (X-34) = 34 dB-Hz
RSSG: Note TLM BR 14220	20:45:17	19:30:02	13:45:17	
Ka-Band ON	20:45:21	19:30:06	13:45:21	Per PEF
DSS-55: Begin Ka-Band 3-Way Acquisition w/DSS-43	20:45:21	19:30:06	13:45:21	Pc/N0 TLM ON (X-34) = 34 dB-Hz
<b>DSS-55: Transmitter ON, 18kW, LCP, RAMP, SWEEP</b>	<b>21:10:00</b>	19:54:45	14:10:00	
DSS-55: Enable Monopulse	21:11:00	19:55:45	14:11:00	> 10 deg EL. Enable/Disable Monopulse only when requested by RSSG
RSSG: Note TLM BR 22120	21:30:18	20:15:03	14:30:18	
RSSG: Note TLM BR 27650	22:30:17	21:15:02	15:30:17	
DSS-55: Disable Monopulse Without Clearing the Offsets	23:08:00	21:52:45	16:08:00	Before mode switch to 1-way; when requested by RSSG
DSS-55: Begin X- & Ka-Band 1-Way Acquisition	23:10:32	21:55:17	16:10:32	Begin coherent gap. Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
RSSG: Enter 1-Way Open-Loop Frequency Offsets as Needed	23:10:32	21:55:17	16:10:32	
DSS-55: Enable Monopulse	23:12:00	21:56:45	16:12:00	Enable/Disable Monopulse only when requested by RSSG
DSS-55: Disable Monopulse Without Clearing the Offsets	23:38:00	22:22:45	16:38:00	Before mode switch to 2-way; when requested by RSSG
DSS-55 Transmitter ON Observed	23:40:31	22:25:16	16:40:31	
DSS-55: Begin X- & Ka-Band 2-Way Acquisition	23:40:31	22:25:16	16:40:31	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
RSSG: Clear 1-Way Open-Loop Frequency Offsets	23:40:31	22:25:16	16:40:31	
DSS-55: Enable Monopulse	23:44:00	22:28:45	16:44:00	Enable/Disable Monopulse only when requested by RSSG
<b>DOY 2017-161</b>				
DSS-84: Start Pre-Cal	01:15:00	23:59:45	18:15:00	
RSSG: Start DSS-84 Open-Loop Recordings	01:30:00	00:14:45	18:30:00	
DSS 84: Beginning Of Track	02:00:00	00:44:45	19:00:00	
DSS-84: Begin X- & Ka-Band 3-Way Acquisition w/DSS-55	02:00:00	00:44:45	19:00:00	
<b>Start of Rev 278 RSS Saturn Gravity Observation</b>	02:10:15	00:55:00	19:10:15	
DSS-25: Start Pre-Cal	02:25:00	01:09:45	19:25:00	
RSSG: Note TLM BR 22120	02:45:16	01:30:01	19:45:16	

RSSG: Start DSS-25 Open-Loop Recordings	03:25:00	02:09:45	20:25:00	
RSSG: Note TLM BR 14220	03:45:16	02:30:01	20:45:16	
DSS:25 Beginning Of Track	03:55:00	02:39:45	20:55:00	
DSS-25: Begin X- & Ka-Band 3-Way Acquisition w/DSS-55	03:55:00	02:39:45	20:55:00	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-55: Transmitter OFF	04:12:30	02:57:15	21:12:30	
DSS-25: Enable Monopulse	04:14:00	02:58:45	21:14:00	~10 deg EL. Enable/Disable Monopulse only when requested by RSSG
DSS-25: Transmitter ON, 18kW, LCP, RAMP	04:18:00	03:02:45	21:18:00	NO SWEEP
DSS-55: Disable Monopulse	04:30:00	03:14:45	21:30:00	Enable/Disable Monopulse only when requested by RSSG
DSS-55: EOT	04:30:00	03:14:45	21:30:00	
RSSG: Note TLM BR 22120	04:30:17	03:15:02	21:30:17	
