



Chapter 10

ROOKIE RESOURCES

From 2011 Michigan Rookie
Weekly Conference Calls



For additional chapters or for more information
visit www.teamrush27.net



Table of Contents

10.1 Call #1	12/14	Who are you? Getting Organized	199
10.2 Call #2	12/21	Pre-kickoff	203
10.3 Call #3	01/04	Kickoff	207
10.4 Call #4	01/11	Week 1: Strategy And Concepts	211
10.5 Call #5	01/18	Week 2: Design And Development	216
10.6 Call #6	01/25	Week 3: Development And Assembly	221
10.7 Call #7	02/01	Week 4: Fabrication And Assembly.	227
10.8 Call #8	02/08	Week 5: Fabrication And Assembly.	231
10.9 Call #9	02/15	Week 6: Testing And Validation – Home Stretch . .	236
10.10 Call #10	02/23	Ship Day. Now What?	240
10.11 Call #11	03/01	Going into Competition.	243
10.12 Call #12	03/08	Competition.	245
10.13 Call #13	03/15	Gentle Reminders	247

ROOKIE CONFERENCE CALL #1

NOTES



Tuesday, December 14, 2010, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3772, 3767, 3706, 3620, 3534, 3667, 3656, 3750, 3602, 3632, 3657, 3546, 3532, 3252, 3640, Pam (*FIRST in Michigan*)

CONFERENCE CALL NOTES:

AS A TEAM, YOU NEED TO KNOW ...

- Your Team Number
 - (should be a 4 digit number – designated by FIRST)
 - always put this in emails to FIRST or FIRST in Michigan
- Your Team Name
 - Decided by you
 - Ex: your High School, or something that you come up with
- Your Sponsors
 - Make sure you get logos (high quality ones from your sponsors)
 - Use them on your shirts
 - Deadline to submit sponsors for the program

MEETING LOCATION AND SCHEDULE

- Make sure you have access to the building on evenings and weekends, too
- Where are you building?
 - School
 - Know what your school hours are
 - Get keys or access codes as needed
 - Ask for extended liability insurance if you will be there after hours
 - Company
 - A garage is fine
- Have a snow day plan!
 - Know your school's policy on holding meetings when school is cancelled
 - Have a phone tree or e-mail list serve to notify people if a meeting is cancelled
- Examples of calendars (reminder – these are veteran teams – don't panic):
 - www.Team2337.com/calendar
 - www.teamrush27.net/calendar.html



SCHOOL TASK LIST:

- Purchasing –
 - Usually after hours or on weekends
 - You will need to buy a LOT of stuff
 - Could you get a school purchasing card?
 - What is the reimbursement policy?
 - Can you get open PO's?
 - Personal Credit card, if your district won't give you a credit card
- Shipping
 - Where are the packages delivered to your meeting facility?
 - School office?
 - Off-site facility
 - Make sure you have open communication with the staff!
- Safety glasses (NOT goggles) –
 - EVERYONE needs them!
 - Label every pair with students' names
 - Create a place to store safety glasses at your meeting location
 - You will need them for competitions, too
 - either get a donation from a local company
 - or purchase from Home Depot, etc.
 - Start wearing your safety glasses NOW! It's a great habit to get into.
- Mentor background check
 - May be required by your school
 - Cost may be covered by school
- School permission process
 - Sit down with an administrator or teacher at your school and find out what the policy is
 - Permission to go anywhere
 - Daytime field trips
 - Overnight field trips
 - Weekend field trips
 - Parent permission slips for travel
 - Transportation for private vehicle permission slip – do you need this?
 - Can school buses be provided?
 - Medical emergency form

KICKOFF – EXPLANATION (ADD ATTACHMENT – MORE DETAIL ON KICKOFF)

- Fill out FIRST in Michigan Consent Release form (needed to attend Kickoff)
 - If you filled this out prior to December 10, 2010 at noon, you will need to re-submit the form



Chapter 10: Rookie Resources

NOTES

- Time:
 - Kickoff Video: 10:30am EST
- Send at least 2 people to the kick-off to get your kit
 - You will be given a couple of plastic totes with lots of “stuff” to build a robot
 - Bring a dolly, sometimes the totes are heavy!
- Think about reserving a classroom at your kickoff location
 - Talk about the game
 - Talk about strategy
- Some teams are hosting sessions the day of kickoff, consider attending these
 - Contact Bob Nichols at Kettering University
- If team decides not to choose to go, have a back-up plan
 - If you are watching at your school, are they open on Saturday to watch the NASA Channel?
 - Is there a restaurant that would tap into NASA Channel?
- Download the team manual from usfirst.org before the kickoff

TEAM COMMUNICATION

- Do what works for your team specifically!
 - Google Groups
 - Team Website
 - Phone Tree
 - Twitter
 - Facebook

MENTORS AND SUPPORT PEOPLE –

- What is a MENTOR?
 - Any post-high school person who helps out with the team,
 - Similar to a Coach
 - Usually possess technical or educational skills/training (but they don't have to!)
- Who can be a MENTOR?
 - Engineers
 - Teachers
 - Parents
 - Anyone with knowledge or skills to help the team
- Who can be a HELPER – SUPPORT PERSON?
 - Parents
 - Neighbors
 - Anyone who can help with the management of the team
- Ask your student body if their parents have any skills to help
- Put an ad in the local newspaper asking for help



TEAM RUSH TOOLKIT

go to <http://teamrush27.net/requesttoolkit.html> to download your own FREE copy of the Team RUSH guide to operating a FIRST Team.

TEAM RESOURCES (CLICK ITEMS TO BE DIRECTED TO SITE)

- FIRST in Michigan
- FIRST Manual
- FIRST Team Updates
- FIRST Safety Manual and Information
- Chief Delphi Forums
- AndyMark
- McMaster Carr
- FIRST's calendar of Important Dates
- FIRST in Michigan Consent and Release forms
 - STUDENTS: Go to <https://my.usfirst.org/stims/site.lasso>
 - MENTORS: Go to <https://my.usfirst.org/frc/tims/site.lasso>
- Autodesk – download free software!



ROOKIE CONFERENCE CALL #2

NOTES



Tuesday, December 21, 2010, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3534, 3667, 3772, 3537, 3619, 3656, 3570, 3770, 3688, 36, 19

ATTACHMENTS: Organization pdf, Tool list pdf, Toolkit fundraiser table of contents pdf

GOOGLE GROUPS:

<http://groups.google.com/group/RookieTeams2011>

- All documents will be held there
- We will continue to update as we go

MONEY

- Budget required items
 - RESOURCE: Team RUSH Tool Kit on Sponsorship and Fundraising:
 - http://www.teamrush27.net/resources/files/5_Sponsorship_11-10.pdf
 - Registration fees
 - \$5,000 Initial registration fee
 - Possibility of \$4,000 for State Competition
 - T-shirts/uniforms
 - FIRST wants you to “look” like a team
 - Most teams just use a t-shirt or polo as their uniform
 - Local t-shirt shops may cut you a deal
 - Make sure to include:
 - Team Name
 - Team Number
 - Sponsor(s)
 - Robot supplies (including tools)
 - See the attached list of tools
 - May need wood, plastic, metal, etc. to build “parts”
- Optional Budget Items
 - Travel costs –
 - Money for a bus
 - Funds for gas
 - Hotel costs
 - Give-aways
 - Some teams give away buttons, stickers, etc.
 - This is NOT required
 - Not all teams do this, you don’t have to, either



Chapter 10: Rookie Resources

NOTES

- Financial Sponsorship:
 - Student dues
 - Some teams require students to pay a fee to be on the team
 - You can use this money to buy their uniforms
 - Ask for a few bucks to cover costs of uniforms, busses, food, etc
 - Think about how you're going to pay for food
 - Collect money up front
 - Have a potluck meal
 - Ask parents to provide a meal to the team
 - Local companies – family contacts
 - Ask parents if they know anyone who would be willing to chip in
 - Small donations add up!
 - Corporate sponsorships
 - Ex: GM,
 - Team Fundraisers
 - Team RUSH Tool Kit: Chapter 3
 - School money
 - Some schools can provide a little bit of funds
 - Operation and Promotion
 - Copies (if your school doesn't provide them)
 - Other expenses

TOOLS AND FASTENERS:

- Show tool list to parents – for borrowing/donations
 - Parents may be willing to:
 - Donate Tools from Home
 - Let the team borrow tools
 - Find a place to donate tools
- If you are going to purchase tools, based on your budget, consider:
 - Cheap tools (from somewhere like Harbor Freight)
 - Tools with a guarantee (Craftsman, etc.)
- What kind of tools to obtain
 - Refer to attachment for list of tools and description
 - Minimal list, feel free to get more. Lots of teams do.
- You WILL need a tool box/container
 - Tool Box/Storage Options:
 - Full-sized tool box (the kind on wheels with drawers)
 - Hand-carry tool box
 - Build your own
 - Try to get something that locks
 - Keeps things safe
 - Helps tools from spilling during transport
 - Create a place for all of your tools, so they are returned to the same place each time



Chapter 10: Rookie Resources

NOTES

- Once you get your tools, introduce your team to them:
 - Not every student (or mentor!) will be familiar with the tools
 - Print the attached list of tools, and give it to students, or hang it up where everyone can see
- Fasteners
 - Create a standard on your robot, so you only use a COUPLE different kinds and sizes of fasteners
 - Keep fasteners sorted in labeled bins or sealable bags
 - Bring replacement fasteners with you to competition. You will lose a few fasteners during rounds
 - Keep a running inventory on all of your fasteners
 - Know where to re-order more
 - Put someone in charge of inventory and re-order procedures
 - Make sure you have nylon lock nuts in addition to regular fasteners

SUB-TEAMS AND TEAM ORGANIZATION

- See organization chart attachment
- Allows Students and Mentors to specialize in specific areas
 - If your team has enough mentors, allow them to pick the area they want to “teach”
 - Recruit mentors based on your needs, but try not to turn any good, qualified person away
- Depends on size of team
 - Large teams are easy to divide into smaller groups
 - It increases productivity
 - If possible, keep students in even-numbered groups (often times 2 or 4 students works best), with one adult or responsible student to keep people on task.
 - Odd-numbers in groups usually results in one student being left out, or becoming distracted because he/she has no one to work with directly
 - Small teams may not need division, and everyone will help with all of the tasks
 - An appropriate number of students for a group depends on what tasks are available for students to participate in
- Assign tasks to students and adults on the team
 - Mentors can manage small groups of students
 - Experienced or responsible students can lead a group of students
- You may want to consider allowing your sub-groups to meet on different days
 - Make sure you have at least one day a week where the whole team is meeting, and everyone is present
 - Some teams have a minimum number of hours to participate on the team
 - Some teams just ask students to come out as often as they can, and just maintain communication with mentors and other students on the team



