



Industrial Technology Virtual Learning

9-12 Metals :Dies

May 5, 2020



Lesson: May 5, 2020

Objective/Learning Target:

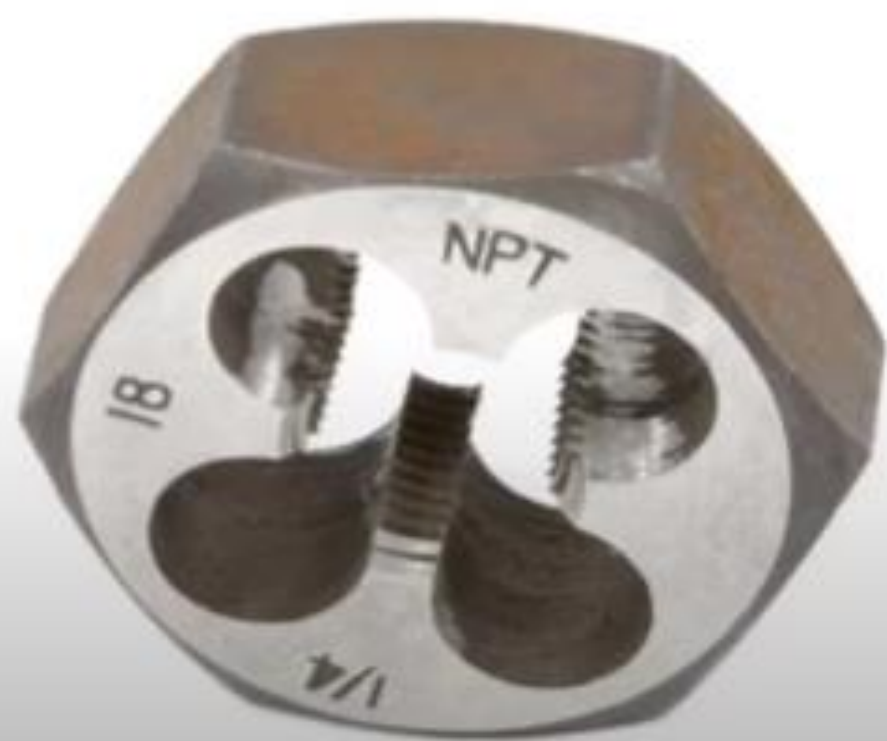
Students will explain how to use a die and be able to differentiate between types and sizes .

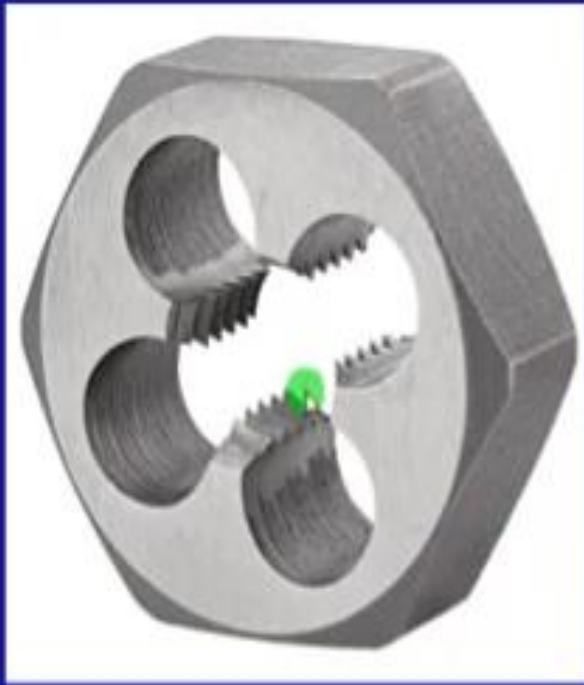
Taps vs Dies

Tap

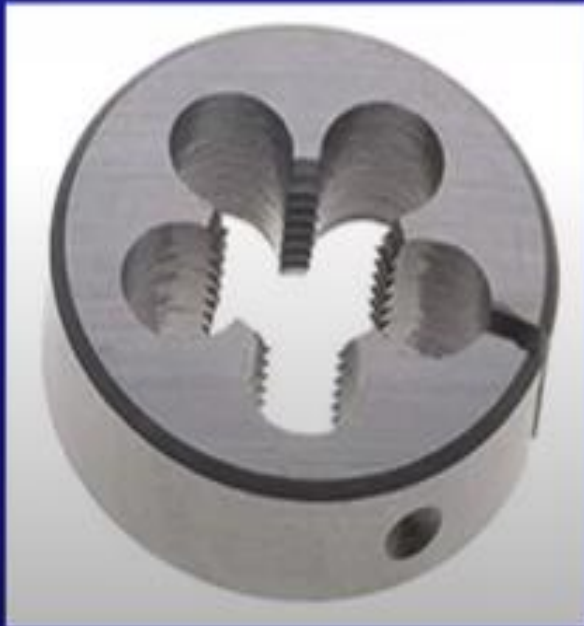


Die





Hex



ROUND

DIE

- Used to make external threads on solid rod.
- Used to clean up external threads on an existing threaded rod or bolt.
- Hexagonal and Round

