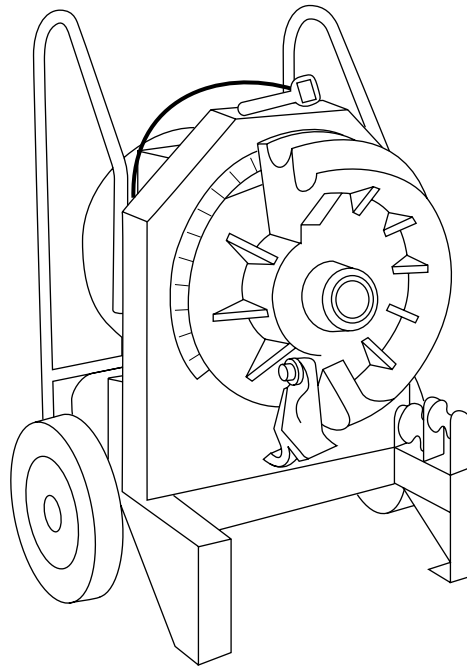


# INSTRUCTION MANUAL



## 555 Electric Bender

1/2" thru 2" Rigid and Thin-Wall EMT Conduit  
1-1/2" and 2" IMC Conduit

**Serial Numbers PL-32216-PGJ and up**



**Read and understand** all of the instructions and safety information in this manual before operating or servicing this tool.

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## Description

The 555 Electric Bender Power Unit is designed for use with 1/2 through 2" rigid, 1/2 through 2" EMT and 1-1/2 through 2" IMC bending attachment groups. No modification to the 555 power unit is required to accommodate these groups. Bending shoes and roller support units can be attached and removed from the 555 power unit without the use of tools.

- 555** Electric bender power unit only *without shoes and rollers.*
- 555 R** Electric bender with shoes and rollers for 1/2 through 2" rigid conduit and pipe
- 555 E** Electric bender with shoes and rollers for 1/2 through 2" EMT conduit.
- 555 I** Electric bender with shoes and rollers for 1-1/2 through 2" IMC conduit.

## Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

## Purpose

This instruction manual is intended to familiarize personnel with the safe operation and maintenance procedures for the following Greenlee Tool:

555 Electric Bender

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge.

All specifications are nominal and may change as design improvements occur. Greenlee Textron shall not be liable for damages resulting from misapplication or misuse of its products.

***KEEP THIS MANUAL***

## IMPORTANT SAFETY INFORMATION



### SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

#### **⚠ DANGER**

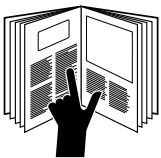
Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

#### **⚠ WARNING**

Hazards which, if not avoided, **COULD** result in severe injury or death.

#### **⚠ CAUTION**

Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.



#### **⚠ DANGER**

Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

Failure to observe this warning will result in severe injury or death.



#### **⚠ DANGER**

Do not use this tool in a hazardous environment. Hazards include flammable liquids, gases, or other materials. Using this tool in a hazardous environment can result in a fire or explosion.

Failure to observe this warning will result in severe injury or death.

#### **⚠ WARNING**



Electric shock hazard:

- Connect the power cord to a 15 amp receptacle on a ground fault protected circuit only. See Grounding Instructions.
- Do not modify the power cord or plug.
- Inspect the power cord before use. Repair or replace the cord if damaged.
- Disconnect from power before servicing.

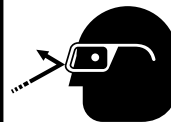
Failure to observe this warning can result in severe injury or death.



#### **⚠ WARNING**

- Do not expose to rain.
- Do not use in wet or damp locations.

Failure to observe these warnings can result in severe injury or death.



#### **⚠ WARNING**

Wear eye protection when operating or servicing this tool.

Failure to wear eye protection can result in serious eye injury from flying debris.





#### **⚠ WARNING**

Do not remove guards.


Failure to observe this warning can result in severe injury or death.

## IMPORTANT SAFETY INFORMATION

	<p><b>⚠ WARNING</b></p>
	<p>Extension cords:</p> <ul style="list-style-type: none"> <li>• Use only three-wire, 12-gauge extension cords that have three-prong grounding-type plugs and three-hole receptacles that accept the tool's plug.</li> <li>• Do not use extension cords that are longer than 30 m (100').</li> <li>• Repair or replace damaged extension cords.</li> </ul> <p>Failure to observe these warnings can result in severe injury or death.</p>

	<p><b>⚠ WARNING</b></p>
	<p>Pinch points:</p> <p>Keep hands away from bending shoe, rollers and conduit when bender is in use.</p> <p>Failure to observe this warning can result in severe injury or death.</p>


<p><b>⚠ WARNING</b></p>
<p>Unplug the bender before changing accessories. Accidental start-up can result in serious injury.</p>

	<p><b>⚠ CAUTION</b></p>
	<p>Do not use as a step or ladder.</p>

<p><b>⚠ CAUTION</b></p>
<ul style="list-style-type: none"> <li>• Conduit moves rapidly as it is bent. The path of the conduit must be clear of obstructions. Be sure clearance is adequate before starting the bend.</li> <li>• Do not operate the bender while wearing loose clothing. Loose clothing can get caught in moving parts.</li> <li>• Inspect the bender before use. Replace worn, damaged or missing parts with Greenlee replacement parts. A damaged or improperly assembled component could break and strike nearby personnel.</li> <li>• Some bender parts and accessories are heavy and may require more than one person to lift and assemble.</li> <li>• Use this tool for the manufacturer's intended purpose only. Use other than that which is instructed in this manual can result in injury or property damage.</li> </ul> <p>Failure to observe these precautions can result in injury or property damage.</p>

*Note: Keep all decals clean and legible, and replace when necessary*

## Grounding Instructions

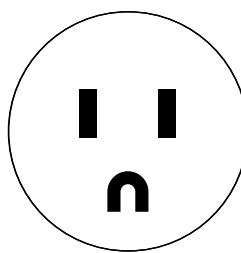
	<b>⚠ WARNING</b>
	<p>Electric shock hazard:</p> <ul style="list-style-type: none"><li>• Do not modify the plug provided with the tool.</li><li>• Connect this tool to a grounded receptacle on a 15 amp GFCI-protected circuit.</li></ul> <p>Failure to observe these warnings can result in severe injury or death.</p>

This tool must be grounded. In the event of a malfunction or breakdown, an electrical ground provides a path of least resistance for the electric current. This path of least resistance is intended to reduce the risk of electric shock.

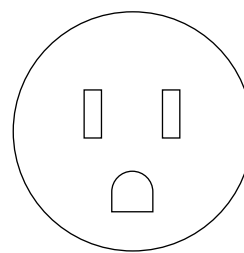
This tool's electric cord has a grounding conductor and a grounding plug as shown. Do not modify the plug. Connect the plug to a corresponding GFCI-protected receptacle that is properly installed and grounded in accordance with all national and local codes and ordinances.

Do not use an adapter.

### 120-Volt Plug and Receptacle

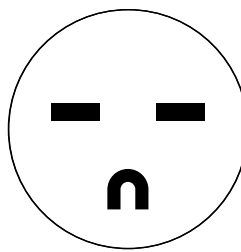


Plug

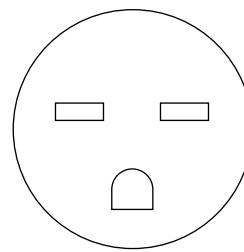


Receptacle

### 230-Volt Plug and Receptacle

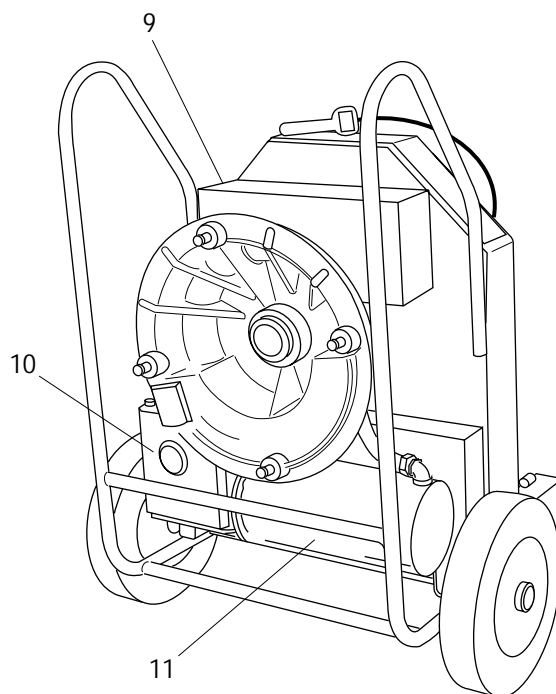
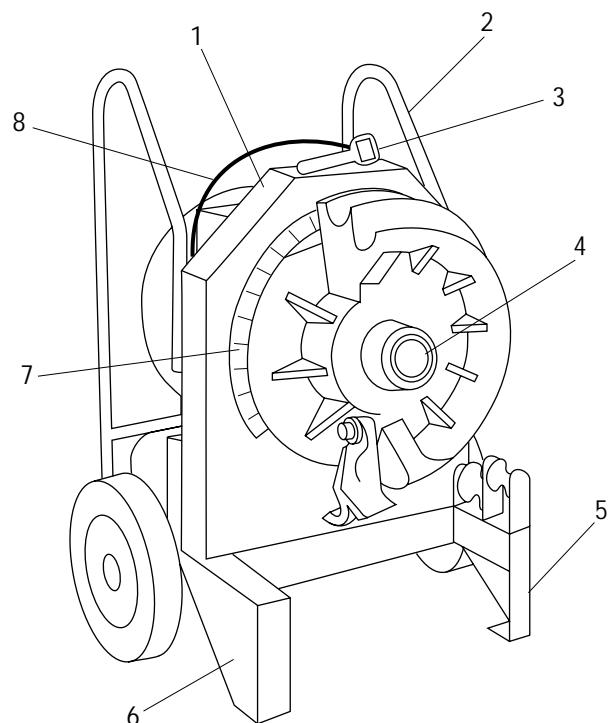


Plug



Receptacle

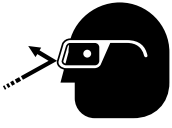
## Identification



### 555 Electric Bender Power Unit

- |                         |                           |
|-------------------------|---------------------------|
| 1. Bending Instructions | 7. Degreed Protractor     |
| 2. Handles              | 8. Control Switch Cord    |
| 3. Control Switch       | 9. Electrical Control Box |
| 4. Main Shaft           | 10. Gear Reductor         |
| 5. Right-hand Leg       | 11. Drive Motor           |
| 6. Left-hand Leg        |                           |

## Setup

	<p><b>⚠ WARNING</b></p> <p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection can result in serious eye injury from flying debris.</p>
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<p><b>⚠ WARNING</b></p>
<p>Unplug the bender before changing accessories. Accidental start-up can result in serious injury.</p>

### Mounting Bending Shoes

Choose desired shoe size (Rigid; IMC; EMT) and slide it onto the main shaft as in Fig.1.

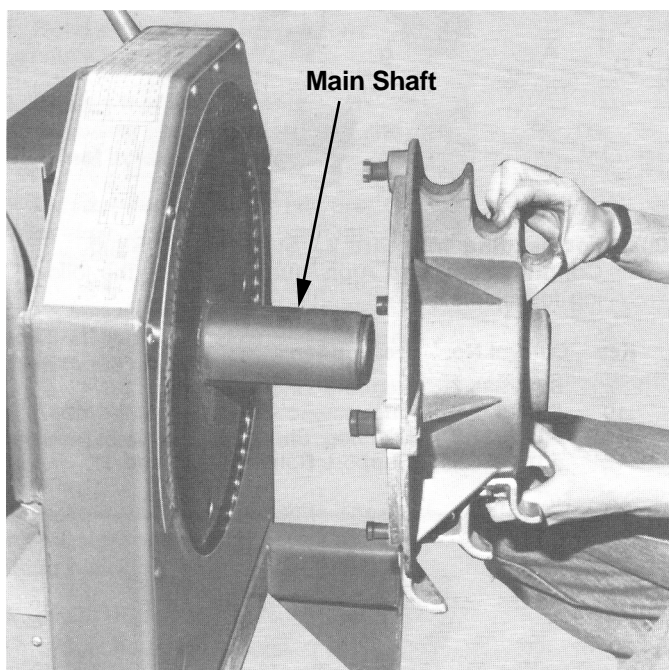


Figure 1

Next, align the four drive studs on the back side of shoe (Fig. 2) with the 4 holes in the main drive sprocket. Push the shoe onto the main drive sprocket.

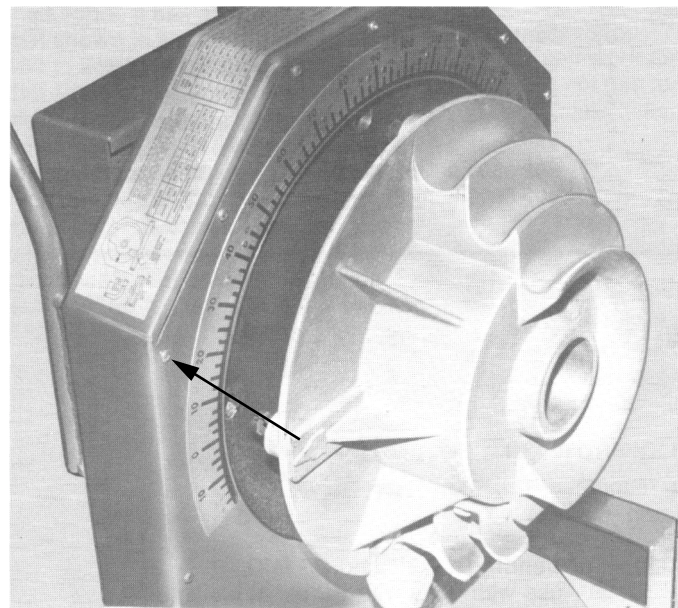


Figure 2

### Mounting Support Roller and Support Units

Choose desired support roller or support unit and corresponding shoe size (Rigid; IMC, EMT).

Mount the support roller or support unit on the right leg of the bender as you face the unit. Secure the support roller or unit with the quick release hinge pin (see Fig. 3).

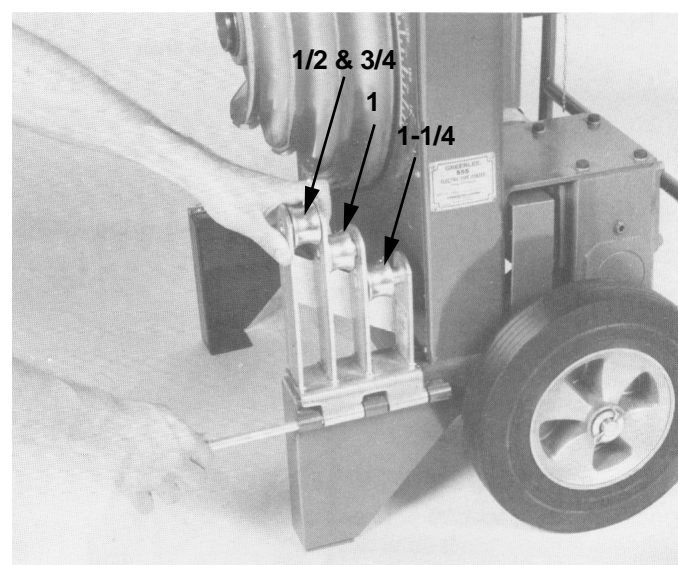
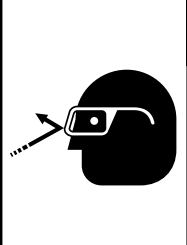
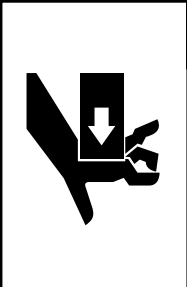


Figure 3

## Bending Instructions

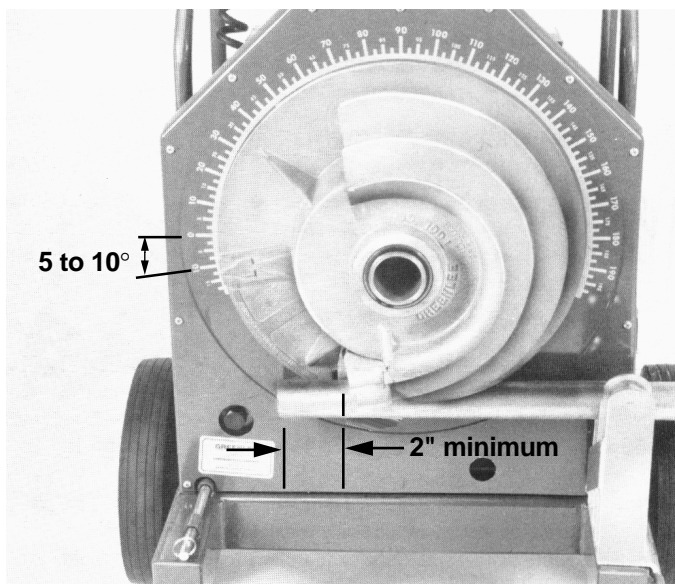
	<p><b>⚠ WARNING</b></p> <p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection can result in serious eye injury from flying debris.</p>
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	<p><b>⚠ WARNING</b></p> <p>Pinch points:</p> <p>Keep hands away from bending shoe, rollers and conduit when bender is in use.</p> <p>Failure to observe this warning can result in severe injury or death.</p>
--	--

<p><b>⚠ WARNING</b></p> <p>Do not operate the bender while wearing loose clothing. Loose clothing can get caught in moving parts.</p> <p>Failure to observe this warning can result in severe injury or death.</p>
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### 1/2" - 2" Rigid Conduit, Schedule 40 Pipe and 1/2" - 1-1/4" EMT

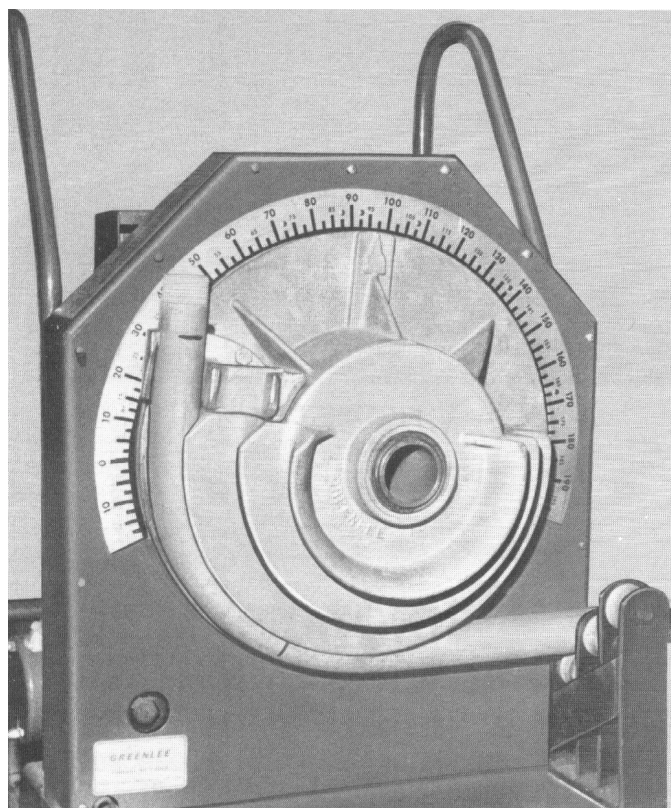
Refer to Setup for mounting selected shoe and support unit. Mark pipe to desired stub-up length. Note 2" min. dimension is required as shown in Fig. 4. Other stub-up



**Figure 4**

dimensions can be found in charts on pages 16-25 of this manual or on the bender decals. At this point, make sure the shoe is rotated to 5° to 10° before the 0° setting. After marking the pipe or conduit, place it into the bender unit as shown in Fig. 4. This requires sliding the pipe or conduit over the correct size support unit through the shoe groove and into the hook. Position Mark 2 at front edge of hook (see Fig. 4).

Push the control switch to the BEND position; when the pointer on the shoe reaches the required bend angle (Chart B), release the control switch and the bender will stop (see Fig. 5). Due to springback in pipe/conduit some overbending is necessary to accomplish desired bend angle. For this reason Chart B and/or decal on bender show the required pointer position for desired bend angle.

