

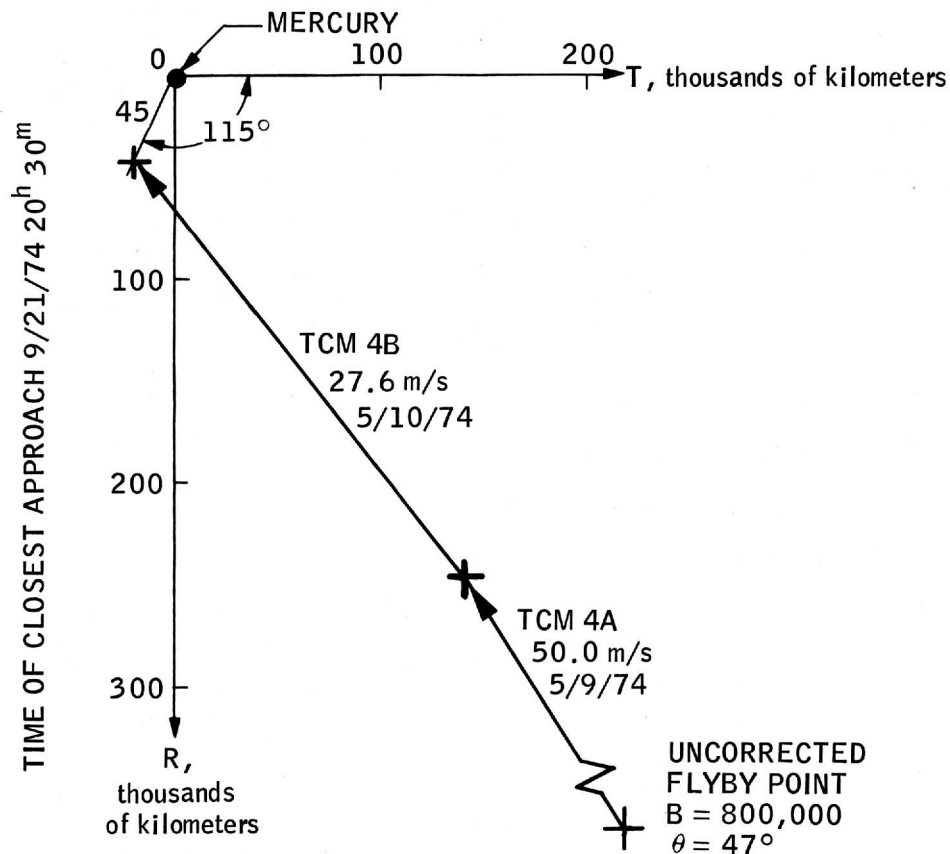
MARINER VENUS / MERCURY 1973

STATUS BULLETIN

TRAJECTORY CORRECTION

MANUEVER 4

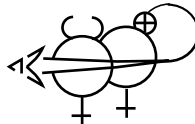
SEQUENCE AND SCHEDULE



TRAJECTORY CORRECTION MANUEVER 4

This trajectory correction maneuver will be performed in two phases (A,B) on 9 and 10 May. These maneuvers are designed to bring the spacecraft back close to Mercury for a second encounter. The maneuvers are scheduled to be performed at approximately 1 p.m. PDT on both days. The first maneuver of 50 meters/second modifies the trajectory such that the Mercury flyby distance is reduced from 800,000 km to 283,000 km as shown on the diagram. This maneuver requires a roll turn of 181° and a pitch turn of 26° . The motor will be on for 195 seconds.

The second of the maneuvers will be performed 24 hours after the first maneuver to give the propulsion system an opportunity to cool off. This completes the correction with the final aim point of $B = 45,000$ km and $\theta = 115^\circ$. The trajectory is targeted to arrive at Mercury at 1:30 PDT on September 21, 1974. The turns for the second maneuver are 178° roll and 36° pitch with a motor on time of 138 seconds. This yields a velocity correction of 27.5 meters/second.



