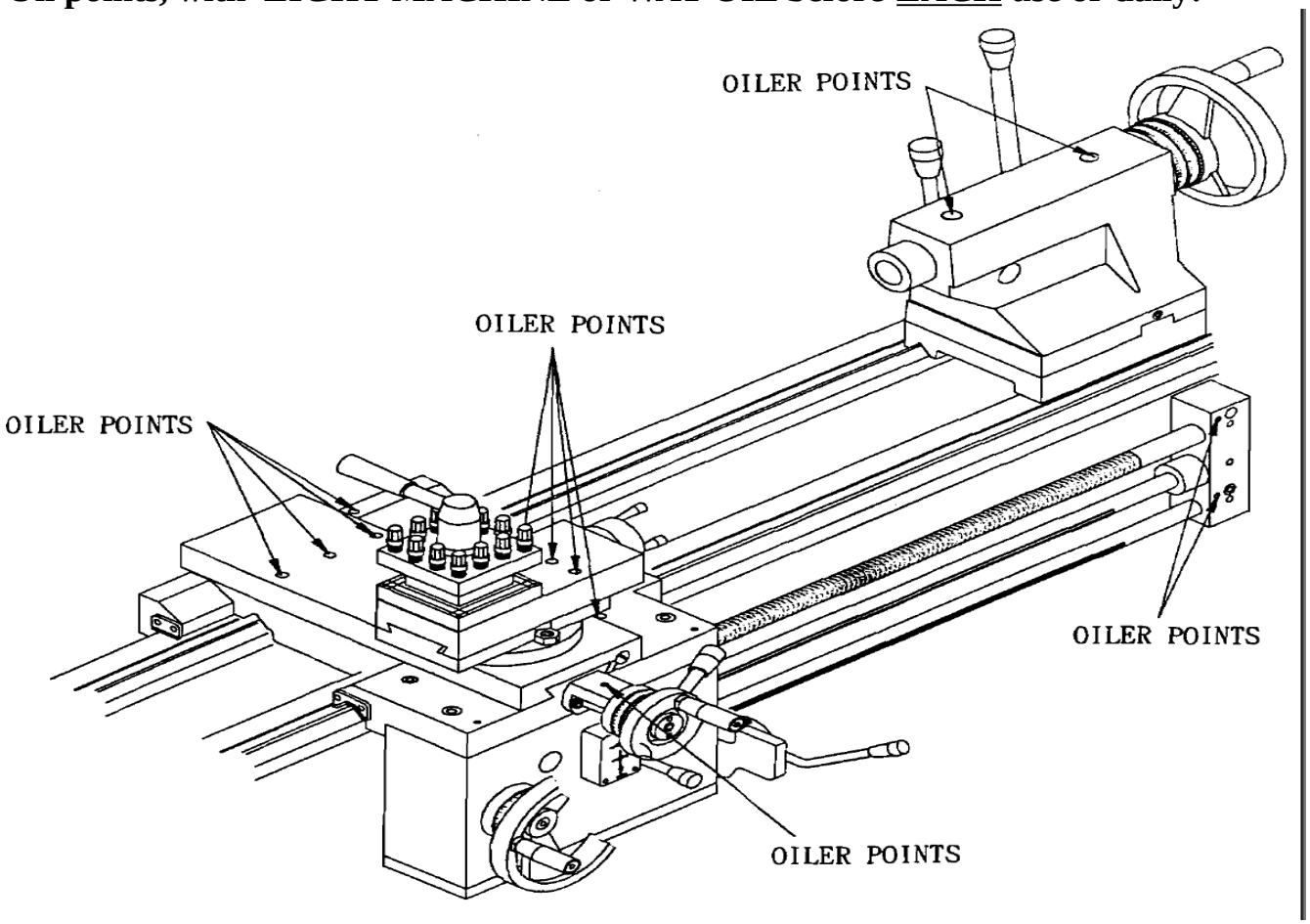
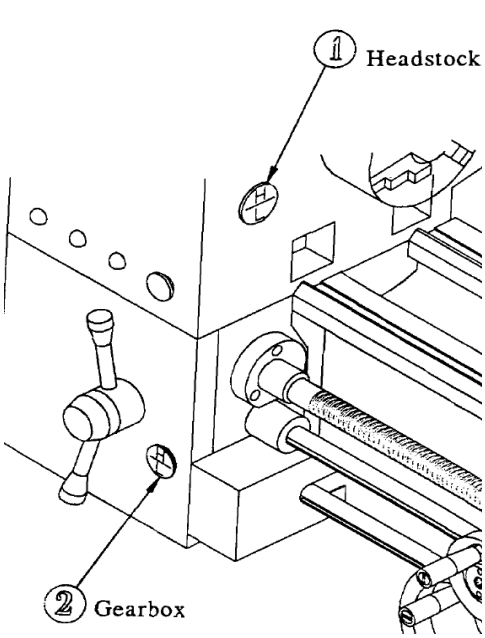
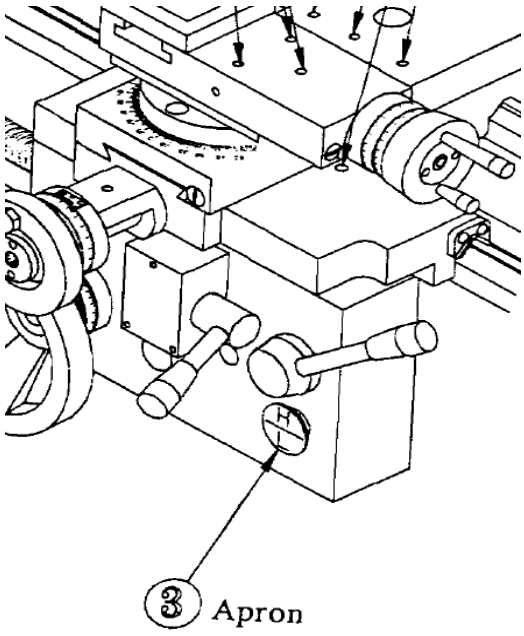
# BEFORE USE – Lubricate and check oil levels:

