



Pittsburgh Type Locking Formers

MODEL # PL-20E

MODEL # PL-16E

Operation and parts manual



Pittsburgh Locking Forming Machines

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CAUTION

THIS IS VERY DANGEROUS MACHINE.

NEVER PLACE HANDS OR ANY PART OF BODY IN
THE MACHINE. BODILY INJURY COULD OCCUR. NEVER
OPERATE THE MACHINE WITHOUT PROPER EYES
AND BODY PROTECTION.

Standard Equipment:

- Standard Pittsburgh Attachment # PA-20E or PA-16E, installed
- Power Flange Attachment # FA-20E or FA-16E, installed
- Drive Cleat Roll # DCR-20E, or DCR-16E, installed
- Double Seam Roll # DSR-20E or DSR-16E, installed



PA-20E or PA-16E:



FA-20E or FA-16E:



DCR-20E or DCR-16E:



DSR-20E or DSR-16E:

Optional Equipment:

RAR-20E or RAR-16E, Right Angle Roll for PL-20E or PL-16E



Specifications	GMC PL-20E	GMC PL-16E
Capacity:	20Ga.to 26 Ga	20Ga.to 16 Ga
Depth of pocket	5/16"	1/2"
Feeding speed	32FPM	23FPM
Main motor	1.5 HP, 110V	3HP, 220V,3phase
Weight	458 LBS	628 LBS
Machine dimensions, LxWxH	36" x 23" x 43"	43" x 27" x 48"

 **WARNING!**

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

 **WARNING!**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

SECTION 1: SAFETY

For Your Own Safety, Read Instruction Manual Before Operating This Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures. Always use common sense and good judgment.

⚠ DANGER Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE This symbol is used to alert the user to useful information about proper operation of the machine.

Safety Instructions for Machinery

⚠ WARNING

OWNER'S MANUAL. Read and understand this owner's manual **BEFORE** using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

DANGEROUS ENVIRONMENTS. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

DISCONNECT POWER FIRST. Always disconnect machine from power supply **BEFORE** making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.

EYE PROTECTION. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are **NOT** approved safety glasses.

WARNING

WEARING PROPER APPAREL. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control.

HAZARDOUS DUST. Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine **OFF** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

CHECK DAMAGED PARTS. Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at 909-947-7787

WARNING

Additional Safety for Milling Machines

UNDERSTANDING CONTROLS: The mill is a complex machine that presents severe cutting or amputation hazards if used incorrectly. Make sure you understand the use and operation of all controls before you begin milling.

SAFETY ACCESSORIES: Flying chips or debris from the cutting operation can cause eye injury or blindness. Always use safety glasses or a face shield when milling.

WORK HOLDING: Milling a workpiece that is not properly secured to the table or in a vise could cause the workpiece to fly into the operator with deadly force! Before starting the machine, be certain the workpiece has been properly clamped to the table. NEVER hold the workpiece by hand during operation.

SPINDLE SPEED: To avoid tool or workpiece breakage that could send flying debris at the operator and bystanders, use the correct spindle speed for the operation. Allow the spindle to gain full speed before beginning the cut.

SPINDLE DIRECTION CHANGE: Changing spindle rotation direction while it is spinning could lead to impact injury from broken tool or workpiece debris, and workpiece or machine damage. ALWAYS make sure the spindle is at a complete stop before changing spindle direction.

STOPPING SPINDLE: To reduce the risk of hand injuries or entanglement hazards, DO NOT attempt to stop the spindle with your hand or a tool. Allow the spindle to stop on its own or use the spindle brake.

CHIP CLEANUP: Chips from the operation are sharp and hot, which can cause burns or cuts. Using compressed air to clear chips could cause them to fly into your eyes, and may drive them deep into the working parts of the machine. Use a brush or vacuum to clear away chips and debris from machine or workpiece and NEVER clear chips while spindle is turning.

MACHINE CARE & MAINTENANCE: Operating the mill with excessively worn or damaged machine parts increases risk of machine or workpiece breakage which could eject hazardous debris at the operator. To reduce this risk, maintain the mill in proper working condition by ALWAYS promptly performing routine inspections and maintenance.

CUTTING TOOL USAGE: Cutting tools have very sharp leading edges—handle them with care! Using cutting tools that are in good condition helps to ensure quality milling results and reduces risk of personal injury from broken tool debris. Inspect cutting tools for sharpness, chips, or cracks before each use, and ALWAYS make sure cutting tools are firmly held in place before starting the machine.

WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

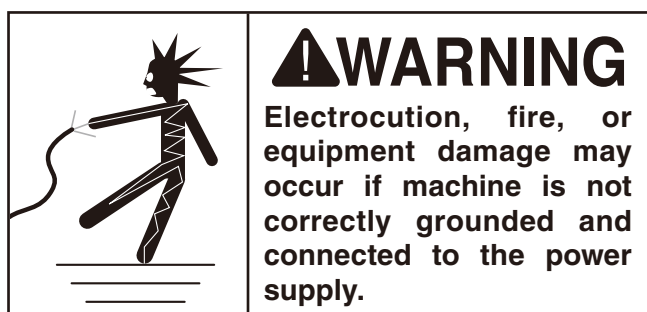
CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.

