Energy & Power 3211

Small Engine Applications

Small Engine Applications

- This course is entirely dedicated to small engines, the type used in such applications as;

  - Lawn Mowers
  - Motor Cycles
  - Minibikes
  - Snow Mobiles
  - ATV’s
  - Out Board Motors
  - Chain Saws
  - Water Pumps
  - Many others…

Small Engine Applications

- It is estimated that there are over 125 million small engines in use in North America today
- With more than ten million coming off the assembly line each year
- Several million really wear out and are junked each year
- Many could give additional use if they were serviced and repaired properly
- In this course we will learn how to take care of small engines so they will give the life that was built into them

Small Engine Applications

- Small gas engines are built to meet strict government standards which provide the engines must run under full load and at top speed for 1000 hours. Some have been known to run under these conditions for up to 5000 hours.
- To make these engines stand-up under heavy demands the manufacturers provide them with larger crankshafts, larger main bearings, and larger oil supplies per horsepower than those in automobile engines.

Small Engine Applications

- The troubles engines give are generally due to lack of proper service, operation, maintenance, or repair…. They are really tougher than most people think.

- If you examine the conditions under which small engines operate it is easier to understand why they may give occasional trouble. For example……..

Small Engine Applications

- Most small engines are designed to operate at or near top speed continuously. Yet you would never think of operating your automobile engine at top speed all the time.
- The speed of a small engine when it is operating at 3600 r.p.m. is equivalent to the speed of an automobile engine when it is traveling at 130 km/hr. (a chain saw engine may turn as fast as 6000 to 8000 r.p.m.)
- Many small engines operate near the ground where dirt and dust are more likely to get into them
- Small engines are subjected to much abuse such as overspeeding & overloading
- Few small engines receive regular & proper service and are often repaired by poorly trained mechanics who are unable to correctly diagnose troubles

Small Engine Applications

- What you learn by studying small engines gives you a basic understanding of larger multi-cylinder engines.
- Regardless of engine size the principles are the same. Operation, maintenance, and repair procedures are very similar.
- If you understand how a small, single cylinder engine works, you can apply your knowledge to large multi-cylinder engines such as those in tractors and automobiles

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