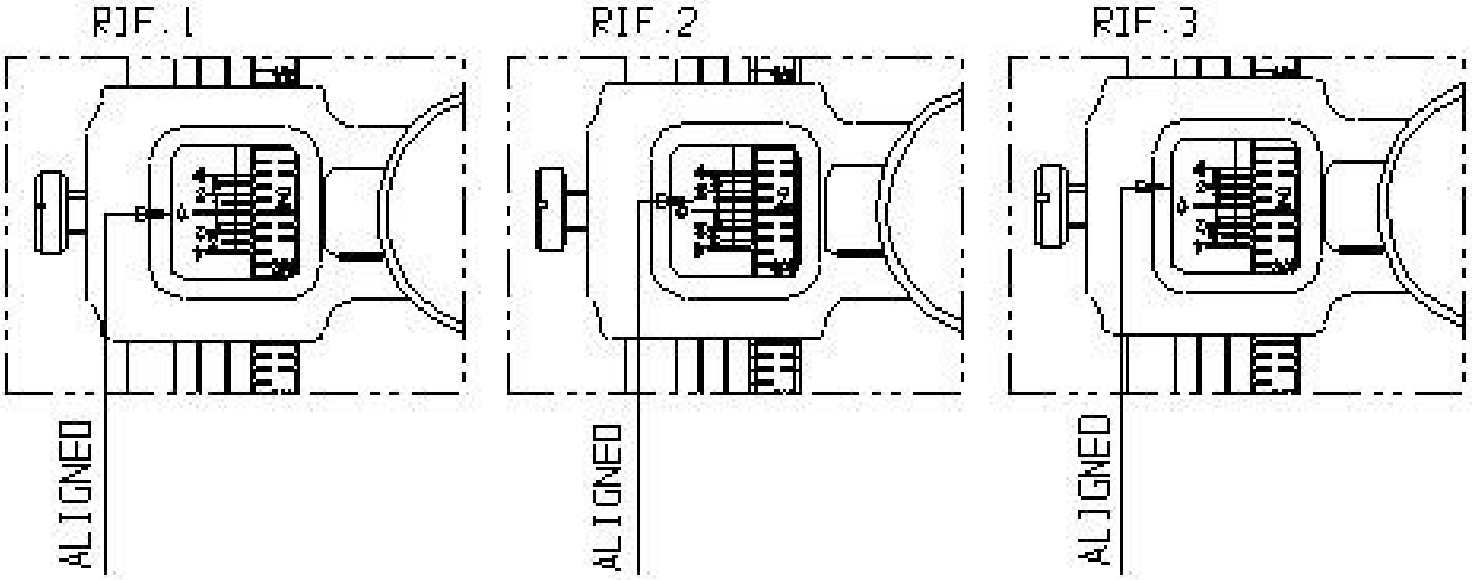
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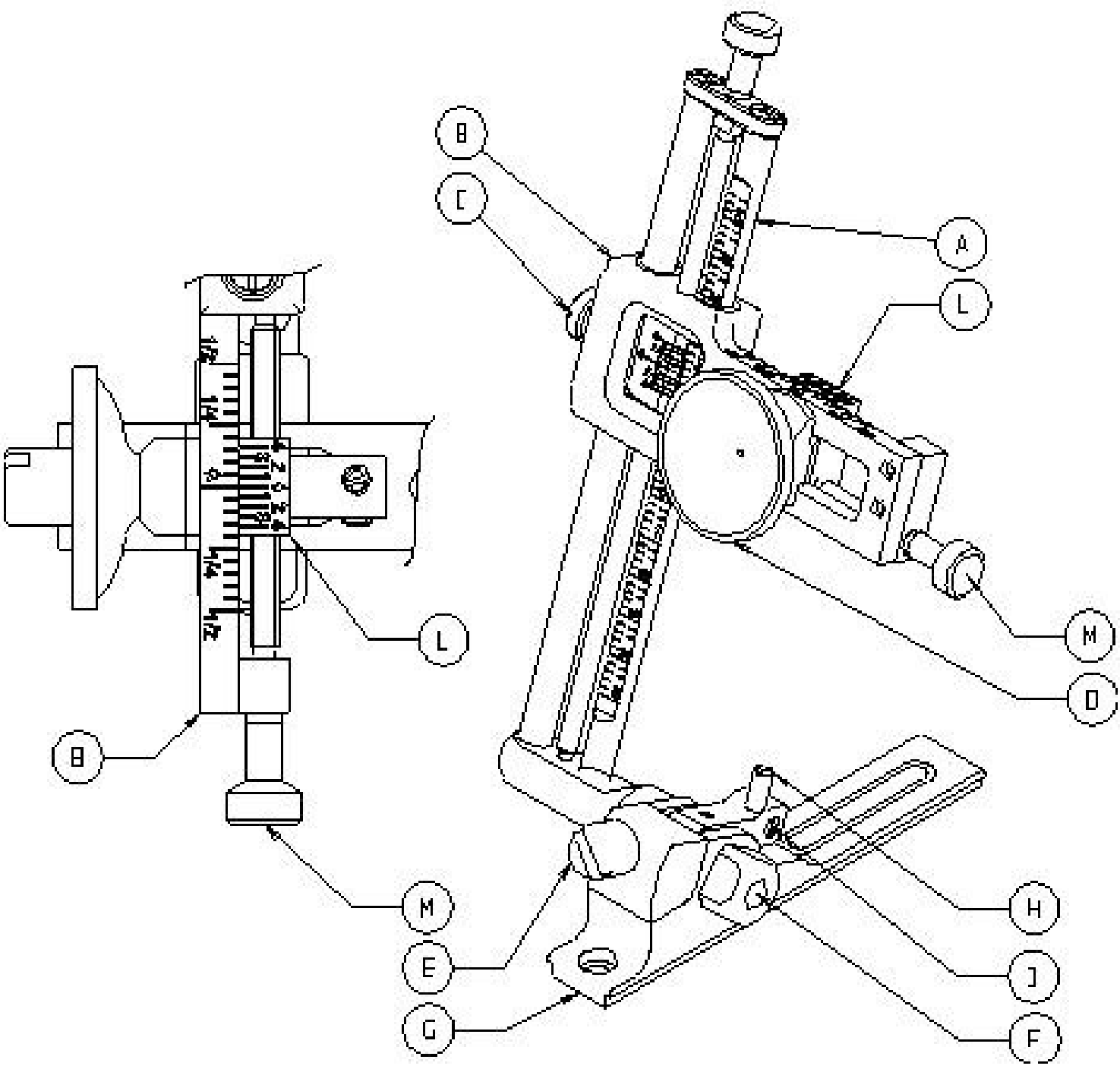
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GOODWIN STYLE TANG SIGHT
MOD. USA 407

