

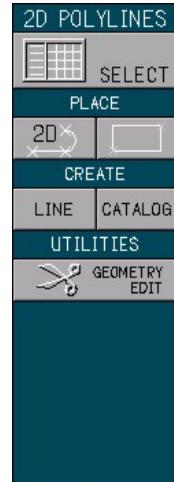
POLYLINES

The *polyline entity* is a special entity type in **ARRIS**. A polyline is defined by a series of vertices forming at least 1 segment (2 vertices), the polyline entity, and its properties. A polyline segment may be either a line or an arc.

Properties

PEN & COLOR [COL]: The pen and color properties are common to all objects.

LINE / ARC: Each individual segment within a Polyline may be either a line or an arc. The Line/Arc parameter is used while placing a polyline and determines whether the next point placed is the endpoint of a line or of an arc. Selection of the Line/Arc box toggles the setting between Line and Arc.



LINE / ARC	CLOSURE	ARC TAN	S ANGLE	SP DISP	SPLINE	TENS	SIDES	S WID	E WID	CLASS	TYPE	MODE	DSH1	SPC1	DSH2	SPC2
LINE	OFF	ON	0.0	ON	ON	1.0	64	0.0	0.0	NORM	0	NORM	N/A	N/A	N/A	N/A

CLOSURE: The Closure parameter determines whether or not the Polyline is a closed boundary or not. If Closure is set to yes, the Polyline is displayed with a segment closing it from the last vertex to the first.

ARC TANGENT: If the Arc Tangent parameter is set to On, when placing an arc as a Polyline segment, the arc will be tangent to any adjoining straight line segments.

START ANGLE: The default start angle for Polyline arc segments is 0.

SPLINE DISPLAY: If the Spline Display parameter is set to On, Polyline Spline Polyline will be displayed with the spline curves. If the Spline Display parameter is set to Off, all Polyline will be displayed normally (non-spline) even if they are placed with the Spline setting on. Selection of the box toggles the spline display on and off. Note that when the Spline Display is turned on or off, the display list is recreated.

SPLINE: If the Spline parameter is set to On, the Polyline will be placed as a spline line. Segments will be rounded to one another forming a fluid curve. If the Spline parameter is set to Off, the Polyline will be placed using standard line or curve segments. Selection of the box toggles the Spline setting on and off.

SPLINE TENSION: The Spline Tension setting determines how tight the curves are in a Spline line. The usable range for the *Spline Tension* factor is from 0.1 to 1.0, with the lower values (0.1) producing tighter curves and the higher values (1.0) producing looser curves.

DISPLAY SIDES: The Display Sides parameter specifies the number (minimum 3) of sides in a full circle. When used with an arc, the number of sides is reduced proportionally by the ratio of the arc to a full circle.

Note 1: When a Polyline is frozen, the Display Sides value will determine the number of line segments used to replace the arc portion of the Polyline. Only a proportional number of line segments (arc/full circle = replacement segments/display sides) will replace the arc segment.

Refer to the [Circles](#) topic for more information.

START WIDTH: A Polyline may have thickness. This parameter determines the width of the line at the beginning segment. Note that if the Start Width and End Width are different, the Polyline will taper.

END WIDTH: A Polyline may have thickness. This parameter determines the width of the line at the ending segment. Note that if the Start Width and End Width are different, the Polyline will taper.

LINE CLASS: The Line Class parameter determines the type of line used. For Polylines, the line class should be "Normal" (line font 0).

LINE TYPES: The *line type* defines the generated appearance of the Polyline. All segments within a polyline are of the same line type. Line types 0 (solid), 1 (dashed - 1 dash & 1 space), 2 (dashed - 2 dashes & 2 spaces), and 8 (dashed - 2 dashes & 2 spaces with 2nd dash/space repeating) may be used for Polylines. Refer to the [Line](#) topic for more information.

DASH MODE: Dash *mode* refer to the ending dash of a dashed line segment and apply to dashed line types. Refer to the [Line](#) topic for more information.

DASHES [DSH] & SPACES [SPC]: Specifies the dash and space lengths (paper [units](#)) for all dash lines. Refer to the Line topic for more information.

Polyline Select

POLYLINE SELECT: Selection of the Polyline Select button brings up the Polyline Select menu. From this menu you may select the line entity style to be used in the Polyline. Once



the selection is made, the Polyline may be placed with the parameters selected using any of the Polyline placement commands.

Polyline Placement Commands

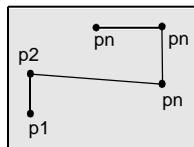
SINGLE 2D POLYLINE: This command adds a single Polyline by  specifying a series of vertices.

ARRIS will prompt for the First Point of the Polyline. Select the desired point using the F1, F2, F3, or F11 key, or by typing coordinates. The cursor will form a rubber band line to visually aid in selecting the next point.

Note 1: If the [XY Forcing](#) mode is **ON**, the rubber band line cursor will be locked to either the X or Y axis, which ever is closer to the crosshair. This indicates that the line being input will be forced to either the X or Y axis. Refer to the [XY Forcing](#) topic of this Encyclopedia.

ARRIS will prompt for the Next Point of the Polyline. Select the desired point similar to above. The line will be drawn from the first point to the second point using the current line parameters.

ARRIS will continue to prompt for points (vertices), adding each line or arc segment from the previous point as the next point is placed. An <Enter> or F10 selection at the Next Point prompt will end the placement of the Polyline and draw it on the screen. **ARRIS** will restart the Polyline input at the First Point prompt.



