

Siren High School HMV

2007-2008

Teacher

Mr. Dorn

Students

Mike Covey
Elizabeth Daniels
Grant Downard
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HMV Daily Log Siren Wisconsin 2007-2008

Sept. 11, 2007: Today we decided that we are doing the HMV competition. We also decided to restore two of the older cars, rather than building a car from scratch. We voted on the President and we voted in Grant D.

Sept. 12, 2007: We voted on the Vice President and we voted in Ryan F. We voted on the Secretary and we voted in Elizabeth D. And we voted on the Treasurer and we voted in Kiana R. Then we talked about the Newsletter articles; deadline is Sept. 15. We also chose committees.

People on the fundraising committee are Kiana, Chrissy, and Elizabeth. People on the engineering committee are Cody, Tony, Ryan F., Bob D., Chris H., Andrew, Grant, and Mike.

Sept. 13, 2007: We broke into committees and brain stormed. The fundraising committee came up with an estimate of about how much money we have to raise and it was about \$750. This cost includes the entry of two cars (\$100), 4 hotel rooms (\$350), gas there and back (\$100), and probably about \$200 in car parts. The fundraising committee also started to think of ideas for fundraising and came up with; a bake sale, potluck, raffle, dance, and/or Karaoke contest. The engineering committee said they needed more bolts to put on the engine.

Sept. 14, 2007: We broke into committees and brain stormed. The engineering committee took the car off the wall and looked it over. The fundraising committee looked for the donations letter but couldn't find it. Then the fundraising committee started writing a newsletter article for donations and finished it. The fundraising committee also talked to the principal about having a dance. And he said we'd need about 4 chaperones and a facility release form.

Sept. 17, 2007: We broke into committees. The fundraising committee wasn't here today because of a college trip. The engineering committee is putting parts that were taken out the cars back in them. A goal is to get a test run in by the end of the week. And today we started organizing notes from paper, onto the computer.

Sept. 18, 2007: Everybody started out in the computer lab and we created an HMV folder and short cuts to Wisconsin super mileage. Mr. Dorn briefly went through how to use the Solid Works program. And after that we broke into committees. The fundraising committee looked for the donations letter. The engineering committee ran the red engine to hear it run. And they also started the Briggs and Stratton engine to hear it run.

Sept. 19, 2007: We didn't have class today because we had home coming games during HMV class.

Sept. 20, 2007: The engineering committee is trying to get the cars mobile, and they hope to have a test run as early as tomorrow. The fundraising committee found the old donations letter and typed it up on the computer. We missed this month's deadline for the newsletter but we should get the letter in by the next deadline. One group worked on cleaning the motor. The other group worked on switches, they saw how the throttle works, and got the brakes to work.

Sept. 21, 2007: Today we can't test run the cars because it's raining. The engineering committee cleaned up the shop and worked on fixing the cars for the test run. The fundraising committee didn't work today because of home coming projects.

Sept. 24, 2007: Today the fundraising committee is getting the donations letter ready to send out to companies and put in the newsletter. And the engineering committee is getting the cars ready for a test run for sometime this week. The fundraising committee is also trying to find out the date of the competition and the due date for the forms. Both groups are working on fixing the throttle.

Sept. 25, 2007: A goal for today is to try to get a test run from at least one of the cars. The fundraising committee worked on the donations letter for the newsletter. And the fundraising committee tried to send an email to the Stout website asking when the date of the competition is and when the due date for the proposal packet is. The cars couldn't get a test run in today, but we plan on a test run sometime this week. One group put the motor in the car and looked at tires.

And the other group worked on getting the brakes working better and looked over the car to see what the problem is.

Sept. 26, 2007: One group worked on the throttle and put in a new throttle cable. The other group got the motor mounted, set up the throttle, and broke their recoil. The fundraising committee tried to send the donations letter to the newsletter and to companies that have donated in the past. The fundraising committee also tried to send an email to Stout about the questions we have.

Sept. 27, 2007: The fundraising committee sent out the donations letter to the newsletter and then emailed Stout with the questions we had. The fundraising committee also brainstormed ideas about having a dance and a bake sale. One group worked on their throttle and they need more bolts. The other group planned on cutting the front of the car and then someone went on a parts run for nuts and bolts.

