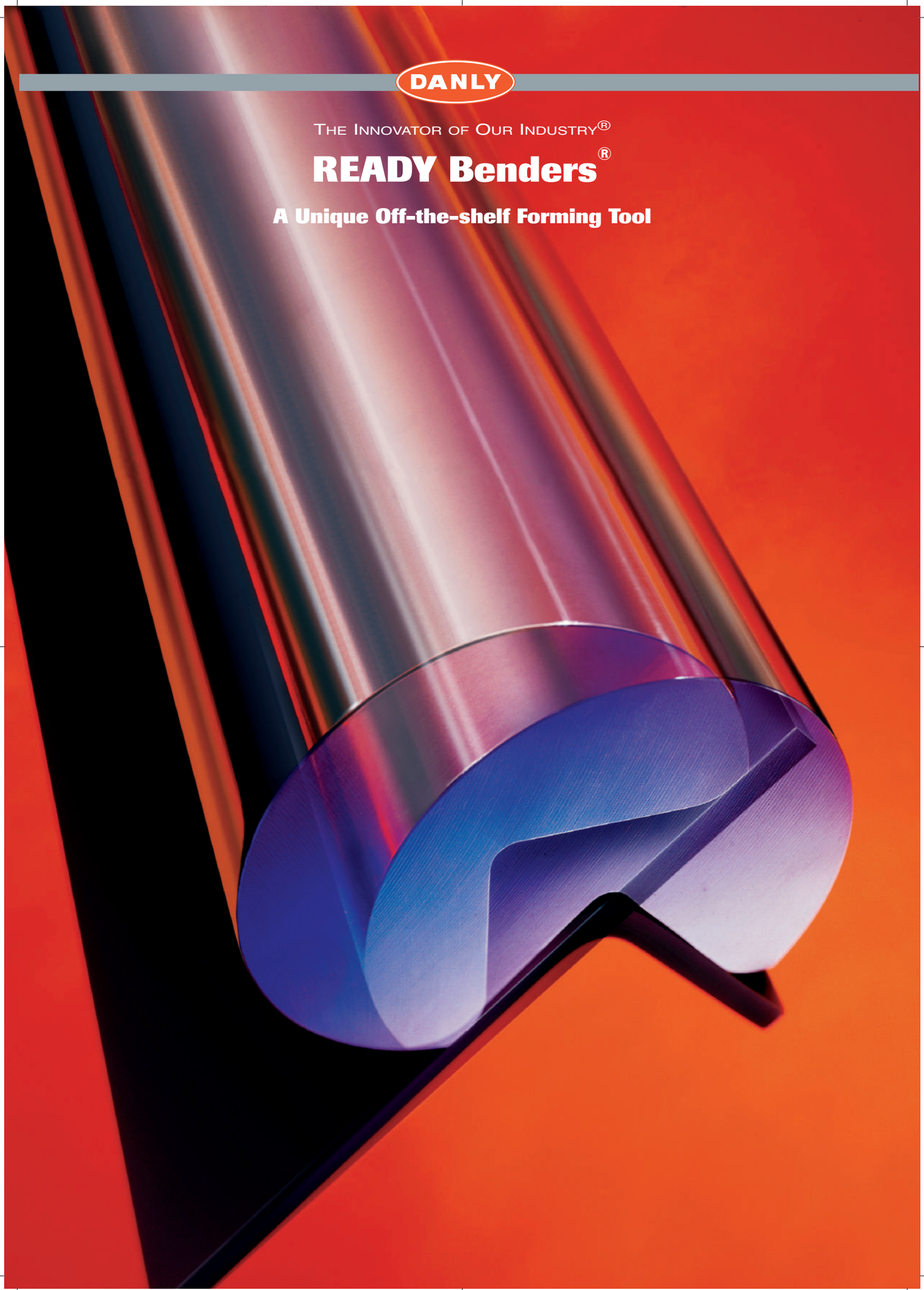
DANLY

THE INNOVATOR OF OUR INDUSTRY®

READY Benders®

A Unique Off-the-shelf Forming Tool

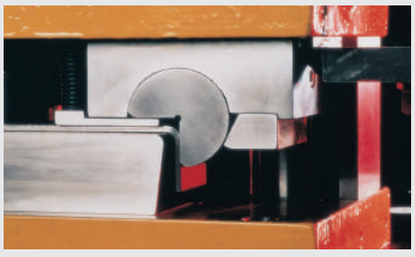


DANLY

DANLY Is Proud to Offer Its Enhanced Line of Patented READY Benders®

Clamp - contact

Bend - midstroke



Overbend - die closed

Precise Rotary Forming Motion

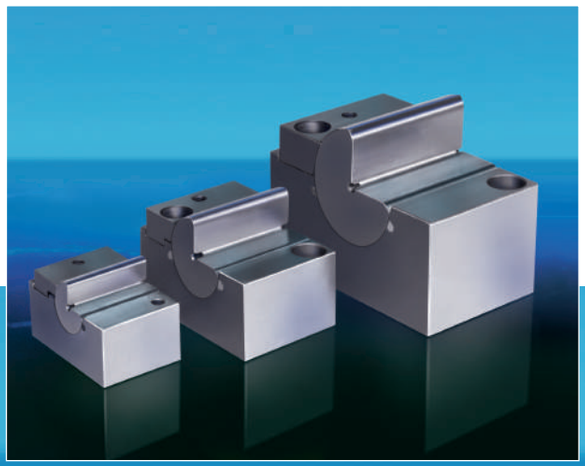
- "Benders" transfer the vertical movement of any press into a precise, rotary forming motion. This allows the bender to easily over-bend past 90° to counter material springback, a distinct mechanical advantage.
- READY Benders® give tool designers and metal stampers a way to produce tooling that holds consistent part angle tolerances, especially when higher volume production is required.

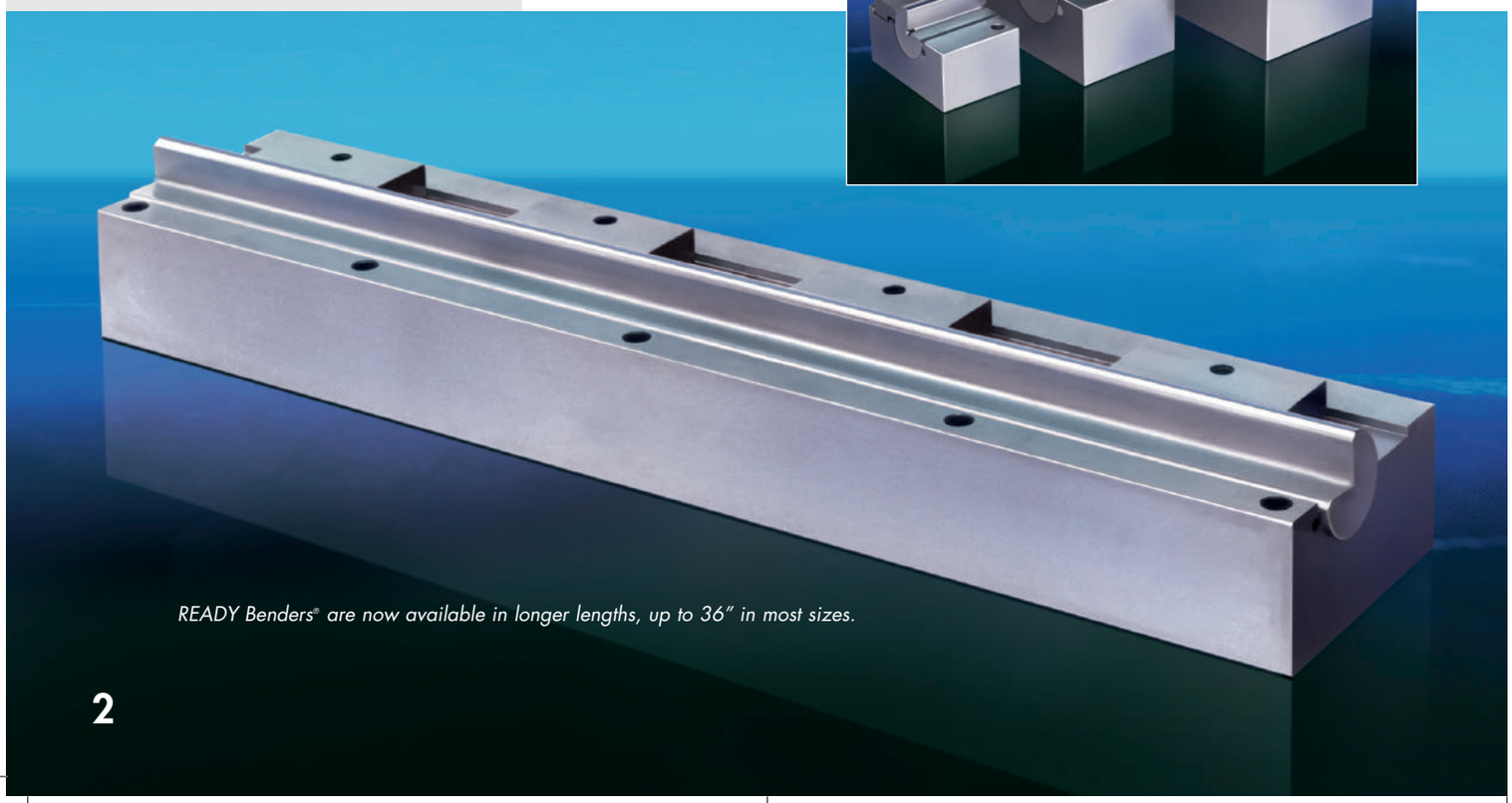
Standard In Stock Benders

- This catalog explains how standard benders form 90° bends in virtually any press working situation, from intricate progressive dies running at 250 spm, to large, fully automated panel forming machines.
- Our READY Bender® is designed specifically to replace most wipe tooling applications. This catalog explains why Benders are the better choice for you.
- Almost any length bend in practically any thickness of metal can be made using either in stock benders or by specifying your special requirements.

Special READY Benders®

- The bender is a highly efficient method of producing a wide range of different forms in metal. We make special benders, quoted by application. Use the worksheet on the back cover and fax prints for a quotation.





READY Benders® are now available in longer lengths, up to 36" in most sizes.

