ADOBE ILLUSTRATOR BASICS

Most of us never learn more than 40 percent of the functionality of our most-used computer applications. The other 60 percent tends to be techy stuff, silly filters and gimmicks, anyway. The instructions in this book are designed for the reader already 40 percent familiar with Adobe Illustrator. But just in case, the following is a brief refresher course with emphasis on some of the finer points frequently glossed over in manuals. This section does not comprise a complete course. It assumes that you are using Illustrator mainly to set type, tweak type and draw letters, toward the goal of designing logos and fonts. Other essential skills, such as use of the Pen tool, are covered elsewhere in this book. These lessons are written for Mac users, but, except for a few details like key combinations, they apply equally to Windows users.

FIRST, LET’S MEET The GANG

CLICKO
The Selection Tool is his Latin name, but we mostly call him the Black Arrow (or “Clicko” the moniker he him-self prefers). With one click, Clicko will solid-select all an object’s points or many objects that have been grouped.

POINTY
She answers to the Direct Selection Tool, or just the White Arrow, but we call her “Pointy” (AKA “Beziella”). She’s the most versatile of the arrow tools. Choose Pointy to select one, some, or all the points in an object or a path.

SHIFTY & OP
Formerly part of an a cappella group called the Off Keys, Shifty and Op help Clicko and Pointy add selections and make copies. While depressed, Op gives Pointy the same function as Clicko, so my feeling is, arrivederci, Clicko!

MARKY MARQUEE
He is a prime mover in the Selective Services department. Pointy drags him out of hiding so Marky can select one or more individual points on a path or object, or many paths and objects at once, not necessarily selecting them all.

The COMMANDER
The Commander, chairman of the keyboard, is essential for temporarily toggling back to Clicko or Pointy while using such pals as “Pensii” the Pen tool, “Brushé” the Brush tool, “Abeycee” the Type tool, or “Biggo” the Scale tool.

TYPE and CREATE OUTLINES

Choose the Type tool and click anywhere on the page to set some type. The blue point to the left of the underline tells us that this type is flush left, which is the default paragraph alignment. You can now choose to Align Center, Align Right, or Justify, if you wish.

Assuming you'll want to work with the type to edit the letterforms or add an effect, such as a drop shadow, it is advisable to save a copy. Hold down the Option key as you drag a copy away from your working area. Later, you may need this copy if changes or additions to the text are required.

Unless we’re doing a very simple logo, we almost always make type into editable objects. Select type and go to TYPE->Create Outlines (5-96-0). The paths and points you now see are exactly those drawn by the designer of the font. FTI, the placement of all anchor and bezier points in the example above happens to be ideal.

So far, we’ve been working in the Outline View mode, so the fill color of the type is not visible. Above, the type has been deselected (by clicking on any blank area of the page) so the points no longer show. Note, when type is made into outlines, the letters become “objects,” no different from any other closed paths or shapes.
With the White Arrow tool, we can select all points by dragging a marquee completely around all letters. Begin the marquee at any corner, provided the start of our drag is well beyond all the objects’ points. Look, I messed up. I didn’t start my marquee high enough and missed a point.

Hold down the Shift key and marquee the neglected point, or just click on it, also with the Shift key depressed. Damn it, I marqued too deep and accidentally included the 3 o’clock point. See, the Shift key lets us select an unselected point (or points) or deselect ones that are already selected.

Another way to solid-select all points in a bunch of objects: Press the Option key while dragging a marquee so it touches some part of every path or object we want to select (a). If we use the Black Arrow tool to select all, don’t press Option and marquee only one portion of each letter (b).

The marquee is, of course, only one way to select points. With the White Arrow tool, hold down Option and double-click either a path segment or a point to select all, like the / and its dot or the R and its hole. Two, three or more clicks will select entire groups and the subgroups within them.

When we switch our view to Preview mode (36-3), as imitated above, we can see our objects filled and/or stroked with the colors we’ve assigned. In Preview mode, we can fully select objects or groups by clicking anywhere within the fill with either the Black or White Arrow tools.

