



**DEC 4000 Model 6x0/7x0 AXP Series  
TLZ07 Tape Drive Installation**

EK-TLZ07-IN. A01

July 1994

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This document illustrates how to install the TLZ07 tape drive in a DEC 4000 Model 6x0 or Model 7x0 AXP series system.

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## TLZ07 Tape Drive

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### Overview

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Description	Digital audio tape (RDAT drive)
Media type	DAT
Recording format	DDS/ DDS-2/ DC
Cartridge type	4 mm cassette tape 60 m/90 m/120 m
Capacity	Up to 8.0 GB
Form factor	5 1/4 in half-height
Transfer rate (sustained)	400 KB/second (no compression)
Temperature	10°C (50°F)–40°C (104°F) (operating)
Relative humidity	20%–80% noncondensing (operating)
Voltage	+5 VDC ±5% and +12 VDC ±5%
Current	+5 V: 0.89 A and +12 V: 0.2 A
Power	9 W

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### Add-On Option Part Number

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3 1/2-inch embedded tape drive with bracket	TLZ07–MX (first device in removable-media slot)
3 1/2-inch embedded tape drive without bracket	TLZ07–MY (second device in removable-media slot)
Tabletop drive	TLZ07–DA

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### Field Replacable Parts and Options

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TLZ07 tape drive	TLZ07–BA
Cassette tape <sup>1</sup>	TLZ04–CA (60 m = 2.6 GB)
	TLZ06–CA (90 m = 4.0 GB)
	TLZ07–CA (120 m = 8.0 GB)
Head cleaning cassette	TLZ04–HA

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<sup>1</sup>Compressed mode data capacity

## TLZ07

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### Documentation

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<i>TLZ07 Cassette Tape Drive and Autoloader Owners Manual</i>	EK-TLZ07-OM
<i>DEC 4000 AXP Owner's Guide (VMS Ops)</i>	EK-KN430-OP
<i>DEC OSF/1 AXP Factory Installed Software User Guide</i>	EK-SFFIS-UG

Figure 1 shows the indicators, jumpers, and connectors on the TLZ07 tape drive. Table 1 shows the default switch settings, and Table 2 describes the light indications.

**Table 1 SCSI ID / Option Selection Switch**

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Switch	Default Setting
S1 - S3 SCSI ID	Off - See Note
S4 Media Recognition System (MRS)	On = Disabled
S5 Parity	On = Enabled
S6 Compression	On = Disabled
S7	Off = Reserved for future use
S8 Self-test	On = Enabled

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#### Note

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In a DEC 4000 system, the SCSI ID select cable is used instead of jumpers. The SCSI ID jumpers are logically ORed with the SCSI ID select connector pins. Set switches 1 - 3 off because the logic recognizes a SCSI ID bit set if *either* a switch is on *or* the bit is set by the cable.

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### Media Recognition System

The media recognition system (MRS) is a quality standard for tapes. Cassette tapes that meet this standard are labeled **MRS** or **Media Recognition System**, and contain identifying information at the beginning of the tape.

