

Pro-Tools

MADE IN THE U.S.A.

HB-302 BENDER INSTRUCTION SET



PRO-TOOLS
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HB-302 BENDER INSTRUCTION SET

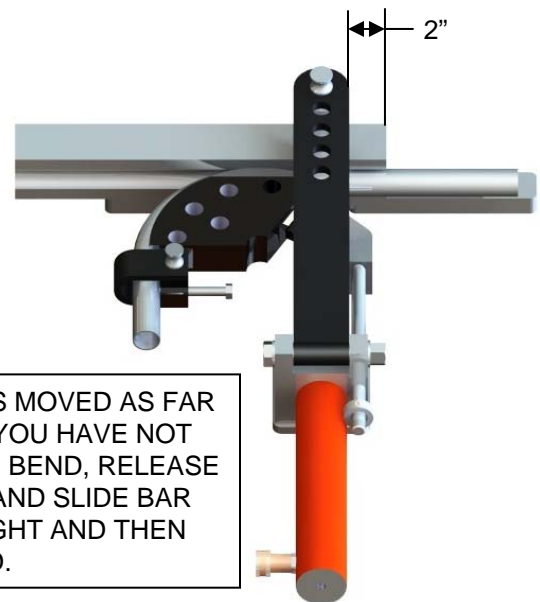
DANGER
PLEASE READ



NEVER DO THIS!!!

NEVER START BEND WITH THE TUBE TOO SHORT. TUBE MUST ALWAYS EXTEND TO END OF ALUMINUM BAR OR PAST.

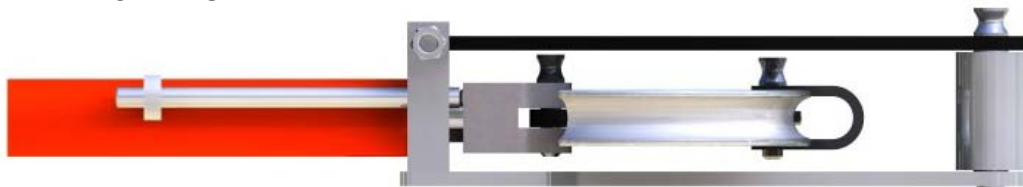
WHEN BENDING NEVER LET ALUMINUM BAR GO ANY FARTHER THAN SHOWN BELOW.



2"

IF YOUR BAR HAS MOVED AS FAR AS SHOWN AND YOU HAVE NOT COMPLETED THE BEND, RELEASE THE PRESSURE AND SLIDE BAR BACK TO THE RIGHT AND THEN FINISH THE BEND.

DANGER
THIS BENDER OPERATES UNDER 15 TONS OF PRESSURE. PLEASE FOLLOW ALL INSTRUCTIONS CAREFULLY!

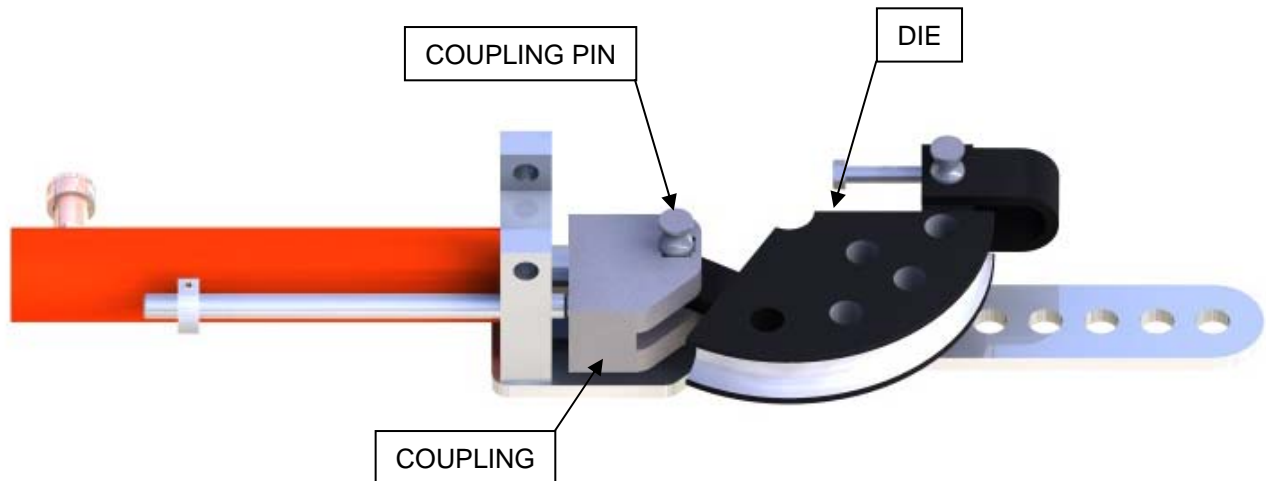


ALWAYS BE SURE THAT THE PIN PROTRUDES THROUGH LOWER PLATE, AS SHOWN.

