

RCBS®



MATCHMASTER®

PRECISION CASE TRIMMER

PRODUCT INSTRUCTIONS
90369



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SAFETY INSTRUCTIONS

⚠ WARNING: Before using the RCBS Matchmaster Precision Case Trimmer, read these instructions carefully to fully learn how to safely operate the related reloading equipment. Failure to properly operate the related reloading equipment can result in severe personal injury and/or equipment damage.



Scan for set up
and how-to-use
video clips

Questions while assembling
or operating this tool?
Visit RCBS.com

This instruction manual contains specific safety and operating information. It should be considered a permanent part of your reloading equipment and always remain with the equipment for easy reference.

NOTICE - This manual is not intended to provide comprehensive instructions or safety information on how to reload, or handle or use reloading components. Always read and thoroughly understand a reloading manual before attempting to reload ammunition.

⚠ SAFETY: Reloading is an enjoyable and rewarding hobby when conducted safely. But, as with many hobbies, carelessness or negligence can make reloading hazardous. When reloading, always follow these safety guidelines to minimize the risk of personal injury or death.

RELOADING SAFETY

- **ALWAYS** wear safety glasses.
- Understand what you are doing and why. Read handbooks and manuals on reloading. Talk to experienced reloaders. Write or call suppliers of equipment or components if you have questions or are in doubt.
- Read and understand all warnings and instructions accompanying your equipment and components. If you do not have written instructions, request a copy from the manufacturer. Keep instructions for future reference.
- **DO NOT** rush or take short cuts. Establish a routine and follow it at a leisurely pace.
- Keep complete records of reloads. Label each box showing the date produced, and the type of primer, powder and bullet used.
- **DO NOT** smoke while reloading, or reload near sources of heat, sparks or flame.
- Observe good housekeeping in the reloading area. Keep tools and components neat, clean and orderly. Promptly and completely clean up any spills.
- Keep all reloading equipment and components out of reach of children.
- **STAY ALERT!** Reload only when you can give your undivided attention. **DO NOT** reload when tired, ill, rushed or under the influence of drugs or alcohol.

Because RCBS has no control over the choice, assembly or use of components or other reloading equipment, RCBS assumes no liability, express or implied, for the use of ammunition reloaded with this product.

WORKING WITH CARTRIDGE CASES

- Examine empty cases to be sure they are in good condition before reloading. Thin, split, deformed or badly corroded or pitted cases may be structurally weak, and result in a dangerous condition. Pay particular attention to splits in the mouth, separation between the case and the head, and dents in the shoulder.
- **DO NOT** store cartridge cases or ammunition near harsh chemicals such as gasoline, household cleaners, or cat urine. The fumes can weaken the metal and present a dangerous condition.
- **DO NOT** clean cases with chemicals other than those specifically designed for this purpose.
- **DO NOT** attempt to clean loaded ammunition or primed cases. Doing so can cause corrosion, and weaken the case, or cause a misfire/hangfire condition.
- Ensure cases have proper primer pocket sizes; remove primer staking/crimp if necessary. Attempting to seat a primer into an undersized pocket or pocket with staking/crimping can result in detonation.
- **DO NOT** ream out or enlarge flash holes of cartridge cases. This may change the ignition rate and result in dangerous pressures.
- Resize and trim fired cases to ensure reliable chambering and obtain proper bullet tension and crimp.
- **NEVER** attempt to guess at the identity of your ammunition.

CASE TRIMMING/PREP

⚠ WARNING: It is critical for safety that cases not exceed the maximum specified case length. A case that is too long can enter the throat of the firearm when chambered. If this happens, the case cannot release the bullet properly upon firing, resulting in excessive pressure increase and creating a dangerous condition.

RECORD KEEPING

- Keep complete records of reloads. Apply a descriptive label to each box showing the date produced, and the primer powder and bullet used. Labels for this purpose are packed with SPEER bullets.
- **NEVER** attempt to guess at the identity of your ammunition.

Because RCBS has no control over the choice of components the manner in which they are assembled, the use of this product, or the firearms in which the resulting ammunition may be used, we assume no responsibility, expressed or implied, for the use of ammunition reloaded with this product.

