

# TEAM 4909



Billerica Bionics

Week 4

## Robot Update

The construction of the robot is well underway and the team is making great progress! The mechanical team is finishing up CADing (Computer-Aided Design) the robot pieces. The software team has been working on various ways to code the needs of the robot. They are configuring two of the applications used to drive the robot, FRC Driver Station and Smart Dashboard. With the multitude of complex components in our robot, the team is working overtime to complete these tasks in the upcoming weeks.

As the mechanical team and software team are working, the rest of the team is building the parts for the robot and testing them. Since last week we have started assembling the gear intake, shooter, CD7 intake, and the climber. Click [here](#) to see the latest version of our climber in action. After a few malfunctions of all our prototypes, we are now confident in all of our robot components.

While we have accomplished many tasks in the first 4 weeks, the following 2 weeks will be even busier. We look forward to updating you on our progress as we get closer to the end of build season!



Assembling the Gear Box

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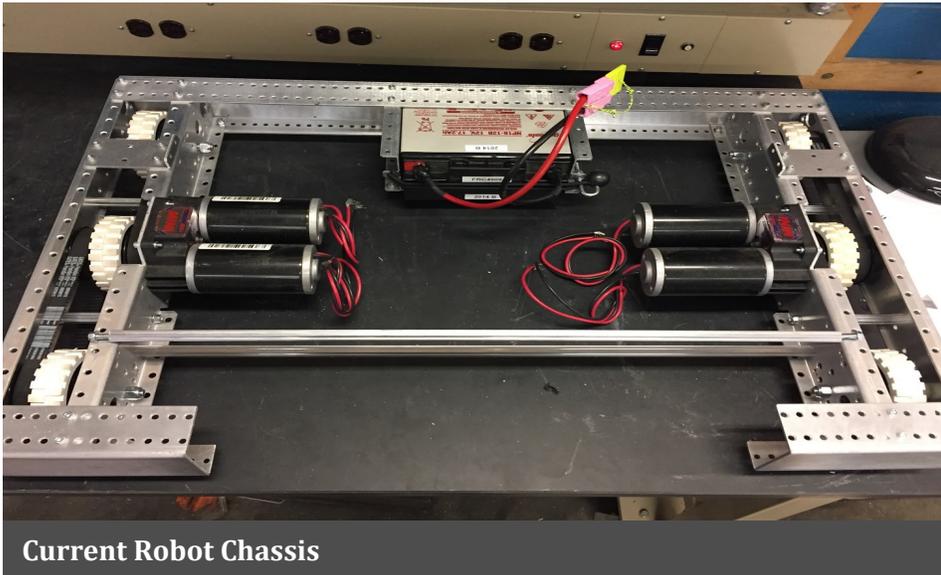
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[Game Animation](#)



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Current Robot Chassis

## Construction

Throughout this past week the team has made a lot of progress creating and designing many aspects of the robot. This includes building the chassis. A chassis is considered the skeleton of the robot which holds all the essential parts of the robot together. For our robot, it will support each of the components that we are building: the gear intake, the shooter, the CD7, the climber, and the hopper. As you can see in the photo above, it also holds the electrical components, motors and battery.

The construction of the CD7 has started this week as well. The CD7, which will attach to the front of our robot, is used to collect fuel from the field throughout the game. Since the CD7 is a complex component of our robot, the team reached out to our local Billerica sponsors to help us build these parts.

**CRM Advanced Manufacturing** is graciously allowing us to use their mechanic shop and supplies to weld the structure (*See black outlined parts on right*). Another local mechanical shop and sponsor, **Mike's Precision**, is assisting us in creating the rollers for our CD7 (*See green parts on right*). We would not be able to create these parts without the help of these companies as we currently do not have the machinery required. Team 4909 would like to thank each of these sponsors for supporting our team and donating their resources and workspace!

### Mentorship

Team 4909 is willing to **mentor any start-up FIRST Robotics Team**

If you are interested... **Contact us at our website [here](#)**

## UPCOMING EVENTS

### 2017 North Shore District Competition

3/17/2017 - 3/19/2017

Reading Memorial High School  
62 Oakland Rd  
Reading, MA 01867

### 2017 Southern NH District Competition

3/24/2017 - 3/26/2017

Bedford High School  
47 Nashua Rd  
Bedford, NH 03110



CD7 Design



## Chris Comeau (4 Year Team Member)

**Areas of Focus and Responsibilities:** Lead Programmer, Software, Drive Team

**Impact FIRST has had on him:** "FIRST has completely changed my life. It has helped me develop my technical and non-technical skills. It has shown me how a team has to function in order to accomplish goals more effectively than when being alone. FIRST has given me confidence in my leadership abilities both on and off the team."

**Favorite 4909 Moments:** To see that we got selected for the FIRST world championship in 2015 and winning the Rookie All Star Award at our very first competition in 2014.

**Plans After High School:** Pursue a computer engineering degree

**Ideal Job:** To be a software engineer, and design video games as a hobby.

**Mentor's Perspective:** "Chris has been a major contributor to the team for four years leading programming, drive team and innovative designs for our robots."



## Scott Young (3 Year Team Member)

**Areas of Focus and Responsibilities:** Programming, Mechanical, Robot Lead, Scouting App

**Impact FIRST has had on him:** "FIRST has had a huge impact on me. From the moment I joined, I immediately felt a sense of belongingness that continues to this day. Beyond the social impact, I have gained many technical and leadership skills as well as improving my ability to speak publicly. Nothing has had as large of an impact on me in high school as FIRST has, and I will be forever grateful to have been able to participate in this program."

**Favorite 4909 Moments:** The moment when we found out that we qualified for the FIRST world championship in 2015 and driving the robot for the first time in a competition.

**Plans After high school:** Pursue an engineering (aerospace) degree

**Ideal Job:** "Work at NASA or Space X to make technology that will take humans to Mars and beyond"

**Mentor's Perspective:** "Scott's strong leadership skills, embracement of new members, and collaboration with others have been driving factors of our team and exemplify FIRST's standards"



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