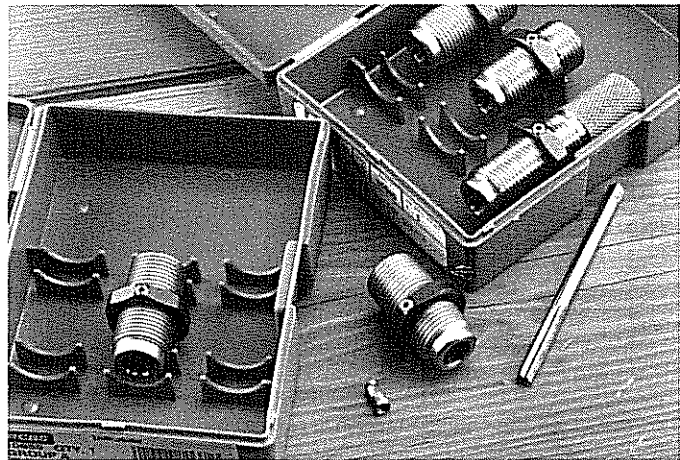


RCBS[®]

CASE FORMING AND TRIM DIES



PRODUCT INSTRUCTIONS

SAFETY

Reloading is an enjoyable and rewarding hobby that is easily conducted with safety. But carelessness or negligence can make reloading hazardous. This product has been designed from the beginning with the user's safety in mind.

As with any reloading operation, some safety rules must be followed. By observing these few rules, the chance of hazardous occurrence causing damage or injury becomes extremely remote.

GENERAL

- Use the reloading equipment as the manufacturer recommends. Study the instructions carefully and become thoroughly familiar with the operation of the product. Don't take short cuts.
- Observe "good housekeeping" in the reloading area. Keep tools and components neat, clean and orderly. Promptly and completely clean up primer and powder spills.
- Reload only when you can give your undivided attention. Do not reload when fatigued or ill. Develop a reloading routine to avoid mistakes. Avoid haste – load at a leisurely pace.
- Always wear adequate eye protection. You assume unnecessary risk when reloading without wearing safety glasses.

LOADING DATA

- Use only laboratory tested reloading data. We highly recommend the use of the SPEER Reloading Manual.
- OBSERVE ALL WARNINGS ABOUT THE USE OF MAXIMUM LISTED LOADS.

PRIMERS AND POWDER

- **WARNING:** Primers are designed to explode and will do so when subjected to heat or percussion.
- Do not decap live primers.
- Never attempt to seat or reseat a primer in a loaded round.
- Store primers and powder beyond the reach of children and away from heat, dampness, open flames and electrical equipment.
- DO NOT use primers of unknown identity. To destroy unwanted primers, soak in oil for a few days and then bury.
- Keep primers in original factory container until ready to use. Return unused primers to the same factory packaging for safety and to preserve their identity.
- DO NOT store primers in bulk. The blast of just a few hundred primers is sufficient to cause serious injury to anyone nearby.
- DO NOT force primers. Use care in handling primers.
- DO NOT use any powder unless its identity is positively known. Discard all mixed powders and those of uncertain or unknown identity.
- If you use a powder measure, replace the lids on both the powder hopper and powder can after the powder hopper has been filled.
- Before charging cases, settle the powder in the powder hopper. Throw and check the weight of at least ten charges. This will assure you that the correct powder charge is being thrown.
- After a reloading session ends, pour the remaining powder back in its original factory container. This will preserve the identity and shelf life of the powder.
- DO NOT smoke while handling powder or primers.

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.

Since RCBS has no control over the choice of components, the manner in which they are assembled, the use of this product, or the guns in which the resulting ammunition may be used, no responsibility, either expressed or implied, is assumed for the use of ammunition reloaded with this product.



CASE FORMING DIE INSTRUCTIONS

RCBS Case Forming Dies are for the reloader interested in forming cases of one caliber into another, either for economic reasons or because factory cases are not available for a particular cartridge.

Form Dies are designed to reduce the case by steps to eliminate excessive stress and thus prolong case life. After forming and trimming the case must be full length resized for final forming.



