Section 3
MicroStation Commands

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Key-In Commands

Key-ins are typed instructions entered into the Key-in window to control MicroStation. The effect of nearly all key-ins can be obtained using the graphical user interface. However, a key-in can be quicker at times, especially since MicroStation recognizes abbreviations.

The Key-in Window is used to browse, construct, and enter key-ins. If the key-ins of a single application (MicroStation or selected MDL) are browsable, the title bar identifies the application.

The Key-in window opens when any of the following occurs:

Utilities > Key-in is chosen

Help > Key-in Browser is chosen. If the window is docked, it is undocked and simultaneously expanded to its full size.

With the focus at home, <Enter> is pressed. The window pops up at the location of the pointer and closes when the pointer is removed from the window.

If you are using the default function key menu, <F9> is pressed. If the window is already open or docked, this sends input focus to the window

Standard Key-Ins

AA = set active angle
AC = set active cell; place absolute
AP = set active pattern cell
AR = set active cell; place relative
AS = set active scale factors
AZ = set active depth
CC = create cell
CD = delete cell from cell library
CM = place active cell matrix
CO = set active color
DA = set active displayable attribute type
DD = set display depth (relative)
DF = open fonts settings box
DI = data point-distance, direction
DL = data point-delta coordinates
DP = set display depth
DS = specify fence filter
DV = delete saved view
DX = Data point-delta view coordinates
DZ = set active depth (relative)
FT = set active font
GO = global origin
KY = set snap divisor
LC = set active line style
LD = set dimension level
LL = set active text line length
LS = set active text node line spacing
LT = set active terminator
LV = set active level
OF = set level display off
ON = set level display on
PA = set active pattern angle
PD = set active pattern delta (distance)
PS = set active pattern scale
PT = set active point
RC = open cell library
RD = open design file
RF = attach reference file
RS = name report table
RV = rotate view (relative)
SV = save view
TB = set tab spacing for importing text
TH = set active text height
TI = set copy and increment value
TS = set active terminator scale
TW = set active text width
TX = set active text size (height/width)
VI = attach named view
WT = set active line weight
XS = set active X scale
XY = data point-absolute coordinates
YS = set active Y scale
ZS = set active Z scale

The following are examples of commonly used key-ins:

dp=100000,-100000 Display Depth - Sets the range in which elements are visible along the “z” axis. Example: if the display depth is set to 500,-500. Elements that have an elevation greater than 500 or less than -500 will not show in the view. If an element starts within and ends outside the display range, only the part within is visible.

az=0 (3D only) Used to graphically set a view's Active Depth — the plane, parallel to the screen in a view, on which data points are placed. For view-independent ACS, Active Depth is the depth at which the origin of the ACS triad is located. The Set Active Depth tool relocates the ACS to the set point in the view.

dx=100,0|25 Used in conjunction with the Copy Increment Text enabled, click on a number you want incremented. In the Key-In window, type “dx=(x distance),(y distance)|(number of copies)” and press enter.

Precision Input Key-ins

Precision input is a method of entering data points with the keyboard. Using this method, you can specify the exact location of a data point by specifying any of the following:

- Design plane coordinates, the distances along the x-axis and y-axis (and z-axis in 3D) from the global origin, which has the coordinates “0,0” (“0,0,0” in 3D).

xy= x, y,(z) - Measured along the x and y (and z) axis from the Global Origin.

- Distance and angle relative to the view x-axis, from the most recently entered tentative point or data point.

di= distance, direction(angle) - Measured from the last data or tentative point given. The angle is measured irrespective of view rotation (0 is always to the right, 90 is always up, etc.)

- Distances, along the design plane axes, from the most recently entered tentative point or data point.

dl= x, y,(z) - Measured along the x and y (and z) axis from the last data or tentative point. The distances are measured along the axis, the result will look different in views that are rotated differently.

- Distances, along the view axes, from the most recently entered tentative point or data point.

dx= x, y,(z) - Measured along the view axis from the last data or tentative point. The distances are measured along the view. X will always be the left/right axis, y will always be the up/down axis, and z will always be the in/out axis.

InRoads Key-Ins

Station key-in formats
When using English alignment station values conventionally there is a plus sign “+” between the second and third digits. InRoads will allow you to input the station with or without the plus sign in the MicroStation Key-in Browser and InRoads dialogs.
e.g.: 45+23.71 or 4523.71

so= station, and offset
This key-in identifies a point perpendicular to the active alignment at the given offset distance. A negative offset distance is left of the alignment, a positive offset distance is right of the alignment. (see note)

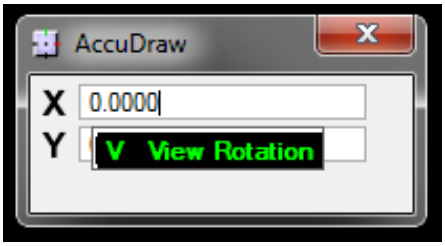
soe= station, offset, and elevation
This key-in identifies a point perpendicular to the active alignment at the given offset distance and at a specific elevation. A negative offset distance is left of the alignment, a positive offset distance is right of the alignment. (see note)

se= station, and elevation
This key-in identifies a point in a profile by the station and elevation. The station and elevation specified must be within the limits of the profile window as displayed. If this command does not work, snap to an element within the profile (like a grid line) then use the key-in. (see note)

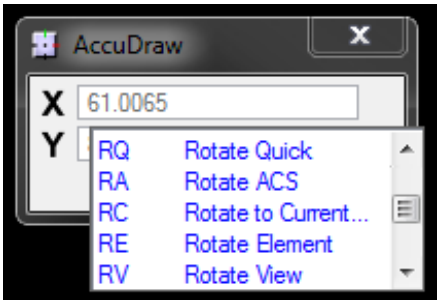
NOTE: "so=", “soe-“, and "se=" commands only work when InRoads and an .alg file is loaded. If there’s no active alignment the commands have no point of reference.

AccuDraw Key-Ins

AccuDraw includes a wide variety of single and double character command directives known as the shortcut key-ins. By pressing the appropriate key, you can direct AccuDraw to perform a specific task.



When AccuDraw is activated and the menu receives focus within MicroStation. A pop-up indicator confirms single letter shortcuts below the focused input field. This function not only confirms the key-ins and illustrates which key is being pressed but also serves to communicate that the shortcut is received via AccuDraw's input fields.



Two letter shortcuts appear attached to the focused input field, and confirm the action through the temporary appearance of the shortcut dialog. The pop-down list adjacent to the input field illustrates where the shortcut comes from so that you can “follow the action.”

The following table lists keyboard shortcuts that affect AccuDraw's operation. These shortcuts are effective only while the AccuDraw window has the focus. For a complete list of AccuDraw Keyboard Shortcuts topic see the MicroStation help menu.

