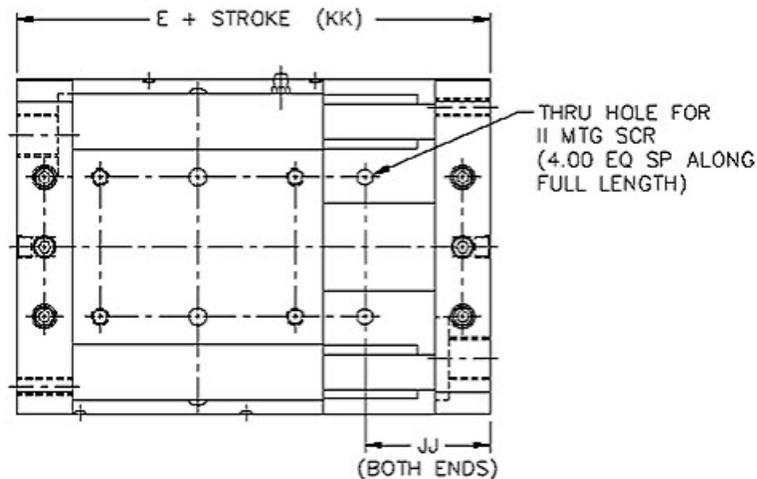**BIMBA**

High Load Ultran® Mounting Holes

This technical tip explains the High Load Ultran® mounting hole calculation shown on page 5 of the UHL catalog in more detail.

Bore	E	II
1-1/4" (12)	5.875	#10
1-1/2" (17)	6.500	1/4"
Where II is size of Mounting Screw Above		

Mounting Hole Calculation:

$$JJ = \frac{KK - (INT\,\overline{(4)}^{KK} \times 4)}{2}$$

$INT\,\overline{(4)}^{KK}$ means to take the integer (the number to the left of the decimal place) of $\frac{KK}{(4)}$, where KK = (E + Stroke)

If Result <1.85, Add 2 to the result. **Note:** The second formula in the catalog is correct, but it has been found you get the same result by just adding 2 to the result, which is easier than redoing the new calculation.

For Example: For a 1-1/4" bore unit with an 8 inch stroke, JJ is calculated as follows: >

$$KK = (E + Stroke) = (5.875 + 8) = 13.875, \text{ so } JJ = \frac{13.875 - (INT^{\frac{13.875}{(4)}} \times 4)}{2}$$

$$INT^{\frac{13.875}{(4)}} = INT\ (3.468) = 3, \text{ so } JJ = \frac{13.875 - (3 \times 4)}{2} = \frac{13.875 - (12)}{2} = 0.938$$

JJ = 0.9375, **which is < 1.85**. So, JJ = (2 + 0.9375) = 2.938

For a 1-1/2" bore unit with a 9.25 inch stroke, JJ is calculated as follows:

$$KK = (E + Stroke) = (6.500 + 9.25) = 15.75, \text{ so } JJ = \frac{15.75 - (INT^{\frac{15.75}{(4)}} \times 4)}{2} \quad \text{and}$$

$$INT^{\frac{15.75}{(4)}} = INT\ (3.938) = 3, \text{ so } JJ = \frac{15.75 - (3 \times 4)}{2} = \frac{15.75 - (12)}{2} = 1.875$$

JJ = 1.875, **which is > 1.85**, so JJ = 1.875

Sets of Mounting Holes

The following formula can be used to calculate how many sets of mounting holes will be required for any given stroke length.

$$\text{Sets of Mounting Holes} = (INT^{\frac{KK - 1.375}{(4)}} + 1)$$

If the second formula is used to calculate JJ (When JJ < 1.85), use the following formula:

$$\text{Sets of Mounting Holes} = (INT^{\frac{KK - 1.375}{(4)}})$$

For example, if we use the first example from page 1, the number of sets of mounting holes would be found by:

$$\text{Sets of Mounting Holes} = (INT^{\frac{KK - 1.375}{(4)}}) = INT\ (3.125) = 3 \text{ sets of Mounting Holes.}$$

Leaders in Actuation.

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