This photo shows the steps in forming a .250 Savage case from .30-06 brass. The first case is a standard .30-06 brass case. The second case has been run into Form Die #1 to form the body taper. The third case has been run into Form Die #2 to set the shoulder back. The excess neck was also trimmed off. The fourth case was run into the Trim Die to reduce the neck to .25 caliber and the excess neck was again trimmed off to form the basic .250 Savage case. After forming, the case neck must be expanded, and the inside reamed, to reduce case wall thickness.

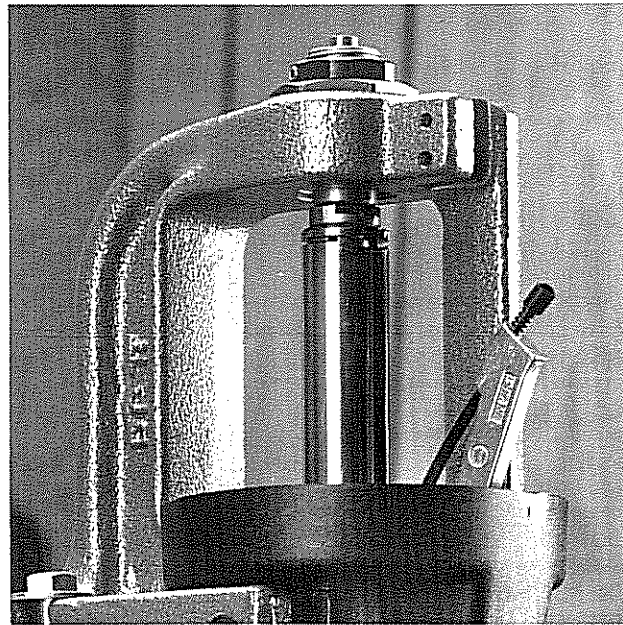
Case Forming Die Sets may consist of as little as just one trim die or a whole set containing as many as three form dies, an expander ball plus ream die, and reamer.

NOTE: Sizer and Case Forming Dies are not intended to swage the base of the case. This requires special Base Forming Dies which are available on Special Order. Write to RCBS for a quotation, giving the caliber of the case to be used and the new caliber to which it will be formed.

There is nothing mystical about case forming. You merely run a case into a die, or series of dies, which sets the shoulder back lower on the case and forms a new body. Sometimes, when the cases are formed down, excessive brass will build up at the junction of the neck and shoulder. When this happens, the case neck must be reamed to receive the bullet. After the case is formed, the excess brass neck is cut away, and the case mouth filed level with the top of the die.

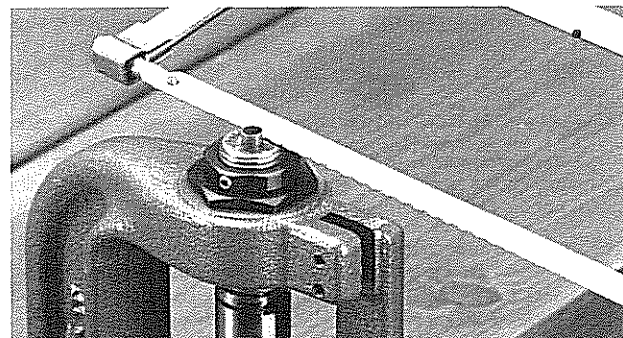
These instructions and photos show the steps in forming a .250 Savage case from .30-06 brass. The set includes: Form Die #1, Form Die #2, Trim Die, Reamer Die, Reamer and an Expander Ball.

The Form or Trim die must be adjusted to touch the shell holder with all play in the press leverage system removed. With a properly lubricated case, a fast stroke of the press handle will perform each operation easily.