Note 1: The Line/Arc setting may be toggled during the placement of Polyline segments. The next segment placed will be a line or arc depending on the Line/Arc setting.

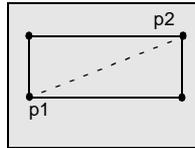
Note 2: The Polyline is not actually entered in the database until the placement is ended. The parameter settings, including line type and Spline status is determined at the end of the placement process at the time Polyline is entered in the database.

This command repeats. An <Enter> or F10 input at the First Point prompt will exit the command.

RECTANGLE: This command adds a 4 segment Polyline in the  shape of a rectangle.

ARRIS will prompt for the First Diagonal Point of the Polyline Rectangle. Select the desired point using the F1, F2, F3, or F11 key, or by typing coordinates. The cursor will form a rubber band rectangle to visually aid in selecting the next point.

ARRIS will next prompt for the Second Diagonal Point of the Polyline Rectangle. Select the desired point similar to above. The rectangle will be drawn with the first point and second point as opposite corners using the current line parameters.



Note 1: The remaining two vertices are automatically generated based on the first and second point XY components.

This command repeats so **ARRIS** will prompt for another First Diagonal point for Polyline Rectangle. An <Enter> or F10 input at this prompt will exit the command.

Create

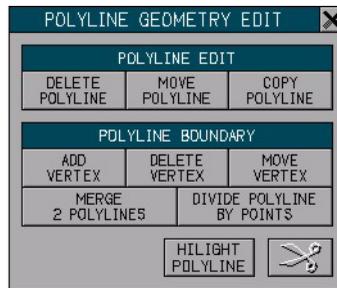
LINE: This button brings up the **Line/Curve Create** menu. From this menu, line styles may be created and saved to the current Entity Styles Catalog. Refer to the [Lines](#) topic for more information.

CATALOG: This button brings up the **Styles Catalogs** menu. From this menu the current Entity Styles *Catalog* may be selected, or a new one created. Refer to the [Catalog](#) topic for more information.

Geometry Edit

Selection of the Geometry Edit button brings up the Polyline Geometry Edit

menu.



DELETE POLYLINE: Selection of this button allows you to delete a Polyline from the drawing.

ARRIS will prompt for the Polyline to delete. The selected Polyline will be highlighted so that you can confirm the delete.

MOVE POLYLINE: Selection of this button allows you to move an existing Polyline from one location in the drawing to another.

ARRIS will prompt for the Polyline to move. The next prompt will be for a reference point for the move. The selected Polyline will then be placed on the cursor and **ARRIS** will prompt for a new reference location for the move.

COPY POLYLINE: Selection of this button allows you to copy an existing Polyline.

ARRIS will prompt for the Polyline to copy. The next prompt will be for a reference point for the copy. The selected Polyline will then be placed on the cursor and **ARRIS** will prompt for a new reference location for the copy.

ADD VERTEX: Selection of this button allows you to add a vertex to an existing Polyline.

ARRIS will prompt for the Polyline in which to add the new vertex. **ARRIS** will then prompt for the line segment within the Polyline to break with the new vertex. The cursor will change to a rubber-band anchored to the adjoining vertex points and **ARRIS** will prompt for the new vertex location.

DELETE VERTEX: Selection of this button allows you to delete a vertex from an existing Polyline.

ARRIS will prompt for the Polyline in which to delete the vertex. **ARRIS** will then prompt for the vertex within the Polyline to delete. Select the desired

vertex using the F3 key. The vertex will be deleted and the polyline will heal to the new configuration.

MOVE VERTEX: Selection of this button allows you to move a vertex in an existing Polyline from one location to another.

ARRIS will prompt for the Polyline in which to move the vertex. **ARRIS** will then prompt for the vertex within the Polyline to move. Select the desired vertex using the F3 key. The cursor will change to a rubber-band anchored to the adjoining vertex points and **ARRIS** will prompt for the new vertex location.

MERGE 2 POLYLINES: Selection of this button allows you to merge two existing Polylines in the drawing into a single Polyline.

DIVIDE POLYLINE BY POINT INPUT: Selection of this button allows you to divide an existing Polyline into two or more Polylines by drawing the division line using point input.

HIGHLIGHT POLYLINE BOUNDARY AND VERTICES: Selection of this button allows you to select a Polyline to highlight the Polyline boundary and vertices. It is particularly useful in locating the boundary vertex points where boundary lines are colinear and their intersection is not immediately apparent.

POLYLINE PARAMETER EDIT: Selection of this button brings up the general Edit menu with Polylines pre-selected as the Entity Filter.

Special Edits



There are 3 *Special Edits* for each entity type, found on the **EDIT** pull down menu at the bottom of the menu. As the entity type is selected under the [Entity Filter](#) heading, the 3 Special Edit buttons at the bottom of the menu will change, reflecting edits appropriate for the new Entity Filter selected. Refer to the [Edit](#) and [Entity Filters](#) topics for more information.

CHANGE CLOSURE: This command changes the Closure setting on the selected Polyline(s) to the current Closure setting as shown on the 2D Polylines Status menu.

CHANGE SPLINE: This command changes the Spline setting on the selected Polyline(s) to the current Spline setting as shown on the 2D Polylines Status menu.

SPECIAL EDIT: The third Special Edit button for Polylines is blank. This button is reserved for a future enhancement.

See Also

[Lines](#), [Circles](#), [Entity Types](#), [Entity Filters](#), [Search Methods](#), [Edit](#), [Repeated Item](#), [Font](#), [Geometry Units](#), [XY Forcing](#), [Object Snap](#), and [Function Keys](#).