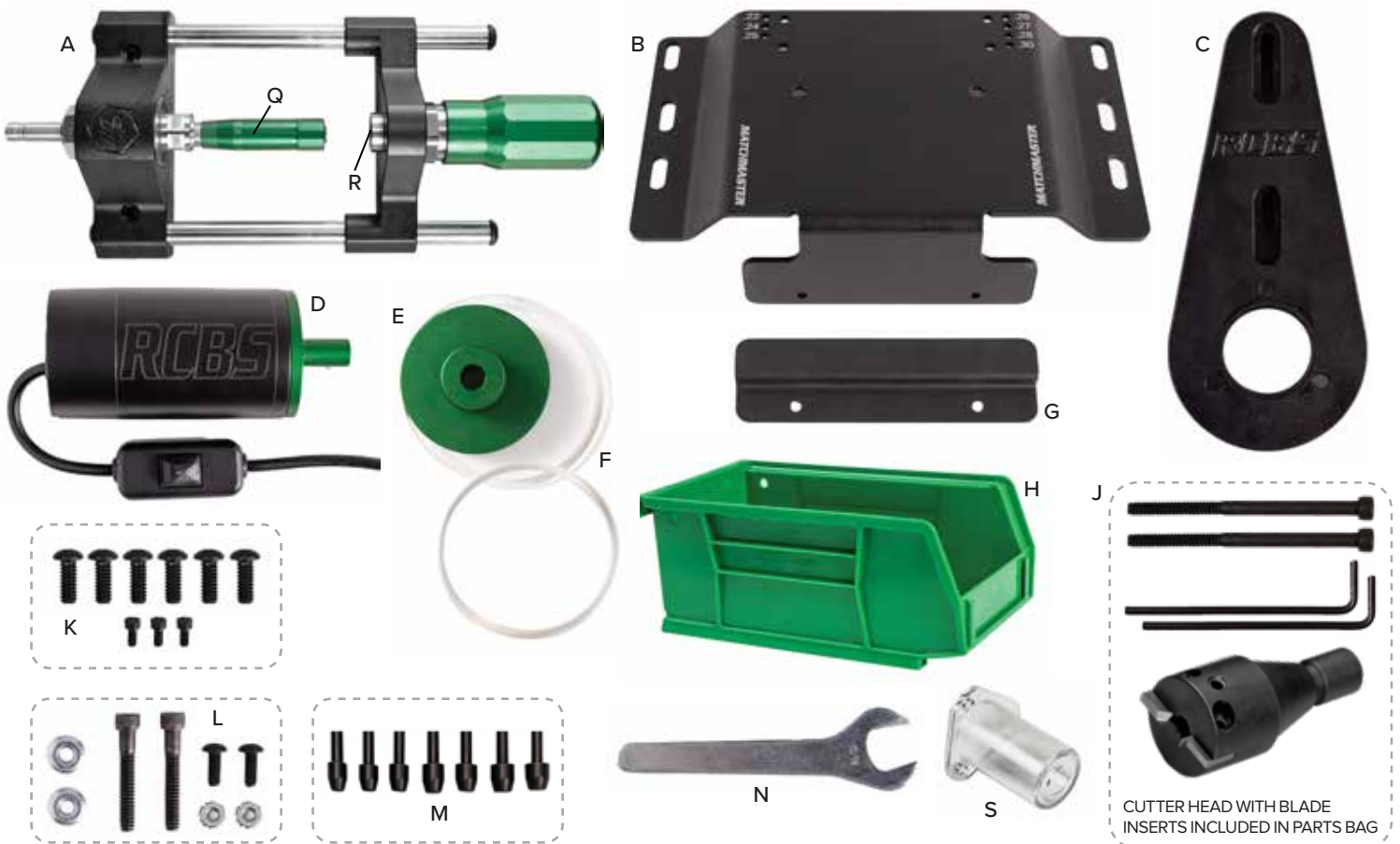
MAIN FEATURES AND PARTS LIST

MATCHMASTER® PRECISION CASE TRIMMER

- Power Requirements:
Input: 115VAC, Rectifier
Output: 65VDC, 195W, 3.0Amp
- Trimmer Shaft:
RPM 1800 Max
Torque 10 in lbs. Max
- Micrometer adjustment to precisely set trim length in .001" increments
- Accommodate Cartridge case lengths from .223 (1.760") to .300 RUM (2.850")
- Adjustable chamfer and deburr carbide cutters.
- Trim, chamfer and deburr at the same time.
- Included #1 Collet fits: .223 Rem, .308 Win and Magnum cartridge families
- Ambidextrous design

UNPACKING

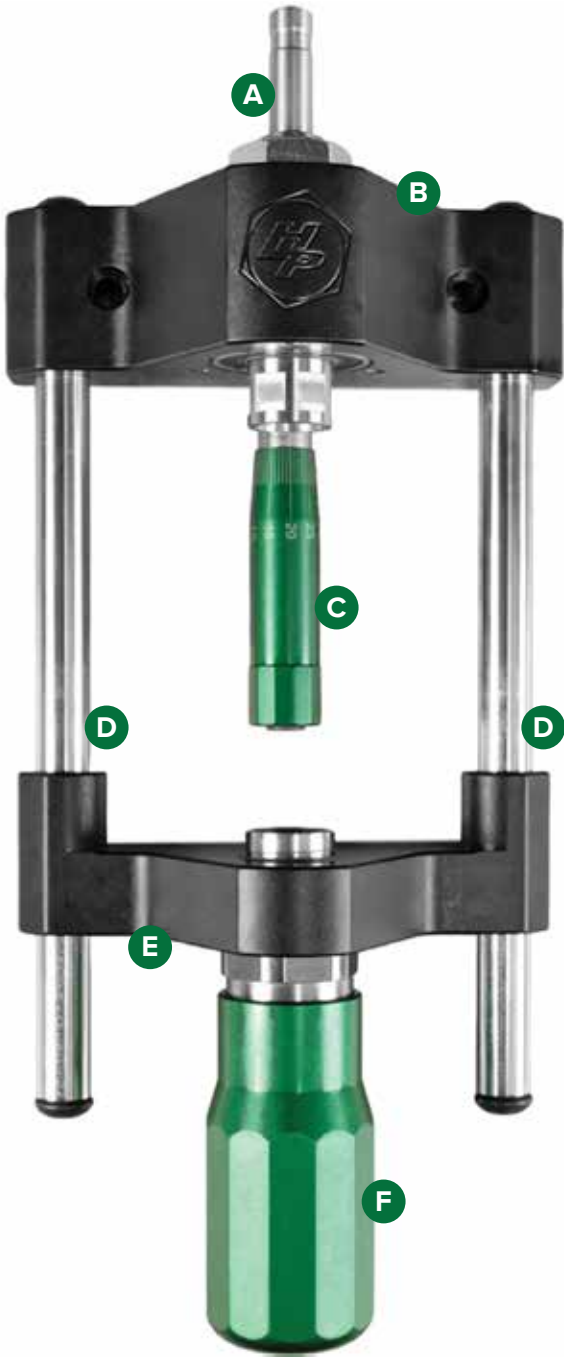
Refer to below to identify parts as you carefully unpack your new MatchMaster Precision Case Trimmer



