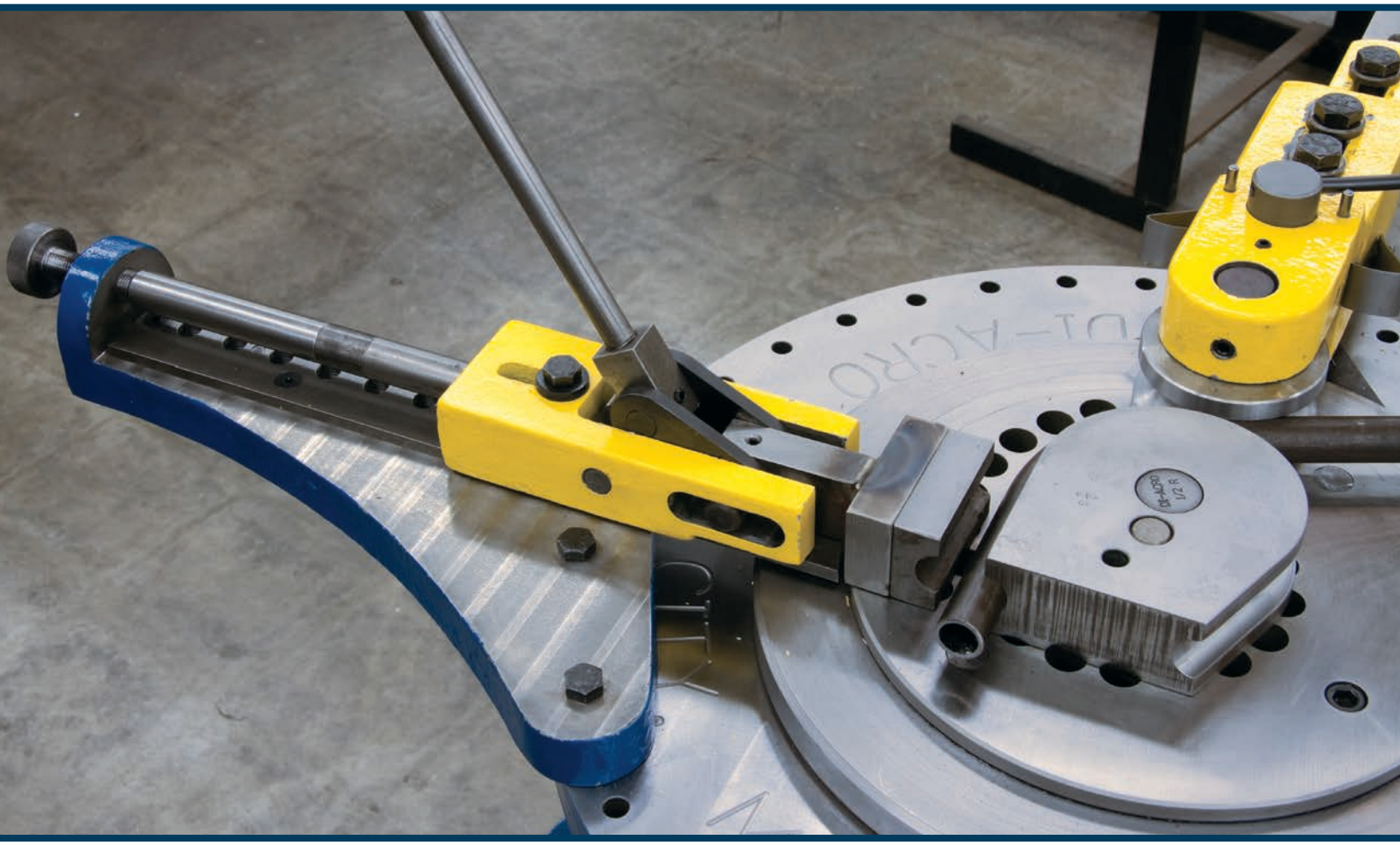
Di-Acro®
METAL FABRICATION EQUIPMENT

Power Operated Benders • Hand Operated Benders



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Power Operated Bender

The Di-Acro Power Bender is a hydraulically operated unit that can be configured for a variety of bending operations. The base machine is capable of accepting both Model 6 and Model 8 Tooling Head Assemblies.

