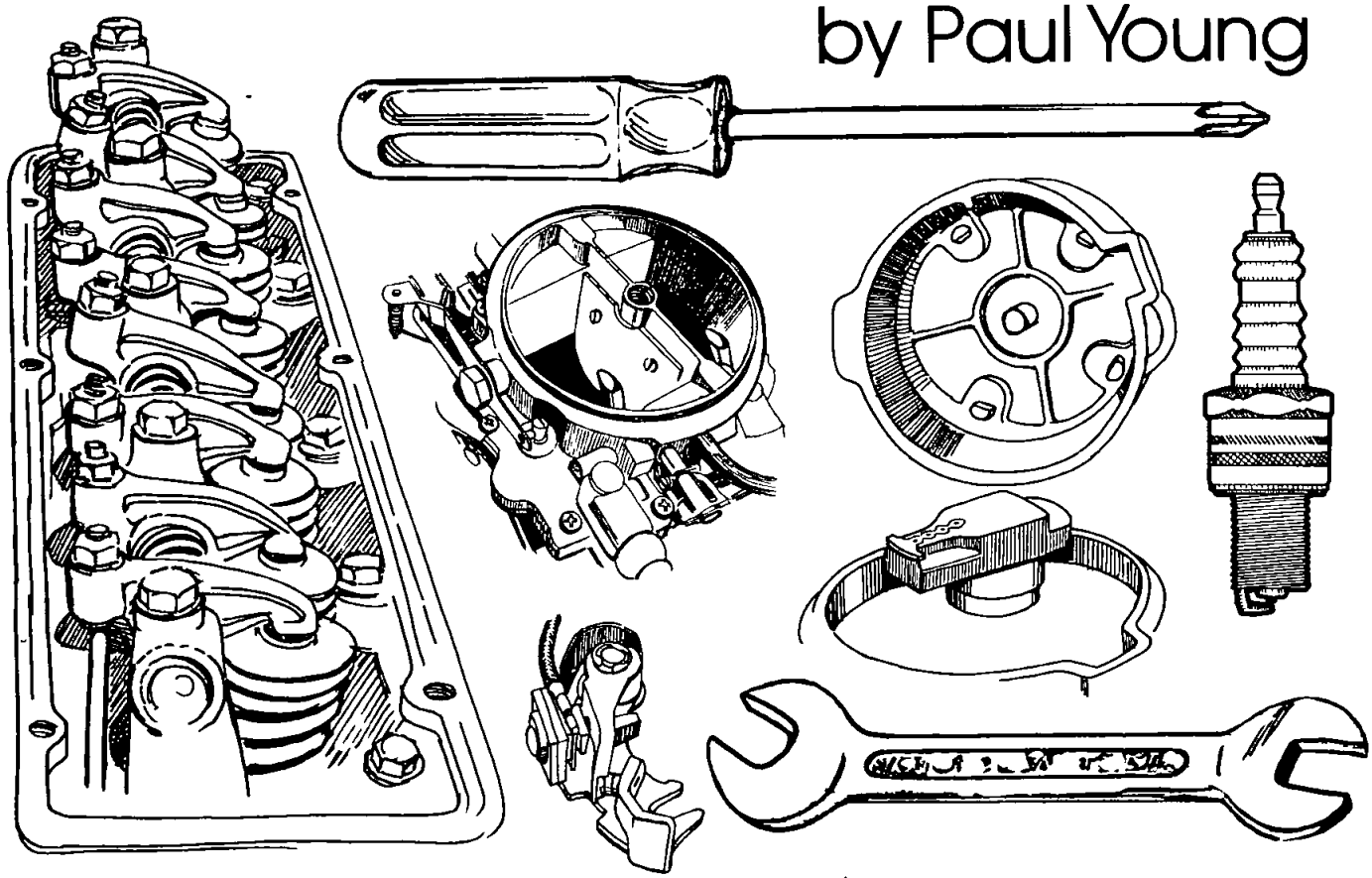
DATSUN TUNE-UP FOR EVERYBODY

by Paul Young



All Models, 1968-1979 Including Z and ZX

DATSUN TUNE-UP FOR EVERYBODY

All Models, 1968-1979
Including Z and ZX

DATSUN TUNE-UP FOR EVERYBODY

by Paul Young
Illustrated by Monty Graham

Ten Speed Press

Ten Speed Press
P O Box 7123
Berkeley, California 94707

Book Design by Hal Hershey
Cover Design by Brenton Beck
Fifth Street Design Associates

