



1 Intro

1.1 Safety first, second, and third

This is a familiarization and safety class, not an exhaustive machine training.

1.1.1 Pinch safety

1.1.2 Completely unforgiving

1.1.3 Use Guards

Limits unpredictable workpiece behavior – if the machine wants to do something you will not prevent it.

1.1.4 Not toys, no joking around

Unexpected operation can have dire consequences

1.2 Mild steel and softer –

NO HARDENED METAL NO BAR STOCK

1.3 Report issues on Talk “Issues and requests category”

1.3.1 Tagging “@Team_Metal_Shop”

1.4 Manuals

On committee drive under “N:\metalworking\Manuals”

2 GEKA Usage

May need to Plug in as it shares the power outlet with other devices.



2.1 Review controls

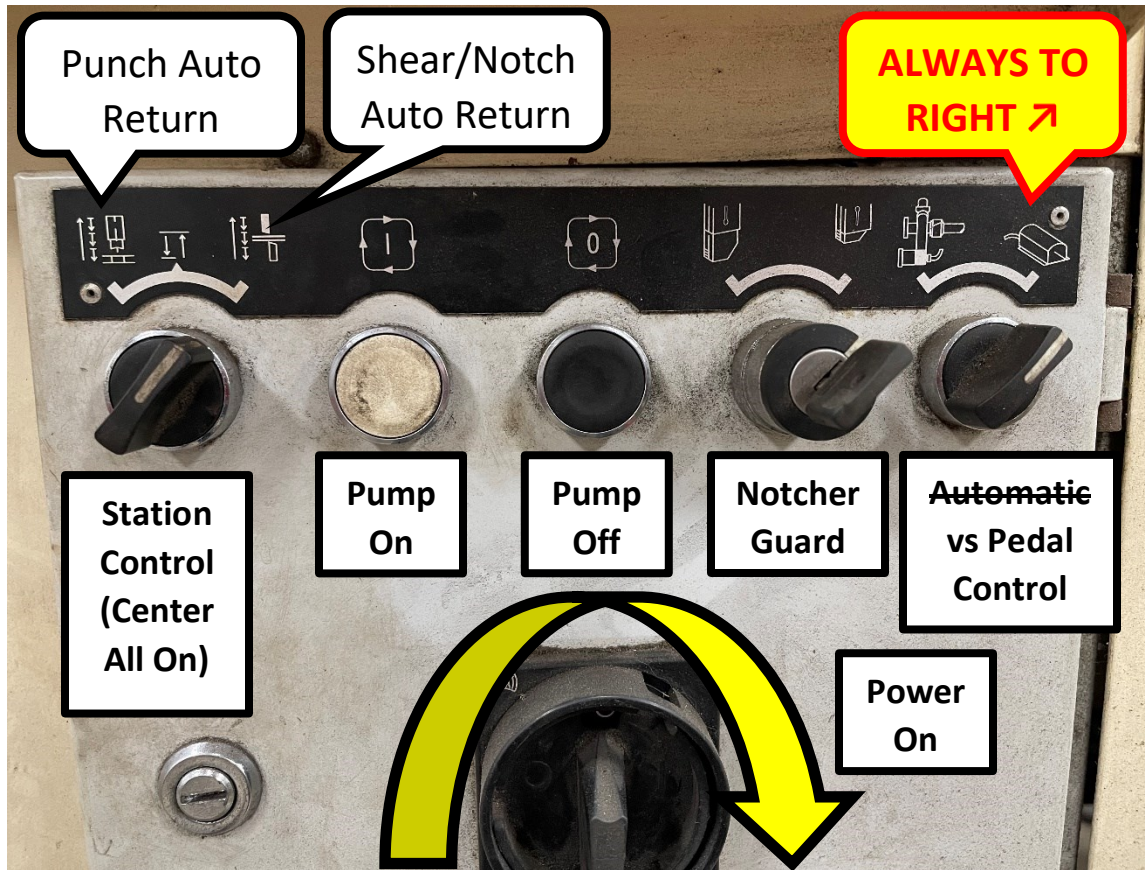


Figure 1 Geka Ironworker Controls

2.2 Incremental “Inch” mode/ full stroke mode

Manual calls this “return mode”

2.3 Pump on/off

White (1) is ‘machine start’ (Hydraulic pump start)

No pressure is generated until a foot pedal is operated.

Black (0) is ‘stop’ (Hydraulic pump off)

2.4 Notcher Guards Enabled

2.5 Emergency Stops

Large red mushroom head button – mash for stop. Twist (?) and pull to restart.

2.6 Foot Pedal Mode (only!)

Make sure machine is in foot pedal mode.



Machine has unfortunately named “electric stop” mode that **starts** a machine cycle. This is a production feature that ***we should not use.***

2.6.1 Foot Pedals

Have three positions

- Up is “Stop”
- Middle is “Inching” Low speed and reduced pressure
- Bottom is “Full Speed and pressure”

2.7 Safety

2.7.1 Guards

Always use them. Limits unpredictable workpiece behavior – if the machine wants to do something **you** will not prevent it.

Hard metal tools can shatter.

2.8 Material Limits

Max Thickness 5/8” for punch – see manual for others (engagement dependent)

The manual section 3.2.1 on Source provides formulae for calculating maximum thickness for other materials and conditions.

<https://source.dallasmakerspace.org/display/METAL/GEKA+Hydracrop+55+Ironworker>

2.9 Mild steel and softer –

2.9.1 **NO HARDENED METAL**

2.10 Turn on

2.10.1 Badge in

2.10.2 Make Sure Big Rotary Power Switch is on

2.10.3 Press White Pump Start [1] button

2.11 Turn off

2.11.1 Badge out to turn off

2.11.2 Don't rely on timer

2.12 Two semi-independent sides, one user at a time

2.13 Incremental or “inch” mode

2.14 Hole punch set and parameters

2.14.1 Diameter no smaller than metal thickness

So NO ¼” holes punched in 3/8” plate.

Material limits calculations in manual section 3.2.1

2.14.2 Punch full Holes

No ‘nibbling’



2.14.3 Punch lube

First and every few holes

2.14.4 Changing punches

- *Turn machine off*
- *Alignment and clearance*

2.14.5 Stroke Adjustment

2.15 Shearing and angles

2.16 Notching

Must use both blades – **NEVER** use notcher for shearing

2.17 Cleanup and store punches

2.18 Safety

Blades and punches are hardened steel – misuse can cause them to shatter generating hardened steel projectiles

You get to pay for your medical bills and repair of the machine

3 Pexto Usage

3.1 Safety

Pinch points:

- hold down bar
- shear bar

3.2 Material Limits

3.3 Mild steel and softer –

3.3.1 **NO HARDENED METAL**

3.3.2 Max thickness

- Mild Steel - 10 gauge – 0.1345" (3.416 mm) thick
- Stainless Steel – 14 gauge - 0.0751" (1.9075 mm) thick

3.3.3 **NO BAR STOCK!**

Even if it fits it will damage the blade and **you** will get to buy the replacement (and they are not cheap!)

3.3.4 Power On/Off

The blue light is always very dimly illuminated even when off. When on it is quite bright.

3.3.4.1 *Turn On*

Swipe badge and verify success with blue light.

If machine doesn't start check e-stop (rotate to release.)

3.3.4.2 *Turn Off*

- Badge out (there is no timeout, you must badge out.)



Geka/Pexto Notes

Metal Shop

- Verify Blue light is off.

3.4 Cleanup and power down

3.5 Safety