PRACTICE / PRELIMS

TEAM 2   TEAM 1

B   A

DEMO ONLY   C   TEAM 3

TEAM 4   TEAM 5
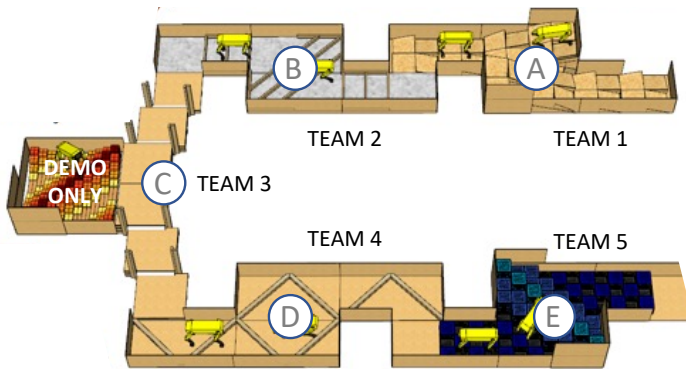
D   E

Prelims: Single Lane Trials (rotating schedule set by teams)

- Enables optimization for each challenge task to refine approaches and establish a baseline performance.
- 5 concurrent lanes with 20 min trials = 15 trials per hour
- Up to 15 teams can try all 5 lanes in 5 hours. That's 1 lane per hour for 5 hours. Repeat all in 10 hours.

SEQUENCES / SEMIS

B   A

DEMO ONLY   C   START   RIGHT SIDE – TEAM 1

C   START   LEFT SIDE – TEAM 2

D   E
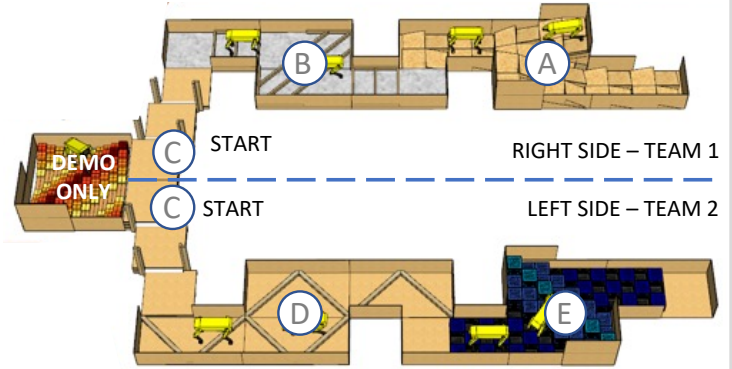
**Semis: Multi Lane Trials** (left and right sequences)

- Requires balancing system configurations and software to perform different lanes sequences in the same trial.
- 2 sequences with 20 min trials = 6 trials per hour
- Perform lanes in any order according to the perceived risk. Need to drive a bit further to vary the sequence.

LANE OPTIONS

A   CROSSING RAMPS
Square ramps (15 degrees) can be rotated inplace to form different terrains.
Easier: Flat
Harder: Sloped (15 degrees)

 OR

A CROSSING RAMPS: **FLAT**   A CROSSING RAMPS: **SLOPED**

B   SOFT FLOORS
Thick foam floor 10cm (4in) allows feet to sink with obstacles 10cm (4in) tall.
Easier: Flat
Harder: Sloped (15 degrees)

 OR

B SOFT FOAM: **FLAT**   B SOFT FOAM: **SLOPED**

C   PALLET STEPS WITH PIPES
Elevation changes using 15cm (6in) thick covered pallets with rolling pipe edge to step over.
Easier: Straight
Harder: Offset

 OR

C PALLET STEPS: **STRAIGHT**   C PALLET STEPS: **OFFSET**

DEMO ONLY

D   K-RAILS
Smooth oriented strand plywood floor with diagonal obstacles 10cm (4in) tall.
Easier : Flat
Harder: Sloped (15 degrees)

