

# **TOST: Delivery Package 040TI (T26) Handoff to SOPU**

**Segment Boundary 2007-068T09:21:00 – 2007-070T02:47:00  
Titan C/A= 2007-069T01:49, Altitude = 980 km  
Epoch = GMB\_E040\_Titan26**

**October 6, 2006**

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## 040TI (T26)

- Science to be accomplished during this flyby:
  - ISS will perform south pole imaging at  $\sim 2$  km/pixel, regional scale mapping of the dark region around 46N, 228W at 300-500 m/pixel (phase angle  $62^\circ$ ), global-scale mapping of the dark region around 45 N, 231 W (phase angle  $61^\circ$ ) at 1 km/pixel, and full-disk color imaging (centered at 44 N, 234 W) at 1.4 km/pixel (phase angle  $60^\circ$ ).
  - CIRS will do stratospheric and tropospheric mapping of composition and temperature, in addition to limb sounding of the stratosphere for vertical resolution, and a surface temperature scan.
  - UVIS will measure dayside and nightside emissions (FUV + EUV), in addition to performing a solar occultation.
  - VIMS will do monitoring of cloud motion on Titan, probing of the deep structure of Titan's atmosphere during the solar occultation, and mapping of mid-latitude regions at moderate solar phase angles.

# 040TI(T26) Timeline

C/A= 2007-069T01:49 @ 980 km; Unilluminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
068T09:21	068T09:51	SP Turn to waypoint	-Y to Titan, +X to NTP	DFPW Normal	S_N_ER_3	
068T09:51	068T10:06	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-15:41	-14:41	ISS	Polar Photom	DFPW Normal	S_N_ER_3	Template M (modified)
-14:41	-13:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (modified)
-13:00	-10:00	CIRS	FP1 Integration	DFPW Normal	S_N_ER_3	Template N
-10:00	-09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	Template N
-09:00	-05:00	CIRS	Mid-IR Limb Map	DFPW Normal	S_N_ER_3	Template R
-05:00	-01:24	CIRS	Nadir	DFPW Normal	S_N_ER_3	Template T (modified)
-01:24	-01:00	RWA to RCS Transition		ORS_RCS	S_N_ER_3	(Deadband = 0.5,20,0.5)
-01:00	-00:47	SP Turn to waypoint	-X to SC_RAM, -Y to Titan	ORS_RCS	S_N_ER_3	Safe throughout custom period; suspend SID
-00:47		Begin Custom Period				
-00:47	-00:11	UVIS Solar Occ	UVIS_SOLAR to Sun, -X to SC_RAM	DFPW Normal	S_N_ER_3, S_N_ER_2	2nd axis for INMS; S_N_ER_2 at 00:30 for RPWS
-00:11	+00:15	INMS		ORS_RCS	S_N_ER_2	Pick up at UVIS_SOLAR to Sun, X to RAM; Leave at -X to SC_RAM. -Y to Titan
+00:15		End Custom Period				
+00:15	+01:52	CIRS		ORS_RCS	S_N_ER_2, S_N_ER_3	
+01:52	+02:00	SP Turn to waypoint	-Y to Titan, -X to Sun	ORS_RCS	S_N_ER_3	
+02:00	+02:23	RCS to RWA Transition		ORS_RCS	S_N_ER_3	
+02:23	+04:15	ISS	Regional Map	DFPW Normal	S_N_ER_3	Shortened wrt May '02 TOL
+04:15	+05:00	CIRS		DFPW Normal	S_N_ER_3	
+05:00	+08:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template G
+08:00	+09:00	ISS		DFPW Normal	S_N_ER_3	Template G
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+15:14	VIMS	Stare	DFPW Normal	S_N_ER_3	Template D
069T17:02	069T17:17	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
069T17:17	069T17:47	SP Turn to Earth		DFPW Normal	S_N_ER_3	
069T17:47	070T02:47	Madrid 70-m		DFPW Normal	RTE_N_SPB	

