

## FOR THE USER

# UNISLIDE®

Motor Driven Assemblies

## INSTALLATION and MAINTENANCE INSTRUCTIONS

Please fill in your unit:

Model No. \_\_\_\_\_ Date \_\_\_\_\_ Velmex Invoice No. \_\_\_\_\_

UniSlide® Motor Driven Electro-mechanical Assemblies consist of hard aluminum alloy dovetail base fitted with an aluminum sliding element that has bonded bearing pads of a PTFE composite formulation. A precision roll-formed lead screw converts rotary-to-linear motion. The lead screw is held by pre-loaded ball bearings and drives a low friction, adjustable, anti-backlash nut. Please refer to Catalog M, UniSlide Motor Driven Positioning Systems, for more information.

The following instructions are supplied to insure optimum performance for the UniSlide Assemblies you have purchased. It is advisable to file these instructions in the proximity of the equipment.

### CAUTION

Motors, controls and UniSlide Assemblies can contain high voltages. Removal of any covers or panels, or alteration of any wiring or connectors on the assembly or motor controller is done so at your own risk and will void the warranty. Refer to the motor manufacturer's instructions and precautions for the servicing of motors.

### WARRANTY

UniSlide Motor Driven Mechanical Assembly parts are warranted against defects in material and workmanship to the user for a period of 6 months from date of purchase. This warranty applies only to units which have been installed and operated in accordance with these instructions, have not been tampered with in any way, misused, suffered damage through accident, neglect or conditions beyond our control. Velmex is not responsible for loss in operating performance due to environmental conditions, such as humidity, dust, corrosive chemicals, deposition of foreign matter, spillage, or other conditions beyond our control. There are no other warranties expressed or implied. Velmex shall not be liable under any circumstances for consequential damages.

Manufactured and sold by

**VELMEX, INC.**

®UniSlide is a Reg. T. M. of Velmex, Inc.  
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## Mounting the UniSlide Assembly

Please mount the UniSlide Assembly dovetail base to a flat surface. Gradually tighten the mounting screws, begin in the center of the base and work towards the ends. Uniformly tighten the base mounting screws to the following torque:

MA1500 Series	1 ft. lb.
MA or MB2500 Series	2 to 3 ft lbs.
MA or MB4000 Series	1 to 3 ft lbs.
MA or MB6000 Series	3 to 6 ft lbs.
MB9000 Series	3 to 6 ft lbs.

**CAUTION:** Over tightening or mounting to an irregular surface will distort the UniSlide Assembly, causing slider binding. Such a condition invalidates the warranty. Use Loctite 222® on the mounting screws to prevent loosening.

## Attachment of Equipment to the Slider

User's equipment attached to the UniSlide slider must mount flat to the slider. Mounting nonflat plates or blocks will distort the slider causing binding.

**CAUTION:** Make certain mounting screws do not extend through the slider and contact the lead screw.

## User Mounted Motors

A 0.150" wide flat should be machined on the motor shaft. The slider should be as far towards the motor end as possible to locate the motor on center with the lead screw. Use Loctite® 222 on the motor coupling set screws.

## Adjustments

### Lead screw nut and slider

The most wear will occur within the initial 50,000 cycle break-in period. The lead screw nut may exhibit backlash, which can be compensated for by tightening the Allen cap screw on the top of the nut (see drawing). **CAUTION:** Over tightening will increase friction, stall motor and cause increased wear.

Adjustable expansion gibs control the fit of the UniSlide slider. Objectionable side play can be reduced by tightening the Allen head screws located at the ends of the slider (see drawing).

**CAUTION:** Over tightening will increase friction, stall motor and cause increased wear.

### Limit switch stop settings

Limit switch activation or stop points are determined by the location of the brass collars on the limit switch actuating rod (see drawing). An Allen wrench is provided for collar repositioning.

**CAUTION:** The limit switch collars must be set sufficiently distant from the ends of UniSlide Assembly to avoid collision with the end plate or limit switch cover. The slider stopping distance is dependent on the slider speed just before limit switch activation. Set the collar position for the maximum anticipated slider speed.