**Oil points, with LIGHT MACHINE or WAY OIL before <u>EACH</u> use or daily:**




**CHECK OIL LEVEL IN WINDOWS:** Tag lathe out if low!



# CONTROL PANEL

## POWER:

Release **Power / Emergency Stop** button, white **Power On** light should come on, enabling lathe power and coolant pump.
**For SAFETY - *Press Power / Emergency Stop* button in to turn off power when changing parts or making other adjustments, or when leaving machine.**

Green **Jog** button runs lathe for a second or two when pressed.

**Coolant Pump** switch turns pump on / off, adjust coolant flow with valve on coolant pipe. Note pump runs independently of lathe power switch.

## SPEED SETTINGS:

Set speeds with **Speed Setting Knobs** as shown by the chart. **Lathe MUST BE OFF when changing Speed, Power Feed or Threading settings!**

## POWER FEED AND THREADING:

# IMPORTANT!
# THIS LATHE USES "CHANGE GEARS"!
# IF THE GEAR BOX IS NOT SET TO THE PROPER CONFIGURATION YOU WILL NOT GET THE EXPECTED RESULTS!

The change gears are located on the left end of the lathe, and are accessed by removing the cover with the charts on it. (See picture on next page.) Use the **Adjusting Nuts** and move the gears as needed to get a good snug mesh between the gears.

