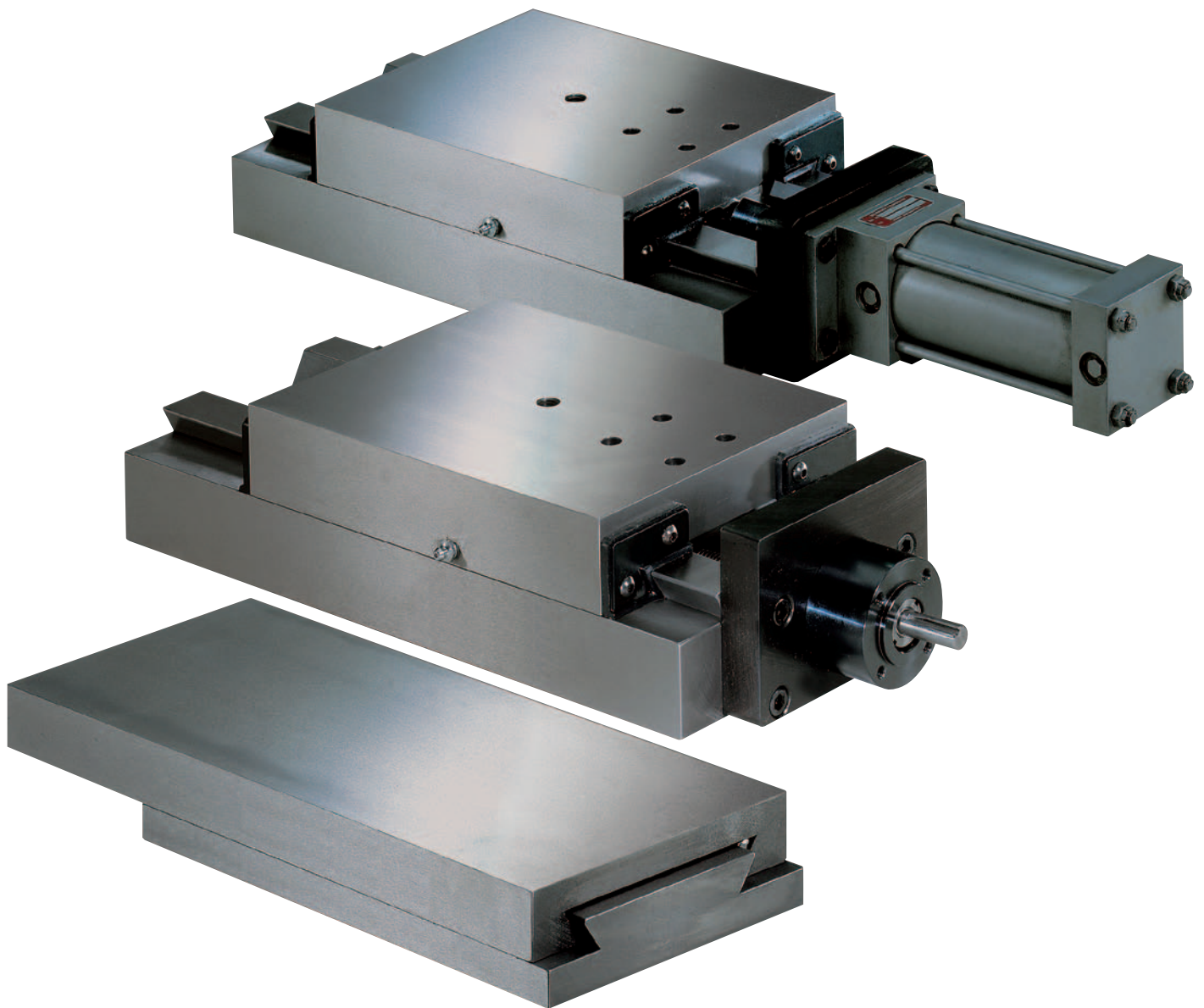


Durable and dependable dovetail slides

A selection of sizes for tooling, work feeding and positioning operations



Complete Gilman USA slide selection

Dovetail slides

ND (NextDay) line:

(In stock-ships in one business day from order)

- Immediate delivery off-the-shelf product
- In widths of 4", 6", 8", 10"
- Saddle travels of 4", 6", 8", 10"
- Reversible screw drive end and gib side
- Includes holes for mounting and compounding
- Matching angle brackets



L & H tool slide line:

- 2", 3", 4", 6", 8" widths
- Lead screw drives
- Off-the-shelf product



CP line:

- 4", 6", 8" widths
- Air or hydraulic cylinder drives
- Plate mounted

DC line:

- 2" to 20" widths
- Length and travels built-to-order
- Several drive styles

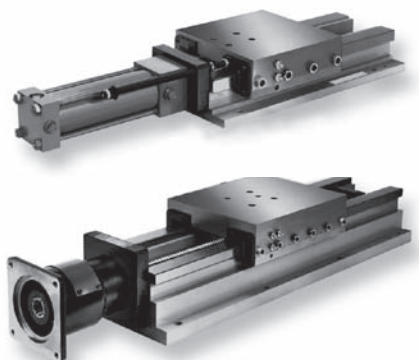


Hardened steel way slides

Basic and drive equipped:

This catalog contains complete hardened way slide specifications

- 5" to 32" widths
- Travel and slide lengths built-to-order
- Several drive styles
- Production cycle durability
- Good for heavy machining application



Linear slides

Built-to-order

- Ball or roller styles
- Used for high-precision, high-speed applications
- High-speed drives
- Preloaded bearings

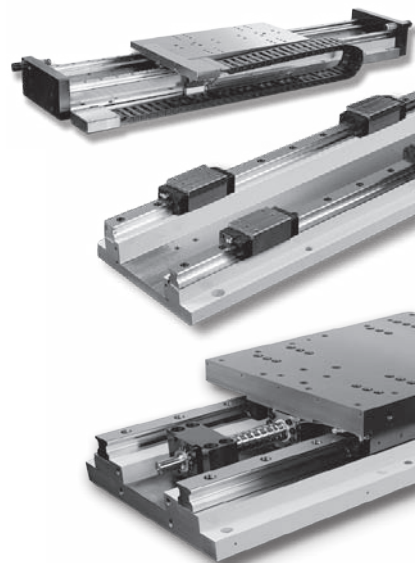


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The Engineering Department of Gilman USA reserves the right to change specifications without notice. Do not base final decisions on catalog drawings — ask for a certified print when you order a slide. If servicing should be required on any Gilman USA slide, we suggest the unit be returned for factory service. For non-standard applications (e.g. dovetail slides with high-frequency and short stroke) contact Gilman USA.

All dimensions are in inches unless otherwise indicated.

Dovetail slides

Gilman USA solutions for machine tool builders and users

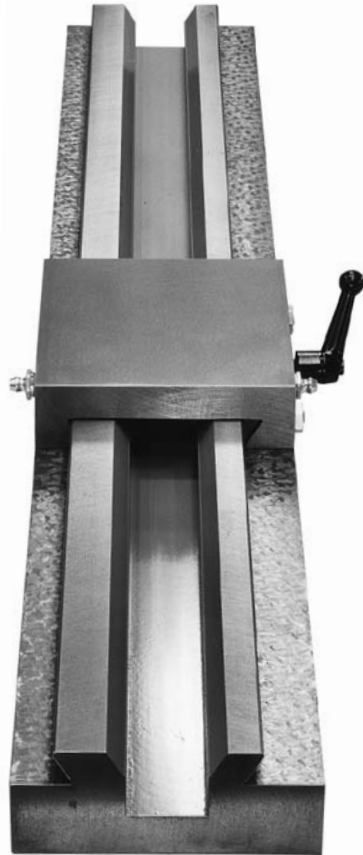
Take advantage of exclusive Gilman USA technologies and craftsmanship.

Whether your end application is a special machine or an OEM product line, Gilman USA will provide you with responsive engineering, precision manufacturing and prompt, efficient after-sale service.

Gilman USA slide assemblies are designed and built to promote smooth, accurate, long-life operation. Both the base and saddle are made from close-grained cast iron which are properly normalized to minimize distortion. Both saddle and base are machined and ground parallel on top and bottom surfaces after assembly for a flat, accurate mounting surface. The saddle and base may be easily drilled, tapped or machined to accommodate specific mounting requirements.

Accurately milled way slides will operate with ease and precision in most ordinary applications. Milled slides are designated by the letter "M" in the "Model number code."

Hand-scraped way slides have a lower coefficient of friction, operate smoother, are more precise, and have a longer life than milled slides. Scraped slides are designated by the letter "S" in the "Model number code."



Reduce your design and manufacturing time and costs. Gilman USA standard stock slide assemblies give you substantial dollar savings wherever in-line precision movements are required in your special or semi-special mechanical equipment. Gilman USA slide modules can be easily assembled together, or with other Gilman USA modular components to build special production machines quickly and efficiently. Slides are available in sizes from 2" to 20" widths, saddle lengths to 36", and base lengths to 96". Longer lengths available upon request.

For prompt service please provide complete information with the order. You can readily build up the slide model number as you decide on the section, width, saddle length, base length, way surface, type of drive, and travel. See "Model number code" on page 17.

Gilman USA is a leading global supplier of machine tool automation components. Gilman USA facilities, equipment and application engineering assistance help solve your most challenging design problems. Our ISO 18000 quality standards assure that our products are accurate, reliable, precise and durable.

Product features

Six basic parts

1. Lubrication fitting

The lubrication fittings are standard on all slide assemblies except the "L" and "ND" section basic and lead screw series. Passages drilled in slide allow lubricant to get to vital way surfaces to reduce friction and promote long life. Lubrication fittings can be easily removed and proper meter fittings installed for connection to a lubrication system. Mobil Vactra #2 oil or equivalent is recommended for lubricating slide ways.

2. Gib

This part may easily be adjusted to regulate the clearance between the way surfaces. The gib is adjusted at the factory before shipping to suit most applications; however, in some cases, a tighter or a looser setting may be desired. This can easily be accomplished in the field. Gibs are manufactured from accurately ground, low carbon steel and are equal to the saddle length.

3. Gib screw

These are special socket head screws, properly spaced along one side of the saddle for adjusting the gib.

4. Gib screw nut

The gib screw nut locks the gib screw in place to maintain the adjustment on the gib.

5. Saddle

The saddle is generally the moving member and has the female part of the dovetail.

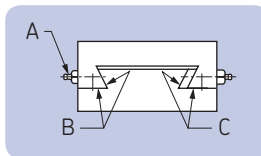
6. Base

The base is generally the stationary member and has the male part of the dovetail.

Mobil Vactra #2 oil or equivalent is recommended for lubricating slide ways. Do not use grease!

Use these charts and formulas as a guide to determine the lube area or the amount of lubrication required for the slide. Lubrication requirements may vary depending on your application. Consult our factory for further assistance.

Model	B	C	D
DC2	1.0	1.0	.08
DC3	1.1	1.1	.09
H4, CP4, DC4	1.4	1.4	.11
H6, CP6, DC6	1.9	1.9	.15
H8, CP8, DC8	2.2	2.2	.18
DC10	3.2	3.2	.25
DC12	3.5	3.5	.28
DC16	5.5	4.8	.44
DC20	6.2	5.5	.5



SL	A
2-12	2
13-24	4
25-36	6

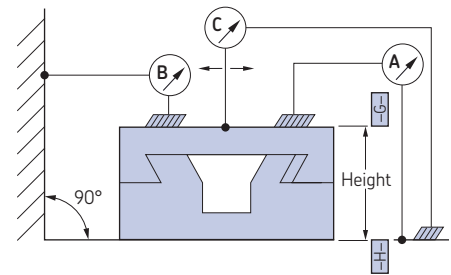
SL = Saddle length (inches)
T = Travel (inches)
A = Number of lube points
B = Solid side way width (inches)
C = Gib side way width (inches)
D = Lube factor (cc/in-hr)
LB = Lube area/lube point solid side (in²)
LC = Lube area/lube point gib side (in²)
LD = Lube req. (cc/hr)

$$LB = \frac{(SL)(B)(2)}{A} \quad LC = \frac{(SL)(C)(2)}{A} \quad LD = (SL+T)(D)$$

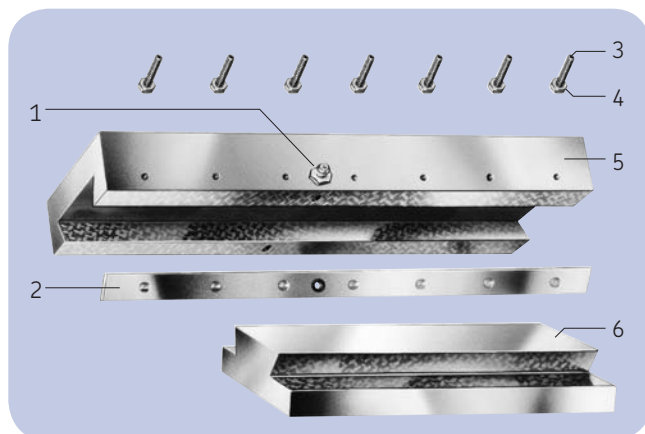
Dovetail slide tolerances*

Overall height = ± .005 in
Vertical tracking: (A) ✓
Milled = .001 in/ft
Scraped = .0005 in/ft
Horizontal tracking: (B) ✓
Milled = .001 in/ft
Scraped = .0005 in/ft
Parallelism: (C) ✓
Saddle to base = .001 in/ft