Chapter 10: Rookie Resources

NOTES

- Two basic divisions of a team:
 - Robot
 - Mechanical: sub-teams of robot
 - Controls: Electrical/Programming
 - Team
 - Advertising/media – photo, video recording
 - Communications – website, twitter, etc
 - Community relations – outreach, presentation
 - Business – day to day operations, thank you notes, etc.
 - Awards – to fulfill FIRST awards submissions
- Mentors:
 - Make sure you know who is spending time with your students (background checks may be required)
 - Ask your parents, teachers, sponsors, co-workers, etc to help
 - It's never too early or too late to ask for help



ROOKIE CONFERENCE CALL #3

NOTES



Tuesday, January 4, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3534; 3772; 3537; 3570; 3767; 3620; 3638; 3602; 2832; 3618; 3655; 3640; 2627; 3656; 3509; 3601, 3535, 3657; 3688; 3452; 3537; 3546; and a

Livonia Team

JANUARY 4 CONFERENCE CALL – KICKOFF AND WEEK 1

KICKOFF

- Permission slips need to be turned in (print off team roster – TIMS)
 - Don't forget to get a hard copy to take to the kickoff
 - Be sure to go into TIMS to “invite” your mentors to the team. Then the mentors will need to accept and the fill out the release form online.
 - Students need to go into STIMS to apply for release. You will need to “accept” them, their parents will need to approve them.
 - If you cannot get this all done prior to kickoff – be sure to print off copies of the release form and have the parents fill out and sign.
 - You can “add” anyone who has not completed the online form at the bottom of the printed version of your team roster (found on the TIMS site).
- ◆ **Q: What if I don't have a full team yet – what do I do about the permission form?**
 - ◇ A: As you add members to the team, be sure they log on and get them added to your roster. Then be sure to bring an updated copy of your team roster to your first competition.
- Try to get all of your team at one location together
 - You can watch the kickoff via kickoff sight, on NASA tv, or webcast via NASA
- ◆ **Q: Where do we get the broadcast online?**
 - ◇ A: Go to <http://usfirst.org/roboticsprograms/frc/content.aspx?id=418> to see where the information is on the kickoff (navigation: FRC ->EVENTS->kickoff)
 - ◆ Kickoff officially starts at 10:30 – please remember that the game does not get released until the END of the kickoff (usually around 11:30)
 - ◆ PRIOR to kickoff, download the manual. You will get the encryption code at the END of the kickoff. It will be posted online as well.

Chapter 10: Rookie Resources

NOTES

◆ Q: *When will FIRST put the rest of the manual on the website?*

- ◇ A: Chapters 1-6 are already available for you to download.
<http://usfirst.org/roboticsprograms/frc/content.aspx?id=452>
(navigation: FRC ->Game & Season Info ->Competition ->Competition Manual and Related Docs)
- ◆ The FRC Game Manual will be loaded prior to Saturday, but encrypted. You can download chapters 1-6 on your computer today (and start reading), but keep on checking for the Game Manual. Once that is posted, download that to your computer and you will only need the decryption code which will be released at the END of the broadcast on Saturday. This prevents ALL the teams from downloading at the same time on Saturday – you will just need the code.

◆ Q: *What is this “FIRST CHOICE”?*

- ◇ A: FIRST Choice is a new way to try to keep the cost of the kits down. More will be discussed next week. In the meantime, go to www.andymark.com to pre-register. It is important that you are registered and ready to go when the site opens, so you can get your orders in right away. FIRST Choice options end on January 16th, so get registered and ready now. Again, more information on the next meeting.

- What to expect – how do you plan?
 - The first hour of the kickoff is usually a report from Dean Kamen, Woodie Flowers, the President of FIRST and others. They will explain a bit about FIRST (as already mentioned).
 - Be sure to pay attention to the scholarship information.
 - Good idea to have parents watch the kickoff! They REALLY benefit from this experience.

KIT OF PARTS

◆ Q: *Should we bring a cart to transport our kit of parts?*

- ◇ A: Absolutely, if you can. Bring a dolly or a little cart to help take your kits out. They usually are two big bins with other smaller items. Usually the bins are very heavy.

- Inventory –
 - FIRST will make it so anyone can inventory (pictures to match objects)
 - Inventory does NOT have to happen prior to leaving the kickoff – but don't delay due to Tuesday's deadline.
 - By Tuesday, if parts are missing, you contact FIRST, fill out the paperwork (as noted in the kit) and they will send you the replacement parts.
 - **You only have until next Tuesday to contact FIRST on missing parts.**
 - **Please note** – your shipping contact must be updated on TIMS in order to have ANYTHING shipped to the team



Chapter 10: Rookie Resources

NOTES

- Investigate what is in the kit –
 - This is a great opportunity for the students to learn and explore ... start asking, “what might we do with this” ...
 - Possibly have your students label all parts with the 2011 dates (it helps to know later that it was the “kit” piece)
- If no game object in kit – purchase at least one right away
 - Maybe a parent can help find the field pieces
 - If you cannot find one and there wasn't one in the kit, be sure to check chief Delphi to see where field pieces may be found!

FIRST WEEK

- The RUSH Toolkit covers the first week very extensively – use it as a resource;
<http://teamrush27.net/requesttoolkit.html> specifically, look at chapter 7, Build (page 117). This section includes the kickoff and weekly details of the 6 week process.
- Kickoff – Saturday’s objective needs to be:
 - Learn to play the game
 - Know the rules
 - Know how to score
 - Know how to play offensively and defensively
- *Our next Tuesday meeting we will talk strategy ... both offensively and defensively in more detail*
- Once strategy is established, start brainstorming what a robot might look like that would “play that game”
- In understanding the game, be sure you also understand the autonomous mode and the last 15-20 seconds of the game. FIRST is known to make a BIG WOW at the end of the game – to swing the match. Pay close attention to all 3 parts of the game (if there are 3).
 - ◆ **Q: What is autonomous mode?**
 - ◇ A: Autonomous mode is a pre-programmed mode that your robot will perform a task. If you can score during this time, you will definitely have an advantage over other teams. Don't blow this part of the game off!
 - ◆ Decision making – start thinking about HOW your team is going to make decisions ... do you make them or will the kids? If you make all the decisions be prepared to hear, “this is your robot – not ours”. Find a happy middle where the students are making the decisions with your influence on resources, etc.
 - ◆ **Q: How do you have the teams communicate ideas? Student to student, mentor to student, sub-teams?**
 - ◇ A: Ideas for communication –
 - ◆ Reserve some time per meeting to “review” what the groups are doing
 - ◆ Create a “design review” for once a week sub-team communication
 - ◆ Have the mentors meet 1/week to discuss how things are going without the students – to help guide the process



Chapter 10: Rookie Resources

NOTES

◆ Q: *Playing field – where can we find the information on creating a field?*

- ◇ A: FRC Game Manual - in the manual, you can find 2 versions of the field:
 - ◆ The Official FIRST field
 - ◆ The low-cost playing field (made of pvc, wood, 2x4's, etc)
- After you determine what strategy you are going after, make the low cost playing field components for testing and validation.
- HINT: You REALLY need to physically simulate the game to understand it – suggestions
 - Physically “mock” up the game with human robots
 - Make a scale model to play the game
 - Let your kids wild with technology and create a Flash simulation of the game!

WEEKLY BUSINESS UPDATE

- Assign team member to rules updates
 - ◆ Q: *What are updates?*
 - ◇ A: Updates are updates, clarifications or changes to the rules
 - ◆ Q: *How do we know about updates?*
 - ◇ A: FIRST posts the updates 2/week (Tuesday and Friday by 5 pm)
 - ◆ <http://usfirst.org/roboticsprograms/frc/content.aspx?id=450> (navigation: FRC ->Game & Season Info ->Competition -> Team Updates)
 - ◆ Make sure your team is checking the rules – don't pay attention to Chief Delphi comments or other website interpretations – the official rules are ONLY posted on the official FIRST competition
- Reminder – you really need to keep your sponsors informed of what is going on (and your community). Prior to kickoff, let your sponsors know, the press know, your school board administrators and ANYONE who you think may be interested that the game is to be unveiled and you are getting started! Keep them in the loop.
- Update social media and website
- Update sponsors on progress (website, newsletter or eblast)
- Take pictures and video – DOCUMENT ALL YOU DO! We will talk more about this later, but it is important that you document what you do – if not for anything else but a recollection of the journey you are about to travel.

INPUT FROM CLINT AND BRANDI:

Here is the link to the YouTube Past FIRST Robotics Game Animations (2003-2010):

http://www.youtube.com/view_play_list?p=9754C98284203AC2

Clint thought it would be good for Rookie Teams to watch these to get a sense of what they will be shown on the day of Kick Off.

They are alive! ☺



ROOKIE CONFERENCE CALL #4

NOTES



Tuesday, January 11, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3534, 3667, 3602, 3706, 3537, 3509, 3570, Gail Alpert (FIRST in Michigan)

JANUARY 11 CONFERENCE CALL 4

FIRST

- Kit inventory – due Wednesday, 1/12/2011 by 8:00pm DO IT NOW!
- FIRST Choice – get your supplies ordered NOW
 - Sign up right away!
 - Main contact email address (in TIMS), and Q&A password to get into FIRST choice
 - Log in asap! Supplies are dwindling
 - Get your mini FTC kit! (only item in group 1)
 - Will help for your minibot!
 - Check out rules for more on what you can use for minibot (ie polycarbonate)
 - Doesn't come with controller
 - Be sure to check rules "updates"
 - Go to <http://usfirst.org/roboticsprograms/frc/content.aspx?id=450> for the first update
 - First will NOT contact you about updates, but YOU need to look online for them
 - Designate a student or mentor to be the updates person
 - Have updates printed off and put in a binder for "quick reference"

GAME

- Field components
 - Low cost plans are out there <http://usfirst.org/roboticsprograms/frc/content.aspx?id=18763>
 - Be sure to look at the field pieces – either build the pieces or look onto a veteran team's field pieces – *being able to see the field can sway your thinking on HOW you may play this game.*
- Clarification of game rules
 - Be sure you KNOW HOW to PLAY the game
 - Be sure you know HOW to SCORE in the game
 - Decide on what your "athlete" will be (we will discuss more below)
- How do you want play the game/what is your strategy?
 - Your team will need to decide what aspects do you want to concentrate on?