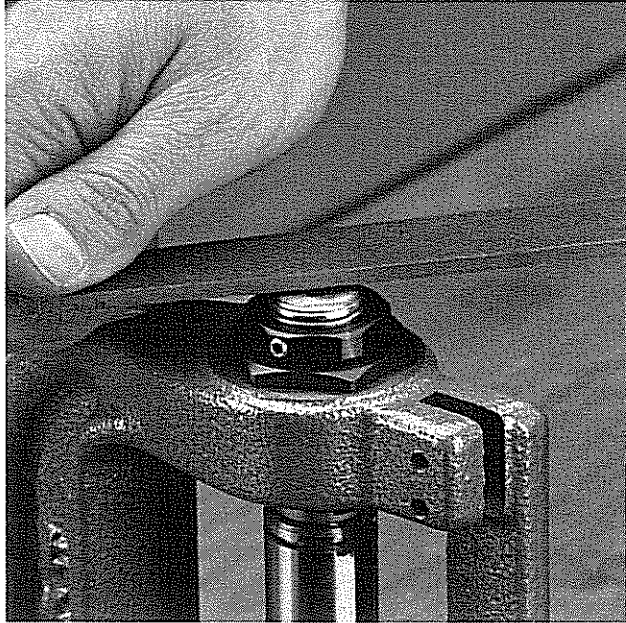
Thread the die into the press until it contacts the shell holder and then lower the die $\frac{1}{8}$ to $\frac{1}{4}$ turn so the press cams over center.

After forming a case, the excess neck must be cut off. A hacksaw with a high speed blade (24 or 32 teeth per inch) works well for this. One hard, fast stroke will cut off the neck easily.



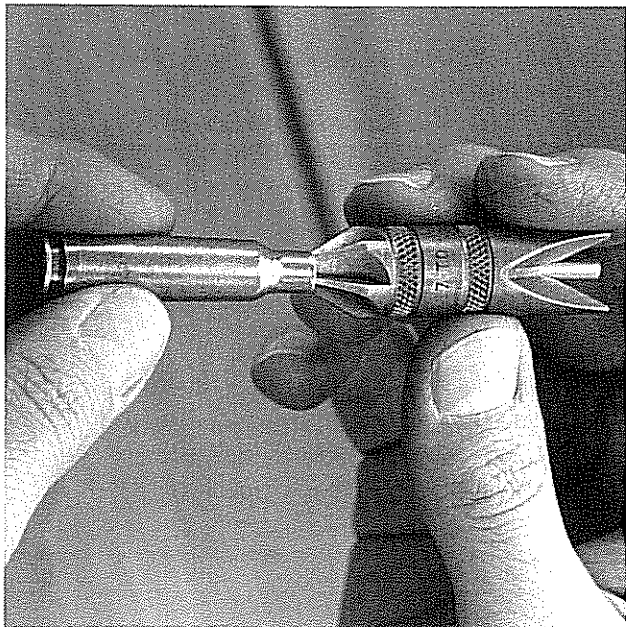
One hard, fast stroke will easily cut off the excess case neck.

The next step is to file the mouth of the case even with the top of the die. A smooth-cut file is best. Do not push too hard against the face of the die as you will quickly damage the file!



File the mouth of the case even with the top of the die.

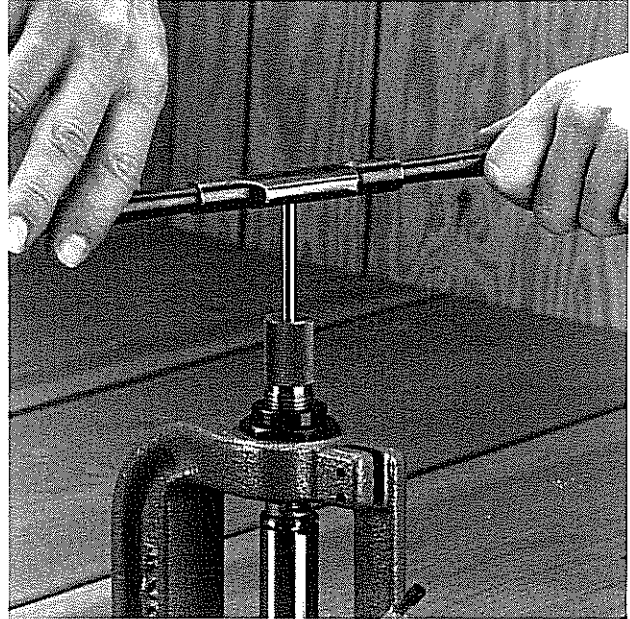
After trimming, the burrs must be removed with a deburring tool. The pointed end removes the burrs left on the inside of the case mouth. The opposite end is used to remove the outside burrs.



