



# 2007

## Q & A

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### **QA1 Flood Interference**

9-05-07

**Q:** There are spots near the border walls where the dam could score, but there's no room for the flood, so what would happen at a tournament?

**A:** As the mission allows for, there will be times when the referee needs to "project" the flood instead of actually placing it. This means the referee (ref) will make his or her best estimate on whether the flood would have touched a house, and as always, will give benefit of the doubt in situations he or she feels are too close to call.

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### **QA2 Point Sharing**

9-05-07

**Q:** Hi, it looks like there's no shared points at the center mission (the satellite) this year where one team can get points for something the other team does, is that right?

**A:** You're right. You do your side and get your panel points and they do their side and get their panel points. It's a simple race to see who gets the pointer points.

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### **QA3 Drive On Parking Lot**

9-05-07

**Q:** Just to be sure, can the robot drive through the parking lot? Thank you.

**A:** Yes.

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### **QA4 Building Instruction Correction**

9-05-07

**NOTICE:** There are some small errors in the Mission Model Building instructions. Two pieces are listed for the wrong step in the Truck, and 4 pieces are labeled as the wrong color in the Power Plant. These errors make it look like pieces are missing from the kit, but they are not. See details by clicking the link below.

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 **QA5 (obsolete)**  
9-05-07

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 **QA6 Satellite Pointer Failure**  
9-05-07

**Q:** What happens if we hit the Satellite lever and the panel falls, but the pointer doesn't?

**A:** If the referee is sure you were the first to get your panel to fall, he or she will point the pointer to your side.

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 **QA7 Satellite Pointer Reversal**  
9-05-07

**Q:** Is it okay/ethical in the spirit of competition for our robot to swing the pointer from the other team's side to our side? I can't find anything to rule that out, but I figured I'd ask.

**A:** That won't change the fact that they got there first, which is the actual requirement for the 5 added points. All the pointer does is help the referee see and remember who should get the points, **so** if under any circumstances, the pointer points to the wrong team and the referee knows about it, he or she will see that as model malfunction/field damage, **[and reverse it]**.

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 **QA8 Satellite Pointer Tie-Breaker**  
9-05-07

**Q:** Hi. We were wondering what if both teams get to the satellite at the same time and the pointer doesn't fall either way?

**A:** If the referees can't agree on which team actually got there first, then both teams will get 5 points added.

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 **QA9 Wind Turbine On House**  
9-05-07

**Q:** I know it's okay for the wind mills to touch houses, since it doesn't say they can't, but my daughter noticed that you can fit a windmill totally on a house, and it wouldn't be touching any white. Would that count?

**A:** The turbines are clearly required to touch white, but this situation is just screaming for leniency, so... You **WILL** get the points if that happens. (By the way, you will also have no problem if an oil barrel ends up completely on the boat.)

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 **QA10 Front Of Dam**  
9-05-07

**Q:** There seems to be a front and back of the Dam model, right? So if the back of the Dam is facing upstream, where will the flood be placed?

**A:** The flood will always be placed upstream. Since the front vs back of the Dam is not mentioned in the mission, it doesn't matter.

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 **QA11 Strategic Referees**  
9-05-07

**NOTICE:** For Rule 15, when the referee is asked to shift a scoring object, the new placement is up to him or her. Do not expect the new placement to benefit you strategically.

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 **QA12 Rail Car In Base**  
9-05-07

**Q:** Can we use the coal cart to send the coal to the power plant, or does that need to stay in Base?

**A:** The Coal Car in Base is a scoring object in scoring position. If it's not there at the end of the match, you won't get points for the Coal Mining mission.

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 **QA13 Scoring Gap**  
9-05-07

**Q:** I think there is a typo in the fairness bonus description. It says "Raw scores from 330 to 395 are replaced . . ." I think that is meant to read "Raw scores from 226 to 395 are replaced . . ." Without that change, there is a hole in the scoring between 326 and 329.


**A:** Given just a little more time I'm sure you would have noticed....that it's impossible to get those numbers as raw scores.

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 **QA14 Score Value Correction**  
9-06-07

**NOTICE:** The point values for three missions have been corrected as of 11:30am eastern U.S. Those missions are: Roof Solar Panel, Solar Power Satellite, and Corn Harvest and Processing. Please make a note of the correct values.

