Using the P200 Workout Programmer

Introduction

The P200 Workout Programmer lets you create workouts for the P200 Anti-Gravity Treadmill®, which you can access via the *Personalized Login* feature of the treadmill.

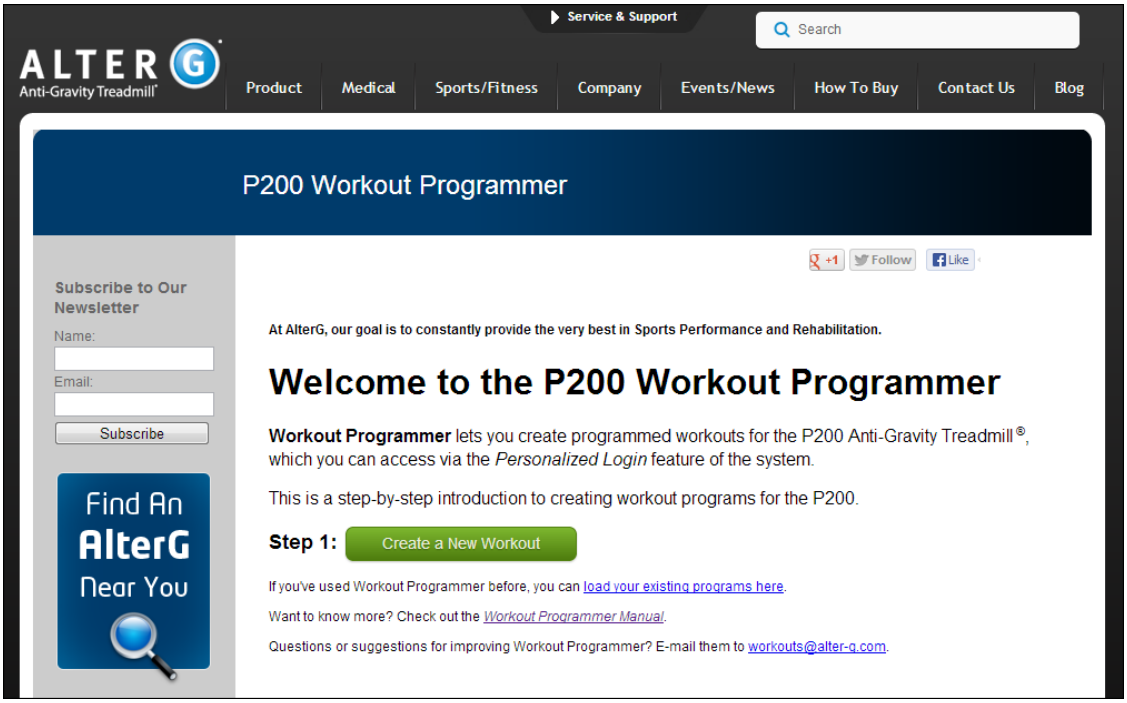
Here are some basic terms to remember:

- ***Workout*** – a collection of intervals (also called stages or segments) which are run as a named unit by the P200.
- ***Interval*** – a segment of a workout with its own duration, speed, incline, and body weight percentage. For example, an interval might last for 5 minutes with the treadmill set at 5.0 mph with a 3 percent incline and the user's body weight adjusted to 80 percent.
- ***Workout Program*** – a collection of workouts, contained in a single file. The Workout Programmer is used to create and manipulate workout programs. You may have a number of workout programs (for different users or different uses), each stored in its own file.

You load workout programs from a file into the Workout Programmer, edit them or create new ones, and save them back into a file (possibly the same one). The workouts you see listed are what will be stored into the file. Until you save your workout program, nothing has been changed.

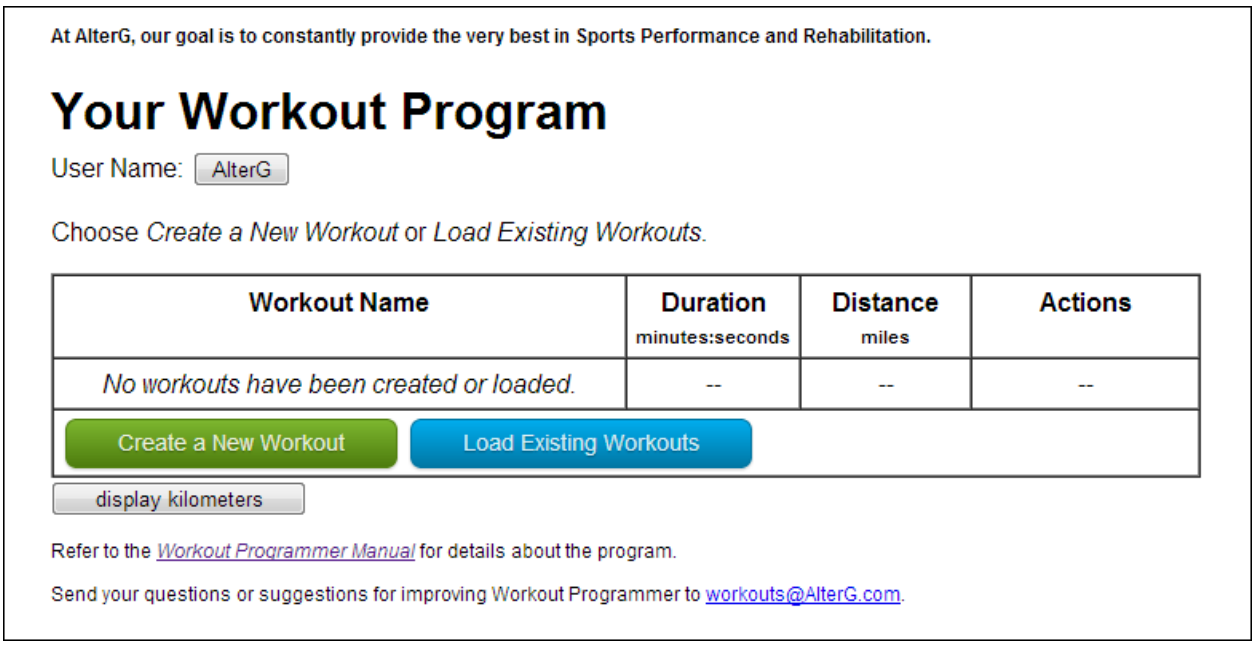
Starting Workout Programmer

This is what you see when you visit http://www.alter-g.com/workout-programmer:



Clicking the green **Create a New Workout** button will take you step-by-step through the process of creating your first workout program. You should do this at least once, as there are helpful tips on every screen (a sample session is in the appendices).