G .0005 in/ft H .0005 in/ft



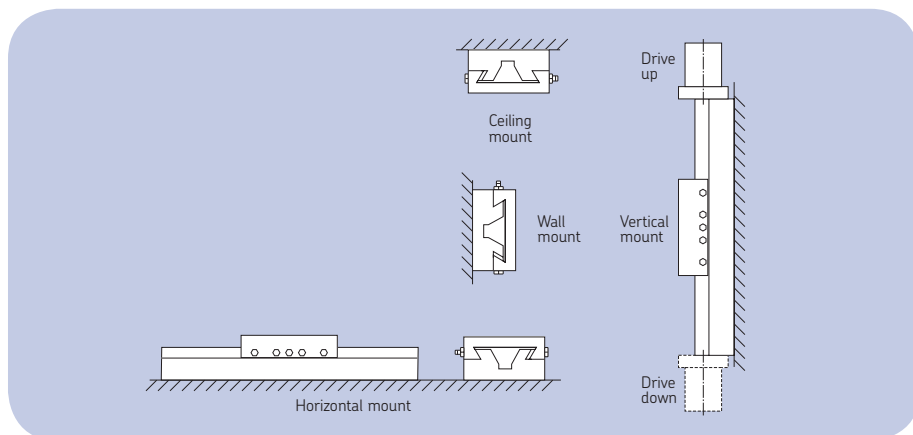
*Higher accuracies available upon request.
See page 14 for NextDay dovetail slide tolerances



Application engineering data

Slide mounting

Drawings at the right show the most common mounting positions of dovetail slides. When slides are mounted other than horizontal, the load capacity changes and in some cases lubrication holes and grooves have to be altered. *Specify if mounting is other than horizontal when ordering.*



Slide loading

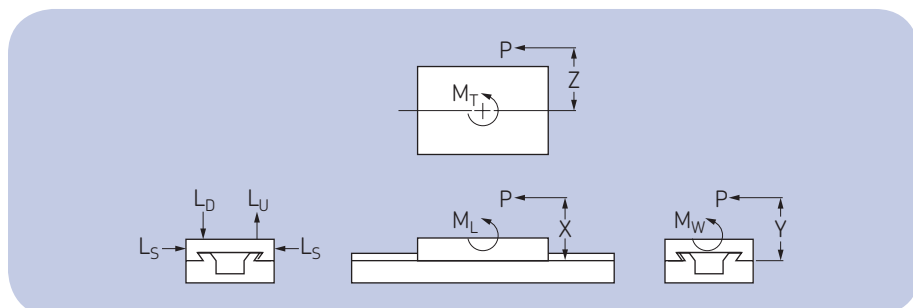
This data should be used as a guide to determine the size of a slide for a particular application. All values are for uniformly distributed loads and moments, and the saddle is assumed to be a rigid member. Some conditions may allow the use of higher load values (e.g. rough machining or positioning applications), while other conditions dictate the use of lower values (e.g. precision boring or grinding applications). For saddle lengths longer than two times the width, and if deflections are critical, please consult our factory for load capacity.

Model	Load Factors*											
	D		U		S		W		T		L	
	Static	Dyn.	Static	Dyn.	Static	Dyn.	Static	Dyn.	Static	Dyn.	Static	Dyn.
L2, DC2	326	65	134	27	116	23	76	15	39	8	63	13
L3, DC3	379	76	134	27	116	23	131	26	39	8	66	13
ND4, L4, H4, CP4, DC4	479	96	173	35	150	30	233	47	50	10	85	17
L6	634	127	173	35	150	30	362	72	50	10	91	18
ND6, H6, CP6, DC6	677	135	217	43	188	38	444	89	63	13	109	22
ND8, H8, CP8, DC8	886	177	217	43	188	38	586	117	63	13	116	23
ND10, DC10	1208	242	346	69	300	60	1135	227	100	20	179	36
DC12	1388	278	346	69	300	60	1377	275	100	20	185	37
DC16	2025	405	520	104	450	90	2438	488	150	30	281	56
DC20	2475	495	520	104	450	90	3088	618	150	30	290	58

*Dynamic load factors for manual powered slides should be cut in half unless low-friction bearing material is used.

Slide loading definitions

- A = Slide width (inches)
- D = Down load factor
- L_D = Vertical load down (lbs)
- L_S = Horizontal load side (lbs)
- L_U = Vertical load up (lbs)
- L = Length moment load factor
- M_L = Moment about saddle length (in-lbs)
- M_T = Moment about plane of saddle top (in-lbs)
- M_W = Moment about saddle width (in-lbs)
- P = Load producing moment (lbs)
- S = Side load factor
- T = Top moment load factor
- U = Up load factor
- W = Width moment load factor



- X = Distance from load P to slide way (inches)
- Y = Distance from load P to slide way (inches)
- Z = Distance from load P to center line of slide (inches)
- SL = Saddle length engaged on base (inches)

Maximum load calculations:

- L_D max. = $D \times SL$ (lbs)
- L_U max. = $U \times SL$ (lbs)
- L_S max. = $S \times SL$ (lbs)

Maximum moment calculations:

- M_W max. = $W \times SL$ (in-lbs)
- M_T max. = $T \times (SL)^2$ (in-lbs)
- M_L max. = $L \times (SL)^2$ (in-lbs)

Application engineering data

DC section: Slide thrust and torque

The force required to power the slide assembly (F_H and F_V), includes the force to overcome all external loads as shown under "Slide loading" (page 5), plus the force required to power the saddle assembly times a factor of safety. The factor of safety (depending on the type of drive used, see "FS" under "Slide thrust and torque definitions,") is applied to insure sufficient power to move the load and overcome friction due to variables such as lubrication, machining tolerances, finish, etc.

The torque required to accelerate or decelerate the slide is dependent upon the moving weight, screw size, the force applied to the slide and the rate of acceleration or deceleration. Please consult the motor manufacturer you selected for this analysis.

The thrust values obtained from the calculation must be checked against the maximum thrust capacities (pages 19-23), for the drive model being used. If acceleration time is critical or speeds above 350 ipm are required, please consult our factory for power requirements.

Model	T_D (in-lbs)		
	Acme screw	Ball screw non-preloaded nut	Ball screw preloaded nut
DC4	8	5	—
DC6	8	5	—
DC8	8	5	7
DC10	13	10	12
DC12	15	12	14
DC16	15	12	14
DC20	18	15	17

Slide thrust and torque definitions

- F_H = Force req. to power slide horizontally (lbs)
 F_V = Force req. to power slide vertically (lbs)
 F_D = Force req. to overcome saddle drag (lbs)
 10 lbs – 75 lbs
 Drag force is affected by several factors including gib adjustment, way wipers, way covers, lubrication and slide size. Use lower values for smaller slides and higher values for larger slides.
 F_{SLH} = Force to power saddle weight horizontally (lbs)
 F_{SLV} = Force to power saddle weight vertically (lbs)
 F_L = Force to overcome loads L_D , L_U , L_S (lbs)
 F_{ML} = Force to overcome moment M_L , and load P (lbs)
 F_{MW} = Force to overcome moment M_W , and load P (lbs)
 F_{MT} = Force to overcome moment M_T , and load P (lbs)

- FS = Factor of safety
 Manual drives = 1.5
 Lead screw drives = 2
 Hydraulic cylinder drives = 2.5
 Air cylinder drives = 3
 μ = Coefficient of friction with lubrication
 .25 milled
 .20 scraped
 .08 low friction bearing material
 SL = Saddle length (inches)
 W_{SL} = Weight of saddle (lbs/in)
 H = Distance across dovetail (inches)
 See page 18 for "H" dimension
 T_H = Torque to power slide horizontally (in-lbs)
 T_V = Torque to power slide vertically (in-lbs)
 T_D = Torque to overcome drag of screw assembly.
 See chart. (in-lbs)
 K = Screw constant
 .64 acme screw
 .20 ball screw
 L = Lead of screw (in/rev)
 See pages 19 and 20.

Thrust calculations*:

$$F_H = (F_D + F_{SLH} + F_L + F_{ML} + F_{MW} + F_{MT})FS$$

$$F_V = (F_D + F_{SLV} + F_L + F_{ML} + F_{MW} + F_{MT})FS$$

$$F_{SLH} = (\mu)(W_{SL})(SL)$$

$$F_{SLV} = (W_{SL})(SL)$$

$$F_L = (\mu)(L_D + L_U + L_S)$$

$$F_{ML} = (3\mu)(M_L/SL) + P$$

$$F_{MW} = (2\mu)(M_W/H) + (\mu)(P)$$

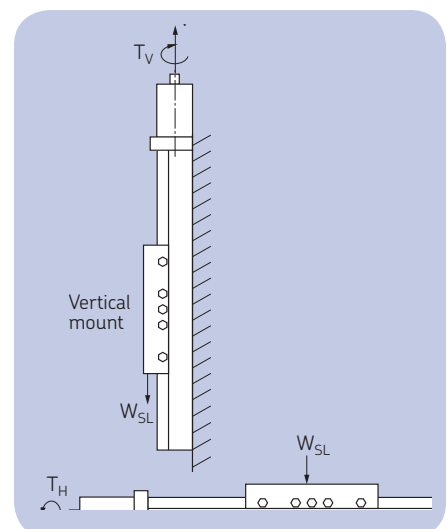
$$F_{MT} = (3\mu)(M_T/SL) + P$$

Torque calculations:

$$T_H = T_D + (K)(F_H)(L)$$

$$T_V = T_D + (K)(F_V)(L)$$

* All forces, loads and moments must be added using correct signs positive or negative.



L section

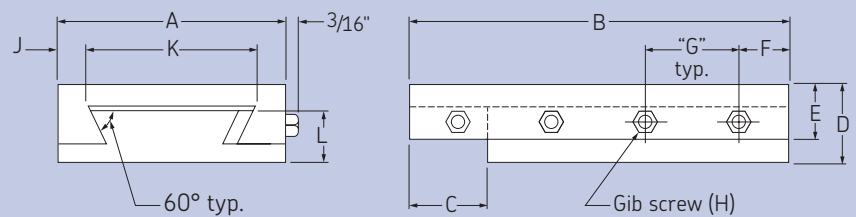
Low profile basic

Low profile slide assemblies are useful for a broad range of applications where the load induced into the assembly is moderate and a compact design is essential.

Basic slide assemblies consist of a saddle, base, gib and gib adjusting screws. They are designed for installations where the means of movement, mounting, and all other details are provided by the customer.

Way surfaces can be supplied either milled or scraped.

For high profile basic slide assemblies, see page 11.
For dovetail cavity assemblies, see page 17.



Model number		Dimensions (inches)											Approx. weight (lbs)
Milled	Scraped	A	B	C	D	E	F	G	H	J	K	L	
L2-3-3/4-M	L2-3-3/4-S	2	3	3/4	7/8	5/8	1/2	1	3	5/16	1 3/8	41/64	1 1/4
L2-4-1-M	L2-4-1-S	2	4	1	7/8	5/8	1/2	1 1/2	3	5/16	1 3/8	41/64	1 3/4
L2-6-2-M	L2-6-2-S	2	6	2	7/8	5/8	3/4	1 1/2	4	5/16	1 3/8	41/64	2 1/4
L3-4-1-M	L3-4-1-S	3	4	1	1	11/16	1/2	1 1/2	3	13/32	2 3/16	45/64	2 3/4
L3-5-1-M	L3-5-1-S	3	5	1	1	11/16	45/64	1 13/64	4	13/32	2 3/16	45/64	3 1/2
L3-6-2-M	L3-6-2-S	3	6	2	1	11/16	3/4	1 1/2	4	13/32	2 3/16	45/64	3 3/4
L4-6-1-M	L4-6-1-S	4	6	1	1 1/2	31/32	3/4	1 1/2	4	31/64	3 1/32	1 1/32	8 1/2
L4-8-2-M	L4-8-2-S	4	8	2	1 1/2	31/32	1	2	4	31/64	3 1/32	1 1/32	10 1/2
L4-12-3-M	L4-12-3-S	4	12	3	1 1/2	31/32	1	2	6	31/64	3 1/32	1 1/32	16 1/2
L6-8-2-M	L6-8-2-S	6	8	2	1 3/4	1 3/32	1	2	4	3/4	4 1/2	1 5/32	19
L6-12-4-M	L6-12-4-S	6	12	4	1 3/4	1 3/32	1	2	6	3/4	4 1/2	1 5/32	27
L6-16-4-M	L6-16-4-S	6	16	4	1 3/4	1 3/32	1	2	8	3/4	4 1/2	1 5/32	38

Gib lock handle available at additional cost (two on 16" long saddle).

L section

Low profile lead screw

Low profile lead screw assemblies are useful for many applications where accurate manual positioning or feeding is needed.

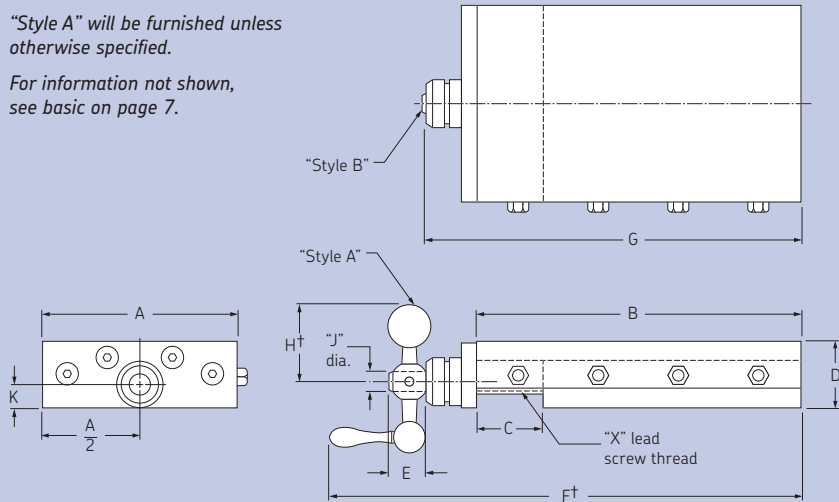
These slide assemblies feature a precision lead screw, a graduated micrometer dial measuring in .001 inch of saddle travel, and a selection of drive ends. "Style A" has a balanced crank handle for ease and speed in advancing or retracting the saddle. "Style B" is ideal where space is limited and a knurled knob is sufficient for adjustment.

Way surfaces can be supplied either milled or scraped. For other lead screw slide assemblies, see pages 12, 13, 19 and 20.



