

Brake System Principles

Meets NATEF Task: None Specified

Name _____ Date _____ Time on Task _____

Make/Model/Year _____ VIN _____ Evaluation: 4 3 2 1

The energy required to slow and/or stop a vehicle depends on two major factors:

- Weight of the vehicle
- Speed of the Vehicle



_____ 1. Check service information and determine the weight of the vehicle.

Weight = _____

_____ 2. Add the number of possible passengers (one for each location equipped with seat belts times 150 pounds each):

Number of passengers = _____ × 150 pounds = _____

_____ 3. Add possible luggage or cargo (see tire pressure decal) weight:

Luggage or cargo = _____

_____ 4. Total vehicle weight = _____

_____ 5. Using the formula, determine the kinetic energy at the following speeds:

$$\frac{\text{weight} \times \text{speed}^2}{29.9} = \text{kinetic energy}$$

30 mph = _____

60 mph = _____