SECTION 2: POWER SUPPLY

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.



Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating at 110V .. 13.2 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements in the following section.

Circuit Requirements

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

PL-20E, 110V, 15Amp

PL-16E, 220V, 3phase 15Amp

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

! CAUTION

For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or electrical codes in your area.

Note: *The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure that the circuit is properly sized for safe operation.*

Any questions,

please Call GMC Tech at

909-947-7787 USA

Grounding Instructions

This machine **MUST** be grounded. In the event of certain malfunctions or breakdowns, grounding reduces the risk of electric shock by providing a path of least resistance for electric current.

The power cord and plug specified under “Circuit Requirements for 220V” on the previous page has an equipment-grounding wire and a grounding prong. The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances (see figure below).

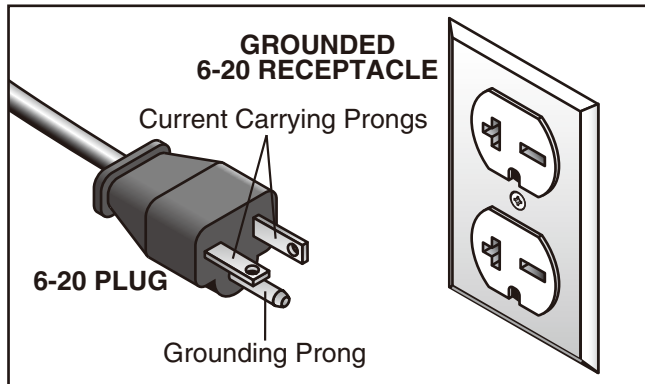
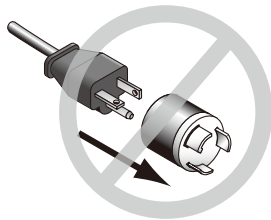


Figure 5. Typical 6-20 plug and receptacle.

CAUTION



No adapter should be used with the required plug. If the plug does not fit the available receptacle, or the machine must be reconnected for use on a different type of circuit, the reconnection must be made by a qualified electrician and comply with all local codes and ordinances.

WARNING

Serious injury could occur if you connect the machine to power before completing the setup process. DO NOT connect to power until instructed later in this manual.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

Minimum Gauge Size 12 AWG
Maximum Length (Shorter is Better).....50 ft.

SECTION 3: SET UP

Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover any damage, please call us immediately at 909-947-7787 for advice.

Save the containers and all packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

When you are completely satisfied with the condition of your shipment, inventory the contents.



Needed for Setup

The following are needed to complete the setup process, but are not included with your machine.

For Lifting (Page 19)

- A forklift or other power lifting device rated for 50% more than the weight of the machine.
- Two lifting straps and a chain with a safety hook, each rated for 50% more than the weight of the machine.
- At least two other persons to help with the operation.
- Safety glasses for each person.

For Cleanup

- Cotton disposable rags.
- Cleaner/degreaser (see Page 17).

For Power Connection

- We recommend a qualified electrician to ensure a safe and code-compliant connection to the power source (refer to Page 13 for details).







**PL-20E & PL-16E
Pittsburgh
lock former machine**



二、 Model and technical parameters (table 1)

Serial No.	Model	Power (kw)	Capacity (mm)	Weight (kg)	Shapes	Dimension (L. W. H)
1510001	LA-8	0.75	0.3 ~ 0.8	45		600×400×450
1512002	LB-10	1.5	0.3 ~ 1.0	150		980×560×950
1512113	PL-16E	1.5	0.3 ~ 1.0 B<0.8	190		920×560×1150
1512014	LB-10C	1.5	0.3 ~ 1.0	170		920×560×1150
1512042	LB-10E	2.2	0.3 ~ 1.0	220		1200×600×950
1512052	LB-10F	1.5	0.3 ~ 1.0	180		920×560×950
1512102	LB-10R	1.5	0.3-0.8	190		920×560×950
1512112	LB-10B	1.5	0.3 ~ 1.0 B<0.8	170		980×560×950
1513003	LC-12	1.5	0.5 ~ 1.2	180		980×600×1000
1513013	LC-12R	1.5	0.5 ~ 1.2	190		980×600×1200
1513113	LC-12B	1.5	0.5 ~ 1.2 B < 0.8	180		980×600×1000
1513123	LC-12BR	1.5	0.5 ~ 1.2 B < 0.8	190		980×600×1200
1513023	LC-12C	1.5	0.5 ~ 1.2	180		980×600×1000
1513033	LC-12D	1.5	0.5 ~ 1.2 B < 0.8	200		980×650×1000
1513133	LC-12DR	1.5	0.5 ~ 1.2 B < 0.8	210		980×650×1200
1513063	LC-12M	1.5	0.5 ~ 1.2 B < 0.8	280		980×700×1000
1513163	LC-12B M	1.5	0.5 ~ 1.2 B < 0.8	280		660×700×1000
1512073	LC-12V	4	0.5 ~ 1.2	480		1400×600×950
1513004	LC-15	2.2	0.7 ~ 1.5	280		1100×600×900
1513034	LC-15D	2.2	0.7~1.5 B < 1.0	310		1100×600×900

Remark : Part thickness symbol B refers to the drive cleat rolls and right angle rolls used in bending head.

