



**Installing the High Capacity UDM Injectables Helix Kit**

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For use when installing any  
MedSelect System®

### Document History

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# 1. Purpose and Description

The UDM injectable helix kit is used to modify a solids/orals dispensing shelf position to accept vials (from 1 mL to 6 mL) and ampules (from 1 mL to 5 mL) as an alternative to using an injectable dispensing *bin*. These kits provide a solution for adding injectable type packages to an existing shelf configured for solids/oral package dispensing without adding another shelf configured only for injectable bins.

## 1.1 Work Authorization

Notify the system or department administrator before beginning work.

## 1.2 Working in Areas of Narcotic Storage

The MedSelect System may be used for storing and inventorying controlled substances. When servicing a system, consult a lab administrator to determine whether supervision by a physician, nurse, or other lab personnel is required during work.

## 1.3 Machine Type (MT)

The machine following types are affected by this kit upgrade:

Description	MedSelect Part Number
UNIT DOSE MODULE WITH CUSTOM CONFIGURATION (PER SALES ORDER)	00-101463-000A

Within a Unit Dose Module, a kit can be used to modify the following shelves:

Description	MedSelect Part Number
ORALS DISPENSING SHELVES (SHELF, XXX, ORAL DISPENSING where xxx indicates the diameter and capacity of the helix)	49-010549-000A/B/C/D/E/F
INJECTABLES DISPENSING SHELVES (SHELF, INJ HELIX, XXX where xxx indicates the vial or ampule size used in that helix)	49-014511-000A/B/C/D

## 2. Explanation of Kit Contents

### Available Kits

There are four kits that cover the following injectable capacities:

Part Number	Description
19-040069-000A	1 mL, 2 mL, or 3 mL vials 1 mL or 2 mL ampules
19-040069-000B	5 mL or 6 mL vials
19-040069-000C*	5 mL ampules plus 1 mL vials
19-040069-000D*	5 mL ampules plus 2 or 3 mL vials

\*For the -000C or -000D kits, additional parts are provided for an additional vial dispenser position.

### Parts/Kit Requirements

See the following table for Parts and kit requirements for this change:

Find #	Description	Qty D	Qty C	Qty B	Qty A	MedSelect Part Number
1	GUIDE, HELIX, ORAL DISPR	1	1		1	29-010734-000A
2	HELIX, DISPR, 10 CAP, 1.00 IN OD		1		1	39-011612-000C
3	HELIX, DISPR, 8 CAP, 1.00 IN OD	2	1	1		39-011612-000D
4	MED LIMIT, HELIX, 0.313 OD, UDM		1		1	29-010755-000A
5	MED LIMIT, HELIX, 0.375 OD, UDM				1	29-010755-000B
6	DVDR, PERM, DBL POSN, ORAL DISPR	1	1			39-011628-000A
12	RTNR, HELIX, INJ		1		1	29-010740-000B

## 3. Special Tools

The following tools are required:

- #2 Phillips head screwdriver for general assembly
- #1 Phillips head screwdriver for repositioning a motor and index switch
- Needle-nose pliers for pulling helix retainer

## 4. Installation - Time Requirements

The estimated service time is 15 minutes per Unit Dose Module. One field service engineer is required to make this change.

## 5. Safety

There are no special safety requirements.



## 6. Details of Installation

### 6.1 Example Arrangements

Figures 1, 2, 3, and 4 show the four kit configurations and some of the various arrangements that can be obtained with these kits. If enough dispensing position space is available, any kit combination can be arranged on an oral dispensing shelf.

#### NOTE

The package size (for example, 6 mL vial) should not be confused for the actual dosage contents of the package. The notation “size” in these installation instructions is the actual size of the package, not the labeled dosage. The package size is not always marked on the label. Also, the following statements are always true:

- Ampules *always* use a helix guide.
- Vials *never* use a helix guide.