Shown with optional #6 Tooling Head Assembly

- CENTER EYE BENDING
- TUBE BENDING
- CHANNEL BENDING, FLANGES OUT
- EDGEWISE BENDING

A wide range of standard tooling options are available for bending various shapes of tubing, angle, channel as well as flat stock, round stock and round tubing. Four adjustable stops allow bends with varying degrees to be progressively made. Modernized controls aid operator safety, improve reliablility and provide programmable bends as a standard feature.

PLC controlled bending improves reliability, repeatability, and reduces set up time. The new control package includes an ergonomically positioned two-hand safety switch for added operator safety. An encoder and adjustable "home" position proximity switch provides manual/auto selection with a programmable function. Also included is a "real time" bend angle display and parts counter.

The Di-Acro power bender uses the proven and robust rack and pinion design to rotate the tooling head. The head is actuated with the larger, now standard 4" bore cylinder. The self-contained hydraulic power unit with larger 10 gallon reservoir provides additional cooling. A variable volume, pressure-compensated vain pump provides volume control for bending speed. A double solenoid directional valve replaces the manual valve for improved reliability and repeatability.

STANDARD EQUIPMENT

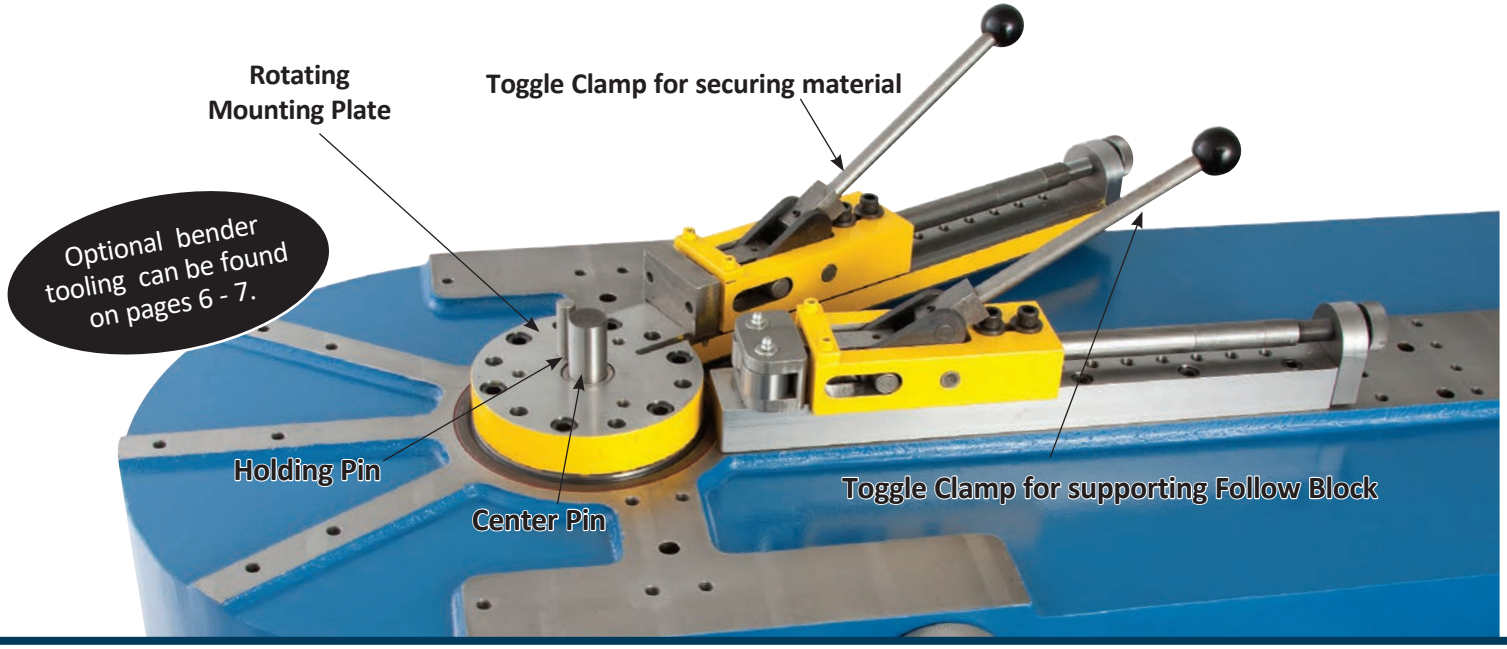
- Angle control with 4 stops, (not shown).
- Material length gauge, (not shown).
- Electrical equipment conforms to JIC Electrical Standards for general purpose machine tools.
- Hydraulic cylinder -with 4" bore produces 3,500 ft/lbs (4,745 joules) for higher capacity.