With the White Arrow, click a line segment between two points (a). Though all points remain hollow-selected, we can still drag the line segment as we like (White Arrow turns to black pointer when it drags). Or click a specific point (b) to drag it alone.

Here’s something to watch out for: If we make a marquee around a single point, or even a bunch of them, but the marquee unintentionally crosses over a line segment, when we drag the points, the segment will move also. After a while, we learn to become very precise in drawing marquees.

When we want to select several line segments to move them all at the same time, just click on each of the segments—not the points—one after another. Dragging any one of them will move all the line segments.

Often, we want to select the points in a certain area, but the rectangular-shaped marquee can’t avoid touching on points we don’t want selected. So marquee the desired points, then hold down Shift and click to deselect points, like a, that were unscheduled for selection. Or use the white Lasso tool to draw a more precise selection, b.

If we click on a path segment between two points whose bezier handles are extended, the path will not drag, it’ll bulge. A straight path, as above, shouldn’t have bezier handles, but it happens! So drag the handles back into the point (I’m never sure if they’re completely in) or just click them with the Convert Anchor Point tool.

We can purposely drag a path segment between two bezier points to alter the curve. The drag doesn’t have to start from the exact center. The spot you drag from—say, nearer to one point than the other—will affect the outcome of the curve. Editing curves this way has never worked for me. Try it, you may find otherwise.

To close this selection lesson, the simplest, though not the fastest, way to make selections is to just click on each point we want and not on the others. The more efficient way is to marquee all marquable points, then continue with direct point selection, one at a time, using the Shift key to add and subtract points as necessary.
GROUPING and UNGROUPING

When we set type with the Type tool and then Create Outlines (C-36-G), all the letters we typed automatically emerge as a unit called a “Group.” This makes it easy to select them all with one click of the Black Arrow or an Option-double-click with the White Arrow.

Within the larger Group, comprising all the letters thus liberated, are the individual letters whose parts, such as the closed paths of the dot over i and the holes or “counters” in such letters as a, are also Grouped. If we click with the Black Arrow just one point or one line segment of this overgroup, the whole deal will become solid-selected. With the White Arrow, we’d have to hold the Option key and double-click to select it all.

We have said that type and its component parts come automatically grouped. But we can also create Groups of our own, or Ungroup any groupings we don’t want grouped. Say we want to make the logo above, with the nifty just-added top and bottom rails, into a Group. We’d marquee the works and go to OBJECT>Group (or 36-G). Now we’ve created an even larger overgroup containing the original type plus the rails.

This grouped logo can now be easily selected to be moved or tweaked as one piece. Otherwise, what typically happens to ungrouped logos is that we neglect to select all the “pieces,” then try to drag them as one. We end up, as shown above, leaving behind parts, like the dot over letter i, and the counter in letter a. Did somebody ask why the counter of a looks solid orange, instead of clear white? See “Compound Paths,” below.

When we draw letters from scratch, we must group them ourselves. In the logo variation above, select letter i plus its dot and Group (36-G) them (it doesn’t matter that the dot has a different fill color). Then select all the letters plus the bottom rail and Group again. Another way to Group: Select all the elements and hit Merge in the Pathfinder palette. Now I’m wondering if that lowercase a reads as an i? We have to ask such questions of ourselves.

Groups can be friends...or foes. Say we draw a new dot over i. We dutifully try to Group this new combo, but an error message pops up: “Can’t make a group of objects that are within different groups.” When I read that, I just want to strangle Illustrator. Instead, we have to break for tea, come back and Cut (36-X) and Paste in Front (36-F) until the i stem forgets its former associations and agrees to be grouped with its fancy new dot.

Whereas the Group’s propensity to stay together is helpful, an annoying aspect of Groups is, as we’ve just seen, their reluctance to become ungrouped. For example, we place a copy of that i-dot off to the side for later use (see it, way over to the right, near the page gutter?). But when we select the i above, we may also unintentionally select that copy of the dot because, having been born of i, it thinks it still belongs to the i/Group!