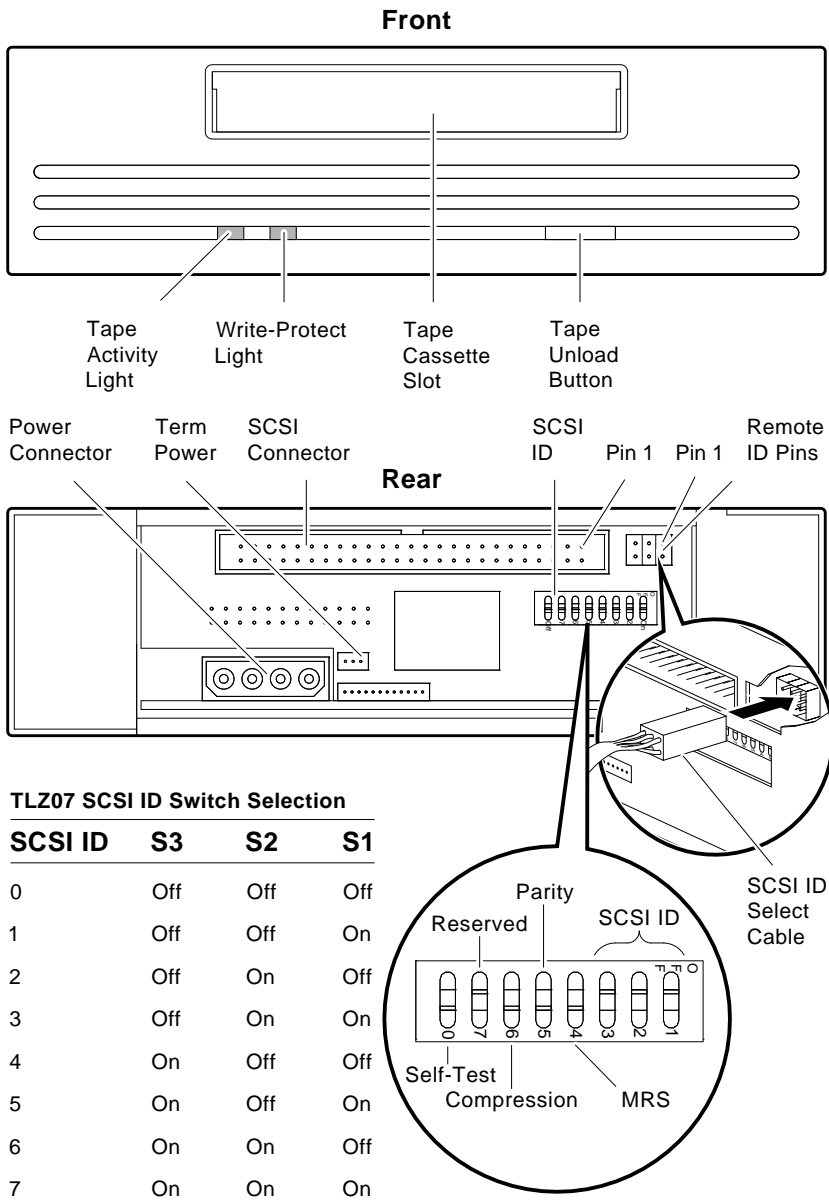
## **TLZ07**

When the media recognition system is enabled on the TLZ07 cassette tape drive (S4 off), the TLZ07 drive reads the header information on the cassette tapes to determine if the tape meets the MRS standard. Although it can read any 4 mm cassette tape, the drive will only write to tapes that meet the MRS standard. If the cassette tape does not meet the MRS standard, you will see a write-lock error message on the console terminal.

When the media recognition system is disabled (S4 on), the drive will write to any MRS tape as well as tapes that do not meet the MRS standard.

**TLZ07**

**Figure 1 TLZ07 Cassette Tape Drive Connectors and Indicators**



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## Installation

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### Caution

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Static electricity can damage integrated circuits. Use the antistatic wrist strap and antistatic pad found in the static-protective kit (ON 29-26246-00) when you work with the internal parts of a computer system.

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Before you begin the installation procedure, remove the bus continuity card from the option storage slot into which you intend to install the tape drive. Figure 6 shows the location of the bus continuity cards.

To install a TLZ07-MX tape drive in your system, perform the following steps:

1. Slide the TLZ07-MX mounting bracket assembly into the option storage slot and push until the connector on the SCSI paddle card on the drive mounting bracket engages securely into the backplane. Secure the assembly by tightening the two captive screws. Figure 2 shows the location of one of the screws. The second screw is located on the bottom drive mounting bracket. Do not over-tighten the screws; 9" lbs is sufficient to secure the drive. It is normal for there to be a slight gap between the bracket and chassis.
2. Attach the SCSI ID cable to the OCP connector on the bezel assembly (Figure 2).
3. Insert the tabs on the bottom of the bezel into the slots on the storage slot (Figure 2).
4. Push in the top of the bezel, and tighten the Phillips screw (Figure 2).
5. Install a SCSI ID plug to the front of the bezel, making sure that the SCSI ID number is not used by another device. The bezel is marked to show the corresponding SCSI ID plug for each slot.

To add a TLZ07-MY tape drive to your system, perform the following steps:

1. Remove the mounting assembly as follows:
  - Remove any SCSI ID plugs installed in the bezel.
  - Loosen the Phillips screw at the top of the bezel, pull out the top of the bezel, and carefully lift the bezel up and out from the storage slot to expose the SCSI ID cables.

