

11

DATE

7-73-44

SUBJECT OF EXPT.

7x1 main Spring

FIRED LENGTH 3.375"

COCKED LENGTH 3.030"

 $d = .055"$ $D = 3.95 - .055 = 3.895"$ $n = 38$ ACTIVE

19# at 3.375" = 6.14 ENERGY

$$P = \frac{F A G}{8 n D^3} = F \left(\frac{9.15 \times 10^{-6}}{8 \times 38 \times .0393} \right)$$

Set from
19# to
6.14

$$= F 8.8$$

$$8.8 (L - 3.375) = 19$$

$$L = \frac{19}{8.8} + 3.375$$

$$L = 5.485 - 5.50"$$

$$\text{FIRED } P = 19$$

$$\text{COCKED } P = 8.8 (5.50 - 3.03) = 21.7$$

$$\text{STACKED } P = 8.8 (5.50 - 2.11) = 29.6$$

$$S = \frac{8 P D}{\pi d^3} = P \left(\frac{8 \times 3.95}{\pi (.055)^3} \right)$$

$$S = P (5200)$$

$$\text{FIRED } S = 19 (5200) = 98,800 \text{ PSI}$$

$$\text{COCKED } S = 21.7 (5200) = 113,000 \text{ PSI}$$

$$\text{STACKED } S = 29.6 (5200) = 154,000 \text{ PSI}$$

EXPERIMENTER

WITNESS

TESTED DATE

TEST DATE