

NOTE: If you own a 1980 or 1981 model, first check the Supplement at the back of the book for any new service information.

## CHAPTER ONE

### GENERAL INFORMATION

This detailed, comprehensive manual covers the Yamaha XS1100. The expert text gives complete information on maintenance, tune-up, repair, and overhaul. Hundreds of photos and drawings guide you through every step. The book includes all you need to know to keep your Yamaha running right.

A shop manual is a reference. You want to be able to find information fast. As in all Clymer books, this one is designed with you in mind. All chapters are thumb tabbed. Important items are extensively indexed at the rear of this book. Finally, all most frequently used specifications and capacities are summarized on the blue Quick Reference pages at the front of the book.

Keep the book handy in your tool box. It will help you to better understand your Yamaha, lower repair and maintenance costs, and generally improve your satisfaction with your bike.

Refer to **Figure 1** for locations of major controls and components.

#### MANUAL ORGANIZATION

All dimensions and capacities are expressed in English units familiar to U.S. mechanics as well as in metric units.

This chapter provides general information and specifications. See **Table 1** at the end of this chapter. It also discusses equipment and tools useful both for preventive maintenance and troubleshooting.

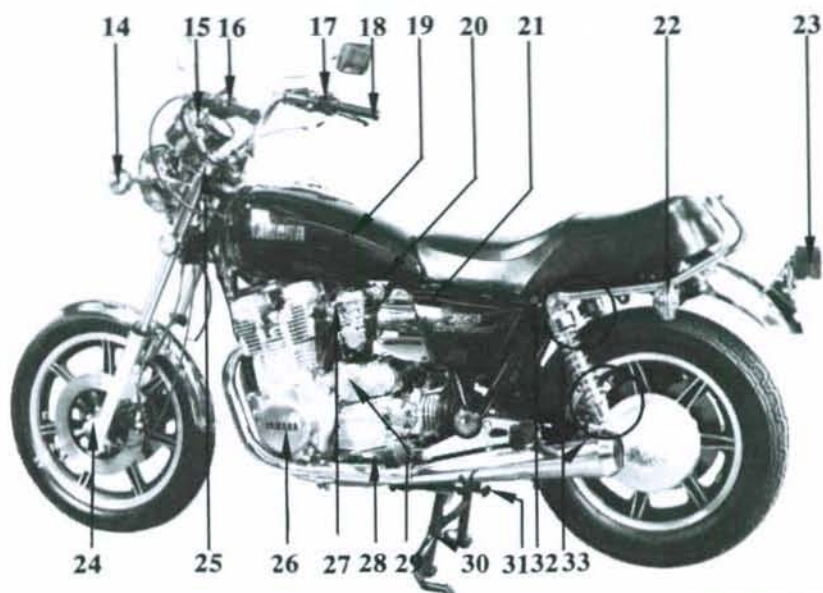
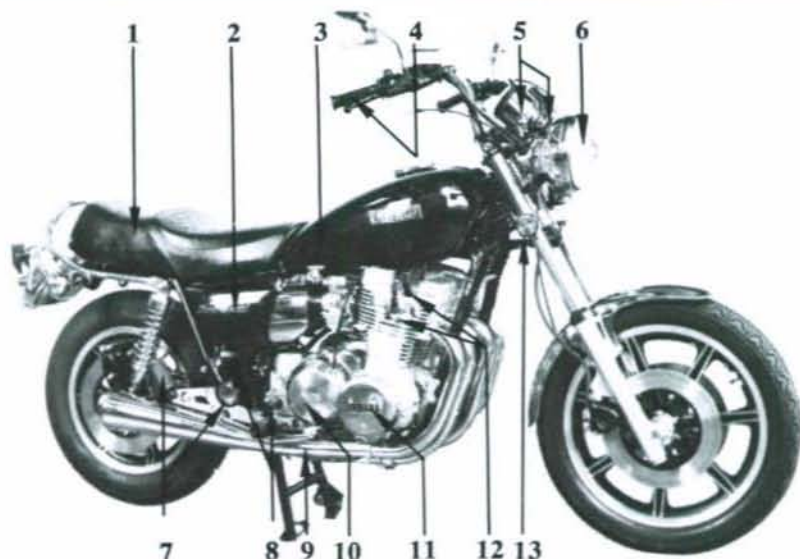
Chapter Two provides methods and suggestions for quick and accurate diagnosis and repair of problems. Troubleshooting procedures discuss typical symptoms and logical methods to pinpoint the trouble.

Chapter Three explains all periodic lubrication and routine maintenance necessary to keep your bike running well. Chapter Three also includes recommended tune-up procedures, eliminating the need to constantly consult chapters on the various assemblies.

Subsequent chapters describe specific systems such as the engine, transmission, and electrical system. Each chapter provides disassembly, repair, and assembly procedures in simple step-by-step form. If a repair is impractical for a home mechanic, it is so indicated. It is usually faster and less expensive to take such repairs to a dealer or competent repair shop. Specifications concerning a particular system are included at the end of the appropriate chapter.