Remove any brass left on the case with an RCBS Deburring Tool.

In some Case Forming Die Sets where neck reaming is required, it is necessary to expand the case mouth before reaming to prevent reaming the neck too thin. The case mouth must be deburred before expanding. The expander ball is placed on the expander-decapping rod of the full length sizer die in the caliber indicated. The sizer die is then backed up a few turns so that it will expand, but not size the case.

When cases are formed down very far, it is usually necessary to ream the necks because the brass has become too thick through the neck area. The ream die supports the case as the reamer removes the excess brass from the neck wall.



This photo shows how the ream die supports the case as the reamer removes the excess brass.

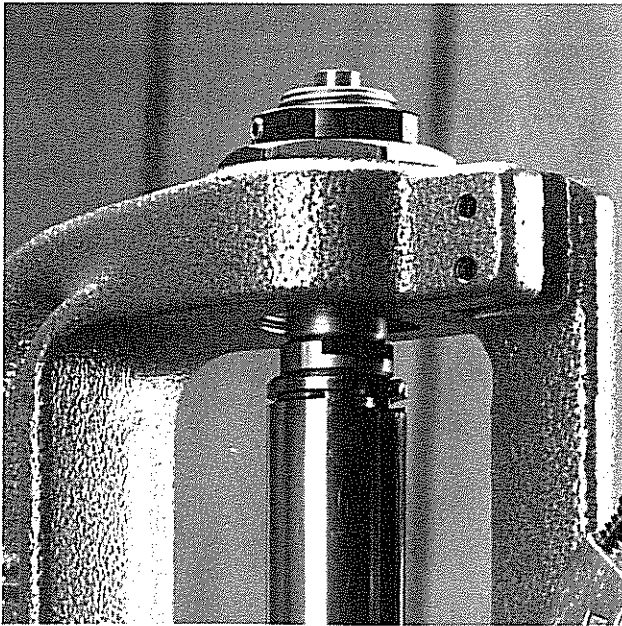
The reamer die should be adjusted to touch the shell holder and all the play removed from the leverage system. The reamer may be used with a hand tap wrench or hand drill. Do not use an electric drill. Lubricate the reamer shank with a drop of cutting oil. Clear the reamer flutes every 3 or 4 turns to prevent brass build-up. Do not force the reamer or use with a power feed as the reamer die and reamer may be damaged or cases may be reamed oversized. Use extra care in reaming to be sure case necks are reamed straight and to assure even neck wall thickness.

If you have any questions or need additional information about Form and Trim Dies, or any RCBS product, contact our Customer Service Department. Write to: RCBS Customer Service, 605 Oro Dam Blvd., Oroville, CA 95965. Or call toll free 1-800-533-5000 in the Continental U.S., or 1-916-533-5191 from other areas.



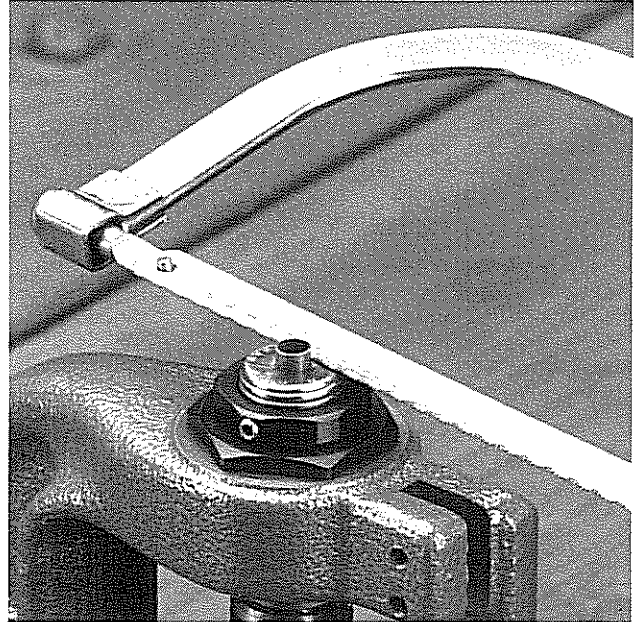
TRIM DIE INSTRUCTIONS

Screw the Trim Die into the press until the die touches the shell holder when the shell holder is brought up to the top of the press stroke. Be sure all play is removed from the press leverage system. To do this, lower the shell holder and set the die $\frac{1}{8}$ to $\frac{1}{4}$ of a turn lower. Set the large lock ring securely against the face of the press.