Chapter 10: Rookie Resources

NOTES

- Don't try to do everything –for a rookie, it is too much!
- Right now, Focus on **WHAT** (game strategy), not **HOW** (drive trains, manipulators, etc.) – **HOW** will
 - come after the **WHAT** is decided.
- Put all ideas up on the board of what you want to do - then get rid of at least one to narrow focus
- Suggestion: break game down into 3 parts:
 - Auton
 - Tele-operated
 - Mini-bot (last 10 seconds)
- Prioritize the 3 sections – to help you determine HOW you are going to play the game
- Draw sketches of what a robot might look like to achieve your WHAT
 - General – ie pick tubes up from floor
 - Remember - Not a specific “HOW” – brainstorm!
- Can we eliminate some part to narrow focus?
 - Keep in mind resources: financial, mentors, technology, machines, time, etc.
- SIDE NOTE: At a tournament, you need to understand the following (this will help you make decisions):
 - Qualification matches – the Friday matches (and some on Saturday)
 - Elimination matches – after qualification matches. Top 8 teams pick their partners
 - Being a “Jack of all trades, master of none” will not help you to be as successful as a focused robot; others may not pick you for finals
 - Strong in one area will make you more desirable for the picking
 - DECIDE: What can you do REALLY, REALLY well (with the hopes of being a strong alliance)?
- After deciding WHAT your strategy will be:
 - Brainstorming = crazy ideas!!!
 - Polar bear story = crazy ideas can result in amazing ideas that will work and be feasible
 - NURTURE the creativity of the students, reminding them that, “No idea is a bad idea”
 - If you keep saying “no” or “that’s not possible” (during this phase), students will stop sharing ideas
 - Collaboration is best
 - Sometimes best to break into smaller group and then come in and share with entire group
 - Put sticky notes of ideas on the board
 - ♦ Everyone’s ideas are on the board
 - ♦ Allows others to build off everyone’s ideas
 - ♦ Keep sorted by priorities
 - Robot’s first priority is to MOVE - Can’t do any other task if you can’t move



ROBOT PLANS

- Develop robot sub-teams
 - Controls/electrical, chassis, tube collection, mini-robot, etc
 - Chassis – kit, build own, purchase?
 - Kit chassis or purchase other off-the shelf chassis
 - Highly recommend using kit chassis
 - Can do most things you need it to do
 - Don't have to worry about taking on building a complex chassis system
 - Do not build your own chassis – not enough time
- Deciding what you want to do will help you break up into groups:
 - Example: if first priority is to **move**, then you may want to have a *chassis group*
 - Very important to break into groups
 - Fosters ownership/responsibility
 - Breaks up tasks
 - Approach design in parallel instead of in series = quicker/more efficient
- There are different philosophies on how to manage sub-teams
 - Some teams have kids stay in sub-teams entire 6 weeks
 - Some teams have kids rotate through sub-teams
 - Let kids try different areas
 - Try not to let kids do the same sub-team year after year (let them learn from the other groups)
 - If one sub-team is done, encourage those kids to help the other sub-teams
- Design freeze - due by end of week – You really need to know:
 - What part of game are you going to play?
 - What points are you going to score?
 - How are you going to score them?
 - Conceptually, what does the robot look like?

BUSINESS

- Reminder – You also need non-technical Sub-teams
 - Encourage parents to get involved here too!
 - PR
 - Media
 - Website/IT
 - Community
 - Finance



Chapter 10: Rookie Resources

NOTES

- Administratively, meet once a week with everyone to get everyone on the same page
 - Possibly a design review from each sub-team
 - Mandatory meeting – to plan weekly and update goals
 - Utilize team Student captains and Sub-team captains
 - Allows a student voice
 - Fosters leadership
 - As an administrator – ask the team, “What’s going right, what needs to be improved?”; work on improvements!
 - Gives other students a peer to talk to if they have concerns
- Reminder – Document all you do!
 - Continue to update sponsors/social media/website
 - Take pictures and video – DOCUMENT ALL YOU DO!
 - Takes lots of pictures!!
 - Keep pictures in an easily accessible place
 - Use for award submissions, newspapers, etc.
- Create a team list including:
 - Students
 - Mentors – where they work and what they do – they may be able to help you out!
 - Parents – where they work and what they do – they may be able to help you out!
- ♦ **Q: Sponsorships, do you recommend a form letter/packet/etc.?**
 - ◇ A: Gail Alpert will be sending out information for all Rookie teams on how to obtain sponsorship. We will attach with these notes. It will also be posted on the Team RUSH website:
www.teamrush27.net
- Some suggestions (per *Gail Alpert - FIRST in Michigan*):
 - Keep it simple and to the point: don't overload it but do give info on what FIRST and your team are all about
 - Write a desperate letter! Why is it so important for this company to donate funds to you?
 - Sit with parents and mentors and find companies where you know people (the higher up the better).
 - Go to the engineering departments – not marketing or HR.... engineering will understand why this is valuable. Will get more support from engineering/CEO – raising engineering future.
 - Relate it to the needs of the company.
 - If possible, target companies you think can give you more money ~\$5000 (more bang for your buck) – but any amount will help



Chapter 10: Rookie Resources

- Let kids do the selling
 - Ask for in-kind donations!
 - Aluminum, fasteners, meals, uniforms etc.
 - Don't forget to thank your sponsors! Not thanking sponsors can be the fastest way to lose them!

Another possibility: Team RUSH uses a cover letter and a one-pager (find it on www.teamrush27.net in the Toolkit Chapter 5 - sponsorship).

JCPENNY GRANTS:

- Make them an integral part of team
- Make contact with them and invite them to team meetings
- Show them the animation so they understand the game
- Maybe they can help with uniforms, fundraising, etc.
- Maybe they have technical people who may want to get involved

GENERAL NOTE: UTILIZE CONTACTS OF YOUR PARENTS AND MENTORS:

- Call emergency parent meeting
 - Brainstorm who they know who could help out
- May not have a degree in something but may be really good at something that will help the team ie tinkering, photography, etc.

◆ **Q: Does mini-bot have to stay up?**

- ◇ A: Our interpretation is it a race to the top. As long as it hits the top, it can come back down afterwards.

General note: Make sure you understand the bumpers and rules around the volume of your robot!

NOTES



ROOKIE CONFERENCE CALL #5

NOTES

Tuesday, January 18, 2011, 6pm



Hosted by Teams: 27, 2337

Teams In Attendance: 3534, 3706, 3509, 3570, 3668, 3639, 3656, 3667, 3620, 3772, 3509, 3656

JANUARY 18 – WEEK 2: DESIGN AND DEVELOPMENT

CHASSIS

- Goal: to be built by end of week (running next week)
- Drive code should already be in Default code
 - Download drive code from FIRST website
 - Be sure speed controllers are hooked up
 - Kit of parts website – descriptions/diagrams/how to's for all components in kit
- Website is: <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=18530> (FRC -> Game/season info -> manuals/related documents -> click on the bottom link “Kit of Parts”)
- ◆ **Q: Did anyone have any issues with “Classmate”?**
 - ◇ A: Yes, the USB drive was corrupted – had to get new USB
 - Be sure to set up as bridge (not access point or router)
 - Switch in the back to adjust

LABVIEW

- ◆ **Q: Can we only load LabView on one computer?**
 - ◇ A: No - You can put it on as many computers as you want
- 📁 Load it onto Classmate and any other computers so you always have access to it (use it for FIRST projects not for corporate purposes 😊)
- ◆ **Q: Can you send a link to Bill of Materials**
 - ◇ A: This was the 2010 Bill of Materials http://usfirst.org/uploadedFiles/Community/FRC/Game_and_Season_Info/2010_Assets/2010%20Inspection%20BOM%20Template.xls

SOFTWARE UPDATES WEBSITE:

<http://usfirst.org/roboticsprograms/frc/content.aspx?id=18758>

BUMPERS: (READ RULES – BEGIN FABRICATION)

- Start looking at bumpers now – be sure to understand the rules!
- Put a string around outside of robot (28” x 38” max), this is your bumper perimeter – can’t have “concave” area (v-shape is illegal)
- Must have team number 4” high on all four sides – font color must contrast against bumper color
- If not correct, FIRST will make you correct your bumpers before



competing!

- Can weigh up to 20 lbs
 - Weight includes how you fasten your bumper to your robot as long as it is connected to your bumpers
- Use something that is strong and will keep bumpers from falling off during competition but can be easily removed to switch from blue to red if needed
- One idea: use Velcro/snaps to put other color over existing bumpers
 - Easy change – don't need to physically remove bumpers
 - BE SURE they won't fall off – could get penalty for that!!!
- ◆ **Q: Can you use Velcro on the bumpers?**
 - ◇ A: Yes.
- Can buy bumper kit from AndyMark for \$92 – sells red and blue kits and includes fasteners, pool noodles and cloth
- Suggestion: purchase one from AndyMark and then make a “cover” so you only need to make one set, but have a “cover” to change colors.
- Suggestion: design bumpers into overall design, not an after-thought
- Want it so bumpers stay on but can be removed if you need access to robot
- Great project opportunity for a parent!
- Will affect drivers practice – robots will act different with bumpers vs without (they stick together when the bumpers are on)
- If building own bumpers, try to find fabric now – may be limited supply of durable fabric in correct colors
- You don't have to use the cloth in the kit - JoAnn fabric has “duck” fabric that is durable and was on sale last weekend

TUBE MANIPULATOR

- If you are going to do tubes, you need to know by now HOW
 - Multiple teams on the call responded that they are manipulating tubes
- Make sure your method is consistent
 - Going for all 3 levels may make your scorer inconsistent and therefore less effective
 - Better to score consistently on bottom 2 rows than inconsistently trying to score on top row
 - Consistent scoring will be looked upon more favorably in picking for elimination matches
- Goal: Research/Prototyping
 - Check out teams from past games to see old robots (Especially 2007)
 - Go on ChiefDelphi – they have galleries from previous years (this has been mentioned in past calls too)
 - Continuously prototype – the goal is to learn something!
- Visibility of picking up/loading tubes is important!
 - Keep in mind that the middle row is right where drivers are standing = limited visibility!
 - May want to pick up from floor for better visibility
 - May be able to see easier to load by going over top instead of