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 **QA15 (obsolete)**  
10-4-07

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 **QA16 Wave Turbine/"Independently"**  
9-06-07

**Q:** Can you please elaborate on "move independently of each other"?

**A:** One or more parts move in a way that one or more other parts do not, even though they're all connected as part of the same model. Examples: A hinge, a wheel barrow, a bureau, a key chain. Any model that changes shape when manipulated. Any model that's not a continuous, solid object.

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 **QA17 (obsolete)**  
9-06-07

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 **QA18 Satellite Dual Lock**  
9-06-07

**NOTICE:** The Solar Power Satellite DOES get Dual Locked in place.

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 **QA19 Upstream**  
9-06-07

**Q:** Which way is upstream?

**A:** Away from the ocean.

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 **QA20 Tree Marks**  
9-06-07

**Q:** Do the trees need to go on the tree marks?

**A:** No; the mission would have said so. See Rule 23.

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### **QA21 Software**

9-07-07

**Q:** RobotC is available through LEGO Education, so is that allowed?

**A:** No. Only Software [of the type] that came in FLL Robot sets is allowed: MindStorms, RoboLab, and NXT.

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### **QA22 More Software**

9-07-07

**Q:** Helpful add-ons to NXT-G such as the smaller mini-move block and other new programming blocks are available. Although they do not come "in Lego sets", are the new blocks and new firmware OK if used with allowable programming software?

**A:** Yes. Patches, add-ons, and new versions of the allowable software from the manufacturers (LEGO and National Instruments) are allowed. Be careful, however, if you find yourself "sharing" programming blocks from other teams...Sharing is acceptable, but "grown-ups doing the work" is not. In any case, you must be able to explain the whats and whys of every bit of your programs to the judges, otherwise they can only assume you did not do your own work.

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### **QA23 Points For Grid Connection**

9-10-07

**Q:** What's the most points you can get with the power lines/connect grid mission?

**A:** 30. 5 for each COMMUNITY connected, and another 5 for each of those COMMUNITIES that happens to have wind or water power. Each connected community can only be worth 5 connection points and 5 bonus points, no matter how many wind/water power models are touching it.

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### **QA24 "Main" River Definition**

9-10-07

**Q:** I'm guessing the "main" river is the wide one running smooth from the east wall all the way to the ocean, but I guess it could also be considered only the combined part after the two ends meet. So which is it?

**A:** Your first guess was right.

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### **QA25 Parking Lot**

9-10-07

**Q:** Let's say the truck gets moved well into the parking lot, but never gets to Base. Is the oil in the truck considered to be in Base?

**A:** No. The only objects that count as being in Base when they're stored in the parking lot are objects that either start in Base or get moved to Base by the robot. So barrels that never made it to Base are different than ones that did, and the ref will keep track.

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### **QA26 "Make" Contact** (edited 10-30-07)

9-10-07

**Q:** When delivering the truck to the parking lot, can your robot make contact with it (the truck) while in the parking lot??

**A:** **Yes.** The only objects the robot can NOT make contact with in the lot are objects which were placed there by hand (as part of setup, or as housekeeping storage).

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### **QA27 Strategic Object Placement**

9-11-07

**Q:** During preparation mode, can the kids place their strategic objects anywhere on the field that does not interfere with the models, etc.??

**A:** Looks like that answer doesn't exist anywhere, so here it is: Only the robot is allowed to place or touch strategic objects outside Base.

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### **QA28** (place holder)

9-11-07

### **QA29 "Bundle" Clarification**

9-11-07

**Q:** Is "touching each other while being simultaneously pushed" considered "bundling?"

**A:** No. That's okay. Bundling involves binding things to each other with pressure, such as by tying or wrapping. Rule 14 prohibits this, along with actually connecting models, with or without the use of added pieces. Rule 27 also prohibits adding pieces to models, as would be needed to bundle or attach. The only way you're allowed to combine models is in simple contact, with or without a container.

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 **QA30 No Flood**

9-11-07

**Q:** If the dam doesn't touch both banks of a river, will the referee still place/project the flood?

**A:** I can't find the answer anywhere (I hate it when that happens!), so I must make up something here...Since a dam that doesn't reach both banks wouldn't cause a flood, and because we give benefit of the doubt when we can, NO---the referee will not place/project the flood, but sorry, if the dam itself is touching houses, you can still lose 10 points that way.