DSS-55: Post-Cal	04:45:00	03:29:45	21:45:00	
RSSG: End DSS-55 Open-Loop Recordings	04:50:00	03:34:45	21:50:00	
RSSG: Note TLM BR 27650	05:15:16	04:00:01	22:15:16	
DSS-35: Start Pre-Cal	06:30:00	05:14:45	23:30:00	
DSS-35: Fix Subreflector at 45 Degrees	06:30:00	05:14:45	23:30:00	Keep it fixed until 18:08:30
DSS-25: Disable Monopulse	06:41:00	05:25:45	23:41:00	Before mode switch to 1-way; when requested by RSSG
DSS-55 Transmitter OFF Observed	06:43:00	05:27:45	23:43:00	Begin ~6 min coherent gap
DSS-25: Begin X- & Ka-Band 1-Way Acquisition	06:43:00	05:27:45	23:43:00	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-84: Do Not Acquire 1-Way Signal	06:43:00	05:27:45	23:43:00	Configure for 3-way/25
RSSG: Adjust 1-Way Open-Loop Frequency Offsets as Needed	06:43:00	05:27:45	23:43:00	
DSS-25 Transmitter ON Observed	06:48:30	05:33:15	23:48:30	End ~6 min coherent gap
DSS-25: Begin X- & Ka-Band 2-Way Acquisition	06:48:30	05:33:15	23:48:30	Pc/N0 TLM ON (Ka-34, X-34) = 48, 34 dB-Hz
DSS-84: Begin X- & Ka-Band 3-Way Acquisition w/DSS-25	06:48:30	05:33:15	23:48:30	
RSSG: Clear 1-Way Open-Loop Frequency Offsets	06:48:30	05:33:15	23:48:30	
DSS-25: Enable Monopulse	06:52:00	05:36:45	23:52:00	Enable/Disable Monopulse only when requested by RSSG
DSS-43: Start Pre-Cal	06:55:00	05:39:45	23:55:00	
DSS-84: EOT	07:00:00	05:44:45	00:00:00	
DSS-84: Post-Cal	07:15:00	05:59:45	00:15:00	
RSSG: End DSS-84 Open-Loop Recordings	07:20:00	06:04:45	00:20:00	
RSSG: Start DSS-43 & DSS-35 Open-Loop Recordings	07:25:00	06:09:45	00:25:00	
DSS-43: Beginning Of Track	07:55:00	06:39:45	00:55:00	
DSS-43: Begin X-Band 3-Way Acquisition w/DSS-25	07:55:00	06:39:45	00:55:00	Pc/N0 TLM ON (X-70) = 40 dB-Hz
DSS-35: Beginning Of Track	08:00:00	06:44:45	01:00:00	
DSS-35: Begin X- & Ka-Band 3-Way Acquisition w/DSS-25	08:00:00	06:44:45	01:00:00	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-43: Enable Conscan	08:10:00	06:54:45	01:10:00	Must be disabled before by 12:00:00
DSS-35: Enable Monopulse	08:13:00	06:57:45	01:13:00	~10 deg EL. Enable/Disable Monopulse only when requested by RSSG
DSS-35: Transmitter ON, 18 kW, LCP, RAMP	08:35:00	07:19:45	01:35:00	NO SWEEP. Uplink Transfer from DSS-25 to DSS-35
DSS-25: Transmitter OFF	08:35:05	07:19:50	01:35:05	
RSSG: Note TLM BR 22120	11:00:15	09:45:00	04:00:15	
DSS-25 to DSS-35 Uplink Transfer Observed	11:05:30	09:50:15	04:05:30	
DSS-35: Start X- & Ka-Band 2-Way Acquisition	11:05:30	09:50:15	04:05:30	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz

DSS-43: Start X-Band 3-Way Acquisition w/DSS-35	11:05:30	09:50:15	04:05:30	Pc/N0 TLM ON (X-70) = 40 dB-Hz
DSS-25: Start X- & Ka-Band 3-Way Acquisition w/DSS-35	11:05:30	09:50:15	04:05:30	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