Continuous: (table1)

Serial No.	Model	Power (kw)	Capacity (mm)	Weight (kg)	Shape	Dimension
1513134	PL-20E PL-16E	2HP 3HP	20GA 16GA.	451 781		1100×600×1100
1513005	RAR-20 RAR-16		1.0 ~ 2.0	480		1200×600×900
1510302	R10	1.5	0.4-1.0	120		680×550×900
1510304	R15	1.5	0.7-1.5	160		700×600×900

Remark : Part thickness symbol B refers to the drive cleat rolls  and right angle rolls  used in bending head.

GMC model Pittsburgh lock machine is multi-function, now once you have the standard master; you can replace or equip rolls needed according to the table below. Please clarify the serial number while ordering.

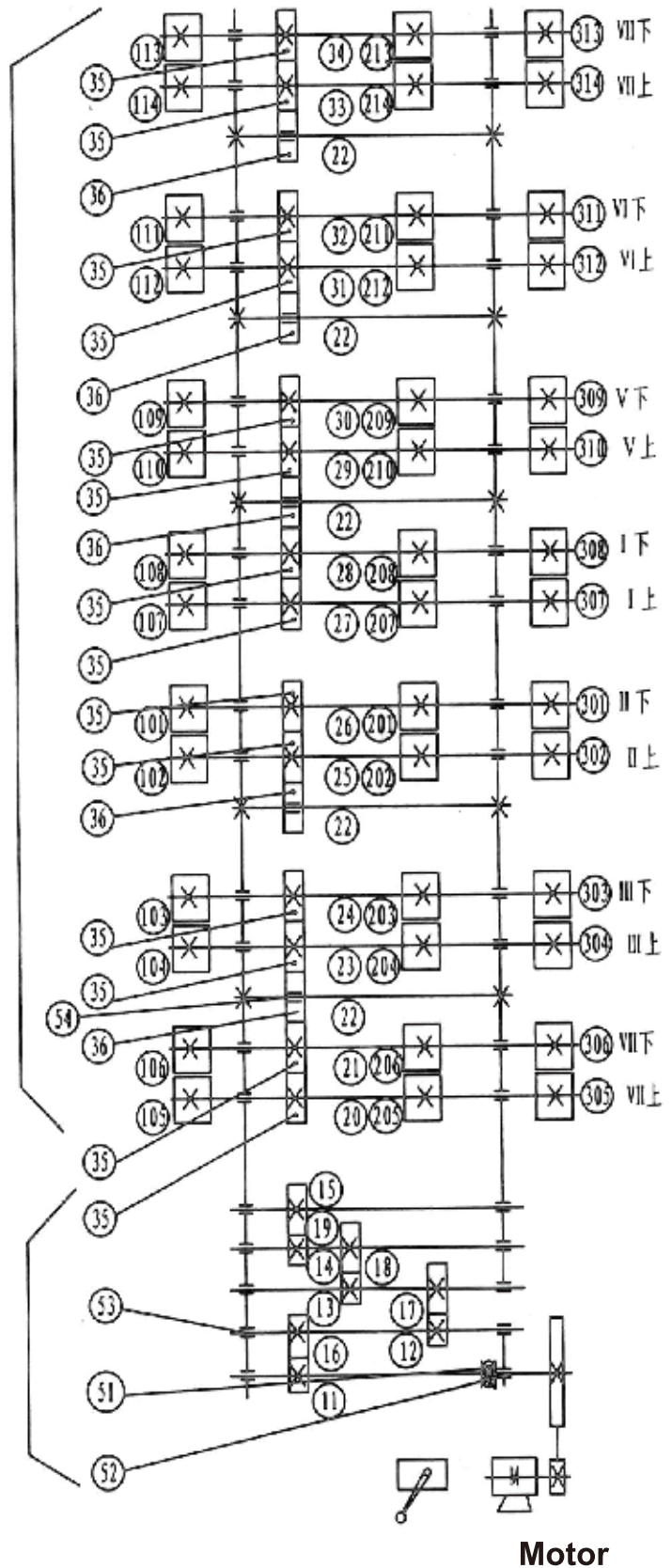
PM for GMC PL-20E / PL-16E

1. Lubricate the shafts every month, with SHELL Tonna-33 or Mobile VACTRA-2
2. clean the dies every every week.

2) Driving system

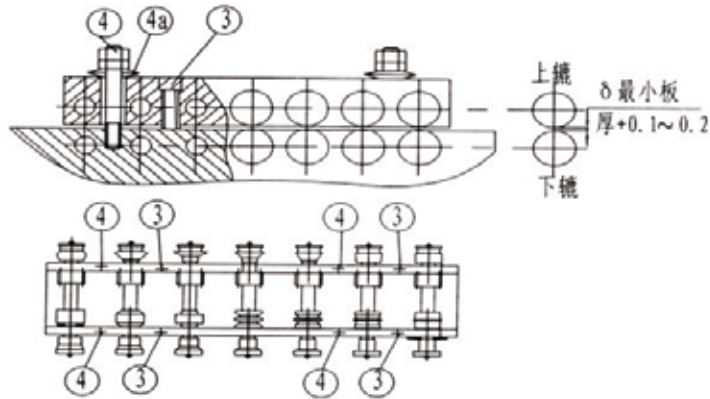
The whole transmission part is an open transmission gearbox. First, transmits to shaping part by motor and belt pulley through gear axis (11)(12)(13)(14)(15) and gear wheel (16) (17)(18)(19). Gear wheel 