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| A: CARRIAGE & BEARING HOUSING ASSEMBLY - 1 EA | G: BIN BRACKET - 1 EA | N: 11/16 HEX WRENCH - 1 EA |
| B: TRIMMER BASE PLATE - 1 EA | H: CASE BIN - 1 EA | P: CUTTER HEAD WITH BLADE INSERTS |
| C: MOTOR MOUNT - 1 EA | J: PARTS BAG 1 - 1 EA | Q: MATCHMASTER MICROMETER - 1 EA |
| D: MOTOR & MOTOR STAND OFF PLATE - 1 EA | K: PARTS BAG 2 - 1 EA | R: COLLET #1(.223, .308 & MAG CARTRIDGES INSTALLED) - 1 EA |
| E: SPINDLE PULLEY - 1 EA | L: PARTS BAG 3 - 1 EA | S: BRASS CONTAINMENT/CUTTERGUARD - 1 EA |
| F: BELT(S) - 2 EA | M: PILOT BAG - 1 EA | |

TRIMMER DIAGRAM



CARRIAGE & BEARING HOUSING ASSEMBLY

- A** CUTTER SHAFT (1)
- B** BEARING HOUSING (1)
- C** MATCHMASTER MICROMETER (1)
- D** GUIDE RODS (2)
- E** CARRIAGE ASSEMBLY (1)
- F** HANDLE ASSEMBLY (1)

PARTS BAG 1



PILOT BAG



.22 .24 .25 .26 .27 .28 .30

1 EA OF FOLLOWING: .22 CAL PILOT; .24 CAL PILOT; .25 CAL PILOT; .26 CAL PILOT; .27 CAL PILOT; .28 CAL PILOT; .30 CAL PILOT

1 EA CUTTER HEAD WITH BLADE INSERTS;
2 EA 10-24 x 3" SOCKET HEAD CAP SCREWS;
5/32 And 5/64 HEX KEYS

TRIMMER DIAGRAM

PARTS BAG 2



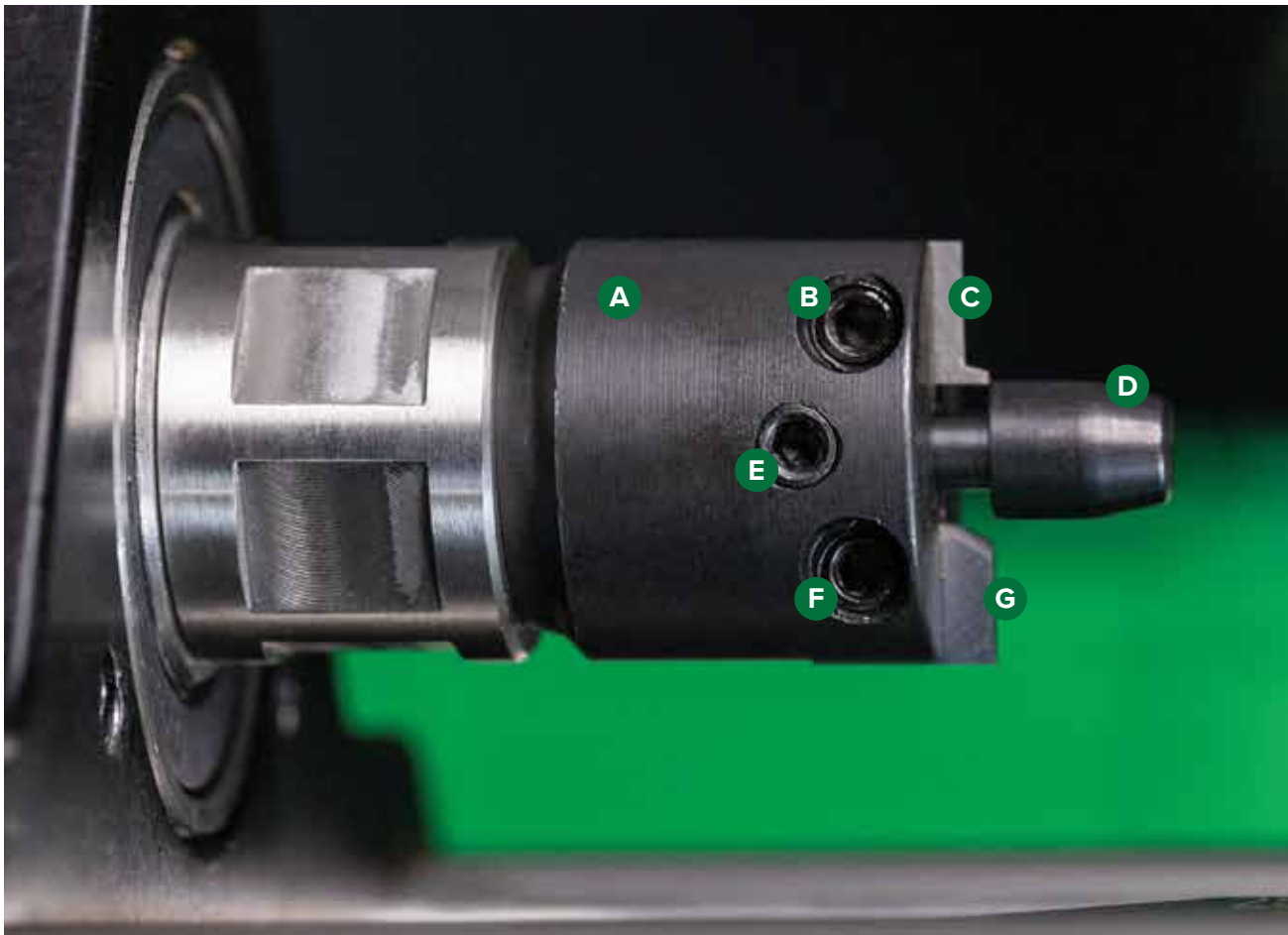
6 EA 10-32 X 1/2" BUTTON HEAD CAP SCREWS
3 EA 10-32 X 3/8" SOCKET HEAD CAP SCREWS (GUARD)