Key	Key-in
<Enter>	ACCUDRAW LOCK SMART
<Space>	ACCUDRAW MODE
<O>	ACCUDRAW SETORIGIN
<V>	ACCUDRAW ROTATE VIEW
<T>	ACCUDRAW ROTATE TOP
<F>	ACCUDRAW ROTATE FRONT
<S>	ACCUDRAW ROTATE SIDE
<B>	ACCUDRAW ROTATE BASE TOGGLE
<E>	ACCUDRAW ROTATE CYCLE
<X>	ACCUDRAW LOCK X
<Y>	ACCUDRAW LOCK Y
<Z>	ACCUDRAW LOCK Z
<D>	ACCUDRAW LOCK DISTANCE
<A>	ACCUDRAW LOCK ANGLE

AccuDraw Key-Ins

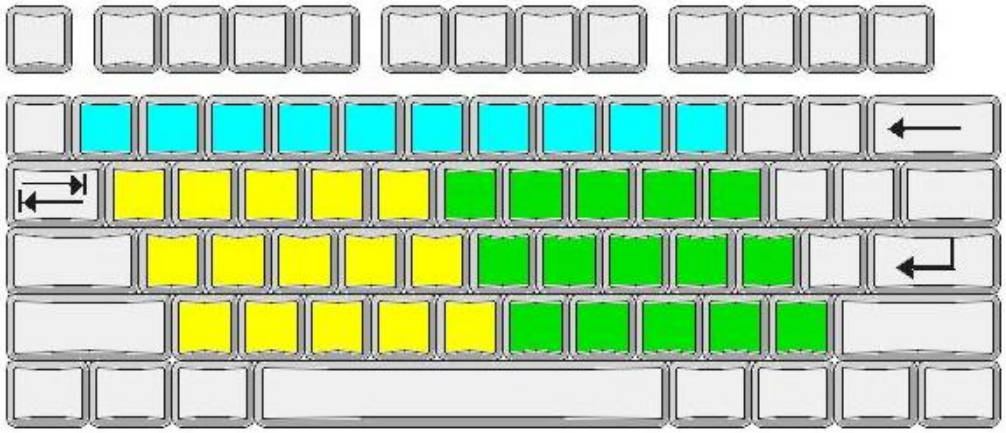
<L>,<I>	ACCUDRAW LOCK INDEX
<L>,<P>	ACCUDRAW LOCK GRIDPLANE
<L>,<A>	LOCK ACS TOGGLE
<L>,<S>	LOCK SNAP CONSTRUCTION TOGGLE
<L>,<Z>	ACCUDRAW LOCK STICKYZ
<R>,<Q>	ACCUDRAW ROTATE QUICK
<R>,<A>	ACCUDRAW ROTATE ACS
<R>,<C>	ACCUDRAW ROTATE CURRENTACS
<R>,<E>	ACCUDRAW ROTATE ELEMENT
<R>,<V>	ACCUDRAW ROTATE ORIENTVIEW
<R>,<X>	ACCUDRAW ROTATE X
<R>,<Y>	ACCUDRAW ROTATE Y
<R>,<Z>	ACCUDRAW ROTATE Z
<?>	ACCUDRAW DIALOG SHORTCUTS
<~>	ACCUDRAW BUMP TOOLSETTING
<G>,<T>	DIALOG TOOLSETTING
<G>,<K>	DIALOG CMDBROWSE
<G>,<S>	ACCUDRAW DIALOG SETTINGS
<G>,<A>	ACCUDRAW DIALOG GETACS
<W>,<A>	ACCUDRAW DIALOG SAVE ACS
<P>	POINT KEYIN SINGLE
<M>	POINT KEYIN MULTIPLE
<I>	SNAP INTERSECT
<N>	SNAP NEAREST
<C>	SNAP CENTER
<K>	ACCUDRAW DIALOG SNAPDIVISOR
<H>,<A>	ACCUDRAW Toggle
<H>,<S>	ACCUSNAP Toggle
<H>,<U>	ACCUSNAP SUSPEND
<Q>	ACCUDRAW QUIT

Example: Offset snap- With AccuDraw activated, Tentative to an element but do not accept it with a data point. Press the “O” key for Origin. Type in an x & y distance in the AccuDraw bar and data point to accept.

Positional Keyboard Navigation

Positional keyboard navigation is a technique that utilizes a position-mapped keyboard. Position mapping is the mapping of keyboard zones to logical collections of controls in the user interface.

MicroStation position maps your keyboard by default. The following figure shows the default position mapping:



Default position mapping.

The **blue keys** are mapped to the icons in the **Main Task Dialog Box**.

(1), (2), (3), (4), (5), (6), (7), (8), (9), and (0)

The **yellow keys** are mapped to the icons in the **Tasks Dialog Box**.

(Q), (W), (E), (R), (T), (A), (S), (D), (F), (G), (Z), (X), (C), (V), and (B)

The **green keys** are mapped to the controls in the **Tool Settings window**.

(Y), (U), (I), (O), (P), (H), (J), (K), (L), (;), (N), (M), (,), (.), and (/)

(Enter): Opens the Key-in window at the pointer location or if the window is already open, puts focus within the browsable lists of keywords if they are visible.

(Spacebar): Moves focus to the AccuDraw window.

(Tab): Change to the next element under the pointer.

(PgUp): Next task

(PgDn): Previous task

(Esc): Tool Aids

Positional Keyboard Navigation Default Main Task Dialog Box

1: **Element Selection**

2: **Fence Tool Box**

2 1: Place Fence
2 2: Modify Fence
2 3: Manipulate Fence Contents
2 4: Delete Fence Contents
2 5: Drop Fence Contents
2 6: Copy/Move Fence Contents To File

3: **Manipulate Tool Box**

3 1: Copy
3 2: Move
3 3: Scale
3 4: Rotate
3 5: Mirror
3 6: Array
3 7: Align Elements By Edge
3 8: Stretch
3 9: Move Parallel
3 0: Move to Contact

4: **View Control Tool Box**

4 1: Update View
4 2: Zoom In
4 3: Zoom Out
4 4: Window Area
4 5: Fit View
4 6: View Rotation
4 7: Pan View
4 8 Walk
4 9 Fly
4 0: Navigate View
4 Q: View Previous
4 W: View Next
4 E: Copy View
4 R: Change View Perspective
4 T: Set Display Depth
4 Y: Show Display Depth
4 U: Setup Camera
4 I: Render
4 O: View Display Mode
4 P: Clip Volume
4 A: Clip Mask

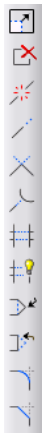
5: **Change Attributes Tool Box**

5 1: Change Element Attribute
5 2: Change To Active Area
5 3: Change To Active Fill Type
5 4: Modify Line Style Attributes
5 5: Change Multi-Lines
5 6: Match Element Attributes
5 7: Smart Match

6: **Group Tool Box**

6 1: Drop Element
6 2: Create Complex Chain
6 3: Create Complex Shape
6 4: Create Region
6 5: Add to Graphic Group
6 6: Drop From Graphic Group
6 7: Group Hole

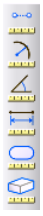
7: **Modify Tool Box**



7 1: Modify Element
7 2: Partial Delete
7 3: Break Element
7 4: Extend Line
7 5: Extend Elements to Intersection
7 6: Extend Element to Intersection
7 7: Trim Element
7 8: IntelliTrim
7 9: Insert Vertex
7 0: Delete Vertex
7 Q: Construct Circular Fillet
7 W: Construct Chamfer

8: **Delete Element**

9: **Measure Tool Box**



9 1: Measure Distance
9 2: Measure Radius
9 3: Measure Angle
9 4: Measure Length
9 5: Measure Area
9 6: Measure Volume

Positional Keyboard Navigation Default Task (Drawing) Dialog Box

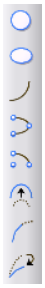
Q: **Linear Took Box**

Q 1: Place Smart Line
Q 2: Place Line
Q 3: Place Multi-Line
Q 4: Points
Q 5: Create Curves
Q 6: Place Stream Line String
Q 7: Place Point or Stream Curve
Q 8: Construct Angle Bisector
Q 9: Construct Minimum Distance Line
Q 0: Construct Line at Active Angle

W: **Polygons Tool Box**

W 1: Place Block
W 2: Place Shape
W 3: Place Orthogonal Shape
W 4: Place Regular Polygon

E: **Circles Tool Box**



E 1: Place Circle
E 2: Place Ellipse
E 3: Place Arc
E 4: Place Half Ellipse
E 5: Place Quarter Ellipse
E 6: Modify Arc Radius
E 7; Modify Arc Angle
E 8: Modify Arc Axis

R: **Pattern Tool Box**

R 1: Hatch Area
R 2: Crosshatch Area
R 3: Pattern Area
R 4: Linear Pattern
R 5: Show Pattern Attributes
R 6: Match Pattern Attributes
R 7: Change Pattern
R 8: Delete Pattern