If you click on the *load your existing programs* link, you will see the Your Workout Program screen, which initially looks like this:

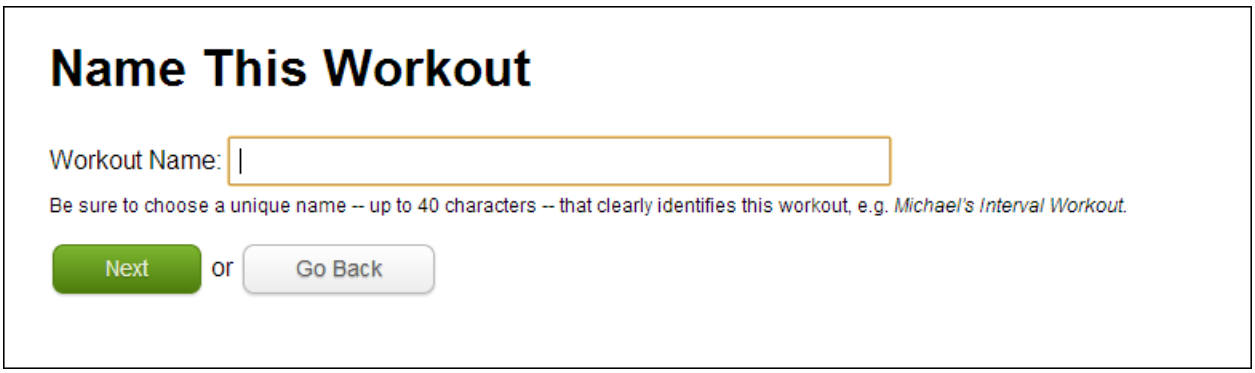


If you are in a country which uses kilometers instead of miles, you can click the "display kilometers" button to toggle units throughout your session. Saved workout programs remember your choice of units. Loading a workout program with saved units will set those units if no choice has been made.

You can click the button which displays the User Name (e.g. *AlterG*) if you want to change it.

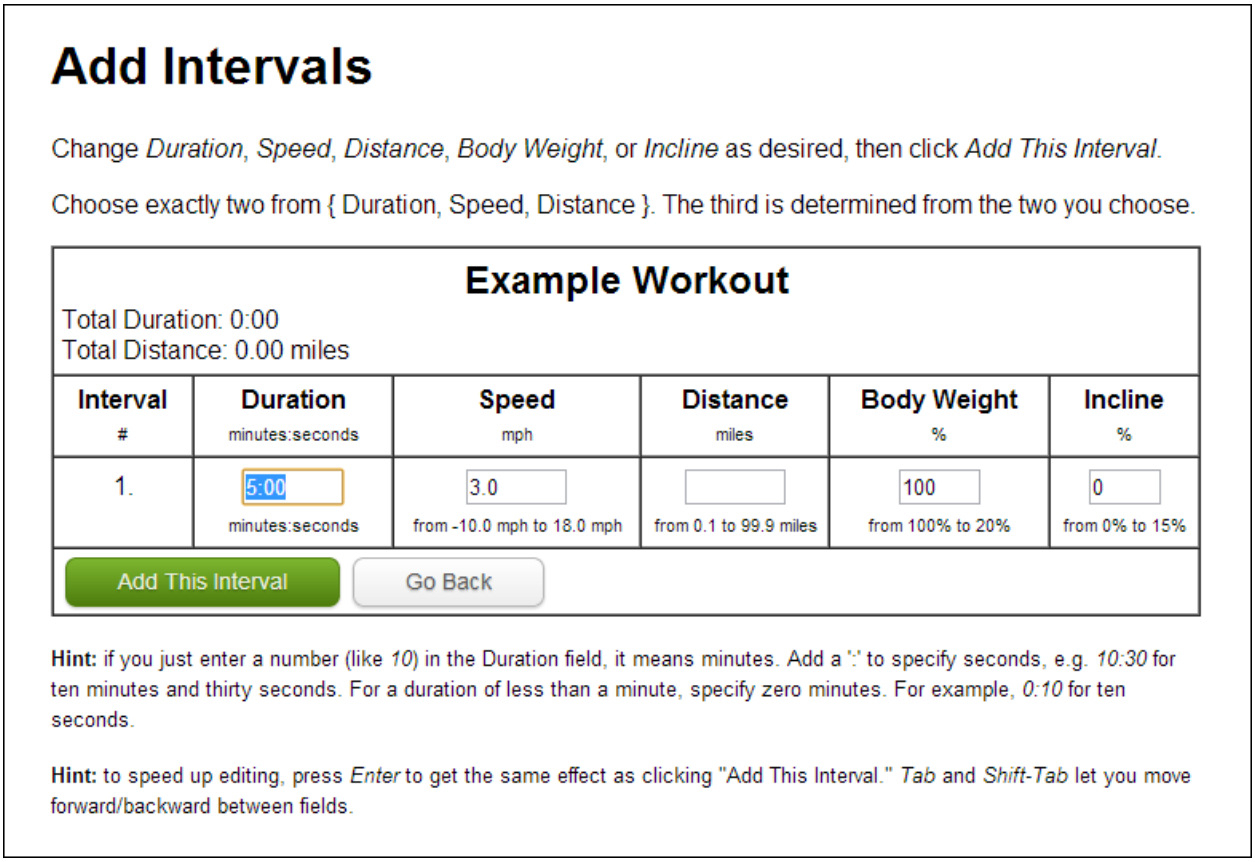
Create A New Workout

When you click *Create a New Workout*, this is what you will see:



Choosing a clear name for a workout is important, as all the workouts in a given workout program appear in an on-screen list when using the *Personalized Login* feature of the P200. Names which are unclear or too similar can cause confusion.

The next screen allows you to add intervals to the workout. A workout consists of a *name* and a sequence of *intervals*, each with their own *duration*, *speed*, *body weight percentage*, and *incline*.



Add Intervals

Change *Duration*, *Speed*, *Distance*, *Body Weight*, or *Incline* as desired, then click *Add This Interval*.

Choose exactly two from { Duration, Speed, Distance }. The third is determined from the two you choose.

Example Workout

Total Duration: 0:00
Total Distance: 0.00 miles

Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %
1.	5:00 minutes:seconds	3.0 from -10.0 mph to 18.0 mph	from 0.1 to 99.9 miles	100 from 100% to 20%	0 from 0% to 15%

Add This Interval | Go Back

Hint: if you just enter a number (like *10*) in the Duration field, it means minutes. Add a ':' to specify seconds, e.g. *10:30* for ten minutes and thirty seconds. For a duration of less than a minute, specify zero minutes. For example, *0:10* for ten seconds.

Hint: to speed up editing, press *Enter* to get the same effect as clicking "Add This Interval." *Tab* and *Shift-Tab* let you move forward/backward between fields.

It's usually fastest to add all your intervals first (even if you make a mistake or want to change something after you press Enter), and then go back and make corrections.

To quickly create a new workout:

- Use the **Tab** key to move forward between fields.
- Use the **Shift-Tab** key combination to move backward between fields.
- When the interval appears to your liking, press **Enter** to add it. A new interval, containing the same values will open for you to edit.

After adding a number of intervals, your screen will look like this:

Add Intervals

Change *Duration*, *Speed*, *Distance*, *Body Weight*, or *Incline* as desired, then click *Add This Interval*.

Choose exactly two from { Duration, Speed, Distance }. The third is determined from the two you choose.

Example Workout

Total Duration: 25:00
Total Distance: 1.25 miles

Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %
1.	5:00	1.0	0.08	100	0
2.	5:00	2.0	0.17	100	0
3.	5:00	3.0	0.25	100	0
4.	5:00	4.0	0.33	100	0
5.	5:00	5.0	0.42	100	0
6.	5:00 minutes:seconds	5.0 from -10.0 mph to 18.0 mph	from 0.1 to 99.9 miles	100 from 100% to 20%	0 from 0% to 15%

Add This Interval | Stop Adding

Hint: if you just enter a number (like *10*) in the Duration field, it means minutes. Add a ':' to specify seconds, e.g. *10:30* for ten minutes and thirty seconds. For a duration of less than a minute, specify zero minutes. For example, *0:10* for ten seconds.