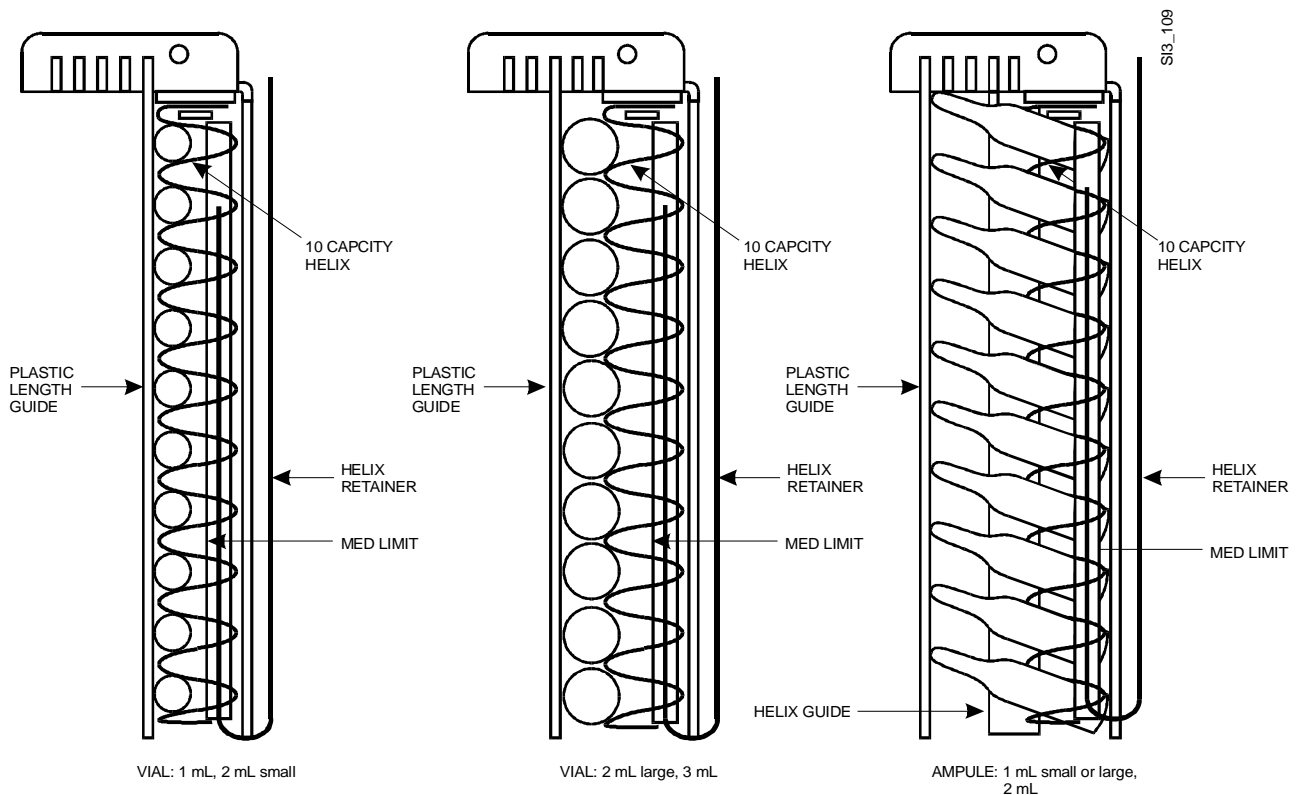


Figure 1 Kit 19-040069-000A Example Arrangements

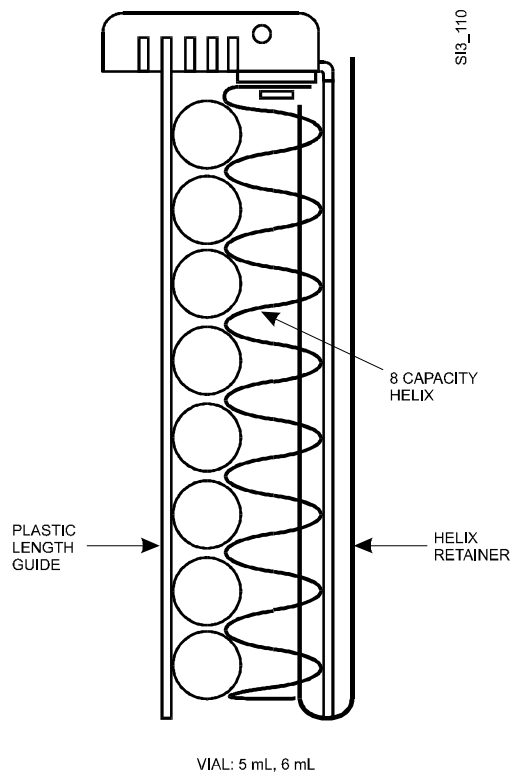


Figure 2 Kit 19-040069-000B Example Arrangement

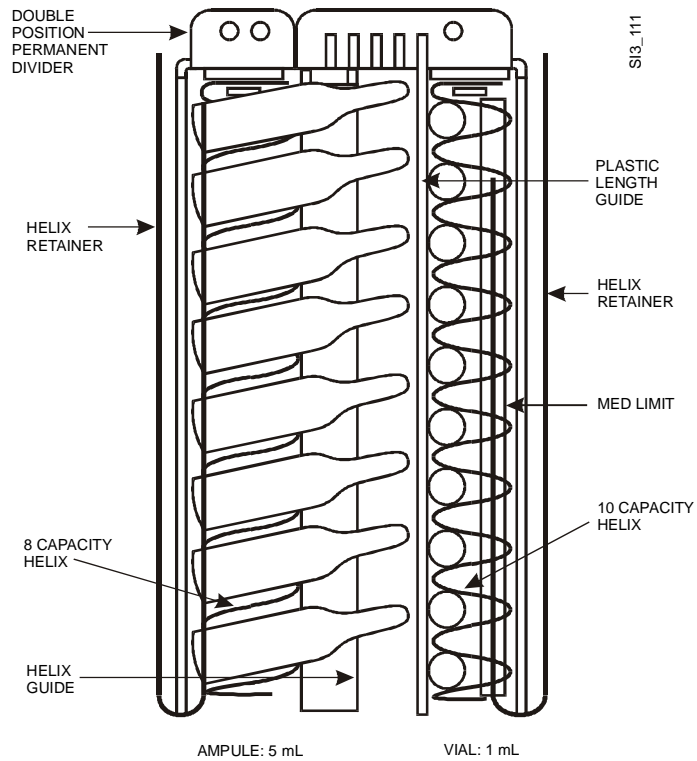


Figure 3 Kit 19-040069-000C Example Arrangement

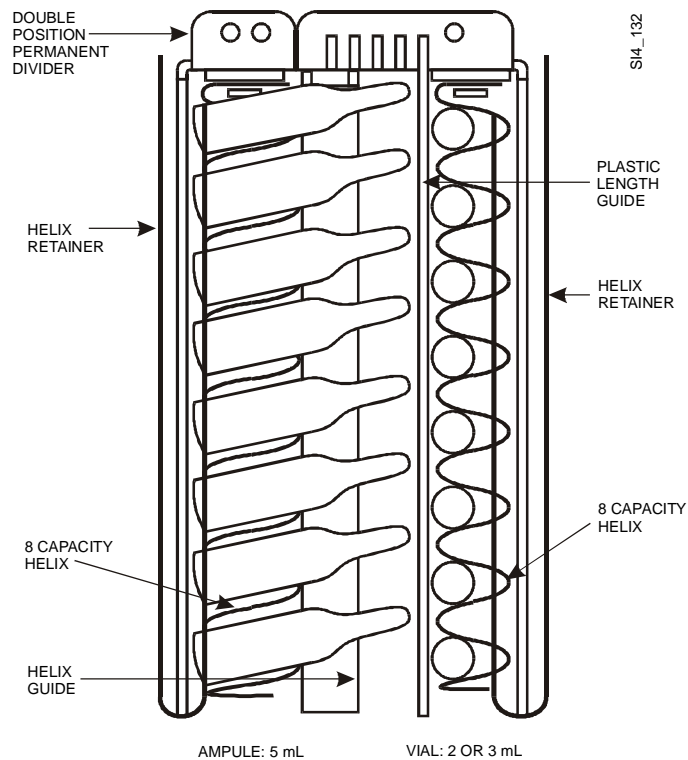


Figure 4 Kit 19-040069-000D Example Arrangement

## 6.2 Installing UDM Injectable Helix Upgrade Kits

The general procedure to modify an existing oral dispensing shelf is provided in this section. This procedure is applicable to all kits. The general procedure is provided first, followed by installation details for each kit.

### 6.2.1 Reference Documentation

The following documentation should be on hand for implementing this change:

*MedSelect Systems Installation Guide*

TM-MEDINS-000A

*MedSelect Systems Service Guide*

TM-MEDSVC-000A

### 6.2.2 Selecting the Appropriate Injectable Helix Upgrade Kit

It is necessary to be familiar with the various package sizes that each kit can accommodate. This information is detailed in Section 2 under **Available Kits**. Select the kit part number based on this information.

