

How To: Improve Your Season - Build a Kitbot

Each year AndyMark donates a basic chassis and drivetrain kit, the Kit of Parts (KoP) chassis, or “kitbot”, to every *FIRST*® Robotics Competition team. This kitbot can be built using basic tools and with just a few simple cuts. There are many reasons that the best choice for most teams is to simply build this KoP chassis.

It simply works

The kitbot chassis itself can be easily built in three configurations depending on the robot rules for any particular season. The kit includes a six-wheel drivetrain powered by four cim motors (not included) with mounting holes to attach encoders, and you can adjust your robot’s speed up or down by changing two gears.

With available chassis dimension, wheel, and gearing options, the kitbot works for the majority of teams for most games. There’s even an upgrade kit if you want to change to omni or mecanum wheels*. See the AndyMark [website](#) for options and complete instructions.

*Note that changing wheels also changes robot speed.

It’s time-tested

The kitbot has been used by thousands of *FIRST* teams for over a decade and has undergone many adjustments and improvements over the years. Chassis dimensions, wheel spacing, wheels, and gearing options have been changed or added over the years to meet the changing demands of the *FIRST* Robotics Competition.

Get your build season started

For non-rookie teams, one of the first decisions you’ll have to make every year is whether to accept this KoP chassis or opt out and receive an AndyMark voucher instead (rookie teams do not have the opt-out option). Even teams that have experience creating a custom chassis and drivetrain are often better off building the kitbot and concentrating time and effort on the rest of the robot.

A kitbot can be built by most teams in a single weekend. Rather than spending several weeks designing and building a chassis and drivetrain from scratch, you’re likely better off starting with a tried-and-true solution and dedicating your resources to the rest of your robot, programming, and drive practice.

About The Compass Alliance

The Compass Alliance was founded by 10 teams from around the world with the mission of helping *FIRST* Robotics Competition teams sustain and grow. A growing Resource Repository, and 24/7 Call Center give anyone of any skill level the tools to learn something new or learn more from anywhere in the world. Remote teams lacking mentors can sign up for a Tag Team to be their remote guide throughout the season, and Help Hubs pinpoint where to gain access to local services other *FIRST* teams offer. Hear For You provides the resources and tools to help teams and volunteers develop mental wellness on their teams and at events. You can learn more about The Compass Alliance, find quality assistance, and get involved at www.thecompassalliance.org

About This Resource

This resource was prepared by The Compass Alliance, with the support and overview of *FIRST*. If you have questions about this resource, please contact thecompassalliance@gmail.com or firstroboticscompetition@firstinspires.org.

Resource Revision History

Revision #	Revision Date	Revision Notes
1.0	Dec. 2018	Initial Release