T: **Tags Tool Box**

T 1: Attach Tags
T 2: Edit Tags
T 3: Review Tags
T 4: Change Tags
T 5: Delete Tags

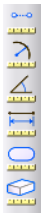
A: **Text Tool Box**

A 1: Place Text
A 2: Place Note
A 3: Edit Text
A 4: Spell Checker
A 5: Display Text Attributes
A 6: Match Text Attributes
A 7: Change Text Attributes
A 8: Place Text Node
A 9: Copy/Increment Text
A 0: Copy Enter Data Field
A Q: Copy/Increment Enter Data Field
A W: Fill in Single Enter Data Filed
A E: Automatic Fill in Enter Data Fields

S: **Cells Tool Box**

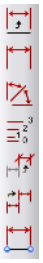
S 1: Place Active Cell
S 2: Place Active Cell Matrix
S 3: Select and Place Cell
S 4: Define Cell Origin
S 5: Identify Cell
S 6: Place Active Line Terminator
S 7: Replace Cell
S 8: Place Cell Index

D: **Measure Tool Box**



D 1: Measure Distance
D 2: Measure Radius
D 3: Measure Angle Between Lines
D 4: Measure Length
D 5: Measure Area
D 6: Measure Volume

F: **Dimensioning Tool Box**



F 1: Dimension Element
F 2: Dimension Linear
F 3: Dimension Angular
F 4: Dimension Ordinates
F 5: Change Dimension
F 6: Match Dimension Attributes
F 7: Reassociate Dimension

Positional Keyboard Navigation

In Microsoft Windows and other graphical computer interfaces, the focus — sometimes called the input focus or keyboard focus — refers to the window or control to which keyboard input is directed.
The model is hierarchical with the top level called home.

In this model MicroStation follows your actions and attempts to move input focus for common operations. For example, when you place a line the focus moves from home to the AccuDraw window, then back to home.

When the focus is home, positional keyboard navigation can be used.
To move the focus home Press <Esc>.

A field in the status bar indicates the focus location:

• Home 

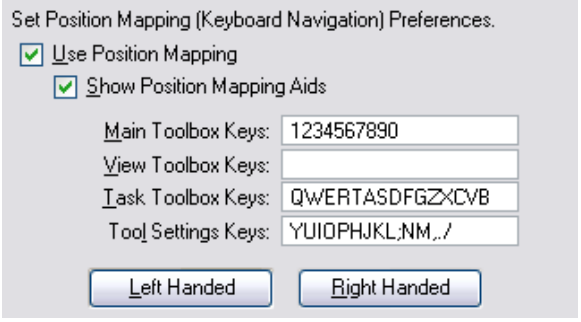
• Tool Settings — the Tool Settings window has the focus. 

• Key-in — the Key-in window has the focus. 

• AccuDraw — the AccuDraw window has the focus. 

• (No icon) — another window or dialog box has the focus

This positional keyboard navigation preference is on by default. To disable positional keyboard navigation, turn off the preference Use Position Mapping in the Position Mapping category of the Preferences dialog box.
(Workspace > preferences>Position Mapping).



Positional Keyboard Navigation

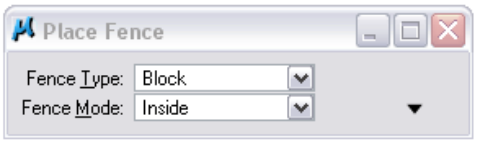
Example:

If you wanted to select the Place Fence tool in the Fence Tool Box using positional keyboard navigation you would do the following:

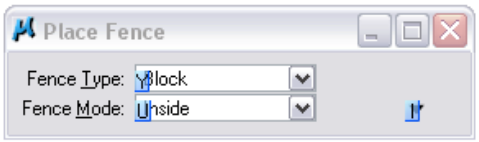
Press (2) to open the Fence task.

Conveniently the toolbox opens at the location of your pointer.

Press (1) to open the Place Fence Tool.



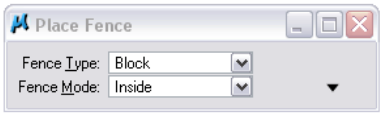
Press (Esc) to view the Tool Aids.
Press (y) to change the Fence Type.
Press (u) to change the Fence Mode.
Press (i) to open the Save Fence Options.

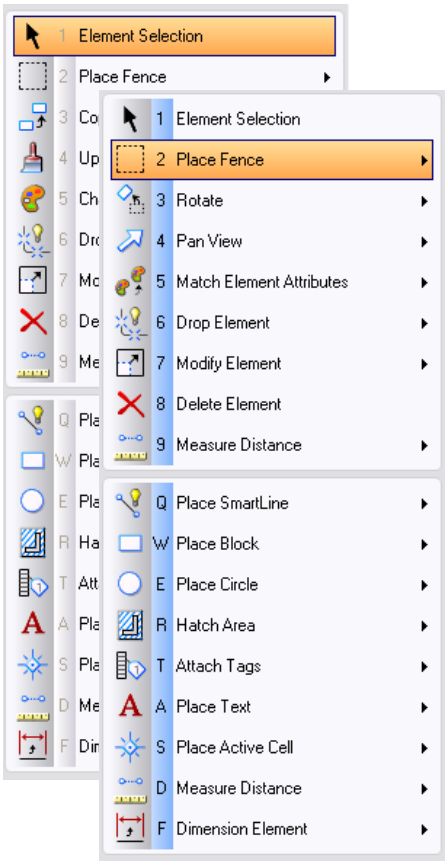


To activate a tool quickly, press the (Shift) key plus the number or letter corresponding to the representative tool in the Main task or in the Tasks dialog.

The most recent Tool used under the selected tool bar will initiate.

Example: Select (Shift 2) to initiate the place Fence tool.

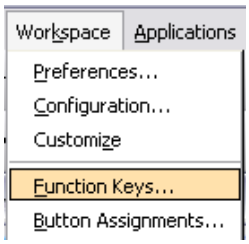


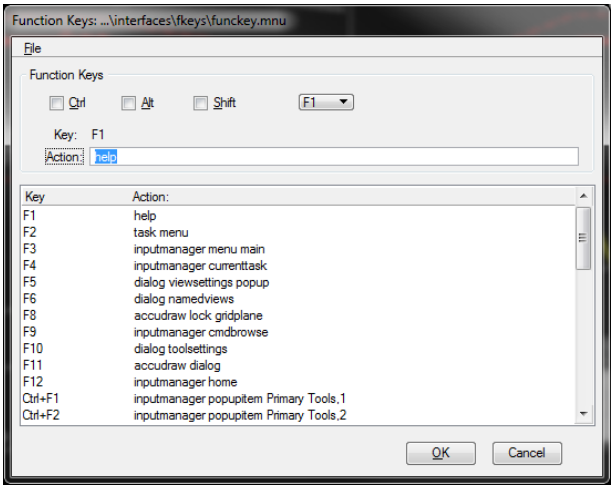


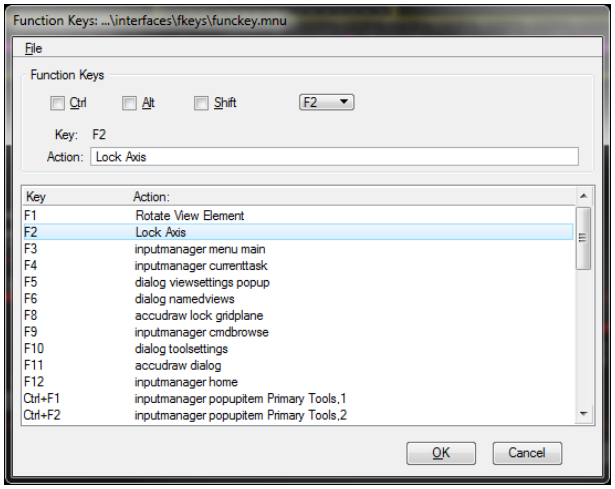
Function Key Menu

A function key menu contains keyboard function key definitions, (assignments of actions) to function keys. Function key definitions contain action strings that cause an action to occur when you press the function keys.