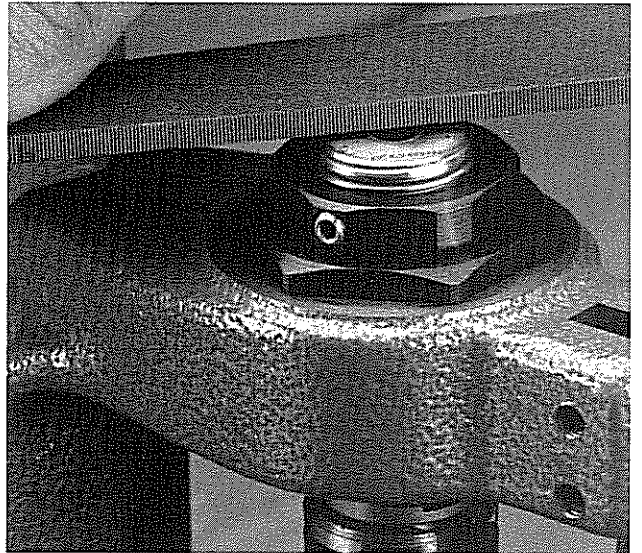


Thread the trim die into the press until the die contacts the shell holder and then lower the die $\frac{1}{8}$ to $\frac{1}{4}$ turn so the press cams over center.

Place a lubricated case in the shell holder and run it into the trim die. Using a smooth mill-type file, file off the portion of the case that protrudes above the die. If a considerable portion of the case protrudes above the die, a hacksaw with a fine blade (24 or 32 teeth per inch) should be used to cut the case within $\frac{1}{32}$ " above the die. Then use the file for final finishing. Do not bear too heavily on the top of the die as its hardened surface will soon damage the file.



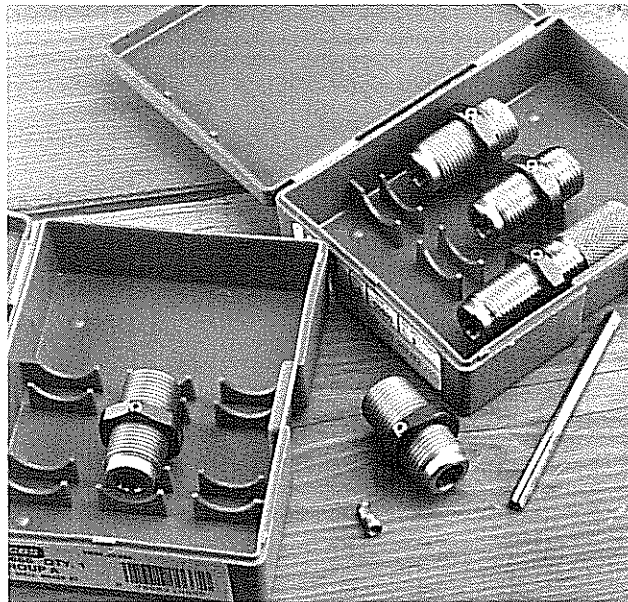
A hacksaw can be used to shorten cases before filing.



Use a mill-type file to file off the top of the case.

After trimming, deburr the inside and outside of the case mouth with an RCBS Deburring Tool. The case is then ready for reloading using a regular set of reloading dies.

