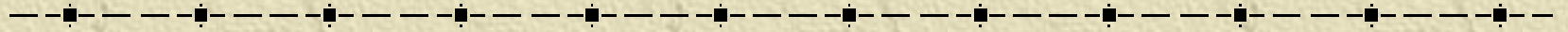


Unit C: Agricultural Power Systems

Lesson 4: Applying Preventative Maintenance Practices

Terms

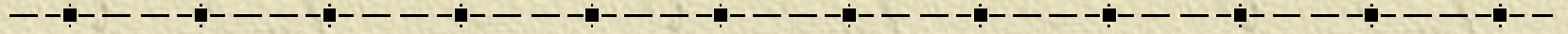


- ✦ Compression gage
- ✦ Flooding
- ✦ Preventative maintenance

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**

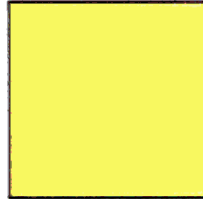
Nine safety colors (continued)

- ✦ **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



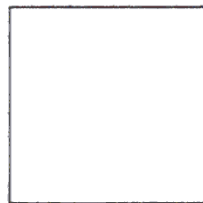
= **Danger**



= **Caution**



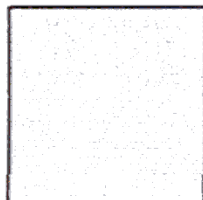
= **Safety**



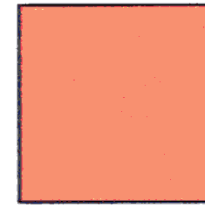
= **Traffic Flows/Segregate Work Areas**



