

Unit C: Agricultural Power Systems

Lesson 4: Applying Preventative Maintenance Practices

Terms

- ❖ Compression gage
- ❖ Flooding
- ❖ Preventative maintenance

Preventative maintenance

- ★ **Performing of practices to keep equipment in good working condition**
 - ◆ Properly maintaining agricultural equipment requires skill, practice, and quality management

Preventative maintenance practices

- ★ **Changing fluids**
- ★ **Cleaning components**
- ★ **Replacing filters**

Safety practices

- ★ Read and follow all instructions in the operator's manual
- ★ Use protective eyewear, clothing, and footwear
- ★ Use jackstands, engine stands, and other supports

Safety practices (continued)

- ★ Observe caution around fuels and flammable materials
- ★ Operate internal combustion engines in well-ventilated areas
- ★ Place machines in park and lower implements before working on them

Safety practices (continued)

- ★ Work in well-lighted and properly ventilated areas
- ★ Regularly clean the floor and remove obstacles and fluids
- ★ Handle batteries safely
- ★ Keep fire extinguishers and smoke detectors in shop work areas

Safety practices (continued)

- ★ Use caution when working around high pressure
- ★ Use protective hearing devices when working in loud areas
- ★ Safely dispose of used fluids
- ★ Know all the safety emblems and warning signs used for agricultural equipment

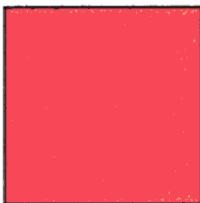
Nine safety colors

- ★ Red – danger
- ★ Orange – warning
- ★ Yellow – caution
- ★ Blue – information
- ★ Green – safety
- ★ Black & yellow diagonal lines - radioactivity

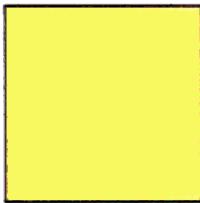
Nine safety colors (continued)

- ★ **White – direction of traffic flows and segregate work areas**
- ★ **White & black stripes – traffic markings**
- ★ **Gray – floors or work areas in the shop**

