

# Redfield

## General Characteristics

Redfield's Accu-Trac™ scopes are designed to eliminate the age-old problem of guessing at distances and "hold over" estimation.

### Hold Over at 600 Yds.

.270 Win  
150 gr at 84.0"

### Hold Over at 500

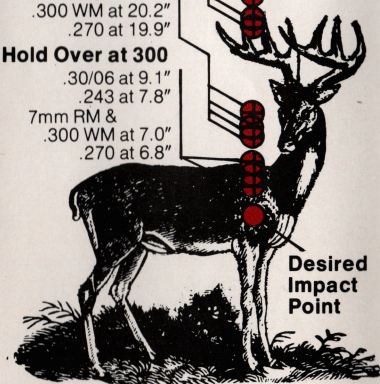
.30/06 at 53.0"  
.243 at 46.3"  
7mm RM at 42.1"  
.300 WM at 40.7"  
.270 at 40.5"

### Hold Over at 400

.30/06 at 26.2"  
.243 at 22.6"  
7mm RM &  
.300 WM at 20.2"  
.270 at 19.9"

### Hold Over at 300

.30/06 at 9.1"  
.243 at 7.8"  
7mm RM &  
.300 WM at 7.0"  
.270 at 6.8"



Desired Impact Point

Look at these examples of actual holdover points. Benefits of an Accu-Trac are evident. It's much easier to aim "at" than to hold over.

The revolutionary design of this precise scope allows you to determine the distance to the target by viewing the internal ranging scale and then simply adjusting the elevation adjustment dial to that specific range. You can then hold "dead-on" at your target at any range to 600 yards — **TOTALLY ELIMINATING ANY HOLD OVER!** (For example, Accu-Trac corrects for seven feet of hold over when using the .270 Winchester 150 grain bullet at 600 yards!)

## Selection of Range Dials

The scope comes with three ranging dials. Refer to Table 1 to determine which ranging dial matches the characteristics of your rifle caliber, bullet weight and muzzle velocity. Select the proper dial (A, B or C on the table) and place it into the adjustment housing with the window. Insert and insure alignment of the knob with the slot in the mechanism. Install and tighten the screw.

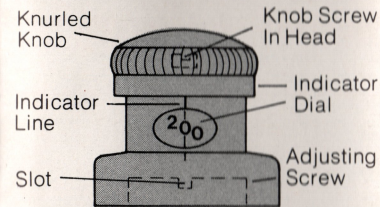
## Sight-in Instructions

You may now sight-in at 100 yards but zero for a 200 yard point of impact. This means, for example, that the bullet group at 100 yards may have to be about 1½" to 3" high to be zero at 200 yards. The exact "overshoot" at 100 yards depends on your specific ballistics data available in handloading manuals or from manufacturers' data. For using a 100 yard range to establish Accu-Trac zero on your rifle: Zero your rifle at a 100 yard distance with the point-of-impact 1.6" above your point-of-aim if you are using dial "A" caliber, bullet weight and muzzle velocity. For dial "B" caliber, bullet weight and muzzle velocity, your point-of-impact should be 2.0" above your point-of-aim and for dial "C" caliber, bullet weight and muzzle velocity, your point-of-impact should be 2.4" above point-of-aim.

Your rifle is now zeroed for 200 yards. Loosen the screw in the

YARDS	200	300	400	500	600
Dial "A"	+1.6"	+3.9"	+6.3"	+9.8"	+13.3"
Dial "B"	+2.0"	+4.3"	+7.9"	+11.4"	+16.7"
Dial "C"	+2.4"	+5.3"	+9.4"	+14.1"	+20.0"

NOTE: Each elevation "click" equals 0.56 minutes of angle.



head of the knurled knob two turns. Caution: Hold the knob in position while loosening the screw. With the screw loose continue to hold the knob while turning the indicator dial in this position and retighten the knob screw, insuring that the spline on the bottom of the knob fully engages the slot in the adjusting screw before tightening. To check out your range changes using a target at 100 yards the points-of-impact will rise as you turn the indicator to the other yardage marks. Establish a constant sighting point on your 100 yard target and aim at it for all shots. The following chart shows the bullet strike position above the point-of-aim for dials "A", "B" and "C" at the indicator marks from 200-600 yards.