HB-302 BENDER DIE INSTALLATION

STEP 1

INSTALL DIE IN COUPLING AND INSERT PIN THROUGH BOTH. (NOTE) THIS IS THE ONLY PIVOT AND ALL OF THE FORCE IS EXERTED THERE. THIS POINT MUST BE WELL LUBRICATED AT ALL TIMES. BE SURE TO THOROUGHLY GREASE PIN & CONNECTION. WE RECOMMEND "ALL PURPOSE WHEEL BEARING GREASE".

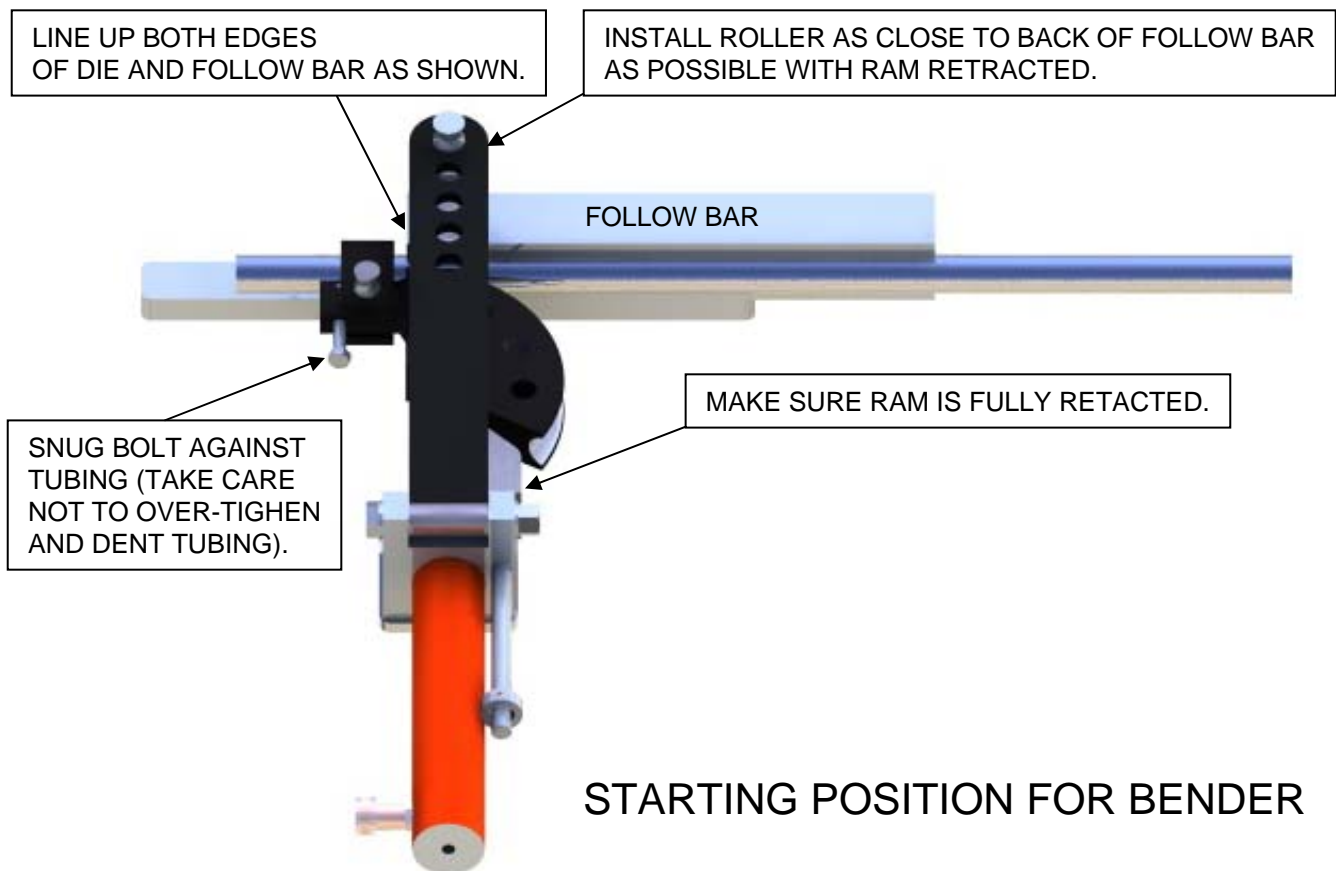


INSTALL DIE AS SHOWN ABOVE

PLEASE NOTE: THIS ILLUSTRATION IS FOR DIRECTION PURPOSES AND MAY NOT BE EXACTLY LIKE THE ACTUAL BENDER.

