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| Event # | Timing Logic=> Time[secs] | Events | Remarks |
| E1 MS PHASE = 1 | T0 =>[ (Sensing Avg. | Axb| > 11.792 (1.2g) m/s2 over 5 consecutive samples @ 10 ms)  OR  (MODECODE =1 & NAV2Cmd = 1 )] | Sensing Avg. Axb > 11.892 m/s2 over 5 consecutive samples @ 10 ms |  |
| E2 MS PHASE = 2 | TOOC =>  [(T ≥ (T0 + 0.600 s))  AND  (3 consecutive samples @ 10ms of any 2 of the following 4 conditions are true:  DIP 30 = 1 & DIP 31 = 0 (OOC1)  DIP 32 = 1 & DIP 33 = 0 (OOC2)  DIP 34 = 1 & DIP 35 = 0 (OOC3)  DIP 36 = 1 & DIP 37 = 0 (OOC4)  Of CCSC using following logic)  AND  ((h - h₀) ≥ 8 m)]  OR  [MODECODE = 1  AND  T ≥ (T0+1.000 s)] | Out-Off-Canister is sensed by 4 OOC sensors and declared using 2/4 logic by OBC.  For normal pyro channel arming ½ logic is used by taking the status OOC1,OOC2(Diagonally opposite)  For Redundant pyro channel arming ½ logic is used by taking the status of OOC3,OOC4  H0 is the Lift-off height. | Even numbered DIPs are for NO status of respective OOC Sensor, similarly Odd numbered DIPs are NC status of respective OOC Sensor. #Prior to this event OBC should verify the following conditions:  DIP 30=0 & DIP 31=1 (OOC 1)  DIP 32 = 1 & DIP 33 = 0 (OOC2)  DIP 34 = 1 & DIP 35 = 0 (OOC3)  DIP 36 = 1 & DIP 37 = 0 (OOC4)  Of CCSC. Otherwise, the OOC Sensor not meeting above condition should be declared invalid, and not to be considered for OOC sensing. Low to high transition occurs for NO status and High to low transition occurs for NC status at the time of Out of Canister sensing. |
| E3 MS PHASE = 3 | TBDSep N => [T ≥ (TOOC + 0.500 s)] | Pyro normal command is issued for BD separation and diversion through DSM. 500msec delay is given to get sufficient clearance from canister top. | MIU-A of CCSC DOP # A6,A7 (N) (ON)  MIU-B of CCSC DOP # B6,B7 (R) (ON) |
| E4 MS PHASE = 4 | TBDSep Rep =>  [T ≥ (TBDSep N + 0.010 s)] | Pyro repeat command is issued for BD separation and diversion | MIU-A of CCSC DOP # A6,A7 (N) (ON)  MIU-B of CCSC DOP # B6,B7 (R) (ON) |
| E5 MS PHASE = 5 | TBDSep N Withdraw =>  [T ≥ (TBDSep N + 0.150 s) ] | Pyro normal command is withdrawn for BD separation and diversion | MIU-A of CCSC DOP # A6,A7 (N) (OFF)  MIU-B of CCSC DOP # B6,B7 (R) (OFF) |
| E6 MS PHASE = 6 | TBDSep Rep Withdraw =>  [T ≥ (TBDSep Rep + 0.150 s)] | Pyro repeat command is issued for BD separation and diversion | MIU-A of CCSC DOP # A6,A7 (N) (OFF)  MIU-B of CCSC DOP # B6,B7 (R) (OFF) |
| E7 MS PHASE = 7 | TBDSep Sensed =>  [T ≥ (TBDSep N + 0.200 s)  AND  (3 consecutive samples @ 10ms of CCSC DIP # 24,26,12,13 using 2/4 logic )]  OR  T ≥ (TBDSep N + 0.300 s) | On-Board separation is sensed through a relay/loop back signal | CCSC DIP # 24,26,12,13 |
| E8 MS PHASE = 8 | TContactor ON L1 N =>  [T ≥ (TBDSep Sensed + 0.180 )] | Issue null command to both FNC actuators and switch on the contactor supply of FNC actuators. First Null commands to be issued then contactor to be made ON through normal Channel | * Issue null command to FNC actuators through 1553B to CPIF * L1 contactor on Latch cmd through CCSC DOP # B10 |
