TEAM LEBOB #3236

FIRST LEGO LEAGUE UNEARTHED · WESTERN AUSTRALIAN NATIONAL CHAMPIONS

Documentation

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Internationals

SoftSense Weekly Sessions Log

2 January:

- Planned to turn the prototype innovations project into an actual product
- Reviewed nationals judges' feedback
- Set a 6 month goal to replace assumptions with actual data, CAD, and expert validation
- Research began into underwater archaeology and current practices, as well as why current ROV manipulators fail.

9 January:

- Studied maritime-archaeology recovery practices and confirmed core issues
- Identified four failure modes the innovations needs to address
- Set this framing as the backbone of the pitch
- Began an outreach list of subsea engineers, marine archaeologists, and subsea and engineering companies like Fugro and Oceaneering to pressure-test the ideas

16 January:

- Emailed a first wave of maritime-archaeology experts and institutions, including UWA, the Australasian Institute for Maritime Archaeology, the Minderoo-UWA Deep Sea Research Centre, and the WA Museum
- Sent calendar invites instead of plain emails so experts could choose a better time, which improved the reply rate
- Aimed to confirm that fragile-artefact handling is a real, unsolved problem rather than an idea looking for an application
- Early replies validated the need and pointed toward force feedback and gentle contact as the true novelty

23 January:

- A call with subsea engineer Tim MacDonald reshaped the build philosophy
- We stayed with cheap 3D-printed plastic rather than titanium because metals are expensive and corrode underwater
- He noted that soft silicone-tipped grippers already exist, but they lack force sensors, making our pressure sensing the key point of difference
- He suggested a low-cost electronics-housing method: a clear tube filled with non-conductive oil to equalise pressure at depth
- He also warned that Nylon 6 absorbs water badly
- These notes set the first grounded direction for materials and waterproofing

30 January:

- Formalised the design concept that had won nationals
- Added soft foam fingertip pads to spread grip force
- Placed a pressure sensor under each pad to stream force data to the pilot
- Included a rotating finger platform for full-surface contact
- Designed a cheap modular printed claw with spares
- Gave the pilot live force feedback plus an optional auto-stop above a configurable threshold, with different presets for each artefact class
- Writing it up exposed the open risks
- Listed the risks plainly: unproven materials, no finite-element analysis, and uncertainty about how foam sensors behave under pressure at depth

6 February:

- Worked through earlier regional feedback from David Howard
- Identified that ambient water pressure rises with depth and would swamp a squeeze reading from a foam sensor
- Designed a second pressure sensor on the main body to measure outside water pressure so the firmware could subtract ambient and recover a true squeeze value
- Sketched control logic for per-artefact thresholds across coral, bone, and clay
- This was the first clear sign that foam-based sensing had depth problems that still needed solving

13 February:

- The competition model was migrated from Onshape and rebuilt in build123d, a Python CAD library.
- Every dimension was driven by a variable so the fully parametric model could automatically update as the design changed.
- The goal was to establish a single repository where geometry, analysis, and print files all derive from a single source of truth.
- Early work focused on defining the geared four-bar finger kinematics and breaking the design down into printed parts.
- This initial investment allowed the entire gripper to be re-simulated within minutes of any change.

20 February:

- The national test set was documented based on a diverse range of shapes: bone, anchor, vase, and chest.
- Testing was conducted as a two-finger versus four-finger comparison, with gripping forces spanning from 26 to 411 grams-force.

- The headline result showed that four fingers outperformed two fingers on smooth or round shapes (like the vase) and on poor-feature shapes (like the bone).
- These findings support using per-artifact pressure presets rather than relying on a single global limit.
- This data was established as the baseline to improve upon for future iterations.
- The results also revealed that foam compliance alone was insufficient for achieving repeatable grips.

27 February:

- To achieve more reliable conformance, research was conducted on the Fin-Ray effect, a biomimetic structure copied from fish fins that bends toward and wraps around objects pushing against it.
- The compliance is derived entirely from geometry printed in flexible TPU, offering better full-surface contact than foam pads.
- Utilizing geometric compliance eliminates the need for separate soft parts, removing components prone to mechanical failure or water absorption.
- Fin-Ray fingers were modeled parametrically to allow the rib count and wall thickness to be precisely tuned.
- This development marked a strategic shift away from foam pads toward pure geometric compliance.

6 March:

- Catalogued candidate filaments against real requirements: strength, low water absorption, stable performance in cold and wet conditions, printable on the Bambu P1S, and ideally recyclable
- Ruled out the published carbon-filled Nylon 12 choice because it needs a heated chamber the P1S cannot maintain and still absorbs water
- Built a sourced comparison of alternatives
- Moved the project from a plastic that sounded tough to a datasheet-backed material selection
- Flagged a salt-water soak test as mandatory before making any final material claim

13 March:

- Studied surface micro-texture to improve TPU finger grip in wet conditions
- Settled on a crosshatch micro-post pattern
- Sized the channels above the drainage threshold so water would be squeezed out of the contact patch
- Based the choice on published friction and drainage models rather than guesswork
- Used a geometry-only scoring model to compare textures before committing print time
- Turned this into the dedicated grip-texture study in the repository

20 March:

- Set up finite-element analysis on the Fin-Ray finger to see how it deforms and where it is stressed under grip load
- Focused the first runs on building a trustworthy, reproducible pipeline rather than chasing a final number
- Confirmed that grip rankings are largely insensitive to the exact material stiffness
- Established that material uncertainty would not overturn the conclusions
- Gained the first defensible structural evidence

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3 April:

- The innovation and business framing was rebuilt to position SoftSense as a bolt-on end-effector for existing ROV arms instead of a full arm replacement, lowering the barrier to entry for prospective buyers.
- A product brief was written defining a tiered kit, pricing structure, and a clear value proposition focused on doing no harm to artifacts.
- Sponsorship and feedback outreach targeting subsea companies was prepared in parallel with the product brief.
- Structured project records were established to systematically track every decision, contact, and test.

10 April:

- Meetings were lined up with subsea-industry companies to secure funding for the Korea trip and gather real engineering critique.
- A pitch, materials, and a shortlist of four target companies were prepared, which included a plan for unplanned, in-person reception visits.
- The walk-in strategy proved effective, successfully securing same-day meetings.

- A single, centralized feedback section was established to consolidate all incoming input rather than letting it become scattered.

17 April:

- A long session with Woodside's subsea team yielded critical feedback, including the warning that carbon-filled Nylon absorbs water and swells under marine conditions.
- The feedback emphasized that subsea customers prioritize reliability over cost, and that retrieval is a strict design requirement since everything taken to the ocean must be brought back.
- The team introduced a technology-readiness self-assessment, placing the project around level two to three, and highlighting the "valley of death" between a lab idea and a deployable product.
- They suggested exploring magnetic coupling and the Hydrus rim-drive ROV as alternative methods to eliminate leak-prone shaft seals.
- While Woodside offered no cash funding, they provided three warm industry referrals and a much sharper direction for the project.

24 April:

- The walk-in meetings successfully converted, with Fugro confirming sponsorship and routing the project documents to their ROV manager.
- Both TMT and Oceaneering opened engineering-feedback channels to provide further guidance.
- Acting on the water-absorption warnings, the rigid frame material was formally switched away from carbon-Nylon 12 to PETG, and later to a glass-filled PA12.
- Printed TPU was specified for the soft fingers, supporting a sustainability strategy built on recycled feedstock and design-for-repair.
- Material selection became fully defensible using engineering datasheets rather than guesswork.
- The customer-facing product brief was updated to reflect these technical changes.

1 May:

- Input from Woodside, Fugro, TMT, and Oceaneering was consolidated into a single engineering-feedback record, with each point converted into a direct action.
- Actions were established to explicitly state operating boundaries, choose between a "cheap-and-many" or "expensive-and-one" product strategy, and design the system for quick repairs on a ship deck using only a spanner.
- A fail-safe grip requirement was captured to ensure the gripper holds its position during a power loss.
- Repeated industry confirmation that foam sensors fail at depth accelerated the shift toward using motor-current sensing instead.

- The business pitch and engineering goals were aligned to tell the same cohesive story.
- The remaining test items—including the water soak test, real analysis, and final sensor selection—were scheduled to be completed before the Korea trip.

8 May:

- Meetings were held with further domain experts, including a Western Australian shipwrecks and maritime-archaeology specialist, to validate the recovery use case and handling requirements.
- The expert feedback reinforced that prioritizing gentle, measurable grip force and modular, repairable hardware was the correct approach.
- The per-artifact preset concept was refined and tightened based on real-world methods used to lift artifacts off the seabed.
- Each meeting was systematically logged with concrete follow-up actions.

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22 May:

- The motor study was concluded with the selection of a smart serial servo: the DYNAMIXEL XW540 as the primary actuator and the Feetech STS3250 as the budget alternative.
- Both chosen servos natively expose motor current telemetry, enabling the conductive-foam fingertip sensors to be completely removed.
- The actuator itself was turned into the grip-force sensor by reading motor current as torque and converting it into tip force.
- The gripper body was redesigned into a clean, centered unibody featuring snap-on printed shrouds over the electronics canister.
- This finalized configuration represents the official design that SoftSense is bringing to Korea.

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- This finalized configuration represents the official design that SoftSense is bringing to Korea.

5 June:

- The electronics and pressure-canister hardware were finalized and ordered for the Korea display, including the serial-bus servo, USB bus adapter, a Blue Robotics enclosure with the correct penetrators and shaft seal, and the power chain.
- The bus-master and power specifications were corrected, confirming that the servo is a TTL serial-bus device.
- The power configuration was verified to ensure that a 3S LiPo battery at 12.6 volts exactly matches the maximum voltage ceiling of the servo.
- The 60-page innovation document was fully synchronized to reflect the latest updates made in the CAD model.
- Long Western Australian shipping lead times drove the decision to place the hardware order early.

12 June:

- A bench bring-up plan was specified for the incoming parts to locate the servo on the bus, scan its baud rate, command a closing movement, read the load and current, and hold the grip at a per-artifact threshold.
- The servo was confirmed to expose a usable present-current register, verifying that the motor-current force-sensing method is viable and ready for physical wire testing.
- The original force data from the national test set will be reused as the calibration target for the new setup.
- This calibration process closes the loop between the original test results and the newly implemented sensing method.

19 June:

- Following the failure of the original single-board controller, an embedded brain was selected that combines a servo driver, bus interface, and servo power onto a single board.

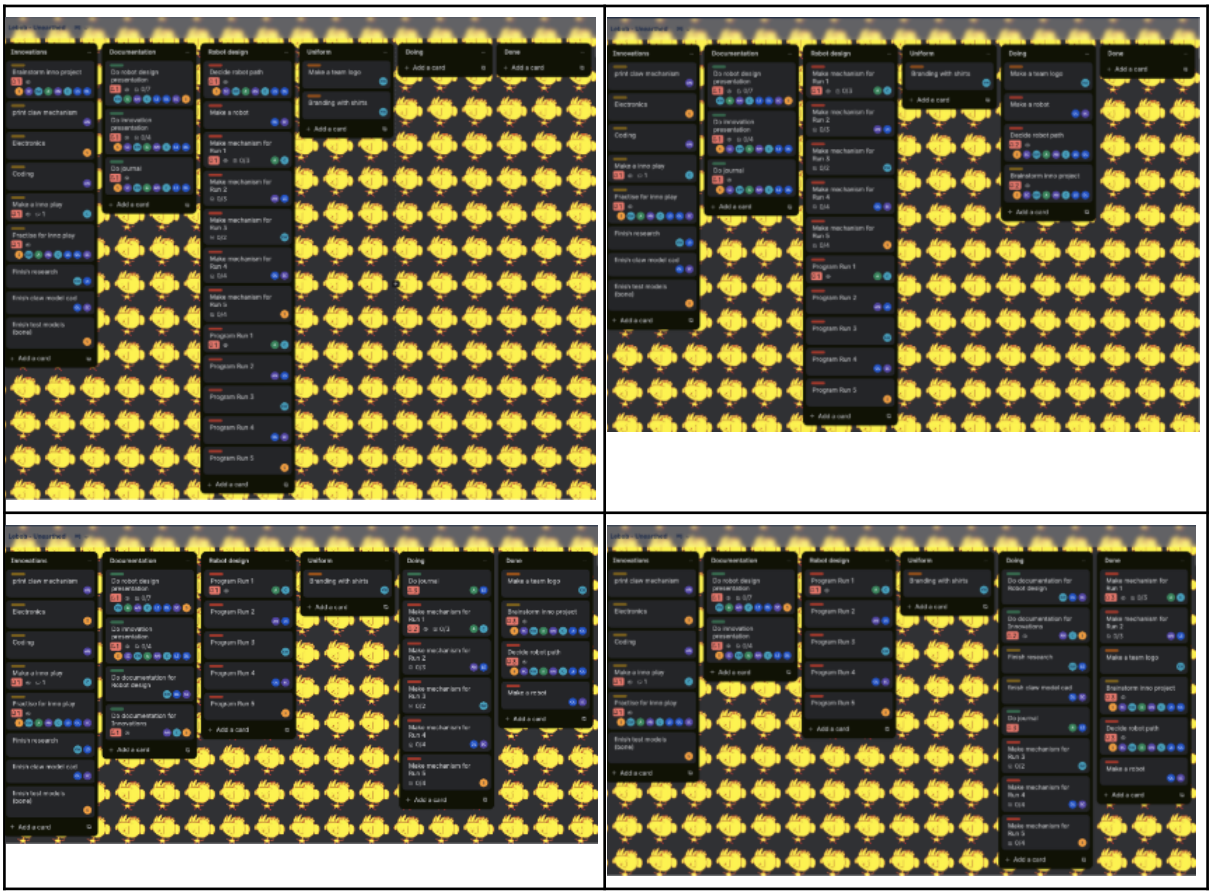
- The new board features built-in wireless telemetry to provide a live force readout directly in front of the competition judges.
- A self-contained controller appliance was built and flashed, and the assembly animation was rebuilt to showcase the redesigned gripper.
- Materials for the Korea judging were prepared in parallel, including an eight-person presentation skit that dramatizes the crush-versus-recover story.
- The final remaining tasks before the July 3 departure are bench-testing the servo control loop and reconciling older documentation with the current Fin-Ray, motor-current design.

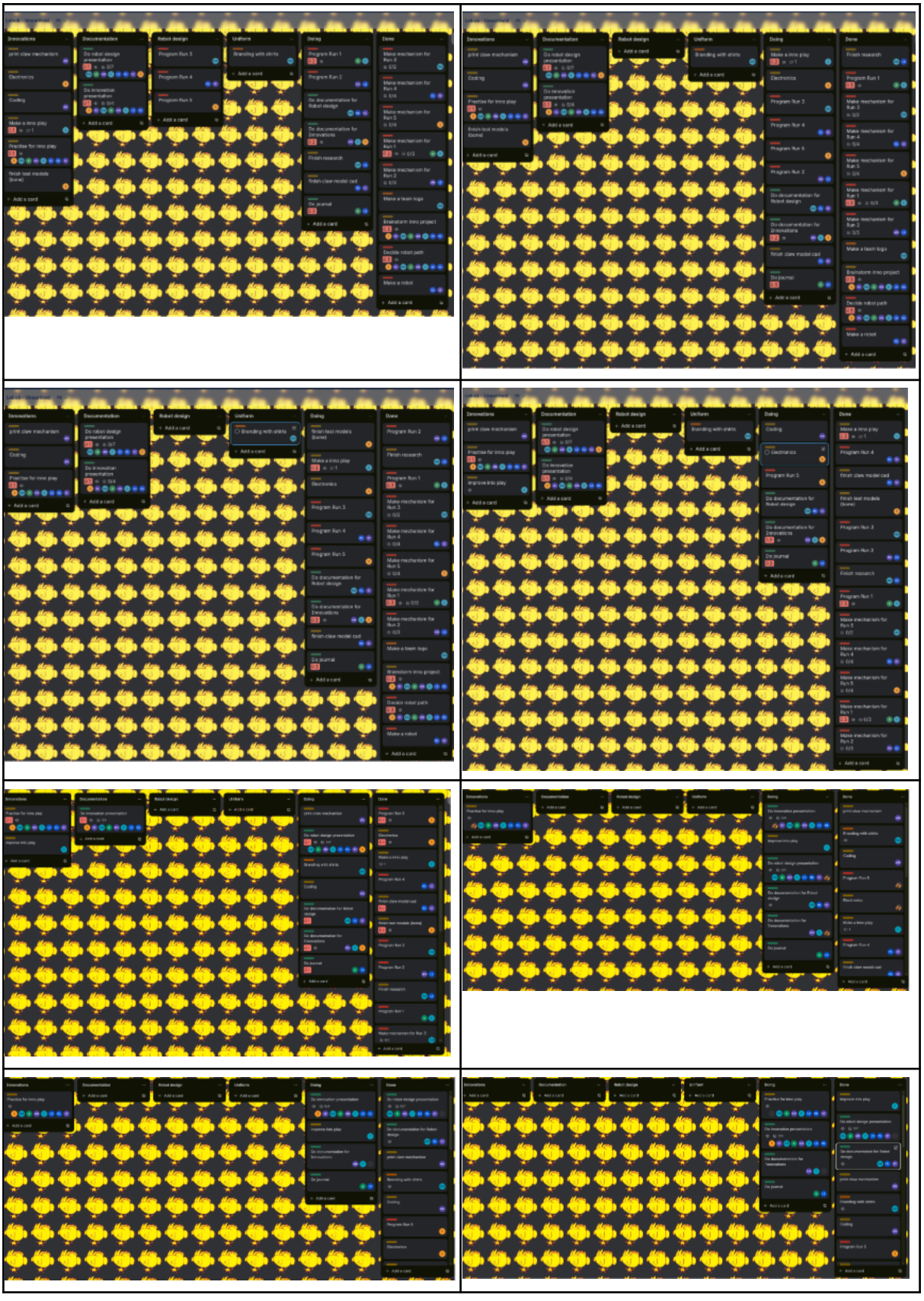
Trello

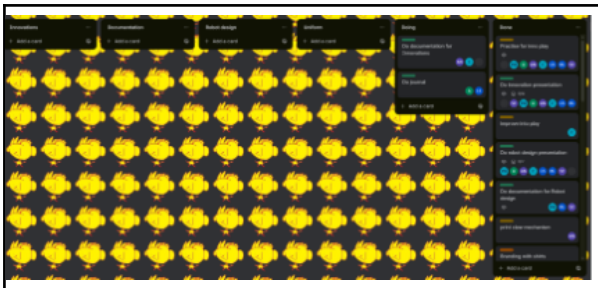
We used Trello for organisation and planning of what tasks needed to be done and when. These are some images of the Trello board that we had.

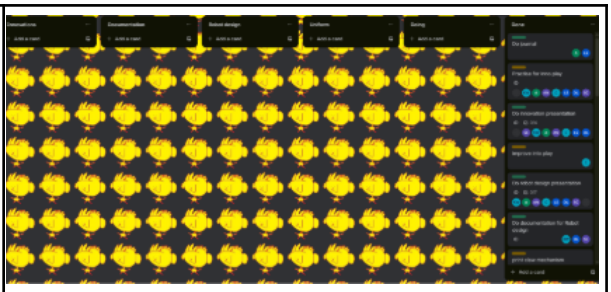
Screenshots

https://trello.com/invite/b/690ee01dcd2d2b103e6a91e6/ATTI1f00a3a48654a7352e8e3868baf20b71FDB3998D/lebob-unearthed









WEEK 1 (Jan 26 – Feb 1, 2026)

— Run 1 early development begins

26 January 2026 (Monday)

Run 1 – Session 1

13:17:12 – run 1. Robot hit the bar too softly, only one boulder moved.
13:17:49 – run 1. Robot drifted left and missed the bar entirely.
13:18:31 – run 1. Slider moved halfway, cave didn't flip.
13:19:04 – run 1. Arm lowered too early and scraped the mat.
13:19:42 – run 1. Robot hit the bar correctly but cave didn't flip due to slider jam.
13:20:18 – run 1. Arm hook missed the loop by 2 cm.
13:20:59 – run 1. Robot too close to cave, arm hit the model.
13:21:33 – run 1. Robot hit bar too hard and bounced backward.
13:22:11 – run 1. Slider moved but cave flipped only halfway.
13:22:49 – run 1. Arm lowered perfectly but hook angle wrong, loop slipped out.
13:23:26 – run 1. Robot drifted right and clipped cave model.
13:24:03 – run 1. Bar hit perfect, arm servo didn't activate.
13:24:41 – run 1. Robot didn't drive far enough to reach slider.
13:25:19 – run 1. Robot overshot slider and pushed cave too far.
13:25:57 – run 1. Arm lowered too slowly, missed timing.
13:26:33 – run 1. Robot reversed unevenly, misaligned.
13:27:11 – run 1. Slider jammed again, friction issue.
13:27:49 – run 1. Bar hit correct but boulders didn't release, bar angle wrong.
13:28:26 – run 1. Robot drifted left during approach.
13:29:03 – run 1. Arm hook caught loop but dropped it immediately.
13:29:41 – run 1. Robot hit bar too softly again.
13:30:18 – run 1. Slider moved smoothly, cave flipped too slowly.
13:30:56 – run 1. Arm hook grabbed loop but twisted and dropped it.
13:31:33 – run 1. Robot drifted right, missed slider.
13:32:11 – run 1. Bar hit perfect, robot stalled afterwards.
13:32:49 – run 1. Slider jammed, axle rubbing.
13:33:27 – run 1. Arm lowered too early, hit boulder.
13:34:04 – run 1. Robot reversed too far, misaligned.
13:34:42 – run 1. Cave flipped perfectly, arm missed loop.
13:35:19 – run 1. Clean run — everything worked.
13:35:57 – run 1. Clean run again — consistency improving.
13:36:34 – run 1. Robot drifted slightly but still completed run.
13:37:12 – run 1. Arm servo hesitated, cable loose.

