

# MECHANIC STUDY GUIDE

## Suspension & Steering Systems

### Heavy Duty Trucks

Listed below are a number of items and subjects which make up the mechanic certification tests identified above. An individual's ability to pass the certification test will depend upon the amount of knowledge the person has concerning these items.

#### **Steering System Diagnosis - 18%**

Hard steering complaint Recovering from a turn  
Noise in the power steering unit  
Wheel shimmy  
Tie rod end wear  
Oil foaming in power steering system

#### **Suspension Diagnosis - 14%**

Air ride suspension operation  
Leaf spring failure  
Tire problems  
Hendrickson suspensions  
Torque rods  
Tandem axle alignment

#### **Wheel Alignment - 12%**

Causes of uneven and rapid tire wear  
Front end alignment procedure  
Toe-in adjustment  
Tire wear diagnosis

#### **Caster/Camber - 6%**

How to adjust caster on a solid axle  
Recognize extreme conditions from a picture

#### **Basic Steering System Knowledge - 32%**

Front suspension components  
Steering gears  
Wheel bearings  
Steering Wheel freeplay  
Steering knuckle wear  
Installing kingpin bushings  
Sector shaft adjustment  
Power steering pump replacement

#### **Basic Suspension Knowledge - 18%**

Cap screw head markings  
Suspension adjustment  
Equalizing beam suspensions  
Adjustable trailer axles

#### **SAMPLE QUESTION:**

A tractor trailer rig with tandems on both units rides and handles good when loaded. When unloaded, the rig wobbles. Which of the following is the most likely cause of this condition?

- A. Misaligned trailer tandems.
- B. Wrong caster settings.
- C. Misaligned tractor tandems.
- D. Wrong toe setting.

**ANSWER: B**