PARTS BAG 3



2 EA OF FOLLOWING: 8-32 X 1/2" BUTTON HEAD CAP SCREW;
8-32 NUT; 1/4-20 X 1-1/4" SOCKET HEAD CAP SCREW;
1/4-20 FLANGE NUTS

CUTTER HEAD



- A** CUTTER HEAD (1)
- B** INSIDE DEBURR BLADE SET SCREW (1)
- C** INSIDE CASE MOUTH DEBURR INSERT(1)
- D** PILOT (1)
- E** PILOT SET SCREW (1)
- F** OUTSIDE CHAMFER BLADE SET SCREW (1)
- G** OUTSIDE CHAMFER INSERT(1)

TRIMMER ASSEMBLY

INSTALL BIN BRACKET TO TRIMMER BASE PLATE

Line up the bin bracket with the outward flange using a 5/64" Hex Key and 11/32" hex wrench or socket, secure bin bracket to the trimmer base plate as shown, using the two 8-32 x 1/2 Button Head Cap Screws and Nuts. Ensure the Nuts are on the outside of the plate as shown.



Bin bracket mounted to the trimmer base plate



Base plate can be mounted directly to a bench



Base plate can be mounted to an RCBS Accessory Base Plate
(Mounting hardware not included • Mounting hardware included with RCBS Accessory Base Plate)

TRIMMER ASSEMBLY

INSTALL CARRIAGE & BEARING HOUSING ASSEMBLY TO TRIMMER BASE PLATE

Attach the Trimmer Body Assembly to the Trimmer Base Plate using the two 1/4-20 x 1 1/4" Socket Head Cap Screws and the two 1/4-20 Flange Nuts. Place the two 1/4-20 Socket Head Cap Screws through the holes on the Bearing Housing. Align the two screws through the mating holes on the Base Plate and thread the Flange Nuts until they are hand tight. Then, using a 3/16" Allen Key and a 7/16" End Wrench, secure the Trimmer Base Plate to the Trimmer Body Assembly as shown.

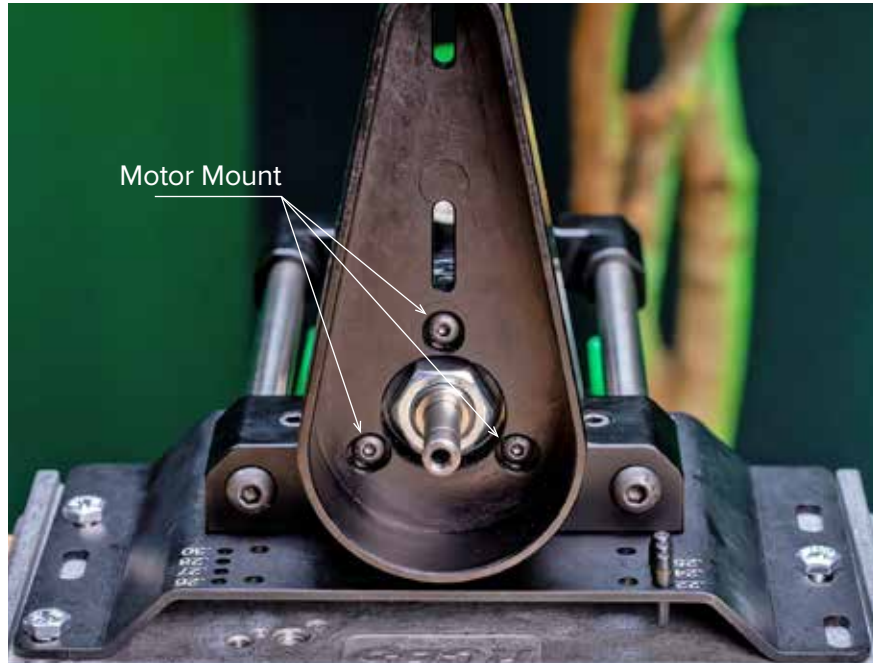


A 1/4-20 X 1-1/4" SOCKET HEAD CAP SCREW

B 1/4-20 FLANGE NUTS

TRIMMER ASSEMBLY

AFTER MOUNTING TRIMMER BASE PLATE DIRECTLY TO RELOADING BENCH OR TO RCBS ACCESSORY BASE PLATE, INSTALL MOTOR MOUNT TO CARRIAGE & BEARING HOUSING ASSEMBLY



Insert the three 10-32 x 1/2" Button Head Cap Screws through the Motor Mount into the Bearing Housing and tighten using a 1/8" Hex Key.



Place the Belt over the Spindle Pulley, then slide the Pulley and the Belt, at the same time, over the rear of the Cutter Shaft with the flat side of the Pulley towards the Bearing Housing. Once fully seated, tighten the set screw down using a 3/32" Hex Key.

