

N-01: Grind Center

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- Observe machine safety when operating machines.

EQUIPMENT

- basic Toolmaker measuring devices (indicator)
- pair of centers for inspection
- basic Toolmaker hand tools

RESOURCES

- manufacturer's manual, if available



Grind Center

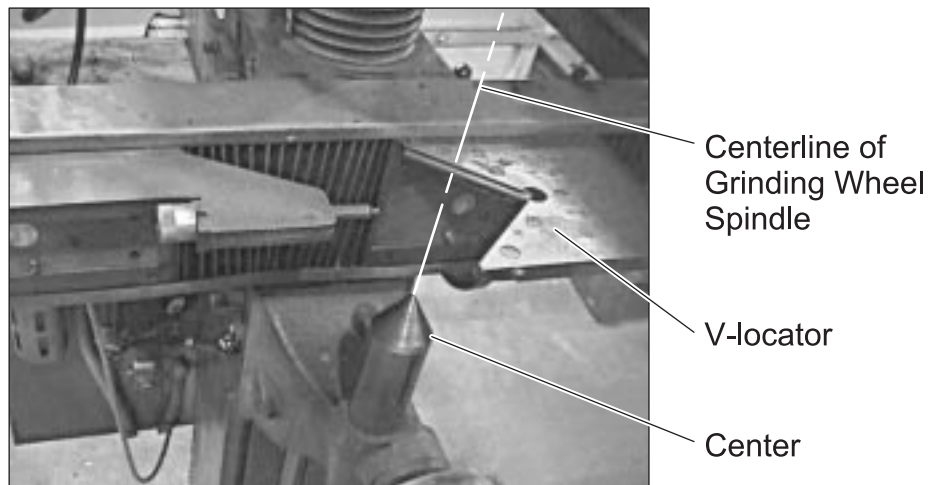
1. Select the wheel for grinding the center.

- Size the wheel with the diameter of the center.



