Teams Rotate Through Each Role
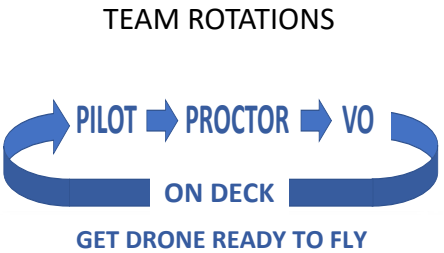
Each Pilot flies a 5-minute trial with help from others. A 3-4 person team completes all 5 tests in 2 hours.

TEAM ROTATIONS

VO   PILOT   PROCTOR

FACING AWAY FROM THE TEST LANE

PILOT ➡ PROCTOR ➡ VO

ON DECK

GET DRONE READY TO FLY

Four person teams always have one person getting their aircraft ready to launch right after the previous lands.

Three person teams work too, but require some time between each rotation to prepare the next aircraft.

PILOT

- Maintain control of the aircraft.
- Call out each intention of movement be ng so.
- Call out each bucket alignment and acu t gap.
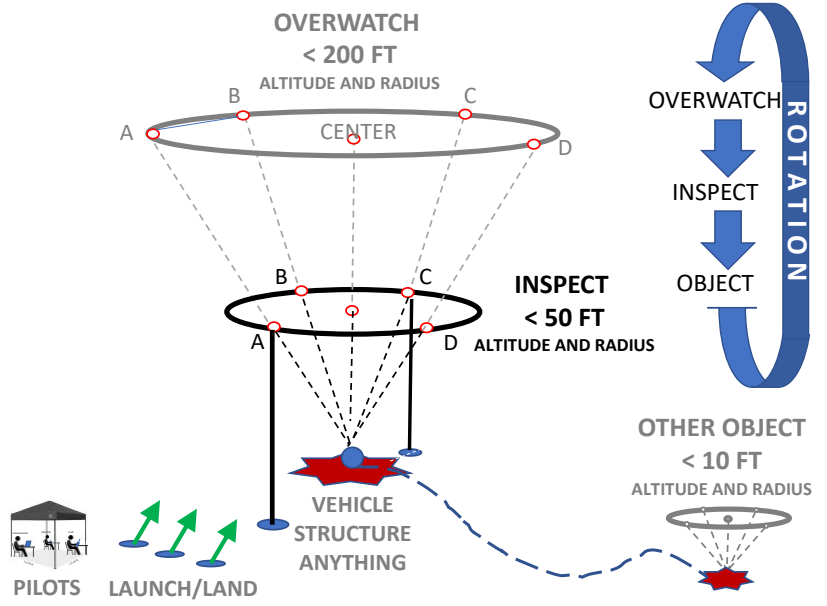
PROCTOR

- Fill in the form header.
- Read the test procedures to the Pilot.
- Confirm, record, and attest to scoring after the trial.

VISUAL OBSERVER (VO)

- Maintain sight with the aircraft and surroundings.
- Repeat the Pilot's intention of movement to confirm.
- Call out corrections and warnings as necessary.
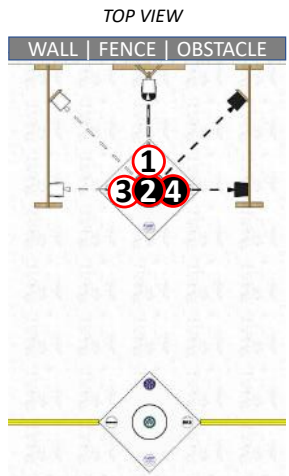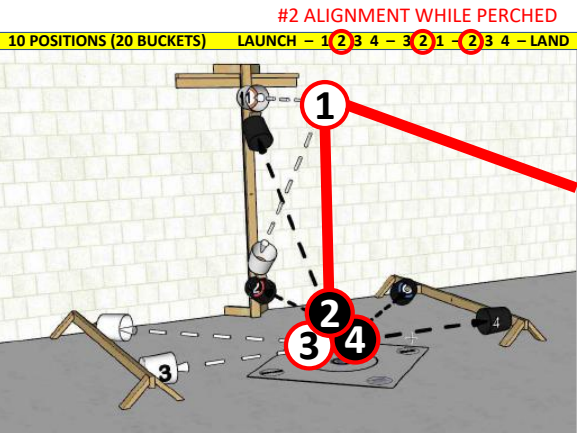
Teams Sequence Through Scenarios