SETS

TAP and DIE



(Cut and Clean)

RETHREADING



(Clean Only)

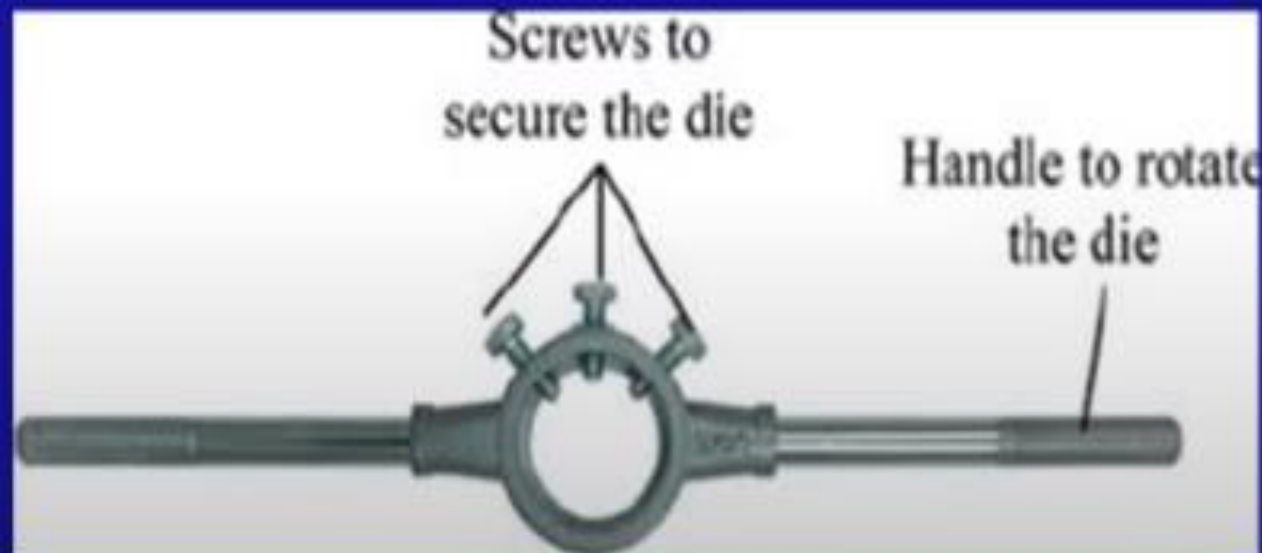
Sizes of Dies

- Diameter x pitch



Die Wrench

- Used to turn a Die



Using a Die



- Use the Start this side face first.
- Thread dies onto bolt.
- Turn slowly $\frac{1}{4}$ to a $\frac{1}{2}$ turn at a time.
- Then reverse direction $\frac{1}{4}$ to a $\frac{1}{2}$ turn to clear any accumulated metal chips.
- Oil or lubricate as needed.