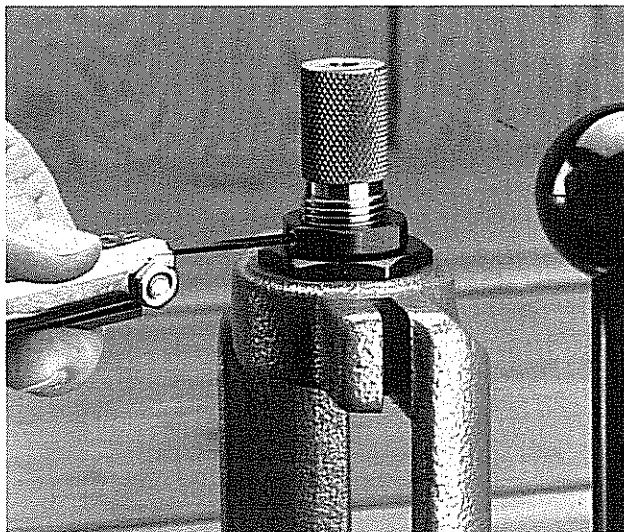
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GENERAL

Most RCBS Dies are manufactured with the standard $\frac{7}{8}$ "-14 thread and are designed for use with a shell holder having a lip thickness of 0.125". The primary exceptions are the .45 Auto Rimmed, 11mm (.43) Mauser and .43 Spanish. These must have a shell holder lip thickness of 0.150". Any variations of these dimensions may cause headspace or insufficient sizing problems.

RCBS Dies are furnished with a steel lock ring with a "hex" design that allows tight control over precise alignment. A solid brass setscrew locks the ring securely, yet will not damage the die threads. Once the large lock ring on the die is set it can be locked in the desired position by **lightly** tightening the setscrew. The die will then hold the proper setting and may be reused without readjustment.

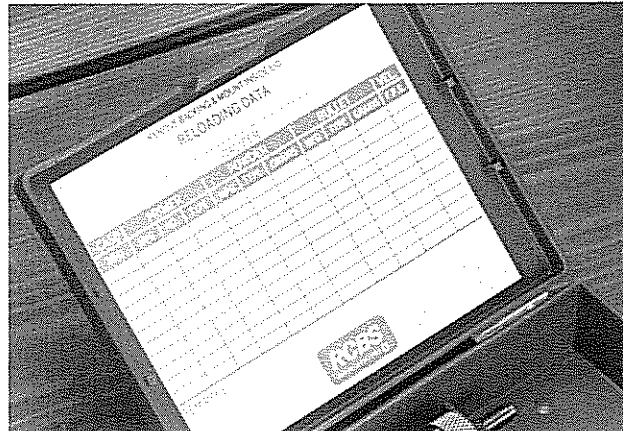


Once the die has been adjusted, tighten the setscrew to hold the proper setting.

An RCBS extended shell holder is required when trimming cases having an overall length from 0.875" to 1.700". The extended shell holder is used in place of the standard shell holder when trimming cases. Available from your dealer, extended shell holders must be of the same group number as the standard shell holder used for reloading.

PACKAGING

All RCBS Dies are packaged in convenient plastic storage boxes specially designed by RCBS to protect your dies in shipment and during storage. A unique cradle holds the dies firmly in place to prevent damage and rolling around. Each box contains a label for recording your favorite loads and can be mounted on the inside lid for quick reference. A label on the outside of the box lists the die caliber for easy identification.



A label is provided with each die box for recording your favorite loads.

CUSTOMER SERVICE

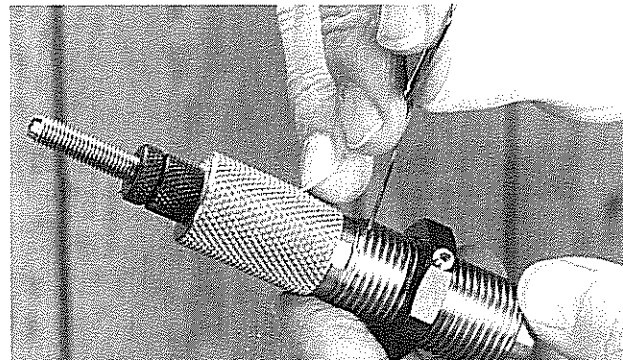
All RCBS Dies are carefully checked and thoroughly inspected before shipping. Each die will reload fired cases from any standard chamber of the caliber stamped on the die. Should the die perform unsatisfactorily, call or write to RCBS, explaining the problem in detail. Be sure to mention the caliber of dies and the year of manufacture. In most cases we can help you overcome the problem without the inconvenience and expense of returning the dies. If necessary, we will authorize the return of the dies. Do not attempt to alter the dies in any way.

