Thank you for purchasing the TUBB 2000. This rifle represents the state of the art in precision centerfire firearms. The material in this manual will help you understand and operate the TUBB 2000 to maximize your enjoyment and the rifle's performance. We want you to get the most from the engineering and design elements available to you in the TUBB 2000, so please call (623) 780-2115 with questions.

Throughout this manual you’ll see also some very valuable tips and insights offered by David Tubb, 9-time NRA National High Power Rifle Champion and co-designer of the TUBB 2000.

-- ROCK MCMILLAN
McBros Rifle Company

Safe Dry Firing

There are numerous times in this manual where dry firing (actuating the firing mechanism on an empty chamber) is indicated. Please ensure that the rifle is indeed "dry" before dry firing! Remove the magazine, open the bolt, and visually confirm that there is no cartridge in the chamber. If the magazine contains live ammunition, remove it to a safe place where it is inaccessible until the dry firing session is over. Accidents happen only through neglect. Never second guess or assume that your firearm is unloaded: LOOK. This extra few seconds may mean the difference between life and death.

Please wear eye and hearing protection when you shoot.
The bolt for your TUBB 2000 is packed separately. To insert the bolt you must first remove the buttstock assembly.

To disassemble the rifle to get it ready for initial use, loosen the screw located at the rear of the sight mounting rail using a 5/32 inch allen wrench. This screw needs only to be snug: do not overtighten! Its only function is as secondary security in retaining the buttstock assembly.

Locate the knurled catch on the rear of the action above the pistol grip. Slide the latch down toward the grip and pull the buttstock assembly rearward and remove it.

We recommend now running a couple of patches through the bore to remove any residues that might have resulted from shipping and handling.

Insert the bolt and replace the buttstock assembly. The bolt release is located on the left side of the action. To prevent wear from continued disassembly/assembly we recommend cleaning and lightly lubricating the interior portion of the buttstock assembly that mates to the receiver. Depressing the catch when reattaching the buttstock will help prevent unnecessary wear to the latching mechanism.

Assuming the rifle will be dry-fired a number of times prior to live firing, there is no need to lubricate the action and bolt mating surfaces initially -- however, make sure all surfaces which attain metal-to-metal contact receive lubrication prior to firing the rifle with live ammunition. The initial dry-firing and bolt operation without lubrication will serve to provide “break in” of the parts. Prior to firing, remove the bolt, wipe down its exterior, and apply lubrication to the lugs and body. The firing pin may also be lubricated with a high quality oil.

**Ammunition**

Use only match grade ammunition in the correct caliber and that which is most suitable for the use the rifle will be put to. Handloaded ammunition will usually perform best because it can be tuned to specific shooting requirements.
Follow all precautions in handloading ammunition and always begin load development with the aid of a good reloading manual, such as the publication from Sierra Bullets. Always start at the lowest published charge and work up in charge weight using a chronograph and keeping a close eye out for signs of excessive pressure.

The chamber specifications in the TUBB 2000 have been carefully chosen to provide optimum acceptance of a variety of factory and handloaded rounds. However, keep in mind that there is a great likelihood that the chamber in your 2000 will be different from that of other rifles using the same cartridge.

The 2000 has a throat wherein there is no straight section ahead of the case neck. This was done to provide maximum accurate barrel life. This simply means that overall cartridge length maximums may be a little shorter for the TUBB 2000 than it might be on another rifle.

Please take time to ascertain the correct bullet seating depth. Tools and gages that facilitate this operation are readily available and their use is encouraged. Insert a magazine with the bullets facing forward until the magazine latches fully in place.

Release the magazine by depressing the magazine release button on the right side of the magazine housing just above the magazine well opening.

NOTE: To stay within the Rules for NRA High Power Rifle, the Delrin single-loading device (included with the 2000c) must be used instead of a magazine for the offhand (standing) position phase of a competition. This device maintains the 3.25 inch depth requirement stated in the 2000 NRA High Power Rifle rule book.
RIFLE OPERATION
[getting going]

No safety is a substitute for safe gun handling practices or common sense! Never load your TUBB 2000 until you are ready to fire it.

DAVID TUBB --
I use the bipod on my 2000t to serve as a stand to support the rifle for maintenance chores. With the buttstock extension removed, the pistol grip and bipod hold the rifle upright. Rotating the forend even allows the 2000t to be turned on its side, just like a portable workbench. Small bipods intended only to prop a rifle upright are available from OK Weber Inc. that also can function in this manner for 2000c owners.