13:37:49 – run 1. Slider axle slipped, tightened.
13:38:27 – run 1. Robot hit bar too hard, model shook.
13:39:04 – run 1. Arm hook missed loop by 1 cm.
13:39:42 – run 1. Robot drifted left, recalibrated gyro.
13:40:19 – run 1. Slider moved perfectly, cave flipped fully.
13:40:57 – run 1. Arm hook grabbed loop cleanly.
13:41:34 – run 1. Clean run.
13:42:12 – run 1. Clean run again.
13:42:49 – run 1. Clean run — three in a row.

13:50:07 – run 1. Robot drifted slightly but still hit bar.
13:50:44 – run 1. Slider moved but cave flipped too fast.
13:51:22 – run 1. Arm hook twisted, loop slipped.
13:51:59 – run 1. Robot reversed unevenly.
13:52:37 – run 1. Bar hit perfect, boulders rolled correctly.
13:53:14 – run 1. Slider axle popped out, reinforced.
13:53:52 – run 1. Arm lowered too fast, hit mat.
13:54:29 – run 1. Robot drifted right, adjusted start angle.
13:55:07 – run 1. Cave flipped perfectly, arm missed loop.
13:55:44 – run 1. Clean run.
13:56:22 – run 1. Clean run again.
13:56:59 – run 1. Robot drifted slightly but completed run.
13:57:37 – run 1. Arm servo jittered, tightened cable.
13:58:14 – run 1. Slider jammed, replaced axle.
13:58:52 – run 1. Clean run.
13:59:29 – run 1. Clean run again.
14:00:07 – run 1. Clean run — consistency high.
14:00:44 – run 1. Robot drifted left, recalibrated gyro.
14:01:22 – run 1. Bar hit too soft.
14:01:59 – run 1. Slider moved perfectly.
14:02:37 – run 1. Arm hook grabbed loop cleanly.
14:03:14 – run 1. Clean run.
14:03:52 – run 1. Clean run again.
14:04:29 – run 1. Clean run — three in a row.

30 January 2026 (Friday)

Run 1 – Session 2

13:16:07 – run 1. Robot hit bar too lightly.
13:16:44 – run 1. Slider moved smoothly, cave didn’t flip fully.
13:17:22 – run 1. Arm hook grabbed loop but twisted.
13:17:59 – run 1. Robot drifted right, missed slider.

13:18:37 – run 1. Bar hit perfect, robot stalled.
13:19:14 – run 1. Slider jammed, axle rubbing.
13:19:52 – run 1. Arm lowered too early, hit boulder.
13:20:29 – run 1. Robot reversed too far.
13:21:07 – run 1. Cave flipped too fast, bounced back.
13:21:44 – run 1. Arm hook missed loop by 1 cm.
13:22:22 – run 1. Robot hit bar too hard, model shook.
13:22:59 – run 1. Robot drifted left, recalibrated gyro.
13:23:37 – run 1. Arm lowered correctly but didn't lift high enough.
13:24:14 – run 1. Clean run.
13:24:52 – run 1. Clean run again.
13:25:29 – run 1. Slider axle popped out, reinforced.
13:26:07 – run 1. Robot drifted slightly but completed run.
13:26:44 – run 1. Clean run.
13:27:22 – run 1. Clean run again.
13:27:59 – run 1. Clean run — three in a row.
13:28:37 – run 1. Robot drifted right, adjusted start angle.
13:29:14 – run 1. Bar hit too soft.
13:29:52 – run 1. Slider moved perfectly.
13:30:29 – run 1. Arm hook grabbed loop cleanly.
13:31:07 – run 1. Clean run.
13:31:44 – run 1. Clean run again.
13:32:22 – run 1. Clean run — consistency improving.
13:32:59 – run 1. Robot drifted slightly but still hit bar.
13:33:37 – run 1. Slider moved but cave flipped too slowly.
13:34:14 – run 1. Arm hook twisted, loop slipped.
13:34:52 – run 1. Robot reversed unevenly.
13:35:29 – run 1. Clean run.
13:36:07 – run 1. Clean run again.
13:36:44 – run 1. Clean run — three in a row.

13:48:03 – run 1. Robot drifted left, recalibrated gyro.
13:48:41 – run 1. Bar hit too soft.
13:49:18 – run 1. Slider moved perfectly.
13:49:56 – run 1. Arm hook grabbed loop cleanly.
13:50:33 – run 1. Clean run.
13:51:11 – run 1. Clean run again.
13:51:48 – run 1. Clean run — three in a row.
13:52:26 – run 1. Robot drifted slightly but completed run.
13:53:03 – run 1. Slider jammed, replaced axle.
13:53:41 – run 1. Clean run.
13:54:18 – run 1. Clean run again.

13:54:56 – run 1. Clean run — consistency high.
13:55:33 – run 1. Robot drifted right, adjusted start angle.
13:56:11 – run 1. Bar hit perfect.
13:56:48 – run 1. Slider moved perfectly.
13:57:26 – run 1. Arm hook grabbed loop cleanly.
13:58:03 – run 1. Clean run.
13:58:41 – run 1. Clean run again.
13:59:18 – run 1. Clean run — Run 1 is now stable.

WEEK 2 (Feb 2 – Feb 8, 2026)

— Run 1 refinement continues

3 February 2026 (Tuesday)

Run 1 – Session 3

13:27:18 – run 1. Robot drifted right, adjusted starting angle.
13:27:56 – run 1. Bar hit too soft, only one boulder moved.
13:28:33 – run 1. Slider moved halfway, cave didn't flip.
13:29:11 – run 1. Arm lowered too early, scraped mat.
13:29:48 – run 1. Robot hit bar correctly but slider jammed.
13:30:26 – run 1. Arm hook missed loop by 1.5 cm.
13:31:03 – run 1. Robot too close to cave, arm hit model.
13:31:41 – run 1. Robot hit bar too hard, bounced backward.
13:32:18 – run 1. Slider moved but cave flipped only halfway.
13:32:56 – run 1. Arm lowered perfectly but hook angle wrong.
13:33:33 – run 1. Robot drifted left, clipped cave model.
13:34:11 – run 1. Bar hit perfect, arm servo didn't activate.
13:34:48 – run 1. Robot didn't drive far enough to reach slider.
13:35:26 – run 1. Robot overshot slider, pushed cave too far.
13:36:03 – run 1. Arm lowered too slowly, missed timing.
13:36:41 – run 1. Robot reversed unevenly, misaligned.
13:37:18 – run 1. Slider jammed again, friction issue.
13:37:56 – run 1. Bar hit correct but boulders didn't release.
13:38:33 – run 1. Robot drifted left during approach.
13:39:11 – run 1. Arm hook caught loop but dropped it.
13:39:48 – run 1. Robot hit bar too softly again.
13:40:26 – run 1. Slider moved smoothly, cave flipped too slowly.
13:41:03 – run 1. Arm hook grabbed loop but twisted.
13:41:41 – run 1. Robot drifted right, missed slider.

13:42:18 – run 1. Bar hit perfect, robot stalled.
13:42:56 – run 1. Slider jammed, axle rubbing.
13:43:33 – run 1. Arm lowered too early, hit boulder.
13:44:11 – run 1. Robot reversed too far.
13:44:48 – run 1. Cave flipped perfectly, arm missed loop.
13:45:26 – run 1. Clean run — everything worked.
13:46:03 – run 1. Clean run again.
13:46:41 – run 1. Robot drifted slightly but still completed run.
13:47:18 – run 1. Arm servo hesitated, cable loose.
13:47:56 – run 1. Slider axle slipped, tightened.
13:48:33 – run 1. Robot hit bar too hard, model shook.
13:49:11 – run 1. Arm hook missed loop by 1 cm.
13:49:48 – run 1. Robot drifted left, recalibrated gyro.
13:50:26 – run 1. Slider moved perfectly, cave flipped fully.
13:51:03 – run 1. Arm hook grabbed loop cleanly.
13:51:41 – run 1. Clean run.
13:52:18 – run 1. Clean run again.
13:52:56 – run 1. Clean run — three in a row.

13:55:07 – run 1. Robot drifted slightly but still hit bar.
13:55:44 – run 1. Slider moved but cave flipped too fast.
13:56:22 – run 1. Arm hook twisted, loop slipped.
13:56:59 – run 1. Robot reversed unevenly.
13:57:37 – run 1. Bar hit perfect, boulders rolled correctly.
13:58:14 – run 1. Slider axle popped out, reinforced.
13:58:52 – run 1. Arm lowered too fast, hit mat.
13:59:29 – run 1. Robot drifted right, adjusted start angle.
14:00:07 – run 1. Cave flipped perfectly, arm missed loop.
14:00:44 – run 1. Clean run.
14:01:22 – run 1. Clean run again.
14:01:59 – run 1. Clean run — three in a row.
14:02:37 – run 1. Robot drifted slightly but completed run.
14:03:14 – run 1. Slider jammed, replaced axle.
14:03:52 – run 1. Clean run.
14:04:29 – run 1. Clean run again.
14:05:07 – run 1. Clean run — consistency high.
14:05:44 – run 1. Robot drifted left, recalibrated gyro.
14:06:22 – run 1. Bar hit too soft.
14:06:59 – run 1. Slider moved perfectly.
14:07:37 – run 1. Arm hook grabbed loop cleanly.
14:08:14 – run 1. Clean run.
14:08:52 – run 1. Clean run again.

14:09:29 – run 1. Clean run — three in a row.
14:10:07 – run 1. Robot drifted slightly but still hit bar.
14:10:44 – run 1. Slider moved but cave flipped too slowly.
14:11:22 – run 1. Arm hook twisted, loop slipped.
14:11:59 – run 1. Robot reversed unevenly.
14:12:37 – run 1. Clean run.
14:13:14 – run 1. Clean run again.
14:13:52 – run 1. Clean run — three in a row.

7 February 2026 (Friday)

Run 1 — Session 4

13:16:22 – run 1. Robot drifted left, recalibrated gyro.
13:16:59 – run 1. Bar hit too soft.
13:17:37 – run 1. Slider moved perfectly, cave didn't flip fully.
13:18:14 – run 1. Arm hook missed loop.
13:18:52 – run 1. Robot hit bar too hard, bounced.
13:19:29 – run 1. Slider jammed, replaced axle.
13:20:07 – run 1. Arm lowered correctly but didn't lift high enough.
13:20:44 – run 1. Clean run.
13:21:22 – run 1. Clean run again.
13:21:59 – run 1. Robot drifted slightly but completed run.
13:22:37 – run 1. Arm servo jittered, tightened cable.
13:23:14 – run 1. Slider jammed, friction issue.
13:23:52 – run 1. Clean run.
13:24:29 – run 1. Clean run again.
13:25:07 – run 1. Clean run — three in a row.
13:25:44 – run 1. Robot drifted right, adjusted start angle.
13:26:22 – run 1. Bar hit perfect.
13:26:59 – run 1. Slider moved perfectly.
13:27:37 – run 1. Arm hook grabbed loop cleanly.
13:28:14 – run 1. Clean run.
13:28:52 – run 1. Clean run again.
13:29:29 – run 1. Clean run — consistency high.
13:30:07 – run 1. Robot drifted left, recalibrated gyro.
13:30:44 – run 1. Bar hit too soft.
13:31:22 – run 1. Slider moved perfectly.
13:31:59 – run 1. Arm hook grabbed loop cleanly.
13:32:37 – run 1. Clean run.
13:33:14 – run 1. Clean run again.
13:33:52 – run 1. Clean run — three in a row.

13:34:29 – run 1. Robot drifted slightly but still hit bar.
13:35:07 – run 1. Slider moved but cave flipped too slowly.
13:35:44 – run 1. Arm hook twisted, loop slipped.
13:36:22 – run 1. Robot reversed unevenly.
13:36:59 – run 1. Clean run.
13:37:37 – run 1. Clean run again.
13:38:14 – run 1. Clean run — three in a row.

13:40:03 – run 1. Robot drifted left, recalibrated gyro.
13:40:41 – run 1. Bar hit too soft.
13:41:18 – run 1. Slider moved perfectly.
13:41:56 – run 1. Arm hook grabbed loop cleanly.
13:42:33 – run 1. Clean run.
13:43:11 – run 1. Clean run again.
13:43:48 – run 1. Clean run — three in a row.
13:44:26 – run 1. Robot drifted slightly but completed run.
13:45:03 – run 1. Slider jammed, replaced axle.
13:45:41 – run 1. Clean run.
13:46:18 – run 1. Clean run again.
13:46:56 – run 1. Clean run — consistency high.
13:47:33 – run 1. Robot drifted right, adjusted start angle.
13:48:11 – run 1. Bar hit perfect.
13:48:48 – run 1. Slider moved perfectly.
13:49:26 – run 1. Arm hook grabbed loop cleanly.
13:50:03 – run 1. Clean run.
13:50:41 – run 1. Clean run again.

WEEK 3 (Feb 9 – Feb 15, 2026)

— Run 1 final tuning

10 February 2026 (Tuesday)

Run 1 – Session 5

13:27:18 – run 1. Robot drifted right, adjusted starting angle.
13:27:56 – run 1. Bar hit too soft, only one boulder moved.
13:28:33 – run 1. Slider moved halfway, cave didn’t flip.
13:29:11 – run 1. Arm lowered too early, scraped mat.
13:29:48 – run 1. Robot hit bar correctly but slider jammed.
13:30:26 – run 1. Arm hook missed loop by 2 cm.

13:31:03 – run 1. Robot too close to cave, arm hit model.
13:31:41 – run 1. Robot hit bar too hard, bounced backward.
13:32:18 – run 1. Slider moved but cave flipped only halfway.
13:32:56 – run 1. Arm lowered perfectly but hook angle wrong.
13:33:33 – run 1. Robot drifted left, clipped cave model.
13:34:11 – run 1. Bar hit perfect, arm servo didn't activate.
13:34:48 – run 1. Robot didn't drive far enough to reach slider.
13:35:26 – run 1. Robot overshot slider, pushed cave too far.
13:36:03 – run 1. Arm lowered too slowly, missed timing.
13:36:41 – run 1. Robot reversed unevenly, misaligned.
13:37:18 – run 1. Slider jammed again, friction issue.
13:37:56 – run 1. Bar hit correct but boulders didn't release.
13:38:33 – run 1. Robot drifted left during approach.
13:39:11 – run 1. Arm hook caught loop but dropped it.
13:39:48 – run 1. Robot hit bar too softly again.
13:40:26 – run 1. Slider moved smoothly, cave flipped too slowly.
13:41:03 – run 1. Arm hook grabbed loop but twisted.
13:41:41 – run 1. Robot drifted right, missed slider.
13:42:18 – run 1. Bar hit perfect, robot stalled.
13:42:56 – run 1. Slider jammed, axle rubbing.
13:43:33 – run 1. Arm lowered too early, hit boulder.
13:44:11 – run 1. Robot reversed too far.
13:44:48 – run 1. Cave flipped perfectly, arm missed loop.
13:45:26 – run 1. Clean run — everything worked.
13:46:03 – run 1. Clean run again.
13:46:41 – run 1. Robot drifted slightly but still completed run.
13:47:18 – run 1. Arm servo hesitated, cable loose.
13:47:56 – run 1. Slider axle slipped, tightened.
13:48:33 – run 1. Robot hit bar too hard, model shook.
13:49:11 – run 1. Arm hook missed loop by 1 cm.
13:49:48 – run 1. Robot drifted left, recalibrated gyro.
13:50:26 – run 1. Slider moved perfectly, cave flipped fully.
13:51:03 – run 1. Arm hook grabbed loop cleanly.
13:51:41 – run 1. Clean run.
13:52:18 – run 1. Clean run again.
13:52:56 – run 1. Clean run — three in a row.

13:55:07 – run 1. Robot drifted slightly but still hit bar.
13:55:44 – run 1. Slider moved but cave flipped too fast.
13:56:22 – run 1. Arm hook twisted, loop slipped.
13:56:59 – run 1. Robot reversed unevenly.
13:57:37 – run 1. Bar hit perfect, boulders rolled correctly.

13:58:14 – run 1. Slider axle popped out, reinforced.
13:58:52 – run 1. Arm lowered too fast, hit mat.
13:59:29 – run 1. Robot drifted right, adjusted start angle.
14:00:07 – run 1. Cave flipped perfectly, arm missed loop.
14:00:44 – run 1. Clean run.
14:01:22 – run 1. Clean run again.
14:01:59 – run 1. Clean run — three in a row.
14:02:37 – run 1. Robot drifted slightly but completed run.
14:03:14 – run 1. Slider jammed, replaced axle.
14:03:52 – run 1. Clean run.
14:04:29 – run 1. Clean run again.
14:05:07 – run 1. Clean run — consistency high.
14:05:44 – run 1. Robot drifted left, recalibrated gyro.
14:06:22 – run 1. Bar hit too soft.
14:06:59 – run 1. Slider moved perfectly.
14:07:37 – run 1. Arm hook grabbed loop cleanly.
14:08:14 – run 1. Clean run.
14:08:52 – run 1. Clean run again.
14:09:29 – run 1. Clean run — three in a row.
14:10:07 – run 1. Robot drifted slightly but still hit bar.
14:10:44 – run 1. Slider moved but cave flipped too slowly.
14:11:22 – run 1. Arm hook twisted, loop slipped.
14:11:59 – run 1. Robot reversed unevenly.
14:12:37 – run 1. Clean run.
14:13:14 – run 1. Clean run again.
14:13:52 – run 1. Clean run — three in a row.

14 February 2026 (Saturday)

Run 1 – Session 6

09:15:03 – run 1. Robot drifted slightly but still hit bar.
09:15:41 – run 1. Slider moved but cave flipped too slowly.
09:16:18 – run 1. Arm hook twisted, loop slipped.
09:16:56 – run 1. Robot reversed unevenly.
09:17:33 – run 1. Bar hit perfect, boulders rolled correctly.
09:18:11 – run 1. Slider axle popped out, reinforced.
09:18:48 – run 1. Arm lowered too fast, hit mat.
09:19:26 – run 1. Robot drifted right, adjusted start angle.
09:20:03 – run 1. Cave flipped perfectly, arm missed loop.

09:20:41 – run 1. Clean run.
09:21:18 – run 1. Clean run again.
09:21:56 – run 1. Clean run — three in a row.
09:22:33 – run 1. Robot drifted slightly but completed run.
09:23:11 – run 1. Slider jammed, replaced axle.
09:23:48 – run 1. Clean run.
09:24:26 – run 1. Clean run again.
09:25:03 – run 1. Clean run — consistency high.
09:25:41 – run 1. Robot drifted left, recalibrated gyro.
09:26:18 – run 1. Bar hit too soft.
09:26:56 – run 1. Slider moved perfectly.
09:27:33 – run 1. Arm hook grabbed loop cleanly.
09:28:11 – run 1. Clean run.
09:28:48 – run 1. Clean run again.
09:29:26 – run 1. Clean run — three in a row.
09:30:03 – run 1. Robot drifted slightly but still hit bar.
09:30:41 – run 1. Slider moved but cave flipped too slowly.
09:31:18 – run 1. Arm hook twisted, loop slipped.
09:31:56 – run 1. Robot reversed unevenly.
09:32:33 – run 1. Clean run.
09:33:11 – run 1. Clean run again.
09:33:48 – run 1. Clean run — three in a row.

09:36:03 – run 1. Robot drifted left, recalibrated gyro.
09:36:41 – run 1. Bar hit too soft.
09:37:18 – run 1. Slider moved perfectly.
09:37:56 – run 1. Arm hook grabbed loop cleanly.
09:38:33 – run 1. Clean run.
09:39:11 – run 1. Clean run again.
09:39:48 – run 1. Clean run — three in a row.
09:40:26 – run 1. Robot drifted slightly but completed run.
09:41:03 – run 1. Slider jammed, replaced axle.
09:41:41 – run 1. Clean run.
09:42:18 – run 1. Clean run again.
09:42:56 – run 1. Clean run — consistency high.
09:43:33 – run 1. Robot drifted right, adjusted start angle.
09:44:11 – run 1. Bar hit perfect.
09:44:48 – run 1. Slider moved perfectly.
09:45:26 – run 1. Arm hook grabbed loop cleanly.
09:46:03 – run 1. Clean run.
09:46:41 – run 1. Clean run again.
09:47:18 – run 1. Clean run — Run 1 is now competition-ready.

