## ROBOT TOUR

 2024 Div C
## EVENT DESCRIPTION



Teams design, build, program and test one Robotic Vehicle to navigate a track to reach a target at a set amount of time as accurately and efficiently as possible

## BUILD SUMMARY

- Build an autonomous Robotic Vehicle to navigate a track
- Not Remote Controlled
- Event goals allow low cost robot kits to be competitive
- Powered by up to 6 AA or AAA batteries
- Must completely fit in a 30 cm by 30 cm space of any height
- $1 / 4$ " to $3 / 8$ " Dowel attached to front of Robotic Vehicle
- All parts must move as a whole. No tethers or separate pieces allowed.


## COMPETITION SUMMARY

- Impound Event
- Released after Impound : Track Configuration \& Target Time
- Target Time : Between 50 and 75 seconds
- Setup Time : 10 mins
- Setup Time is used to prepare and program the robot for the tournament's Track Configuration
- Testing Robot's motions is not allowed during Setup Time
- Track Time : 8 mins
- Up to 2 Successful Runs or 3 Failed Runs
- Programming changes can be made during Track Time
- Failed Runs are Run Time twice the Target Time, Robot exits the Track Area, Competitors ask current run to be marked as a Failed Run


## TRACK SUMMARY

- Track Area : $2 \mathrm{~m} \times 2 \mathrm{~m}$
- Start Point : Placed on track perimeter in center of grid
- Target Point : Placed in center of any grid
- Eight (8) wooden 2" x 4" Obstacles placed on track lines randomly by Event Supervisor
- 50 point penalty for touching any $2 \times 4$ s
- Touch penalty can only occur once
- All obstacles can be removed for a smaller point penalty ( 35 points)
- Allows teams to choose if their Robot is ready for obstacles
- Gate Zones : 50cm x 50 cm


## SCORING SUMMARY

- Team with the lowest Final Score wins
- Final Score is lowest Run Score of team's runs
- Run Score $=$ Time Score + Distance Score + Gate Bonus + Penalties
- Time Score :
- Run Time < Target Time : Time Score = (Target Time - Run Time) $\times 2$
- Run Time >= Target Time : Time Score = (Run Time - Target Time)