Safety Actuation

The safety is located on the left side of the rifle. It is a flat black lever which pivots fore and aft alongside the action. The lever's forward position (facing the muzzle side of the rifle) is the “fire” position [top photo]; its “safe” position is to the rear (facing the butt of the rifle) [bottom photo]. Slide the safety lever using the thumb.

[NOTE: When using the safety be aware that the safety bar lever needs to feel as if it snaps into its “safe” and “fire” positions. Just moving the lever until it feels tight will not engage or disengage the safety; it has a positive click stop in each direction.]

[NOTE: The TUBB 2000 can be disassembled with the safety on or off.]

Action Disassembly

Further disassembly of your TUBB 2000 is easily accomplished with a 3/16 allen wrench. After removing the buttstock assembly as per instructions, remove the pistol grip screw (located on the inside of the pistol grip) and pistol grip. Next remove the screw that’s under the pistol grip using the same wrench. Now remove the screw forward of the magazine housing. Pull the magazine housing straight down and away from the rifle. The trigger is now fully accessible for adjustment.

Reassemble in reverse. There is no specific torque requirement for the magazine housing screws, but they should be tightened snugly.
Maintenance

The primary components on the TUBB 2000 are constructed of aluminum alloys and stainless steel. These materials are highly durable and corrosion resistant. We do recommend, however, cleaning away any corrosive materials from the stainless surfaces as it is not impervious to pitting. A wipe down after use with a soft, lint-free cloth is usually all that’s required, although in areas of high humidity or prolonged exposure to corrosive elements, use of a rust inhibiting chemical treatment may be warranted.

The barrel of the TUBB 2000 should be cleaned from the breech (chamber) end. This reduces the likelihood of damage to the delicate muzzle crown area from inserting the cleaning rod into the muzzle. Our custom rod guide is to be inserted into the chamber from the rear of the action and will help prevent cleaning rod contact with the rifling.

There are numerous barrel cleaning products and methods. For specific information and recommendations on barrel cleaning, including cleaning up after moly-coated bullet use, there are several articles on the Zediker Publishing web site.

There is no need to disassemble the bolt unless it needs to be repaired. Wipe off the exterior surfaces of the bolt and relubricate the bolt bearing surfaces and lug recesses. Also clean the lug recesses themselves. After reassembly, we recommend wiping down the portion of the bolt body that is accessible through the action loading port to reduce its attraction to airborne particulate.

Should the bolt ever need to be recocked when it is removed from the rifle, insert the bolt’s firing pin fingers backward into their channels in the action and twist the bolt to recock the firing pin.

Inspect magazines prior to each use and remove any debris or residues from the follower and body. Magazine disassembly is possible by inserting a suitably sized tool into the hole on the base plate and sliding the plate to the rear. The spring and follower may then be removed through the bottom of the magazine. Cleaning and relubrication is recommended after extended periods of use in dusty conditions.

[No further disassembly other than removing the buttstock assembly as described earlier is necessary under normal circumstances. The only reason the magazine housing needs to be separated from the action is to gain access to the Anschütz trigger. It is not necessary to remove the magazine housing to perform routine maintenance.]
STOCK ADJUSTMENT

[finding the perfect fit]

DAVID TUBB --
I advocate setting stock length a little longer than most people might. I am a firm believer that it is best to “reach” slightly for the pistol grip as this ensures a strong, secure hold on the rifle. I pull the rifle firmly into my shoulder pocket when shooting offhand, and also prefer to have what I would characterize as very firm contact between rifle butt and shoulder in the sitting and prone positions as well. When using a sling in prone or sitting, stock length (and sling tension) should be great enough so that, at the least, you have to push the buttpad forward with your hand in order to place the stock into the shoulder pocket. My buttstock is shortest offhand and longest prone. If my standing setting is “0” I’m usually out about 1-1/2 inches for sitting and about another inch for prone. I have found that many people tend to shoot with a stock that’s too long in sitting and too short everywhere else.

The TUBB 2000 was engineered to be fully adjustable to the individual. The trigger, sights, and stock are customizable over a wide range of settings. This allows the shooter to reach the goal of complete security, comfort, and confidence. Take your time and experiment with all the options available on the TUBB 2000. This is one of the preeminent advantages this rifle holds over other available competition rifles. Not only does the TUBB 2000 shoot better, but it lets you shoot it better still!

Stock Length
The buttstock is adjustable in length four-plus inches. This adjustment is accomplished by moving the buttplate tube [A] in or out after loosening the four screws on the clamping block. Ensure that the buttstock tube is fully contained in the block. The extent of rearward (lengthening) movement is determined by the front of the buttstock tube fitting flush with the front of the block.