Each Pilot flies a 15-minute scenario, sequencing through 3 objectives for 5 minutes each.

OVERWATCH
< 200 FT
ALTITUDE AND RADIUS

B   CENTER   C
A   D

INSPECT
< 50 FT
ALTITUDE AND RADIUS

B   C
A   D

OVERWATCH

R O T A T I O N

INSPECT

OBJECT

OTHER OBJECT
< 10 FT
ALTITUDE AND RADIUS

VEHICLE
STRUCTURE
ANYTHING

PILOTS   LAUNCH/LAND

- This scenario mechanization enables embedded bucket scoring tasks to be performed similarly by all participating Pilots. So the results are comparable within the same scenario layout. Additional tactics can be overlayed onto these scenarios at your facility.

- Up to 3 teams concurrently fly different scenario objectives from safe distances and altitudes apart.

- Teams move as necessary to maintain sight lines with their aircraft and communications with other teams. The overwatch team leads communications.

- Scenarios restart every 20 minutes with a different rotation of Pilot, Proctor, and VO.

Perch (PAY 6)

Obstructed Test Lane

The drone lands 2 m (6 ft) from the wall guided by dual bucket alignments in various orientations. A single perch measures the field of view of an independent pan-tilt-zoom camera. Others may need to re-launch, rotate, and land to identify all the targets in order.

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

#2 ALIGNED WHILE PERCHED

LAUNCH   1 2 3 4   3 2 1   2 3 4   LAND

SCORED ONLY WHILE LANDED

Fly and perch near a wall or obstacle in front of the aircraft with ground obstacles on both sides.

- Inspect vertical and horizontal object features upward, downward, leftward and rightward.

- BUCKET #2 MUST BE ALIGNED WHILE PERCHED, but all others can be aligned/identified either while perched or hovering as if inspecting underbody objects of interest.
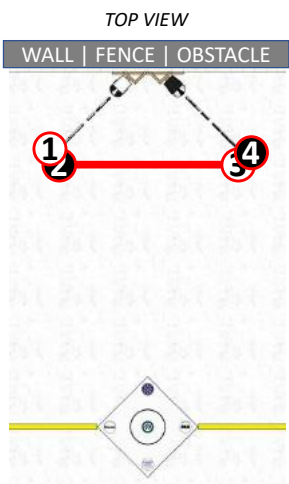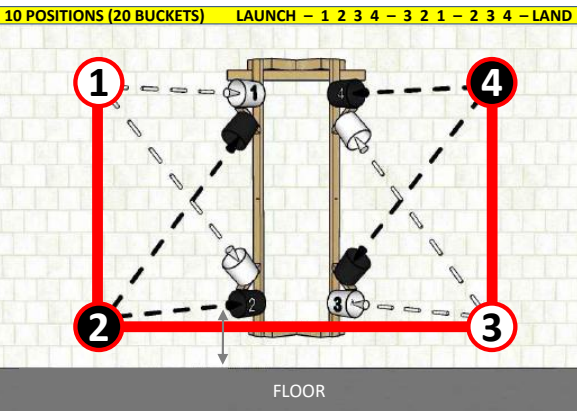
SCORING

Alignment Points in Perpendicular Buckets (50 Total):
Align with each perpendicular bucket to CAPTURE A SINGLE IMAGE OF THE ALIGNMENT RING for scoring during or after the trial.