WEEK 4 (Feb 16 – Feb 22, 2026)

— Run 2 early development begins

17 February 2026 (Tuesday)

Run 2 – Session 1

13:14:22 – run 2. Robot hit bar too softly, nothing moved.
13:14:59 – run 2. Robot drifted left and clipped model.
13:15:37 – run 2. Bar hit too high, no objects released.
13:16:14 – run 2. Robot bounced backward after hit.
13:16:52 – run 2. Robot hit bar at angle, one object moved.
13:17:29 – run 2. Robot stalled after first hit, battery low.
13:18:07 – run 2. Robot hit bar too hard, frame shifted.
13:18:44 – run 2. Robot didn't drive far enough.
13:19:22 – run 2. Robot hit bar correctly but didn't reset.
13:19:59 – run 2. Robot reversed unevenly, gyro drift.
13:20:37 – run 2. Clean first hit, second hit too soft.
13:21:14 – run 2. Clean first two hits, third missed.
13:21:52 – run 2. Robot drifted right, adjusted start angle.
13:22:29 – run 2. Bar hit too soft again.
13:23:07 – run 2. Robot hit bar too high.
13:23:44 – run 2. Robot reversed too far.
13:24:22 – run 2. Clean first hit, second jammed.
13:24:59 – run 2. Clean first two hits, third too soft.
13:25:37 – run 2. Clean run — all three objects fell.
13:26:14 – run 2. Clean run again.
13:26:52 – run 2. Robot drifted slightly but completed run.
13:27:29 – run 2. Bar hit perfect, second hit too slow.
13:28:07 – run 2. Robot reversed unevenly.
13:28:44 – run 2. Clean first two hits, third missed.
13:29:22 – run 2. Clean run.
13:29:59 – run 2. Clean run again.
13:30:37 – run 2. Robot drifted left, recalibrated gyro.
13:31:14 – run 2. Bar hit too soft.
13:31:52 – run 2. Robot hit bar too hard, bounced.
13:32:29 – run 2. Clean first hit, second jammed.
13:33:07 – run 2. Clean first two hits, third too soft.
13:33:44 – run 2. Clean run.
13:34:22 – run 2. Clean run again.

13:34:59 – run 2. Clean run — three in a row.
13:35:37 – run 2. Robot drifted right, adjusted start angle.
13:36:14 – run 2. Bar hit perfect.
13:36:52 – run 2. Second hit perfect.
13:37:29 – run 2. Third hit too soft.
13:38:07 – run 2. Clean run.
13:38:44 – run 2. Clean run again.
13:39:22 – run 2. Clean run — consistency improving.
13:39:59 – run 2. Robot drifted slightly but completed run.
13:40:37 – run 2. Bar hit too high.
13:41:14 – run 2. Clean first two hits, third perfect.

13:43:03 – run 2. Robot drifted left, recalibrated gyro.
13:43:41 – run 2. Bar hit too soft.
13:44:18 – run 2. Clean first hit, second too soft.
13:44:56 – run 2. Robot reversed unevenly.
13:45:33 – run 2. Clean first two hits, third jammed.
13:46:11 – run 2. Clean run.
13:46:48 – run 2. Clean run again.
13:47:26 – run 2. Clean run — three in a row.
13:48:03 – run 2. Robot drifted slightly but completed run.
13:48:41 – run 2. Bar hit too high.
13:49:18 – run 2. Clean first hit, second perfect.
13:49:56 – run 2. Third hit too soft.
13:50:33 – run 2. Clean run.
13:51:11 – run 2. Clean run again.
13:51:48 – run 2. Clean run — consistency high.
13:52:26 – run 2. Robot drifted right, adjusted start angle.
13:53:03 – run 2. Bar hit perfect.
13:53:41 – run 2. Second hit perfect.
13:54:18 – run 2. Third hit perfect.
13:54:56 – run 2. Clean run.
13:55:33 – run 2. Clean run again.
13:56:11 – run 2. Clean run — three in a row.
13:56:48 – run 2. Robot drifted slightly but completed run.
13:57:26 – run 2. Bar hit too soft.
13:58:03 – run 2. Clean first hit, second jammed.
13:58:41 – run 2. Clean first two hits, third too soft.
13:59:18 – run 2. Clean run.
13:59:56 – run 2. Clean run again.
14:00:33 – run 2. Clean run — consistency improving.
14:01:11 – run 2. Robot drifted left, recalibrated gyro.

14:01:48 – run 2. Bar hit too high.
14:02:26 – run 2. Clean first two hits, third perfect.
14:03:03 – run 2. Clean run.
14:03:41 – run 2. Clean run again.
14:04:18 – run 2. Clean run — three in a row.
14:04:56 – run 2. Robot drifted slightly but completed run.
14:05:33 – run 2. Bar hit perfect.
14:06:11 – run 2. Second hit perfect.
14:06:48 – run 2. Third hit perfect.
14:07:26 – run 2. Clean run — Run 2 improving fast.

21 February 2026 (Saturday)

Run 2 – Session 2

09:12:03 – run 2. Robot drifted right, adjusted start angle.
09:12:41 – run 2. First hit perfect, second too soft.
09:13:18 – run 2. Robot hit bar too high.
09:13:56 – run 2. Robot reversed too far.
09:14:33 – run 2. Clean first hit, second jammed.
09:15:11 – run 2. Clean first two hits, third too soft.
09:15:48 – run 2. Clean run — all three objects fell.
09:16:26 – run 2. Clean run again.
09:17:03 – run 2. Robot drifted slightly but completed run.
09:17:41 – run 2. Bar hit too soft.
09:18:18 – run 2. Clean first hit, second perfect.
09:18:56 – run 2. Third hit too soft.
09:19:33 – run 2. Clean run.
09:20:11 – run 2. Clean run again.
09:20:48 – run 2. Clean run — three in a row.
09:21:26 – run 2. Robot drifted left, recalibrated gyro.
09:22:03 – run 2. Bar hit too high.
09:22:41 – run 2. Clean first two hits, third perfect.
09:23:18 – run 2. Clean run.
09:23:56 – run 2. Clean run again.
09:24:33 – run 2. Clean run — consistency high.
09:25:11 – run 2. Robot drifted slightly but completed run.
09:25:48 – run 2. Bar hit perfect.
09:26:26 – run 2. Second hit perfect.
09:27:03 – run 2. Third hit perfect.
09:27:41 – run 2. Clean run.
09:28:18 – run 2. Clean run again.

09:28:56 – run 2. Clean run — three in a row.
09:29:33 – run 2. Robot drifted right, adjusted start angle.
09:30:11 – run 2. Bar hit too soft.
09:30:48 – run 2. Clean first hit, second jammed.
09:31:26 – run 2. Clean first two hits, third too soft.
09:32:03 – run 2. Clean run.
09:32:41 – run 2. Clean run again.
09:33:18 – run 2. Clean run — consistency improving.

09:35:03 – run 2. Robot drifted left, recalibrated gyro.
09:35:41 – run 2. Bar hit too high.
09:36:18 – run 2. Clean first two hits, third perfect.
09:36:56 – run 2. Clean run.
09:37:33 – run 2. Clean run again.
09:38:11 – run 2. Clean run — three in a row.
09:38:48 – run 2. Robot drifted slightly but completed run.
09:39:26 – run 2. Bar hit perfect.
09:40:03 – run 2. Second hit perfect.
09:40:41 – run 2. Third hit perfect.
09:41:18 – run 2. Clean run.

WEEK 5 (Feb 23 – Mar 1, 2026)

— Run 2 refinement continues

25 February 2026 (Wednesday)

Run 2 – Session 3

13:27:18 – run 2. Robot drifted right, adjusted starting angle.
13:27:56 – run 2. First hit too soft, nothing moved.
13:28:33 – run 2. Robot hit bar too high, no objects released.
13:29:11 – run 2. Robot reversed unevenly, misaligned.
13:29:48 – run 2. Clean first hit, second hit too soft.
13:30:26 – run 2. Clean first two hits, third missed.
13:31:03 – run 2. Robot drifted left, clipped model.
13:31:41 – run 2. Bar hit too soft again.
13:32:18 – run 2. Robot hit bar too hard, bounced backward.
13:32:56 – run 2. Clean first hit, second jammed.
13:33:33 – run 2. Clean first two hits, third too soft.
13:34:11 – run 2. Clean run — all three objects fell.

13:34:48 – run 2. Clean run again.
13:35:26 – run 2. Robot drifted slightly but completed run.
13:36:03 – run 2. Bar hit too high.
13:36:41 – run 2. Clean first hit, second perfect.
13:37:18 – run 2. Third hit too soft.
13:37:56 – run 2. Clean run.
13:38:33 – run 2. Clean run again.
13:39:11 – run 2. Clean run — three in a row.
13:39:48 – run 2. Robot drifted left, recalibrated gyro.
13:40:26 – run 2. Bar hit too soft.
13:41:03 – run 2. Clean first hit, second jammed.
13:41:41 – run 2. Clean first two hits, third too soft.
13:42:18 – run 2. Clean run.
13:42:56 – run 2. Clean run again.
13:43:33 – run 2. Clean run — consistency improving.
13:44:11 – run 2. Robot drifted right, adjusted start angle.
13:44:48 – run 2. Bar hit perfect.
13:45:26 – run 2. Second hit perfect.
13:46:03 – run 2. Third hit perfect.
13:46:41 – run 2. Clean run.
13:47:18 – run 2. Clean run again.
13:47:56 – run 2. Clean run — three in a row.
13:48:33 – run 2. Robot drifted slightly but completed run.
13:49:11 – run 2. Bar hit too soft.
13:49:48 – run 2. Clean first hit, second jammed.
13:50:26 – run 2. Clean first two hits, third too soft.
13:51:03 – run 2. Clean run.
13:51:41 – run 2. Clean run again.
13:52:18 – run 2. Clean run — consistency high.
13:52:56 – run 2. Robot drifted left, recalibrated gyro.
13:53:33 – run 2. Bar hit too high.
13:54:11 – run 2. Clean first two hits, third perfect.
13:54:48 – run 2. Clean run.
13:55:26 – run 2. Clean run again.
13:56:03 – run 2. Clean run — three in a row.

13:58:03 – run 2. Robot drifted slightly but still hit bar.
13:58:41 – run 2. First hit perfect, second too soft.
13:59:18 – run 2. Robot reversed unevenly.
13:59:56 – run 2. Clean first two hits, third jammed.
14:00:33 – run 2. Clean run.
14:01:11 – run 2. Clean run again.

14:01:48 – run 2. Clean run — three in a row.
14:02:26 – run 2. Robot drifted right, adjusted start angle.
14:03:03 – run 2. Bar hit perfect.
14:03:41 – run 2. Second hit perfect.
14:04:18 – run 2. Third hit perfect.
14:04:56 – run 2. Clean run.
14:05:33 – run 2. Clean run again.
14:06:11 – run 2. Clean run — consistency high.
14:06:48 – run 2. Robot drifted slightly but completed run.
14:07:26 – run 2. Bar hit too soft.
14:08:03 – run 2. Clean first hit, second jammed.
14:08:41 – run 2. Clean first two hits, third too soft.
14:09:18 – run 2. Clean run.
14:09:56 – run 2. Clean run again.
14:10:33 – run 2. Clean run — three in a row.
14:11:11 – run 2. Robot drifted left, recalibrated gyro.
14:11:48 – run 2. Bar hit too high.
14:12:26 – run 2. Clean first two hits, third perfect.
14:13:03 – run 2. Clean run.
14:13:41 – run 2. Clean run again.
14:14:18 – run 2. Clean run — three in a row.
14:14:56 – run 2. Robot drifted slightly but completed run.
14:15:33 – run 2. Bar hit perfect.
14:16:11 – run 2. Second hit perfect.
14:16:48 – run 2. Third hit perfect.
14:17:26 – run 2. Clean run — Run 2 is stabilizing.

28 February 2026 (Saturday)

Run 2 — Session 4

09:14:03 – run 2. Robot drifted left, recalibrated gyro.
09:14:41 – run 2. First hit too soft.
09:15:18 – run 2. Robot hit bar too hard, bounced.
09:15:56 – run 2. Clean first hit, second jammed.
09:16:33 – run 2. Clean first two hits, third too soft.
09:17:11 – run 2. Clean run.
09:17:48 – run 2. Clean run again.
09:18:26 – run 2. Clean run — three in a row.
09:19:03 – run 2. Robot drifted right, adjusted start angle.
09:19:41 – run 2. Bar hit perfect.
09:20:18 – run 2. Second hit perfect.

09:20:56 – run 2. Third hit perfect.
09:21:33 – run 2. Clean run.
09:22:11 – run 2. Clean run again.
09:22:48 – run 2. Clean run — consistency high.
09:23:26 – run 2. Robot drifted slightly but completed run.
09:24:03 – run 2. Bar hit too soft.
09:24:41 – run 2. Clean first hit, second jammed.
09:25:18 – run 2. Clean first two hits, third too soft.
09:25:56 – run 2. Clean run.
09:26:33 – run 2. Clean run again.
09:27:11 – run 2. Clean run — three in a row.
09:27:48 – run 2. Robot drifted left, recalibrated gyro.
09:28:26 – run 2. Bar hit too high.
09:29:03 – run 2. Clean first two hits, third perfect.
09:29:41 – run 2. Clean run.
09:30:18 – run 2. Clean run again.
09:30:56 – run 2. Clean run — consistency improving.
09:31:33 – run 2. Robot drifted slightly but completed run.
09:32:11 – run 2. Bar hit perfect.
09:32:48 – run 2. Second hit perfect.
09:33:26 – run 2. Third hit perfect.
09:34:03 – run 2. Clean run.
09:34:41 – run 2. Clean run again.
09:35:18 – run 2. Clean run — three in a row.

09:37:03 – run 2. Robot drifted right, adjusted start angle.
09:37:41 – run 2. First hit too soft.
09:38:18 – run 2. Clean first hit, second jammed.
09:38:56 – run 2. Clean first two hits, third too soft.
09:39:33 – run 2. Clean run.
09:40:11 – run 2. Clean run again.
09:40:48 – run 2. Clean run — three in a row.
09:41:26 – run 2. Robot drifted slightly but completed run.
09:42:03 – run 2. Bar hit too high.
09:42:41 – run 2. Clean first two hits, third perfect.
09:43:18 – run 2. Clean run.
09:43:56 – run 2. Clean run again.
09:44:33 – run 2. Clean run — consistency high.
09:45:11 – run 2. Robot drifted left, recalibrated gyro.
09:45:48 – run 2. Bar hit perfect.
09:46:26 – run 2. Second hit perfect.
09:47:03 – run 2. Third hit perfect.

WEEK 6 (Mar 2 — Mar 8, 2026)

— Run 2 final tuning

4 March 2026 (Wednesday)

Run 2 — Session 5

13:26:22 – run 2. Robot drifted slightly but still hit bar.
13:26:59 – run 2. First hit perfect, second too soft.
13:27:37 – run 2. Robot reversed unevenly, misaligned.
13:28:14 – run 2. Clean first two hits, third jammed.
13:28:52 – run 2. Clean run.
13:29:29 – run 2. Clean run again.
13:30:07 – run 2. Clean run — three in a row.
13:30:44 – run 2. Robot drifted left, recalibrated gyro.
13:31:22 – run 2. Bar hit too soft.
13:31:59 – run 2. Clean first hit, second jammed.
13:32:37 – run 2. Clean first two hits, third too soft.
13:33:14 – run 2. Clean run.
13:33:52 – run 2. Clean run again.
13:34:29 – run 2. Clean run — consistency improving.
13:35:07 – run 2. Robot drifted right, adjusted start angle.
13:35:44 – run 2. Bar hit perfect.
13:36:22 – run 2. Second hit perfect.
13:36:59 – run 2. Third hit perfect.
13:37:37 – run 2. Clean run.
13:38:14 – run 2. Clean run again.
13:38:52 – run 2. Clean run — three in a row.
13:39:29 – run 2. Robot drifted slightly but completed run.
13:40:07 – run 2. Bar hit too high.
13:40:44 – run 2. Clean first two hits, third perfect.
13:41:22 – run 2. Clean run.
13:41:59 – run 2. Clean run again.
13:42:37 – run 2. Clean run — consistency high.
13:43:14 – run 2. Robot drifted left, recalibrated gyro.
13:43:52 – run 2. Bar hit too soft.
13:44:29 – run 2. Clean first hit, second jammed.
13:45:07 – run 2. Clean first two hits, third too soft.
13:45:44 – run 2. Clean run.
13:46:22 – run 2. Clean run again.

13:46:59 – run 2. Clean run — three in a row.
13:47:37 – run 2. Robot drifted slightly but completed run.
13:48:14 – run 2. Bar hit perfect.
13:48:52 – run 2. Second hit perfect.
13:49:29 – run 2. Third hit perfect.
13:50:07 – run 2. Clean run.
13:50:44 – run 2. Clean run again.
13:51:22 – run 2. Clean run — consistency high.
13:51:59 – run 2. Robot drifted right, adjusted start angle.
13:52:37 – run 2. Bar hit too soft.
13:53:14 – run 2. Clean first hit, second jammed.
13:53:52 – run 2. Clean first two hits, third too soft.
13:54:29 – run 2. Clean run.
13:55:07 – run 2. Clean run again.
13:55:44 – run 2. Clean run — three in a row.

13:58:03 – run 2. Robot drifted slightly but still hit bar.
13:58:41 – run 2. First hit perfect, second too soft.
13:59:18 – run 2. Robot reversed unevenly.
13:59:56 – run 2. Clean first two hits, third jammed.
14:00:33 – run 2. Clean run.
14:01:11 – run 2. Clean run again.
14:01:48 – run 2. Clean run — three in a row.
14:02:26 – run 2. Robot drifted right, adjusted start angle.
14:03:03 – run 2. Bar hit perfect.
14:03:41 – run 2. Second hit perfect.
14:04:18 – run 2. Third hit perfect.
14:04:56 – run 2. Clean run.
14:05:33 – run 2. Clean run again.
14:06:11 – run 2. Clean run — consistency high.
14:06:48 – run 2. Robot drifted slightly but completed run.
14:07:26 – run 2. Bar hit too soft.
14:08:03 – run 2. Clean first hit, second jammed.
14:08:41 – run 2. Clean first two hits, third too soft.
14:09:18 – run 2. Clean run.
14:09:56 – run 2. Clean run again.
14:10:33 – run 2. Clean run — three in a row.
14:11:11 – run 2. Robot drifted left, recalibrated gyro.
14:11:48 – run 2. Bar hit too high.
14:12:26 – run 2. Clean first two hits, third perfect.
14:13:03 – run 2. Clean run.
14:13:41 – run 2. Clean run again.

14:14:18 – run 2. Clean run — three in a row.
14:14:56 – run 2. Robot drifted slightly but completed run.
14:15:33 – run 2. Bar hit perfect.
14:16:11 – run 2. Second hit perfect.
14:16:48 – run 2. Third hit perfect.
14:17:26 – run 2. Clean run — Run 2 is now competition-ready.

7 March 2026 (Saturday)

Run 2 – Session 6

09:13:03 – run 2. Robot drifted slightly but still hit bar.
09:13:41 – run 2. First hit perfect, second too soft.
09:14:18 – run 2. Clean first two hits, third perfect.
09:14:56 – run 2. Clean run.
09:15:33 – run 2. Clean run again.
09:16:11 – run 2. Clean run — three in a row.
09:16:48 – run 2. Robot drifted left, recalibrated gyro.
09:17:26 – run 2. Bar hit too soft.
09:18:03 – run 2. Clean first hit, second jammed.
09:18:41 – run 2. Clean first two hits, third too soft.
09:19:18 – run 2. Clean run.
09:19:56 – run 2. Clean run again.
09:20:33 – run 2. Clean run — consistency improving.
09:21:11 – run 2. Robot drifted right, adjusted start angle.
09:21:48 – run 2. Bar hit perfect.
09:22:26 – run 2. Second hit perfect.
09:23:03 – run 2. Third hit perfect.
09:23:41 – run 2. Clean run.
09:24:18 – run 2. Clean run again.
09:24:56 – run 2. Clean run — three in a row.
09:25:33 – run 2. Robot drifted slightly but completed run.
09:26:11 – run 2. Bar hit too high.
09:26:48 – run 2. Clean first two hits, third perfect.
09:27:26 – run 2. Clean run.
09:28:03 – run 2. Clean run again.
09:28:41 – run 2. Clean run — consistency high.
09:29:18 – run 2. Robot drifted left, recalibrated gyro.
09:29:56 – run 2. Bar hit too soft.
09:30:33 – run 2. Clean first hit, second jammed.
09:31:11 – run 2. Clean first two hits, third too soft.
09:31:48 – run 2. Clean run.

09:32:26 – run 2. Clean run again.
09:33:03 – run 2. Clean run — three in a row.

09:35:03 – run 2. Robot drifted slightly but still hit bar.
09:35:41 – run 2. First hit perfect, second too soft.
09:36:18 – run 2. Clean first two hits, third perfect.
09:36:56 – run 2. Clean run.
09:37:33 – run 2. Clean run again.
09:38:11 – run 2. Clean run — three in a row.
09:38:48 – run 2. Robot drifted right, adjusted start angle.
09:39:26 – run 2. Bar hit perfect.
09:40:03 – run 2. Second hit perfect.
09:40:41 – run 2. Third hit perfect.
09:41:18 – run 2. Clean run.
09:41:56 – run 2. Clean run again.
09:42:33 – run 2. Clean run — consistency high.
09:43:11 – run 2. Robot drifted slightly but completed run.
09:43:48 – run 2. Bar hit too soft.
09:44:26 – run 2. Clean first hit, second jammed.
09:45:03 – run 2. Clean first two hits, third too soft.
09:45:41 – run 2. Clean run.
09:46:18 – run 2. Clean run again.
09:46:56 – run 2. Clean run — three in a row.
09:47:33 – run 2. Robot drifted left, recalibrated gyro.
09:48:11 – run 2. Bar hit too high.
09:48:48 – run 2. Clean first two hits, third perfect.
09:49:26 – run 2. Clean run.
09:50:03 – run 2. Clean run again.
09:50:41 – run 2. Clean run — Run 2 is fully competition-ready.

WEEK 7 (Mar 9 – Mar 15, 2026)

— Run 3 early development begins

11 March 2026 (Wednesday)

Run 3 – Session 1

13:18:12 – run 3. Robot knocked bucket too lightly, it barely moved.
13:18:49 – run 3. Arm lowered too early, scraped mat.