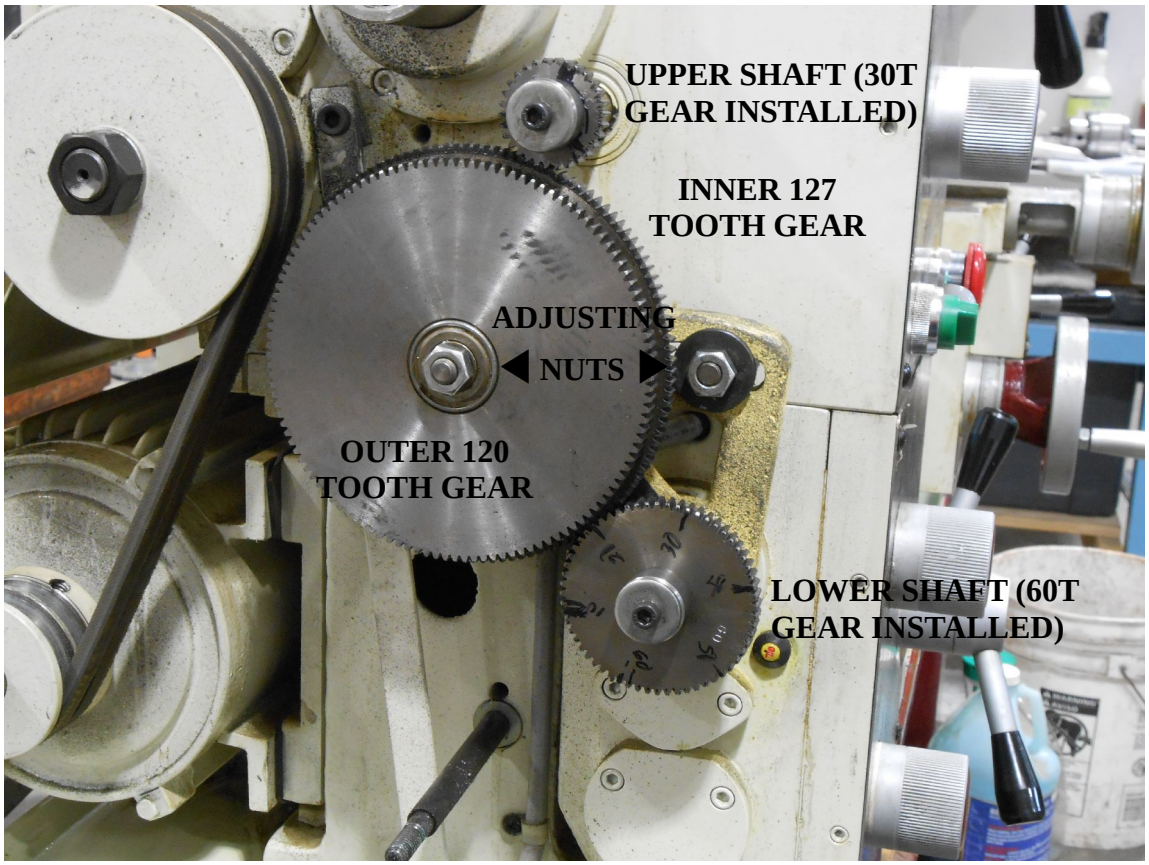
For **Power Feeds,** use the **30 tooth** (**30T**)gear on the **Upper Shaft**, and the **60T** gear on the **Lower Shaft**, with both meshing with the larger (**127T** inner) **Center Gear**.

## IF YOU CHANGE THE GEARS FOR THREADING, RETURN THEM TO THE POWER FEED CONFIGURATION WHEN DONE!

There are charts for both inch and metric power feeds in travel per spindle revolution. For any given setting the distances are the SAME, only the units change. For all power feeds, the **Upper Gear Lever** must be in the **"I"** position (colored Blue) with the two knobs and **Lower Gear Lever** set according to the charts for the desired feed rate.

Note: Power feed for the cross-slide is ½ the carriage feed rate.

**EXAMPLE:** Setting the **Upper Gear Lever** to **I**, **Lower Gear Lever** to **X** and the **Knobs** to **B** and **D** will give Carriage travel of 0.0148" *OR* 0.3759mm per spindle revolution. The cross slide would move ½ that distance per revolution.




## INCH THREADING:

1. Use the **30T** gear on the upper shaft, meshing with the INNER **127T** center gear.
2. Use the LOWER shaft gear indicated on the top row of the inch thread chart, meshing with the **127T** gear. (Note that many threads use the same **60T** gear as is used for power feeding, so a change may not be needed)
3. Set the gear box knobs and levers to the indicated positions per the chart.

**EXAMPLE:** 1/2-13 threads, use **30T** on the upper shaft, **65T** on the lower shaft, both meshing w/ the **127T** gear, set gear box controls to **P, X, A, C**.