- through slot
- Utilize camera if possible to help with visibility
 - Be cautious about having drivers use camera for seeing on the field – will have some lag
 - Can connect directly to wireless if you only want feedback (instead of going through CRio)
- Will want feedback to know that you have a tube
 - Some ideas: use a light/limit switch on the robot, feedback to the computer, or vibration on an Xbox controller
 - Whatever is easiest feedback for the driver/coach to get is best – don't want them to have to look away from field!
- Not many teams have been able to see an actual field since kickoff
 - If you can, find someone with a field you can go to – it is important to get a real physical sense of where you will be playing
 - Helps understand how/where to load tubes
 - Hard to turn around your robot in the loading area – almost impossible (48" cross-section robot in a 51" lane)
 - You will probably have to pull out in reverse
 - Or a turret could turn you around
- ◆ **Q: Can you toss the tubes onto the field anywhere?**
 - ◇ A: Yes you can but it is free game to anyone so your opponents can get it or it could get in your way

PROGRAMMING

- ◆ **Q: What is auton?**
 - ◇ A: Auton = first 15 seconds where robot does actions pre-programmed without driver control
- Download default code asap
- Schedule time with the robot for each subteam:
 - For example: mechanical team gets the robot for the 1st hour, programming next hour, etc.
- May want to start having kids start driving the robot just to get used to the controls
 - Will help kids feel more comfortable
 - Allows mentors to see who the possible drivers may be
 - Utilize down time for drive practice and use by other sub-teams
- Start brainstorming options NOW
 - You could move to block opponent
 - You could drive to get in good position for tele-operated (near feeder area possibly)
 - You could score an ubertube
 - Start small...then build on it – have the auton move one foot – to understand how it all works, first. Then add to your auton.
- BE CAUTIOUS ABOUT MID-FIELD LINE! Can't cross or will get



penalty!

- During testing, be sure someone has a kill switch just in case the robot goes crazy
 - First time you run auton, put it on blocks so you can do dry-run before put it on the floor to make sure it does what you expect
 - Be sure people around robot during testing are ready and know the robot is going to move – don't let people sit on the floor near the robot
 - 1 person responsible for kill switch
 - Utilize long, long cord so coach can move around with kill switch
- Goal: Need robot code loaded to robot by end of week – robot should be moving by the weekend!

MINI-BOT

- You should have received FTC kit by now
 - ◆ **Q: Do we have to use the NXT brain with the mini-bot?**
 - ◇ A: No. You can use simple circuit to make it work. In fact, you may not want to use the NXT brain because it is heavy and harder to lift up the pole
 - Possible idea is a limit switch to “close the loop”
 - Team RUSH is sponsoring FTC Workshop this Saturday, January 22, from 1-4 pm in Clarkston, MI, go to www.clarkston.k12.mi.us/minibotcamp to register
 - FTC veteran team will be there to answer questions and go through FTC kit and what it does/can do
 - RUSH also has NXT brains that team's could borrow if needed
- Goal: to get a mini-bot going up the pole (testing and trials)
 - Determine best way to climb
 - Then determine how to deploy
 - Test/prototype - BRAINSTORM
 - DOCUMENT changes during testing
 - Important so you know how to go back to previous codes if you want to
 - Can keep it simple at first – start with 5 feet until you get something that works good, then work up to total distance
 - Be sure to record timing to top!
 - ◆ **Q: Do you have to use FTC kit?**
 - ◇ A: Be sure to read the rules. Rule R92 lists limitations of what you can use

BUSINESS UPDATE

- Continue to update sponsors/social media/website
- Uniforms – start the process
 - Collect all sponsor logo/name info!



Chapter 10: Rookie Resources

NOTES

- JCP will provide t-shirts for JCP teams – CONTACT THEM!
- Travel arrangements – start the process – takes a long time to get permission
 - Permission from school to travel
 - Permission slips – students
 - Transportation forms - parents
- Calendar of important dates (when awards are due, ship date, etc.)
 - check on FIRST website! <http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=454> (it is on the main menu on the left -> Season Calendar)
- Pay attention to the UPDATES! Download from FIRST website
 - Clarification/modification of original game rules - example: volumetric changes and mini-bot rules

General Notes: Set overall timing goals and post them where people can see them! This will help keep everyone achieving their deadlines – improves communication! Post in shop/classroom/etc. for all to have access to!

◆ **Q: Do the scoring pegs change from game to game/competition to competition?**

- ◇ A: No, they stay in the same position. However the middle peg is higher than the one to the left and right. Dimensions are found in the manual (field drawings – “game specific” and “team drawings”....”team drawings” are cheaper but not exactly what you will see on the field – possible material differences or small shape differences). Recommended +/- 1” to account for tolerances you may see

◆ **Q: Can part of my robot go outside of the 28” x 38” package?**

- ◇ A: When placed on the field at the beginning of the match before “go”, all parts of the robot must be within 28” x 38” package. After the match starts, the robot can go out of that package.

Notes on package: 28” x 38” package does not include the bumpers. Keep in mind, with bumpers, will have extra 7” in both directions. Inspection will be without bumpers – give yourself ½” tolerance smaller than the 28”x38” package (package includes everything, even heads of bolts!). At the competition inspection, you will slide robot into box (3 sides and they will run a bar down front), if it doesn’t fit, it is too big and you will have to fix it or not play! Weight should be under a little too – not all of scales are the same at all competitions!!!

TECHNICAL RESOURCES:

<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=16337>



ROOKIE CONFERENCE CALL #6

NOTES



Tuesday, January 25, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3534, 3706, 3570, 3668, 3667, 3620, 3667, 3546

JANUARY 25 – WEEK 3: DEVELOPMENT AND ASSEMBLY

Please note: there are more links at the end of these minutes – specific to some of the questions asked – with clarification.

CHASSIS MOVING BY END OF WEEK

- All teams on call have chassis built but it's not moving because they are having issues with the code
- When the robot moves – it's a big morale booster – helps get team excited and motivated to continue working! Signals that the robot is that much closer to competing! So aim for moving this week!
- If you don't have a chassis built by now, ask for help!

PROGRAMMERS

- Working on code
- If you need help trouble shooting, call Clint
- Look at Connectivity diagrams on Kit of Parts website for help in “talking” to the robot
- ◆ **Q: Default code? Where is it?**
 - ◇ A: FIRST -> kit of parts -> “how to load and use code”
 - Have to load it yourself
 - Comes with Labview tutorials
- ◆ **Q: Does the default code support a crab drive?**
 - ◇ A: No. It is code for driving with typical joystick – moving fwd, back, right, left with a typical 4-6 wheel drive. CAUTION ...
 - Crab drive is HUGE undertaking so be wary of going with this
 - Crab drive is also a huge learning curve for drivers = issues on the field - even if you have an awesome robot, it doesn't do any good if the kids can't drive it
- ◆ **Q: Can I load LabView on something other than the Classmate?**
 - ◇ A: Yes – you can load LabView on Classmate, but you can also load it on any computer and develop code on another computer besides your classmate (frees up classmate resource)
- ◆ **Q: Will I eventually HAVE to load LabView on the Classmate - in order to run our program?**
 - ◇ A: No, the Classmate can read/process your programs without the full version of the LabView on it.



Chapter 10: Rookie Resources

NOTES

◆ Q: *Still cannot download the default code ... what do I do?*

- ◇ A: Load Labview, as well as the FIRST Software Updates (<http://usfirst.org/roboticsprograms/frc/content.aspx?id=18758>)
 - Follow the tutorial below to get you default code on the robot:
 - ◆ How to Build and Load Programming in LabVIEW, C/C++, and Java
 - If you are still having questions feel free to contact Clint

◆ Q: *Labview – says it is a 30 day trial? What do we do in 30 days?*

- ◇ A: FIRST will be releasing update on how to fix 30 day trial – Check the FIRST updates
 - If anyone needs help, contact Clint or Brandi with Team 2337 for assistance – they also have a quarter field for testing if needed
 - **Electrical Hints:**
 - ◆ Label wires so you know what wire goes to where
 - This helps with making sure everyone knows what wire is for what – aids in communication
 - You will have LOTS of wires by the time you're done and it can be difficult to troubleshoot if you don't know what wire goes to what
 - ◆ Can also use a spreadsheet to keep track of what wire goes where

BEGIN ASSEMBLY

- **Aim to have chassis moving by the end of the week**
- Start working on assembly of other components ie arm, mini-bot, etc.
 - Finalize design by the end of the week

MINI-BOT

◆ Q: *What is NXT?*

- ◇ A: It is the brain used to control the FTC and FLL robots
 - Used for complicated functions/commands (like a CRio on the FRC robot)
 - With mini-bot, since only doing 1 function, you can use simple circuit instead of NXT – ie use a switch to close the loop to start mini-bot moving and when get to the top, hits another switch to either open loop or reverse motors (ask Clint for more clarification on this idea if needed)
 - NXT is another pound or so – more weight = slower; Don't want to add to mini-bot if don't have to
- Deployment
 - See rule G22 (up for interpretation)
 - “Host bot may not be in contact with mini-bot once above deployment line”
 - **Clarification** – The host bot **can place (remain in contact)** with the Mini-bot on the pole as long as it's below the deployment line



Chapter 10: Rookie Resources

NOTES

- Mini-bot must have own power source
 - CANNOT be tethered – then you would be outside your volume restriction
 - Only way you can power it is with battery
 - ◆ **Q: Can the Mini-bot be tethered?**
 - ◇ A: No. If you tethered it, you would break a few rules
 - You would exceed the 12x12 size constraint
 - You would be in contact with the host bot past the 18” line

BAGGING ROBOT

- ◆ **Q: Does mini-bot need to be bagged?**
 - ◇ A: No! Bumpers, batteries, operation controls, and mini-bot do NOT need to be bagged
 - In addition to these 4 items, you can keep 30 lbs (ie arm or other robot components) to work on and not bag
 - ◆ Can walk in with this 30 lb limit into your competition
- Can work on your 30 lbs 7 days prior to your district event
 - You have 6 total hours the week before to un-bag and work on robot
 - Don't have to do 6 hours all at the same time
 - Minimum 2 hours at one time
 - Does not mean you can pull 30 lb out, work on it for 6 hours, then pull another 30 lbs out and work on that for 6 hours....6 hours total for unbagging and working on total robot
 - Must lock and unlock robot each time
 - “Attending bag-and-tag event” link in rules
 - Rules on FIRST in MI website
- Must have neutral party sign clipboard verifying amount of time worked on robot

BUSINESS UPDATE

- Continue to update sponsors/social media/website
- Scouting – begin process for competitions
 - Scouting is important to find out what your partners can do and what your opponents can do
 - Impacts game strategy
 - Helps you know who to pick/partner with in eliminations
 - Compile data – utilize database
 - Data is important!
 - First, use Quantitative not Qualitative data
 - ◆ ie How many tubes did they hang low, medium, high?
 - ◆ Then look at “human” aspect – did they make the right decisions? Did they hang in the right spot? How many penalties did they have (you don't want someone who has a lot of penalties that could possibly cause you from losing an elimination match)?