Three Reasons Toolmakers and Stampers Specify READY Benders®

1. Benders increase part quality

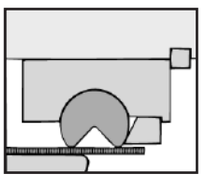
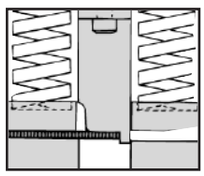
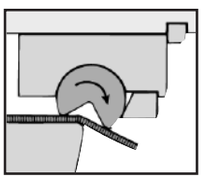
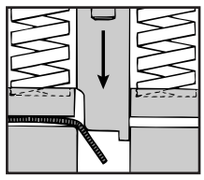
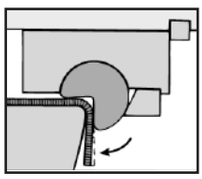
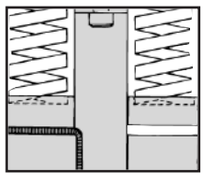
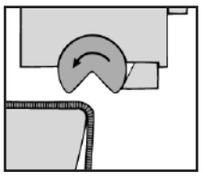
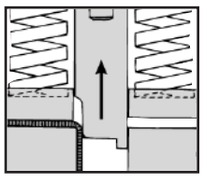
- Hold ± 1/2° angle tolerance, no "coining" required
- Overbend up to 120° in one press stroke
- Benders are more tolerant of material thickness variations
- Hold consistent leg heights, eliminate cams and re-strikes
- Hole locations near bends are usually not distorted
- Form prepainted and decorative metal without tool marks
- Ideal for forming high strength steel and aluminum
- Form narrow channels and short leg bends

2. Benders reduce tooling costs

- Less expensive than wipe tooling - compare the costs for yourself.
- Reduce operations and eliminate die stations
- Decrease forming tonnage by 50% to 80%
- The "Hemmer", page 11, reduces operations and costs

3. Benders work better in production and form metal consistently

- Compare the forming action:

READY Benders® - standard off the shelf		Wipe Tooling - tryout and regrind	
	• *self-contained form station*		• *costly extras needed*
	• *rotary action is gentle*		• *material can hump or slide*
	• *overbend for springback* • *consistent angles, leg heights, hole locations*		• *bottom to "coin" radii* • *inconsistent angles, leg heights, hole locations*
	• *internal spring returns rocker*		• *scrapes and galls on up strokes*

Index

METRIC

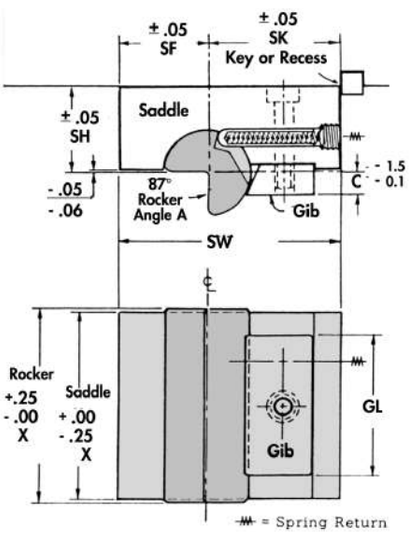
READY Benders®

- Designed to produce up to one million parts, ideal for most stamping dies.
- In stock lengths: 305, 610 and up to 915 mm long.
- Segment stock lengths to further reduce your tooling budget; quick delivery.
- Custom lengths available, specify.

Features:

1. **Rockers:** fully hardened (Rc 56 to 62), T41907 tool steel. Rockers and gibs are held to inch dimensions.
2. **Saddles:** machinable thru hardened steel; mounting holes left for diemaker to locate where needed. See mounting holes patterns on READY High Production Bender - Metric series, pages 6 to 8 for suggestions.
3. Saddle socket is coated for lubrication and long life. Saddle has flush mount lube fittings.
4. Rockers and saddles are CNC ground for precision and interchangeability.
5. Rocker angle is 87° on all standard benders. This allows for 3° of overbend to produce consistent 90° forms in mild steel. Harder steel or larger part radii may require more overbend. Rocker angles can be specified at time of order or altered by the diemaker. See page 10 about oversquare bends.

Standard READY Bender® - Metric



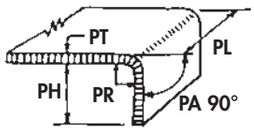
DANLY

READY Benders® - Metric

Metric Benders are now less expensive than wipe tooling.

Selecting Standard Benders:

1. Find the PT you are forming in top row of chart below. Read down (vertically) for all data. Verify the PH check (specials can bend shorter PH's).
2. Note minimum and maximum lengths (X) in chart below. Custom lengths are available. Use in stock lengths whenever possible for quick delivery. Longer lengths achieved by butting units end-to-end, .254 mm gap between.



PT *= part thickness*
PH *= part height*
PR *= part radius*
PA *= part angle*
PL *= part length*

Standard benders form a 90° bend in mild steel. The PR should roughly equal the PT. If you have questions or need a special quotation, please fax the worksheet on back cover with prints.

All dimensions are in millimeters.

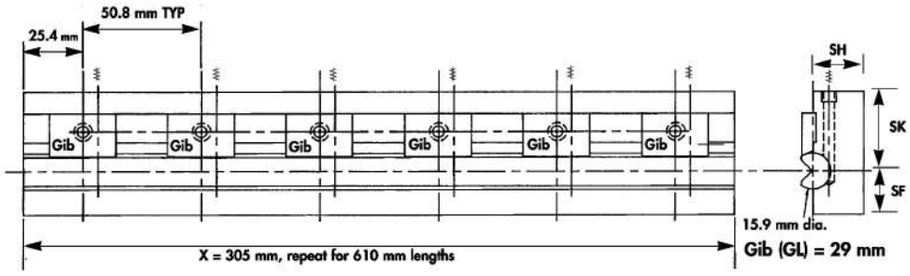
Part Material Thickness (PT)	0.3 - 0.9	0.9 - 1.7	1. 7 - 2.8	2.8 - 3.8	3.8 - 4.9	4.9 - 6.0
Part Height Check (PH)	6.15	9.9	14.8	19.7	24.6	29.5
	To use standard benders, PH should exceed these dimensions. Fax prints for specials.					
In Stock Lengths, X =	305, 610	305, 610,	305, 610, 915	305, 610, 915	305, 610, 915	305, 610, 915
Minimum Length (X) (Gib Length - GL)	29	39	51	64	77	89
Maximum Length (X)	610	610	915	915	915	915
MODEL CALLOUT	RBM 62	RBM 100	RBM 150	RBM 200	RBM 250	RBM 300

Rocker Diameter (87° Angle)	15.9	25.4	38.1	50.8	63.5	76.2
Saddle Width (SW)	53.975	73.025	98.425	123.825	149.225	174.625
Saddle to Front (SF)	19.050	28.575	38.100	47.625	57.150	69.850
Saddle to Key (SK)	34.925	44.450	60.325	76.200	92.075	104.775
Saddle Height (SH)	22.225	34.925	47.625	60.325	73.025	85.725
Gib Length (GL)	29	39	51	64	77	89
Rocker Dimensions						
B (B)	5.39	8.61	12.90	17.22	21.54	25.83
C (C)	4.95	7.93	11.89	15.85	19.81	23.77
J (J)	6.15	9.83	14.76	19.66	24.59	29.49

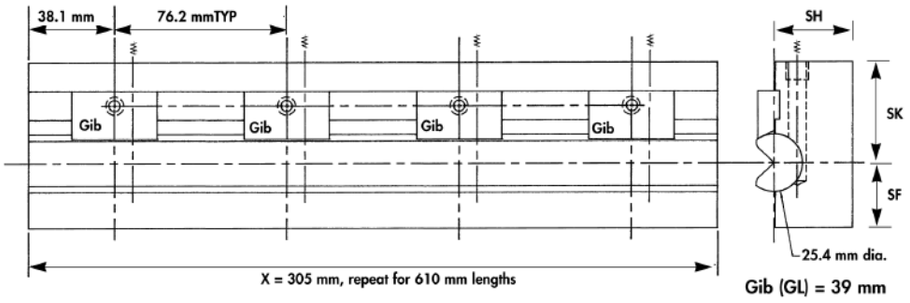
READY Benders®- Metric: in stock lengths 305, 610, and some styles 915 mm long

- *Designed so you can segment to shorter custom lengths.*
- *Minimum segment size is the Gib Length (GL).*
- *Custom lengths available, specify.*

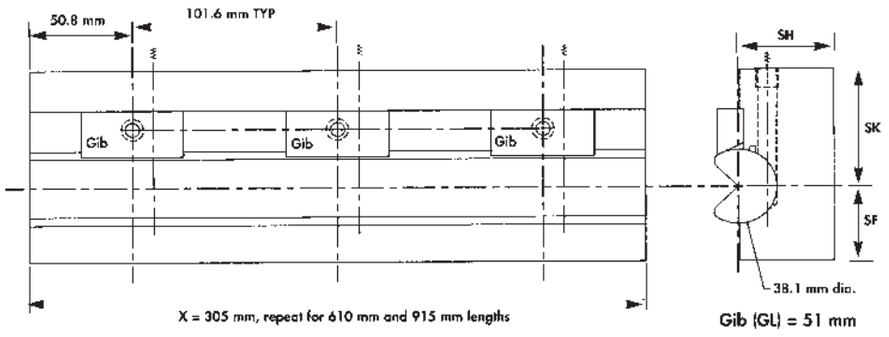
RBM 62: 305 & 610 mm lengths in stock, 15.9 mm diameter rocker



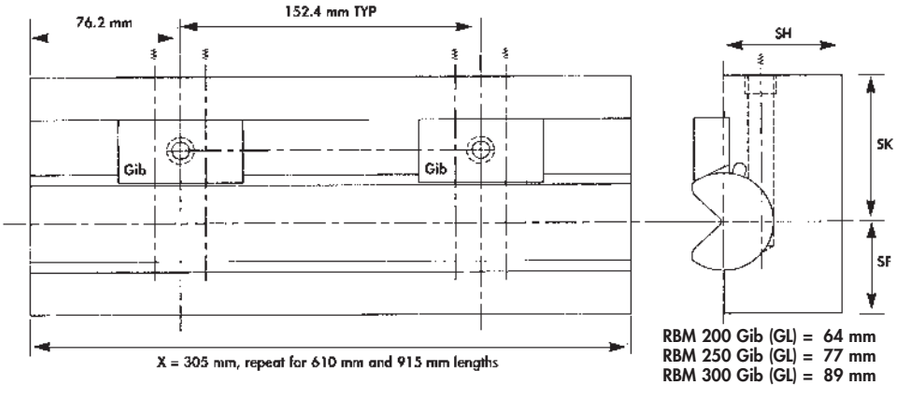
RBM 100: 305 & 610 mm lengths in stock, 25.4 mm diameter rocker



RBM 150: 305, 610 & 915 mm lengths in stock, 38.1 mm diameter rocker



RBM 200, 250 and 300: 305, 610 & 915mm lengths in stock, 50.8, 63.5 and 76.2 mm dia rockers



Length Segmenting:

1. 305 mm lengths are shown (left). 610 and 915 mm lengths are a repeating pattern of the 305 mm length.
2. Minimum segmenting size is the GL (gib length) dimension. Each segment needs a gib to retain rocker. Spring returns are marked by ‡ and are under gibs.

How to Segment:

1. Remove rocker by taking out set screw/lube fitting. Rotate rocker to remove the spring return plunger mechanism and rocker.
2. Rocker is fully hardened (Rc 56-62). Cut with wire machine or best way to precise length/size.
3. Saddle is machinable. Cut with wire machine or best way to precise length.
4. CAUTION: Thoroughly de-burr and clean saddle and rocker. Make sure no chips or dirt remain in saddle/rocker spring return pockets before reassembly.
5. Reassemble and check to make sure rocker returns easily when rotated.

DANLY Can Segment:

1. You must purchase the entire 305, 610 or 915 mm length and specify the segment dimensions. The remaining pieces are shipped with the tooling unless specified otherwise. No rebates on unused pieces.
2. Cost per precision cut:

   RBM 62, 100: $50.00, Euro, per cut

   All larger: $65.00, Euro, per cut

Order Example:

RBM	100	X = 610 mm
READY Model Callout	Rocker Diameter 25.4 mm	Specify Length of Bender

‡ = spring return

GL = gib length

Flush mount lube fittings at end of spring return.

