

Instructions

Tektronix

**050-3138-02, 050-3144-02 & 050-3304-01 or Above
TDS, TLS & CTS Families
Floppy Disk Drive Replacement**

061-4094-02

www.tektronix.com



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Contents

TDS500/600/700 & TLS Series Kit Description

050-3144-xx

This kit includes parts and instructions to replace the floppy disk drive with a new floppy disk drive.

If the instrument serial number is greater than those listed or if this kit has been previously installed, disregard these instructions and use the new floppy disk drive as a direct replacement

This document supports Tektronix modification: M85729, M85834, M88511

Instruments

TDS500A/B/C/D	All Serial Numbers
TDS600A/B/C	All Serial Numbers
TDS700A/C/D/L	All Serial Numbers
TLS216	All Serial Numbers

Minimum Tools and Equipment List

Tool	Part number
Torx Driver with T-10, T-15, & T-20 Heads	n/a
Phillips driver, small head	n/a

Kit Parts List

Quantity	Part number	Description
1 ea.	050-3144-xx	Field Kit: Floppy disk drive TDS500, TDS600, TDS700 & TLS216 consisting of the following:
1 ea.	061-4094-xx	Manual Tech: Instructions, Field Kit
1 ea.	119-6106-01	Disk Drive: Floppy, 3.5 inch, 1.44 MB
1 ea.	211-0840-xx	Screw: Phillips, M2.6 X 0.45 mm X 4.0 mm, Phillips, PNH
1 ea.	407-4230-xx	Bracket: Floppy disk drive mounting, aluminum
1 ea.	105-1081-xx	Bracket, Adapter: disk drive spacer (only supplied with smaller drive)
1 ea.	211-0866-xx	Screw: Phillips, 2.5 mm x 10 mm, panhead (only supplied with smaller drive)
1 ea.	NS	Label: Kit

NS – Not Saleable

Service Safety Summary



WARNING. *The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to the General Safety Summary in the instrument service manual before performing any service.*

Do Not Service Alone

Do not perform internal service on this product unless another person capable of rendering first aid and resuscitation is present.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

TDS500/600/700 & TLS Series Installation Instructions

These instructions assume that you are familiar with the instrument. If additional assembly or disassembly details are required, refer to the service manual.



WARNING. To prevent electrical shock, ensure the mainframe power switch is in the off position before proceeding. Then, disconnect the instrument from the power source. Disassembly should only be attempted by qualified service personnel.



CAUTION. To prevent static-discharge damage, service the instrument only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist and foot strap.

Remove Rear Cover & Cabinet

Equipment Required	One screwdriver with a size T-20 Torx tip.
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1. Install the front cover. Set the oscilloscope face down with the front cover on the work surface and the bottom facing up (see Figure 1).
2. Unplug the power cord from its receptacle at the rear panel.
3. Using the screwdriver with size T-20 Torx® tip, remove the four screws securing the rear cover to the oscilloscope. Lift off the rear cover.
4. Set the oscilloscope so its top is down on the work surface and its front is facing you.
5. Grasp the left and right edges of the cabinet at the rear. Pull upward to slide the cabinet off the oscilloscope. Do not bind or snag the cabinet on the oscilloscope internal cabling as you remove it.

NOTE. When reinstalling the four screws at the rear panel, use the torque driver to tighten the screws to 16 inch-lbs torque.

