

TIVO UPGRADE INSTRUCTIONS (#30)

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Instructions for TwinBreeze™ TiVo Upgrade Bracket/Kit

Instructions are available online (in COLOR) at <http://www.weaknees.com>

A FEW WORDS OF CAUTION:

Upgrading a TiVo presents a few physical hazards. As with most consumer electronics devices, components in the TiVo may still carry a lethal charge, even after disconnecting from your power supply. Be aware of this while working inside your TiVo. Allow sufficient time for discharging of components and avoid contact as much as possible with potential hazards. While we have done everything we can to provide accurate, easy-to-follow instructions, we cannot be responsible for any damage done to your TiVo or to yourself as a result of your upgrade. By opening your TiVo, you agree that neither weaKnees nor any of its members or affiliates is responsible in any way for any harm done. Please be VERY careful when upgrading. NEVER open the TiVo while the unit is plugged in and NEVER operate the TiVo if the lid is not securely fastened. PLEASE NOTE: Opening the TiVo voids the warranty.

IF YOU NEED TECHNICAL SUPPORT:

If you have purchased an upgrade kit that included one or two pre-configured hard drives: We are more than happy to answer any questions that you might have regarding your installation. We answer email very frequently, and can often be reached that way at night or even on weekends. We encourage you to try email first, but you are also free to call us any time if you have questions about your installation or these instructions.

If you have purchased a TwinBreeze Basic or TwinBreeze Complete package (without a pre-configured drive): These kits are designed for people who already know how to prepare a drive (or drives) for use in a TiVo. We unfortunately do not have the resources to teach our bracket customers how to upgrade their TiVos. For more information, see <http://www.upgrade-instructions.com>.

Required Tool (not included): Phillips-head screwdriver.

TWINBREEZE BASIC INCLUDES

2 Self-tapping screws or TwinBreeze Accessory Kit
1 WeaKnees.com TwinBreeze Bracket (not shown)

DRIVE KITS/TWINBREEZE COMPLETE ALSO INCLUDE:

8 Hard drive screws
1 Torx T10 screwdriver
1 Torx T15 screwdriver
1 Hard drive IDE ribbon cable (may be different than the one pictured)
1 Hard drive power splitter cable

1 Set of upgrade instructions (not shown)
COMPLETE/ADVANCED COOLING PAK ALSO INCLUDES
4 Self-tapping screws (for bracket fan)
4 Small rubber washers (for bracket fan)
4 Large rubber washers (for case fan; may not be included in kits ordered for certain TiVo models)

1 Bracket fan with 4-pin hard-drive connector
1 Case fan with 2-pin or 3-pin motherboard connector (may not be included in kits ordered for certain TiVo models)

YOUR KIT MAY ALSO INCLUDE:

1 PowerTrip™ TiVo Power Supply Saver (standalone TiVos only)
1 TwinBreeze Accessory Pak (required in certain models)

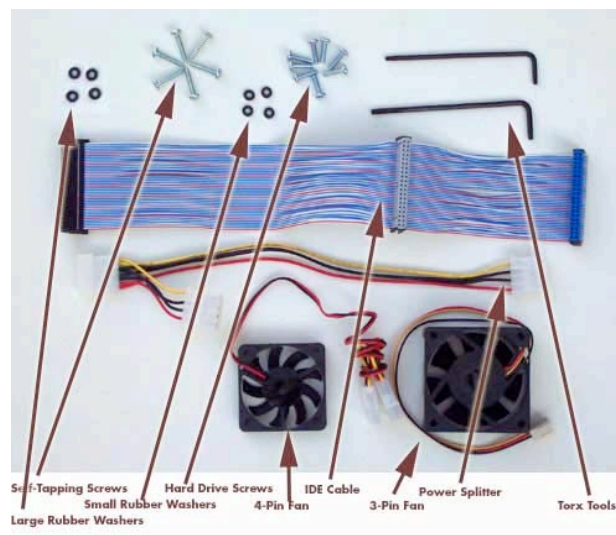


Figure 1

1. OVERVIEW

Upgrading your TiVo entails just six basic steps:

- (a) Open the TiVo (Section 2)
- (b) Remove the factory drive (Sections 3 through 5)
- (c) Install drives on the mounting bracket (Sections 6 and 7)
- (d) Install bracket and cables in TiVo (Sections 8 through 10)
- (e) Install fans (optional) (Sections 11 and 12)
- (f) Close the TiVo (Section 13)

2. OPENING THE TIVO

Unplug the power cord from your electrical outlet and wait five minutes for the TiVo to discharge. Do not plug the TiVo back in until you are completely finished. Be very careful of static electricity, which can destroy your TiVo's internal parts. You should not perform this upgrade on carpet.

Using the Torx T10 (smaller of the two) L-key included with your kit, unscrew the four (or five in some TiVo models) Torx screws on the back of your TiVo. The four screws are surrounded by black or gray from the top of the TiVo's case. See Figure 2. NOTE: Some units have Philips-head screws (rather than Torx screws) holding the lid to the case; you will need a Philips-head screwdriver to remove those screws.

Set aside (to be used again): Four (or five) TiVo lid screws.

Once the four (or five) screws are removed, remove the lid. Place your palms on the top side edges of the TiVo, toward the back and push toward the back of the TiVo (this occasionally requires a bit of force). The cover should slide back and then up. Remove the cover from the TiVo. See Figure 3. Set aside (to be used again): TiVo lid.

NOTE: If your TiVo has a large block of foam adhered to the TiVo's lid, you will have to remove the foam before proceeding. A bit of force will get most of the block off. A bit of patience and some glue remover will get the remainder off.

3. DISCONNECTING THE EXISTING DRIVE BAY

With the cover off and looking to the front-right of the TiVo, you will be able to see (1) one hard drive, (2) a gray IDE ribbon cable that runs from the greenish motherboard to the hard drive, (3) a multi-colored (red/black/yellow) power cable that runs from the power supply to the hard drive, and (4) two bracket screws that connect the hard drive and its bracket to the TiVo. See Figure 4. Using your Torx screwdriver, unscrew and remove the two bracket screws that connect the hard drive bracket to the lower bracket (part of the bottom of the unit). These screws are located at the front-right of the TiVo. As you look down into the TiVo, you will see the two screw heads. See Figure 4.

Set aside (not reused): Two bracket screws.

NOTE: Be very careful not to dislodge (even slightly) the front panel ribbon cable. If you do, simply push it back in place. NEVER power on your TiVo with this cable even slightly dislodged. See Figure 4.

4. REMOVING THE POWER CABLE AND IDE RIBBON CABLE

Situate yourself in front of the TiVo. With your left hand, push the drive/bracket back slightly toward the power supply and then flip it over to the left (see Figure 5).

While holding the drive bracket in your left hand (being careful not to touch the components on the drive itself), use your right hand to remove the power cable and IDE cable from the hard drive. These can sometimes stick, so you might have to wiggle the power cable a bit. NOTE: If this method of removing the cables is difficult for you, you can instead remove the cables at the end of step 2. However, you MUST be VERY CAREFUL of the front panel ribbon cable. If this cable is dislodged even slightly and you power on your TiVo, you can cause permanent damage.