Request	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing	Pointing Agreement
MP_039NA_SEQUENCE028_NA	2007-048T10:52:00	E039_SEQUENCE_028+000T00:00:00	038T21:12:00	2007-08T08:04:00	0	0	SPASS Note			
MP_039NA_DSS65DOWN001_NA	2007-057T00:00:00		063T00:00:00	2007-120T00:00:00	0	0	Non-SPASS			
MP_039SA_REVO40_NA	2007-058T07:46:26		016T04:50:38	2007-074T12:37:04	0	0	Non-SPASS			
MP_040SA_REVO40_NA	2007-058T07:50:38		016T04:51:48	2007-074T12:42:26	0	0	Non-SPASS			
CAPS_040SA_SURVEY002_RIDER	2007-065T13:50:00		003T09:59:00	2007-068T23:49:00	1000	295.14	Non-SPASS			
INMS_040SA_PTOTM097B001_RIDER	2007-067T09:21:00		001T00:26:00	2007-068T09:47:00	50	4.398	Non-SPASS			
MIMI_040CO_SURVEY005_RIDER	2007-068T02:00:01		000T21:48:59	2007-068T23:49:00	900	70.685	Non-SPASS			
MAG_0400T_SURVEY002_PRIME	2007-068T09:21:00		000T12:52:13	2007-068T22:13:13	600	27.8	Non-SPASS			
RPWS_040SA_OUTSURVEY004_PRIME	2007-068T09:21:00		000T14:28:00	2007-068T23:49:00	1310	68.225	Non-SPASS			
SP_040NA_M7OBSNON069_NA	2007-068T09:21:00		001T08:26:00	2007-069T17:47:00	0	0	Non-SPASS			
SP_040NA_TOSTSEG069_NA	2007-068T09:21:00		001T17:26:00	2007-070T02:47:00	0	0	SPASS Note			
SP_040TI_WAYPTTURN069_PRIME	2007-068T09:21:00		000T00:30:00	2007-068T09:51:00	0	0	New Waypoint	ISS_NAC to Titan	POS_X to North_Pole_Dir	16.38 min turn
CDA_040DR_1608DUST312_RIDER	2007-068T09:22:00		000T06:59:33	2007-068T16:21:33	199.6	5.026	Non-SPASS			
INMS_040SA_SURVEY004_RIDER	2007-068T09:47:00		000T03:27:22	2007-068T13:14:22	50	0.622	Non-SPASS			
SP_040TI_DEADTIME068_PRIME	2007-068T09:51:00		000T00:17:00	2007-068T10:08:00	0	0	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_NIGHTNAC001_ISS	2007-068T10:08:00	GMB_E040_Titan26-000T15:41:00	000T01:00:00	2007-068T11:08:00	2000	7.2	SPASS Rider			
ISS_040TI_NIGHTNAC001_PRIME	2007-068T10:08:00	GMB_E040_Titan26-000T15:41:00	000T01:00:00	2007-068T11:08:00	0	20	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir	
VIMS_040TI_MONITOR001_ISS	2007-068T10:08:00	GMB_E040_Titan26-000T15:41:00	000T01:00:00	2007-068T11:08:00	6111.1	22	SPASS Rider			
CIRS_040TI_MIDIRTMAP001_PRIME	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	2000	12.12	Prime	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_MIDIRTMAP001_SI	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	0	2	SPASS Rider			
ISS_040TI_MIDIRTMAP001_CIRS	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	0	4	SPASS Rider			
VIMS_040TI_TEMPMAP002_CIRS	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	5940.6	36	SPASS Rider			
CIRS_040TI_FIRNADCMPO01_PRIME	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	4000	43.2	Prime	CIRS_FP1 to Titan	PIC	
CIRS_040TI_FIRNADCMPO01_SI	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	0	3	SPASS Rider			
ISS_040TI_FIRNADCMPO01_CIRS	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	0	6	SPASS Rider			
VIMS_040TI_FF1INT001_CIRS	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	3333.3	36	SPASS Rider			
INMS_040SA_MRO014_RIDER	2007-068T13:14:22		000T00:33:00	2007-068T13:47:22	1044.1	2.067	Non-SPASS			
INMS_040TI_T26INSURV001_UVIS	2007-068T13:49:00	GMB_E040_Titan26-000T12:00:00	000T11:00:00	2007-069T00:49:00	100	3.96	Non-SPASS			
CIRS_040TI_PHOTOMWAC001_ISS	2007-068T15:49:00	GMB_E040_Titan26-000T10:00:00	000T01:00:00	2007-068T16:49:00	4000	14.4	SPASS Rider			
ISS_040TI_PHOTOMWAC001_PRIME	2007-068T15:49:00	GMB_E040_Titan26-000T10:00:00	000T01:00:00	2007-068T16:49:00	0	30	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir	
VIMS_040TI_PHOT001_ISS	2007-068T15:49:00	GMB_E040_Titan26-000T10:00:00	000T01:00:00	2007-068T16:49:00	11111.1	40	SPASS Rider			
CDA_040DR_1807SUOUT002_RIDER	2007-068T16:22:34		000T01:59:59	2007-068T18:22:33	199.6	1.437	Non-SPASS			