TCM4 SIGNIFICANT MISSION EVENTS TIMES

Thursday, 9 May 1974; Day 129

PDT	TCM TIME	GMT	COMMAND	DESCRIPTION
12:34:00	00:31:00	19:34:00	DC-19	RESET GYRO POWER INHIBIT
12:35:03	00:29:57	19:35:03	DC-32	ENABLE COMPUTER MANEUVER
12:35:30	00:29:30	19:35:30	DC-27	1. SEQUENCER ISSUE 7M1
			7M1	2. GYROS ON
12:36:00	00:29:00	19:36:00	CC-5 0 1302	BACKUP DATA MODE 21
12:38:17	00:26:43	19:38:17	5B	1. SEQUENCER INTERRUPT
			CC6A 0 1302	2. BACKUP DATA MODE 21
12:43:40	00:21:20	19:43:40	DC-10	TRANSMIT LOW GAIN
12:43:44	00:21:16	19:43:44	7M2	1. ALL AXES INERTIAL
			7M4	2. START ROLL TURN
13:00:05	00:04:55	20:00:05	7M4/R	1. STOP ROLL TURN
			7M3/R	2. RESET ROLL POLARITY
13:01:05	00:03:55	20:01:05	7M3	1. SET PITCH POLARITY (+)
			7M5	2. START PITCH TURN
13:03:30	00:01:30	20:03:30	7M5/R	1. STOP PITCH TURN
			7M3/R	2. RESET PITCH POLARITY
			CC6A 0 1643	3. DATA MODE 17 MANEUVER
13:04:58	00:00:02	20:04:58	4S	ENABLE SOLENOID VALVE SUPPLY
13:05:00	00:00:00	20:05:00	8M1	OPEN ENGINE VALVE
13:08:15	00:03:15	20:08:15	8M1/R	CLOSE ENGINE VALVE
13:08:16	00:03:16	20:08:16	4T	1. INHIBIT SOL. VALVE SUPPLY
			CC6A 0 1302	2. DATA MODE 21, PRIMARY
13:08:17	00:03:17	20:08:17	DC-73	INHIBIT SOL. VALVE SUPPLY
13:10:15	00:05:15	20:10:15	7M5	START PITCH UNWIND
13:12:40	00:07:40	20:12:40	7M5/R	1 STOP PITCH UNWIND
			7M3/R	2. RESET PITCH POLARITY
13:13:40	00:08:40	20:13:40	7M4	1. START ROLL UNWIND
			7M3	2. SET ROLL POLARITY (+)
13:30:28	00:25:28	20:30:28	7M4/R	1. STOP ROLL UNWIND
			7M3/R	2. RESET ROLL POLARITY
13:31:28	00:26:28	20:31:28	7M2/R	1. REACQUIRE CELESTIAL REFS
			7M1/R	2. GYROS OFF
13:31:28	00:29:28	20:34:28	DC-40	GYRO POWER OFF

Friday, 10 May 1974; Day 130

PDT	TCM TIME	GMT	COMMAND	DESCRIPTION
12:34:00	00:31:40	19:34:00	DC-19	RESET GYRO POWER INHIBIT
12:35:27	00:30:13	19:35:27	DC-32	ENABLE COMPUTER MANEUVER
12:35:54	00:29:46	19:35:54	DC-27	1. SEQUENCER ISSUE 7M1
			7M1	2. GYROS ON
12:36:30	00:29:10	19:36:30	CC-5 0 1302	BACKUP DATA MODE 21
12:38:17	00:27:23	19:38:17	5B	1. SEQUENCER INTERRUPT
			CC6A 0 1302	2. BACKUP DATA MODE 21
12:43:37	00:22:03	19:43:37	DC-10	TRANSMIT LOW GAIN
12:43:41	00:21:59	19:43:41	7M2	1. ALL AXES INERTIAL
			7M4	2. START ROLL TURN
12:59:46	00:05:54	19:59:46	7M4/R	1. STOP ROLL TURN
			7M3/R	2. RESET ROLL POLARITY
13:00:46	00:04:54	20:00:46	7M3	1. SET PITCH POLARITY (+)
			7M5	2. START PITCH TURN
13:04:10	00:01:30	20:04:10	7M5/R	1. STOP PITCH TURN
			7M3/R	2. RESET PITCH POLARITY
			CC6A 0 1643	3. DATA MODE 17 MANEUVER
13:05:38	00:00:02	20:05:38	4S	ENABLE SOLENOID VALVE SUPPLY
13:05:40	00:00:00	20:05:40	8M1	OPEN ENGINE VALVE
13:07:59	00:02:19	20:07:59	8M1/R	CLOSE ENGINE VALVE
13:08:00	00:02:20	20:08:00	4T	1. INHIBIT SOL. VALVE SUPPLY
			CC6A 0 1302	2. DATA MODE 21, PRIMARY
13:08:01	00:02:21	20:08:01	DC-73	INHIBIT SOL. VALVE SUPPLY
13:09:59	00:04:19	20:09:59	7M5	START PITCH UNWIND
13:13:23	00:07:43	20:13:23	7M5/R	1. STOP PITCH UNWIND
			7M3/R	2. RESET PITCH POLARITY
13:14:23	00:08:43	20:14:23	7M4	1. START ROLL UNWIND
			7M3	2. SET ROLL POLARITY (+)
13:30:55	00:25:15	20:30:55	7M4/R	1. STOP ROLL UNWIND
			7M3/R	2. RESET ROLL POLARITY
13:31:55	00:26:15	20:31:55	7M2/R	1. REACQUIRE CELESTIAL REFS
			7M1/R	2. GYROS OFF
13:34:55	00:29:15	20:34:55	DC-40	GYRO POWER OFF