To solve this problem, select the copied i dot by clicking it once with the White Arrow, then Cut (36-X) and Paste it in Front (36-F). Doing this, rather than just Paste (36-V), replaces the object in the same spot it was Cut from. Also, we can select the i-dot and go to OBJECT>Ungroup (C-36-G). However, I find that when an object’s life has included several groupings and regroupings, it sometimes refuses to Ungroup and may take several tries.

COMPOUND PATHS

The first time we computer letterers draw an O, we make a large circle and fill it black, then a smaller circle for the counter and fill it white. Then we wonder how to get the background fill color to show through the hole in the center which isn’t really a hole, it’s just another fill on an upper level. The proper way to punch a hole out of a letter like O is to select both circles, then go to OBJECT>Compound Path>Make (or 36-B). This will work perfectly provided we apply it to fresh-drawn virgin objects. However, when we’ve subjected the outer shape to various regroupings, or introduced a new counter shape to an object that had previously been part of a compound path with another hole or two, our attempts to Group may not take. Again, the solution is to repeatedly Cut (36-X) and Paste in Front (36-F) several times until the object forgets its former identity and through sheer exhaustion at being Cut and Pasted, over and over, agrees to be newly compounded. Another way to compound reluctant parts is to select both objects and use the Pathfinder tools Divide or Subtract From Shape to punch out the holes.

Holes, or “counters,” in compound letters appear see-through or white, yet they are actually filled objects. When counters are moved out of their positions within letters, they show their original fills (a), or they split the difference (b,c).
LAYERS, LOCKING, HIDING & GUIDES

We almost never draw a logo from start to finish without major amounts of editing, tweaking, changing our minds, moving and reworking. With really complex logos containing many elements and overlapping layers, it will be necessary throughout the creative process to Lock, Hide or move certain objects and areas of the work in order to "get to" other parts we want to tweak. Adobe Illustrator, like most programs, provides multiple ways of doing the same tasks. Features such as Layers, Lock, Hide and sometimes Cut, Move and Make Guides can all be used to help us clear the way to certain areas for point surgery.

If we use the Layers pallet, different parts of our logo can be placed on different layers so we can select one part without accidentally selecting another part. Lock all layers except the one(s) you’re working on. Click to highlight a layer to work in it (make sure it’s not locked). Above, the lower two layers are shown locked.

You’ll know your logo is built in layers because the selection outlines will be different colors (colors that you can choose and change at will). Above, the diamond backdrop, stroked letter and fill-only letter are on three different layers. (The blue outline of the fill-only letter has been cut away to show the stroked green layer below.)

Switching to VIEW->Preview mode, the logo above demonstrates an instance where layers are useful. By locking the black-fill top layer, it’s easy to select the orange-stroked middle layer to change the stroke weight or color. Otherwise, we’d need some way of getting the top layer out of our way in order to access any underlying layers.

Since using the Layers pallet can add extra steps, another way to access objects that are stacked in several levels is to Lock (\-L-2) certain levels while tweaking the art on other levels. Locking (which can easily be undone with Option-Command-2 or \-S-\-L-2) makes the locked object unselectable.

By clicking to select, then locking the yellow background, tan diamond, and both black letters above, we can marquee the orange-stroked letters on level 3 without selecting the art drawn on the other levels. Obviously, we couldn’t select level 3 if level 4 above wasn’t locked, because we’d end up selecting it, too.

Other ways to “get at” middle-level objects besides using layers or locking: Hide (\-H-3) will temporarily send objects to purgatory while we work on others free and clear of visual or actual encumbrances. Hide doesn’t involve the Mac Clipboard, so objects can stay hidden while still using Copy and Paste. Hit \-C-\-S-3 to Show all.

