



## Sigma Emergency Procedures

Total Malfunction (parachute container remains closed) **Look-grab reserve handle • Arch • Peel/pull reserve handle • Check for deployment • Check altimeter**

Partial Malfunction (deployment process initiated • canopy does not fully or properly deploy) **Look-grab cutaway handle • Look-grab reserve handle • Arch • Peel/pull cutaway handle • Ensure separation of main risers (physically assisting if necessary) • Peel/pull reserve handle • Check for deployment • Check altimeter**

Open Container with Drogue Issues (safety pin and main pin have been removed from main closing loop • drogue cannot be deployed or collapsed drogue does not extract main deployment bag) **Disconnect RSL • Look-grab cutaway handle • Arch • Peel/pull cutaway handle • Ensure separation of main risers (physically assisting if necessary) • Look-grab reserve handle • Peel/pull reserve handle • Check for deployment • Check altimeter**

Third Party Entanglement (outside parachutist becomes entangled with your drogue or drogue bridle) **Disconnect RSL • Look-grab cutaway handle • Arch • Peel/pull cutaway handle • Release drogue with either handle • Ensure separation of main risers • Gain horizontal separation • Look-grab reserve handle • Peel/pull reserve handle • Check for deployment • Check altimeter**

## AIRCRAFT EMERGENCIES

Below 1500ft **Remain with aircraft • Follow pilot's instructions • Tandem pair is seated and secured with seat belts • Land with plane**

Below 1500ft – Catastrophic AC Failure **Attach top left connection to student (minimum) • Secure student with right arm • Exit aircraft, scissor student's legs • Deploy reserve**

From 1500ft to 4000ft **Attach top left connection to student (minimum) • Secure student with right arm • Exit aircraft, scissor student's legs • Deploy reserve**

Above 4000ft **Attach top right connection to student (minimum) • Secure student with left arm • Exit aircraft • Set drogue • Immediately pull drogue release**

Student Refusal in Aircraft **Move forward in the aircraft to a safe location • Disconnect student • Tandem pair is seated and secured with seat belts • Descend with aircraft**

## FREEFALL EMERGENCIES

Unstable exit **Attempt to regain stability • Set drogue after 10 seconds • If unable to set drogue, Total Malfunction EP**

Side Spin **Bring student's arms in - grab wrists and place at hips • Straighten out body - tracking position • Side spin should slow, roll belly-to-earth • If side spin is not corrected within 10 seconds, set drogue if drogue side up • If drogue side down, Total Malfunction EP**

Open Container Before Set Drogue **Set drogue • If unsuccessful, Open Container with Drogue Issues EP**

Cannot Locate Drogue **Make second attempt to locate drogue • Check for drogue deployment • If no drogue, Total Malfunction EP • Deploy reserve within 10 seconds**

Hard Pull (Drogue) **Make second attempt with elbow against the pack tray for leverage • If drogue cannot be deployed, Total Malfunction EP**

Premature Drogue Deployment **Perform system check • Continue jump**

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Left Arm Incapacitated, No Drogue **Attempt to free arm • Set drogue • Check drogue • If main malfunctions and left arm remains incapacitated, pull cutaway handle • Deploy reserve with RSL • If unable to release drogue with right hand, use RSL to deploy reserve**

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Right Arm Incapacitated, No Drogue **Attempt to free arm • If unable to free arm, Total Malfunction EP**

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Student Grabs Both, No Drogue **Free one arm • Proceed with left- or right-side procedures**

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## **DROGUE FALL EMERGENCIES**

Drogue release handle pulled before deploying drogue **Set drogue**

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Uninflated drogue after drogue set **Wait six seconds to determine whether the drogue inflates • If drogue does not inflate, release drogue • If drogue fails to extract the deployment bag from container, Open Container with Drogue Issues EP**

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Blown Drogue **Wait six seconds to GAIN SPEED • release drogue • If drogue does not extract the deployment bag from container, Open Container with Drogue Issues EP**

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Detached Drogue **Total Malfunction EP**

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Drogue deployed but not visible (stuck in burble) **Reach back to confirm drogue has been deployed • If empty, reach above main container pack tray to feel for drogue canopy / bridle • If located, grab material and throw into relative wind vigorously • If unsuccessful, dip right shoulder • If unsuccessful, repeat process by lowering left shoulder • If still unsuccessful after 10 seconds, deploy reserve**