METRIC

READY High Production Benders

- Use whenever production exceeds a million parts, ideal for most stamping dies.
- In stock lengths, see page 7. Now available up to 915 mm long.
- For custom lengths, see page 8.

DANLY

READY High Production Benders - Metric

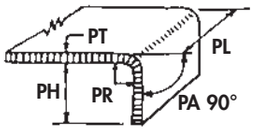
- *Our highest production bender - now available up to 915 mm long.*
- *This is an inch product, the same as READY High Production Benders - Inch, on pages 16 to 18, except with metric mounting holes.*

Features:

1. **Rockers:** fully hardened (Rc 56 to 62), T41907 tool steel.
2. **Saddles:** fully hardened,(Rc 48 to 52) T30102 steel. Counterbored mounting holes per patterns on pages 7 and 8. Flush mount lube fittings.
3. Rockers and saddles are CNC ground for precision and interchangability.
4. Rocker angle is 87° on all standard benders. This allows for 3° of overbend to produce consistent 90° forms in mild steel. Harder steel or larger part radii may require more overbend. Rocker angles can be specified at time of order or altered by the diemaker. See page 10 about oversquare bends.

Selecting Standard Benders:

1. Find the PT you are forming in top row of chart below. Read down (vertically) for all data. Verify the PH check (specials can bend shorter PH's).
2. Note minimum and maximum lengths (X) in chart below. Custom lengths are available. Use in stock lengths whenever possible for quick delivery. Longer lengths achieved by butting units end-to-end, .254 mm gap between.



PT = part thickness
PH = part height
PR = part radius
PA = part angle
PL = part length

Standard benders form a 90° bend in mild steel. The PR should roughly equal the PT. If you have questions or need a special quotation, please fax the worksheet on back cover with prints.

All dimensions are in millimeters.

Part Material Thickness (PT)	0.3 - 0.9	0.9 -1.7	1.7 - 2.8	2.8 - 3.8	3.8 - 4.9	4.9 - 6.0
Part Height Check (PH)	6.15	9.9	14.8	19.7	24.6	29.5
	To use standard benders, PH should exceed these dimensions. Fax prints for specials.					
In Stock Lengths, X = (see page 17)	28.58 88.90 152.40	38.10 101.60 152.40 228.60	50.80 127.00 203.20	63.50 177.80	76.20 177.80	88.90 152.40
Minimum Length (X) (Gib Length - GL)	29	39	51	64	77	89
Maximum Length (X)	610	610	915	915	915	915
MODEL CALLOUT	RMC 62	RMC 100	RMC 150	RMC 200	RMC 250	RMC 300

Rocker Diameter (87° Angle)	15.9	25.4	38.1	50.8	63.5	76.2
Saddle Width (SW)	53.975	73.025	98.425	123.825	149.225	174.625
Saddle to Front (SF)	19.050	28.575	38.100	47.625	57.150	69.850
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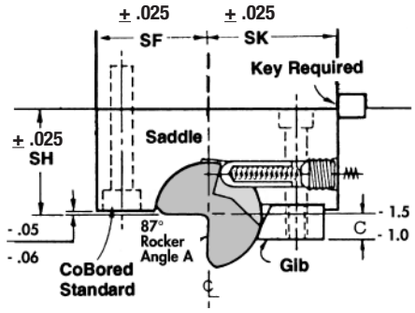
Saddle Height (SH)	22.225	34.925	47.625	60.325	73.025	85.725
Gib Length (GL)	29	39	51	64	77	89
Rocker Dimensions (B)	5.39	8.61	12.90	17.22	21.54	25.83
(C)	4.95	7.93	11.89	15.85	19.81	23.77
(J)	6.15	9.83	14.76	19.66	24.59	29.49

Standard READY High Production Bender

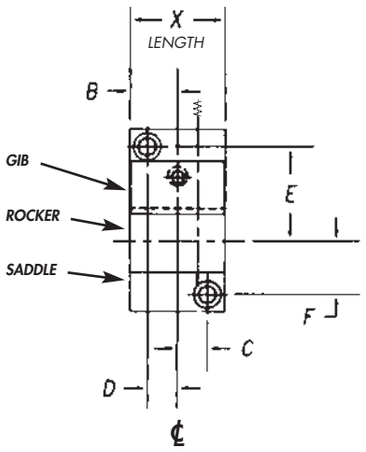


- Tapped mounting holes available as specials.

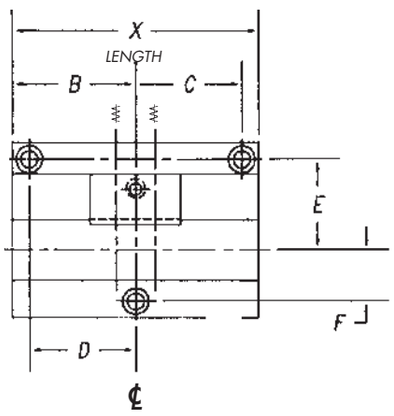
READY High Production Benders – Metric: in stock lengths

- *Our highest production bender.*
- *Custom lengths up to 610 or 915 mm long available, see page 8.*
- *This is an inch product, the same as READY High Production Benders - Inch, on pages 16 to 18, except with metric mounting holes.*

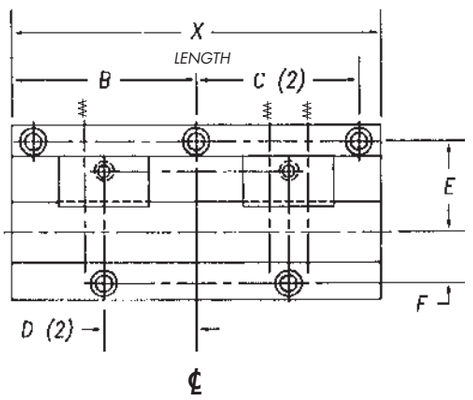
STYLE AA



STYLE BB



STYLES CC & DD



Mounting Hole Locations

Hole patterns can be used by diemakers for similar length benders that do not come with mounting holes.

Model Callout	Length Style	X Length	B	C	D	E	F	SHCS size
RMC 62	AA	28.58	14.29	9.00	9.00	30.00	14.00	M4
	CC	88.90	44.45	38.46	22.23	30.00	14.00	M4
	DD	152.40	76.20	70.21	38.10	30.00	14.00	M4
RMC 100	AA	38.10	19.05	12.00	12.00	37.50	21.50	M6
	BB	101.60	50.80	44.25	44.25	37.50	21.50	M6
	CC	152.40	76.20	67.18	38.10	37.50	21.50	M6
	DD	228.60	114.30	105.31	57.15	37.50	21.50	M6
RMC 150	AA	50.80	25.40	17.00	17.00	50.00	30.00	M8
	BB	127.00	63.50	51.51	51.51	50.00	30.00	M8
	CC	203.20	101.60	86.59	50.80	50.00	30.00	M8
RMC 200	AA	63.50	31.750	21.50	21.50	65.00	37.50	M10
	BB	177.80	88.90	73.89	73.89	65.00	37.50	M10
RMC 250	AA	76.20	38.10	25.00	25.00	79.00	44.00	M12
	BB	177.80	88.90	70.89	70.89	79.00	44.00	M12
RMC 300	AA	88.90	44.45	32.50	32.50	92.50	57.00	M12
	BB	152.40	76.20	58.19	58.19	92.50	57.00	M12

Tolerances Held

X = saddle length
+.000mm / −.250mm;

X = rocker length
+.250mm / −.000mm;

Screw locations held
± .127mm;

Order Example:

RMC	100	X = DD
READY Model Callout	Rocker Diameter 25.4 mm	Specify Length Bender

All dimensions are in millimeters.

METRIC

READY High Production Benders

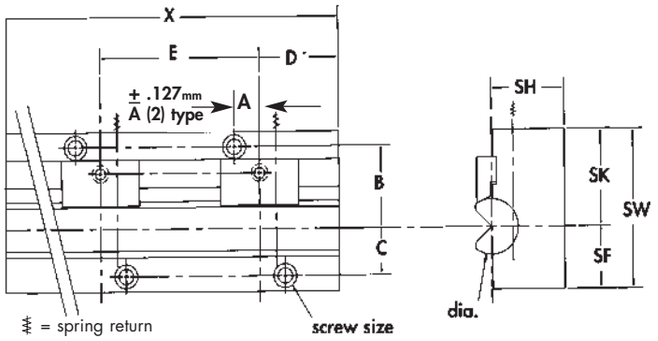
- DANLY's CNC grinding technology, delivers lengths up to 915 mm long at attractive prices.
- Longer lengths achieved by butting two or more units end-to-end, .254 mm gap.

DANLY

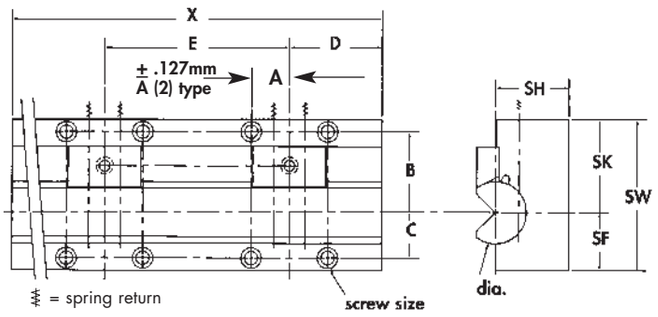
READY High Production Benders – Metric: Custom Lengths

- *Now available up to 915 mm long.*
- *Specify your desired length (X) and DANLY will deliver.*
- *This is an inch product, the same as READY High Production Benders - Inch, on pages 16 to 18, except with metric mounting holes.*

RMC 62, 100 and 150 Repeating Hole Patterns
(for 5/8", 1', and 1 1/2" Diameter Rockers)



RMC 200, 250 and 300 Repeating Hole Patterns
(for 2", 2 1/2", and 3" Diameter Rockers)



Minimum/Maximum Lengths:

1. Charts and drawings showing hole locations, etc., start at nominal lengths. Custom lengths start very short, at catalog Gib Length (GL) dimensions.
2. Mounting hole patterns for shorter, custom lengths are available upon request by application.

RMC 62	Minimum 29 mm (GL) Maximum 610 mm
RMC 100	Minimum 39 mm (GL) Maximum 610 mm
RMC 150	Minimum 51 mm (GL) Maximum 915 mm
RMC 200	Minimum 64 mm (GL) Maximum 915 mm
RMC 250	Minimum 77 mm (GL) Maximum 915 mm
RMC 300	Minimum 89 mm (GL) Maximum 915 mm

3. PLEASE NOTE: Standard in stock lengths of READY High Production Benders - Metric are cataloged on page 7. These ship fast and cost less. The READY Bender® - Metric, pages 4 and 5, is available in custom lengths and can further reduce your tooling budget.

NOTE:
- Counterbored holes standard, tapped available as specials.

All dimensions are in millimeters, unless noted otherwise.