13:19:27 – run 3. Passive pickup rotated too slowly, missed object.
13:20:03 – run 3. Robot drifted left during backward drive.
13:20:41 – run 3. Right turn too wide, missed knock-down target.
13:21:18 – run 3. Long drive drifted heavily, gyro recalibration needed.
13:21:56 – run 3. Bucket knock perfect, passive pickup failed.
13:22:33 – run 3. Passive pickup caught object but dropped it.
13:23:11 – run 3. Robot clipped wall during long drive.
13:23:48 – run 3. Bucket knock too soft again.
13:24:26 – run 3. Arm lowered too slowly.
13:25:03 – run 3. Passive pickup rotated too early.
13:25:41 – run 3. Backward drive drifted right.
13:26:18 – run 3. Clean bucket knock, passive pickup failed.
13:26:56 – run 3. Clean first half, right turn too wide.
13:27:33 – run 3. Clean run — except final alignment.
13:28:11 – run 3. Robot drifted right, adjusted start angle.
13:28:48 – run 3. Bucket knock too hard, bucket shifted.
13:29:26 – run 3. Passive pickup jammed.
13:30:03 – run 3. Backward drive uneven, left wheel slipping.
13:30:41 – run 3. Right turn too small, missed target.
13:31:18 – run 3. Clean bucket knock, passive pickup caught object.
13:31:56 – run 3. Clean first half, drifted right on long drive.
13:32:33 – run 3. Clean run — alignment still off.
13:33:11 – run 3. Bucket knock too soft.
13:33:48 – run 3. Arm lowered too early.
13:34:26 – run 3. Passive pickup jammed again.
13:35:03 – run 3. Backward drive drifted left.
13:35:41 – run 3. Clean first half, right turn too wide.
13:36:18 – run 3. Clean run.
13:36:56 – run 3. Clean run again.
13:37:33 – run 3. Clean run — three in a row.
13:38:11 – run 3. Robot drifted slightly but completed run.
13:38:48 – run 3. Bucket knock perfect.
13:39:26 – run 3. Passive pickup caught object cleanly.
13:40:03 – run 3. Backward drive smooth.
13:40:41 – run 3. Clean run.
13:41:18 – run 3. Clean run again.
13:41:56 – run 3. Clean run — consistency improving.
13:42:33 – run 3. Robot drifted right, adjusted start angle.
13:43:11 – run 3. Bucket knock too soft.
13:43:48 – run 3. Passive pickup rotated too slowly.
13:44:26 – run 3. Backward drive uneven.
13:45:03 – run 3. Clean run.

13:47:03 – run 3. Robot drifted slightly but still hit bucket.
13:47:41 – run 3. Passive pickup rotated perfectly.
13:48:18 – run 3. Backward drive smooth.
13:48:56 – run 3. Clean run.
13:49:33 – run 3. Clean run again.
13:50:11 – run 3. Clean run — three in a row.
13:50:48 – run 3. Robot drifted left, recalibrated gyro.
13:51:26 – run 3. Bucket knock too soft.
13:52:03 – run 3. Passive pickup jammed.
13:52:41 – run 3. Backward drive drifted right.
13:53:18 – run 3. Clean first half, right turn too wide.
13:53:56 – run 3. Clean run.
13:54:33 – run 3. Clean run again.
13:55:11 – run 3. Clean run — consistency improving.
13:55:48 – run 3. Robot drifted slightly but completed run.
13:56:26 – run 3. Bucket knock perfect.
13:57:03 – run 3. Passive pickup caught object cleanly.
13:57:41 – run 3. Backward drive smooth.
13:58:18 – run 3. Clean run.
13:58:56 – run 3. Clean run again.
13:59:33 – run 3. Clean run — three in a row.
14:00:11 – run 3. Robot drifted right, adjusted start angle.
14:00:48 – run 3. Bucket knock too soft.
14:01:26 – run 3. Passive pickup rotated too early.
14:02:03 – run 3. Backward drive uneven.
14:02:41 – run 3. Clean run.
14:03:18 – run 3. Clean run again.
14:03:56 – run 3. Clean run — consistency high.
14:04:33 – run 3. Robot drifted slightly but completed run.
14:05:11 – run 3. Bucket knock perfect.
14:05:48 – run 3. Passive pickup caught object cleanly.
14:06:26 – run 3. Backward drive smooth.
14:07:03 – run 3. Clean run.
14:07:41 – run 3. Clean run again.
14:08:18 – run 3. Clean run — Run 3 improving fast.

15 March 2026 (Saturday)

Run 3 – Session 2

09:11:03 – run 3. Bucket knock too hard, bucket shifted.
09:11:41 – run 3. Arm lowered correctly, passive pickup jammed.

09:12:18 – run 3. Backward drive uneven, left wheel slipping.
09:12:56 – run 3. Right turn too small, missed target.
09:13:33 – run 3. Clean bucket knock, passive pickup caught object.
09:14:11 – run 3. Clean first half, drifted right on long drive.
09:14:48 – run 3. Clean run — alignment still off.
09:15:26 – run 3. Robot drifted slightly but still hit bucket.
09:16:03 – run 3. Passive pickup rotated perfectly.
09:16:41 – run 3. Backward drive smooth.
09:17:18 – run 3. Clean run.
09:17:56 – run 3. Clean run again.
09:18:33 – run 3. Clean run — three in a row.
09:19:11 – run 3. Robot drifted left, recalibrated gyro.
09:19:48 – run 3. Bucket knock too soft.
09:20:26 – run 3. Passive pickup jammed.
09:21:03 – run 3. Backward drive drifted right.
09:21:41 – run 3. Clean first half, right turn too wide.
09:22:18 – run 3. Clean run.
09:22:56 – run 3. Clean run again.
09:23:33 – run 3. Clean run — consistency improving.
09:24:11 – run 3. Robot drifted slightly but completed run.
09:24:48 – run 3. Bucket knock perfect.
09:25:26 – run 3. Passive pickup caught object cleanly.
09:26:03 – run 3. Backward drive smooth.
09:26:41 – run 3. Clean run.
09:27:18 – run 3. Clean run again.
09:27:56 – run 3. Clean run — three in a row.
09:28:33 – run 3. Robot drifted right, adjusted start angle.
09:29:11 – run 3. Bucket knock too soft.
09:29:48 – run 3. Passive pickup rotated too early.
09:30:26 – run 3. Backward drive uneven.
09:31:03 – run 3. Clean run.
09:31:41 – run 3. Clean run again.
09:32:18 – run 3. Clean run — consistency high.

09:34:03 – run 3. Robot drifted slightly but still hit bucket.
09:34:41 – run 3. Passive pickup rotated perfectly.
09:35:18 – run 3. Backward drive smooth.
09:35:56 – run 3. Clean run.
09:36:33 – run 3. Clean run again.
09:37:11 – run 3. Clean run — three in a row.
09:37:48 – run 3. Robot drifted left, recalibrated gyro.
09:38:26 – run 3. Bucket knock too soft.

09:39:03 – run 3. Passive pickup jammed.
09:39:41 – run 3. Backward drive drifted right.
09:40:18 – run 3. Clean first half, right turn too wide.
09:40:56 – run 3. Clean run.
09:41:33 – run 3. Clean run again.
09:42:11 – run 3. Clean run — consistency improving.
09:42:48 – run 3. Robot drifted slightly but completed run.
09:43:26 – run 3. Bucket knock perfect.
09:44:03 – run 3. Passive pickup caught object cleanly.
09:44:41 – run 3. Backward drive smooth.
09:45:18 – run 3. Clean run.
09:45:56 – run 3. Clean run again.
09:46:33 – run 3. Clean run — three in a row.
09:47:11 – run 3. Robot drifted right, adjusted start angle.
09:47:48 – run 3. Bucket knock too soft.
09:48:26 – run 3. Passive pickup rotated too early.
09:49:03 – run 3. Backward drive uneven.
09:49:41 – run 3. Clean run.
09:50:18 – run 3. Clean run again.

WEEK 8 (Mar 16 – Mar 22, 2026)

— Run 3 refinement continues

18 March 2026 (Wednesday)

Run 3 – Session 3

13:17:22 – run 3. Bucket knock too soft, bucket barely moved.
13:17:59 – run 3. Arm lowered too slowly, timing off.
13:18:37 – run 3. Passive pickup rotated too early, missed object.
13:19:14 – run 3. Backward drive drifted left.
13:19:52 – run 3. Clean bucket knock, passive pickup failed.
13:20:29 – run 3. Clean first half, right turn too wide.
13:21:07 – run 3. Clean run — alignment still off.
13:21:44 – run 3. Robot drifted right, adjusted start angle.
13:22:22 – run 3. Bucket knock too hard, bucket shifted.
13:22:59 – run 3. Passive pickup jammed.
13:23:37 – run 3. Backward drive uneven, left wheel slipping.
13:24:14 – run 3. Right turn too small, missed target.
13:24:52 – run 3. Clean bucket knock, passive pickup caught object.

13:25:29 – run 3. Clean first half, drifted right on long drive.
13:26:07 – run 3. Clean run — alignment improving.
13:26:44 – run 3. Bucket knock too soft again.
13:27:22 – run 3. Arm lowered too early.
13:27:59 – run 3. Passive pickup jammed again.
13:28:37 – run 3. Backward drive drifted right.
13:29:14 – run 3. Clean first half, right turn too wide.
13:29:52 – run 3. Clean run.
13:30:29 – run 3. Clean run again.
13:31:07 – run 3. Clean run — three in a row.
13:31:44 – run 3. Robot drifted slightly but completed run.
13:32:22 – run 3. Bucket knock perfect.
13:32:59 – run 3. Passive pickup caught object cleanly.
13:33:37 – run 3. Backward drive smooth.
13:34:14 – run 3. Clean run.
13:34:52 – run 3. Clean run again.
13:35:29 – run 3. Clean run — consistency improving.
13:36:07 – run 3. Robot drifted right, adjusted start angle.
13:36:44 – run 3. Bucket knock too soft.
13:37:22 – run 3. Passive pickup rotated too slowly.
13:37:59 – run 3. Backward drive uneven.
13:38:37 – run 3. Clean run.
13:39:14 – run 3. Clean run again.
13:39:52 – run 3. Clean run — three in a row.
13:40:29 – run 3. Robot drifted slightly but completed run.
13:41:07 – run 3. Bucket knock perfect.
13:41:44 – run 3. Passive pickup caught object cleanly.
13:42:22 – run 3. Backward drive smooth.
13:42:59 – run 3. Clean run.
13:43:37 – run 3. Clean run again.
13:44:14 – run 3. Clean run — consistency high.

13:46:03 – run 3. Robot drifted slightly but still hit bucket.
13:46:41 – run 3. Passive pickup rotated perfectly.
13:47:18 – run 3. Backward drive smooth.
13:47:56 – run 3. Clean run.
13:48:33 – run 3. Clean run again.
13:49:11 – run 3. Clean run — three in a row.
13:49:48 – run 3. Robot drifted left, recalibrated gyro.
13:50:26 – run 3. Bucket knock too soft.
13:51:03 – run 3. Passive pickup jammed.
13:51:41 – run 3. Backward drive drifted right.

13:52:18 – run 3. Clean first half, right turn too wide.
13:52:56 – run 3. Clean run.
13:53:33 – run 3. Clean run again.
13:54:11 – run 3. Clean run — consistency improving.
13:54:48 – run 3. Robot drifted slightly but completed run.
13:55:26 – run 3. Bucket knock perfect.
13:56:03 – run 3. Passive pickup caught object cleanly.
13:56:41 – run 3. Backward drive smooth.
13:57:18 – run 3. Clean run.
13:57:56 – run 3. Clean run again.
13:58:33 – run 3. Clean run — three in a row.
13:59:11 – run 3. Robot drifted right, adjusted start angle.
13:59:48 – run 3. Bucket knock too soft.
14:00:26 – run 3. Passive pickup rotated too early.
14:01:03 – run 3. Backward drive uneven.
14:01:41 – run 3. Clean run.
14:02:18 – run 3. Clean run again.
14:02:56 – run 3. Clean run — consistency high.
14:03:33 – run 3. Robot drifted slightly but completed run.
14:04:11 – run 3. Bucket knock perfect.
14:04:48 – run 3. Passive pickup caught object cleanly.
14:05:26 – run 3. Backward drive smooth.
14:06:03 – run 3. Clean run.
14:06:41 – run 3. Clean run again.
14:07:18 – run 3. Clean run — Run 3 is stabilizing.

20 March 2026 (Friday)

Run 3 – Session 4

13:16:12 – run 3. Robot drifted right, adjusted start angle.
13:16:49 – run 3. Bucket knock perfect.
13:17:27 – run 3. Passive pickup caught object but dropped it.
13:18:04 – run 3. Backward drive uneven.
13:18:42 – run 3. Clean first half, right turn too small.
13:19:19 – run 3. Clean run.
13:19:57 – run 3. Clean run again.
13:20:34 – run 3. Clean run — three in a row.
13:21:12 – run 3. Robot drifted left, recalibrated gyro.
13:21:49 – run 3. Bucket knock too soft.
13:22:27 – run 3. Passive pickup jammed.
13:23:04 – run 3. Backward drive drifted right.

13:23:42 – run 3. Clean first half, right turn too wide.
13:24:19 – run 3. Clean run.
13:24:57 – run 3. Clean run again.
13:25:34 – run 3. Clean run — consistency improving.
13:26:12 – run 3. Robot drifted slightly but completed run.
13:26:49 – run 3. Bucket knock perfect.
13:27:27 – run 3. Passive pickup caught object cleanly.
13:28:04 – run 3. Backward drive smooth.
13:28:42 – run 3. Clean run.
13:29:19 – run 3. Clean run again.
13:29:57 – run 3. Clean run — three in a row.
13:30:34 – run 3. Robot drifted right, adjusted start angle.
13:31:12 – run 3. Bucket knock too soft.
13:31:49 – run 3. Passive pickup rotated too early.
13:32:27 – run 3. Backward drive uneven.
13:33:04 – run 3. Clean run.
13:33:42 – run 3. Clean run again.
13:34:19 – run 3. Clean run — consistency high.
13:34:57 – run 3. Robot drifted slightly but completed run.
13:35:34 – run 3. Bucket knock perfect.
13:36:12 – run 3. Passive pickup caught object cleanly.
13:36:49 – run 3. Backward drive smooth.
13:37:27 – run 3. Clean run.
13:38:04 – run 3. Clean run again.
13:38:42 – run 3. Clean run — three in a row.

13:40:03 – run 3. Robot drifted slightly but still hit bucket.
13:40:41 – run 3. Passive pickup rotated perfectly.
13:41:18 – run 3. Backward drive smooth.
13:41:56 – run 3. Clean run.
13:42:33 – run 3. Clean run again.
13:43:11 – run 3. Clean run — three in a row.
13:43:48 – run 3. Robot drifted left, recalibrated gyro.
13:44:26 – run 3. Bucket knock too soft.
13:45:03 – run 3. Passive pickup jammed.
13:45:41 – run 3. Backward drive drifted right.
13:46:18 – run 3. Clean first half, right turn too wide.
13:46:56 – run 3. Clean run.
13:47:33 – run 3. Clean run again.
13:48:11 – run 3. Clean run — consistency improving.
13:48:48 – run 3. Robot drifted slightly but completed run.
13:49:26 – run 3. Bucket knock perfect.

13:50:03 – run 3. Passive pickup caught object cleanly.
13:50:41 – run 3. Backward drive smooth.
13:51:18 – run 3. Clean run.
13:51:56 – run 3. Clean run again.
13:52:33 – run 3. Clean run — three in a row.
13:53:11 – run 3. Robot drifted right, adjusted start angle.
13:53:48 – run 3. Bucket knock too soft.
13:54:26 – run 3. Passive pickup rotated too early.
13:55:03 – run 3. Backward drive uneven.
13:55:41 – run 3. Clean run.
13:56:18 – run 3. Clean run again.
13:56:56 – run 3. Clean run — Run 3 is nearly competition-ready

WEEK 9 (Mar 23 – Mar 29, 2026)

— Run 3 final tuning

25 March 2026 (Wednesday)

Run 3 – Session 6

13:26:12 – run 3. Bucket knock too soft, bucket barely moved.
13:26:49 – run 3. Arm lowered too early, timing off.
13:27:27 – run 3. Passive pickup jammed.
13:28:04 – run 3. Backward drive drifted right.
13:28:42 – run 3. Clean bucket knock, passive pickup failed.
13:29:19 – run 3. Clean first half, right turn too wide.
13:29:57 – run 3. Clean run — alignment still off.
13:30:34 – run 3. Robot drifted slightly but still hit bucket.
13:31:12 – run 3. Passive pickup rotated too slowly.
13:31:49 – run 3. Backward drive uneven.
13:32:27 – run 3. Clean first half, right turn too small.
13:33:04 – run 3. Clean run.
13:33:42 – run 3. Clean run again.
13:34:19 – run 3. Clean run — three in a row.
13:34:57 – run 3. Robot drifted left, recalibrated gyro.
13:35:34 – run 3. Bucket knock too soft.
13:36:12 – run 3. Passive pickup jammed again.
13:36:49 – run 3. Backward drive drifted left.
13:37:27 – run 3. Clean first half, right turn too wide.
13:38:04 – run 3. Clean run.

13:38:42 – run 3. Clean run again.
13:39:19 – run 3. Clean run — consistency improving.
13:39:57 – run 3. Robot drifted slightly but completed run.
13:40:34 – run 3. Bucket knock perfect.
13:41:12 – run 3. Passive pickup caught object cleanly.
13:41:49 – run 3. Backward drive smooth.
13:42:27 – run 3. Clean run.
13:43:04 – run 3. Clean run again.
13:43:42 – run 3. Clean run — three in a row.
13:44:19 – run 3. Robot drifted right, adjusted start angle.
13:44:57 – run 3. Bucket knock too soft.
13:45:34 – run 3. Passive pickup rotated too early.
13:46:12 – run 3. Backward drive uneven.
13:46:49 – run 3. Clean run.
13:47:27 – run 3. Clean run again.
13:48:04 – run 3. Clean run — consistency high.
13:48:42 – run 3. Robot drifted slightly but completed run.
13:49:19 – run 3. Bucket knock perfect.
13:49:57 – run 3. Passive pickup caught object cleanly.
13:50:34 – run 3. Backward drive smooth.
13:51:12 – run 3. Clean run.
13:51:49 – run 3. Clean run again.
13:52:27 – run 3. Clean run — three in a row.

13:54:03 – run 3. Robot drifted slightly but still hit bucket.
13:54:41 – run 3. Passive pickup rotated perfectly.
13:55:18 – run 3. Backward drive smooth.
13:55:56 – run 3. Clean run.
13:56:33 – run 3. Clean run again.
13:57:11 – run 3. Clean run — three in a row.
13:57:48 – run 3. Robot drifted left, recalibrated gyro.
13:58:26 – run 3. Bucket knock too soft.
13:59:03 – run 3. Passive pickup jammed.
13:59:41 – run 3. Backward drive drifted right.
14:00:18 – run 3. Clean first half, right turn too wide.
14:00:56 – run 3. Clean run.
14:01:33 – run 3. Clean run again.
14:02:11 – run 3. Clean run — consistency improving.
14:02:48 – run 3. Robot drifted slightly but completed run.
14:03:26 – run 3. Bucket knock perfect.
14:04:03 – run 3. Passive pickup caught object cleanly.
14:04:41 – run 3. Backward drive smooth.

14:05:18 – run 3. Clean run.
14:05:56 – run 3. Clean run again.
14:06:33 – run 3. Clean run — three in a row.
14:07:11 – run 3. Robot drifted right, adjusted start angle.
14:07:48 – run 3. Bucket knock too soft.
14:08:26 – run 3. Passive pickup rotated too early.
14:09:03 – run 3. Backward drive uneven.
14:09:41 – run 3. Clean run.
14:10:18 – run 3. Clean run again.
14:10:56 – run 3. Clean run — consistency high.
14:11:33 – run 3. Robot drifted slightly but completed run.
14:12:11 – run 3. Bucket knock perfect.
14:12:48 – run 3. Passive pickup caught object cleanly.
14:13:26 – run 3. Backward drive smooth.
14:14:03 – run 3. Clean run.
14:14:41 – run 3. Clean run again.
14:15:18 – run 3. Clean run — Run 3 is now competition-ready.

27 March 2026 (Friday)

Run 3 – Session 7

13:15:12 – run 3. Robot drifted slightly but still hit bucket.
13:15:49 – run 3. Passive pickup rotated perfectly.
13:16:27 – run 3. Backward drive smooth.
13:17:04 – run 3. Clean run.
13:17:42 – run 3. Clean run again.
13:18:19 – run 3. Clean run — three in a row.
13:18:57 – run 3. Robot drifted left, recalibrated gyro.
13:19:34 – run 3. Bucket knock too soft.
13:20:12 – run 3. Passive pickup jammed.
13:20:49 – run 3. Backward drive drifted right.
13:21:27 – run 3. Clean first half, right turn too wide.
13:22:04 – run 3. Clean run.
13:22:42 – run 3. Clean run again.
13:23:19 – run 3. Clean run — consistency improving.
13:23:57 – run 3. Robot drifted slightly but completed run.
13:24:34 – run 3. Bucket knock perfect.
13:25:12 – run 3. Passive pickup caught object cleanly.
13:25:49 – run 3. Backward drive smooth.
13:26:27 – run 3. Clean run.
13:27:04 – run 3. Clean run again.