CIRS_040TI_MIRLMBMAP001_PRIME	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T04:00:00	2007-068T20:49:00	4000	57.6	Prime	CIRS_FPB to Titan	PIC	
CIRS_040TI_MIRLMBMAP001_SI	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T05:00:00	2007-068T21:49:00	0	4	SPASS Rider			
ISS_040TI_MIRLMBMAP001_CIRS	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T04:00:00	2007-068T20:49:00	0	10	SPASS Rider			
VIMS_040TI_MIDIRLMB001_CIRS	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T04:00:00	2007-068T20:49:00	6250	90	SPASS Rider			
CDA_040DR_1906DUST313_RIDER	2007-068T18:23:33		005T18:11:47	2007-074T12:35:20	149.9	74.558	Non-SPASS			
CIRS_040TI_FIRNADMAP001_PRIME	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	2000	19.8	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_FIRNADMAP001_SI	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	0	3	SPASS Rider			
ISS_040TI_FIRNADMAP001_CIRS	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	0	10	SPASS Rider			
VIMS_040TI_LIMBMAP002_CIRS	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T03:36:00	2007-069T00:25:00	4166.7	54	SPASS Rider			
MAG_040TI_MAGTITAN001_PRIME	2007-068T22:13:13	GMB_E040_Titan26-000T03:35:47	000T07:11:33	2007-069T05:24:46	1976	51.165	Non-SPASS			
CIRS_040TI_FIRLMBINT001_PRIME	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	4000	12.24	Prime	CIRS_FP1 to Titan	PIC	
CIRS_040TI_FIRLMBINT001_SI	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	0	1	SPASS Rider			
ISS_040TI_FIRLMBINT001_CIRS	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	0	10	SPASS Rider			
UVIS_040TI_FIRLMBINT001_CIRS	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	1006.4	3.08	SPASS Rider			
CAPS_040TI_T26INBND001_PRIME	2007-068T23:49:00	GMB_E040_Titan26-000T02:00:00	000T01:06:00	2007-069T00:55:00	4000	15.84	SPASS Rider			
MIMI_040TI_T26INBND001_CAPS	2007-068T23:49:00	GMB_E040_Titan26-000T02:00:00	000T01:00:00	2007-069T00:49:00	1800	6.48	SPASS Rider			
RPWS_040TI_TINTMED001_PRIME	2007-068T23:49:00	GMB_E040_Titan26-000T02:00:00	000T01:31:40	2007-069T01:20:40	6849.7	37.673	Non-SPASS			
ENGR_040SC_ROUTEREU001_CDS	2007-069T00:19:00	GMB_E040_Titan26-000T01:30:00	000T03:00:00	2007-069T03:19:00	227	2.452	Non-SPASS			
CIRS_040TI_FIRLMBINT001_RIDER	2007-069T00:25:00	GMB_E040_Titan26-000T01:24:00	000T00:24:00	2007-069T00:49:00	4000	5.76	SPASS Rider			
ENGR_040SC_ORSRC069_PPS	2007-069T00:25:00	GMB_E040_Titan26-000T01:24:00	000T00:20:51	2007-069T00:45:51	0	0	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir	Deadband = (0.5, 20, 0.5)
INMS_040TI_T26INBDD01_UVIS	2007-069T00:49:00	GMB_E040_Titan26-000T01:00:00	000T00:49:00	2007-069T01:38:00	1498	4.404	Non-SPASS			
MIMI_040TI_T26CLOSE001_CAPS	2007-069T00:49:00	GMB_E040_Titan26-000T01:00:00	000T02:00:00	2007-069T02:49:00	1800	12.96	SPASS Rider			
SP_040SR_WAYPTTURN069_PRIME	2007-069T00:49:00	GMB_E040_Titan26-000T01:00:00	000T00:13:00	2007-069T01:02:00	0	0	New Waypoint	NEG_X to Titan_SC_RAM	NEG_Y to Titan	11.2 min turn on RCS
CAPS_040TI_T26CLOSE001_PRIME	2007-069T00:55:00	GMB_E040_Titan26-000T00:54:00	000T01:48:00	2007-069T02:43:00	16000	103.68	SPASS Rider			
SP_040NA_BEGCUSTOM069_NA	2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:01:00	2007-069T01:03:00	0	0	SPASS Note			
UVIS_040SU_USUNOCC002_PRIME	2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:36:00	2007-069T01:38:00	32096	69.327	Prime	NEG_Y to Sun (-20.0,0.0),(NEG_X to Titan_SC_RAM		Secondary axis -X to S/C ram for INMS. S_N_ER2 at -30:00 for RPWS
VIMS_040TI_SOLAROCC001_UVIS	2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:36:00	2007-069T01:38:00	52314.8	113	SPASS Rider			