"Style A" will be furnished unless otherwise specified.

For information not shown, see basic on page 7.



Model number		Dimensions (inches)											Approx. weight (lbs)
Milled	Scraped	A	B	C	D	E	F†	G	H†	J	K	X	
L2-3-3/4-M-L	L2-3-3/4-S-L	2	3	3/4	7/8	17/32	5 7/8	3 7/8	1 3/8	.312	11/32	5/16-40 Vee	1 3/4
L2-4-1-M-L	L2-4-1-S-L	2	4	1	7/8	17/32	6 7/8	4 7/8	1 3/8	.312	11/32	5/16-40 Vee	2 1/4
L2-6-2-M-L	L2-6-2-S-L	2	6	2	7/8	17/32	8 7/8	6 7/8	1 3/8	.312	11/32	5/16-40 Vee	2 3/4
L3-4-1-M-L	L3-4-1-S-L	3	4	1	1	17/32	6 7/8	4 7/8	1 3/8	.312	3/8	5/16-40 Vee	3 1/4
L3-5-1-M-L	L3-5-1-S-L	3	5	1	1	17/32	7 7/8	5 7/8	1 3/8	.312	3/8	5/16-40 Vee	4
L3-6-2-M-L	L3-6-2-S-L	3	6	2	1	17/32	8 7/8	6 7/8	1 3/8	.312	3/8	5/16-40 Vee	4 1/4
L4-6-1-M-L	L4-6-1-S-L	4	6	1	1 1/2	3/4	10 7/8	7 5/8	1 3/4	.500	5/8	1/2-20 Vee or 1/2-10 Acme*	9 1/2
L4-8-2-M-L	L4-8-2-S-L	4	8	2	1 1/2	3/4	12 7/8	9 5/8	1 3/4	.500	5/8	1/2-20 Vee or 1/2-10 Acme*	11 1/2
L4-12-3-M-L	L4-12-3-S-L	4	12	3	1 1/2	3/4	16 7/8	13 5/8	1 3/4	.500	5/8	1/2-20 Vee or 1/2-10 Acme*	16 3/4
L6-8-2-M-L	L6-8-2-S-L	6	8	2	1 3/4	13/16	13 1/8	9 15/16	2 1/4	.625	11/16	5/8-20 Vee or 5/8-10 Acme*	22
L6-12-4-M-L	L6-12-4-S-L	6	12	4	1 3/4	13/16	17 1/8	13 15/16	2 1/4	.625	11/16	5/8-20 Vee or 5/8-10 Acme*	29
L6-16-4-M-L	L6-16-4-S-L	6	16	4	1 3/4	13/16	21 1/8	17 15/16	2 1/4	.625	11/16	5/8-20 Vee or 5/8-10 Acme*	40

*Acme thread lead screw available at additional cost.

Gib lock handle available at additional cost (two on 16" long saddle).

†Dimensions are approximate.

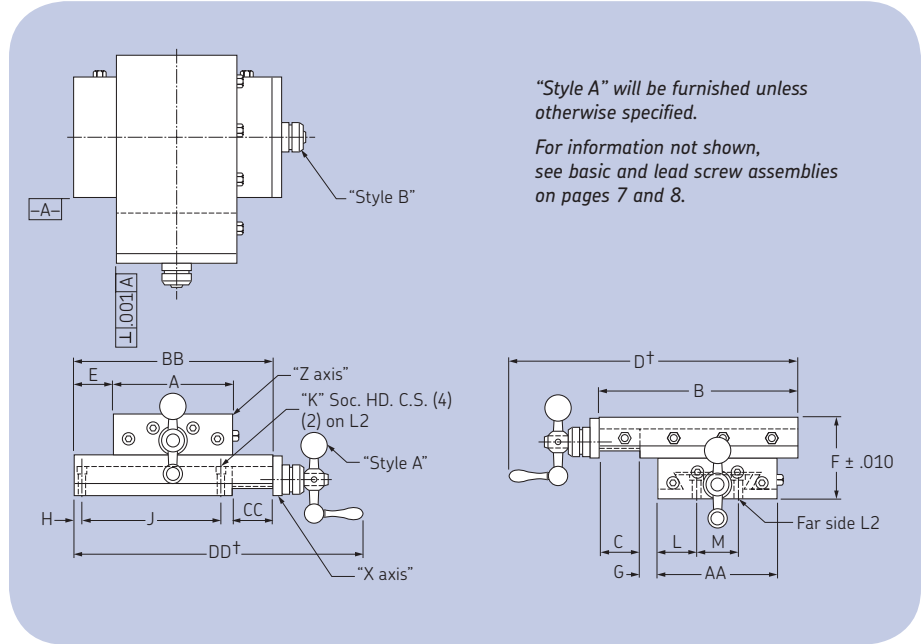
L section

Low profile lead screw compound

Low profile lead screw compound slide assemblies are useful for many applications where two-axis, accurate manual positioning or feeding is needed.

These compound slide assemblies are made from standard lead screw assemblies which are accurately bolted together with the travel 90° to each other. All the features pertaining to the standard lead screw assemblies apply to the compounds. For ease of installation, mounting holes are provided in the base of the "X axis" slide.

Way surfaces can be supplied either milled or scraped. On special request, where practical, other slide combinations can be provided besides those shown. See lead screw assemblies on pages 8, 12, 13, 19 and 20 or basic assemblies on pages 7, 11 and 18.



Model number		Dimensions (inches)															
Z axis	X axis	A	B	C	D [†]	E	F	G	H	J	K	L	M	AA	BB	CC	DD [†]
L2-3-3/4-*-L	L2-6-2-*-L	2	3	3/4	5 7/8	2	1 3/4	1/8	1/4	2 3/4	#8	11/16	15/32	2	6	2	8 7/8
L2-4-1-*-L	L2-4-1-*-L	2	4	1	6 7/8	1	1 3/4	1/2	1/4	1 3/4	#8	11/16	15/32	2	4	1	6 7/8
L2-6-2-*-L	L3-6-2-*-L	2	6	2	8 7/8	2	1 7/8	1/2	3/8	3 1/4	#10	31/32	1 1/16	3	6	2	8 7/8
L3-4-1-*-L	L3-6-2-*-L	3	4	1	6 7/8	1 1/2	2	0	3/8	3 1/4	#10	31/32	1 1/16	3	6	2	8 7/8
L3-5-1-*-L	L3-5-1-*-L	3	5	1	7 7/8	1	2	1/2	3/8	3 1/4	#10	31/32	1 1/16	3	5	1	7 7/8
L3-6-2-*-L	L4-12-3-*-L	3	6	2	8 7/8	4 1/2	2 1/2	0	1	7	1/4	1 5/16	1 3/8	4	12	3	16 7/8
L4-6-1-*-L	L4-12-3-*-L	4	6	1	10 7/8	4	3	1/2	1	7	1/4	1 5/16	1 3/8	4	12	3	16 7/8
L4-8-2-*-L	L4-8-2-*-L	4	8	2	12 7/8	2	3	1	5/8	4 3/4	1/4	1 5/16	1 3/8	4	8	2	12 7/8
L4-12-3-*-L	L6-12-4-*-L	4	12	3	16 7/8	4	3 1/4	1 1/2	3/4	6 1/2	5/16	1 5/8	2 3/4	6	12	4	17 1/8
L6-8-2-*-L	L6-12-4-*-L	6	8	2	13 1/8	3	3 1/2	0	3/4	6 1/2	5/16	1 5/8	2 3/4	6	12	4	17 1/8
L6-12-4-*-L	L6-12-4-*-L	6	12	4	17 1/8	3	3 1/2	1	3/4	6 1/2	5/16	1 5/8	2 3/4	6	12	4	17 1/8
L6-16-4-*-L	H8-18-6-*-L	6	16	4	21 1/8	6	4 3/4	2	1 1/2	9	3/8	2 1/8	3 3/4	8	18	6	24 1/8

*Add "M" for milled or "S" for scraped slide assemblies.

Gib lock handle available at additional cost (two on 16" and 18" long saddles).

†Dimensions are approximate.

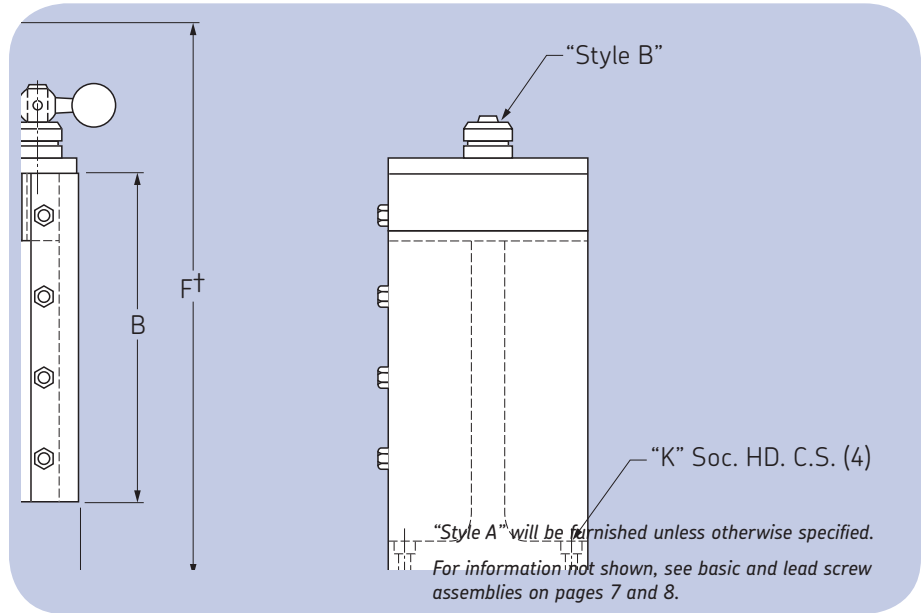
L section

Low profile lead screw with angle bracket

A low profile lead screw slide assembly bolted to a 90° angle bracket has many uses where accurate manual positioning or feeding is needed. These units can be floor mounted to give vertical travel or wall mounted to provide horizontal travel. It is easy to make a three-axis slide assembly by mounting one of these units to one of the compound slide assemblies shown on page 9.

All the features pertaining to the standard lead screw assemblies apply to these. See "L" lead screw assemblies, page 8. For ease of installation, mounting holes are provided in the angle bracket.

Way surfaces can be supplied either milled or scraped.



Model number		Dimensions (inches)												Approx. weight (lbs)
Milled	Scraped	A	B	C	D	E	F†	G	H	J	K	L	M	
L2-3-3/4-M-LA	L2-3-3/4-S-LA	2	3	3/4	2	2 7/8	6 5/8	3	5/8	1 1/8	#8	3/16	1 5/8	3
L2-4-1-M-LA	L2-4-1-S-LA	2	4	1	2	2 7/8	7 7/8	4	5/8	1 1/8	#8	3/16	1 3/8	3 5/8
L2-6-2-M-LA	L2-6-2-S-LA	2	6	2	2	2 7/8	10 7/8	6	5/8	1 1/8	#8	3/16	1 5/8	4 3/4
L3-4-1-M-LA	L3-4-1-S-LA	3	4	1	3	4	7 7/8	4	3/4	2	#10	1/4	2 1/2	6
L3-5-1-M-LA	L3-5-1-S-LA	3	5	1	3	4	8 7/8	5	3/4	2	#10	1/4	2 1/2	7 3/4
L3-6-2-M-LA	L3-6-2-S-LA	3	6	2	3	4	10 7/8	6	3/4	2	#10	1/4	2 1/2	8 1/2
L4-6-1-M-LA	L4-6-1-S-LA	4	6	1	4	5 1/2	11 7/8	6	1	2 5/8	1/4	5/16	3 3/8	17 1/4
L4-8-2-M-LA	L4-8-2-S-LA	4	8	2	4	5 1/2	14 7/8	8	1	2 5/8	1/4	5/16	3 3/8	22
L4-12-3-M-LA	L4-12-3-S-LA	4	12	3	4	5 1/2	19 7/8	12	1	2 5/8	1/4	5/16	3 3/8	32
L6-8-2-M-LA	L6-8-2-S-LA	6	8	2	6	7 3/4	15 1/8	8	1 1/4	4 1/4	5/16	3/8	5 1/4	41
L6-12-4-M-LA	L6-12-4-S-LA	6	12	4	6	7 3/4	21 3/8	12	1 1/4	4 1/4	5/16	3/8	5 1/4	57
L6-16-4-M-LA	L6-16-4-S-LA	6	16	4	6	7 3/4	25 3/8	16	1 1/4	4 1/4	5/16	3/8	5 1/4	74

Gib lock handle available at additional cost (two on 16" long saddle).

†Dimensions are approximate.

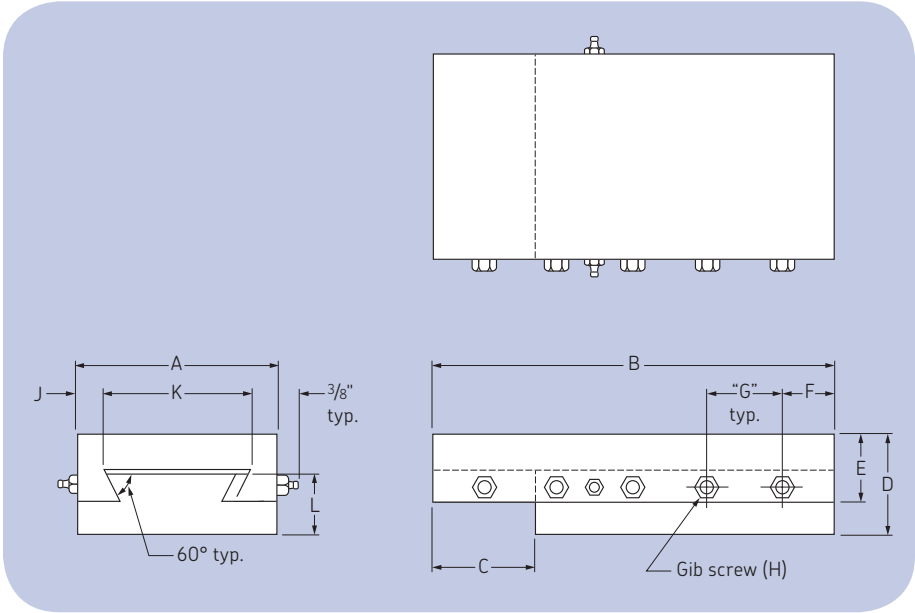
H section

High profile basic

High profile slide assemblies are useful for a broad range of applications where the nature of the work to be done requires a more rugged construction than the “L” section slide assemblies. Greater stability and capacity are accomplished by increasing the thickness of the saddle and base. The increased height of the saddle also allows greater flexibility for machining mounting requirements.