Acuity Points in Angled Buckets (50 Total):
Align with each angled bucket to IDENTIFY ACUITY GAPS through the pilot interface. Images are optional for documentation but use the answer key for scoring..

TOP VIEW
WALL | FENCE | OBSTACLE

WALL TEST
The drone flies within 2-3 m (6-10 ft) of the wall at 45 degrees from forward of the aircraft to align with buckets and identify features upward and downward. This approximate tasks inside elevated windows and doors.

LOWER BUCKETS AT LEAST 1 M (3 FT) ELEVATION   FLOOR

OBSTRUCTED | PERCH

	ALIGNMENT (MAN)	ACUITY (PAY)
START TIMER	NUMBER	CIRCLE POINTS	CIRCLE GAPS CORRECTLY CALLED BY THE PILOT DURING THE TRIAL

		TR	B	TR	L	BR
WHILE PERCHED						
		L	BR	T	TL	R
		BR	T	TL	R	BL
8	ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS	4A		T	BL	B	TR	L
9	PERPENDICULAR BUCKET: ALIGN AND CAPTURE IMAGE	3	5	1	0	
10	ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS	3A		BR	T	TL	R	BL

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

WHILE PERCHED					
L	BR	T	TL	R
TR	B	TR	L	BR
WHILE PERCHED					
L	BR	T	TL	R
BR	T	TL	R	BL
19	PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE	4	5	1	0
20	ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS	4A		T	BL	B	TR	L

ELASPED TIME: (MM:SS)	SCORES	/50	/50

LOWER BUCKETS AT LEAST 1 M (3 FT) ELEVATION   FLOOR

Wall (PAY 7)

Obstructed Test Lane

e wall guided by dual bucket alignments in various
res the field of view of an independent pan-tilt-zoom
unch, rotate, and land to identify all the targets in order.

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND
10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

10 Positions = 20 Buckets = 100 Total Points

LAUNCH   FORWARD   REVERSE   FORWARD   LAND
FLOOR
LAUNCH   1 2 3 4   3 2 1   2 3 4   LAND

SCORED ONLY WHILE LANDED

ft) of the wall at 45 degrees from forward of the aircraft to
tures upward and downward. This approximates inspection
doors. Fly near a wall or obstacle at 45 degrees from forward
of the aircraft.

- Inspect vertical object features upward and downward.

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND
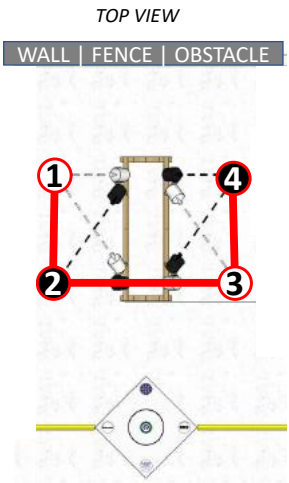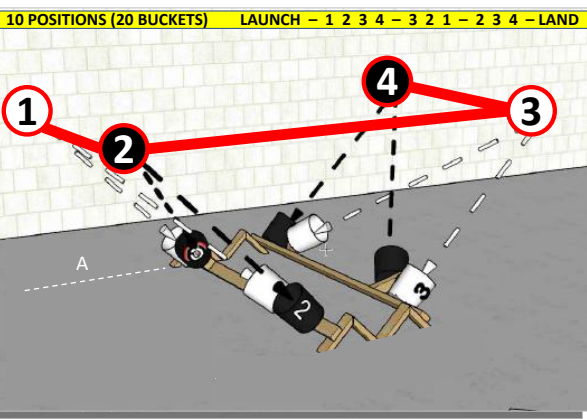
SCORING

Alignment Points in Perpendicular Buckets (50 Total):
Align with each perpendicular bucket to CAPTURE A SINGLE IMAGE OF THE ALIGNMENT RING for scoring during or after the trial.