Chapter 10: Rookie Resources

NOTES

- Have scouting sheets
 - Students can fill out in the stands
 - Can have actual sheets or on laptops
 - One idea is to have picture of field on sheets, then students can fill out where teams placed tubes, how many tubes, etc. and it's all graphical
 - Important aspects may include: speed of mini-bots, scoring tubes, where they score (low medium high), how do they load tubes (floor, human player), etc
- Be prepared for if you are top 12 – you may be choosing teams for the eliminations!
- Can start developing scouting sheets/strategy now
 - If students are looking for something to do, have them start developing scouting plan/sheets
- Don't be afraid to ask veteran teams to help with data
 - Could even partner and scout together
 - Might be able to utilize data from other teams for scouting
- Be ready for teams soliciting you if you are in the top 8
 - Be sure it is your decision and not influenced by other people or teams
- It is possible that you will be in the top 8 so be prepared!
 - Many rookies have picked for the eliminations – some have even won so be ready for that possibility!

BEGIN RESEARCHING AWARDS

- Go to www.usfirst.org to find awards
- Look at Awards section of manual (section 6)
 - Be prepared for how you tell your story
 - How do you sell your story? Handouts? Boards with pictures? How are you impacting your school/community? What is important to tell the judges about your team? Struggles you've overcome?
- What can a rookie team win?
 - Rookie specific: Rookie All-Star, Rookie Engineering Inspiration, Highest Rookie Seed
 - Also, any of the other competition awards including: Spirit, Website, Quality, Gracious Professionalism, Controls, among many others
- What is expected to turn in?
 - Rookie All-star – can submit online documentation (pictures/mini-essays)
 - Print off copies to give to judges when they come to pit at competition (5-10 copies per competition)
 - Possibly tap into your graphic arts department, photography department, English department to assist in submissions



Chapter 10: Rookie Resources

NOTES

- Consider urging students to submit Woodie Flowers award nominee!
 - BIGGEST honor a mentor can receive
 - Great opportunity for your students to recognize a mentor whose made a huge impact
- Nominate students for the Dean's list
 - Juniors/Seniors
 - Recognizes students' contributions to team
 - Great opportunity to recognize 2 students
 - Students get a letter that can be used for college applications
- Hand award prep over to students to assist

CONTINUE PROCESS

- Travel arrangements
 - If you haven't gotten permission from the school district, be sure to start now!
 - What are rules about: Carpooling? Staying at hotels?
- Meal arrangements
 - Ask parents to assist
 - Competitions have meals available for purchase – most competitions will send an email asking if you want to do a team meal purchase but check FIRST in MI for more info
 - Some arenas won't let you bring food in so be prepared for that (ie Eastern Mich won't let you for States)
 - Ask local businesses for donations
- Uniforms
 - If JCP team, contact them asap so they can get your t-shirts going
 - ♦ **Q: Went on website and could only put in # shirts, sizes, team name, team number**
 - Will forward info to *Gail Alpert (FIRST in Michigan)*
 - Contact JCP contact
 - Can you choose your own colors? Design?
 - ♦ Answer from one team who contacted their JCP rep:
 - Shirts are white with robotics logo, rest is left up to what teams want
 - Expected to wear them for anything JCP sponsored but not necessarily for competitions
 - Put on priority list – getting close to deadline
 - Give aways – to be discussed next week.

If you have a question, don't hesitate to ask!

Kyle Hughes: khhughes@clarkston.k12.mi.us

Brandi Bolinger: bbolinger@gmail.com

Clint Bolinger: cbolinger@gmail.com



Chapter 10: Rookie Resources

NOTES

How to Build and Load Programming in LabVIEW, C/C++, and Java - http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/How_to_Build_and_Load_Programming_in_LabVIEW,_C,_and_Java.pdf

Robot Data Connectivity Diagram (PWM) - http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/2011%20Robot_data_power_%202011%20Data%20%28PWM%29%20%281%29.pdf

Robot Power Distribution Diagram - http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/2011%20Robot_data_power_%20Power%20Dist%202011%20%2824V%29%20%281%29.pdf

From FIRST E-mail (Sent on Jan 20th)

Windows 7: As you know, currently teams are only able to download the 30 day version of Windows 7 to their Driver Station. A long term solution is in process and will be published shortly—stay tuned!

Attending a Bag and Tag Event - further details on transporting your robot to a Bag and Tag Regional Event

4.2. 'Robot Access Period' - Schedule

Teams may unlock their robot for a total of 6 hours during the 7-day period preceding any two-day event in which their team will be competing with their robot. The 6 hours may be broken up in any way the team wishes, with the exception that no single access period may be shorter than two hours. The robot must be locked up in between sessions and this must be documented on the Robot Lock-Up Form each time.

Please note that for “Bag & Tag” teams attending 2-day events, items within the WITHHOLDING ALLOWANCE cannot be exchanged for other FABRICATED ITEMS on the ROBOT during the “Robot Access Period” as described in Attending a Bag and Tag Event, Section 4 posted on the FIRST website at www.usfirst.org/frc/competitionmanual

Minibot Rules about deployment: <G22> HOSTBOTS may not contact their ALLIANCE’S MINIBOT once it has climbed above the DEPLOYMENT LINE. Violation: TOWER is disabled

Update #5: Clarifies the Minibot discussion (see below **Bold** is the changes):

<G19> MINIBOTS must remain completely autonomous and move up the POST solely through electric energy provided after **the start of DEPLOYMENT** by the permitted, unaltered battery and converted to mechanical energy by the permitted unaltered motors (and associated, appropriate circuitry)



ROOKIE CONFERENCE CALL #7

NOTES



Tuesday, February 1, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3656, 3570, 3668

– SNOW DAY??

FEBRUARY 1 – WEEK 4: FABRICATION AND ASSEMBLY

- ◆ **Q: Will the location of the center pole change from match to match?**
 - ◇ A: No. The poles are regulated by the field specs. These do not change. Check the updates, however. The Team Field dimensions have had some updates (ex: pole = 16” versus original 14.5”)
- ◆ **Q: Can you clarify the rule on lining up your robot on the field?**
 - ◇ A: Per the rules, when you go onto the field you cannot take any props to align your robot (ie triangle, measuring tape, laser pointer, etc.). Having said that ...
 - This is a very important consideration for consistency in setting up your robot and accuracy for your auton
 - ◆ You can use your hands, feet, etc. to align your robot
 - ◆ You can also use line following and ultrasonic sensor to really know where your robot starts at the beginning of auton
 - SUGGESTION: Do not start auton in full speed; start small to see where you're at and then increase speed throughout tournament; starting at full speed could really harm your robot if something goes wrong
 - Velcro your controls to the player station – if a team runs into the wall, it can knock off your controls!

AGENDA TOPICS:

- Robot should be moving by now!
- Mini-bot and deployment should be developed
 - Rule update: You cannot use any type of tool to bring mini-bot down from the top of the pole – and you must recover the mini-bot from the floor (cannot stand on the platform)
- Programmers – continue development
 - ◆ **Q: We are having trouble saving the program. Help**
 - ◇ A: It could possibly be from the 2 kinds of deployment
 - Be sure you're doing “full deployment” to save for next time - “full deployment” package - Labview tells the CRio to remember this next time for reboot
 - ◆ Can take 5-7 minutes
 - ◆ Know how much time you have between matches - Be sure to plan for this 5-7 minutes to download before you go to your match!!!



Chapter 10: Rookie Resources

NOTES

- Use the “quick deployment” just to test if code is working
- Then save in “full deployment” if code is right, and test again in “full deployment” to make sure it saved
- Test before you go to match to make sure it worked
- AGAIN – give yourself ENOUGH time for full deployment at the competition.

NOTE: Don't forget to go to the website to check updates: Control Systems – Kit of Parts

- **Classmate Drive Space Recovery Procedure (UPDATED 2/1/2011)**
 - shows how to recover the space (5 gig) on the classmate http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/Classmate%20drive%20space%20recovery%20procedure_RevA.pdf
- **Classmate Drive Space Installation Files (zip file) (UPDATED 2/1/2011)** http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/Classmate%20drive%20space%20recovery%20procedure_RevA.zip
- **Windows 7 Activation (NEW 2/1/2011)** http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/Windows%207%20Activation%20Procedure_Rev0.pdf
- **Windows 7 Activation Files (zip file) (NEW 2/1/2011)** http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/FIRSTactivate.zip
- **Driver Station Software Download (NEW 2/1/2011)** <http://decibel.ni.com/content/community/first/frc>
- Continue build and assembly
- Bumpers – begin construction soon!
 - ◆ **Q: AndyMark bumper instructions didn't come in box, now what?**
 - ◇ A: Bumper instructions and segment layout examples are located on AndyMark in same place you ordered the bumpers
 - Bumper Segment Example Layout - <http://files.andymark.com/37-bumper.pdf>
 - Sample Board Layout and Hole Spacing <http://files.andymark.com/37-board.pdf>
 - NOTE: When attaching your bumpers, you have a window of a few inches to attach – you may want to go to low side of the bumper specification to help in not tipping over (lower bumpers may get under you and that would be a big problem).
 - Don't forget – you need 2 colors (red and blue)!
 - Team 2809, KBotics, posted a white paper on how to make reversible bumpers – may be worth looking at!
 - K-Botics 2809 Reversible Bumpers White Paper - <http://www.chiefdelphi.com/media/papers/2437>
- Weight of robot – size and weight should be seriously taken into account now



Chapter 10: Rookie Resources

NOTES

◆ Q: *How do you weigh it when it's this big?*

- ◇ A: Can use wrestling/athletic scale – get the athletics teams involved/interested in why you may need their scale! 😊
 - Put plywood platform on scale, zero it out, and then weigh the robot
 - Be sure you are using an accurate scale! Important for going to competition!