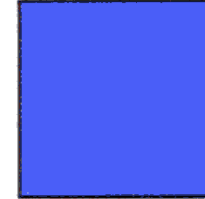
= **Traffic Markings**



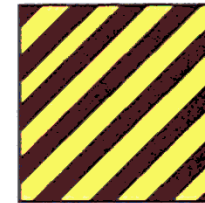
= **Floor and Work Areas**



= **Warning**



= **Information**

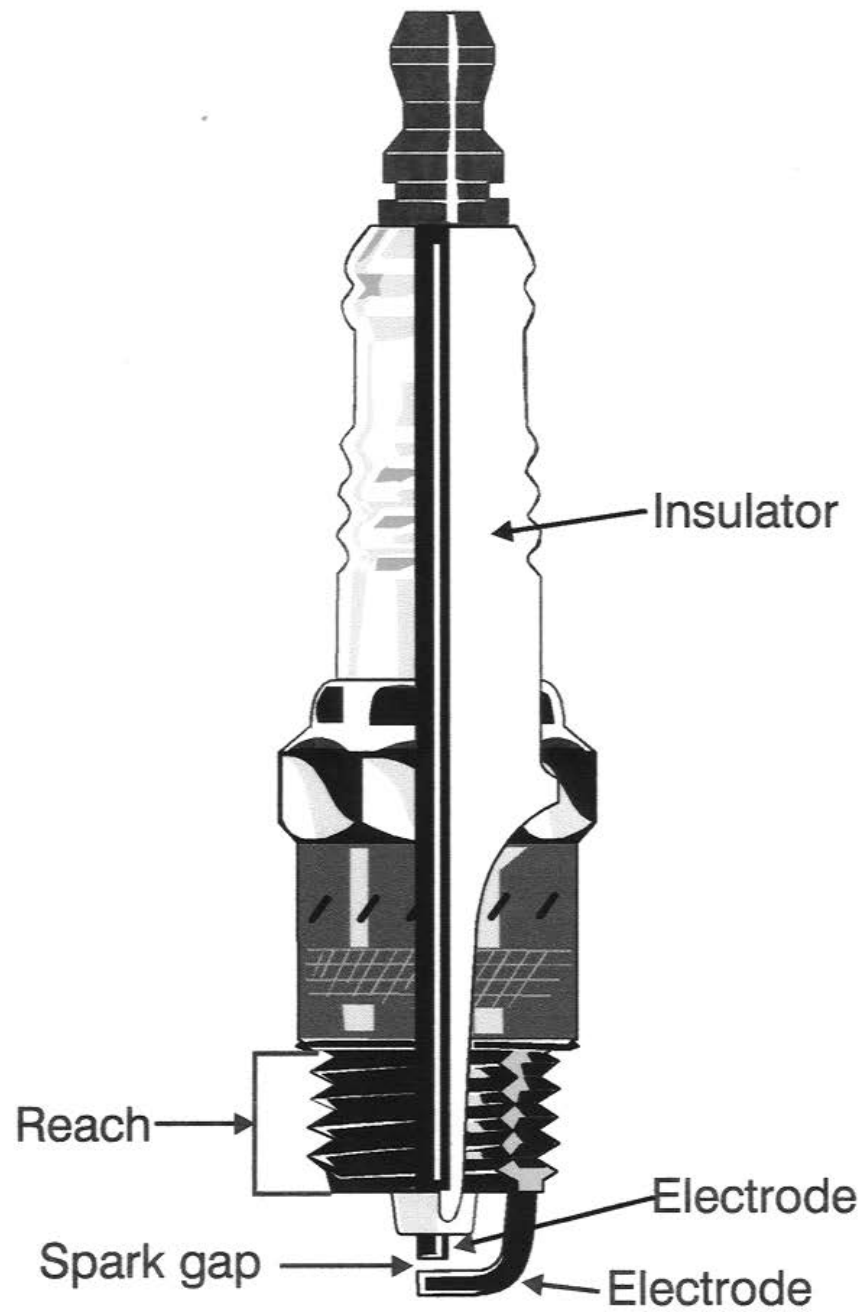


= **Radioactivity**

Ignition system checks

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

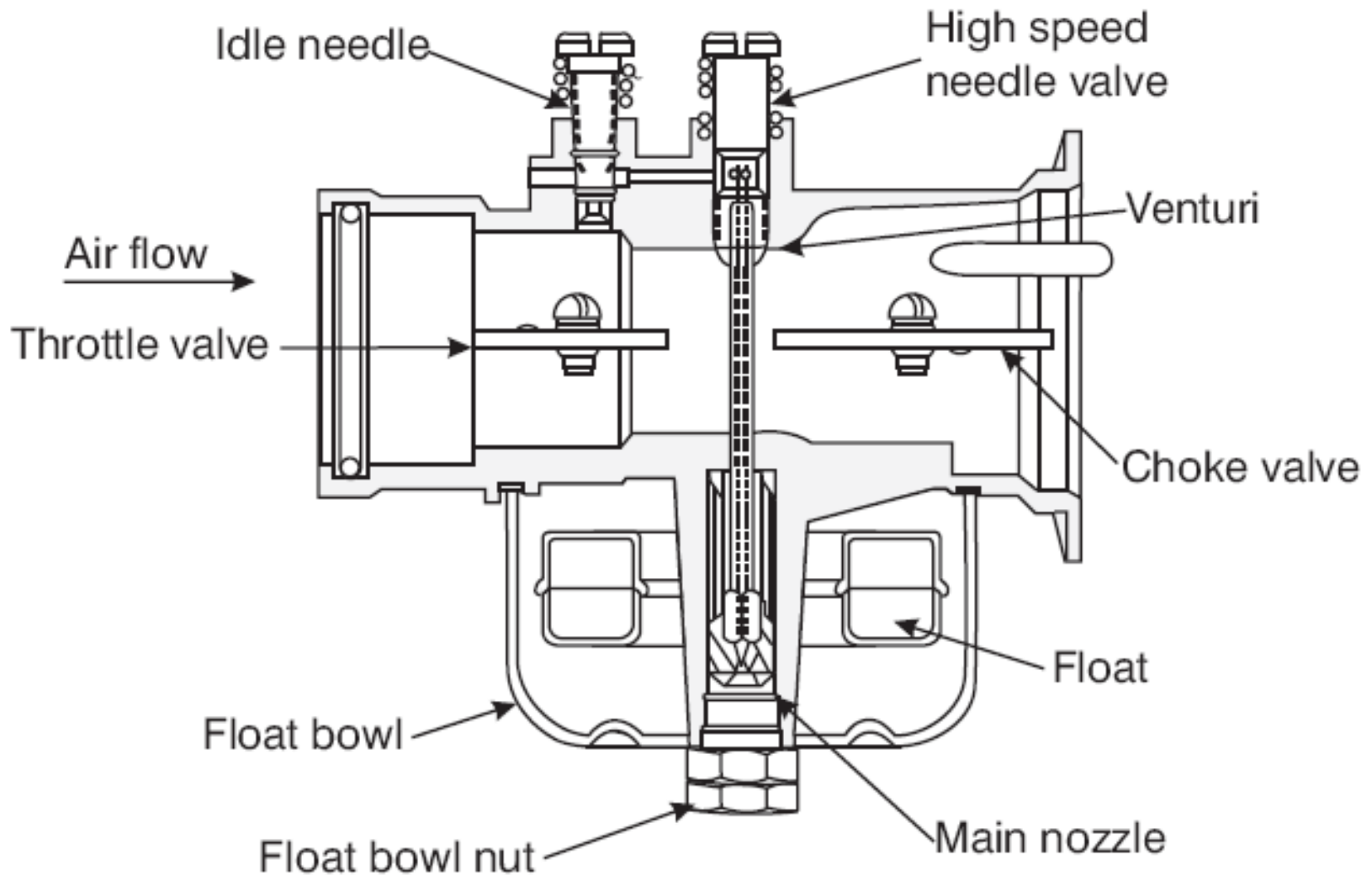
Parts of a spark plug



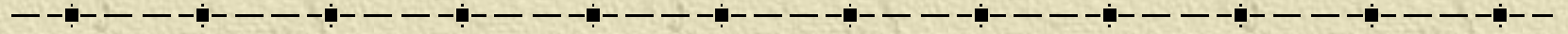
Fuel system checks

- ✦ 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 gage 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?