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- Remove any SCSI ID cables from the OCP connector on the bezel assembly.
  - Loosen the two captive screws that secure the mounting bracket to the chassis.
  - Pull on the mounting assembly until it slides away from the chassis.
  - Place the mounting assembly on the antistatic pad.
2. Connect the SCSI ID cable to the back of the drive (Figure 1).
  3. Slide the drive into the mounting assembly.
  4. Attach the SCSI and power cables to the drive. Figure 1 shows the location of the connectors.
  5. Secure the drive into the mounting assembly with the four mounting screws provided. Two screws attach to the top of the assembly, and two screws attach to the bottom of the assembly (Figure 3 shows the top of the assembly). Make sure that the top front screw goes through the grounding strip shown in the figure.

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### Caution

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Failure to connect the grounding strip could result in data errors.

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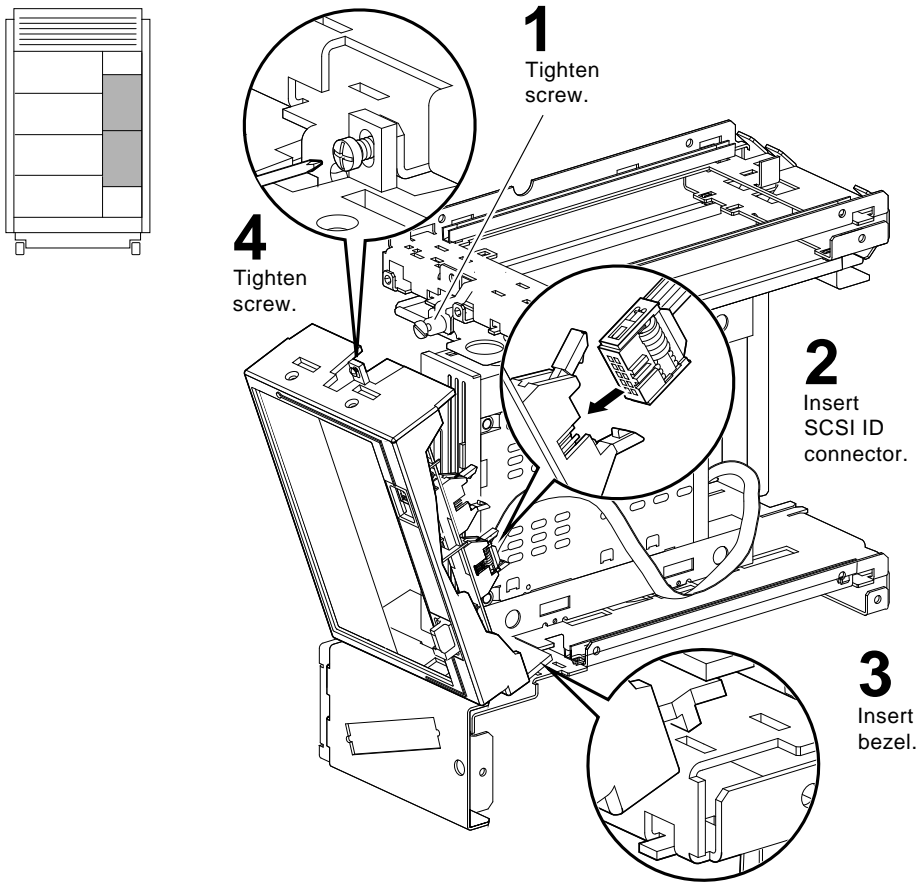
6. Remove the blank panel from the bezel (Figure 4).
7. Remove the blank flat plug(s) from the bezel (Figure 5).
8. Return the OCP connector board to the bezel.
9. Install SCSI ID plugs on the front of the bezel. Each drive must have a unique SCSI ID number. Make sure that the drive that was installed prior to this add-on procedure retains the same SCSI ID number that was used previously. The front of the bezel is marked to show the corresponding SCSI ID plug for each slot.
10. Slide the mounting bracket assembly into the option storage slot and push until the SCSI paddle card on the drive mounting bracket engages securely into the backplane. Secure the drive by tightening the two captive screws. Figure 2 shows the location of one of the screws. The second screw is located on the bottom drive mounting bracket. Do not over-tighten the screws; 9" lbs is sufficient to secure the drive. It is normal for there to be a slight gap between the bracket and chassis.



