



## RAPID BENDERS - HAND - OPERATED BENDERS

Intermech' Benders are available in five rugged hand operated models. Bending capacity covers a 'material range from 1/16" wire to 1.1/4" inch round steel bar or its equivalent. Intermech benders 'from a wide range of stock shapes including round, square, hexagonal, flat, and channel - '(all bar stock) and tubing. They come bend equipped with locating gauge for part duplication, 'Angle stop to determine degree of bend and locking pin to securely clamp material. Radius forming 'possibilities from 0 to 12 inches. Torrington rollers installed in main bearing reduce friction, facilitate easy bending, and help bend large stock easily. Ratchet power assist for large stock is standard on Hand Model No. 4 and No. 5



Model No.		GRB1	GRB2	GRB3	GRB4	GRB5
MATERIAL CAPACITIES No.		1A	2	3	4	5
Round mild	steel bar mm	8	13	16	25	32
Square mild	steel bar mm	6	10	13	19	25
<b>Steel tubing-</b>	16 gauge mm	13	19	25	32	50
Standard iron pipe I. P. S.		--	10	13	25	38
Flat steel bar	(Bent flat) mm	5x25	6x38	6x50	10x101	13x101
Flat steel bar	(Edgewise) mm	3x13	3x19	3x25	6x25	6x31
Angle mm		3x13x13	3x19x19	3x25x25	5x25x25	6x38x38
Channel mm		1.5x13x13	3x10x19	3x13x19	5x13x25	6x13x38
Radius capacity mm		152	228	304	304	304
Height of std.	Forming nose mm	19	25	38	38	38
Built-up nose	available mm	50	76	101	101	101
Center pin hole -	diameter mm	13	25	25	25	25

**STANDARD EQUIPMENT** - Bend locating gauge - setting this gauge allows any number of parts to be duplicated., Angle stop - locating this determines degree of bend., Locking pin - adjusting this securely clamps material., Centre pin - provides one radius setup plus mount for other tooling.

**EXTRA ACCESSORIES** - Extension handle (Models 2, and 3 only) , Quick - lok clamp, work stand , Die sets (Various sizes) Rugged welded

**RADIUS ACCESSORIES:** Available hardened or un-hardened to facilitate your own custom modifications. When ordering accessories for Benders, state model number and radius desired. Special radii available.

### SPECIAL TOOLING FOR YOUR SPECIAL BENDING NEEDS

Special tooling? Here is some tooling we have available. Crush-bend tooling, automatic follow-bar return, wiper dies and ball mandrels and ball mandrels for thin-walled tight radius tube bending, power clamping for high speed application, pneumatic mandrels extractor.

**SPRING - BACK** - When determining the size of the radius pin or collar, spring-back should be compensated for.

A frequent way is by over bending slightly beyond the required angle. After the amount of spring-back has been determined, the Angle Quage can be set so that all bends will be duplicated. In addition to overbending, it may be necessary in some cases to form the material around a Radius pin or collar of smaller radius than the desired bend. The actual size of the radius pin or collar can best be determined by experiment for the material and conditions.

**FORMING ROLLER**-Toeliminate work marking and reduce operator effort, it is often desirable to replace the Forming nose (furnished as standard equipment), with a Forming roller.

**BUILT - UP FORMING NOSE** - This is used to increase the material width range of International benders. Must be used with wider or stacked radius collars. Material and radius specification on price sheet. Special radii available.

There are two tube bending methods :

### TUBE FORMING ACCESSORIES

1. The "Forming Roller" method is recommended for (a) all large bends where centerline radius is at least 4 times the outside miameter (O. D.) of the tube, (b) pipe and heavy wall tubing, and (c) very small diameter tubing
2. The "Follow Block" method, which allows forming thin wall tubing to a centerline radius as small as 2-1/2 times the O. D. without using inside mandrels or fillers.

Guard against spring-back (see above). To prevent the tube from slipping during forming, the Quick-Lock Clamp is recommended, used with type A radius collar. For locking smaller size tubing the clevis and swivel clamps with type B radius collars are used on No. 1A Benders.