Custom Address Numbers
INTRODUCTION to INSTALLATION

Almost all mass produced address numbers have screw-holes through their front faces.
Practical? Yes.
Aesthetically pleasing? No.

Here are the steps involved in achieving a beautiful 'blind-fastened' installation of your new address numbers.

If you are not feeling confident about doing this yourself, call a local sign shop for help. (However, it's not as difficult a job as the *length* of the FULL & COMPLETE instructions below might suggest - Much of that length is due to us responding to hypothetical "if's, and's, or's & but's" that may never, ever come up).

8 STEP EXECUTIVE SUMMARY of what you will find (at greater length) below:

NOTE: *This set of instructions assumes our most common size of threaded rods – which are 3/16" in diameter. Occasionally our smaller digits are shipped with threaded rods that are 1/8" in diameter. If your numbers have been shipped with this size,* ***subtract 1/16"*** *from each of the* ***suggested drill bit sizes*** *below* [For example: 7/32" – 1/16" = **5/32" =** drill bit size for 1/8" threaded rods]

A. Lay the paper Drilling Template on a flat but inconsequential surface [ie. A daily newspaper works fine]: poke holes through the paper with a pin or small nail point at each marked stud location.

B. Tape or tack this completed template to your chosen mounting surface. Mark the stud locations on the wall with a fine point pencil.

C. Remove template and use a hammer and nail to indent each pencil-marked location.

D. Using a **drill bit** that is **1/32" bigger** than the outside diameter of the threaded rods that were shipped with your order***,** drill holes to a depth of **x"** (where **x** = length of threaded rods minus thickness of digits minus 1/8" minus depth of standoffs)****** at each indented location.

* See top of Page 6 for how to tell which one of our two sizes of threaded rods you received

** See Footnote(s) at top of Page 6 for example of this formula

E. Screw the threaded rods into the backs of the numbers. *Note: Do not tighten against back side of number 'face' - this may dimple the front.*

F. Do a trial fitting of the numbers in the holes. If they are too tight - re-drill holes with a **drill bit** that is **1/16" bigger** than the outside diameter of the threaded rods that were shipped with your order*****.

* See top of Page 6 for how to tell which one of our two sizes of threaded rods you received

G. Squeeze a small amount (1/2" depth) of silicone into all of the holes for the first number and press the number into place. Repeat until finished.

H. Adjust the numbers until their faces are flat in relation to each other (the silicone will allow you about 10 to 15 minutes of adjusting time).

- Clean with WD40 or Counter Top Magic.
- Phone for Chinese food delivery and watch them effortlessly deliver to the correct address.

That's really all there is to it.

So why, you might ask, do the FULL & COMPLETE INSTALLATION INSTRUCTIONS go on for pages and pages?

If you have ever assembled a gas barbecue/grill, replaced the chainsaw chain or programmed a VCR or fax machine you will understand that nothing ever goes quite as smoothly as the instructions might lead you to believe. (To quote one of John Cleese's characters in a Monty Python skit on *How to Play the Flute:* "You just blow in one end and move your hands up and down the outside.")
The FULL & COMPLETE guide below was written by a few of us who have skinned our knuckles, painted ourselves into corners, or shut down the neighborhood power grid while attempting a few small repairs.

FULL & COMPLETE INSTALLATION INSTRUCTIONS

Installation tools and materials are indicated in boldface below (not all may be necessary). THE FOLLOWING INSTRUCTIONS ASSUME YOU WERE SHIPPED 10-32 OR 10-24 THREADED RODS [which are 3/16" in diam.]. See top of PAGE 6 for easy method for how to determine if you received 6-32 threadeds [which are 1/8" in diam.]. If so, subtract 1/16" from each of the drill bit sizes listed in paragraphs 1 through 5 below.

1. If the horizontal spacing of the number outlines on the **paper template** is NOT to your liking, cut it into individual number templates. Then, **tape** the individual **paper templates** together to achieve the spacing you desire (if you are *increasing* the spacing - tape these to a 2nd larger piece of paper). PLEASE NOTE: All fonts - whether numeric OR alphabetic - vary in height from character to character. (The apparent equality of height is an illusion the human eye completes). 1's, 2's & 4's are usually shortest; 0's, 3's, 6's, 8's & 9's are usually tallest; 5's, & 7's are usually in between. These same groups of digits also share rules for vertical alignment with each other.

When taping your individual number templates together, consult **Fig. 1** below for the basic rules of vertical alignment.

These numerals align with each other at the *bottom*. (Note that the *top* of the **2** aligns with the *tops* of **0, 3, 6, 8 & 9.** But: this kind of **6** would be an exception to that rule).

