



How to Mount and Operate a Buck AJUST-TRU® Chuck

IMPORTANT: Never Spin Chuck Without Gripping a Workpiece

This informational document is intended as a general guideline for mounting and operating a standard BUCK CHUCK COMPANY Ajust-Tru® chuck. It may not necessarily apply to special applications or custom designed Ajust-Tru® chucks.

For over forty years, scroll chuck accuracy has been greatly improved by BUCK Ajust-Tru® chuck. The function of the Ajust-Tru® chuck is the same as any Universal chuck -- to hold and center round and hexagon stock. The principle that makes the Buck Ajust-Tru® chuck different from all other scroll chucks, however, is the clearance between the chuck body's mounting recess and the mating mounting adapter. By using the built-in adjusting screws, the chuck body can be moved within this clearance on the mounting plate, providing dead zero centered work. (Refer to the Ajust-Tru® Feature section for details.)

INSTALLING THE MOUNTING PLATE

Remove chips, dirt, etc. from spindle and mounting plate. Nicks, burrs, etc. should be removed by careful honing either the spindle or mounting plate. Install as follows:

THREADED SPINDLES: Screw mounting plate tight against shoulder of spindle.

LONG TAPER KEY DRIVE SPINDLES: Align keyway in mounting plate with key on spindle. Tighten nut on spindle securely on mounting plate. Do not wrestle, this will cause nicks.

A & B TYPE SPINDLES: Install mounting plate with screws furnished, tighten equally and securely. Back mounting plate should seat on spindle face. Do not use hammer on wrench or cheater.

CAMLOCK TYPE SPINDLES: Install mounting plate on spindle. Turn cam clockwise locking mounting plate in position. If reference line on cams does not fall between "V" marks on spindle, you must remove mounting plate from spindle and adjust cam lock studs by turning in clockwise or out counter clockwise one full turn. Reference line "MUST" fall between "V" marks on spindle to insure that mounting plate is properly secured to spindle. Tighten camlock cams with wrench provided. Each spindle has a reference line "J" at 12 o'clock and a "V" at 3 and 6 o'clock. When mounting plate is properly tightened, reference line "J" should be between the "V" markings. Try each cam separately. Cam studs in mounting plate ARE adjustable. If reference line "J" does not locate in position, adjust cam as follows: Remove cap screw beside cam stud, turn stud out if reference does not go beyond "V" at 3 o'clock. Turn stud in if line goes beyond "V" at 6 o'clock. When properly adjusted, secure all cams. Mounting plate should seat on spindle shoulder.

ALL SPINDLES:

When mounting plate is securely installed, use dial indicator to check O.D. and face of mounting plate. If more than .0005" error, take light truing cut, then install chuck with screws provided. (See note at bottom of page 4)

DIRECT MOUNT: Follow above instructions for type of spindle. Truing cut is not necessary.



CAUTION! Never use more than hand pressure with the wrench furnished to tighten pinion or adjust screws or you will destroy the precision of the chuck.

AJUST-TRU[®] FEATURE



FOR MOST WORK this chuck operates like any other scroll chuck; stock is centered in the chuck quickly and with reasonable accuracy by turning the chuck pinion with the wrench furnished, until jaws grip work securely. **Be sure to rotate work when tightening jaws- It will assure a firm, accurate grip.** (see picture above right)

FOR PRECISION ACCURACY, use the four opposed adjusting screws on the O.D. of the chuck body. (8 adjusting screws on Chucks 15" and larger)

1. After work is gripped, use an indicator to determine which part of the work runs high and which runs low.
2. Chuck mounting bolts should only be snug, not tight, when adjusting chuck..
3. Note the screw or screw numbers nearest the high point and unscrew slightly to release pressure.
4. Turn the chuck to the opposite screw or screws and tighten to take up half of indicated error.
5. Keep making such adjustments until all screws are of the same tightness and the indicator dial hand stands still as you rotate the work, This means dead zero precision.
6. Retighten chuck mounting bolts and confirm adjustment.

IT IS . . .

