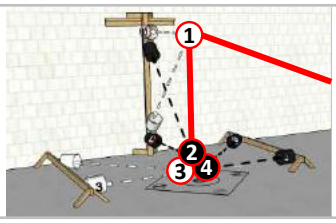
LEVEL 4 | OBSTRUCTED
PAYLOAD FUNCTIONALITY

Perform 5 different flight paths to triangulate around the dual bucket rails. Each flight path includes alignments with perpendicular buckets then angled buckets using zoom and exposure control to identify recessed targets.

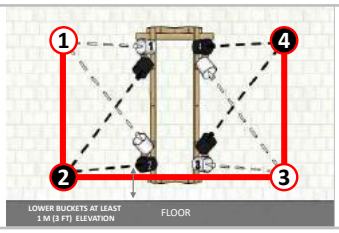
- All sequences have 10 positions with 20 buckets to score: **1 2 3 4 – 3 2 1 – 2 3 4** *(forward–reverse–forward)*
- Score ALIGNMENT POINTS by capturing a SINGLE IMAGE of the inscribed rings to verify alignments during or after the trial: UNBROKEN RINGS (5 pts), BROKEN RINGS (1 pt).
- Score ACUITY POINTS by calling out the 5 increasingly small VISUAL ACUITY TARGET GAPS (1 pt each).
- Start timer at launch and end after the last task is completed. Trial time limits are typically 5 minutes each (25 minutes to complete all 5 tests) although organizations may set their own trial time limits and passing scores.
- Extreme deviations from the intended flight path, or contact with any object, ends the trial to ensure safety.

PERCH
PAY 6



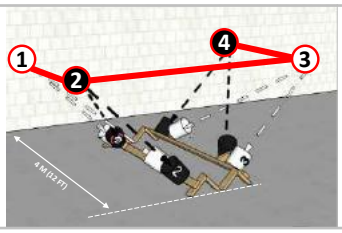
- Land or hover just above the ground within proximity to a wall or obstacle with additional ground obstacles on both sides. Launch and land repeatedly if necessary to score all buckets in the sequence of perch tasks.
- Inspect **vertical** and **horizontal** object features **all around the aircraft**.
- **Complete 10 positions to score up to 50 Alignment points and 50 Acuity points.**

WALL
PAY 7



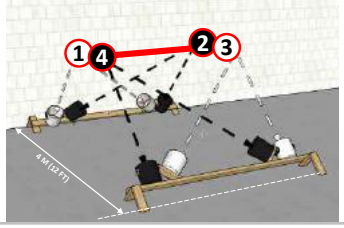
- Fly within proximity to a wall or obstacle at **45 degrees from forward** of the aircraft.
- Inspect **vertical** object features **upward** and **downward**.
- **Complete 10 positions to score up to 50 Alignment points and 50 Acuity points.**

GROUND
PAY 8



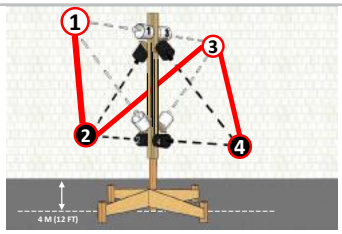
- Fly within proximity to a wall or obstacles at **90 degrees from forward** of the aircraft.
- Inspect **horizontal** object features **leftward** and **rightward**.
- **Complete 10 positions to score up to 50 Alignment points and 50 Acuity points.**

ALLEY
PAY 9



- Fly within proximity to a wall or obstacle in **front of the aircraft (0 degrees)** and **behind the aircraft (180 degrees)**.
- Inspect **horizontal** object features **leftward** and **rightward**.
- **Complete 10 positions to score up to 50 Alignment points and 50 Acuity points.**

POST
PAY 10



- Fly within proximity to a post and wall or obstacle and pass between the post and the wall.
- Inspect **vertical** object features **upward** and **downward** all around the post.
- **Complete 10 positions to score up to 50 Alignment points and 50 Acuity points.**