Basic slide assemblies consist of a saddle, base, gib and gib adjusting screws. They are designed for installations where the means of movement, mounting, and all other details are provided by the customer.

Way surfaces can be supplied either milled or scraped. For other basic slide assemblies, see pages 7 and 18.



Model number		Dimensions (inches)											Approx. weight (lbs)
Milled	Scraped	A	B	C	D	E	F	G	H	J	K	L	
H4-8-2-M	H4-8-2-S	4	8	2	1 3/4	1 1/8	1	2	4	3 1/64	3 1/32	1 1/8	13
H4-12-4-M	H4-12-4-S	4	12	4	1 3/4	1 1/8	1	2	6	3 1/64	3 1/32	1 1/8	19
H6-12-4-M	H6-12-4-S	6	12	4	2 1/4	1 1/2	1	2	6	3/4	4 1/2	1 3/8	44
H6-16-6-M	H6-16-6-S	6	16	6	2 1/4	1 1/2	1	2	8	3/4	4 1/2	1 3/8	58
H8-18-6-M	H8-18-6-S	8	18	6	3	2	1	2	9	1 3/32	5 13/16	1 5/8	95
H8-24-8-M	H8-24-8-S	8	24	8	3	2	1	2	12	1 3/32	5 13/16	1 5/8	122

Gib lock handle available at additional cost (two on 16", 18" and 24" long saddles).

H section

High profile lead screw

High profile lead screw slide assemblies are useful for many heavy service applications where accurate manual positioning or feeding is needed.

These slide assemblies feature a precision lead screw, needle thrust bearings, a graduated micrometer dial measuring in .001 inch of saddle travel, and a selection of drive ends.

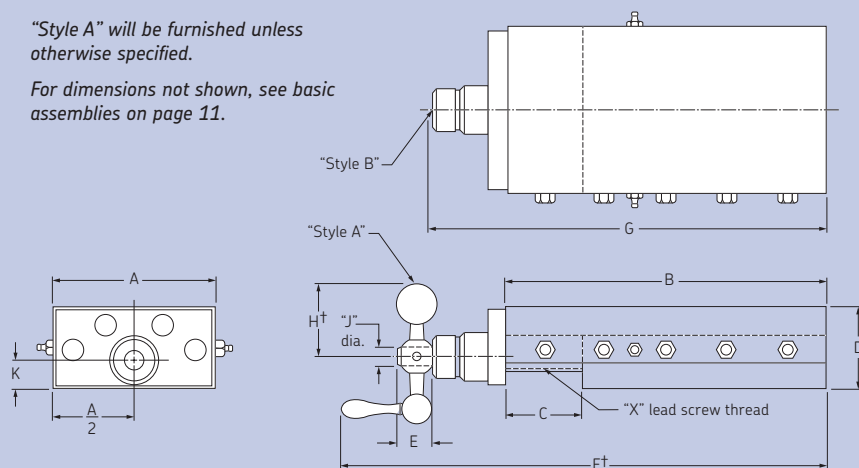
"Style A" has a balanced crank handle for ease and speed in advancing or retracting the saddle. "Style B" is ideal where space is limited and a knurled knob is sufficient for adjustment.

Way surfaces can be supplied either milled or scraped. For other lead screw slide assemblies, see pages 8, 13, 19 and 20.



"Style A" will be furnished unless otherwise specified.

For dimensions not shown, see basic assemblies on page 11.



Model number		Dimensions (inches)											Approx. weight (lbs)
Milled	Scraped	A	B	C	D	E	F†	G	H†	J	K	X	
H4-8-2-M-L	H4-8-2-S-L	4	8	2	1 3/4	3/4	12 7/8	9 5/8	1 3/4	.500	21/32	1/2-20 Vee or 1/2-10 Acme*	15
H4-12-4-M-L	H4-12-4-S-L	4	12	4	1 3/4	3/4	16 7/8	13 5/8	1 3/4	.500	21/32	1/2-20 Vee or 1/2-10 Acme*	21
H6-12-4-M-L	H6-12-4-S-L	6	12	4	2 1/4	13/16	17 1/8	13 15/16	2 1/4	.625	13/16	5/8-20 Vee or 5/8-10 Acme*	48
H6-16-6-M-L	H6-16-6-S-L	6	16	6	2 1/4	13/16	21 1/8	17 15/16	2 1/4	.625	13/16	5/8-20 Vee or 5/8-10 Acme*	62
H8-18-6-M-L	H8-18-6-S-L	8	18	6	3	1 1/32	24 1/8	20 7/8	2 5/8	.750	15/16	3/4-10 Acme	100
H8-24-8-M-L	H8-24-8-S-L	8	24	8	3	1 1/32	30 1/8	26 7/8	2 5/8	.750	15/16	3/4-10 Acme	128

*Acme thread lead screw available at additional cost.

5lb lock handle available at additional cost (two on 16", 18" and 24" long saddles).

†Dimensions are approximate.

ND section

NextDay self-compounding design

A complete dovetail kit: ready-to-go!

This heavy-duty slide is a precision ground dovetail slide featuring a low-profile, saddle/base design. The product line is engineered for a variety of user compoundable configurations. An angle bracket is available for a vertical mount application. Slide width, saddle length and saddle travel all have proportional relationships in this building block concept.

The complete application package

- Shipped within one business day of placing your order
- 100% computer designed. DXF and DWG files are available for download online at www.gilmanusa.com
- Pre-engineered base, saddle and angle plate
- Self-compounding structure
- Precision ground
- Cast iron base and saddle
- Low maintenance lubricating
- Product lifting holes for ND8 and ND10

"Zero reset dial" adjustable .001" micrometer dial and locking thumb screw to adjust the zero setting

Adjustable anti-backlash drive block and take-up nut

Saddle lock, adjustable gib lock handle

Steel gib adjustment screws

Alternate drive position

Heavy duty steel end plate with thrust bearing

Base mounting holes

Steel gib

Way wipers

Eight (8) mounting or compounding bolts

Product service and parts manual

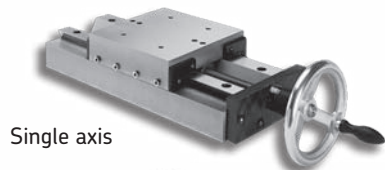
Slide way oil, gib wrench, take-up nut allen wrench

ND section

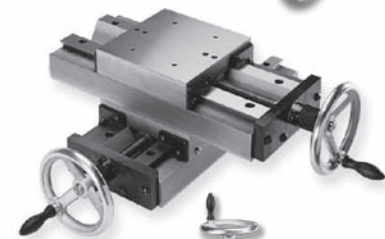
NextDay self-compounding design (ND)

A building-block approach

NextDay dovetail slides (ND) are easy to reconfigure. Assemble compound axes by using the holes provided on the base, saddle and angle bracket.



Single axis

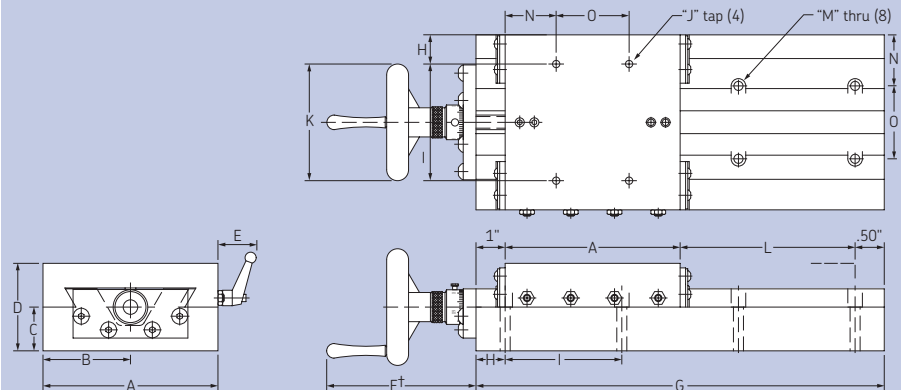


X-Z table



3-axis stack-up

ND6 slide shown. DXF and DWG files available on-line at www.gilmanusa.com for all models.



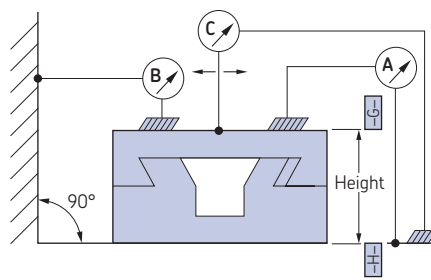
Model	Dimensions (inches)															Acme lead screw
	A	B	C	D	E	F†	G	H	I	J	K	L	M	N	O	
NDA4/ND4*	4	2	1.19	2.25	1.31	5.12	10	.5	3	¼-20	4	4.5	.28	1.25	1.5	½-10
NDA6/ND6	6	3	1.5	3	1.31	5.12	14	1	4	⅝-18	4	6.5	.34	1.75	2.5	½-10
NDA8/ND8	8	4	2	4	1.31	7.81	18	1.5	5	⅜-16	6	8.5	.41	2.12	3.75	¾-10
NDA10/ND10	10	5	2.53	5	1.69	7.81	22	2	6	½-13	6	10.5	.53	3	4	¾-10

*ND4 base has a square cavity.

†Dimensions are approximate.

NextDay dovetail slide tolerances**

Overall height = $\pm .010$ in
 Vertical tracking: (A) = .001 in/ft
 Horizontal tracking: (B) = .001 in/ft
 Parallelism: (C) = .001 in/ft
 Saddle to base = .001 in/ft



G .0005 in/ft H .0005 in/ft

**Gilman USA DC dovetail slide line offers higher accuracies and additional features.

ND section

Angle brackets (NDA)

Angle brackets for precision 90° mounting

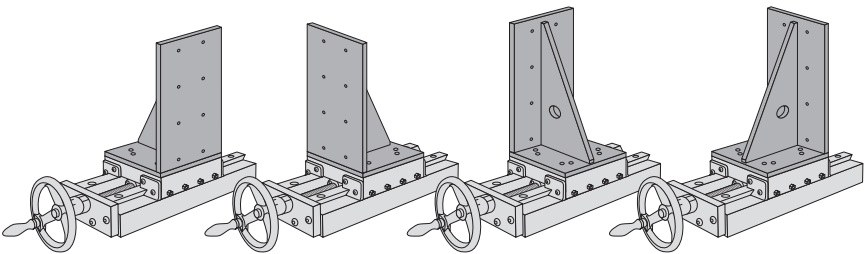
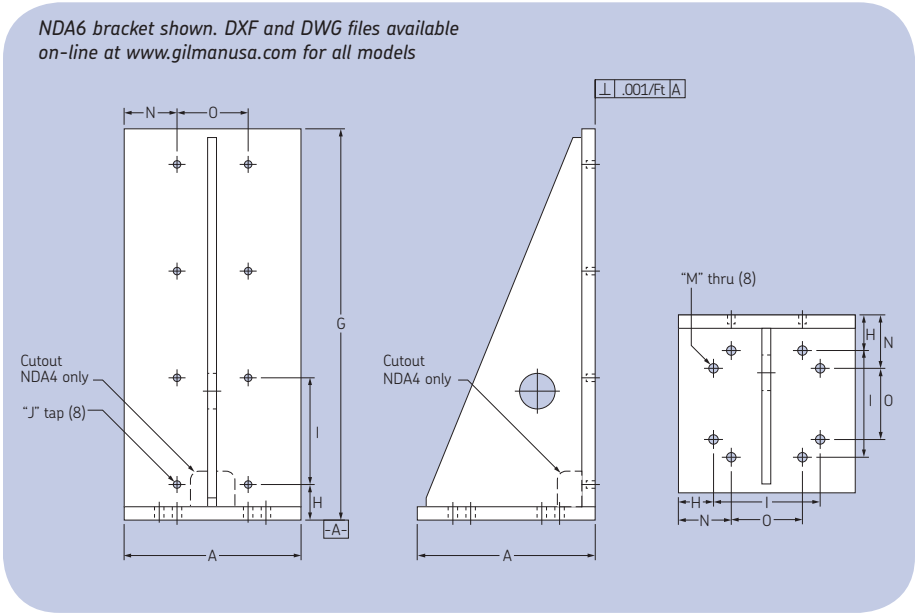
NextDay angle brackets (NDA) allow mounting of two Gilman USA NextDay (ND) slides, of the same size, at 90-degree angles to each other. The base of the angle bracket is the same size as the saddle of the NextDay (ND) slide. The base of the angle bracket has eight mounting holes so the bracket can align with any of the four sides of the saddle. The mounting face of the angle bracket is the same size as the base of the respective NextDay slide size and has drilled and tapped holes that correspond to the slide base mounting holes.



Gilman USA angle brackets for NextDay (ND) slides are painted or black-oxide coated for corrosion resistance.

Model	Weight (lbs)
ND4	17
NDA	48
ND	646
NDA	626
ND8	111
NDA8	58
ND10	213
NDA10	90

Note: The NDA8 and NDA10 angle brackets are not stocked and will be made to order.



90°, 180°, 270° or 360°
— It's your choice.