TRIMMER ASSEMBLY

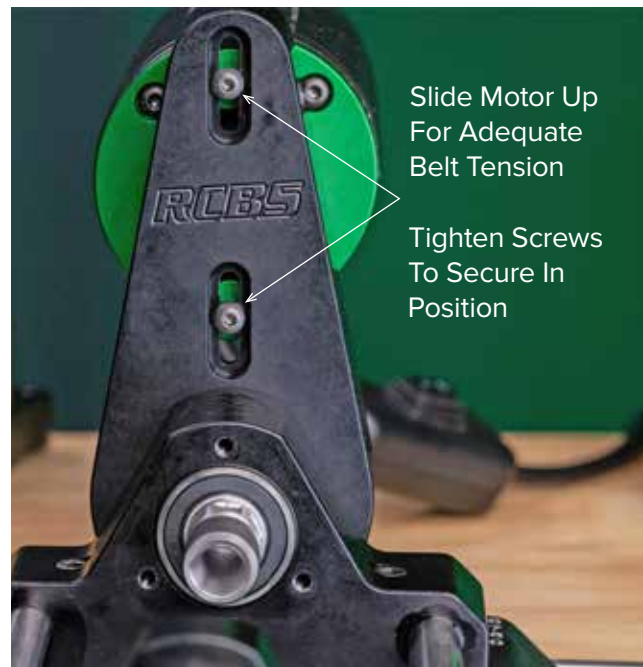
BE SURE MOTOR IS DISCONNECTED FROM POWER SOURCE BEFORE ANY ASSEMBLY OR ADJUSTMENTS ARE MADE.

INSTALL MOTOR TO MOTOR MOUNT



Slide the exposed end of the Belt over the Motor Pulley.

SECURING MOTOR TO MOUNT



Thread two of the 10-32 x 1/2" Button Head Cap Screws through the Motor Mount into the Motor Stand Off Plate. Once started, slide the Motor up in the Motor Mount slots to increase tension.

USING YOUR TRIMMER

The MatchMaster Precision Case Trimmer is designed to cut cartridge case length to manufacture recommendations. Repeated firing, re-sizing, and reloading of cases cause them to increase in length. Whenever a case grows longer than the manufacturer's maximum specified case length, it must be trimmed back to an acceptable length for that cartridge. There are case length specifications for every cartridge. Refer to your reloading manual for appropriate cartridge case lengths.

⚠WARNING: It is critical for safety that cases not exceed the maximum specified case length. A case that is too long can enter the throat of the firearm when chambered. If this happens, the case cannot release the bullet properly upon firing, resulting in excessive pressure increase and creating a dangerous condition.

The MatchMaster Precision Case Trimmer will give you a consistent repeatable trim. The case mouth will be cut square/perpendicular to the longitudinal axis of the case. It is quick to set up, easy to use, easy to change from one caliber to another and will provide years of trouble-free use.

ADJUSTING THE CUTTER HEAD

Your Matchmaster Precision Case Trimmer comes with a 3-Way Carbide Cutter Head, found in Parts Bag 1, and designed to trim the case length as well as chamfer and debur the case mouth. The Cutter is assembled with two carbide inserts and three setscrews. The desired caliber Pilot will need to be installed and adjusted for the desired case mouth chamfer and debur. **NOTE: REFER TO SECTIONS BELOW, "CHANGING CUTTER HEAD PILOTS" AND "ADJUSTING CASE MOUTH CHAMFER AND DEBUR" PRIOR TO INSTALLING CUTTER ONTO CUTTER SHAFT.** RCBS offers other 3-way cutter heads sold separately and non-adjusted, for other popular cartridge calibers that can be used.



INSTALLING THE CUTTER HEAD

To install Cutter Head, make sure both tapered surfaces, on Cutter Head and inside Cutter Shaft are clean and free of any debris then insert Cutter Head into shaft. Install the 10-24 x 3" SHCS from the rear of the cutter shaft. Secure Cutter shaft using the 11/16" Hex Wrench and use the 5/32" Hex Key to tighten the 10-24 x 3" SHCS in the Cutter Head, **DO NOT OVERTIGHTEN**, snug is fine. Once Cutter Head assembly is complete attach Brass Containment / Cutter Guard.



Install 10-24 x 3" SHCS Securing Cutter Head



Install Cutter Head

USING YOUR TRIMMER

BE SURE MOTOR IS DISCONNECTED FROM POWER SOURCE BEFORE ANY ASSEMBLY OR ADJUSTMENTS ARE MADE.



11/16" Hex Wrench
and 5/32" Hex Key
for Cutter Head Install
and Removal.

To remove the 3-Way Cutter Head, you will need an 11/16" open ended Hex Wrench and a 5/32" Hex Key. While securing the cutter shaft with the 11/16" Hex Wrench, use the 5/32" Hex Key to loosen the 10-24 x 3" SHCS positioned at the rear of the cutter shaft just below the motor. **NOTE:** Due to the tapered fit of the cutter head into the cutter shaft, the cutter head will be secured to the shaft even with the SHCS removed. Loosen SHCS approximately one completed turn and while SHCS is still threaded into cutter head, **LIGHTLY** tap, with hex wrench, on the SHCS in direction of the cutter head to free cutter head from cutter shaft. Once cutter head is loose, completely remove the 10-24 X 3" SHCS and remove Cutter Head from cutter Shaft.