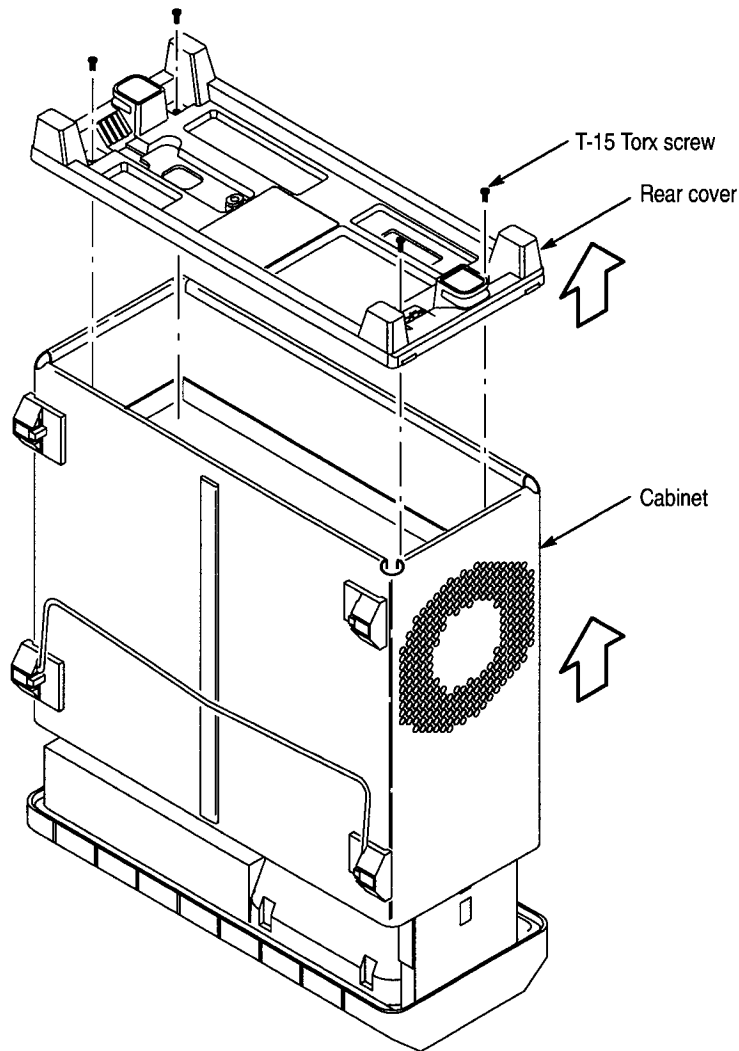


Figure 1: Oscilloscope rear cover and cabinet removal

Trim Ring Removal

Equipment Required	None
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1. Grasp the trim ring by its top edge and pry it up and lift it forward to snap it off of the front subpanel. When reinstalling, be sure the menu buttons are properly reinserted, align the trim ring to the front subpanel, and press it back on.

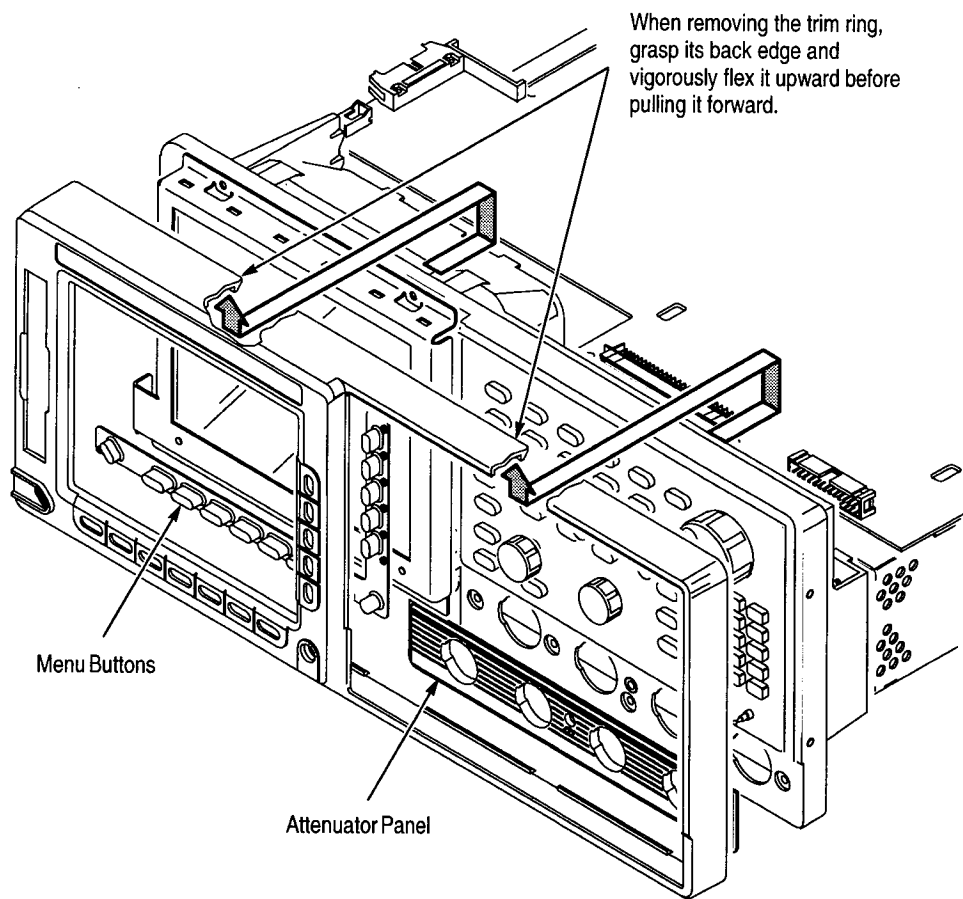


Figure 2: Trim ring removal

NOTE. Do not touch the carbon contact points on the menu buttons installed in the trim ring. Also, do not touch the contacts on the flex circuit exposed when you remove the trim ring.

Floppy Disk Drive Replacement

Equipment Required	One small head Phillips screwdriver.
	One screwdriver with a size T-15 Torx tip.

1. Remove the Floppy Disk (see Figure 3):
 - a. Disconnect J38 floppy driver connector (ribbon interconnect cable) that connects the disk drive to the A11 Processor/Display board.
 - b. Remove the retaining Phillips screws that secure the drive and shields to the sides of the disk. Set the screws aside for later reassembly of the new floppy disk drive.
 - c. Remove the two T-15 Torx screws holding the bracket to the chassis. Set screws aside for later reassembly of the new bracket.
 - d. Remove the disk drive, the shields, and the bracket together. Insert the new disk, shields, and the bracket as a unit. Discard the old disk drive and bracket.

