



South Central College

# AGME 1831 Tractor Power Trains

## Common Course Outline

### Course Information

**Description** This course includes lecture instruction and laboratory experience in dry clutches, wet clutches mechanical transmissions, power-take-off units, final drives, differentials, rear axles, brakes and steering.

**Total Credits** 3

**Total Hours** 80

### Types of Instruction

#### Instruction Type

#### Credits/Hours

Lecture

Lab

### Pre/Corequisites

None

### Course Outcomes

#### 1. List safe tractor splitting procedure

##### Learning Objectives

Use service manual to guide splitting process  
Obtain proper stands, hooks, slings or chains  
Always error on the side of caution

#### 2. Identify dry clutch components

##### Learning Objectives

Inspect/test worn clutch parts  
Disassemble pressure plate assembly  
Identify worn PPA components  
Assemble/adjust clutch pressure-plate assembly  
List clutch linkage adjustment procedures  
Perform clutch linkage adjustments

#### 3. Identify wet clutch components

##### Learning Objectives

Identify clutch worn components

Adjust over-centering wet clutch

**4. Explain flywheel grinding procedure**

**Learning Objectives**

Perform flywheel grinding

**5. Describe mechanical transmission components**

**Learning Objectives**

Calculate power flow problems

Calculate gear ratios

Describe bearings

**6. Disassemble transmission**

**Learning Objectives**

Remove shifter components

Perform safe manufacturer recommended puller set-ups

Remove bearings

Remove transmission shafts

Inspect synchronizer components

**7. Assemble transmission**

**Learning Objectives**

Replace bearings

Replace transmission shafts

Inspect/reassemble synchronizer components

Describe transmission adjustments

Measure/adjust bearing preload

Measure/adjust shaft end-play

Identify transmission worn components

Perform transmission linkage adjustments

**8. Describe final drive types**

**Learning Objectives**

Remove/replace final drive

**9. Describe differential types**

**Learning Objectives**

Perform safe differential removal

Disassemble/inspect differential

Disassemble/inspect differential lock

Assemble/adjust differential lock

Explain differential adjustment procedures

Measure/adjust preload

Measure/adjust pinion depth

Measure/adjust backlash

**10. Identify various PTO drive types**

**Learning Objectives**

Remove/reinstall PTO system components

Perform PTO clutch system adjustments

**11. Identify brake system types**

**Learning Objectives**

Remove/replace brakes

Identify brake worn components

**12. Describe steering system adjustments**

**Learning Objectives**

Adjust front axle toe-in  
Explain caster/camber

### **SCC Accessibility Statement**

Disability Services provides accommodations and other supports to students with permanent and temporary disabilities that affect their SCC experience. Disabilities may include mental health (anxiety, depression, PTSD), ADHD, learning disabilities, chronic health conditions (migraine, fibromyalgia), sensory disabilities, and temporary disabilities (broken arm, surgery). Common accommodations are extended test time, private room for testing, audiobooks, and sign language interpreter.

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