

FIG. 1
SETTING 1.25°

ALIGNED

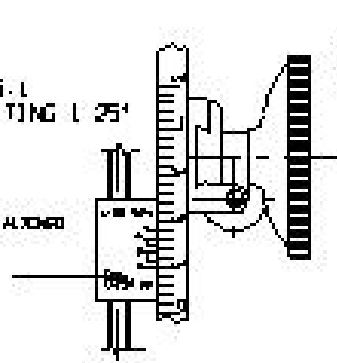


FIG. 2
SETTING 1.26°

ALIGNED

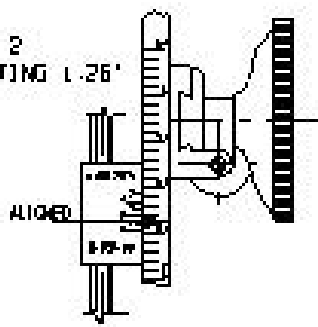
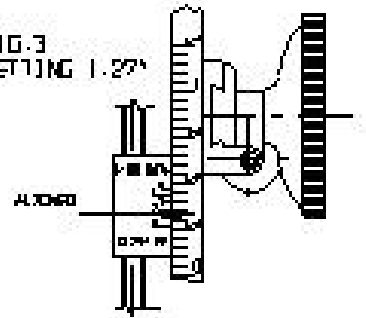


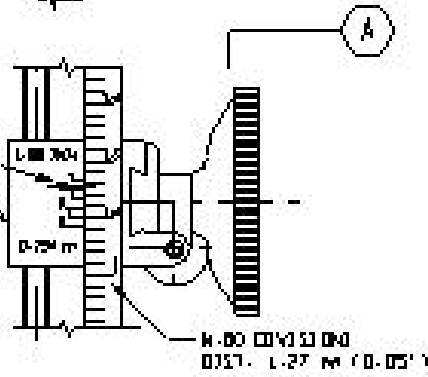
FIG. 3
SETTING 1.27°

ALIGNED



(B)

M'S DIVISIONS
DIST. 1.016 mm
D. 0.04°



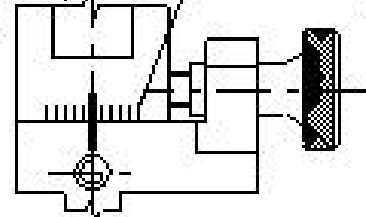
N. 10 DIVISIONS
DIST. 1.27 mm (0.05°)

(E)

N. 10 DIVISIONS
DIST. 1.016 mm
D. 0.04°

(A)

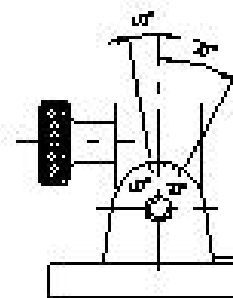
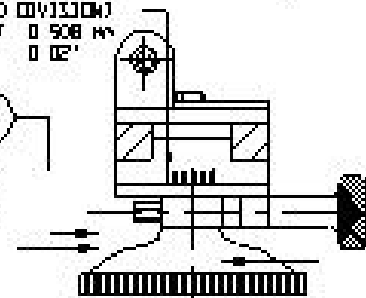
(F)



N. 10 DIVISIONS
DIST. 1.508 mm
D. 0.02°

(C)

(D)



(M)