SPECIFICATIONS with TOOLING HEAD ASSEMBLY

Model	6 Power	8 Power
Maximum radius capacity w/o Quik-Lok	9" (229mm)	24" (610mm)
Maximum radius capacity with Quik-Lok	9" (229mm)	—
Maximum degree of bend	280°	360°
Hydraulic pressure	1,250 psi (70kg/cm^2)	1,250 psi (70kg/cm^2)
Motor	3 hp.	3 hp.
Wiring (specify)	208, 230, 460 volts, 3 phase, 60 Hz	208, 230, 460 volts, 3 phase, 60 Hz
Torque (4" cylinder)	3,500 ft. lbs. (4745 joules)	3,500 ft. lbs. (4745 joules)
Machine shipping weight	1,150 lbs / 522 kg	1,150 lbs / 522 kg
Material Capabilities		
Round mild steel bar	.625" (16mm)	1" (25.4mm)
Steel tubing – 16 ga.	1.25" OD (32mm)	1.5" OD (38mm)
Standard iron pipe	.75" IPS (14mm)	1" IPS (42mm)
Flat steel bar (easy way)	.25" x 2" (6mm x 51mm)	.375" x 4" (9mm x 101mm)
Flat steel bar (hard way)	.25" x 1" (6mm x 25mm)	.375" x 1" (9mm x 25mm)

NO. 6 BENDER SETUP

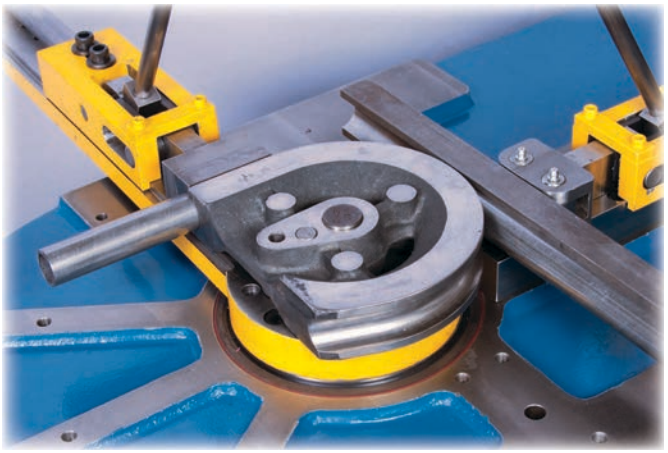
Model 6 Setup - For bending **TUBING, ANGLE AND CHANNEL**. Includes clamps and pressure roller assembly as basic tooling for tube bending.

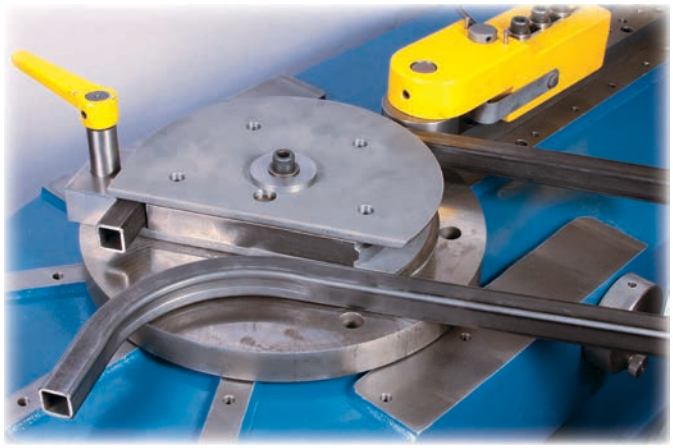


No. 6 Bender Tooling

Standard A-Style Grooved Radius Collar - for bending round tubing. Used with Clamp Block and Follow Block.

When bending materials of open cross section such as tubing, channel, angle and extrusions, the bending form should exactly fit the contour of the material to provide support during the forming operation. This is also true of the Clamp Block and Pressure Tool as only by completely confining the material can a good bend be obtained.