• Get/build a cart to transport the robot (simple is good)

- Can use a garden cart from Home Depot
- Can use a Carpet cart
- Make sure it has good, sturdy wheels and is easy to pull
- Make sure your robot can sit on cart without wheels touching so you can test the program in air without having it on the ground

• Business update

- Continue to update sponsors/social media/website

◆ Q: *What do I need to do to make sure sponsors are updated for recognition?*

- ◇ A: Be sure to update TIMS on FIRST so sponsors are recognized during announcement of team at competition
 - Be sure they are recognized on the t-shirt
 - Update on website and all other publications (create a poster-board or sign that thanks sponsors to put in pit at competition)

◆ Q: *How to keep sponsors abreast of status:*

- ◇ A: Here are some ideas - send out newsletter/pictures of robot/team progress to sponsors/school administration
 - Send out weekly videos/interactive newsletter
 - Invite sponsors to team meetings/shop to see what the team is doing/progress
 - Invite them to all competitions and events!
 - At competitions, give sponsors “VIP pit pass” to feel important
 - Utilize JCP connection – maybe have a wall in a store highlighting team?
 - Include sponsor names, etc. in newsletters, website and newspaper articles

- Continue other business processes

- Travel and meal arrangements
 - Need to start calling NOW for hotels if you haven't already
 - MI State Tournament – other major competitions are in the area the same time, so a lot of hotels are getting full
 - ◆ Probably don't need to put money down yet so you can at least make a reservation and cancel if you don't qualify for States
 - Utilize parents to help with this!
 - If you're staying more than an hour away, seriously consider getting a hotel, especially in case of inclement weather
 - Staying in a hotel is a great way to increase team bonding and planning for the tournament!



Chapter 10: Rookie Resources

NOTES

- Uniforms
 - Get this rolling – you are running out of time!
 - Give t-shirt company at least a week
 - Start collecting shirt sizes for order - get samples for members to try on if possible
- Scouting plans
 - Establish what do you want to know?
 - What are you going to do with the data?
 - ipads? Database? Spreadsheet?
 - Is there a veteran team that may work with you? ASK!

AWARDS

- FIRST in MI points not approved and posted yet from FIRST
- Awards are due the Thursday BEFORE robot is shipped (Feb. 17th) – Website, Dean's List, Chairman's, Rookie All-star
- You do not have to submit Chairman's in order to submit Rookie All-star
 - You can still win Rookie All-Star if you don't submit documentation but you will be better positioned to win if you submit prior (judges will review your information prior to competition)
 - Good practice to submit online and continuously improve year after year
- Read award criteria and promote teams strengths based on those criteria
- **Periodically check FIRST calendar for due dates**
- Team Websites – you can do it!
 - Check with school/teacher – may have ability to host a website
 - Great communication tool with team, parents, sponsors
 - Can post team documents (ie permission slips, calendars, etc.)
 - Put link to sponsors!
 - Have “in the news” section for articles about the team



ROOKIE CONFERENCE CALL #8

NOTES



Tuesday, February 8, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3570, 3668, 3706, 3602, 3537,
Gail Alpert (FIRST in Michigan)

FEBRUARY 8 – WEEK 5 OF BUILD: FABRICATION AND ASSEMBLY

- ◆ **Q: Where do we find information about the tournaments – schedules, maps, etc?**
 - ◇ A: Go to the First in Michigan website:
<http://www.firstinmichigan.org/>
 - Go to FRC Events ->2011 season
 - All the events are listed there – click on the one you want and you can find all sorts of information on the tournament there.
- ◆ **Q: What is the deadline for website submission and where do we submit?**
 - ◇ A: Deadline is February 17, 2011.
 - To submit your website, you need to have the students submit it via SIMS.
 - To get the students registered to submit, you need to go into TIMS, and select which students can submit.
 - The website info is found at
<http://www.usfirst.org/roboticsprograms/frc/content.aspx?id=440;> click on the website award and go from there.
 - Btw here is the Web Site Criteria for 2011 Season:
 - http://www.usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/2011%20Website%20Award.pdf
- **Volunteers** – Each team is responsible for getting 2 volunteers per tournament that you will compete in. To register, go to the following sites (FiM= First in Michigan):
FiM Volunteer = <http://firstinmichigan.org/volunteer.html>
FIRST = https://my.usfirst.org/FIRSTPortal/Login/VIMS_Login.aspx
- **Programmers** – continue development
 - Be SURE to test your robot on blocks the first time you turn it on – for safety reasons!
- ◆ **Q: Pneumatic programming question**
 - ◇ A: Clint suggested you look at the Pneumatics Manual = http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Kit_of_Parts/2011_FIRST_Robotics_Competition_Pneumatics_Manual_Rev_B.pdf
 - Pneumatic Site (Great Site) =
<http://team358.org/files/pneumatic/>



Chapter 10: Rookie Resources

NOTES

◆ Q: We are having trouble with our controls – what do we do?

- ◇ A: You have to figure out where the trouble is coming from – if isolated to the power distribution, get another one from Andy Mark (as an investment), then contact FIRST for a replacement.

- 2011 Power Distribution (AndyMark) = <http://www.andymark.com/ProductDetails.asp?ProductCode=am-0865>

- Robot – continue build and assembly
- Testing/Debugging systems should be well into gear
- Begin students driving the robot – testing
- Bumpers need to be done

◆ Q: What is the bumper zone:

- Bumper zone: 1” off the ground to 7” off the ground
- Suggestion: try to make it 1” off the ground to keep bumpers as low as possible
- Keeps center of gravity lower
- If bottom of bumper is too high, could get caught on other bumpers/robots/field components – robots could tip you over too!
- Check out white paper on Chief Delphi for how to make reversible bumpers
- Make them as easy as possible to remove
- Make them easy to switch colors
- Don't forget you need your team number on them!

◆ Q: What is the Bumper weight?

- ◇ A: Bumpers must be less than 20 lbs
- Most will be about 13 lbs – use this extra 7 lbs to add weight if desired (lower center of gravity/redistribute weight)
- Bumper does not need to be bagged
- Don't forget that you need to incorporate bumpers into overall design
- Must be 360 degrees – cannot be gap or space

□ Q: Where can you buy fabric other than AndyMark?

- Joann Fabric (look online) – “duck cloth”
- AndyMark is caught up on backlog
- What is your weight? For robot AND your bumpers AND your mini-bot?
- Bagging the Robot
 - ◆ Q: do you have to bag after each competition?
 - Yes, bring an extra bag, extra zip ties, and lockout sheet to competition
 - This will be inspected at the competition (at beginning (“open”) and end (“close”))
 - For each competition you get 6 hours during the 7 days before the competition you compete in as open work time, called “Access Period”



Chapter 10: Rookie Resources

NOTES

- Do a TON of prep work before the access period to make most efficient use of the 6 hours (have CAD, drawings, tools, and to do lists ready before hand)
- You don't have to do the 6 hours all in one shot – must be minimum of 2 hours
- After you bag the robot, you can withhold 30 lbs to work on
 - Can be worked on separate from “un-bagging time”
- Cannot swap 30 lbs once you open your bag – must use same 30 lbs each time
 - le cannot keep an arm out that is 30 lbs, then during unbagging swap it for the chassis that is 30 lbs – must be same 30 lbs every time
- During unbagging, you can work on any part of the robot
- Be sure to measure pertinent parts before bagging – access is difficult when bagged!
- ♦ **Q: What things do not need to be bagged?**
 - Mini-bot
 - Bumpers
 - Controls
 - Batteries
 - Off the shelf parts
 - ♦ If you buy off the shelf and drill a hole in it, no longer considered “off the shelf” – must be bagged (unless it is used as a spare part)
 - ♦ If you buy off the shelf and then drill at the competition, you don't have to bag it
 - Spare/replacement parts
 - ♦ Can bring into competition as long as it is the exact same as the current one on your robot
- Mini-bot
 - Field people will take mini-bot down using a hook
 - Be sure that your robot is robust enough that it won't get damaged if they have to use a hook
 - ♦ **Q: Are most rookies working on mini-bot?**
 - A couple are
 - Don't forget, you can work on mini-bot after robot is bagged
 - You will still need a deployment system on your host bot
 - Deployment system can count as 30 lbs plus mini-bot
- Team graphics need to be accounted for – get some!
 - Don't forget sponsors should be on your robot!
 - Need team nickname, sponsor, and team number on robot
 - Check manual for rules on sizes/locations
 - Team number must be on bumpers – 4” tall with a 3/4” stroke
 - White is easiest to see
 - Lots of ways to do it: Embroider, Sew, Iron on



Chapter 10: Rookie Resources

NOTES

◆ Q: *is there practice time at the competition?*

- ◇ A: Yes, you can go into pits at 6 pm on Thursday
 - As fields are ready, you can begin practicing
 - Practice rounds occur Thursday night and Friday morning
 - ◆ Stand in line – first come, first serve
 - Don't go out on the field until robot is ready
 - At every competition, there is a practice field to use between your matches for testing (not full field but main field components)
 - Many teams have practice fields you can use (ie 469)

◆ Q: *What do you mean by “losing 3 inches” with the bumper?*

- The 3” bumper area can take away functionality of robot
 - ◆ If your grabber grabs tubes off of the ground, robot may not be able to reach passed bumpers
- Bumpers could interfere with graphics too
- Be sure to design bumpers into overall robot design!