## Lubrication

### Dovetail ways and lead screw

All UniSlide Assemblies are pre-greased at the factory. For maximum life, additional lubrication should be applied to the ways and lead screw at regular intervals. The recommended lubricant is Lubriplate Aero® (a light consistency NLGI Grade 1 lithium base). Do not use silicone oils, heavy greases, or any type of spray lubricant that may contain strong solvents or fluorocarbons.

UniSlide Assemblies will operate without lubrication in vacuum or clean room environments. Increased wear of bearing pads will occur but may be inconsequential if the assembly is lightly loaded or if infrequently run.

### Lubrication Intervals

Follow this lubrication schedule as a guideline:

Continuous use (24 hours a day)

Grease ways and screw daily.

Intermediate use (several hours a day)

Grease weekly.

Occasional use (several hours a month)

Grease monthly.

For best results:

- Grease dovetail ways and lead screw whenever they lack the appearance of an oily film.
- Only a light film of grease is required, excess grease is pushed off.
- Keep debris out of the dovetail ways (the optional way covers help). Use metal or plastic covers or mount the UniSlide Assemblies in an inverted fashion when used in dirty environments.
- Wipe away old accumulations of grease with a clean cloth.

## Environmental Considerations

UniSlides Assemblies will operate between 0 and 220°F. The lead screw nut is made of Delrin AF® (Delrin/Teflon blend). Friction will rapidly increase above 250° F.

**CAUTION:** Continuous revolution of the lead screw above 1000 RPM may produce excessive frictional heat within the nut. Velmex can supply special nuts capable of 500° F if necessary.

The 0.020" thick Rulon® (PTFE blend) slider pads are suitable to 500° F. Lubriplate Aero® has a range of -30° to 330° F. A silicone base grease is required for high temperatures. The actual temperature range may be limited by maximum allowable motor temperature.

## Repairs

Velmex sells replacement parts. Please specify your UniSlide Assembly and motor model number when ordering any replacement parts.

To replace the lead screw nut, remove the lead screw, slider, and bearing block assembly from the dovetail base (see drawing). The nut is a light press fit in the slider.

The slider and/or bearing pads can be replaced if the dovetail ways are not excessively or unevenly worn.