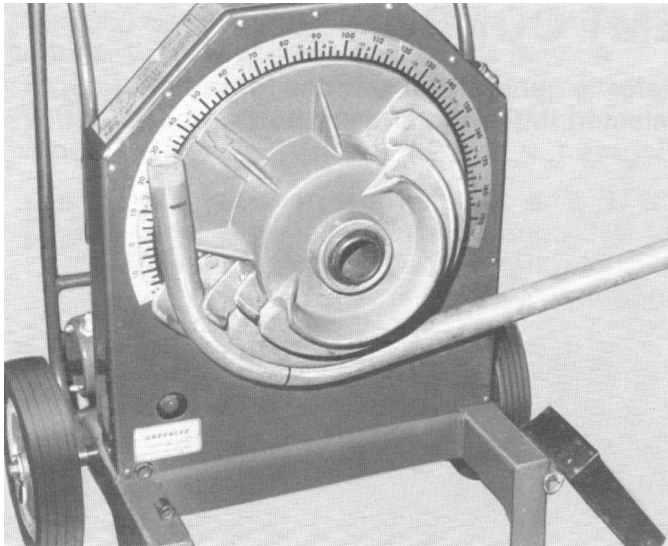


**Figure 5**

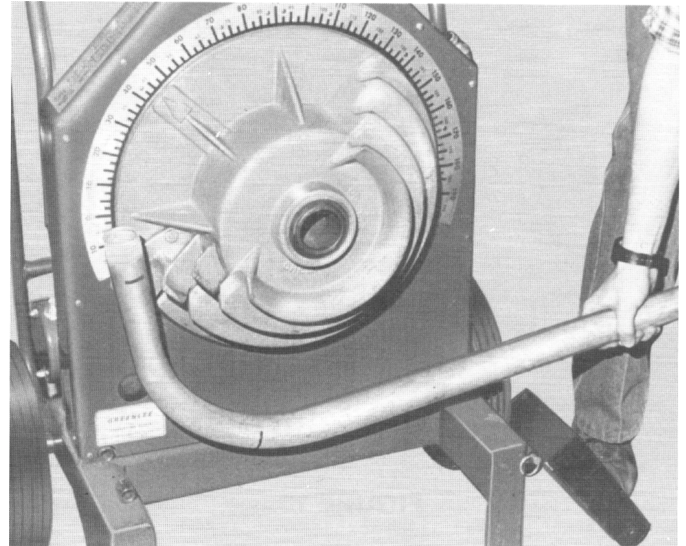
To release the pipe or conduit push the control switch to the UNLOAD position. Allow shoe to rotate, drop the unit support (see Fig. 6) and remove conduit (see Figs. 7 & 8).

## Bending Instructions (cont'd)

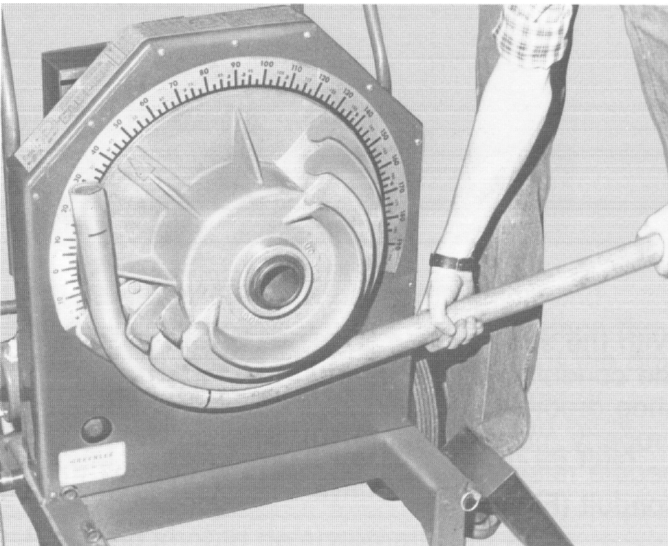
1/2" - 2" Rigid Conduit, Schedule 40 Pipe  
and 1/2" - 1-1/4" EMT (cont'd)



**Figure 6**



**Figure 8**



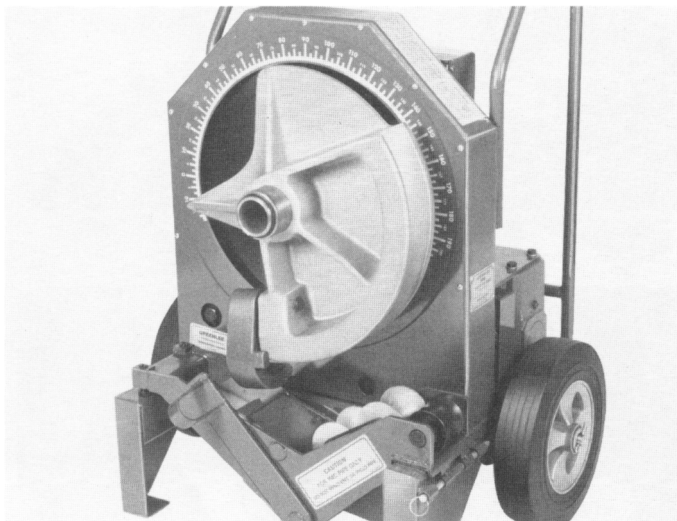
**Figure 7**

## Bending Instructions (cont'd)

### 1-1/2" and 2" IMC and EMT Conduits

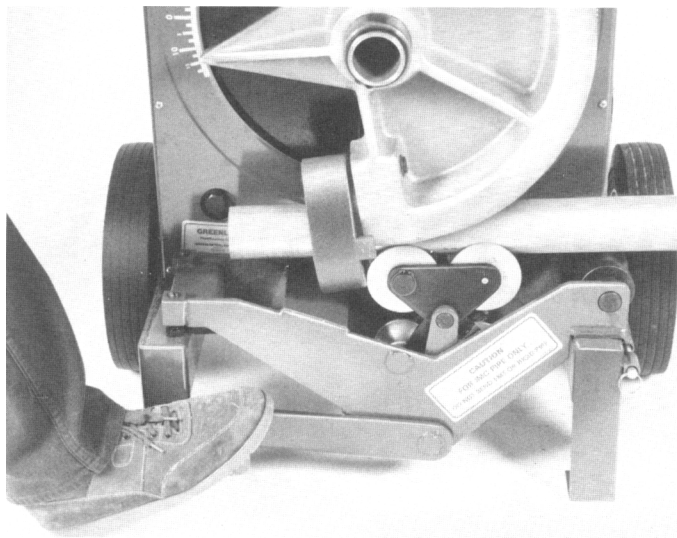
Refer to Setup for mounting selected IMC shoe and support unit (see Figs. 1,2,3 & 9).

*Note: The outside roller on the support unit for IMC conduit has a metal roller while the outside roller on the support unit for EMT conduit has a urethane roller.*



**Figure 9**

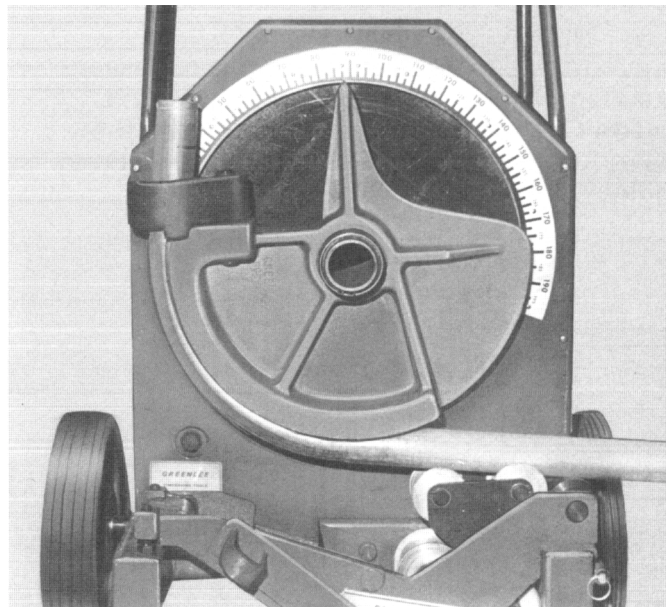
With the shoe rotated 5° to 10° before 0° slide the conduit over the support rollers, through the shoe groove and hook, after conduit has been properly marked (Fig. 10). Step on the loading peddle, raising the proper rollers to contact the conduit (Fig. 10).



**Figure 10**

Keeping foot on loading peddle, push control switch to the BEND position. Conduit will then pull support rollers assembly against stop. At that time foot pressure should be removed from loading peddle. Keep control switch in BEND position until the pointer on shoe reaches desired bend.

To release the conduit, push the control switch to the unload position. Allow shoe to rotate, dropping support rollers, then remove conduit (Fig. 11), and examine the bend. If wrinkling or if excessive side marking is present, see the squeeze adjustment procedure.



**Figure 11**

## Squeeze Adjustment

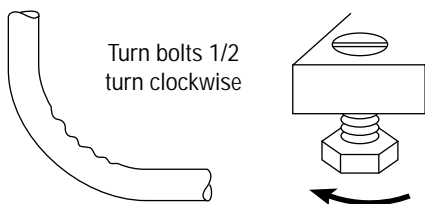
Variation in conduit can result in wrinkling or side marking of 1-1/2" and 2" EMT or IMC. This bender is equipped with a unique Squeeze Adjustment feature which enables you to increase or decrease the bending pressure in order to make a quality bend.



## Wrinkling of 1-1/2" - 2" EMT & IMC

If wrinkling occurs, **INCREASE SQUEEZE** by loosening set screws and turning both adjusting bolts 1/2 turn clockwise. Tighten set screws and make a test bend. If wrinkling continues, repeat procedure.

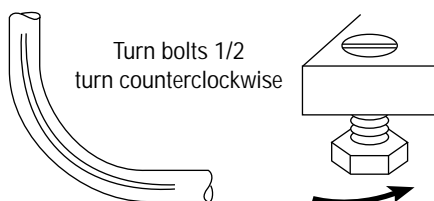
*Note: Both adjusting bolts must contact bender frame.*



## Side Marking of 1-1/2" - 2" EMT & IMC

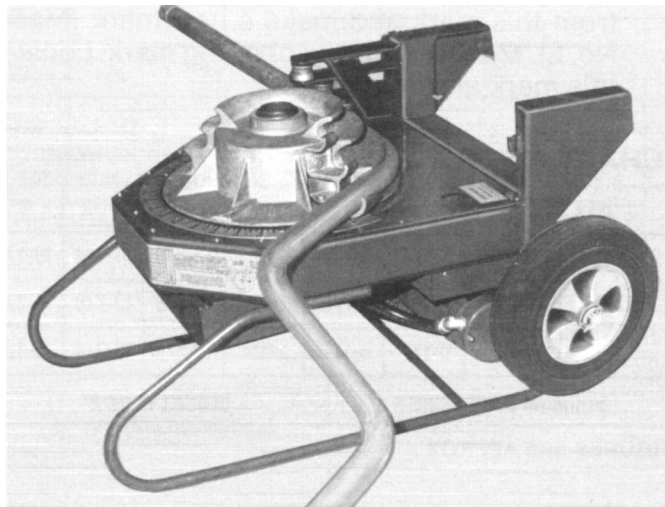
If you have difficulty loading IMC or EMT or if excessive side marking occurs, **REDUCE SQUEEZE** by loosening set screws and turning both adjusting bolts 1/2 turn counterclockwise. Tighten set screws and make a test bend. If problem continues, repeat procedure.

*Note: Both adjusting bolts must contact bender frame.*



## Special Application

The 555 bender may be placed flat for special applications where unusual bends may be required. The unit is operable in this position with the same efficiency as in the upright mode.



## Maintenance

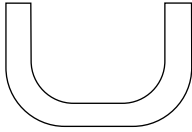
There is no need for periodic flushing and replacing of lube in bender gearbox since it is sealed and locked tight. However, if the box is opened for repair and the lube is lost or contaminated by dirt, then the box and parts should be flushed out and filled with 26 fluid ounces of Mobil 634 synthetic oil.

Flushing should be accomplished with kerosene. This is a petroleum hydrocarbon which will not affect seals.

Aromatic hydrocarbons such as benzene, chlorinated solvents such as "carbon tetrachloride" and ketones such as "acetone" should never be used for flushing as they are solvents for rubber.

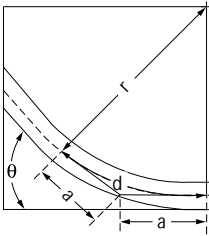
**For chain adjustment procedure see page 15.**

## Illustrated Bending Glossary



**back-to-back bend** — any U-shaped bend formed by two parallel 90° bends with a straight section of conduit or pipe between the bends.

**center-to-center distance** — the distance between the successive bends that make up an offset or a three-bend saddle.



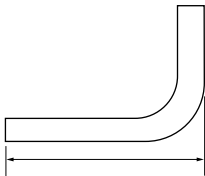
**developed length** — the actual length of pipe that will be bent; see distance “d” in the illustration at left.

**gain** — the difference between the straight-line distance ( $a + a$ ) and the shorter radial distance, ( $d$ ) where:

$\theta$  = angle of bend

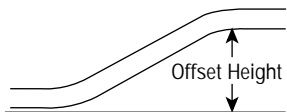
$r$  = the centerline bending radius of the bending shoe

**kick** — single bend of less than 90°

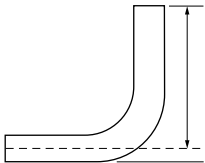


**leg length** — the distance from the end of a straight section of conduit or pipe to the bend; measured from the end to the outside edge of the conduit or pipe.

**offset bend** — two opposite bends with the same degree of bend; used to avoid an obstruction.



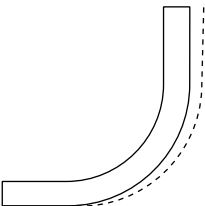
**offset height** — the distance between the two legs of an offset bend, measured perpendicular to the two legs; also called amount of offset and depth of offset.



**rise** — the distance from the end of a straight section of conduit or pipe to the bend; measured from the end to the center line of the conduit or pipe. Also called stub or stub-up.

**saddle** — a three-bend or four-bend combination; used to avoid an obstruction.

**shrink** — the amount of conduit “lost” when laying out an offset bend working toward an obstruction; see the explanation under Offset Bending in this manual.



**springback** — the amount, measured in degrees, that a conduit or pipe tends to straighten after being bent.

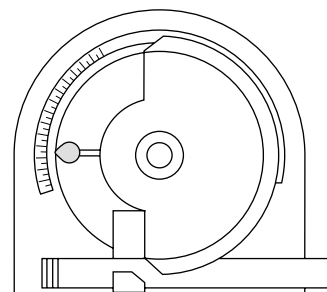
## To Locate Bending Marks / 90° Stub

1. Check Chart A for minimum stub length. (Mark to be equal or greater than minimum dimension shown.)
2. Measure and mark desired stub length on conduit (Mark 1). Subtract "DEDUCT" from this mark and make a new mark (Mark 2). Mark 2 is the bending mark. Locate this mark at front edge.

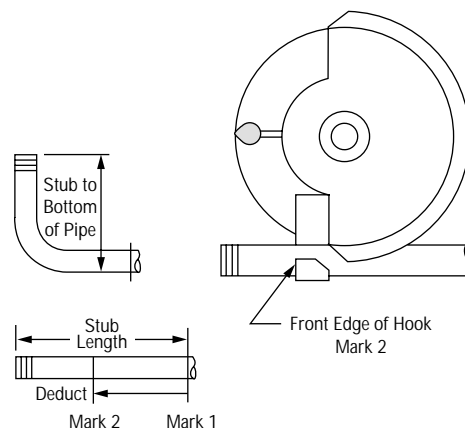
**Chart A**

PIPE SIZE		1/2	3/4	1	1-1/4	1-1/2	2
DEDUCT	RIGID	8-1/2	8-1/2	10	12-3/4	14-1/4	16-1/8
	EMT	7	8-7/8	10-3/4	13-1/8	13-7/8	15-3/8
	IMC	8-1/2	8-1/2	10	12-3/4	13-3/4	15-1/4
MINIMUM STUB LENGTH = DEDUCT PLUS 2"							

Figures are approximate



Read Scale Opposite  
Pointer on Bending Shoe



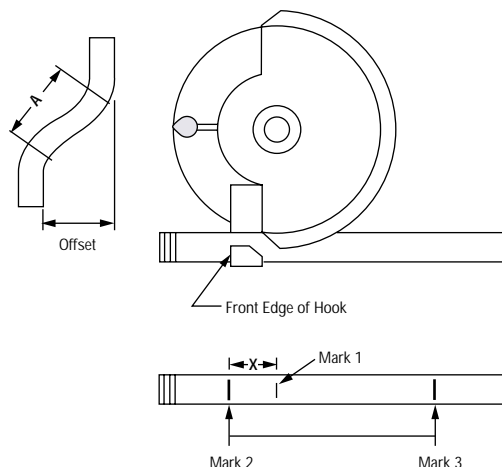
**Chart B**  
**SCALE READING**

PIPE SIZE	RIGID					EMT					IMC				
	15°	30°	45°	60°	90°	15°	30°	45°	60°	90°	15°	30°	45°	60°	90°
1/2	20	36-1/4	51-1/4	67-1/2	97-1/2	16-1/4	32-1/2	47-1/2	63-3/4	95	21-1/2	37-1/2	52-1/2	68-3/4	98-3/4
3/4	16-1/4	31-1/4	46-1/4	61-1/4	92-1/2	17-1/2	33-3/4	48-3/4	63-3/4	95	17-1/2	32-1/2	47-1/2	63-3/4	93-3/4
1	17-1/2	32-1/2	47-1/2	63-3/4	93-3/4	17-1/2	32-1/2	48-3/4	65	95	17-1/2	32-1/2	47-1/2	63-3/4	95
1-1/4	17-1/2	33-1/2	47-1/2	63-3/4	95	17-1/2	33-3/4	48-3/4	65	95	18-3/4	33-3/4	48-3/4	65	96-1/4
1-1/2	18-3/4	33-3/4	48-3/4	65	95	16-1/4	31-1/4	46-1/4	61-1/4	92-1/2	17-1/2	33-3/4	48-3/4	63-3/4	95
2	20	35	48-3/4	63-3/4	96-1/4	17-1/2	33-3/4	48-3/4	63-3/4	95	20	35	50	65	96-1/4

Figures are approximate

## To Find Bending Marks - Offset

1. Measure distance from end of conduit to start of bend and mark conduit (Mark 1).
2. Refer to Chart D for measurement "X". Measure this distance from Mark 1 only and place Mark 2 on conduit.
3. Refer to Chart C for distance between marks. Measure this distance from Mark 2 and place Mark 3 on conduit.
4. Layout of bends is now complete. Next, place Mark 2 in line with front edge of the shoe hook and make first bend.
5. Rotate conduit 180 degrees. Place Mark 3 in line with front edge of shoe hook and complete second bend.



## Chart C

To locate the center-to-center distance of offset bending marks other than those listed in the offset chart, the following multipliers should be used; multiply the height of offset required by 3.86 on 15° bends, 2 on 30° bends and 1.4 on 45° bends.

