

Name: _____

Period: _____

M.T.H.S. - Auto Tech

Mr. S. Carlson

Date: _____

Basic Engine Parts and Cycles Unit Study Guide

Auto Tech Unit Study Guide

Basic Engine Parts - Directions: The following are engine part names. Beside each one in the space provided make a small, simple sketch of that part.

1. Intake Valve
2. Piston pin
3. Timing chain
4. Oil ring
5. Valve spring
6. Lifter
7. Camshaft timing gear
8. Connecting rod
9. Rocker arm
10. Valve spring retainer
11. Compression ring
12. Push rod
13. Crank timing gear
14. Camshaft
15. Crankshaft
16. Flywheel
17. Main bearings
18. Engine block
19. Exhaust manifold
20. Oil pan
21. Keeper
22. Exhaust valve
23. Intake manifold
24. Rod bearings

Over Please

Auto Engine Terms and Concepts - Directions: The following are important auto engine terms or concepts that you should have an awareness of to properly understand basic engine parts and basic engine operation (4 stroke-cycle). Please read each term or concept and place a short 1 or 2 word equivalent in the space provided.

25. Tappet: _____
26. Larger valve: _____
27. Turns half of crankshaft speed: _____
28. Crankcase: _____
29. Piston Stroke: _____
30. Cubic inches: _____
31. Stroke that comes after exhaust: _____
32. Stroke that comes after compression: _____
33. Smaller valve: _____
34. 720 degrees: _____
35. Pistons made of: _____
36. Cylinder bore: _____
37. Engine displacement: _____
38. Stroke that comes after intake: _____
39. Stroke that comes after power: _____

4 Stroke-Cycle - Directions: The following are possibly things that happen in 4 stroke-cycle engines. Classify each happening according to the stroke during which it occurs. Place the letter of the best category next to the left of the event or happening.

- A. Intake Stroke
- B. Compression Stroke
- C. Power Stroke
- D. Exhaust Stroke
- E. Not part of any Stroke

- ___ 40. Intake valve closed, exhaust valve open, and piston going up
- ___ 41. Intake valve closed, exhaust valve closed, and piston going down
- ___ 42. Pressure is increased by 4 times almost instantaneously
- ___ 43. 30 p.s.i. forces in air and fuel
- ___ 44. Pressure increases to approximately 600 p.s.i.
- ___ 45. Most heat put into cooling system
- ___ 46. Temperature of the mixture increase rapidly
- ___ 47. Most wear on parts occurs
- ___ 48. Ignition spark starts it
- ___ 49. Stroke requiring the larger valve
- ___ 50. Stroke NOT requiring the larger valve
- ___ 51. Intake valve open, exhaust valve closed, and piston going down
- ___ 52. Intake valve closed, exhaust valve closed, and piston going up
- ___ 53. Volume of the mixture is reduced to a fraction of its' original volume
- ___ 54. Pressure increases to approximately 150 p.s.i.
- ___ 55. Most blow-by occurs
- ___ 56. Oil can enter the combustion chamber
- ___ 57. Temperature of mixture increases "gradually"
- ___ 58. Atmosphere pressure pushes in air and fuel
- ___ 59. Stroke using the small valve
- ___ 60. Pressure drops to -10 p.s.i.