19 drives separately gears on down III axis (35), gears on down IV axis (35), and through several bridge gears 36 to drive the whole motion system. PL-20E/16E rolling machine has 6X pairs of vertical shaping axis, each pair of axis is equipped with transmission gears (35), left, middle and right three rolls.

Diagram 3 is a comprehensive transmission picture, but not all the models have all the components listed in the picture.

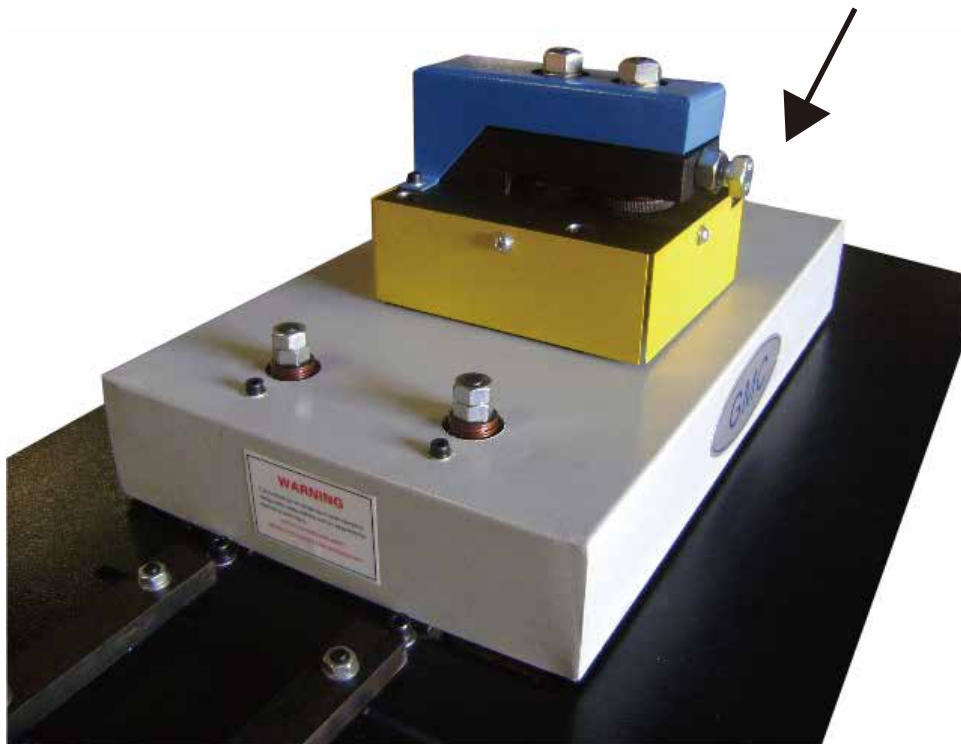


5. How to adjust the gap between top row rolls & bottom row rolls

Based on the sheet metal thickness, need to read just the gap. Thicker material needs wider opening, adjust the top(4) bolts to adjust the gap clearance.



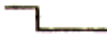



Flange Attachment Picture: # FA-20E / # FA-16E



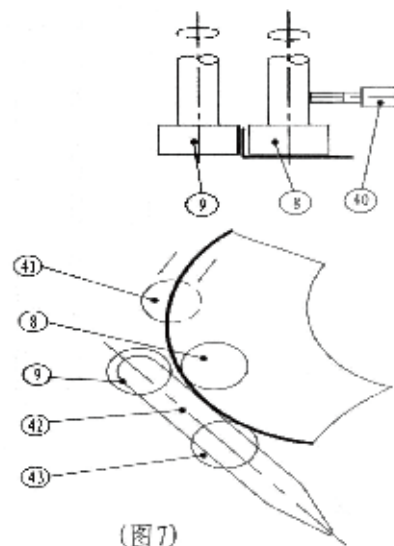
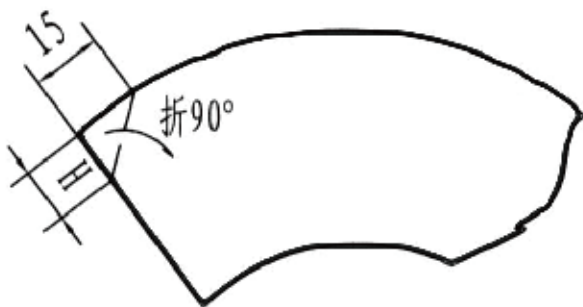
As for the right angle roller 300 parts, you can adjust manually with a saucer-shaped spring added on the rolling rumble tail to ensure that the parts are bended to \perp 90°