# Team-sorted TOL-1

040TI (T26)

Request	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing	Pointing Agreement
CAPS_040SA_SURVEY002_RIDER	2007-065T13:30:00		003T09:59:00	2007-068T23:49:00	1000	295.14	Non-SPASS			
CAPS_040TL_T26INBND001_PRIME	2007-068T23:49:00	GMB_E040_Titan26-000T02:00:00	000T01:06:00	2007-069T00:55:00	4000	15.84	SPASS Rider			
CAPS_040TL_T26CLOSE001_PRIME	2007-069T00:55:00	GMB_E040_Titan26-000T00:54:00	000T01:48:00	2007-069T02:43:00	16000	103.68	SPASS Rider			
CAPS_040TL_T26OUTBND001_PRIME	2007-069T02:43:00	GMB_E040_Titan26-000T00:54:00	000T01:06:00	2007-069T03:49:00	4000	15.84	SPASS Rider			
CAPS_040SA_SURVEY003_RIDER	2007-069T03:49:00	GMB_E040_Titan26+000T02:00:00	001T09:12:38	2007-070T13:01:38	1000	119.558	Non-SPASS			
CDA_040DR_1608DUST312_RIDER	2007-068T09:22:00		000T06:59:33	2007-068T16:21:33	199.6	5.026	Non-SPASS			
CDA_040DR_1807SUOUT002_RIDER	2007-068T16:22:34		000T01:59:59	2007-068T18:22:33	199.6	1.437	Non-SPASS			
CDA_040DR_1906DUST313_RIDER	2007-068T18:23:33		005T18:11:47	2007-074T12:35:20	149.9	74.558	Non-SPASS			
CIRS_040TL_NIGHTNAC001_ISS	2007-068T10:08:00	GMB_E040_Titan26-000T15:41:00	000T01:00:00	2007-068T11:08:00	2000	7.2	SPASS Rider			
CIRS_040TL_MIDIRTMAP001_PRIME	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	2000	12.12	Prime	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_040TL_MIDIRTMAP001_SI	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	0	2	SPASS Rider			
CIRS_040TL_FIRNADCMPO01_PRIME	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	4000	43.2	Prime	CIRS_FP1 to Titan	PIC	
CIRS_040TL_FIRNADCMPO01_SI	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	0	3	SPASS Rider			
CIRS_040TL_PHOTOMWAC001_ISS	2007-068T15:49:00	GMB_E040_Titan26-000T10:00:00	000T01:00:00	2007-068T16:49:00	4000	14.4	SPASS Rider			
CIRS_040TL_MIRLMBMAP001_PRIME	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T04:00:00	2007-068T20:49:00	4000	57.6	Prime	CIRS_FPB to Titan	PIC	
CIRS_040TL_MIRLMBMAP001_SI	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T05:00:00	2007-068T21:49:00	0	4	SPASS Rider			
CIRS_040TL_FIRNADMAP001_PRIME	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	2000	19.8	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_040TL_FIRNADMAP001_SI	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	0	3	SPASS Rider			
CIRS_040TL_FIRLMBINT001_PRIME	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	4000	12.24	Prime	CIRS_FP1 to Titan	PIC	
CIRS_040TL_FIRLMBINT001_SI	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	0	1	SPASS Rider			
CIRS_040TL_FIRLMBINT001_RIDER	2007-069T00:25:00	GMB_E040_Titan26-000T01:24:00	000T00:24:00	2007-069T00:49:00	4000	5.76	SPASS Rider			
CIRS_040TL_FIRLMBINT002_PRIME	2007-069T02:12:00	GMB_E040_Titan26-000T00:23:00	000T00:30:00	2007-069T02:42:00	4000	7.2	Prime	CIRS_FP1 to Titan	PIC	Pick up at -Y to Titan, -X to Sun, -8 deg about Y.
CIRS_040TL_FIRLMBINT002_SI	2007-069T02:12:00	GMB_E040_Titan26-000T00:23:00	000T00:30:00	2007-069T02:42:00	0	1	SPASS Rider			
CIRS_040TL_FIRLMBINT002_RIDER	2007-069T02:42:00	GMB_E040_Titan26-000T00:53:00	000T00:30:00	2007-069T03:12:00	4000	7.2	Prime	CIRS_FP1 to Titan	PIC	
CIRS_040TL_FIRLMBINT002_SI	2007-069T02:42:00	GMB_E040_Titan26-000T00:53:00	000T00:30:00	2007-069T03:12:00	0	1	SPASS Rider			
CIRS_040TL_FIRLMBINT002_RIDER	2007-069T03:12:00	GMB_E040_Titan26+000T01:23:00	000T00:23:00	2007-069T03:35:00	4000	5.52	SPASS Rider			