These numerals align with each other at the *bottom*. (Though this kind of **9** would be an exception to that rule). They fall below the *base line* of **1, 2 & 4**, and rise above the *top line* of **5 & 7**.

They can be **centered** between the *base line* of a **1, 2 or 4** and the *top line* of a **5 or a 7**. Ⓐ = Ⓑ as shown above.

A flat-topped 3 (less common) shares the same *top line* with **5 & 7**.

These numerals align with each other at the top. (Note that the bottom of the **5** aligns with the bottoms of **0, 3, 6, 8 & 9**).

7's can only be depended on for their *top* alignment - some styles fall *below* the *base line* of **1, 2 & 4** while others do *not*.

Fig. 1

Fig.1 is by no means the whole story. But if the explanation above has you as confused as my editor *(Be nice - Ed.)* - here's a summary in simple *(!)* english:

- Flat bottomed numbers align with other flat bottomed numbers at the bottom.
- Flat topped numbers align with other flat topped numbers at the top.
- Round bottomed numbers align with other round bottomed numbers at the bottom.
- Round topped numbers align with other round topped numbers at the top.

2. a) IF YOUR EXTERIOR MOUNTING SURFACE IS FLAT, tape the assembled paper template to the wall. (Use a level if necessary to find absolute horizontal - the human eye can also be quite reliable, but if in doubt, do use a level). **IF YOUR EXTERIOR MOUNTING SURFACE IS UNEVEN**, go directly to Step **2.b** below.

Mark each hole center with the point of a **nail** and a **hammer** (OR puncture each hole center in the paper

template with the point of a **pin** or **nail** before taping it to the wall, then mark the wall through the holes in the paper with a fine point **pencil**. After removing the template, follow this up with a hammer hit to a nail or **center punch** to the pencil marks on the wall).

i). With a **7/32" bit**, drill holes approximately x" (where x = length of threaded rods minus thickness of digits minus 1/8" minus depth of standoffs [OR minus how far you would like the numbers to stand proud of the mounting surface]) into the surface of your exterior wall (this will allow the numbers to stand off of the wall at a minimum of ¼"). *See Footnotes on Page 6.*

ii). Screw the **threaded rods** (included) into the **threaded inserts** on the back of each number. ***Note:*** *Do not tighten against back side of number 'face' - this may dimple the front..**

*****This does not apply to our Aluminum address numbers.*

iii). Proceed to **Step 3** below…

2. b). IF YOUR EXTERIOR MOUNTING SURFACE IS UNEVEN, make a **wood template**: (If your exterior mounting surface is FLAT - We told you once: Proceed to **Step 3** below)…

TO MAKE A WOOD TEMPLATE -
Tape the **paper template** to a **flat board** (ply, particle, MDF etc - board should be 1/2" thick for ship lap; ¾" thick for very uneven split-faced stone) and mark each **hole center** with the point of a nail and a hammer.

Drill a **7/32" hole** in each marked location. It is preferable to do this on a **drill press*** as it will bore the holes at a perfect 90 degrees to the face of the board.

***If you do not own a drill press (the majority of us do not):** Look in the Yellow Pages under "Cabinet Makers" (not "Kitchens" or "Kitchen Cabinets" as they are generally "showrooms" full of salespeople who have neither seen nor held a drill). Phone the smallest shop you can find and explain your task. **Even better:** Show up unannounced (as the job always sounds more complicated over the phone). Most smaller cabinet shops will do it for $5 cash (even if they take 5 minutes - they'll still pull in $60 an hour - close to or above their normal "Shop Rate"). For another $5 they will happily cut you the piece of particle board or MDF you didn't bring because you don't own a table saw (the majority of us do not). [FYI: Particle board & MDF have a street value of approximately 75 cents to $1 per square foot].*

i). Screw the threaded rods (included) into the **threaded inserts** on the back of each **number**. ***Note:*** *Do not tighten against back side of number 'face' - this may dimple the front.**

*****This does not apply to our Aluminum address numbers.*

ii). Do a trial fitting of the numbers in the holes in the **wood template**. If they seem too tight or are reluctant to go in without force, do not proceed. Instead, enlarge the **holes** in the **wood template** with a **1/4" bit** (right beside the 7/32" bits in most larger hardware stores).