The Function Keys dialog (Workspace > Function Keys) is used to modify function key menus. You can also define new function keys and add them to the menu.







To change or add a new function key:
Open the function key dialog.

Select the function key you would like by turning on the <Ctrl>, <Alt>, and/or <Shift> check boxes and choosing the desired function key from the list box, by choosing from the display window or by picking the desired function keys with the keyboard.

In the Action text box, edit the definition. The definition must be specified as an action string (key-in command).

Hint: Use the MicroStation Search to locate key-in commands.

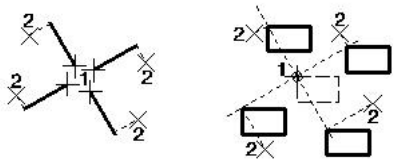
Example: Change F1 to rotate view element. Change F2 to lock axis.

Design File Settings dialog Axis category

Consists of controls that are also available in the Locks dialog. (Settings menu > Locks > Full).

⊟ Axis Lock

If on, each data point is forced to lie at an angle (or multiples of that angle) from the previous data p
Increment relative to the (Axis) Start Angle.

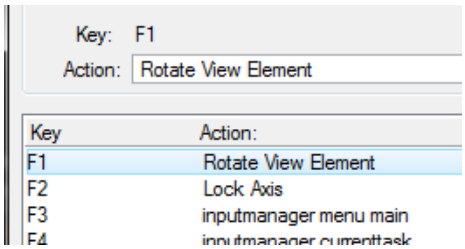


Axis Lock with Axis Start Angle 30° and Axis Increment 90°. Left: Lines placed with the Place Line angles. Right: Movement with Move Element is constrained in a similar way.

Key-in: LOCK AXIS [OFF | ON | TOGGLE]

Function Key Menu

To save the function key definitions, choose save, to overwrite the open function key menu. Choose save as, to open the function key menu as dialog and create a function key menu with a different name or location.



Click the OK button to finish this command.
(if not saved, an alert box will open).

Example: Change F1 to rotate view element.
Change F2 to lock axis.

The following Chart Contains the Default Bentley Function Keys.

	Description of the Action
<F1>	Opens Help for the active dialog.
<F2>	Displays the Tasks toolbox's Task List.
<F3>	Displays the Main toolbox.
<F4>	Displays the active task.
<F5>	Displays the View Attributes dialog.
<F6>	Opens the Saved Views dialog.
<F7>	Unassigned
<F8>	Turns on or off the display of the grid in the open view.
<F9>	Sends input focus to the Key-in window if it is docked or open. Opens the Key-in window if it is not already open.
<F10>	Sends input focus to the Tool Settings window if it is docked or open. Opens the Tool Settings window if it is not already open.
<F11>	Sends input focus to the AccuDraw window if it is docked or open. Activates AccuDraw if it is not active and opens the AccuDraw window.
<F12>	Sends input focus to home.
<alt-F8>	Opens the Macros dialog.
<alt-F11>	Opens the Visual Basic Editor.
<ctrl-F1>	Activates the first tool in the Primary Tools toolbox. The default is to display the Models dialog.
<ctrl-F2>	Activates the second tool in the Primary Tools toolbox. The default is to display the References dialog.
<ctrl-F3>	Activates the third tool in the Primary Tools toolbox. The default is to display the Raster Manager dialog.
<ctrl-F4>	Activates the fourth tool in the Primary Tools toolbox. The default is to display the Point Clouds dialog.

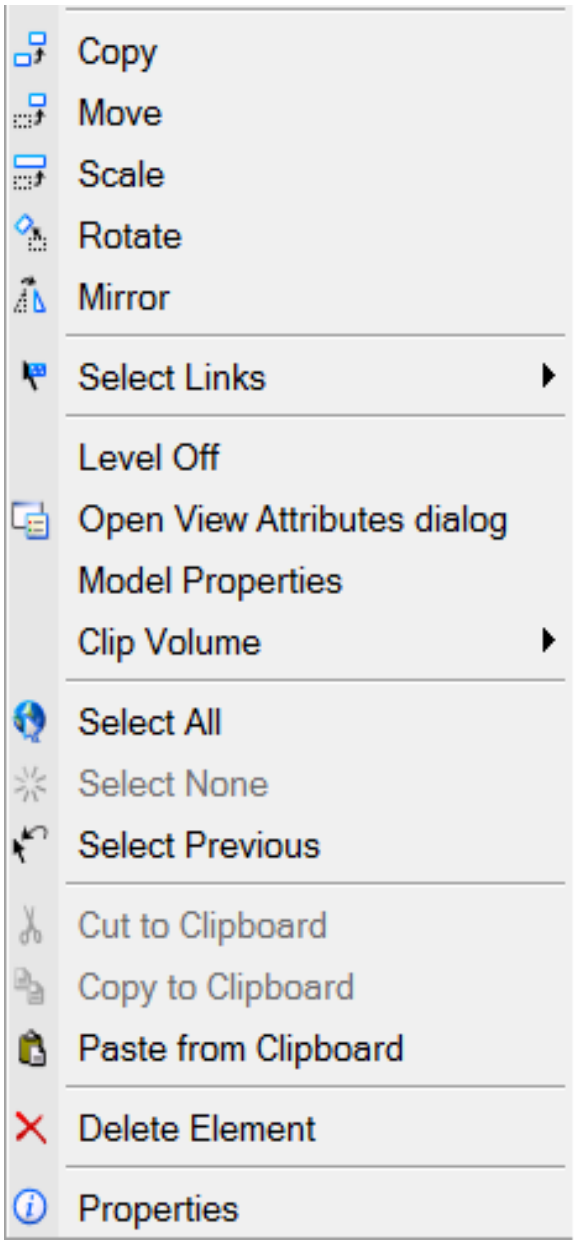
Function Key Menu

<ctrl-F5>	Activates the fifth tool in the Primary Tools toolbox. The default is to display the Saved Views dialog.
<ctrl-F6>	Activates the sixth tool in the Primary Tools toolbox. The default is to display the Level Manager dialog.
<ctrl-F7>	Activates the seventh tool in the Primary Tools toolbox. The default is to display the Level Display dialog.
<ctrl-F8>	Activates the eighth tool in the Primary Tools toolbox. The default is to display the Cell Library dialog.
<ctrl-F9>	Activates the ninth tool in the Primary Tools toolbox. The default is to display the Auxiliary Coordinates dialog.
<ctrl-F10>	Activates the tenth tool in the Primary Tools toolbox. The default is to display the Element Information dialog.
<ctrl-F11>	Activates the eleventh tool in the Primary Tools toolbox. The default is to open or close Project Explorer.
<ctrl-F12>	Activates the twelfth tool in the Primary Tools toolbox. The default is to open the Item Sets dialog.
<ctrl-Alt-F1>	For 3Dconnexion devices. Opens the Main toolbox in a pop-up menu.
<ctrl-Alt-F2>	For 3Dconnexion devices. Opens the active task in a pop-up menu.
<ctrl-Alt-F3>	For 3Dconnexion devices. Opens the View Attributes dialog in a pop-up menu.
<ctrl-Alt-F4>	For 3Dconnexion devices. Sends input focus to the Key-in window if it is docked or open. Opens the Key-in window in a pop-up menu if it is not already open.
<ctrl-Alt-F5>	For 3Dconnexion devices. Opens the View Control toolbox in a pop-up menu.
<ctrl-Alt-F6>	For 3Dconnexion devices. Opens the Saved Views dialog.
<shift-F1>	Activates the first tool in the Attributes toolbox. The default is to display the active element template.
<shift-F2>	Activates the second tool in the Attributes toolbox. The default is to display the Active Level list box.
<shift-F3>	Activates the third tool in the Attributes toolbox. The default is to display the Active Color dialog.
<shift-F4>	Activates the fourth tool in the Attributes toolbox. The default is to display the Active Line Style list box.
<shift-F5>	Activates the fifth tool in the Attributes toolbox. The default is to display the Active Line Weight list box.
<shift-F6>	Activates the sixth tool in the Attributes toolbox. The default is to display the Active Element Transparency list box.
<shift-F7>	Activates the seventh tool in the Attributes toolbox. The default is to display the Active Element Priority list box.
<shift-F8>	Activates the eighth tool in the Attributes toolbox.
<shift-F9>	Activates the ninth tool in the Attributes toolbox.
<shift-F10>	Activates the tenth tool in the Attributes toolbox.