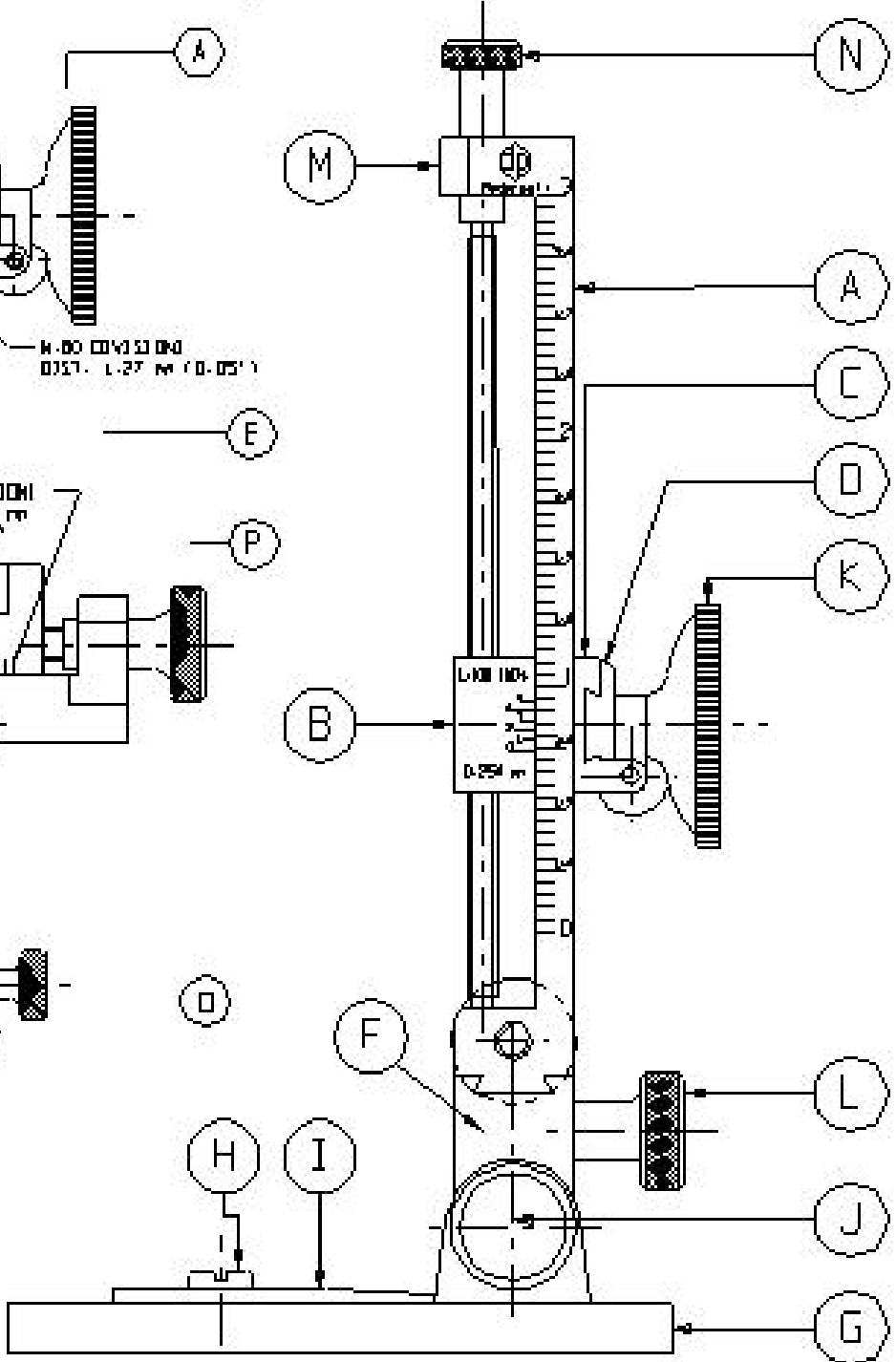
(B)

(F)

(D)

(H)

(I)



(N)

(A)

(C)

(D)

(K)

(L)

(J)

(G)



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CREEDMOOR SIGHTS MOD. USA 431 - USA 461

INSTALLATION ON YOUR RIFLE

Your Pedersoli Long-Range tang sight is provided with two mounting holes in the base plate (G). The nominal centers are 2.25" apart and will fit all Pedersoli built replica rifles. The front hole is elongated to allow fitting to other brands of rifles which may have a slightly different hole spacing. Two sight mounting screws (10x28) are supplied for use on Pedersoli made rifles and these will fit the two tang holes originally plugged with slot head set screws.

It is important that the tang sight stand vertically, both in side view as well as from a rear view. This must be checked with a suitable carpenter or machinists bubble level. Mount the rifle in a padded bench vise and use a level to position the breech sides vertically and the barrel horizontally (make allowance for barrel taper if necessary).