HB-302 BENDER DIE INSTALLATION

STEP 2



HB-302 BENDER

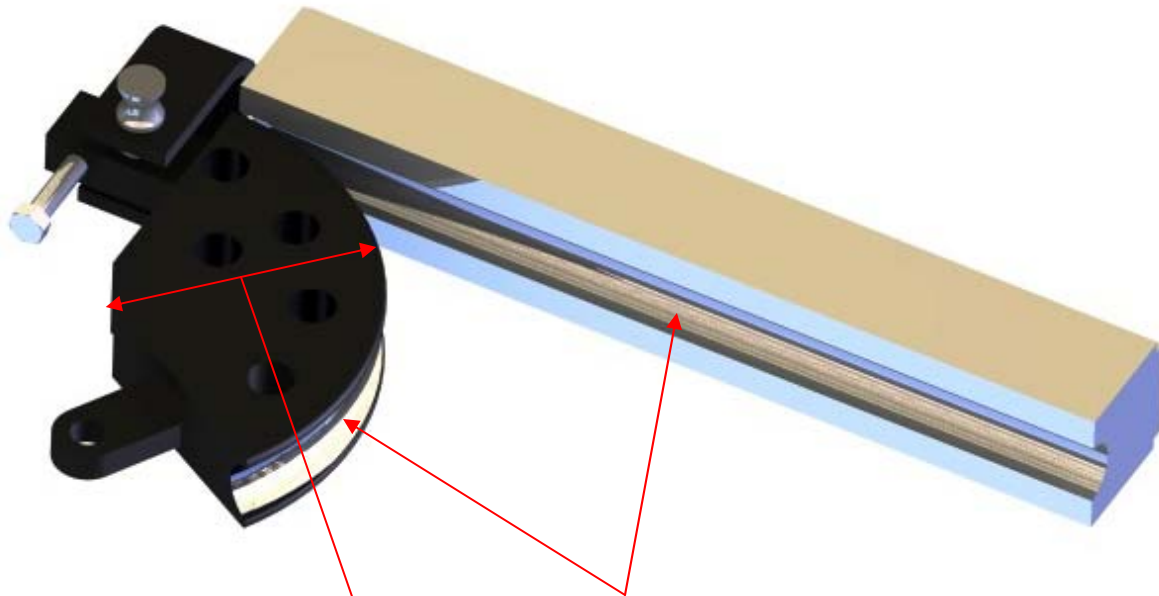
HELPFUL INFORMATION

NOTE:

TO CALCULATE LENGTH OF TUBING USED IN A BEND,
MULTIPLY RADIUS OF BEND x 6.28 x DEGREE OF BEND,
THEN DIVIDE BY 360.

EXAMPLE:

8 INCH RADIUS, 90 DEGREE BEND WOULD BE:
 $8 \times 6.28 \times 90 / 360 = 12.56$



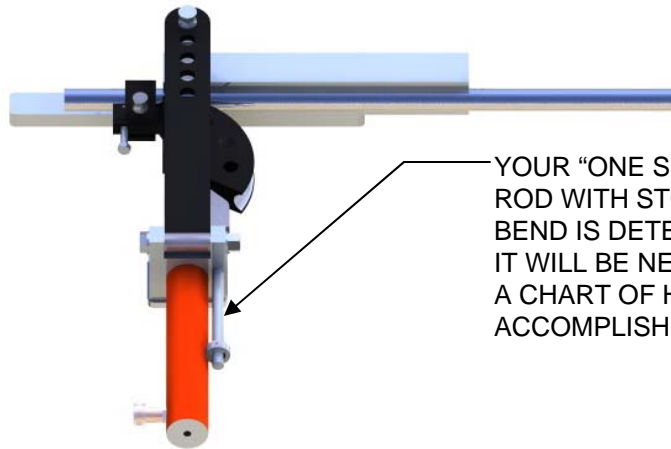
TO MEASURE RADIUS:
START AT IMAGINARY CENTER OF CUTOUT,
MEASURE TO EDGE OF DIE.