6. Adjustment of lock forms

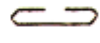

Loosen the bolts on input positioning plate (1) or (2) and move them parallel along the gutter, the guide plate's position then changes the width of materials taking part in shaping, and different bone shapes are made. Wide materia  , narrow material  , wide material  , narrow material  .

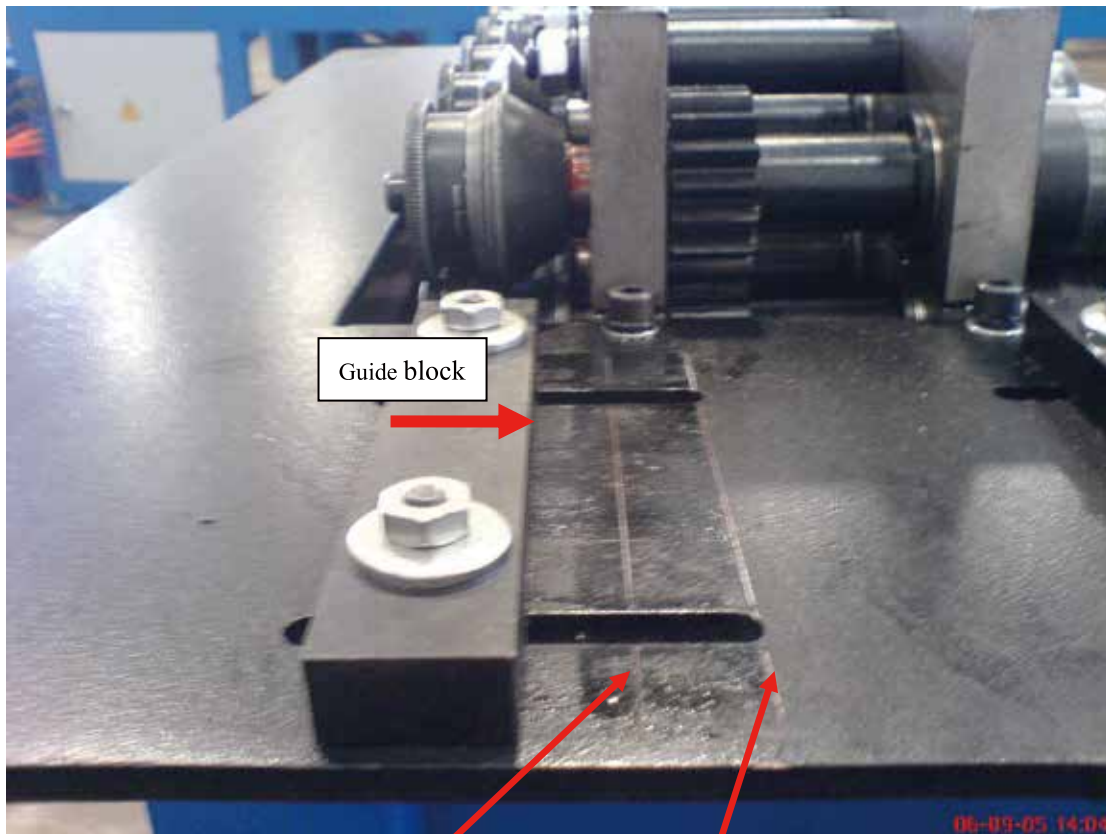
7. How to use Flange Attachment # FA-20E/ FA-16E

First, bend one angle of the work piece into 90°, length 5/8" (15mm), height 3/8" (8mm)
 Second, insert B-end (picture 7) along the pointer's direction, in the same direction of the guide(41) into the rolls(8)、(9), screw tightly the bolt (40), span the handle (42) to the side of the fan plate. Third, switch on the machine; press the material towards the rolls along the pointer, in the same direction of the guide, and shaping can be finished after forming.



8. safety and maintenance

- 1) PL-20E use 110V power supply, and PL-16E use 220V, 3 phase power supply. Must certified electrician set up and wire up the machine to ensure the operator's safety.
- 2) The Pittsburgh lock machine employs rolling bearing and is filled with good lubrication grease while assembling, so they don't need special maintenance. You can add small amount of lubrication oil to the two insides of upper beam (6)
- 3) This machine employs open transmission, so you should apply proper amount of lubrication grease on the gear surface.
- 4) Wipe clean in time the scrap iron on the gear and upper&lower roll surface, and add small amount lubrication oil on the roll surface.
- 5) Work pieces are shaped gradually during the course of rolling. When the shaping material plates exceed the third shaping roll, backing is not permitted. If backing is necessary, loosen the nut (s) and lift the upper plate (6) to quit the material plate, or the machine parts will be damaged.
- 6) Roll  bone shape and I vertical shearing rumble should be lubricated properly during the course of using. There must not be sand on the steel plate in the construction site. When LC12D rumbling machine is shaping  bone shape, please take away the guide positioning plate.