• Cart

- Keep it simple
- Carpet cart is an example. Please look at past minutes for other suggestions.
- Try to make it so you can put your robot on there with wheels of the ground for testing
- Can modify cart after ship – but be sure the robot will sit nicely on it!
- Ask parents for help or kids with little to do

• BOM (Bill of Materials)

◆ Q: *Where do we find one?*

- ◇ A: We posted the 2010 BOM in past minutes – Clint has given you the current 2011 BOM (remember, continue to check FIRST website for details and documents): http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/2011%20Inspection%20BOM%20Template.xls
- General Rules to BOM:
 - ◆ Must list material used and it's cost
 - ◆ Don't have to include fasteners unless they cost > \$1



BUSINESS UPDATE

- Continue to update sponsors/social media/website
- Complete
 - Travel and Meal arrangements
 - Talk to parents
 - Get permission slips
 - Talk to school about what is needed
 - Background checks?
 - Uniforms
 - You are behind if you haven't started already! Need to do now!
 - Scouting plans
 - See previous week's notes
 - What do you want to know? How do you want to see the data?
 - Team Awards submissions
 - **ONLY HAVE 9 DAYS!!!!**
 - Students must submit!!
 - Go onto TIMS ->edit
 - Go to SIMS (students only)
 - Students can submit award submissions here
 - Make sure they are submitting correctly
 - **Feb 17th – DEADLINE for DEAN'S LIST!!**
 - Done through TIMS
 - Update Sponsors on TIMS
 - Where to do Rookie All-Star submissions go?
 - Check MI FIRST supplement update
 - Bring information with you to competition so you have a hard copy
- CHECK OUT FIRST IN MI SUPPLEMENTS!
 - Will have update of point system to qualify for MI State Tournament
 - Some awards allow you to compete for those awards at the State level but don't necessarily qualify the robot to compete (ie Kleiner Perkins Caufield and Byers)



ROOKIE CONFERENCE CALL #9

NOTES



Tuesday, February 15, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3570, 3668, 3602, 3534, 3875,
3655

FEBRUARY 14 – TESTING AND VALIDATION - HOME STRETCH!

WE STARTED WITH QUESTIONS

- ◆ **Q: Team 3602 seems to have issues with the Jaguars. Can't get motors to run. Was running, then went out of range and can't get running again.**
 - ◇ A: Try using PWM instead of CAN. Check PWM wires and jumper cables. With CAN, everything is Daisy chain – check all connections. Post question on www.chiefdelphi.com if can't get working
- ◆ **Q: Mini-bot Motor – can we alter it?**
 - ◇ A: Only the transmission at end of the motor, not the actual motor, can be modified. FYI, everything inside of it will be metric so make sure you have people who can modify it correctly. Steel rod is not approved mini-bot part – cannot use as shaft.
- ◆ **Q: What is considered part of the “drivers station”? CRIOS?**
 - ◇ A: Classmate, joystick, etc. is considered part of the “drivers station” and doesn't need to be bagged. If you keep the CRIO unbagged, it is considered part of the 30 lb allowance

BAGGING

- Must be bagged by Tuesday 11:59 pm!
- Do not need to bag:
 - Battery
 - Mini-bot
 - Controls (joysticks, Classmate)
 - 30 lb
- Can still work on mini-bot! (without being considered 30 lbs)
- Bagging check list: Prefer to have 3rd party person sign off on bagging. Must be an adult. If you can't find anyone, it can be an adult on your team
- Bag immediately after competition for the next competition
- Will have 6 hours the week before each competition you attend (must do min 2 hours at a time)
- Can't lose paperwork! Keep in safe place. Suggestion –keep on clipboard

Focus in next week should be on getting robot moving by Tuesday! You can still work on mini-bot post-bagging. Coming into a competition without a running robot is a big hill to climb and gets the team on edge – do what you can to have it moving before you bag it!



SHIPPING

Use labels for going from MI State Championship to Worlds. Submit paperwork now to be prepared for going to World's. Have 2-3 days after MI State Championship to send to St. Louis. 2 labels - 1 shipment there, 1 shipment back. FedEx Once you qualify at States, they will give you the paperwork, etc to ship the robot.

◆ **Q: What is the additional cost to compete?**

◇ A: MI State is add'l \$4K to register. World Championship is add'l \$5K. Amazing experience that is worth the money!

◆ **Q: What do you do between ship and first competition?**

- Work on things you withhold (30 lbs/mini-bot/driver station)
 - ◆ Deployment and mini-bot
 - Can withhold mini-bot and deployment as 30 lbs
 - Continue to improve system deployment system to perfect before competition
 - Create mockup of robot if you need to in order to help replicate real robot environment
- Go to other District events to see what it's like, watch competition, get prepared for what the competition will be like, see how others are playing the game
 - ◆ Can watch webcasts as well
 - ◆ Learn so much about what people bring to a competition, how everything is setup and run, what pits are like, etc. = invaluable!
 - ◆ Makes you think of things you wouldn't otherwise
 - ◆ How people play the game changes from one weekend to the next – people get smart and watch other teams to improve play
 - ◆ Have students scout at a tournament you aren't competing in – tests scouting system/data/are you really getting what you want?
- Take a nap! Enjoy your time – get rested/re-grouped!

VOLUNTEERS

- Need to get volunteers signed up for competition
 - ◆ **Q: Parents signed up in VIMS but can't pick competition?**
 - ◇ A: Email volunteer coordinators directly
 - If parents aren't volunteering, let them know that their kids will have to volunteer if you can't get enough parents
 - Can watch your teams matches so won't miss anything from the competition
 - Go into VIMS and then send email to Volunteer Coordinator at each District
 - Don't need any special skills!
 - This is a huge contributor to the low-cost District model so volunteers are critical!



BOM (BILL OF MATERIALS)

- Raw material – only have to put down what you actually use, not total that you buy (ie used 1” of aluminum out of 10” bought – only show 1”)
- Do not need a mini-bot BOM (released in rules update)
- Don't need to list fasteners < \$1

COMPETITION EXPECTATIONS

- Can get there at 6 pm on Thurs –work until they kick you out (about 10 pm)
- Friday - Practice until matches start (9 or 10 am)
- Compete Friday until ~ 8 pm
- Finish qualification matches Saturday morning
- Elimination matches Saturday afternoon
- First to win 2 matches moves on
- Alliance selection – top 8 ranked teams pick 2 other teams to play with them in the elimination matches (this is why scouting is important!)
- Award Ceremony – ALL teams should stay – more than just “winner of competition awards” that you qualify for!
- FIRST can use help cleaning up afterward (team building!)

CHANGE NEXT WEEK'S MEETING TO WEDNESDAY? YES – IT HAS BEEN APPROVED!

- Business update
 - Complete
 - Travel and Meal arrangements
 - Talk to parents
 - Turn in signed permission slips
 - Scouting plans
 - See previous week's notes
 - What do you want to know? How do you want to see the data?
 - Team Awards submissions
 - MOST DUE THIS THURSDAY FEB 17TH!!!!
 - Dean's list – 4000 characters
 - ♦ Be sure to recognize up to 2 students from your team
 - ♦ Can upload pictures
 - ♦ All through TIMS
 - “judges information” -> edit/view
 - ♦ Juniors strongly encouraged – or Seniors
 - Students must submit (SIMS):
 - ♦ Chairman's
 - ♦ Website
 - ♦ Woodie Flowers
 - ♦ Go onto TIMS ->edit
 - Go to SIMS (students only)
 - Students can submit award submissions here
 - ♦ Make sure they are submitting correctly



Chapter 10: Rookie Resources

NOTES

- Update Sponsors/essays/team demographics/robot pics on TIMS by Feb 24th!!!!
 - ♦ All through TIMS
 - “judges information” -> edit/view
- Get a hold of local paper to let them know you are bagging the robot
 - ♦ Maybe a quick story?
 - ♦ Send a picture
 - ♦ Let them know you are going to competition
 - ♦ Great recognition!
 - ♦ Idea: Call the newspaper to see if they will bag the robot

♦ **Q: Can I use FIRST logo/video/pictures on my website, t-shirts, etc.?**

- ◇ A: As long as you aren't using it negatively or to make money, then YES, use it and spread the word of FIRST!

♦ **Q: Should I start raising money in case I go to States?**

- ♦ It's always good to start raising money to be prepared if you qualify to go. Once you qualify for States, start stressing it – local media – say you're a rookie team, first time ever, you made it to States and now you need support/financial to go! Many times the local community/industry will come through with donations. Try doing a can drive or other small fundraisers. Go to team and see if they really want to go, maybe chip in money from each member. Let Gail Alpert know – she will help you! She wants to see you participate!
- ♦ Fundraising ideas: Parents night out: “glorified baby-sitting”.... use the school and have activities for students, have parents pay to drop off their kids for the night. Great way to feed program! RUSH has done it and raised >\$1K every time. See Team RUSH Toolkit (<http://www.teamrush27.net/requesttoolkit.html>) for more fundraising ideas

RULE Change G48-C: cannot block area between towers with all 3 robots
– basically can't make blockade to stop other robots from getting to towers.
Can still play defense, just can't create a blockade.



ROOKIE CONFERENCE CALL #10

NOTES



Tuesday, February 23, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3534, 3656, 3570, 3655

FEBRUARY 23 – SHIP DAY: NOW WHAT?

INSPECTION

- Remind students to do the inspection
 - Answer all question
 - Important ones – have them check the sharp edges around grippers
 - Pneumatics – be sure to only store 120 psi
 - Students should read the inspection checklist first (at least once), and then be able to answer any question from the list.
 - This is for the STUDENTS to do ... not the adults.
 - Go thru each question – power distribution, breaker, etc., mechanical electrical, pneumatic – make sure they know what they are answering
 - After inspection, try to get on the practice field ASAP – Do additions ASAP
 - If you make *any* drastic changes to your robot, you will need a new inspection!
- **Robot –**
 - Take bumpers off right away
 - Check weight and size first to see if you fit
 - You will put your robot in a polycarb box – if you stay within the box, you are okay.
- **Mini-bot –**
 - Different people inspecting minibot vs. robot
 - Again, if you make major changes to the mini-bot, you will need reinspection.
- Competition
 - Paperwork – don't forget your lock/unlock paperwork
 - Paperwork – TIMS team listing (this is a mandatory)
 - Paperwork – BOM (don't forget your BOM – in digital form)
- Additional Batteries
 - *FIRST in Michigan* will be providing each rookie team with 2 new batteries
 - You will need additional charger/chargers for spare batteries
 - Once you get these batteries, put on chargers