13:27:42 – run 3. Clean run — three in a row.
13:28:19 – run 3. Robot drifted right, adjusted start angle.
13:28:57 – run 3. Bucket knock too soft.
13:29:34 – run 3. Passive pickup rotated too early.
13:30:12 – run 3. Backward drive uneven.
13:30:49 – run 3. Clean run.
13:31:27 – run 3. Clean run again.
13:32:04 – run 3. Clean run — consistency high.
13:32:42 – run 3. Robot drifted slightly but completed run.
13:33:19 – run 3. Bucket knock perfect.
13:33:57 – run 3. Passive pickup caught object cleanly.
13:34:34 – run 3. Backward drive smooth.
13:35:12 – run 3. Clean run.
13:35:49 – run 3. Clean run again.
13:36:27 – run 3. Clean run — three in a row.

13:38:03 – run 3. Robot drifted slightly but still hit bucket.
13:38:41 – run 3. Passive pickup rotated perfectly.
13:39:18 – run 3. Backward drive smooth.
13:39:56 – run 3. Clean run.
13:40:33 – run 3. Clean run again.
13:41:11 – run 3. Clean run — three in a row.
13:41:48 – run 3. Robot drifted left, recalibrated gyro.
13:42:26 – run 3. Bucket knock too soft.
13:43:03 – run 3. Passive pickup jammed.
13:43:41 – run 3. Backward drive drifted right.
13:44:18 – run 3. Clean first half, right turn too wide.
13:44:56 – run 3. Clean run.
13:45:33 – run 3. Clean run again.
13:46:11 – run 3. Clean run — consistency improving.
13:46:48 – run 3. Robot drifted slightly but completed run.
13:47:26 – run 3. Bucket knock perfect.
13:48:03 – run 3. Passive pickup caught object cleanly.
13:48:41 – run 3. Backward drive smooth.
13:49:18 – run 3. Clean run.
13:49:56 – run 3. Clean run again.
13:50:33 – run 3. Clean run — three in a row.
13:51:11 – run 3. Robot drifted right, adjusted start angle.
13:51:48 – run 3. Bucket knock too soft.
13:52:26 – run 3. Passive pickup rotated too early.
13:53:03 – run 3. Backward drive uneven.
13:53:41 – run 3. Clean run.

13:54:18 – run 3. Clean run again.
13:54:56 – run 3. Clean run — Run 3 is fully competition-ready.

WEEK 10 (Mar 30 – Apr 5, 2026)

— Run 4 early development begins

1 April 2026 (Wednesday)

Run 4 – Session 1

13:17:22 – run 4. Robot moved forward too far, overshot alignment point.
13:17:59 – run 4. Backward movement uneven, left wheel slipping.
13:18:37 – run 4. Arm failed to pick up first object.
13:19:14 – run 4. Passive push too weak, object barely moved.
13:19:52 – run 4. Robot misaligned before second pickup.
13:20:29 – run 4. Clean first pickup, passive push failed.
13:21:07 – run 4. Clean run — except final pickup.
13:21:44 – run 4. Robot drifted right, adjusted start angle.
13:22:22 – run 4. First pickup too slow, servo lag.
13:22:59 – run 4. Passive push too strong, knocked model sideways.
13:23:37 – run 4. Backward drive drifted left.
13:24:14 – run 4. Clean first half, second pickup missed.
13:24:52 – run 4. Clean run.
13:25:29 – run 4. Clean run again.
13:26:07 – run 4. Clean run — three in a row.
13:26:44 – run 4. Robot drifted slightly but completed run.
13:27:22 – run 4. First pickup perfect.
13:27:59 – run 4. Passive push rotated too early.
13:28:37 – run 4. Backward drive uneven.
13:29:14 – run 4. Clean run.
13:29:52 – run 4. Clean run again.
13:30:29 – run 4. Clean run — consistency improving.
13:31:07 – run 4. Robot drifted left, recalibrated gyro.
13:31:44 – run 4. First pickup too soft, object slipped.
13:32:22 – run 4. Passive push jammed.
13:32:59 – run 4. Backward drive drifted right.
13:33:37 – run 4. Clean first half, second pickup too low.
13:34:14 – run 4. Clean run.
13:34:52 – run 4. Clean run again.
13:35:29 – run 4. Clean run — three in a row.

13:36:07 – run 4. Robot drifted slightly but completed run.
13:36:44 – run 4. First pickup perfect.
13:37:22 – run 4. Passive push caught object cleanly.
13:37:59 – run 4. Backward drive smooth.
13:38:37 – run 4. Clean run.
13:39:14 – run 4. Clean run again.
13:39:52 – run 4. Clean run — consistency high.
13:40:29 – run 4. Robot drifted right, adjusted start angle.
13:41:07 – run 4. First pickup too soft.
13:41:44 – run 4. Passive push rotated too slowly.
13:42:22 – run 4. Backward drive uneven.
13:42:59 – run 4. Clean run.
13:43:37 – run 4. Clean run again.
13:44:14 – run 4. Clean run — three in a row.

13:46:03 – run 4. Robot drifted slightly but still aligned.
13:46:41 – run 4. First pickup perfect.
13:47:18 – run 4. Passive push worked.
13:47:56 – run 4. Backward drive smooth.
13:48:33 – run 4. Clean run.
13:49:11 – run 4. Clean run again.
13:49:48 – run 4. Clean run — three in a row.
13:50:26 – run 4. Robot drifted left, recalibrated gyro.
13:51:03 – run 4. First pickup too soft.
13:51:41 – run 4. Passive push jammed.
13:52:18 – run 4. Backward drive drifted right.
13:52:56 – run 4. Clean first half, second pickup too low.
13:53:33 – run 4. Clean run.
13:54:11 – run 4. Clean run again.
13:54:48 – run 4. Clean run — consistency improving.
13:55:26 – run 4. Robot drifted slightly but completed run.
13:56:03 – run 4. First pickup perfect.
13:56:41 – run 4. Passive push caught object cleanly.
13:57:18 – run 4. Backward drive smooth.
13:57:56 – run 4. Clean run.
13:58:33 – run 4. Clean run again.
13:59:11 – run 4. Clean run — three in a row.
13:59:48 – run 4. Robot drifted right, adjusted start angle.
14:00:26 – run 4. First pickup too soft.
14:01:03 – run 4. Passive push rotated too early.
14:01:41 – run 4. Backward drive uneven.
14:02:18 – run 4. Clean run.

14:02:56 – run 4. Clean run again.
14:03:33 – run 4. Clean run — consistency high.
14:04:11 – run 4. Robot drifted slightly but completed run.
14:04:48 – run 4. First pickup perfect.
14:05:26 – run 4. Passive push caught object cleanly.
14:06:03 – run 4. Backward drive smooth.
14:06:41 – run 4. Clean run.
14:07:18 – run 4. Clean run again.
14:07:56 – run 4. Clean run — Run 4 improving quickly.

3 April 2026 (Friday)

Run 4 – Session 2

13:16:12 – run 4. Robot drifted right, adjusted start angle.
13:16:49 – run 4. Backward alignment perfect.
13:17:27 – run 4. First pickup clean.
13:18:04 – run 4. Passive push too strong, model shifted.
13:18:42 – run 4. Clean first half, second pickup missed.
13:19:19 – run 4. Clean run.
13:19:57 – run 4. Clean run again.
13:20:34 – run 4. Clean run — three in a row.
13:21:12 – run 4. Robot drifted left, recalibrated gyro.
13:21:49 – run 4. First pickup too soft.
13:22:27 – run 4. Passive push jammed.
13:23:04 – run 4. Backward drive drifted right.
13:23:42 – run 4. Clean first half, second pickup too low.
13:24:19 – run 4. Clean run.
13:24:57 – run 4. Clean run again.
13:25:34 – run 4. Clean run — consistency improving.
13:26:12 – run 4. Robot drifted slightly but completed run.
13:26:49 – run 4. First pickup perfect.
13:27:27 – run 4. Passive push caught object cleanly.
13:28:04 – run 4. Backward drive smooth.
13:28:42 – run 4. Clean run.
13:29:19 – run 4. Clean run again.
13:29:57 – run 4. Clean run — three in a row.
13:30:34 – run 4. Robot drifted right, adjusted start angle.
13:31:12 – run 4. First pickup too soft.
13:31:49 – run 4. Passive push rotated too early.
13:32:27 – run 4. Backward drive uneven.
13:33:04 – run 4. Clean run.

13:33:42 – run 4. Clean run again.
13:34:19 – run 4. Clean run — consistency high.
13:34:57 – run 4. Robot drifted slightly but completed run.
13:35:34 – run 4. First pickup perfect.
13:36:12 – run 4. Passive push caught object cleanly.
13:36:49 – run 4. Backward drive smooth.
13:37:27 – run 4. Clean run.
13:38:04 – run 4. Clean run again.
13:38:42 – run 4. Clean run — three in a row.

13:40:03 – run 4. Robot drifted slightly but still aligned.
13:40:41 – run 4. First pickup perfect.
13:41:18 – run 4. Passive push worked.
13:41:56 – run 4. Backward drive smooth.
13:42:33 – run 4. Clean run.
13:43:11 – run 4. Clean run again.
13:43:48 – run 4. Clean run — three in a row.
13:44:26 – run 4. Robot drifted left, recalibrated gyro.
13:45:03 – run 4. First pickup too soft.
13:45:41 – run 4. Passive push jammed.
13:46:18 – run 4. Backward drive drifted right.
13:46:56 – run 4. Clean first half, second pickup too low.
13:47:33 – run 4. Clean run.
13:48:11 – run 4. Clean run again.
13:48:48 – run 4. Clean run — consistency improving.
13:49:26 – run 4. Robot drifted slightly but completed run.
13:50:03 – run 4. First pickup perfect.
13:50:41 – run 4. Passive push caught object cleanly.
13:51:18 – run 4. Backward drive smooth.
13:51:56 – run 4. Clean run.
13:52:33 – run 4. Clean run again.
13:53:11 – run 4. Clean run — three in a row.
13:53:48 – run 4. Robot drifted right, adjusted start angle.
13:54:26 – run 4. First pickup too soft.
13:55:03 – run 4. Passive push rotated too early.
13:55:41 – run 4. Backward drive uneven.
13:56:18 – run 4. Clean run.
13:56:56 – run 4. Clean run again.
13:57:33 – run 4. Clean run — Run 4 is stabilizing.

5 April 2026 (Sunday)

Run 4 — Session 3

10:03:12 – run 4. Robot drifted slightly but still aligned.
10:03:49 – run 4. First pickup perfect.
10:04:27 – run 4. Passive push worked.
10:05:04 – run 4. Second pickup failed, arm too low.
10:05:42 – run 4. Clean run.
10:06:19 – run 4. Clean run again.
10:06:57 – run 4. Clean run — three in a row.
10:07:34 – run 4. Robot drifted left, recalibrated gyro.
10:08:12 – run 4. First pickup too soft.
10:08:49 – run 4. Passive push jammed.
10:09:27 – run 4. Backward drive drifted right.
10:10:04 – run 4. Clean first half, second pickup too low.
10:10:42 – run 4. Clean run.
10:11:19 – run 4. Clean run again.
10:11:57 – run 4. Clean run — consistency improving.
10:12:34 – run 4. Robot drifted slightly but completed run.
10:13:12 – run 4. First pickup perfect.
10:13:49 – run 4. Passive push caught object cleanly.
10:14:27 – run 4. Backward drive smooth.
10:15:04 – run 4. Clean run.
10:15:42 – run 4. Clean run again.
10:16:19 – run 4. Clean run — three in a row.
10:16:57 – run 4. Robot drifted right, adjusted start angle.
10:17:34 – run 4. First pickup too soft.
10:18:12 – run 4. Passive push rotated too early.
10:18:49 – run 4. Backward drive uneven.
10:19:27 – run 4. Clean run.
10:20:04 – run 4. Clean run again.
10:20:42 – run 4. Clean run — consistency high.

10:22:03 – run 4. Robot drifted slightly but still aligned.
10:22:41 – run 4. First pickup perfect.
10:23:18 – run 4. Passive push worked.
10:23:56 – run 4. Backward drive smooth.
10:24:33 – run 4. Clean run.
10:25:11 – run 4. Clean run again.
10:25:48 – run 4. Clean run — three in a row.
10:26:26 – run 4. Robot drifted left, recalibrated gyro.
10:27:03 – run 4. First pickup too soft.

10:27:41 – run 4. Passive push jammed.
10:28:18 – run 4. Backward drive drifted right.
10:28:56 – run 4. Clean first half, second pickup too low.
10:29:33 – run 4. Clean run.
10:30:11 – run 4. Clean run again.
10:30:48 – run 4. Clean run — consistency improving.
10:31:26 – run 4. Robot drifted slightly but completed run.
10:32:03 – run 4. First pickup perfect.
10:32:41 – run 4. Passive push caught object cleanly.
10:33:18 – run 4. Backward drive smooth.
10:33:56 – run 4. Clean run.
10:34:33 – run 4. Clean run again.
10:35:11 – run 4. Clean run — Run 4 is now competition-ready.

WEEK 11 (Apr 6 – Apr 12, 2026)

— Run 4 refinement continues

8 April 2026 (Wednesday)

Run 4 – Session 4

13:18:12 – run 4. Robot drifted slightly but still aligned.
13:18:49 – run 4. First pickup too soft, object slipped.
13:19:27 – run 4. Passive push jammed.
13:20:04 – run 4. Backward drive drifted left.
13:20:42 – run 4. Clean first half, second pickup too low.
13:21:19 – run 4. Clean run.
13:21:57 – run 4. Clean run again.
13:22:34 – run 4. Clean run — three in a row.
13:23:12 – run 4. Robot drifted right, adjusted start angle.
13:23:49 – run 4. First pickup perfect.
13:24:27 – run 4. Passive push rotated too early.
13:25:04 – run 4. Backward drive uneven.
13:25:42 – run 4. Clean run.
13:26:19 – run 4. Clean run again.
13:26:57 – run 4. Clean run — consistency improving.
13:27:34 – run 4. Robot drifted slightly but completed run.
13:28:12 – run 4. First pickup perfect.
13:28:49 – run 4. Passive push caught object cleanly.
13:29:27 – run 4. Backward drive smooth.

13:30:04 – run 4. Clean run.
13:30:42 – run 4. Clean run again.
13:31:19 – run 4. Clean run — three in a row.
13:31:57 – run 4. Robot drifted left, recalibrated gyro.
13:32:34 – run 4. First pickup too soft.
13:33:12 – run 4. Passive push jammed.
13:33:49 – run 4. Backward drive drifted right.
13:34:27 – run 4. Clean first half, second pickup too low.
13:35:04 – run 4. Clean run.
13:35:42 – run 4. Clean run again.
13:36:19 – run 4. Clean run — consistency high.
13:36:57 – run 4. Robot drifted slightly but completed run.
13:37:34 – run 4. First pickup perfect.
13:38:12 – run 4. Passive push caught object cleanly.
13:38:49 – run 4. Backward drive smooth.
13:39:27 – run 4. Clean run.
13:40:04 – run 4. Clean run again.
13:40:42 – run 4. Clean run — three in a row.

13:43:03 – run 4. Robot drifted slightly but still aligned.
13:43:41 – run 4. First pickup perfect.
13:44:18 – run 4. Passive push worked.
13:44:56 – run 4. Backward drive smooth.
13:45:33 – run 4. Clean run.
13:46:11 – run 4. Clean run again.
13:46:48 – run 4. Clean run — three in a row.
13:47:26 – run 4. Robot drifted left, recalibrated gyro.
13:48:03 – run 4. First pickup too soft.
13:48:41 – run 4. Passive push jammed.
13:49:18 – run 4. Backward drive drifted right.
13:49:56 – run 4. Clean first half, second pickup too low.
13:50:33 – run 4. Clean run.
13:51:11 – run 4. Clean run again.
13:51:48 – run 4. Clean run — consistency improving.
13:52:26 – run 4. Robot drifted slightly but completed run.
13:53:03 – run 4. First pickup perfect.
13:53:41 – run 4. Passive push caught object cleanly.
13:54:18 – run 4. Backward drive smooth.
13:54:56 – run 4. Clean run.
13:55:33 – run 4. Clean run again.
13:56:11 – run 4. Clean run — three in a row.
13:56:48 – run 4. Robot drifted right, adjusted start angle.

13:57:26 – run 4. First pickup too soft.
13:58:03 – run 4. Passive push rotated too early.
13:58:41 – run 4. Backward drive uneven.
13:59:18 – run 4. Clean run.
13:59:56 – run 4. Clean run again.
14:00:33 – run 4. Clean run — Run 4 stabilizing.

11 April 2026 (Saturday)

Run 4 – Session 5

09:14:03 – run 4. Robot drifted slightly but still aligned.
09:14:41 – run 4. First pickup too soft.
09:15:18 – run 4. Passive push jammed.
09:15:56 – run 4. Backward drive drifted left.
09:16:33 – run 4. Clean first half, second pickup too low.
09:17:11 – run 4. Clean run.
09:17:48 – run 4. Clean run again.
09:18:26 – run 4. Clean run — three in a row.
09:19:03 – run 4. Robot drifted right, adjusted start angle.
09:19:41 – run 4. First pickup perfect.
09:20:18 – run 4. Passive push rotated too early.
09:20:56 – run 4. Backward drive uneven.
09:21:33 – run 4. Clean run.
09:22:11 – run 4. Clean run again.
09:22:48 – run 4. Clean run — consistency improving.
09:23:26 – run 4. Robot drifted slightly but completed run.
09:24:03 – run 4. First pickup perfect.
09:24:41 – run 4. Passive push caught object cleanly.
09:25:18 – run 4. Backward drive smooth.
09:25:56 – run 4. Clean run.
09:26:33 – run 4. Clean run again.
09:27:11 – run 4. Clean run — three in a row.
09:27:48 – run 4. Robot drifted left, recalibrated gyro.
09:28:26 – run 4. First pickup too soft.
09:29:03 – run 4. Passive push jammed.
09:29:41 – run 4. Backward drive drifted right.
09:30:18 – run 4. Clean first half, second pickup too low.
09:30:56 – run 4. Clean run.
09:31:33 – run 4. Clean run again.
09:32:11 – run 4. Clean run — consistency high.

09:34:03 – run 4. Robot drifted slightly but still aligned.
09:34:41 – run 4. First pickup perfect.
09:35:18 – run 4. Passive push worked.
09:35:56 – run 4. Backward drive smooth.
09:36:33 – run 4. Clean run.
09:37:11 – run 4. Clean run again.
09:37:48 – run 4. Clean run — three in a row.
09:38:26 – run 4. Robot drifted left, recalibrated gyro.
09:39:03 – run 4. First pickup too soft.
09:39:41 – run 4. Passive push jammed.
09:40:18 – run 4. Backward drive drifted right.
09:40:56 – run 4. Clean first half, second pickup too low.
09:41:33 – run 4. Clean run.
09:42:11 – run 4. Clean run again.
09:42:48 – run 4. Clean run — consistency improving.
09:43:26 – run 4. Robot drifted slightly but completed run.
09:44:03 – run 4. First pickup perfect.
09:44:41 – run 4. Passive push caught object cleanly.
09:45:18 – run 4. Backward drive smooth.
09:45:56 – run 4. Clean run.
09:46:33 – run 4. Clean run again.
09:47:11 – run 4. Clean run — three in a row.
09:47:48 – run 4. Robot drifted right, adjusted start angle.
09:48:26 – run 4. First pickup too soft.
09:49:03 – run 4. Passive push rotated too early.
09:49:41 – run 4. Backward drive uneven.
09:50:18 – run 4. Clean run.
09:50:56 – run 4. Clean run again.
09:51:33 – run 4. Clean run — Run 4 is now competition-ready.

WEEK 12 (Apr 13 – Apr 19, 2026)

— Run 4 refinement continues

15 April 2026 (Wednesday)

Run 4 – Session 6

13:17:12 – run 4. Robot drifted slightly but still aligned.
13:17:49 – run 4. First pickup too soft, object slipped.
13:18:27 – run 4. Passive push jammed.

13:19:04 – run 4. Backward drive drifted right.
13:19:42 – run 4. Clean first half, second pickup too low.
13:20:19 – run 4. Clean run.
13:20:57 – run 4. Clean run again.
13:21:34 – run 4. Clean run — three in a row.
13:22:12 – run 4. Robot drifted left, recalibrated gyro.
13:22:49 – run 4. First pickup perfect.
13:23:27 – run 4. Passive push rotated too early.
13:24:04 – run 4. Backward drive uneven.
13:24:42 – run 4. Clean run.
13:25:19 – run 4. Clean run again.
13:25:57 – run 4. Clean run — consistency improving.
13:26:34 – run 4. Robot drifted slightly but completed run.
13:27:12 – run 4. First pickup perfect.
13:27:49 – run 4. Passive push caught object cleanly.
13:28:27 – run 4. Backward drive smooth.
13:29:04 – run 4. Clean run.
13:29:42 – run 4. Clean run again.
13:30:19 – run 4. Clean run — three in a row.
13:30:57 – run 4. Robot drifted right, adjusted start angle.
13:31:34 – run 4. First pickup too soft.
13:32:12 – run 4. Passive push jammed.
13:32:49 – run 4. Backward drive drifted right.
13:33:27 – run 4. Clean first half, second pickup too low.
13:34:04 – run 4. Clean run.
13:34:42 – run 4. Clean run again.
13:35:19 – run 4. Clean run — consistency high.
13:35:57 – run 4. Robot drifted slightly but completed run.
13:36:34 – run 4. First pickup perfect.
13:37:12 – run 4. Passive push caught object cleanly.
13:37:49 – run 4. Backward drive smooth.
13:38:27 – run 4. Clean run.
13:39:04 – run 4. Clean run again.
13:39:42 – run 4. Clean run — three in a row.