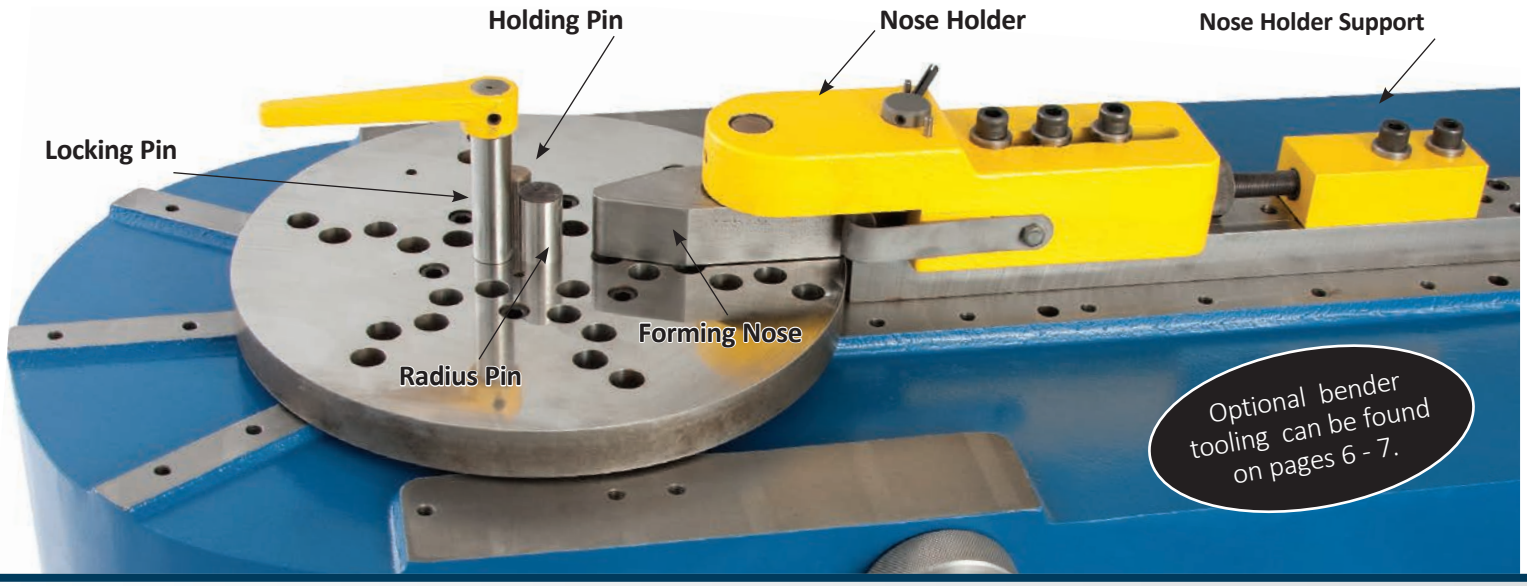
Square Crush Bending Tooling

Special Crush Bend Tooling Packages for Round and Square Tubing - can be designed for use with either 6 or 8 Tooling Head Assemblies.

Crush bend tooling is used primarily for bending thin wall tubing to a tight radius. If it is not necessary for the formed section to retain its original shape, such as in structural components, the tubing can be purposely distorted with this tooling. The "crush" on the inside radius adds more strength to the bend, as well as allowing a tight radius with controlled distortion in the bend area.