Acuity Points in Angled Buckets (50 Total):
Align with each angled bucket to IDENTIFY ACUITY GAPS through the pilot interface. Images are optional for documentation but use the answer key for scoring.

PERCH TEST

The drone lands 2 m (6 ft) from the wall guided by dual bucket alignments in various orientations. A single perch measures the field of view of an independent pan-tilt-zoom camera. Others may need to re-launch, rotate, and land to identify all the targets in order.

TOP VIEW
WALL | FENCE | OBSTACLE
WALL | FENCE | OBSTACLE

WALL TEST

The drone flies within 2-3 m (6-10 ft) of the wall at 45 degrees from forward of the aircraft to align with buckets and identify features upward and downward. This approximates tasks inside elevated windows and doors.

TOP VIEW
WALL | FENCE | OBSTACLE

		ALIGNMENT (MAN)			AGILITY (PAY)				
START TIMER									
10 POSITIONS (20 BUCKETS) LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND									
1	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	1	5	1	0				
2	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	1A				TR	B	TR	L	BR
3	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	2	5	1	0				
4	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	2A				L	BR	T	TL	R
5	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	3	5	1	0				
6	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	3A				BR	T	TL	R	BL
7	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	4	5	1	0				
8	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	4A				T	BL	B	TR	L
9	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	3	5	1	0				
10	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	3A				BR	T	TL	R	BL
10 POSITIONS (20 BUCKETS) LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND									
11		2							
12	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	2A				L	BR	T	TL	R
13	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	1	5	1	0				
14	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	1A				TR	B	TR	L	BR
15	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	2	5	1	0				
16	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	2A				L	BR	T	TL	R
17	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	3	5		0				
18	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	3A				BR	T	TL	R	BL
19	*PERPENDICULAR BUCKET : ALIGN AND CAPTURE IMAGE*	4	5	1	0				
20	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	4A				T	BL	B	TR	L
ELASPED TIME: (MM:SS)		SCORES		/50					/50

Ground (PAY 8)

the wall guided by dual bucket alignments in various
res the field of view of an independent pan-tilt-zoom
unch, rotate, and land to identify all the targets in order.

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND
10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

ft) of the wall at 45 degrees from forward of the aircraft to
tures upward and downward. This approximates inspection
doors.

SCORED ONLY WHILE LANDED

Fly near a wall or obstacle at 90 degrees from forward
of the aircraft:

- Inspect horizontal object features leftward and

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

4 M (12 FT)

ckets (50 Total):
o CAPTURE AT ANGLE
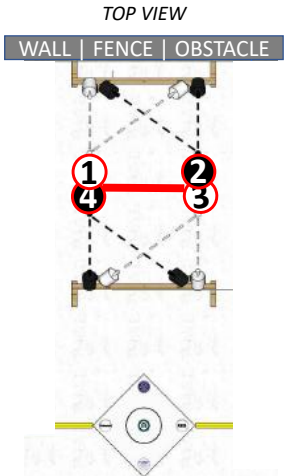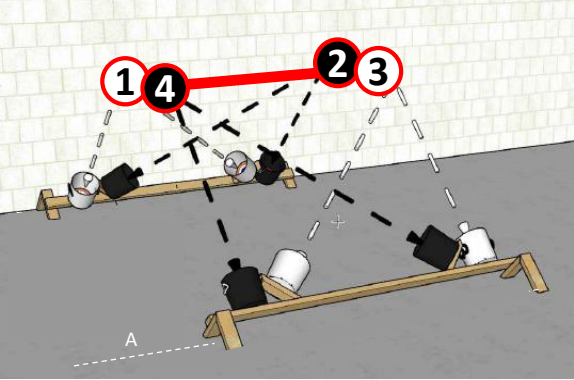coring during or after

Acuity Points in Angled Buckets (50 Total):
Align with each angled bucket to IDENTIFY ACUITY GAPS
through the pilot interface. Images are optional for
documentation but use the answer key for scoring.