Hint: to speed up editing, press *Enter* to get the same effect as clicking "Add This Interval." *Tab* and *Shift-Tab* let you move forward/backward between fields.

To shift from adding new intervals to the end of the workout to editing a workout in progress, click the *Stop Adding* button. The screen now looks like this:

Create a New Workout

If you are satisfied with this workout, click *Save Workout*.

You can also add or edit intervals, or throw this workout away by pressing *Don't Save*.

Example Workout

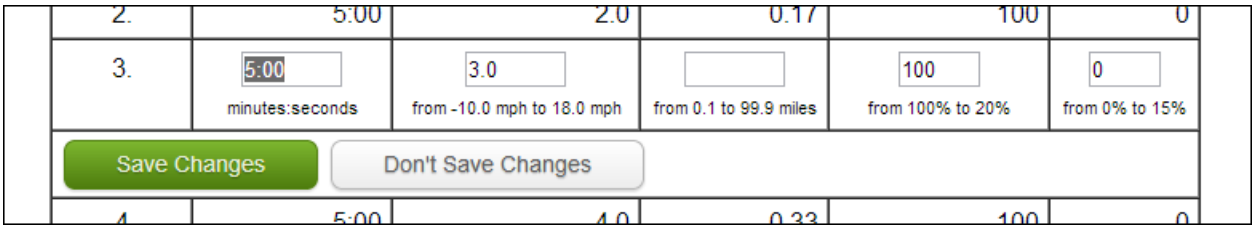
Total Duration: 25:00
Total Distance: 1.25 miles

Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %	Actions
1	5:00	1.0	0.08	100	0	↑ ↓ ins del
2	5:00	2.0	0.17	100	0	↑ ↓ ins del
3	5:00	3.0	0.25	100	0	↑ ↓ ins del
4	5:00	4.0	0.33	100	0	↑ ↓ ins del
5	5:00	5.0	0.42	100	0	↑ ↓ ins del

Add Another Interval or click a # to edit that interval.

Save Workout Don't Save

You can go back and edit any interval by clicking the button in the **Interval** column for that interval:



You can then change the duration, speed, body weight percentage, or incline of the interval.

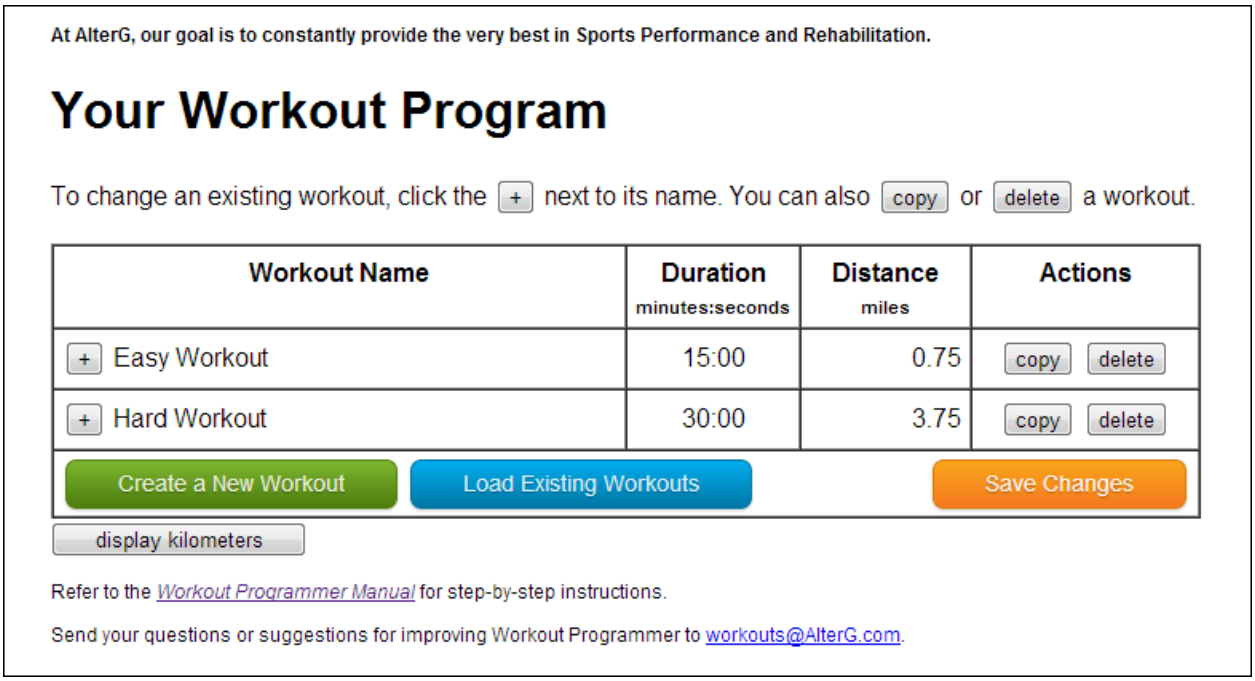
Using the Action buttons, you can also delete the interval (**del**), move it up or down using **the arrow buttons**, or insert a copy of the interval (**ins**), which adds it immediately before the given interval, and opens it for editing.

You can also **Add Another Interval**, which will return to adding intervals at the end of the workout.

Once you are satisfied, you can **Save Workout**. Or you can throw your newly-created workout away with the **Don't Save** button.

Edit an Existing Workout

Once you have workouts in your workout program (either by creating them, or loading them from a file), you can edit them. Let's say we load a workout program from a file, so that we see this on the first screen:

