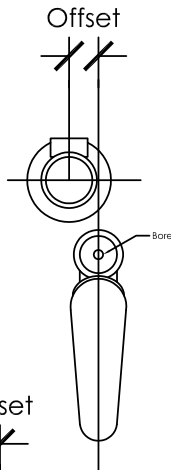


Effect of the scope being offset right or left from the center of the bore

The scope is mounted incorrectly or the scope base is not machined to the CL of the bore. The scope reticle is vertical to the bore of the rifle but the center line of the scope is not over the centerline of the rifle

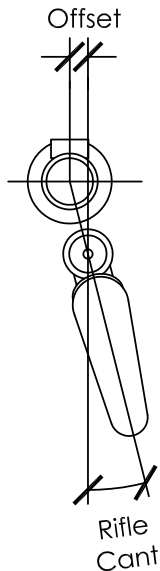
Assumptions: Center of bore to Center of scope: 2"
Zero Distance = 100 yds



Offset of scope (in)	Down range Angle (deg)	Added Windage due to offset (constant)		Inches of Widage Divergence at Distance (yds)					
		Mils	MOA	200	400	600	800	1000	1200
0	0.00000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.01	0.00016	0.003	0.010	0.010	0.030	0.050	0.070	0.090	0.110
0.02	0.00032	0.006	0.019	0.020	0.060	0.100	0.140	0.180	0.220
0.03	0.00048	0.008	0.029	0.030	0.090	0.150	0.210	0.270	0.330
0.04	0.00064	0.011	0.038	0.040	0.120	0.200	0.280	0.360	0.440
0.05	0.00080	0.014	0.048	0.050	0.150	0.250	0.350	0.450	0.550
0.06	0.00095	0.017	0.057	0.060	0.180	0.300	0.420	0.540	0.660
0.07	0.00111	0.019	0.067	0.070	0.210	0.350	0.490	0.630	0.770
0.08	0.00127	0.022	0.076	0.080	0.240	0.400	0.560	0.720	0.880
0.09	0.00143	0.025	0.086	0.090	0.270	0.450	0.630	0.810	0.990
0.1	0.00159	0.028	0.095	0.100	0.300	0.500	0.700	0.900	1.100
0.2	0.00318	0.056	0.191	0.200	0.600	1.000	1.400	1.800	2.200
0.3	0.00477	0.083	0.286	0.300	0.900	1.500	2.100	2.700	3.300
0.4	0.00637	0.111	0.382	0.400	1.200	2.000	2.800	3.600	4.400
0.5	0.00796	0.139	0.477	0.500	1.500	2.500	3.500	4.500	5.500
0.6	0.00955	0.167	0.573	0.600	1.800	3.000	4.200	5.400	6.600
0.7	0.01114	0.194	0.668	0.700	2.100	3.500	4.900	6.300	7.700
0.8	0.01273	0.222	0.764	0.800	2.400	4.000	5.600	7.200	8.800
0.9	0.01432	0.250	0.859	0.900	2.700	4.500	6.300	8.100	9.900
1	0.01592	0.278	0.955	1.000	3.000	5.000	7.000	9.000	11.000

Effect of the rifle being canted and the reticle being vertical.

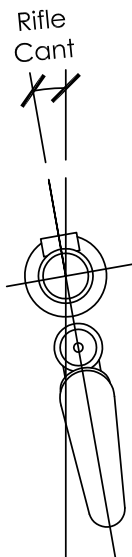
The rifle is rolled over to match the shoulder pocket but the scope reticle is mounted vertical while the rifle is canted. This causes an offset from the center line of the bore to the centerline of the scope



Rifle cant Degrees	Offset of scope (in)	Down range Angle (deg)	Added Windage due to offset (constant)		Inches of Widage Divergence at Distance (yds)					
			Mils	MOA	200	400	600	800	1000	1200
1.0	0.035	0.00056	0.010	0.033	0.035	0.105	0.175	0.244	0.314	0.384
2.0	0.070	0.00111	0.019	0.067	0.070	0.209	0.349	0.489	0.628	0.768
3.0	0.105	0.00167	0.029	0.100	0.105	0.314	0.523	0.733	0.942	1.151
4.0	0.140	0.00222	0.039	0.133	0.140	0.419	0.698	0.977	1.256	1.535
5.0	0.174	0.00277	0.048	0.166	0.174	0.523	0.872	1.220	1.569	1.917
6.0	0.209	0.00333	0.058	0.200	0.209	0.627	1.045	1.463	1.882	2.300
7.0	0.244	0.00388	0.068	0.233	0.244	0.731	1.219	1.706	2.194	2.681
8.0	0.278	0.00443	0.077	0.266	0.278	0.835	1.392	1.948	2.505	3.062
9.0	0.313	0.00498	0.087	0.299	0.313	0.939	1.564	2.190	2.816	3.442
10.0	0.347	0.00553	0.096	0.332	0.347	1.042	1.736	2.431	3.126	3.820

Effects of Canting the rifle and scope together.

Deviation caused by only the scope reticle or erector not being vertical



Stadia and Units	Dialed MOA or Hold	MOA of change at Degrees of Cant					<-- degrees of cant
		1	2	3	4	5	
Vertical Stadia (windage change)	10.0	0.17	0.35	0.52	0.70	0.87	
	20.0	0.35	0.70	1.05	1.40	1.74	
	30.0	0.52	1.05	1.57	2.09	2.61	
	40.0	0.70	1.40	2.09	2.79	3.49	
	50.0	0.87	1.74	2.62	3.49	4.36	
	60.0	1.05	2.09	3.14	4.19	5.23	
Horizontal stadia (vertical change)	2.0	0.03	0.07	0.10	0.14	0.17	
	4.0	0.07	0.14	0.21	0.28	0.35	
	6.0	0.10	0.21	0.31	0.42	0.52	
	8.0	0.14	0.28	0.42	0.56	0.70	
	10.0	0.17	0.35	0.52	0.70	0.87	
	12.0	0.21	0.42	0.63	0.84	1.05	

Stadia and Units	Dialed Mils or Hold	Mils of change at Degrees of Cant					<-- degrees of cant
		1 degree	2	3	4	5	
Vertical Stadia (windage change)	2.0	0.03	0.07	0.10	0.14	0.17	
	4.0	0.07	0.14	0.21	0.28	0.35	
	6.0	0.10	0.21	0.31	0.42	0.52	
	10.0	0.17	0.35	0.52	0.70	0.87	
	15.0	0.26	0.52	0.79	1.05	1.31	
	20.0	0.35	0.70	1.05	1.40	1.74	
Horizontal stadia (vertical change)	1.0	0.02	0.03	0.05	0.07	0.09	
	2.0	0.03	0.07	0.10	0.14	0.17	
	3.0	0.05	0.10	0.16	0.21	0.26	
	4.0	0.07	0.14	0.21	0.28	0.35	
	5.0	0.09	0.17	0.26	0.35	0.44	
	6.0	0.10	0.21	0.31	0.42	0.52	