S-Band ON	11:16:17	10:01:02	04:16:17	Per PEF
DSS-43: Start S-Band 3-Way Acquisition w/DSS-35	11:16:17	10:01:02	04:16:17	Pc/N0 TLM ON (S-70) = 42 dB-Hz
RSSG: Note TLM BR 14220	11:45:15	10:30:00	04:45:15	
DSS-43: Disable Conscan	12:00:00	10:44:45	05:00:00	Ensure TDN does not re-enable Conscan
RSSG: Note TLM BR 142201	12:15:15	11:00:00	05:15:15	
DSS-25: Disable Monopulse	12:25:00	11:09:45	05:25:00	Enable/Disable Monopulse only when requested by RSSG
DSS-25: EOT	12:25:00	11:09:45	05:25:00	
DSS-25: Post-Cal	12:40:00	11:24:45	05:40:00	
RSSG: End DSS-25 Open-Loop Recordings	12:45:00	11:29:45	05:45:00	
<b>Start of Rev 278 Periapse Ring Occultation</b>	13:16:15	12:01:00	06:16:15	Gravity observation continues
RNG OFF	13:16:15	12:01:00	06:16:15	
TLM OFF	13:16:18	12:01:03	06:16:18	
Start Free-Space 2-Way/3-Way Baseline	13:16:19	12:01:04	06:16:19	Pc/N0 TLM OFF (X-70, S-70, X-34, Ka-34) = 54, 42, 48, 48 dB-Hz
Ring C In	14:07:57	12:52:42	07:07:57	Approximate time
<b>Saturn Closest Approach (Orbit Periapse)</b>	14:08:30	12:53:15	07:08:30	
DSS-35: Disable Monopulse Without Clearing the Offsets	14:13:08	12:57:53	07:13:08	Enable/Disable Monopulse only when requested by RSSG
Ring C Out/Ring B In	14:13:22	12:58:07	07:13:22	Approximate time
Ring B Out	14:22:09	13:06:54	07:22:09	Approximate time
Ring A In	14:23:53	13:08:38	07:23:53	Approximate time
DSS-35: Enable Monopulse	14:25:50	13:10:35	07:25:50	Enable/Disable Monopulse only when requested by RSSG
Ring A Out	14:30:01	13:14:46	07:30:01	Approximate time
Ring F	14:31:35	13:16:20	07:31:35	Approximate time
Start Free-Space 2-Way/3-Way Baseline	14:31:36	13:16:21	07:31:36	
TLM ON	15:23:09	14:07:54	08:23:09	
RNG ON	15:23:13	14:07:58	08:23:13	
<b>End of Rev 278 Periapse Ring Occultation</b>	15:23:15	14:08:00	08:23:15	Gravity observation continues
RSSG: Note TLM BR 142201	15:23:15	14:08:00	08:23:15	
<b>DSS-43: Transmitter ON, 18 kW, LCP, RAMP</b>	<b>15:38:00</b>	14:22:45	08:38:00	<b>NO SWEEP.</b> Uplink Transfer from DSS-35 to DSS-43
<b>DSS-35: Transmitter OFF</b>	<b>15:38:05</b>	14:22:50	08:38:05	
<b>Start of Rev 278 Chord Ring Occultation</b>	17:47:15	16:32:00	10:47:15	Gravity Observation Continues
RNG OFF	17:47:15	16:32:00	10:47:15	
TLM OFF	17:47:18	16:32:03	10:47:18	
DSS-43: Enable Conscan	17:55:00	16:39:45	10:55:00	Must be disabled before by 18:05:00

DSS-43: Disable Conscan	18:05:00	16:49:45	11:05:00	Ensure TDN does not re-enable Conscan
DSS-35 to DSS-43 Uplink Transfer Observed	18:08:30	16:53:15	11:08:30	
DSS-43: Start X- & S-Band 2-Way Acquisition	18:08:30	16:53:15	11:08:30	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz
DSS-35: Start X- & Ka-Band 3-Way Acquisition w/DSS-43	18:08:30	16:53:15	11:08:30	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-35: Move Subreflector	18:08:30	16:53:15	11:08:30	