Figure 2 (above) Back view



Figure 3 (above) Top view

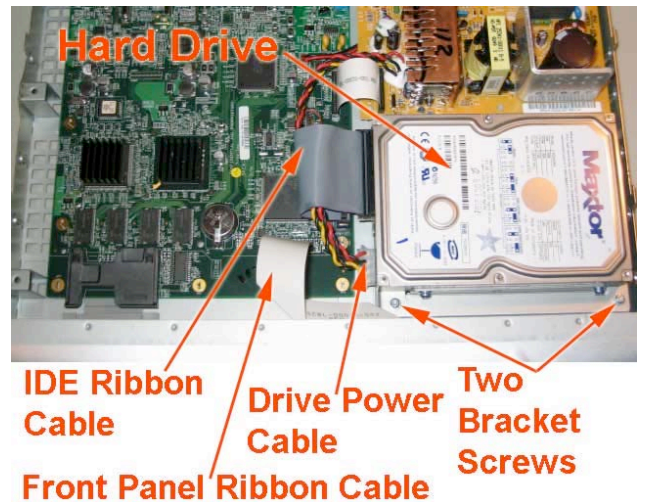


Figure 4. Front/top view

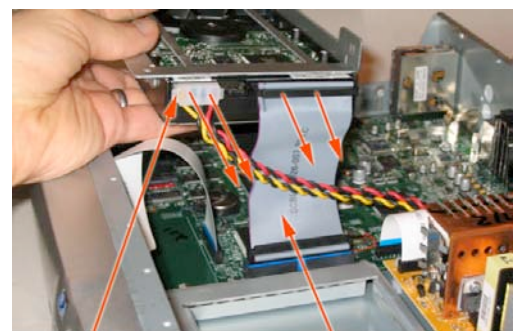


Figure 5 Side view

5. REMOVING THE EXISTING DRIVE

Once the hard drive and bracket are out of the TiVo, remove the IDE ribbon cable from the motherboard by lifting straight up and out.

Now, using the larger (T15) Torx tool, unscrew the four Torx drive screws that connect the hard drive to the hard drive bracket. See Figure 6. You will not re-use these four screws or the metal drive bracket, but you should save the screws and bracket, together with the ribbon cable you removed.

Set aside (not reused): Four drive screws; one IDE cable; one metal bracket



Figure 6

6. SETTING THE JUMPER (NOTE: IF YOU RECEIVED TWO DRIVES FROM WEAKNEES, SKIP TO STEP 7)

Pick up the factory hard drive and look at the hard drive with the label facing up and the empty power/IDE cable connectors facing you. Your TiVo's hard drive has one or two small white or black plastic "jumper(s)" that are located between the IDE cable and the power cable connectors. Following the steps below (depending on your drive manufacturer) to confirm that your factory drive is set to Master. **DO NOT MAKE ANY JUMPER CHANGES TO ANY DRIVE(S) THAT YOU RECEIVED IN YOUR UPGRADE KIT.**

If your TiVo's original drive is a Quantum or Maxtor hard drive: If your drive has one jumper, then you will see a total of four pairs of pins (and, therefore, 4 possible vertical places for the jumper). Ignore the single pin located closest to the IDE cable connector. If your drive has two jumpers, then your drive has a total of 5 sets of two pins. See Figs 7 and 8.

In a one-jumper Quantum or Maxtor hard drive, the jumper should be moved to the furthest left-hand position (again, ignoring the single pin). Gently remove the jumper with the end of a paper clip or your fingernail and move it to the proper position. NOTE: the jumper must be vertical and must be carefully inserted so that the jumper fits inside the left-hand most pins. See Figure 7. In a two-jumper Maxtor hard drive, the jumper should be set properly, and should be in the shape of an "L" turned 90° clockwise. See Figure 8.

If your TiVo's original drive is a Western Digital hard drive:

You will notice a total of five pairs of pins (and, therefore, 5 possible vertical places for the jumper). In a Western Digital hard drive, the jumper should be moved to the center position. Gently remove the jumper with the end of a paper clip or your fingernail and move it to the proper position. NOTE: the jumper must be vertical and must be carefully inserted so that the jumper fits inside center pins vertically. See Figure 9.



Quantum/Maxtor Set as "Master"

Figure 7 (above)



Two-jumper Maxtor Set as "Master"

Figure 8 (above)



Western Digital Performer Set as "Master with Slave Present"

Figure 9 (above)

7. CONNECTING THE HARD DRIVES TO THE DRIVE BRACKET

Using four of the hard drive screws included with your kit, screw your A/Master drive to the bracket (the screws connect to the drives from the underside of the bracket). In an "ADD" kit (in which you are retaining your factory drive), this drive will be the factory drive. Be sure to orient the drive as shown in Figure 10. The drive should be connected so that the drive IDE and power connector pins are facing down in Figure 10. Do not overtighten the screws. Connect your new upgrade drive (or "B" drive) to the drive bracket using the remaining four hard drive screws. Be sure to orient the drive on the bracket as shown in Figure 10. When the drive is connected and screwed in properly, the back of the drive will hang slightly off the end of the bracket. The IDE and power ports should be facing the middle of the bracket. Do not overtighten the screws.