Sept. 28, 2007: The engineering committee cleaned up the shop (because it was Friday shop clean up). One group worked on fixing the tires. The other one worked on the throttle.

Oct. 1, 2007: The engineering committee had to clean up more because they didn't clean up enough on Friday. One group worked on steering. The other group worked on the throttle control.

Oct. 2, 2007: The fundraising committee started to put the book together. One group worked on the steering. The other group worked on the throttle control.

Oct. 3, 2007: The fundraising committee looked at old books and figured out how we want to put our proposal packet together. Mr. Dorn got a bike and we're going to strip it for parts. One group shortened the front end of their car. The other group worked on the power train because something is wrong with it, but the throttle is done.

Oct. 4, 2007: The fundraising committee worked on getting the donations letter on letter head. One group worked on getting the engine to slide. And the other group started to work on the front end and one of their members went on a parts run.

Oct. 5, 2007: Today is Friday clean up so we will have extra shop clean up. The fundraising committee worked on getting the donations letters printed and also worked on the proposal packet. One group worked on the front end. The other group worked on the engine and got it fixed.

Oct. 8, 2007: The fundraising committee worked on writing the addresses on the envelopes so that we can send the donations letters out to the companies. One group is trying to get their car ready for a test run. The other group worked on the front end and made sure other parts are working right.

Oct. 9, 2007: The fundraising committee sent out the donations letters today and worked on the proposal packet. One group worked on switches and the front end of their car. And the other group worked on the tire, they're trying to get a test run in. Today was extra shop clean up because tonight is parent teacher conferences.

Oct. 10, 2007: No school because of parent teacher conferences.

Oct. 11 – 12, 2007: No school because of teacher in-service.

Oct. 15, 2007: The fundraising committee worked on the proposal packet and tried to straighten out the books on the computer. One group worked on filling the tires for a test run. The other group worked on steering and the front end.

Oct. 16, 2007: The fundraising committee worked on the proposal packet. One group worked on the front end and the steering. The other group worked on making sure every thing is ready for the test run and making sure their engine slides.

Oct. 17, 2007: The fundraising committee worked on the proposal packet. One group worked on the brake system, getting the recoil cover back on, and the throttle. The other group attempted their first test run today. But the engine wouldn't start.

Oct. 18, 2007: The fundraising committee worked on the proposal packet and ideas for fundraisers. One group worked on the front end of the car. And the other group worked on the engine and got it to start again.

Oct. 19, 2007: The fundraising committee worked on the proposal packet and ideas for fundraisers. One group worked on the front end. And the other group worked on getting the car ready for a test run. And today is Friday extra shop clean up.

Oct. 22, 2007: The fundraising committee talked to the principal about a dance and a bake sale. One group worked on the throttle, brakes, and the front end. The other group worked on getting the car ready for a test run.

Oct. 23, 2007: The fundraising committee worked on the proposal packet and talked about other fundraising ideas. One group worked on the front end.

Oct. 24, 2007: The fundraising committee worked on the proposal packet and talked about other fundraising ideas. One group worked on the front end. The other group worked on getting the car ready for a test run.

Oct. 25, 2007: The fundraising committee worked on the proposal packet and came up with fundraising ideas and discussed them. One group worked on fixing the floor and on the front end. The other group worked on their throttle.

Oct. 26, 2007: The fundraising committee thought of ideas for fundraising and worked on the proposal packet. One group worked on fixing the throttle. The other group worked on the floor pan and the front end.

Oct. 29, 2007: The fundraising committee talked to people about doing concessions at a dance and thought of ideas for the concessions. One group worked on the throttle. The other group worked on the floor pan and the front end.

Oct. 30, 2007: The fundraising committee worked on the proposal packet. One group got a test run in. Their car moved on its own but it was a little slow, so on a later date they are going to put more pressure on the back tires. The other group worked on ribbeting the floor pan.

Oct. 31, 2007: The fundraising committee talked to the principal about a concessions stand and got the fundraising form. One group worked on fixing the pressure on the tires and the brakes. The other group worked on ribbeting the floor pan.

Nov. 1, 2007: The fundraising committee filled out the fundraising form and made a list of things we need for tomorrow's Halloween dance. One group adjusted some things for a test run and they had another test run. But unfortunately the steering wheel and the throttle broke. The other group worked on the floor pan.