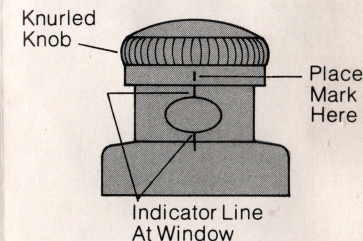
You are now pre-set to adjust the elevation range to any desired range situation to 600 yards without "hold over". Simply hold aiming point "directly" at the desired point of impact of your target.

## Field Use

In actual use in the field, the feature of the range finding mechanism of Accu-Range® and the Trajectory Compensation feature of the Accu-Trac™ allows zero hold over at any range to 600 yards. To use, estimate range by either using Accu-Range or a "Quick Field Estimate" as described in detail in Redfield's catalog. THEN, KNOWING THE RANGE, MERELY TURN THE ELEVATION KNOB UNTIL APPROPRIATE YARDAGE (range) mark is indicated in the window. Aim without hold over directly at the target when shooting on flat terrain up to 15° slope. Accu-Trac has automatically adjusted the scope elevation for bullet drop at the determined range. NOTE: At any range less than 200 yards, set the indicator dial at 200, hold dead-on and fire.

## Extra Ranging Dials

Extra ranging dials, including a blank dial, may be purchased from your Redfield dealer. The blank dial is provided for use with special loads or cartridges that do not have trajectories corresponding to caliber, bullet weight and muzzle velocities listed in Table 1, "A", "B" or "C". In order to graduate the blank dial, zero your rifle at 200 yards and place a small felt pen mark on the smooth dial surface directly below the knurled knob. (A small piece of tape may be used in place of the pen mark), and directly in line with the indicator mark at the window.

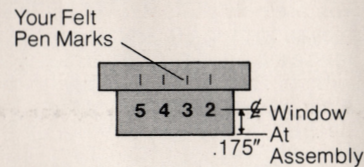


Features, Benefits and Instructions for Redfield Accu-Trac™ Scopes



Zero again at 300 yards (turn knob counter clockwise to bring point of impact to dead-on). Place another ink mark for this 300 yard location at indicator window line. Continue at 500 and 600 yards as above. When you have your rifle zeroed at 200, 300, 400, 500, and 600 (and each 50 yard increment if desired), carefully turn knob and dial back to your 200 yard zero mark. Now loosen and remove the screw in the head of the knurled knob. Lift the knob and indicator dial vertically out of the window housing. Caution: Do not turn click adjustment either direction while loosening screw or removing knob! Care should be taken also to not rub off zero indicator marks while removing dial.

Now take the blank indicator dial (with your indicator marks on outer rim) and transfer these marks directly below to the smaller diameter where they will show thru the window at reassembly (.175", or slightly less than 3/16", from bottom is center line of window). Either scribe, engrave or use adhesive transfer numerals to mark your yardages. Numerals of .040" to .060" height are the best size for



the window opening. Chart pak transfer numbers in 8 point size, available from drafting or art supply stores, are the correct size for this.

Install these numerals to correspond to your range marks and reinstall the dial and knob, aligning the 200 yard numeral with the window indicator line. Hold this position while tightening the knob screw. You now have your scope and rifle synchronized for all shots out to 600 yards.