 OR

D K-RIALS: **FLAT**   D K-RAILS: **SLOPED**

E   CRATE STEPFIELD – 15cm (6in)
Several reconfigurable topographies are possible with negative obstacles (holes) too.
Easier : Diagonal Gap
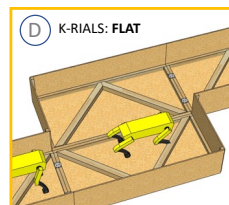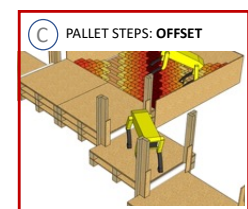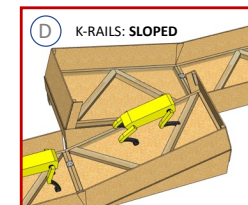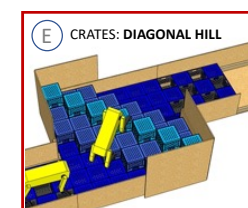**Harder:** Diagonal Hill

 OR

E CRATES: **DIAGONAL GAP**   E CRATES: **DIAGONAL HILL**

Quadruped Challenge Form
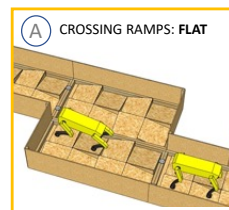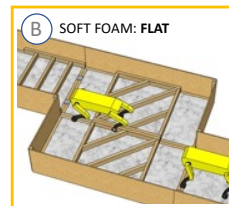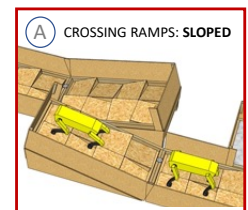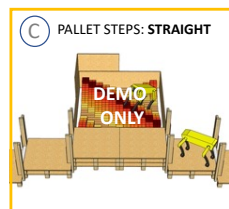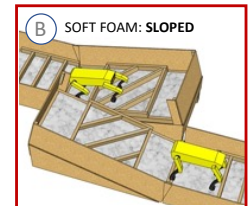
ROUND	DATE	COUNTRY	TEAM NAME	PROCTOR: FULL NAME (COUNTRY)
P1 P2 S1 S2 F				
(CIRCLE ONE)	(MM/DD)	(AAA)	(FILL IN)	(FILL IN)

INSTRUCTIONS

- Trials start every 30 minutes at 00 and 30 past the hour: **5 min set up – <u>10 min operation</u> – 5 min exit**.

- Teams choose the test lane difficulty during set up time, either FLAT/EASIER or SLOPED/HARDER.

- Drive TELEOPERATIVELY or AUTONOMOUSLY (no hands on interface) end-to-end in each lane. Autonomous systems may revert to teleop in the end-zones to plan the next path, or anytime in between to score telop points.

- For single lane trials, circle the lane name and perform a maximum of 10 end-to-end repetitions within the lane.

- For multi lane trials, write the order the lanes are performed downrange, then return in reverse order.

- Circle successful task points, when the robot is completely within the far end zone of the lane, in the appropriate columns for Easier/Harder and Tele/Auto. Strike through unfinished repetitions at the end of trial.

- Record the elapsed time and calculate the rate (pts/min). Scores are not carried over to the next round.

- Teleop points count toward Teleop awards. Autonomous points count toward autonomous awards.

- In case of robot reset, use a new form to start a new "mini-trial." The best mini-trial counts. Keep both forms.

SCORING

(A) Crossing Ramps   (B) Soft Flooring   (C) Pallet Steps   (D) K-Rails   (E) Crates

CIRCLE A SINGLE LANE IN THE LIST ABOVE OR WRITE SEQUENCE OF LANES IN ORDER	FLAT / EASIER		SLOPED / HARDER	
	TELEOP	**AUTO**	**TELEOP**	**AUTO**
1	1	4	2	8
2 RETURN UP RANGE TO START POINT	1	4	2	8
3	1	4	2	8
4 RETURN UP RANGE TO START POINT	1	4	2	8
5	1	4	2	8
6 RETURN UP RANGE TO START POINT	1	4	2	8
7	1	4	2	8
8 RETURN UP RANGE TO START POINT	1	4	2	8
9	1	4	2	8
10 RETURN UP RANGE TO START POINT	1	4	2	8

ELAPSED TIME

MM : SS

ELAPSED TIME

MM : SS

TELEOP   AUTO   TELEOP   AUTO

TOTAL TELEOP POINTS

TOTAL AUTO POINTS