Right Click Options

The right click options menu in MicroStation is a tool that allows quick access too many of the more common commands in the MicroStation interface. Most of these tools are exactly the same as the task menu, or are common right click options. If specific elements are selected more relevant options may appear in the right click options.

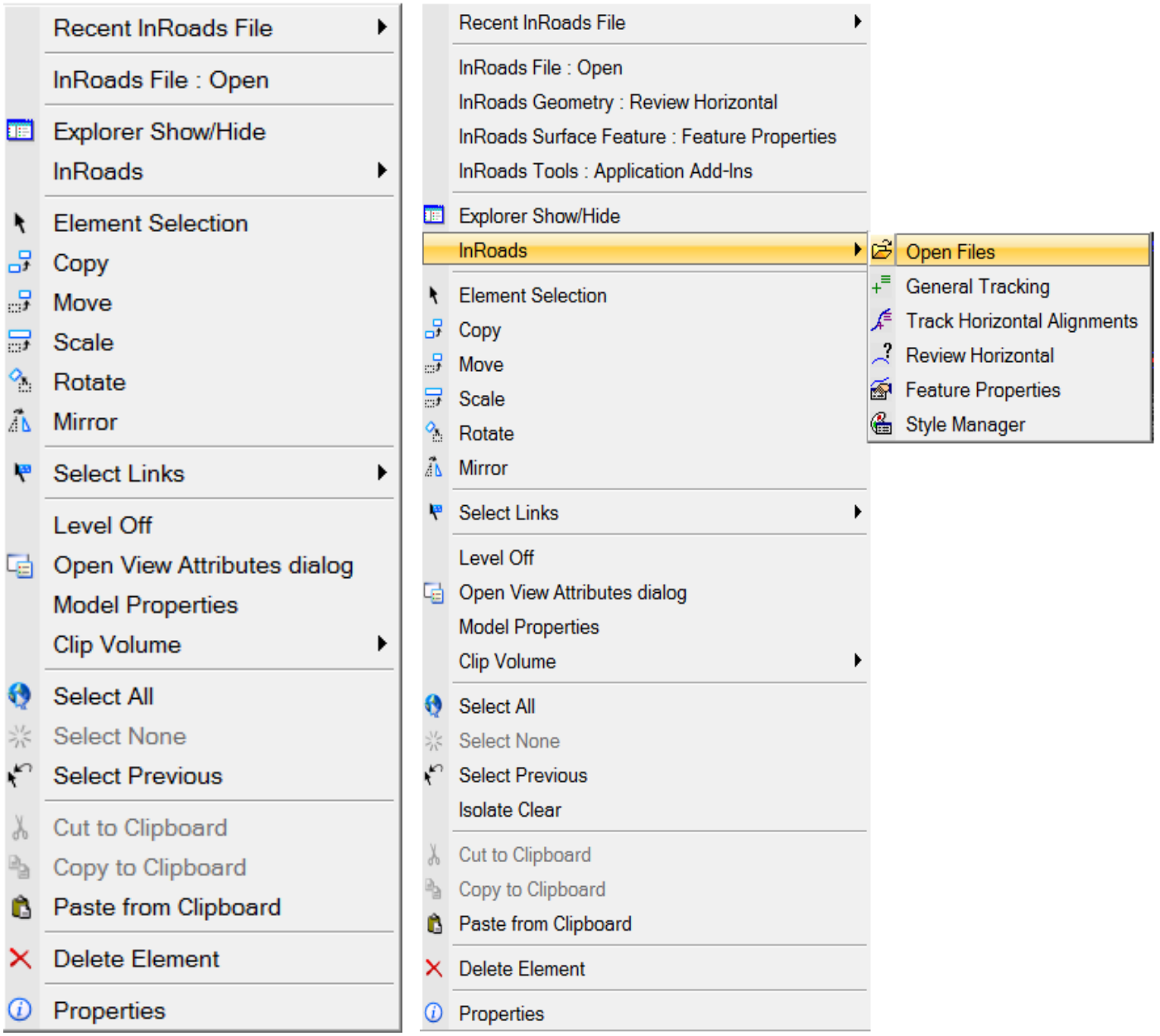
MicroStation Standard



Right Click Options

When InRoads is activated several InRoads tools are added to the right click options menu. Most notably: a list of recently used InRoads commands, the “Recent InRoads File” pull out menu which shows recently opened InRoads files, and the “InRoads” pull out menu which has quick access to tools such as *Tracking*, *Review Horizontal*, and an InRoads *Open files* command. Some of the “Application add ins” are also added to the InRoads right click menu when activated in MicroStation.

MicroStation with InRoads “InRoads” pull out menu



OkDOT Font

To promote consistency in preparing ODOT drawings as well as prevent the replacement of fonts and loss of custom characters. ODOT has created a custom font based on a standard engineering style of lettering. This font is available on our website at: http://www.okladot.state.ok.us/roadway/CADD_Support/MicroStation/Symbology

	Version	***Date***
OkDOT.ttf	**1.31**	**1/23/15**
OkDOT Bold.ttf	**1.31**	**1/23/15**
OkDOT Imprint.ttf	**1.31**	**1/23/15**
OkDOT Italic.ttf	**1.1**	**1/21/15**

ODOT design plans use True Type Font OkDOT. The new construction notes shall be in the default style while existing design element notes shall be italicized. Both new and existing note lettering shall be capitalized.

Note: OkDOT font carries a standard MicroStation line weight of 1. Notes needing additional emphasis may be bolded.

The following list contains the character name & example for each style of OkDOT font.

Character Name	OkDOT	OkDOT Bold	*OkDOT Italic*	OkDOT Imprint
.notdef				
.null				
nonmarkingreturn				
space				
Centerline	℄	℄	℄	N.A.
Quotedbl	"	"	″	”
numbersign	#	#	#	#
dollar	$	$	$	$
percent	%	%	%	%
ampersand	&	&	&	&
quotesingle	‘	‘	‘	’
parenleft	(	(	(	(
parenright	)	)	)	)
asterisk	*	*	*	*
plus	+	+	+	+
comma	,	,	,	,
hyphen	-	-	-	-
period	.	.	.	.