Library of Congress Catalog Number 80-5102
ISBN 0-89815-026-4

Contents

Foreword

This Datsun tune-up manual is unlike any other Datsun manual ever written in that it has been specifically designed to teach a person with absolutely no knowledge of auto mechanics exactly how to do a major tune-up on his/her Datsun

If you plan to rebuild the transmission, replace the main bearings, or resleeve the cylinders, you should consult a manual intended for skilled mechanics that devotes two to three hundred pages to repairs and—relying heavily on your automotive knowledge—only three to four pages to tune-ups.

Devoted *entirely to tune-ups* and written in simple, everyday language, this manual describes, step by step, what to do and exactly how to do it, and in addition clearly illustrates each step with easy-to-follow diagrams

The best results will be achieved by not applying any prior knowledge you may have (or think you may have) of auto mechanics. It will only complicate the simple instructions contained in this manual.

If you're on a busy schedule, you can complete your major tune-up in stages of one (or more) chapter(s) at a time. You can safely drive your car after completing the work described in each chapter, proceeding to the next when time permits.

With the help of this manual, *you* can accomplish the same major tune-up for which you would pay a mechanic $50 to $60.

A Few Words Before You Get Started

To Tune or Not to Tune

Your engine is the heart of your car In order for it to get you and your Datsun around town, it must develop temperatures of over 1,000 degrees, explode gas within it, produce up to 6,500 RPMs, and endure countless other abuses—depending on where and how you drive (RPMs = revolutions per minute or the number of times an engine turns over in a minute. If you counted the number of times you spun in a circle for one minute, this would be your RPM.) This combination of the high RPMs, temperatures, exploding gas, and different driving conditions causes *valves, carburation,* and *timing* to go out of adjustment, *oil* to become dirty, and *points* and *spark plugs* to slowly burn themselves out.

How Often Should I Tune-up?

Some manuals recommend a tune-up every 6,000 miles, but it has been my experience that by 3,000 to 4,000 miles your engine will already be out of adjustment After driving this far, the valves and timing in most engines have gone out of adjustment, the oil is dirty and thin, and the points and plugs need adjustment or replacement—depending on when they were last installed. Although the carburetor may stay in adjustment, its operation is affected by these other engine changes. So why risk expensive repair bills when a tune-up at the *right time* will keep your car running fine and also give you peace of mind?

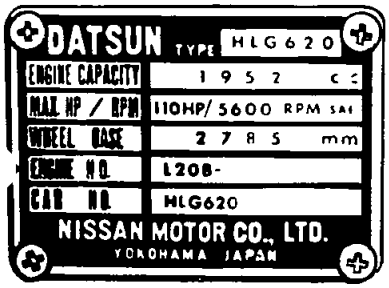
How Much Will It Cost Me?

Plan on spending about $5 to $8 for parts for each tune-up. I recommend you buy parts and tools at a discount shop and avoid the higher-priced automotive stores. You will determine which parts need replacement as you do the work pertaining to the individual parts, discussed in the chapters that follow. Your initial—and only—investment for tools will come to about $30, depending on their qual-

ity. Remember that your tools will last a lifetime, while a *single* tune-up by a professional mechanic costs from $50 to $60 See Chapter Seven, "Tools"

Which Engine Do I Have?