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11. Attach each SCSI ID cable into the appropriate connector on the OCP connector board on the bezel (Figure 2). The top connector corresponds with the left storage slot, and the bottom connector corresponds with the right storage slot. The bezel is marked to show the corresponding SCSI ID plug for each slot.
12. Insert the tabs on the bottom of the bezel into the slots on the storage slot (Figure 2).
13. Push in the top of the bezel, and tighten the Phillips screw (Figure 2).

Figure 2 Installing a TLZ07-MX Tape Drive



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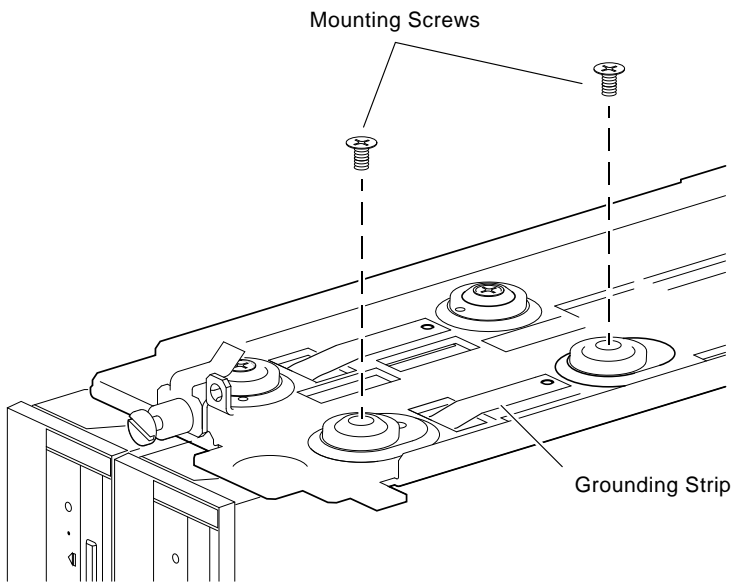
**Note**

When a removable-media compartment is empty, blank bezels are required to maintain maximum air flow.

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TLZ07

Figure 3 Inserting Mounting Screws



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Figure 4 Removal of Blank Panel

