



Do It Yourself Service Part 5 by Rick Kallmayer

The first step in doing actual service procedures yourself is to do some research on the correct procedures for your bike. Invest in the appropriate Clymer or Haynes shop manual for your bike and read through the service sections carefully. There are also some excellent guides on the Internet BMW Riders web site which are worth reading and printing out for your library.

Next, gather up the tools and supplies you will need for your service work. The references above all contain good lists of tools and typical shop supplies which are starting points for equipping your shop. You need to create your work space next. The area should have a clean, hard floor area at least twice the length of your bike in both length and width. You can work with the bike parked on the floor, but building a ramp to a strong raised platform or buying a lift table will work much better. You want the bike to be at a height off the floor that allows you to reach the handlebar controls while standing comfortably. Visit some other home shops to get ideas before you create your work space and steal good ideas liberally.

All shop manuals are designed to be used by mechanics that already have learned some basic mechanical principles. The best way to learn this is to work alongside an experienced mechanic who is willing to teach you. Of course, you can also enroll in a good mechanics trade school or junior college program and get a real education. I can't duplicate either of those educations in an article, but I'll try to cover some essential information. The rest of this article will cover some basic principles that I think are critical, and a list of some hints that will help you avoid breaking too many parts on your way to becoming a mechanic.

Mechanics mainly take assemblies apart and put them back together again after repairing or replacing defective parts of the assembly. Most of the service procedures for your bike are fairly straightforward and can be accomplished with a minimal investment in tools by a person who understands how to work with fasteners. To be a good mechanic, you also need to have excellent trouble-shooting skills, and be knowledgeable about all the systems that make the whole machine work. I will set aside the trouble shooting stuff for now because the first thing you need to know is how not to tear up the fasteners and parts as you disassemble and reassemble your machine. The following principles or rules are your first skills.

1. Always use exactly the correct size tool for the fastener you are working on.
2. Ensure that the tool is fully seated on the fastener before you apply any force.

3. Select the smallest tool handle or wrench length which will allow you to generate enough force to properly tighten the fastener.
4. Never use a tool to do something it was not designed to do.
5. Buy a good quality torque wrench (3/8 inch drive, 0-105 nm range) and use it to tighten all fasteners. Never use a torque wrench to remove a fastener.
6. Use the tool which gives the greatest bearing area on the fastener (e.g.; six-point sockets instead of twelve pointers, closed-end wrench instead of open-end wrench, regular hex key instead of ball-end hex key, etc.) if possible.
7. Take great care to remove or cover the pretty body parts before you use a tool in close proximity to them.

All of the rules above are intended to help you avoid making the most common mistake of a ham-fisted amateur.....over-tightening fasteners. Remember that most of the parts of your bike are made from light weight aluminum alloys and plastics. In addition, even the steel bolts and nuts are threaded fasteners which can be easily stripped if tightened too much. Using the torque wrench to tighten everything will teach you a lot about how little twist you need to put on most fasteners to properly tighten them.

The last part of this article is a list of hints and tips that will make things easier.

1. Clean and dry the bike before you start to work on it, and remove the luggage.
2. Keep your work area clean, especially the floor which will be home to all your dropped little fasteners.
3. Bright lighting from all sides will make it a lot easier to see.
4. Always gather tools, supplies, and parts you will need for the job before you start.
5. Carefully store removed fasteners and parts together.
6. To make reassembly successful, take detailed photos before you take it apart, label wires & hoses and their connection points, study the reassembly order in your shop manual before you put it back together.
7. Never force things apart before you check and double-check for additional fasteners you may have missed.
8. Always put support in place before you disconnect large assemblies or parts. Think about support for the removed part AND support for the motorcycle!
9. Take your time. You are doing this for fun and the satisfaction of doing it yourself. Do not try to match the speed of a professional mechanic, (they get paid more to go faster, and they do it all the time!)

Next time, I'll ramble on about ways to remove stuck fasteners, some more hints for disassembly and reassembly, and shop supplies you will need.