Line # 1 FOR DOUBLE SEAMS LOCK

Line # 2 FOR PITTSBURGH LOCK SEAMS

How to use Pittsburgh Lock Seams and Double seams:

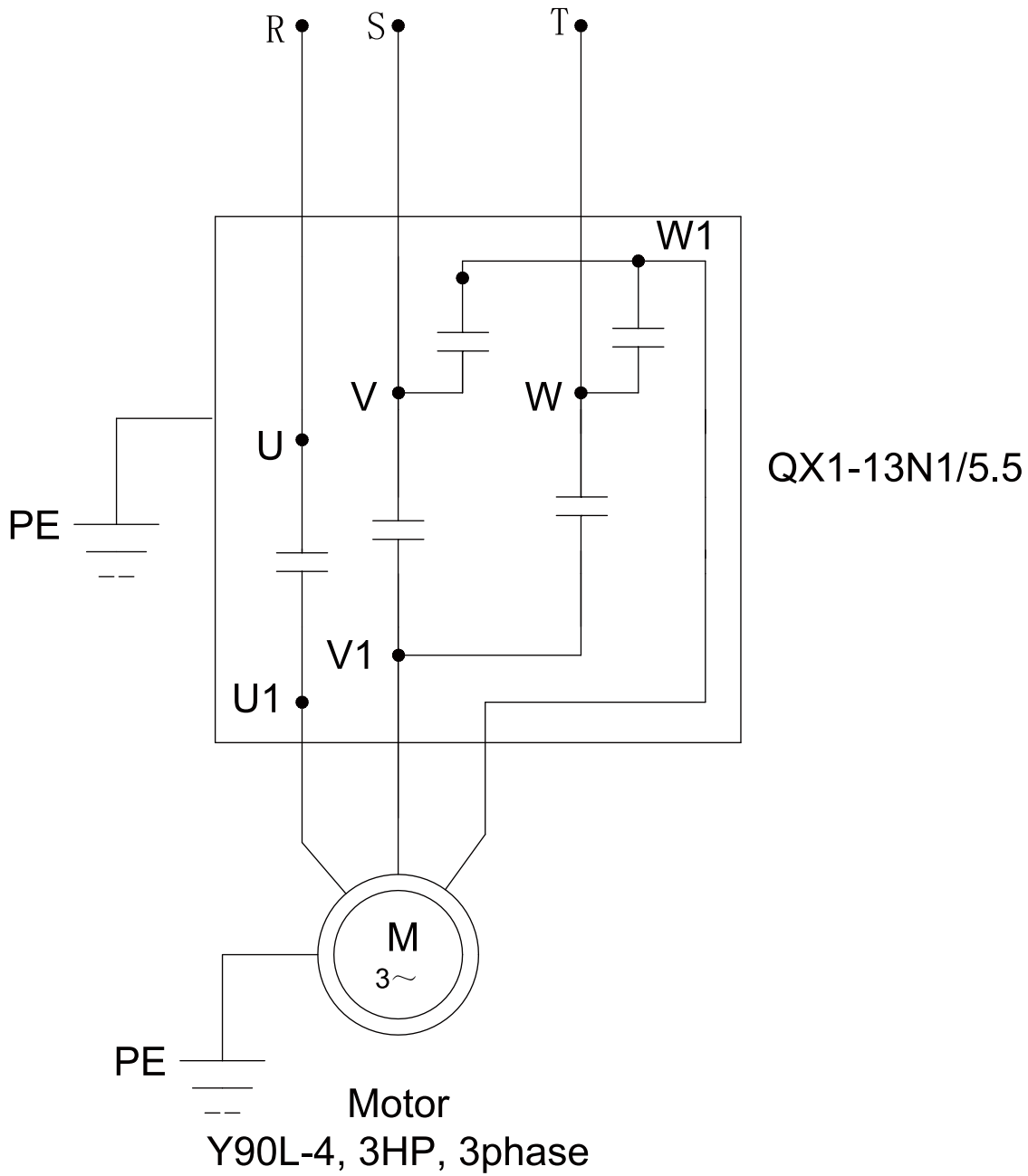
This machine comes with 2 in 1 roll set for forming Pittsburgh Lock Seams and Double Seams lock.