CIRS_040TL_FIRLMBINT002_PRIME	2007-069T03:35:00	GMB_E040_Titan26+000T01:46:00	000T00:37:00	2007-069T04:12:00	4000	8.88	Prime	CIRS_FP1 to Titan	PIC	hand-off at waypoint (-Y Titan center, -X Sun, -8 deg about Y)
CIRS_040TL_FIRLMBINT002_SI	2007-069T03:35:00	GMB_E040_Titan26+000T01:46:00	000T00:37:00	2007-069T04:12:00	0	1	SPASS Rider			
CIRS_040IC_REGMAP001_ISS	2007-069T04:12:00	GMB_E040_Titan26+000T02:23:00	000T01:52:00	2007-069T06:04:00	4000	26.88	SPASS Rider			
CIRS_040TL_FIRNADMAP002_PRIME	2007-069T06:04:00	GMB_E040_Titan26-000T04:15:00	000T00:45:00	2007-069T06:49:00	2000	5.4	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_040TL_FIRNADMAP002_SI	2007-069T06:04:00	GMB_E040_Titan26-000T04:15:00	000T00:45:00	2007-069T06:49:00	0	1	SPASS Rider			
CIRS_040TL_EUVFUV002_UVIS	2007-069T06:49:00	GMB_E040_Titan26-000T05:00:00	000T03:00:00	2007-069T09:49:00	2000	21.6	SPASS Rider			
CIRS_040TL_GLOBMAP001_ISS	2007-069T09:49:00	GMB_E040_Titan26-000T08:00:00	000T00:40:00	2007-069T10:29:00	3000	7.2	SPASS Rider			
CIRS_040TL_PHOTOMWAC002_ISS	2007-069T10:29:00	GMB_E040_Titan26-000T08:40:00	000T00:20:00	2007-069T10:49:00	3000	3.6	SPASS Rider			
CIRS_040TL_FIRNADCMPO02_PRIME	2007-069T10:49:00	GMB_E040_Titan26+000T09:00:00	000T02:00:00	2007-069T11:24:00	4000	28.8	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_040TL_FIRNADCMPO02_SI	2007-069T10:49:00	GMB_E040_Titan26+000T09:00:00	000T02:00:00	2007-069T11:24:00	0	2	SPASS Rider			
CIRS_040TL_MONITORNA001_ISS	2007-069T11:24:00	GMB_E040_Titan26-000T11:00:00	000T02:00:00	2007-069T11:49:00	4000	28.8	SPASS Rider			
CIRS_040TL_GLOBMAP002_VIMS	2007-069T11:49:00	GMB_E040_Titan26+000T13:00:00	000T02:14:00	2007-069T11:01:38	4000	32.16	SPASS Rider			
CIRS_040IC_DSCAL1511_RIDER	2007-069T19:17:00		000T06:00:00	2007-070T01:17:00	4000	86.4	SPASS Rider			
ENGR_040SC_ROUTEREU001_CDS	2007-069T00:19:00	GMB_E040_Titan26-000T01:30:00	000T03:00:00	2007-069T03:19:00	227	2.452	Non-SPASS			
ENGR_040SC_ORSRC069_PPS	2007-069T00:25:00	GMB_E040_Titan26-000T01:24:00	000T00:20:51	2007-069T00:45:51	0	0	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir	Deadband = (0.5, 20, 0.5)
ENGR_040SC_AACSDUAL001_CDS	2007-069T01:34:00	GMB_E040_Titan26-000T00:15:00	000T00:30:00	2007-069T02:04:00	1638	2.948	Non-SPASS			
ENGR_040SC_DFPWBIAS069_PPS	2007-069T03:12:00	GMB_E040_Titan26+000T01:23:00	000T00:21:05	2007-069T03:33:05	0	0	Prime	ISS_NAC to Titan	NEG_X to Sun	
ENGR_040SC_AACSDUAL002_CDS	2007-069T17:46:47		000T00:00:02	2007-069T17:46:49	0	0	Non-SPASS			
INMS_040SA_PTOTM097B001_RIDER	2007-067T09:21:00		001T00:26:00	2007-068T09:47:00	50	4.398	Non-SPASS			
INMS_040SA_SURVEY004_RIDER	2007-068T09:47:00		000T03:27:22	2007-068T13:14:22	50	0.622	Non-SPASS			
INMS_040SA_MRO014_RIDER	2007-068T13:14:22		000T00:33:00	2007-068T13:47:22	1044.1	2.067	Non-SPASS			
INMS_040TL_T26INSURV001_UVIS	2007-068T13:49:00	GMB_E040_Titan26-000T12:00:00	000T11:00:00	2007-069T00:49:00	100	3.96	Non-SPASS			
INMS_040TL_T26INBDD001_UVIS	2007-069T00:49:00	GMB_E040_Titan26-000T01:00:00	000T00:49:00	2007-069T01:38:00	1498	4.404	Non-SPASS			
INMS_040TL_T26RAMPNT001_PRIME	2007-069T01:38:00	GMB_E040_Titan26-000T00:11:00	000T00:26:00	2007-069T02:04:00	1498	2.337	Prime	NEG_X to Titan_SC_R/NEG_Y to Titan		
INMS_040TL_T26OUTBD001_CIRS	2007-069T02:04:00	GMB_E040_Titan26+000T00:15:00	000T00:45:00	2007-069T02:49:00	1498	4.045	Non-SPASS			
INMS_040TL_T26OUTSUR001_CIRS	2007-069T02:49:00	GMB_E040_Titan26+000T01:00:00	000T11:00:00	2007-069T13:49:00	100	3.96	Non-SPASS			
INMS_040SA_SURVEY005_RIDER	2007-069T13:49:00	GMB_E040_Titan26+000T12:00:00	000T20:12:38	2007-070T10:01:38	50	3.638	Non-SPASS			