Your Datsun is equipped with one of the many different types of engines manufactured by Nissan Motors. Throughout this manual the particular engine installed in your vehicle will be referred to by its "ENGINE NO." (engine number). Open the hood, look into the engine compartment, and locate the vehicle identification plate. The *engine number that identifies the engine in your vehicle is written on this plate:*

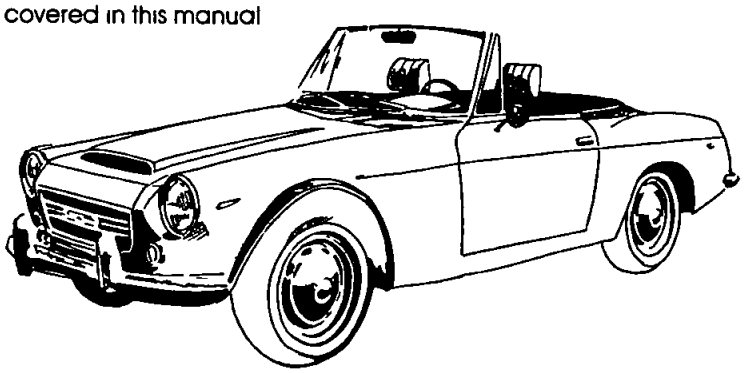


The engine number consists of a letter and number combination. Your engine will be identified by one of these codes: *A12, A13, A14, A15, L16, L18, L20B, L24, L26,* or *L28.*

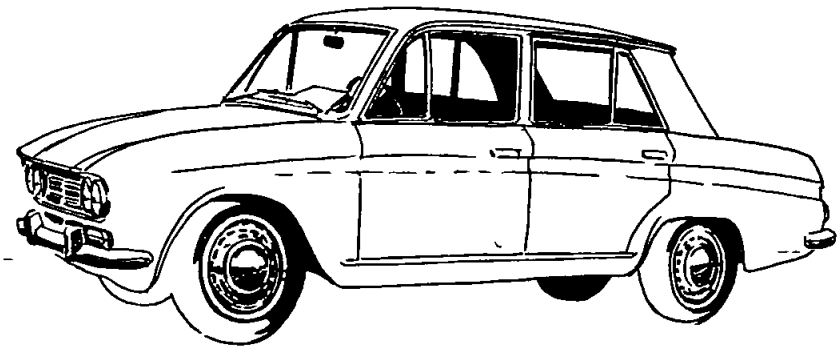
If you can't locate the vehicle identification plate, or if the engine number has worn off, see your local Datsun dealer; he/she will be able to tell you the kind of engine you have

Some *older*-model Datsuns, first issued as early as 1962 but still offered into the late '60s, *do not have* either an A-series engine (A12, A13, A14, A15) or an L-series engine (L16, L18, L20B, L24, L26, L28) These models, illustrated below, *are not covered* in this manual. Also, *pre*-1970 trucks and the Nissan patrol jeep are not covered.

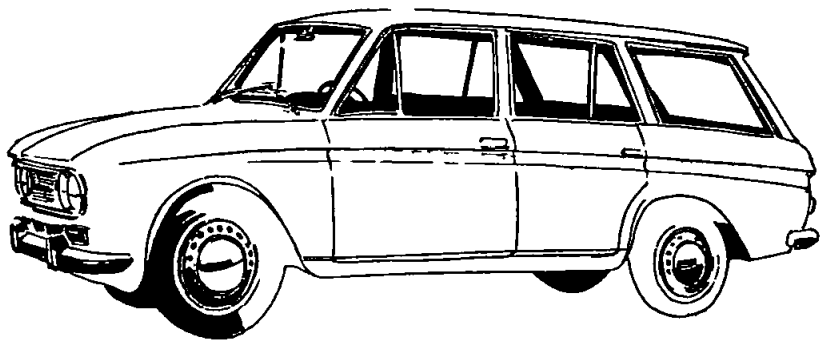
Not covered in this manual



Not covered in this manual



Not covered in this manual



Don't Get Hung Up: How to Use This Manual

First, read through the steps of each chapter you are about to do, become familiar with *what* you'll be doing and *how* you'll be doing it. Then *do* the chapter Reread each step before you start it

You'll find that a first readthrough is well worth the little amount of time it takes Since I have assumed that you know nothing about auto mechanics, I have tried to include enough information to cover all situations If you are familiar with what steps are ahead, you can avoid getting hung up on something you know will be clarified in the next sentence or paragraph.