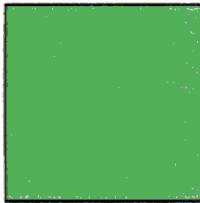
Nine safety colors



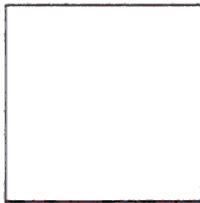
= Danger



= Caution



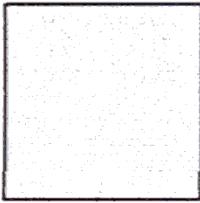
= Safety



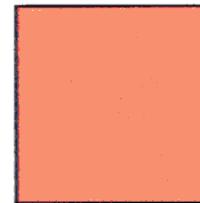
= Traffic Flows/Segregate Work Areas



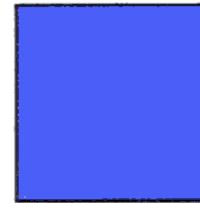
= Traffic Markings



= Floor and Work Areas



= Warning



= Information

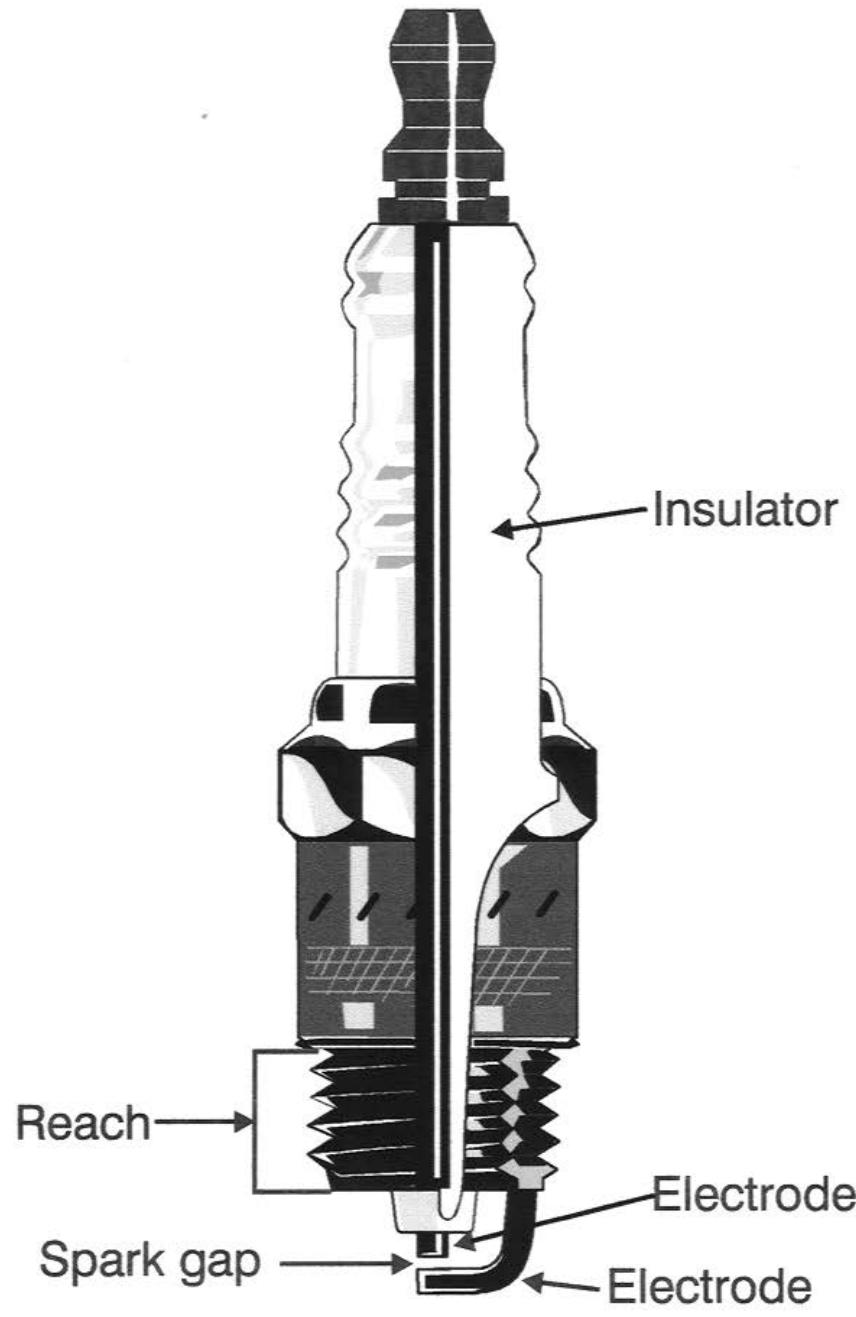


= Radioactivity

Ignition system checks

- ★ Inspect the spark plug
- ★ Inspect the spark plug wire
- ★ Check the spark output using a spark tester
- ★ Check the flywheel