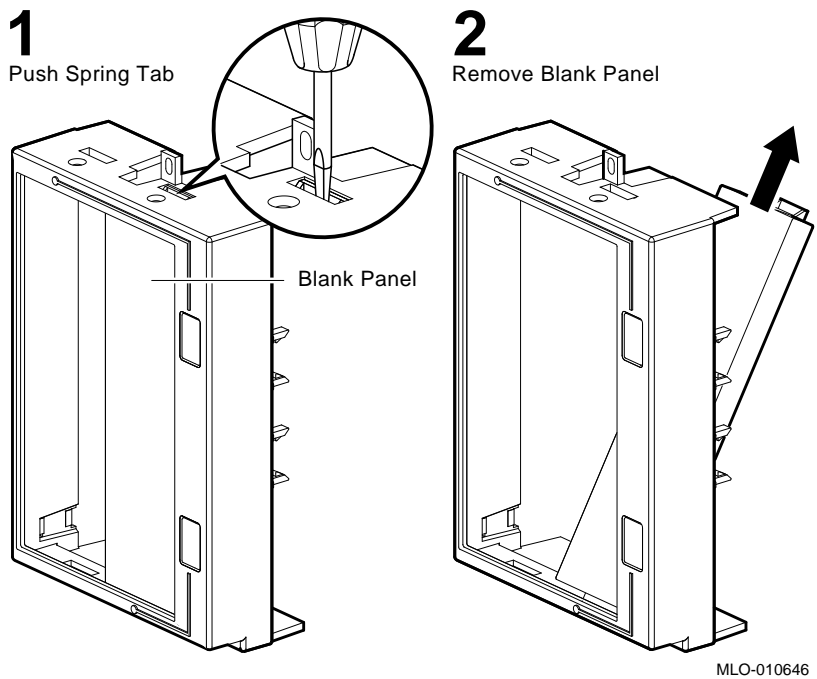
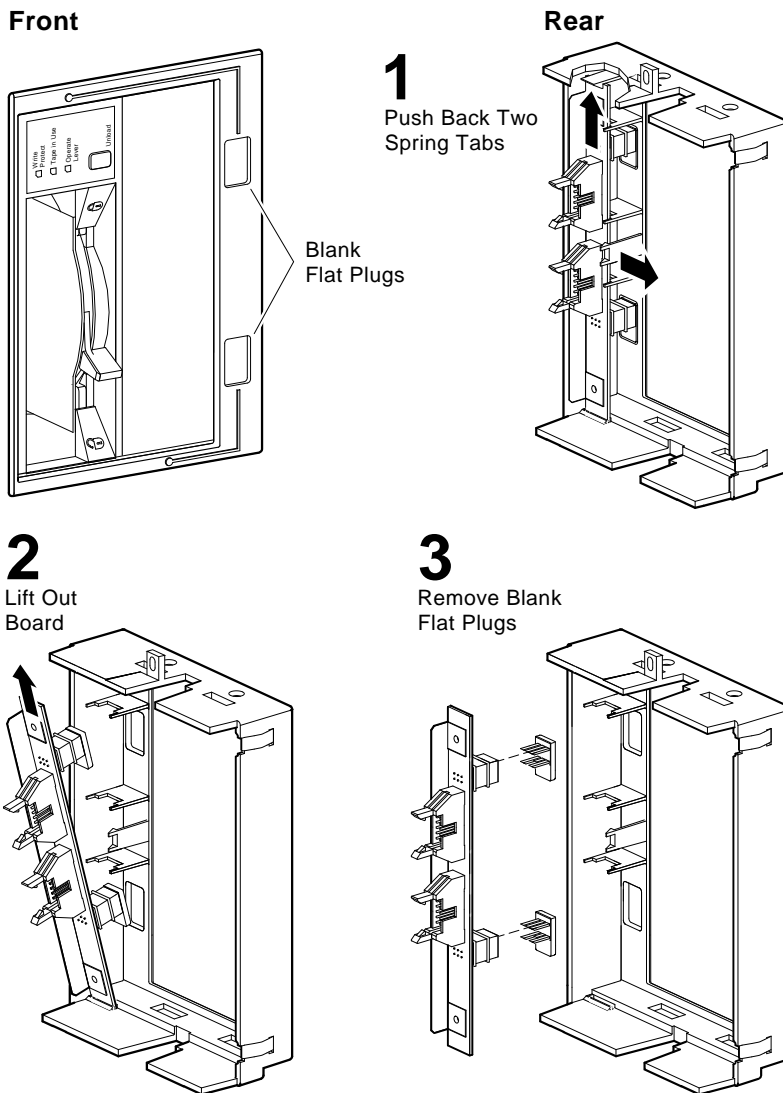


