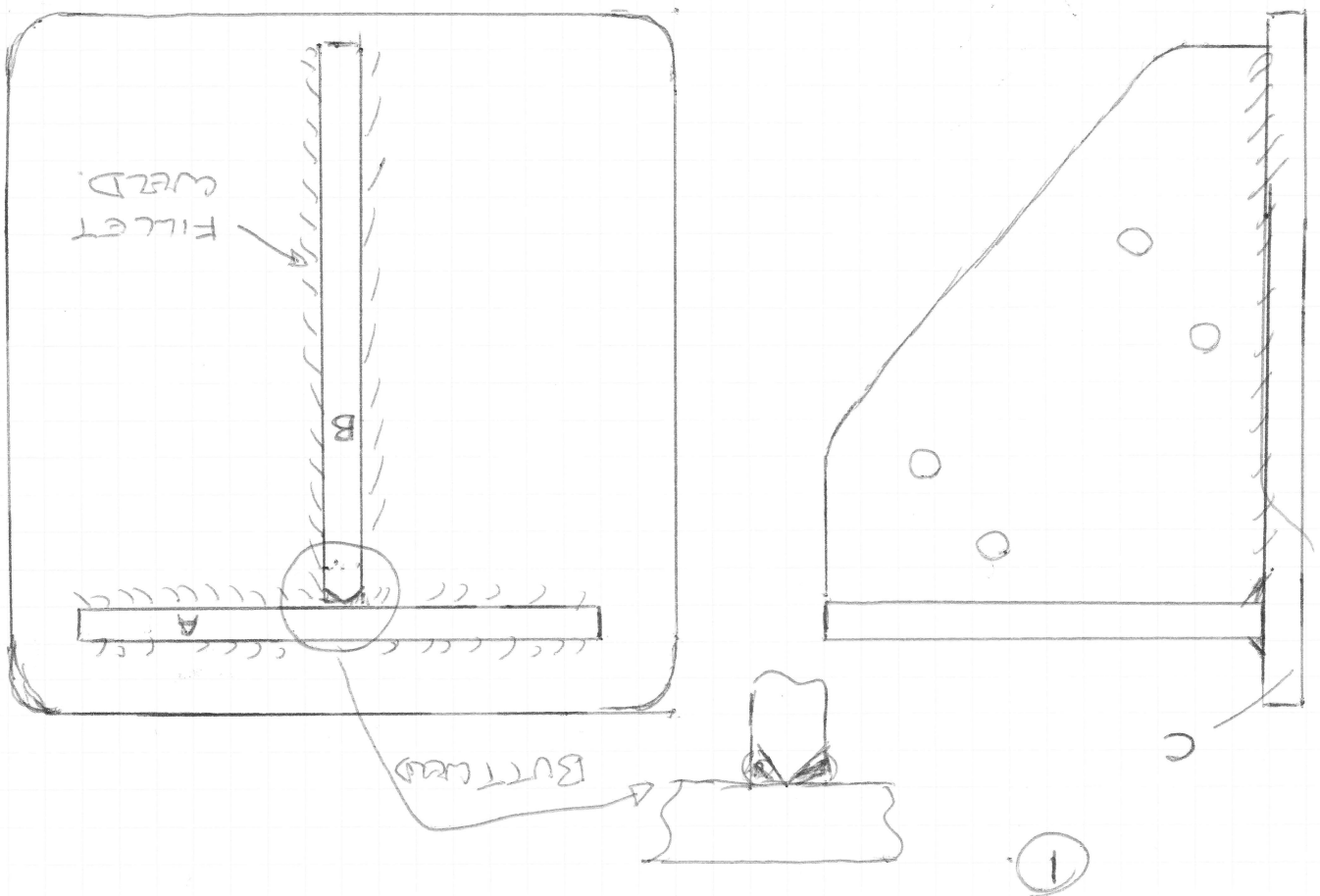
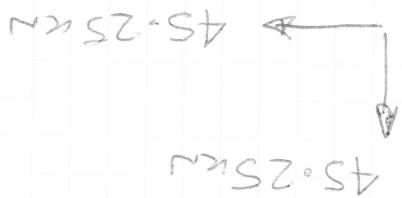
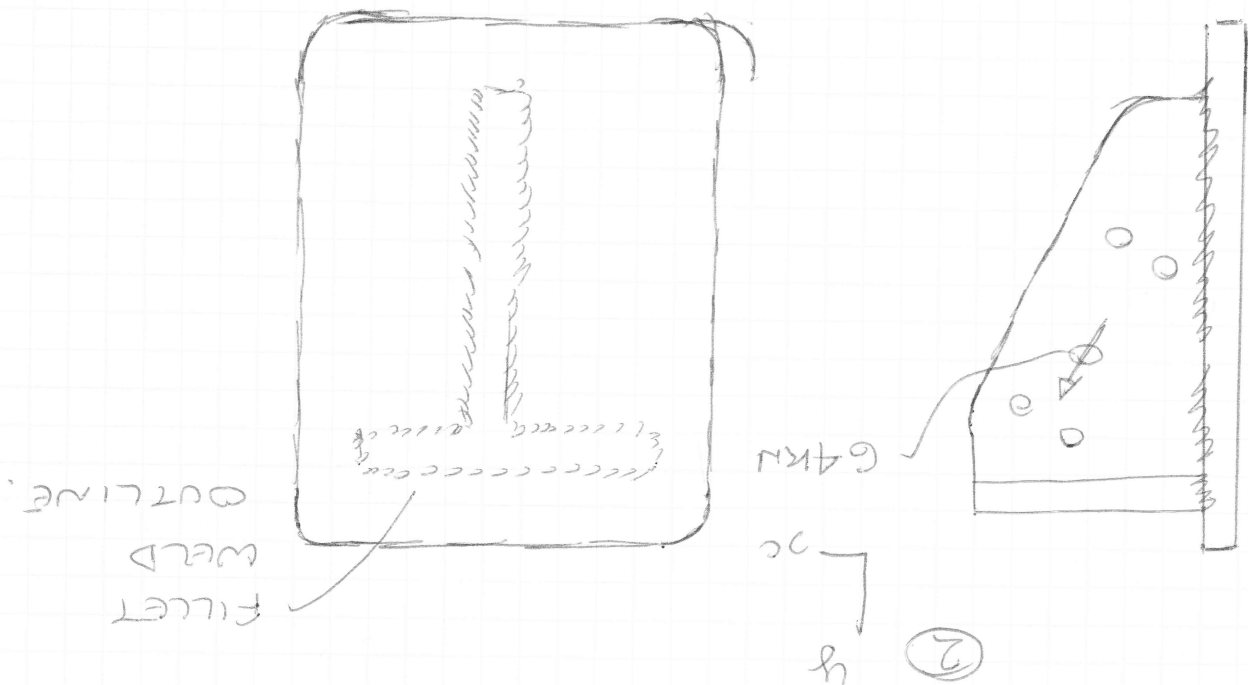