Model and Rocker Diameter		"X" Length	A	B	C	D	E	SHCS size
RMC 62	5/8" dia.	lengths 152.5 - 305 mm	9.00	29.00	14.00	"X" ÷ 8	"X" ÷ 4	M4
RMC 100	1" dia.		12.00	37.50	21.50	"X" ÷ 8	"X" ÷ 4	M6
RMC 150	1 1/2" dia.		17.00	50.00	30.00	"X" ÷ 6	"X" ÷ 3	M8
RMC 62	5/8" dia.	lengths 317.5 - 610 mm	9.00	29.00	14.00	"X" ÷ 12	"X" ÷ 6	M4
RMC 100	1" dia.		12.00	37.50	21.50	"X" ÷ 12	"X" ÷ 6	M6
RMC 150	1 1/2" dia.		17.00	50.00	30.00	"X" ÷ 10	"X" ÷ 5	M8
RMC 62	5/8" dia.	lengths 622.3 - 915 mm	9.00	29.00	14.00	"X" ÷ 16	"X" ÷ 8	M4
RMC 100	1" dia.		12.00	37.50	21.50	"X" ÷ 16	"X" ÷ 8	M6
RMC 150	1 1/2" dia.		17.00	50.00	30.00	"X" ÷ 14	"X" ÷ 7	M8
RMC 200	2" dia.	lengths 203.2 - 305 mm	31.50	66.00	37.50	"X" ÷ 4	"X" ÷ 2	M10
RMC 250	2 1/2" dia.		35.00	79.00	44.00			M12
RMC 300	3" dia.		40.00	92.50	57.00			M12
RMC 200	2" dia.	lengths 317.5 - 610 mm	31.50	66.00	37.50	"X" ÷ 6	"X" ÷ 3	M10
RMC 250	2 1/2" dia.		35.00	79.00	44.00			M12
RMC 300	3" dia.		40.00	92.50	57.00			M12
RMC 200	2" dia.	lengths 203.2 - 915 mm	31.50	66.00	37.50	"X" ÷ 10	"X" ÷ 5	M10
RMC 250	2 1/2" dia.		35.00	79.00	44.00			M12
RMC 300	3" dia.		40.00	92.50	57.00			M12

Compact READY Benders®

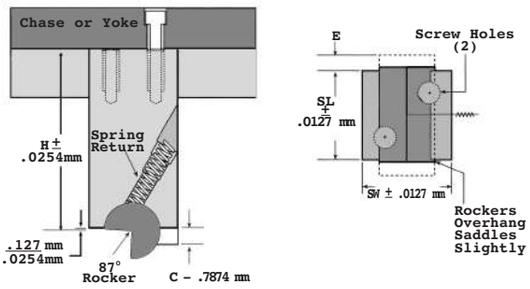
•Designed to fit "tight" die spaces, small footprint.

- Recommended for high production applications.
- Hardened tool steel, all surfaces precision ground. Rockers Rc 56-62. Saddles Rc 48-52. Chase or Yoke mounting by die maker.
- Standards in stock for fast delivery.Special compact benders can be made to your height and length requirements upon request.

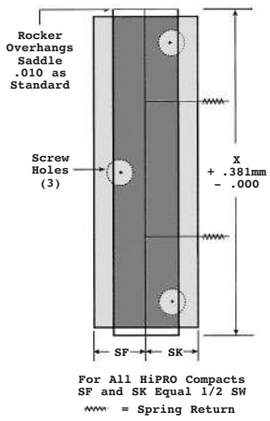
The original compact benders called CBT and CLT are not discontinued. See earlier catalog or request a fax sheet to detail the parameters.

Selection and Ordering:

1. Locate the material thickness you are forming on the top row. Read down the column for your data.
2. Longer lengths are achieved by butting units end-to-end.
3. We make special compact benders. Fax the worksheet on the back cover with prints.



Regular Benders
Note: extended rockers (E) are special



Long Benders
Ends of saddles are not ground

PART MATERIAL		PART MATERIAL THICKNESS RANGES (mm)			
Mild Steel		.3 mm - .9 mm	.9 mm - 1.7 mm	1.7 mm - 2.8 mm	2.8 mm - 3.8 mm
REGULAR BENDERS		STANDARD			
Catalog Callout (stocked)		MCBT 62	MCBT 100	MCBT 150	MCBT 200
		Bender Dimensions			
Rocker Diameter	D	15.9mm	25.4 mm	38.1 mm	50.8 mm
Regular Benders	SW x SL	25.4 mm x 25.4 mm	38.1 mm x 38.1mm	50.8 mm x 50.8 mm	76.2 mm x 76.2 mm
Height	H	50.8 mm	50.8 mm	69.85 mm	76.2 mm
Rocker Extension (special)	E	6.35 mm	6.35 mm	9.525 mm	12.7 mm
LONG BENDERS		SPECIAL ORDER			
Catalog Callout (special)		MCLT 62	MCLT 100	MCLT150	MCLT 200
Long Benders, width	SW	25.4 mm	38.1 mm	50.8 mm	76.2 mm
Length (specify)	X	38.1 mm - 76.2 mm	50.8 mm - 101.6 mm	69.85 mm - 139.7 mm	101.6 mm - 139.7 mm
Height (specify)	H	50.8 mm - 76.2 mm	50.8 mm - 76.2 mm	69.85 mm - 95.25 mm	76.2 mm - 101.6 mm
		Designer Dimensions (87° Rocker)			
L to open jaw L, horiz	B	5.3848 mm	8.6106 mm	12.9032 mm	17.2212 m
L to open jaw flat, vert	C	4.9530 mm	7.9248 mm	11.8872 mm	15.8496 mm
L to close jaw L, vert	J	6.1468 mm	9.8298 mm	14.7574 mm	19.6596 mm
SHCS screws		M6	M8	M8	M12

Take Advantage of the Latest Bender Technology

DANLY encourages upgrading to the improved designs detailed in this catalog for best performance, delivery, and lowest tooling costs.We now offer longer one piece full hard benders in lengths up to 915 mm long.

We make specials too ... use the worksheet on back cover and fax prints.

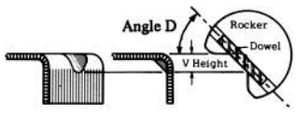
DANLY

Popular Bender Options

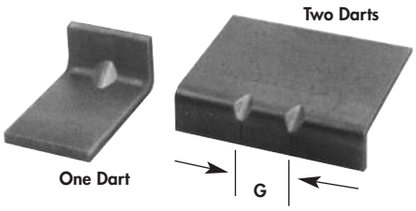
"Wipe Tooling" darts are high maintenance - Benders make it simple.

Eliminate:

- **galling and maintenance**
- **unattractive parts**
- **secondary operations**



V Height – The only dimension darts can hold because material thickness varies.



1. Dart Stiffeners ... *Benders Make it Easy*

Standard darts are shown below or you can specify your own angle and dowel size. Darts are rolled into the part during bending, reducing springback and stiffening the part. Darts are produced using dowels through the rocker and require relief grooves in the anvil. The side angles of the darts are a function of the angle and size of the dowel.

Darts are available as specifiable extras on all READY Benders®. Darts are central on a 45° angle unless detailed.

Vee Height	Rocker Diameter, in mm 15.9 | 25.4 | 38.1 | 50.1 | 63.5 | 76.3 Standard Dart Spec. Numbers					
2.54 mm	V1	V1				
5.08 mm	V2*	V2	V2			
8.89 mm	--	V3*	V3	V3		
12.70 mm	--		V5*	V5*	V5	V5
dowel	2.3622	3.9624	6.3500	7.9248	9.5250	12.7000

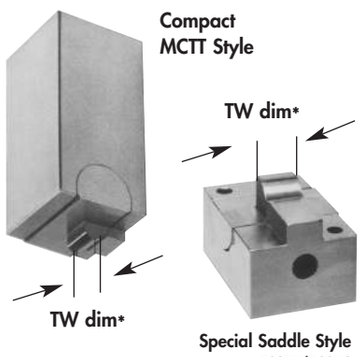
**Dowel may be upsized to avoid a gap between the rocker and the dowel.*

Benders gently roll stiffening "darts" into a wide range of formed parts.

How to Specify
Add your selection of Dart Spec. No. after Catalog Number:

2	RMC 150	X = 50.8 mm	2 V3, Darts, G = 25.4 mm
Qty	Cat. No.	Length	Dart Callout

Tooth Benders



2. Tooth Benders ... *Eliminate Part/Die Interferences*

Tooth benders use special rockers to eliminate die/part interferences. Often the saddle needs to be made special without gibs in one piece. Send prints for a quotation.

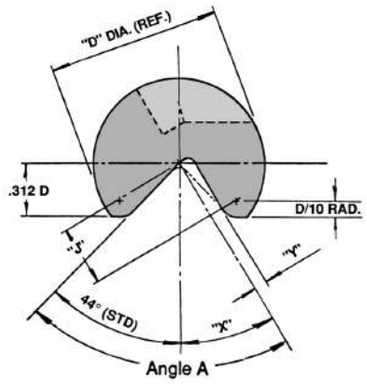
How to Specify
Add TW dimension after Catalog Number:

Qty	Cat. No.	TW dim.
2	MCTT 62	TW 10.16 mm
1	RMTT 100	TW 12.7 mm
2	RMTC 100	TW 12.7 mm

Rocker Diameter D	Min. TW Dimensions	
	Compact Style MCTT	Special Saddle Style, RMTT/RMTC
15.9	7.9248 mm	7.9248 mm
25.4	12.7000 mm	11.1252 mm
38.1	15.9000 mm	12.7000 mm
50.1	19.0500 mm	15.9000 mm
63.5	---	17.4752 mm
76.3	---	19.0500 mm

*TW central unless detailed.
Please note: The saddle is special (gib built-in) to accept a narrow rocker tooth width. Tooth benders are available on all types of READY Benders® as specials.

Over Square Bends



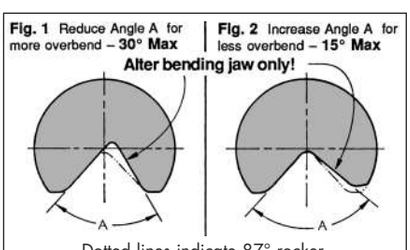
CB3 Alteration Sketch

3. Over Square Bends ... *up to 120° in one press stroke*

The READY Bender's® ability to bend 30° beyond ninety (120° PA) is one of its greatest features. Customers buy standards and do this simple alteration themselves, adding a degree or two of overbend to the rocker. This easy alteration is done by grinding the bending jaw of the rocker, while not disturbing the working radius of the bending lobe (grind past centerline).

For assistance, call DANLY and we will give you the necessary dimensions to make this alteration.

Note: Severe overbend (over 109° PA) *with a small radius (less than PT) can create a situation where the rocker may catch on the anvil.*



Dotted lines indicate 87° rocker.

DANLY will check your application and advise if a pad or special rocker design is needed.

It's easy to alter rockers for more or less overbend. Example shows standard 87° rocker. Check to make sure the Anvil has more relief angle than the rocker angle A. Rockers are easy to alter.

The "Hemmer"

- *Eliminate Die Stations and Operations;*
- *Use in Progressive Dies, Automated Machines*

This patented tool can form a slightly open bend completely flat in one vertical press stroke. Use it to form UP or DOWN in high production stamping dies and automated machines. Eliminate the cam action "pre-hem" operation and do hems in two stations instead of three.

We use full hard T30402 rockers and special READY High Production style saddles. This is a special bender, yet attractively priced.

