"SI3" OR "513" ERROR CODE

(Doc EF 012306)

Many of the **KEYS** treadmills are fold up style. In the past, fold up treadmills, had a sensor located at, or near one of the pivot points of the treadmill, that indicated to the treadmill when it was in the "folded up" position. (-0050 and -0051 boards)

For safety reasons, when the treadmill was in the "folded up" position and someone would try to start it up, an "SI3 or 513" error code would appear and the treadmill would not function (this is similar to a safety key being removed). This error message would stay on for a good number of seconds, and eventually, the whole console would shut off.

This sensor was so delicate and so easily moved, shifted, rattled off, or damaged during the moving, folding and unfolding, and vibrating (during use) of the t/m, that we eventually got rid of the "fold up" sensor as a whole. We did this by making the treadmill think it was in the "**un-**folded" position at all times. Where and how?

--If you look at the lower green mc board: Looking at it from the front of the t/m (towards the rear) you'll notice the transformer (biggest square within a square on the board) towards the "top-left" part of the mc board. To the top-right (appx 2 cm) of the transformer, there is a white 2-pin connector labeled "M S/W" just north of the green S F/B light.
That is what we want to pay attention to (Fig. 1).

Fig. 1

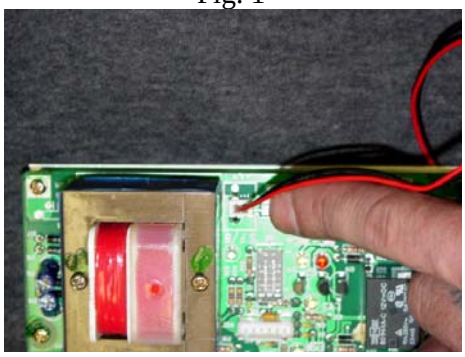
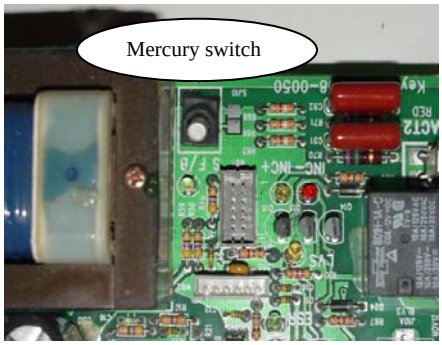


Fig. 2



Cannot find such a connector? Possibly, you are dealing with a newer board version (which deleted the concept as a whole) or an older board with a **mercury switch**.
What is a mercury switch? Just an alternate "fold-up sensor" with a centering bubble (much like the bubble on a carpenter's level). The solution to an SI3 with a mercury switch is the following: Go down to the lower board. Find the mercury switch (Fig. 2). Take something rubber or plastic and tap slightly on the mercury switch. This will often re-level the centering bubble. (Believe it or not) sometimes even lifting the whole treadmill a bit (an inch or two) and giving it a slight drop will re-align that bubble and erase that SI3. Still not resolved? Replace the motor controller board. Still not resolved? Replace console.

On older models with the fold-up sensor, there is a thin, two conductor wire attached to that connector, which leads from the board, along the t/m frame, to the "fold up" sensor. On the newer models with no fold up sensor, we placed a shunt (electrical jumper) into that connector. What this does is short out the two pins, making the treadmill think the sensor is functioning perfectly. With this shunt in place, there is no reason why an "SI3 or 513" error should ever appear.

Symptom: No belt movement with:

1) "SI3 or 513" error code upon startup
2) "SI3 or 513" error while trying to calibrate
3) "SI3 or 513" error code as the t/m stops (while running on it)

Solution: Go to the next page.

Models with a -50 or -51 Board

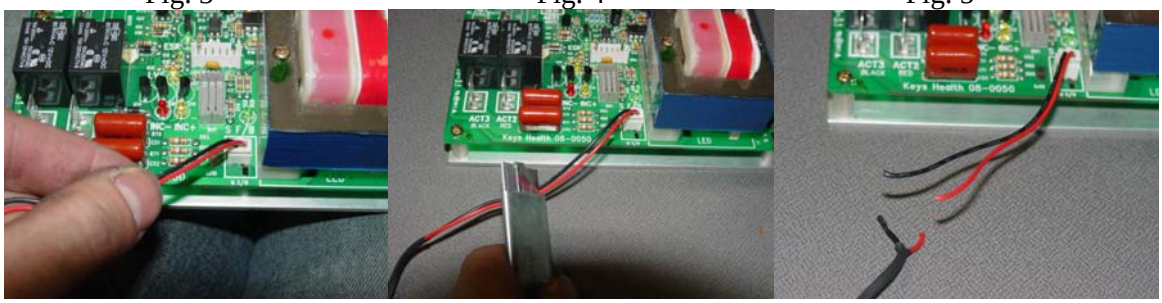
1) <u>SPARE YOURSELVES THE HASSLE AND HEADACHES OF TRYING TO</u>:

--Follow that 2-conductor wire from the mc board to the fold sensor (which is very well hidden)
--Tweak the sensor to the appropriate position so that it reads correctly.
--Make sure that it will not fail again (very difficult)

Get rid of it permanently!!! Using scissors, a knife, or wire cutters/strippers

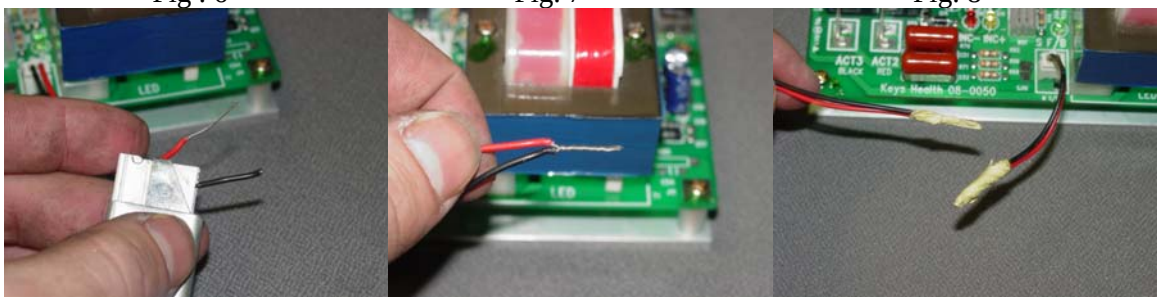
1) Go to the lower mc board and find the 2-pin connector
2) Leave the connector connected.
3) Follow the 2-conductor wire out of the board approximately 2-3 inches and leave some slack (Fig. 3).
4) Cut the wire there (Fig. 4).
5) Split the wire (the short end attached to the mc board) into the original two, like splitting a hair (Fig. 5).

Fig. 3 Fig. 4 Fig. 5



6) Peel back the insulation on both split ends (Fig.6).
7) Twist the exposed wires together (Fig.7).
8) Tape up **both** ends (the twisted end, and the end leading away from the mc board) so they do not touch anything electrical (Fig.8).

Fig . 6 Fig. 7 Fig. 8



--Still not gone?

Possibly, the white connector attached to the board is not making good contact to the two pins on the board. If you can, find a shunt, install it between the two pins. If you cannot locate a shunt, remove the connector (wire attached) from the board. You can use good old' aluminum foil to make a contact between the pins. Just take the aluminum foil and stuff it into the connector on the board, making sure the aluminum touches both pins (and only those pins) at the same time. Still not resolved? Replace the motor controller board. Still not resolved? Replace console.