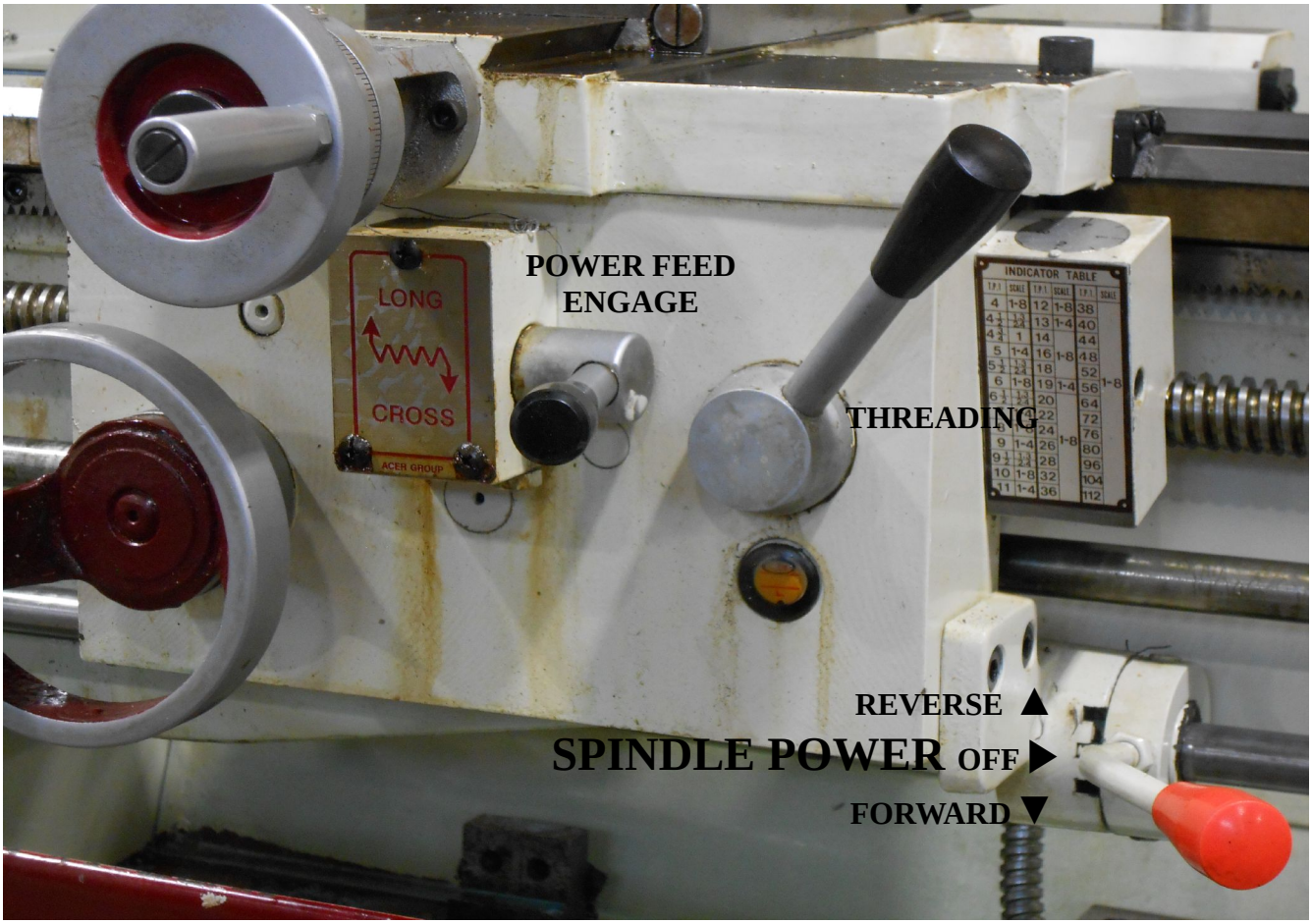
## METRIC THREADING:

1. Use the **60T** gear on the lower shaft, meshing with the OUTER **120T** center gear. Swapping the positions of the gear and spacer on the shaft will change the center gear that is meshed.
2. Use the **UPPER Shaft** gear indicated on the top row of the metric thread chart, meshing with the INNER **127T** gear.
3. Set the gear box knobs and levers to the indicated positions per the chart.

**EXAMPLE:** M6 x 1.0 threads use **28T** gear on the upper shaft meshing w/ the **127T** center, and the **60T** gear on the lower shaft, meshing with the **120T** outer center. Set gear box to **Q, W, A, C**.

## IF YOU CHANGE THE GEARS FOR THREADING, RETURN THEM TO THE POWER FEED CONFIGURATION WHEN DONE!

# APRON CONTROLS:




## POWER FEED:

UP: Power feed **carriage** in direction and distance per rotation set on control panel
Center position NEUTRAL / DISENGAGED
DOWN: Power feed **cross-slide** in direction and ½ the distance per rotation set on control panel