"B" or Slave/add "A" or Master/factory

Figure 10

8. ATTACHING THE IDE CABLE TO BOTH DRIVES

Take the IDE cable included with your kit and drop the blue connector through the open space in front of the Slave/B drive's IDE cable connector. With the blue connector hanging below the bracket, connect the gray connector to the Slave/B drive. NOTE: Be careful to insert the cable in the proper direction – each connector on the cable has a notch that aligns to ensure it is not installed upside-down. See Figure 11.

Now connect the black connector into the Master/factory hard drive (or new “A” drive for dual-drive upgrades).

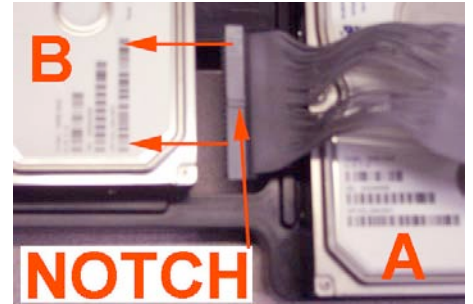


Figure 11

9. INSTALLING THE TWINBREEZE BRACKET INTO THE TIVO

Grip the bracket with one hand through the circular hole at the end of the bracket. Locate the tab on the hard drive bracket at the end opposite the round hole. With the drive labels facing up, tuck the bracket tab underneath the metal bracket mount in the TiVo, as shown in Figure 12.



Figure 12 (above) Right side view

Continue holding the bracket with one hand through the round hole. With the tab still underneath the metal bracket mount, lift the bracket up. Using your other hand, reach underneath the bracket and carefully connect the blue IDE ribbon connector to the black connector on the motherboard.

Now lower the bracket down. Be sure that the TiVo's red/yellow/black drive power cable is not caught under the bracket as you lower it into place.

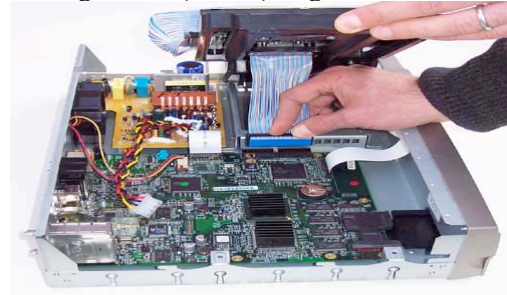


Figure 13 (above) Left side view

NOTE: BE CAREFUL NOT TO DISLodge THE FRONT PANEL RIBBON CABLE. (See Figure 4.)

NOTE: IF YOUR TIVO DOES NOT HAVE METAL PLATES INTO WHICH TO SCREW THE BRACKET SCREWS, YOU WILL NEED A SEPARATE ACCESSORY KIT. IF THIS KIT WAS INCLUDED, PLEASE SEE THE SEPARATE INSTRUCTIONS INCLUDED WITH YOUR KIT.

10. ATTACHING THE TWINBREEZE BRACKET, POWER CABLE & POWERTRIP (IN SOME KITS)

Using two self-tapping screws included with your kit, attach the bracket to the TiVo. The screws will be cutting threads through the metal TiVo case, so a bit of force might be necessary. Do not overtighten the screws. Now follow the instructions in part (a) or (b) below, depending on whether a PowerTrip was included with your upgrade kit:

(a) If no PowerTrip was NOT included in your kit (DirecTV/TiVo models):

Connect the red/yellow/black Y-power splitter cable (included with your kit) to the existing TiVo power cable. Then connect the short end of the Y-power splitter into the B/Slave drive (see Figure 10). Connect the long end of the power cable into the A/Master drive (see Figure 10). Figure 14 shows the installation of the cables described above.

