

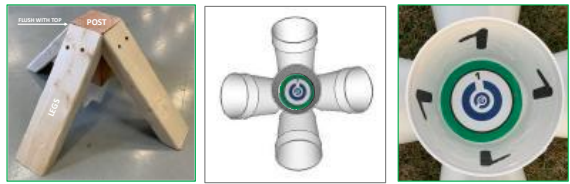
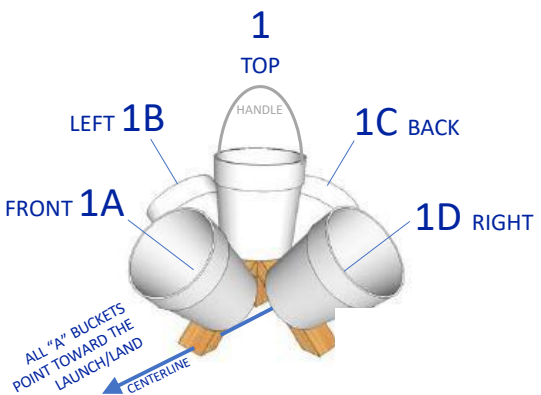
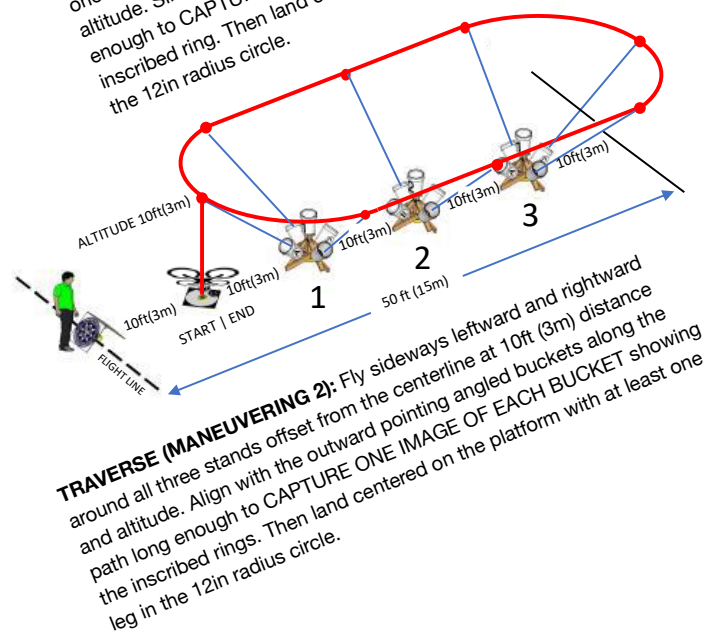
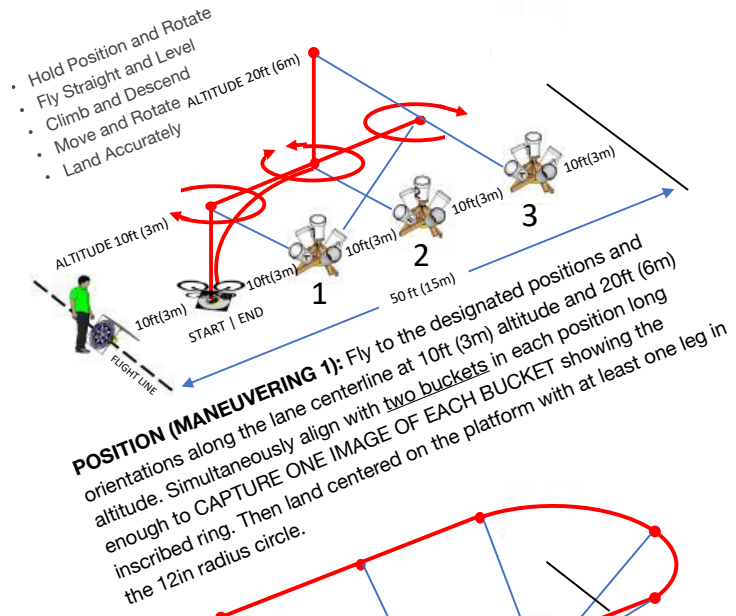
LEVEL 1 | OPEN LANE BASIC PROFICIENCY