## THREADING:

Push DOWN to engage threading, use thread dial indicator appropriately

**IF YOU CHANGE THE GEARS FOR THREADING, RETURN THEM TO THE POWER FEED CONFIGURATION WHEN DONE!**

## SPINDLE POWER:

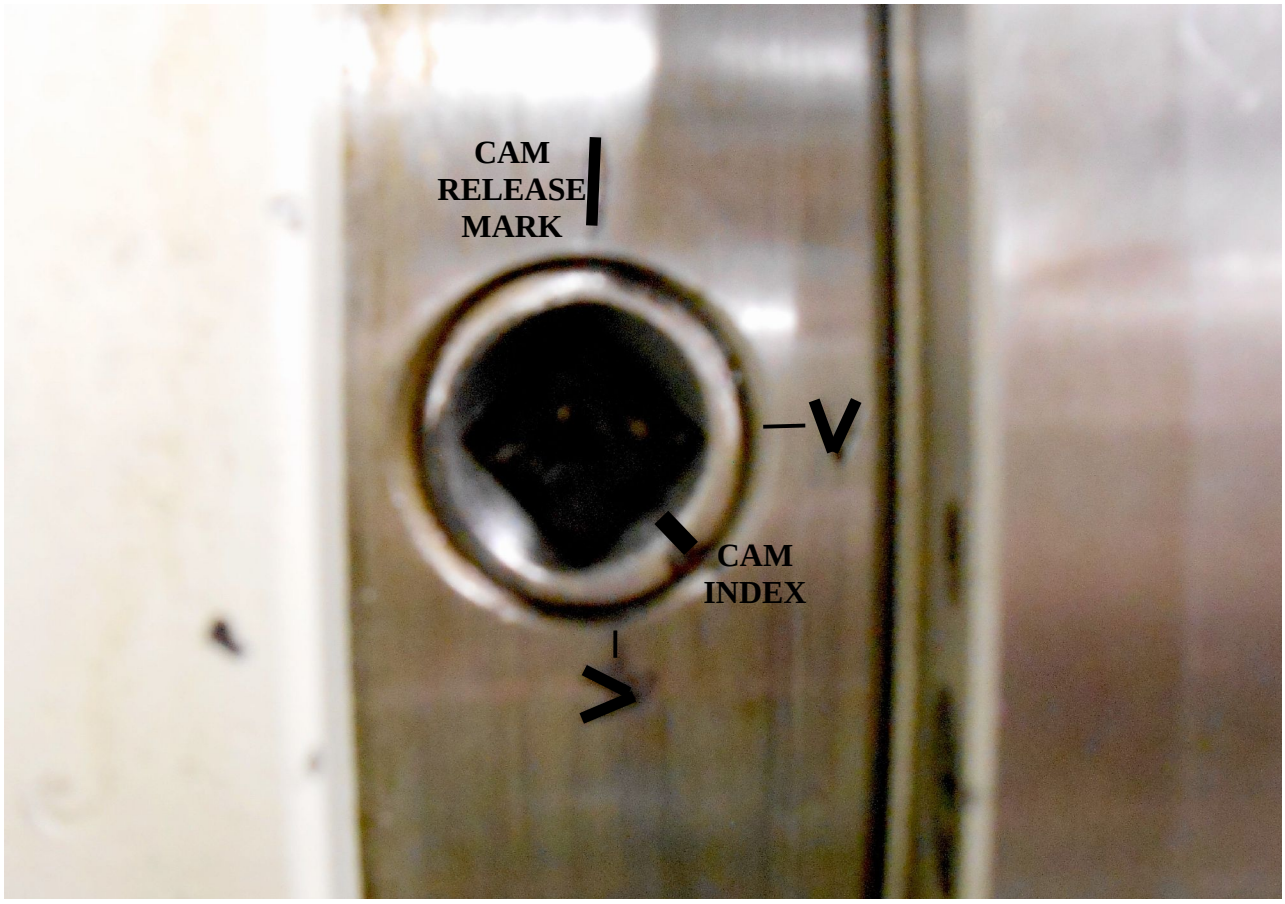
Push **DOWN** for normal forward cutting.

Center position – Spindle Power **OFF**. If stopped with foot brake or **Emergency Stop** button, lever must be returned to off position in order to start again. (This does **not** shut off coolant pump!)

Lift lever **UP** for reverse cutting.

The **Foot Pedal** on the base will turn the power off and apply the brake to stop rotation.

# CHANGING CHUCKS:




(Markings emphasized in photo, taken with chuck installed)

## *WHEN CHANGING CHUCKS, <u>PROTECT THE WAYS</u> WITH A CHUCK CRADLE AND / OR <u>HEAVY</u> RAGS!*

### REMOVING CHUCK:

1. Turn all three cams counter-clockwise to align **Cam Index** mark with **Cam Release** mark.
2. Slide chuck out of spindle nose and remove it.

### INSTALLING CHUCK:

1. Ensure all three **Cam Index** marks are aligned with **Cam Release** marks.
2. Slide the three pins of the chuck into the holes in the spindle nose.
3. Turn all three cams clockwise until tight.

**IMPORTANT:** When tightened the **Cam Index** marks **<u>MUST</u>** be in between the two “V” marks (as in the picture.) If any of them are not, DO NOT USE that chuck! Remove and tag out the chuck for repair. (Other chucks may be used instead, the problem is probably the chuck, not the lathe)