OFFSET ➤		2	4	6	8	10	12	14	16	18	20	22
15°	Max Conduit Size	3/4	1-1/2	2	2 and smaller							
	Center-to-Center	7-3/4	15-7/16	23-3/16	30-15/16	38-5/8	46-3/8	54-1/16	61-13/16	69-9/16	77-1/4	85
30°	Max Conduit Size		3/4	1	1-1/2	2	2 and smaller					
	Center-to-Center		8	12	16	20	24	28	32	36	40	44
45°	Max Conduit Size			1/2	1	1-1/4	1-1/2	2	2 and smaller			
	Center-to-Center			8-1/2	11-5/16	14-1/8	16-15/16	19-13/16	22-5/8	25-7/16	28-1/4	31-1/8

Figures are approximate

## Chart D

CONDUIT SIZE	1/2	3/4	1	1-1/4	1-1/2	2
"X"	3-1/16	3-1/16	3-3/16	4	4-1/4	4-1/2

Figures are approximate

## Adjusting Chains

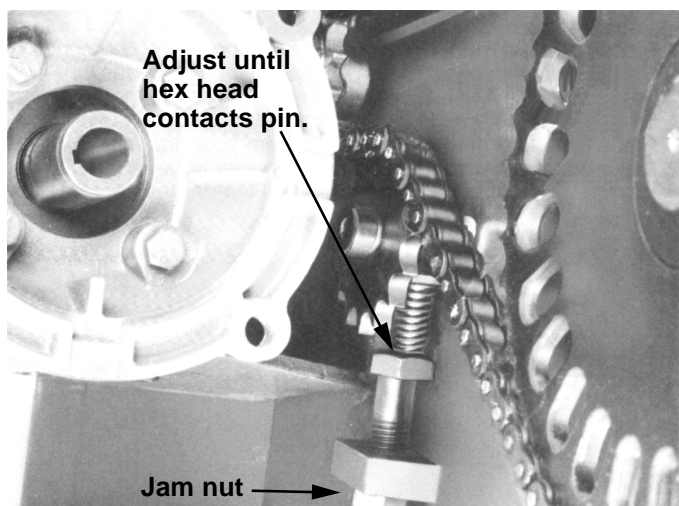
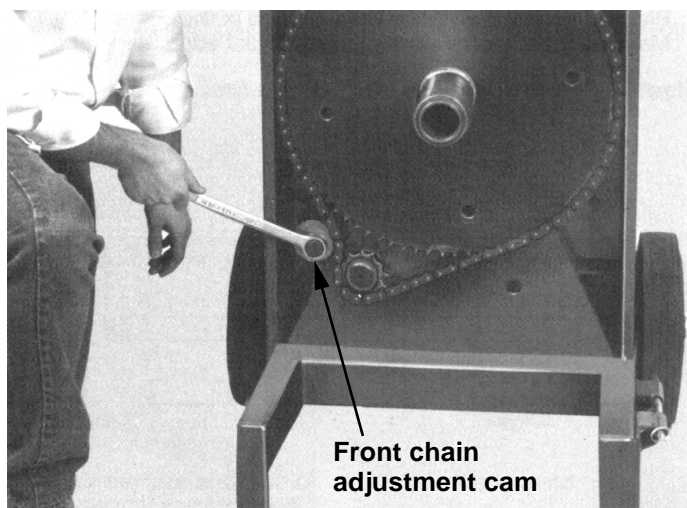
The 555 bender has two chains in the power train; one is located in the rear and one in the front. New chains will stretch slightly; therefore, the front chain should be adjusted after 10 to 20 bends have been made in 1-1/2" or 2" Rigid.

To adjust front chain: loosen chain cam bolt, rotate tightening cam clockwise until all slack is out of the chain, and retighten cam bolt.

To access front chain: remove shoe, roller support and front metal panel. Make sure bender is unplugged while adjusting. Replace front guard before using.

The rear chain has a spring-loaded tensioner that does not require any adjustment. However, if the rear chain is removed or serviced, the rear chain tensioner should be readjusted.

To adjust tensioner: loosen jam nut, rotate adjusting screw until the hex head contacts the idler bracket pin, and retighten jam nut.

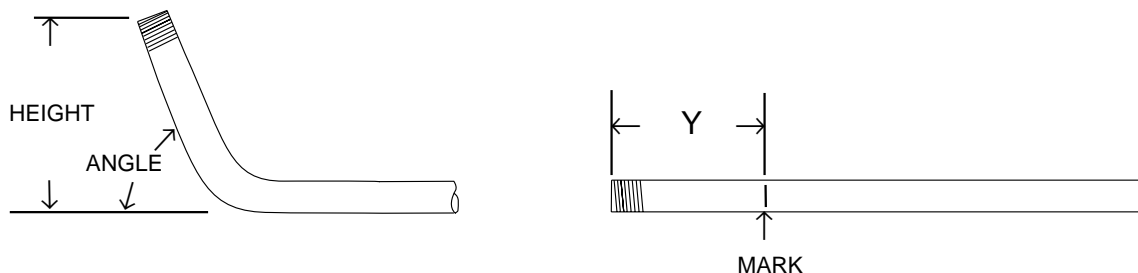


## Special Bending Information

### Setting Up Your Bends

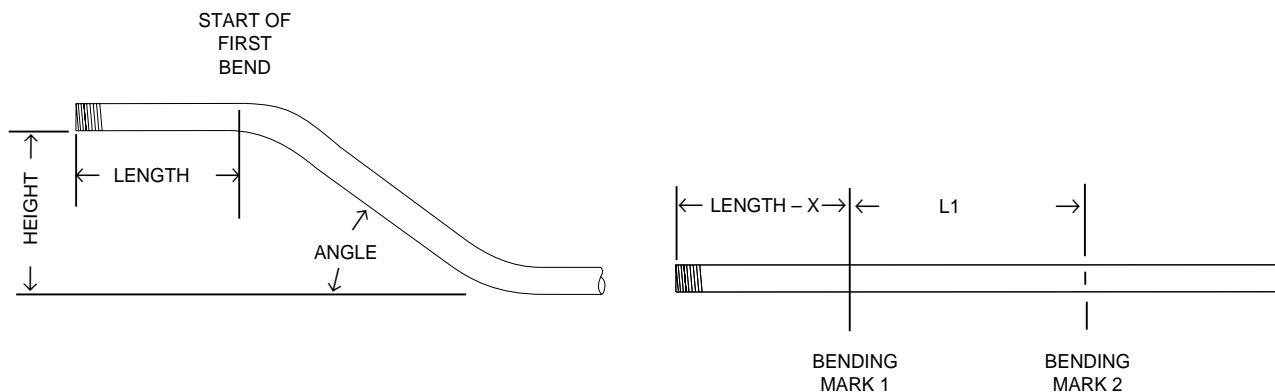
The following describes a means for laying out the starting points for various types of bends. It will give very accurate measurements for heights and bend angles commonly used.

#### Stubs:



1. Go to the following Bending Information Chart for the size and type of conduit you are to bend.
2. Look down the ANGLE column until you come to the angle you want to bend.
3. Look at the numbers in the row preceded by Y and pick the one that is directly under the height (H) you want.
4. Place a mark this distance from the end of the conduit.
5. Make your bend after positioning the front edge of the shoe hook on your mark.

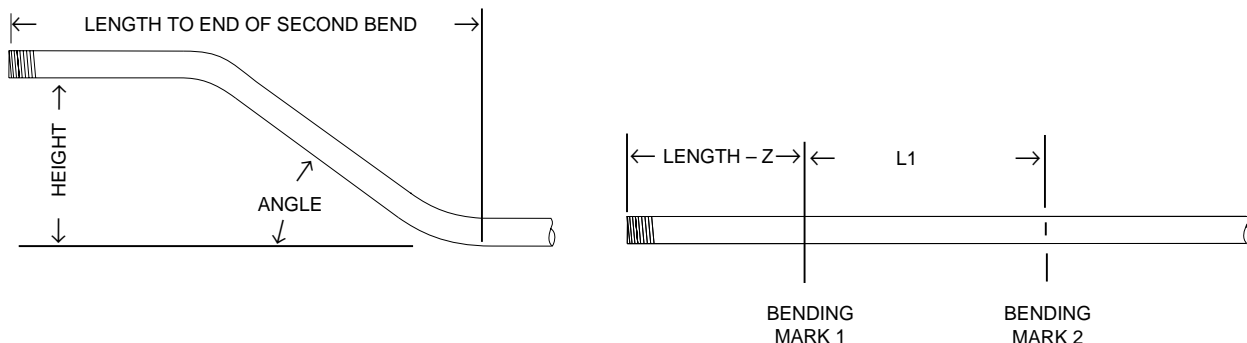
#### Offsets: (Controlling the start of the first bend)



1. Subtract the X dimension for the size of conduit to be bent from the desired length.
2. Place your first mark this distance from the end of the conduit.
3. Go to the following chart for the size and type of conduit you are to bend.
4. Look down the ANGLE column until you come to the angles you want to bend.
5. Look at the numbers in the row preceded by L1 and pick the one that is directly under the height (H) you want.
6. Place a second mark this distance from your first mark.
7. Make your first bend after placing the front edge of the shoe hook on the first mark and your second bend after placing the front edge of the shoe hook under the second mark.

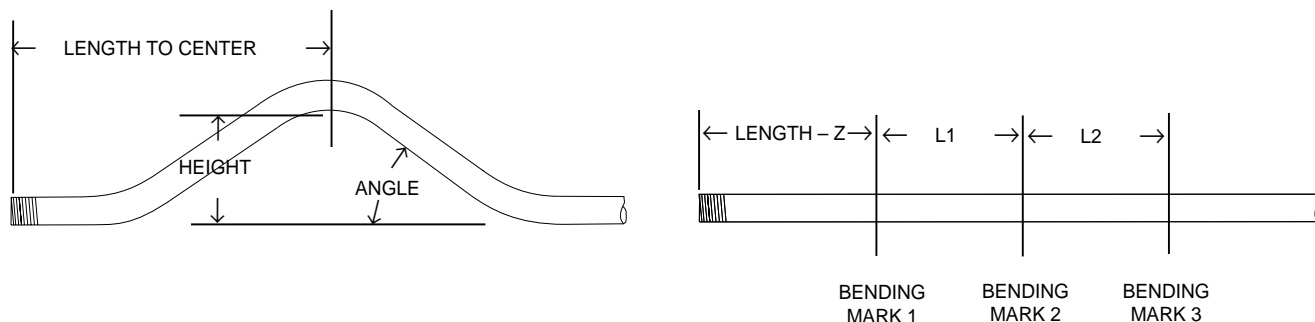
## Special Bending Information (cont'd)

### Offsets: (Controlling the end of the second bend)



1. Go to the following Bending Information Chart which is for the size and type of conduit you are to bend.
2. Look down the ANGLE column until you come to the angle you want to bend.
3. Look at the numbers in the row preceded by Z and pick the one that is directly under the height (H) you want.
4. Subtract this Z dimension from the desired length.
5. Place your first mark this distance from the end of the conduit.
6. Look at the numbers in the row preceded by L1 and pick the one that is directly under the height (H) you want.
7. Place a second mark this distance from your first mark.
8. Make your first bend after placing the front edge of the hook on the first mark and your second bend after placing the front edge of the hook on the second mark.

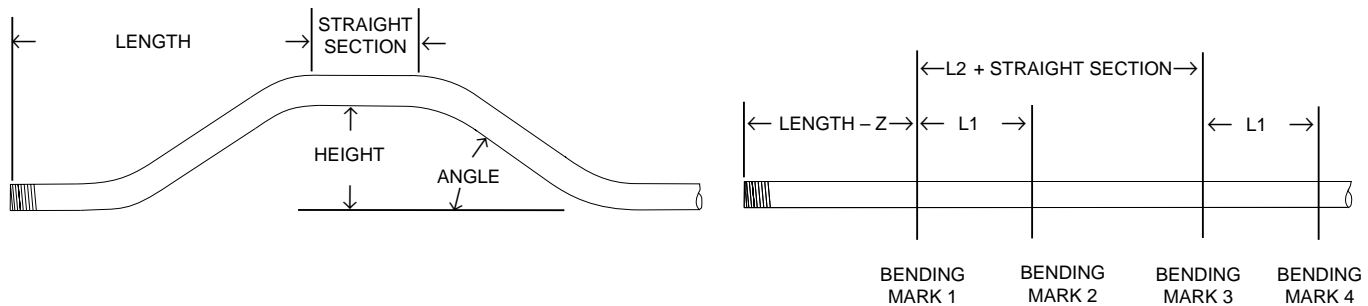
### 3 Bend Saddles:



1. Go to the following Bending Information Chart which is for the size and type of conduit you are to bend.
2. Look down the ANGLE column until you come to the angle you want to bend.
3. Look at the numbers in the row preceded by Z and pick the one that is directly under the height (H) you want.
4. Subtract this Z dimension from the desired length.
5. Place your first mark this distance from the end of the conduit.
6. Look at the numbers in the row preceded by L1 and pick the one that is directly under the height (H) you want.
7. Place a second mark this distance from your first mark.
8. Look at the numbers in the row preceded by L2 and pick the one that is directly under the height (H) you want.
9. Place a third mark this distance from your second mark.
10. Make your first bend after placing the front edge of the shoe hook on the first mark and your second bend after placing the front edge of the shoe hook on the second mark. Remember to make the second bend double the angle of the first bend. Make your third bend after placing the front edge of the shoe hook on the third mark.

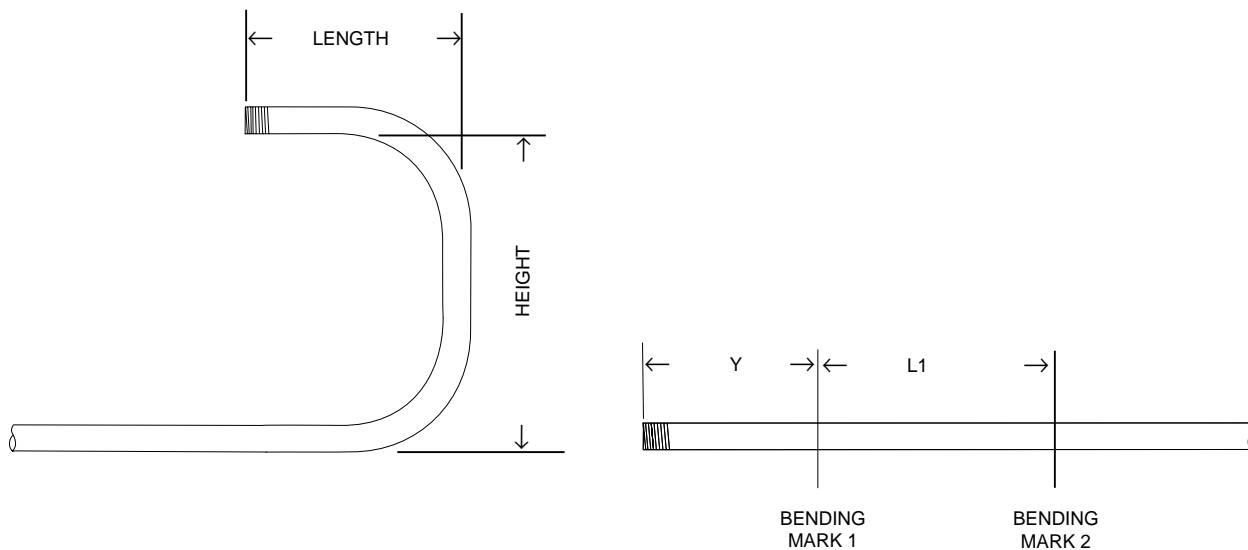
## Special Bending Information (cont'd)

### 4 Bend Saddles with Straight



1. Go to the following Bending Information Chart which is for the size and type of conduit you are to bend.
2. Look down the ANGLE column until you come to the angle you want to bend.
3. Look at the numbers in the row preceded by Z and pick the one that is directly under the height (H) you want.
4. Subtract this Z dimension from the desired length.
5. Place your first mark this distance from the end of the conduit.
6. Look at the numbers in the row preceded by L1 and pick the one that is directly under the height (H) you want.
7. Place a second mark this distance from your first mark.
8. Look at the numbers in the row preceded by L2 and pick the one that is directly under the height (H) you want.
9. Add this L2 value to the desired length of your straight section.
10. Place a third mark this distance from your first mark.
11. Look up the L1 dimension used above again.
12. Place a fourth mark this distance from your third mark.
13. Make your four bends by placing the front edge of the shoe hook on the respective marks for each bend.

### U-Bends



1. Select the tables for the bender you are using. Go to the Bending Information Chart for the size and type of conduit you are to bend.
2. Look down the ANGLE column until you come to 90 degrees.
3. Look at the numbers in the row preceded by Y and pick the one that is directly under the height (H) you want the length to be.
4. Place your first mark at this distance from the end of the conduit.
5. Look at the numbers in the row preceded by L1 and pick the one that is directly under the height (H) you want.
6. Place a second mark this distance from your first mark.
7. Make your first bend after placing the front edge of the shoe hook on the first mark and your second bend after placing the front edge of the shoe hook on the second mark.

## Special Bending Information Chart

		DIM	ANGLE	2"	4"	HEIGHT – H							
						6"	8"	10"	12"	15"	18"	24"	36"
<b>1/2 EMT</b>	Dia. = .706		Radius = 4.64	X = 2.01									
		Y	15	3.74	11.47	19.20	26.92	34.65	42.38	53.97	65.56	88.74	135.11
		L1	15	7.72	15.45	23.18	30.90	38.63	46.36	57.95	69.54	92.72	139.09
		L2	15	8.94	16.66	24.39	32.12	39.84	47.57	59.16	70.75	93.94	140.30
		Z	15	10.70	18.16	25.62	33.09	40.55	48.02	59.21	70.41	92.80	137.59
MINIMUM H = 0.84													
		Y	22.5	1.37	6.60	11.82	17.05	22.28	27.50	35.34	43.18	58.86	90.22
		L1	22.5	5.20	10.43	15.65	20.88	26.11	31.33	39.17	47.01	62.69	94.05
		L2	22.5	7.02	12.25	17.48	22.70	27.93	33.16	41.00	48.83	64.51	95.87
		Z	22.5	8.68	13.51	18.34	23.17	28.00	32.83	40.07	47.31	61.80	90.77
MINIMUM H = 1.48													
		Y	30	0.04	4.04	8.04	12.04	16.04	20.04	26.04	32.04	44.04	68.04
		L1	30		7.94	11.94	15.94	19.94	23.94	29.94	35.94	47.94	71.94
		L2	30		10.37	14.37	18.37	22.37	26.37	32.37	38.37	50.37	74.37
		Z	30		11.42	14.89	18.35	21.82	25.28	30.48	35.67	46.07	66.85
MINIMUM H = 2.25													
		Y	45		1.23	4.05	6.88	9.71	12.54	16.78	21.02	29.51	46.48
		L1	45			8.29	11.11	13.94	16.77	21.01	25.26	33.74	50.71
		L2	45			11.93	14.76	17.59	20.42	24.66	28.90	37.39	54.36
		Z	45			11.85	13.85	15.85	17.85	20.85	23.85	29.85	41.85
MINIMUM H = 4.14													
		Y	60			1.83	4.14	6.45	8.76	12.22	15.69	22.62	36.47
		L1	60				8.74	11.05	13.36	16.82	20.29	27.21	41.07
		L2	60				13.60	15.91	18.22	21.68	25.14	32.07	45.93
		Z	60				11.99	13.14	14.30	16.03	17.76	21.22	28.15
MINIMUM H = 6.38													
		Y	90				1.00	3.00	5.00	8.00	11.00	17.00	29.00
		L1	90						10.01	13.01	16.01	22.01	34.01
		L2	90						17.30	20.30	23.30	29.30	41.30
		Z	90						11.29	11.29	11.29	11.29	11.29
MINIMUM H = 11.29													
<b>3/4 EMT</b>	Dia. = .922		Radius = 5.54	X = 2.87									
		Y	15	2.35	10.07	17.80	25.53	33.26	40.98	52.58	64.17	87.35	133.71
		L1	15	7.72	15.45	23.17	30.90	38.63	46.36	57.95	69.54	92.72	139.08
		L2	15	9.17	16.90	24.62	32.35	40.08	47.81	59.40	70.99	94.17	140.54
		Z	15	11.79	19.26	26.72	34.19	41.65	49.11	60.31	71.51	93.90	138.68
MINIMUM H = 1.12													
		Y	22.5	0.05	5.28	10.50	15.73	20.95	26.18	34.02	41.86	57.54	88.90
		L1	22.5	5.20	10.42	15.65	20.88	26.10	31.33	39.17	47.01	62.69	94.04
		L2	22.5	7.37	12.60	17.83	23.05	28.28	33.50	41.34	49.18	64.86	96.22
		Z	22.5	9.90	14.73	19.56	24.39	29.22	34.04	41.29	48.53	63.02	91.99
MINIMUM H = 1.94													
		Y	30		2.72	6.72	10.72	14.72	18.72	24.72	30.72	42.72	66.72
		L1	30		7.93	11.93	15.93	19.93	23.93	29.93	35.93	47.93	71.93
		L2	30		10.83	14.83	18.83	22.83	26.83	32.83	38.83	50.83	74.83
		Z	30		12.77	16.23	19.70	23.16	26.62	31.82	37.02	47.41	68.19
MINIMUM H = 2.92													
		Y	45			2.67	5.50	8.33	11.15	15.40	19.64	28.12	45.09
		L1	45			8.25	11.08	13.90	16.73	20.97	25.22	33.70	50.67
		L2	45			12.60	15.43	18.25	21.08	25.33	29.57	38.05	55.02
		Z	45			13.46	15.46	17.46	19.46	22.46	25.46	31.46	43.46
MINIMUM H = 5.27													
		Y	60			0.33	2.64	4.95	7.26	10.72	14.18	21.11	34.97
		L1	60					10.95	13.26	16.72	20.19	27.12	40.97
		L2	60					16.75	19.06	22.53	25.99	32.92	46.78
		Z	60					15.04	16.20	17.93	19.66	23.12	30.05
MINIMUM H = 8.03													
		Y	90					1.13	3.13	6.13	9.13	15.13	27.13
		L1	90							12.62	15.62	21.62	33.62
		L2	90							21.32	24.32	30.32	42.32
		Z	90							13.95	13.95	13.95	13.95
MINIMUM H = 13.95													