NOTE. When reinstalling the four screws at the rear panel, use the torque driver to tighten the screws to 16 inch-lbs torque.

2. Install the new floppy disk drive (provided in this kit) as follows (see Figure 3):
 - a. Secure the disk drive assembly (floppy disk drive and shields) to the bracket using Phillips screws. Install the screws into the mounting holes as shown in Figure 3.

NOTE. Due to vendor differences in floppy disk drive dimensions, your instrument may require an adapter bracket on the bottom of the drive. If this is the case, use the inset in Figure 3 as a guide for installation.

- b. Install the new bracket (disk drive assembly) to the chassis using the two T-15 Torx screws removed in step 1.
- c. Connect the J38 floppy disk drive connector (ribbon interconnect cable) the the Processor/Display circuit board A11.

Reassembly

1. Reinstall the trim ring by performing the *Trim Ring Removal* section in reverse order.
2. Reinstall the rear cover & cabinet by performing the *Remove Rear Cover and Cabinet* section in reverse order.
3. Remove the protective backing from the kit label, provided in this kit, and apply it to a clean area on the side panel of the instrument. This label indicates that this kit has been installed.

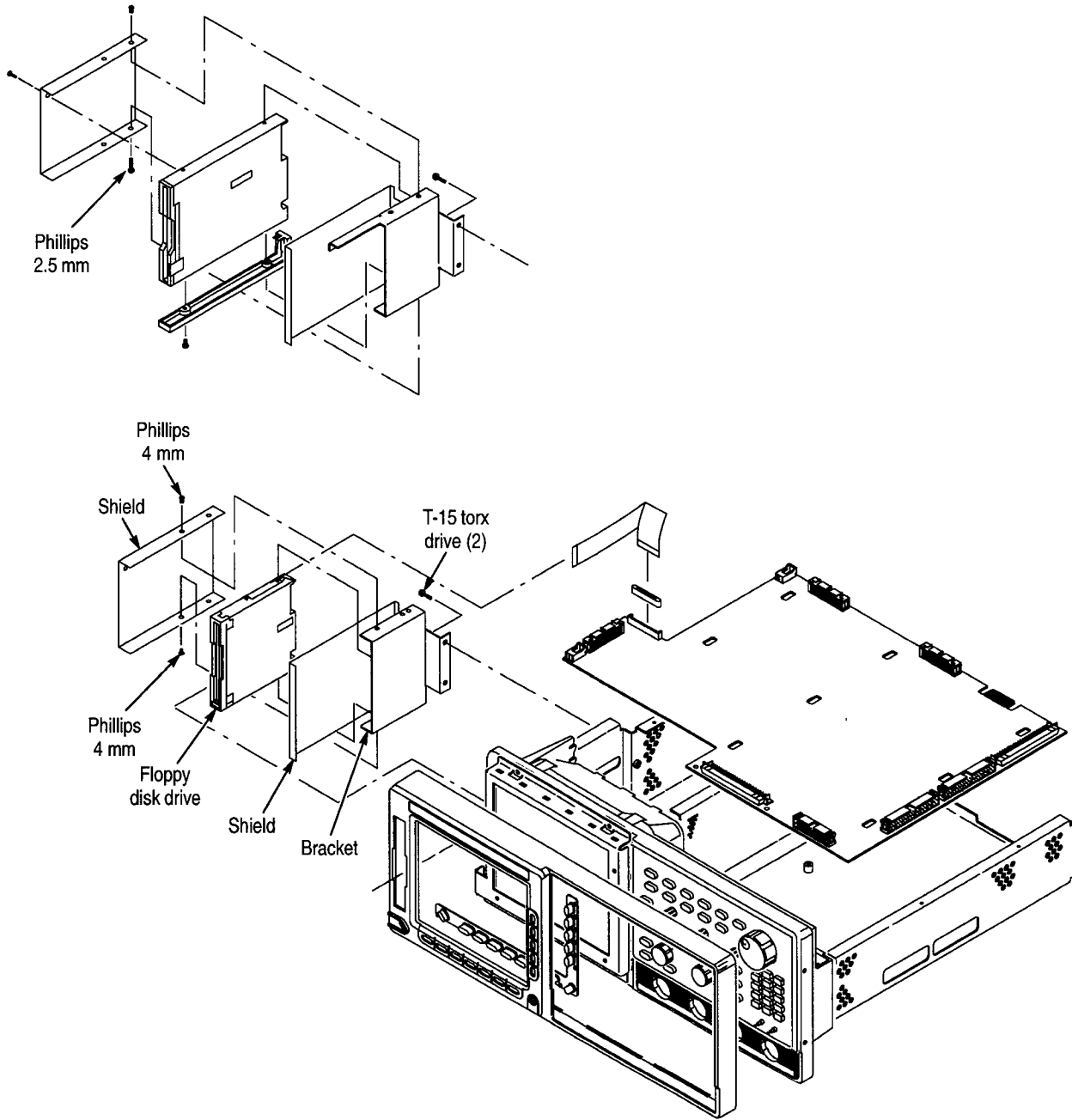


Figure 3: Floppy disk replacement

CTS Series Kit Description

050-3138-xx

This kit includes parts and instructions to replace the floppy disk drive with a new floppy disk drive.