Nov. 2, 2007: The fundraising committee took inventory for concessions and started to get things ready for the concessions at the Halloween dance. One group worked on fixing the steering and the throttle. The other group worked on the floor pan. And it was Friday so they did extra clean up.

Nov. 5, 2007: The fundraising committee had some complications with the dance concessions and we didn't get a chance to sell anything but today we went back to discussing fundraising ideas. One group worked on the steering and the throttle. The other group worked on the floor pan and the brakes.

Nov. 6, 2007: The fundraising committee looked at Stout's new website. One group worked on the steering and the throttle. The other group worked on the floor pan.

Nov. 7, 2007: The fundraising committee talked about fundraising ideas and called the Tribal Center. The Tribal Center said that we have to write a letter, we all have to sign it, and the whole class and Mr. Dorn have to go there for a meeting. One group worked on extending the steering arm and got the throttle cable set up. The other group worked on the floor pan and they got it finished.

Nov. 8, 2007: The fundraising committee deposited a \$100 donation from the Pourhouse. The fundraising committee also updated the funds chart and tried to think of more fundraising ideas. One group worked on extending the steering arm. The other group worked on the brakes and the throttle.

Nov. 9, 2007: The fundraising committee talked about fundraising ideas. One group worked on extending the steering arm. The other group worked on the brakes and the throttle. And today is extra Friday clean up.

Nov. 12, 2007: The fundraising committee took pictures of the engineering committee working and we are going to try to incorporate them into the log book. A goal that we have set for this week is to get test runs on both of the cars by the end of this week. One group worked on getting the brace ready for welding. The other group did some adjustments on their car and tried to get it ready for a test run.

Nov. 13, 2007: The fundraising committee worked on getting a thank you letter to the Pourhouse and a donations letter to the tribal center. One group worked on getting the brace welded on. The other group tried a test run but it was unsuccessful.

Nov. 14, 2007: The fundraising committee sent out the thank you letter and faxed the donations letter to the tribal center. And the fundraising committee also printed off the rules and regulations and worked on Solid Works. One group worked on fixing problems on their car so they can try to get another test run in. The other group worked on welding, fixing the brakes, and fixing the gas pedal.

Nov. 15, 2007: The fundraising committee looked for another fuel bottle to buy for a car and worked on Solid Works. One group worked on getting in a test run. The other group worked on welding, brakes, and gas pedal.

Nov. 16, 2007: The fundraising committee updated the funds book and looked into fuel bottles. One group worked on getting a test run. The other group got there first test run. The steering is messed up and needs to be fixed. Today was extra Friday clean up.

Nov. 19 & 20, 2007: No class because there are mini-courses.

Nov. 21- 23, 2007: No school because of Thanksgiving break.

Nov. 26, 2007: The fundraising committee looked for fuel bottles on the Internet. There was no one here today from one of the groups. The other group worked on steering.

Nov. 27, 2007: The fundraising committee looked for fuel bottles on the Internet. One group worked on the steering. The other group worked on welding the muffler and worked on the switches.

Nov. 28, 2007: The fundraising committee looked for fuel bottles on the Internet. The fundraising committee also briefly discussed fundraising ideas. One group worked on the switches and wires. The other group worked on steering.

Nov. 29, 2007: The fundraising committee worked on the proposal packet. One group tried a test run in the shop. And they started on their own power and they moved on their own power. The other group tried a push test run in the shop.

Nov. 30, 2007: The fundraising committee purchased a fuel bottle. One group worked on the brakes. The other group worked on steering. Today was extra Friday clean up.

Dec. 3, 2007: The fundraising committee worked on ideas for fundraising. One group worked on the brakes. The other group worked on steering and they are trying to get a block on so they don't over steer.

Dec. 4, 2007: The fundraising committee talked about an idea of a dance. One group worked on the brakes. The other group worked on welding on the steering block.

Dec. 5, 2007: The fundraising committee talked to people and tried to find chaperones for the dance. The engineering committee looked up possible car modifications.

Dec. 6, 2007: The fundraising committee talked about the dance. The engineering committee looked up possible car modifications on the Internet.

Dec. 7, 2007: The fundraising committee talked to people about ice cream sales and the dance. We will start ice cream sales next Wednesday. The fundraising committee is also trying to have a holiday dance next Friday. The engineering committee looked up possible car modifications on the Internet.

