so therefore, we need 72 revolutions. Now to determine the cam for the tapping operation. 1810 R.P.M. times 32 driver divided by 32 driven to the low side of the threading clutch gives us a 21 driver and a 28 driven. The resultant in speed would be 1357 now taking this from 1810 we get a resultant speed of 453 R.P.M., 453 revolutions per minute divided by 60 seconds gives us the resultant of 7.54 revolutions per second. We now have 7.54 revolutions for one second of the job. To determine at 2.4 seconds, (our actual working time from 0 to 50.) Since we are only going to be using from 0 to 32-1/2 on the working portion of the cam, each hundredths of the cam represents 2% of the working portion of the cam. We, therefore, have 65% from 0 to 32-1/2. Now 65% of 18.10 gives us a total of 11.765 or divide 50 into 18.1 revolutions from 0-50; this equals .362 revolutions per hundredths times 32.5 hundredths equals 11.765 actual revolutions from 0 to 32-1/2 and a pitch of 24, we divide this into the number of revolutions that we have and find that the resultant is a cam rise of .490. Looking over our steel threading cams we find that the #4 cam which has a rise of .452 would be the closest to our desired rise. Now divide .452 into the rise that we found of .490 to get the block setting and we find this to be 1.08. This would be an approximation of the block setting for your threading cam. The following is an example of the above description:

$$\frac{1810 \text{ R.P.M.}}{1} \times \frac{32 \text{ Teeth}}{32 \text{ Teeth}} \times \frac{21 \text{ Teeth}}{28 \text{ Teeth}} = 1357.5 \text{ R.P.M. of Threading Spindle}$$

1810.0 R.P.M. of Work Spindle
-1357.5 R.P.M. of Threading Spindle
452.5 Threading R.P.M.

$$\frac{452.5 \text{ R.P.M.}}{60 \text{ Seconds}} = 7.54 \text{ Revolutions Per Second}$$

7.54 R.P.S.
x2.4 Seconds 0-50
18.1 Revolutions from 0-50

$$\frac{18.1 \text{ Revolutions from 0-50}}{50 \text{ Hundredths}} = .362 \text{ Per One Hundredth}$$

.362 Per One Hundredth
x32.5 0 to 32-1/2 Tapping Portion of Cam
11.7650 Revolutions from 0 to 32-1/2 Hundredths

$$\frac{11.765 \text{ Revolutions from 0 to 32-1/2}}{24 \text{ Threads Pitch}} = .4902 \text{ Rise Needed}$$

$$\frac{.4902 \text{ Rise Needed}}{.452 \text{ \#4 Thread Cam}} = 1.0845 \text{ Block Setting}$$

OR

18.1 Revolutions from 0-50
x65% Equals 0 to 32-1/2 Hundredths on Cam
11.765 Revolutions from 0 to 32-1/2 Hundredths