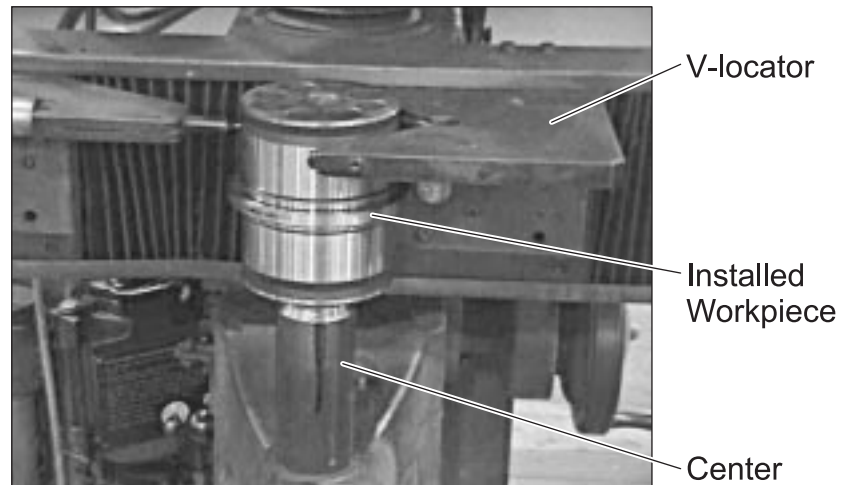
Wheel Size Verification

2. Check alignment of the center, V-locator, and spindle with the alignment bar, if available.



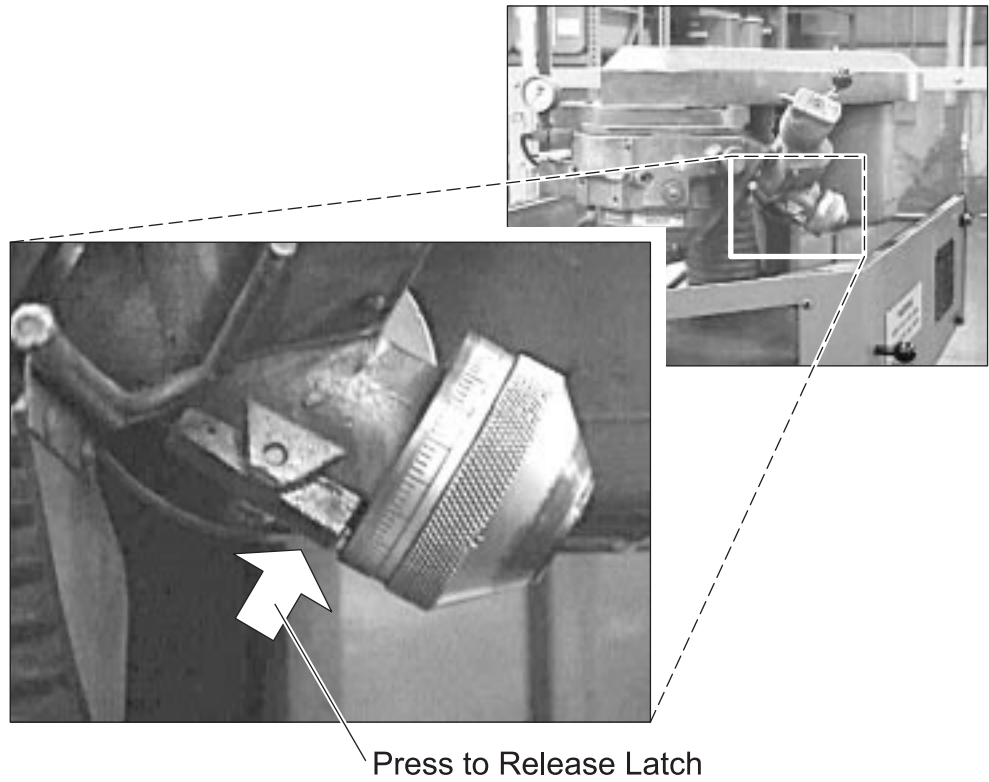
3. Install the wheel.

- Use an adjustable wrench and a pair of pliers to install the wheel.
- Thread the wheel wrench-tight.

4. Install the piece.**Workpiece Installation**

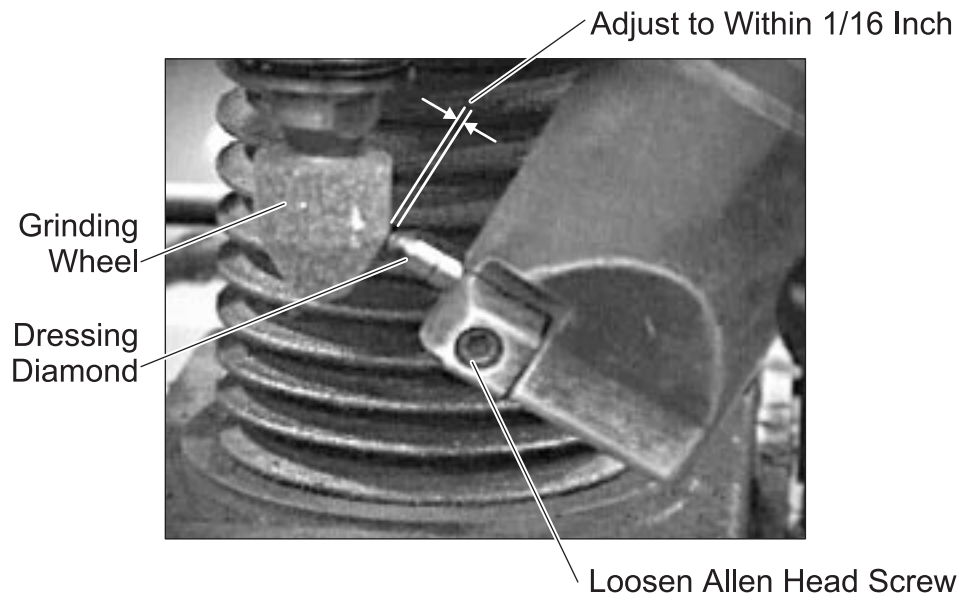
5. Adjust the dressing diamond.

- Press the safety latch to release the dresser.



- Lower the dressing diamond arm to the wheel.

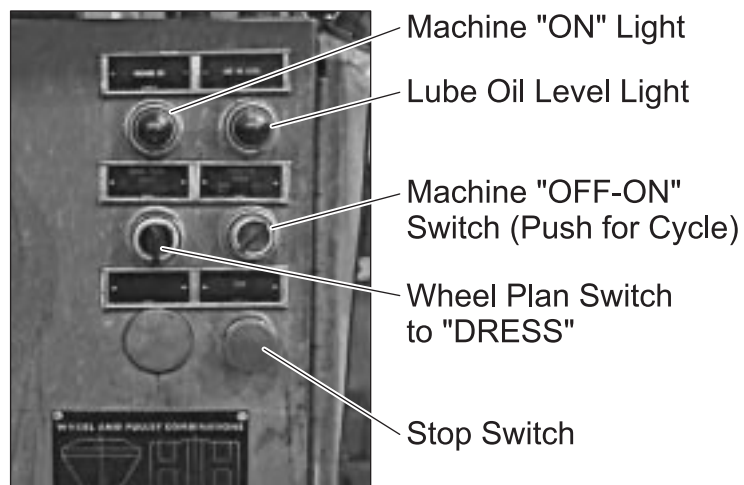
- Use an Allen wrench to loosen the diamond and slide the diamond within 1/16" of the wheel.