DSS-74: Start Pre-Cal	19:05:00	17:49:45	12:05:00	
DSS-55: Start Pre-Cal	19:05:00	17:49:45	12:05:00	
Ring F	19:16:42	18:01:27	12:16:42	Approximate time
RSSG: Start DSS-74 Open-Loop Recordings	19:20:00	18:04:45	12:20:00	
Ring A In	19:24:21	18:09:06	12:24:21	Approximate time
DSS-63: Start Pre-Cal	19:35:00	18:19:45	12:35:00	
DSS-35: Disable Monopulse	19:47:00	18:31:45	12:47:00	Enable/Disable Monopulse only when requested by RSSG
DSS-74: Beginning Of Track	19:50:00	18:34:45	12:50:00	
DSS-74: Begin X- & S-Band 3-Way Acquisition/DSS-43	19:50:00	18:34:45	12:50:00	
Ring A Out	19:57:31	18:42:16	12:57:31	Approximate time
RSSG: Start DSS-63 & DSS-55 Open-Loop Recordings	20:05:00	18:49:45	13:05:00	
Ring B In	20:07:56	18:52:41	13:07:56	Approximate time
<b>DSS-74: Transmitter ON, 18 kW, LCP, RAMP</b>	<b>20:30:00</b>	<b>19:14:45</b>	<b>13:30:00</b>	<b>NO SWEEP.</b> Uplink Transfer from DSS-43 to DSS-74
<b>DSS-43: Transmitter OFF</b>	<b>20:30:05</b>	<b>19:14:50</b>	<b>13:30:05</b>	
DSS-63 & DSS-55: Beginning Of Track	20:35:00	19:19:45	13:35:00	
DSS-63: Begin X- & S-Band 3-Way Acquisition w/DSS-43	20:35:00	19:19:45	13:35:00	S/C is behind Ring B (in B3); very low SNR
DSS-55: Begin X- & Ka-Band 3-Way Acquisition w/DSS-43	20:35:00	19:19:45	13:35:00	S/C is behind Ring B (in B3); very low SNR
DSS-43 & DSS-35: End Of Track	20:55:00	19:39:45	13:55:00	S/C is behind Ring B (in B2)
<b>DSS-63: Transmitter ON, 18 kW, LCP, RAMP</b>	<b>21:03:00</b>	<b>19:47:45</b>	<b>14:03:00</b>	<b>NO SWEEP.</b> Uplink Transfer from DSS-74 to DSS-63
<b>DSS-74: Transmitter OFF</b>	<b>21:03:05</b>	<b>19:47:50</b>	<b>14:03:05</b>	Uplink Transfer from DSS-74 to DSS-63
DSS-43 & DSS-35: Post-Cal	21:10:00	19:54:45	14:10:00	
Ring B Out/Ring C In	21:12:24	19:57:09	14:12:24	Approximate time
DSS-55: Enable Monopulse	21:14:30	19:59:15	14:14:30	Enable/Disable Monopulse only when requested by RSSG
RSSG: End DSS-43 & DSS-35 Open-Loop Recordings	21:15:00	19:59:45	14:15:00	
DSS-84: Start Pre-Cal	22:15:00	20:59:45	15:15:00	
Ring C Out	22:24:07	21:08:52	15:24:07	Approximate time
RSSG: Start DSS-84 Open-Loop Recordings	22:30:00	21:14:45	15:30:00	
DSS-74: End Of Track	23:00:00	21:44:45	16:00:00	
DSS 84: Beginning Of Track	23:00:00	21:44:45	16:00:00	
DSS-84: Begin X- & Ka-Band 3-Way Acquisition w/DSS-43	23:00:00	21:44:45	16:00:00	
DSS-43 to DSS-74 Uplink Transfer Observed	23:00:30	21:45:15	16:00:30	
DSS-63: Begin X- & Ka-Band 3-Way Acquisition w/DSS-74	23:00:30	21:45:15	16:00:30	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz
DSS-55: Begin X- & Ka-Band 3-Way Acquisition w/DSS-74	23:00:30	21:45:15	16:00:30	Pc/N0 TLM OFF (X-34, Ka-34) = 48, 48 dB-Hz