If the instrument serial number is greater than those listed or if this kit has been previously installed, these instructions may be disregarded and the new floppy disk drive may be used as a direct replacement.

This document supports Tektronix modification: M85729, M85834, M88511

Instruments

CTS710 B010100 to B030434
CTS750 B010100 to B030284

Minimum Tools and Equipment List

Tool	Part number
Torx Driver with T-10 and T-15 Heads	n/a

Kit Parts List

Quantity	Part number	Description
1 ea.	050-3138-xx	Field Kit: Floppy disk drive CTS700 consisting of the following:
1 ea.	061-4094-xx	Manual Tech: Instructions, Field Kit
1 ea.	119-5413-xx	Disk Drive: Floppy, 3.5 inch
1 ea.	105-1081-xx	Bracket, Adapter: Floppy disk drive spacer (only supplied with smaller drive)
1 ea.	211-0866-xx	Screw: Phillips, 2.5 mm x 10 mm, panhead (only supplied with smaller drive)
1 ea.	NS	Label: kit

NS – Not Saleable

Service Safety Summary



WARNING. *The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to the General Safety Summary in the instrument service manual before performing any service.*

Do Not Service Alone

Do not perform internal service on this product unless another person capable of rendering first aid and resuscitation is present.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect the power, remove the battery (if applicable), and disconnect the test leads before removing protective panels, soldering, or replacing components.



CTS Series Installation Instructions

These instructions assume that you are familiar with the instrument. If additional assembly or disassembly details are required, refer to the CTS series service manual.



WARNING. To prevent electrical shock, ensure the mainframe power switch is in the off position before proceeding. Then, disconnect the instrument from the power source. Disassembly should only be attempted by qualified service personnel.



CAUTION. To prevent static-discharge damage, service the instrument only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist and foot strap.

Cabinet Removal

Use the following procedures to install the kit in a CTS series.

Equipment Required	One screwdriver with a size T-15 Torx tip.
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1. Install the front cover. Set the oscilloscope face down with the front cover on the work surface and the bottom facing up (see Figure 4).
2. Unplug the power cord from its receptacle at the rear panel.
3. Using the screwdriver with size T-15 Torx tip, remove the four screws securing the rear panel to the oscilloscope. Lift off the rear panel. Note installed options marked on rear panel for later reassembly. Discard the rear panel.

NOTE. The existing rear panel is replaced by the new rear panel included in this kit. All installed options must be marked on the new rear panel Options label.

4. Remove the single T-15 Torx® screw at the left side of the oscilloscope.
5. Grasp the two handle hubs and pull them outward as if to rotate the handle.
6. While holding the handle hubs out, lift the cabinet upwards to slide it off the oscilloscope. Take care not to bind or snag the cabinet on the internal cabling of the oscilloscope as you remove it.