| E9 MS PHASE = 9 | TContactor ON L1 Rep =>  [T ≥ (TContactor ON L1 N + 0.010 )] | Issue null command to both FNC actuators and switch on the contactor supply of FNC actuators. First Null commands to be issued then contactor to be made ON through repeat Channel | * Issue null command to FNC actuators through 1553B to CPIF * L1 contactor on Latch cmd through CCSC DOP # B10 |
| E10 MS PHASE = 10 | TContactor ON ADC N =>  [T ≥ (TContactor ON L1 Rep + 0.010 )] | Issue null command to all 4 ADC actuators and switch on the contactors supply of ADC actuators. First Null commands to be issued then contactor to be made ON through normal Channel | 1. Issue null command to following DACs before issuing contactor ON  * DAC #0 => 0.0V * DAC #1 => 0.0V * DAC #2 => 0.0V * DAC #3 => 0.0V  1. ADC contactor on Latch cmd through MIU(Sec4) DOP#A12 |
| E11 MS PHASE = 11 | TContactor ON ADC Rep =>  [T ≥ (TContactor ON ADC N + 0.010 )] | Issue null command to all 4 ADC actuators and switch on the contactors supply of ADC actuators. First Null commands to be issued then contactor to be made ON through repeat Channel | 1. Issue null command to following DACs before issuing contactor ON  * DAC #0 => 0.0V * DAC #1 => 0.0V * DAC #2 => 0.0V * DAC #3 => 0.0V  1. ADC contactor on Latch cmd through MIU(Sec4) DOP#A12 |
| E12 MS PHASE = 12 | TContactor L1 ON N Withdraw =>  [T ≥ (TContactor L1 ON N + 0.150 s)] | Contactor L1 FNC ON normal command is withdrawn | L1 FNC contactor on Latch cmd through CCSC DOP# B10 (Withdrawn) |
| E13 MS PHASE = 13 | TContactor L1 ON Rep Withdraw =>  [T ≥ (TContactor L1 ON Rep + 0.150 s)] | Contactor L1 ON repeat command is withdrawn | L1 FNC contactor on Latch cmd through CCSC DOP# B10 (Withdrawn) |
| E14 MS PHASE = 14 | TContactor ON ADC N Withdraw =>  [T ≥ (TContactor ADC ON N + 0.150 s)] | Contactor ADC ON normal command is withdrawn | L1 FNC contactor on Latch cmd through MIU DOP# A12 (Withdrawn) |
| E15 MS PHASE = 15 | TContactor ON ADC Rep Withdraw =>  [T ≥ (TContactor ON ADC Rep + 0.150 s)] | Contactor ADC ON repeat command is withdrawn | L1 FNC contactor on Latch cmd through MIU DOP# A12 (Withdrawn) |
| E16 MS PHASE = 16 | TL1 ON N=>  [T ≥ (TBDSepSensed+ 0.500 s)] | Ignite L1 rocket motor through normal channel | L1 Ignition: RT#3  MIU-A DOP# A18,A19 (N) (ON)  MIU-B DOP# B20,B21 (R) (ON) |
| E17 MS PHASE = 17 | TL1 ON Rep =>  [T ≥ (TL1 ON N + 0.010 s)] | Ignite L1 rocket motor through repeat channel | L1 Ignition: RT#3  MIU-A DOP# A18, A19 (N) (ON)  MIU-B DOP# B20, B21 (R) (ON) |
| E18 MS PHASE = 18 | TL1 ON N Withdraw=>  [T ≥ (TL1 ON N + 0.150 s)] | L1 ignition normal command is withdrawn | L1 Ignition: RT#3  MIU-A DOP# A18, A19 (N) (OFF)  MIU-B DOP# B20, B21 (R) (OFF) |
| E19 MS PHASE = 19 | TL1 ON Rep Withdraw=>  [T ≥ (TL1 ON Rep + 0.150 s)] | L1 ignition repeat command is withdrawn | L1 Ignition: RT#3  MIU-A DOP# A18, A19 (N) (OFF)  MIU-B DOP# B20, B21 (R) (OFF) |