Please move the black guide block to the line # 1 for Double Seams lock

And move the black guide block to the line # 2 for Pittsburgh Lock Seams

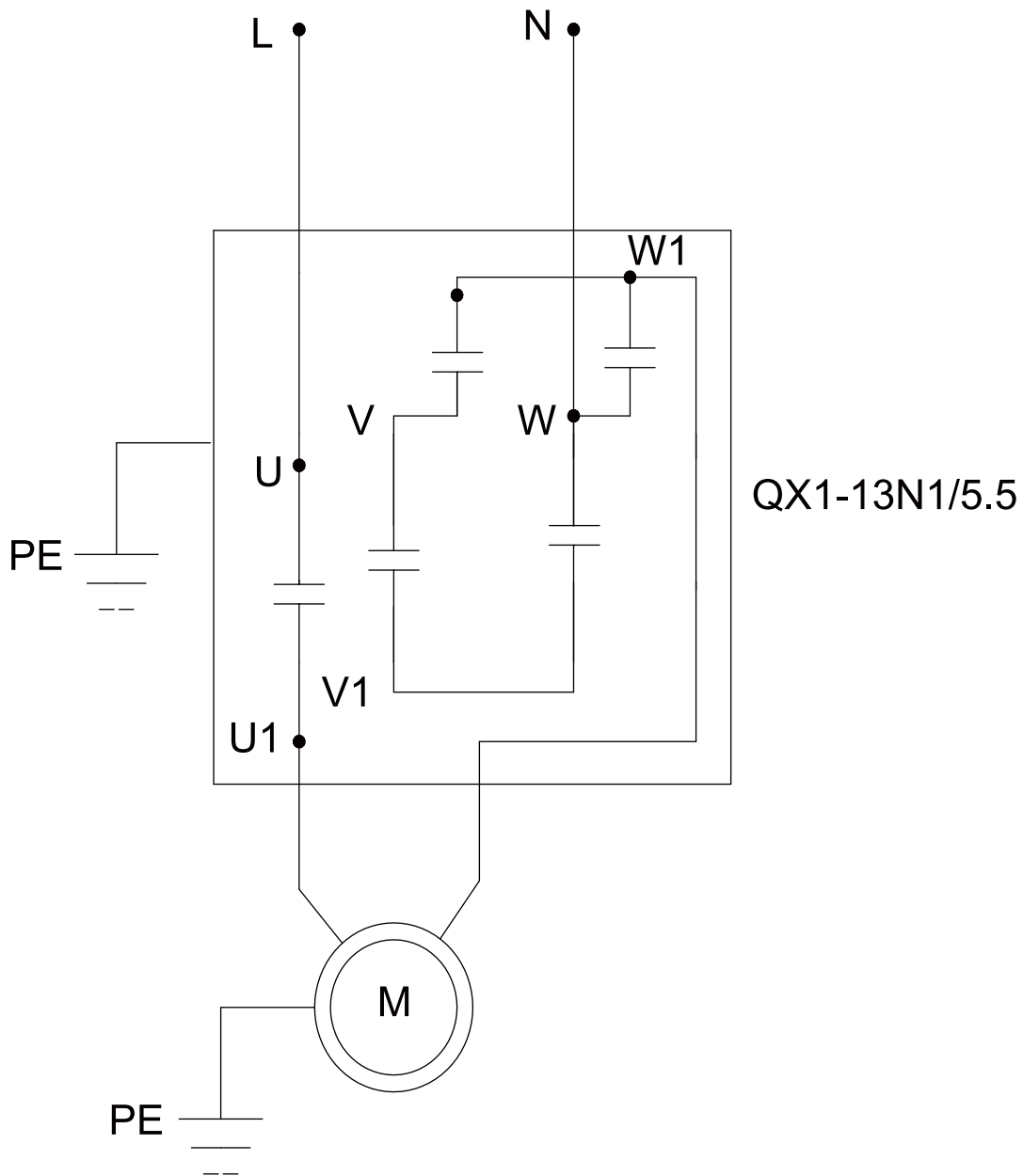
Our GMC Locking Former # PL-20E and PL-16E comes with standard Pittsburgh lock roll, Power Flanger, Double seam roll, Drive cleat roll, all rolls are installed in 1 machine, no additional installation required.

Electrical diagram for PL-16E, 220V, 3phase



QF	drum switch	QX1-13N1	1
CODE	components name	mode	qty.

Electrical diagram for PL-20E,110V



QF	on/off switch	QX1-13N1	1
CODE	components name	mode	qty.

PL-20E/16E Pittsburgh lock machine

Quality Certificate

This machine is passed the quality inspection.

QC DEPARTMENT (STAMP)

DIRECTOR (STAMP)

SERIAL NO. of DELIVERY:

DATE: _____

PL-20E/16E Model Pittsburgh lock machine

Packing list

Serial NO.	Model and specification	Name	Qty.	Remark
01		Pittsburgh lock machine		

Accessories and forming rolls

Serial No.	Model	Name	Qty.	Remark
01	DCR-20E DCR-16E	Drive cleat roll set	1	
02	PA-20E PA-16E	Pittsburgh locks	1	
03	FA-20E FA-16E	Flange attachment	1	
0 4	DSR-20E DSR-16E	Double seam roll set	1	
05	RAR-20E RAR-16E	Right angle roll set This is optional	1	