PREPARING THE DIES

Some RCBS Dies have a tiny vent hole through which trapped air escapes during resizing. Sometimes the vent hole will plug up with factory polishing compound. This compound will scratch and dent cases unless it is removed.

To remove this compound, insert a needle, straightened paper clip or similar object into the vent hole. This will push the compound into the die body and can be removed by cleaning the inside of each die using a patch saturated with Outers Solvent.

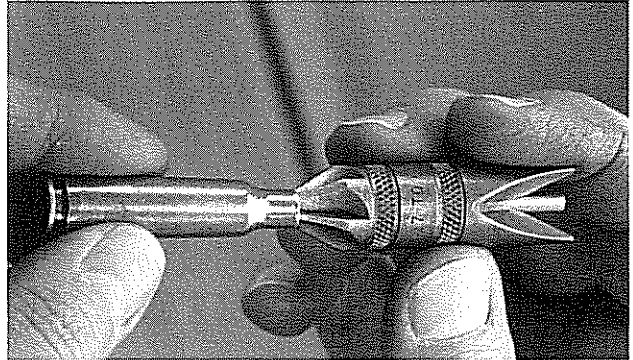
As soon as you notice scratches on clean cases that have been run into a Die, the interior wall of the die should be lightly polished with #320 fine emery cloth to remove any dirt or other foreign particles. Spin the die in a lathe when polishing.



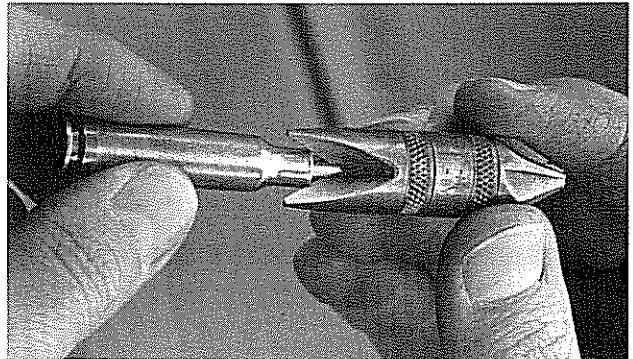
The vent hole, found on some dies, must be cleaned out prior to using the die.

PREPARING THE CASES

Clean and inspect the cases before lubricating and sizing. Discard any cases with indications of a split neck or partial head separation. Check cases for the correct overall length and trim if necessary. If bullets are to be crimped, it is imperative that cases be trimmed to the same overall length. Trimmed case mouths should be deburred and lightly chamfered inside and out with an RCBS Deburring Tool.



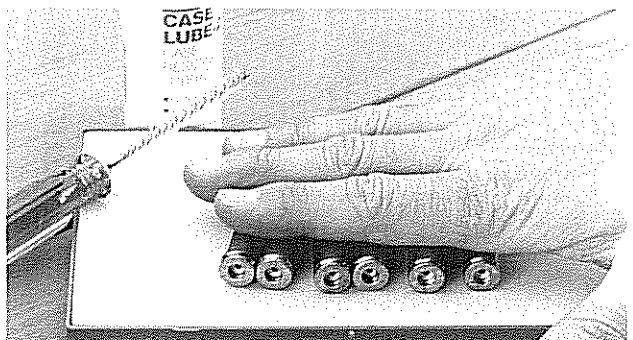
Lightly chamfer the case mouth to remove rough edges for easier bullet seating.



Use this end of the deburring tool to deburr the outside of a trimmed case.

Cases must be properly lubricated before sizing. Over-lubrication will result in a dented case shoulder. Improper or no lubrication will result in a case stuck in the sizer die. For best results use only RCBS Case Lube-2 applied to an RCBS Case Lube Pad. Case mouths should be very lightly lubricated with an RCBS Case Neck Brush. These accessories are available from your dealer as individual items or combined in the RCBS Case Lube Kit.

Do not lubricate the shoulders of bottle-neck type cases. After the cases are lubricated they are ready to go through the forming and reloading steps.



Roll cases on an RCBS case lube pad for proper lubrication.