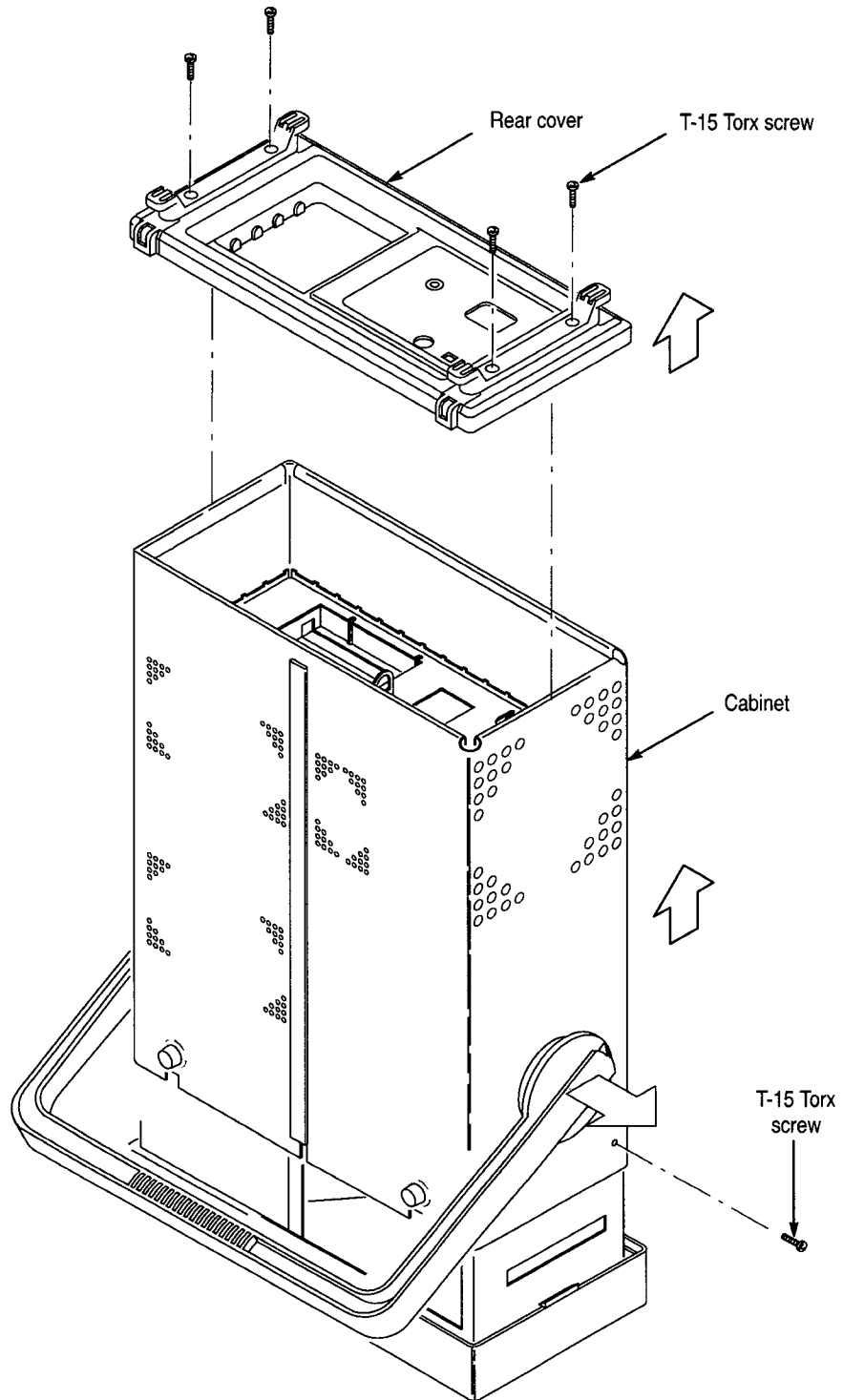


Figure 4: Oscilloscope rear panel and cabinet removal

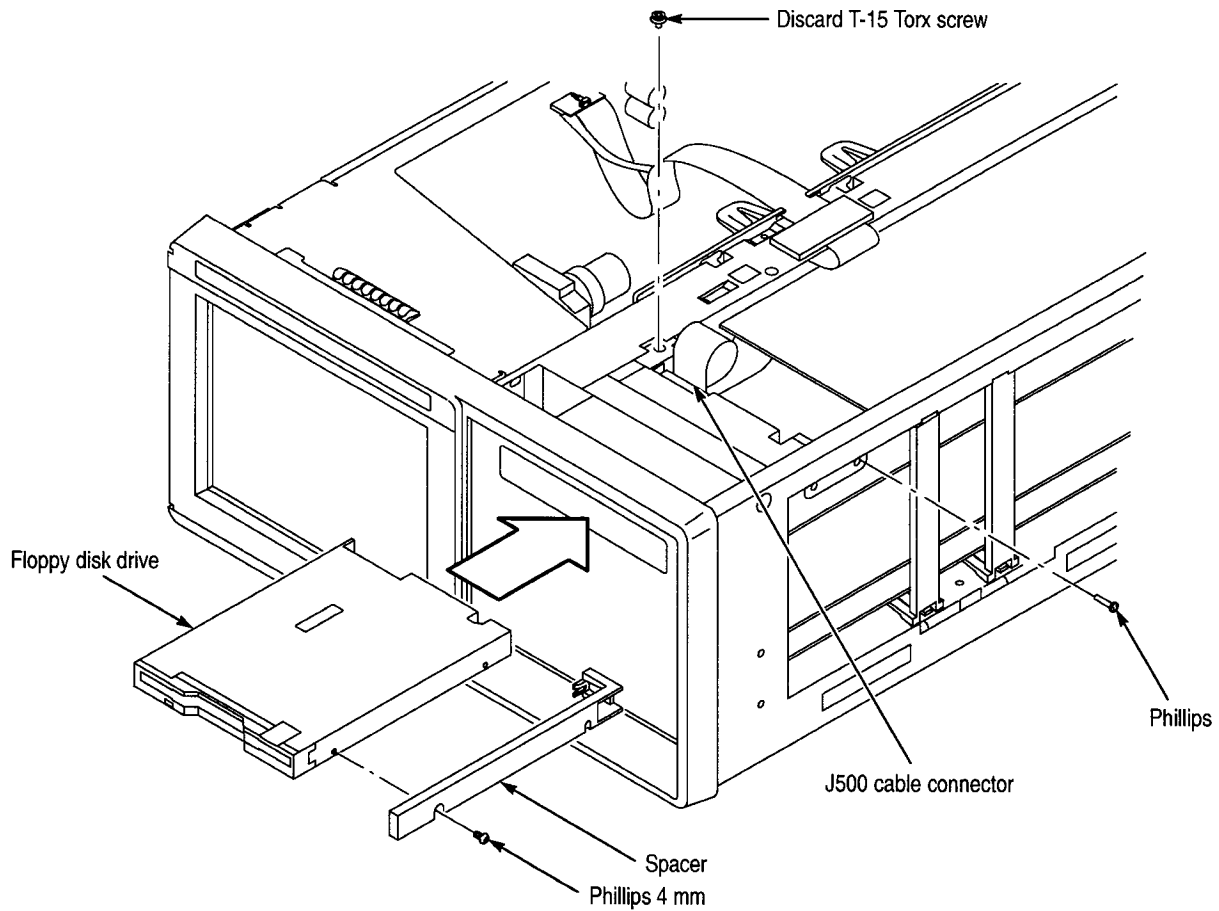


Figure 5: Disk drive installation

Floppy Disk Drive Replacement

Equipment Required	One small head Phillips screwdriver.
	One screwdriver with a size T-15 Torx tip.

1. Remove the Floppy Disk:
 - a. Disconnect the cable J500 connected to the CPU board.
 - b. If your oscilloscope contains the T-15 Torxdrive screw holding the floppy disk drive to the top chassis, remove the screw. Discard this screw.



CAUTION. To prevent damage to the ejector system in the floppy disk drive, make sure you do not reinstall the T-15 Torxdrive screw removed in step 1b.

- c. Remove the 1 or 2 retaining Phillips screws that secure the drive to the side chassis. Set the screws aside for later reassembly of the new floppy disk drive.
 - d. Remove the disk drive out of the instrument.
 - e. If your disk drive contains a spacer, remove the 4 mm screw securing the spacer to the drive. Set the screw and spacer aside for later reassembly of the new floppy disk drive. Discard the drive.
2. Install the new floppy disk drive (provided in this kit) by performing the following procedures:
- a. Using a Phillips 4 mm screw removed in step 1, secure the spacer to the new disk drive. Install the Phillips 4 mm screw in the mounting hole nearest to the front of the disk drive (see Figure 5).
 - b. Grasp the floppy disk drive assembly by its front edges and push it into the front panel.
 - c. Using a Phillips 10 mm screw, secure the disk drive assembly to the chassis. Install the Phillips 4 mm screw in the mounting hole nearest to the rear of the instrument (see Figure 5).
 - d. Install the cable on J500 of the CPU board.
 - e. Push down on the two locking tabs on J500.
 - f. Install the cable on the drive.
 - g. Push down on the two locking tabs on J1 of the disk drive.

Reassembly

1. Reinstall the rear cover and cabinet by performing the *Cabinet Removal* section in reverse order.
2. Remove the protective backing from the kit label, provided in this kit, and apply it to a clean area on the side panel of the instrument. This label indicates that this kit has been installed.

TDS300 and TDS400 Series Kit Description

050-3304-xx