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Parachutist Entangled in Your Drogue **Take a deep breath • Allow jumper a few seconds to sort themselves out • Third Party Entanglement EP**

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Drogue Entangled with Instructor / Student **Attempt to free entanglement • Once drogue clears, systems check • If unable to clear entanglement, Total Malfunction EP**

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Left Arm Incapacitated, Drogue Out **Attempt to free left arm • Release drogue with right drogue release • If main malfunctions and left arm is still incapacitated, pull cutaway handle • Deploy reserve with RSL • If unable to release drogue with right hand, use RSL to deploy reserve**

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Right Arm Incapacitated, Drogue Out **Attempt to free right arm • Release drogue using left drogue release • If main canopy malfunctions and right arm is still incapacitated, deploy reserve • If unable to release drogue with left hand, deploy reserve**

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Both Arms Incapacitated, Drogue Out **Free one arm • Proceed with left- or right-side procedures**

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Spinning or Buffeting **Arch • Attempt to correct student's body position • Out-fly the student • Maintain altitude awareness • If stability cannot be achieved, release drogue**

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Premature Deployment **Determine which parachute is deployed • Conduct canopy control check**

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Lost or Broken Altimeter **Scan for other tandem jumpers, release drogue when they pull • If unable to locate other jumpers, wave off and release drogue**

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Falling Through Clouds **Stop all movement • Maintain altitude awareness • Wave off and deploy at designated altitude even if still in the cloud**

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## DEPLOYMENT EMERGENCIES

Cannot Locate Drogue Release Attempt to locate the other drogue release handle • If unable to locate, Total Malfunctions EP

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Hard Drogue Release Make second attempt - pull opposite drogue release handle • If unsuccessful, pull both release handles simultaneously • If the drogue does not release, Total Malfunction EP • If second attempt collapses drogue but does not extract deployment bag, Open Container with Drogue Issues EP

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Collapsed Drogue in Tow Open Container with Drogue Issues EP

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Non-Collapsed Drogue During Deployment Prepare for hard opening • inspect canopy for any damage

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Drogue bridle detaches on drogue release Clear burble • If unsuccessful, Open Container with Drogue Issues EP

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Bag Lock Partial Malfunction EP • If RSL becomes hung up, sweep with right hand to clear it

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Streaming main canopy Grab rear risers • Pull down simultaneously to bring the slider down (maximum of two attempts) • If unsuccessful, Partial Malfunction EP

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## POST OPENING EMERGENCIES

50% Rule If canopy require greater than 50% opposite toggle input to fly straight, Partial Malfunction EP • If canopy stalls prior to 50% flare input, Partial Malfunction EP

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Drogue Entanglement with Main Canopy If drogue entanglement hinders main canopy opening or controllability, Partial Malfunction EP

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Line Twists Keep hands out of the risers while the twists are being generated • Maintain altitude awareness • Grasp the risers (thumbs down) and either pull them apart or push them together • Kick legs in a manner which will generate momentum in the direction needed to turn • Do not unstow brakes until line twists are clear • Be prepared to conduct Partial Malfunction EP

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Rips or Tears Bottom skin - perform aggressive canopy control check • If tear gets bigger or canopy is uncontrollable, Partial Malfunction EP • Top skin - Partial Malfunction EP

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Premature Brake Release If control line releases during opening, unstow all control lines • Perform a canopy controllability check • If uncontrollable, Partial Malfunction EP

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Broken Control Line Unstow all control lines • Perform canopy controllability check • Determine stall point with rear risers • Land utilizing rear risers • If main canopy cannot be safely landed, Partial Malfunction EP

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Broken Suspension Line Aggressive canopy controllability check • If 1+ A-lines are broken, Partial Malfunction EP • If 2+ B, C, or D lines are broken, Partial Malfunction EP

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Hung Slider / Closed End Cells Pull both toggles down to full brake position, hold for 3-4 seconds, let up slowly • After two attempts, perform a canopy control check • If uncontrollable, Partial Malfunction EP

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Line Over Release brakes • Attempt to clear line over – perform a steady, even flare with both primary toggles • If unsuccessful, Partial Malfunction EP

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Tension Knots Identify affected line group • Pull down firmly on the corresponding riser, then dynamically release while under tension • If unsuccessful, Partial Malfunction EP

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Dual Canopy Canopy in bag – Attempt to contain; Biplane – Fly the front canopy; Side by Side – Gentle inputs, steer canopies into each other; Down plane – Cutaway main if risers are not entangled; Keep brakes the same on both main and reserve; If landing both canopies, pick large, open area and PLF