### 6.2.3 General Installation Instructions

Detailed replacement information for an oral dispensing shelf is provided in the *MedSelect Systems Service Guide* (TM-MEDSVC-000A) for this equipment. The following general procedure assumes that the installer is aware of all warnings and cautions associated with this equipment and that the customer's administrative personnel and MedSelect Inc. are aware that this equipment is being serviced.

## 6.2.4 General Installation Procedure

The following procedure is an abbreviated procedure. It assumes that the affected unit is off-line and the affected shelf is extended. Only one helix (one dispensing position) is used for kits -000A and -000B. Kits -000C and -000D use two helixes. All meds should be removed from all positions.

The shelf bottom is labeled with indicator points to assist in locating the permanent shelf dividers and plastic length guides. The dividers and guides must always be parallel with the helix.

The CCA helix and divider jumpers are not affected by this modification unless a multi-position configuration is modified by this installation. In this case, refer to the *MedSelect Systems Service Guide* for jumper selections.

### NOTE

Refer to the kit particulars in Section 6.3, **Physical Shelf Position Details for Each Kit**, while performing the general installation procedures.

Perform the following procedure:

1. Remove the existing helix even if it is the correct size for the kit. Perform the following procedure:
2. Remove the helix retainer.
3. Lift the helix out of the position.
4. If a helix “med” limit was used, discard it.
5. If there is one present, remove the helix guide. (If necessary, the upgrade kit supplies its own helix guide).
6. Set aside the plastic length guide for re-use. The upgrade kit does not supply this guide.
7. Determine whether the permanent divider needs to be replaced as specified in the kit particulars in Section 6.3. Remove the divider only if a replacement is specified in the kit or if the motor position needs to be changed (see Step 6).
8. Determine if the kit-specified helix is a different diameter than the existing helix. If it is different, then move the motor and index switch to its lower mounting holes as specified in the kit particulars in Section 6.3. This requires the removal and installation of the motor coupler and permanent divider.
9. If a helix guide is specified in the kit, install it as specified in the kit particulars in Section 6.3.
10. Install the permanent divider.
11. Install the kit supplied helix, even if it appears to be the same as the existing helix.
12. Install a helix retainer as shown in Figure 1, 2, 3, or 4, and note the following information:
13. As a general rule, remember that anywhere a retainer is used with a med limit, the retainer must be the new retainer supplied with the kit, and not the retainer that was previously being used in the dispensing bin.

14. When installing a -000A kit, discard the existing retainer and use the new retainer provided in the kit, along with a med limit, to set up the desired configuration.
15. When installing a -000C kit, discard the existing retainer used for the dispensing position on the right side of the kit and use the new retainer supplied in the kit, along with the med limit supplied in the kit, to set up the 10 capacity helix.
16. When using a med limit, slide it onto the helix retainer before installing the retainer on the shelf.
17. Discard any old med limits previously used on the shelf.
18. The new retainer can be differentiated from the old by the length of the arm. The arm of the new retainer is approximately one inch shorter than the arm of the old retainer.
19. Install the previously removed plastic length guide as specified in the kit particulars in Section 6.3.
20. The position should now be correctly modified to dispense the injectable package type designated by the kit. Proceed to Section 7 to test the dispense.

### 6.3 Physical Shelf Position Details For Each Kit

Each injectables kit supports a different med size and capacity, and therefore, requires a specific shelf configuration prior to installation. A summary of the shelf position requirements associated with each kit follows. Note that the find numbers refer to the table in Section 2.

#### NOTE

Ampules of any particular package size (for example, 1 mL) can have different body diameters. Body diameters are constant within a manufacturer's product type and size. Ampules with smaller body diameters, typically some 1 mL and 2 mL sizes, can slip through the first helix loop using FIND 4 (see Figure 5). Check for this problem by trying to press the first ampule through the first helix loop with your finger. Do not use so much force as to damage the helix or break the ampule. If it is possible to slip the ampule through the loop with this check, replace FIND 4 with FIND 5.

