



Low Cost Field Options

Introduction

The field components and game objects used in VEX Skyrise are all available for purchase from www.VEX.com (P/N 276-3144), however not every team needs the exact objects which will be used at official VEX Robotics Competition Tournaments. This section will outline some options for teams wishing to use lower-cost substitutes for field objects.

Field Perimeter Cost Reduction

VEX Skyrise utilizes the VEX Competition Field Perimeter (278-1501) as outer edge of the playing area. This custom sheet-metal and lexan frame is robust and designed to be a high-end solution for anyone holding a VEX Robotics Competition. In some cases however, having a high-end rigid perimeter wall isn't important. Some teams may wish to practice with something as simple as a perimeter of tape laid out on the floor. For information on cost reducing the field perimeter and for detailed plans to construct one example of a low-cost perimeter consult the Low-Cost Field Perimeter Guide.

Field Object Cost Reduction

The field objects specific to playing VEX Skyrise are available from www.VEX.com. These objects include the Posts, Skyrise Bases, as well as the Cubes and Skyrise Sections

The key things to think about when cost reducing these field objects are the following two questions:

1. What field functionality do I actually need?
2. How can I achieve this functionality with the minimum effort & cost?

The simplest way to cost reduce is to use less. Does every team need a full set of cubes? Maybe a handful is enough for prototyping and practicing. Does the team need all three heights of post? Maybe they can get 1 post and move it to different heights for testing.

There are a variety of reasons to build or purchase field objects, in many of these cases the official "spec" field components are unnecessary. By analyzing the functionality needed for an application, one can build a "stand-in" object which will interact with robots in the same manner as an 'official' component. These "stand-in" objects can be extremely useful during the prototyping phase of the design process.

Example Prototyping Ideas

As discussed above, when considering building unofficial field objects, consider the functionality required. A mock-up post could be as simple as a rolled piece of cardboard held at the correct height. It may be possible to build the entire field out of wood and successfully simulate robot functions – it just depends what is being tested.

Detailed specifications for the “official” pieces are included in Appendix A – a team must determine which dimensions are important for their mockups and build them accordingly.

Every school will receive a sampling of game objects in their welcome kit. These samples should help teams to learn about the nature of the objects, but also to find things they can use to simulate objects. The samples will provide a good benchmark as teams look for “placebo” objects.

VEX Skyrise Practice Kit

VEX Robotics is happy to offer lower-cost kits to VEX Robotics Competition participants who do not wish to purchase a full field. The Cube & Collar Kit includes a number of cubes, as well as collars for attaching posts. With this kit (and some PVC pipe purchased from a hardware store) teams can build enough for their robot to test its cube scoring.

For teams who intend to build Skyrises this season, the Skyrise Section & Base Kit includes the components to build a full Skyrise (7 Skyrise Sections + 1 Skyrise Base).

More information on these kits is available in the VEX Skyrise section of www.VEX.com.

Further Questions

Any further questions should be directed to the VEX Technical Support & Community Forum at www.vexforum.com. There is a section specifically for the VEX Robotics Competition including an Q&A section where teams can ask for official rulings from the VEX Robotics Competition Game Design Committee, and will receive answers from the GDC Chairman – Karthik Kanagasabapathy. Look for “VRC Skyrise Official Rules Q&A.”