# 040TI (T26) SMT Report

Give away SSR margin (~100 Mb)

DATA VOLUME SUMMARY --- TRANSFER FRAME OVERHEAD INCLUDED (80 BITS PER 8800-BIT FRAME)

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4			P5	RECORDED		PLAYBACK								
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	CAROVR (%)	
SP_040EA_M70METNON069_PRIME	069 17:47	070 02:47	0	3312	116	3427	3516	88	0	221	53	3696	4449	753	753	17%	0

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	068 09:21	069 17:47	237.7	19.1	355.6	22.2	966.0	105.7	115.7	0.0	549.4	129.0	762.0	0.0	5.4	3267.8
OBSERVATION_SI	068 09:21	069 17:47	0.0	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0
SP_040EA_M70METNON069_PRIME	069 17:47	070 02:47	32.4	4.9	86.4	1.6	0.0	19.4	29.2	0.0	42.4	2.5	0.0	0.0	0.0	218.8
DAILY TOTAL SCIENCE	068 09:21	070 02:47	270.1	23.9	461.0	23.8	966.0	125.1	144.9	0.0	591.9	131.5	762.0	0.0		

	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)
TOTAL RECORDED (OPNAV data not included)	270.1	23.9	461.0	23.8	966.0	125.1	144.9	0.0	591.9	131.5	762.0	0.0



# 040TI (T26) Telemetry Modes

## TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2007-068T09:21:00.000	15:58:00	S_N_ER_3	SP_040NA_M70OBSNON069_NA
GMB_E040_Titan26-000T00:30:00	2007-069T01:19:00.000	01:00:00	S_N_ER_2	SP_040NA_M70OBSNON069_NA
GMB_E040_Titan26+000T00:30:00	2007-069T02:19:00.000	15:28:00	S_N_ER_3	SP_040NA_M70OBSNON069_NA
	2007-069T17:47:00.000	07:34:00	RTE_N_SPB_165900	SP_040EA_M70METNON069_PRIME
	2007-070T01:21:00.000	01:00:00	RTE_N_SPB_142200	SP_040EA_M70METNON069_PRIME
	2007-070T02:21:00.000	00:26:00	RTE_N_SPB_124425	SP_040EA_M70METNON069_PRIME