- Tighten the dressing diamond's Allen head screw.

6. Dress the wheel.

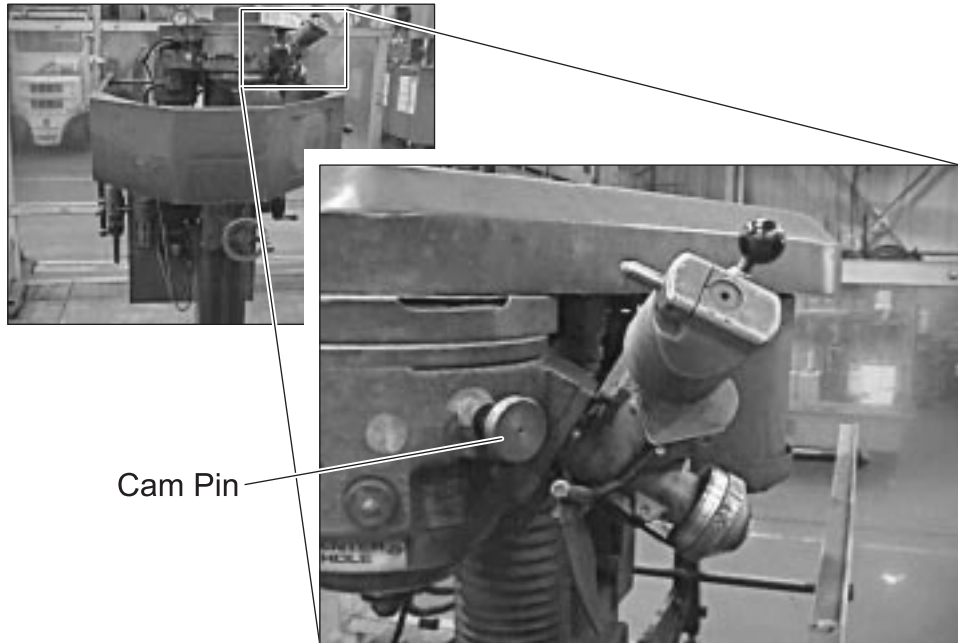
- Turn on the machine air.
- Set the Wheel Plan switch to Dress.



Grinder Controls

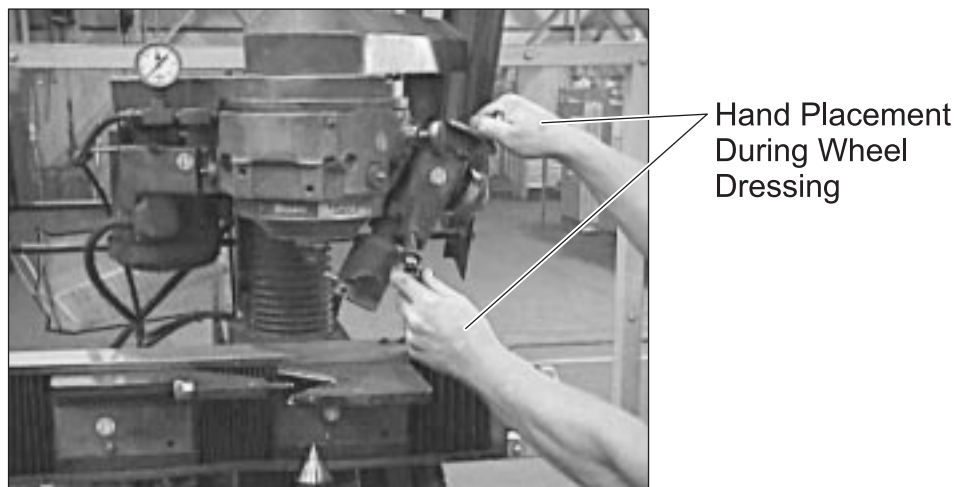
- Hold the dresser against the stop while dressing.

- Push the cam pin in at the cam flat spot to stop the wheel from oscillating.