## Special Bending Information Chart (cont'd)

			HEIGHT – H									
	DIM	ANGLE	2"	4"	6"	8"	10"	12"	15"	18"	24"	36"
<b>1 EMT</b>	Dia. = 1.163	Radius = 6.95	X = 3.22									
	Y	15	1.35	9.07	16.80	24.53	32.26	39.98	51.57	63.16	86.35	132.71
	L1	15	7.72	15.44	23.17	30.90	38.63	46.35	57.95	69.54	92.72	139.08
	L2	15	9.54	17.26	24.99	32.72	40.45	48.17	59.76	71.36	94.54	140.90
	Z	15	12.51	19.98	27.44	34.91	42.37	49.83	61.03	72.23	94.62	139.40
MINIMUM H = 1.31												
	Y	22.5		4.33	9.56	14.78	20.01	25.24	33.07	40.91	56.59	87.95
	L1	22.5		10.42	15.64	20.87	26.10	31.32	39.16	47.00	62.68	94.04
	L2	22.5		13.15	18.37	23.60	28.82	34.05	41.89	49.73	65.41	96.77
	Z	22.5		15.64	20.47	25.30	30.13	34.96	42.20	49.44	63.93	92.90
MINIMUM H = 2.29												
	Y	30		1.75	5.75	9.75	13.75	17.75	23.75	29.75	41.75	65.75
	L1	30		7.91	11.91	15.91	19.91	23.91	29.91	35.91	47.91	71.91
	L2	30		11.55	15.55	19.55	23.55	27.55	33.55	39.55	51.55	75.55
	Z	30		13.87	17.34	20.80	24.27	27.73	32.93	38.12	48.51	69.30
MINIMUM H = 3.47												
	Y	45			1.56	4.39	7.22	10.05	14.29	18.53	27.02	43.99
	L1	45				11.01	13.84	16.67	20.91	25.16	33.64	50.61
	L2	45				16.47	19.30	22.13	26.37	30.62	39.10	56.07
	Z	45				16.98	18.98	20.98	23.98	26.98	32.98	44.98
MINIMUM H = 6.35												
	Y	60				1.33	3.64	5.95	9.42	12.88	19.81	33.67
	L1	60					10.80	13.11	16.57	20.04	26.97	40.82
	L2	60					18.08	20.39	23.85	27.32	34.24	48.10
	Z	60					17.02	18.17	19.91	21.64	25.10	32.03
MINIMUM H = 9.74												
	Y	90						1.25	4.25	7.25	13.25	25.25
	L1	90								15.02	21.02	33.02
	L2	90								25.93	31.93	43.93
	Z	90								17.12	17.12	17.12
MINIMUM H = 17.12												
<b>1-1/4 EMT</b>	Dia. = 1.51	Radius = 9.01	X = 3.36									
	Y	15	0.26	7.99	15.72	23.45	31.17	38.90	50.49	62.08	85.27	131.63
	L1	15	7.71	15.44	23.17	30.90	38.62	46.35	57.94	69.53	92.72	139.08
	L2	15	10.07	17.80	25.53	33.25	40.98	48.71	60.30	71.89	95.07	141.44
	Z	15	13.20	20.66	28.12	35.59	43.05	50.52	61.71	72.91	95.30	140.09
MINIMUM H = 1.48												
	Y	22.5		3.33	8.55	13.78	19.01	24.23	32.07	39.91	55.59	86.95
	L1	22.5		10.41	15.63	20.86	26.09	31.31	39.15	46.99	62.67	94.03
	L2	22.5		13.94	19.17	24.40	29.62	34.85	42.69	50.53	66.21	97.56
	Z	22.5		16.60	21.43	26.26	31.09	35.91	43.16	50.40	64.89	93.86
MINIMUM H = 2.66												
	Y	30		0.72	4.72	8.72	12.72	16.72	22.72	28.72	40.72	64.72
	L1	30			11.89	15.89	19.89	23.89	29.89	35.89	47.89	71.89
	L2	30			16.61	20.61	24.61	28.61	34.61	40.61	52.61	76.61
	Z	30			18.58	22.04	25.51	28.97	34.17	39.37	49.76	70.54
MINIMUM H = 4.09												
	Y	45			0.33	3.15	5.98	8.81	13.05	17.30	25.78	42.75
	L1	45				10.93	13.75	16.58	20.83	25.07	33.55	50.52
	L2	45				18.00	20.83	23.66	27.90	32.14	40.63	57.60
	Z	45				18.82	20.82	22.82	25.82	28.82	34.82	46.82
MINIMUM H = 7.65												
	Y	60					2.11	4.42	7.89	11.35	18.28	32.14
	L1	60						12.89	16.35	19.82	26.74	40.60
	L2	60						22.32	25.79	29.25	36.18	50.04
	Z	60						20.69	22.42	24.16	27.62	34.55
MINIMUM H = 11.92												
	Y	90							1.88	4.88	10.88	22.88
	L1	90									20.13	32.13
	L2	90									34.29	46.29
	Z	90									21.38	21.38
MINIMUM H = 21.38												

## Special Bending Information Chart (cont'd)

		DIM	ANGLE	HEIGHT - H									
				2"	4"	6"	8"	10"	12"	15"	18"	24"	36"
<b>1-1/2</b>	<b>EMT</b>	Dia. = 1.74	Radius = 8.53	X = 4.71									
		Y	15		6.26	13.99	21.72	29.44	37.17	48.76	60.35	83.53	129.90
		L1	15	7.71	15.44	23.17	30.90	38.62	46.35	57.94	69.53	92.72	139.08
		L2	15	9.95	17.68	25.40	33.13	40.86	48.58	60.18	71.77	94.95	141.31
		Z	15	14.42	21.88	29.35	36.81	44.28	51.74	62.94	74.13	96.53	141.31
MINIMUM H = 1.80													
		Y	22.5		1.77	7.00	12.22	17.45	22.68	30.52	38.36	54.03	85.39
		L1	22.5		10.41	15.64	20.86	26.09	31.31	39.15	46.99	62.67	94.03
		L2	22.5		13.76	18.98	24.21	29.44	34.66	42.50	50.34	66.02	97.38
		Z	22.5		17.76	22.59	27.42	32.25	37.07	44.32	51.56	66.04	95.02
MINIMUM H = 3.10													
		Y	30			3.26	7.26	11.26	15.26	21.26	27.26	39.26	63.26
		L1	30			11.90	15.90	19.90	23.90	29.90	35.90	47.90	71.90
		L2	30			16.36	20.36	24.36	28.36	34.36	40.36	52.36	76.36
		Z	30			19.67	23.14	26.60	30.07	35.26	40.46	50.85	71.64
MINIMUM H = 4.64													
		Y	45				1.84	4.67	7.50	11.74	15.98	24.47	41.44
		L1	45					13.78	16.60	20.85	25.09	33.57	50.54
		L2	45					20.47	23.30	27.55	31.79	40.27	57.24
		Z	45					21.78	23.78	26.78	29.78	35.78	47.78
MINIMUM H = 8.33													
		Y	60					0.91	3.22	6.68	10.15	17.07	30.93
		L1	60							16.40	19.87	26.80	40.65
		L2	60							25.34	28.80	35.73	49.58
		Z	60							23.22	24.95	28.42	35.34
MINIMUM H = 12.61													
		Y	90							0.89	3.89	9.89	21.89
		L1	90									20.34	32.34
		L2	90									33.74	45.74
		Z	90									21.77	21.77
MINIMUM H = 21.77													
<b>2</b>	<b>EMT</b>	Dia. = 2.197	Radius = 9.46	X = 4.82									
		Y	15		5.15	12.87	20.60	28.33	36.05	47.65	59.24	82.42	128.78
		L1	15	7.71	15.44	23.17	30.90	38.62	46.35	57.94	69.53	92.71	139.08
		L2	15	10.19	17.92	25.64	33.37	41.10	48.83	60.42	72.01	95.19	141.56
		Z	15	14.77	22.24	29.70	37.17	44.63	52.10	63.29	74.49	96.88	141.66
MINIMUM H = 1.89													
		Y	22.5		0.88	6.11	11.33	16.56	21.79	29.62	37.46	53.14	84.50
		L1	22.5		10.40	15.63	20.86	26.08	31.31	39.15	46.99	62.67	94.02
		L2	22.5		14.12	19.35	24.57	29.80	35.02	42.86	50.70	66.38	97.74
		Z	22.5		18.24	23.07	27.90	32.73	37.55	44.80	52.04	66.52	95.50
MINIMUM H = 3.28													
		Y	30			2.45	6.45	10.45	14.45	20.45	26.45	38.45	62.45
		L1	30			11.88	15.88	19.88	23.88	29.88	35.88	47.88	71.88
		L2	30			16.84	20.84	24.84	28.84	34.84	40.84	52.84	76.84
		Z	30			20.28	23.75	27.21	30.67	35.87	41.07	51.46	72.24
MINIMUM H = 4.94													
		Y	45				1.02	3.85	6.68	10.92	15.16	23.65	40.62
		L1	45					13.74	16.56	20.81	25.05	33.53	50.50
		L2	45					21.16	23.99	28.24	32.48	40.96	57.93
		Z	45					22.66	24.66	27.66	30.66	36.66	48.66
MINIMUM H = 8.95													
		Y	60					0.00	2.31	5.77	9.23	16.16	30.02
		L1	60							16.30	19.77	26.70	40.55
		L2	60							26.21	29.67	36.60	50.46
		Z	60							24.40	26.14	29.60	36.53
MINIMUM H = 13.63													
		Y	90								2.62	8.62	20.62
		L1	90									19.94	31.94
		L2	90									34.80	46.80
		Z	90									23.74	23.74
MINIMUM H = 23.74													

## Special Bending Information Chart (cont'd)

	DIM	ANGLE	2"	4"	HEIGHT – H							
1/2 RIGID/IMC	Dia. = 0.84	Radius = 4.5	X = 3.34									
	Y	15	2.17	9.90	17.63	25.35	33.08	40.81	52.40	63.99	87.17	133.54
	L1	15	7.72	15.45	23.18	30.90	38.63	46.36	57.95	69.54	92.72	139.09
	L2	15	8.90	16.63	24.35	32.08	39.81	47.54	59.13	70.72	93.90	140.26
	Z	15	11.99	19.45	26.92	34.38	41.85	49.31	60.51	71.70	94.09	138.88
MINIMUM H = 1.17												
	Y	22.5		5.12	10.35	15.57	20.80	26.02	33.86	41.70	57.38	88.74
	L1	22.5	5.20	10.43	15.66	20.88	26.11	31.33	39.17	47.01	62.69	94.05
	L2	22.5	6.97	12.20	17.42	22.65	27.88	33.10	40.94	48.78	64.46	95.82
	Z	22.5	9.96	14.79	19.62	24.44	29.27	34.10	41.34	48.59	63.07	92.04
MINIMUM H = 1.96												
	Y	30		2.61	6.61	10.61	14.61	18.61	24.61	30.61	42.61	66.61
	L1	30		7.94	11.94	15.94	19.94	23.94	29.94	35.94	47.94	71.94
	L2	30		10.30	14.30	18.30	22.30	26.30	32.30	38.30	50.30	74.30
	Z	30		12.68	16.14	19.61	23.07	26.54	31.73	36.93	47.32	68.11
MINIMUM H = 2.88												
	Y	45			2.69	5.52	8.34	11.17	15.42	19.66	28.14	45.11
	L1	45			8.29	11.12	13.95	16.78	21.02	25.26	33.75	50.72
	L2	45			11.83	14.65	17.48	20.31	24.55	28.80	37.28	54.25
	Z	45			13.07	15.07	17.07	19.07	22.07	25.07	31.07	43.07
MINIMUM H = 5.00												
	Y	60			0.51	2.81	5.12	7.43	10.90	14.36	21.29	35.15
	L1	60				8.75	11.06	13.37	16.84	20.30	27.23	41.09
	L2	60				13.47	15.78	18.09	21.55	25.01	31.94	45.80
	Z	60				13.15	14.31	15.46	17.20	18.93	22.39	29.32
MINIMUM H = 7.39												
	Y	90					1.74	3.74	6.74	9.74	15.74	27.74
	L1	90							13.07	16.07	22.07	34.07
	L2	90							20.14	23.14	29.14	41.14
	Z	90							12.34	12.34	12.34	12.34
MINIMUM H = 12.34												
3/4 RIGID/IMC	Dia. = 1.05	Radius = 4.64	X = 3.34									
	Y	15	1.75	9.48	17.20	24.93	32.66	40.39	51.98	63.57	86.75	133.11
	L1	15	7.72	15.45	23.18	30.90	38.63	46.36	57.95	69.54	92.72	139.09
	L2	15	8.94	16.66	24.39	32.12	39.84	47.57	59.16	70.75	93.94	140.30
	Z	15	12.03	19.49	26.95	34.42	41.88	49.35	60.54	71.74	94.13	138.92
MINIMUM H = 1.18												
	Y	22.5		4.82	10.04	15.27	20.50	25.72	33.56	41.40	57.08	88.44
	L1	22.5	5.20	10.43	15.65	20.88	26.11	31.33	39.17	47.01	62.69	94.05
	L2	22.5	7.02	12.25	17.48	22.70	27.93	33.16	41.00	48.83	64.51	95.87
	Z	22.5	10.01	14.84	19.67	24.50	29.33	34.16	41.40	48.64	63.13	92.10
MINIMUM H = 1.98												
	Y	30		2.37	6.37	10.37	14.37	18.37	24.37	30.37	42.37	66.37
	L1	30		7.94	11.94	15.94	19.94	23.94	29.94	35.94	47.94	71.94
	L2	30		10.37	14.37	18.37	22.37	26.37	32.37	38.37	50.37	74.37
	Z	30		12.75	16.22	19.68	23.15	26.61	31.81	37.00	47.40	68.18
MINIMUM H = 2.91												
	Y	45			2.48	5.31	8.14	10.97	15.21	19.45	27.94	44.91
	L1	45			8.29	11.11	13.94	16.77	21.01	25.26	33.74	50.71
	L2	45			11.93	14.76	17.59	20.42	24.66	28.90	37.39	54.36
	Z	45			13.18	15.18	17.18	19.18	22.18	25.18	31.18	43.18
MINIMUM H = 5.08												
	Y	60			0.30	2.61	4.92	7.23	10.70	14.16	21.09	34.94
	L1	60				8.74	11.05	13.36	16.82	20.29	27.21	41.07
	L2	60				11.29	13.60	15.91	18.22	21.68	25.14	32.07
	Z	60				12.16	13.32	14.47	15.63	17.36	19.09	22.55
MINIMUM H = 7.53												
	Y	90					1.50	3.50	6.50	9.50	15.50	27.50
	L1	90							13.01	16.01	22.01	34.01
	L2	90							20.30	23.30	29.30	41.30
	Z	90							12.62	12.62	12.62	12.62
MINIMUM H = 12.62												

## Special Bending Information Chart (cont'd)

		HEIGHT - H											
		DIM	ANGLE	2"	4"	6"	8"	10"	12"	15"	18"	24"	36"
1	RIGID/ IMC	Dia. = 1.315		Radius = 5.92		X = 3.42							
		Y	15	0.99	8.72	16.44	24.17	31.90	39.62	51.22	62.81	85.99	132.35
		L1	15	7.72	15.45	23.17	30.90	38.63	46.36	57.95	69.54	92.72	139.08
		L2	15	9.27	17.00	24.72	32.45	40.18	47.91	59.50	71.09	94.27	140.63
		Z	15	12.44	19.91	27.37	34.84	42.30	49.76	60.96	72.16	94.55	139.33
MINIMUM H = 1.29													
		Y	22.5		4.14	9.36	14.59	19.82	25.04	32.88	40.72	56.40	87.76
		L1	22.5		10.42	15.65	20.87	26.10	31.33	39.17	47.01	62.68	94.04
		L2	22.5		12.75	17.97	23.20	28.43	33.65	41.49	49.33	65.01	96.37
		Z	22.5		15.43	20.26	25.09	29.92	34.75	41.99	49.23	63.72	92.69
MINIMUM H = 2.21													
		Y	30		1.68	5.68	9.68	13.68	17.68	23.68	29.68	41.68	65.68
		L1	30		7.93	11.93	15.93	19.93	23.93	29.93	35.93	47.93	71.93
		L2	30		11.03	15.03	19.03	23.03	27.03	33.03	39.03	51.03	75.03
		Z	30		13.52	16.98	20.45	23.91	27.38	32.57	37.77	48.16	68.95
MINIMUM H = 3.30													
		Y	45			1.68	4.51	7.34	10.17	14.41	18.65	27.14	44.11
		L1	45			8.23	11.06	13.89	16.72	20.96	25.20	33.69	50.66
		L2	45			12.88	15.71	18.54	21.37	25.61	29.85	38.34	55.31
		Z	45			14.32	16.32	18.32	20.32	23.32	26.32	32.32	44.32
MINIMUM H = 5.89													
		Y	60				1.64	3.95	6.26	9.72	13.19	20.12	33.97
		L1	60					10.91	13.22	16.68	20.15	27.08	40.93
		L2	60					17.11	19.42	22.88	26.35	33.28	47.13
		Z	60					16.03	17.18	18.92	20.65	24.11	31.04
MINIMUM H = 8.81													
		Y	90						2.00	5.00	8.00	14.00	26.00
		L1	90								15.46	21.46	33.46
		L2	90								24.76	30.76	42.76
		Z	90								15.26	15.26	15.26
MINIMUM H = 15.26													
1-1/4	RIGID/IMC	Dia. = 1.66		Radius = 7.47		X = 4.45							
		Y	15		6.81	14.54	22.27	30.00	37.72	49.32	60.91	84.09	130.45
		L1	15	7.72	15.44	23.17	30.90	38.63	46.35	57.94	69.54	92.72	139.08
		L2	15	9.67	17.40	25.13	32.85	40.58	48.31	59.90	71.49	94.67	141.04
		Z	15	13.88	21.35	28.81	36.27	43.74	51.20	62.40	73.59	95.99	140.77
MINIMUM H = 1.66													
		Y	22.5		2.35	7.57	12.80	18.03	23.25	31.09	38.93	54.61	85.97
		L1	22.5		10.41	15.64	20.87	26.09	31.32	39.16	47.00	62.68	94.03
		L2	22.5		13.35	18.57	23.80	29.03	34.25	42.09	49.93	65.61	96.97
		Z	22.5		17.08	21.91	26.74	31.56	36.39	43.63	50.88	65.36	94.33
MINIMUM H = 2.84													
		Y	30			3.89	7.89	11.89	15.89	21.89	27.89	39.89	63.89
		L1	30			11.91	15.91	19.91	23.91	29.91	35.91	47.91	71.91
		L2	30			15.82	19.82	23.82	27.82	33.82	39.82	51.82	75.82
		Z	30			18.85	22.31	25.77	29.24	34.43	39.63	50.02	70.81
MINIMUM H = 4.23													
		Y	45				2.68	5.42	8.25	12.50	16.74	25.22	42.19
		L1	45				10.99	13.82	16.65	20.89	25.13	33.62	50.59
		L2	45				16.86	19.69	22.52	26.76	31.00	39.49	56.46
		Z	45				18.64	20.64	22.64	25.64	28.64	34.64	46.64
MINIMUM H = 7.52													
		Y	60					1.83	4.14	7.60	11.06	17.99	31.85
		L1	60						13.05	16.52	19.98	26.91	40.77
		L2	60						20.88	24.34	27.80	34.73	48.59
		Z	60						20.00	21.74	23.47	26.93	33.86
MINIMUM H = 11.32													
		Y	90							2.25	5.25	11.25	23.25
		L1	90									20.79	32.79
		L2	90									32.53	44.53
		Z	90									19.39	19.39
MINIMUM H = 19.39													