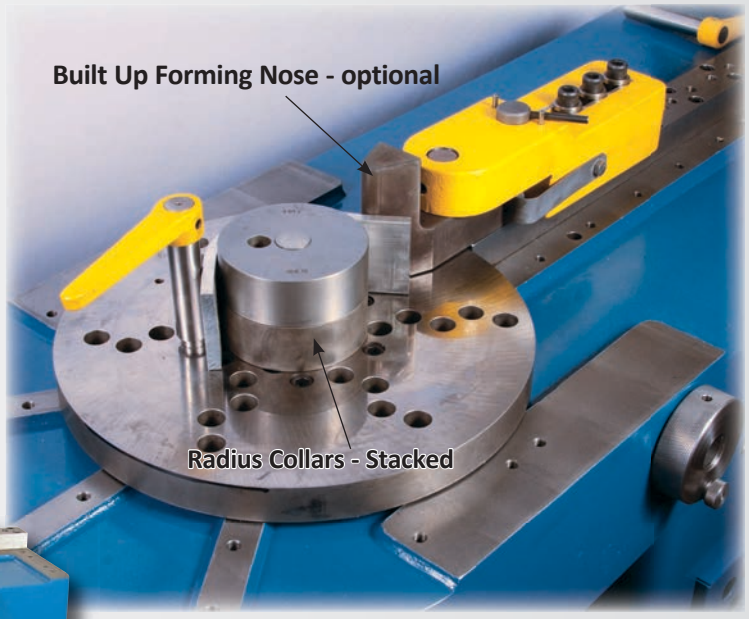
NO. 8 BENDER SETUP

Model 8 Setup - For bending **SOLID STOCK**. Especially suitable for bending eyebolts with centered or off-centered eye bends in one operation.



NO. 8 STANDARD EQUIPMENT

- Standard Forming Nose
- Nose Holder
- Support & Slide
- Three Locking Pins (sm, med, lrg)
- Holding Pin
- Center Radius Pin
- Mounting Plate
- Material Length Gauge (not shown)



Space requirements:

W" x D" x H"

Model 6 & 8: 54.5" x 21.75" x 40"
(1384mm x 552mm x 1016mm)

Hand Operated Benders • Models 1 - 1A - 2 - 3 - 4

The Di-Acro Bender is a multi-purpose machine that quickly adapts to a variety of bending operations, whether prototype, production or for duplicating parts with simple, compound or reverse bends in many materials — angle, channel, tubing, rod wire, strip stock, ect. They are “die substitutes” that also produce work not obtainable with dies. The Hand Bender is available in five models with capabilities of bending up to 1" round mild steel bar with a radius of 0 - 12". The Model 4 Bender features a selectable ratchet drive mechanism for increased power when working with heavier materials.

STANDARD EQUIPMENT

Each Di-Acro Hand Bender includes:

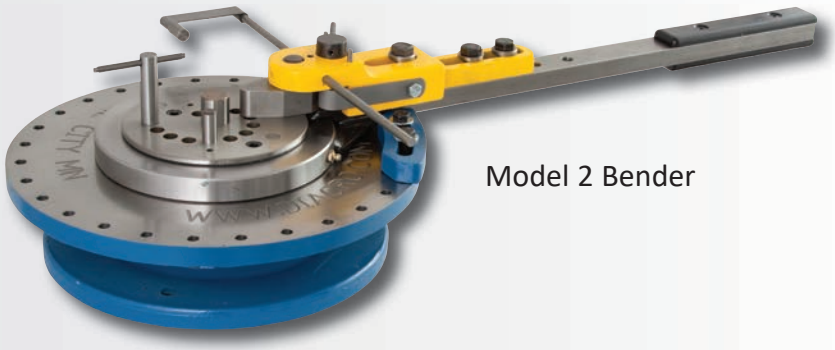
- **Bend Locating Gauge** - allows any number of parts to be identically duplicated.
- **Angle Stop** - precisely determines degree to bend.
- **Locking Pin** - securely clamps material to ensure safety and accuracy.
- **Center Pin** - cam action provides one radius setup plus mount for additional tooling.
- **Holding Pin** - holds material in place to provide accurate bends.

OPTIONAL EQUIPMENT

- Extension Handles - (Models 2 & 3 only).
- Quik-Lok Clamp - invaluable for production; quickly locks material securely in place and instantly releases for removal.
- Stand - heavy duty with work shelf.
- Bend-R-Pak - an assortment of commonly used tools; specially selected for each model of Di-Acro Bender.