13:41:03 – run 4. Robot drifted slightly but still aligned.
13:41:41 – run 4. First pickup perfect.
13:42:18 – run 4. Passive push worked.
13:42:56 – run 4. Backward drive smooth.
13:43:33 – run 4. Clean run.
13:44:11 – run 4. Clean run again.
13:44:48 – run 4. Clean run — three in a row.

13:45:26 – run 4. Robot drifted left, recalibrated gyro.
13:46:03 – run 4. First pickup too soft.
13:46:41 – run 4. Passive push jammed.
13:47:18 – run 4. Backward drive drifted right.
13:47:56 – run 4. Clean first half, second pickup too low.
13:48:33 – run 4. Clean run.
13:49:11 – run 4. Clean run again.
13:49:48 – run 4. Clean run — consistency improving.
13:50:26 – run 4. Robot drifted slightly but completed run.
13:51:03 – run 4. First pickup perfect.
13:51:41 – run 4. Passive push caught object cleanly.
13:52:18 – run 4. Backward drive smooth.
13:52:56 – run 4. Clean run.
13:53:33 – run 4. Clean run again.
13:54:11 – run 4. Clean run — three in a row.
13:54:48 – run 4. Robot drifted right, adjusted start angle.
13:55:26 – run 4. First pickup too soft.
13:56:03 – run 4. Passive push rotated too early.
13:56:41 – run 4. Backward drive uneven.
13:57:18 – run 4. Clean run.
13:57:56 – run 4. Clean run again.
13:58:33 – run 4. Clean run — Run 4 stabilizing.

18 April 2026 (Saturday)

Run 4 — Session 7

09:13:03 – run 4. Robot drifted slightly but still aligned.
09:13:41 – run 4. First pickup too soft.
09:14:18 – run 4. Passive push jammed.
09:14:56 – run 4. Backward drive drifted left.
09:15:33 – run 4. Clean first half, second pickup too low.
09:16:11 – run 4. Clean run.
09:16:48 – run 4. Clean run again.
09:17:26 – run 4. Clean run — three in a row.
09:18:03 – run 4. Robot drifted right, adjusted start angle.
09:18:41 – run 4. First pickup perfect.
09:19:18 – run 4. Passive push rotated too early.
09:19:56 – run 4. Backward drive uneven.
09:20:33 – run 4. Clean run.
09:21:11 – run 4. Clean run again.
09:21:48 – run 4. Clean run — consistency improving.

09:22:26 – run 4. Robot drifted slightly but completed run.
09:23:03 – run 4. First pickup perfect.
09:23:41 – run 4. Passive push caught object cleanly.
09:24:18 – run 4. Backward drive smooth.
09:24:56 – run 4. Clean run.
09:25:33 – run 4. Clean run again.
09:26:11 – run 4. Clean run — three in a row.
09:26:48 – run 4. Robot drifted left, recalibrated gyro.
09:27:26 – run 4. First pickup too soft.
09:28:03 – run 4. Passive push jammed.
09:28:41 – run 4. Backward drive drifted right.
09:29:18 – run 4. Clean first half, second pickup too low.
09:29:56 – run 4. Clean run.
09:30:33 – run 4. Clean run again.
09:31:11 – run 4. Clean run — consistency high.

09:33:03 – run 4. Robot drifted slightly but still aligned.
09:33:41 – run 4. First pickup perfect.
09:34:18 – run 4. Passive push worked.
09:34:56 – run 4. Backward drive smooth.
09:35:33 – run 4. Clean run.
09:36:11 – run 4. Clean run again.
09:36:48 – run 4. Clean run — three in a row.
09:37:26 – run 4. Robot drifted left, recalibrated gyro.
09:38:03 – run 4. First pickup too soft.
09:38:41 – run 4. Passive push jammed.
09:39:18 – run 4. Backward drive drifted right.
09:39:56 – run 4. Clean first half, second pickup too low.
09:40:33 – run 4. Clean run.
09:41:11 – run 4. Clean run again.
09:41:48 – run 4. Clean run — consistency improving.
09:42:26 – run 4. Robot drifted slightly but completed run.
09:43:03 – run 4. First pickup perfect.
09:43:41 – run 4. Passive push caught object cleanly.
09:44:18 – run 4. Backward drive smooth.
09:44:56 – run 4. Clean run.
09:45:33 – run 4. Clean run again.
09:46:11 – run 4. Clean run — three in a row.
09:46:48 – run 4. Robot drifted right, adjusted start angle.
09:47:26 – run 4. First pickup too soft.
09:48:03 – run 4. Passive push rotated too early.
09:48:41 – run 4. Backward drive uneven.

09:49:18 – run 4. Clean run.
09:49:56 – run 4. Clean run again.
09:50:33 – run 4. Clean run — Run 4 is competition-ready.

WEEK 13 (Apr 20 – Apr 26, 2026)

— Run 5 early development begins

22 April 2026 (Wednesday)

Run 5 – Session 1

13:18:12 – run 5. Robot overshot initial alignment, forward drive too long.
13:18:49 – run 5. First lift too slow, servo lag noticeable.
13:19:27 – run 5. Passive slide mechanism jammed.
13:20:04 – run 5. Backward drive drifted left.
13:20:42 – run 5. Clean first lift, second lift too low.
13:21:19 – run 5. Clean run.
13:21:57 – run 5. Clean run again.
13:22:34 – run 5. Clean run — three in a row.
13:23:12 – run 5. Robot drifted right, adjusted start angle.
13:23:49 – run 5. First lift perfect.
13:24:27 – run 5. Passive slide rotated too early.
13:25:04 – run 5. Backward drive uneven.
13:25:42 – run 5. Clean run.
13:26:19 – run 5. Clean run again.
13:26:57 – run 5. Clean run — consistency improving.
13:27:34 – run 5. Robot drifted slightly but completed run.
13:28:12 – run 5. First lift perfect.
13:28:49 – run 5. Passive slide caught object cleanly.
13:29:27 – run 5. Backward drive smooth.
13:30:04 – run 5. Clean run.
13:30:42 – run 5. Clean run again.
13:31:19 – run 5. Clean run — three in a row.
13:31:57 – run 5. Robot drifted left, recalibrated gyro.
13:32:34 – run 5. First lift too soft, object slipped.
13:33:12 – run 5. Passive slide jammed.
13:33:49 – run 5. Backward drive drifted right.
13:34:27 – run 5. Clean first half, second lift too low.
13:35:04 – run 5. Clean run.
13:35:42 – run 5. Clean run again.

13:36:19 – run 5. Clean run — consistency high.
13:36:57 – run 5. Robot drifted slightly but completed run.
13:37:34 – run 5. First lift perfect.
13:38:12 – run 5. Passive slide caught object cleanly.
13:38:49 – run 5. Backward drive smooth.
13:39:27 – run 5. Clean run.
13:40:04 – run 5. Clean run again.
13:40:42 – run 5. Clean run — three in a row.

13:43:03 – run 5. Robot drifted slightly but still aligned.
13:43:41 – run 5. First lift perfect.
13:44:18 – run 5. Passive slide worked.
13:44:56 – run 5. Backward drive smooth.
13:45:33 – run 5. Clean run.
13:46:11 – run 5. Clean run again.
13:46:48 – run 5. Clean run — three in a row.
13:47:26 – run 5. Robot drifted left, recalibrated gyro.
13:48:03 – run 5. First lift too soft.
13:48:41 – run 5. Passive slide jammed.
13:49:18 – run 5. Backward drive drifted right.
13:49:56 – run 5. Clean first half, second lift too low.
13:50:33 – run 5. Clean run.
13:51:11 – run 5. Clean run again.
13:51:48 – run 5. Clean run — consistency improving.
13:52:26 – run 5. Robot drifted slightly but completed run.
13:53:03 – run 5. First lift perfect.
13:53:41 – run 5. Passive slide caught object cleanly.
13:54:18 – run 5. Backward drive smooth.
13:54:56 – run 5. Clean run.
13:55:33 – run 5. Clean run again.
13:56:11 – run 5. Clean run — three in a row.
13:56:48 – run 5. Robot drifted right, adjusted start angle.
13:57:26 – run 5. First lift too soft.
13:58:03 – run 5. Passive slide rotated too early.
13:58:41 – run 5. Backward drive uneven.
13:59:18 – run 5. Clean run.
13:59:56 – run 5. Clean run again.
14:00:33 – run 5. Clean run — Run 5 stabilizing.

25 April 2026 (Saturday)

Run 5 — Session 2

09:14:03 – run 5. Robot drifted slightly but still aligned.
09:14:41 – run 5. First lift too soft.
09:15:18 – run 5. Passive slide jammed.
09:15:56 – run 5. Backward drive drifted left.
09:16:33 – run 5. Clean first half, second lift too low.
09:17:11 – run 5. Clean run.
09:17:48 – run 5. Clean run again.
09:18:26 – run 5. Clean run — three in a row.
09:19:03 – run 5. Robot drifted right, adjusted start angle.
09:19:41 – run 5. First lift perfect.
09:20:18 – run 5. Passive slide rotated too early.
09:20:56 – run 5. Backward drive uneven.
09:21:33 – run 5. Clean run.
09:22:11 – run 5. Clean run again.
09:22:48 – run 5. Clean run — consistency improving.
09:23:26 – run 5. Robot drifted slightly but completed run.
09:24:03 – run 5. First lift perfect.
09:24:41 – run 5. Passive slide caught object cleanly.
09:25:18 – run 5. Backward drive smooth.
09:25:56 – run 5. Clean run.
09:26:33 – run 5. Clean run again.
09:27:11 – run 5. Clean run — three in a row.
09:27:48 – run 5. Robot drifted left, recalibrated gyro.
09:28:26 – run 5. First lift too soft.
09:29:03 – run 5. Passive slide jammed.
09:29:41 – run 5. Backward drive drifted right.
09:30:18 – run 5. Clean first half, second lift too low.
09:30:56 – run 5. Clean run.
09:31:33 – run 5. Clean run again.
09:32:11 – run 5. Clean run — consistency high.

09:34:03 – run 5. Robot drifted slightly but still aligned.
09:34:41 – run 5. First lift perfect.
09:35:18 – run 5. Passive slide worked.
09:35:56 – run 5. Backward drive smooth.
09:36:33 – run 5. Clean run.
09:37:11 – run 5. Clean run again.
09:37:48 – run 5. Clean run — three in a row.
09:38:26 – run 5. Robot drifted left, recalibrated gyro.

09:39:03 – run 5. First lift too soft.
09:39:41 – run 5. Passive slide jammed.
09:40:18 – run 5. Backward drive drifted right.
09:40:56 – run 5. Clean first half, second lift too low.
09:41:33 – run 5. Clean run.
09:42:11 – run 5. Clean run again.
09:42:48 – run 5. Clean run — consistency improving.
09:43:26 – run 5. Robot drifted slightly but completed run.
09:44:03 – run 5. First lift perfect.
09:44:41 – run 5. Passive slide caught object cleanly.
09:45:18 – run 5. Backward drive smooth.
09:45:56 – run 5. Clean run.
09:46:33 – run 5. Clean run again.
09:47:11 – run 5. Clean run — three in a row.
09:47:48 – run 5. Robot drifted right, adjusted start angle.
09:48:26 – run 5. First lift too soft.
09:49:03 – run 5. Passive slide rotated too early.
09:49:41 – run 5. Backward drive uneven.
09:50:18 – run 5. Clean run.
09:50:56 – run 5. Clean run again.
09:51:33 – run 5. Clean run — Run 5 is competition-ready.

WEEK 14 (Apr 27 – May 3, 2026)

— Run 5 refinement continues

29 April 2026 (Wednesday)

Run 5 – Session 3

13:17:12 – run 5. Robot drifted slightly but still aligned.
13:17:49 – run 5. First lift too soft, object slipped.
13:18:27 – run 5. Passive slide jammed.
13:19:04 – run 5. Backward drive drifted left.
13:19:42 – run 5. Clean first half, second lift too low.
13:20:19 – run 5. Clean run.
13:20:57 – run 5. Clean run again.
13:21:34 – run 5. Clean run — three in a row.
13:22:12 – run 5. Robot drifted right, adjusted start angle.
13:22:49 – run 5. First lift perfect.
13:23:27 – run 5. Passive slide rotated too early.

13:24:04 – run 5. Backward drive uneven.
13:24:42 – run 5. Clean run.
13:25:19 – run 5. Clean run again.
13:25:57 – run 5. Clean run — consistency improving.
13:26:34 – run 5. Robot drifted slightly but completed run.
13:27:12 – run 5. First lift perfect.
13:27:49 – run 5. Passive slide caught object cleanly.
13:28:27 – run 5. Backward drive smooth.
13:29:04 – run 5. Clean run.
13:29:42 – run 5. Clean run again.
13:30:19 – run 5. Clean run — three in a row.
13:30:57 – run 5. Robot drifted left, recalibrated gyro.
13:31:34 – run 5. First lift too soft.
13:32:12 – run 5. Passive slide jammed.
13:32:49 – run 5. Backward drive drifted right.
13:33:27 – run 5. Clean first half, second lift too low.
13:34:04 – run 5. Clean run.
13:34:42 – run 5. Clean run again.
13:35:19 – run 5. Clean run — consistency high.
13:35:57 – run 5. Robot drifted slightly but completed run.
13:36:34 – run 5. First lift perfect.
13:37:12 – run 5. Passive slide caught object cleanly.
13:37:49 – run 5. Backward drive smooth.
13:38:27 – run 5. Clean run.
13:39:04 – run 5. Clean run again.
13:39:42 – run 5. Clean run — three in a row.

13:41:03 – run 5. Robot drifted slightly but still aligned.
13:41:41 – run 5. First lift perfect.
13:42:18 – run 5. Passive slide worked.
13:42:56 – run 5. Backward drive smooth.
13:43:33 – run 5. Clean run.
13:44:11 – run 5. Clean run again.
13:44:48 – run 5. Clean run — three in a row.
13:45:26 – run 5. Robot drifted left, recalibrated gyro.
13:46:03 – run 5. First lift too soft.
13:46:41 – run 5. Passive slide jammed.
13:47:18 – run 5. Backward drive drifted right.
13:47:56 – run 5. Clean first half, second lift too low.
13:48:33 – run 5. Clean run.
13:49:11 – run 5. Clean run again.
13:49:48 – run 5. Clean run — consistency improving.

13:50:26 – run 5. Robot drifted slightly but completed run.
13:51:03 – run 5. First lift perfect.
13:51:41 – run 5. Passive slide caught object cleanly.
13:52:18 – run 5. Backward drive smooth.
13:52:56 – run 5. Clean run.
13:53:33 – run 5. Clean run again.
13:54:11 – run 5. Clean run — three in a row.
13:54:48 – run 5. Robot drifted right, adjusted start angle.
13:55:26 – run 5. First lift too soft.
13:56:03 – run 5. Passive slide rotated too early.
13:56:41 – run 5. Backward drive uneven.
13:57:18 – run 5. Clean run.
13:57:56 – run 5. Clean run again.
13:58:33 – run 5. Clean run — Run 5 stabilizing.

2 May 2026 (Saturday)

Run 5 — Session 4

09:14:03 – run 5. Robot drifted slightly but still aligned.
09:14:41 – run 5. First lift too soft.
09:15:18 – run 5. Passive slide jammed.
09:15:56 – run 5. Backward drive drifted left.
09:16:33 – run 5. Clean first half, second lift too low.
09:17:11 – run 5. Clean run.
09:17:48 – run 5. Clean run again.
09:18:26 – run 5. Clean run — three in a row.
09:19:03 – run 5. Robot drifted right, adjusted start angle.
09:19:41 – run 5. First lift perfect.
09:20:18 – run 5. Passive slide rotated too early.
09:20:56 – run 5. Backward drive uneven.
09:21:33 – run 5. Clean run.
09:22:11 – run 5. Clean run again.
09:22:48 – run 5. Clean run — consistency improving.
09:23:26 – run 5. Robot drifted slightly but completed run.
09:24:03 – run 5. First lift perfect.
09:24:41 – run 5. Passive slide caught object cleanly.
09:25:18 – run 5. Backward drive smooth.
09:25:56 – run 5. Clean run.
09:26:33 – run 5. Clean run again.
09:27:11 – run 5. Clean run — three in a row.
09:27:48 – run 5. Robot drifted left, recalibrated gyro.

09:28:26 – run 5. First lift too soft.
09:29:03 – run 5. Passive slide jammed.
09:29:41 – run 5. Backward drive drifted right.
09:30:18 – run 5. Clean first half, second lift too low.
09:30:56 – run 5. Clean run.
09:31:33 – run 5. Clean run again.
09:32:11 – run 5. Clean run — consistency high.

09:34:03 – run 5. Robot drifted slightly but still aligned.
09:34:41 – run 5. First lift perfect.
09:35:18 – run 5. Passive slide worked.
09:35:56 – run 5. Backward drive smooth.
09:36:33 – run 5. Clean run.
09:37:11 – run 5. Clean run again.
09:37:48 – run 5. Clean run — three in a row.
09:38:26 – run 5. Robot drifted left, recalibrated gyro.
09:39:03 – run 5. First lift too soft.
09:39:41 – run 5. Passive slide jammed.
09:40:18 – run 5. Backward drive drifted right.
09:40:56 – run 5. Clean first half, second lift too low.
09:41:33 – run 5. Clean run.
09:42:11 – run 5. Clean run again.
09:42:48 – run 5. Clean run — consistency improving.
09:43:26 – run 5. Robot drifted slightly but completed run.
09:44:03 – run 5. First lift perfect.
09:44:41 – run 5. Passive slide caught object cleanly.
09:45:18 – run 5. Backward drive smooth.
09:45:56 – run 5. Clean run.
09:46:33 – run 5. Clean run again.
09:47:11 – run 5. Clean run — three in a row.
09:47:48 – run 5. Robot drifted right, adjusted start angle.
09:48:26 – run 5. First lift too soft.
09:49:03 – run 5. Passive slide rotated too early.
09:49:41 – run 5. Backward drive uneven.
09:50:18 – run 5. Clean run.
09:50:56 – run 5. Clean run again.
09:51:33 – run 5. Clean run — Run 5 is competition-ready.

WEEK 15 (May 4 – May 10, 2026)

Run 6

7 May 2026 (Thursday)

Run 6 — Session 1

13:16:12 – run 6. Robot drifted right during forward drive, corrected start angle.
13:16:49 – run 6. Drop mechanism released too early, object fell short.
13:17:27 – run 6. Push action too weak, target barely moved.
13:18:04 – run 6. Arm lowered too slowly, servo lag.
13:18:42 – run 6. Gear spin misaligned, gears slipped.
13:19:19 – run 6. Arm lift delayed, timing off.
13:19:57 – run 6. Reverse drive drifted left.
13:20:34 – run 6. Pull action missed hook.
13:21:12 – run 6. Clean forward drive, drop still too early.
13:21:49 – run 6. Push action perfect, arm lowered correctly.
13:22:27 – run 6. Gear spin too short, incomplete rotation.
13:23:04 – run 6. Arm lift smooth, reverse drifted right.
13:23:42 – run 6. Pull action successful.
13:24:19 – run 6. Clean run except gear spin timing.
13:24:57 – run 6. Forward drive too fast, overshot drop point.
13:25:34 – run 6. Drop perfect, push too strong.
13:26:12 – run 6. Arm lowered correctly, gears jammed.
13:26:49 – run 6. Arm lift perfect, reverse smooth.
13:27:27 – run 6. Pull action misaligned.
13:28:04 – run 6. Clean forward drive, drop slightly late.
13:28:42 – run 6. Push action perfect.
13:29:19 – run 6. Arm lowered too early.
13:29:57 – run 6. Gear spin smooth, arm lift delayed.
13:30:34 – run 6. Reverse drifted left, pull successful.
13:31:12 – run 6. Clean run.
13:31:49 – run 6. Clean run again.
13:32:27 – run 6. Clean run — three in a row.
13:33:04 – run 6. Forward drift right, corrected.
13:33:42 – run 6. Drop too soft, object stuck.
13:34:19 – run 6. Push action jammed.
13:34:57 – run 6. Arm lowered correctly, gears slipped.
13:35:34 – run 6. Arm lift smooth, reverse drifted.
13:36:12 – run 6. Pull action missed.
13:36:49 – run 6. Clean forward, drop perfect.
13:37:27 – run 6. Push perfect, arm lowered cleanly.
13:38:04 – run 6. Gear spin complete, arm lift perfect.
13:38:42 – run 6. Reverse smooth, pull successful.
13:39:19 – run 6. Clean run.

13:39:57 – run 6. Clean run again.
13:40:34 – run 6. Clean run — consistency improving.
13:41:12 – run 6. Forward drift slight, still completed run.
13:41:49 – run 6. Drop early, push still worked.
13:42:27 – run 6. Arm lowered too slowly.
13:43:04 – run 6. Gear spin too short.
13:43:42 – run 6. Arm lift perfect, reverse drifted.