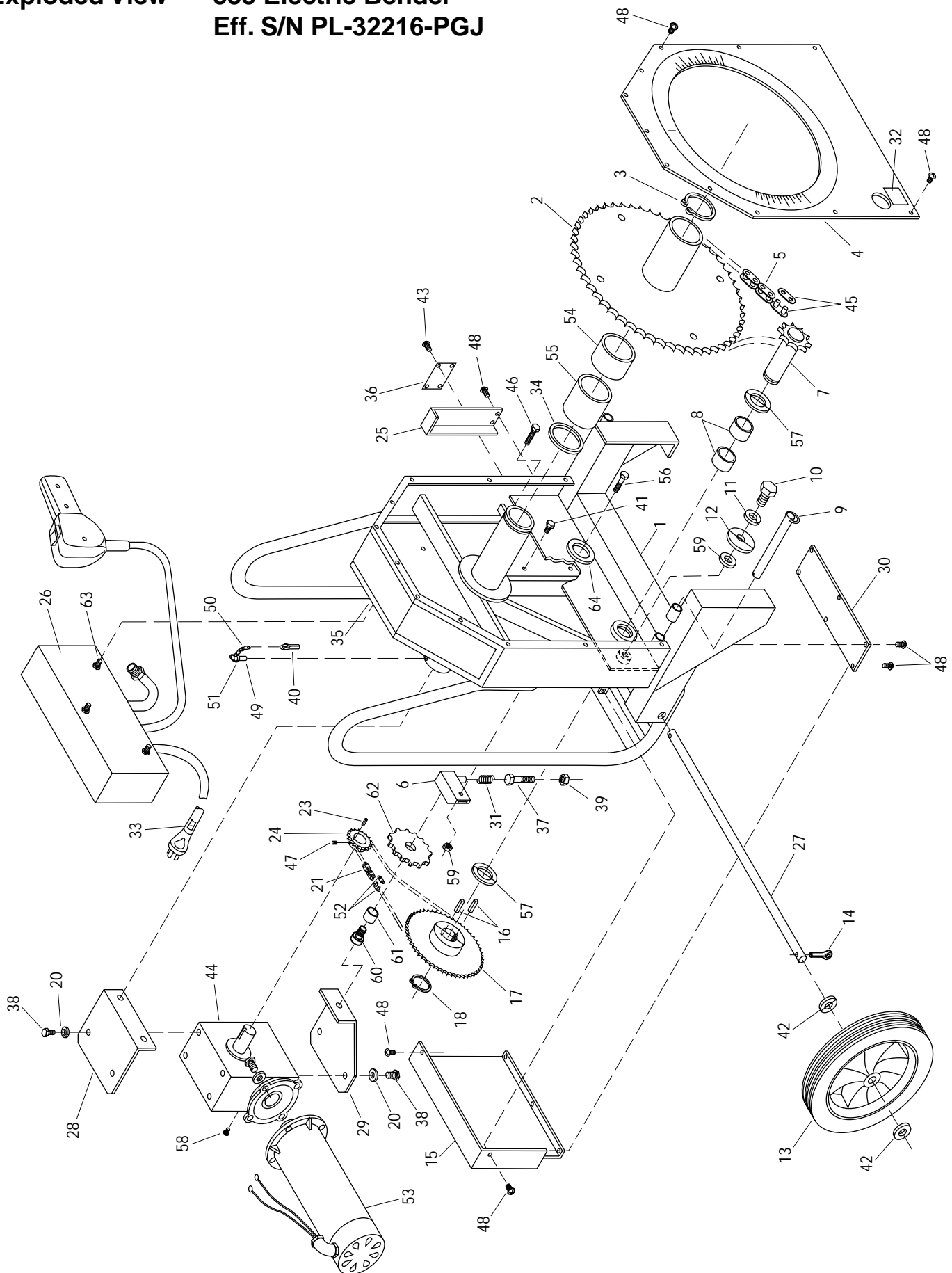
## Special Bending Information Chart (cont'd)

		HEIGHT – H											
	DIM	ANGLE	2"	4"	6"	8"	10"	12"	15"	18"	24"	36"	
1-1/2	RIGID	Dia. = 1.9	Radius = 8.5	X = 4.8									
	Y	15		5.87	13.59	21.32	29.05	36.77	48.37	59.96	83.14	129.50	
	L1	15	7.71	15.44	23.17	30.90	38.62	46.35	57.94	69.53	92.72	139.08	
	L2	15	9.94	17.67	25.39	33.12	40.85	48.58	60.17	71.76	94.94	141.31	
	Z	15	14.50	21.97	29.43	36.89	44.36	51.82	63.02	74.21	96.61	141.39	
MINIMUM H = 1.82													
	Y	22.5		1.48	6.71	11.93	17.16	22.38	30.22	38.06	53.74	85.10	
	L1	22.5		10.41	15.64	20.86	26.09	31.31	39.15	46.99	62.67	94.03	
	L2	22.5		13.75	18.97	24.20	29.43	34.65	42.49	50.33	66.01	97.37	
	Z	22.5		17.84	22.67	27.50	32.32	37.15	44.39	51.64	66.12	95.09	
MINIMUM H = 3.13													
	Y	30			3.02	7.02	11.02	15.02	21.02	27.02	39.02	63.02	
	L1	30			11.90	15.90	19.90	23.90	29.90	35.90	47.90	71.90	
	L2	30			16.35	20.35	24.35	28.35	34.35	40.35	52.35	76.35	
	Z	30			19.75	23.21	26.68	30.14	35.34	40.53	50.92	71.71	
MINIMUM H = 4.68													
	Y	45				1.65	4.48	7.31	11.55	15.79	24.28	41.25	
	L1	45					13.78	16.60	20.85	25.09	33.58	50.55	
	L2	45					20.45	23.28	27.52	31.77	40.25	57.22	
	Z	45					21.84	23.84	26.84	29.84	35.84	47.84	
MINIMUM H = 8.37													
	Y	60					0.74	3.05	6.52	9.98	16.91	30.76	
	L1	60							16.41	19.87	26.80	40.66	
	L2	60							25.31	28.77	35.70	49.56	
	Z	60							23.28	25.01	28.47	35.40	
MINIMUM H = 12.66													
	Y	90							0.75	3.75	9.75	21.75	
	L1	90									20.35	32.35	
	L2	90									33.70	45.70	
	Z	90									21.80	21.80	
MINIMUM H = 21.80													
2	RIGID	Dia. = 2.375	Radius = 9.78	X = 5.16									
	Y	15		4.42	12.15	19.87	27.60	35.33	46.92	58.51	81.69	128.06	
	L1	15	7.71	15.44	23.17	30.89	38.62	46.35	57.94	69.53	92.71	139.08	
	L2	15	10.27	18.00	25.73	33.46	41.18	48.91	60.50	72.09	95.27	141.64	
	Z	15	15.20	22.66	30.13	37.59	45.06	52.52	63.72	74.91	97.30	142.09	
MINIMUM H = 2.00													
	Y	22.5		0.24	5.47	10.70	15.92	21.15	28.99	36.83	52.51	83.86	
	L1	22.5		10.40	15.63	20.85	26.08	31.31	39.15	46.99	62.66	94.02	
	L2	22.5		14.24	19.47	24.70	29.92	35.15	42.99	50.83	66.51	97.86	
	Z	22.5		18.71	23.54	28.36	33.19	38.02	45.26	52.51	66.99	95.96	
MINIMUM H = 3.46													
	Y	30			1.84	5.84	9.84	13.84	19.84	25.84	37.84	61.84	
	L1	30			11.88	15.88	19.88	23.88	29.88	35.88	47.88	71.88	
	L2	30			17.00	21.00	25.00	29.00	35.00	41.00	53.00	77.00	
	Z	30			20.79	24.26	27.72	31.19	36.38	41.58	51.97	71.75	
MINIMUM H = 5.20													
	Y	45				0.42	3.25	6.08	10.32	14.57	23.05	40.02	
	L1	45					13.72	16.55	20.79	25.04	33.52	50.49	
	L2	45					21.40	24.23	28.47	32.72	41.20	58.17	
	Z	45					23.26	25.26	28.26	31.26	37.26	49.26	
MINIMUM H = 9.38													
	Y	60						1.68	5.14	8.61	15.54	29.39	
	L1	60							16.27	19.73	26.66	40.52	
	L2	60							26.51	29.97	36.90	50.76	
	Z	60							25.11	26.85	30.31	37.24	
MINIMUM H = 14.25													
	Y	90								1.87	7.87	19.87	
	L1	90										31.80	
	L2	90										47.16	
	Z	90										24.72	
MINIMUM H = 24.72													

## Special Bending Information Chart (cont'd)

				HEIGHT - H								
	DIM	ANGLE	2"	4"	6"	8"	10"	12"	15"	18"	24"	36"
<b>1-1/2 IMC</b>	Dia. = 1.883	Radius = 8.53	X = 4.28									
	Y	15		6.41	14.14	21.87	29.60	37.32	48.91	60.51	83.69	130.05
	L1	15	7.71	15.44	23.17	30.90	38.62	46.35	57.94	69.53	92.72	139.08
	L2	15	9.95	17.68	25.40	33.13	40.86	48.58	60.18	71.77	94.95	141.31
	Z	15	13.99	21.45	28.92	36.38	43.85	51.31	62.51	73.70	96.10	140.88
MINIMUM H = 1.69												
	Y	22.5		2.02	7.24	12.47	17.69	22.92	30.76	38.60	54.28	85.64
	L1	22.5		10.41	15.64	20.86	26.09	31.31	39.15	46.99	62.67	94.03
	L2	22.5		13.76	18.98	24.21	29.44	34.66	42.50	50.34	66.02	97.38
	Z	22.5		17.33	22.16	26.99	31.82	36.64	43.89	51.13	65.61	94.59
MINIMUM H = 2.94												
	Y	30			3.55	7.55	11.55	15.55	21.55	27.55	39.55	63.55
	L1	30			11.90	15.90	19.90	23.90	29.90	35.90	47.90	71.90
	L2	30			16.36	20.36	24.36	28.36	34.36	40.36	52.36	76.36
	Z	30			19.24	22.71	26.17	29.64	34.83	40.03	50.42	71.21
MINIMUM H = 4.43												
	Y	45				2.17	5.00	7.83	12.07	16.31	24.80	41.77
	L1	45					13.78	16.60	20.85	25.09	33.57	50.54
	L2	45					20.47	23.30	27.55	31.79	40.27	57.24
	Z	45					21.35	23.35	26.35	29.35	35.35	47.35
MINIMUM H = 8.02												
	Y	60					1.26	3.56	7.03	10.49	17.42	31.28
	L1	60							16.40	19.87	26.80	40.65
	L2	60							25.34	28.80	35.73	49.58
	Z	60							22.79	24.52	27.99	34.91
MINIMUM H = 12.24												
	Y	90							1.25	4.25	10.25	22.25
	L1	90									20.34	32.34
	L2	90									33.74	45.74
	Z	90									21.34	21.34
MINIMUM H = 21.34												
<b>2 IMC</b>	Dia. = 2.36	Radius = 9.46	X = 4.61									
	Y	15		5.04	12.77	20.50	28.22	35.95	47.54	59.13	82.31	128.68
	L1	15	7.71	15.44	23.17	30.90	38.62	46.35	57.94	69.53	92.71	139.08
	L2	15	10.19	17.92	25.64	33.37	41.10	48.83	60.42	72.01	95.19	141.56
	Z	15	14.56	22.03	29.49	36.96	44.42	51.89	63.08	74.28	96.67	141.45
MINIMUM H = 1.84												
	Y	22.5		0.88	6.10	11.33	16.56	21.78	29.62	37.46	53.14	84.50
	L1	22.5		10.40	15.63	20.86	26.08	31.31	39.15	46.99	62.67	94.02
	L2	22.5		14.12	19.35	24.57	29.80	35.02	42.86	50.70	66.38	97.74
	Z	22.5		18.03	22.86	27.69	32.52	37.34	44.59	51.83	66.31	95.29
MINIMUM H = 3.20												
	Y	30			2.50	6.50	10.50	14.50	20.50	26.50	38.50	62.50
	L1	30			11.88	15.88	19.88	23.88	29.88	35.88	47.88	71.88
	L2	30			16.84	20.84	24.84	28.84	34.84	40.84	52.84	76.84
	Z	30			20.07	23.54	27.00	30.46	35.66	40.86	51.25	72.03
MINIMUM H = 4.84												
	Y	45				1.12	3.94	6.77	11.02	15.26	23.74	40.71
	L1	45					13.74	16.56	20.81	25.05	33.53	50.50
	L2	45					21.16	23.99	28.24	32.48	40.96	57.93
	Z	45					22.45	24.45	27.45	30.45	36.45	48.45
MINIMUM H = 8.80												
	Y	60					0.11	2.42	5.89	9.35	16.28	30.13
	L1	60							16.30	19.77	26.70	40.55
	L2	60							26.21	29.67	36.60	50.46
	Z	60							24.19	25.93	29.39	26.32
MINIMUM H = 13.45												
	Y	90								2.75	8.75	20.75
	L1	90									19.94	31.94
	L2	90									34.80	46.80
	Z	90									23.53	23.53
MINIMUM H = 23.53												

**Exploded View — 555 Electric Bender**  
**Eff. S/N PL-32216-PGJ**



## Parts List — 555 Electric Bender

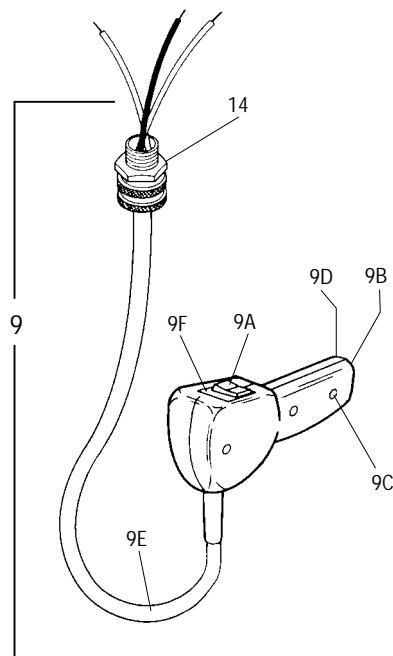
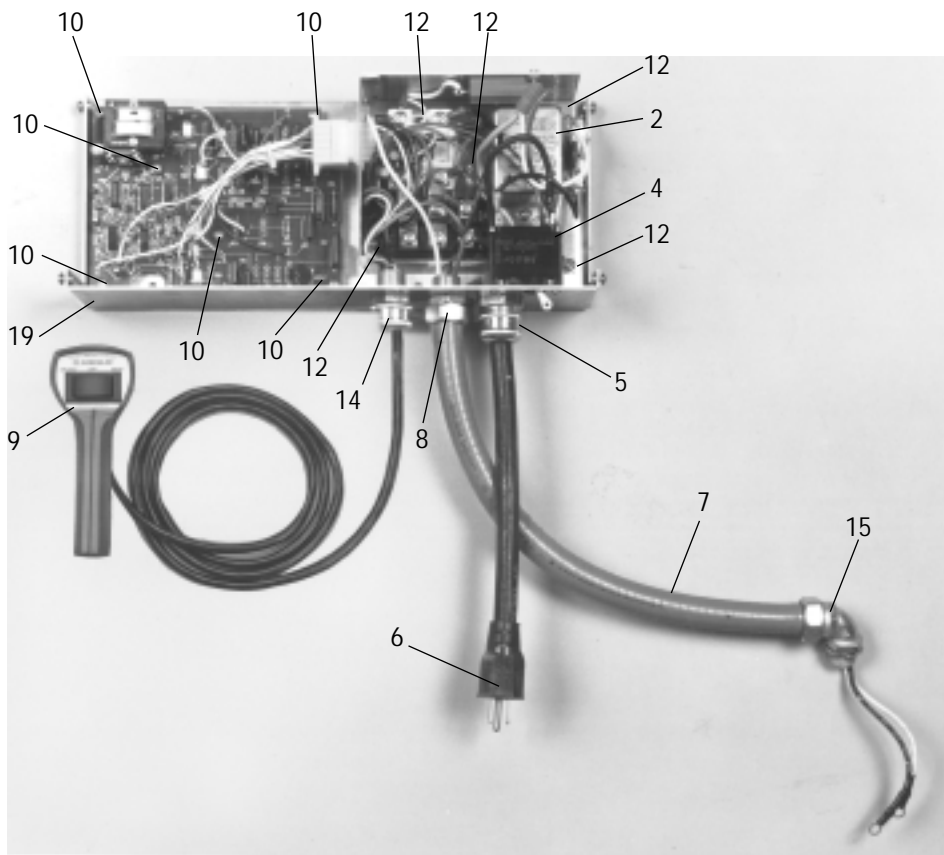
When ordering parts give  
Serial Number of unit

KEY	PART NO.	DESCRIPTION	QTY.
		<b>No. 555 Electric Bender, 115V</b>	
		<b>No. 555-22 Electric Bender, 230V</b>	
1	502 3424.2	Frame unit .....	1
2	501 8005.3	Sprocket unit #60, 80 tooth .....	1
3	905 2414.4	Retaining ring, Truarc #5100-237 .....	1
4	503 0197.7	Cover plate unit .....	1
5	501 8009.6	No. 60 Chain, 85 pitch length .....	1
6	503 4129.4	Idler bracket .....	1
7	502 3891.4	Sprocket & shaft assembly #60, 12 tooth .....	1
8	905 2412.8	Countershaft bearing, Fiberglide .....	2
9	905 5204.0	Detent pin .....	2
10	905 0067.9	Screw, 5/8-11 UNC x 1 hex head cap .....	1
11	905 0905.6	5/8 Lock washer (split) .....	1
12	501 8018.5	No. 60 Chain idler .....	1
13	905 3390.9	Wheel (on bender preceding S/N PL-30000-L, Item 27 and (1) Item 42 .....	2
		must also be replaced when ordering this part)	
14	905 0658.8	Cotter pin, 3/16" x 1-1/2" .....	2
15	502 3461.7	Chain guard .....	1
16	501 8028.2	Countershaft key .....	2
17	502 3444.7	Sprocket, #40, 48 tooth .....	1
18	905 1051.8	Retaining ring, Truarc #5100-150 .....	1
20	905 0506.9	3/8 Lock washer (split) .....	9
21	502 3418.8	No. 40 Chain, 81 pitch length .....	1
23	502 3897.3	Sprocket key .....	1
24	502 3450.1	Sprocket, #40, 13 tooth .....	1
25	502 3480.3	Guard .....	1
26	502 4994.0	Control box assembly unit (115 Volt)	
	or	(see page 21) .....	1
	503 0374.0	Control box assembly unit (230 Volt - solid-state)	
	or	Starting S/N PL 8001 (see page 12) .....	1
	502 3895.7	Control box assembly unit (230 Volt) .....	1
27	503 3724.6	Axle .....	1
28	502 3459.5	Bracket, top mounting .....	1
29	502 3460.9	Bracket, bottom mounting .....	1
30	502 3477.3	Guard plate, bottom .....	1
	502 3473.9	Spacer, wheel (not shown—located on axle between RH wheel and frame leg) .....	1
31	905 3838.2	Spring .....	1
32	502 2121.9	Decal, Greenlee .....	1
33	501 9053.9	Decal, extension cord .....	1
34	502 3452.8	Washer, fiber .....	1
35	502 6725.6	Decal, instruction .....	1
36	502 5928.8	Nameplate .....	1
37	905 0549.2	Screw, 1/2" - 13 x 2-1/2" hex head cap .....	1
38	905 0529.8	Screw, 3/8-16 UNC x 3/4 hex head cap .....	5
39	905 0647.6	Nut, 1/2" - 13 jam .....	1
40	905 0852.1	Pin, 3/32 x 3/4 long cotter .....	1
41	905 0863.7	Screw, 3/8-16 UNC x 7/8 hex head cap .....	2
42	905 1740.7	Washer, 13/16 x 1-1/2 x 9/64 steel .....	3
43	905 1751.2	Screw, #6 x 1/4 round head drive .....	4
44	905 2388.1	Reductor .....	1
45	905 2395.4	Link, #60 chain connecting .....	1
46	905 0530.1	Screw, 3/8-16 UNC x 1 hex head cap .....	1
47	905 2400.4	Screw, 1/4-20 UNC x 1/4 cup point socket set .....	1
48	905 1460.2	Screw, #10-32 UNF x 3/8 .....	22
49	905 2404.7	Pin, 1/4 x 1" clinch .....	1
50	905 2405.5	Chain, 1/0 x 9" .....	1
51	905 2406.3	Ring (Worth Mfg. Co. #SR-9N) .....	1
52	905 2787.9	Link, #40 chain connecting .....	1
53	918 6417.8	Motor, permanent magnet .....	1
54	905 2409.8	Bearing, Fiberglide sleeve .....	1
55	905 2410.1	Bearing, Fiberglide sleeve .....	1
56	905 0530.1	Screw, 3/8" - 16 x 1" hex head cap .....	1
57	905 2413.6	Bearing, Fiberglide thrust .....	2
58	905 0503.4	Plug, 3/8 NPTF dry seal .....	1
59	905 1558.7	Nut, self-locking 3/8" - 16 .....	1
60	905 3836.6	Shoulder screw, 1/2" diameter x 3/8" long x 3/8" - 16 .....	1
61	905 3835.8	Bearing, Oilite .....	1
62	905 3833.1	Idle sprocket, #40, 16 tooth .....	1
63	905 1460.2	Screw, #10-32 UNF x 3/8 .....	3
64	905 3321.6	Washer, #1-3/4 x 7/16 x 1/16 steel flat .....	1
	501 9102.0	Repair kit, No. 40 chain (not shown) .....	Optional
	501 9103.9	Repair kit, No. 60 chain (not shown) .....	Optional

## Parts List

### Solid-State Electrical Control Box (503 0374.0)

*Note: This control used on all benders starting with S/N PL 32215-PGJ.*



Solid State Electrical Control Box with revised Pendant Switch Unit 503 6370.0. (This switch unit used on benders starting with S/N PL-32216-PGJ. Use this switch unit complete to repair units starting with S/N PL 8001 to PL-32215-PGJ.)