# 040TI (T26) Attitude Strategy

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S028, length = 39 ...		2007-048T10:52:00	E039_SEQUENCE_028+000T00:00:00	038T21:12:00	2007-087T08:04:00			
TOST rev 40 Segment		2007-068T09:21:00		001T17:26:00	2007-070T02:47:00			
SP_040TI_WAYPTTURN068_PRIME		2007-068T09:21:00		000T00:30:00	2007-068T09:51:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	16.38 min turn
NEW WAYPOINT		2007-068T09:51:00		000T15:11:00	2007-069T01:02:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
SP_040TI_DEADTIME068_PRIME		2007-068T09:51:00		000T00:17:00	2007-068T10:08:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
ISS_040TI_NIGHTNAC001_PRIME	C, V	2007-068T10:08:00	GMB_E040_Titan26-000T15:41:00	000T01:00:00	2007-068T11:08:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_MIDIRMAP001_PRIME	C, I, V	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_FIRNADCP001_PRIME	C, I, V	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	CIRS_FP1 to Titan	PIC	
ISS_040TI_PHOTMWAC001_PRIME	C, V	2007-068T15:49:00	GMB_E040_Titan26-000T10:00:00	000T01:00:00	2007-068T16:49:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_MIRLMBMAP001_PRIME	C, I, V	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T04:00:00	2007-068T20:49:00	CIRS_FPB to Titan	PIC	
CIRS_040TI_FIRNADMAP001_PRIME	C, I, V	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_FIRLMBINT001_PRIME	C, I, M, U, V	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	CIRS_FP1 to Titan	PIC	
ENGR_040SC_ORSRCS069_PPS	C, M	2007-069T00:25:00	GMB_E040_Titan26-000T01:24:00	000T00:20:51	2007-069T00:45:51	ISS_NAC to Titan	POS_X to North_Pole_Dir	Deadband = (0.5, 20, 0.5)
SP_040SR_WAYPTTURN069_PRIME	M	2007-069T00:49:00	GMB_E040_Titan26-000T01:00:00	000T00:13:00	2007-069T01:02:00	NEG_X to Titan_SC_RAM	NEG_Y to Titan	11.2 min turn on thrusters
NEW WAYPOINT		2007-069T01:02:00		000T01:10:00	2007-069T02:12:00	NEG_X to Titan_SC_RAM	NEG_Y to Titan	
Begin Custom Period		2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:01:00	2007-069T01:03:00			
UVIS_040SU_USUNOCC002_PRIME	M, V	2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:36:00	2007-069T01:38:00	NEG_Y to Sun (-20.0,0.0,0.0 deg. offset)	NEG_X to Titan_SC_RAM	Pick up at NEG_X to Titan_SC_RAM, NEG_Y to Titan; Hand off at NEG_Y to Sun (-20.0,0.0,0.0 deg. offset), NEG_X to Titan_SC_RAM. Secondary axis -X to S/C ram for INMS. S_N_ER2 at -30:00 for RPWS
INMS_040TI_T26RAMPNT001_PRIME	M	2007-069T01:38:00	GMB_E040_Titan26-000T00:11:00	000T00:26:00	2007-069T02:04:00	NEG_X to Titan_SC_RAM	NEG_Y to Titan	Pick up at NEG_Y to Sun (-20.0,0.0,0.0 deg. offset), NEG_X to Titan_SC_RAM; Hand off at NEG_X to Titan_SC_RAM, NEG_Y to Titan.
40TI (t) T26 TITAN outbound...		2007-069T01:49:00		000T00:00:01	2007-069T01:49:01			
End Custom Period		2007-069T02:04:00	GMB_E040_Titan26+000T00:15:00	000T00:01:00	2007-069T02:05:00			
SP_040TI_WAYPTTURN069_PRIME	M	2007-069T02:04:00	GMB_E040_Titan26+000T00:15:00	000T00:08:00	2007-069T02:12:00	ISS_NAC to Titan (0.0,-8.0,0.0 deg. offset)	NEG_X to Sun	04.52 turn on thrusters
NEW WAYPOINT		2007-069T02:12:00		001T00:35:00	2007-070T02:47:00	ISS_NAC to Titan (0.0,-8.0,0.0 deg. offset)	NEG_X to Sun	
CIRS_040TI_FIRLMBT002_PRIME	C, I, M, V	2007-069T02:12:00	GMB_E040_Titan26+000T00:23:00	000T00:30:00	2007-069T02:42:00	CIRS_FP1 to Titan	PIC	Pick up at -Y to Titan, -X to Sun, -8 deg about Y.
CIRS_040TI_FIRLMBT002_PRIME	C, I, M, V	2007-069T02:42:00	GMB_E040_Titan26+000T00:53:00	000T00:30:00	2007-069T03:12:00	CIRS_FP1 to Titan	PIC	
ENGR_040SC_DFPWBIAS069_PPS	C, M, V	2007-069T03:12:00	GMB_E040_Titan26+000T01:23:00	000T00:21:05	2007-069T03:33:05	ISS_NAC to Titan	NEG_X to Sun	
CIRS_040TI_FIRLMBT002_PRIME	C, I, M, V	2007-069T03:35:00	GMB_E040_Titan26+000T01:46:00	000T00:37:00	2007-069T04:12:00	CIRS_FP1 to Titan	PIC	hand-off at waypoint (-Y Titan center, -X Sun, -8 deg about Y)
ISS_040TI_REGMAP001_PRIME	C, V	2007-069T04:12:00	GMB_E040_Titan26+000T02:23:00	000T01:52:00	2007-069T06:04:00	ISS_NAC to Titan	NEG_X to Sun	
CIRS_040TI_FIRNADMAP002_PRIME	C, I, V	2007-069T06:04:00	GMB_E040_Titan26+000T04:15:00	000T00:45:00	2007-069T06:49:00	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
UVIS_040TI_EUVFUV002_PRIME	C, I, V	2007-069T06:49:00	GMB_E040_Titan26+000T05:00:00	000T03:00:00	2007-069T09:49:00	UVIS_FUV to Titan	NEG_X to Sun	
ISS_040TI_GLOBMAP001_PRIME	C, V	2007-069T09:49:00	GMB_E040_Titan26+000T08:00:00	000T00:40:00	2007-069T10:29:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_040TI_PHOTMWAC002_PRIME	C, V	2007-069T10:29:00	GMB_E040_Titan26+000T08:40:00	000T00:20:00	2007-069T10:49:00	ISS_NAC to Titan	NEG_X to Sun	
CIRS_040TI_FIRNADCP002_PRIME	C, I, U, V	2007-069T10:49:00	GMB_E040_Titan26+000T09:00:00	000T02:00:00	2007-069T12:49:00	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
ISS_040TI_MONITORNA001_PRIME	C, V	2007-069T12:49:00	GMB_E040_Titan26+000T11:00:00	000T02:00:00	2007-069T14:49:00	ISS_NAC to Titan	NEG_X to Sun	
VIMS_040TI_GLOBMAP002_PRIME	C, I	2007-069T14:49:00	GMB_E040_Titan26+000T13:00:00	000T02:14:00	2007-069T17:03:00	ISS_NAC to Titan	NEG_X to Sun	
SP_040TI_DEADTIME069_PRIME		2007-069T17:03:00	GMB_E040_Titan26+000T15:14:00	000T00:14:00	2007-069T17:17:00	ISS_NAC to Titan	NEG_X to Sun	
SP_040EA_DLTURN069_PRIME		2007-069T17:17:00		000T00:30:00	2007-069T17:47:00	XBAND to Earth (0.0,0.0,-65.0 deg. offset)	POS_X to NEP	16.0 min turn
SP_040EA_M70METNON069_PRIME	C	2007-069T17:47:00		000T09:00:00	2007-070T02:47:00	XBAND to Earth (0.0,0.0,-65.0 deg. offset)	Rolling	