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Entering a Cloud Half brakes • Slow right turn to avoid collisions • Maintain position

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Dust Devils Full flight • Fly straight through dust devil • Attempt to control canopy • Be prepared to PLF

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## ENTANGLEMENTS \*\*These procedures may vary depending on the very specific situation at hand but would work best for most scenarios\*\*

Imminent Collision Procedures Turn right to avoid other jumpers • Assume modified spread eagle position, protect handles • If no entanglement, proceed with full assessment - check handles, check yourself, check canopy control, and equipment • If everything is in order, continue the jump as planned • Remain prepared to handle any potential malfunction • When communicating with others, always use clear, positive language

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Entanglement with Another Jumper Turn right to avoid other jumpers • Lower jumper always has right of way • Assume modified spread eagle position, protect handles • Attempt to bounce off and separate from the other jumper • Maintain positive communication and altitude awareness

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Entanglement with Another Jumper, Above 3000ft, 1 Good Canopy Higher jumper takes lead in attempting to clear entanglement • If successful, canopy should re-inflate within 150 to 200 feet • If unsuccessful and altitude is at or above 3000 feet AGL, lower jumper will execute cutaway procedures

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Entanglement with Another Jumper, Below 3000ft, 1 Good Canopy Lower jumper will land together with higher jumper • Higher jumper will maintain control of the lower jumper's canopy throughout descent • During final approach, higher jumper will fly in half brakes to ensure controlled landing • All jumpers PLF

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Both Jumpers are Entangled and Neither Have a Good Canopy Higher jumper has priority to initiate cutaway procedures • Both jumpers work to free themselves from entangled lines and execute EPs, if altitude permits • Lower jumper must cut away after the higher jumper • If ground impact is imminent and separation is not possible, both jumpers deploy reserve to slow descent

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## HAZARDOUS LANDING

High Winds Disconnect RSL • Upon landing, pass toggles to catchers • If no catchers available, once feet touch ground, release one toggle and pull other toggle hand over hand to collapse canopy • Pivot in the direction of pulled toggle and try to contain the nose of the canopy • If unable to collapse the canopy, pull cutaway handle

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Water Landing Aim to land as close to shore as possible • Disconnect RSL • Reconnect lower laterals to student harness • Have student inflate flotation device, if worn • Unfasten the chest strap and belly band (if worn) • Have student get into a legs-up position • Flare and land into the wind • If the winds are strong, cutaway main after landing • After landing in water, instructor disconnects top snaps, push student away, swim out of the harness, inflate flotation device, if worn

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Tree Landing Keep goggles securely over eyes for protection • Turn canopy into wind • Attempt a controlled vertical descent between trees • Protect faces with forearms and keep feet and knees together • Be ready to execute PLF • If suspended in tree and cannot climb down, remain calm and wait for assistance

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Wire Landing Disconnect the RSL • Position canopy in a braked, parallel descent to achieve vertical path between wires • Be prepared to execute PLF • Upon contact with ground, immediately cut away main and move to a safe distance • If suspended in wires, remain still until the power has been shut off • Avoid touching anyone • Do not cut away unless you are certain you can clear the entanglement before reaching the ground

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Dust Devils Upon landing, quickly gather as much of the canopy as possible • Lie down on top of it to prevent it from inflating • If unable to secure canopy, disconnect RSL and cutaway

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Obstacles Avoid target fixation • If contact is unavoidable, make contact with both feet • PLF

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## NOTES

Reserve Problems / Malfunctions / Damages in General – Make every attempt to clear the malfunction to bring the canopy overhead in a landable configuration

Line Over on Reserve (use of Hook Knife) – Locate hook knife • Select affected line • Cut selected line • Assess canopy

Unconscious Passenger– Attempt to land near catchers and alert catchers on final (if present) • Sweep legs to left or right, Be prepared to PLF

Nauseous / Vomiting Passenger – Keep turns to a minimum • Encourage slow, deep breaths • Present sick bag (if carried)

***Minimum Decision Altitude is 3000ft AGL. Should the pilot in command (PIC) encounter any catastrophic failure below this altitude, it may be advantageous to conduct EP's above 1500 ft AGL. Below 1500 ft AGL the PIC must add fabric by pulling reserve and be prepared to deal with a dual canopy scenario***