

Tri-County Technical College
Industrial Mechanics/HVAC Department - Industrial and Engineering Technology Division
Technical Advanced Placement (TAP) Program

Competency Verification and Teacher Recommendation Form

IMT 121 (Drive Systems)

SECTION I (To be completed by the student)

Please complete this section of the form and give it to your Industrial Mechanics, Environmental Controls Technology, or Air Conditioning/Heating/Refrigeration teacher.

Your Name (*PLEASE PRINT*): _____ Phone: _____

Address: _____ SSN: _____

City: _____ State: _____ Zip: _____

High School: _____ Grade: _____

SECTION II (To be completed by the teacher)

By placing my initials next to the appropriate competency statement listed on the back of this form, I verify that this student has mastered major competencies of IMT 121 (*Drive Systems*), as defined in the approved syllabus dated April 2001. I understand that in order to progress in the validation process for Technical Advanced Placement credit, *a minimum of 75 percent of the competencies must be verified*. Having met this requirement, I recommend this student be permitted to continue the validation process by completing the TAP exam, which I understand will be arranged through the Industrial Mechanics or HVAC Department at Tri-County Technical College.

Teacher Name (*PLEASE PRINT*): _____

Signature: _____

Date: _____

Name of high school course(s) in which this student gained the required competencies for possible TAP advanced standing: _____

Date of course completion or expected completion: _____

Comments (if applicable): _____

Please make a copy of this form for your records and mail the original to Ms. Tonia McClain, Industrial and Engineering Technology Division Secretary, Tri-County Technical College, PO Box 587, Pendleton, SC 29670. (Questions regarding TAP procedures for IMT 121 should be directed to Mr. Franklin Smith, IM/HVAC Department Head, at 646-8361, extension 1413.)

COMPETENCIES (please initial each one)

- _____ 1. Discuss the relationship of power-transmission equipment to a machine.
- _____ 2. Discuss fundamental theory and precise terminology that applies to mechanical power transmission.
- _____ 3. Discuss and apply formulas used in mechanical power transmission.
- _____ 4. Discuss the three general classifications of v-belts.
- _____ 5. Discuss typical code marking of v-belts.
- _____ 6. Identify correct installment procedure and alignment procedure of v-belt drives.
- _____ 7. Discuss proper belt tension and identify correct inspection procedures for sheave grooves using gauge or template.
- _____ 8. Discuss positive-drive belts.
- _____ 9. List the thickness classification and specifications for flat belts.
- _____ 10. Discuss the relationship between motor speed, pulley size, and belt speed.
- _____ 11. Discuss methods of determining flat-belt lengths and methods of making belts endless.
- _____ 12. Define gear and applications.
- _____ 13. Discuss the differences and uses of the six types of gears.
- _____ 14. Discuss open and enclosed gears and identify correct installation procedures of gears and gear removal.
- _____ 15. Identify roller chains and silent chains and define terms of pitch-chain width and roller diameter.
- _____ 16. Discuss standard roller-chain and standard silent-chain numbering systems.
- _____ 17. Identify correct installation procedures of sprockets and removal.
- _____ 18. Describe the uses and applications for bearings.
- _____ 19. Explain the features of plain bearings and the modes of lubrication for plain bearings.
- _____ 20. Describe the features of rolling element bearings.
- _____ 21. Differentiate the characteristics and applications of ball bearing types.
- _____ 22. Differentiate the characteristics and applications of roller bearing types.
- _____ 23. Explain the purpose of bearing lubrication.
- _____ 24. Describe the types and features of mounted bearings.
- _____ 25. Identify associations that recommend standards and practices for ball and roller bearing usage.
- _____ 26. Describe the purpose of lubricants, forms of lubricants, and lubricant applications.
- _____ 27. Compare and contrast lubrication methods and steps in lubrication selection.
- _____ 28. List units of viscosity and SAE units and discuss handling and storage of lubricants.