Quality Inspection

Serial No.	Item and means	Contents and standard requirements	Qualified	Unqualified	Signature
1	Appearance	1) The painting surface is even, bright, complete and without obvious projecting particles or burs. Defects like obvious roughness, sag, blistering, blanch or chills are not permitted.			
		2) Outward welding lines should be trimmed to fair and even, without obvious defects in width, height, roughness or gurgitation.			
2	Assembly quality	1) Upper and lower side plates cannot be moved or loosened. Each tightening and adjusting screw should be reliable.			
		2) Roll shaft should not have obvious axial float.			
		3) Bearings should not become hot abnormally after no load running for an hour.			
3	Noise	There should not be abnormal sound or vibration during running.			
4	Cleaning level	The outside and inside of the machine should be clean, without oil stain, dust, rust, iron dust or other sundries.			
			Allowance	Practical measurement	Signature
5	Geometrical precision	1) the inside parallelism level allowance between the two upper and lower plate does not exceed 0.2mm.	0.2		
		2) The radial and end float allowance of the upper and lower rolls do not exceed 0.15mm.	0.15		
		3) the level uprightness allowance of the upper and lower rolls center line does not exceed 0.2mm.	0.2		
6	Working precision	1) Rolls dimension distortion does not exceed 1mm beyond the range of 1000mm, roll shape angle $\pm 1^\circ$.	$\pm 1^\circ$		
		2)No side distortion, material leaking or damage, the shape is smooth and level without obvious distortion or bending , and the size is up to the standard specified in the design.			

PARTS LIST

Serial No.	Name	Qty.	Serial No.	Name	Qty.
1	Bolt M6X8	30	49	Bolt M10X30	2
2	Washer 6	32	50	Round pin 6x25	2
3	Side cover	2	51	Round pin 6x20	2
4	Stand	1	52	Bolt M8X12	2
5	Small pulley	1	53	Block	1
6	Set screw M8X10	8	54	Shaft	1
7	Motor	1	55	Connecting shaft	2
8	Bolt M8X20	4	56	Mat	1
9	Spring washer 8	4	57	Lifting pin	1
10	Washer 10	4	58	Pressure spring	1
11	Nut M10	4	59	Adjusting handle	1
12	Guide plate	1	60	Supporting block	1
13	Nut M8	1	61	Round pin 12x40	1
14	Bolt M8X30	1	62	Shield	1
15	Working platen	1	63	Plate	1
16	Bolt M6X12	8	64	Bolt M6X10	4
17	Bolt M10X20	4	65	Junction plate	1
18	Plate	1	66	Big bevel gear	1
19	Profiling plate	1	67	Small body	1
20	Washer 8	2	68	Multi-roll bearing HK1412	2
21	Bolt M8X20	2	69	Split washer	1
22	Guide plate	1	70	Small shaft	1
23	Bolt M6X16	2	71	Mat	2
24	Small working platen	1	72	Screw	2
25	Small plate	1	73	Disk spring A20-1	12
26	Bolt M5X10	2	74	Screw	2
27	Block	1	75	Disk spring A31.5-1	12
28	Multi-roll bearing HK1618	3	76	Lower cover	2
29	Spacer bush	1	77	Shield	1
30	Handle	1	78	Baffle	2
31	Set screw M6X30	1	79	Roller shaft T4/5	2
32	Support plate	1	80	Connecting shaft	1
33	Bolt M6x20	4	81	Roller shaft #5	1
34	Small shaft	1	82	Connecting shaft	2
35	Shield	1	83	Roller shaft #5	1
36	Mat	4	84	Roller shaft T3	1

37	Gear	2	85	Roller shaft #3	1
38	Key 6x28	2	86	Roller shaft T2	1
39	Slide bolck	1	87	Roller shaft #2	1
40	Multi-roll bearing	1	88	Roller shaft T1	1
41	Round pin	2	89	Roller shaft #1	1
42	Plate	1	90	Junction plate	1
43	Bolt M6X20	2	91	Multi-roll bearing	23
44	Small ripple handle	1	92	Round pin 10x25	2
45	Shaft	1	93	Mat	2
46	Split washer 12	2	94	Junction plate	1
47	Block	1	95	Junction plate	1
48	Terminal pad	1	96	Junction plate	1
97	Gear shaft	1			
98	Gear	2			
99	Woodruff key 5x7.5x19	3			
100	Gear shaft	1			
101	Big pulley	1			
102	Belt	1			
103	Gear shaft	1			
104	Bolt M5X30	2			
105	Contiguous block	1			
106	Plate	1			
107	Bolt M5X8	2			
108	Pressure spring	1			
109	Plate	1			
110	Round pin 5x12	1			
111	Gear	1			
112	Connecting shaft	2			
113	Cover	1			
114	Small shaft	2			
115	Set screw M5X8	2			
116	Cover	1			
117	Connecting shaft	1			
118	Gear	3			
119	Multi-roll bearing	1			
120	Connecting shaft	2			
121	Bolt M12X25	1			
122	Spring washer 12	19			
123	Bolt M12X25	19			
124	Multi-roll bearing NK19/16	6			
125	Lock sleeve	2			