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 **QA31 Oil In The Flood**

9-11-07

**Q:** If the flood gets placed over an oil barrel, do we lose the 40 points for that?

**A:** Yes. Any water. Swimming pool too.

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 **QA32 (place holder)**

9-12-07

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 **QA33 Parking Lot 2 (edited 10-30-07)**

9-12-07

**NOTICE:** Objects put in the parking lot by hand still count as being in BASE, just like objects stored near the tracks, or in a team-held box, under the Housekeeping rule do.

For objects put in the lot by HAND: The robot can NOT touch them, but the team CAN (shift them around, or put them in Base).

The only objects that ever count as actually being in the parking lot are those put there by the ROBOT.

For objects put in the lot by the ROBOT: The robot CAN touch them, but the team can NOT. This edit eliminates the interpretation that objects could be locked in a black hole/dead zone in the lot.

Also: Under the more favorable interpretation of Rule 20, the robot is allowed to deliver the truck directly into the parking lot, but remember: The robot must be in autonomy mode before it is allowed to lose contact with anything.

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 **QA34** (place holder)  
9-13-07


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 **QA35 Barrel Placement**  
9-13-07

**Q:** Where do all the various oil barrels go on the board?

**A:** That's described in the "Field Setup" instructions.

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 **QA36 Corn Oil**  
9-13-07

**Q:** To get credit for corn, we need to bring oil to the farm, but the farm has houses, so we'd lose 40 points. Is that right?

**A:** You can only lose the 40 points if the oil is touching the farm, but notice that the oil for corn is not required to touch the farm. So deliver it so it's not actually making direct contact with the mat and you're all set.

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 **QA37 Allowable In Transition Mode**  
10-30-07 **(edited 10-30-07)**


**NOTICE:** Where Rule 20 says "the robot is not allowed to do anything but leave Base," this leniency and clarification is given:

In Transition Mode, in addition to being allowed to leave Base and bring objects along, the robot is also allowed to spin/turn, and to get data from sensors other than the touch sensor. It is NOT allowed to change shape (example: lowering an arm), and it is not allowed to make changes to objects it's moving (example: winding up a strategic object).

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 **QA38** (place holder)  
9-17-07

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 **QA39** (place holder)  
9-18-07


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 **QA40 Gracious Barrel Protection**  
9-18-07

**Q:** To me it should be simple and unequivocal - touch the robot when it is out of base on a mission and you get a penalty. Conversation in US Forum refers .... penalty insurance, though legal, is weaselly, to quote one comment, and, to me, lacks gracious professionalism.

**A:** Please remember this is a game. A weaselly ungracious thing to do is to lie, betray, or hurt some one. Our goal is to get kids to have fun doing something technical so they may grow in their comfort with it and hunger for it. It is fun for the kids to look for ways around constraints, and it's a must for engineers to operate this way. And while they're avoiding the thought it takes to get the robot back to Base, the same energy and risk has gone into whatever method they used to do so. They're still having fun. They're still doing something technical. Who cares what they're actually doing? It's a bunch of plastic. If what they're doing is allowable under the rules, then it's perfectly okay. If something is not allowed, the referee will simply undo it. Gracious professionalism is a paradigm for how we treat other people--not for how we attack a problem.

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 **QA41 Planted**  
9-19-07

**Q:** Please define "planted" for the tree mission, thanks.

**A:** A "planted" tree would be any tree that meets the requirements of the "Plant Trees" mission while also meeting the requirements and constraints from the Rules. They have to be north of the main river.

They have to be upright.

They can have pieces attached to them (exception to Rule 27, via Rule 33) but more than one tree can not be attached to the same unit (Rule 14).


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 **QA42 Starting Locations**  
9-19-07

**Q:** So the stuff to deliver is supposed to be set up in Base, but we could keep it all in the parking lot just the same, right, so how will it be at the tournament? If one team has to move all that stuff out of the way but another team doesn't, that would be unfair.

**A:** True. Okay: All that stuff shall be stored in the parking lot when you get to the table, and you're free to put whichever of it you need in Base as part of your setup routine.