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VERSION 2023A

LEVEL 4 | OBSTRUCTED
PAYLOAD FUNCTIONALITY

Pilot LAST Name _____

Pilot FIRST Name _____

Pilot Organization _____

Drone Make _____

Drone Model _____

Facility Location _____

Date (YYYY/MM/DD) _____ Team #: _____

PROCTOR NAME _____

BUCKET DIAMETER		VISIBILITY			WIND		PILOT VIEW		TIME LIMIT		
4 IN (10 CM)	8 IN (20 CM)	LIGHTED 300+ LUX	DIM 1-300 LUX	DARK < 1 LUX	AVERAGE _____ MPH	GUSTS _____ MPH	LINE OF SIGHT FACINE LANE OPTIONAL V.O.	INTERFACE ONLY BACK TO LANE MANDATORY V.O.	5 MIN	10 MIN	___ MIN
(CIRCLE ONE)		(CIRCLE ONE)			(FILL IN)		(CIRCLE ONE)		(CIRCLE ONE or FILL IN)		

ALIGNMENT SCORE: Circle points for images with UNBROKEN RINGS (5 pts), BROKEN RINGS (1 pt), Draw a line through all incomplete.
ACUITY SCORE: Circle correctly identified GAP DIRECTIONS in the answer key (1 pt each).

PERCH (PAY 6)

21 IMAGES TO CAPTURE
- 1 PRE-LAUNCH
- 20 ALIGNMENTS
- WHILE PERCHED

ALIGNMENT		ACUITY
BUCKET SEQUENCE	IMAGE POINTS	CIRCLE CORRECT GAPS (1 POINT EACH)
1	5 1	
1A		TR B TR L BR
2	5 1	WHILE PERCHED
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
3	5 1	
3A		BR T TL R BL
2	5 1	WHILE PERCHED
2A		L BR T TL R
1	5 1	
1A		TR B TR L BR
2	5 1	WHILE PERCHED
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
SCORE	/50	SCORE /50

ELAPSED TIME (MM : SS)

PASS CIRCLE ONE FAIL

WALL (PAY 7)

21 IMAGES TO CAPTURE
- 1 PRE-LAUNCH
- 20 ALIGNMENTS

ALIGNMENT		ACUITY
BUCKET SEQUENCE	IMAGE POINTS	CIRCLE CORRECT GAPS (1 POINT EACH)
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
3	5 1	
3A		BR T TL R BL
2	5 1	
2A		L BR T TL R
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
SCORE	/50	SCORE /50

ELAPSED TIME (MM : SS)

PASS CIRCLE ONE FAIL

GROUND (PAY 8)

21 IMAGES TO CAPTURE
- 1 PRE-LAUNCH
- 20 ALIGNMENTS

ALIGNMENT		ACUITY
BUCKET SEQUENCE	IMAGE POINTS	CIRCLE CORRECT GAPS (1 POINT EACH)
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
3	5 1	
3A		BR T TL R BL
2	5 1	
2A		L BR T TL R
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
SCORE	/50	SCORE /50

ELAPSED TIME (MM : SS)

PASS CIRCLE ONE FAIL

ALLEY (PAY 9)

21 IMAGES TO CAPTURE
- 1 PRE-LAUNCH
- 20 ALIGNMENTS

ALIGNMENT		ACUITY
BUCKET SEQUENCE	IMAGE POINTS	CIRCLE CORRECT GAPS (1 POINT EACH)
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
3	5 1	
3A		BR T TL R BL
2	5 1	
2A		L BR T TL R
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
SCORE	/50	SCORE /50

ELAPSED TIME (MM : SS)

PASS CIRCLE ONE FAIL

POST (PAY 10)

21 IMAGES TO CAPTURE
- 1 PRE-LAUNCH
- 20 ALIGNMENTS

ALIGNMENT		ACUITY
BUCKET SEQUENCE	IMAGE POINTS	CIRCLE CORRECT GAPS (1 POINT EACH)
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
3	5 1	
3A		BR T TL R BL
2	5 1	
2A		L BR T TL R
1	5 1	
1A		TR B TR L BR
2	5 1	
2A		L BR T TL R
3	5 1	
3A		BR T TL R BL
4	5 1	
4A		T BL B TR L
SCORE	/50	SCORE /50

ELAPSED TIME (MM : SS)

PASS CIRCLE ONE FAIL