## Technical Information

Nominal Accu-Trac Scope Performance Specifications

Accu-Trac™ Scope Model	3x-9x
Actual Magnification	3.3x 8.4x
Exit Pupil (MM)	3x 10.6 9x 4.2
Field of View @ 100 yds. (feet)	3x 39.0 9x 15.0
Eye Relief (Inches)	3-3¼
Over-all Length (Inches)	12½
Diameter of Tube (Inches)	1
Outside Diameter of Objective End (Inches)	1.557x1.785
Outside Diameter of Eye-Piece (Inches)	1.450 x 1.660
Weight (Ounces)	14¼
Internal Adjustment Inches @ 100 Yds.	.58
Internal Adjustment MOA	0.56
Maximum Internal Adjustment (Inches)@ Yds.	60

Accu-Trac keeps the point-of-impact to line of sight to within  $\pm 3/4$  MOA (for Example only 4" @ 500 yards) up to ranges of 600 yards.

## Table 1

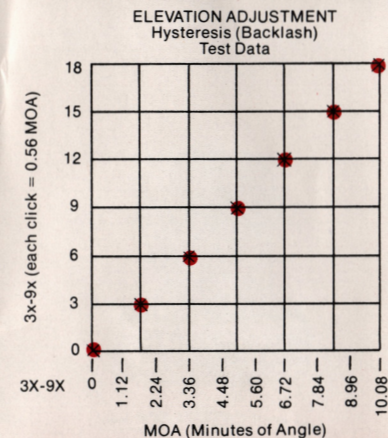
This Data For "Spitzer" Type Bullets Except \* Denotes Round Nose Bullets

Caliber	Bullet Weight	Muzzle Vel.	Dial
17 Rem	25 Gr	4000	B
.222 Rem Mag	55 Gr	3240	C
.22-250	55 Gr	3700	A
.243 Win	80 Gr	3420	A
.243 Win	100 Gr	2960	B
6mm Rem	80 Gr	3470	A
	90 Gr	3260	A
	100 Gr	3130	A
.25-06	87 Gr	3440	A
	100 Gr	3230	A
	120 Gr	3050	A
.250 Sav	100 Gr	2820	C
.264 Win Mag	100 Gr	3620	A
	140 Gr	3140	A
.270	100 Gr	3480	A
	130 Gr	3110	A
.270 Win	150 Gr	2900	B
.270 Win	150 Gr*	2900	C
.280	150 Gr	2980	A
.280 Rem	165 Gr*	2820	C
.30-06	125 Gr	3140	B
	150 Gr	2910	B
	180 Gr	2700	B
	180 Gr	2600	C
7mm Rem Mag	125 Gr	3310	A
	150 Gr	3110	A
	175 Gr	2860	B
.300 Win Mag	150 Gr	3290	A
	180 Gr	3000	A
.300 H & H Mag	180 Gr	2880	B
.300 Wea Mag	150 Gr	3400	A
	180 Gr	3150	A
.308 Norma Mag	150 Gr	3200	A
.308 Win	150 Gr	2820	C
	180 Gr	2620	C
.375 H & H Mag	270 Gr*	2700	C

## Accuracy

The graph on this sheet shows the results of the hysteresis loop (backlash) test data for this specific scope. Each Accu-Trac scope is tested for accuracy of the special elevation adjustment. Each scope has less than 0.01 MOA error over the entire adjustment range!

Each scope is tested by solidly locking it into "V" blocks and measuring the actual crosshair movement using a highly accurate resolution board to insure precise measurement. The scope crosshairs are set at the appropriate zero and each three "clicks" are plotted on a graph over the adjustment range. As you can see from the graph on this sheet, the hysteresis (backlash) in these adjustments is almost non-existent as shown by the straight line plot (as opposed to "sloppy" adjustments which would plot in a "loop", indicating poor repeatability of setting) over the entire adjustment range.



### Important

"AVOID LETTING SUN SHINE DIRECTLY INTO OBJECTIVE LENS. The lens can sometimes become a "burning glass", focusing a very intensive hot-spot on the Accu-Range scale causing it to deteriorate. Avoiding prolonged sun is consistent with the care which should be given any good optical instrument (binoculars, cameras, etc.). Direct sun through any lens can cause damage. As a practical matter, a scoped rifle in field use should not be a problem. However, a shooter who is in the habit of leaning his rifle on a certain rack, such as "during lunch", where the sun shines directly into the objective, can incur scope damage.