CP section

Cylinder-powered: air or hydraulic, plate mounted

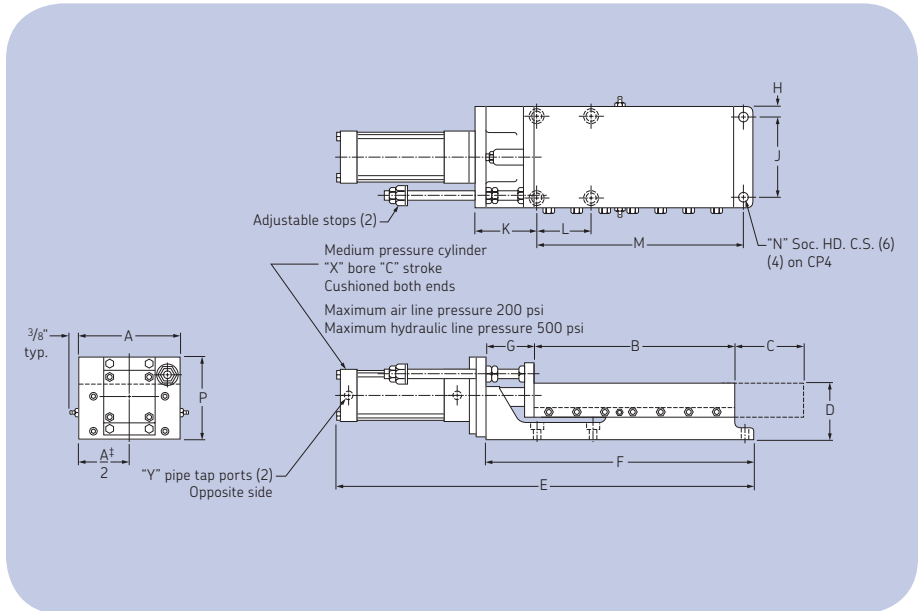
Gilman USA cylinder powered (CP) slide assemblies are designed to provide efficient positioning and feeding of either the piece part or the machining head, in addition to a variety of other uses.

The cylinder is mounted in-line with the saddle to a base casting to minimize height requirements. Adjustable stops are provided to regulate the length of travel. Either an air or a hydraulic cylinder is available. Cylinders are of standard square-head, medium pressure type.

It is recommended that where part or all the travel cycle requires a smooth, controlled feed, a hydraulic cylinder be used. If an air powered slide assembly with a controlled feed is desired, we recommend one of the models with a hydraulic check, such as shown on page 22.

Way surfaces are oil grooved and scraped to ensure adequate lubrication and precision operation.

For limit switches and lubrication system see page 24.



Model number	Dimensions (inches)																Approx. weight (lbs)
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	X	Y	
CP4-8-2-PM-*	4	8	2	2 1/8	18 11/16	11 5/8	2 3/4	1/2	3	2	—	9 1/4	3/8	4 7/32	2	3/8-18	31
CP4-12-4-PM-*	4	12	4	2 1/8	24 11/16	15 5/8	2 3/4	1/2	3	2	—	13 1/4	3/8	4 7/32	2	3/8-18	40
CP6-12-4-PM-*	6	12	4	2 3/4	25 1/16	15 7/8	2 3/4	5/8	4 3/4	2 3/4	3	12 5/8	3/8	4 23/32	2 1/2	3/8-18	75
CP6-16-6-PM-*	6	16	6	2 3/4	31 1/16	19 7/8	2 3/4	5/8	4 3/4	2 7/8	5	16 1/2	3/8	4 23/32	2 1/2	3/8-18	90
CP8-18-6-PM-*	8	18	6	3 1/2	35 3/4	23 5/8	4 3/8	3/4	6 1/2	4	5 3/8	19	1/2	5 19/32	3 1/4	1/2-14	175
CP8-24-8-PM-*	8	24	8	3 1/2	43 3/4	29 5/8	4 3/8	3/4	6 1/2	4	7	25	1/2	5 19/32	3 1/4	1/2-14	217

*Add "AC" for air cylinder or "HC" for hydraulic cylinder.
 ‡CP4 A/2 = 2.

DC section

Dovetail slide ordering information

Building the slide model number

Gilman USA dovetail slides are defined by using simple model numbers to classify the standard features desired. The "DC" slides offer a series of pre-engineered choices that have been application tested.

1. Select the section and width. This is the width (in inches) of the slide saddle. Refer to the data charts for specific dimensions.
2. Select saddle length. This is the length (in inches) of the slide saddle. Refer to the data charts for specific dimensions.
3. Select the base length. This is the length (in inches) of the slide base. Refer to the data charts for specific dimensions.
4. Determine the way surface. Slide surfaces can be either milled or scraped. Indicate the surface type you prefer with either an "M" or "S" designation.
5. Choose a slide drive type. Select from 19 slide drive types to fit a variety of applications.
6. Select the travel. Specify the distance (in inches) that the saddle will travel. Refer to the data charts for specific dimensions.
7. Select accessories. Include accessories added to the slide. See page 24 for available accessories.

Model number code

DC section & model width										Description	Code
DC2	DC3	DC4	DC6	DC8	DC10	DC12	DC16	DC20			
										Saddle length	
●	●	●	●	●	●	●	●	●	●	See pages 18-23 for min. and max. lengths	‡
										Base length	
●	●	●	●	●	●	●	●	●	●	See pages 18-23 for min. and max. lengths	‡
										Way surface*	
●	●	●	●	●	●	●	●	●	●	Milled	M
●	●	●	●	●	●	●	●	●	●	Scraped	S
										Slide drive type	
		●	●	●	●	●	●	●	●	Acme screw in-line handwheel	A1
		●	●	●	●	●	●	●	●	Acme screw in-line keyed shaft	B1
		●	●	●	●	●	●	●	●	Acme screw in-line hex. shaft	C1
		●	●	●	●	●	●	●	●	Acme screw right angle handwheel	E1
		●	●	●	●	●	●	●	●	Acme screw right angle keyed shaft	F1
		●	●	●	●	●	●	●	●	Acme screw right angle hex. shaft	G1
		●	●	●	●	●	●	●	●	Ball screw - keyed shaft	D1
			●	●	●	●	●	●	●	Ground screw (inch) - keyed shaft	D2
			●	●	●	●	●	●	●	Ground screw (metric) - keyed shaft	D3
		●	●	●	●	●	●	●	●	Ball screw - motor mount	M1
			●	●	●	●	●	●	●	Ground screw (inch) - motor mount	M2
			●	●	●	●	●	●	●	Ground screw (metric) - motor mount	M3
		●	●	●	●	●	●	●	●	Hydraulic cylinder	H1
		●	●	●	●	●	●	●	●	Hydraulic cylinder stop rod	H2
		●	●	●	●	●	●	●	●	Hydraulic cylinder two position	H3
		●	●	●	●	●	●	●	●	Air cylinder	P1
		●	●	●	●	●	●	●	●	Air cylinder stop rod	P2
		●	●	●	●	●	●	●	●	Air cylinder two position	P3
		●	●	●	●	●	●	●	●	Air cylinder hydraulic check stop rod	P4
										Travel	
●	●	●	●	●	●	●	●	●	●	See pages 18-23 for min. and max. lengths	‡

‡ Specify saddle length, base length and travel in inches.

* Specify scraped way surface for all ball screw and cylinder powered slides.

Specify maximum traverse rate for ball screw slides. Saddle in (ipm) or ball screw (rpm).

DC8-12-22-S-H2-7 With way wipers

Accessories must be specified when ordering. Be sure to include any additional information required when ordering accessories. See page 24 for accessories.

DC section

Dovetail slide basic

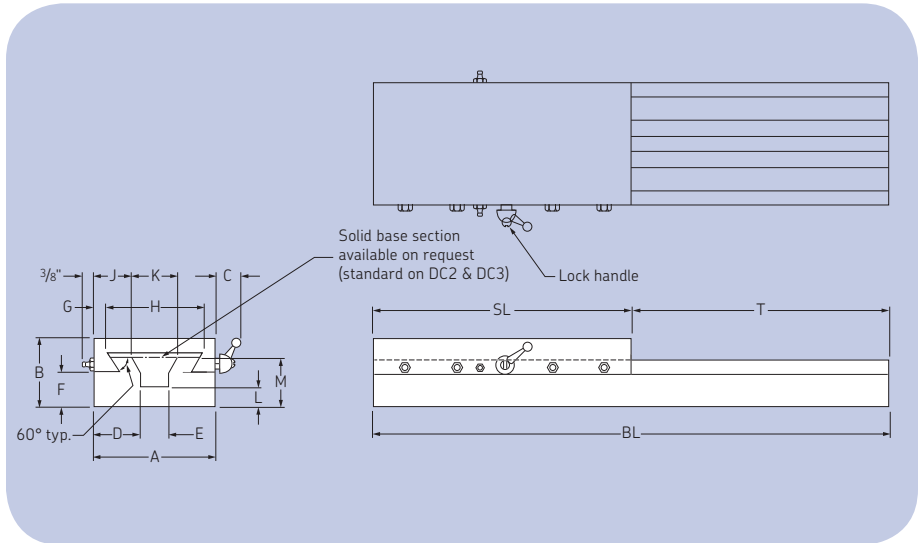
“DC” slide assemblies are versatile because of their availability in one-inch increments of saddle and base length. This means the designer can use a slide to meet his specific length requirements, often resulting in a savings of cost and space.

Basic slide assemblies (except DC2 and DC3) are manufactured with a longitudinal cavity in the base, permitting a more compact design when mounting the saddle drive. The cavity also reduces the weight of the assembly. In some applications, a base without the cavity may be advantageous because of the nature of the forces applied or certain mounting requirements. This is available at additional cost by specifying “with solid base section.”

Gib lock handles provide an easy way to lock the saddle in a desired position. For convenience on the DC4 through DC20 sizes, the lock handles may be adjusted to lock in different angular positions.

Way surfaces can be supplied either milled or scraped. For other types of basic slide assemblies, see pages 7 and 11.

For available accessories see page 24.



Model	1-inch increments				Dimensions (inches)														Approx. weight (lbs) per inch length	
	SL		BL																	
	Min.	Max.	Min.	Max.	A	B	C	D	E	F	G	H	J	K	L	M	SL	BL		
DC2	2	12	3	36	2	1 3⁄8	3⁄8	—	—	5⁄8	5⁄16	1 3⁄8	—	—	—	1 1⁄64	3⁄8	1⁄2		
DC3	3	18	4	48	3	1 5⁄8	3⁄8	—	—	3⁄4	13⁄32	2 3⁄16	—	—	—	1 9⁄64	1⁄2	7⁄8		
DC4	4	36	5	60	4	2 1⁄4	1 5⁄16	1 15⁄32	1 1⁄16	1 1⁄8	31⁄64	3 1⁄32	1 15⁄64	1 17⁄32	5⁄8	1 5⁄8	7⁄8	1 1⁄4		
DC6	6	36	7	96	6	3	1 5⁄16	2	2	1 1⁄2	3⁄4	4 1⁄2	1 41⁄64	2 23⁄32	5⁄8	2 1⁄8	1 3⁄4	2 1⁄4		
DC8	8	36	9	96	8	4	1 5⁄16	2 7⁄8	2 1⁄4	2	1 3⁄32	5 13⁄16	2 13⁄32	3 3⁄16	13⁄16	2 5⁄8	3 3⁄8	3 7⁄8		
DC10	10	36	11	96	10	5	1 11⁄16	3 7⁄8	2 1⁄4	2 1⁄2	1 13⁄32	7 3⁄16	3 9⁄64	3 23⁄32	1 3⁄8	3 1⁄2	4 7⁄8	6 5⁄8		
DC12	12	36	13	96	12	6	1 11⁄16	4 3⁄8	3 1⁄4	3	1 45⁄64	8 19⁄32	3 45⁄64	4 19⁄32	1 3⁄8	4	7 3⁄8	9		
DC16	16	36	17	96	16	7 1⁄2	2 3⁄8	6 3⁄8	3 3⁄4	3 3⁄4	2 27⁄32	11 1⁄16	5 3⁄8	5 3⁄4	2 1⁄4	5 1⁄4	11 7⁄8	16		
DC20	20	36	21	96	20	9	2 3⁄8	7 3⁄4	4 1⁄2	4 3⁄4	3 19⁄32	13 9⁄16	6 5⁄16	7 3⁄8	2 3⁄8	6 1⁄4	17 3⁄8	24		

DC section

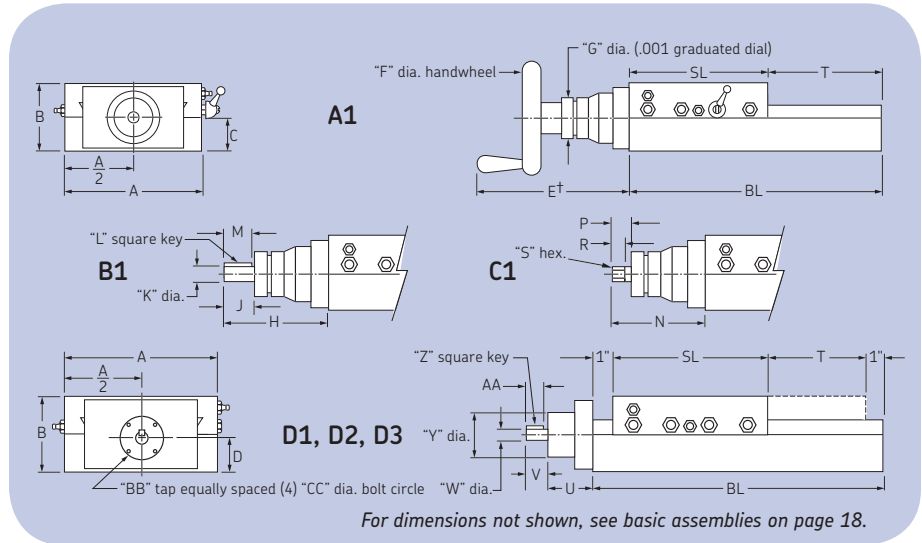
Dovetail slide lead screw

Lead-screw-powered slides are available in twelve different drive configurations.