Dec. 10, 2007: The fundraising committee worked on getting things ready for ice cream sales and the holiday dance. One group looked up possible car modifications on the Internet. The other group looked over their car to see what they still need to do and how to fix it.

Dec. 11, 2007: The fundraising committee filled out forms for ice cream sales and a dance. The engineering committee looked up possible car modifications on the Internet.

Dec. 12, 2007: The fundraising committee worked on an ice cream sale sign. The engineering committee looked up possible car modifications on the Internet. Ice cream sales started today.

Dec. 13, 2007: The fundraising committee tried to find chaperones for the dance tomorrow. The ice cream sales went well; we sold 30 cones in 10 minutes. The engineering committee looked up possible car modifications on the Internet.

Dec. 14, 2007: The fundraising committee looked up fundraising ideas on the Internet. The engineering committee looked up possible car modifications on the Internet. Extra Friday clean up.

Dec. 17, 2007: The fundraising committee looked up fundraising ideas on the Internet. The engineering committee looked up possible car modifications on the Internet.

Dec. 18, 2007: The fundraising committee looked up fundraising ideas on the Internet. The engineering committee looked up possible car modifications on the Internet. And they worked on Solid Works.

Dec. 19, 2007: The whole class worked on Solid Works. Friday clean up changed to Wednesday clean up. Ice cream sales were today.

Dec. 20, 2007: Ice cream sales profit was 26 dollars. The whole class worked on Solid Works.

Dec. 21, 2007: The whole class worked on Solid Works.

Dec, 24, 2007- Jan. 1, 2008: We had winter vacation.

Jan. 2, 2008: The whole class worked on solid works. 20 dollars of our ice cream sales profit was stolen. Ice cream sales were today.

Jan. 3- Jan. 11, 2008: The whole class worked on solid works.

Jan. 14, 2008: The whole class took notes about simple machines and compound machines. An assignment the class got was trying to make a compound machine with seven simple machines together using; a gear, inclined plane, lever, pulley, screw, wedge, and wheel and axle, and the final result was the popping of a balloon.

Jan. 15- Jan. 22, 2008: The whole class worked on their compound machines.

Jan. 23, 2008: The whole class worked on their compound machines and tested them out. Class was extra long today because we had finals. Ice cream sales were today.

Jan. 24, 2008: No class today because it was finals.

Jan. 25, 2008: No school today.

Jan. 28, 2008: The whole class learned about transmission systems. An assignment the class got was to create electricity from a fan by using the fan's wind on a small motor.

Jan. 29, 2008: The whole class worked on creating electricity from the small motor.

Jan. 30, 2008: No school because it was too cold.

Jan. 31, 2008: The whole class worked on creating electricity from the small motor.

Feb. 1, 2008: Things that we still need to work on before competition are; we need to look at funds and fundraisers, the cars, changes that the cars may need, work on solid works, and the proposal packet and find out important dates. Some people looked at the cars and some worked on the proposal packet.

Feb. 4, 2008: Some people looked at the cars and some worked on the proposal packet. The class is trying to decide if we should have one car or two cars. We are trying to decide because we've lost a few people from our class. The cost of two cars would be about \$750. This cost includes the entry of two cars (\$100), 4 hotel rooms (\$350), gas there and back (\$100), and probably about \$200 in car parts.

The cost of one car would be about \$500. This cost includes the entry of one car (\$50), 3 hotel rooms (\$300), gas there and back (\$50), and probably about \$100 in car parts.

Feb. 5, 2008: The class has decided that we will probably only take one car to competition. Some people worked on solid works, some people worked on the car, and some thought of fundraising ideas.

Feb. 6, 2008: Some people worked on fixing the wheels and steering, one person worked on solid works, and one person worked on the proposal packet. Ice cream sales profits are \$48.13 and they would have been \$68. 13 if \$20 hadn't of been stolen.

Feb. 7, 2008: Some people worked on switching the wheels from one of the cars to the other car, one person worked on solid works, and one person worked on fundraising ideas.

Feb. 8, 2008: Some people worked on fixing the wheels and one person worked on printing out forms for the proposal packet. Before the competition we still need to add more safety items like windows, rear view mirrors, check the brakes, ect.

Feb. 11, 2008: Mr. Dorn wants a test run soon to see if the car starts under its own power and stops under its own power. Some people looked at the car and tried to fix the wheels and one person worked on the problem-solving essay.