However, if you're one of those people who just can't bring themselves to read through the entire chapter first, then at least become familiar with the *what* and *how* of each step before beginning to do it.

Chapter One

Spark Plugs

Spark plugs ignite the fuel that supplies the energy to run your engine When the spark plugs are out of adjustment or in need of replacement, your car will feel sluggish, get poor gas mileage, and be hard to start. In some cases, the car may not run because the spark plugs are too worn even to spark.

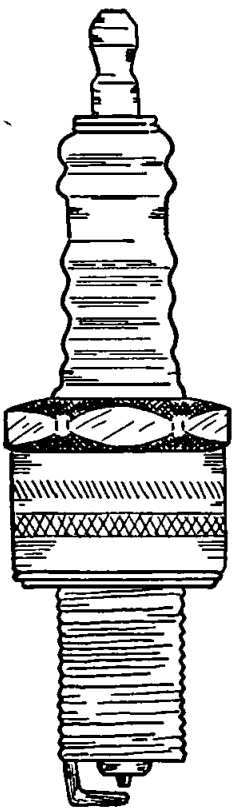


Figure 1. A spark plug

Outline of Steps

Step 1: Tools you will need
Step 2: How to locate the spark plugs in the engine.
Step 3: How to remove the spark plugs from the engine.
Step 4: How to determine if you need new spark plugs
Step 5: How to adjust (gap) new and old spark plugs.
Step 6: How to put the spark plugs back into the engine.

Read the entire chapter before you begin!

STEP 1: Tools You Will Need

Put all the tools you will need in one place before you start working See Chapter Seven, "Tools," for descriptions and uses of these tools.

A· A 13/16" spark plug socket with 3/8" drive.
B: A 4" extension bar or longer with 3/8" drive.

C: Ratchet wrench with 3/8" drive
D Feeler gauge set or wire gauge.
E· Wire brush (optional).*
F: Small file (optional).*

*Not necessary if you plan to install new spark plugs (see Step 5, parts A and B).

STEP 2: How to Locate the Spark Plugs in the Engine

Caution: If the engine is hot, either wait for it to cool down or take care not to burn your fingers!

PART A

Open the hood and observe the engine. You will see a black, brown, or light green plastic object that has five thick, black wires coming out of it. This is the distributor cap. You will notice that one of the wires is in the middle of the distributor cap, and the other four are positioned around it. See Figure 2. In this chapter you will not be concerned with the middle wire, which is called the coil wire, but only with the other four, which are *spark plug wires*.

Note The L24, L26, and L28 are the largest of the Datsun engines, and have *seven* thick, black wires coming from the distributor cap. The wire coming from the middle of the distributor cap is the coil wire. The other six wires, positioned around the coil wire, are the spark plug wires.