All acme screw models are used primarily for hand positioning and can be furnished with either an in-line drive as shown below or a 2:1 reduction, right-angle drive, which can be positioned eight ways as shown on page 20. Please specify position number when ordering. All acme screw models are furnished with gib lock handles, a micrometer dial, a needle bearing thrust assembly, an acme screw (X) and a bronze nut.

On slides powered with ball screw drive assemblies, way surfaces are oil grooved and scraped to ensure adequate lubrication and precision operation.

The A1 and E1 drives incorporate a balanced hand wheel. The B1 and F1 drives have a keyed shaft extension to which various types of mechanical drives can be attached (consult factory for applications other than manual). The C1 and G1 drives have a hexagon end for wrench adjustment and are used when space is limited and adjustments are infrequent.



For dimensions not shown, see basic assemblies on page 18.



Model	D1, M1			D2, M2			D3, M3		
	Thrust capacity (lbs)	Dia. (inches)	Lead (in/rev)	Thrust capacity (lbs)	Dia. (inches)	Lead (in/rev)	Thrust capacity (lbs)	Dia. (mm)	Lead (mm/rev)
DC4	300	3/8	.125	*	*	*	*	*	*
DC6	740	5/8	.200	*	*	*	*	*	*
DC8	950	3/4	.200	1400	3/4	.200	1400	20	5
DC10	2820	1	.250	2100	1	.250	2100	25	5
DC12	3110	1 1/2	.250	2750	1 1/4	.250	2750	32	5
DC16	3110	1 1/2	.250	3200	1 1/2	.250	3200	40	5
DC20	12470	2	.500	8200	2	.500	8200	50	10

*Consult factory.

Model	(T) Travel			Dimensions (inches)																						
	Min.	Max.																								
		A1 B1 C1	E1 F1 G1	D1 D2 D3	M1 M2 M3	A	B	C	D	E†	F	G	H	J	K	L	M	N	P	R	S	U	V	W	Y	Z
DC4	1	48	17		4	2 ¼	1 ⅜	1 ⅜	6 ½	4	1 ⅝	4	1 ⅜	½	⅛	1	3 ⅝	⅔	½	⅞	2	1	⅜	2	⅜	⅔
DC6	1	60	35		6	3	1 ½	1 ⅜	6 ¾	5	1 ⅝	4 ⅛	1 ⅜	½	⅛	1	3 ¾	⅔	½	⅞	2 ⅛	1	⅜	2	⅜	⅔
DC8	1	72	35		8	4	1 ⅔	1 ¾	8 ⅞	6	2 ¼	5 ⅛	1 ⅜	¾	⅜	1	4 ¾	⅔	⅜	⅞	2 ¾	1 ¼	½	2 ⅞	1	⅜
DC10	1	86	46		10	5	2 ⅕	2 ½	9 ⅛	7	2 ¼	5 ⅛	1 ⅜	¾	⅜	1	4 ¾	⅔	⅜	⅞	2 ¾	1 ½	⅝	2 ⅞	1	⅜
DC12	1	84	60		12	6	2 ⅜	2 ¾	11 ¼	9	3	7 ⅛	2 ⅕	1 ⅛	¼	1 ¾	6 ¼	1 ⅕	1	⅞	3 ⅜	1 ¾	⅞	3 ⅜	1	⅜
DC16	1	80	60		16	7 ½	4 ⅛	3 ⅜	12 ⅜	12	3	7 ⅛	2 ⅕	1 ⅛	¼	1 ¾	6 ¼	1 ⅕	1	⅞	3 ⅜	1 ¾	⅞	3 ⅜	1	⅜
DC20	1	76	74		20	9	4 ¾	4 ⅜	14 ½	16	4	9 ⅛	2 ⅞	1 ⅝	⅜	2 ¼	7 ¾	1 ½	1 ⅛	1 ¼	3 ¾	2 ¾	1 ⅜	5 ⅜	1	⅜

†Dimensions are approximate.

DC section

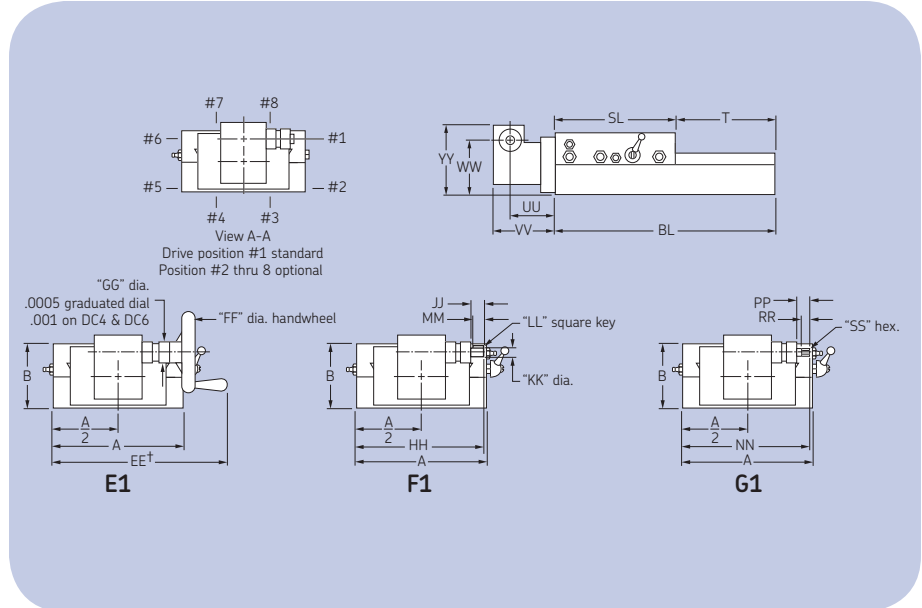
Dovetail slide lead screw

The ball screw drives are used for powered applications where the purchaser provides and mounts the driving source. Each slide has a thrust assembly, which uses a pair of preloaded ball bearings. D1 and M1 feature rolled ball screws with nonpreloaded ball nuts. D2 and M2 inch or D3 and M3 metric feature precision ground ball screws with preloaded ball nuts. Preselected ball nuts with .005 maximum backlash are available on request for the D1 and M1 drive assemblies. It is highly recommended that all ball screws are protected from contaminants (chips and dirt) or accidental damage from tools or work pieces.

Total lost motion of slide drive assembly includes backlash in ball nut, plus backlash in thrust assembly, plus deflection in the system (due to load). Consult factory in applications where positioning is critical.

For available accessories, see page 24.

Please specify maximum traverse rate when ordering. Saddle in (ipm) or ball screw in (rpm).



Model	Thrust† capacity (lbs)	X	
		Dia. (inches)	Lead (in/rev)
DC4	655	1/2	.100
DC6	850	5/8	.100
DC8	1045	3/4	.100
DC10	1165	1	.100
DC12	1525	1 1/4	.100
DC16	2110	1 1/2	.100
DC20	2845	2	.200

† Based on 25 lb pull on handwheel (A1 drive).
.250 lead Acme screw and 5:1 reduction furnished on E1 drive.

Model	Dimensions (inches)																			Approx. weight (lbs)			
																				Per inch length			Drive assy.
	AA	BB	CC	EE†	FF	GG	HH	JJ	KK	LL	MM	NN	PP	RR	SS	UU	VV	WW	YY	SL	BL	T	
DC4	3/4	#10-24	1 5/8	7 1/8	3	1	5	7/8	3/8	3/32	3/4	4 5/8	1/2	3/8	5/16	2 5/32	2 7/8	2 5/16	3 1/16	7/8	1 1/4	1/16	5 1/4
DC6	3/4	#10-24	1 5/8	8 11/16	4	1	6	7/8	3/8	3/32	3/4	5 5/8	1/2	3/8	5/16	2 9/32	3	2 5/8	3 3/8	1 3/4	2 1/4	1/8	7 1/4
DC8	1	1/4-20	2 3/8	10 5/8	5	1 5/8	8 1/8	1 3/16	1/2	1/8	1	7 21/32	23/32	1/2	7/16	3 3/8	4 7/16	3 11/32	4 15/32	3 3/8	3 7/8	1/8	18 3/8
DC10	1 1/4	1/4-20	2 3/8	13 15/32	6	1 5/8	9 1/8	1 3/16	1/2	1/8	1	8 21/32	23/32	1/2	7/16	3 3/8	4 7/16	3 31/32	5 1/4	4 7/8	6 5/8	1/4	27
DC12	1 1/2	5/16-18	3 3/4	16 7/16	7	2 1/4	12 5/8	1 1/2	3/4	3/16	1 1/4	12 1/32	29/32	11/16	5/8	4 3/32	5 11/16	5 1/16	6 11/16	7 3/8	9	1/2	55
DC16	1 1/2	5/16-18	3 3/4	19 7/16	9	2 1/4	14 5/8	1 1/2	3/4	3/16	1 1/4	14 1/32	29/32	11/16	5/8	4 27/32	6 5/8	6 3/8	8	11 7/8	16	1/2	68
DC20	2 1/4	3/8-16	4 5/8	22 3/8	12	3	—	—	—	—	—	—	—	—	—	7 1/8	9 5/16	7 3/4	9 3/8	17 3/8	24	7/8	128

†Dimensions are approximate.

X – Acme lead screw L.H. thread

Maximum lead error .003 in/ft
Maximum nut backlash .005 inch
Standard on A1, B1, C1, E1, F1, and G1 drives

D1, M1 – Rolled ball lead screw R.H. thread

Maximum lead error .009 in/ft
Maximum nut backlash .010–.015 inch
Depending on screw size.

M1, M2, M3 – Motor mount and coupler

For customer-supplied motor, consult factory for dimensions.

D2, M2 – Ground inch ball lead screw R.H. thread

Maximum lead error .0005 in/ft
Zero nut backlash.

D3, M3 – Ground metric ball lead screw R.H. thread

Maximum lead error .0005 in/ft (.04mm/M)
Zero nut backlash.

DC section

Dovetail slide hydraulic cylinder stop rod (H2)

These slides are ideally suited where the smoothness and power of a hydraulic cylinder are required. The proper size slide is readily available because of the flexibility in the saddle, base and travel lengths, which are in one-inch increments.

The hydraulic cylinder is cushioned on both ends for a smooth, gentle stop. Cylinders are of the standard, square-head, medium pressure type.

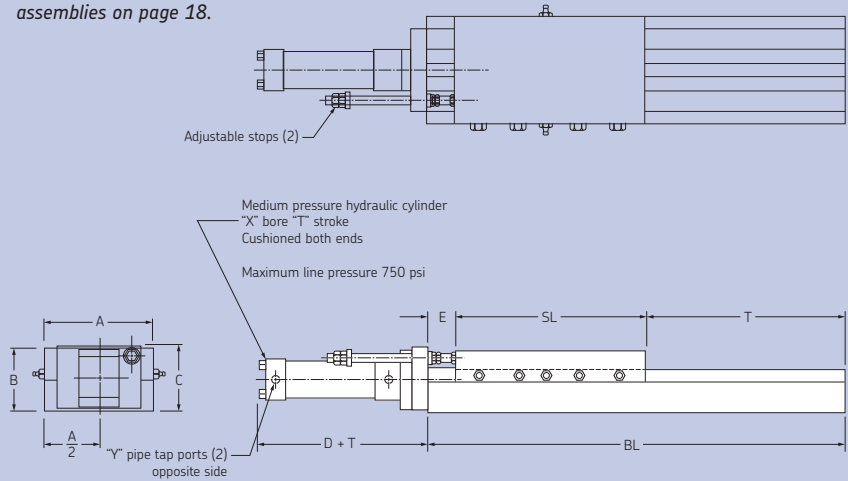
Adjustable stops are provided to regulate the length of travel and may be changed easily to accommodate different travel requirements.

Way surfaces are oil grooved and scraped to ensure adequate lubrication and precision operation.

For available accessories see page 24.



For dimensions not shown, see basic assemblies on page 18.



Model	1-inch increments		Dimensions (inches)								Approx. weight (lbs)		
	Travel (T)										Per inch length		
	Min.	Max.	A	B	C	D	E	X	Y	SL	BL	T	Cyl. assy.
DC4	2	20	4	2 1/4	2 5/16	4 11/16	2	1	1/4-18	7/8	1 1/4	1/4	4 3/4
DC6	2	24	6	3	3 15/32	5	2	1 1/2	3/8-18	1 3/4	2 1/4	3/8	9
DC8	2	26	8	4	4 5/32	5 7/16	2	2	3/8-18	3 3/8	3 3/8	5/8	14 1/8
DC10	2	28	10	5	4 15/16	5 9/16	2	2 1/2	3/8-18	4 7/8	6 5/8	3/4	24
DC12	2	30	12	6	5 5/8	6 5/8	2	3 1/4	1/2-14	7 3/8	9	7/8	41
DC16	2	32	16	7 1/2	7 3/8	6 5/8	3	4	1/2-14	11 7/8	16	1 1/4	74
DC20	2	34	20	9	8 3/16	7 3/16	3	5	1/2-14	17 3/8	24	1 7/8	109

DC section

Dovetail slide air cylinder stop rod (P2), and air cylinder hydraulic check stop rod (P4)

Advantages of an air-powered unit are combined in these assemblies with the flexibility of the saddle, base and travel lengths being available in one-inch increments.

The air cylinder is mounted in-line with the rest of the slide assembly to give a compact overall height. Adjustable stops are provided to regulate the length of travel.