Feb. 12, 2008: Some people worked on redoing the side windows, one person worked on repacking the barrings that fell off the wheel, one person worked on the front of the car, and one person worked on the proposal packet.

Feb. 13, 2008: The whole class watched an invention video and then we had a discussion about what we thought of the video.

Feb. 14, 2008: Some people worked on redoing the side windows, one person worked on repacking the barrings, one person worked on drawing the car in solid works, and one person worked on the proposal packet. The wheel should be fixed now and it should spin.

Feb. 15, 2008: Some people worked on welding the frames for the side windows, one person worked on drawing the car in solid works, and one person worked on the proposal packet.

Feb. 18, 2008: No school because it was president's day.

Feb. 19, 2008: Our order of safety glasses came. Some people worked on making a sign for the safety glasses sale and some worked on putting the rear view mirrors on the car.

Feb. 20, 2008: Ice cream sales were today and extra good shop clean up was today. One person worked on the drawing of the car in solid works, some people worked on finishing the safety glasses sale sign, and some worked on putting the rear view mirrors on the car.

Feb. 21, 2008: The class watched Invention Nation.

Feb. 22, 2008: The Winterfest ice fishing contest was today so we did not have class.

Feb. 25, 2008: One person worked on the proposal packet, one person worked on drawing the car in solid works, and the others worked on the rear view mirror.

Feb. 26, 2008: One person worked on the proposal packet, one person worked on drawing the car in solid works, and the others worked on the rear view mirror.

Feb. 27, 2008: Most of the class was gone yesterday at a career thing. The people that stayed bought bolts, bolted the rear view mirrors on, welded the bars on the cage, and worked on drawing the car in solid works.

Feb. 28, 2008: One person worked on proposal packet, one person worked on drawing the car in solid works, and the other people figured out what they need to do with the car before competition. And we need to make a decision on Monday about what we what to do with the front end of the car.

Feb. 29, 2008: We did not have class today because it was scheduling for next year's classes.

March 3, 2008: We decided that we were going to put thin-gauged sheet aluminum on the front end of the car. One person worked on the proposal packet and the others worked on cutting plexi glass for left side window and they installed it. We need another sheet of glass and another mirror.

March 4, 2008: One person worked on the proposal packet, one person went on a parts run, and the others cut out another piece of plexi glass and fixed the piece that was already on the car.

March 5, 2008: One person worked on the proposal packet and fundraising ideas, and the other people cut out plexi glass. For a fundraiser we are going to try to sell shamrocks with a message and a sucker on them for a dollar and deliver them on St. Patrick's Day.

March 6, 2008: One person worked on the fundraising idea and talked to the principal about it, and the other people put two side windows in. In our HMV account we have \$ 116.09.

March 7, 2008: One person worked on fundraising forms and the other people worked on the side windows.

March 10, 2008: No school because of parent teacher conferences.

March 11, 2008: One person cut out shamrock plates for fundraiser, one person picked up the plexi glass from hardware store, and the other people worked on putting the side windows in.

March 12, 2008: Two people cut out shamrock plates for fundraiser, one person picked up silicone from the hardware store, and the other people worked on putting the side windows in and cutting the plexi glass.

March 13, 2008: One person worked on the proposal packet and finished the problem-solving essay, the other people worked on sealing the side windows.

March 14, 2008: One person worked on the proposal packet and worked on the St. Patrick's Day fundraiser, some people patched holes in the airplane fabric with duck tape, and the other people finished sealing the side windows.

March 17, 2008: Worked on St. Patrick's Day fundraiser and delivered them. Then one person worked on the proposal packet.

March 18, 2008: One person went to get sheet metal from a store, one person worked on the proposal packet, and the other people looked on the internet for car modification ideas and the wires around the motor are secured.

March 19, 2008: One person worked on the proposal packet, another person worked on the drawing of our car in solid works, and the other people spray painted the car black.

March 20, 2008: One person worked on the proposal packet and looked at hotels, and the other people worked on cutting out sheet metal for the front end of the car.

March 21, 2008: No school because of spring break.

March 24, 2008: No school because of spring break.

March 25, 2008: One person worked on the proposal packet and looked at hotels, one person worked on drawing the car in solid works, and the other people worked on cutting sheet metal for the front end of the car.