OkDOT Font

slash	/	/	/	/
zero	0	0	*0*	0
one	1	1	*1*	1
two	2	2	*2*	2
three	3	3	*3*	3
four	4	4	*4*	4
five	5	5	*5*	5
six	6	6	*6*	6
seven	7	7	*7*	7
eight	8	8	*8*	8
nine	9	9	*9*	9
colon	:	:	*:*	:
semicolon	;	;	*;*	;
sectionline	℄	℄	℄	N.A.
equal	=	=	*=*	=
baseline	℔	℔	℔	N.A.
question	?	?	*?*	N.A.
at	@	@	*@*	@
A	A	A	*A*	A
B	B	B	*B*	B
C	C	C	*C*	C
D	D	D	*D*	D
E	E	E	*E*	E
F	F	F	*F*	F
G	G	G	*G*	G
H	H	H	*H*	H
I	I	I	*I*	I
J	J	J	*J*	J
K	K	K	*K*	K
L	L	L	*L*	L
M	M	M	*M*	M
N	N	N	*N*	N
O	O	O	*O*	O
P	P	P	*P*	P
Q	Q	Q	*Q*	Q
R	R	R	*R*	R

OkDOT Font

S	S	S	*S*	S
T	T	T	*T*	T
U	U	U	*U*	U
V	V	V	*V*	V
W	W	W	*W*	W
X	X	X	*X*	X
Y	Y	Y	*Y*	Y
Z	Z	Z	*Z*	Z
bracketleft	[	[	*[*	[
flowline				\
bracketright	]	]	*]*	]
degree	°	°	°	N.A
underscore	_	_	_	_
grave	`	`	`	`
a	a	a	*a*	A
b	b	b	*b*	B
c	c	c	*c*	C
d	d	d	*d*	D
e	e	e	*e*	E
f	f	f	*f*	F
g	g	g	*g*	G
h	h	h	*h*	H
i	i	i	*i*	I
j	j	j	*j*	J
k	k	k	*k*	K
l	l	l	*l*	L
m	m	m	*m*	M
n	n	n	*n*	N
o	o	o	*o*	O
p	p	p	*p*	P
q	q	q	*q*	Q
r	r	r	*r*	R
s	s	s	*s*	S
t	t	t	*t*	T
u	u	u	*u*	U
v	v	v	*v*	V

OkDOT Font

w	w	w	*w*	w
x	x	x	*x*	x
y	y	y	*y*	y
z	z	z	*z*	z
propertyline	ℙ	ℙ	*ℙ*	N.A.
delta	Δ	Δ	*Δ*	N.A.
braceleft	{	{	*{*	{
braceright	}	}	*}*	}
asciitilde	~	~	~	~
greater	>	>	>	>
excalm	!	!	*!*	!
backslash	\	\	\	\
less	<	<	<	<
brokenbar	¦	¦	¦	N.A
bar	|	|	|	N.A
center_to_center	℄	℄	℄	N.A
copyright	©	©	©	N.A
wideflange	WF	WF	WF	N.A
guillemotleft	«	«	«	N.A
supscript_4	⁴	⁴	⁴	N.A
registered	®	®	®	N.A
kips	ᴷ	ᴷ	ᴷ	N.A
asciicircum	°	°	°	°
plusminus	±	±	±	N.A.
square_root	²	²	²	N.A.
cube	³	³	³	N.A.
lessthanequal	≤	≤	≤	N.A.
greaterthanequal	≥	≥	≥	N.A.
romanfive	Ⅴ	Ⅴ	Ⅴ	N.A.
periodcentered	·	•	•	N.A.
diameter	∅	∅	∅	N.A.
onesuperior	¹	¹	¹	N.A.
ordmasculine	º	º	º	N.A.
guillemotright	»	»	»	N.A.
onesixteenth	1⁄16	1⁄16	1⁄16	N.A.
oneeightth	1⁄8	1⁄8	1⁄8	N.A.

OkDOT Font

threesixteenth	3⁄16	3⁄16	3⁄16	N.A.
onequarter	1⁄4	1⁄4	1⁄4	N.A.
ficesixteenth	5⁄16	5⁄16	5⁄16	N.A.
threeeightth	3⁄8	3⁄8	3⁄8	N.A.
sevensixteenth	7⁄16	7⁄16	7⁄16	N.A.
onehalf	1⁄2	1⁄2	1⁄2	N.A.
ninesixteenth	9⁄16	9⁄16	9⁄16	N.A.
fiveeightth	5⁄8	5⁄8	5⁄8	N.A.
elevensixteenth	11⁄16	11⁄16	11⁄16	N.A.
threesixteenth	3⁄16	3⁄16	3⁄16	N.A.
thirteensixteenth	13⁄16	13⁄16	13⁄16	N.A.
seveneightth	7⁄8	7⁄8	7⁄8	N.A.
fifteensixteenth	15⁄16	15⁄16	15⁄16	N.A.
square03	◒	◒	◒	N.A.
square04	◓	◓	◓	N.A.
square05	◧	◧	◧	N.A.
square06	◨	◨	◨	N.A.
square07	◩	◩	◩	N.A.
square08	◪	◪	◪	N.A.
square09	◫	◫	◫	N.A.
square10	◫	◫	◫	N.A.
square_ft	⏍	⏍	⏍	N.A.
micro	µ	µ	µ	N.A.
parallel	⫽	⫽	⫽	N.A.
angle	∢	∢	∢	N.A.
multiply	×	×	×	N.A.
revision01	△1	△1	△1	N.A.
revision02	△2	△2	△2	N.A.
revision03	△3	△3	△3	N.A.
revision04	△4	△4	△4	N.A.
revision05	△5	△5	△5	N.A.
revision06	△6	△6	△6	N.A.
revision07	△7	△7	△7	N.A.
revision08	△8	△8	△8	N.A.
revision09	△9	△9	△9	N.A.
revision10	△10	△10	△10	N.A.

OkDOT Font

revision11	11	11	11	N.A.
revision12	12	12	12	N.A.
revision13	13	13	13	N.A.
revision14	14	14	14	N.A.
revision15	15	15	15	N.A.
revision16	16	16	16	N.A.
revision17	17	17	17	N.A.
revision18	18	18	18	N.A.
revision19	19	19	19	N.A.
revision20	20	20	20	N.A.
revision21	21	21	21	N.A.
revision22	22	22	22	N.A.
diamond1	◇	◇	◇	N.A.
diamond2	◆	◆	◆	N.A.
diamond3	◆	◆	◆	N.A.
diamond4	◆	◆	◆	N.A.
diamond5	◆	◆	◆	N.A.
diamond6	◆	◆	◆	N.A.
circle01	○	○	○	N.A.
circle02	●	●	●	N.A.
circle03	◑	◑	◑	N.A.
divide	÷	÷	÷	N.A.
triangle1	△	△	△	N.A.
triangle2	▲	▲	▲	N.A.
triange3	▽	▽	▽	N.A.
triangle4	▼	▼	▼	N.A.
triangle5	◭	◭	◭	N.A.
triangle6	◭	◭	◭	N.A.
triangle7	◸	◸	◸	N.A.
triangle8	◸	◸	◸	N.A.
circle04	◐	◐	◐	N.A.
circumflex	ˆ	ˆ	ˆ	N.A.
caron	ˇ	ˇ	ˇ	N.A.
circle05	◒	◒	◒	N.A.
circle06	◓	◓	◓	N.A.
circle07	◒	◒	◒	N.A.

OkDOT Font

circle08	◐	◐	◐	N.A.
circle09	◑	◑	◑	N.A.
circle10	◑	◑	◑	N.A.
log10	LOG_{10}	LOG_{10}	LOG_{10}	N.A.
endash	–	–	–	N.A.
emdash	—	—	—	N.A.
quoteleft	‘	‘	‘	N.A.
quoteright	’	’	’	N.A.
quotesinglbase	‚	‚	‚	N.A.
quotedblleft	“	“	“	N.A.
quotedblright	”	”	”	N.A.
quotedblbase	„	„	„	N.A.
phi	ϕ	ϕ	ϕ	N.A.
bullet	•	•	•	N.A.
ellipsis	…	…	…	N.A.
guilsinglleft	‹	‹	‹	N.A.
guilsinglright	›	›	›	N.A.
fraction	⁄	⁄	⁄	N.A.
square01	□	□	□	N.A.
square02	■	■	■	N.A.
trademark	™	™	™	N.A.
minus	−	−	−	N.A.
squarerootofE	$\sqrt{E}$	$\sqrt{E}$	$\sqrt{E}$	N.A.
infinity	∞	∞	∞	N.A.
Oklahoma_state				N.A.
odot_seal				N.A.
ok_state_seal				N.A.