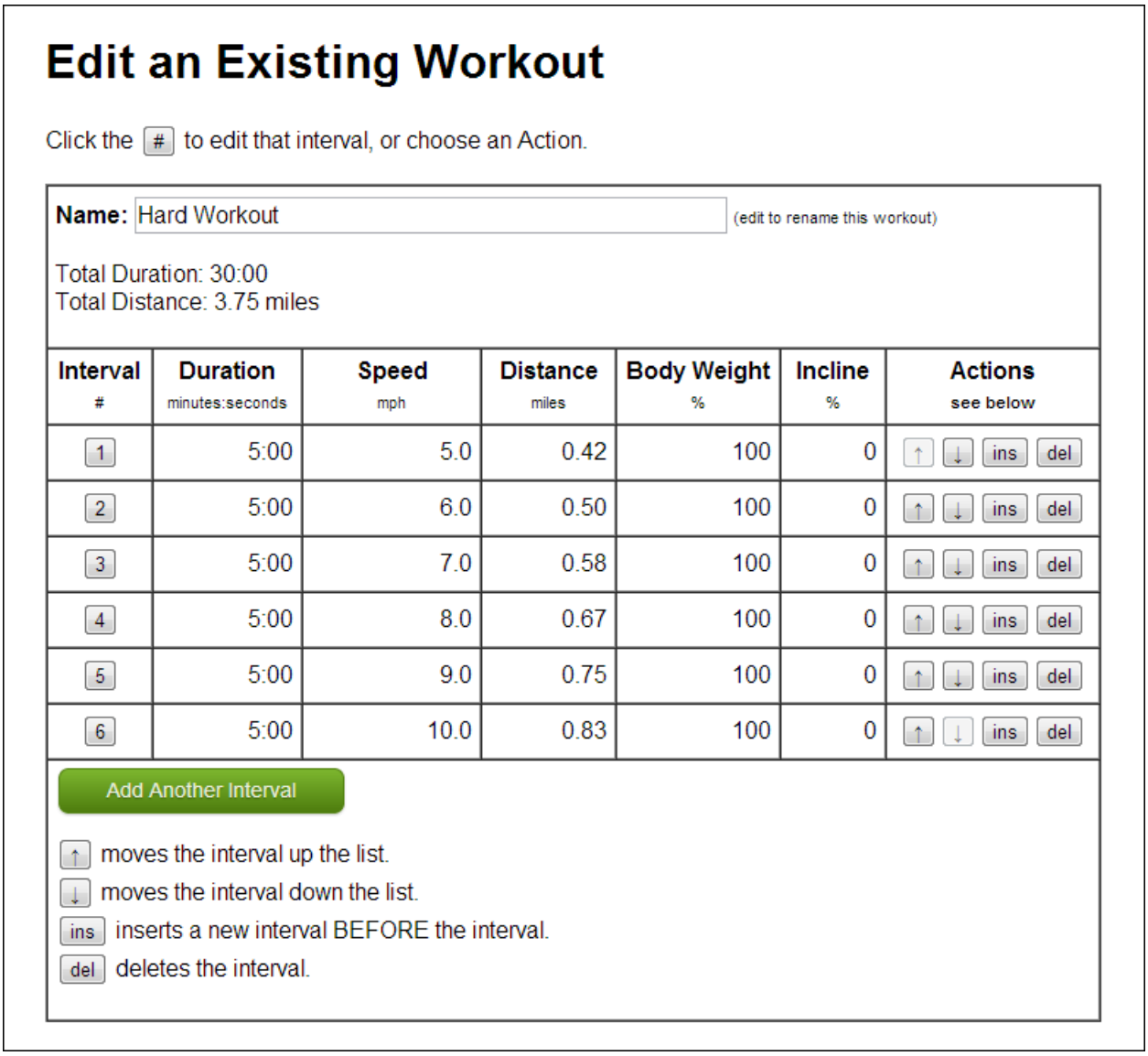


You can make a copy of a workout in your program by pressing its **copy** button.

You can delete a workout by clicking its **delete** button. Remember, this doesn't delete the workout from the original file, just in the workout program we are creating in the browser.

To rename a workout, open it for editing and change its name (see below).

To edit a specific workout, click the "+" button just to the left of its name. For example, here's what you'll see if you click the "+" to the left of the workout named "Hard" (workouts appear in alphabetical order):



Edit an Existing Workout

Click the [#] to edit that interval, or choose an Action.

Name: Hard Workout (edit to rename this workout)

Total Duration: 30:00
Total Distance: 3.75 miles

Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %	Actions see below
1	5:00	5.0	0.42	100	0	↑ ↓ ins del
2	5:00	6.0	0.50	100	0	↑ ↓ ins del
3	5:00	7.0	0.58	100	0	↑ ↓ ins del
4	5:00	8.0	0.67	100	0	↑ ↓ ins del
5	5:00	9.0	0.75	100	0	↑ ↓ ins del
6	5:00	10.0	0.83	100	0	↑ ↓ ins del

Add Another Interval

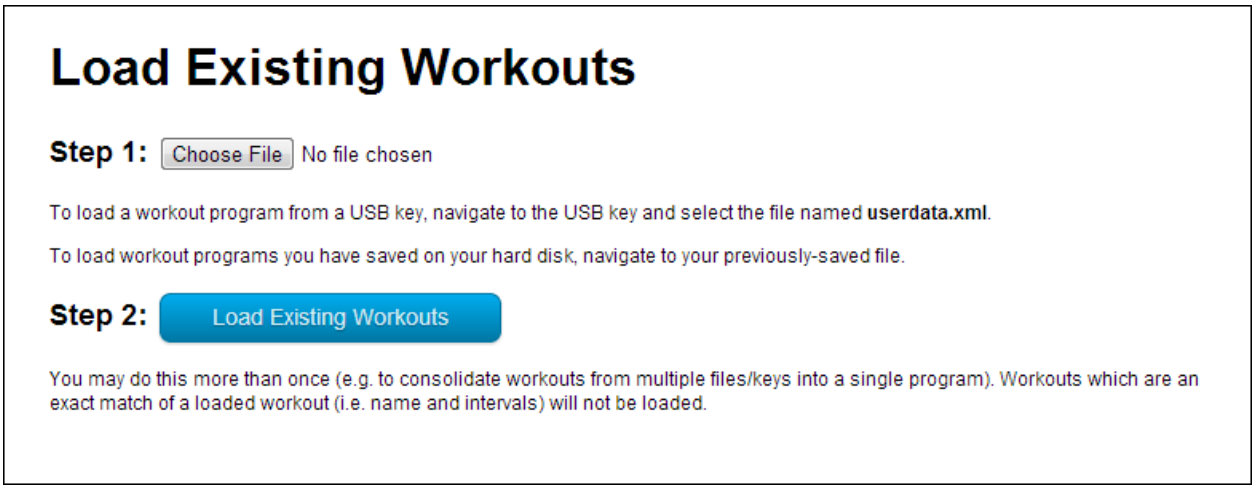
↑ moves the interval up the list.
↓ moves the interval down the list.
ins inserts a new interval BEFORE the interval.
del deletes the interval.

You can edit intervals by clicking the button in the **Interval** column, or using one of the **Action** buttons. These functions work exactly like they do when creating a workout for the first time.

This is also the place where you can rename a workout, simply by changing the **Name** field and saving the workout.