This kit includes parts and instructions to replace the floppy disk drive with a new floppy disk drive.

If the instrument serial number is greater than those listed or if this kit has been previously installed, these instructions may be disregarded and the new floppy disk drive may be used as a direct replacement.

This document supports Tektronix modification: M85729, M85834, M88511

Instruments

TDS300	All serial numbers
TDS400A	All serial numbers

Minimum Tools and Equipment List

Tool	Part number
Torx Driver with T-10 and T-15 Heads	n/a

Kit Parts List

Quantity	Part number	Description
1 ea.	050-3304-xx	Field Kit: Floppy disk drive TDS300 & TDS400 consisting of the following:
1 ea.	061-4094-xx	Manual Tech: Instructions, Field Kit
1 ea.	119-6106-01	Disk Drive: Floppy, 3.5 inch
1 ea.	105-1081-xx	Bracket, Adapter: disk drive spacer (only supplied with smaller drive)
1 ea.	211-0866-xx	Screw: Phillips, 2.5 mm x 10 mm, panhead (only supplied with smaller drive)
1 ea.	NS	Label: kit

NS – Not Saleable

Service Safety Summary



WARNING. *The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to the General Safety Summary in the instrument service manual before performing any service.*

Do Not Service Alone

Do not perform internal service on this product unless another person capable of rendering first aid and resuscitation is present.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect the power, remove the battery (if applicable), and disconnect the test leads before removing protective panels, soldering, or replacing components.

TDS300 and 400 Series Installation Instructions

These instructions assume that you are familiar with the instrument. If additional assembly or disassembly details are required, refer to the TDS300 and TDS400 series service manuals.



WARNING. To prevent electrical shock, ensure the mainframe power switch is in the off position before proceeding. Then, disconnect the instrument from the power source. Disassembly should only be attempted by qualified service personnel.



CAUTION. To prevent static-discharge damage, service the instrument only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist and foot strap.

Cabinet Removal

Use the following procedures to install the kit in a TDS300 and TDS400 series.