Your Responsibility

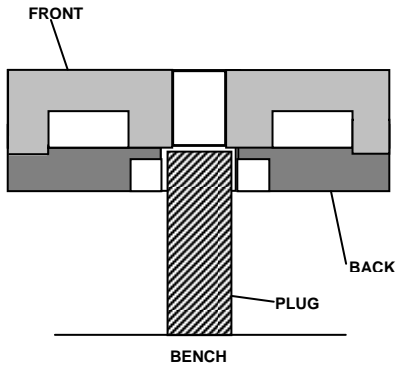
TO MAINTAIN CHUCK ACCURACY

- Keep chuck clean - The accuracy of the chuck can be destroyed by dirt, chips and grime collecting in the scroll, jaws, and jaw slots.
- Also, nicks, burrs, chips or dirt on the lathe spindle threads, pilot or shoulders will throw the chuck out of alignment and result in inaccurate work.
- Lubricate with Forkardt PF2 lubrication or equivalent. We recommend that the chuck be lubricated once during each eight hour shift.
- Chucks 15" in diameter and larger have grease fittings in the pinion wrench cavity. Apply grease gun after every 8 hours of use.

SUGGESTIONS FOR OPERATION

1. Chuck workpiece as far back into the chuck jaws as possible, rotating the workpiece as the jaws are tightened - it will assure a firm accurate grip.
2. Whenever possible, tighten the jaws around the solid part of the workpiece.
3. **DON'T OVERLOAD YOUR CHUCK** - Do not chuck work larger than the outside diameter of the chuck. (See catalog for capacities.)
4. **USE THE WRENCH FURNISHED** - it is designed to provide sufficient leverage to tighten the jaws. **NEVER** use a larger wrench or pipe over the end of the wrench to increase leverage.
5. **DON'T POUND OR HAMMER THE JAWS** - Never use force if jaws seem to jam. Find cause of obstruction or take chuck apart. It may need cleaning and lubricating. Be sure to remove chips and dirt which may have worked into jaw slots or scroll.
6. Never straighten work in the chuck.
7. Avoid extending jaws beyond the outside diameter of the chuck.
8. When checking stock in chuck, make sure jaws are tightened securely.
9. 6-jaw chucks must be cleaned more often than 3-jaw chucks as there are twice the number of jaw openings.
10. Never Start/Stop machine without gripping a workpiece, as jaws can migrate outwardly with fast start/stops without pressure on part.

HOW TO DISASSEMBLE YOUR BUCK AJUST-TRU CHUCKS



First remove chuck from mounting plate by removing 6 screws on the face of the chuck and loosening the adjusting screws. Then remove the 6 screws on face or back of chuck which hold the two halves of the chuck body together. Notice the step on the hole through the center of the chuck - the back half is approximately 1/8" larger in diameter than the hole going through front half of chuck. If the back and the front do not easily separate, put a plug against this 1/8" shoulder and, with the chuck in upright position, tap on bench or floor as illustrated. (See diagram left.) On chucks 10" and larger, remove 6 cap screws on back of chuck and proceed as above.

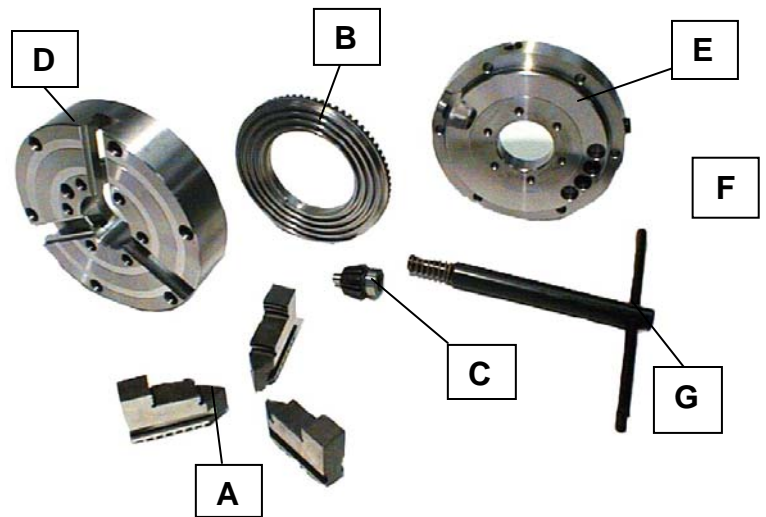
THREE JAW CHUCK - For normal machining, we suggest the 3-jaw chuck for holding casting, forging, cold or hot rolled round stock, pipes and second operation rounds and hex stock.

SIX JAW CHUCK - This chuck is suggested for tubular or thin wall stock, second operation rounds, hex stock and round non-ferrous parts where marking is to be held to a minimum. Do not attempt to hold a part which has an irregular or rough O.D. in a 6-jaw chuck when using the furnished standard jaws.