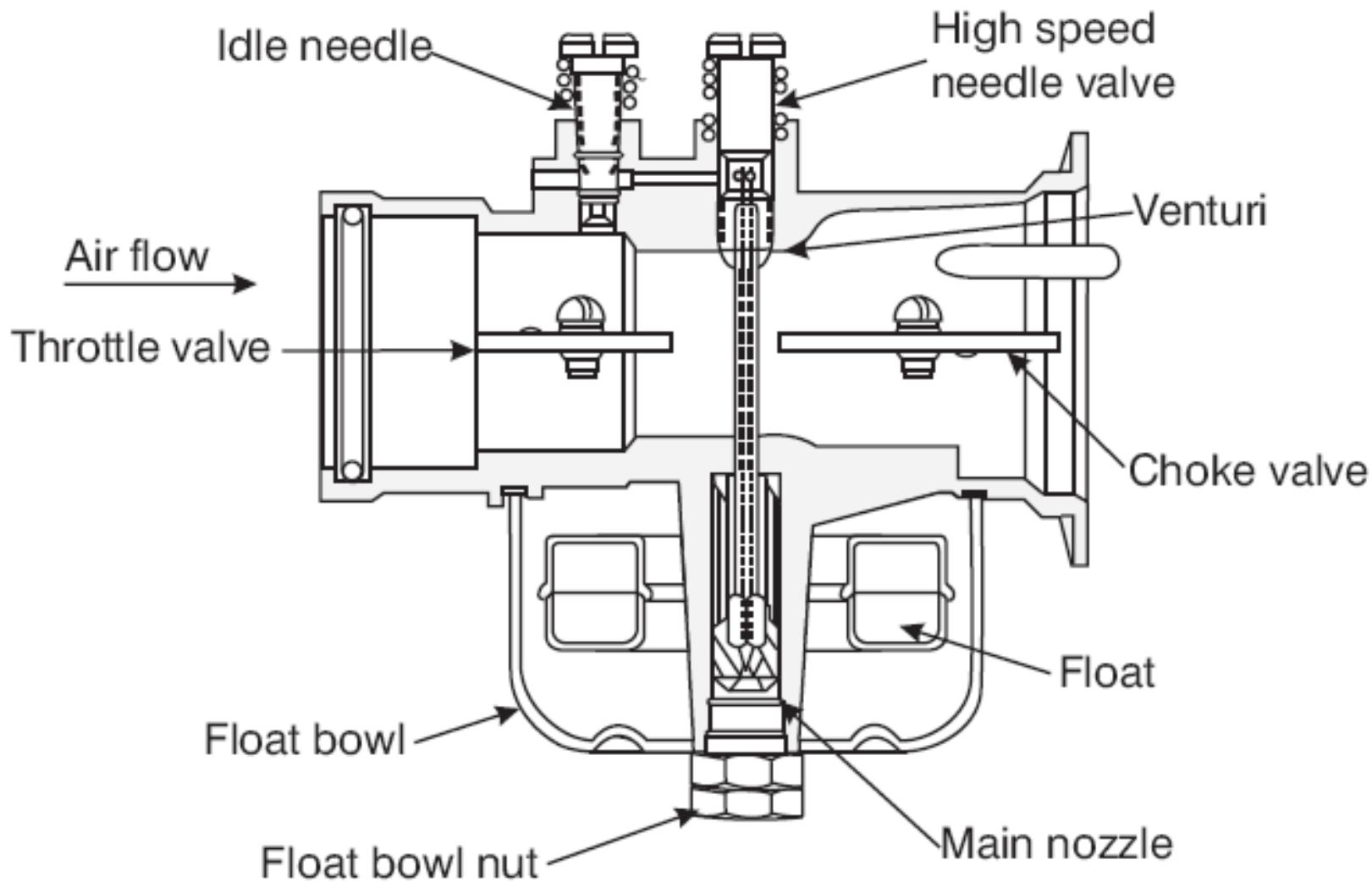
Parts of a spark plug



Fuel system checks

- ★ Insure that there is gas in the gas tank
- ★ Check the spark plug for gasoline
- ★ Check the flow of gas from the fuel tank to the carburetor
- ★ Flooding – an excessive amount of gasoline in the carburetor

Parts of a carburetor



Compression system checks

- ❖ Compression gage – determines compression pressure of the cylinder

Liquid cooling system checks

- ★ Check the hoses and belts for leaks and cracks
- ★ Maintain the proper coolant level
- ★ Keep the system clean
- ★ Use recommended coolant
- ★ Pressurize the system and check for leaks
- ★ Check the specific gravity of the coolant
- ★ Check the condition of the fan

Air cooling system checks

- ★ Remove dirt that can clog air passages
- ★ Make sure the precleaner is in place
- ★ Check the fan
- ★ Makes sure all shrouds are in place

Lubrication system checks

- ★ Check the engine oil level
- ★ Change the oil and filters



Air intake system checks

- ❖ Connect a vacuum gage to the intake manifold
- ❖ Allow the engine to run for a few minutes
- ❖ Record the age reading with the engine operating
- ❖ Compare the readings to the manufacturer's specifications
- ❖ Inspect the intake system for possible restrictions and leaks

Review/Summary

- ❖ Why is it important to practice preventative maintenance on engines and equipment?
- ❖ What are the safety rules to follow when servicing agricultural equipment?
- ❖ What are some common maintenance practices carried out on engine systems?