

AJ-16: Build/Redesign Tooling

SAFETY FIRST

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

EQUIPMENT

- saw
- TR System
- Rastar printer
- Rockwell Hardness Tester
- basic Toolmaker measuring devices

RESOURCES

- machine manufacturer's manual
- print
- sketch
- tool order
- written request information

Build/Redesign Tooling

1. Determine work requirements.

- Read the tool order to determine the number of tools required, due date, and the type of repair.

2. Order Rastar prints as shown in the Toolmaker procedures.

3. Determine the best method to process the job.

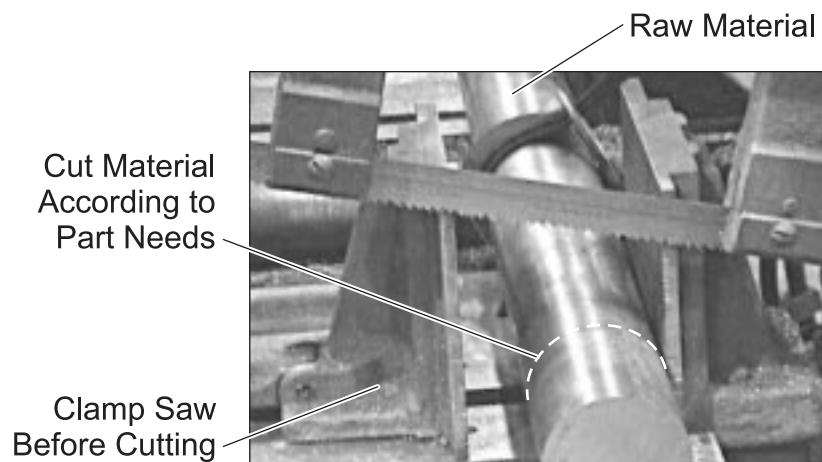
- This may include making a new part or reworking the old part.

4. Create a stock list from the print.

- Check to see if the material is in the rack.
- Order any materials not available.



5. **Estimate the time and routing for each operation on the “BEN” screen of the TR System.**
 - Follow the Toolmaker procedures for entering process data.
6. **Print and attach the routing to the tool order.**
7. **Prepare the rough stock.**
 - Cut the new material.



8. **Route the part to the required machine.**
 - Perform the machining, if an Operator is not available.

9. **Stamp the stock and route it to heat treat, as required.**



10. **Inspect the heat treat.**

- Perform a Rockwell hardness test.
- Visually inspect for cracks, replacing the stock if necessary.
- Visually inspect for signs of warping, straighten the stock or grind centers, as necessary.

11. **Inspect the part.**

- Measure the part to verify print requirements.

12. Assemble the parts according to the print, as required.

Assembled Part




13. Inspect the assembly or details.

- Micrometer or indicate the assembly verifying the print requirements.

Indicating Part



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14. **Create a quality audit sheet according to the Toolmaker procedures.**
- Document all key dimensions.
 - Print and send the audit sheet with the job.
 - Verify that the audit is stored in the TR System.
15. **Complete the shipping tags and send the job to the required area as specified on the tool order.**