

BEES

BattleBots IQ Engineering Education System™

Every student and every teacher can be a design engineer

The BattleBots IQ Engineering System is specifically designed for real world engineering modeling using real world components in real world classrooms.

The **BEES** Kit is not a Toy.

The **BEES** kit is unlike proprietary plastic kits that use weak connection systems, and contain thousands of easily lost or broken parts. **BEES** kits are constructed from heavy duty stainless steel and real industrial components. Components that are available from thousands of suppliers worldwide.

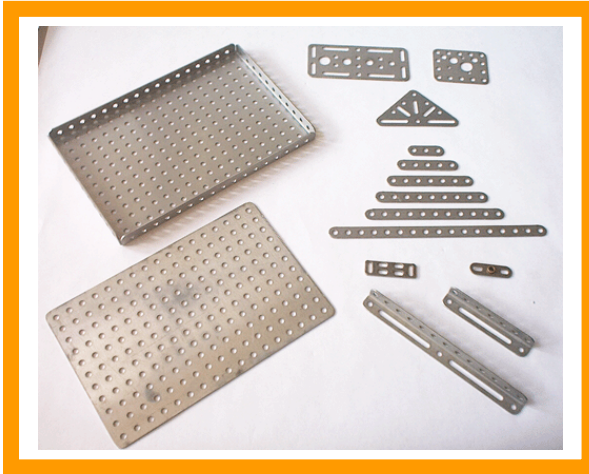
The **BattleBots IQ™ Engineering Education System** is an expandable system. The **BEES** kit will work with ANY components, hardware or electronic control system you can adapt to it. This is a system designed to grow with the expanding skills of the young engineers who use it.

The BattleBots IQ Engineering Education System (**BEES**) is made with heavy duty “real world” components. This is a flexible, modular engineering tool designed with the user in mind.

The **BEES** Kit Allows Machine Designers To:

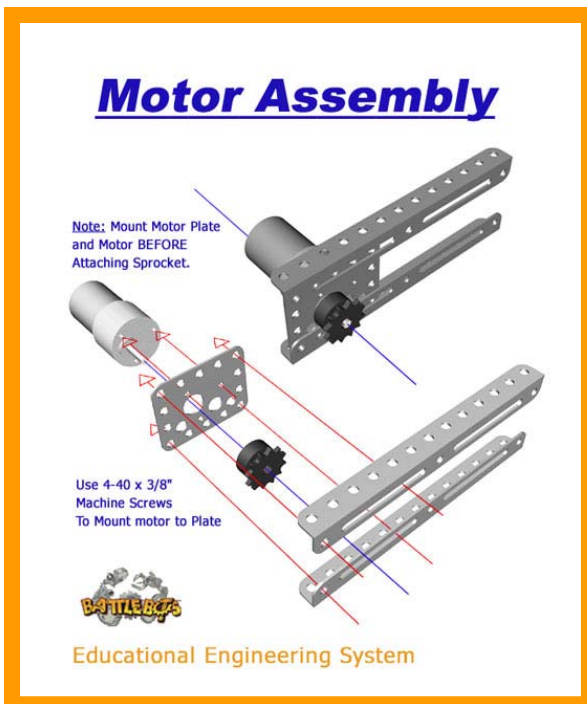
- **Rapidly construct working prototypes of electro-pneumatic-mechanical machine systems of nearly limitless variety.**
- **Test ideas and communicate design concepts.**
- **Integrate a nearly limitless selection of real materials and industrial components.**
- **Fabricate and use “Custom” components made from available materials.**
- **Conveniently store and transport their designs.**
- **Learn and apply engineering drawing techniques.**

Here are just some of the items that you can integrate into your BEES kit.



Structural Metal Prototyping Components.

The **BEES** structural components are made from Student Tested Stainless Steel. These rugged steel components can be interfaced with mechanical, electronic and pneumatic components purchased from vendors worldwide. Try that with plastic snap together kits!



Fixed Magnet DC Gear Motors.

The **BEES** kit includes a choice of gear-head motors and custom mounting plates.

#25 Pitch Sprockets and 48 Pitch Gears

The **BEES** kit provides designers with real Chain, real sprockets and real gears for real power transfer.