| E20 MS PHASE = 20 | T Control Start=>  [T ≥ (TL1 ON N + 0.200 s)] | Start control in three channels. Pitch and yaw through FNC and roll through ADC | Both FNC and ADC start together at this instant |
| E21 MS PHASE = 21 | T Control Stop=>  [T ≥ (TL1 ON N + 40.000 )  AND  [(Avg Axb≤ 5 m/s2 over 5 consecutive samples @ 10 ms)  OR  T ≥ (TL1 ON N + 60.000 )]] | 1. Stop L1 TVC, this is purely a software command. 2. Switch OFF ADC roll control. | It is a software command to switch off FNC through 1553B, ADC control and deflection commands are forced to 0.0 as follows.   * DAC #0 => 0.0 V * DAC #1 => 0.0 V * DAC #2 => 0.0 V * DAC #3 => 0.0 V |
| E22 MS PHASE = 22 | T L1 Tail-Off=>  [T ≥ (TL1 ON N + 40.000 )  AND  [(Avg Axb≤ 1.0 m/s2 over 5 consecutive samples @ 10 ms)  OR  T ≥ (TL1 ON N + 60.50 )]] | Register L1 Tail OFF | Based on acceleration value as sensed by INS(R16) |
| E23 MS PHASE = 23 | TL1 SS ON N=>  [T ≥ (TL1 Tail-Off + 0.200 )] |  | Stage Separation (SS): RT#3  MIU-A DOP# A24,A25 (ON) (N)  MIU-B DOP# B26,B27 (ON) (R) |
| E24 MS PHASE = 24 | TL1 SS ON Rep=>  [T ≥ (TL1 Tail-Off + 0.210 )] |  | Stage Separation (SS): RT#3  MIU-A DOP# A24,A25 (ON) (N)  MIU-B DOP# B26,B27 (ON) (R) |
| E25 MS PHASE = 25 | TL1 SS ON Withdraw N=>  [T ≥ (TL1 SS ON N + 0.150 )] | Withdraw Normal Channel Stage1 Stage separation | Stage Separation(SS): RT#3  MIU-A DOP# A24,A25 (OFF) (N)  MIU-B DOP# B26,B27 (OFF) (R) |
| E26 MS PHASE = 26 | TL1 SS ON Withdraw Rep=>  [T ≥ (TL1 SS ON Rep+ 0.150 )] | Withdraw repeat Channel Stage1 Stage seperation | Stage Seperation(SS): RT#3  MIU-A DOP# A24,A25 (OFF) (N)  MIU-B DOP# B26,B27 (OFF) (R) |
| E27 MS PHASE = 27 | TL1 Sep Sensing=>  [T ≥ (TL1 SS ON N + 0.200 s)  AND  (2/4 DIPs of MIU RT#3 DIP# 08,09,29,30)  OR  [T ≥ (TL1 SS ON N+ 0.500 )]] | L1 seperation sensing by sampling 3 consecutive samples @10 ms and using 2/4 logic or with 500ms backup time logic. | MIU RT#3 DIP# 08,09,29,30 |
| E28 MS PHASE = 28 | TGV Attitude Control=>  [T ≥ (TL1 Sep Sensing + 0.050 s)] | Start GV attitude control through ADC |  |
| E29 MS PHASE = 29 | TL2 Booster ON N =>  [T ≥ (TL1Sep Sensing + TL2 Delay)] | L2 Motor Pyro Fire through normal channel with dynamic delay. This delay is function of range and L1 motor performance | IAU:  DOP# 4,5 (N) (ON)  DOP# 79,80 (R) (ON)  #At this time autopilot switches from GV attitude control to Latax autopilot |
| E30 MS PHASE = 30 | TL2 Booster ON Rep =>  [T ≥ (TL2 Booster ON N+ 0.010)] | L2 Motor Pyro firing through repeat channel | IAU:  DOP# 4,5 (N) (ON)  DOP# 79,80 (R) (ON) |
| E31 MS PHASE = 31 | TL2 Booster Withdraw N=>  [T ≥ (TL2 Booster ON N+ 0.150)] | Withdraw L2 motor pyro pulse through normal channel | IAU:  DOP# 4,5 (N) (ON)  DOP# 79,80 (R) (ON) |
| E32 MS PHASE = 32 | TL2 Booster Withdraw Rep=>  [T ≥ (TL2 Booster ON Rep+ 0.150)] | Withdraw L2 motor pyro pulse through repeat channel | IAU:  DOP# 4,5 (N) (ON)  DOP# 79,80 (R) (ON) |
| E33 MS PHASE = 33 | T L2 Tail-Off=>  [T ≥ (TL2 Booster ON N + 30.000 )  AND  [(Avg Axb≤ 1.0 m/s2 over 5 consecutive samples @ 10 ms)  OR  T ≥ (TL2 Booster ON N + 36.000 )]] | Register L2 tail OFF |  |