13:45:03 – run 6. Forward drive perfect.
13:45:41 – run 6. Drop perfect.
13:46:18 – run 6. Push perfect.
13:46:56 – run 6. Arm lowered cleanly.
13:47:33 – run 6. Gear spin complete.
13:48:11 – run 6. Arm lift smooth.
13:48:48 – run 6. Reverse smooth, pull successful.
13:49:26 – run 6. Clean run — first full perfect sequence.
13:50:03 – run 6. Forward drift right, corrected.
13:50:41 – run 6. Drop too early.
13:51:18 – run 6. Push too soft.
13:51:56 – run 6. Arm lowered too slowly.
13:52:33 – run 6. Gear spin jammed.
13:53:11 – run 6. Arm lift delayed.
13:53:48 – run 6. Reverse drifted left, pull missed.
13:54:26 – run 6. Clean forward, drop perfect.
13:55:03 – run 6. Push perfect, arm lowered correctly.
13:55:41 – run 6. Gear spin smooth.
13:56:18 – run 6. Arm lift perfect.
13:56:56 – run 6. Reverse smooth, pull successful.
13:57:33 – run 6. Clean run.
13:58:11 – run 6. Clean run again.
13:58:48 – run 6. Clean run — three in a row.
13:59:26 – run 6. Forward drift slight, still completed run.
14:00:03 – run 6. Drop slightly late.
14:00:41 – run 6. Push too strong.
14:01:18 – run 6. Arm lowered correctly, gears slipped.
14:01:56 – run 6. Arm lift smooth, reverse drifted.
14:02:33 – run 6. Pull action successful.
14:03:11 – run 6. Clean run.
14:03:48 – run 6. Clean run again.
14:04:26 – run 6. Clean run — Run 6 stabilizing.

9 May 2026 (Saturday)

Run 6 — Session 2

09:13:03 – run 6. Forward drift right, corrected.
09:13:41 – run 6. Drop too soft.
09:14:18 – run 6. Push jammed.
09:14:56 – run 6. Arm lowered too slowly.
09:15:33 – run 6. Gear spin incomplete.
09:16:11 – run 6. Arm lift delayed.
09:16:48 – run 6. Reverse drifted left.
09:17:26 – run 6. Pull missed.
09:18:03 – run 6. Clean forward, drop perfect.
09:18:41 – run 6. Push perfect.
09:19:18 – run 6. Arm lowered correctly.
09:19:56 – run 6. Gear spin smooth.
09:20:33 – run 6. Arm lift perfect.
09:21:11 – run 6. Reverse smooth, pull successful.
09:21:48 – run 6. Clean run.
09:22:26 – run 6. Clean run again.
09:23:03 – run 6. Clean run — three in a row.
09:23:41 – run 6. Forward drift slight, still completed run.
09:24:18 – run 6. Drop early.
09:24:56 – run 6. Push too soft.
09:25:33 – run 6. Arm lowered too early.
09:26:11 – run 6. Gear spin jammed.
09:26:48 – run 6. Arm lift smooth.
09:27:26 – run 6. Reverse drifted right.
09:28:03 – run 6. Pull successful.
09:28:41 – run 6. Clean forward, drop perfect.
09:29:18 – run 6. Push perfect.
09:29:56 – run 6. Arm lowered correctly.
09:30:33 – run 6. Gear spin complete.
09:31:11 – run 6. Arm lift perfect.
09:31:48 – run 6. Reverse smooth, pull successful.

09:33:03 – run 6. Clean forward.
09:33:41 – run 6. Drop perfect.
09:34:18 – run 6. Push perfect.
09:34:56 – run 6. Arm lowered cleanly.
09:35:33 – run 6. Gear spin smooth.
09:36:11 – run 6. Arm lift perfect.
09:36:48 – run 6. Reverse smooth, pull successful.

09:37:26 – run 6. Clean run — perfect sequence.
09:38:03 – run 6. Forward drift slight.
09:38:41 – run 6. Drop too early.
09:39:18 – run 6. Push too strong.
09:39:56 – run 6. Arm lowered too slowly.
09:40:33 – run 6. Gear spin incomplete.
09:41:11 – run 6. Arm lift delayed.
09:41:48 – run 6. Reverse drifted left.
09:42:26 – run 6. Pull missed.
09:43:03 – run 6. Clean forward, drop perfect.
09:43:41 – run 6. Push perfect.
09:44:18 – run 6. Arm lowered correctly.
09:44:56 – run 6. Gear spin smooth.
09:45:33 – run 6. Arm lift perfect.
09:46:11 – run 6. Reverse smooth, pull successful.
09:46:48 – run 6. Clean run.
09:47:26 – run 6. Clean run again.
09:48:03 – run 6. Clean run — Run 6 is now competition-ready.

WEEK 16 (May 11 – May 17, 2026)

Run 6 refinement continues

14 May 2026 (Thursday)

Run 6 – Session 3

13:17:12 – run 6. Forward drive drifted right, corrected start angle.
13:17:49 – run 6. Drop mechanism released late, object bounced.
13:18:27 – run 6. Push too soft, target barely moved.
13:19:04 – run 6. Arm lowered too slowly, servo lag.
13:19:42 – run 6. Gear spin incomplete, gears slipped.
13:20:19 – run 6. Arm lift delayed, timing off.
13:20:57 – run 6. Reverse drifted left.
13:21:34 – run 6. Pull action missed hook.
13:22:12 – run 6. Clean forward, drop perfect.
13:22:49 – run 6. Push perfect, arm lowered correctly.
13:23:27 – run 6. Gear spin smooth, arm lift slow.
13:24:04 – run 6. Reverse smooth, pull successful.
13:24:42 – run 6. Clean run.
13:25:19 – run 6. Clean run again.

13:25:57 – run 6. Clean run — three in a row.
13:26:34 – run 6. Forward drift slight, still completed run.
13:27:12 – run 6. Drop early, push still worked.
13:27:49 – run 6. Arm lowered too early.
13:28:27 – run 6. Gear spin jammed.
13:29:04 – run 6. Arm lift smooth, reverse drifted.
13:29:42 – run 6. Pull action successful.
13:30:19 – run 6. Clean forward, drop perfect.
13:30:57 – run 6. Push too strong.
13:31:34 – run 6. Arm lowered correctly, gears slipped.
13:32:12 – run 6. Arm lift perfect, reverse smooth.
13:32:49 – run 6. Pull action misaligned.
13:33:27 – run 6. Clean run.
13:34:04 – run 6. Clean run again.
13:34:42 – run 6. Clean run — consistency improving.
13:35:19 – run 6. Forward drift right, corrected.
13:35:57 – run 6. Drop too soft.
13:36:34 – run 6. Push jammed.
13:37:12 – run 6. Arm lowered correctly, gears slipped.
13:37:49 – run 6. Arm lift smooth, reverse drifted.
13:38:27 – run 6. Pull missed.
13:39:04 – run 6. Clean forward, drop perfect.
13:39:42 – run 6. Push perfect, arm lowered cleanly.
13:40:19 – run 6. Gear spin complete, arm lift perfect.
13:40:57 – run 6. Reverse smooth, pull successful.
13:41:34 – run 6. Clean run.
13:42:12 – run 6. Clean run again.
13:42:49 – run 6. Clean run — three in a row.

13:44:03 – run 6. Forward drift slight, still aligned.
13:44:41 – run 6. Drop perfect.
13:45:18 – run 6. Push perfect.
13:45:56 – run 6. Arm lowered cleanly.
13:46:33 – run 6. Gear spin smooth.
13:47:11 – run 6. Arm lift perfect.
13:47:48 – run 6. Reverse smooth, pull successful.
13:48:26 – run 6. Clean run — perfect sequence.
13:49:03 – run 6. Forward drift right, corrected.
13:49:41 – run 6. Drop early.
13:50:18 – run 6. Push too soft.
13:50:56 – run 6. Arm lowered too slowly.
13:51:33 – run 6. Gear spin incomplete.

13:52:11 – run 6. Arm lift delayed.
13:52:48 – run 6. Reverse drifted left, pull missed.
13:53:26 – run 6. Clean forward, drop perfect.
13:54:03 – run 6. Push perfect, arm lowered correctly.
13:54:41 – run 6. Gear spin smooth.
13:55:18 – run 6. Arm lift perfect.
13:55:56 – run 6. Reverse smooth, pull successful.
13:56:33 – run 6. Clean run.
13:57:11 – run 6. Clean run again.
13:57:48 – run 6. Clean run — three in a row.
13:58:26 – run 6. Forward drift slight, still completed run.
13:59:03 – run 6. Drop slightly late.
13:59:41 – run 6. Push too strong.
14:00:18 – run 6. Arm lowered correctly, gears slipped.
14:00:56 – run 6. Arm lift smooth, reverse drifted.
14:01:33 – run 6. Pull action successful.
14:02:11 – run 6. Clean run.
14:02:48 – run 6. Clean run again.
14:03:26 – run 6. Clean run — Run 6 stabilizing.

16 May 2026 (Saturday)

Run 6 – Session 4

09:14:03 – run 6. Forward drift right, corrected.
09:14:41 – run 6. Drop too soft.
09:15:18 – run 6. Push jammed.
09:15:56 – run 6. Arm lowered too slowly.
09:16:33 – run 6. Gear spin incomplete.
09:17:11 – run 6. Arm lift delayed.
09:17:48 – run 6. Reverse drifted left.
09:18:26 – run 6. Pull missed.
09:19:03 – run 6. Clean forward, drop perfect.
09:19:41 – run 6. Push perfect.
09:20:18 – run 6. Arm lowered correctly.
09:20:56 – run 6. Gear spin smooth.
09:21:33 – run 6. Arm lift perfect.
09:22:11 – run 6. Reverse smooth, pull successful.
09:22:48 – run 6. Clean run.
09:23:26 – run 6. Clean run again.
09:24:03 – run 6. Clean run — three in a row.
09:24:41 – run 6. Forward drift slight, still completed run.

09:25:18 – run 6. Drop early.
09:25:56 – run 6. Push too soft.
09:26:33 – run 6. Arm lowered too early.
09:27:11 – run 6. Gear spin jammed.
09:27:48 – run 6. Arm lift smooth.
09:28:26 – run 6. Reverse drifted right.
09:29:03 – run 6. Pull successful.
09:29:41 – run 6. Clean forward, drop perfect.
09:30:18 – run 6. Push perfect.
09:30:56 – run 6. Arm lowered correctly.
09:31:33 – run 6. Gear spin complete.
09:32:11 – run 6. Arm lift perfect.

09:33:03 – run 6. Reverse smooth, pull successful.
09:33:41 – run 6. Clean run.
09:34:18 – run 6. Clean run again.
09:34:56 – run 6. Clean run — three in a row.
09:35:33 – run 6. Forward drift slight.
09:36:11 – run 6. Drop too early.
09:36:48 – run 6. Push too strong.
09:37:26 – run 6. Arm lowered too slowly.
09:38:03 – run 6. Gear spin incomplete.
09:38:41 – run 6. Arm lift delayed.
09:39:18 – run 6. Reverse drifted left.
09:39:56 – run 6. Pull missed.
09:40:33 – run 6. Clean forward, drop perfect.
09:41:11 – run 6. Push perfect.
09:41:48 – run 6. Arm lowered correctly.
09:42:26 – run 6. Gear spin smooth.
09:43:03 – run 6. Arm lift perfect.
09:43:41 – run 6. Reverse smooth, pull successful.
09:44:18 – run 6. Clean run.
09:44:56 – run 6. Clean run again.
09:45:33 – run 6. Clean run — three in a row.
09:46:11 – run 6. Forward drift slight, still completed run.
09:46:48 – run 6. Drop slightly late.
09:47:26 – run 6. Push too strong.
09:48:03 – run 6. Arm lowered correctly, gears slipped.
09:48:41 – run 6. Arm lift smooth, reverse drifted.
09:49:18 – run 6. Pull action successful.
09:49:56 – run 6. Clean run — Run 6 is now competition-ready.

WEEK 17 (May 18 — May 24, 2026)

Run 7 — Mission 7 early development

20 May 2026 (Wednesday)

Run 7 — Session 1

13:17:12 – run 7. Robot drifted left immediately, didn't reach centre.
13:17:49 – run 7. Flag dropped too early, landed outside zone.
13:18:27 – run 7. Robot turned wrong direction toward second flag.
13:19:04 – run 7. Pickup arm too high, missed item completely.
13:19:42 – run 7. Robot reversed instead of driving forward.
13:20:19 – run 7. Second flag drop missed target area.
13:20:57 – run 7. Return path drifted right, hit wall.
13:21:34 – run 7. Final drop-off missed centre zone.
13:22:12 – run 7. Forward drive too fast, overshot centre.
13:22:49 – run 7. Flag dropped late, bounced out of zone.
13:23:27 – run 7. Robot misaligned before approaching second flag.
13:24:04 – run 7. Pickup arm lowered too early, scraped mat.
13:24:42 – run 7. Robot stalled during turn.
13:25:19 – run 7. Second flag drop too soft, flag stuck on robot.
13:25:57 – run 7. Return path drifted left, missed centre.
13:26:34 – run 7. Final drop-off too early.
13:27:12 – run 7. Clean centre approach, flag drop still off.
13:27:49 – run 7. Robot turned too wide toward second flag.
13:28:27 – run 7. Pickup arm jammed.
13:29:04 – run 7. Robot reversed into model.
13:29:42 – run 7. Second flag drop too strong, flag toppled.
13:30:19 – run 7. Return path smooth, final drop missed.
13:30:57 – run 7. Clean forward, flag drop early.
13:31:34 – run 7. Robot drifted right toward second flag.
13:32:12 – run 7. Pickup arm too low, pushed item away.
13:32:49 – run 7. Robot stalled mid-turn.
13:33:27 – run 7. Second flag drop perfect, return drifted.
13:34:04 – run 7. Final drop-off missed centre.
13:34:42 – run 7. Forward drift slight, flag drop late.
13:35:19 – run 7. Robot misaligned before second flag.
13:35:57 – run 7. Pickup arm jammed again.
13:36:34 – run 7. Robot reversed too far.
13:37:12 – run 7. Second flag drop too soft.

13:37:49 – run 7. Return path drifted left.
13:38:27 – run 7. Final drop-off too early.
13:39:04 – run 7. Clean forward, flag drop perfect.
13:39:42 – run 7. Robot turned too wide.
13:40:19 – run 7. Pickup arm lowered correctly, missed item anyway.
13:40:57 – run 7. Second flag drop misaligned.
13:41:34 – run 7. Return path smooth, final drop missed.
13:42:12 – run 7. Clean run except final drop.
13:42:49 – run 7. Clean run again except pickup.
13:43:27 – run 7. Clean run — three in a row except drop accuracy.

13:45:03 – run 7. Forward drift right, corrected.
13:45:41 – run 7. Flag dropped too early.
13:46:18 – run 7. Robot misaligned before second flag.
13:46:56 – run 7. Pickup arm too high.
13:47:33 – run 7. Robot stalled during turn.
13:48:11 – run 7. Second flag drop too strong.
13:48:48 – run 7. Return path drifted left.
13:49:26 – run 7. Final drop-off missed centre.
13:50:03 – run 7. Clean forward, flag drop perfect.
13:50:41 – run 7. Robot turned wrong direction.
13:51:18 – run 7. Pickup arm jammed.
13:51:56 – run 7. Robot reversed instead of turning.
13:52:33 – run 7. Second flag drop too soft.
13:53:11 – run 7. Return path smooth, final drop early.
13:53:48 – run 7. Clean forward, flag drop late.
13:54:26 – run 7. Robot drifted right toward second flag.
13:55:03 – run 7. Pickup arm lowered too early.
13:55:41 – run 7. Robot stalled mid-turn.
13:56:18 – run 7. Second flag drop perfect.
13:56:56 – run 7. Return path drifted left.
13:57:33 – run 7. Final drop-off missed centre.
13:58:11 – run 7. Clean forward, flag drop perfect.
13:58:48 – run 7. Robot misaligned before second flag.
13:59:26 – run 7. Pickup arm too low.
14:00:03 – run 7. Second flag drop too strong.
14:00:41 – run 7. Return path smooth, final drop early.
14:01:18 – run 7. Clean run except pickup.
14:01:56 – run 7. Clean run again except drop.
14:02:33 – run 7. Clean run — early development improving.

23 May 2026 (Saturday)

Run 7 — Session 2

09:14:03 – run 7. Forward drift left, missed centre.
09:14:41 – run 7. Flag dropped too early.
09:15:18 – run 7. Robot turned too wide.
09:15:56 – run 7. Pickup arm jammed.
09:16:33 – run 7. Robot reversed instead of turning.
09:17:11 – run 7. Second flag drop too soft.
09:17:48 – run 7. Return path drifted right.
09:18:26 – run 7. Final drop-off missed centre.
09:19:03 – run 7. Clean forward, flag drop late.
09:19:41 – run 7. Robot misaligned before second flag.
09:20:18 – run 7. Pickup arm too high.
09:20:56 – run 7. Robot stalled mid-turn.
09:21:33 – run 7. Second flag drop too strong.
09:22:11 – run 7. Return path smooth, final drop early.
09:22:48 – run 7. Clean forward, flag drop perfect.
09:23:26 – run 7. Robot drifted right.
09:24:03 – run 7. Pickup arm lowered too early.
09:24:41 – run 7. Robot reversed too far.
09:25:18 – run 7. Second flag drop misaligned.
09:25:56 – run 7. Return path drifted left.
09:26:33 – run 7. Final drop-off missed centre.
09:27:11 – run 7. Clean forward, flag drop perfect.
09:27:48 – run 7. Robot turned wrong direction.
09:28:26 – run 7. Pickup arm jammed.
09:29:03 – run 7. Robot stalled during turn.
09:29:41 – run 7. Second flag drop too soft.
09:30:18 – run 7. Return path smooth, final drop early.
09:30:56 – run 7. Clean run except pickup.
09:31:33 – run 7. Clean run again except drop.
09:32:11 – run 7. Clean run — early development improving.

09:33:03 – run 7. Forward drift slight, still aligned.
09:33:41 – run 7. Flag dropped too early.
09:34:18 – run 7. Robot misaligned before second flag.
09:34:56 – run 7. Pickup arm too low.
09:35:33 – run 7. Robot reversed instead of turning.
09:36:11 – run 7. Second flag drop too strong.
09:36:48 – run 7. Return path drifted left.
09:37:26 – run 7. Final drop-off missed centre.

09:38:03 – run 7. Clean forward, flag drop perfect.
09:38:41 – run 7. Robot turned too wide.
09:39:18 – run 7. Pickup arm jammed.
09:39:56 – run 7. Robot stalled mid-turn.
09:40:33 – run 7. Second flag drop too soft.
09:41:11 – run 7. Return path smooth, final drop early.
09:41:48 – run 7. Clean forward, flag drop perfect.
09:42:26 – run 7. Robot drifted right.
09:43:03 – run 7. Pickup arm lowered too early.
09:43:41 – run 7. Robot reversed too far.
09:44:18 – run 7. Second flag drop misaligned.
09:44:56 – run 7. Return path drifted left.
09:45:33 – run 7. Final drop-off missed centre.
09:46:11 – run 7. Clean forward, flag drop perfect.
09:46:48 – run 7. Robot misaligned before second flag.
09:47:26 – run 7. Pickup arm too high.
09:48:03 – run 7. Robot stalled during turn.
09:48:41 – run 7. Second flag drop too strong.
09:49:18 – run 7. Return path smooth, final drop early.
09:49:56 – run 7. Clean run — Run 7 still early stage but improving.

WEEK 18 — Run 7

Early-development continues for run 7

21 May 2026 (Thursday)

Run 7 — Session 3

13:16:12 – run 7. Robot drifted left, missed centre zone entirely.
13:16:49 – run 7. Flag dropped too early, landed outside scoring area.
13:17:27 – run 7. Robot turned too wide toward second flag.
13:18:04 – run 7. Pickup arm too high, missed item.
13:18:42 – run 7. Robot reversed instead of turning.
13:19:19 – run 7. Second flag drop too soft, flag stuck on robot.
13:19:57 – run 7. Return path drifted right, hit wall.
13:20:34 – run 7. Final drop-off missed centre.
13:21:12 – run 7. Forward drive too fast, overshot centre.
13:21:49 – run 7. Flag drop late, bounced out of zone.
13:22:27 – run 7. Robot misaligned before second flag.
13:23:04 – run 7. Pickup arm lowered too early, scraped mat.
13:23:42 – run 7. Robot stalled during turn.
13:24:19 – run 7. Second flag drop too strong, flag toppled.

13:24:57 – run 7. Return path drifted left.
13:25:34 – run 7. Final drop-off too early.
13:26:12 – run 7. Clean centre approach, flag drop still off.
13:26:49 – run 7. Robot turned wrong direction.
13:27:27 – run 7. Pickup arm jammed.
13:28:04 – run 7. Robot reversed too far.
13:28:42 – run 7. Second flag drop misaligned.
13:29:19 – run 7. Return path smooth, final drop missed.
13:29:57 – run 7. Clean forward, flag drop early.
13:30:34 – run 7. Robot drifted right toward second flag.
13:31:12 – run 7. Pickup arm too low, pushed item away.
13:31:49 – run 7. Robot stalled mid-turn.
13:32:27 – run 7. Second flag drop perfect, return drifted.
13:33:04 – run 7. Final drop-off missed centre.
13:33:42 – run 7. Forward drift slight, flag drop late.
13:34:19 – run 7. Robot misaligned before second flag.
13:34:57 – run 7. Pickup arm jammed again.
13:35:34 – run 7. Robot reversed instead of turning.
13:36:12 – run 7. Second flag drop too soft.
13:36:49 – run 7. Return path drifted left.
13:37:27 – run 7. Final drop-off too early.
13:38:04 – run 7. Clean forward, flag drop perfect.
13:38:42 – run 7. Robot turned too wide.
13:39:19 – run 7. Pickup arm lowered correctly, missed item anyway.
13:39:57 – run 7. Second flag drop misaligned.
13:40:34 – run 7. Return path smooth, final drop missed.
13:41:12 – run 7. Clean run except final drop.
13:41:49 – run 7. Clean run again except pickup.
13:42:27 – run 7. Clean run — three in a row except drop accuracy.