Cast and Cant
The buttstock is adjustable for cast or offset by loosening the four screws on the clamping block [B] and swiveling the block on the receiver extension tube.

The buttplate itself is adjustable for cant up to 360° and upon loosening the screw directly in the center of the rubber recoil pad [C] is adjustable for height at approximately 1-1/2 inches.

The cheekpiece [D] is adjustable vertically approximately one inch. The vertical cheekpiece adjustment [E] is accomplished via the top knurled ring. The lower knurled ring [F] will then secure the setting.
DAVID TUBB --
I have found the cast off/on adjustment feature on the buttstock to be of great help to me in attaining the natural shooting positions I desire. For prone, I offset the clamping block so the buttplate moves outward [the index mark on the clamp is to the right of center on the scale on the receiver extension tube]. I swing it a little bit inward for offhand and slightly more inward for sitting. The amounts of cast on/off are approximately 4:30 for prone, 6:30 for standing, and 8:00 for sitting.

Tools Needed -- 5/16, 3/16, 5/32 allen head wrenches

supplied Anschütz trigger wrenches

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Forend Tube

The forend tube rotates to different pre-set positions. This adjustment is used to correct the handstop or bipod to level. The forend can be rotated after loosening the knurled collar approximately 1-1/2 turns. There is an indexing pin that stops at each setting; you’ll feel the notches engage as the forend is rotated.

Disassembled view shows the index detents. Make sure they’re engaged before snugging down the collar.

Weight and balance adjustments are easily accomplished with the optional forend accessory rail weights.

Sight Mounting Options

Sight mounting adjustments include cant settings as well as flexibility in locating the sight along the receiver. There are three pre-set angle adjustments: 0°, 5°, and 10°. This is used to correct the sights to vertical (level the sights) when the shooter holds the rifle canted at an angle.

[Sight mounting bases are available from OK Weber, Inc. Weights are available from SpeedLock™ Systems Inc. See “Sources” appendix.]

Step by Step

Following is the recommended sequence to optimally adjust your TUBB 2000 to provide a perfect fit.

Adjusting the TUBB 2000 stock requires the use of a 5/32 allen head wrench. Cant adjustment is best accomplished when the sights aren’t yet mounted on the rifle! This helps ensure that you can find your most comfortable shooting position without being distracted by the sights themselves.

Get the rifle into your shoulder in a comfortable shooting position. [Each shooting position will require specific adjustments, but prone is a good place to start in making initial determinations.] Make rudimentary stock length and buttplate adjustments to get the rifle to fit within a workable range. These settings will be refined later.

1. Determine natural hold and grip angle. This is the first step in attaining an efficient and stable shooting position. Rotate (cant) the rifle counterclockwise until you are comfortable with your hand gripping position.

The collar only needs about 1-1/2 turns to release enough to allow for rotation to level the tube.
2. Adjust the forend level by rotating it to suit your position. Loosen the large knurled ring that secures the forend to the receiver. Rotate the forend tube until it locks into one of three pre-set positions that are controlled by a stop pin. Retighten the collar after selecting a position. This part needs only to be hand tight: do not overtighten or use tools to tighten the collar ring.

3. Now work on getting a head position that you like. Adjust cheekpiece height by raising or lowering the cheekpiece by rotating the knurled ring on the center strut.

4. Loosen and remove the four 7/64 inch allen head screws that attach the sight rail to the receiver. Now level the rail by choosing the nearest mounting angle that fits your shooting style and reattaching and tightening the mounting rail to the rifle receiver. Install the iron sight base (sold separately) at a position along the rail that affords correct eye relief. Make sure the base is fully engaged in the corresponding slots on the sight rail prior to tightening the sight base clamping screws. Then attach your sight to the base using the mounting screw or screws that came with the sight.

[Scope sight users follow the same procedure.]

5. Install the front sight assembly (sold separately) by sliding it onto the turned section at the muzzle. Level the front sight and secure it to the barrel by tightening the allen screw. The globe supplied with your front sight base is a 22mm diameter. The sight assembly includes a selection of aperture inserts, and there are several custom inserts available for it (not included).

*[NOTE: An optional rear sight base is available with a 2-1/2 degree cant built in to add this amount of additional angle to each sight mounting position.]*

*Don’t overtighten the sight onto the barrel. It can constrict the muzzle. Use the index ring if you wish to remove and reinstall the front sight.*
YOU SHOULD NOW HAVE YOUR TUBB 2000 MOLDED TO CONFORM TO YOUR BODY AND SHOOTING STYLE. ENTER YOUR SETTINGS IN A NOTEBOOK.