ABSOLUTELY NO GREASE IN RADIUS. AT
ALL TIMES TUBING, DIE RADIUS AND BAR
RADIUS MUST BE CLEAN AND GREASE FREE.

NOTE: ALL ROUND TUBE RADIUS
MEASUREMENTS ARE "CENTER LINE RADIUS".

HB-302 BENDER

MEASURING DEGREE OF BEND



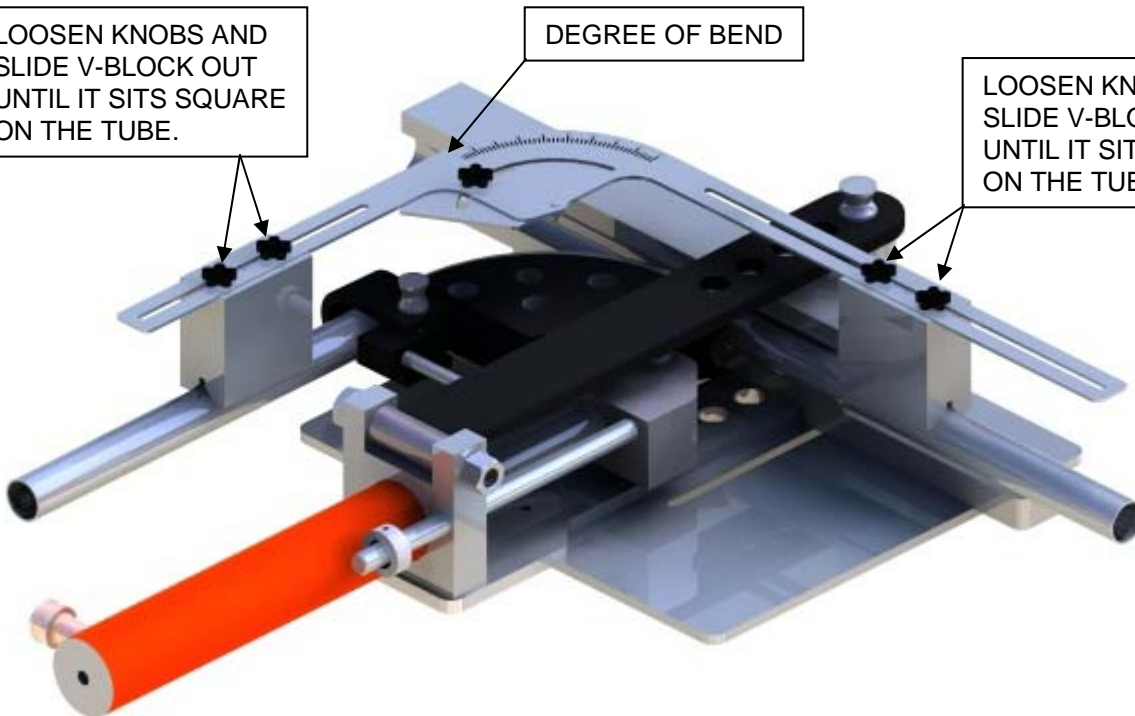
YOUR "ONE SHOT" BENDER IS EQUIPPED WITH A TRAVEL ROD WITH STOP. ON THIS TYPE OF BENDER, DEGREE OF BEND IS DETERMINED BY INCHES OF TRAVEL ON THE ROD. IT WILL BE NECESSARY TO "DEGREE" EACH DIE AND MAKE A CHART OF HOW MUCH TRAVEL IS NECESSARY TO ACCOMPLISH YOUR BEND.

THE ILLUSTRATION BELOW SHOWS OUR PART #302DI DEGREE INDICATOR MOUNTED ON THE BENDER.