Chapter 10: Rookie Resources

NOTES

- Use only fresh batteries each round
- Number the batteries, so you can log which ones were used, and which ones have been charged (and for how long). That way, when the playoffs occur, you never put in a weak battery!
- Operators Station
 - You can put Velcro on the bottom of your controls (to keep them from falling off)
 - Make sure as soon as you get to the field, you plug in your controls. This is very important – for the field set up to recognize your robot.
- **Programming** – continue development
 - Which line you're put on – angle, 2 straight ones – this needs to be discussed and agreed upon by your alliance section
 - Alliance discussion – HP placement needs agreement
 - Drivers controls NOT negotiable – FIRST tells you if you are Blue 1,2 or 3 or Red 1, 2, or 3.
- **Showcasing** – Alliance Selection
 - You need to have a list of the teams you want to play with (get a list of 20)
 - You should pick teams that not only compliment your robot/team, but one that works well with you, good chemistry, makes a HUGE difference
 - In order to simplify the process, you could also create the “No thank you list”, of teams that would not work well with you. Then take the rest and determine which works best with you.
 - Penalties can kill you – be careful of penalties, good teams won't pick you if you get penalties all the time.
- **Drive Coach** – Lessons learned from year to year
 - Ideally, you want the kids to drive, while you coach the field.
 - Many veteran teams will not allow a student to be a drive coach because it is too much pressure; there is nothing worse than seeing a student shoulder the responsibility of loosing and seeing the team angry with them.
- Drivers – who do you pick?
 - Should be a leader
 - Mature enough to handle the pressure
 - This student needs to know the robot and is willing to do whatever it takes to make it happen
 - Needs to have a calm head
 - Needs to be able to handle the stress of competition – in an arena, with the music so loud you can barely stand it, cheering, yelling ... they need to be calm



Chapter 10: Rookie Resources

NOTES

- **Don't forget to finish the mini-essays on TIMS** – Due Feb. 24th –
 - Mini essays
 - Picture of robot
 - This info will be printed for the judges, and is used as a cheat sheet

- ◆ **Q: *Where is the best place to put the sign off sheet in robot bag***
 - ◇ A: leave it on the outside, don't lock it in the bag, because you can't read it easily Suggestion, put it on a clipboard, then lay the clipboard on the bagged robot when done. Keep it with the robot at all times.

- ◆ **Q: *Dinner break at competition?***
 - ◇ A: No – 6pm matches are done at some competitions, some it is 7pm
 - Don't plan on a dinner break. Either have your team do shifts for dinner or wait until you leave the event to eat.

- ◆ **Q: *How do you keep the kids on schedule?***
 - ◇ A: When you get the match schedule, make sure the kids write down the match schedule (match numbers, not times ... sometimes the schedule is off and the times won't match)
 - Kettering Schedule – attempting to have every match – stored on youtube.

- ◆ **Q: *Requirements for volunteers – is it your requirement?***
 - ◇ A: Yes. Each team **MUST** provide 2 volunteers per competition. This allows us to keep the price down for the competitions.
 - Talk to Gail Alpert – if there is a problem, volunteer system is slightly flexible
 - Be sure to have students volunteer through VIMS
 - Fridays are difficult for everyone (getting the days off), we understand that, but we still need you to provide volunteers for the competition.



ROOKIE CONFERENCE CALL #11

NOTES



Tuesday, March 1, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3656, 3534, 3655

OPEN QUESTIONS:

◆ Q: *How to handle picking drivers?*

- ◇ A: Every team handles this differently. Remember to do whatever works best for your team! Following are some things to consider:
 - 1. Driver availability:
 - ◆ Can they attend every day of every competition, including States and the Championship?
 - ◆ Are they able to come to meetings often in order to practice?
 - 2. Driver personality
 - ◆ Do they listen to the drive coach and do what he/she says?
 - ◆ Are they mature?
 - ◆ Can you count on them to be where they need to be, when they need to be there?
 - ◆ Can they handle pressure and intense situations?
 - ◆ Are they able to handle criticism from the drive coach?
 - ◆ Can they implement others' suggestions for improvement?
 - ◆ Are they able to have the weight of the teams's success on their shoulders?
 - ◆ Are they able to think and act on their toes?
 - 3. Who to pick
 - ◆ One set versus rotating drivers:
 - One set allows:
 - Driver to build on previous experiences
 - More practice time
 - Drivers to learn each other's style
 - Drive coach to set and maintain expectations
 - More consistency in execution
 - Rotating allows:
 - Everyone to have a turn
 - Opportunity to discover more strategies
 - ◆ New drive team every year versus returning drivers
 - New every year:
 - Example: only letting seniors be on the drive team
 - Everyone eventually gets a chance to be on the drive team
 - Allows students to mature
 - Allows students to watch other drive teams before them

Chapter 10: Rookie Resources

- and learn by example
- Students learn what is expected of the drive team before they try to be on it
- Same drive team made I'd returning members:
 - Example: picking students as freshman and have them drive for 4 years
- Get to build off of many years of experience
- Develop skills for many years

ADVICE FOR THE WEEKEND:

- Arrive early on Thursday so you can go in RIGHT at 6:00
- Find an official to unbag your robot right away so you can get working
- Bring strong people in the truck with the trailer (they will have to do the unloading)
- Take advantage of your pit time
- Get inspected as soon as you can
- Remember to have a mentor check in at registration as soon as you arrive

NOTES



ROOKIE CONFERENCE CALL #12

NOTES



Tuesday, March 8, 2011, 6pm

Hosted by Teams: 27, 2337

Teams In Attendance: 3570, 3536, 3601, 3668,
Gail Alpert (*FIRST in Michigan*)

MARCH 8, 2011 – COMPETITION

DON'T FORGET:

- Bagged robot
- Paperwork for bagged robot
- Team Listing (from TIMS) and any other waiver forms
- BOM (Bill of Materials) – needs to be on a thumb-drive in the proper form. Look at past emails for this format (or in the game manual)
- Do you have any “information” on your team? The judges will come around and ask you about your team. Have the kids ready to answer these questions. If you have any documentation (newsletters, press releases, etc), have a copy to show to the judges. They will give back anything you give to them, if you ask.

PIT SUGGESTIONS:

- Get organized – have a place for everything; put tools away
- Have a sign for your sponsors to hang up
- Make it a “safe” environment

SAFETY CAPTAIN

- Delegate a student on your team to be the safety captain
- In the manual, there are rules for the safety captain – they must know them
- Judges will ask questions like:
 - Where are the eye-wash stations?
 - How do you properly handle the batteries? Etc.

COMPETITION EXPECTATIONS

- Can get there at 6pm on Thurs – work until they kick you out (about 10pm)
- Friday - Practice until matches start
- 10 am – open ceremonies
- Compete Friday until 7 pm, pits close by 8
- Finish qualification matches Saturday morning
- Elimination matches Saturday afternoon
- First to win 2 matches moves on
- Alliance selection – top 8 ranked teams pick 2 other teams to play with them in the elimination matches (this is why scouting is important!)
- Award Ceremony – ALL teams should stay – more than just “winner of competition awards” that you qualify for!
- FIRST can use help cleaning up afterward (team building!)



FIELD MANAGEMENT SYSTEM FOR ROOKIES – MATCH SETUP PROCEDURE:

- Send two students to place the robot on the field and turn on the power as soon as possible.
- Have another student take the controls and Classmate to the driver station that you are assigned (Red or Blue, 1, 2 or 3)
- Ensure that your Classmate is booted into the driver account prior to arriving at the field.
 - Connect the Ethernet cable to the Classmate
 - Connect or Check that all USB are connected properly
 - Go to the Diagnostics tab and ensure that when you press a button on your joysticks, the USB device changes from GREEN to BLUE (joystick can be rearranged and could affect your controls)
 - Check that your team number is in the upper right hand corner
 - Communications light will turn green once it has connected with the field
 - Robot code light will turn green once it has connection with the robot
 - Once all 3 lights are green, your robot is ready for the match.
- IF you have ANY QUESTIONS, ask for help. It is easy to get going, once you know what you are doing. Rob Jenkins will be the FTA for the Waterford tournament, ask him if you are having controls issues.

AFTER THE MATCH – ON THE FIELD:

- Send one student to get cart while others go to robot
- Put robot in SAFE transfer mode (bring arm down, etc)
- Be sure robot is turned off
- Wait for your turn to get off the field, put robot on cart and take to pit
- IF you LOST parts on the field, PICK UP ALL YOUR PARTS. If you didn't know, the referees will put the "extra parts" in the ROBOT BARF BOX. Look there for missing pieces.
- Go back to pits and perform a ROBOT CHECK-LIST, for the next match.

GENERAL TIPS AND HINTS:

- Remind the mentors that this is the kid's weekend. They should be doing the talking to the judges! They should be the ones to brag about all the great stuff you have done!
- Cheer and have fun! Everyone loves to cheer!
- Don't forget to ask for help.
- Don't forget about gracious professionalism ... it is about working together!
- Remember to ALWAYS put a fresh battery in the robot (for each round).
- Name/number your batteries, so you know which one you just used, and which one has been charging the longest!
- Create a pit-crew checklist, so you know what batteries you are using, you can have a list on what you need prior to each round. This is a great way to document the weekend!

Clint reminded all of you to read the update #17 ...

http://usfirst.org/uploadedFiles/Robotics_Programs/FRC/Game_and_Season_Info/2011_Assets/Team_Updates/Team%20Update%2017.pdf



NO CALL IN - TIPS FROM KYLE, BRANDI AND CLINT:

NOTES



Continuously improve your robot. Don't think when you are done, you are done.

Gracious professionalism reminder –

- All teams work very hard to get a robot on the field. Some make it, some don't ... don't criticize if they are not the best, remember, they suffered like you.
- Remember, everyone is watching – only say something you would say in front of your grandmother, as if she is watching!

What to do if your team doesn't get picked ...

- You go to practice field, work on auton or robot,
- Fix your robot,
- Pick an alliance and cheer for them
- Don't leave early – in case you win an award (or someone else wins an award, you can cheer them on)
- Choose your attitude – to have fun!

WHAT HAS CHANGED?

This toolkit is a living document. Team RUSH makes every effort to add in new information and updates as they occur.

- *You will be able to see which sections have been revised by looking in the bottom right hand corner below.*
- *Also, new in this version and going forward – we will add the month/year of the change to the bottom of each page when it changes.*

We need your input to continue to improve this document – please give us your feedback by simply e-mailing Kyle Hughes: toolkit@teamrush27.net

Respect, Unity, Spirit and Heart



Lived and documented by Team RUSH with the helping hands of K&K Studios



Introduction	10-2011
Getting Down to Business	10-2011
Financials & FUNdraising	10-2011
Regatta	10-2011
Sponsorship	10-2011
Community Impact	10-2011
Build Season	10-2011
Competition	10-2011
FIRST in Michigan	10-2011
Parent Support	10-2011
Rookie Resources	10-2011