All hem applications should be quoted by DANLY. Fax prints and the worksheet on the back cover. We usually suggest a test-bend using your material to accurately predict results and select the right hemmer design. We charge a modest fee for this service, based upon the application.

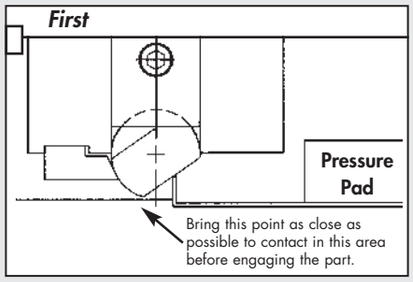
Flat Hem

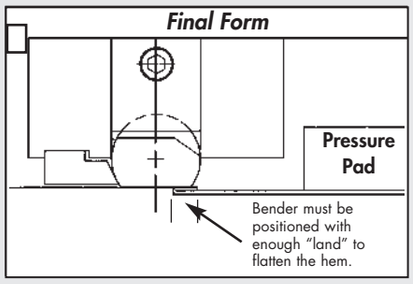
Assembly hem

Important Hemmer Functions

1. Diameter may be chosen more by leg height than material thickness.
2. Testing is highly recommended on <u>all</u> hem applications to help determine proper positioning.
3. Pressure pad needed to avoid sliding as hemmer contacts and flattens.
4. Maximum hemmer length is 305 mm. For longer lengths, butt end-to-end with .254 mm gap between saddles.

The "Hemmer" Pad Benders Eliminate Tool Marks

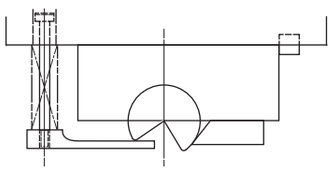




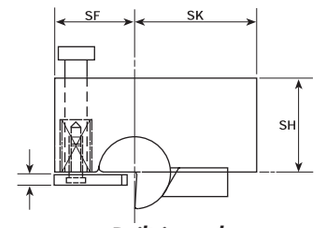
Pad Benders

Not Just for Elimination of Tool Marks

Pads can help in many bender applications. By activating the bender on top of a pad, you isolate the rocker from the part on the critical holddown surface. NO CONTACT = NO MARK.



Independent pad
can be part of existing stripper



Built-in pads
can be made as specials for most benders

Important Pad Functions

1. Pads can be designed to match a part's "irregular" shape on one side yet be flat and parallel on the surface that the bender contacts.
2. Eliminates rocker contact and impact on part holddown surface.
3. To protect a part cutout or hole from distortion due to its proximity to the bend line.
4. To eliminate humping of the material when the application dictates upsizing the rocker diameter. The pad provides holddown pressure close to the bend radius.
5. To match a standard rocker diameter to the Zee bend or offset vertical height. Allows use of standard rockers versus making specials.

When Using Pads, DANLY Recommends:

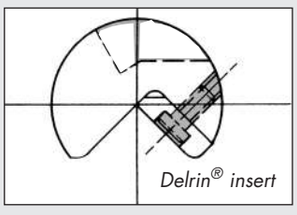
1. Locate the pad and its shoulder screws/ spools as close as possible to the tangency point of the radius. This location and bushings or guides will prevent the pad from tipping.
2. Springs to lift the pad should work separately from the spring return of the bender.
3. Additional part holddown may be required in some applications (pilots, die springs or nitrogen cylinders).

Bending Without Tool Marks

READY Benders® normally leave a slight burnish or shine mark on both part surfaces. This is a big improvement over wipe tool scrapes and gouges.

Elimination of tool marks is not just for prepainted metal - one of our big success areas. Use of pads (bottom, left) and highly polished steel rockers are very successful on prepaint and other decorative surfaces.

Depending on acceptable tool mark criteria, we have the solution to most situations. Test–bending (page 19) is the safe approach. For a modest fee, we will form your material using our benders and send you a report with your sample for evaluation.



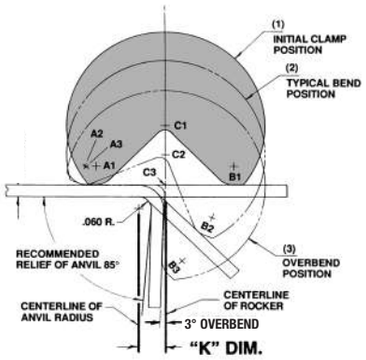
Solid Delrin® Rockers or Delrin® Inserted Rockers are used without pads on low to medium production applications.

Delrin® is a registered trademark of E.I. Dupont.

DANLY

Bender Location and Design Formulas:

Bender Location ... "K" Dim.



The formula for the "K" dimension of a 87° standard rocker is:

Formula for 'A' = 87°,rocker

$$K = \frac{PT+PR}{\tan(A/2)}$$

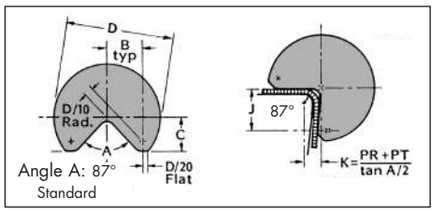
1. Bender location ... *CAD compatible "K" Dimension*

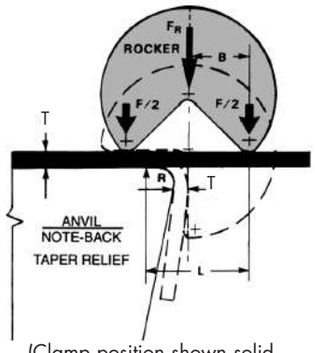
The "K" Dimension is the distance between the centerline of the anvil radius and the centerline of a fully closed rocker. Its purpose is to aid the designer in dimensioning the key slots needed to locate the READY Bender® easily.

When the toolmaker actually sets the READY Bender®, he is in fact setting to the "K" Dimension. Correct setting of the bender will provide for longer tool life and better parts.

The "K" Dimension changes as an overbend is added to or subtracted from the bending lobe. Though the centerline of the rocker is constant, it will move closer to or further from the anvil radius.

These formulas are only valid for square 90° bend angles. For overbends up to 120° or underbends down to 60°, please consult DANLY. Due to the trigonometric variations, the formulas are completely changed and can not be generalized.





(Clamp position shown solid, overbend position dotted)

Benders require 50-80% less tonnage than wipe tools.

2. Tonnage Formula for READY Benders®

READY Benders® require 50-80% less tonnage than wipe bending tools. The clamping lobe provides part holddown from first contact, the bending lobe has greater bending leverage. The ability to overbend up to 120° eliminates the need for coining and bottoming.

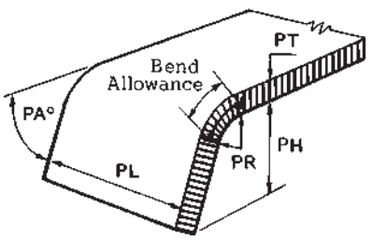
F = force required
S= nominal ultimate tensile strength
W=width of bend
T= stock thickness
L= span (as a beam) L=B+R+T
B= designer dimension of rocker (see p6)
R= anvil radius

Example: For a 25.4mm diameter rocker

$$F = 2.25 \times \frac{SWT^2}{L}$$; B + T + R = 8.61mm + 1.5mm + 1.5mm = 11.76mm

$$F = \frac{2.25 \times 345\ N/mm^2 \times 25.4mm \times (1.5mm)^2}{11.76mm} = 3.772\ N$$

= .4 metric tons



Bend Allowance

3. General Bend Allowance Formula

READY Benders® overbend to allow for springback instead of coining the part material to "set" the bend. As a result, benders leave more material within the bend radius so the bend allowance is *greater* than wipe bending.

Caution. *As we all know, bend allowance may change with different materials and even within different coils of the same material. The only way to be sure of the bend allowance is to test bend the material and measure the BA. (See Test Bending Service, page 19).*

The general formula is:

$$\text{Bend Allowance (BA)} = .01745 \times PA \times [PR + (PT \times .43)]$$

How To Install READY Benders®

1. Release the return spring(s) and plunger(s) by releasing the lube fitting or set screw so the rocker can rotate freely. Do not remove the gib from the saddle.

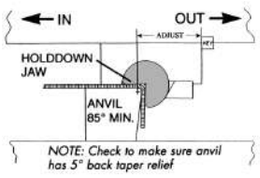
2. Using two pieces of the part material, place one piece on the holddown side of the anvil near to but not into the anvil radius (see drawing right). Put the bender into approximate position.

3. Keeping the second piece of material flush to the bending lobe of the rocker like a feeler gage (moving up and down slightly), set the opening between the tangency of the anvil radius and the bending jaw of the rocker. The anvil should be ground with 2° to 3° more back taper relief than the rocker's angle "A" being used.

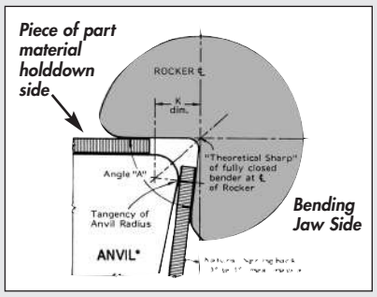
4. Locate the bender with a key for proper location and resistance to side load.

5. Tighten the fastening screws. Lubricate the bender with light oil. Make sure no debris has lodged in spring return area, especially after machining mounting holes.

6. ***Bender Adjustment.*** You can vary overbend by minor shut height adjustments. Progressive dies are usually best adjusted by moving the bender slightly in (closer to anvil) for more overbend, or out (away from anvil) for less overbend. The standard 87° rocker only has 3° overbend. Anvil inserts can be shimmed or reground to avoid moving the bender.



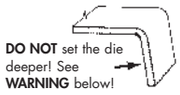
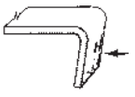
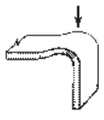
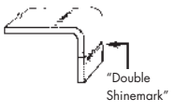
7. For more details to properly locate READY Benders®, see page 12.



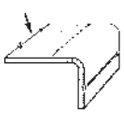
**NOTE: The back taper relief ground on the anvil is to allow for the overbend required without pinching the material at full closure. (85° minimum anvil angle suggested for all 90° bends). Always grind 2° to 3° more back taper on anvil than the rocker's angle "A" being used.*

Critical - Once the holddown jaw is parallel to the material, ALL adjustments must be in or out. The rocker can be reground to add overbend...

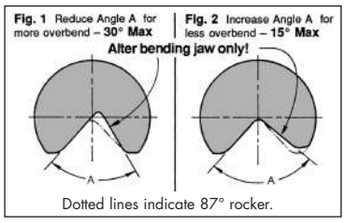
Troubleshooting Guide

Problems	Possible Reasons	Solutions
1. UNDERBENT 	A. Bender is set "too open".....	Reset bender per instructions.
	B. Material is too thick.....	Use the next larger bender.
	C. Part radius is too large.....	Use the next larger bender, or reduce the part radius.
	D. Material is "springy".....	Decrease angle A per Fig. 1 below and reset bender per instructions.
2. OVERBENT 	A. The bender is set too tight....	Reset bender per instructions.
	B. Part material is too soft.....	Increase angle A per Fig. 2 below and reset bender per instructions.
	C. Part radius is too small.....	Increase angle A per Fig. 2 below. Another option is to match rocker and anvil to 90°. **No coining.**
3. HOOK 	A. Material is being "trapped" at the tangency (pinch point)...	Reset bender per instructions. Check anvil radius, it may be too small. Call DANLY.
	B. Rocker is too large for the material thickness.....	Refer to catalog page for correct rocker size and set per instructions.
4. EXCESSIVE MARKING 	A. Bender is set too tight.....	Reset bender per instructions.
	B. Material is too thick or too strong for rocker diameter.....	Refer to catalog page for correct rocker size and set per instructions.
	C. Not enough relief on the anvil.	Increase relief angle to 2° - 3° less than angle A of rocker

5. SADDLE IMPRINTING ONTO THE PART



BENDER IS SET MUCH TOO DEEP! STOP! Once the holddown jaw is parallel to the material, ALL adjustments must be in or out. The rocker can be reground to add overbend.
See bender adjustment top of page.