CHANGING CUTTER HEAD PILOTS

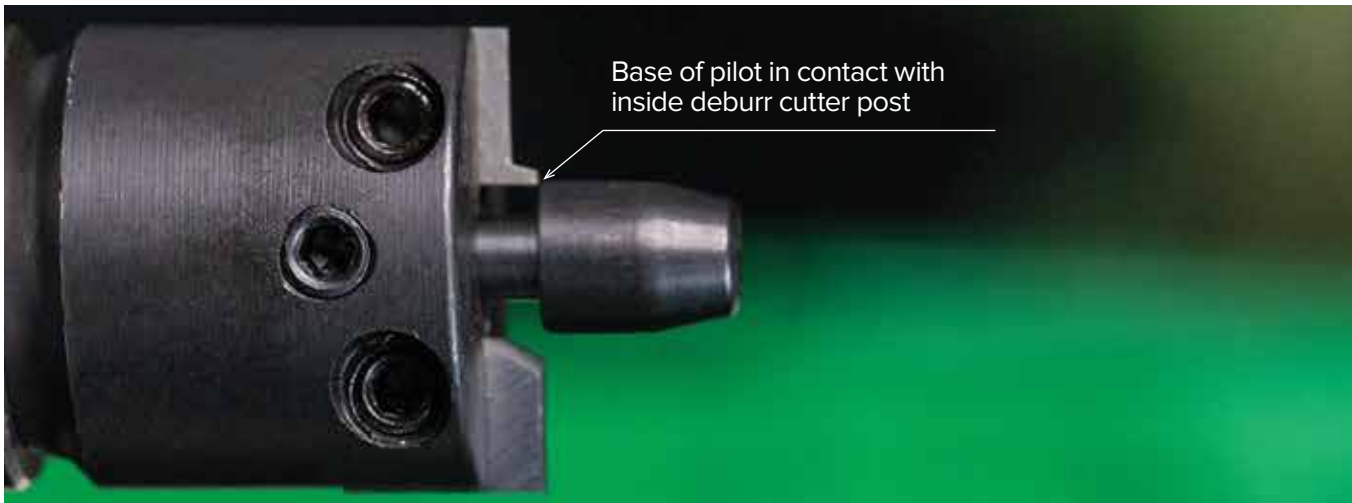
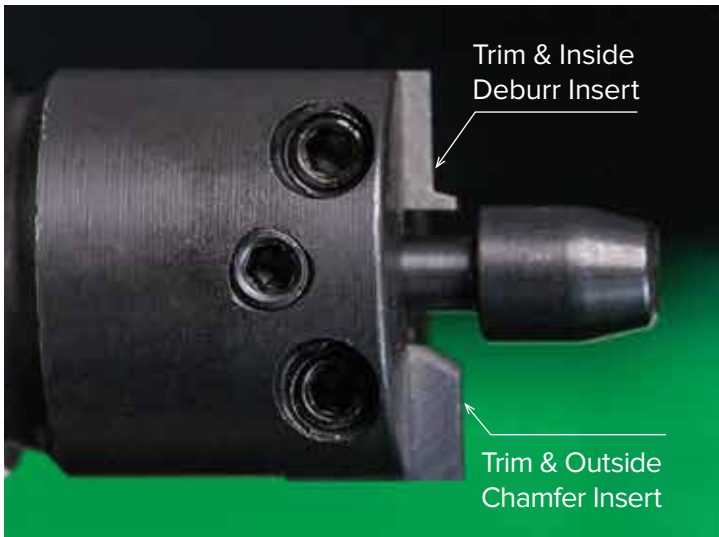
Your MatchMaster Precision Case Trimmer 3-Way Cutter Head is ready to accept the pilot of your choice. There are seven caliber pilots included with your Precision Case Trimmer. If you need to change to a different caliber pilot, you will first need to remove the Cutter Head from the Cutter Shaft, refer to Cutter Head removal instructions mentioned previously. The Cutter Head contains three set screws, two for securing the carbide inserts and one for securing the pilot. **NOTE: WHEN SECURING THE PILOT, ENSURE PILOT IS ORIENTED SO THE SET SCREW IS TIGHTENED AGAINST THE FLAT SURFACE ON THE PILOT SHAFT!**



Using a 5/64" Hex Key, loosen the set screw securing the pilot and remove the pilot. Insert new pilot and lower it to a point just above the inside deburring blade, to ensure insert can move freely under pilot.

ADJUSTING CASE MOUTH CHAMFER AND DEBURR

Use the 5/64" Hex Key and loosen the set screws containing the carbide inserts. Just break loose enough to allow the inserts to slide in and out. Ensure the Inside Debur insert is adjusted inward all the way, so it is either in contact with pilot shaft or the inside deburr cutter is completely beneath bearing surface of pilot and Outside Chamfer Insert is moved outward far enough to not contact cartridge case. Next slide a chamfered / deburred case onto the pilot, until the case mouth comes into contact with Trim & Inside Debur Cutter, the Inside Debur cutter should be captured by the inside of the case mouth.



Slide Outside Chamfer Insert until it just comes into contact with Chamfered Case, then re-tighten set screw to secure insert in place. Rotate the cutter head 180°, allowing gravity to slide the Trim & Inside Debur insert to slide outward until Inside Debur cutting edge comes into contact with deburred case mouth. You may need pull case outward just enough to allow insert to move freely. Once Inside Debur cutting edge is against case, re-tighten set screw to secure insert in place. To check Inside Debur and Outside Chamfer inserts are positioned correctly, place case onto pilot and turn case clockwise while holding Cutter Head from turning. Hand turn a case, holding the cutter head in your hand, to ensure the desired Inside Debur and Outside Chamfer is achieved. If not adjust inserts in or out accordingly to achieve less or more deburr or chamfer. Once desired results are achieved, loosen set screw and lower pilot until it comes into contact with post of Inside Cutter and re-tighten set screw to secure pilot, ensuring the set screw is tightened against the flat portion of the pilot shaft.