Do another trial fitting. If the numbers are aligned to your satisfaction, remove the numbers from the holes. Remove the threaded rods from the numbers and proceed to the next step.

iii). With a **7/32" bit (OR 1/4"** if you enlarged the holes - as described above), drill one (1) hole in your exterior wall (This hole should correspond to the **top left hole** on your **wood template** Drill holes approximately x" (where x = length of threaded rods minus thickness of digits minus

1/8" minus depth of standoffs [OR minus how far you would like the numbers to stand proud of the mounting surface]) into the surface of your exterior wall (this will allow the numbers to stand off of the wall at a minimum of ¼"). *See Footnotes on Page 6.*

[For brick, stucco & stone, use a **masonry bit.** These can be found at most larger hardware stores & home centers & will work in regular (rotation-only / non-hammer) drills. For even easier drilling - or if you have dozens of holes to make - industrial grade **carbide-tipped masonry bits** for regular (rotation-only) drills can be found at *professional* tool centers (ie: the places that normally sell to the building trades). A final option: Browse the Yellow Pages under "Tile - (Ceramic) - Contractors" and arrange for a 10 minute visit by someone with a **hammer drill** and a **7/32" masonry bit**].

iv). Push one **threaded rod** into this hole.

v). Push the **wood template** onto this **threaded rod.** Hold the template level (tape your level to the top edge of your wood template for this) and drill through the **top right template hole** until you have reached sufficient depth (OR: drill in part way, pull out the drill, rotate the template away, and drill to sufficient depth).

vi). Push one **threaded rod** through the top right hole in the **template** and into the second hole in the **exterior wall**. The template will now be suspended from the wall by the 2 threaded rods. (If wall surface is **extremely uneven**, drill 2 more of these holes - bottom left & right - and insert 2 more threaded rods. Hang wood template from these 4 threaded rods). **See Fig. 2**

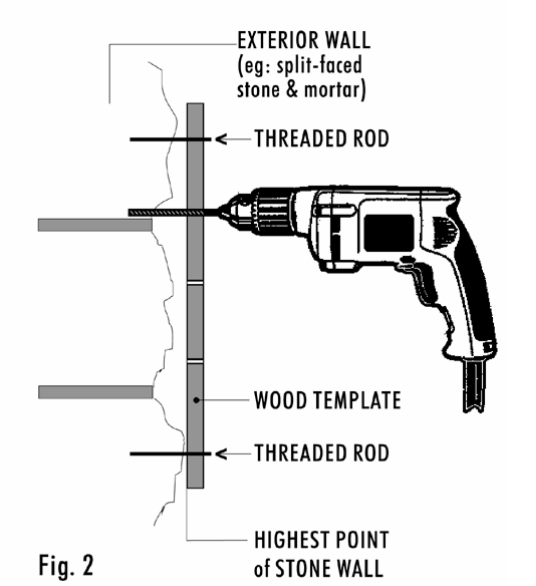

Fig. 2

vii). Drill the rest of the holes.

viii). Remove the template. Drill holes to sufficient depth if necessary (very likely).

ix). Screw the **threaded rods** (again) into the **threaded inserts** on the back of each **number**.

3. Do a trial fitting of the numbers in the holes. *[If you have proceeded here from **Step 2.a)** read the rest of this paragraph. If you came here from **Step 2.b) ix)**, proceed to the next paragraph]*. If they seem too tight or are reluctant to go in without force, do not proceed. Instead, pull out the numbers and enlarge the holes with a **1/4" bit** (right beside the 7/32"" bits in most larger hardware stores). Do another trial fitting.

If the numbers are aligned to your satisfaction, remove them from the wall and proceed to **Step 4** below.

If they are NOT aligned to your satisfaction, please note:

A. The extra 1/16" that each 1/4" hole is larger than the 3/16" threaded rods leaves room for insertion of a **straight pin**, straightened **paper clip** (smallest size) or a **flat toothpick** (some larger toothpicks and paper clips may require enlarging that specific hole with a **1/4" drill bit**). These "shims" (pin, paper clip or toothpick) can be used to persuade any one of your numbers to the right or left, up or down - when used in conjunction with a hole larger than 7/32"". Keep in mind that only the most particular and discerning among us can detect alignment variations that small.

B. Remember, as stated above: All alpha-numeric fonts vary in height from character to character. 1's, 2's & 4's are usually shortest; 0's, 3's, 6's, 8's & 9's are usually tallest; 5's, & 7's are usually in between.