Pulleys and Belts

These **BEES** components are "Off the Shelf" items and available from industrial suppliers the world over

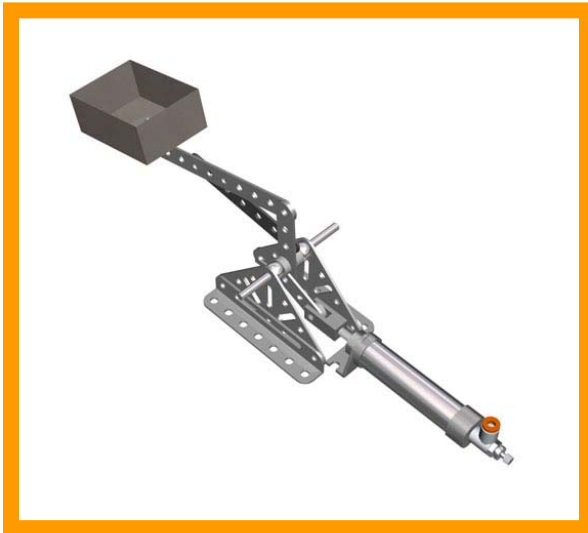
Standard Hardware

The **BEES** kit uses standard, easily replaceable screws and fasteners.



SMC Pneumatic Components.

The **BEES** system is made from the same industrial strength pneumatic components used in automated manufacturing facilities throughout the world.



A Library of CAD Model Parts

So you can easily create and compare your own designs.

Software Vendors Include: **Parametric Technology Corp., Autodesk Inc., Discreet and Solid Works.**



Educational and Engineering Support

BEES users have access to the educational resources available from BattleBots IQ. BattleBots IQ is a national robot education initiative available to high school teachers and students anywhere. Log onto www.battlebotsiq.com to find out more.

Customize Your **BEES** Kit

The **BattleBots IQ Engineering Education System™** offers users a high degree of flexibility. The system is offered in both kit form and as discrete components. This allows designers in schools, clubs or at home to purchase systems that meet their individual needs.

Users are encouraged to source and integrate “Found” materials into their electro-mechanical designs. Parts purchased at local hardware stores or hobby shops (or discovered in the kitchen junk drawer) can easily be integrated into winning machine designs.

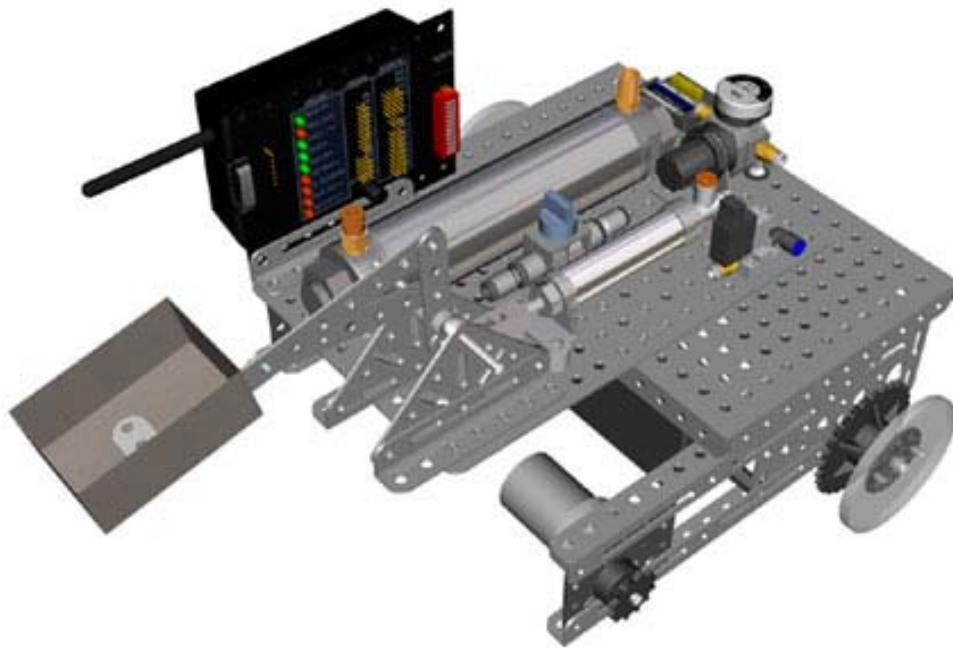
Robot Controller Options

There are many Robot Control Options available. The **BEES** kit includes a standard radio control system. However, **BEES** users can develop their own control systems from a variety of available sources. Suggested options include:

- **Autonomous control with Parallax Basic Stamp components**
- **Semi autonomous control using IFI Robotics Robot Control systems.**
- **RF Control Only using standard RC radio transmitting and receiving components.**

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BattleBots IQ Engineering Education System



An Exercise in Engineering and Design



Educational Engineering System