

6.270 2005 Frequently Asked Questions

If you're having problems with your robot, please check each of these before coming to the staff. We've been seeing these problems a lot, and these quick solutions will help save you time.

- How to use `start_machine()`:

`rf_enable()` and `start_machine()` **MUST** be called **immediately after** your calibration code and **before** you call `enable_servos()` or `start_process(update_angle)`! This means that your code should look like:

```
void main()
{
    /* Calibration code here */

    rf_enable();
    start_machine();

    enable_servos(); /* If you're using servos */
    start_process(update_angle()); /* If you're using the gyro */

    /* The match has started, more code here */
}
```

The order of these calls is **extremely** important and your code will not function properly otherwise!

- Twitching servos:

If your servos are behaving strangely and your 74HC237 chip (the chip nearest the servo ports on the expansion board) is marked with a TI logo, come ask a staff member for a new 74HC237 chip

- Charging your Handyboard:

If you have cut the trace to use the Hawker lead-acid batteries, you still must charge your Handyboard! The Hawkers only power the servos and motors; the electronics still rely on the Handyboard's internal battery pack.

Symptoms of a Handyboard with low charge:

- Very low contrast on LCD or no display on LCD.
- Red 'BATT' light stays on or blinks after Handyboard is turned on.
- Strange, irrational behavior from the Handyboard - random crashes or weird arithmetic results.

Try fixing a Handyboard with low charge by:

1. Plug your Handyboard DC adapter into the serial interface board. Set the interface board's switch to "ZAP". Plug the Handyboard in via the interface cable.

2. Hold down the Handyboard's "STOP" button and turn it on.
3. Run `init_bd` on server or Settings->Download PCode on Windows to reload the Handyboard's firmware.
4. Turn the Handyboard off and on.

You should now see the Handyboard power up, beep, and show you that it is running Interactive C. Leave it charging for about 4 hours on ZAP.