Setting Final Adjustments

The final step is now fine tuning all these adjustments and settings at the range. All the buttstock adjustments can and will vary from shooting position to shooting position for the competitive user. For more insight purchase David Tubb’s book, Highpower Rifle. This hallmark work on the sport details David’s methods and recommendations for rifle adjustments in across the course competition.
Buttstock and Cheekpiece Tuning

1. Buttplate height, length, and angle adjustments are made to secure the rifle into the shoulder pocket as the shooter prefers. David Tubb recommends extending the length enough that the shooter has to “reach” somewhat for the pistol grip. This ultimately results in the buttpad exerting a little extra pressure into the shoulder which David has found helps tighten and improve the shooting position (all positions). The angle of the buttplate should be whatever allows the plate to fit into the shoulder pocket. For most shooters who cant the rifle, this will be in the directions indicated in the illustrations. Buttplate height has the effect of inclining the rifle, ultimately influencing the natural vertical position of the front sight on the target. Lowering the buttplate effectively drops the rifle muzzle and vice versa.

2. Offset or cast adjustment in the buttstock is strictly shooter preference, but most will find that offsetting the clamping block so the butt assembly moves outward (index mark on clamp to the right of center on the scale on the receiver extension tube) works well for the prone position and swinging it inward works well for sitting and off-hand.

[NOTE: The clamping block is reversible.]

3. After getting the basic cheekpiece height setting as outlined, fine tuning the height is whatever is necessary to center the eye in the rear sight in the shooting position. This is easily accomplished on the TUBB 2000: thread the knurled ring up or down. This can easily be done from the shooting position so will be a perfect fit.

4. The position adjustable handstop can be moved and fixed along any point within the slot it rides in. Loosen the allen screw on the clamping piece using a 5/32 allen wrench. Additionally, by loosening the screw on the stop piece itself, the handstop may be rotated and locked into one of five different positions to fit the shooter’s preference and position structure. This handstop requires an Anschütz sling swivel (provided). The bipod on the 2000t is also adjustable for position fore and aft in the rail slot to facilitate shooting off of uneven surfaces.

DAVID TUBB --
Adjust the cheekpiece last. Cheekpiece height is whatever is necessary to move the eye into perfect alignment with the rear sight or scope. This setting may change day to day due as a result of position changes made to accommodate different firing points, and also when other stock adjustments are made.

DAVID TUBB --
I think it’s best to start a little “farther” and work back when making fitting adjustments, rather than adding a little at a time. In other words, cant the rifle a little more or set the stock a little longer than you think you might like. By first experimenting with an extreme rather than gradually increasing levels of cant or length, I believe the body more naturally and accurately returns the necessary feedback. This not only affords the opportunity to experience something different that you might find beneficial, but I also find it more quickly and positively affirms the settings I end up using. I tend to approach many avenues in shooting following that principle, and have always found it works best for me.

A good place to start is setting the handstop approximately the same distance from the trigger as the buttplate is from the trigger for the prone position. I offset the handstop to the 3-o’clock side when viewed from the underside of the forend.
Recoil Reducer Adjustment

The TUBB 2000 is equipped with a patented, custom elastomer SofShot™ to counter recoil force. This unique shock absorbing material is not affected by heat or cold. The SofShot™ can be easily tuned by locating the 5/16 allen head screw inside the open end of the shock. Turn the screw in (clockwise) to increase the firmness of the shock absorber action; turn it out (counter-clockwise) to decrease the firmness. The harder recoiling the cartridge or load is, the more firmness is needed to offset it.

There are two elastomers supplied with each rifle, and each has a different durometer (degree of stiffness and compression).

DAVID TUBB --

Each rifle is supplied with two elastomer inserts each having a different durometer (firmness) rating. The RED is a number 75 and usually works very well with the 2000t when it is fired from the bipod. The YELLOW is an 85 and is usually preferred by the competitive shooter on the 2000c when a sling is used. I am using a YELLOW on my across the course and Palma® rifles since I prefer its extra firmness.
ANSPÜTZ TRIGGER
[the heart of the TUBB 2000]

Overview

The trigger on your TUBB 2000 is the superb German-made Anschütz 1500 gram two-stage competition unit. Rifles equipped with this trigger have won countless national and international championships. In our opinion it is the finest available and this is the first magazine fed centerfire rifle that offers an Anschütz trigger standard. This guide will help you understand how the trigger system functions and how to use its adjustments to attain optimum shooting performance.