TRIMMER ASSEMBLY

INSTALL BRASS CONTAINMENT / CUTTER GUARD



Place Guard over Cutter Head and line up the three holes in Guard with the three holes in the Bearing Housing. Secure the Guard to the Housing with the three 10-32 x 3/8" Cap Screws; hand tighten only for ease of removal. The Cutter Guard may be removed for the adjustments, but must be used while in operation to prevent injury to the user as well as collect brass shavings.

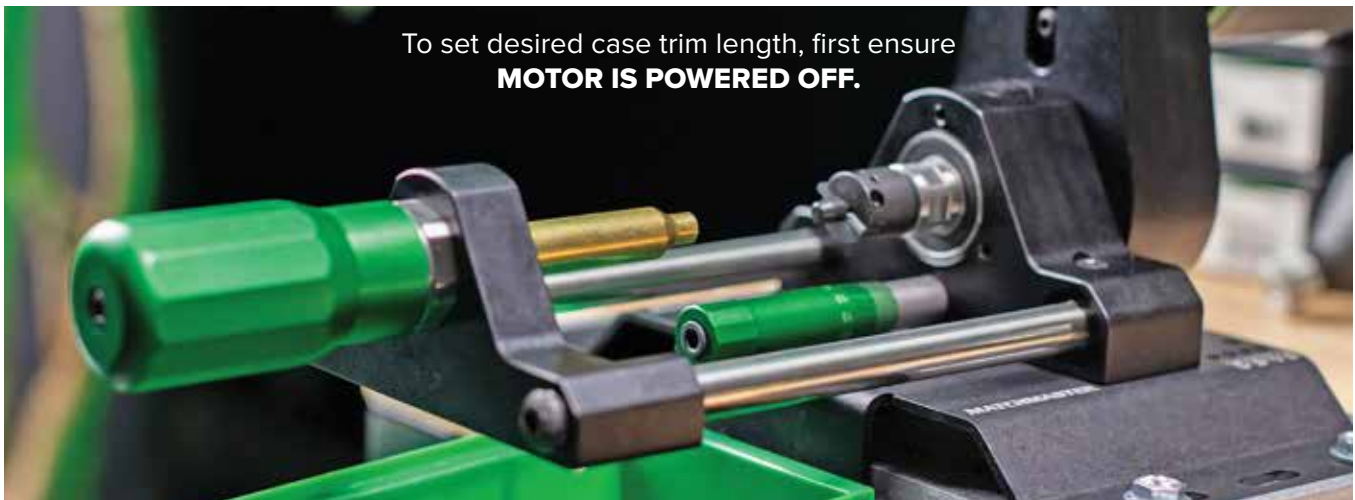
TRIMMER ASSEMBLY

INSTALL THE CARTRIDGE CASE BIN ONTO THE BIN BRACKET



Place the Case Bin onto the Bin Bracket flange to complete the assembly of your MatchMaster Precision Case Trimmer.

SETTING TRIM LENGTH



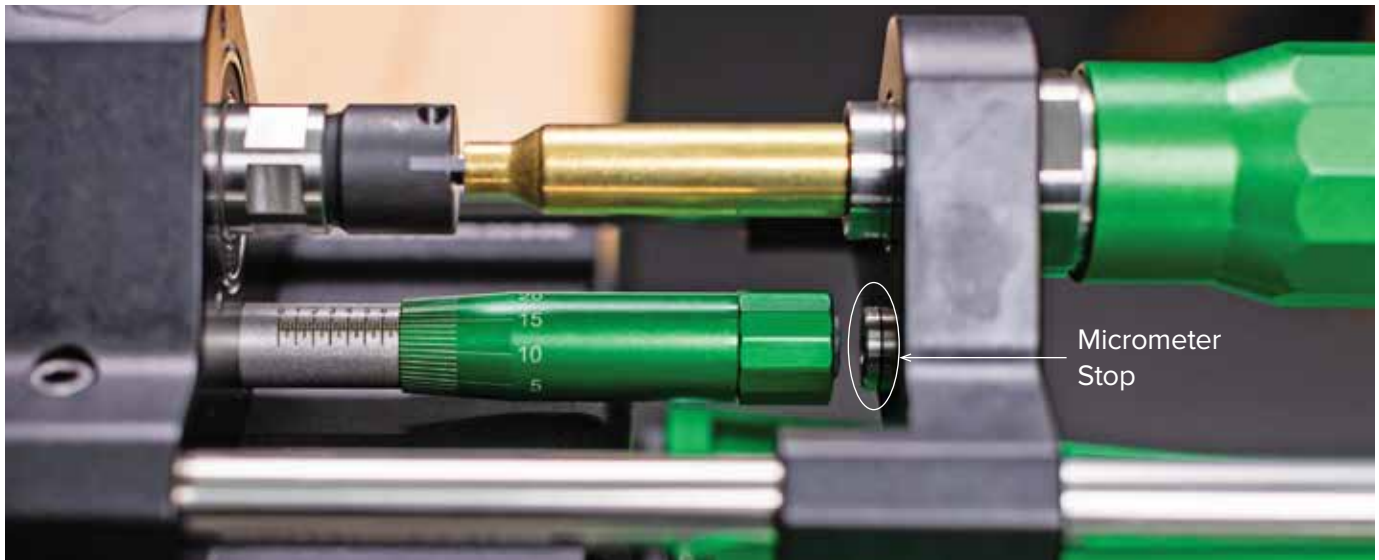
To set desired case trim length, first ensure **MOTOR IS POWERED OFF.**

Pull Carriage Assembly Completely to the rear, rotate Handle counterclockwise, just enough to allow for the Untrimmed Cartridge case to be positioned into appropriate counterbore of collet, then rotate Handle Clockwise to close collet onto case head. 1/16 to 1/8 of a turn of the Handle is all that is required to insert and remove a case.