Dotted lines indicate 87° rocker.

DANLY Can Help You

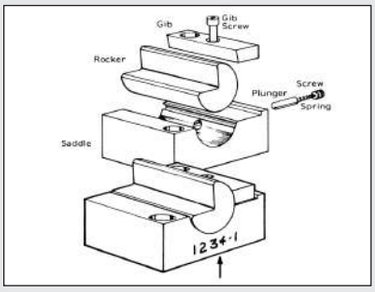
A copy of bender installation instructions are packaged with every bender shipped. We can assist you if you have technical questions or concerns.

Please note, most problems with benders are easy to fix!

- The #1 biggest problem is not enough back taper relief on the anvil or insert that we form material around. Do not assume - please check 85° minimum for all 90° bends (2° to 3° more relief than the rocker's angle A which is 87° standard).
- Too often the bender is improperly located either too close or too far away from the anvil. Check the "K" dimension as per the setting instructions.

Ordering Replacements

keep a back-up unit in the crib!



Bender ID No. for replacement and back-up. Reference this when ordering replacements. To order service kit, state model number or bender ID number followed by "K".

INCH

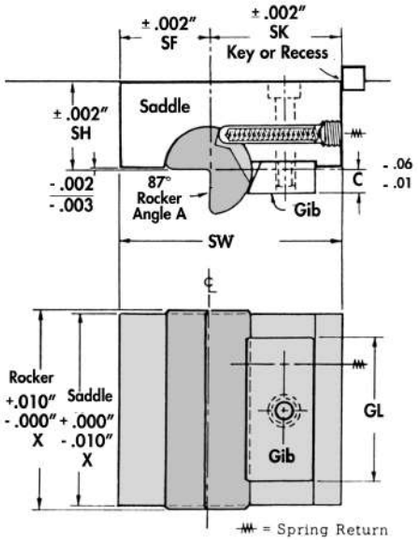
READY Benders®

- Designed to produce up to one million parts, ideal for most stamping dies.
- In stock lengths: 12", 24" and up to 36" long.
- Segment stock lengths to reduce your tooling budget; quick delivery.
- Custom lengths available, specify.

Features:

1. **Rockers:** fully hardened (Rc 56 to 62), T41907 tool steel.
2. **Saddles:** machinable thru hardened steel; mounting holes left for diemaker to locate where needed. See mounting hole patterns on READY High Production Bender - Inch series, pages 16 to 18 for suggestions.
3. Saddle socket is coated for lubrication and long life. Saddle has flush mount lube fittings.
4. Rockers and saddles are CNC ground for precision and interchangeability.
5. Rocker angle is 87° on all standard benders. This allows for 3° of overbend to produce consistent 90° forms in mild steel. Harder steel or larger part radii may require more overbend. Rocker angles can be specified at time of order or altered by the diemaker. See page 10 about oversquare bends.

Standard READY Bender® - Inch



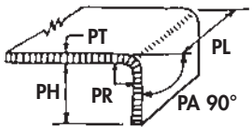
DANLY

READY Benders® - Inch

Benders are now less expensive than wipe tooling.

Selecting Standard Benders:

1. Find the PT you are forming in top row of chart below. Read down (vertically) for all data. Verify the PH check (specials can bend shorter PH's).
2. Note minimum and maximum lengths (X) in chart below. Custom lengths are available. Use in stock lengths whenever possible for quick delivery. Longer lengths achieved by butting units end-to-end, .010" gap between.



PT *= part thickness*
PH *= part height*
PR *= part radius*
PA *= part angle*
PL *= part length*

Standard benders form a 90° bend in mild steel. The PR should roughly equal the PT. If you have questions or need a special quotation, please fax the worksheet on back cover with prints.

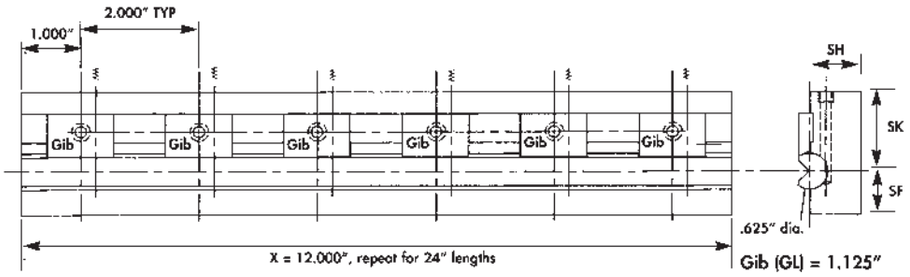
Part Thickness (PT)	.010"-.042"	.043"-.075"	.076"-.120"	.121"-.164"	.165"-.209"	.210"-.250"
Gage Thickness	25 to 19	19 to 14	14 to 11	11 to 8	8 to 5	5 to 1/4"
Part Height Check (PH)	.250"	.390"	.580"	.775"	.970"	1.160"
	To use standard benders, PH should exceed these dimensions. Fax prints for specials.					
In Stock Lengths, X =	12", 24"	12", 24"	12", 24", 36"	12", 24", 36"	12", 24", 36"	12", 24", 36"
Minimum Length (X) (Gib Length - GL)	1.125"	1.500"	2.000"	2.500"	3.000"	3.500"
Maximum Length (X)	24"	24"	36"	36"	36"	36"
MODEL CALLOUT	HIB 62	HIB 100	HIB 150	HIB 200	HIB 250	HIB 300

Rocker Diameter 87° Angle	.625"	1.000"	1.500"	2.000"	2.500"	3.000"
Saddle Width (SW)	2.125"	2.875"	3.875"	4.875"	5.875"	6.875"
Saddle to Front (SF)	.750"	1.125"	1.500"	1.875"	2.250"	2.750"
Saddle to Key (SK)	1.375"	1.750"	2.375"	3.000"	3.625"	4.125"
Saddle Height (SH)	.875"	1.375"	1.875"	2.375"	2.875"	3.375"
Gib Length (GL)	1.125"	1.500"	2.000"	2.500"	3.000"	3.500"
Rocker Dimensions (B)	.212"	.339"	.508"	.678"	.848"	1.017"
(C)	.195"	.312"	.468"	.624"	.780"	.936"
(J)	.242"	.387"	.581"	.774"	.968"	1.161"

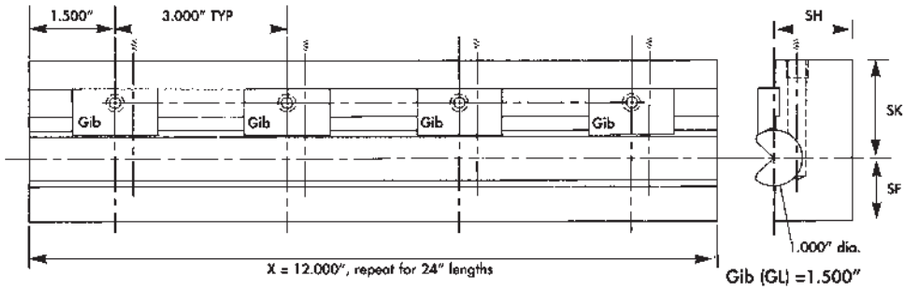
READY Benders®- Inch: in stock lengths 12", 24" and in some styles 36" long.

- *Designed so you can segment to shorter custom lengths.*
- *Minimum segment size is the Gib Length (GL).*
- *Custom lengths available, specify.*

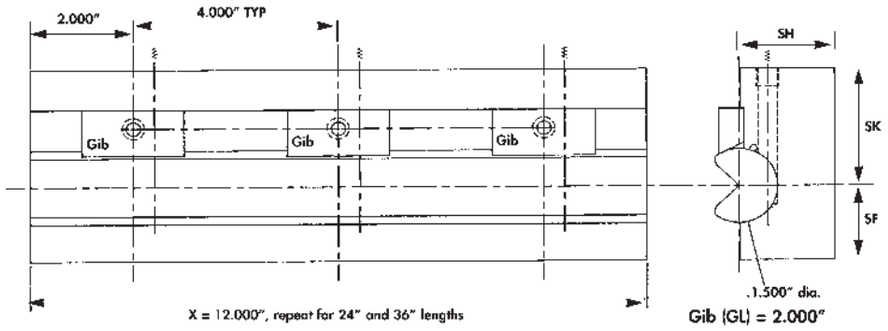
HIB 62: 12" and 24" lengths in stock, 5/8" Diameter Rocker



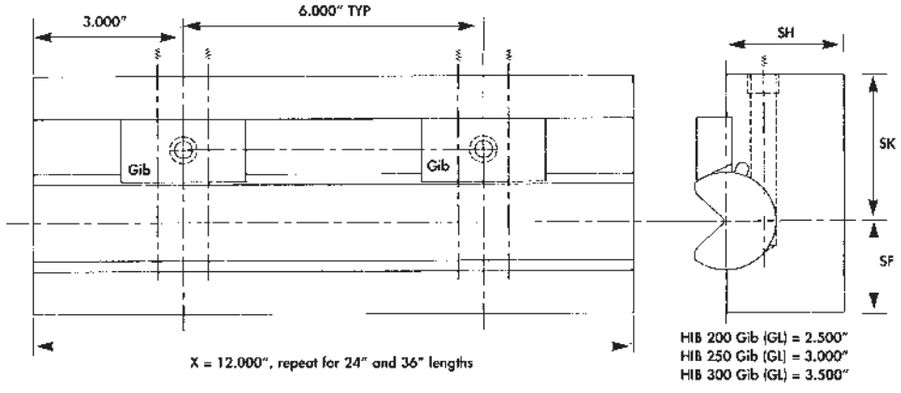
HIB 100: 12" & 24" lengths in stock, 1" Diameter Rocker



HIB 150: 12", 24" & 36" lengths in stock, 1 1/2" Diameter Rocker



HIB 200, 250 and 300: 12", 24" & 36" lengths in stock, 2", 2 1/2" and 3" Diameter Rockers



Length Segmenting:

1. 12" lengths are shown (left). 24" and 36" lengths are a repeating pattern of the 12" length.
2. Minimum segmenting size is the GL (gib length) dimension. Each segment needs a gib to retain rocker. Spring returns are marked by ⧛ and are under gibs.

How to Segment:

1. Remove rocker by taking out set screw/lube fitting. Rotate rocker to remove the spring return plunger mechanism and rocker.
2. Rocker is fully hardened (Rc 56-62). Cut with wire machine or best way to precise length/size.
3. Saddle is machinable. Cut with wire machine or best way to precise length.
4. CAUTION: Thoroughly de-burr and clean saddle and rocker. Make sure no chips or dirt remain in saddle/rocker spring return pockets before reassembly.
5. Reassemble and check to make sure rocker returns easily when rotated.

