

# P1- Procedure “Delta Suit Donning/Doffing”

## GENERAL INFORMATION

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## SHORT EXPERIMENT DESCRIPTION


In this procedure, students work together to guide one another through the process of donning (wearing on) and doffing (taking off) the Delta Analog space suits. Additionally, students observe the basic requirements for space helmet function, such as fans for air flow, lights for vision and push-to-talk radio communications. Students will be able to use their Radio Etiquette training to communicate with analog astronauts in the helmet as well as carry out other experiments in the suit.

Note: 2 people are needed for donning the suit.




## HARDWARE CHECKLIST

	Delta analogue space suit
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## SETUP

Step	Action	NOTES	Duration	Check
1	Assemble receiver with batteries	Use sliding mechanism on the backside of the walkie talkie 	1 min.	
2	Confirm battery is charged, if not use either charging station or USB charging cord to charge battery		?	

PROCEDURE “NAVIGATION AND RADIO ETIQUETTE”


				
3	Connect antennas to walkie talkies		30 sec.	
4	Turn on walkie talkies by turning the knob on top of the walkie talkies clockwise		30 sec.	
5	To adjust volume, turn the knob on top of the walkie talkies clockwise or counterclockwise as needed		30 sec.	
6	To select frequency, ensure walkie talkies are on the same setting by adjusting +/- button on right side of the walkie talkies		30 sec.	

## PROCEDURE "NAVIGATION AND RADIO ETIQUETTE"




				
7	To use communication, speak while pressing and holding large button on the right side of the walkie talkie above the aforementioned frequency buttons	Release to end speaking	?	

## PROCEDURE



### Donning

Step	Action	NOTES	Duration	Check
1	Unzip the suit and step into it, being careful not to take the zipper too far past the pant legs before zipping up the suit.	Ensure that push-to-talk (PTT) wire along the neck collar hangs outside of the suit for easier attachment later. 	30 sec.	



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<p>2 Step into the boots and, with help of second person, align notches to twist and "lock" them into place.</p>		<p>2 min.</p>	
<p>3 Place hands into gloves and lock into place using the same process as the boots.</p>		<p>1 min.</p>	
<p>4 Place the chest piece over head onto the body and adjust/tighten straps around the side.</p>		<p>2 min.</p>	

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<p>5 Put on backpack with straps lying on top of the chest piece</p>	<p>Backpack contains walkie talkies and battery pack used for push-to-talk (PTT) communication.</p>	<p>30 sec.</p>	
<p>6 With help from the second person, place the helmet on head and lock into place with the neck ring of the chest piece using the same mechanism described for boot and glove donning.</p>	<p>Before locking into place, the helmet visor will not align perfectly to eyesight. Locking into place will turn the helmet and align the visor.</p> 	<p>2 min.</p>	
<p>7 With the backpack slightly open, attach the USB adapter at the end of the cord on the back of the helmet to the battery pack and press the button on the power bank to turn on power.</p>	<p>The fans should immediately start going and circulating air. The lights can be turned on/off using the switch located on the left or right side of the helmet along the neck ring.</p> 	<p>1 min.</p>	
<p>8 Take one walkie talkie and attach the dual adapter to the side of the device. Place the walkie talkie back into the backpack.</p>	<p>There should be two similar looking adapters – mic and push-to-talk.</p>	<p>1 min.</p>	

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<p>9 Attach the mic adapter hanging roughly halfway along the back cord of the helmet to the mic adapter of the walkie talkie.</p>	<p>If you are unable to find the suit adapter, the wearer of the suit can trace the cord from the push to talk on the right hand side of the arm back up to the adapter. The second person can help guide this cord through the suit, up and over the back of the collar.</p> 	<p>2 min.</p>	
<p>10 Zip the backpack much of the way, allowing for a small gap at the top for helmet connections</p>		<p>30 sec.</p>	
<p>11 To speak from the suit, hold the push-to-talk button located on the right-hand side along the glove ring and speak normally.</p>	<p>If both walkie talkies are in speak mode (push-to-talk button being pushed), communication will not go through.</p>		

PROCEDURE "NAVIGATION AND RADIO ETIQUETTE"

			
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