



**MEMO:** March 1, 2006

**SUBJECT:** Preparation Tasks for Boilermaker Competition

**GOAL:** **March 16-18, 2006 -, Boilermaker Regional Competition**

**To:** TEAM PhyXTGears 2006

---

You all deserve congratulations on meeting the ship deadline for this year's robot. Your goal to "BE COMPETITIVE AT THE REGIONAL COMPETITION" is certainly at hand. Your efforts to deliver a competitive robot are exemplary of what it sometimes takes to get meet these type of objectives in industry. When it came down to crunch time PhyXTGears pulled together as a team and finished a robot that will impress anyone.

As you know, we still have a few challenges ahead of us before the regional. These challenges can be met with the proper planning, testing and practice. They are definitely manageable. The dates for (4) five-hour "Fix-it" windows are listed below. We have several things to accomplish. A comprehensive list can also be seen below. Please let me know if there is anything else we must do to achieve our goal this year or if any corrections to the list are needed. We will review this list a few more times in the coming weeks to make sure we are prepared and a have good plan going in to the competition.

A copy of the spreadsheet of Tubby's weight is also included in this memo for your information and easy reference.

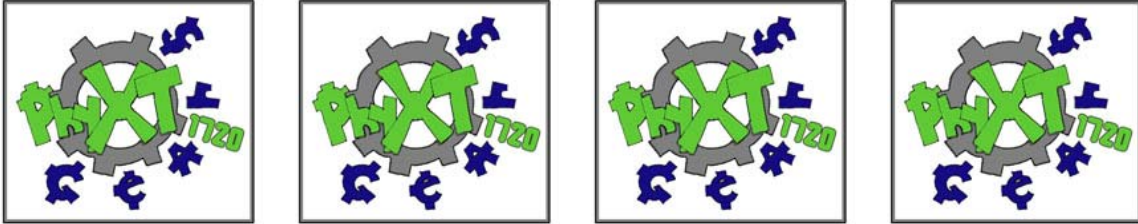
CONGRATULATIONS on a job well done. Let's keep moving ahead by completing the action items below.

#### **Fix-It Windows**

1. Sunday, March 5, 2006
2. Wednesday, March 8, 2006
3. Sunday, March 12, 2006
4. Wednesday, March 15, 2006

#### **Preparation Tasks for Boilermaker Competition**

1. Protective Barrier (**Mike**)
  - 1.1. Must be able to support logos and team number
  - 1.2. Could be mesh or plastic sheet



2. Shield shooter wheels (Brad H)
  - 2.1. By rules shooter must be guarded
  - 2.2. Protective barrier may be adequate to serve a shooter guard.Clarification needed (Rick).
3. Complete ball storage (Mark)
  - 3.1. Current design weighs 6 to 8 lbs
  - 3.2. New concepts must be tested for weight loss and functionality
4. Idler weight reduction (Allen)
  - 4.1. Testing to be conducted to determine if they needed at all. The goal to climb the ramp.
  - 4.2. A lightweight design may be required. Current idlers are 2 lbs.
5. Camera panning may be added back in if weight will allow
  - 5.1. Parts must be prepared to upgrade at Boilermaker (Brad H)
  - 5.2. Programming will be needed (Kent)
6. Ceiling to protect bands from ball interference as it enters beneath Tubby.
  - 6.1. Could be light weight foam (Mike)
7. Hardware
  - 7.1. Inspect to make sure all fasteners are in place with Loctite (Matt)
  - 7.2. A screw is missing from the drop retainer (Mike)
  - 7.3. Make a list of fasteners while inspecting for future reference and spare parts if needed. (All)
8. Create a list of spare parts (Mark)
  - 8.1. Make sure all spare parts are being made during the 5 hours fix it windows.
9. Repair pneumatic leaks (Paul/Brad C)
  - 9.1. May need to replace solenoid valves
10. Replace camera box (Mike)
  - 10.1. The current box is Plexiglas and too brittle to hold up.
11. Operator Interface board must be built (?)
12. Mount battery and compressor on Tubby cart (Nathan and Tyler)



- 13. Prepare workstation for competition (**Nathan and Tyler**)
  - 13.1. Mount battery re-charger
  - 13.2. Organize workstation as needed to be efficient
  - 13.3. Make sure the toolbox (blue) has all of the necessary hand tools and is organized.

- 14. Training for competition
  - 14.1. Communication skills - How to address the judges (**Amanda**)
  - 14.2. Technical review of the robot design to make sure everyone understands the engineering principals used on Tubby (**Mentors**).

- 15. Programming (**Kent**)
  - 15.1. Need input

- 16. Electrical/Pneumatic needs (**Paul**)
  - 16.1. Need Input

- 17. Practice (**Drivers**)
  - 17.1. Tubby II is being constructed for practice purposes.
  - 17.2. Allocate time for practice day at boiler maker

18. Create a plan/agenda for the practice day at Boilermaker to insure everything that must be accomplished can be. (**Mark**)

- 19. Weight Reduction (**all**)

| <b>Estimated Tubby Weight (2/21/06 @ 6:30PM)</b> |           |            |               |
|--------------------------------------------------|-----------|------------|---------------|
| <b>ITEM</b>                                      | <b>Kg</b> | <b>Lbs</b> | <b>Sum</b>    |
| 1 Bot Chassis and misc.                          | 44.09     | 97.00      | 97.00         |
| 2 Band backer                                    | 0.53      | 1.17       | 98.17         |
| 3 Hinge Pins                                     | -0.09     | -0.20      | 97.97         |
| 4 Elect. Board Standoff                          | 0.05      | 0.11       | 98.08         |
| 5 front team Light                               | 0.07      | 0.15       | 98.23         |
| 6 Plexi glass protector                          | 0.74      | 1.63       | 99.86         |
| 7 Shooter                                        | 7.22      | 15.88      | 115.74        |
| 8 Ball collector                                 | 3.56      | 7.83       | 123.57        |
| 9 Camera                                         | 0.51      | 1.12       | 124.69        |
| <b>TOTAL</b>                                     |           |            | <b>124.69</b> |

Mark Lohmar



PhyXTGears  
Project Manager