Model 1 Bender (not shown)

Model 1A Bender



Model 2 Bender

Space requirements including optional floor stand:

	W" x H"
Model 1&1A:	32" x 43.25" (813mm x 1098mm)
Model 2:	56" x 42.25" (1422mm x 1073mm)
Model 3:	82" x 42.25" (2083mm x 1073mm)
Model 4:	78" x 42.25" (1781mm x 1073mm)

Model 3 Bender

Model 4 Bender

SPECIFICATIONS

Model	1	1A	2	3	4
Maximum radius capacity w/o Quik-Lok	2" (50.8mm)	6" (152.4mm)	9" (228.6mm)	12" (304.8mm)	12" (304.8mm)
Maximum radius capacity with Quik-Lok	2" (50.8mm)	6" (152.4mm)	7" (178mm)	9" (227mm)	9" (227mm)
Height of std. forming nose	.50" (12.7mm)	.75" (19.1mm)	1" (25.4)	1.5" (38.1)	1.5" (38.1)
Center pin hole diameter	.375" (9.525mm)	.5" (12.7)	1" (25.4)	1" (25.4)	1" (25.4)
Operating leverage	8" (203.2mm)	16" (406.4mm)	29" (736.6)	40" (1016)	40" (1016)

MATERIAL CAPACITIES

Model	1	1A	2	3	4
Round mild steel bar	.1875" (4.7625mm)	.3125" (7.9mm)	.5" (12.7mm)	.625" (15.9mm)	1" (25.4mm)
Square mild steel bar	.125" (3.175mm)	.25" (6.4mm)	.375" (9.5mm)	.5" (12.7mm)	.75" (19.1mm)
Steel tubing – 16 ga.	.3125" (7.9375mm)	.5" (12.7mm)	.75" (19.1mm)	1" (25.4mm)	1.25" (31.8mm)
Standard iron pipe	–	–	.3 IPS (9.5mm)	.5 IPS (12.7mm)	1 IPS (25.4mm)
Flat steel bar easy way	.125 x .75 (3.17x19.05)	.1875x1 (4.8x25.4)	.25x1.5 (6.4x38.1)	.25x2 (6.4x50.8)	.375x4 (9.5x101.6)
Flat steel bar hard way	.0625x.50 (1.5875x12.7)	.125x.50 (3.2x12.7)	.125x75 (3.2x19.1)	.125x1 (3.2x25.4)	.25x1 (6.4x25.4)
Machine shipping weight	22 lbs (10 kg)	60 lbs (27 kg)	90 lbs (41 kg)	220 lbs (27 kg)	270 lbs (27 kg)
Stand shipping weight	–	75 lbs (34 kg)	75 lbs (34 kg)	75 lbs (34 kg)	75 lbs (34 kg)

OPTIONAL BENDER TOOLING

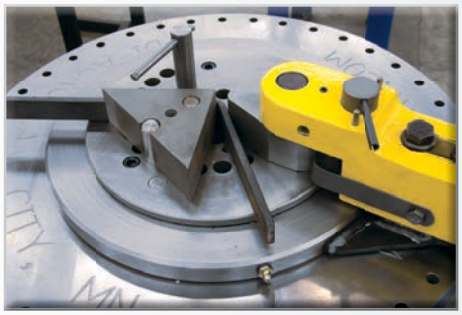
Quill Radius Pin

Used with standard Locking Pin; for forming lighter material to a tight radius.

Shoulder Radius Pin

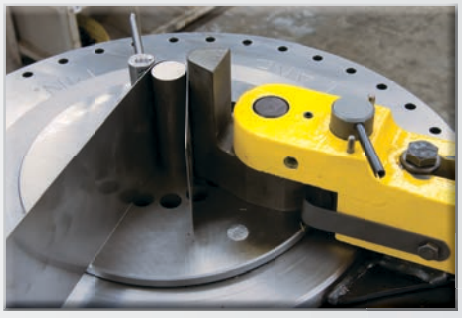
Used with standard Locking Pin; for forming solid material to a larger radius.

Radius Collar - Style B
Used with standard Locking Pin; for forming solid material.



Radius Block

Used with standard Locking Pin and additional Holding Pin; for forming solid material to a tight radius.



Built Up Forming Nose

Used to increase the width range of Di-Acro Benders. Must be used with a taller radius pin or stacked radius collars.

TYPICAL BENDS

- CENTER / OFFCENTER EYE BENDING
- CIRCLE BENDING
- EDGEWISE BENDING

ACCESSORIES & TOOLING

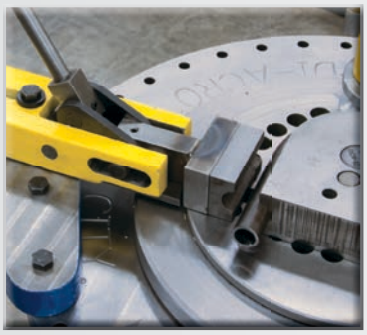
Shorten set-up time and increase clamping pressure with our Quik-Lok Clamp. This accessory is available for all manual Benders, and is an essential component when bending tubing, angle, channel and extrusions as it locks the material securely. It can be instantly released for removal of the formed part.