Loosening (or removing) screw (H) will allow the spring (I) to be positioned back or forward until the staff (A) is vertical from a side view. Tighten the screw firmly and apply a small amount of gun grease to the rear end of the spring where it engages the staff notch. (Disregard the degree markings on base (G)). On Pedersoli made rifles this sight will normally be suitably vertical when first installed but on other rifles it may require adjustment.

To position the staff vertically when viewed from the rear, it will be necessary to insert suitable metal, hard paper or plastic shim material under one side or the other as necessary.

Use the bubble level to verify that you have obtained good vertical positioning.

When you are satisfied with the installation, tighten thumb screw (J) to apply enough drag on the pivot joint so that when the rifle is fired the staff assembly will tip forward only a small amount or not at all. Avoid excessive tightening.

USING THE ELEVATION SCALE

(It is necessary to loosen the eye cup (K) when making any adjustment. Use moderate pressure when retightening the eye cup). On USA431 the staff (A) is marked from zero to three inches (two inches on Mod. USA 461) with 20 lines per inch and each line equals .05" (see "Using Minutes of Angles & Sight Scales" chart for further data). With the popular 30" barrel length, each .010" of elevation change equals 1.0 Minute of Angle (MOA) and at 100 yards one MOA = 1.0" and at 200 yards one MOA = 2.0" and so on for other hundred yard increases in distance.

The .05" lines therefore equal 5.0 MOA or 5.0" at 100 yards and 10.0" at 200 yards and so forth for longer distances. The vernier scale (B) has 5 spaces, each one being .04" apart and this provides a way to divide each .05" space into 5 spaces of .01" each, thereby making it possible to control elevation settings by .01" increments. Vernier figure #1 shows a setting of exactly 1.25" (1 ¼") of elevation and figure #2 shows the number one vernier line raised until the very first staff line it can align with this in alignment. This setting adds .01" to the basic 1.25" starting setting and the new setting is therefore 1.25" plus .01" = 1.26".

Vernier figure #3 shows the 2nd vernier line in alignment with the first staff line it can align with and this setting is therefore 1.25" plus .02" = 1.27". This same system is used for the 3rd and 4th vernier lines which add .03" and .04" to the starting setting. Note that when the 5th vernier line is brought into alignment with its staff line, the zero line on the vernier will also be in alignment with its staff line so you will be starting a new sequence of settings which will be .05" larger than where you started on the staff.

The shooter can record elevation settings which were found correct for different ammunition loads and for various distances and return to these exact settings on another day, with full confidence in this Pedersoli made precision Long-Range tang sight.

USING THE WINDAGE SCALE

This sight has an upper and lower windage scale so as to provide a maximum amount of available windage movement to the shooter. This is particularly necessary when shooting at very long range with a brisk side wind moving the bullet quite a large amount left or right of center. The upper windage scale (D) is moved by thumbscrew (O). Scale (C) has 10 spaces, each one being .02" apart and each line therefore moves the bullet Point of Impact (POI) by 2.0 MOA or 2.0" in 100 yards and 4.0" in 200 yards, and so forth for longer distances. (The eyecup (K) must be loosened when moving this windage scale and must be retightened with only a moderate pressure after each adjustment is made).

The lower windage scale (E) is moved by thumb screw (P) and has 10 spaces, each one being .040" apart and each line therefore moves the bullet POI by 4 MOA, which is 4.0" in 100 yards and 8.0" in 200 yards and so forth for longer distances. This lower scale (F) has a single reference line. Thumb screw (L) must be somewhat loose when making adjustments but usually does not need to be tightened firmly because the scale does not tend to move by itself. It should be tightened only enough to apply a light drag affect to the lower windage scale. We suggest using the lower scale for the main windage corrections and use the upper scale only if more movement is needed or a finer adjustment desired.

If you have a Pedersoli adjustable front sight and you want to bring your rear tang sight back to a center position, move your front sight exactly the same amount the rear sight is off center. Moving the front sight to the left will move the POI to the right. Moving the front sight the right will move the POI to the left. If you do this correctly you will end up being able to bring your rear sight back to its center position and your shots will strike in the target center.