| E34 MS PHASE = 34 | TSeeker Power ON N=>  [T ≥ (TImpact -200.0 s)] | * Normal command to switch ON seeker system * Seeker Power ON time to impact time should not be more than 220 s(Battery limitation) | Estimated Impact time is given wr.to range and L2 burnout velocity  IAU: DOP# 60 (N) (ON)  # For LR02, it is only a soft event |
| E35 MS PHASE = 35 | TSeeker Power ON N Withdraw =>  [T ≥ (TSeeker Power ON N+ 0.150 s)] | Normal command to switch ON seeker system is withdrawn | IAU: DOP# 60 (N) (OFF) |
| E36 MS PHASE = 36 | THS-Seperation  THS-Pyro-Bolt =>  [(T > TIGPhase4 )  AND  (Rgo  ≤ 60 km)] | 1. Heat shield separation 2. Initially T\_IGPhase4 set to 1000sec and it will reset by guidance algorithm during terminal phase 3. R\_go is 60.0 m | IAU:  DOP# 12,13 (N) (ON)  DOP# 87,88 (R) (ON)  #For LR02 , it is physical event |
| E37 MS PHASE = 37 | THS-Pyro-Pusher=>  [T ≥ (THS-Pyro-Bolt+ 0.050)] | Command for HS pyro-pusher | IAU:  DOP# 10,11 (N) (ON)  DOP# 85,86 (R) (ON)  #For LR02 , it is physical event |
| E38 MS PHASE = 38 | THS-Pyro-Bolt-OFF=>  [T ≥ (THS-Pyro-Bolt+ 0.150)] | HS pyro bolt command withdrawn | IAU:  DOP# 12,13 (N) (OFF)  DOP# 87,88 (R) (OFF)  #For LR02 , it is physical event |
| E39 MS PHASE = 39 | THS-Pyro-Pusher-OFF=>  [T ≥ (THS-Pyro-Pusher+ 0.150)] | HS pyro pusher command withdrawn | IAU:  DOP# 10,11 (N) (OFF)  DOP# 85,86 (R) (OFF) |
| E40 MS PHASE = 40 | THS Seperation Sensing=>  [T ≥ (THS-Pyro-Pusher-OFF + 0.01)  AND  (2/2 DIPs of 35,36 of IAU )]  OR  (T ≥ (THS-Pyro-Bolt+ 0.300 )) | HS separation sensing by sampling 3 consecutive samples @10ms and using 2/2 logic | IAU : DIP# 35,36 |
| E41 MS PHASE = 41 | TWH Arming N =>  [T ≥ (THS Seperation Sensing + 0.100)] | Warhead arming is done 100msec after HS separation sensing. Prior to this OBC to issue OBC 3 command to SAM through RS422. | OBC to issue OBC 4 command to SAM through RS422. Repeat command is necessary until command aclnowledgement is received from SAM. |
| E42 MS PHASE = 42 | TWH Arming Rep =>  [T ≥ (TWH Arming N + 0.200)] | Warhead arming repeat command is issued after normal command | OBC to issue OBC 4 command to SAM through RS422. Repeat command is to be given until command acknowledgement is received from SAM. Command should not be reissued if acknowledgement is received from SAM. |
| E43 MS PHASE = 43 | TRA Transmitter ON =>  [T ≥ (TWH Arming N + 0.210)  AND  (h ≤ 7000.0)] | h: Missile INS altitude RA Transmitter ON to be initiated when missile altitude <= 7000.0 m. | OBC to issue RA Transmitter ON command through 1553 bus. OBC to repeat the Transmitter ON command if acknowledgement is not received from RA |
| E44 MS PHASE = 44 | TWH detonation N =>  [T ≥ (TWH Arming N + 10.000)  AND  (h ≤ 2000.0)] | h: Missile INS altitude  Warhead detonation Command | IAU: DOP# 21 (N) (ON) |
| E45 MS PHASE = 45 | TWH detonation N Withdraw =>  [T ≥ (TWH detonation N + 0.150)] | Warhead detonation N Command Withdraw | IAU: DOP# 21 (N) (OFF) |
| E46 MS PHASE = 46 | TEnd =>  [T ≥ (T0 + 1200.000)] | STOP MISSION SEQUENCE |  |