

# Mission Time Line

## 46.014/Koehler Rev- E

Weight: 888.9 lb. QE: 84.0 deg. AZ: 97.0deg.

7/21/2016

Event	Time (sec)	2 sigma Low Altitude (km)	Nominal Altitude (km)	2 sigma High Altitude (km)	Nominal Range (km)	Velocity (m/s)	Nominal Q (psf)	Mach NO.	Flight Elevation (deg)	Event Control	Timer Type	Dwell Time (sec)
Terrier Ignition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	Ground Fire	-	-
Exp Power Backup	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	355
<b>UHCC Power to Stepper Motor, Power Camera</b>	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	335
CTU Launch Indicator	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	305
UPR Launch Indicator	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	335
UPR Add Power	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	335
VT Launch Indicator. Start E310 (Radio)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	335
XHD Launch flag/Start Cameras	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0	TM	UMFT	335
NUU Boot Smart Phone, Activate Cameras and motor timers	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.0			335
Rail Release	0.5	0.0	0.0	0.0	0.0	46.9	28.5	0.1	84.0	-	-	-
Terrier Burnout	5.2	1.5	1.5	1.5	0.2	557.2	3441.8	1.6	82.9	-	-	-
Improved Malemute Ignition	20.0	7.2	7.3	7.4	1.0	267.3	435.6	0.8	79.7	CDI	Elec	1
Improved Malemute Burnout	31.7	17.1	17.6	18.0	3.1	1663.5	3939.1	5.7	77.9	-	-	-
Despin to 1.0Hz	70.0	68.7	71.5	74.2	15.9	1263.8	1.2	4.3	74.9	CDI	UMFT	1
Heat Shield Enable	71.0	69.9	72.7	75.4	16.2	1254.5	1.0	4.3	74.8	TM	UMFT	740.0
Motor Separation	74.0	73.3	76.3	79.2	17.2	1226.8	0.5	4.3	74.4	CDI	UMFT	1
ACS ON (Damping)	74.0	73.3	76.3	79.2	17.2	1226.8	0.5	4.3	74.4	ACS	Elec	2.5
Clamshell Separation	77.0	76.6	79.8	82.9	18.2	1199.2	0.3	4.3	74.1	TM	UMFT	1
UPR Skirt Sep Flag, Start Plasma Generator	77.0	76.6	79.8	82.9	18.2	1199.2	0.3	4.3	74.1	TM	UMFT	258
XHD Deploy Cameras	78.0	77.7	81.0	84.1	18.5	1190.0	0.2	4.3	74.0	TM	UMFT	237
ACS (Pointing & Roll control)	78.0	77.7	81.0	84.1	18.5	1190.0	0.2	4.3	74.0	ACS	Elec	
Nosecone Separation	80.0	79.8	83.2	86.5	19.1	1171.7	0.2	4.3	73.7	TM	UMFT	1
300 kFt Upleg	87.5	87.5	91.4	95.1	21.6	1103.1	0.0	4.2	72.8	-	-	-
ACS On Target (Nominal)	102.0	100.9	105.7	110.2	26.2	972.3	0.0	3.3	70.5	ACS	-	-
ACS On Target (Low Thrust)	115.0	111.2	116.8	122.1	30.4	857.3	0.0	2.3	67.9	ACS	-	-
VT Antenna Deployment	116.0	112.0	117.6	123.0	30.7	848.5	0.0	2.3	67.7	TM	UMFT	219
UHCC Power to Stepper Motor, Release ScubR rocket	120.0	114.8	120.6	126.3	31.9	813.7	0.0	2.1	66.7	TM	UMFT	215
NUU Deploy Drawer	120.0	114.8	120.6	126.3	31.9	813.7	0.0	2.1	66.7	EXP	-	-
Apogee (Nominal)	200.1	139.8	150.5	160.9	56.9	317.1	0.0	0.8	0.0	-	-	-
UPR UV-C Led's OFF/Deploy Collector/Plasma Generator OFF	200.0	139.8	150.5	160.9	56.9	317.1	0.0	0.8	0.2	EXP	-	-
NUU Boom Retract, Drawer Seal	280.0	105.2	120.8	135.9	81.8	811.7	0.0	2.1	-66.6	TM	UMFT	55
VT Retract Antenna	300.0	87.2	104.0	120.4	88.2	988.2	0.0	3.4	-70.8	EXP	-	-
UPR Power OFF signal, retract collector	305.0	82.1	99.2	115.9	89.8	1033.1	0.0	3.8	-71.6	TM	UMFT	30
ACS Spin Up	306.0	81.0	98.3	115.0	90.1	1042.1	0.0	3.9	-71.8	ACS	Elec	32
CC Save Files, shutdown prep	310.0	76.7	94.2	111.2	91.4	1078.3	0.0	4.1	-72.4	TM	UMFT	25
300 kft Downleg	312.7	73.8	91.4	108.5	92.3	1102.9	0.0	4.2	-72.8	-	-	-
XHD Retract Cameras	315.0	71.2	89.0	106.2	93.0	1123.8	0.1	4.2	-73.1	TM	UMFT	end of dwell
Power to Student Experiments OFF	335.0	46.7	65.6	84.0	99.5	1304.5	2.9	4.3	-75.4	TM	UMFT	1
ACS Vent	340.0	40.1	59.2	77.9	101.1	1346.3	7.1	4.3	-75.9	ACS	Elec	100
Ballistic Impact (nominal)	424.6	0.0	0.0	0.0	112.9	178.8	408.9	0.5	-88.0	-	-	-
ACS OFF	440.0		8.3		112.9	117.9	73.3	0.4	-88.6	ACS	Elec	
Chute Deploy	458.4		6.3		112.9	112.6	85.1	0.4	-88.9			
Payload Impact (on chute)	916.0	0.0	0.0	0.0	112.9	9.9	1.3	0.0	-90.0	-	-	-

ACS Event  
EXP Event