TWO & FOUR JAW CHUCK - These chucks are designed for handling elbows, tees and other odd-shaped parts. If more capacity is required, refer to larger 6-jaw model and use two opposed jaws.

Parts of a Buck Ajust-Tru® Chuck

- A) Jaws
- B) Scroll
- C) Pinion
- D) Front
- E) Back
- F) Adjusting Screws
- G) Operating Wrench
- H) Mounting Plate
(not shown)



METHODS OF FORMING CHUCK JAWS

Select jaws for maximum keyway engagement in body.

FOR O.D. GRIPPING - Pre-load jaws by gripping O.D. of #7 or drill holes in solid jaw #5 for pre-load dowel pins. Pre-l

FOR I.D. GRIPPING - Use thin wall ring on chuck O.D. over jaw ends and grip on I.D. of ring for pre-load.

After turning or grinding jaws, check pre-load by gripping a round part wrapped with thin paper. Jaws should "print" heavier on surface farthest from chuck face. If jaws do not check properly, re-bore using heavier pre-load pressure.

FOR ALL CHUCKS WITH SOFT JAWS

If your chuck has master jaws with soft tops or solid soft jaws, be sure to align O.D. of chuck true before machining soft jaws. If you have several jobs using soft jaws or soft top jaws which have been hardened, they can be realigned in your chuck without returning or regrinding by making use of the adjusting screws.

HELPFUL HINTS

When adjusting chuck for repeat accuracy .0005" or less, you must use a straight TRUE ROUND part. When gripping work in chuck center hole and using drill in tail stock or taking heavy cut toward chuck, arrange for stop in spindle or on chuck face. For conventional chucking where accuracy within .003" is sufficient, align body O.D. true and use jaw points or steps as required to hold part. For closer accuracy, use Ajust-Tru feature.

TECHNICAL ASSISTANCE

If you should require technical assistance, please contact BUCK CHUCK COMPANY Customer Service at (800) 228-2825. When calling regarding your chuck, be sure to mention the number stamped on the face of the chuck. If scroll, jaws or body parts must be serviced or replaced, we recommend chuck be returned to factory for proper fitting of parts and grinding. Note: All shipments to factory must be pre-approved by Buck Chuck Company. Customer must complete Merchandise Return Authorization Form supplied by Customer Service. Return shipments must be prepaid by customer.

LIMITED WARRANTY

All BUCK chucks are warranted in accordance with our "TERMS AND CONDITIONS OF SALE". If you have not yet received this document, please call our Customer Services Dept. toll-free (800) 228-2825 and request one. Note: The warranty is void if our product is misused, modified or maintained contrary to our published recommendations and specifications.



WARNING: Since chuck performance depends on a wide range of variables beyond the control of BUCK CHUCK COMPANY, we recommend that each chuck application be carefully evaluated under your production conditions. Safe turning speeds, in particular, are strongly influenced by the weight, shape and size of parts, cutting pressures, gripping forces, chuck maintenance and similar factors which are solely the province of the chuck user. **IF YOU ARE UNSURE OF THE SAFETY OF YOUR ANTICIPATED RPM, PLEASE CONTACT BUCK CHUCK COMPANY CUSTOMER SERVICES DEPT. AT (800) 228-2825 AND SPEAK WITH ONE OF OUR REPRESENTATIVES.**

HOW TO CHANGE JAWS

NOTE: THE PROCEDURE FOR 6 JAW CHUCKS IS THE SAME AS FOR 3 JAW CHUCKS.

1. Remove jaws from chuck slots with chuck wrench. Wipe jaws with a clean cloth and cover with a light film of oil. Place jaws in box to prevent damage or loss.
2. Clean scroll, chuck slots and new jaws, then apply a light film of oil. Do not use too much oil - it collects dirt and chips which eventually clog the chuck jaws and scroll.
3. The jaws and chuck jaw slots are numbered 1, 2 and 3. Jaws must be inserted in the slot having the corresponding number. **DO NOT INTERCHANGE JAWS FROM ONE CHUCK TO ANOTHER.**
4. Turn scroll so that first thread on outside edge of scroll does not quite enter jaw slot #1.
5. Repeat process for jaws #2 and #3. (See figure 2, steps 2 and 3) Continue if chuck has 6 jaws.



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