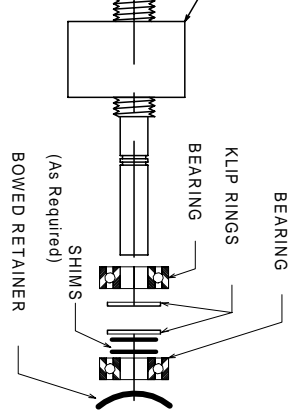
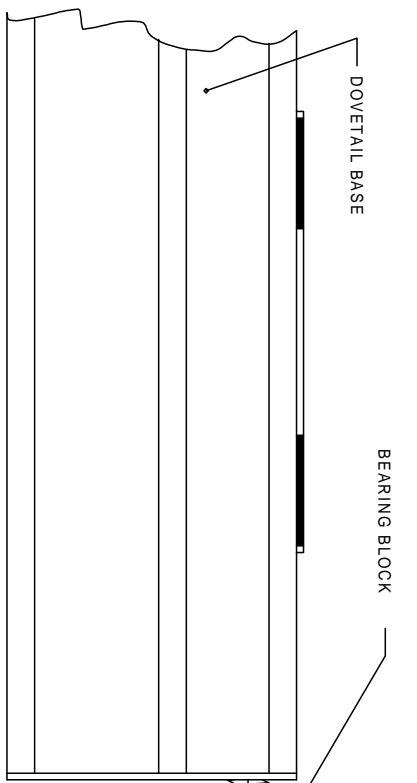
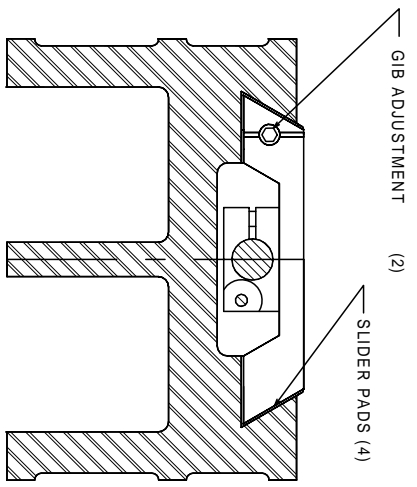
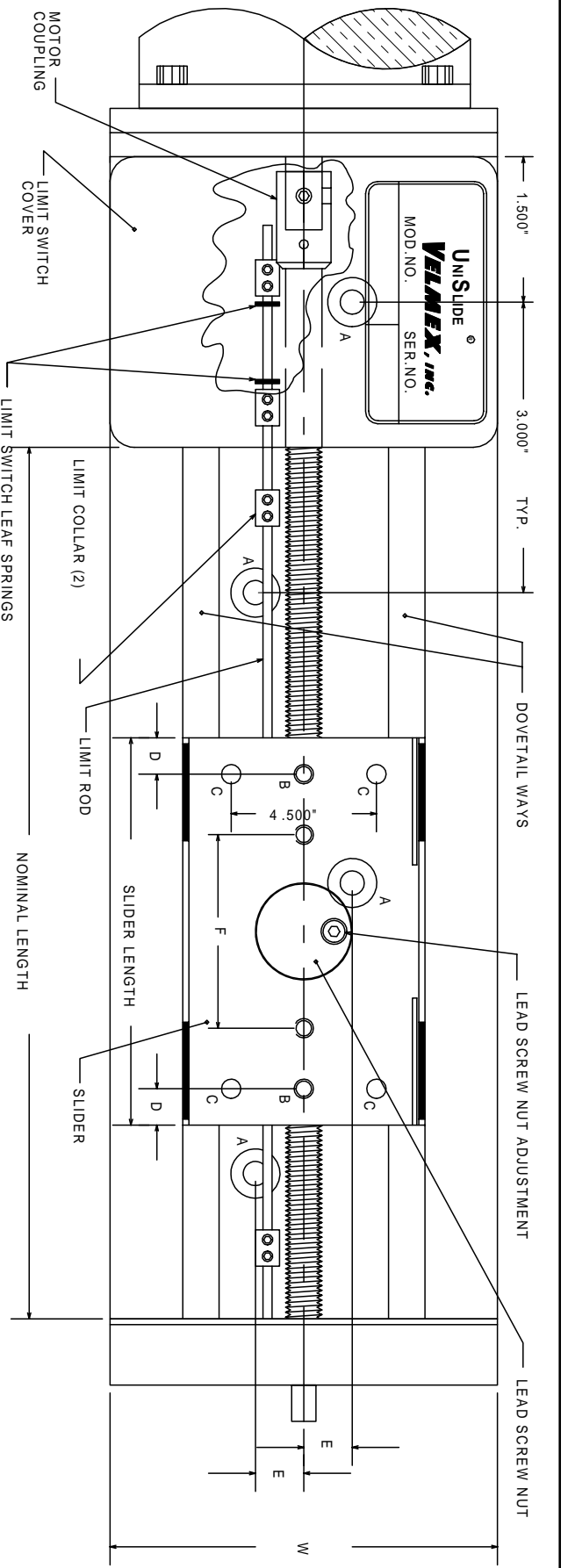
\*Bearing blocks with bowed retainer rings should have the appropriate shim(s) for proper bearing pre-load.

®Lubriplate Aero is a Reg. T. M. of Fiske Bros. Refining Co.

®Delrin is a Reg. T.M. of E. I. duPont de Nemours and Co.

®Rulon is a Reg. T.M. of Dixon Corp.

U N I S L I D E  
N I



SERIES	A	B	C	D	E	F	W
(countersunk for)							
MB3500	10-32 FH	8-32	B9000	7/32	11/32	1 3/16"	2.5
MB4000	1/4-20 FH	10-32	SERIES ONLY	3/8	1/2	2"	4.0
MB6000	5/16-18 FH	1/4-20	SERIES ONLY	1/2	3/4	3 1/4"	6.0
MB9000	3/8-20 FH	1/4-20 @ 5" APART	5/16-18	1 (C HOLES ONLY)	1 7/8	5"	9.0

**VELMEX, inc.**

REV. 3-16-93  
8-13-90  
9-24-98 ELD

DATE 11-16-87

DRAWN BY M.L.E.  
SCALE

TITLE UNISLIDE MOTOR DRIVEN ASSEMBLY  
DWG NUMBER 8909-A4