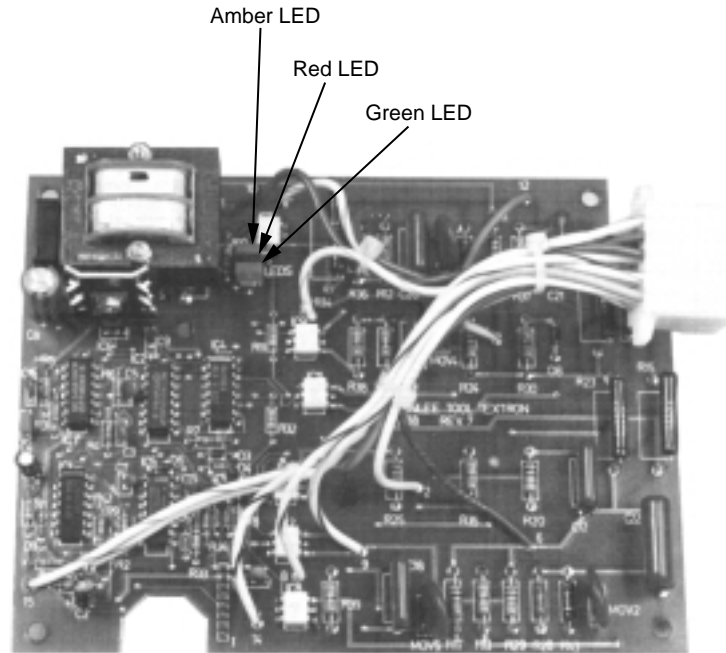
## Parts List

*When ordering parts give  
Serial No. of bender*

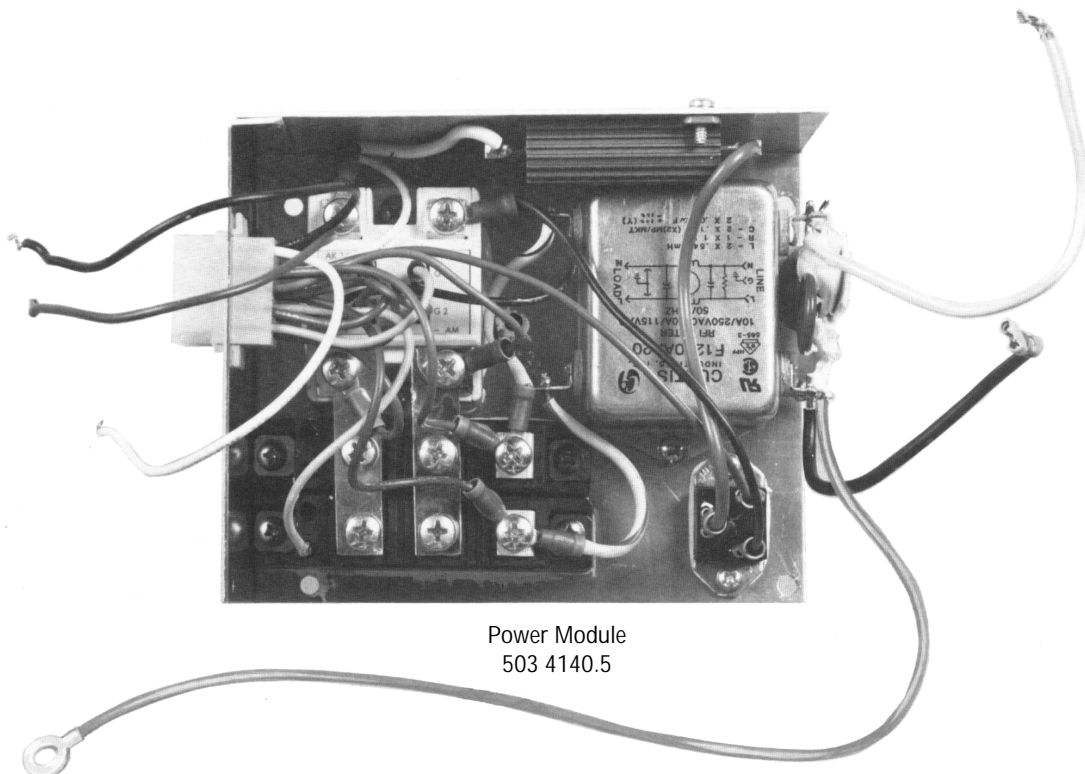
Key	Part No.	Description	Qty.	Key	Part No.	Description	Qty.
	503 0374.0	Control box (includes 1,2,4,5,6 ..... 10,12,19 and 20)	1	9	503 6370.0	Pendant switch unit .....	1
1	503 5411.6	Control module .....	1	9A	918 6449.6	Switch, center OFF .....	1
*2	503 4140.5	Power module unit .....	1	9B	503 1902.7	Handle, right half .....	1
4	918 6386.4	Circuit breaker .....	1	9C	905 3441.7	Screw, #6 - 20 x .625 pan head, self-tapping .....	3
5	918 6387.2	Cord grip, Pyle Crouse Hinds #CGB-295 .....	1	9D	503 1901.9	Handle, left half .....	1
6	503 2407.1	Cord, power type So 12/3 with Plug .....	1	9E	503 6369.7	Cord .....	1
7	918 5209.9	Conduit, Sealtite, 14-3/4" long, ..... Anaconda #UA, 1/2" gray or black	1	9F	503 5487.6	Decal, face plate .....	1
8	918 5875.5	Connector, Appleton #ST-50, ..... Sealtite 1/2 straight	1	10	905 4272.0	Screw, #8 - 32 UNC x 5/8" long, ..... binding head machine	6
				12	905 2531.0	Screw #10 - 32 UNF x 3/8" round head ..... thread cutting	5
				14	918 5884.4	Cord grip .....	1
				15	918 5876.3	1/2 Connector, Appleton #ST-9050 .....	1
				19	503 3352.6	Control box shell without electronics or cover .....	1
				20	503 3601.0	Control box cover (not shown) .....	1

**\*NOTE:** For replacement of power module unit on benders preceding S/N PL-20406-L, specify 503 3351.8 Power Module Replacement Unit.

## Electrical



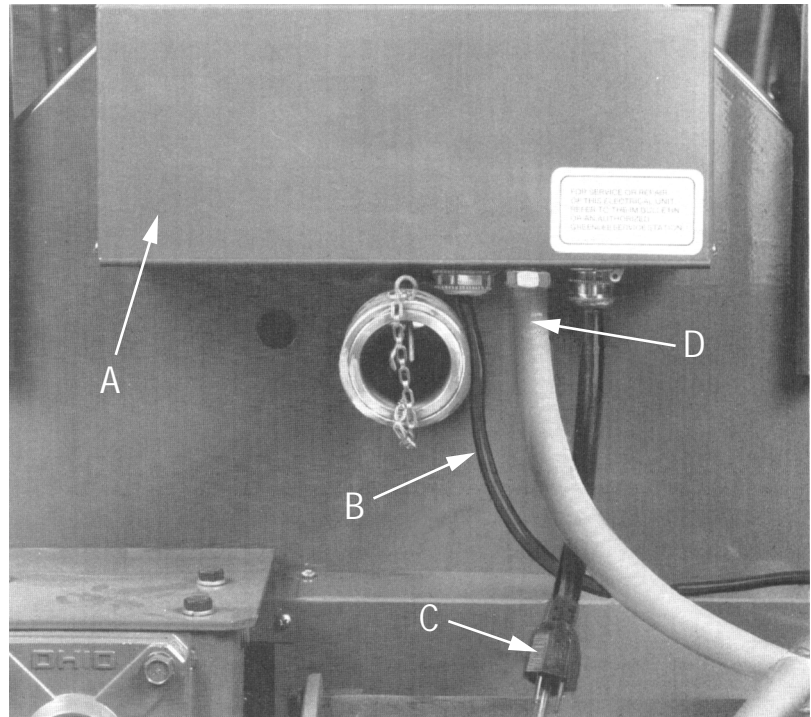
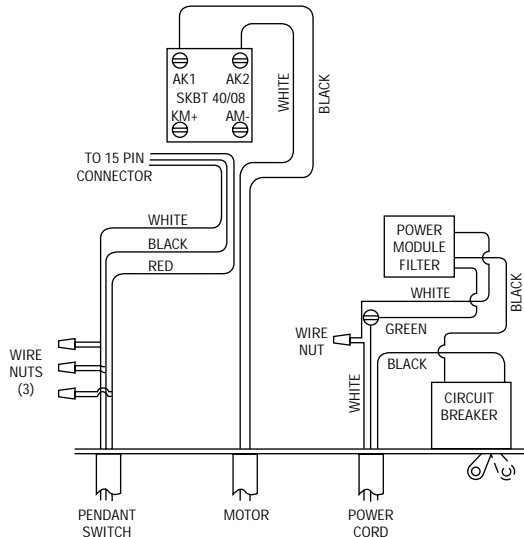
Control Module  
503 5411.6



Power Module  
503 4140.5

## Rear View

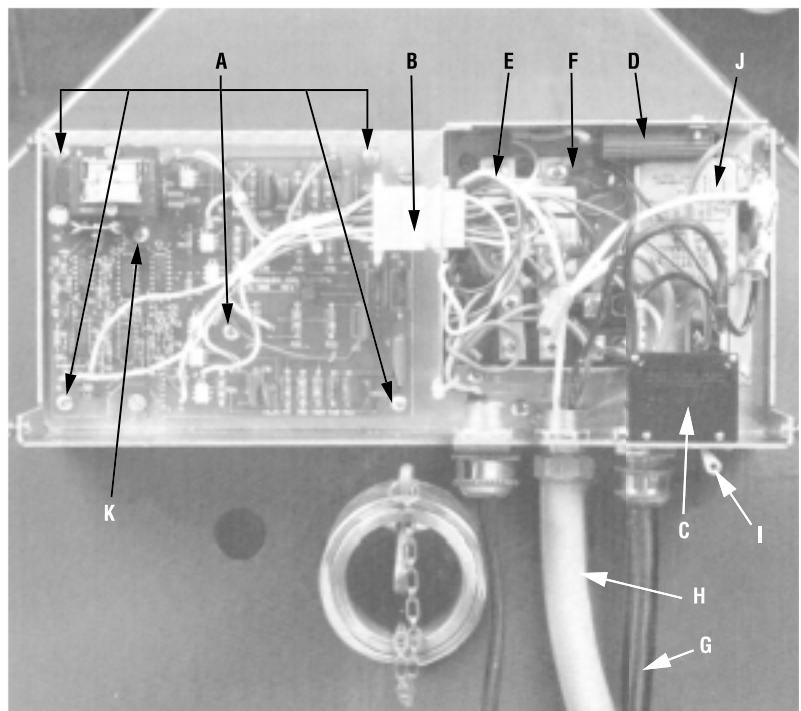
- A. Control Box
- B. Pendant Switch
- C. Power Cord
- D. Motor Conduit



## Control Box

(rear view with plate removed)

- A. Six screws for board removal
- B. 15-pin connector going to the power module
- C. Circuit breaker 918 6386.4
- D. Dynamic brake resistor
- E. Motor lead (white)
- F. Motor lead (black)
- G. Power cord
- H. Motor conduit
- I. Circuit breaker reset lever
- J. Power module 503 4140.5
- K. Control module 503 5411.6



## Electrical Troubleshooting

The electrical control circuit of the 555 Bender consists of the pendant switch unit, the control module circuit, the power module circuit and the drive motor.

### Drive motor will not operate

If the operating instructions for the 555 Bender are being followed, but the drive motor does not operate when either the bend or unload switches are held in the DOWN position, the following procedure should be utilized for locating the trouble in the electrical control circuit.

#### A. Power Check

1. Check that the plug on the power cord is fully mated with the female plug from the power source and that all switches, fuses and disconnects in the power line are on and operating.
2. Check to see that the bender circuit breaker is not tripped. If tripped, reset by pushing the lever left, then right.

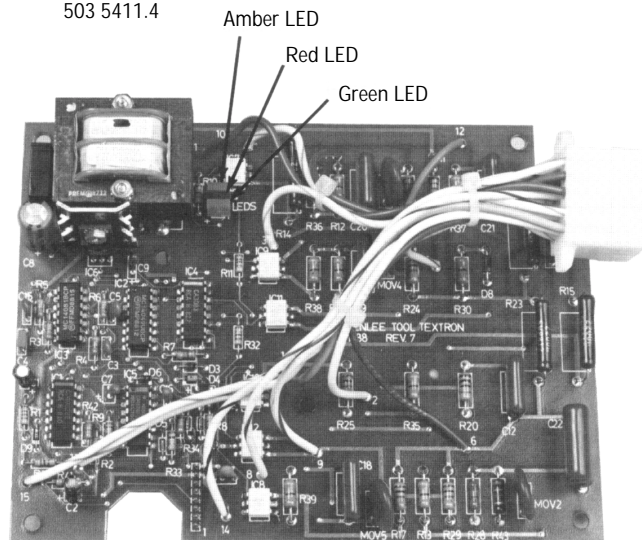
If motor still does not operate, the next step is to isolate the problem to the control section (pendant and control module) or to the power section (power module and motor) by the following procedure.

#### B. Control Section Analyses

1. Unplug the power cord from the power source.
2. Remove the cover of the control box and locate the three small LED lights located near the center of the control module.

3. While observing the red center LED light, plug the power cord into the power source connector. The red light will momentarily light up if there is power in the control module. (See chart below for confirming test if red LED fails to light.) This red LED will also momentarily light up when either the pendant bend and unload switches are released from the down position, indicating that the dynamic brake system is functioning properly.
4. If there is power in the control module as tested above, individually press the pendant switch in the BEND and UNLOAD positions while observing the amber and green LED lights. The green LED, when lighted, indicates that the bend circuit of the control module is operating and the amber LED, when lighted, indicates that the unload circuit of the control module is operating. (See chart below for confirming test if the LEDs fail to light.)

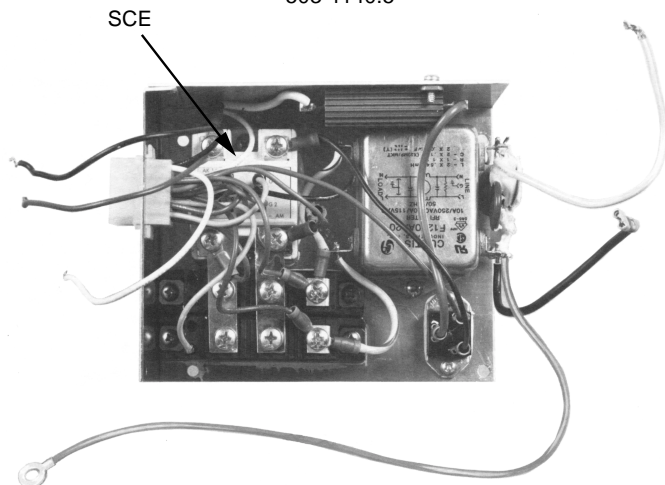
Control Module - Front  
503 5411.4



### Confirming Tests for LED Status

LED Light	Probable Cause	Confirming Test
Red LED fails to light	No power to control module	Check for input power to control module across the white wire of power cord and circuit breaker with AC voltmeter. If there is power present, replace the control module.
Green LED fails to light	No power in bend circuit of module	If not functioning, replace control module. If still not functioning, go to Section C.
Amber LED fails to light	No power in unload circuit of module	If not functioning, replace control module. If still not functioning, go to Section C.

Power Module - Front  
503 4140.5



**Note:** Replacement by user of individual components on Control, Auto Bend or Power circuit boards will void the warranty on the 555.

### C. Power Module Analysis

If the amber and green LEDs in the control module light when the pendant switch is held in BEND or UNLOAD position, but the motor does not run, then the power module and motor should be tested as follows:

1. With the power plug disconnected, remove the white and black motor leads from terminal AK1 and AK2 on the SCR block. With the use of a multimeter tester, read the resistance between the white and black leads from the motor. If the resistance between the two leads is greater than one ohm, the motor either has brushes that need to be replaced or the motor is "burned out." Replace parts as needed.
2. With a resistance of less than one ohm across the motor leads, the probable cause of malfunction is likely to be a defective power module. Burnt-out electronic parts on the power module are often located by observing sooty spots on the parts. If any components are believed to be defective, return the complete unit to a Greenlee authorized service center for servicing. **Do not unsolder components from the power module board.**
3. If the red LED operates, but coasts to a stop rather than stopping quickly, the dynamic brake is not functioning, and the power module should be replaced.
4. If the gold one ohm resistor appears damaged, replace power module or return bender to a Greenlee authorized service center.

## Electrical Component— Removal and Replacement

### A. Removal of Control Module

1. Disconnect 15 pin connector.
2. Remove six mounting screws.
3. Carefully pull the board out.

### B. Removal of Power Module

*Note: Step A is not required to remove power module.*

1. Remove black wire from circuit breaker. Remove white and black motor wires from AK1 and AK2 and the wire nut between the white power wire and the white power module wire.
2. Remove the 3 wire nuts from the red, white, and black wires between the pendant switch and the 15 pin connector.
3. Remove 5 mounting screws.
4. Unplug 15 pin connector if necessary. Carefully remove module.