INSTALLATION ON YOUR RIFLE

Your Pedersoli Goodwin Long-Range tang sight is provided with two mounting holes in the base plate, (G). The distance between the two mounting holes from 37 to 60mm 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 screw (E), the screw (I) and then adjusting the screw (H), move the staff (A) until is vertical from a side view. Tighten the screw (I) moderately along with the screw (E). When you want to fold down the sight, loosen the screw (E) to fold staff (A) The alignment with the barrel will be kept thanks to the previous adjustment made to screw (H).
Note that as the elevation is raised for longer distances the staff (A) needs to be tilted forward to maintain the perfect vertical position of the staff. This is again done by changing screw (H) which controls the angle of staff (A).
If the staff (A) does not stand perfectly vertical 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 of the base (G) as necessary.

CHANGING STAFF TO OPPOSITE SIDE

When this sight leaves the factory it is set up so that the staff is on the left side of the action. The breech is completely free and clear of any obstruction and allows easy case ejection and a cleaning rod to be used without the obstruction caused by conventional sights which may not fold flat enough. The shooter has the option of moving the staff to the opposite side by following these steps:

1. Loosen pivot shaft Allen head screw (N), (M4x5 metric) about 3 turns. Do not fully remove this screw.
2. Remove pivot shaft locking nut (F).
3. Loosen pivot thumb screw ((E) slightly.
4. Pull entire staff assembly out of the base unit.
5. The combination windage scale and elevation scale units are changed over to the opposite side as follows.
6. Remove two screws (O) located under two round vertical rods (P).
7. Remove the two screws (S) located at the top of the round vertical rods (P).
8. Unscrew the long threaded screw (Q) between the round rods (P) until it is completely clear from the combination elevation and windage scale unit (B).
9. Turn the scale (B) with all it's parts completely over so it is on the new side.
10. Place the round rod having the elevation scale into the inner hole in the pivot pin (R) making sure it's scale faces to the rear. With the unmarked round rod inserted into the outer hole, insert their two bottom screws (O) (not firmly tightened).
11. Invert and place the combination scale unit (B) onto the tops of the round rods and insert the long elevation screw into it's bottom hole between the round rods.
12. Install the two screws (S) on the top plate and tighten firmly.

13. Tighten the round rod two bottom screws (O) firmly.
14. Slide the staff assembly back into the sight base and install the lock nut (F) firmly.
15. Tighten the 4 mm Allen screw (N) moderately.
16. The original position of adjustment screw (H) should not require any change but recheck everything using the bubble level and make any corrections necessary.
17. Firm up the pivot shaft lock screw (E).
18. To avoid loosening of screws due to vibration during shooting and when transporting the rifle, it is suggested to use a thread locking chemical on parts (E) and (C). If the installation will not be changed again, it is suggested to use a thread locking chemical on all the threaded screws.

USING THE VERNIER ELEVATION SCALE

(It is necessary to loosen the eye cup (D) when making any adjustment. Use moderate pressure when tightening the eye cup). The staff (A) is marked from zero to three inches 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 (L) 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 2.00" 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 2.00" starting setting and the new setting is therefore 2.00" plus .01" = 2.01" .

Vernier figure #3 shows the 2nd vernier line in alignment with the first staff line it can align with and this setting is therefore 2.00" plus .02" = 2.02". This same system is used for the 3rd and 4th vernier lines which add .03" and .04" to the starting setting.

Note that there is no 5th vernier line because that position would be the same as starting over from the zero line.

The shooter can record elevation and windage 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 Goodwin precision Long-Range tang sight.

USING THE VERNIER WINDAGE SCALE

This sight has a vernier windage scale with 4 lines exactly as seen on the elevation scale. This marking system provides precision movements of .010" and functions in the same way as the vernier elevation scale. (The eyecup (D) must be loosened when moving this windage scale and must be retightened with only a moderate pressure after each adjustment is made).

If you have a Pedersoli adjustable front sight and you want to set your rear tang sight to a center position for shooting in windless conditions, 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 may be able to move your front sight using a brass drift to move the sight left or right and obtain the same results . Some hooded front sights may have a small locking set screw and this must be loosened before moving the entire sight.

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 Goodwin 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. Because leather and trapped humidity can cause corrosion, we suggest to store the sight in a wood container.

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 x .010" = .040" on the windage scale. You could obtain this .040" by simply moving windage scale by about 4 marks to also obtain the needed .040" movement. Elevation changes work the same way as described for windage.
Each space on scale 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 x .010" = .050". Since each line on the scale 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" (one MoA) 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 Creedmor 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)