(b) If a PowerTrip was included in your kit (TiVo without DirecTV):

Connect the red/yellow/black Y-power splitter cable (included with your kit) to the existing TiVo power cable. Then connect one end of the splitter to the PowerTrip, and connect the other end of the PowerTrip to the A/Master drive (see Figures 10 and 15). Then connect the remaining power splitter end to the B/Slave drive. You can tuck the power splitter connector into the space in front of the Slave/B drive. NOTE: If you are also installing a bracket fan (see below), then install the fan before connecting the PowerTrip to your A (Master/factory) drive.

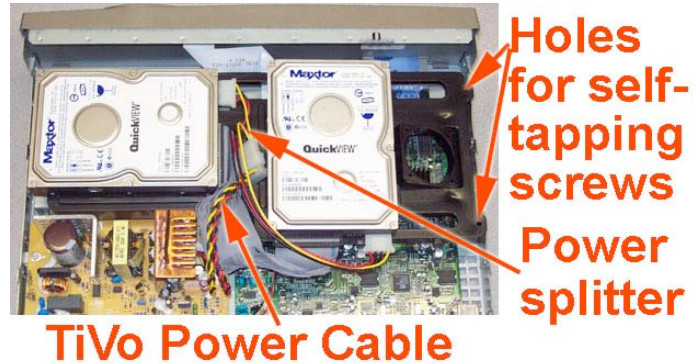


Figure 14 (above)

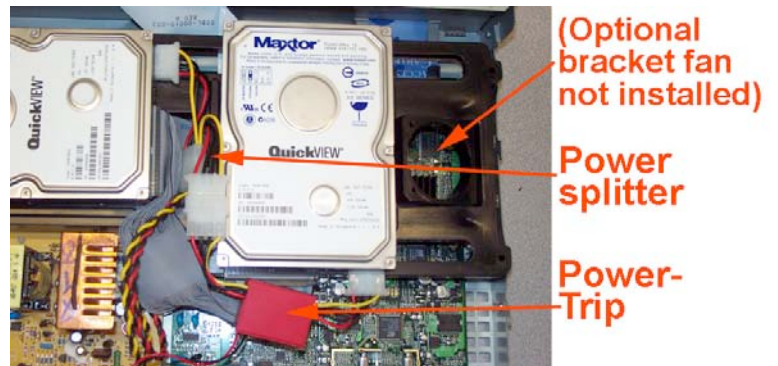


Figure 15 (above)

11. CONNECTING OPTIONAL BRACKET FAN (INCLUDED IN ADVANCED COOLING PAK)

(If your kit included a bracket fan.) If your kit included two fans, the bracket fan is the smaller of the two fans, and has two connectors that are the same style as the hard drive connectors you used above. Once you have located the fan, look at the edges of the fan until you locate the air directional arrows. Now insert four self-tapping screws into the four fan holes. The screws should be inserted in the same direction as the fan airflow. Once you have the four screws through the fan holes, screw a small rubber washer onto the end of each screw. You need only turn each washer one or two turns. See Figure 16.

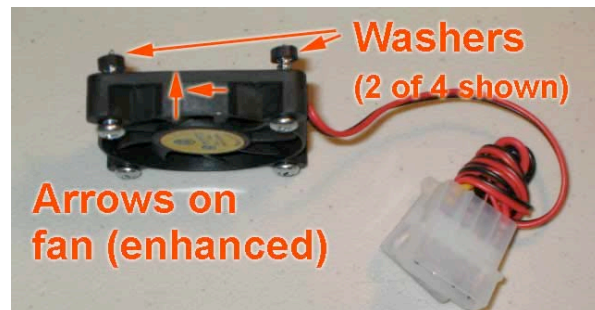


Figure 16 (above)

Place the fan on the bracket so that the fan cable is close to the drive. Screw in the four fan screws (through the fan and into the bracket) until they are tight; do not overtighten.

Unplug the power connector (or PowerTrip) from the hard drive closer to the fan (if connected), and plug the removed connector into the fan connector. Now plug the other end of the fan connector into the hard drive. Tuck the cables down and away from the power supply.



Figure 17 (above)

12. CONNECTING OPTIONAL CASE FAN (INCLUDED IN SOME ADVANCED COOLING PAKS)

NOTE: If your kit included a new case fan (shown in Figure 19), it is not imperative that you install it. The replacement case fan is designed to reduce noise. The factory fan is a more powerful, noisier fan, so if you would like maximum cooling and do not mind the noise, you can certainly leave the factory fan installed. (If your unit has a raised fan grate in the rear, you will NOT replace your case fan.)

