MRO PHASES:

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| LEOP (3 days) | * Spacecraft separated from the launch vehicle 58 minutes after launch. * 4 minutes before the separation X-band (TWTA) begun warming up. * 1 minute after separation the LGA1 began transmitting a downlink. * Radio contact with earth 61 minutes after launch. * MRO stayed in a single inertia attitude for the whole launch period. * Solar panels completely unfold after 14 after separation. * HGA completely unfold after 21 minutes. * USO was turned on within few hours. * system checkout and the appendage deployments. * Almost 3 days later than launch MRO transitioned from the initial acquisition attitude to the Sun-point cruise attitude. |
| CRUISE and APPROACH (150 days) | * 27 august 2005 TCM-1 took place + 30-second burn of six smaller (22 N) thrusters, which settled propellant in the craft’s fuel tank for smoother flow. * Calibrations of Payloads started on 30 August 2005. * Calibrations of Thrusters. * Navigation and attitude activities to improve accuracy. * November 18, 2005, TCM-2 took place by using only the smaller TCM thrusters in a 20-second burn. * During the last two moths the Optical Navigation Camera (ONC) was used to observe the Martian moons, Phobos and Deimos to accurately determine the location of the orbiter |
| MOI | * 21:36:00 GMT on March 10, 2006 the MRO entered in the first Martian orbit by thrusting with main engines for 27 minutes. * Pitch and yaw control was maintained by off-pulsing the six trajectory correction manoeuvre (TCM) engines while roll control was provided using the eight ACS (attitude control system) engines. * Payloads tests. |
| Aerobraking  (March 30, 2006 and ended August 30, 2006) | * Initial (22 N) thrusters activated for 58 seconds. * Temperature and atmosphere sensing. * (solar conjunction operations ???) * Periapsis Raise and circularization manoeuvres took place the September 11, 2006. |
| Preparation for Primary science phase(PSP) | * Deployment of the 10-meter SHARAD radar antenna and of the CRISM telescope cover (16 September). * Full calibration of SHARAD. * Final checkouts and testing to prepare next phase. * Nominal attitude achieved. |
| PSP (7 November 2006 - 18 November 2008) | * Science Acquisition Activities. (very specific CON-OPS ). * Attitude and navigation calibrations and manouvers. * Data handling, downlink and uplink (with antenna reorientations obv). |
| Raley Phase  6 months before the end of the PSP - end of the MRO 3 As of 2014. | * Phoenix missions support. (very specific CON-OPS ). * MSL mission Support. \*\* * MER mission Support. \*\* * Attitude and navigation calibrations and manouvers. * Data handling, downlink and uplink (with antenna reorientations obv). |
| Extended Mission (2010 – now) | * science and relay operations. (very specific CON-OPS ). * Attitude and navigation calibrations and manouvers. * Data handling, downlink and uplink (with antenna reorientations obv). |
| End and Disposal | NO DATAS FOUND |