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 **QA43** (place holder)  
9-20-07

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 **QA44** (place holder)  
9-21-07

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 **QA45 Truck Bumper**  
9-21-07

**Q:** According to the assembly for the red truck, the front bumper should be centered. However, the two pieces do not match up in a center fashion. Is this an error in the instructions, or a misinterpretation by our team?

**A:** Notice that there are "pins" and "rings" that fit together. The most common way to fit LEGO together is for the pins to fit between the rings. BUT... You can press the pieces together at a HALF-step, and the pins will fit INTO the rings. It works. Volunteers built dozens of kits here last week. In rare cases it turns out that there is plastic webbing under the beam that prevents the needed connection. In that case, you'll just need to switch that beam with one that does work.

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 **QA46 Lady Damage** (Stray Cats)  
9-21-07

**Q:** My kids are weighing risks, and they're nervous about getting a field damage call depending on where the flowers, cat, lady, and tree are setup near the house. Should they be worried about that?

**A:** No. If the cute features in front of the house are in the wrong place, the kids can notify the ref before the match starts. If the robot knocks them loose while doing its work, they'll just be considered stray.

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 **QA47 Base Limits**  
9-24-07

**Q:** Hello, do the roads count as in Base?

**A:** No. The roads are roads.

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### **QA48 Fallen Coal** 9-24-07

**Q:** When the coal car has rolled to the end of the track some of the coal pieces sometimes are propelled out of the car. Can these pieces be retrieved by hand along with the coal car or are they consider stray objects & you need to ask the referee to move them?

**A:** They're stray. Sometimes they land in Base, and that's cool, but either way, you only need 10+ pieces out of the 20 black ones for the power plant, so it shouldn't be a problem.

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### **QA49 Straddling Truck** 9-24-07

**Q:** If the robot delivers the truck to a spot where it's partly in the parking lot and partly in Base, wouldn't it count as both? How would that all work?

**A:** Fantastic question. You must decide which place you want it, and let the ref know before touching anything. If you decide it's in the lot, it should be left alone where it sits. If the oil in it happens to be in Base, that's separate, and that oil counts as being in Base (Rule 14). If you decide the truck is in Base, then you **may take the truck and its oil into Base (even if the oil wasn't in Base---this is a gift)** to keep or send out as you wish.

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### **QA50 Lot Simplification** 9-24-07

**NOTICE:** If you're confused by the whole parking lot storage thing, don't do it. Keep stuff that's in your way in box held by the 2nd team member. If you're running or refereeing a tournament and would like this issue to go away, feel free to provide a box at each table. This way, the only stuff in the parking lot will be stuff that counts as being there (stuff that was moved there by the robot).

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### **QA51 Scoring Areas (edited 11-9-07)** 9-26-07

**NOTICE:** Click the link below for a visual aid...

7 is the farm. The whole area is the farm; not just the crop rows.

1, 2, 3, 4, 5, 6, 7, 8, and 13 are each a property with a house.

5, 8, and 11 are each directly outside Base. Note that this includes the northern aprt of area 5 (the river does not cut this section in half).

12 is the extent of the wave turbine target.

10 is the power plant supply target.

3, 4, 5, 7, and 13 are all possible grid connection community targets.

Note that roads and sidewalks are not part of **any individual area**, but touching them is okay.

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### **QA52 Housekeeping**

9-27-07

**Q:** Are we allowed to store stuff west of the railroad tracks?

**A:** Yes, under the original housekeeping rule.

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### **QA53 Bonus Leverage**

9-27-07

**Q:** My kids are able to get a single wind turbine to touch two properties at the same time near the power plant. ONE wind turbine. Now when they connect the power plant to both of those properties, they think that single turbine is going to count as a bonus on both properties, and it looks like that's true, but I wanted to check.

**A:** It would count for both properties. As QA23 gets to, any property is either touching a bonus power, or it isn't. Looking at one property, whether it has half a turbine on it or 2 turbines and a dam, the bonus is 5 points for that property.

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### **QA54 No Barrel Loss**

9-27-07

**NOTICE:** This QA is here to ensure a traditional freedom that is not apparent in this Challenge: No matter what mode the robot is in, and no matter what it's doing when you touch it, as long as any part of it is in Base, you don't lose a barrel. Example 1: Robot with Coal is leaving Base, but isn't totally out yet, and you decide it's aimed wrong and grab it. Outcome: You have to restart, you keep the Coal (Rule 20), and you do not lose a barrel. Example 2: Robot is returning to Base with Corn, and the robot has just started to enter Base, but the Corn has not, and you grab the robot. Outcome: You have to restart, the Corn is left where it was (Rule 21), but you don't lose a barrel.