To replace the case fan: Locate and remove the factory fan cable from the TiVo's motherboard. Pull the fan power connector straight up and out. You can locate the connector by following the wire from the fan (which is mounted at the back of the TiVo) to the motherboard. See Figure 18.

Using the Torx T15 tool included with your kit, unscrew the four screws on the back of the TiVo that are holding the fan in place. Set aside (to be used again): Four fan screws.

Using the same screws that you removed from the factory fan, push each screw through the holes. Insert one of the large rubber washers on each fan screw (these fit tightly, so you will have to actually screw the washer onto the screw). Locate the air flow directional arrows on the new fan and place the new fan in the TiVo so that the screwholes are aligned and so that the air is flowing out of the TiVo. The screws you are using will be cutting threads in the new fan, so a bit of force may be necessary. DO NOT fully tighten any of the screws until you have partially screwed in all four screws. You may need to use one hand to hold the fan in place while you screw in the screws.

Attach the fan connector to the motherboard. If your replacement case fan has three wires—red, black, and white (or yellow), then the white (or yellow) wire will NOT be used, so you must connect the fan as shown in Figure 20. The two pins on the motherboard should be connected to the red and black fan wires. The white/yellow wire will hang over the connector. If you connect the fan incorrectly, it will not power up.

NOTE: If your kit included the small bracket fan but not the larger case fan, then you will not need to replace your case fan. Your TiVo already has a larger, quieter case fan from the factory.

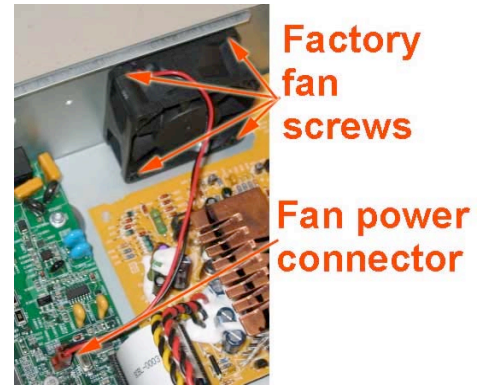


Figure 18 (above)



Figure 19 (above)

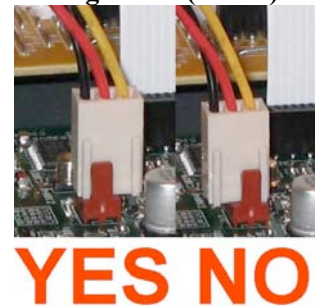


Figure 20 (above)

13. RE-ATTACHING THE TIVO LID

Place the TiVo lid back over the TiVo. Align the clips on each side of the lid so that they clip down on the sides of your TiVo. Slide the lid toward you while simultaneously pushing down on the top of the lid. See Figure 21. Once the lid is in place, reattach the four (or five) Torx screws. Plug in your TiVo and enjoy!

You can verify your new capacity by looking in the System Information screen of your TiVo. The System Information screen is located in the "Messages and Setup" menu. Once in the System Information screen, you will see "Variable up to XXX hours" (you may have to scroll down the page using the "channel down" button). This message gives you the maximum capacity of your unit, after the upgrade.



Figure 21

If you ordered a two-drive kit, then you will see the message "Clearing and Deleting Everything" when you first start up. This is normal. If you have a DirecTV/TiVo that sticks at 28% when first acquiring the satellite signal, this is a DirecTV problem, not a problem with your upgrade. Please see http://www.weaknees.com/directv_problems.php for the solution to this problem.

We thank you very much for your purchase and hope that you enjoy your newly-enhanced TiVo. Please [email us](#) with any comments, suggestions or complaints. If you found the upgrade easy to install (or even if you found it more difficult than you expected), we'd love to know. If you found our service to be excellent (or awful), we want to know that too. We're always looking to improve our products and services...the more we hear from you, the better. Thanks very much!