FORMULA FOR TAP/DRILL SIZES
(INCH)

METHOD 1

Drilled Hole Size (in.) = Basic Major Dia. of Thread (in.) - $\dfrac{.013 \times \text{\% of Full Thread*}}{\text{\# of Threads per Inch (T.P.I.)}}$

* Use whole number for % of thread...for 65%, use 65 (not .65).

METHOD 2

Nominal O.D. - (Dbl. Thread Depth X % of Full Thread) = Drilled Hole Size

EXAMPLE: To find the hole size for obtaining 75% of thread in a 1/4-20 tapped hole, follow first column down to 20 threads, then across to 75% of thread. This figure (.0485), when subtracted from the .250 diameter, is .2015, which is the required diameter of hole. See equation:
.250 - .0485 = .2015

To figure whether or not pitch is too coarse for diameter:
(Double thread depth) X 3 = x
x = the smallest diameter possible for that T.P.I.

Threads per Inch	Double Thread Depth	50% Thread	55% Thread	60% Thread	65% Thread	70% Thread	75% Thread	80% Thread	85% Thread
6	.21651	.1083	.1192	.1300	.1408	.1517	.1625	.1733	.1842
7	.18558	.0929	.1021	.1114	.1207	.1300	.1393	.1486	.1579
8	.16238	.0813	.0894	.0975	.1056	.1138	.1219	.1300	.1381
9	.14434	.0722	.0794	.0866	.0939	.1011	.1083	.1156	.1228
10	.12990	.0649	.0714	.0779	.0844	.0909	.0974	.1039	.1105
11	.11809	.0590	.0649	.0708	.0767	.0826	.0885	.0944	.1005
12	.10825	.0541	.0595	.0649	.0702	.0755	.0808	.0861	.0921
13	.09992	.0499	.0549	.0599	.0649	.0699	.0749	.0799	.0850
14	.09278	.0464	.0510	.0556	.0602	.0648	.0694	.0740	.0789
16	.08119	.0406	.0446	.0486	.0526	.0566	.0606	.0646	.0691
18	.07217	.0361	.0396	.0431	.0466	.0501	.0536	.0571	.0614
20	.06495	.0325	.0357	.0389	.0421	.0453	.0485	.0517	.0553
24	.05412	.0270	.0298	.0326	.0354	.0382	.0410	.0438	.0460
27	.04811	.0240	.0264	.0288	.0312	.0336	.0360	.0384	.0409
28	.04639	.0232	.0254	.0276	.0298	.0324	.0347	.0370	.0395
30	.04330	.0216	.0238	.0260	.0282	.0304	.0326	.0348	.0368
32	.04059	.0203	.0223	.0243	.0263	.0283	.0303	.0323	.0345
36	.03608	.0180	.0198	.0216	.0234	.0252	.0270	.0288	.0307
40	.03247	.0162	.0178	.0194	.0210	.0226	.0242	.0258	.0276
44	.02952	.0147	.0162	.0177	.0192	.0207	.0222	.0237	.0251
48	.02706	.0135	.0148	.0161	.0174	.0187	.0200	.0213	.0230
56	.02319	.0116	.0127	.0138	.0149	.0160	.0171	.0182	.0197
64	.02029	.0101	.0111	.0121	.0131	.0141	.0151	.0161	.0173
72	.01804	.0090	.0099	.0107	.0115	.0123	.0131	.0139	.0153
80	.01623	.0081	.0089	.0097	.0105	.0113	.0121	.0129	.0138

Figures in table show amount to subtract from O.D. of screw to obtain specific percentages of thread.
Select nearest size commercial stock drill.