RSSG: Continue using 3-Way/DSS-43 Predicts at DSS-63 and 55	23:00:30	21:45:15	16:00:30	Since 3-way/74 predicts are not available
DSS-84: Begin X- & Ka-Band 3-Way Acquisition w/DSS-74	23:00:30	21:45:15	16:00:30	
RSSG: Use 3-Way/DSS-43 Predicts at DSS-84	23:00:30	21:45:15	16:00:30	Since 3-way/74 predicts are not available

RSSG: Switch DSS-63 Predicts to 2-Way	23:10:00	21:54:45	16:10:00	
RSSG: Switch DSS-55 Predicts to 3-Way w/DSS-63	23:10:00	21:54:45	16:10:00	
RSSG: Switch DSS-74 Predicts to 3-Way w/DSS-63	23:10:00	21:54:45	16:10:00	
DSS-74: Post-Cal	23:15:00	21:59:45	16:15:00	
Ring C In	23:17:47	22:02:32	16:17:47	Approximate time
RSSG: End DSS-74 Open-Loop Recordings	23:20:00	22:04:45	16:20:00	
DSS-74 to DSS-63 Uplink transfer Observed	23:33:30	22:18:15	16:33:30	
DSS-63: Begin X- & S-Band 2-Way Acquisition	23:33:30	22:18:15	16:33:30	S/C is behind inner Ring C
DSS-55: Begin X- & Ka-Band 3-Way Acquisition w/DSS-63	23:33:30	22:18:15	16:33:30	S/C is behind inner Ring C
DSS-84: Begin X- & Ka-Band 3-Way Acquisition w/DSS-63	23:33:30	22:18:15	16:33:30	S/C is behind inner Ring C
RSSG: Predicts Have Already Been Switched	23:33:30	22:18:15	16:33:30	
<b>DOY 2017-162</b>				
DSS-55: Disable Monopulse Without Clearing the Offsets	00:27:00	23:11:45	17:27:00	
Ring C Out/Ring B In	00:29:06	23:13:51	17:29:06	Approximate time
Ring B Out	01:32:17	00:17:02	18:32:17	Approximate time
DSS-63: Transmitter OFF	01:22:24	00:07:09	18:22:24	
Ring A In	01:42:21	00:27:06	18:42:21	Approximate time
DSS-55: Enable Monopulse	01:52:30	00:37:15	00:37:15	Enable/Disable Monopulse only when requested by RSSG
<b>End of Rev 278 RSS Saturn Gravity Observation</b>	02:10:15	00:55:00	19:10:15	
Ring A Out	02:13:55	00:58:40	19:13:55	Approximate time
Ring F	02:21:04	01:05:49	19:21:04	Approximate time
Start Free-Space 2-Way/3-Way Baseline	02:21:05	01:05:50	19:21:05	
DSS-55: Disable Monopulse	03:43:00	02:27:45	20:43:00	
DSS-63 & DSS-55: End Of Track	03:45:00	02:29:45	20:45:00	
S-Band OFF	03:52:36	02:37:21	20:52:36	Per PEF
Ka-Band OFF	03:52:38	02:37:23	20:52:38	Per PEF
DSS-63 Transmitter OFF Observed	03:52:54	02:37:39	20:52:54	
TLM ON	03:53:09	02:37:54	20:53:09	
RSSG: Note TLM BR 1896	03:53:11	02:37:56	20:53:11	
RNG ON	03:53:13	02:37:58	20:53:13	
<b>End of Rev 278 Chord Ring Occultation</b>	03:53:15	02:38:00	20:53:15	
Begin Spacecraft Turn Away from Earth Point	03:53:15	02:38:00	20:53:15	Loss of X-band signal
DSS-63 & DSS-55: Post-Cal	04:00:00	02:44:45	21:00:00	
RSSG: End DSS-63 & DSS-55 Open-Loop Recordings	04:05:00	02:49:45	21:05:00	
DSS-84: EOT	04:05:00	02:49:45	21:05:00	
DSS-84: Post-Cal	04:20:00	03:04:45	21:20:00	
RSSG: End DSS-84 Open-Loop Recordings	04:25:00	03:09:45	21:25:00	



Predicted ring event times are approximate and are based on reference trajectory 150901