Equipment Required	One screwdriver with a size T-15 Torx tip.
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1. Install the front cover. Set the oscilloscope face down with the front cover on the work surface and the bottom facing up (see Figure 6).
2. Unplug the power cord from its receptacle at the rear panel.
3. Using the screwdriver with size T-15 Torx tip, remove the four screws securing the rear panel to the oscilloscope. Lift off the rear panel. Note installed options marked on rear panel for later reassembly. Discard the rear panel.

NOTE. The existing rear panel is replaced by the new rear panel included in this kit. All installed options must be marked on the new rear panel Options label.

4. Remove the single T-15 Torx® screw at the left side of the oscilloscope.
5. Grasp the two handle hubs and pull them outward as if to rotate the handle.
6. While holding the handle hubs out, lift the cabinet upwards to slide it off the oscilloscope. Take care not to bind or snag the cabinet on the internal cabling of the oscilloscope as you remove it.

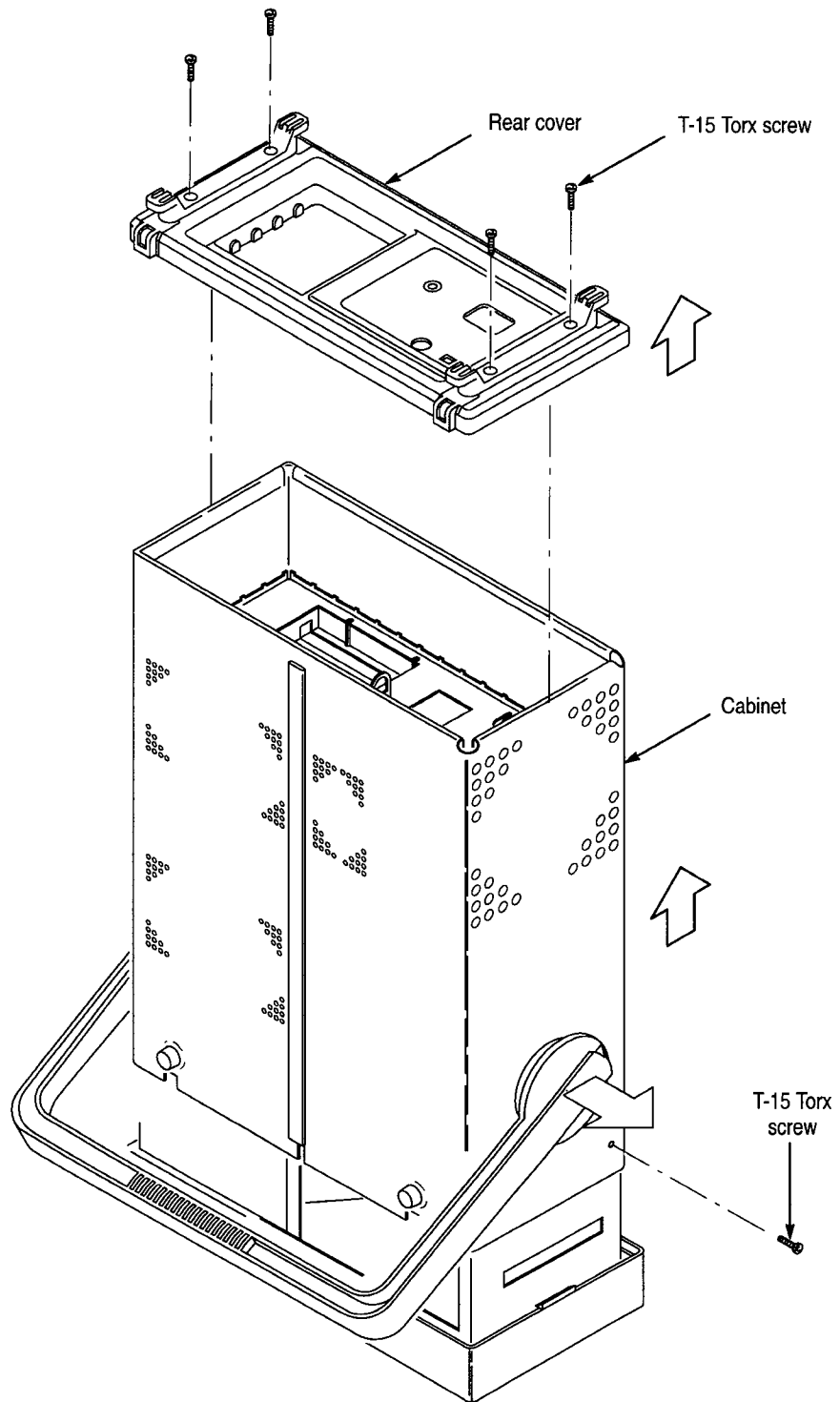


Figure 6: Oscilloscope rear panel and cabinet removal

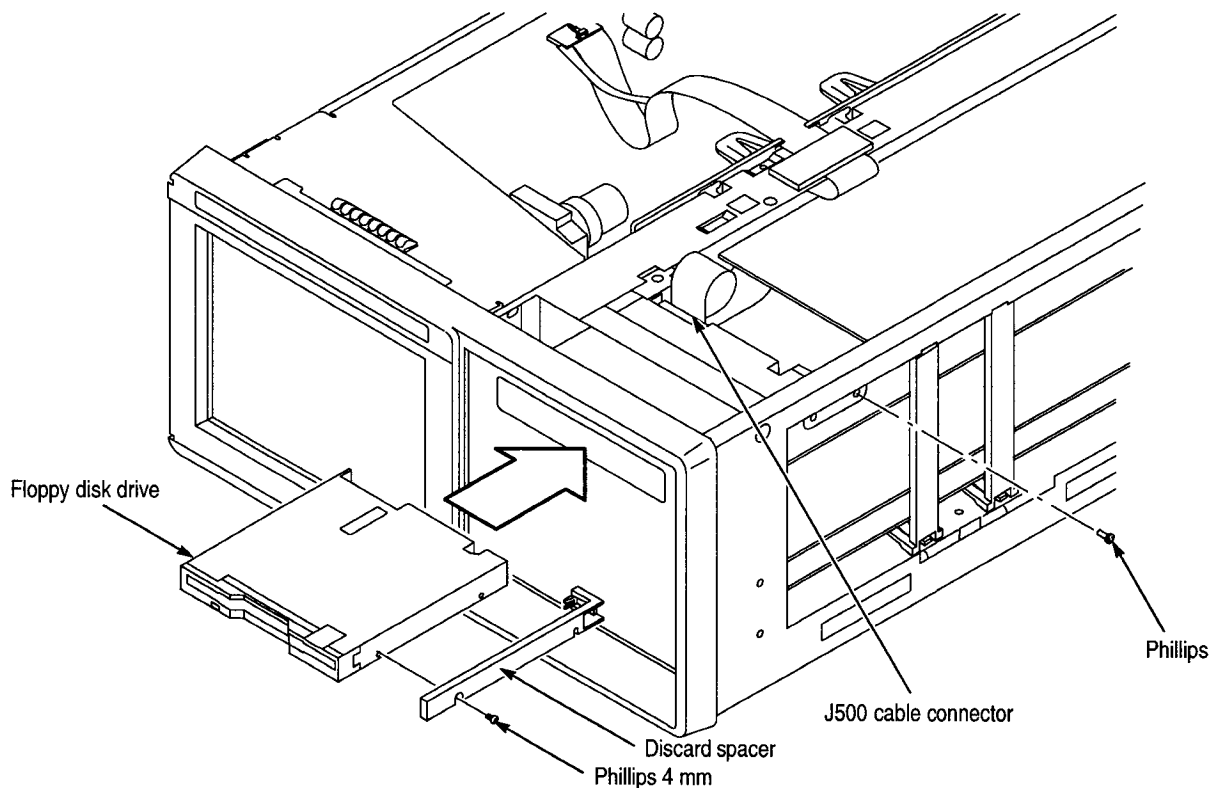


Figure 7: Disk drive installation

Floppy Disk Drive Replacement

Equipment Required
One small head Phillips screwdriver.
One screwdriver with a size T-15 Torx tip.

1. Remove the Floppy Disk:
 - a. Disconnect the cable J500 connected to the CPU board.
 - b. If your oscilloscope contains the T-15 Torxdrive screw holding the floppy disk drive to the top chassis, remove the screw. Discard this screw.