DANLY Can Segment:

1. You must purchase the entire 12", 24" or 36" length and specify the segment dimensions. The remaining pieces are shipped with the tooling unless specified otherwise. No rebates on unused pieces.
2. Cost per precision cut:

   HIB 62, 100: $50.00, Euro, per cut

   All larger: $65.00, Euro, per cut

Order Example:

H I B	100	X = 24"
READY Model Callout	Rocker Diameter 1 "	Specify Length of Bender

⧛ = spring return

GL = gib length

Flush mount lube fittings at end of spring return.

INCH

READY High Production Benders

- Use when production exceeds a million parts, ideal for most stamping dies.
- In stock lengths, see page 17. Now available up to 36" long.
- For custom lengths, see page 18.

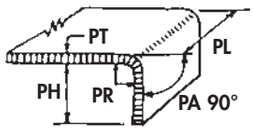
DANLY

READY High Production Benders – Inch

Our highest production bender - now available up to 36"

Selecting Standard Benders:

1. Find the PT you are forming in top row of chart below. Read down (vertically) for all data. Verify the PH check (specials can bend shorter PH's).
2. Note minimum and maximum lengths (X) in chart below. Custom lengths are available. Use in stock lengths whenever possible for quick delivery. Longer lengths achieved by butting units end-to-end, .010" gap between.



PT = part thickness
PH = part height
PR = part radius
PA = part angle
PL = part length

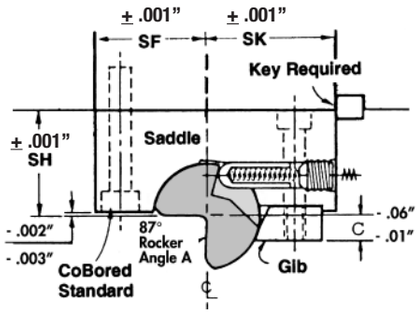
Standard benders form a 90° bend in mild steel. The PR should roughly equal the PT. If you have questions or need a special quotation, please fax the worksheet on back cover with prints.

Features:

1. **Rockers:** fully hardened (Rc 56 to 62), T41907 tool steel.
2. **Saddles:** fully hardened,(Rc 48 to 52) T30102 tool steel. Counterbored mounting holes per patterns on pages 17 and 18. Flush mount lube fittings.
3. Rockers and saddles are CNC ground for precision and interchangeability.
4. Rocker angle is 87° on all standard benders. This allows for 3° of overbend to produce consistent 90° forms in mild steel. Harder steel or larger part radii may require more overbend. Rocker angles can be specified at time of order or altered by the diemaker. See page 10 about oversquare bends.

Part Thickness (PT)	.010"-.042"	.043"-075"	.076"-.120"	.121"-.164"	.165"-.209"	.210"-.250"
Gage Thickness	25 to 19	19 to 14	14 to 11	11 to 8	8 to 5	5 to 1/4"
Part Height Check (PH)	.250"	.390"	.580"	.775"	.970"	1.160"
	To use standard benders, PH should exceed these dimensions. Fax prints for specials.					
In Stock Lengths, X = (see page 7)	1.125" 3.500" 6.000"	1.500" 4.000" 6.000" 9.000"	2.000" 5.000" 8.000"	2.500" 7.000"	3.000" 7.000"	3.500" 6.000"
Minimum Length (X) (Gib Length - GL)	1.125"	1.500"	2.000"	2.500"	3.000"	3.500"
Maximum Length X	24"	24"	36"	36"	36"	36"
MODEL CALLOUT	REC 62	REC 100	REC 150	REC 200	REC 250	REC 300

Standard READY High Production Bender



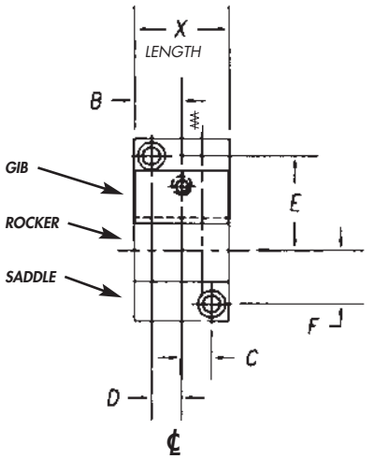
Rocker Diameter (87° Angle)	.625"	1.000"	1.500"	2.000"	2.500"	3.000"
Saddle Width (SW)	2.125"	2.875"	3.875"	4.875"	5.875"	6.875"
Saddle to Front (SF)	.750"	1.125"	1.500"	1.875"	2.250"	2.750"
Saddle to Key (SK)	1.375"	1.750"	2.375"	3.000"	3.625"	4.125"
Saddle Height (SH)	.875"	1.375"	1.875"	2.375"	2.875"	3.375"
Gib Length (GL)	1.125"	1.500"	2.000"	2.500"	3.000"	3.500"
Rocker Dimensions (B)	.212"	.339"	.508"	.678"	.848"	1.017"
(C)	.195"	.312"	.468"	.624"	.780"	.936"
(J)	.242"	.387"	.581"	.774"	.968"	1.161"

- Tapped mounting holes available as specials.
- For metric mounting holes, see READY High Production Benders - Metric, pages 6 to 8.

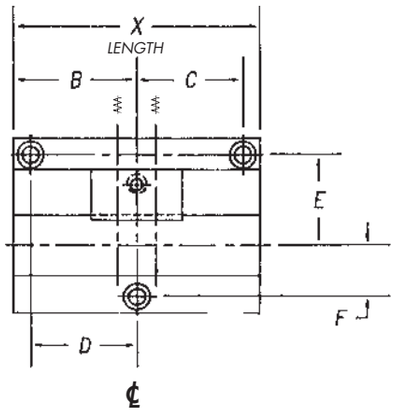
READY High Production Benders – Inch: in stock lengths

- *Our highest production bender.*
- *Custom lengths up to 24" or 36" long available, see page 18.*

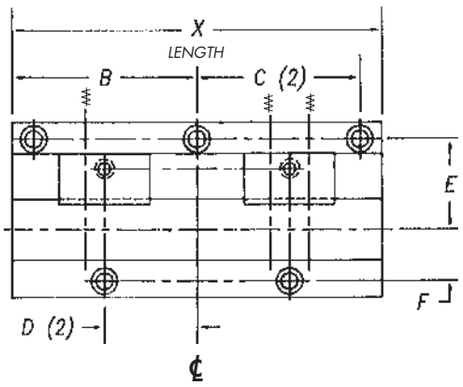
STYLE AA



STYLE BB



STYLES CC & DD



Mounting Hole Locations

Hole patterns can be used by diemakers for similar length benders that do not come with mounting holes.

Model Callout	Length Style	X Length	B	C	D	E	F	SHCS size
RMC 62	AA	28.58	14.29	9.00	9.00	30.00	14.00	M4
	CC	88.90	44.45	38.46	22.23	30.00	14.00	M4
	DD	152.40	76.20	70.21	38.10	30.00	14.00	M4
RMC 100	AA	38.10	19.05	12.00	12.00	37.50	21.50	M6
	BB	101.60	50.80	44.25	44.25	37.50	21.50	M6
	CC	152.40	76.20	67.18	38.10	37.50	21.50	M6
	DD	228.60	114.30	105.31	57.15	37.50	21.50	M6
RMC 150	AA	50.80	25.40	17.00	17.00	50.00	30.00	M8
	BB	127.00	63.50	51.51	51.51	50.00	30.00	M8
	CC	203.20	101.60	86.59	50.80	50.00	30.00	M8
RMC 200	AA	63.50	31.750	21.50	21.50	65.00	37.50	M10
	BB	177.80	88.90	73.89	73.89	65.00	37.50	M10
RMC 250	AA	76.20	38.10	25.00	25.00	79.00	44.00	M12
	BB	177.80	88.90	70.89	70.89	79.00	44.00	M12
RMC 300	AA	88.90	44.45	32.50	32.50	92.50	57.00	M12
	BB	152.40	76.20	58.19	58.19	92.50	57.00	M12

Tolerances Held
X = saddle length
+.000"/ –.010"

X = rocker length
+.010"/ –.000"

Screw locations
held ± .005"

Order Example:

REC	100	X = DD
READY Model Callout	Rocker Diameter 1 "	Specify Length of Bender

INCH **READY High Production Benders**

- DANLY'S CNC grinding technology delivers custom lengths up to 36" long at attractive prices.
- Longer lengths achieved by butting two or more units end-to-end, .010" gap.

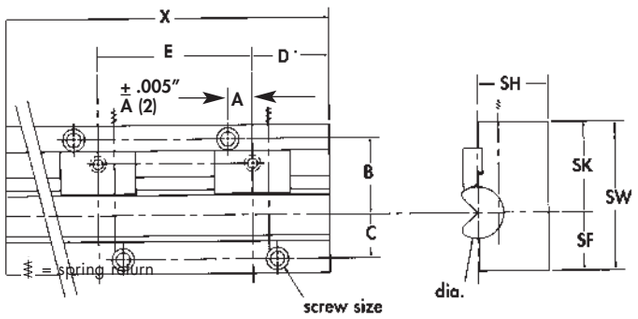
DANLY

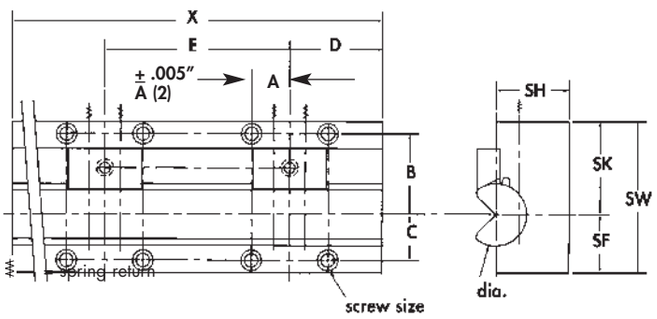
READY High Production Benders - Inch: Custom Lengths

- *Now available up to 36" long.*
- *Specify your desired length (X) and DANLY will deliver.*

REC 200, 250 and 300 Repeating Hole Patterns

(for 2", 2 1/2", and 3" Diameter Rockers)





Minimum/Maximum Lengths:

1. Charts and drawings showing hole locations start at nominal lengths. Custom lengths start very short, at catalog Gib Length (GL) dimensions.
2. Mounting hole patterns for shorter, custom lengths are available upon request by application.

REC 62	Minimum 1.125" (GL) Maximum 24"
REC 100	Minimum1.500" (GL) Maximum 24"
REC 150	Minimum 2.000" (GL) Maximum 36"
REC 200	Minimum2.500" (GL) Maximum 36"
REC 250	Minimum3.000" (GL) Maximum 36"
REC 300	Minimum3.500" (GL) Maximum 36"

3. Standard in stock lengths of READY High Production Benders - Inch are cataloged on page 17. These ship fast and cost less. The READY Bender® - Inch, pages 14 and 15, is available in custom lengths and can further reduce your tooling budget.

NOTE:

- Counterbored holes standard, tapped available as specials.
- READY High Production Benders - Metric, pages 6 to 8, is the same product only with metric holes.