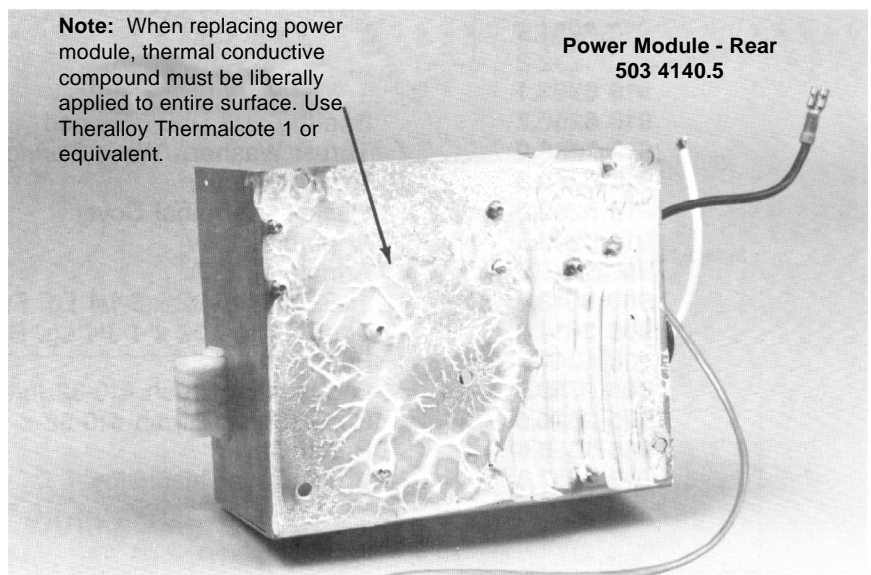
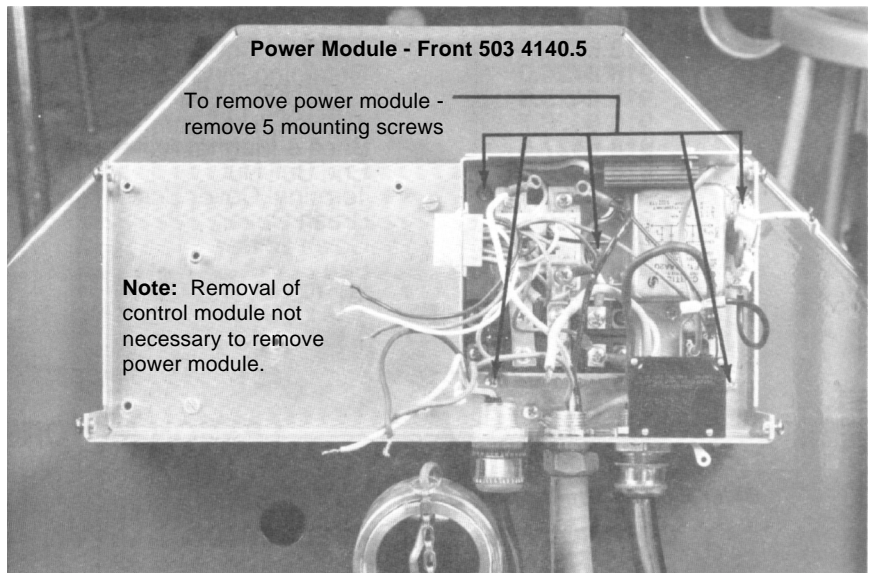
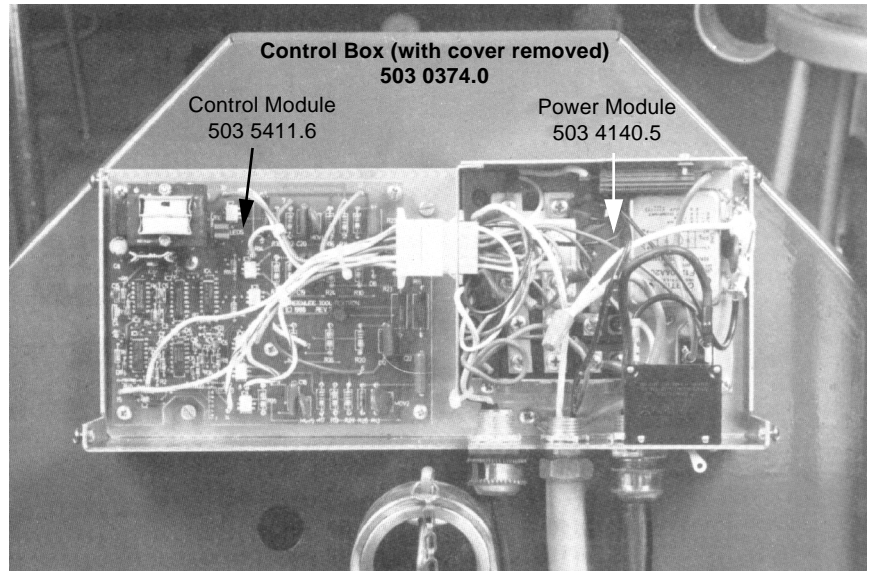
*Note: Module will tend to adhere to the control box panel due to its coating of thermal grease.*

### C. Replacement of Power Module

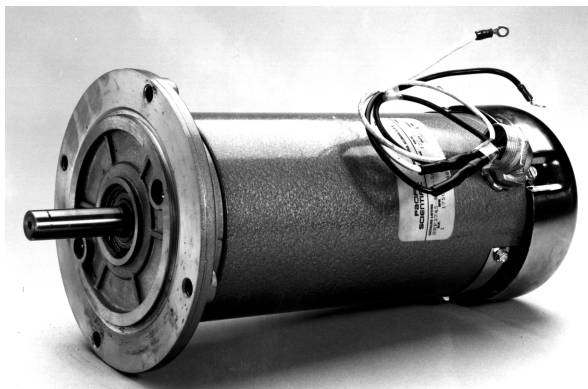
1. Cover rear surface of power module with thermal grease. Use Thermalloy Thermalcote 1 or equivalent.
2. Install the module in the control box and replace the 5 mounting screws.
3. Connect black power cord wire to the circuit breaker and the white power cord wire to the power module filter white wire with a wire nut. Connect white motor wire to AK1 of SCR block, and black motor wire to AK2 of SCR block.

*Note: Do not reverse the white and black motor wires.*

4. Connect the red, white, and black wires from the pendant switch to the red, white and black wires respectively of the 15 pin connector, using wire nuts.



**Parts List — Motor (115V and 230V)**



**PACIFIC SCIENTIFIC**

Part No.	Description	Qty.
918 6417.8	Motor - 115 Volt (standard) .....	1
918 6418.6	Bell, front end .....	1
918 6419.4	Bell, rear end .....	1
918 6420.8	Brush .....	2
918 6421.6	Bearing kit .....	2
918 6422.4	Thrust washer .....	1
918 6423.2	Terminal cover .....	1
918 6424.0	Retaining ring .....	1
918 6425.9	Armature, 115V .....	1
918 6426.7	Tie bolt, 115V .....	2
918 6427.5	Shell & magnet assembly, 115V .....	1
918 6428.3	End bell nut .....	2
918 6429.1	Terminal cover screw .....	2
918 6430.5	Brush cover .....	2
918 6431.3	Cover screw .....	2
918 6432.1	Fan .....	1
918 5876.3	90° Connector .....	1

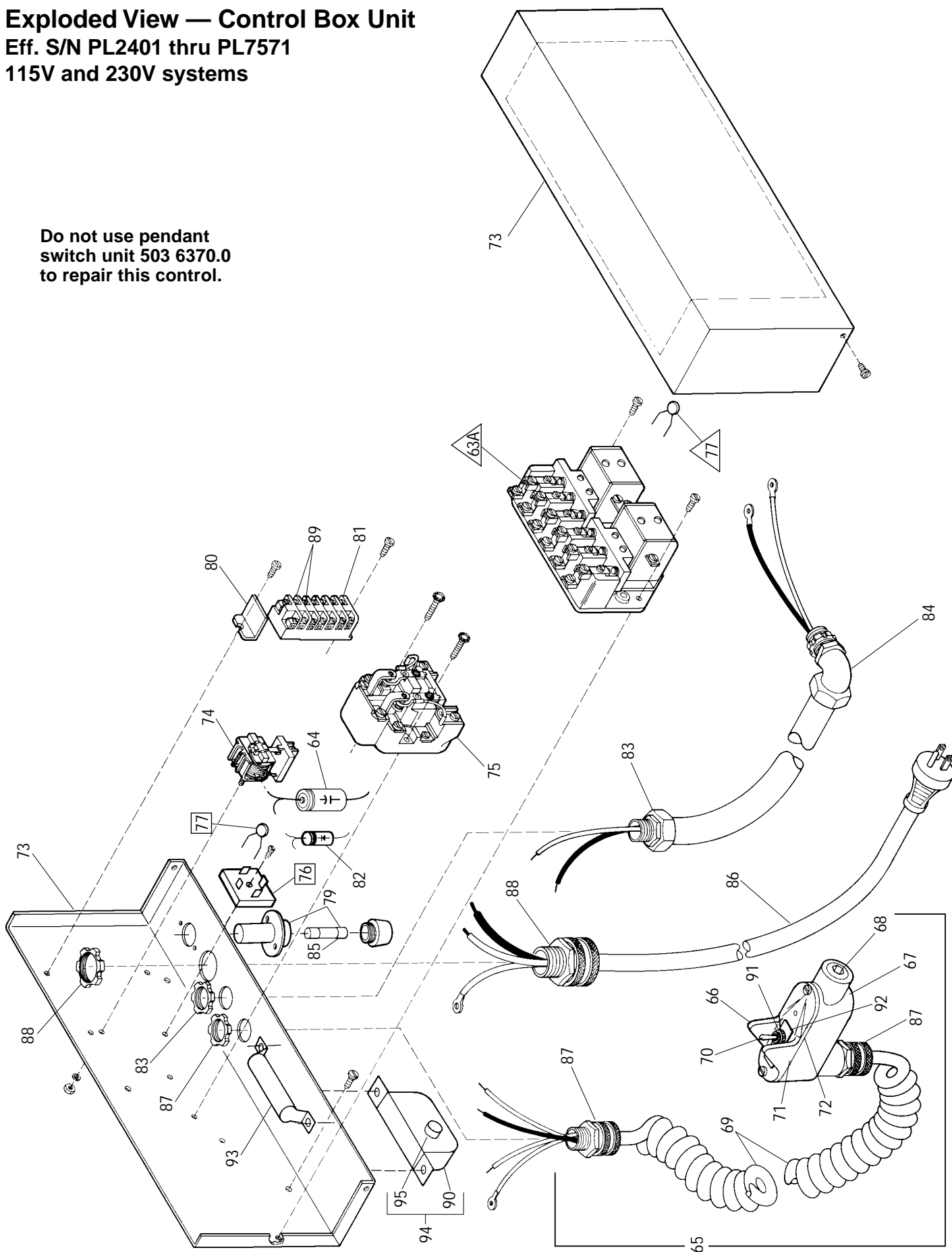
**LEESON MOTORS**

Part No.	Description	Qty.
918 5828.3	Motor - 230 Volt D.C. (optional) .....	1
918 5775.9	Motor - 115 Volt (standard) .....	1
918 6251.5	Bell, front end .....	1
918 6252.3	Bell, rear end .....	1
918 6253.1	Brush/plate assembly .....	2
918 6250.7	Bearing 203 double-shielded .....	2
918 6258.2	Thrust washer - wave spring .....	2
918 6255.8	Terminal cover .....	1
918 6259.0	Gasket - terminal cover .....	1
918 6248.5	Armature, 115V .....	1
918 6249.3	Armature, 230V .....	1
918 3613.4	Tie bolt, #10-32 x 3-1/4 large, front .....	4
918 3614.2	Tie bolt, #10-32 x 1-3/4 large, rear .....	4
918 6247.7	Frame - 48 .....	1
918 0750.9	Lockwasher - brush #10-32 inter. tooth .....	4
918 2626.0	Cover screw - brush #10-32 x 1/2 round head machine .....	4
918 6256.6	Brush cover .....	2
918 6257.4	Brush cover insulation .....	2



**Exploded View — Control Box Unit**  
 Eff. S/N PL2401 thru PL7571  
 115V and 230V systems

**Do not use pendant  
 switch unit 503 6370.0  
 to repair this control.**



## Parts List — Control Box Unit

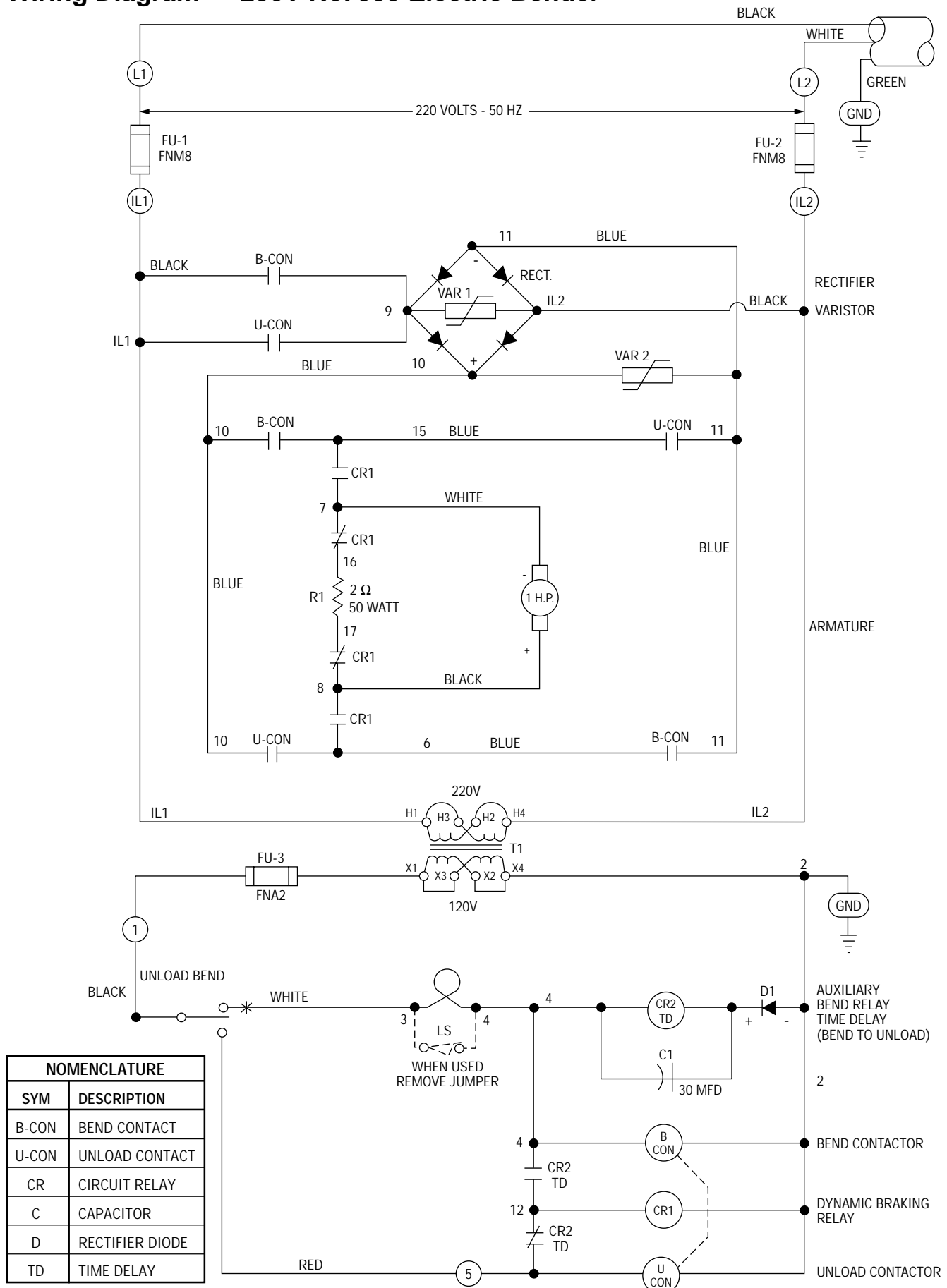
**115 Volt\* (502 4994.0)**

**230 Volt (502 3895.7)**

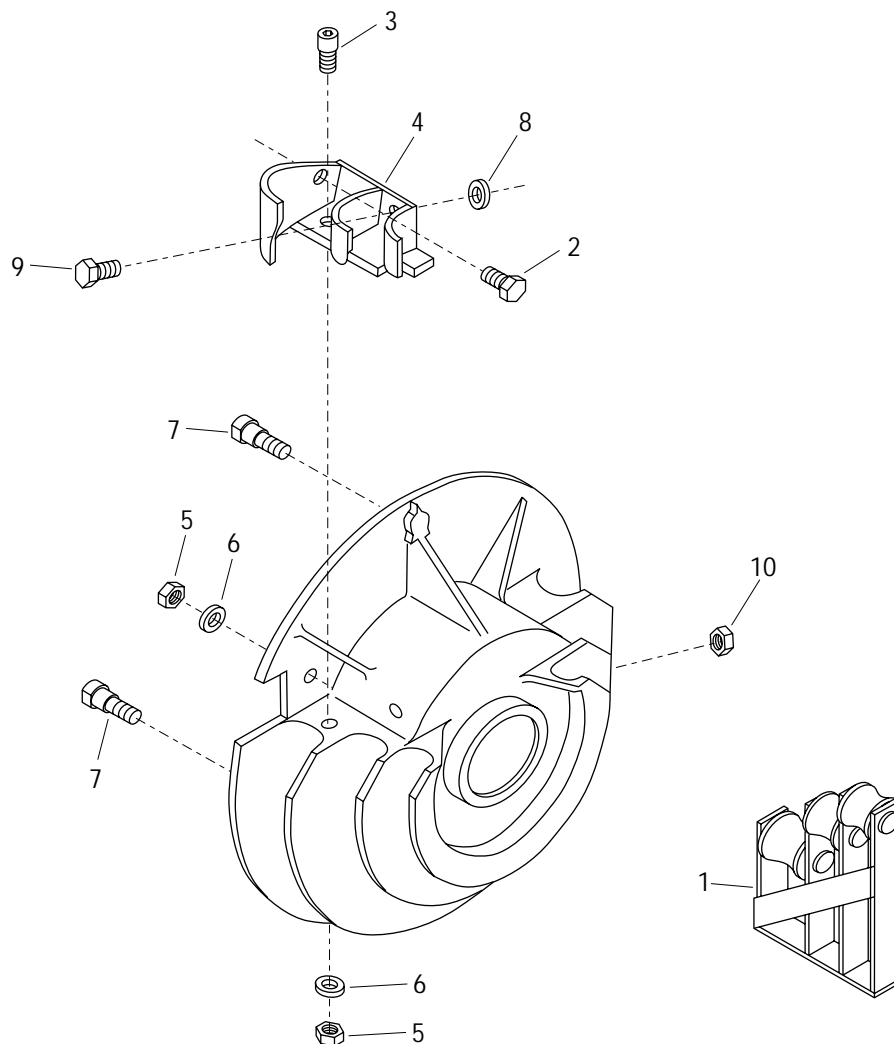
KEY	PART NO.	DESCRIPTION	QTY.
Δ	502 3902.3	Contacteur unit ..... (includes one each #63 & 67) (includes one each #63 & 77)	1
63A	918 5865.8	Contacteur .....	1
64	918 5852.6	Electrolytic capacitor .....	1
65	502 3906.6	Pendant switch unit (includes #66-72, 87, 91 & 92) .....	1
66	502 1106.4	Condulet cover .....	1
67	918 5314.1	Condulet .....	1
68	905 1476.9	Hole plug .....	1
69	502 4598.8	Retractable cord .....	1
70	918 5882.8	Toggle switch .....	1
71	918 5883.6	Cover gasket .....	1
72	918 5887.9	Condulet indulation .....	1
73	502 4996.7	Control box cover .....	1
74	918 5853.4	Relay S-D #283XAX .....	1
75	918 5866.6	Relay, contactor S-D #425-XBX-138 .....	1
□	502 6369.2	Rectifier unit (includes one each #76 & 77) .....	1
76	918 5997.2	Rectifier, 115V .....	1
	918 5888.7	Rectifier, 230V .....	1
77	918 5868.2	Varistor, 115V .....	1
	918 5889.5	Varistor, 230V .....	1
79	918 5995.6	Fuse holder (see solid-state schematic also) .....	1
80	918 5996.4	End piece (see solid-state schematic also) .....	1
81	918 5872.0	Terminal, 115V (see solid-state schematic also) .....	7
	918 5872.0	Terminal, 230V .....	7
82	918 5874.7	Diode .....	1
83	918 5875.5	1/2" Connector .....	1
84	918 5876.3	1/2" 90° Connector .....	1
85	918 5877.1	Fusetron, 15 amp — FNM-15 .....	1
	918 5890.9	Fusetron, 8 amp — FNM-8 .....	2
86	918 6074.1	Power cord, 12/3 .....	1
87	918 5884.4	Cord grip .....	2
88	918 5885.2	Cord grip .....	1
89	918 5886.0	Jumper (for units M-3 and older) .....	1
90	918 5891.7	Transformer, 230V .....	1
91	905 2770.4	Locking ring .....	1
92	502 4399.3	Plate, indicating (Bend-Unload) .....	1
93	918 5003.7	Resistor, 230V .....	1
94	502 6375.7	Transformer unit, 230V (includes #90 & 95) .....	1
95	918 5979.4	Fusetron, 2 AMP-FNA-2 .....	1