Finding the Right Size

Diameter



Thread Pitch



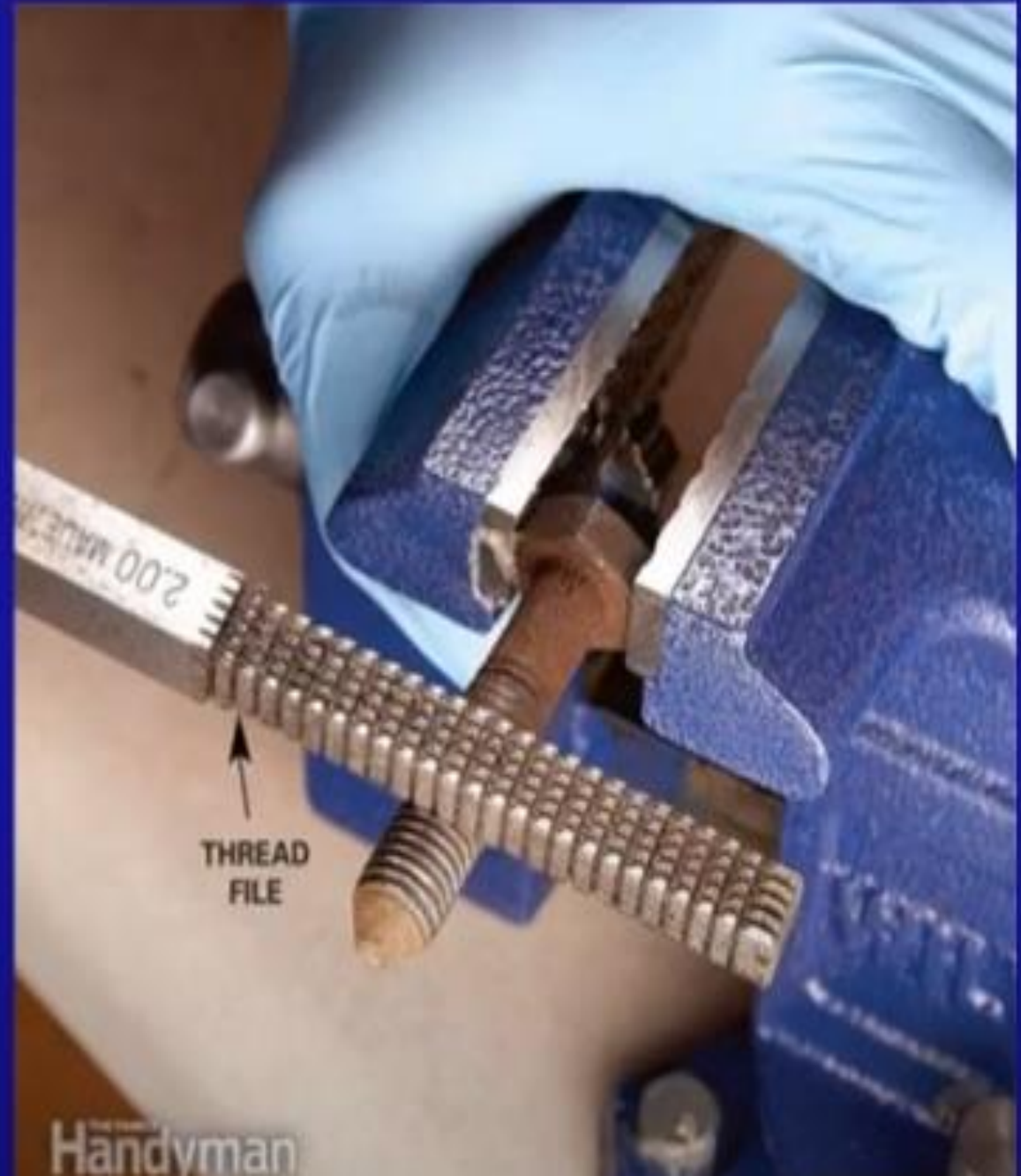
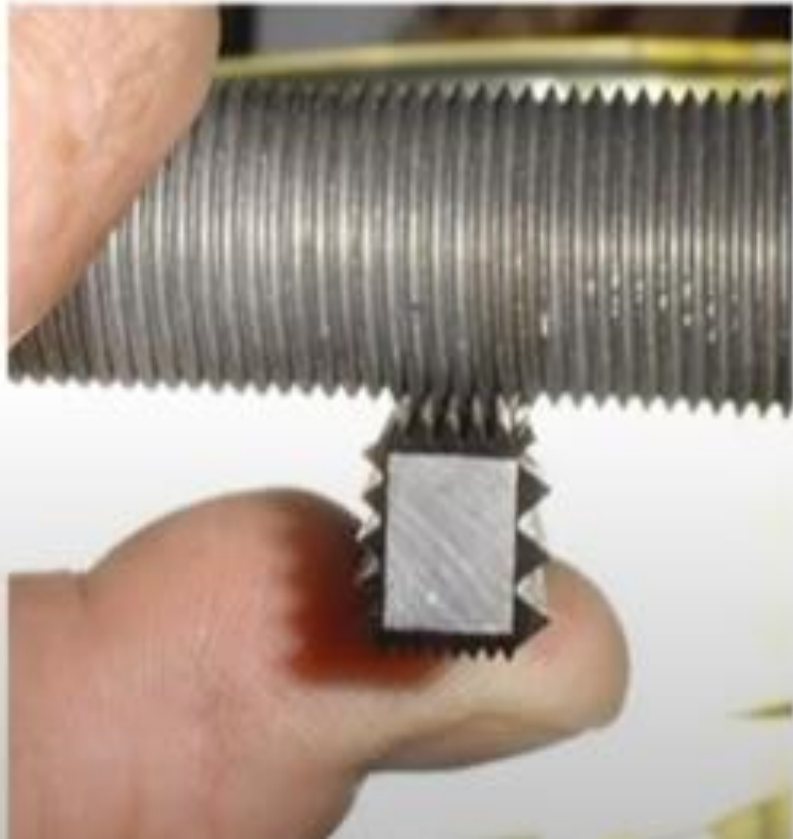
Finding the right size

Use a Tap



Thread File

- Used to clean and repair small nicks on threads.



Thread Inserts

- Drill out Hole
- Tap (special tap)
- Thread insert with insert tool



Not the Same

- Helicoil tap is Bigger!



Review Questions

1.) What type of threads are cut with a die?

What tool is used to turn a die?

3.) when cutting threads, how far do you turn a tap at a time?

4.) should you lubricate when using a die?

5.) list 2 ways to determine the right size of die to use.