This clamping devise is easily adjusted to form various radius sizes, up to a 9" centerline radius on the Model 4 Bender.

All Type “A” Radius Collars, for tube bending, have been designed for use with the Quik-Lok Clamps.

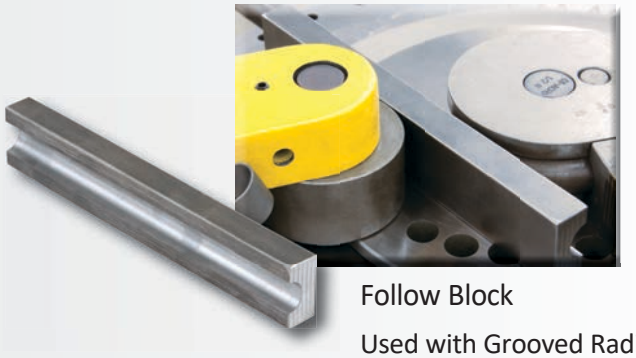
Grooved Radius Collar Style A

Used with Quik-Lok Clamp, Clamp Block and Follow Block, or can be used with the Grooved Forming Roller for tube bending.



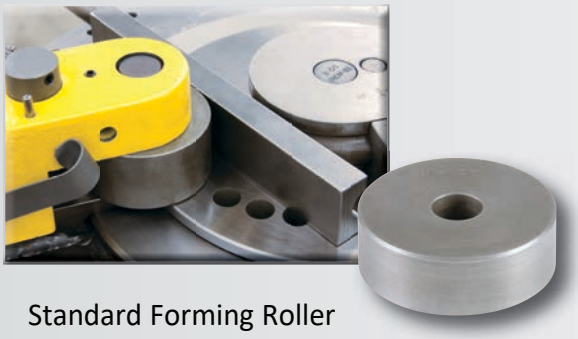
Clamp Block

Used with Quik-Lok Clamp for tube bending.



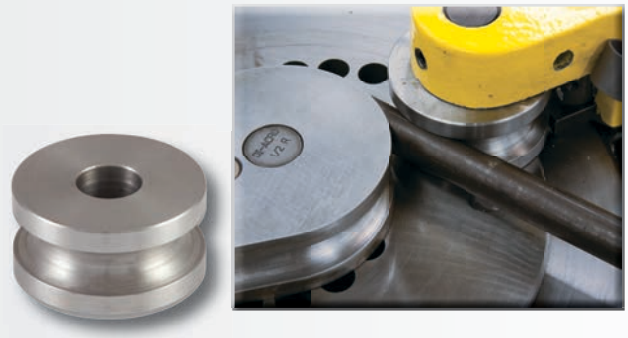
Follow Block

Used with Grooved Radius Collar for tube bending.



Standard Forming Roller

Replaces Forming Nose to eliminate part marking or back up for Follow Block to reduce drag.



Grooved Forming Roller

Used with Quik-Lok Clamp for forming larger radius in tubular stock. (For radius of 5 times material O.D. or larger)

APPLICATION INFORMATION

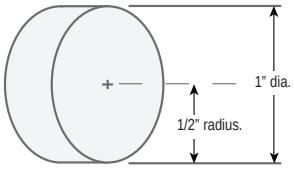
HELPFUL TIP

Typical bending capacity for all Di-Acro benders (based on 16 ga. mild steel).

- **SOLID BAR– Smallest radius is equal to the diameter of the bar.**
- **TUBING– Smallest centerline radius is equal to 2-1/2 times the tube diameter.**

DIAMETER vs. RADIUS – Radius equals 1/2 of the Diameter

Note: Order by RADIUS SIZE and BENDER MODEL NUMBER.