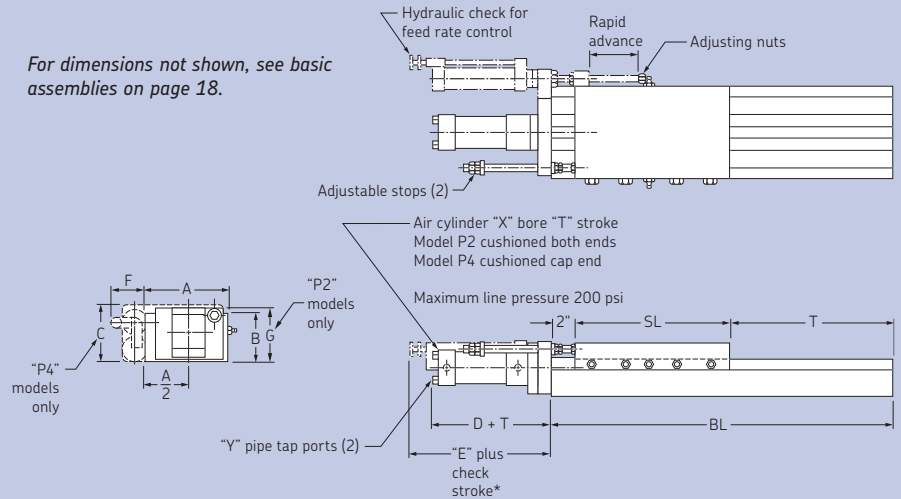
There is a choice of models, one having a hydraulic check "P4" and one without "P2". If any part of the saddle travel is to have a smooth, controlled rate of feed, a hydraulic check is recommended. Needle valve adjustment permits easy feed rate control. The approximate available feed rate at 80 psi air line pressure is 4 to 300 ipm. Hydraulic checks to meet other requirements are available upon request.

Way surfaces are oil grooved and scraped to ensure adequate lubrication and precision operation.

For available accessories see page 24.



For dimensions not shown, see basic assemblies on page 18.



Model	1-inch increments		Dimensions (inches)										Approx. weight (lbs)			
	Travel (T)												Per inch length			Cyl. assy.
	Min.	Max.	A	B	C	D	E	F	G	X	Y	SL	BL	T		
DC4	2	18	4	2 1/4	3 1/4	4 7/8	7 1/8	3	2 3/8	1 1/2	3/8-18	7/8	1 1/4	1/2	9 5/8	
DC6	2	18	6	3	4 13/16	5 1/16	8 7/8	4 1/4	3	2	3/8-18	1 3/4	2 1/4	3/4	16 1/4	
DC8	2	18	8	4	5 13/16	5 7/16	9	4 1/4	3 15/16	2 1/2	3/8-18	3 3/8	3 7/8	1	28	
DC10	2	18	10	5	4 15/16	6 1/4	9	3 7/16	4 15/16	3 1/4	1/2-14	4 7/8	6 5/8	1 3/4	47	
DC12	2	18	12	6	5 7/16	6 1/2	9	3 7/16	5 7/16	4	1/2-14	7 3/8	9	1 3/4	52	
DC16	2	18	16	7 1/2	6 7/8	6 13/16	9	3 7/16	7 1/8	5	1/2-14	11 7/8	16	1 3/4	62	

*Hydraulic check strokes available in 2, 4, 6, 9, 12, 15 & 18 inches. Check supplied with stroke equal or greater than travel.

DC section

Dovetail slide air and
hydraulic cylinder (P1, H1)
air and hydraulic cylinder
two position (P3, H3)

These slide assemblies are available with adjustable stops for accurate, two-position applications or less the stops where positioning is not critical. A broad range of two-position requirements can be met because the saddle, base and travel are available in one-inch increments.

There is a choice of either an air or a hydraulic cylinder mounted to the assembly. The cylinder is cushioned on both ends and is of the square-head, medium pressure type. When part or all of the travel is to be a controlled feed, a hydraulic cylinder is recommended.

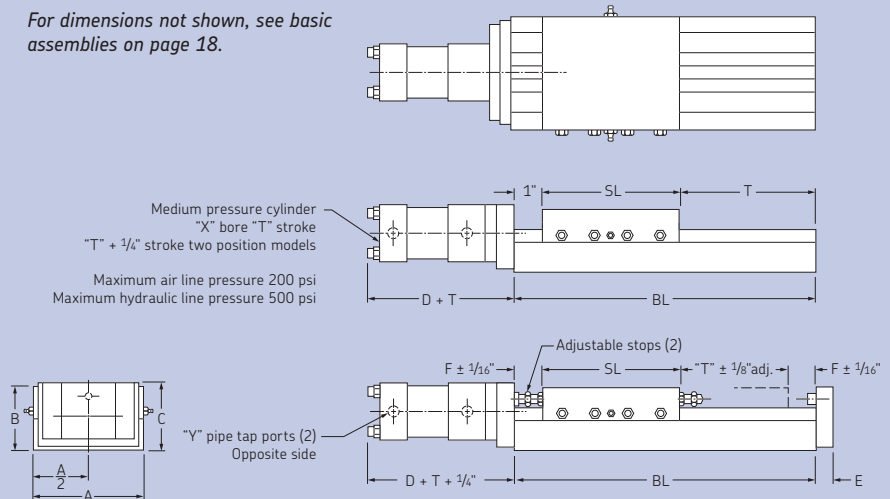
Accurate reliable stopping is accomplished by a hardened adjustable stop screw, which is located on the slide centerline in each end of the saddle. This stop screw comes against a hardened rest button in the end plate. For ease in set-up, each stop screw is adjustable in either direction by 1/16 of an inch.

Way surfaces are oil grooved and scraped to ensure adequate lubrication and precision operation.

For available accessories (way covers not available on P3 and H3) see page 24.



For dimensions not shown, see basic assemblies on page 18.



Model	1-inch increments		Dimensions (inches)								Approx. weight (lbs)			
	Travel (T)										Per inch length			Cyl. assy.
	Min.	Max.	A	B	C	D	E	F	X	Y	SL	BL	T	
DC4	2	24	4	2 1/4	2 3/8	5	5/8	1	1 1/2	3/8-18	7/8	1 1/4	3/8	7 3/4
DC6	2	26	6	3	2 15/16	5 3/16	3/4	1	2	3/8-18	1 3/4	2 1/4	1/2	12 1/2
DC8	2	28	8	4	3 15/16	5 9/16	1	1	2 1/2	3/8-18	3 3/8	3 7/8	5/8	23
DC10	2	30	10	5	4 15/16	6 3/8	1	1	3 3/4	1/2-14	4 7/8	6 5/8	3/4	40
DC12	2	32	12	6	5 5/16	6 5/8	1 1/4	1 1/2	4	1/2-14	7 3/8	9	1	63
DC16	2	34	16	7 1/2	7 1/8	6 15/16	1 1/4	1 1/2	5	1/2-14	11 7/8	16	1 1/2	100
DC20	2	36	20	9	8 1/4	7 13/16	1 1/2	1 1/2	6	3/4-14	11 3/8	24	1 7/8	164

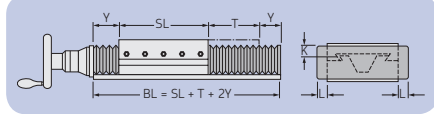
DC accessories

Dovetail slide

Mounting holes: Two types of mounting holes are offered on DC model slides: Style #1 or Style #2, as shown in Figure 1. Both hole styles have the advantage of not interfering with the mating way surfaces. Please specify longitudinal location when ordering.

Accordion way covers: Covers are recommended in applications (when way wipers are not adequate) where there are fine chips, dust or other foreign materials. These covers are not available on models DC2, DC3, two position models or on the cylinder end of stop rod models.

Low friction way bearing material:



Model	Dimensions (inches)			
	K	L	T (Max.)	Y*
DC4	1 ^{5/16}	1	20	.100T + .47
DC6	1 ^{5/16}	1	25	.100T + .47
DC8	1 ^{7/16}	1 ^{1/8}	30	.080T + .47
DC10	1 ^{3/8}	1 ^{5/16}	35	.067T + .47
DC12	1 ^{5/16}	1 ^{7/16}	40	.056T + .52
DC16	1 ^{7/16}	1 ^{9/16}	45	.050T + .47
DC20	1 ^{9/16}	1 ^{11/16}	50	.045T + .47

*Round up to 1/2" increment, "Y" minimum = 1".

Bearing material is bonded to the mating surfaces of the saddle and gib. This material reduces the friction by approximately two-thirds (with lubrication) and provides smooth way motion with reduced stick-slip due to similar values for static and dynamic friction. It is recommended for high cycle applications where the fit between the saddle and base require little or no clearance, reduced friction is required for accuracy or where lubrication is prohibitive. *Not available on DC2 and DC3 slides.*

Way wipers: The wipers on both ends of the saddle provide protection to way surfaces from chips, dirt and other contaminants. Way wipers should remain engaged with the slide base. To insure this engagement, base lengths should increase as follows:

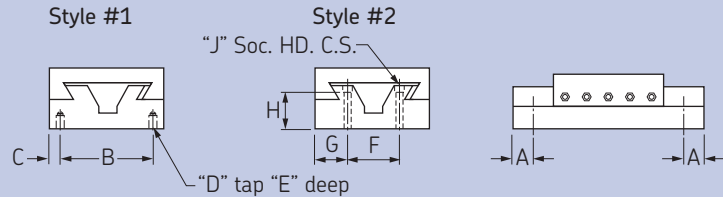
DC2 through DC8 models add 1 inch to the base length.

DC10 through DC20 models add 2 inches to the base length.

Limit switch stop rod: A heavy-duty,



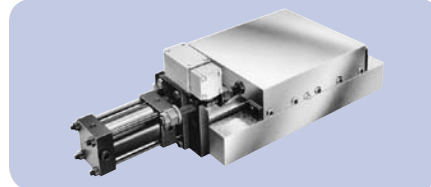
Figure 1



Model	Dimensions (inches)								
	A (Min.)	B	C	D	E	F	G	H	J
DC2	1/4	1 1/2	1/4	#10-24	3/8	—	1	3/4	#10
DC3	1/4	2 1/2	1/4	#10-24	3/8	1	1	1 5/16	#10
DC4	7/8	3	1/2	1/4-20	1/2	1 1/2	1 1/4	7/8	1/4
DC6	1	4 1/2	3/4	5/16-18	5/8	2 1/2	1 3/4	1 1/2	5/16
DC8	1 1/4	6 1/4	7/8	3/8-16	3/4	3 3/4	2 1/8	2 3/16	3/8
DC10	1 3/8	7 3/4	1 1/8	1/2-13	1	4	3	2 1/2	1/2
DC12	1 3/8	9 1/2	1 1/4	5/8-11	1 1/4	5 1/4	3 3/8	3	5/8
DC16	1 3/4	13 1/4	1 3/8	5/8-11	1 1/4	7 1/4	4 3/8	4 9/16	5/8
DC20	2	17	1 1/2	3/4-10	1 3/8	9 1/2	5 1/4	5 3/8	3/4

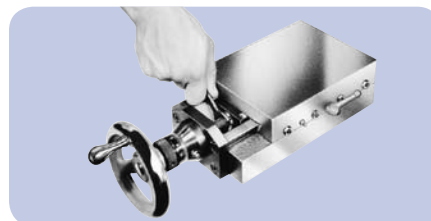
oil-tight plug-in neutral position switch is available on all stop rod and "CP" model slides. This switch will give a signal at each end of the travel and does not require resetting when the travel limits are adjusted.

Limit switch side mount: The heavy-duty, oil-tight plug-in limit switches are available on all DC6 thru DC20 models that do not



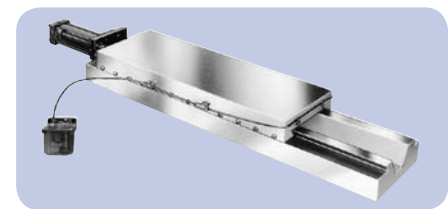
require way covers. Five types of switch arrangements are most commonly used: SA1 – neutral position switch for signal at each end of travel; SA2 – two switches for signal at each end of travel; SA3 – switch arrangement SA1 with feed switch; SA4 – switch arrangement SA2 with feed switch; SA5 – switch arrangement SA2 with home switch. Please specify switch arrangement number and length of feed stroke when ordering.

Acme screw take-up nut: By means of a simple adjustment, the backlash in the acme screw nut assembly can be appreciably



reduced. This adjustment can also be used to compensate for eventual wear in the lead screw nut. This accessory is available on all acme lead screw models except DC4. When ordering this accessory, 1" should be added to the base length.

Lubrication system – manual or automatic: Either system provides a convenient method of supplying a metered



quantity of oil to the slide assembly with the inherent advantages of safety, cleanliness and savings both in time and lubricant. The manual system uses a pull handle pump lubricator, while the automatic system uses an electric gear motor pump lubricator with a built in time control that can be set to provide lubrication at proper time intervals. Either lubrication system can be supplied with nylon tubing or steel tubing. Please specify nylon tubing or steel tubing when ordering. The lubricator will be supplied unmounted with six feet of nylon tubing.

Special assemblies

Dovetail slide modules

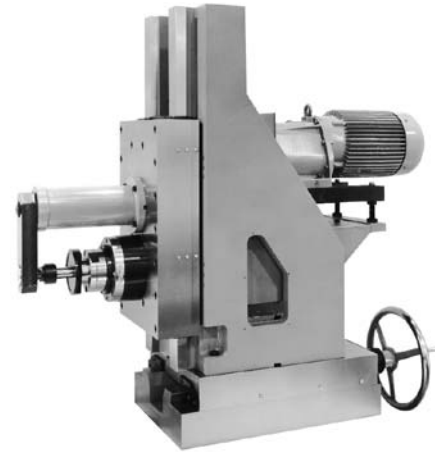
Special applications may require a special module to fit your unique requirements. Engineers at Gilman USA have years of experience fitting modules to the most challenging applications. Pictured below are just a few of the many special modules assembled for Gilman USA customers around the world. For information on these or other special applications, please contact Gilman USA sales engineering for personalized assistance.



DC12/DC10/4000 manual positioned motorized spindle and slide assembly for on-site machining applications.