The Position and Traverse tests are performed sequentially by a remote pilot in direct line of sight, or with the pilot's back turned to represent flying beyond visual line of sight with an assisting visual observer. The aircraft flies the designated flight paths to align with one or more white buckets. Each alignment requires a single image of the inscribed green ring inside the bottom of the buckets. Perform all 40 alignments and accurate landings within the designated time limit. Visual acuity targets evaluate camera pointing and zooming capabilities along with color, thermal, hazmat labels, or other objects. Faults resulting in an end-of-trial include extreme deviations from the intended flight path or contact with the apparatus, ground, or safety enclosure.

FABRICATION

- (QTY 01) 15m (50ft) measuring tape centerline
- (QTY 01) square panel with 30cm (12in) radius circle
- (QTY 03) 10x10x15cm (4x4x6in) posts
- (QTY 12) 5x10x30cm (2x4x12in) legs with 45deg tapers
- (QTY 30) 7.5cm (3in) screws attach legs to post – 2 per
- (QTY 30) 4cm (1-1/2in) screws attach buckets – 2 per
- (QTY 15) 7.5-liter (2-gallon) white buckets
- (QTY 52) 20cm (8in) round polyester weatherproof labels. Download and print targets and lettering from the online [USAGE GUIDE](#) or at [RobotTestMethods.nist.gov](#).
- A thick black marker can also be used to inscribe 2.5cm (1in) rings inside buckets with written letters and numbers.

FLIGHT PATHS



LEVEL 1 | OPEN LANE
BASIC PROFICIENCY

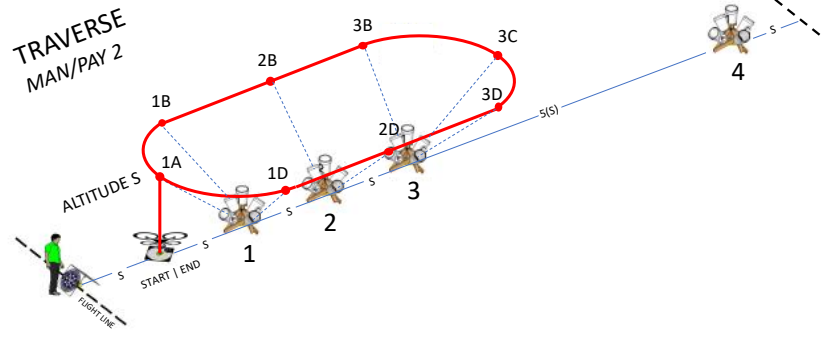
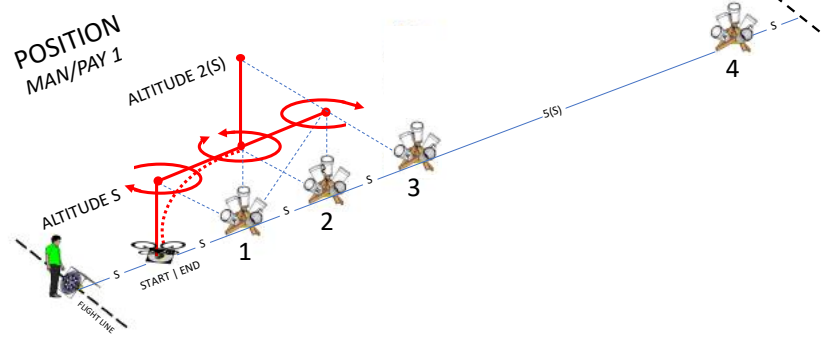


Pilot LAST Name _____
 Pilot FIRST Name _____
 Pilot Organization _____
 Drone Make _____
 Drone Model _____
 Facility Location _____
 Date (YYYY/MM/DD) _____ Team #: _____

PROCTOR NAME _____

BUCKET DIAM.		LANE SPACING (S)			VISIBILITY		WIND		PILOT VIEW		TIME LIMIT		
4 IN (10 CM)	8 IN (20 CM)	5 FT (1.5 M)	10 FT (3 M)	20 FT (6 M)	LIGHTED 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)			(CIRCLE ONE)		(FILL IN)		(CIRCLE ONE)		(CIRCLE ONE OR FILL IN)		

ALIGNMENT SCORE: Circle bucket identifiers for images with UNBROKEN RINGS. Strike through all BROKEN RINGS and incomplete buckets.