4. Blow the drilling dust out of the holes in the wall. **Brush** the drilling dust (especially if it's masonry dust) off of the threaded rods. Then...

a). IF AND ONLY IF you are installing to a FLAT SURFACE (most exterior walls are NOT: Even smooth-faced brick has recessed mortar areas) - slide the **standoff tubes** onto the threaded rods.

b). With a **caulking gun** or squeeze-tube (if you don't want to buy a caulking gun for just this occasion, most larger grocery &/or do-it-yourself [Home Depot, etc] stores carry small squeezable tubes of silicone), inject a small amount of **clear silicone** into the holes of the first number. Do not fill the hole entirely or inserting the rods will be difficult. A 1/2" long by 3/16" diameter bead is just about perfect: Time your 'squeeze' by dispensing a 1/2" amount somewhere visible, then squeeze for the same duration into each hole.

c). Insert the first number and press in until just short of your desired distance from the wall.
[**IF** you are using the **standoff tubes** mentioned in S**tep 4.a)** above - tap the numbers until each standoff makes firm contact with both the exterior wall AND the back of the number. Proceed to **Step 4.f) and f. ii)** below - Ignore **4.f. i)**]

d). Repeat steps **'b'** and **'c'** until finished.

e). With the **heel end of your fist** (it's the softest "hammer" around and always available) tap the numbers into facial alignment with each other.

Use a **level** if necessary to vertically 'plumb' the faces. Use a **straight edge** (the level or the edge of the wood template) or a trusty **'eyeball'** to horizontally align the number faces with each other (see the **8 Step Executive Summary** - much simpler explanation).

f). *Unlikely, but nice to have a plan if the following happens:*
If they drift out of position slightly when you let go of them:

i) cut small pieces of **styrofoam** or **cardboard** (with a bread knife) to space the numbers a set distance away from the wall;

ii) use **packing-, duct-** or **masking-tape** to pull them closer to the wall. *The small amount of silicone employed will give you between 10 and 15 minutes to make easy adjustments. Full setup time is closer to 24 hours. Consult the package instructions.*

g). After 2 hours: Clean and polish the numbers with **Counter Top Magic*** or **WD40***.
* *Does not apply to our Aluminum address numbers*

5. Stand back and admire your handiwork. Relish the thought that an installation this *apparently* complex is both simple and satisfying when pursued step by step.

HOW TO TELL WHAT DIAMETER THREADED RODS YOU HAVE

On a smooth table surface make a stack of the following **coins**: **Quarter** on the bottom, **nickel** in the middle and a **dime** on top. Lie one of your **threaded rods** down on the table [horizontally[. Make one end of it touch the edge of the stack of **coins** at 90 degrees.

• If you can easily slide the **dime** over top of the **threaded rod** [while not letting it lose contact with the nickel] – you have size 6-32 threaded rods. **Your initial drill bit size should be 5/32".**

• If the **dime** buts up against the end of the **threaded rod** but does not ride easily over it without losing contact with the **nickel** – you have size 10-32 threaded rods. **Your initial drill bit size should be 7/32".**

**** Minimum Drilling Depth Formula (footnote from Pages 1 & 3)**

FOR (HOLLOW) STAINLESS STEEL DIGITS

How to find the value of "X" (in other words - how deep to drill the holes) - where "X" = length of threaded rods minus thickness of digits minus 1/8"[1] minus depth of standoffs

[1] *This assumes you will screw the rods into the backs of the numbers just less than 1/8" away from the back side of the number "face"*

For example, if the threaded rods are 3" long, the digits are 1/2" thick & the standoffs are 1/2" (if not using the standoffs - replace this figure with the distance away from the mounting surface that you would like the digits to "stand off") the math would look like this:

In numbers: 3 - (1/2 - 1/8) - 1/2 = 2 1/8"
In english: 3" threaded rods minus (1/2 thick address numbers minus 1/8") minus 1/2" standoff depth = 2 1/8"

In the above example, "X" (depth to drill holes) = 2 1/8"

Please Note: Above is the MINIMUM DRILLING DEPTH only - you can drill deeper - and in fact, sometimes this is preferable, as the silicone CAN give some resistance when the THREADED RODS bottom out in the hole.

FOR (SOLID) ALUMINUM DIGITS

Same as above EXCEPT: replace the phrase (and formula) "**thickness of digits minus 1/8**" " with the following information: "**depth of threaded holes on backs of numbers**"...

The formula would then read:

"X" = length of threaded rods minus **depth of threaded holes on backs of numbers** minus depth of standoffs

For example, if the threaded rods are 3" long, the digits have 1/4" deep threaded holes in their backs & the standoffs are 1/2" (if not using the standoffs - replace this figure with the distance away from the mounting surface that you would like the digits to "stand off") the math would look like this:

In numbers: 3 - (1/4) - 1/2 = 2 1/4"
In english: 3" threaded rods minus (1/4" deep threaded holes in backs of numbers) minus 1/2" standoff depth = 2 1/4"

In the above example, "X" (depth to drill holes) = 2 1/4"

Please Note: Above is the MINIMUM DRILLING DEPTH only - you can drill deeper - and in fact, sometimes this is preferable, as the silicone CAN give some resistance when the THREADED RODS bottom out in the hole.