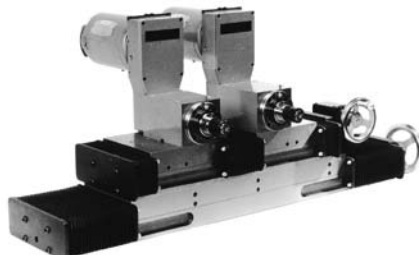
DC20/GMS special compound assembly. Spindle is a 5 H.P. integral motorized assembly with a special arbor and outboard bearing support. Slide is a DC20 with a LRA drive and digital scales. The assembly is used to machine wing sections for the commercial airline industry.



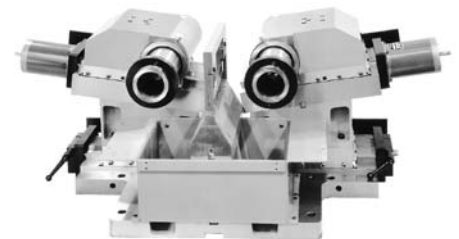
6500 gear driven motorized vertical travel assembly with #50 NMTB overarm support assembly. DC16 manual adjusted slide for tool position. Application: production of automotive parts.



Three-axis dovetail slide and extended 6500 vertical spindle assembly. Two axis manual positioning with hydraulic powered axis motion. Application: machining a horizontal cavity in steel castings.



Dual 3500 motorized spindle assembly mounted to DC10 manual lead screw adjusted slides. This assembly allows for variable spindle centerline distance and location of dual assemblies for machining.



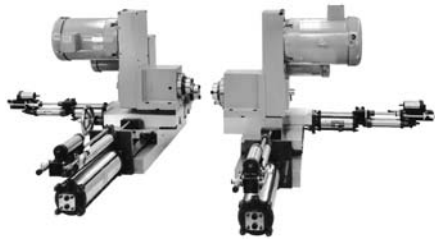
Dual special grinding spindles mounted to DC10 servo driven slides. Assembly provided with lower manual adjustment. Designed for versatility in angular position.

Special assemblies

Dovetail slide modules



X/Y DC6 assembly with angle bracket for manual adjustment in two axes.



A pair of DC8/2750 dual motorized spindle and slide assemblies powered with air cylinders and double acting hydro-check for feed capability in both directions. Application: milling aluminum extrusions. One head to machine the end while the other machines the circumferences.



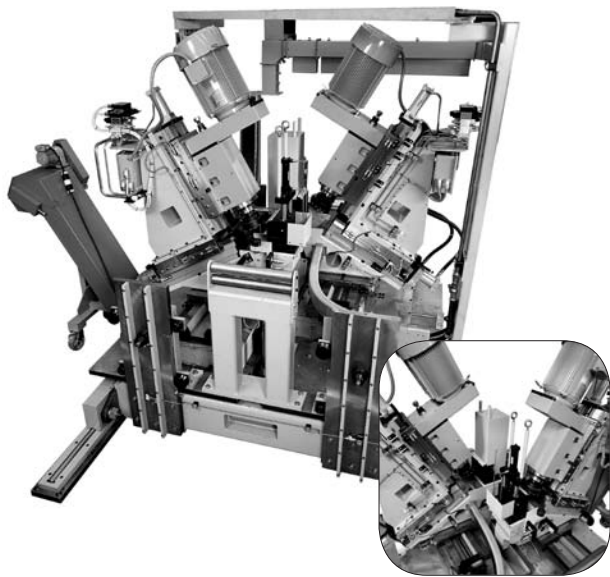
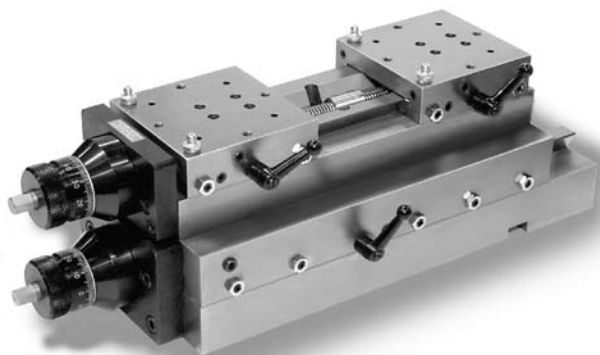
DC10/DC8/4000 special motor driven compound milling module with ball screw drive, cavity cover and manual adjustment for spindle position. Application: aerospace industry.

Idea bulletins

To equip the world with Gilman USA knowledge

The following pages contain applications that companies have used to solve manufacturing challenges. Gilman USA rises to the occasion every time, to provide technical consultation and expertise. Whatever the requirements, Gilman USA can meet industry needs while working to the highest standards worldwide. Don't believe it? Visit the Grafton, WI plant and see firsthand, the facility where Gilman USA precision slides are born.

- Number 2013:
Custom in-line compound slide for cable sheath forming machines. 28
- Number 2014:
Programmable, adjustable, opposing milling modules 29



Custom in-line compound slide for cable sheath forming machine

Higher accuracies allow use of thinner material and improve output 60%

Application

A manufacturer of cell tower cables needed to improve the accuracy and capability of its machinery in order to allow the use of thinner material and to lower the cost of production.

Challenge

Inconsistencies in the cable shielding allowed moisture and static to enter and cause interference. The manufacturer needed a more repeatable forming process to ensure that the welding of the shielding remained constant. To increase output, the manufacturer wanted to use thinner material for the shielding layer and increase the speed of the forming process. Planning ahead, they also asked for a machine that would be accurate enough to manufacture fiber optic cable in the near future.

Solution

The customer had previously built its own machine slides but looked for outside engineering to help with this new project. A custom machine tool builder specializing in roll-forming automation equipment was chosen to quote the project because of its experience and attention to detail in every phase of the project from feasibility through debugging. The machine base is a standard Gilman USA dovetail slide with two standard dovetail slides mounted on top. The top two slides move in and out to accommodate different size cable by a special left-hand and right-hand acme lead screw. Two .001"

graduated dials provide motion controls. Special location lubrication nipples are installed on the top two slides.

Cost savings

The final machine increased output by 60% while providing the adaptability, repeatability and accuracies required to TIG weld copper, high frequency weld aluminum and laser weld stainless steel cell tower cable shielding.

Sales point

The components making up this product are all standard DC designs. By solving the application challenges with a group of standard designs in a custom configuration, the customer's product cost was minimized.

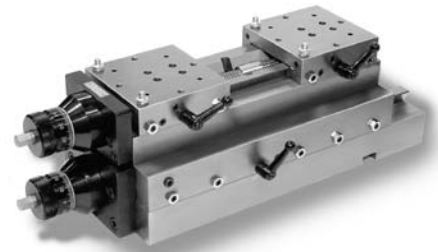
Technical specifications

Bottom slide:

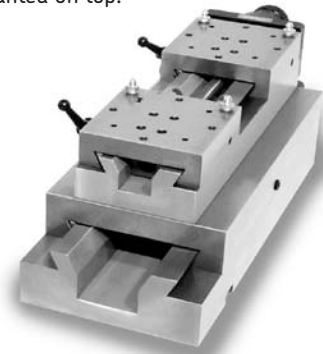
- DC6-12-14-M-C1-2
- 5/8-10 acme left hand lead screw
- No lubrication fittings
- .001" Graduated dial

Top slides:

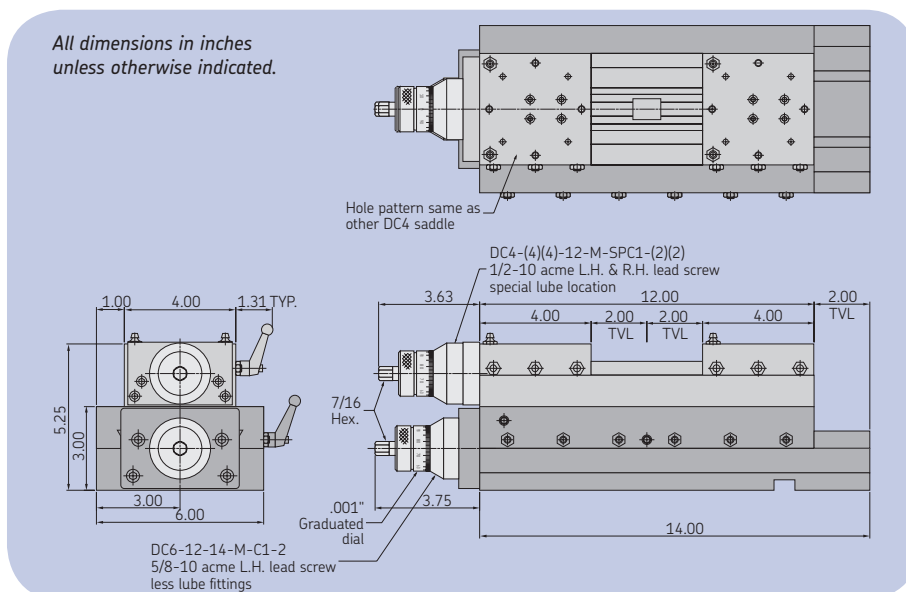
- DC4-(4)(4)-12-M-SPC1 (2)(2)
- 1/2-10 acme left-hand and right-hand lead screw
- Special lubrication fitting location
- .001" Graduated dial



The machine base is an Gilman USA dovetail slide with two Gilman USA dovetail slides mounted on top.



The top two slides are moved in and out to accommodate different size cable by a special left-hand and right-hand acme lead screw.



Programmable, adjustable, opposing milling modules

Upstream design and continuous operation save setup time

Application

A processor of coiled metal wanted to reduce handling time and automate machining operations. The problem was that several different widths and thicknesses of material and hundreds of different milling patterns were combined to produce the company's thousands of products.

Challenge

Originally the milling operations were done after the material was cut to length. The machine envisioned would position a length of material while still connected to the coil and mill a specific pattern. The company wanted to eliminate the handling and fixturing required for machining after cutting to length.

Solution

After intensive analysis of the multiple operations required downstream of the cutting-to-length operation, it was determined that the milling operation would be better performed before the material was cut off from the coil.

To meet all requirements, this custom machine tool was designed to be adjustable in five axes. The material strip is processed continuously as it moves through the machine. The multi-tooth milling head is first fed into the material in two axes. Second, the material is fed through the machine and into the milling head for the required distance. Belt driven spindles are used for the milling operation. The "Y" and "Z" axes hardened way slides feeding the spindle are controlled by hydraulic cylinders. The "X" axis is a dovetail slide used for manual adjustments of

the two spindles relative to each other. The fourth and fifth axes are for adjusting milling angles and material widths. The machine has been a tremendous success. Hundreds of complicated and error prone operations have been eliminated. Productivity has increased, and the company has been able to expand its product offering with no additional machinery or personnel required

Cost savings

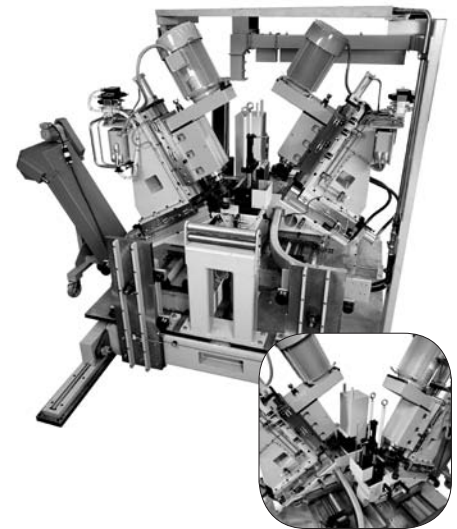
Not only is the design and operation of the machine successful, but the Gilman USA components that made it possible are all stock or standard products. This use of existing designs kept the project cost low.

Sales point

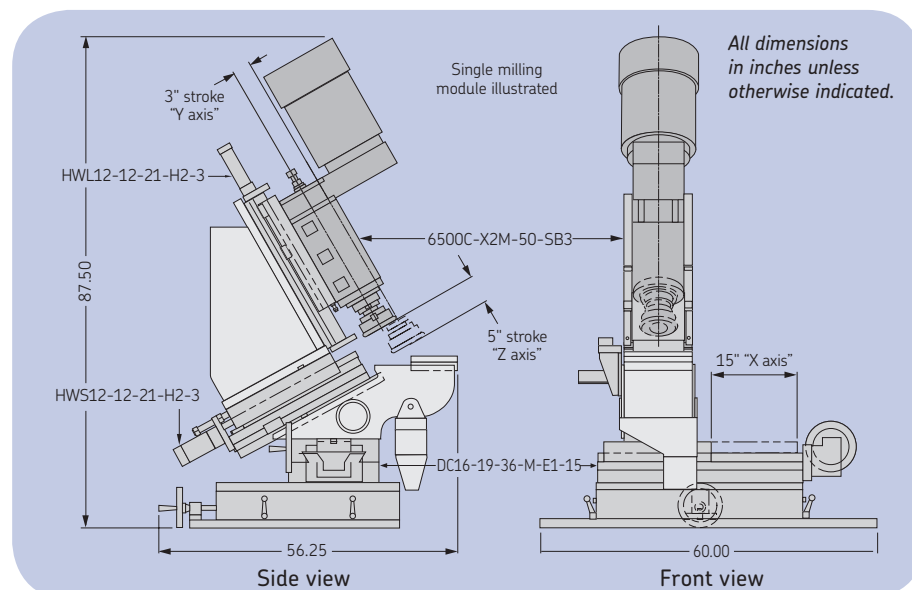
By using stock and standard components to achieve the customer's design goals, cost and delivery time were both minimized.

Technical specifications

- 2 each HWS12-12-21-H2-3 slide assembly with hydraulic cylinder drive
- 2 each HWL12-22-30-H3-5 slide assembly with hydraulic cylinder drive
- 2 each DC16-19-36-M-E1-15 slide assembly with acme screw with right angle hand wheel
- 2 each 6500C-X2M-50-SB3 belt-driven, motorized spindle
- The customer provided the angle brackets and assembled the machine on their shop floor.



Coil material is processed continuously by dual multi-axis modules as it moves through the machine. A belt-driven spindle powers each milling head, which is fed into the material by two hardened way slides. A manual dovetail slide positions the modules for processing different size material coils.





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