Once case is secured in collet and motor is **OFF**, slide case all the way forward onto the cutter head until the case mouth comes to rest on carbide trimming & inside deburr insert. Ensure case mouth slides easily over pilot, if any resistance is felt, the case mouth diameter is too small, leading to increased bullet tension, if this is desired, try the next smaller size pilot. Ideally there is .002" to .004" clearance between case mouth and pilot. **NOTE:** Do not press case hard into cutter head, this could result in incorrect initial trim length set up, just bring case forward lightly until it rest on cutting insert. If case is not sliding over pilot, i.e., not coaxial alignment, slightly loosen handle to allow the case to slide over pilot, this will properly align case, then retighten handle. If case is stopped short of resting on cutting insert, the Micrometer thimble may need to be adjusted, by turning clockwise to shorten distance. With case mouth all the way forward onto cutter head, adjust the Micrometer thimble unit it comes into contact with Micrometer stop located on the Carriage Assembly. Read the value on the thimble, this value will be the reference starting point. Remember each graduation marking represents .001".

USING YOUR TRIMMER

Rotate Micrometer Thimble Counterclockwise Until Thimble Makes Contact With Micrometer Stop.



Pull Carriage Assembly rearward until travel is stopped. Turn on motor and bring same case into cutter and apply force until the cutter is done cutting, i.e., no more brass shavings being produced. Return Carriage Assembly to the rear. **TURN OFF MOTOR.**

Remove case and measure. Adjust Micrometer thimble clockwise to reduce case length. Each graduation marking represents .001", so if need to remove .005" from case length, rotate handle clockwise and land on the fifth graduation marking.



Insert case back into Collet. Turn motor on and run case back onto Cutter Head and continue applying force until Carriage Assembly contacts Micrometer Stop and Cutter is done cutting.

Return Carriage assembly to rear, remove case and measure. If more adjustment is required, **TURN MOTOR OFF** and make the necessary adjustments to the Micrometer to achieve desired trim length.

Once desired trim length is achieved, load the next case into collet. Turn motor on and run case into cutter head and continue to apply force on handle until forward movement is stopped and cutter is done cutting.

Return Carriage assembly to the rear and while pulling rearward rotate handle counterclockwise to loosen collet allowing cartridge case to drop in case bin. Return Carriage assembly completely to the rear until it comes to a stop.

Insert the next case, rotate handle clockwise to tighten collet onto case, advance forward into cutting head.

Continue this process until all cases have been trimmed.

Remove brass containment / guard frequently during use to ensure brass shavings do not interfere with cutting operation.

For videos on this process as well as other set up tips, visit www.RCBS.com

THE TRIMMERS COLLETS

Your Matchmaster Precision Case Trimmer comes equipped with Collet #1, included in the Handle Assembly, which accommodates cartridge families; .223 Rem, .308 Winchester and Magnum cartridges with bolt face diameters of (.379", .473" and .532"). There are three other collets, sold separately, that can also be used.

Collet #1 – (.379, .473 & .532 Dia)

222 Rem. Mag, 223 Rem, 225 Win, 22-250, 220 Swift, 243 Win, 6mm Dasher, 6×47 Lapua, 6XC, 244 Rem, 6mm B.R. Rem., 257, 25-06, 264 Win. Mag, 260 Rem, 6.5×47 Lapua, 6.5 Creed, 6mm Creed, 6mm SLR, 6.5×57 Mauser, 6.5mm Win, 6.5 Jap Mauser, 6.5×55 Swede, 6.5×55 SKAN, 270 Win, 270 Savage, 270 Gibbs, 270 Wby, 270 Ackley, 7×57 Mauser, 7mm Wby, 7mm-08, 280 Rem, 284 Win, 7mm Rem. Mag, 7mm B.R. Rem, 30-06, 308 Win, 300 win Mag, 300 Sav, 303 British, 300 RUM

Collet #2 – (.350, .418 & .506 Dia)

30-30, 7.5×55 Swiss

Collet #3 – (.356, .440 & .545 Dia)

6mm PPC, 6mm Krag, 300 Rem. Ultra Mag, 300 WSM, 300 SAUM, 6.5 PRC, 300 PRC, 7mm PRC. 26 Nosler, 28 Nosler

Collet #4 – (.310 & .605 Dia)

300 Norma Mag, 338 Norma Mag, 338 Lapua Mag

CHANGING COLLETS

DISCONNECT MOTOR FROM POWER SOURCE BEFORE ANY ASSEMBLY OR ADJUSTMENTS ARE MADE.

To change Collets, simply rotate the Handle counterclockwise until the Handle comes free of the Carriage Assembly. Remove Collet and replace with desired Collet. Reattach Handle to Carriage Assembly by rotating Handle Clockwise and

DO NOT OVERTIGHTEN HANDLE WITHOUT A CASE INSERTED IN COLLET, THIS WILL DAMAGE THE COLLET.



MAINTENANCE

Your trimmer's guide rods are lubed at the factory and prepared to glide easily. Occasionally, lube your guide rods for best performance. Prior to lubing, wipe with nonabrasive cloth to remove excess residue, debris or brass shavings. Apply lube, using a high performance lubricant such as 5W-30 motor oil or similar. Preventative maintenance of guide rods will prolong life and provide years of reliable function.

LIMITED LIFETIME WARRANTY

Your RCBS MatchMaster Precision Case Trimmer is warranted to be free from defects in material or workmanship for two (2) years from date of purchase.
For full warranty terms and conditions, visit RCBS.com/warranty.



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