

EMERGENCY PROCEDURES

QUICK REFERENCE TABLE

Family	Malfunction	Severity	Operator's Action	Page
Payload	No image Observed	None to MUAV	Per "payload malfunctions"	E-3
Payload	No control of stick	None to MUAV	Per "payload malfunctions"	E-4
Voltage	Battery below 24.5 V	Medium	Activate RH - Return MUAV to home position. Above home position - verify RECOVERY	
Voltage	Battery below 23 V	Severe	According to "Airborne battery voltage is below 23"	E-5
Voltage	Battery below 21.5 V	Severe	Activate EMERGENCY	E-5
ALT	LOW ALT	Medium/ Severe	Climb to safety level (500 ft AGL)	

QUICK REFERENCE TABLE (Contd)

Family	Malfunction	Severity	Operator's Action	Page
GPS/INS-Dead-reckoning	2D/ NO DATE/ No satellite reception	Medium	INS keeps on working, use video picture to return home	E-7
INS	INS fault	Severe	Activate EMERGENCY	
INS	INS degraded	Medium	Compare attitude indicator to camera image and check MUAV pitch & bank angles. Consider activating EMERGENCY	
Auto Pilot	Auto pilot malfunction	Severe	Wait for 2 sec. And then - EMERGENCY	
DNL	Red	Medium	"No Report" procedure	E-11

PAYLOAD MALFUNCTION

a. No Image Observed

1. Detection:

- No image on ORBITER display, on the PCP and on the screens
- Telemetry data present

2. Significance:

- No risk to MUAV Carry-on mission
- Operating in CG Mode may be hazardous

3. Immediate Action:

- "Image malfunction" Declare
- CG OFF
- MUAV Tx HIGH
- Payload CAGE

4. Actions:

- Payload voltage Check
- Station connectors Check
- Mission continuation Consider

E-4

b. No Control Over payload

1. Detection:

- The payload fails to respond properly to the stick command
- The Orbiter is controllable

2. Significance:

- No risk to MUAV Flying is allowed
- Operating in CG Mode may be hazardous

3. Immediate actions:

- Declare "Payload malfunction"
- HOTAS:
 - CG OFF
 - Flight mode Hold

4. Actions:

- Datalink Check, all green
- Software Restart (exit & reopen)
- HP Check
- Payload Check

NOTE

If failure persists, consider mission aborting.

POWER MALFUNCTION

1. Detection:

2. Significance:

- WARNING**

3. Immediate actions:

- #### 4. Actions:

- At safety location..... RECOVERY
- At 21.5 V flight mode..... EMERGENCY

FLIGHT CONTROL MALFUNCTION

a. GPS/INS - Dead Reckoning

1. Detection:

- M.C - GPS display is red (2D/NO DATE
No satellite reception)
- INS display is yellow (Dead reckoning)

2. Significance:

- No satellite reception present - GPS is out of order
- The INS is still operating - MUAV can fly
- Expect a drifting in the MUAV shown position on the digital map (according to the wind velocity and direction)
- HP is invalid (RH not applicable)

3. Actions:

- MODE C.G
- HDG Consider mission
abortion
- GPS..... Monitor

E-8

b. Engine Malfunction

1. Detection:

- The MUAV is not responding to climb command
- The engine voltage (CUR) is not responding
- MUAV fails to maintain altitude

2. Significance:

- The engine is stalled
- The MUAV will continue gliding

3. Actions:

- BAT voltage Check
- Landing site Select
- IAS Cruise
- ALT Command 500 ft
above current ALT
- DTM Check at the location
- At 300 ft AGL/
at UPL or DNL flashes Activate
EMERGENCY

PGCS MALFUNCTION

a. Software failure

1. Detection:

- The application fails to respond (jammed)
- Error report on GMS program followed by program failure

2. Significance:

- No control over MUAV is available by application
- HOTAS are still in use

3. Actions:

- UPL transmitter HIGH
- C.G OFF
- Flight mode..... HOLD

In case the program has crashed:

- Restart GMS program
- When program is ready:
- HOTAS..... HOLD - OFF
- MUAV Positive control
- Payload Positive control

E-10

In case the program fails to respond (stuck):

- ALT+CTL+DEL Press
- "Application" Select
- MUAV Select
- Terminate assignment..... Select
- Return to section 1

In case the computer has crashed - restart as follows:

- MAIN fuse OUT
- Computer Restart
- GMS Confirm loaded
- MAIN fuse..... IN
- Datalink Verify stable -
uplink+downlink
- MUAV Positive control
- Payload Positive control

In case nothing helps:

- MUAV Control using
HOTAS
- HOTAS..... RH - ON
- UPL Tx..... OFF

NOTE

In case of UPL loss for more than 15 sec,
expect RH mode.

E-11/E-12 Blank

DATALINK MALFUNCTION

a. "No Report" Procedure

1. Detection:

- TLM AV red
- No image

2. Significance:

- No status available from MUAV
- MUAV may/may not be malfunctioned

3. Immediate actions:

- Station's Tx High
- MUAV Tx High
- C.G OFF
- HDG 180° turn/
closer to station

4. Actions:

- MUAV's location..... Mark
- Timer Start

After 2 min:

- Station's Tx OFF
- ATC report

DATALINK
MALFUNCTION