PART B

Put a finger on any one of the wires positioned around the middle wire,

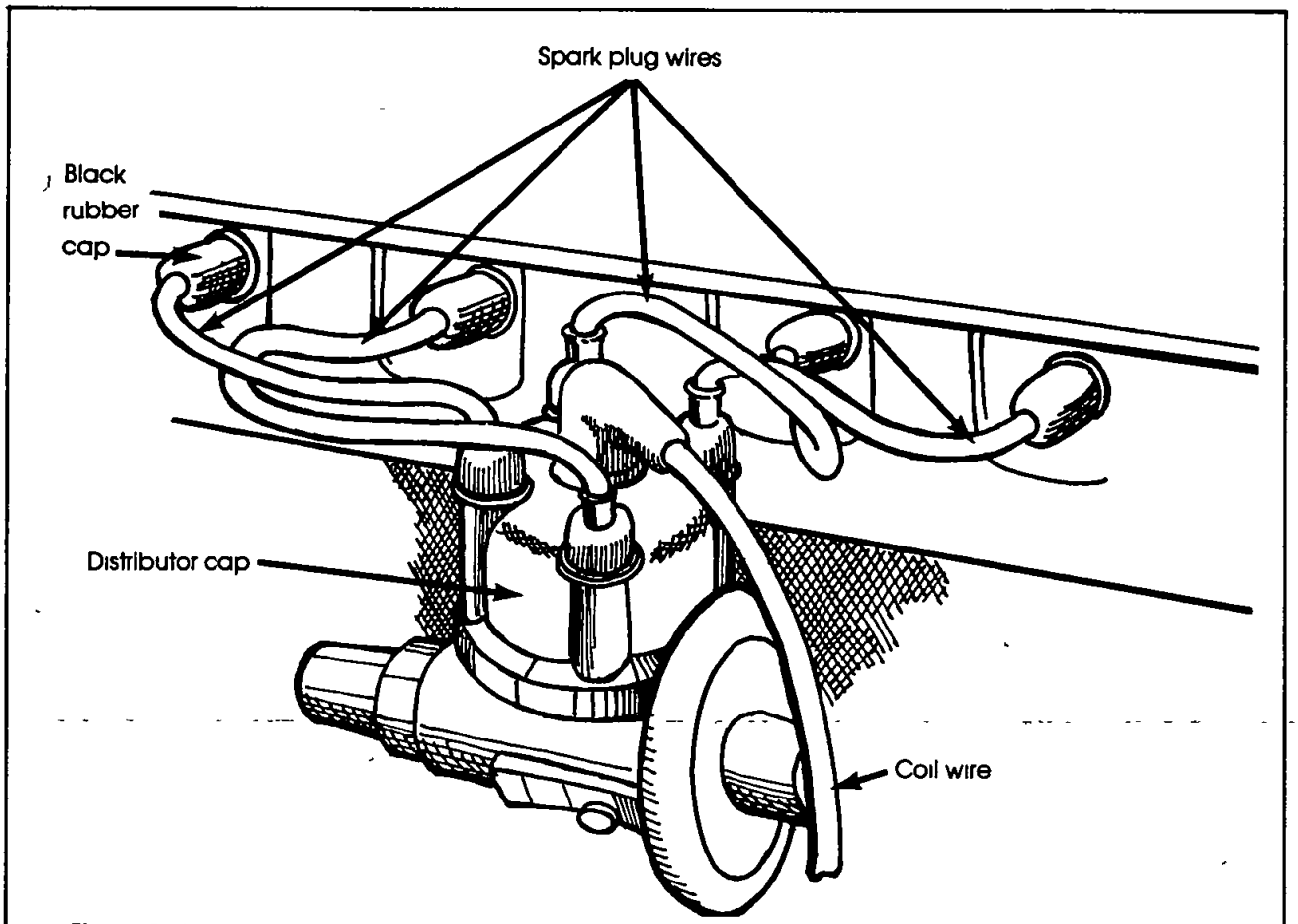


Figure 2. Locating the spark plugs. The distributor cap in your engine may be in a different location than shown in this illustration L24, L26, and L28 engines have seven wires coming from the distributor cap