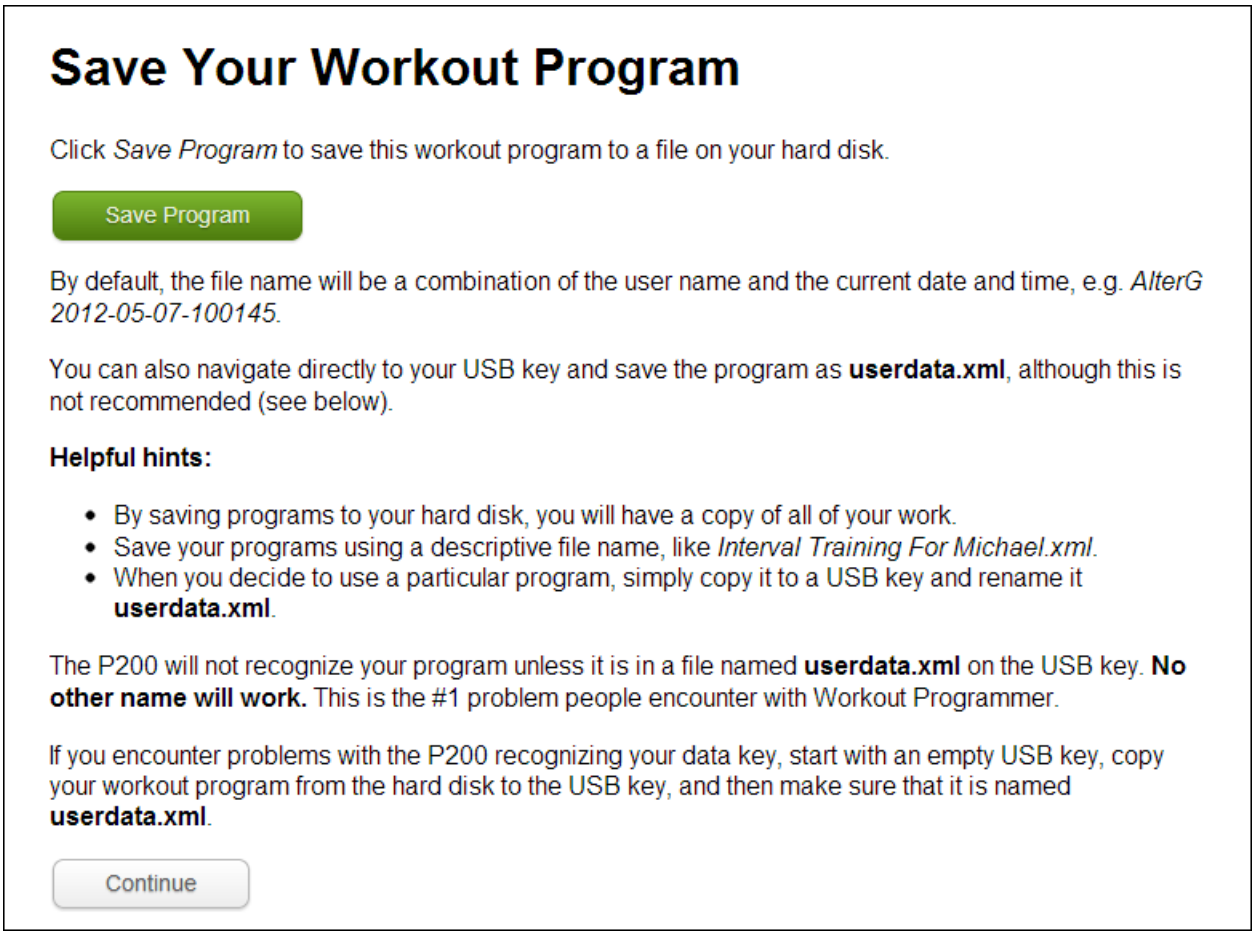
Loading And Saving

If you press the **Load Existing Workouts** on the main screen, you will be presented with the following:



Pressing **Choose File** will bring up an operating-system-specific file selection dialog. Select a previously-saved file containing workout programs, and then press the **Load Existing Workouts**. You will be returned to the **Your Workout Program** screen with the workouts visible.

If you click **Save Changes** on the main screen, you will be presented with the following screen:



Clicking **Save Program** will save your workout program in an operating system- and browser-specific fashion. In some cases, a "save file" dialog may appear. In others, the browser may save the file to a known location.

Regardless, after the file is saved, it needs to be placed on the USB key and renamed to **userdata.xml** (as noted on the screen above).

Helpful Hints and Troubleshooting

When loading workouts from a USB key, the P200 expects to find a file named **userdata.xml** on the key.

The #1 problem people encounter when using the Workout Programmer is failing to get the correct file onto the USB key and named **userdata.xml**. The best way to avoid problems is to make sure that a USB key has only two files on it:

- **userdata.xml** (the workout program)
- **userlog.xml** (workout results – may not be present if the key hasn't been used)

To copy a USB key with workouts on it, load the workouts into Workout Programmer, replace the USB key with a blank USB key, and then save the workouts onto the blank key.

When specifying a workout interval, you need to provide two of the values for Duration, Speed, and Distance. The program uses the following relationships:

- Duration x Speed = Distance
- Distance ÷ Speed = Duration
- Distance ÷ Duration = Speed

The system will not allow values for Distance and Duration which calculate a Speed of more than 18.0 mph, or values for Duration and Speed which calculate a Distance of more than 99.9 miles (remember, this is for a single *interval* of a workout).

You can specify a negative speed for the "Duration x Speed" relationship (the treadmill runs in reverse), the Distance is still positive. But since Distance and Duration are always positive, there is no way to calculate a negative Speed from Distance and Duration.

When a workout program is written to a file, Workout Programmer does not include calibration information, to ensure that the P200 is calibrated the first time the program is run. The key will then remember the calibration information until a new workout program is copied to it.

This is fine when a key is always used by the same person, because the calibration information matches the person using the key. That is why the P200 calls the programmed workout feature a *Personalized Login.*

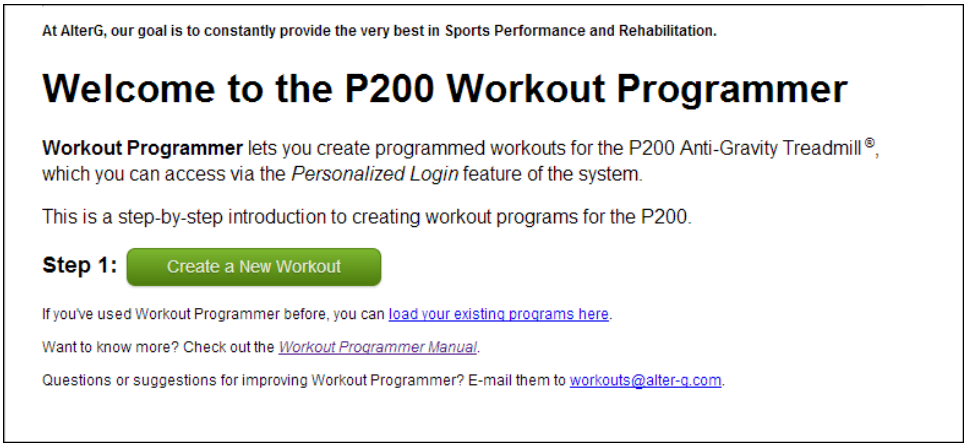
But if a single key is shared among multiple users, it is important that they calibrate the P200 before starting a programmed workout.

Remember, until you save your workouts back to a file, nothing has been changed.

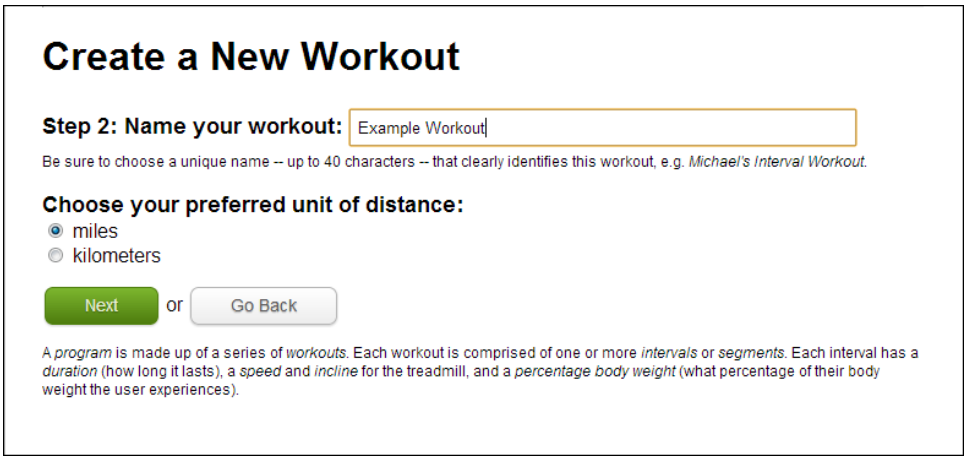
APPENDIX: Step-By-Step Walkthrough

This appendix walks you through the step-by-step creation of a new workout program.