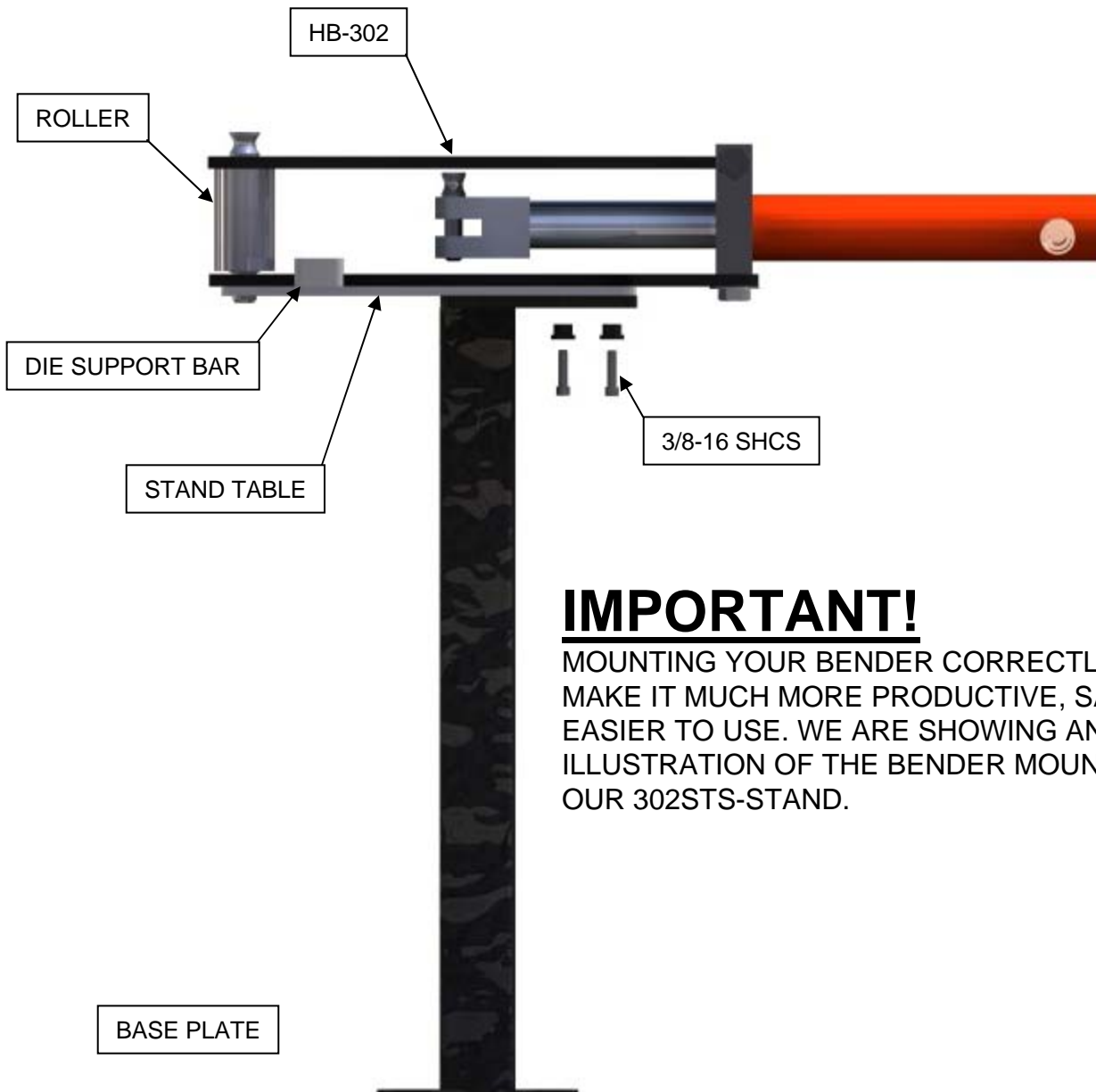
LOOSEN KNOBS AND SLIDE V-BLOCK OUT UNTIL IT SITS SQUARE ON THE TUBE.

DEGREE OF BEND

LOOSEN KNOBS AND SLIDE V-BLOCK OUT UNTIL IT SITS SQUARE ON THE TUBE.



HB-302 BENDER STAND INSTRUCTIONS



IMPORTANT!

MOUNTING YOUR BENDER CORRECTLY WILL MAKE IT MUCH MORE PRODUCTIVE, SAFER, & EASIER TO USE. WE ARE SHOWING AN ILLUSTRATION OF THE BENDER MOUNTED ON OUR 302STS-STAND.