Model and Rocker Diameter	"X" Length	A	B	C	D	E	SHCS size
REC 62 5/8" dia.	lengths 6 - 12"	.354"	1.181"	.551"	"X" ÷ 8	"X" ÷ 4	#10
REC 100 1" dia.		.472"	1.476"	.846"	"X" ÷ 8	"X" ÷ 4	1/4
REC 150 1 1/2" dia.		.669"	1.969"	1.181"	"X" ÷ 6	"X" ÷ 3	5/16
REC 62 5/8" dia.	lengths 12.5 - 24"	.354"	1.181"	.551"	"X" ÷ 12	"X" ÷ 6	#10
REC 100 1" dia.		.472"	1.476"	.846"	"X" ÷ 12	"X" ÷ 6	1/4
REC 150 1 1/2" dia.		.669"	1.969"	1.181"	"X" ÷ 10	"X" ÷ 5	5/16
REC 62 5/8" dia.	lengths 24.5 - 36"	.354"	1.181"	.551"	"X" ÷ 16	"X" ÷ 8	#10
REC 100 1" dia.		.472"	1.476"	.846"	"X" ÷ 16	"X" ÷ 8	1/4
REC 150 1 1/2" dia.		.669"	1.969"	1.181"	"X" ÷ 14	"X" ÷ 7	5/16
REC 200 2" dia.	lengths 8 - 12"	1.240"	2.598"	1.476"	"X" ÷ 4	"X" ÷ 2	3/8
REC 250 2 1/2" dia.		1.378"	3.110"	1.732"			1/2
REC 300 3" dia.		1.575"	3.642"	2.244"			1/2
REC 200 2" dia.	lengths 12.5 - 24"	1.240"	2.598"	1.476"	"X" ÷ 6	"X" ÷ 3	3/8
REC 250 2 1/2" dia.		1.378"	3.110"	1.732"			1/2
REC 300 3" dia.		1.575"	3.642"	2.244"			1/2
REC 200 2" dia.	lengths 24.5 - 36"	1.240"	2.598"	1.476"	"X" ÷ 10	"X" ÷ 5	3/8
REC 250 2 1/2" dia.		1.378"	3.110"	1.732"			1/2
REC 300 3" dia.		1.575"	3.642"	2.244"			1/2

Our Test-Bending Service Takes the Guesswork Away

For a modest fee, we'll test-bend your material using our benders. This test is ideal for evaluating compatibility with pre-painted metals, checking for cutout distortion and determining the spring-back characteristics with your material.

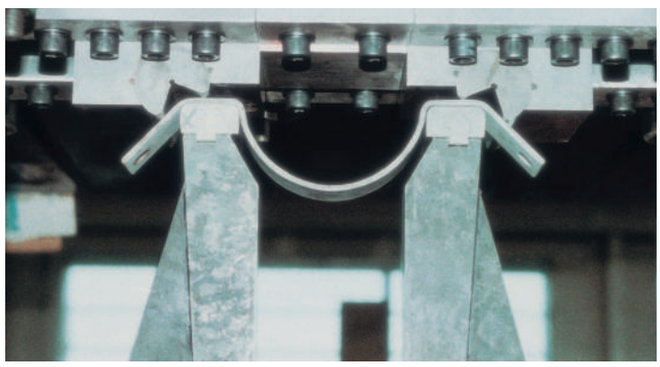
READY Technology will test-bend your material (between .254 mm and 6.350 mm) using our standard 87° rocker and 3° overbend.

Tell us the goal of the test bending and we will structure a test to give you answers. Send ten pieces of your material, 101.6 mm x 305 mm (max. length). A report and three pieces will be returned to you.

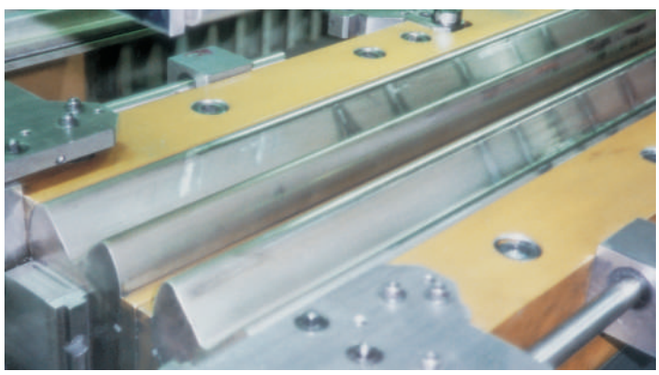
Special test-bends are available but may be expensive due to the special tooling required, averaging $300.00, Euro, each and several weeks for tooling.

We can now test bend "The Hemmer" to flatten 90° bends to 180°; see page 11.

Forming 15.875 mm thick high strength steel pipe hangers for naval ships.

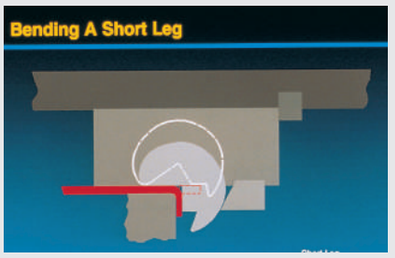


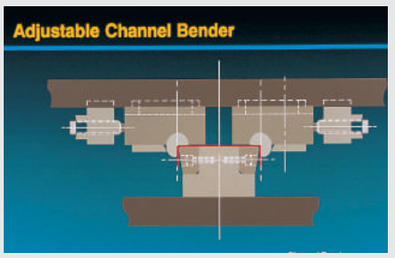
Form high strength channels with less force and increased consistency.

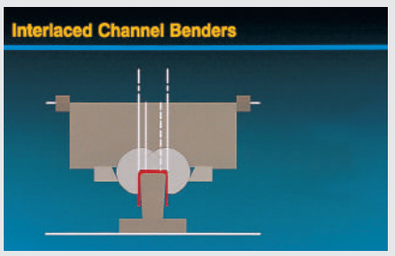


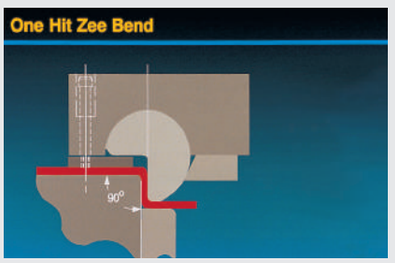
READY Benders® are ideal for a wide range of stamping dies.

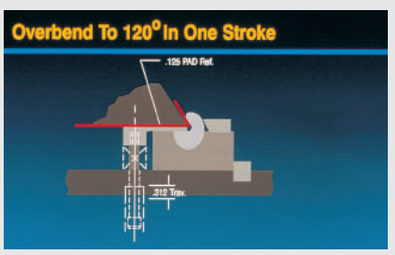
Applications, Test Bending

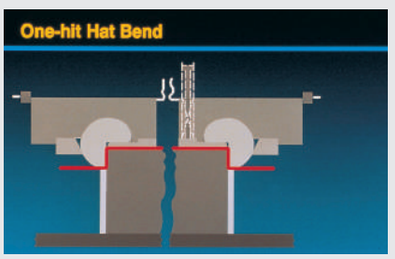


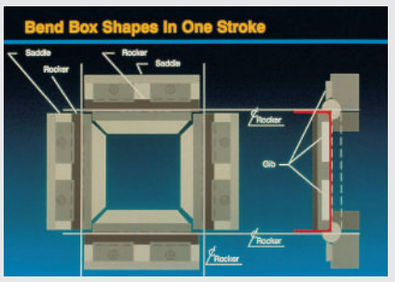












DANLY

Selecting the right Bender is as easy as 1...2...3
Fax us this worksheet for FAST QUOTES

Quote Reference #

Date

Distributor

1 Company: _____

Contact Name: _____ Title: _____

Address: _____

_____ Postcode: _____

Telephone: _____ Fax: _____

Other Contacts: _____

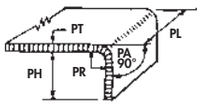
2 Please describe your application

This will be formed in (please check)

❑ Stamping Die ❑ Automated Machine ❑ Press Brake, tonnage of press brake _____

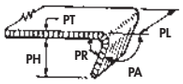
Here are some of the most popular applications:

Square Bend CB1



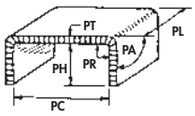
90° Bend

Over Square CB3



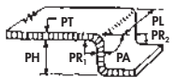
Form 120° In One Hit

Channel Bend CB7



Even Narrow Channels

Zee Bend CB5



Form Offsets In One Hit

Annual production _____

Type of material formed _____

Tensile strength _____

CB = **C**lassified **B**end # _____

PT = **P**art Material **T**hickness _____

PL = **P**art **L**ength (bent leg) _____

PA = **P**art **A**ngle (degrees of bend) _____

PH = **P**art **H**eight (bent leg) _____

PR = **P**art **R**adius _____

PC = **P**art **C**hannel (inside) _____

Are tool marks* on part acceptable? _____

We specialize in forming even prepaint without tool marks.

Notes

3 Please Quote:

Stamping Dies

❑ Danly makes determination
❑ READY Bender® - Inch
❑ READY High Production Bender - Inch
❑ READY Bender® - Metric
❑ READY High Production Bender - Metric
❑ Compact Benders

Press Brake Tooling

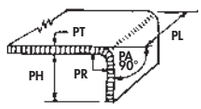
❑ Rotary Bender Press Brake Tools
❑ Conventional Vee Die Brake Tools
❑ Special Brake Tooling per print

QM S ISO 9001 REGISTERED FIRM

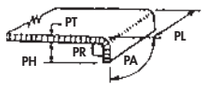
DANLY UK LIMITED
Unit 1, Mucklow Hill 1 Trading Estate, Mucklow Hill,
Halesowen, West Midlands, B62 8DF
Tel: 0121 585 7171 Fax: 0121 585 7272 E-mail: sales@danlyuk.com

Classified Bends (CB)

Square Bend CB1

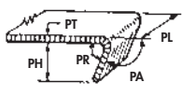


Short Leg CB2

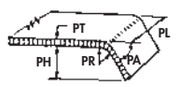


Over Square CB3

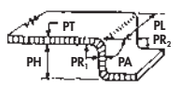
prehem



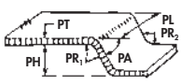
Under Square CB4



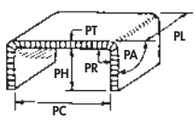
Zee Bend CB5



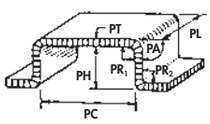
Open Zee CB6



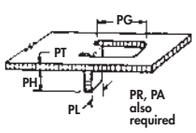
Channel Bend CB7



Hat Bend CB8

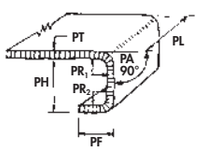


Gutted Bend CB11

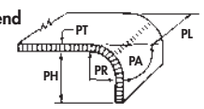


Return Bend CB12

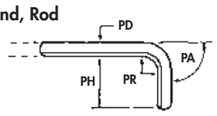
Two hits required



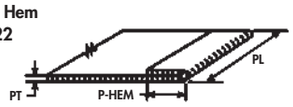
Large Radius Bend CB13



Square Bend, Rod CB21



Full Hem CB22



Two hits required