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### **QA55 Solar Panel Defensive Lift**

10-1-07

**Q:** One of the QA's says specifically not to move the solar panel pointer, but it seems like we could lift the other team's panel back up and it wouldn't be field damage.

**A:** Since you would not be meeting any scoring requirement by lifting the other team's panel, messing with the other team's stuff like that would be interference under Rule 28 and get reversed under Rule 25.

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### **QA56 Project Building**

10-2-07

**Q:** For the project, what exactly is the guideline on what building we can audit? We have access to [insert your building here], is that okay?

**A:** Most popular question this year! Since there's no Q&A for the project, we've been answering teams individually. Answer: Really, any building will be acceptable; yes, even a house.

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### **QA57 Connecting Models**

10-2-07

**Q:** Can we have anything connected to the windmill?

Example: Can trees be placed on the windmill before sending?

**A:** Double no. Rule 27 says you can't add pieces to a model. And even though the tree mission (exception) says you can add pieces to the trees, there's no such exception for the wind turbine. On top of that, Rule 14 says you can't connect scoring objects to each other. QA29 reinforces all of this. Restated: If you can't pick up one scoring object without another one coming with it, you're breaking Rule 14. So put your trees on separate plates, and don't stick anything to any of the other scoring objects.

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### **QA58 Driving On Water**

10-4-07

**Q:** Can the robot drive on the water?

**A:** Yes. Rule 23.

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## **QA59 Fuel Trees Upright**

10-4-07

**Q:** Do the trees delivered to the power plant have to be upright?

**A:** No. Rule 23.

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## **QA60 Pushing Contact**

10-5-07

**Q:** For the starting and transition rules, when the robot's pushing something out of base that it was in contact with, how strict is that? Can there be any play, or intermittent contact? Also, if the robot's pushing one object that's pushing another, that doesn't seem to be ruled out or in. Please clarify?

**A:** Play and bumping is to be expected, and that's fine. And we'll rule here that it's okay for the robot to push one object that's pushing another. The robot would be making contact with the group of objects. Of course they all need to fit in Base to start.

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## **QA Edit**

10-30-07

**NOTICE:** QAs 26 and 33 have been re-written to clarify and give leniency on the parking lot. QAs 5, 17 and 28 have been condensed under QA51. QAs 38 and 39 have been condensed under QA37.

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## **QA61 Counts As A Wave Turbine**

10-30-07

**Q:** From every definition and clarification I have seen, it looks like the robot itself could count as the wave turbine. Is that right?

**A:** Yes. It has at least 2 parts, and one can move while the other doesn't. One person also asked if a minifigure person would count, and it would, since they're made of multiple parts which move.

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 **QA62 Robot Not Pieces (edited 11-6-07)**

10-30-07

**Q:** My kids' whole strategy is based on sticking the windmill to the robot, but now I'm nervous about Rule 27. Would that be considered adding pieces to a model?

**A:** I'll rule here by benefit of the doubt that what they're doing is okay, **even though the robot could be a scoring object**, but they should only do so with one windmill at a time, because we say in many places in many ways that scoring objects can't be connected to each other.

**NOTE:** Remember the Wind Turbine's final position must be upright and touching the mat (you can't just leave it parked over the target on the robot).

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 **QA63 Passing Through Base**

10-30-07

**Q:** When exactly does autonomy mode end? Upon re-entry into Base, or at the first touch? Our team wants to have the robot enter Base (after being completely out), then come back, and while passing through, push a freshly placed object out of Base, without ever being touched. Is that allowed?

**A:** Yes. Autonomy mode runs until a touch. Since they never influence the robot by hand, and since Rule 17 says they can position things in Base as desired at any time, the strategy is allowable. By this same reasoning, it must be allowable for objects to be placed ON the robot if it is obvious to the referee that this hand action does not affect the robot's path or speed, and does not signal any sensors.