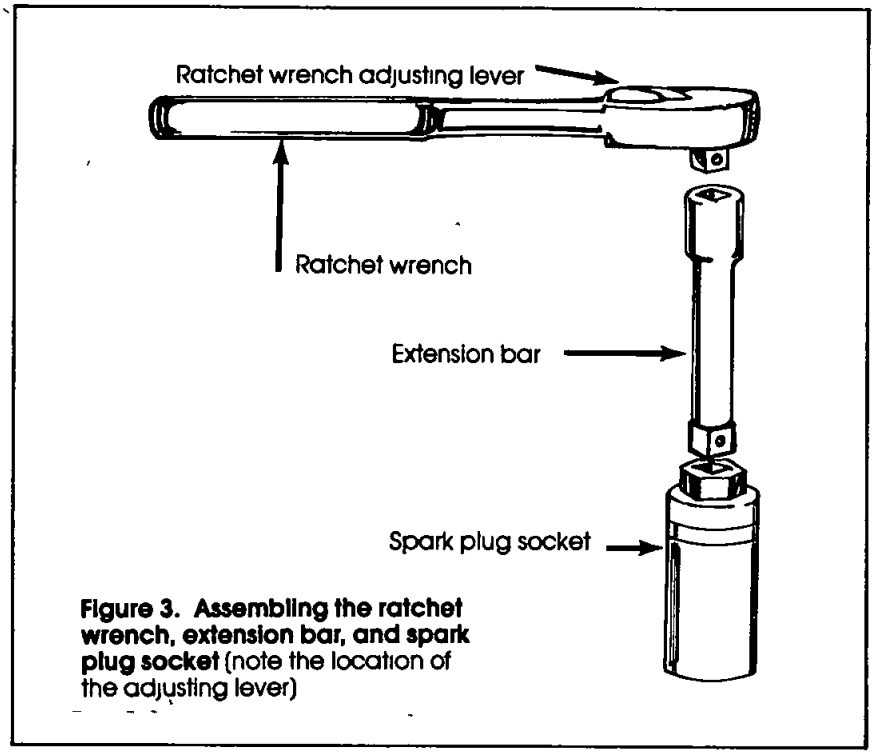


Figure 3. Assembling the ratchet wrench, extension bar, and spark plug socket (note the location of the adjusting lever)

any one of the spark plug wires. Run your finger along this wire in the direction that leads away from the distributor cap. When you get to the end of the wire, you will come to a black rubber cap. This cap is plugged onto a spark plug See Figure 2 All you need to do is pull on the *cap*—not the wire—and it will come off the spark plug You have now found one of the spark plugs in your engine. Don't pull on the wire—you could damage it.

Caution: As you probably realize, in order to find the other spark plugs in your engine, you must simply follow the other spark plug wires from the distributor cap. *Don't do this yet!* The spark plug wires must go back onto the same spark plugs from which they were removed. Therefore, remove the wire from just *one* spark plug at a time, and after you have taken out that spark plug and put it or a new one

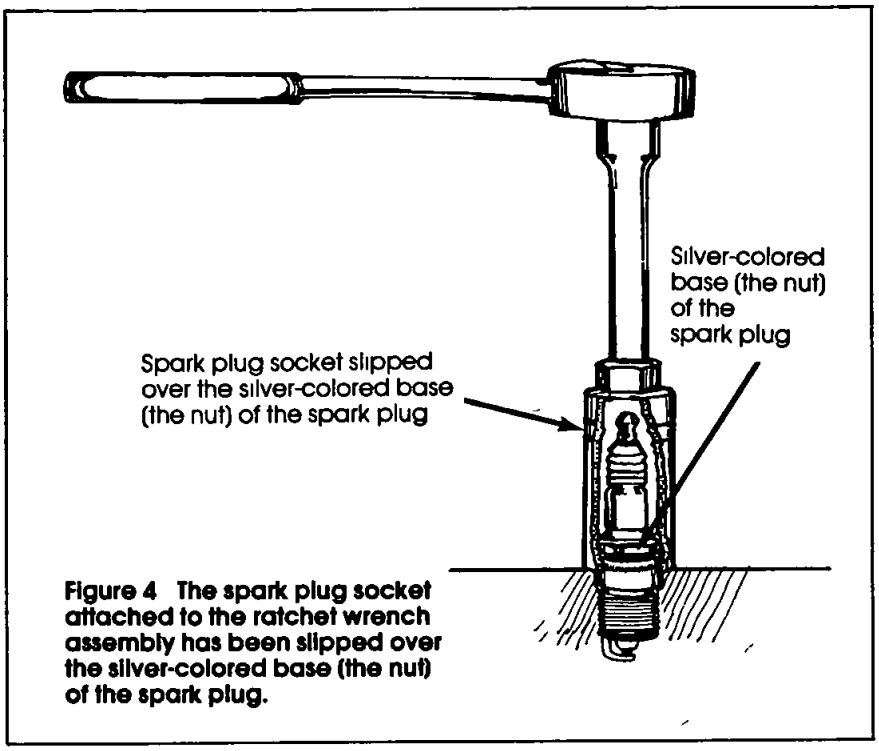


Figure 4 The spark plug socket attached to the ratchet wrench assembly has been slipped over the silver-colored base (the nut) of the spark plug.