Another way to access objects or points covered by upper-level objects: Use any arrow key on your keyboard to move the covering object. Above, I selected the black letters and hit the Down Arrow key five times. After editing the orange-stroked letters, I’ll hit the Up Arrow key five times to move the black letters back into position.

Objects covering other objects can also be temporarily removed by using the Cut command (\-X). This places the removed object on the Mac Clipboard. Later, we can Paste in Front (\-F-\-F) to put it back. But this is a dangerous approach. We may forget we had Cut objects waiting in limbo and Copy or Cut something else, thereby losing the previous Cut object forever—unless we Undo (\-Z-2), Undo, Undo, etc. to return to before we Cut the second time. However, then we’ve lost the work we did prior to the Undos. I always make this mistake. So do not use Cut to hide. Use Hide to hide.

By clicking to select, then locking the yellow background, tan diamond, and both black letters above, we can marquee the orange-stroked letters on level 3 without selecting the art drawn on the other levels. Obviously, we couldn’t select level 3 if level 4 above wasn’t locked, because we’d end up selecting it, too.

Another way to get certain objects out of our way is to select them and turn them into Guides (\-G-5). Later, hit the keys \-C-\-S-5 to Release them from guidehood. But objects made into guides retain their level order, so if an object’s point is under a guide, it can’t be selected by clicking. It must be marqued, then first moved a bit out from under the guide with any arrow key before it can be grabbed and dragged with the White Arrow tool.

Guides are used in several ways. If we add Rulers (\-R-\-R) to our document window, we can drag horizontal or vertical guidelines from them onto our pages. Use these for making baseline, cap-height and overshoot guides for letters we draw from scratch. a, or to vertically align objects, b.

We may also make rough mouse drawings (or slightly better digital pen drawings), then turn them into Guides for more accurate Pen tool tracing. Ruler Guides have also been placed, above, to help keep all letters equal in height. On page 156 see how such letters may be drawn by assembling parts.
To turn objects, select the Rotate tool in the tool bar, click in the center of a solid-selected object like the square, a, then drag it. The square will spin in place, pivoting on its center, b, which is where we clicked to place the axis of rotation.

If the axis of rotation is instead placed off-center, as in c, the overall radius of the spin increases as the object swings around its axis point. Oh, look what a cunning, if asymmetrical, star shape appears, d.

Click the center point far from the object to be turned, as above, and the radius of rotation increases even more. When we are drawing letters, it can often be helpful to place our axis elsewhere than centered.

When would we need an off-center axis of rotation? Above, an R is being assembled in parts. At a, an ellipse for the counter has been drawn. At b, the ellipse has been rotated from the axis point shown to fall right into place, in one step.

Another use for an off-center axis: If we wanted to rotate the R to follow a curving baseline, c, the axis of rotation would best be placed off center as shown, d. (Of course, we'll still need to tweak the stem bases of R to better conform to the curving baseline.)

Yet another example utilizing an off-center axis. Axis was clicked below the selected object, e, then rotated while pressing Option and Shift keys, f. Option makes a copy, and Shift snaps the copy to perfect 90° alignment to provide my desired result at g.

The versatile Free Transform Tool (FIT) scales, rotates, shears, reflects, distorts and creates perspective. But it allows rotation from only a central axis within the eight-handed box, above, that bounds selected objects. When using this tool, press N to toggle to the White Arrow or you can’t select anything.

Drag a side or corner handle to Scale an object, a. Rotate from wherever the curly arrow pops up, b. Drag a corner handle to Distort, c, but hold down ⌘ after beginning to drag. The FIT does not allow us to make a copy while transforming, as we can by pressing Option (⌥) with other Transform tools.

In addition to dragging objects, the Rotate and Scale tools may both be employed by numerically specifying exact amounts of transformation. Click a spot just as when placing an axis point, but hold down the Option key. Up pops a pop-up window with fields to type desired percentages of rotation, enlargement or reduction. But unless we want to transform a series of objects not all at once, or we need to know the exact percentage to restore an object we'd earlier transformed, the instances when we'd use numerical pop-up windows are limited.