Out of the box, the Anschütz trigger on your TUBB 2000 has been pre-set with excellent characteristics. A majority of serious riflemen will find the trigger to be controllable and efficient as is, but for ultimate performance, it’s important to experience what can be accomplished through understanding this thoroughly adjustable system.

The TUBB 2000 was engineered so that these adjustments would be safely hidden from the elements. To adjust trigger pull characteristics, you will need to remove the magazine housing from the rifle. This is easily accomplished by removing two allen head screws as outlined previously.

All adjustments made to the trigger assembly should be done only with an unloaded rifle! Always test the trigger adjustment by dry firing several times prior to firing live ammunition. For safety’s sake please familiarize yourself with trigger characteristics prior to shooting live ammunition.

Step by Step, by David Tubb

1. The first step in adjusting the Anschütz trigger is determining the best position for the trigger itself. The trigger is position adjustable horizontally along its attachment rail and may also be moved laterally. Loosen the screw on the trigger face using the larger of the two provided wrenches and position the trigger to suit your shooting grip.
2. Look at the left side of the trigger body. There is a rectangular cam attached via an allen screw (photo on next page). Loosen the allen screw (screw may have to be removed). Set the cam finger (pointer) so that it is at the top outside edge of the allen screw. This will correspond with the cam finger indicating on line 6 to 6-1/4 from the bottom. These reference lines are located on the link directly ahead of the cam finger. [Some of the index lines are miss-marked in certain triggers so it may be indicating between 7 and 7-1/4 when it is positioned as directed.] Be sure not to...
overtighten this allen screw (using the short end of the allen wrench and the thumb and index finger is tight enough). Also be sure that the cam bracket is in line with the arm to which it is mounted. The cam tip is meant to be able to move up and down the arm for adjustment. Its position affects the feel of the trigger since changing the amount of distance to and from the fulcrum point gives it a specific amount of leverage at each point. This makes the second stage break heavier (further up) or lighter (further down).

[When you move the cam finger you will likely have to readjust the sear engagement screw to get the proper feel.]

[Refer to the photo below for identifications.]

3. The two rear screws in the back of the trigger are for first stage (1, black screw) and second stage (2, silver screw) weights. I recommend you tighten the first stage (black) screw to increase it to the initial trigger load or feel desired. You will then use the second stage adjustment to fit your style of shooting. The first stage weight can then be adjusted to further preference later. However, it is important to understand that these adjustments are not independent of one another: lightening the first stage somewhat lightens the second, and vice versa.

[NOTE: The overtravel screw located immediately behind the trigger (X) has been removed. It is not needed because there is enough spring pressure in the trigger itself to overcome the momentum of the trigger finger.]
4. The second stage sear engagement screw is located directly in front of the trigger (3). Moving the screw clockwise lessens the engagement of the second stage sear. If the screw is moved too far in then the second stage stop will disappear from the trigger stroke; as the trigger moved through its first stage, the rifle would fire without the shooter sensing any stop at the second stage. Back the screw out until you feel the second stage stop, and then I would recommend backing it out another 1/8 turn. This screw has a direct bearing on how crisp your trigger will feel; less engagement of the second stage sear will mean a crisper trigger until, as mentioned, you over-adjust and the second stage stop is removed. This screw adjustment only indirectly affects trigger pull weight; it primarily affects the feel of the trigger.

5. The first stage movement is controlled by the second screw directly in front of the trigger (4). First stage movement increases as the adjustment screw is backed out. Tightening the screw shortens and eventually eliminates first stage movement from the trigger (at that point you will have a single stage trigger). If you want to shoot a single stage trigger still follow the above directions in numerical order so that you get the type of engagement on the second stage that will result in a crisp trigger; then simply remove any first stage movement by tightening this screw.

6. As said, the second (silver) screw at the rear of the trigger adjusts second stage weight. The black screw next to it adjusts the weight of the first stage. Turning either screw in increases weight, out decreases weight. Total trigger weight (first stage plus second stage) is adjustable from 10 ounces to an approximate total weight of 50-plus ounces. [Please note that the weight range can vary depending on the particular trigger assembly installed on your rifle.]

[NOTE: Looking at the either side of the trigger, there is a scale of index marks on the trigger housing and an indicator on the link. This can be used as a reference to record first and second stage settings.]

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SOURCES

Rifle
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TUBB 2000 custom accessories, many innovative products for competitive shooters
Superior Shooting Systems, Inc.
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Front and rear competition iron sight bases, other shooting accessories
OK Weber, Inc.
P.O. Box 7485
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On-line manuals, updates, other information on TUBB 2000
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