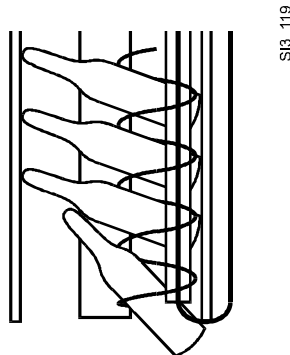


Figure 5 Small Diameter 1mL Ampule Inadvertant Release Problem

The following table shows the configuration details for each kit type:

Table 1 Kit Configuration Details

Kit	Med Type	Configuration Details
Kit 19-040069-000A	1, 2, or 3 mL vial position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• Install FIND #2, #4, and #12.</li> <li>• Length guide is located close to helix as possible without being too tight.</li> </ul>
	1 or 2 mL ampule position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• Install FIND #1, #2, #4, and #12.</li> <li>• Check to see if “meds” for each shelf position slide through first position on helix, especially when loading 1 mL and 2 mL ampules. If yes, then replace FIND #4 with FIND #5 for that position on helix shelf.</li> <li>• Length guide is located at the furthestmost left position.</li> </ul>
Kit 19-040069-000B	5 or 6 mL vial position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• Install FIND #3.</li> <li>• Length guide is located as close to helix as possible without being too tight.</li> </ul>
Kit 19-040069-000C	5 mL ampule position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• This position can only be 1, 2, 3, 4, or 5 (not 6).</li> <li>• Remove existing permanent divider.</li> <li>• Install FIND #1, #3, and #6 for 5 mL ampule. Be sure to install the helix retainer in the top retaining hole and around the new permanent divider so that it lies on top of the helix , not through the helix, as shown in Figure 3.</li> <li>• Only one length guide is used for both 5 mL ampule and 1 mL vial (see 1 mL vial position below).</li> </ul>
	1 mL vial position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• This position is to be located to the right of 5 mL ampule position (positions 2, 3, 4, 5, or 6).</li> <li>• Install FIND #2, #4, and #12.</li> <li>• Length guide is located directly beside 1 mL vial helix.</li> </ul>

*Table Continued*

Table 1 Kit Configuraton Details (continued)

Kit	Med Type	Configuration Details
Kit 19-040069-000D	5 mL ampule position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• This position can only be 1, 2, 3, 4, or 5 (not 6).</li> <li>• Remove existing permanent divider.</li> <li>• Install FIND #1, #3, and #6 for 5 mL ampule. Be sure to install the helix retainer in the top retaining hole and around the new permanent divider so that it lies on top of the helix , not through the helix, as shown in Figure 3.</li> <li>• Only one length guide is used for both 5 mL ampule and 1 mL vial (see 1 mL vial position below).</li> </ul>
	2 or 3 mL vial position	<ul style="list-style-type: none"> <li>• Motor must be in lower position.</li> <li>• This position is to be located to the right of 5 mL ampule position (positions 2, 3, 4, 5, or 6).</li> <li>• Install FIND #3.</li> <li>• Length guide is located directly beside 2 or 3 mL vial helix.</li> </ul>

## 7. Final Test Procedure

### 7.1 Testing a Kit Installation (dispense position)

It is necessary to test the dispensing action of an adjusted dispensing position before closing the shelf assembly back into the UDM. Perform the following procedure to test a position:

1. Load the oral dispensing position with several meds.
2. Press the corresponding test button on the CCA above the rear of the position to cause the helix to dispense one med.
3. Repeat Steps 1 and 2 until the complete stock of meds has been dispensed.
4. If meds are binding, it may be necessary to adjust the length guide. If meds are double-dropping, the helix med limit may need to be replaced with a different size (OD).
5. After successfully verifying the setup, close the shelf assembly back into the UDM.
6. Check with the system administrator for the proper procedure for handling meds that were dispensed during testing.



*To prevent a count discrepancy, do not return medications to the oral dispensing positions without entering the quantities on the Display Terminal restock window. Consult a system administrator for this activity.*

For instructions on restocking the inventory, see *MedSelect Systems Display Terminal User's Guide* (TP-799955-000A).

### 7.2 Restarting the System After a Kit Installation

After setting up and testing a position, reset the system to erase the miscellaneous events generated during the test dispenses, then start up the Display Terminal Application as follows:

1. Unplug the IB Module from the wall power outlet.
2. The IB Module is the small box that is attached to the Display Terminal via a serial connection. It must be power cycled to restart the system.
3. From the Windows 95 Start menu, select **Programs**, then select **MedSelect**, then select **Display Terminal**. The Display Terminal application starts.
4. Plug the IB module into the wall power outlet.

The system cannot operate unless the IB module is plugged in. When the IB Module is plugged in, the system is ready for normal use.