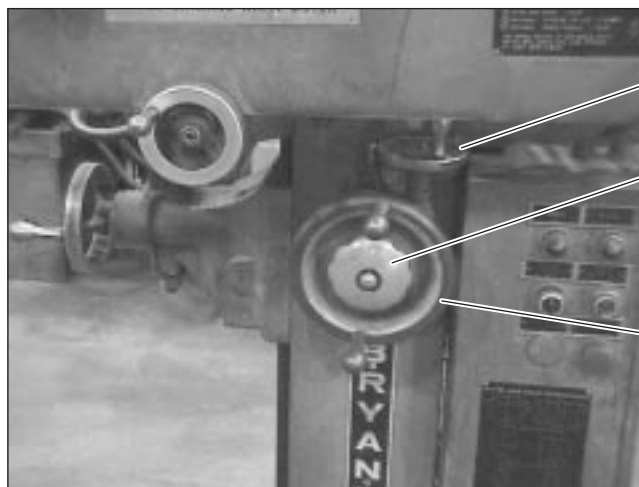
Stopping Wheel Oscillation

- Move the diamond until it touches the spinning wheel.



- Slowly adjust the diamond the length of the wheel until the wheel appears clean.

7. **Release the cam pin.**
 - Pull the cam pin out to allow the wheel to oscillate.
8. **Turn the Wheel Plan switch to Grind.**
9. **Slowly lower the wheel head to the workpiece.**
10. **Move the coarse feed adjustment until the wheel is almost touching the center.**



Fine Feed Wheel

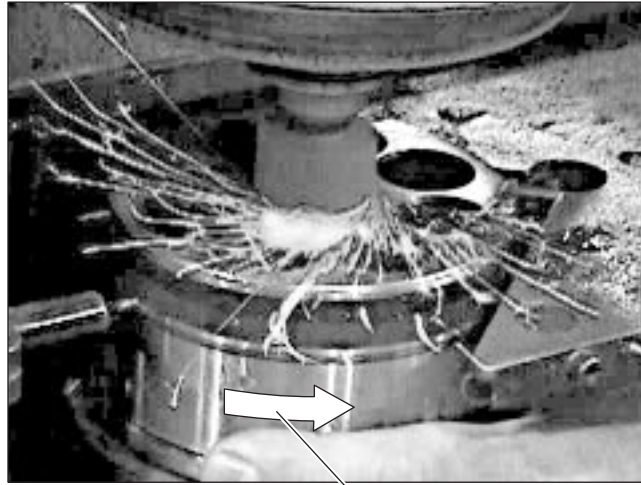
Tighten Here to
Allow Use of
Fine Feed Wheel

Coarse Feed Wheel

Wheel Adjustments

11. **Tighten the coarse feed adjustment.**
12. **Move the fine feed adjustment until the wheel touches the center.**
 - Sparks will show when the wheel engages the piece center.

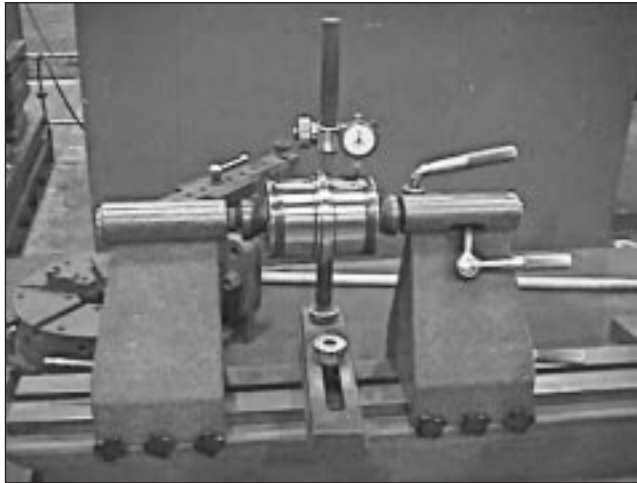
- Rotate the workpiece while grinding, if the alignment bar is unavailable.



Rotate the Workpiece Slowly
if Alignment Bar is Not Available

- Continue lightly grinding the center.
- 13. Verify that the wheel is grinding the center truly.**
 - Move the wheel from the center.
 - Observe the center for uneven finish.
 - Continue to grind and inspect the center.
 - 14. Repeat steps 4-13 for the opposite side of the piece.**
 - 15. Inspect the piece.**
 - Place the piece between centers.
 - Indicate the workpiece.

- Verify that the workpiece is centered within piece requirements or the print specified range.



Indicate Between Centers