CAUTION. To prevent damage to the ejector system in the floppy disk drive, make sure you do not reinstall the T-15 Torxdrive screw removed in step b.

- c. Remove the 1 or 2 retaining Phillips screws that secure the drive to the side chassis. Set screws aside for later reassembly of the new floppy disk drive.
- d. Remove the floppy disk drive out of the instrument.
- e. If your disk drive contains a spacer, remove the 4 mm screw securing the spacer to the drive (see Figure 5). Set the screw aside for later reassembly of the new disk drive. Discard the drive.

NOTE. *Due to vendor differences in floppy disk drive dimensions, your instrument may require an adapter bracket on the bottom of the drive. If this is the case, use Figure 7 as a guide for installation.*

2. Install the new disk drive (provided in this kit) by performing the following procedures:
 - a. Grasp the disk drive assembly by its front edges and push it into the front panel.
 - b. Using a 4 mm Phillips screw, secure the drive to the chassis (see Figure 7).
 - c. Install the cable on J500 of the CPU board.
 - d. Push down on the two locking tabs on J500.
 - e. Install the cable on the drive.
 - f. Push down on the two locking tabs on J1 of the disk drive.

Reassembly

1. Reinstall the rear cover and cabinet by performing the *Cabinet Removal* section in reverse order.
2. Remove the protective backing from the kit label, provided in this kit, and apply it to a clean area on the side panel of the instrument. This label indicates that this kit has been installed.

■ End of document ■