PERCH TEST

The drone lands 2 m (6 ft) from the wall guided by dual bucket alignments in various
orientations. A single perch measures the field of view of an independent pan-tilt-zoom
camera. Others may need to re-launch, rotate, and land to identify all the targets in order.

WALL | FENCE | OBSTACLE
WALL | FENCE | OBSTACLE

The drone flies within 2-3 m (6-10 ft) of the wall at 45 degrees from forward of the aircraft to
align with buckets and identify features upward and downward. This approximates inspection
tasks inside elevated windows and doors.

TOP VIEW
WALL | FENCE | OBSTACLE

4 M (12 FT)
6 M (20 FT)

TOP VIEW
WALL | FENCE | OBSTACLE

| | ALIGNMENT | PAYLOAD FUNCTIONALITY (PAY) |
| | | |

START TIMER

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

1				
2	B	TR	L	BR
3				
4	BR	T	TL	R
5				
6	T	TL	R	BL
7				
8	BL	B	TR	L
9	*PERPENDICULAR BUCKET: ALIGN AND CAPTURE IMAGE*	3	5	1	0
10	*ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS*	3A		BR T TL R BL

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

| 12 | *ANGLED BUCKET: CALL OUT ACUITY GAP DIRECTIONS* | 2A | | L BR T TL R |
| 13 | *PERPENDICULAR BUCKET: ALIGN AND CAPTURE IMAGE* | 1 | 5 | 1 | 0 |

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

14	B	TR	L	BR
15				
16	BR	T	TL	R
17				
18	T	TL	R	BL
19				
20	BL	B	TR	L

4 M (12 FT)

/50   /50

Alley (PAY 9)

Obstructed Test Lane

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

SCORED ONLY WHILE LANDED

Fly near a wall or obstacle in front of the aircraft (0 degrees) and behind the aircraft (180 degrees):

- Inspect horizontal object features leftward and rightward.

SCORING

Alignment Points in Perpendicular Buckets (50 Total):
Align with each perpendicular bucket to CAPTURE A SINGLE IMAGE OF THE ALIGNMENT RING for scoring during or after the trial.
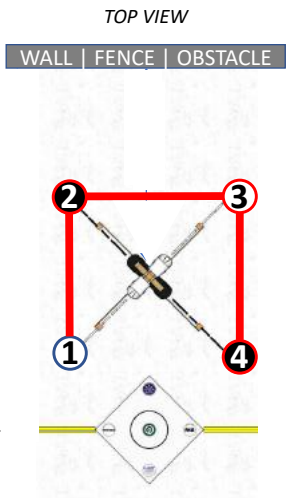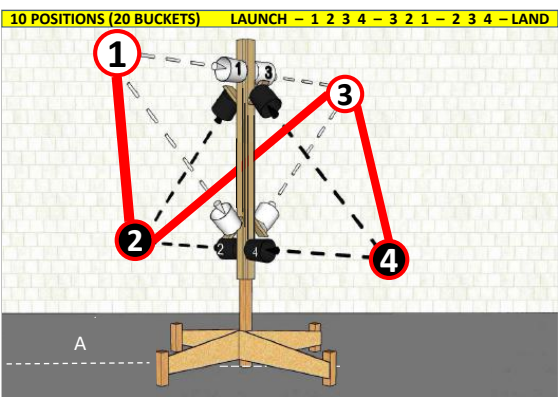
Acuity Points in Angled Buckets (50 Total):
Align with each angled bucket to IDENTIFY ACUITY GAPS through the pilot interface. Images are optional for documentation but use the answer key for scoring.

PERCH TEST

The drone lands 2 m (6 ft) from the wall guided by dual bucket alignments in various orientations. A single perch measures the field of view of an independent pan-tilt-zoom camera. Others may need to re-launch, rotate, and land to identify all the targets in order.