CAPTURE ONLY ONE IMAGE OF EACH BUCKET – CIRCLE ALIGNED IMAGES AND LANDINGS

CAPTURE PRE-LAUNCH CLOCK IMAGE – LAUNCH TIME (HH-MM-SS)	:	:
POSITION TEST – FLYING ALONG CENTERLINE		CIRCLE ALIGNED
1 LAUNCH AND HOVER OVER STAND #1 TO ALIGN WITH		1 & 2A
2 YAW LEFTWARD 360° OVER STAND #1 TO ALIGN WITH		1 & 2A
3 YAW RIGHTWARD 360° OVER STAND #1 TO ALIGN WITH		1 & 2A
4 CLIMB VERTICALLY OVER STAND #1 TO ALIGN WITH		1 & 3A
5 DESCEND VERTICALLY OVER STAND #1 TO ALIGN WITH		1 & 2A
6 PITCH FORWARD OVER STAND #2 TO ALIGN WITH		2 & 3A
7 PITCH BACKWARD OVER STAND #1 TO ALIGN WITH		1 & 2A
8 PITCH FORWARD OVER STAND #2 THEN YAW LEFT 180°		2 & 1C
9 PITCH FORWARD OVER LANDING THEN YAW RIGHT 180°		L & 1A
10 LAND IN CIRCLE (ONE OR MORE LEGS) – WORTH 2 POINTS		1pt & 1pt
TRAVERSE TEST – FLYING LEFTWARD		CIRCLE ALIGNED
11 HOVER OVER THE LAUNCH PLATFORM TO ALIGN WITH		1A
12 ORBIT 90° LEFTWARD AROUND STAND #1 TO ALIGN WITH		1B
13 ROLL LEFTWARD TO STAND #2 TO ALIGN WITH		2B
14 ROLL LEFTWARD TO STAND #3 TO ALIGN WITH		3B
15 ORBIT 90° LEFTWARD AROUND STAND #3 TO ALIGN WITH		3C
16 ORBIT 90° LEFTWARD AROUND STAND #3 TO ALIGN WITH		3D
17 ROLL LEFTWARD TO STAND #2 TO ALIGN WITH		2D
18 ROLL LEFTWARD TO STAND #1 TO ALIGN WITH		1D
19 ORBIT 90° LEFTWARD AROUND STAND #1 TO ALIGN WITH		1A
20 LAND IN CIRCLE (ONE OR MORE LEGS) – WORTH 1 POINT		1pt
TRAVERSE TEST – FLYING RIGHTWARD		CIRCLE ALIGNED
21 HOVER OVER THE LAUNCH PLATFORM TO ALIGN WITH		1A
22 ORBIT 90° RIGHTWARD AROUND STAND #1 TO ALIGN WITH		1D
23 ROLL RIGHTWARD TO STAND #2 TO ALIGN WITH		2D
24 ROLL RIGHTWARD TO STAND #3 TO ALIGN WITH		3D
25 ORBIT 90° RIGHTWARD AROUND STAND #3 TO ALIGN WITH		3C
26 ORBIT 90° RIGHTWARD AROUND STAND #3 TO ALIGN WITH		3B
27 ROLL RIGHTWARD TO STAND #2 TO ALIGN WITH		2B
28 ROLL RIGHTWARD TO STAND #1 TO ALIGN WITH		1B
29 ORBIT 90° RIGHTWARD AROUND STAND #1 TO ALIGN WITH		1A
30 LAND IN CIRCLE (ONE OR MORE LEGS) – WORTH 1 POINT		1pt
CAPTURE CLOCK IMAGE AFTER LANDING – LAND TIME (HH-MM-SS)	:	:
STOP THE TIMER OR CALCULATE RESULT – ELAPSED TIME (MM-SS)	:	:
_____/40 MINIMUM PASSING SCORE – TOTAL SCORE (POINTS)		
CIRCLE ONE: FAIL (SCORE TIME SAFETY) OR PASS		