BEND-R-PAK TOOLING ASSORTMENT

ADD-ON ITEM

Bend-R-Pak for No. 1

.1875" radius pin
.5" radius collar
Zero radius block
.5" square block
Grooved radius collar–style B
(.375" OD tubing to a 1" radius)
Clevis clamp .375" OD tubing
Follow block for .375" OD tubing–6" length
Forming roller
Scroll collar

Bend-R-Pak for No. 1A

.1875" radius pin
.5" radius pin
1" radius collar
Zero radius block
.625" radius pin
Grooved radius collar–style B
(.5" OD tubing to a 1.25" radius)
Clevis clamp for .5" OD tubing
Follow block for .5" OD tubing–6" length
Forming roller
Scroll collar

Bend-R-Pak for No. 2

.1875" radius pin
1" radius collar
1.75" radius collar
Zero radius block
.6875" radius pin
Grooved radius collar
(for .75" OD tubing to a 2" radius)
Clevis clamp for .75" OD tubing
Follow block for .75" OD tubing–9" length
Forming roller
Scroll collar with scroll pin

Bend-R-Pak for No. 3

.1875" radius pin
1.5" radius collar
2.75" radius collar
Zero radius block
.625" radius pin
Grooved radius collar
(for .75" OD tubing to a 2" radius)
Clevis clamp for .75" OD tubing
Follow block for .75" OD tubing–9" length
Forming roller
Scroll collar with scroll pin

Bend-R-Pak for No. 4

.1875” radius pin
.625” radius pin
2.75” radius collar
Zero radius block
Grooved radius collar
(for .75” OD tubing to a 2” radius)
Clevis clamp for .75” OD tubing
Follow block for .75” OD tubing–9” length
Forming roller

The assorted tooling in our Bend-R-Paks are great for schools and maintenance departments.

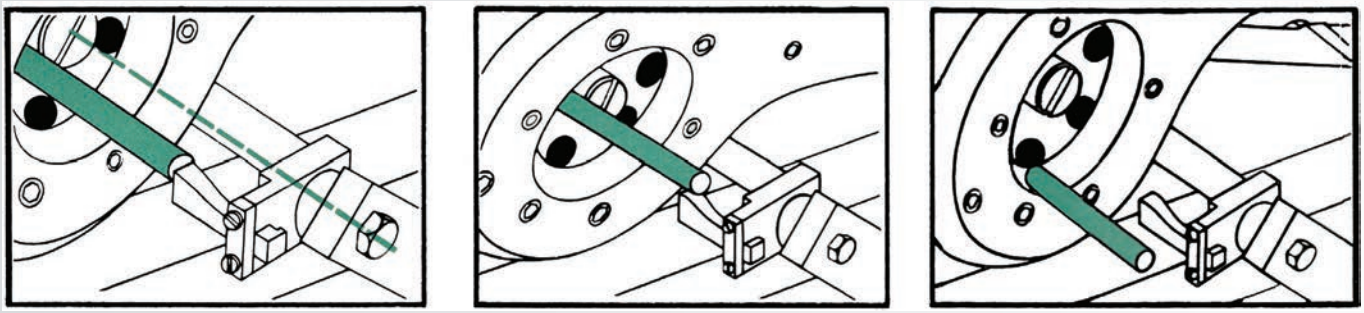
ROD PARTER WITH EJECTOMATIC GAUGE

The Di-Acro Rod Parter is a rugged precision machine designed for accurately cutting or “parting-off” rods and bars virtually burr free, without distorting their roundness or crushing the material. The “parting-off” operation is a combination shearing-breaking action.

The cutting principle employed in this precision machine provides the highest possible production rate for “parting-off” rods and bars. Making it an extremely valuable companion machine to the Di-Acro Benders.

EJECTOMATIC GAUGE

The Ejectomatic Gauge is supplied as standard equipment with all Di-Acro Rod Parters. Production output of the Di-Acro Rod Parter is greatly increased by the use of this gauge as it allows the three separate operations of gauging, parting and ejecting to be automatically obtained in a single working cycle. The gauge is especially valuable when cutting lengths under 6”.



1. POSITIVE GAUGE STOP

Set Gauge Arm so the bolt lines up with the Pivot Bolt of the Rod Parter, then adjust Gauge for desired hole and length of piece. Only a portion of the rod should contact the gauge.

2. PRECISION PARTING

Advance material until stopped by Gauge. Note how the rod slips off the end of the Gauge when the Handle is pulled down and the rod is parted.

3. AUTOMATIC EJECTION

As the handle is returned and the material is advanced, the cut piece is automatically ejected and the next piece is gauged.