HM-302 BENDER

WARRANTY POLICY

ALL PRODUCTS **PRO-TOOLS** MANUFACTURES CARRY A ONE YEAR GUARANTEE AGAINST DEFECTS IN MATERIAL OR WORKMANSHIP. (PRODUCTS THAT WE SELL BUT DO NOT MAKE ARE COVERED UNDER THAT MANUFACTURING WARRANTY PLAN). ANY TOOLS OR PARTS THAT FAIL ARE 100% COVERED UNDER THE WARRANTY AND WILL BE REPAIRED FREE OF CHARGE (EXCLUDING FRIEGHT CHARGES). MISUSE OR ABUSE IS NOT COVERED. SIMPLY CALL AND GET A WARRANTY AUTHORIZATION NUMBER AND IT WILL BE PROMPTLY AND CHEERFULLY TAKEN CARE OF.



SAFETY WARNINGS



- ALWAYS READ AND UNDERSTAND DIRECTIONS THAT ARE INCLUDED WITH ALL PRO-TOOLS EQUIPMENT BEFORE OPERATING. IF DIRECTIONS ARE NOT INCLUDED, CALL PRO-TOOLS IMMEDIATELY.
- USE OF FABRICATION EQUIPMENT MAY PRESENT A PINCH OR CRUSH HAZZARD.
- ALWAYS OPERATE PRO-TOOLS EQUIPMENT WEARING SAFETY EQUIPMENT.
- ALWAYS USE THE CORRECT EQUIPMENT FOR THE PROJECT.
- NEVER USE PIPE BENDING DIES ON A TUBE OR TUBE DIES ON A PIPE.
- KNOW THE MATERIALS YOU ARE USING BEFORE BEGINNING FABRICATION.
- ALWAYS INSPECT EQUIPMENT PRIOR TO USE TO MAKE SURE IT IS IN GOOD WORKING ORDER. IF YOU ARE IN DOUBT, DO NOT USE AND CONTACT PRO-TOOLS.
- NEVER SUBSTITUTE COMPONENTS FROM OTHER EQUIPMENT. MAKE SURE COMPONENTS MATCH.
- NEVER EXCEED THE MANUFACTURER'S SPECIFICATIONS SET BY PRO-TOOLS.
- ALWAYS LUBRICATE METAL ON METAL PARTS!!!!**



FAQ's

Q: HOW MUCH CAN THE HB-302 BEND A TUBE.

A: THE HMP-200 CAN ONLY GO TO 90 DEGREES.

Q: IS THE BENDER PORTABLE.

A: YES IT CAN BE MOUNTED ON OUR STANDS OR ON ANY ROLLING TABLE.

Q: WHAT IS THE MAXIMUM DIAMETER THIS BENDER WILL DO?

A: THIS BENDER WILL BEND UP TO 2" O.D. ROUND TUBE OR 1.5" SQ.

Q: HOW MANY DEGREES CAN I BEND?

A: YOU CAN BEND UP TO 110 DEGREES MAX. AFTER SPRING BACK.

Q: WHAT TYPE OF MATERIAL CAN I BEND?

A: YOU CAN BEND ALUMINUM, STAINLESS STEEL, DOM, 4130 CHROME MOLY TO NAME A FEW. CONTACT OUR SALES DEPARTMENT FOR SPECIFICS.

Q: CAN THIS BENDER USE OTHER PRO-TOOLS DIES?

A: NO IT CAN NOT. EACH BENDER IS DESIGNED TO USE ITS OWN DIES TO ENSURE THE POSSIBLE BEND.

Q: CAN I USE ELECTRIC INSTEAD OF AIR FOR THE HYDRAULICS.

A: YES YOU CAN CONVERT TO AN ELECTRIC PUMP IF YOU WISH.

Q: HOW DO I MAKE REPEAT BENDS WITH THIS BENDER?

A: THERE ARE TWO WAYS TO DO THIS. 1) CONTACT OUR SALES DEPARTMENT AND ORDER AN AIR CUTOFF SWITCH WHICH WILL ALLOW FOR CONSISTENT REPEAT BENDS. 2) MAKE THE BEND YOU WANT AND BEFORE RELEASING THE TUBE. MOVE THE COLLAR ON THE GUIDE BAR TO UNTIL IT IS NEXT TO THE BLOCK. THIS IS A VISUAL REFERENCE.