OkDOT Font Alternate Key-Ins

OkDOT font (Standard, Bold, and Italic)
OkDOT font needs to be the active font. Press and hold down the alt key, as you key in the four digit number equated to the symbol and then release.

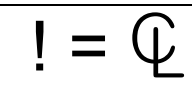
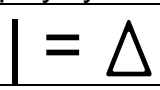
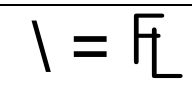
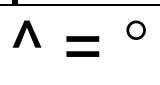
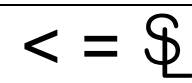
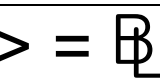
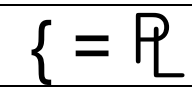
Alt+0128	=	^	Alt+0184	=	∅	Alt+0222	=	△7
Alt+0130	=	‘	Alt+0185	=	¹	Alt+0223	=	△8
Alt+0132	=	„	Alt+0186	=	º	Alt+0224	=	△9
Alt+0133	=	…	Alt+0187	=	»	Alt+0225	=	△10
Alt+0136	=	ˆ	Alt+0188	=	¼	Alt+0226	=	△11
Alt+0139	=	‹	Alt+0189	=	½	Alt+0227	=	△12
Alt+0145	=	‘	Alt+0190	=	¾	Alt+0228	=	△13
Alt+0146	=	’	Alt+0191	=	1⁄16	Alt+0229	=	△14
Alt+0147	=	“	Alt+0192	=	5⁄16	Alt+0230	=	△15
Alt+0148	=	”	Alt+0193	=	3⁄8	Alt+0231	=	△16
Alt+0149	=	•	Alt+0194	=	7⁄16	Alt+0232	=	△17
Alt+0150	=	–	Alt+0195	=	1⁄8	Alt+0233	=	△18
Alt+0151	=	—	Alt+0196	=	9⁄16	Alt+0234	=	△19
Alt+0153	=	™	Alt+0197	=	5⁄8	Alt+0235	=	△20
Alt+0155	=	›	Alt+0198	=	11⁄16	Alt+0236	=	△21
Alt+0161	=	>	Alt+0199	=	3⁄16	Alt+0237	=	△22
Alt+0162	=	!	Alt+0200	=	13⁄16	Alt+0238	=	◇
Alt+0163	=	\	Alt+0201	=	7⁄8	Alt+0239	=	◆
Alt+0164	=	<	Alt+0202	=	15⁄16	Alt+0240	=	◆
Alt+0165	=	{	Alt+0203	=	▬	Alt+0241	=	◆
Alt+0166	=	¦	Alt+0204	=	▬	Alt+0242	=	◆
Alt+0167	=	|	Alt+0205	=	◧	Alt+0243	=	◆
Alt+0168	=	℅	Alt+0206	=	◨	Alt+0244	=	○
Alt+0169	=	©	Alt+0207	=	◩	Alt+0245	=	●
Alt+0170	=	™	Alt+0208	=	◪	Alt+0246	=	◑
Alt+0171	=	«	Alt+0209	=	◪	Alt+0247	=	÷
Alt+0172	=	⁴	Alt+0210	=	◪	Alt+0248	=	△
Alt+0173	=	-	Alt+0211	=	◫	Alt+0249	=	▲
Alt+0174	=	®	Alt+0212	=	µ	Alt+0250	=	▽
Alt+0175	=	ᴷ	Alt+0213	=	⌋⌊	Alt+0251	=	▼
Alt+0176	=	°	Alt+0214	=	⊲	Alt+0252	=	◭
Alt+0177	=	±	Alt+0215	=	×	Alt+0253	=	◭
Alt+0178	=	²	Alt+0216	=	△1	Alt+0254	=	◸
Alt+0179	=	³	Alt+0217	=	△2	Alt+0255	=	◹
Alt+0180	=	≤	Alt+0218	=	△3	2248+Altx	=	ODOT
Alt+0181	=	≥	Alt+0219	=	△4			
Alt+0182	=	∇	Alt+0220	=	△5			
Alt+0183	=	·	Alt+0221	=	△6			

OkDOT Font Alternate Key-Ins

OkDOT font (Imprint)
OkDOT Imprint needs to be the active font. Press and hold down the alt key, as you key in the four digit number equated to the symbol and then release.

ALT+0209 = ①
ALT+0210 = ②
ALT+0211 = ③
ALT+0212 = ④
ALT+0213 = ⑤
ALT+0214 = ⑥
ALT+0215 = ⑦
ALT+0216 = ⑧
ALT+0217 = ⑨
ALT+0218 = ⑩
ALT+0219 = ⑪
ALT+0220 = ⑫
ALT+0221 = ⑬
ALT+0222 = ⑭
ALT+0223 = ⑮
ALT+0224 = ⑯
ALT+0225 = ⑰
ALT+0226 = ⑱
ALT+0227 = ⑲
ALT+0228 = ⑳
ALT+0229 = ㉑
ALT+0230 = ㉒
ALT+0231 = ㉓
ALT+0232 = ㉔
ALT+0233 = ㉕
ALT+0234 = ⓯
ALT+0235 = ⓰
ALT+0236 = ⓱
ALT+0237 = ⓲
ALT+0238 = ⓳
ALT+0239 = ⓴
ALT+0240 = ⓫
ALT+0241 = ⓬
ALT+0242 = ⓭

OkDOT Font Custom Characters

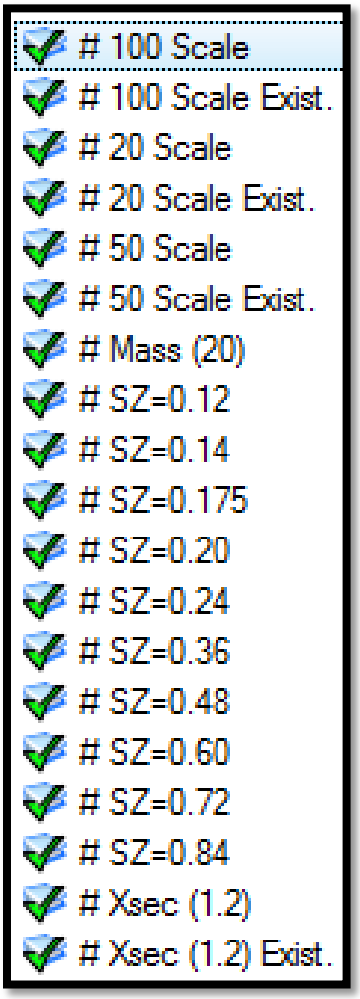
Standard Keyboard Custom Replacements Note: OkDOT must be the active font to display symbols.	
! = 	| = 
\ = 	^ = 
< = 	> = 
{ = 	

Text Styles

For ODOT Roadway Design use only

Text styles are named sets of text attributes, such as font, width, height, and color. They allow you to place text within a model in a consistent and automated manner. Text elements placed with a text style are automatically updated when the style is modified.