Like the Rotate tool, the Scale tool transforms an object starting from where we click our center axis point. Notice how dragging the rectangle, above, from its axis, a, produced much less enlargement at b, which was nearer to the axis, than at c, farther away.

The FIT bounding box tends to maintain its squared-off relationship with objects (d and f) even if they've previously been transformed with other tools. This is good! Less apparent in the tangent-handled bezier curve system is the concept of center axis orientation that in pencil and compass days helped us to keep inner and outer curves "registered" in some degree of pleasant relationship, e. The FIT's bounding box shows this. It also helps us restraighten spun objects.
The PATHFINDER PALLETs

Illustrator’s Pathfinder pallet is the main reason I begin drawing fonts in Illustrator, not Fontographer, which can merge shapes, but nothing more. In version 10, Adobe changed the Pathfinder tools to confuse what, in Illustrator 9, had been simple and intuitive. So I will explain the four Pathfinder tools in Illustrator 10 (noted above in red) that are the only ones I’ve found useful. Perhaps you will disagree with my conclusion that the remaining Pathfinder tools are either too obscure or redundant.

Use Add to Shape (AoS) to unite parts of an A. Select the parts, hold the Option key and hit the AoS button. The result is one solid mass. Without the Option key, AoS makes fills and strokes of selected objects identical, but each remains an individual. Hit the Expand button to actually unite them.

AtS helps us create a shape like f. Draw two circles. a. Drag point b till it’s clearly back of c. Draw a rectangle and drag by its southeast point to snap to the large circle’s south point. d. Drag the rectangle’s southwest point, e, to the circle’s south point, also. Hit Option-AtS to unite the pieces into f.

Never draw both sides of a vase, a letter V or any other symmetrical shape. Draw one side, a, use the Reflect tool plus Option key to reflect a copy, b. Notice that the center axis for both objects is placed so that an overlap shall occur. Objects that don’t overlap cannot be united with AtS.

Then, use AtS to unite the two sides into one piece, c (do V and vase separately). Notice that superficial points end up at the perimeters of overlap, d. Excess points complicate shape editing; in drawing letters for fonts, extra points must be removed. For the vase drawing, it’s your choice.

Subtract from Shape Area (SIS), previously called Minus Front, cuts an upper object’s shape out of one beneath it. Above, rectangle a, aligned with the right side of R’s vertical stem, has been drawn over the ellipse, b, that will be the counter. Trim c using SIS plus the Option key.

At d, a rectangle partly covers ellipses e and f that will become the counters for letter B (g). Since SIS crops only one object at a time (annoying!), Copy d, select it plus e, hit SIS then Paste in Front (Option-F) the rectangle, and this time trim f with SIS. Minus Back just does the opposite of SIS.

The two counters in B, a, must now be knocked out as Compound Paths. Either: (1) Hit 39-8 to Make Compound Paths. (2) Select B plus one counter. Hit SIS, then select B and the second counter and use SIS again. Or (3) select B plus both counters and hit Divide, then select and delete the counters. Result shown at b.

Divide could also have been used to make B. Divide slices objects along the lines of their intersecting strokes so several objects can be cut apart at once. Then we just delete any excess pieces. Above, select all the parts (c). Use Divide to separate them (d). Select and delete the xs. Use AoS to unite the segmented parts of B as one.

Divide can be used on a single object if it has strokes intersecting itself. Above, here’s how to turn serif letters, a, into sans-serif ones, b. At c, select then drag all points in red out past the serifs. The c point of R must be pulled way down till the stroke gets fairly straight. Pull out the bezier handles, not the points, at d and e until strokes become almost straight horizontal. Now select the letters and press the Divide button. Finally, select and delete excess pieces (at f, shown in red). Final result shown at g (note: I weighted up the thin strokes and squared the leg of R). This technique with Divide can also be used to turn rounded corners into square ones.