IF POSSIBLE WELD PLATES A & B TOGETHER WITH A BUTT WELD, THEN WELD THE $\frac{1}{4}$ SHAPE TO ALL ~~AROUND~~ PLATE C WITH A FILLET WELD ~~AROUND~~. ONCE THE PLATES (A) & (B) ARE WELDED WITH A BUTT WELD AND PROVIDED THE WELD IS DONE CORRECTLY IT WILL HAVE THE SAME STRENGTH AS THE PLATE MATERIAL AND DOESN'T THEN NEED TO BE CONSIDERED IN THE STRESS ~~ANALYSIS~~ ANALYSIS.



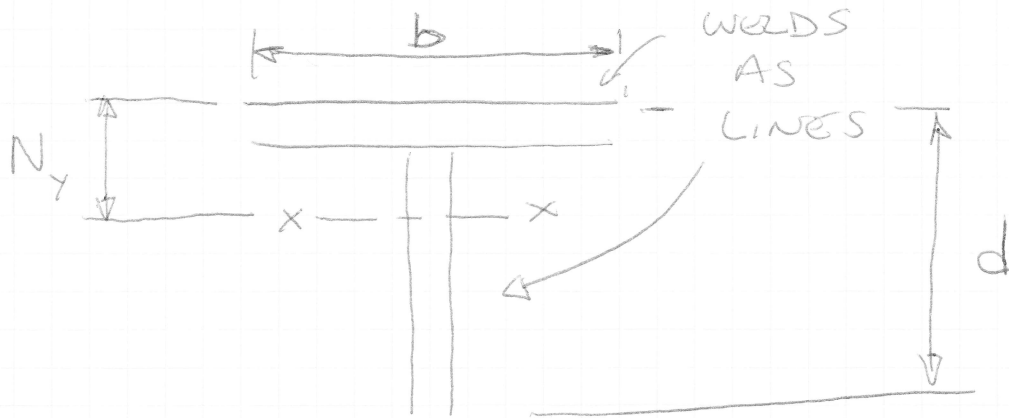
IN THE HORIZONTAL DIRECTION SHEAR STRESS
 ONLY NEEDS TO BE CONSIDERED TRANSVERSE
 TO THE WELD.
 IN THE VERTICAL PLANE SHEAR STRESS &
 TENSILE STRESS DUE TO BENDING NEED
 TO BE CONSIDERED.

Assume 64 kN Acting At 45°
 Resolve Horizontally & Vertically

③

TREAT WELDS AS LINES



$$N_y = \frac{d^2}{b + 2d}$$

Z_w = SECTION MODULUS

$$Z_{w \text{ TOP}} = \frac{4bd + d^3}{3}$$

N_y = NEUTRAL AXIS

$$Z_{w \text{ BOTTOM}} = \frac{4bd^2 + d^3}{6b + 3d}$$

$$f = \frac{M}{Z_w}$$

WHERE M = MOMENT ACTING

Z_w = SECTION MODULUS
(WELD TREATED AS LINE)

$$f = \frac{\text{FORCE}}{\text{UNIT LENGTH OF WELD}}$$