

Lab - Service Manual

Students: 1. _____
 2. _____

Date: _____
 Block: _____

The SERVICE MANUAL, also called the SHOP MANUAL or REPAIR MANUAL, is a book containing detailed directions on how to work on a car. It is an essential reference tool of the auto technician. When a technician must perform an unfamiliar or difficult repair, the service manual can be used to outline what must be done. It also provides specifications, capacities, and other useful information. A service manual is like having an experienced technician standing ready to answer almost any of your questions.

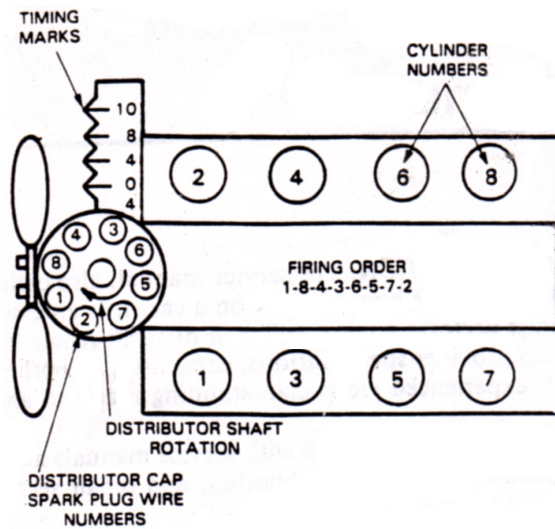
1. ASK YOUR INSTRUCTOR FOR THE FOLLOWING INFORMATION:			
Year:		Make:	
Model:		Engine Size:	
Transmission:			
2. GET THE APPROPRIATE SERVICE MANUAL AND ANSWER THESE QUESTIONS:			
A.	What is the title of the service manual you are using?	C.	Where is the Index located?
B.	What model years does it cover?	D.	Are there small contents or index pages at the beginning of each repair section?
3. FINDING PAGE NUMBERS		4. BOLT TORQUE SPECIFICATIONS:	
<p>List the service manual page numbers that explain the service and repair of the following engine parts. Also, read the instructions covering each area of repair</p> <p>1. Engine Assembly Page: _____</p> <p>2. Valve Lifters Page: _____</p> <p>3. Connecting Rods Page: _____</p> <p>4. Main Bearings Page: _____</p> <p>5. Valve Guides Page: _____</p> <p>6. Timing Chain, Gears or Belt Page: _____</p> <p>7. Pistons Page: _____</p> <p>8. Camshaft Page: _____</p>		<p>Normally given under specifications, list the torque specs for the following engine components.</p> <p>1. Cylinder Heads Torque Spec: _____</p> <p>2. Main Bearings Torque Spec: _____</p> <p>3. Intake Manifold Torque Spec: _____</p> <p>4. Connecting Rods Torque Spec: _____</p> <p>5. Flywheel Bolts Torque Spec: _____</p> <p>6. Exhaust Manifold Torque Spec: _____</p>	

5. ENGINE TUNE-UP INFORMATION

Look up and list the following tune-up information for your engine.

- 1. Spark Plug Type Spec: _____
- 2. Compression Pressure Spec: _____
- 3. Ignition Timing Spec: _____
- 4. Spark Plug Gap Spec: _____
- 5. Fuel Pump Pressure Spec: _____
- 6. Idle Speed Spec: _____

Most service manuals will have a simplified top view illustration of the engine. It gives information on engine firing order. The service manual illustration will usually show cylinder numbers, distributor cap numbers, direction of distributor rotation, timing marks, and spark plug firing order. It should be similar to the figure on the right. This illustration may be needed when installing a distributor, spark plug wires, when adjusting timing, finding number one cylinder, and other related type jobs.



Locate the drawing in the service manual for your particular engine. Note how the manual illustration shows number and firing order information.

Draw your engine illustration below. Use a ruler to add the shape of the engine to the fan (if the engine is not equipped with a fan on the motor, consider the fan to be the front pulley). Then, label the cylinder numbers, distributor cap, and any other data. Finally, draw neat lines (spark plug wires) from the distributor cap terminals to the correct cylinders.