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 **QA64 Parts Of The Dam**

10-30-07

**Q:** What part of the dam needs to touch the riverbanks? Is it just the cement part, or do the rocky/bushy ends count?

**A:** The flat bottom, the whole length, is all that matters. Wherever the Dam contacts the mat when it's sitting flat & upright counts.

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### **QA65 Container Left Out Of Base**

10-30-07

**Q:** Hi, are you allowed to put all your fuels in a big container to send it all to the power plant? Is it okay to leave the container there?

**A:** Definitely. Loose objects delivered in containers are popular, but be sure the objects themselves reach the target. If the front part of your container reaches the target, but the objects are in the back part---that's a problem, by the second sentence in Rule 14. Finally, nothing anywhere says you can't leave a strategic object in the field, so it's okay (and very common). Rule 23.

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### **QA66 North Of The Main River**

10-30-07

**Q:** Since the tree mission doesn't say "directly" north of the main river, some of the kids think they can plant trees in the northwest ocean. I said that's silly, but I'd check.

**A:** It is silly AND allowable at the same time. They are good students of Rule 23.

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### **QA67 Fragile Models**

10-30-07

**Q:** Our truck bumpers fall off pretty easily. Will we get in trouble with the field damage rule?

**A:** No. Sometimes after the designers do what's needed to make an FLL model look right and not cost too much, it ends up being fragile. All of us, including the referees know which models these are, and you'll get the benefit of the doubt if they break while you're working with them. Specifically, damage will be ignored and/or you'll get a break if the coal car falls off the tracks by itself, or if the power lines, truck bumpers, car hood, etc. have issues. Though we do NOT recommend that you glue your models, the models at tournaments may be glued.

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### **QA68 Loading The Robot**

10-31-07

**Q:** Does the robot need to pick up items from their setup position, or can the kids put them in front of or on the robot themselves for delivery?

**A:** Rule 17 expressly allows the robot to be loaded by hand.

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### **QA69 Car Upright**

10-31-07

**Q:** I can't find anything that would stop the car from being delivered upside-down. Ruling?

**A:** Good job. The car only needs to go "TO" the target, so any part of the car over the target counts, the car doesn't need to touch the mat at all, and nothing says the car needs to be upright. Rules 12 and 23.

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### **QA70 Huge Aiming Devices**

10-31-07

**Q:** Are the kids allowed to use an aiming device that extends all the way to the target? They would pull it away before the start. The Muscle Action rule would seem to say no, but teams do and put things outside Base all the time during preparation, since the Preparation Mode rule doesn't talk about strategic objects. So I would think the device could be used legally, but confirmation would be nice. And remember Rule 23!

**A:** Almost... Though the Preparation Mode rule does not rule out activity and objects near Base, I must rule that the extent we're talking about here is actually covered by QA27 (answer is no) and that you must use aiming devices in Base only (with leniency for slight over-extension).

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### **QA71 Farm Oil Color**

10-31-07

**Q:** Does the oil delivered to the farm have to be white?

**A:** No. Since the color's not specified, it doesn't matter. Rule 23.

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### **QA72 Just To Be Clear**

11-5-07

**NOTICE:** If your team printed the Missions and Rules early in the season, this notice is to be sure you have picked up on the fact that QA54 flagged a change to Rule 21 (seen in red); that objects with a robot being rescued are left where they were at the time of the rescue.

**ALSO:** QAs 25, 26, and 33 should have made it clear that oil is not worth points in the parking lot (the fact is, oil worth points in Base can be stored in the lot), and the truck is not worth points in the parking lot unless it was placed there by the robot. The confusing text "(or the parking lot)" was removed from the Oil Barrels mission text due to these Q&As. As a simplifying rule of thumb for points in Base -vs- the parking lot, remember that you can never suddenly earn points for moving something to Base or the lot by hand if it wasn't already worth points as part of setup, or something the robot did.

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 **QA Edit**  
11-6-07

**NOTICE:** QA62 has new information added.

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 **QA73 Car Not A Wave Turbine**  
11-6-07

**Q:** The hydrogen car has independent moving parts, so I want to confirm that it can be considered a wave turbine if it straddles the beach??

**A:** Good thinking, but no, sorry, the wave turbine also needs to be team-designed and supplied.

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 **QA Edit**  
11-9-07

**NOTICE:** QA51 has been edited to clarify that upright trees can score on roads north of the main river.

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