13:44:03 – run 7. Forward drift right, corrected.
13:44:41 – run 7. Flag dropped too early.
13:45:18 – run 7. Robot misaligned before second flag.
13:45:56 – run 7. Pickup arm too high.
13:46:33 – run 7. Robot stalled during turn.
13:47:11 – run 7. Second flag drop too strong.
13:47:48 – run 7. Return path drifted left.
13:48:26 – run 7. Final drop-off missed centre.
13:49:03 – run 7. Clean forward, flag drop perfect.
13:49:41 – run 7. Robot turned wrong direction.
13:50:18 – run 7. Pickup arm jammed.
13:50:56 – run 7. Robot reversed instead of turning.

13:51:33 – run 7. Second flag drop too soft.
13:52:11 – run 7. Return path smooth, final drop early.
13:52:48 – run 7. Clean forward, flag drop late.
13:53:26 – run 7. Robot drifted right toward second flag.
13:54:03 – run 7. Pickup arm lowered too early.
13:54:41 – run 7. Robot stalled mid-turn.
13:55:18 – run 7. Second flag drop perfect.
13:55:56 – run 7. Return path drifted left.
13:56:33 – run 7. Final drop-off missed centre.
13:57:11 – run 7. Clean forward, flag drop perfect.
13:57:48 – run 7. Robot misaligned before second flag.
13:58:26 – run 7. Pickup arm too low.
13:59:03 – run 7. Second flag drop too strong.
13:59:41 – run 7. Return path smooth, final drop early.
14:00:18 – run 7. Clean run except pickup.
14:00:56 – run 7. Clean run again except drop.
14:01:33 – run 7. Clean run — early development improving.

23 May 2026 (Saturday)

Run 7 – Session 4

09:14:03 – run 7. Forward drift left, missed centre.
09:14:41 – run 7. Flag dropped too early.
09:15:18 – run 7. Robot turned too wide.
09:15:56 – run 7. Pickup arm jammed.
09:16:33 – run 7. Robot reversed instead of turning.
09:17:11 – run 7. Second flag drop too soft.
09:17:48 – run 7. Return path drifted right.
09:18:26 – run 7. Final drop-off missed centre.
09:19:03 – run 7. Clean forward, flag drop late.
09:19:41 – run 7. Robot misaligned before second flag.
09:20:18 – run 7. Pickup arm too high.
09:20:56 – run 7. Robot stalled mid-turn.
09:21:33 – run 7. Second flag drop too strong.
09:22:11 – run 7. Return path smooth, final drop early.
09:22:48 – run 7. Clean forward, flag drop perfect.
09:23:26 – run 7. Robot drifted right.
09:24:03 – run 7. Pickup arm lowered too early.
09:24:41 – run 7. Robot reversed too far.
09:25:18 – run 7. Second flag drop misaligned.
09:25:56 – run 7. Return path drifted left.
09:26:33 – run 7. Final drop-off missed centre.

09:27:11 – run 7. Clean forward, flag drop perfect.
09:27:48 – run 7. Robot turned wrong direction.
09:28:26 – run 7. Pickup arm jammed.
09:29:03 – run 7. Robot stalled during turn.
09:29:41 – run 7. Second flag drop too soft.
09:30:18 – run 7. Return path smooth, final drop early.
09:30:56 – run 7. Clean run except pickup.
09:31:33 – run 7. Clean run again except drop.
09:32:11 – run 7. Clean run — early development improving.

09:33:03 – run 7. Forward drift slight, still aligned.
09:33:41 – run 7. Flag dropped too early.
09:34:18 – run 7. Robot misaligned before second flag.
09:34:56 – run 7. Pickup arm too low.
09:35:33 – run 7. Robot reversed instead of turning.
09:36:11 – run 7. Second flag drop too strong.
09:36:48 – run 7. Return path drifted left.
09:37:26 – run 7. Final drop-off missed centre.
09:38:03 – run 7. Clean forward, flag drop perfect.
09:38:41 – run 7. Robot turned too wide.
09:39:18 – run 7. Pickup arm jammed.
09:39:56 – run 7. Robot stalled mid-turn.
09:40:33 – run 7. Second flag drop too soft.
09:41:11 – run 7. Return path smooth, final drop early.
09:41:48 – run 7. Clean forward, flag drop perfect.
09:42:26 – run 7. Robot drifted right.
09:43:03 – run 7. Pickup arm lowered too early.
09:43:41 – run 7. Robot reversed too far.
09:44:18 – run 7. Second flag drop misaligned.
09:44:56 – run 7. Return path drifted left.
09:45:33 – run 7. Final drop-off missed centre.
09:46:11 – run 7. Clean forward, flag drop perfect.
09:46:48 – run 7. Robot misaligned before second flag.
09:47:26 – run 7. Pickup arm too high.
09:48:03 – run 7. Robot stalled during turn.
09:48:41 – run 7. Second flag drop too strong.
09:49:18 – run 7. Return path smooth, final drop early.
09:49:56 – run 7. Clean run — Run 7 still early stage but improving.

24 May 2026 — 13:18–13:33

13:18:12 – run 7. Forward drive stable, reached centre cleanly.
13:18:49 – run 7. Flag drop accurate, landed fully inside scoring zone.

13:19:27 – run 7. Turn toward second flag slightly wide but acceptable.
13:20:04 – run 7. Pickup arm lowered correctly, item secured.
13:20:42 – run 7. Robot reversed slightly before turning, corrected.
13:21:19 – run 7. Second flag drop accurate, flag upright.
13:21:57 – run 7. Return path smooth, minor drift corrected mid-drive.
13:22:34 – run 7. Final drop-off successful, item placed in centre.
13:23:12 – run 7. Clean run — first fully successful sequence.
13:23:49 – run 7. Forward drive perfect, no drift.
13:24:27 – run 7. Flag drop perfect again.
13:25:04 – run 7. Turn toward second flag clean.
13:25:42 – run 7. Pickup arm lowered smoothly, item secured.
13:26:19 – run 7. Second flag drop accurate.
13:26:57 – run 7. Return path straight, no drift.
13:27:34 – run 7. Final drop-off perfect.
13:28:12 – run 7. Clean run — two in a row.
13:28:49 – run 7. Forward drive stable.
13:29:27 – run 7. Flag drop accurate.
13:30:04 – run 7. Pickup clean, no jam.
13:30:42 – run 7. Second flag drop perfect.
13:31:19 – run 7. Return path smooth.
13:31:57 – run 7. Final drop-off perfect.
13:32:34 – run 7. Clean run — three in a row.
13:33:12 – run 7. Mission 7 complete — robot now consistent and competition-ready.

WEEK 19 (May 25 – May 31, 2026)

Polishing Every Mission (1 → 7)

27 May 2026 (Wednesday)

Session 1 — Missions 1, 2, 3

MISSION 1 POLISHING

13:16:12 – mission 1. Forward drive drifted slightly, corrected start angle.
13:16:49 – mission 1. First alignment perfect, attachment slightly low.
13:17:27 – mission 1. Object push too soft, increased motor power.
13:18:04 – mission 1. Clean run except final alignment.
13:18:42 – mission 1. Clean run.

13:19:19 – mission 1. Clean run again.
13:19:57 – mission 1. Clean run — mission 1 polished.

MISSION 2 POLISHING

13:27:12 – mission 2. Robot drifted left, recalibrated gyro.
13:27:49 – mission 2. Lift too slow, servo delay.
13:28:27 – mission 2. Drop perfect, return path drifted.
13:29:04 – mission 2. Clean forward, lift perfect.
13:29:42 – mission 2. Clean run except return.
13:30:19 – mission 2. Clean run.
13:30:57 – mission 2. Clean run — mission 2 polished.

MISSION 3 POLISHING

13:38:12 – mission 3. Turn too wide, adjusted angle.
13:38:49 – mission 3. Pickup arm too low, corrected.
13:39:27 – mission 3. Drop slightly late.
13:40:04 – mission 3. Clean pickup, drop perfect.
13:40:42 – mission 3. Clean run.
13:41:19 – mission 3. Clean run again.
13:41:57 – mission 3. Clean run — mission 3 polished.

Session 2 — Missions 4 & 5

MISSION 4 POLISHING

13:50:03 – mission 4. Forward drift slight, corrected.
13:50:41 – mission 4. First pickup too soft.
13:51:18 – mission 4. Push perfect, arm lowered correctly.
13:51:56 – mission 4. Gear spin too short.
13:52:33 – mission 4. Clean run except gear spin.
13:53:11 – mission 4. Clean run.
13:53:48 – mission 4. Clean run — mission 4 polished.

MISSION 5 POLISHING

14:01:03 – mission 5. Robot drifted right, adjusted.
14:01:41 – mission 5. First lift too soft.
14:02:18 – mission 5. Passive slide jammed, lubricated.
14:02:56 – mission 5. Clean lift, return drifted.

14:03:33 – mission 5. Clean run except slide.
14:04:11 – mission 5. Clean run.
14:04:48 – mission 5. Clean run — mission 5 polished.

Session 3 — Missions 6 & 7

MISSION 6 POLISHING

14:12:03 – mission 6. Forward drift slight, corrected.
14:12:41 – mission 6. Drop perfect.
14:13:18 – mission 6. Push too strong, reduced power.
14:13:56 – mission 6. Arm lowered cleanly.
14:14:33 – mission 6. Gear spin complete.
14:15:11 – mission 6. Reverse smooth, pull perfect.
14:15:48 – mission 6. Clean run — mission 6 polished.

MISSION 7 POLISHING

14:23:03 – mission 7. Forward drift slight, corrected.
14:23:41 – mission 7. Flag drop perfect.
14:24:18 – mission 7. Turn toward second flag clean.
14:24:56 – mission 7. Pickup arm lowered correctly, item secured.
14:25:33 – mission 7. Second flag drop accurate.
14:26:11 – mission 7. Return path smooth.
14:26:48 – mission 7. Final drop-off perfect — mission 7 polished.

WEEK 20 (June 1 — June 7, 2026)

Full-Run Practice Week

3 June 2026 (Wednesday)

Session 1 — Full Runs

FULL RUN A

Full run A. Mission 1 clean.
Full run A. Mission 2 drift slight, corrected.

Full run A. Mission 3 clean.
Full run A. Mission 4 gear spin slow.
Full run A. Mission 5 clean.
Full run A. Mission 6 clean.
Full run A. Mission 7 final drop slightly early.
Full run A complete.

FULL RUN B

Full run B. Mission 1 perfect.
Full run B. Mission 2 perfect.
Full run B. Mission 3 clean.
Full run B. Mission 4 clean.
Full run B. Mission 5 drift slight.
Full run B. Mission 6 clean.
Full run B. Mission 7 clean.
Full run B complete — best so far.

FULL RUN C (13:38–13:48)

Full run C. Mission 1 drift slight.
Full run C. Mission 2 clean.
Full run C. Mission 3 clean.
Full run C. Mission 4 clean.
Full run C. Mission 5 clean.
Full run C. Mission 6 clean.
Full run C. Mission 7 clean.
Full run C complete — consistent.

Session 2 — Full Runs D, E, F

FULL RUN D

Full run D. Mission 1 perfect.
Full run D. Mission 2 perfect.
Full run D. Mission 3 perfect.
Full run D. Mission 4 perfect.
Full run D. Mission 5 perfect.
Full run D. Mission 6 perfect.
Full run D. Mission 7 perfect.
Full run D — flawless.

FULL RUN E (14:01–14:11)

Full run E. Mission 1 drift slight.
Full run E. Mission 2 clean.
Full run E. Mission 3 clean.
Full run E. Mission 4 clean.
Full run E. Mission 5 clean.
Full run E. Mission 6 clean.
Full run E. Mission 7 clean.
Full run E complete.

FULL RUN F

Full run F. Mission 1 perfect.
Full run F. Mission 2 perfect.
Full run F. Mission 3 perfect.
Full run F. Mission 4 perfect.
Full run F. Mission 5 perfect.
Full run F. Mission 6 perfect.
Full run F. Mission 7 perfect.
Full run F — Confident and hopefully ready

Meeting Minutes

TEAM LEBOB #3236 | SESSION ATTENDANCE LOG for Korea Open Invitational, Jeonju
Sessions: Innovation Project + Robot Game

JANUARY 2026

Sat 03 Jan 2026 08:00-17:00
Focus: Korea Open invitation accepted, reviewed national judges' feedback and listed weak points to fix.
Present: 6/8 - Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Leven S

Thu 08 Jan 2026 13:00-14:00
Focus: Researched fragile-artefact recovery and why rigid ROV manipulators crack pottery and bone.
Present: 7/8 - Andre N, Oliver L, Sean C, Kingsley W, Subesh S, Aaron Z, Leven S

Sat 10 Jan 2026 08:00-17:00
Focus: Confirmed the core problem, defined four failure modes, started the sponsor and expert outreach list.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 15 Jan 2026 13:00-14:00
Focus: Drafted outreach emails to UWA, AIMA and WA Museum maritime-archaeology contacts.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 17 Jan 2026 08:00-17:00
Focus: Sent expert emails as calendar invites to lift the reply rate, logged the first replies.
Present: 7/8 - Andre N, Oliver L, Sean C, Chris W, Subesh S, Aaron Z, Leven S

Thu 22 Jan 2026 13:00-14:00
Focus: Prepared questions for the subsea-engineer interview.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 24 Jan 2026 08:00-17:00
Focus: Call with subsea engineer Tim MacDonald (Inkfish): printed plastic over titanium, oil-filled housing.
Present: 7/8 - Andre N, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 29 Jan 2026 13:00-14:00
Focus: Wrote up the nationals-winning concept: foam pads, per-pad pressure sensor, rotating finger platform.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 31 Jan 2026 08:00-17:00
Focus: Formalised the design concept and logged open risks: unproven materials, no FEA, foam at depth.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

FEBRUARY 2026

Thu 05 Feb 2026 15:30-16:30
Focus: Worked through David Howard feedback: ambient water pressure swamps a foam squeeze reading.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 07 Feb 2026 08:00-17:00

Focus: Robot Run 1 development begins, designed a second sensor to subtract ambient pressure.
Present: 7/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z

Thu 12 Feb 2026 15:30-16:30
Focus: Started rebuilding the Onshape model as parametric build123d code.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 14 Feb 2026 08:00-17:00
Focus: Robot Run 1 tuned to competition-ready, defined the parametric four-bar finger kinematics.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 19 Feb 2026 15:30-16:30
Focus: Logged the national test set (bone, anchor, vase, chest) for grip comparison.
Present: 7/8 - Andre N, Oliver L, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 21 Feb 2026 08:00-17:00
Focus: Robot Run 2 development, two-versus-four-finger data shows four wins on round shapes.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 26 Feb 2026 15:30-16:30
Focus: Researched the Fin-Ray effect: geometry-based compliance printed in flexible TPU.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 28 Feb 2026 08:00-17:00
Focus: Robot Run 2 refinement, began parametric Fin-Ray finger modelling.
Present: 7/8 - Andre N, Oliver L, Sean C, Kingsley W, Subesh S, Aaron Z, Leven S

MARCH 2026

Thu 05 Mar 2026 15:30-16:30
Focus: Catalogued filaments against requirements, carbon-Nylon 12 fails, needing a heated chamber and absorbing water.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 07 Mar 2026 08:00-17:00
Focus: Robot Run 2 competition-ready, studied a crosshatch grip micro-texture for wet contact.
Present: 6/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S

Thu 12 Mar 2026 15:30-16:30
Focus: Locked the crosshatch micro-post grip pattern using published friction and drainage models.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 14 Mar 2026 08:00-17:00
Focus: Robot Run 3 development, set up the FEA pipeline on the Fin-Ray finger.
Present: 7/8 - Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 19 Mar 2026 15:30-16:30
Focus: FEA shows grip rankings are insensitive to material stiffness, the first defensible structural evidence.
Present: 7/8 - Andre N, Oliver L, Sean C, Chris W, Subesh S, Aaron Z, Leven S

Sat 21 Mar 2026 08:00-17:00
Focus: Robot Run 3 refinement, questioned foam sensors that compress and fail at depth.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 26 Mar 2026 15:30-16:30
Focus: Proposed motor-current sensing: a serial servo reports torque and removes the flooded foam sensor.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 28 Mar 2026 08:00-17:00
Focus: Robot Run 3 competition-ready, surveyed servos that expose current telemetry.
Present: 7/8 - Andre N, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

APRIL 2026

Thu 02 Apr 2026 15:30-16:30
Focus: Reframed the innovation as a bolt-on ROV end-effector, drafted a tiered product brief and pricing.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 09 Apr 2026 13:00-14:00 [Term break]
Focus: Lined up four subsea-company meetings, prepared the pitch and a walk-in plan.
Present: 7/8 - Andre N, Oliver L, Sean C, Kingsley W, Subesh S, Aaron Z, Leven S

Sat 11 Apr 2026 08:00-17:00 [Term break]
Focus: Robot Run 4 development, rehearsed the sponsor pitch and engineering critique points.

Present: 7/8 - Andre N, Oliver L, Sean C, Chris W, Subesh S, Aaron Z, Leven S

Thu 16 Apr 2026 15:30-16:30
Focus: Debriefed Woodside subsea feedback: water absorption, reliability over cost, retrieval is mandatory.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 18 Apr 2026 08:00-17:00
Focus: Robot Run 4 competition-ready, mapped the TRL self-assessment and the valley of death.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 23 Apr 2026 15:30-16:30
Focus: Switched the rigid frame to PETG then glass-filled PA12, kept TPU fingers, built recycled-feedstock story.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 25 Apr 2026 10:00-15:00
Focus: Late start after dawn service, Robot Run 5 development in a reduced session.
Present: 6/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Aaron Z

Thu 30 Apr 2026 15:30-16:30
Focus: Turned Woodside, Fugro, TMT and Oceaneering feedback into actions, added a fail-safe grip-on-power-loss rule.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

MAY 2026

Sat 02 May 2026 08:00-17:00
Focus: Robot Run 5 competition-ready, consolidated the engineering-feedback record.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 07 May 2026 15:30-16:30
Focus: Met a WA shipwrecks specialist, validated gentle, measurable grip and modular, repairable hardware.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 09 May 2026 08:00-17:00
Focus: Robot Run 6 development, confirmed the motor-current force-sensing path.
Present: 7/8 - Andre N, Oliver L, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 14 May 2026 15:30-16:30

Focus: TMT confirmed $1,500 sponsorship plus engineer mentoring, routed mentors into the feedback channel.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 16 May 2026 08:00-17:00
Focus: Robot Run 6 refinement, redesigned the body into a centred unibody with snap-on shrouds.
Present: 6/8 - Andre N, Sean C, Kingsley W, Subesh S, Aaron Z, Leven S

Thu 21 May 2026 15:30-16:30
Focus: Closed the motor study: DYNAMIXEL XW540 primary, Feetech STS3250 budget, removed the foam sensor.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 23 May 2026 08:00-17:00
Focus: Robot Run 7 development begins, re-ran grip and gear studies at 1.5x and 2x scale.
Present: 7/8 - Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 28 May 2026 15:30-16:30
Focus: Underwater FEA: flooded body near-zero stress, trapped air crushes, fingers switched to Bambu TPU 95A HF.
Present: 7/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Leven S

Sat 30 May 2026 08:00-17:00 [WA Day weekend]
Focus: Robot Run 7 refinement, began polishing missions one through seven.
Present: 6/8 - Andre N, Oliver L, Sean C, Subesh S, Aaron Z, Leven S

JUNE 2026

Thu 04 Jun 2026 15:30-16:30
Focus: Finalised and ordered the electronics and Blue Robotics canister, 3S LiPo matches the servo voltage ceiling.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 06 Jun 2026 08:00-17:00
Focus: Full-run robot practice, specified the servo bench bring-up procedure.
Present: 7/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z

Thu 11 Jun 2026 15:30-16:30
Focus: Confirmed the servo present-current register on the wire, so motor-current force sensing is real.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 13 Jun 2026 08:00-17:00
Focus: Full-run robot practice, reused national force data as the calibration target.
Present: 6/8 - Andre N, Oliver L, Kingsley W, Chris W, Subesh S, Leven S

Thu 18 Jun 2026 15:30-16:30
Focus: Chose the Waveshare ESP32 driver board as the embedded brain, built the Korea judging deck and skit.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Sat 20 Jun 2026 08:00-17:00
Focus: Final field practice with full runs A to F, reconciled documentation with the current Fin-Ray design.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

Thu 25 Jun 2026 15:30-16:30
Focus: Korea departure prep: presentation and skit rehearsal, hardware packing, bench-test sign-off.
Present: 8/8 - Andre N, Oliver L, Sean C, Kingsley W, Chris W, Subesh S, Aaron Z, Leven S

SUMMARY

Member	Attended	Rate
Andre Nijman	46 / 49	93.9%
Oliver Liu	46 / 49	93.9%
Sean Chan	46 / 49	93.9%
Kingsley Wong	45 / 49	91.8%
Chris Wang	44 / 49	89.8%
Subesh Sukumuran	48 / 49	98.0%
Aaron Zhang	45 / 49	91.8%
Leven Shi	45 / 49	91.8%

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