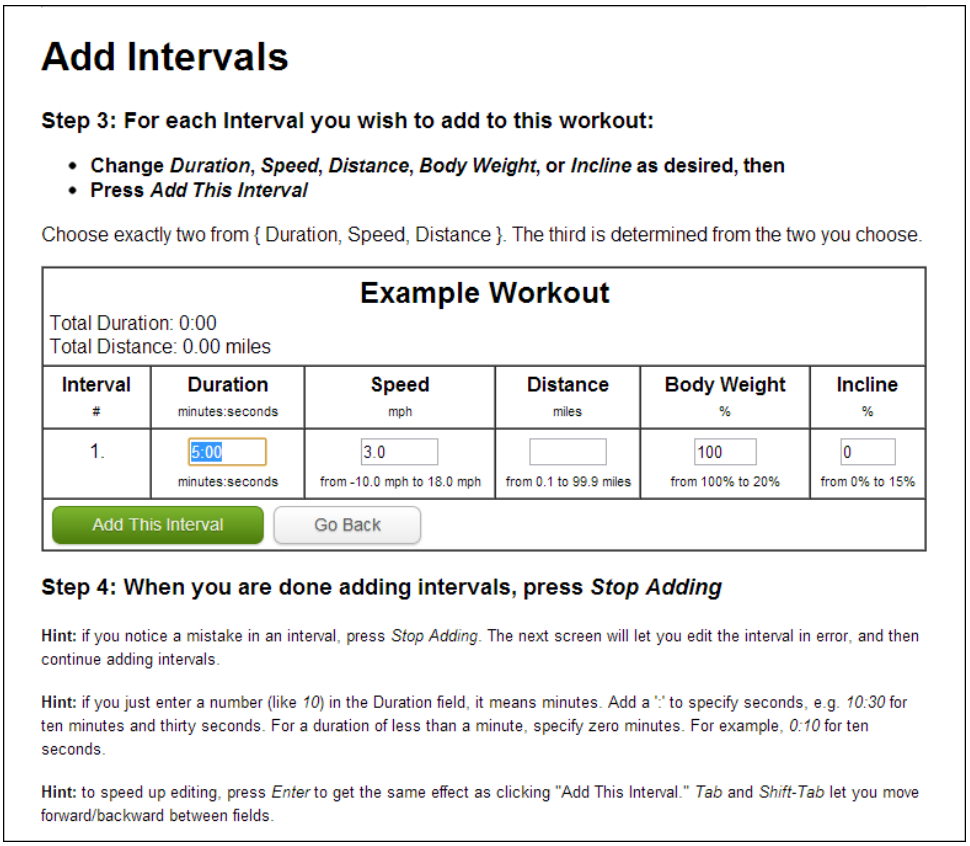
This is where you start:



Clicking *Create a New Workout* takes you to this screen:



After filing in a name and selecting units, clicking *Next* will take you to this screen:



Add Intervals

Step 3: For each Interval you wish to add to this workout:

- **Change *Duration*, *Speed*, *Distance*, *Body Weight*, or *Incline* as desired, then**
- **Press *Add This Interval***

Choose exactly two from { Duration, Speed, Distance }. The third is determined from the two you choose.

Example Workout

Total Duration: 0:00
Total Distance: 0.00 miles

Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %
1.	5:00 minutes:seconds	3.0 from -10.0 mph to 18.0 mph	from 0.1 to 99.9 miles	100 from 100% to 20%	0 from 0% to 15%

Add This Interval | Go Back

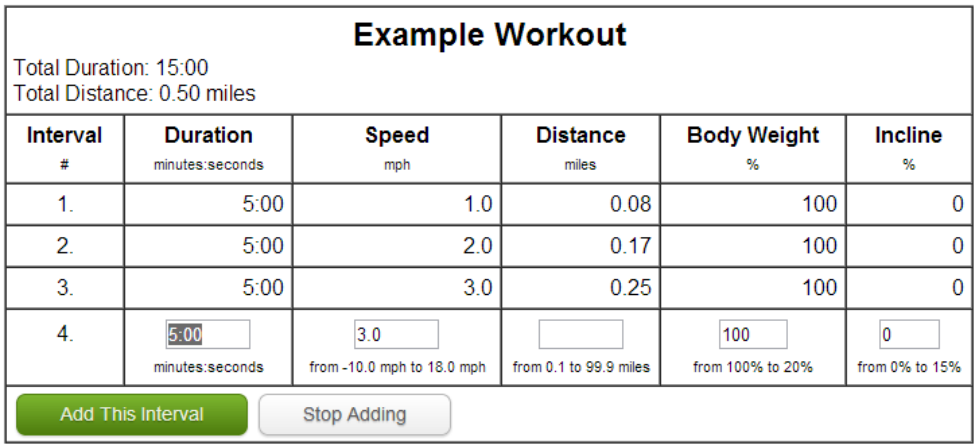
Step 4: When you are done adding intervals, press *Stop Adding*

Hint: if you notice a mistake in an interval, press *Stop Adding*. The next screen will let you edit the interval in error, and then continue adding intervals.

Hint: if you just enter a number (like *10*) in the Duration field, it means minutes. Add a ':' to specify seconds, e.g. *10:30* for ten minutes and thirty seconds. For a duration of less than a minute, specify zero minutes. For example, *0:10* for ten seconds.

Hint: to speed up editing, press *Enter* to get the same effect as clicking "Add This Interval." *Tab* and *Shift-Tab* let you move forward/backward between fields.

After adding a few intervals, the workout will look like this:



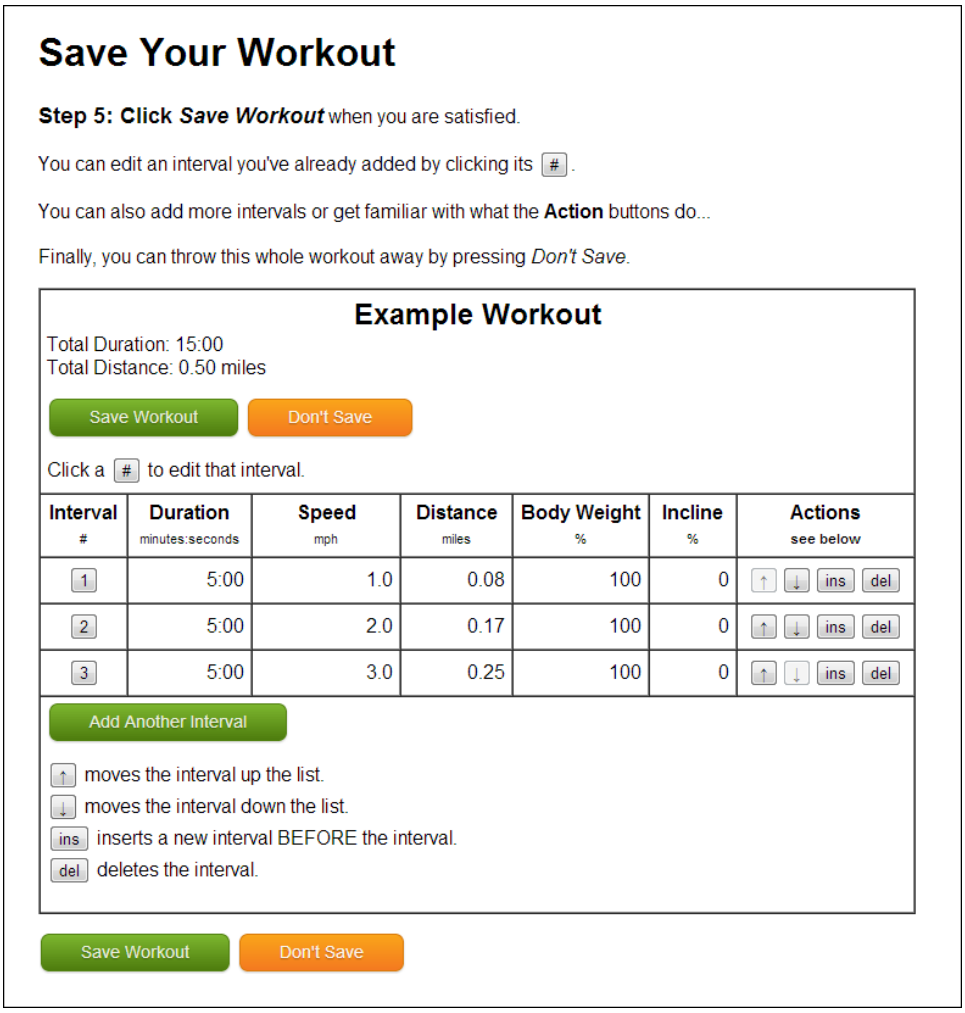
Example Workout

Total Duration: 15:00
Total Distance: 0.50 miles

Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %
1.	5:00	1.0	0.08	100	0
2.	5:00	2.0	0.17	100	0
3.	5:00	3.0	0.25	100	0
4.	5:00 minutes:seconds	3.0 from -10.0 mph to 18.0 mph	from 0.1 to 99.9 miles	100 from 100% to 20%	0 from 0% to 15%

Add This Interval | Stop Adding

Clicking *Stop Adding* will take you to the following screen:



Save Your Workout

Step 5: Click *Save Workout* when you are satisfied.

You can edit an interval you've already added by clicking its [#].

You can also add more intervals or get familiar with what the **Action** buttons do...

Finally, you can throw this whole workout away by pressing *Don't Save*.

Example Workout

Total Duration: 15:00
Total Distance: 0.50 miles

Save Workout | Don't Save

Click a [#] to edit that interval.

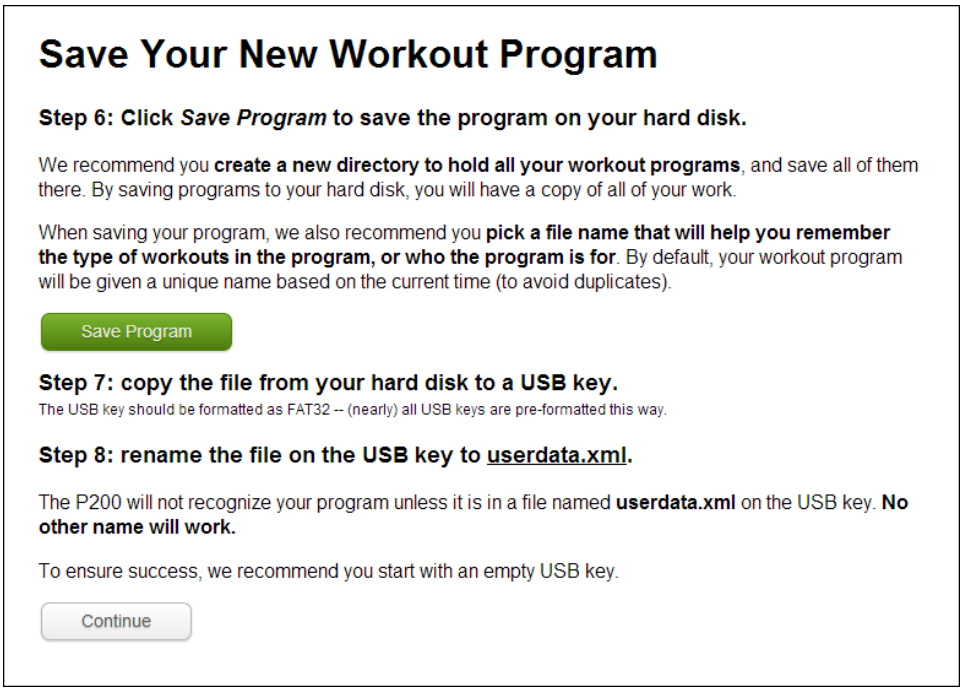
Interval #	Duration minutes:seconds	Speed mph	Distance miles	Body Weight %	Incline %	Actions see below
1	5:00	1.0	0.08	100	0	↑ ↓ ins del
2	5:00	2.0	0.17	100	0	↑ ↓ ins del
3	5:00	3.0	0.25	100	0	↑ ↓ ins del

Add Another Interval

[↑] moves the interval up the list.
[↓] moves the interval down the list.
[ins] inserts a new interval BEFORE the interval.
[del] deletes the interval.

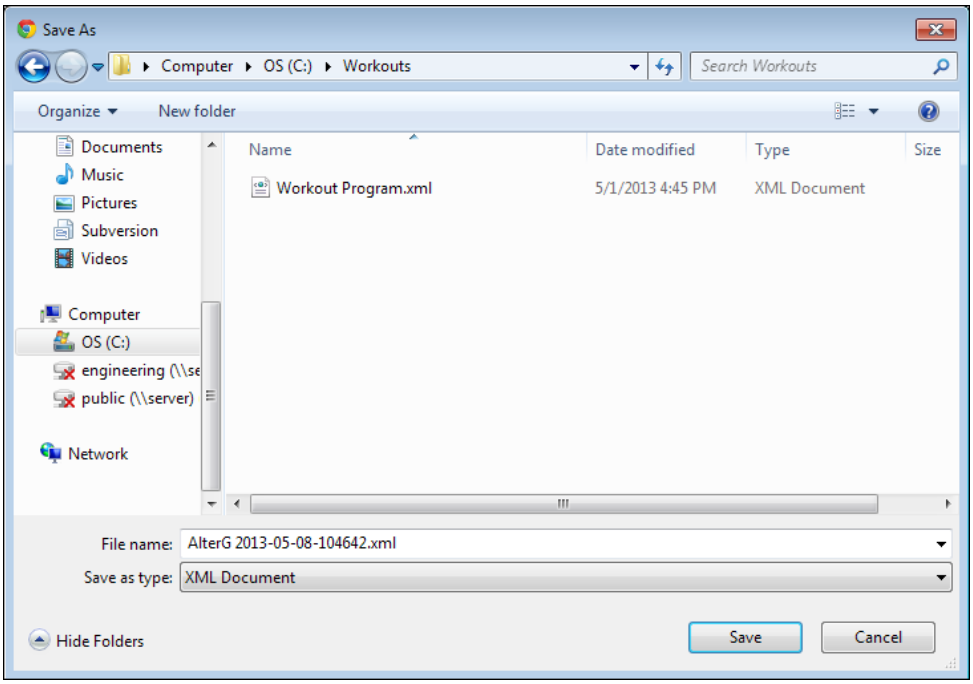
Save Workout | Don't Save

Clicking *Save Workout* will take you to the next screen:



Clicking *Save Program* will save the workout program to your computer in an operating system (Windows, OS X) and browser (Chrome, Firefox, Safari, Internet Explorer) specific fashion.