Standard Roadway Design Text Styles

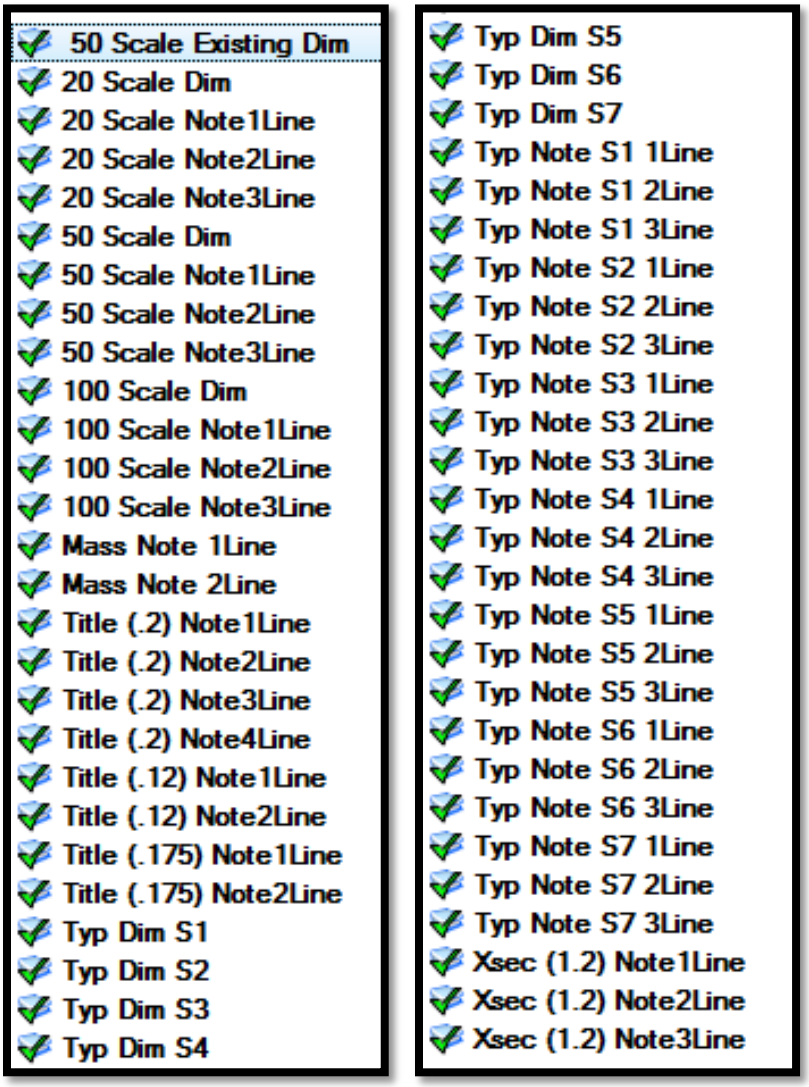


Dimension Styles

For ODOT Roadway Design use only

A dimension style is a saved set of dimensioning settings. You can define dimension styles and apply them to dimension elements during placement. Changes made to dimension styles are dynamic and can be applied to all dimensions previously placed with that style in the active DGN file.

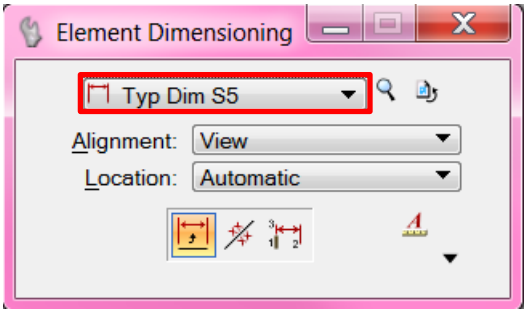
Standard Roadway Dimension Styles



How To Use Dimension Tools

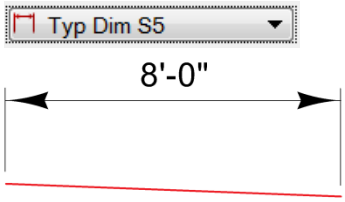
Begin by setting the level “Dimension Line” active.
Go to the *Dimensioning Tools* Tool Bar and select the Dimension Linear command 

Select a dimension style. The scale of the typical border is the scale used for your dimensions style. If you are using the prebuilt typical borders they are a scale of 5 so the dimension style will be Typ Dim S5.

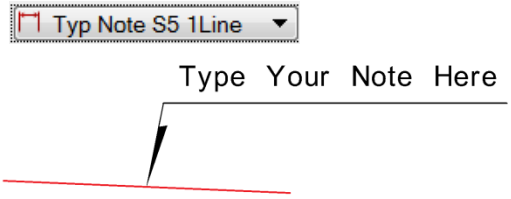


If there are no dimension styles in the list pick the magnifying glass then in the Dimension Styles window go to *Style/Import/Typical/Open.*

The Styles “Typ Dim S*” have full arrow heads.



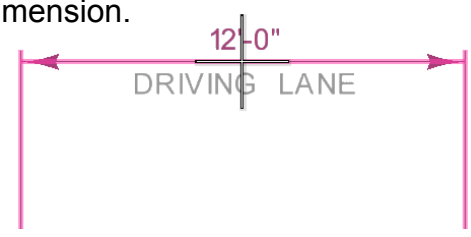
The Styles “Typ Note S* *Line” have half arrow heads.



Snap to each edge of driving lane and then pull the dimension upward until it is the correct height and accept.

If what you are dimensioning is one solid element you can use the 
Dimension Element command pick once on the element, drag the dimension up and accept. 

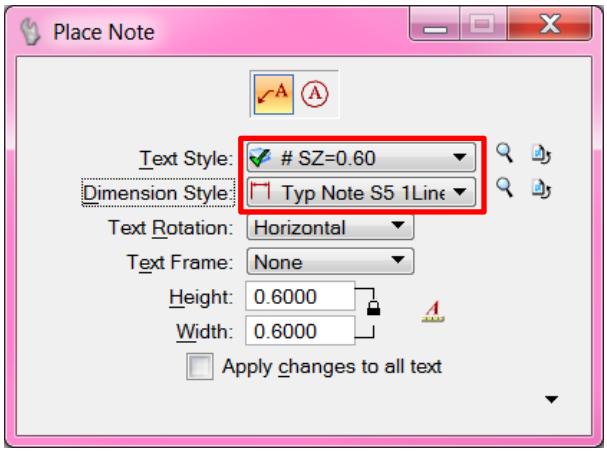
To place the Driving Lane text underneath the dimension go to the Place Cell command Change the scale to the same as the border (prebuilt typicals will be a 5). Pick the cell called NoteDL and snap to the center of the driving lane dimension.



How To Use Dimension Tools

The cells are already set to the correct spacing below the dimension line. Most of the dimension text needed for a typical has been added to the cell library. See page 3 for a full list of these cells. To place a dimension with a leader line and arrow use the Place Note command.

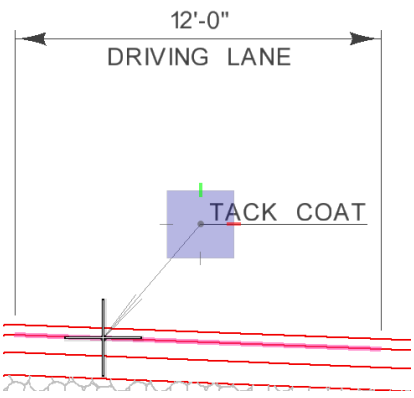
In the *Text* Tool Bar
Pick the Place Note command 

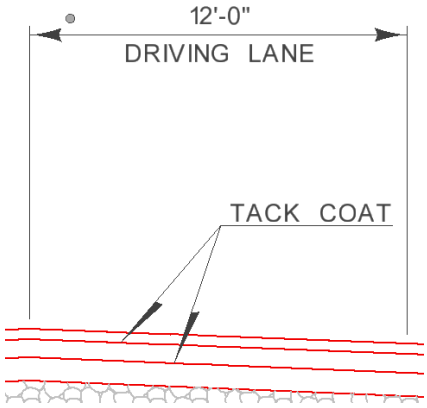


Change the text style to the correct size and the dimension style to the correct scale and lines of text you will be using.

You can either type the note in the Text Editor box that appears or if you just want to place the leader line and arrow leave the box blank.

Pick the point where the leader line needs to start. Drag the line, pick an end point and accept.





If dimensions are already placed and the scale needs to be changed select all the dimensions that need to be corrected. Select the Change Dimension  command pick the correct style and accept. This will change all dimensions that were selected to the new dimension style.

How To Use Dimension Tools

Below is a list of all the prebuilt cells and their descriptions used in the dimensioning of a typical.