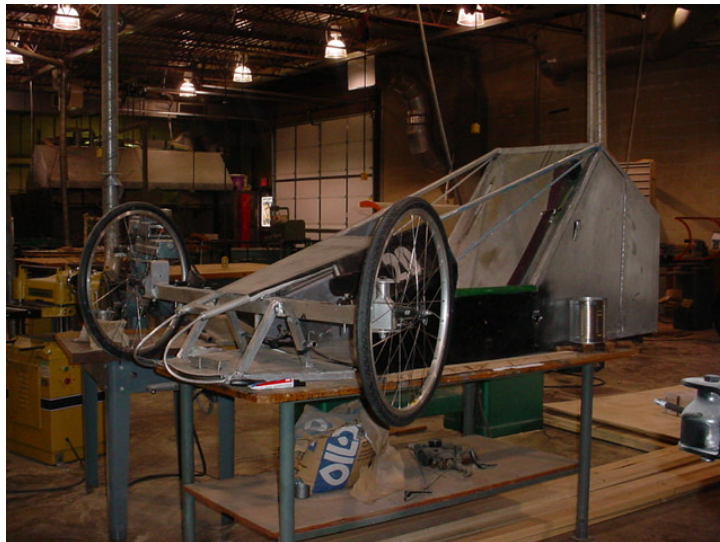
March 26, 2008: One person worked on the proposal packet, one person worked on drawing the car in solid works, and the other people worked on putting the sheet metal on the front end of the car.

March 27, 2008: One person worked on finishing the proposal packet, one person worked on drawing the car in solid works, and the other people worked on putting the sheet metal on the front end of the car.

Basic Vehicle Configuration

The basic vehicle configuration is open-faced and is aerodynamic in the front. Our car was previously built but we stayed with this style because the design is aerodynamic and it is compact. The material that was used to cover the car is airplane fabric. Airplane fabric was used because it is lightweight and it should help us move faster.

The picture below is what our car looks like in the end of February. We still need to finish the front end of the car and put the side windows in before the competition.



Brake System

For our brake system we used a V-brake bicycle style system. We used this style of brakes because they are lightweight and they have very good stopping power.

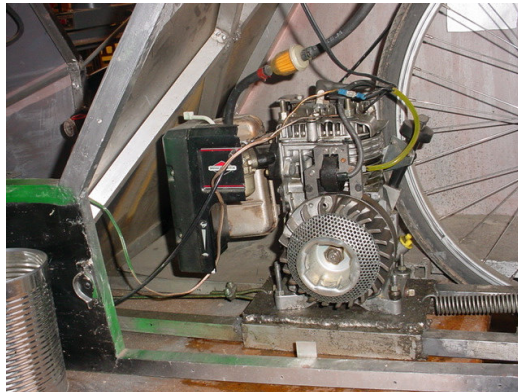


Materials List

- three tires
- three axles
- three point safety harness
 - fire extinguisher
- V-brake bicycle style system
- Briggs and Stratton engine
- 1/8th inch thick aluminum square tubing
- 1/16 inch thick aluminum round tubing
 - airplane fabric
 - two rear view mirrors
- two-toggle style kill switches
- thin-gauged sheet aluminum
 - one crossbar
 - black spray paint
- 3'3" by 1'2" side window
- 2'8" by 1'2" side window

Power Train Configuration

We made the motor so it'll slide back and forth and hit the wheel. And the pressure that is created on the wheel is what makes the car move.



Problem Solving Essay

Being able to solve a problem is a very important part of HMV. In this essay we will describe the different steps of the problem solving process, we will go through a problem we encountered with the car, and the ways that we solved it. There are five steps in the problem solving process; they are, identify the problem, generate alternative solutions, choose the best solution, test it, and evaluate your results. One of the problems that we encountered with our car was with the steering.

Our problem statement was that the steering in both directions needs to have a 40-foot maximum turning diameter, a person needs to be able to have two hands on the wheel at all times, and the wheel needs to have a stop on it so it will not continually spin.

We already had a car that was previously built, so we kept the steering the same. But a wheel was bent from over steering during a test run. We had to generate solutions to fix the problem. We fixed the problem of over steering by putting a stop block from the front axle. Then we had another test run and the steering seemed fine and we did not bend any more wheels.