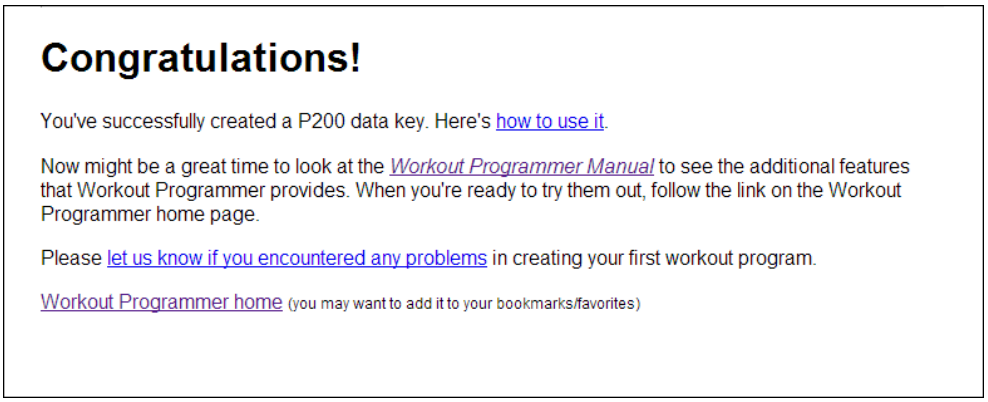
For example, on Windows 7 with the Chrome browser, you will see *Save* As dialog box like this:



Other browsers may automatically save the file in a known location (like Downloads), without showing a dialog.

Don't forget to follow steps 7 (copy to USB key

Once the file has been saved, clicking *Continue* takes you to the final screen.



APPENDIX: userdata.xml

This appendix describes the **userdata.xml** file used by the P200 "personalized login" feature. The original assumption was that each user of the machine would have their own USB data key which would store both their personalized workout programs (**userdata.xml**) and the results of those workouts if enabled (**userlog.xml**). In practice, this isn't usually the case, with one key being shared among several users (see the issue with this under CALIBRATION), or reprogrammed for each user prior to their workout.

It is assumed the reader has some basic familiarity with XML (e.g. elements and attributes).

Here is a simple example of a **userdata.xml** file:

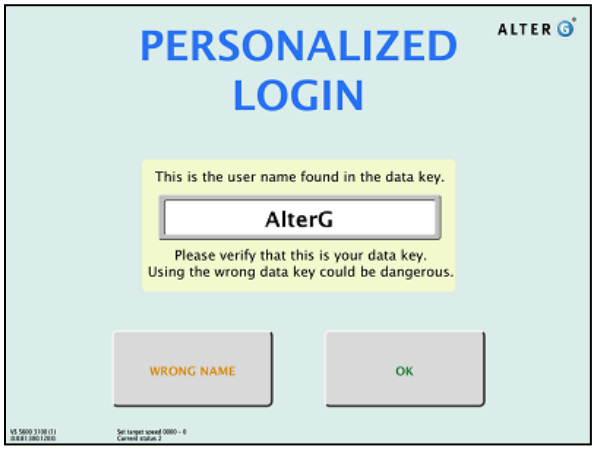
```
<USER name="AlterG">
<CALIBRATION minute="58" hour="11" day="10" month="9" year="2011" dPdPBW="-8.585227"/>
<LOGGING log_heart_rate="yes" generate_log="yes"/>
<WORKOUT name="Easy">
<STAGE treadmill_inclination="20" treadmill_speed="62" percent_body_weight="50" duration="300"/>
<STAGE treadmill_inclination="0" treadmill_speed="31" percent_body_weight="75" duration="500"/>
</WORKOUT>
<WORKOUT name="Medium">
<STAGE treadmill_inclination="20" treadmill_speed="62" percent_body_weight="50" duration="600"/>
<STAGE treadmill_inclination="0" treadmill_speed="31" percent_body_weight="75" duration="1000"/>
</WORKOUT>
<WORKOUT name="Hard">
<STAGE treadmill_inclination="20" treadmill_speed="62" percent_body_weight="50" duration="3000"/>
<STAGE treadmill_inclination="0" treadmill_speed="31" percent_body_weight="75" duration="5000"/>
</WORKOUT>
</USER>
```

The program belongs to a user named *AlterG*, and contains 3 workouts (*Easy*, *Medium*, and *Hard*). Each workout has two stages, which define the speed, incline, unweighting and duration for that stage.

<USER> … </USER>

USER is the top-level element. It has the following attributes:

- **name="value"** (arbitrary characters)
  The value is displayed as the user name of the data key when inserted into the P200, e.g.:



- **units="value"** (miles/kilometers)
  This attribute is ignored by the P200. It is used by the P200 Workout Programmer to remember the units in effect when the workout program was saved.

<CALIBRATION />

The self-closing CALIBRATION element is used to record the date and value of the last time the machine was calibrated (presumably for this user – this is problematic when a single key is used by multiple users). It has the following attributes:

- **year="value"**
  month="value (1-12)
  day="value" (1-31)
  hour="value" (0-24)
  minute="value" (0-59)
  together these make up the date and time of the last calibration .
- **dPdPBW="value"**
  the calibration value itself (delta-Pressure-delta-Percentage-Body-Weight). The change in pressure, expressed in internal units, required to raise effective body weight by one percent (which is why it should always be a negative number).

The CALIBRATION element is optional. If it is missing, the P200 will force a calibration, which can be useful when a single key is shared among different users (with varying weights and thus, dPdPBW values). The P200 Workout Programmer writes workout programs without a CALIBRATION element, so that a calibration will be forced.

<LOGGING />

The self-closing LOGGING element determines whether workouts will be logged and whether they will include heart rate information. It has the following attributes:

- **generate_log="value"** (yes/no)
  If "yes", workout data will be appended to the **userlog.xml** file.
- **log_heart_rate="value"** (yes/no)
  If "yes", workout data will include heart rate.

<WORKOUT> … </WORKOUT>

The WORKOUT element contains one or more of STAGE elements which comprise the workout. It has one attribute:

- **name="value"** (arbitrary characters)
  The value will be displayed as the name of this workout on the P200. Only the first 40 characters of name will be displayed. Since the P200 uses a proportional font to display the name and did not properly account for a name with 40 "wide" characters (such as M or W), very long names with wide characters do not display properly (wrap-around).

A WORKOUT which does not contain any STAGE elements will be ignored by the P200, i.e. it will not appear in the workout list.

<STAGE/>

The self-closing STAGE element describes one interval of a workout in terms of its speed, incline, unweighting, and duration. It can only appear inside a WORKOUT element, and has the following attributes:

- **treadmill_speed="value"** (-100 – 180)
  The value for SPEED (as shown on the P200 control screen) during this stage, in tenths of a mile per hour, e.g. "48" represents 4.8 MPH. Note that the "TOGGLE UNITS" button on the P200 has no effect on the internal representation of speed, which is always MPH.
- **treadmill_inclination="value"** (0-150)
  The value for %INCLINE during this stage in tenths of a percent, e.g. "100" represents a 10% incline. Note that the P200 is only capable of 1% changes in incline.
- **percent_body_weight="value"** (100-20)
  The value for %BODY WEIGHT during this stage, in percent, e.g. "75" represents 75% body weight.
- **duration="value"** (0 – 36000)
  The length of the stage in tenths of a second , e.g. "300" represents 30 seconds.

Additional Notes

The P200 will only recognize a file named **userdata.xml** on a USB key.

CR, LF, and CR-LF all appear to work correctly as line terminators.

Internally, the P200 uses miles per hour to represent speed, regardless of the units being used for display.

Never get involved in a land war in Asia.