TOP VIEW

WALL | FENCE | OBSTACLE

The drone flies within 2-3 m (6-10 ft) of the wall at 45 degrees from forward of the aircraft to align with buckets and identify features upward and downward. This approximate tasks inside elevated windows and doors.

TOP VIEW

WALL | FENCE | OBSTACLE

OBSTRUCTED | ALLEY

START TIMER

		ALIGNMENT		PAYLOAD FUNCTIONALITY	ACUITY (PAY)				

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

				R	B	TR	L	BR	
					BR	T	TL	R	
				R	T	TL	R	BL
				BL	B	TR	L	

10 POSITIONS (20 BUCKETS)   LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND

#	Task		Align	Pay			Acuity				
10	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	3A				BR	T	TL	R	BL
12	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	2A				L	BR	T	TL	R
13	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	1	5	1	0					
14	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	1A				TR	B	TR	L	BR
15	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	2	5	1	0					
16	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	2A				L	BR	T	TL	R
17	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	3	5	1	0					
18	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	3A				BR	T	TL	R	BL
19	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	4	5	1	0					
20	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	4A				T	BL	B	TR	L
ELASPED TIME: (MM:SS)		SCORES		/50						/50

Post (PAY 10)

Obstructed Test Lane

PERCH TEST

The drone lands 2 m (6 ft) from the wall guided by dual bucket alignments in various orientations. A single perch measures the field of view of an independent pan-tilt-zoom camera. Others may need to re-launch, rotate, and land to identify all the targets in order.

The wall guided by dual bucket alignments in various
res the field of view of an independent pan-tilt-zoom
unch, rotate, and land to identify all the targets in order.

START TIMER

the targets in order

TOP VIEW

WALL | FENCE | OBSTACLE
WALL | FENCE | OBSTACLE

| 10 POSITIONS (20 BUCKETS) | LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND |
| 10 POSITIONS (20 BUCKETS) | LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND |

LAUNCH 1 **2 3 4** **3 2** 1 **2 3 4** LAND

SCORED ONLY WHILE LANDED

ft) of the wall at 45 degrees from forward of the aircraft to
tures upward and downward. This approximates inspection
doors.

W

The drone flies within 2-3 m (6-10 ft) of the wall at 45 degrees from forward of the aircraft to align with buckets and identify features upward and downward. This approximates tasks inside elevated windows and doors.

- Fly between the post and a wall or obstacle

- Inspect vertical object features upward and downward.

TOP VIEW

WALL | FENCE | OBSTACLE

SCORING

Alignment Points in Perpendicular Buckets (50 Total):
Align with each perpendicular bucket to CAPTURE A SINGLE IMAGE OF THE ALIGNMENT RING for scoring during or after the trial.

Acuity Points in Angled Buckets (50 Total):
Align with each angled bucket to IDENTIFY ACUITY GAPS through the pilot interface. Images are optional for documentation but use the answer key for scoring.

Page 13

10 POSITIONS (20 BUCKETS)	LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND								
					R	B	TR	L	BR
					L	BR	T	TL	R
					R	T	TL	R	BL
					T	BL	B	TR	L
10	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	3A				BR	T	TL	R	BL

10 POSITIONS (20 BUCKETS)	LAUNCH – 1 2 3 4 – 3 2 1 – 2 3 4 – LAND								
12	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	2A				L	BR	T	TL	R
13	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	1	5	1	0				
14	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	1A				TR	B	TR	L	BR
15	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	2	5	1	0				
16	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	2A				L	BR	T	TL	R
17	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	3	5		0				
18	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	3A				BR	T	TL	R	BL
19	*PERPENDICULAR BUCKET:* ALIGN AND CAPTURE IMAGE	4	5	1	0				
20	*ANGLED BUCKET:* CALL OUT ACUITY GAP DIRECTIONS	4A				T	BL	B	TR	L
ELASPED TIME: (MM:SS)		SCORES	/50					/50	