

The history information of QZS-1 operation

date	event	attitude change(*3)			orbit maintenance maneuver						estimated mass(kg)	
		mode	start(UT)	stop(UT)	No.	start	stop	duration	ΔV_x	ΔV_y		ΔV_z
2011/2/16	orbit maintenance maneuver(*1)											2290
2011/3/7	change of attitude mode	YS→ON	9:59									
2011/4/20	change of attitude mode	ON→YS	7:40									
2011/4/27	unloading											2290
2011/5/11	orbit maintenance maneuver(*1)											2286
2011/8/3	unloading											2286
2011/9/7	change of attitude mode	YS→ON	9:16									
2011/10/19	unloading											2286
2011/10/22	change of attitude mode	ON→YS	7:31									
2011/11/9	orbit maintenance maneuver(*1)				#1	2011/11/9 13:32	2011/11/9 13:35	0:03:11	-0.877	-0.034	-0.105	2281
					#2	2011/11/9 18:30	2011/11/9 18:36	0:06:48	1.625	-0.029	-0.07	
					#3	2011/11/9 23:31	2011/11/9 23:36	0:05:15	-1.449	-0.057	0.04	
2012/1/4	unloading											2281
2012/3/3	change of attitude mode	YS→ON	9:54									
2012/3/7	unloading											2281
2012/4/16	change of attitude mode	ON→YS	7:39									
2012/5/2	orbit maintenance maneuver(*1)				#1	2012/5/2 1:59	2012/5/2 2:00	0:01:47	-0.492	0.007	-0.057	2277
					#2	2012/5/2 6:57	2012/5/2 7:02	0:04:44	1.275	-0.006	-0.041	
					#3	2012/5/2 11:57	2012/5/2 12:02	0:05:24	-1.488	0.021	0.049	
2012/7/4	unloading											2277
2012/9/3	change of attitude mode	YS→ON	9:20									
2012/10/18	change of attitude mode	ON→YS	7:33									
2012/11/7	orbit maintenance maneuver(*1,*2)				#1	2012/11/7 13:14	2012/11/7 13:16	0:02:02	-0.563	-0.022	-0.067	2274
					#2	2012/11/7 18:14	2012/11/7 18:17	0:03:39	0.993	-0.018	-0.043	
					#3	2012/11/7 23:14	2012/11/7 23:17	0:03:46	-1.055	-0.041	0.029	
2013/2/27	change of attitude mode	YS→ON	9:54									
2013/4/13	change of attitude mode	ON→YS	7:40									
2013/5/1	orbit maintenance maneuver(*1,*2)				#1	2013/5/1 1:41	2013/5/1 1:42	0:01:05	-0.301	0.004	-0.035	2271
					#2	2013/5/1 6:40	2013/5/1 6:43	0:02:49	0.763	-0.004	-0.025	
					#3	2013/5/1 11:40	2013/5/1 11:44	0:04:02	-1.12	0.016	0.037	
2013/8/30	change of attitude mode	YS→ON	9:30									
2013/10/11	change of attitude mode	ON→YS	7:42									
2013/10/30	orbit maintenance maneuver(*1,*2)				#1	2013/10/30 13:24	2013/10/30 13:25	0:00:40	-0.181	-0.007	-0.022	2269
					#2	2013/10/30 18:24	2013/10/30 18:26	0:01:39	0.448	-0.008	-0.02	
					#3	2013/10/30 23:23	2013/10/30 23:26	0:02:21	-0.838	-0.033	0.023	
2014/2/24	change of attitude mode	YS→ON	9:50									
2014/4/9	change of attitude mode	ON→YS	7:40									
					#1	2014/4/30 1:20	2014/4/30 1:20	0:00:12	0.055	0	0.002	