PART B

Now that this tool is assembled and adjusted, slide the spark plug socket down over the spark plug until you are sure it has slipped over the silver-colored base (the nut) of the spark plug. See Figure 4.

Note. In some cars, something may obstruct access to a spark plug, in which case you must remove the extension bar and plug the spark plug socket directly onto the ratchet wrench. This shortened assembly will allow you access to the spark plug.

PART C

Now you are ready to remove the spark plug from the engine. Turn the ratchet wrench counterclockwise, and the spark plug will begin to unscrew from the engine. It will take some force to get the spark plug to begin to unscrew, so put some muscle into it.

Caution: If your ratchet wrench is adjusted correctly, it will turn freely when turned in a *clockwise* direction and meet with resistance when turned in a counterclockwise direction. Under no circumstances should you apply force to the wrench if it does not

back into the engine, replace the wire and then go on to the next spark plug. This will avoid any confusion about where each wire should go.

STEP 3: How to Remove the Spark Plugs from the Engine

PART A

Get out the 13/16" spark plug socket, extension bar, and ratchet wrench. Now complete the rest of this part, which tells you how to assemble the wrench and adjust it to remove the spark plugs.

Plug one end of the extension bar into the spark plug socket and the other end onto the ratchet wrench See Figure 3. Now firmly hold the spark plug socket in one hand and, with the other hand, turn the ratchet wrench in a *counterclockwise* direction. When you do this, the spark plug socket should turn or attempt to turn in your hand, depending on how tightly you are holding it. If this doesn't occur, but instead the ratchet wrench spins freely, you will have to slide the adjusting lever on top of the wrench so that the wrench will exert pressure when turned counterclockwise. This is necessary since the spark plugs will loosen only in a counterclockwise direction. *Your wrench must be set correctly, so take the time to do so*

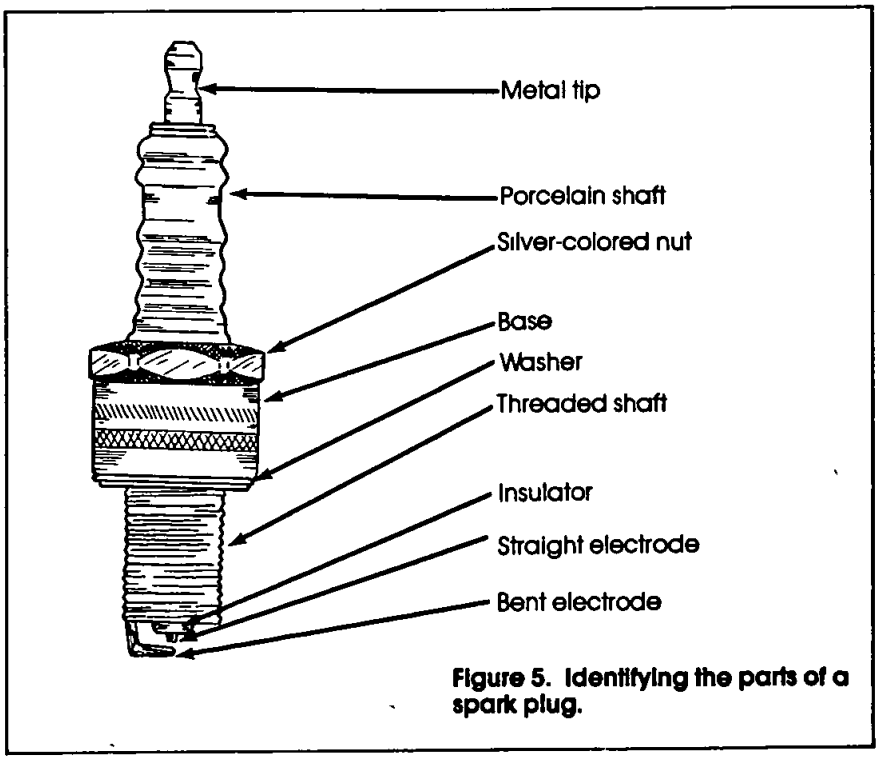


Figure 5. Identifying the parts of a spark plug.