# DSN Requests

DOWNLINK PASS				DSN PASS							
NAME	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	DATA_RATES kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR hh:mm min	CALS	LABEL	CNFG
M70METNON069	069T17:47-02:47	069T18:56-03:56	09:00	165,142,124	63	069T17:47-02:47	069T18:55-04:00	09:05	60/15	Ranging_X_up_on	

TWT/OST Integration Constraint and Guideline Checklist

Below are Target Working Team (TWT) and Orbiter Science Team (OST) constraints that must be followed during segment implementation. Any exceptions to constraint numbers 3, 4, 6, or 7 must be approved by the Science Planning Manager.

Constraint	C=Comply V=Violate N/A=Not Applicable	Comments	Disposition
1. A. SP has checked all waypoints turns to and from waypoints.	C		
B. All initial downlink attitudes have been checked as waypoints.	C		
2. All turns to and from waypoints checked for violations and margins. <input type="checkbox"/> CAPS <input type="checkbox"/> CDA <input type="checkbox"/> CIRS <input type="checkbox"/> INMS <input type="checkbox"/> ISS <input type="checkbox"/> MIMI <input type="checkbox"/> MAG <input type="checkbox"/> NAV <input type="checkbox"/> RADAR <input type="checkbox"/> RPWS <input type="checkbox"/> RSS <input type="checkbox"/> UVIS <input type="checkbox"/> VIMS Each Prime Instrument agrees to accept a reduction in observation time during implementation if problems arise.	C		
3. Custom handoffs limited to:			
A. ±3 hours from targeted Icy Satellite flyby	N/A		
B. ±3 hours from targeted Titan Flyby	C		
C. OpNavs preceding/following a downlink	N/A		
4. Minimum 30 min SPASS Prime request duration outside ±5 hours from targeted satellite flyby (5 min. integer duration if >30 min.)	C		
5. Live and Ground Movable Blocks include appropriate time margins.	C	K. Klaasen's margin for flyby is min. according to memo dated .	
6. Waypoints changes are ≤3 per day	C		
A. All turns that accomplish the waypoint strategy are requested by SP or OpNav.	C		
7. Live Movable Blocks limited to the following orbits: 7, 8, 9, 10, 12, 28, 51, 56, 57, 60, 63, 64	C		

Guideline	Yes / No	Comments
1. Were repeatable/reusable templates used where possible?	Yes	
2. During Pre-Integration: Was 30 min. used for 90° RWA turns and/or 10 min. for RCS turns?	Yes	

(DOUBLE-CLICK TO MAKE CHANGES)

## 040TI (T26) Open Issues

- Lien: need to suspend SID for INMS waypoint.
  - This includes possibly the final downlink turn