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2014/4/30	orbit maintenance maneuver(*1,*2)				#2	2014/4/30 6:20	2014/4/30 6:20	0:00:41	0.184	-0.001	-0.006	2267
					#3	2014/4/30 11:19	2014/4/30 11:22	0:02:59	-0.82	0.012	0.027	
2014/8/26	change of attitude mode	YS→ON	9:31									
2014/10/11	change of attitude mode	ON→YS	7:43									
2014/10/29	orbit maintenance maneuver(*1,*2)				#1	2014/10/29 13:11	2014/10/29 13:12	0:00:58	0.266	-0.005	0.008	2265
					#2	2014/10/29 18:11	2014/10/29 18:12	0:00:45	-0.199	-0.008	-0.009	
					#3	2014/10/29 23:10	2014/10/29 23:12	0:02:19	-0.634	-0.025	0.017	
2015/2/20	change of attitude mode	YS→ON	9:53									
2015/4/6	change of attitude mode	ON→YS	7:41									
2015/4/22	orbit maintenance maneuver(*1,*2)				#1	2015/4/22 1:29	2015/4/22 1:31	0:01:42	0.468	-0.002	0.02	2263
					#2	2015/4/22 6:29	2015/4/22 6:31	0:01:18	-0.354	0.005	-0.005	
					#3	2015/4/22 11:29	2015/4/22 11:31	0:02:16	-0.626	0.009	0.038	
2015/8/23	change of attitude mode	YS→ON	9:34									
2015/10/7	change of attitude mode	ON→YS	7:47									
2015/10/21	orbit maintenance maneuver(*1,*2)				#1	2015/10/21 13:19	2015/10/21 13:21	0:02:26	0.673	-0.012	0.02	2261
					#2	2015/10/21 18:18	2015/10/21 18:21	0:02:47	-0.754	-0.03	-0.034	
					#3	2015/10/21 23:19	2015/10/21 23:21	0:01:35	-0.435	-0.017	0.012	
2016/2/16	change of attitude mode	YS→ON	9:54									
2016/4/1	change of attitude mode	ON→YS	7:45									
2016/4/20	orbit maintenance maneuver(*1,*2)				#1	2016/4/20 1:13	2016/4/20 1:16	0:02:58	0.817	-0.004	0.034	2258
					#2	2016/4/20 6:13	2016/4/20 6:16	0:03:04	-0.835	0.012	-0.033	
					#3	2016/4/20 11:14	2016/4/20 11:16	0:01:46	-0.483	0.007	0.016	
2016/8/18	change of attitude mode	YS→ON	9:39									
2016/10/3	change of attitude mode	ON→YS	7:51									
2016/10/5	orbit maintenance maneuver(*1,*2)				#1	2016/10/5 13:52	2016/10/5 13:56	0:04:05	1.131	-0.02	0.035	2255
					#2	2016/10/5 18:51	2016/10/5 18:56	0:05:13	-1.412	-0.055	-0.064	
					#3	2016/10/5 23:54	2016/10/5 23:54	0:00:22	-0.098	-0.004	0.003	
2017/2/17	change of attitude mode	YS→ON	8:47									
2017/3/27	change of attitude mode	ON→YS	7:57									
2017/4/7 -4/10	orbit maintenance maneuver(*1,*2)											
2017/8/20	change of attitude mode	YS→ON	9:41									

(*1)

The attitude change operation is also carried out in the orbit maintenance maneuver period.

The orbit maintenance maneuver is carried out by ON attitude mode.

The information on the attitude change start/stop time is in preparation.

The ΔV information shows the planned value.

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		mode	start(UT)	stop(UT)	No.	start	stop	duration	ΔV _x	ΔV _y	

(*2)

Since November 7 2012, the unloading operation is performed during the orbit maintenance maneuver operation period.

(*3)

The attitude change operation will take about 20 to 30 minutes until finishing the attitude change.

QZS will rotate very slowly at the change rate of about 0.01 deg/s during the attitude change operation.

The information on the attitude change stop time is in preparation.