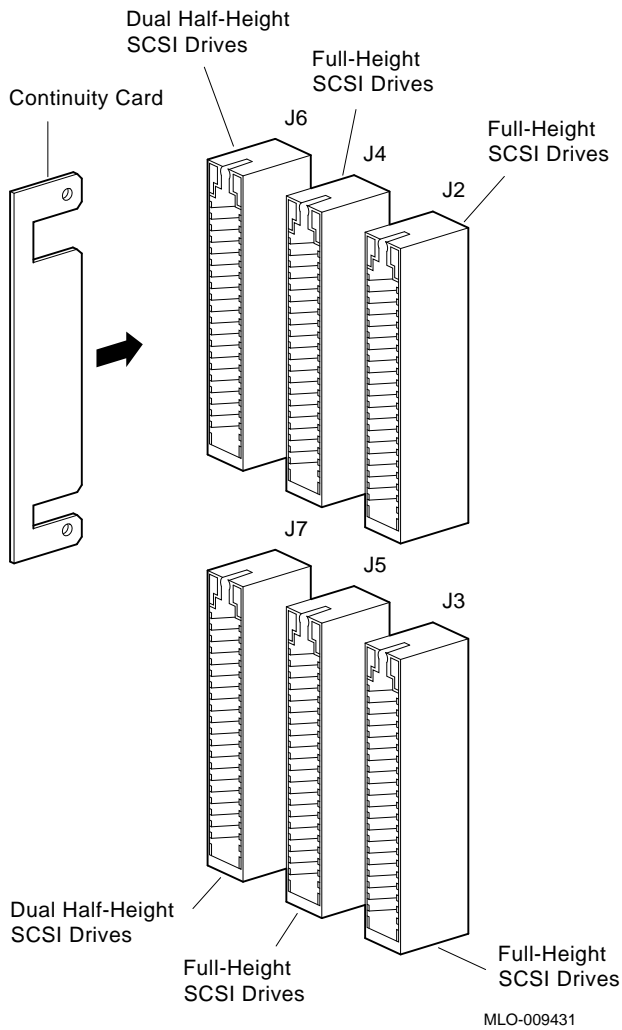
Figure 5 Removal of Blank Flat Plugs



Note: Re-install board and then insert standard ID plugs.

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Figure 6 Bus Continuity Card



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**Note**

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When either the J6 or J7 backplane connector is not used, insert a bus continuity card into those slots to maintain bus continuity. There are two bus continuity cards already installed in the backplane.

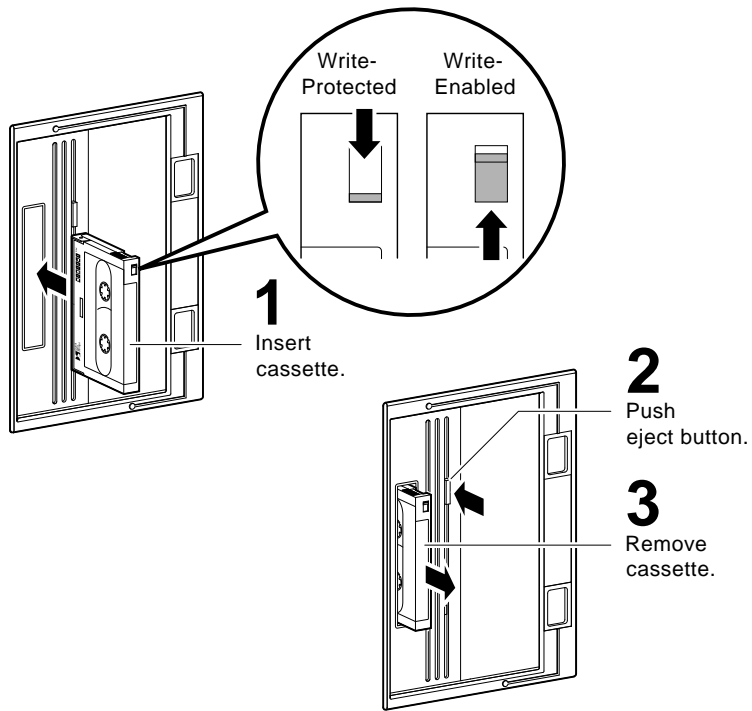
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**Table 2 TLZ07 Light Summary**

<b>Write-Protect Light (Amber)</b>	<b>Tape/Activity Light (Green)</b>	<b>Condition</b>
Off	Off	No tape loaded.
Off	On	Tape loaded and write-enabled, no SCSI activity.
Off	Blinks	Tape loaded and write-enabled, SCSI activity.
On	On	Tape loaded and write-protected, no SCSI drive activity.
On	Blinks	Tape loaded and write-protected, SCSI activity.
Write-protect status.	Blinks (25% on), then turns on solid when load sequence completes.	Load sequence.
Indicates write-protect status; then turns off.	Blinks (25% on), then turns off when unload sequence completes.	Unload sequence.
Blinks for 1–2 seconds.	Blinks for 1–2 seconds.	Power-on/reset sequence; POST.
Blinks 2 Hz for more than 15 seconds.	Blinks 2 Hz for more than 15 seconds.	Test failure, drive fault.
Blinks 1 Hz.	On	Tape drive head needs to be cleaned. Use the head cleaning cassette tape (TLZ04–HA).

TLZ07

Figure 7 Inserting and Removing a TLZ07 Cassette



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