(If you do not have an adjustable front sight you can use a brass drift to move your front sight left or right and obtain the same results). In the following two sections which explain Minutes of Angle (MOA) you will gain a clear understanding of how to use your Pedersoli Long-Range tang sight.

CARE AND MAINTENANCE

Your Pedersoli tang sight is a precision instrument and must be protected against being struck or bent. After each shooting session, carefully wipe it to remove possible cleaning liquids and dirt. Apply a thin film of gun oil to all exterior surfaces to prevent rust formation. Check the two screws (M) at the top of the staff assembly. If set too tight they will cause a bind on the main threaded screw. Adjust to obtain a slight drag when the elevation knob (N) is turned. Because leather and trapped humidity can cause corrosion, we advise against storing the gun or sight in a leather case or a sealed container for an extended period of time.

USING MINUTES OF ANGLE (MOA) & SIGHT SCALES

The lines on the elevation and windage scale are used to change where your bullet will hit and this is called "Point of Impact" (POI). The distance between the front and rear sight aiming apertures is called the "sight radius". Measure this distance on your rifle and select from the list below, the distance which is close to your own sight radius.

Distance between front and rear sights	Sight movement equals 1 MoA (Minute of Angle)
32 inch radius	.009"
34 inch radius	.010"
36 inch radius	.010"
38.75 inch radius	.011"

(The above numbers are rounded off to a practical amount and the two .010" numbers are correct)

HOW TO USE MINUTES OF ANGLE TO CHANGE POINT OF IMPACT (POI)

One MOA is approximately equal to 1.0 inch at 100 yards, 2.0 inches at 200 and so on, for longer distances.

Use the "MOA in Inches" chart to see how one MOA changes at longer distances and remember that for your sight radius, the amount of movement needed for one MOA change remains the same for ALL DISTANCES.

Using the 30 inch barrel rifle having a sight radius of 34 inches as an example:

If the test target at 100 yards, shows bullets striking to the left of center by say 4 inches, you need to move the POI right by 4 MOA and this is $4 \times .010'' = .040''$ on the windage scale. You could obtain this $.040''$ by simply moving the lower scale (E) one full mark or you could move the upper windage scale (C) by about $1 \frac{1}{2}$ marks to also obtain the needed $.040''$ movement. In this example the lower scale offers the best choice.

Elevation changes work the same way as described for windage.

Each space on scale (A) is $.050''$ and this equals a movement of 5.0 MOA, which at 100 yards is 5 inches and at 200 yards is 10 inches and so on for longer distances.

Using the 34 inch sight radius shown in the example above, let us say your 100 yard shots were 5.0 inches below center.

You need to raise the POI 5.0 inches and at 100 yards that is exactly 5 MOA or $5 \times .010'' = .050''$. Since each line on scale (A) is $.050''$ apart, we need to move the sight upward exactly one full space to obtain the required $.050''$ movement. The vernier scale will allow you to refine these settings in $.01''$ increments for more accurate small changes in POI.

MINUTES OF ANGLE IN INCHES FOR VARIOUS DISTANCES

The data chart shown below is very useful when shooting in Silhouette or long range Creedmore matches. All the needed distances for both yards and meters are listed and the size of one MOA given, so your sight adjustments can be accurately made.

Yards	Meters	MoA	Yards	Meters	MoA
100	91	1.04	700	640	7.33
109	100	1.08	766	700	7.56
200	183	2.09	800	731	8.37
218	200	2.16	875	800	8.64
300	274	3.14	900	823	9.42
325	300	3.25	984	900	9.72
400	366	4.19	1000	914	10.47
417	385	4.36	1093	1000	10.80
433	400	4.53	1203	1100	11.88
500	457	5.24	1312	1200	12.96
541	500	5.66	1422	1300	14.04
600	549	6.28	1531	1400	15.12
656	600	6.48	1640	1500	16.20

(data is rounded to closest practical number)