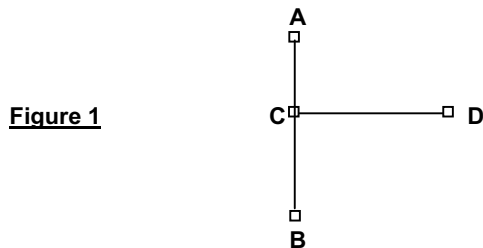


Smart Wall Cleanup – Tips and Tricks

In order to understand how to automatically "cleanup" the intersection of two walls, it is important to understand the difference between two types of intersection conditions in ARRIS: **affixed point** intersections and **inserted point** intersections.

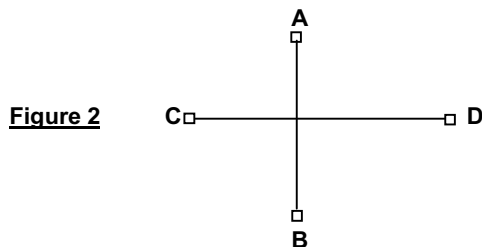
Consider the line intersection in **Figure 1** below:



In **Figure 1**, line **AB** and line **CD** were drawn so that point **C** is located somewhere along line **AB**.

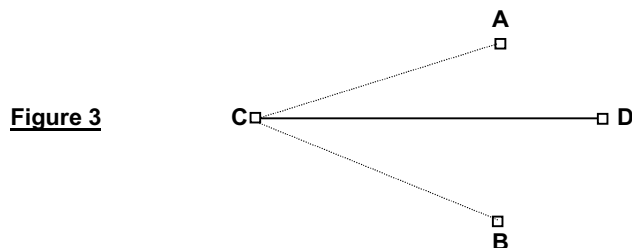
AFFIXED POINT

If point **C** were **affixed** to line **AB**, point **C** could be moved to a new location without affecting line **AB** similar to **Figure 2** below:



INSERTED POINT

If point **C** were **inserted** into line **AB**, moving point **C** would also affect line **AB**. That is, **inserting** point **C** would actually create 3 new line segments: line **AB**, line **BC** and line **DC**. Furthermore, if point **C** were moved to a new location, all line segments would be affected similar to **Figure 3** below:



As in **Figure 3** above, automatic wall cleanup only occurs when two intersecting Smart Walls share the same "insertion" point. That is, the endpoint of a new Smart Wall must be **inserted** into the existing wall line. As a result, it is important to learn which ARRIS Smart Wall tools you must use to make sure your walls contain **inserted point** intersections and not merely **affixed point** intersections.

Before reviewing the ARRIS Smart Wall tools, it is also important to remember that Smart Wall cleanup is also layer dependent. That is, intersecting Smart Walls must be placed on the same layer for cleanup to occur unless both layers are members of the same "wall group". For example, if you wanted your exterior layers to be on a different layer than you interior walls but still enjoy the benefit of the automatic wall cleanup, select the WALL GROUP menu from the bottom of the LAYER MODES menu and define both layers as being members of the same wall group.

WALL CLEANUP TOOLS THAT 'INSERT' POINTS

The following is a list of tools that will serve to **insert** a point at the intersection of two walls:

The F5 Key

The **F5** function key will snap to the nearest wall line and *insert* a point at a location where the cursor is nearest the wall. If **XY FORCING** is *on*, the point will be entered perpendicular to the last point entered.

This is very useful when used in conjunction with a *running wall* command when you wish to stop the running wall at another smart wall.

The **F5** key isn't as useful to *begin* drawing a wall since it is typically not associated with a precise coordinate (scaled) location. However, the **F5** key can be associated with a coordinate by using the **(x,y)@5** format. For example:

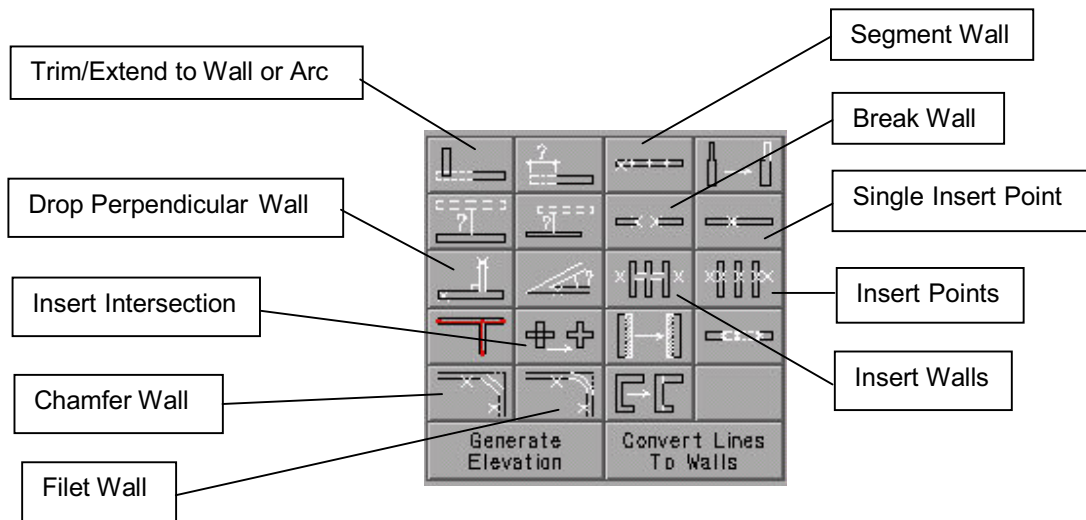
- (3)@5 *inserts* a point 3 units to the right along the positive X-axis from the current reference point.
- (,7.5)@5 *inserts* a point 7 1/2 units upward along the positive Y-axis from the current reference point.

Smart Wall Construction Tools

The following tools from the **Smart Wall Construction** menu can be used in various combinations to insert wall points:



Smart Wall Construction Tools Menu (Selections which 'insert' points)



Other useful options from the Smart Wall Construction Tools menu



Display Points — Displays wall justification line and all existing *insertion points* in wall



Heal Walls — Removes unattached wall points within a user-defined area



Flip Polarity — Reverses (flips) a Smart Wall's justification line from right to left or vice versa. This is useful for custom walls with distinct "inside" and "outside" material representation (i.e veneered walls).



Change End Closure — Allows wall intersection display to be either "closed" (butted), "open", or "automatic".



Align Wall — Aligns walls of a different thickness to be "flush" on one side



DB Points — Highlights all "database points" with a small "x". This is useful for determining addressable or erroneous points.



Trim/Extend Wall -Distance — Positive values *extend* (stretch) the wall endpoint nearest the cursor. Negative values *trim* (shrink) the wall endpoint nearest the cursor.



Angle — Draws a new wall at a specified angle relative to an existing wall. When selecting the existing wall, the endpoint nearest the cursor will be established as the beginning point of the new wall, and the opposite end will be considered as 'zero' rotation. All rotation will be positive in a counter-clockwise direction.

Useful Mnemonic Commands

The following mnemonic commands will also *insert* a point into a Smart Wall:

- sip — **s**ingle **i**nset **p**oint (same as *Break Wall* button).
- sii — **s**ingle **i**nset **i**ntersection (same as *Insert Intersection* button)
- ail — **a**utomatic **i**nset **l**ine (same as *Insert Walls* button)
- aip — **a**utomatic **i**nset **p**oint (same as "ail" above but does not connect insertion points with Smart Walls)
- cmfx — **c**omplex **f**ix (regenerates display list for Smart Walls entities only). This useful for quickly healing wall endpoints if you've deleted walls or openings without using the proper wall or opening edit commands.