\* For units preceding SN PL800

## Wiring Diagram — 230V No. 555 Electric Bender



**Parts — Bending Shoe & Support Roller  
1/2 - 1-1/4" Rigid Conduit**

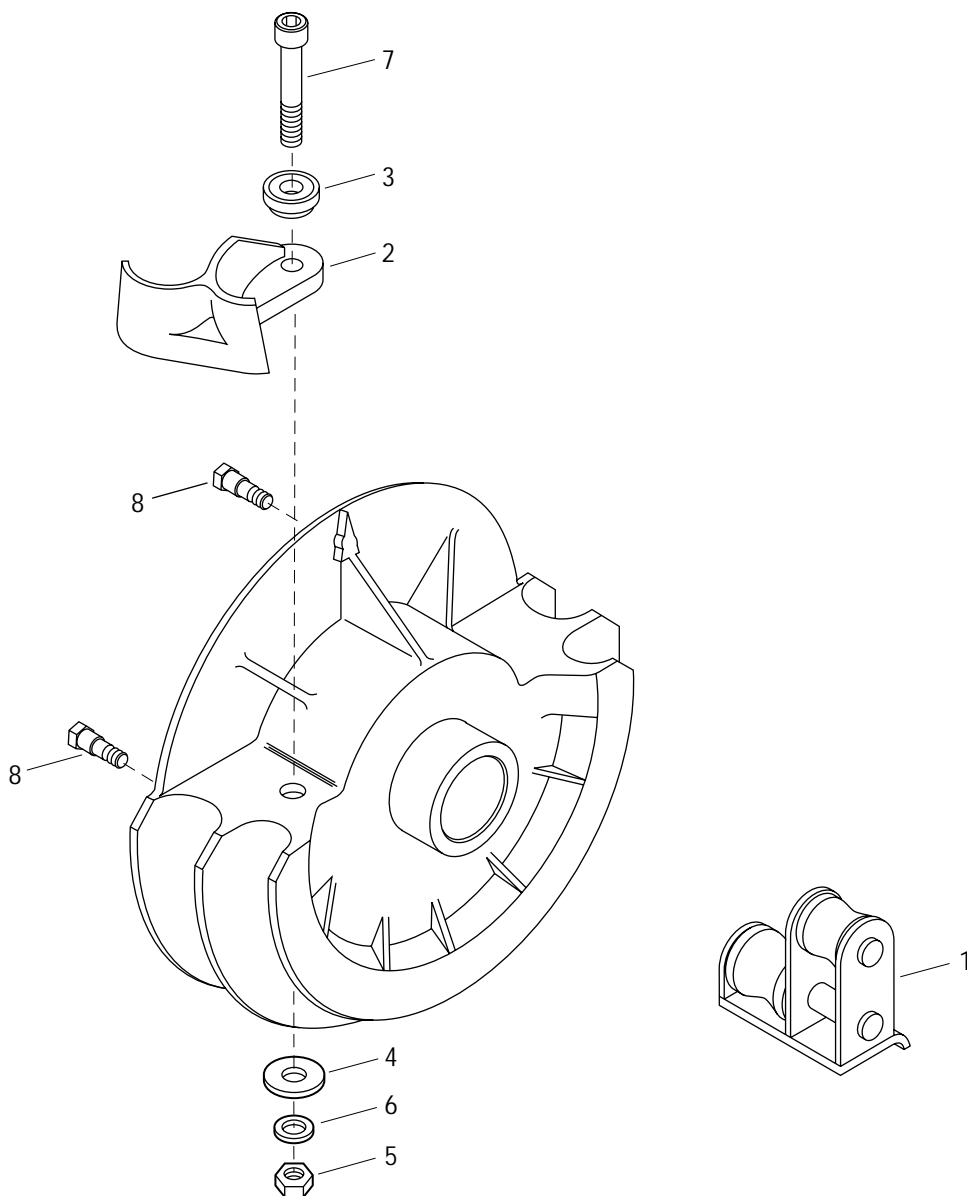


*When ordering parts give  
Serial Number of unit*

KEY	PART NO.	DESCRIPTION	QTY.
1	501 7979.9	Support roller 1/2 - 1-1/4" rigid conduit .....	1
	501 7935.7	Bending shoe assembly (includes #2 thru 10) .....	1
2	905 0597.2	3/8-16 UNC x 1 Socket head cap screw .....	1
3	905 1088.7	3/8-16 UNC x 1-1/4 Socket head cap screw .....	1
4	501 7966.7	Pipe hook .....	1
5	905 0639.1	3/8-16 UNC Hex nut cad.-plated .....	2
6	905 0506.9	3/8 Lock washer (split) .....	2
7	502 3422.6	Stud, drive .....	4
8	502 4735.2	Washer, 3/4 x 7/16 x 1/8 Neoprene .....	1
9	905 1295.2	3/8-16 UNC x 1-1/2 Socket head cap screw .....	1
10	905 2646.5	3/8-16 UNC Lock nut .....	1

**SHOE NOT AVAILABLE SEPARATELY**

**Parts — Bending Shoe & Support Roller  
1-1/2 - 2" Rigid Conduit**

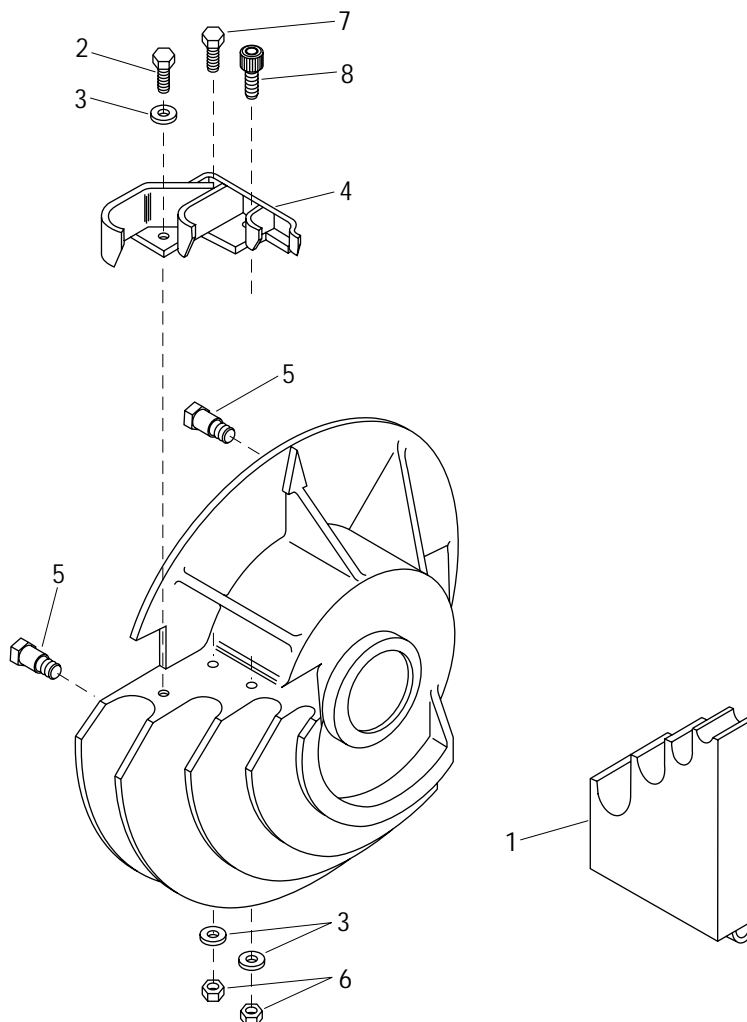


*When ordering parts give  
Serial Number of unit*

KEY	PART NO.	DESCRIPTION	QTY.
1	501 7984.5	Support roller 1-1/2 - 2" rigid conduit .....	1
	501 7937.3	Bending shoe assembly 1-1/2 - 2" rigid conduit (includes #2 thru 8) .....	1
2	501 7969.1	Pipe hook .....	1
3	501 7974.8	Pivot .....	1
4	905 2675.9	5/8 Flat washer .....	1
5	905 1569.2	5/8-11 UNC Hex nut .....	1
6	905 0905.6	5/8 Lock washer (split ) .....	1
7	905 2426.8	5/8-11 UNC x 4" Socket head cap screw .....	1
8	502 3422.6	Stud, drive .....	4

**SHOE NOT AVAILABLE SEPARATELY**

**Parts — Bending Shoe & Pipe Rest**  
**1/2 - 1-1/4" EMT Conduit**



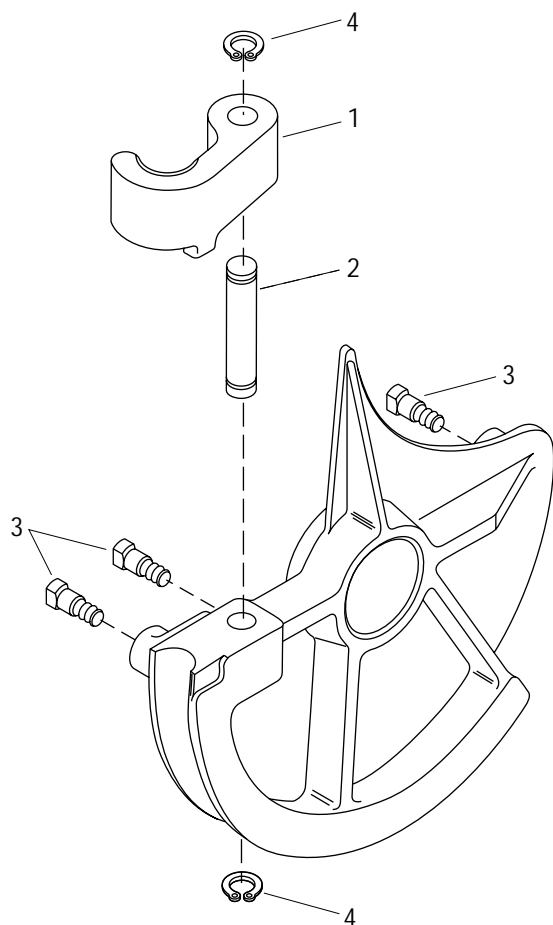
*When ordering parts give  
Serial Number of unit*

KEY	PART NO.	DESCRIPTION	QTY.
1	501 7986.1	Pipe rest assembly for 1/2 - 1-1/4 EMT conduit .....	1
	501 7944.6	Bending shoe assembly for 1/2 - 2-1/4 EMT conduit (includes #2 thru 8) .....	1
2	905 0597.2	3/8-16 UNC x socket head cap screw .....	1
3	905 0506.9	3/8 Lock washer (split) .....	3
4	502 4555.4	Pipe hook .....	1
5	502 3422.6	Stud, drive .....	4
6	905 0639.1	3/8-16 UNC Hex nut, cad.-plated .....	2
7	905 0532.8	3/8-16 UNC x 1-1/4 SAE grade 5 socket head cap screw .....	1
8	905 1088.7	3/8-16 UNC x 1-1/4 socket head screw .....	1

**SHOE NOT AVAILABLE SEPARATELY**

## Parts — Bending Shoes

When ordering parts give  
Serial Number of unit



### 1-1/2" EMT Conduit

KEY	PART NO.	DESCRIPTION	QTY
	502 3499.4	Shoe Unit, 1-1/2" EMT (includes #1-4) .....	1
1	501 8820.8	Hook, 1-1/2" EMT .....	1
2	501 8841.0	Pin, 1-1/2" EMT hook .....	1
3	502 3422.6	Stud, drive .....	3
4	905 1529.3	Ring, Tru-Arc #5160-87 retaining .....	2

### 2" EMT Conduit

KEY	PART NO.	DESCRIPTION	QTY
	502 3505.2	Shoe Unit, 2" EMT (includes #1-4) .....	1
1	501 8818.6	Hook, 2" EMT .....	1
2	501 8842.9	Pin, 2" EMT hook .....	1
3	502 3422.6	Stud, drive .....	3
4	905 1529.3	Ring, Tru-Arc #5160-87 retaining .....	2

### 1-1/2" IMC Conduit

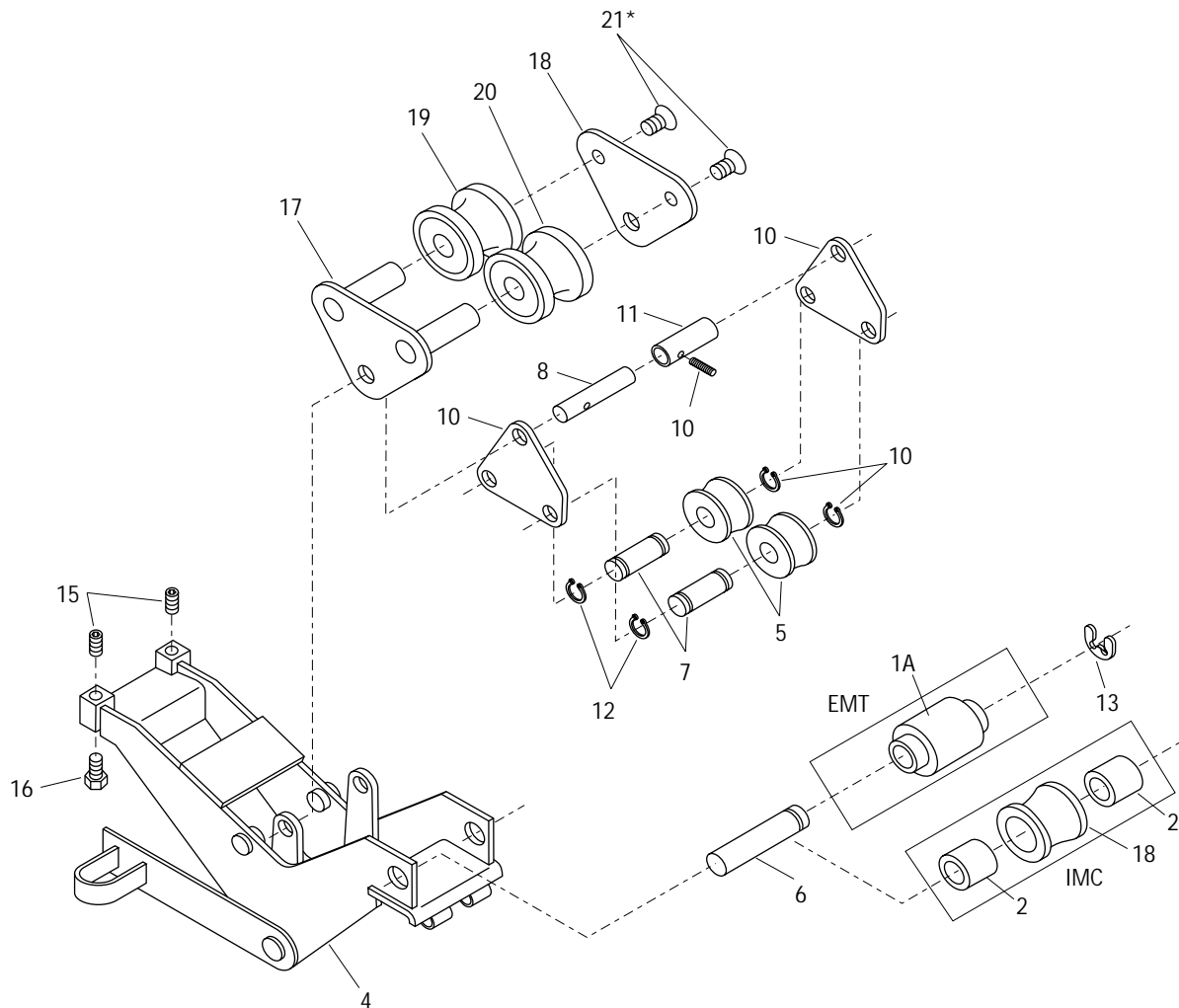
KEY	PART NO.	DESCRIPTION	QTY
	502 5263.1	Shoe Unit, 1-1/2" IMC (includes #1-4) .....	1
1	501 8811.9	Hook, 1-1/2" IMC .....	1
2	501 8837.2	Pin, 1-1/2" IMC hook .....	1
3	502 3422.6	Stud, drive .....	3
4	905 1528.5	Ring, Tru-Arc retaining .....	2

### 2" IMC Conduit

KEY	PART NO.	DESCRIPTION	QTY
	502 5268.2	Shoe Unit, 2" IMC (includes #1-4) .....	1
1	501 8807.0	Hook, 2" IMC .....	1
2	501 8838.0	Pin, 2" IMC hook .....	1
3	502 3422.6	Stud, drive .....	3
4	905 1528.5	Ring, Tru-Arc retaining .....	2

SHOE NOT AVAILABLE SEPARATELY

## Parts List — EMT or IMC Roller Support Unit



### EMT Roller Support Unit

KEY	PART NO.	DESCRIPTION	QTY
	502 3541.9	Support unit, 1-1/2" & 2" EMT Roller .....	1
		(includes all of the following)	
1A	502 7983.1	Roller unit, cushioned .....	1
4	502 3539.7	Frame unit .....	1
5	502 3510.9	Roller, 1-1/2" EMT .....	2
6	502 3511.7	Pin, roller support .....	1
7	502 3932.5	Pin, 1-1/2" EMT roller .....	2
8	502 3517.6	Pin, roller pivot .....	1
10	502 3524.9	Plate, 1-1/2" EMT pivot .....	2
11	502 3793.4	Spacer .....	1
12	905 1528.5	Ring, retaining .....	4
13	905 2464.0	Ring, Tru-Arc #X5133-98 External Series "E" retaining .....	1
14	905 1491.2	Rollpin #59-040-187-1250 .....	1
15	905 2848.4	Screw, 1/2-13 UNC x 3/4 cup point socket set .....	2
16	905 0542.5	Screw, 1/2-13 UNC x 1 hex head cap .....	2
17	503 4964.3	Support weldment, 2" roller .....	1
18	503 4965.1	Plate, 2" inner roller support .....	1
19	502 3519.2	Roller, 2" EMT front .....	1
20	502 3792.6	Roller, 2" EMT back .....	1
21*	905 3394.1	Screw, 7/16 - 14 UNC x 1 flat head .....	2

### IMC Roller Support Unit

KEY	PART NO.	DESCRIPTION	QTY
	502 5273.9	Support unit, 1-1/2" & 2" IMC roller .....	1
		(includes 1 & 2)	
1B	502 8334.0	Roller unit .....	1
2	502 8335.9	Spacer .....	2
4	502 6325.0	Frame unit .....	1
5	502 5274.7	Roller, 1-1/2" IMC .....	2
6	502 3511.7	Pin, roller support .....	1
7	502 3932.5	Pin, 1-1/2" IMC roller .....	2
8	502 3517.6	Pin, roller pivot .....	1
10	502 3524.9	Plate, 1-1/2" IMC pivot .....	2
11	502 3793.4	Spacer .....	1
12	905 1528.5	Ring, retaining .....	4
13	905 2464.0	Ring, Tru-Arc #X5133-98 External Series "E" retaining .....	1
14	905 1491.2	Rollpin #59-040-187-1250 .....	1
15	905 2848.4	Screw, 1/2-13 UNC x 3/4 cup point socket set .....	2
16	905 0542.5	Screw, 1/2-13 UNC x 1 hex head cap .....	2
17	503 4964.3	Support weldment, 2" roller .....	1
18	503 4965.1	Plate, 2" inner roller support .....	1
19	502 5279.8	Roller, 2" IMC .....	1
21*	905 3394.1	Screw, 7/16 - 14 UNC x 1 flat head .....	2

\* #21 must be torqued to 40 - 45 foot/pounds

# **GREENLEE TEXTRON**

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