Some of the procedures in this manual specify special tools. In all cases, the tool is illustrated either in actual use or alone. A well-

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|--|--|---|
| 1. Seat                                      | 12. Spark plugs                                      | 24. Speedometer drive   |
| 2. Fuse panel and accessory fuse             | 13. Front reflex reflector (amber)                   | 25. Front fork air cap (air/oil forks)  |
| 3. Fuel shutoff valve (right-hand side)      | 14. Front turn signal                                | 26. Ignition timing plate   |
| 4. Front brake lever                         | 15. Clutch lever                                     | 27. Choke lever   |
| 5. Speedometer, tachometer, indicator lights | 16. Light, horn, and turn switch                     | 28. Gear shift lever  |
| 6. Headlight                                 | 17. Start button and engine stop switch              | 29. Starter motor   |
| 7. Footpegs, front and rear                  | 18. Throttle grip                                    | 30. Centerstand   |
| 8. Kickstarter shaft and lever               | 19. Fuel tank  | 31. Kickstand   |
| 9. Rear brake pedal                          | 20. Fuel shutoff valve (left-hand side)              | 32. Helmet lock   |
| 10. Clutch                                   | 21. Battery  | 33. Shock absorber adjustment (upper location, on models with air/oil front forks only) |
| 11. Alternator                               | 22. Rear turn signal                                 |   |
|  | 23. Tail/brake light and rear reflex reflector (red) |   |

Table 1 GENERAL SPECIFICATIONS (1978-1979)

<b>Engine type</b>	Air cooled, 4-stroke, DOHC, 4 cylinder
<b>Bore and stroke</b>	2.815 x 2.701 in. (71.5 x 68.6mm)
<b>Displacement</b>	67.25 cu. in. (1,102cc)
<b>Compression ratio</b>	9.2 to 1
<b>Carburetion</b>	4 Mikuni, constant velocity, 30mm
Models E and F	BS34-11 2H7-00
Model SF	BS34-11 3H3-00
<b>Ignition</b>	Battery, fully transistorized
<b>Lubrication</b>	Wet sump, filter, oil pump
<b>Clutch</b>	Wet, multi plate (7)
<b>Transmission</b>	5-speed, constant mesh
<b>Transmission ratios</b>	
1st	2.235
2nd	1.625
3rd	1.285
4th	1.032
5th	0.882
<b>Starting</b>	Electric (emergency manual kick)
<b>Wheelbase</b>	60.8 in. (1,545mm)
<b>Steering head angle</b>	29.5°
<b>Trail</b>	5.12 in. (130mm)
<b>Ground clearance</b>	
Models E and F	5.9 in. (150mm)
Model SF	6.9 in. (175mm)
<b>Seat height</b>	
Models E and F	31.9 in. (810mm)
Model SF	31.7 in. (805mm)
<b>Overall height</b>	
Models E and F	46.3 in. (1,175mm)
Model SF	48.4 in. (1,230mm)
<b>Overall width</b>	
Models E and F	36.2 in. (920mm)
Model SF	33.7 in. (855mm)
<b>Overall length</b>	
Models E and F	89.0 in. (2,260mm)
Model SF	89.6 in. (2,275mm)
<b>Front suspension</b>	Telescopic fork, 6.9 in. (175mm) travel
<b>Rear suspension</b>	Swing arm, adjustable shock absorbers, 4.3 in. (108mm) travel
<b>Front tire</b>	
Models E and F	3.25 H-19 4PR
Model SF	3.50 H-19 4PR (tubeless)
<b>Rear tire</b>	
Models E and F	4.50 H-17 4PR
Model SF	130/90H-16 (tubeless)
<b>Fuel capacity</b>	
Models E and F	5.3 U.S. gal. (20 liter; 4.4 Imp. gal.)
Model SF	3.97 U.S. gal. (15 liter; 3.3 Imp. gal.)
<b>Oil capacity</b>	
Oil change	3.2 U.S. qt. (3.0 liter; 2.7 Imp. qt.)
Oil and filter change	3.7 U.S. qt. (3.5 liter; 3.1 Imp. qt.)
<b>Weight (net)</b>	
Models E and F	562 lb. (262 kg)
Model SF	556 lb. (252 kg)



equipped mechanic may find that he can substitute similar tools already on hand or fabricate his own.

The terms **NOTE**, **CAUTION**, and **WARNING** have specific meanings in this manual. A **NOTE** provides additional information to make a step or procedure easier or clearer. Disregarding a **NOTE** could cause inconvenience, but would not cause damage or personal injury.

A **CAUTION** emphasizes areas where equipment damage could result. Disregarding a **CAUTION** could cause permanent mechanical damage; however, personal injury is unlikely.

A **WARNING** emphasizes areas where personal injury or even death could result from negligence. Mechanical damage may also occur. **WARNINGS are to be taken seriously.** In some cases, serious injury or death has resulted from disregarding similar warnings.

Throughout this manual, keep in mind two conventions. "Front" refers to the front of the bike. The front of any component, such as the engine, is the end which faces toward the front of the bike. The "left" and "right" sides refer to a person sitting on the bike facing forward. For example, the shift lever is on the left side. These rules are simple, but even experienced mechanics occasionally become disoriented.

### SERVICE HINTS

Most of the service procedures covered are straightforward and can be performed by anyone reasonably handy with tools. It is suggested, however, that you consider your own capabilities carefully before attempting any operation involving major disassembly of the engine.

Some operations, for example, require the use of a press. It would be wiser to have these performed by a shop equipped for such work than to try to do the job yourself with makeshift equipment. Other procedures require precise measurements. Unless you have the skills and equipment required, it would be better to have a qualified repair shop make the measurements for you.

Repairs go much faster and easier if your machine is clean before you begin work. There are special cleaners, like Gunk Cycle Degreaser,

for washing the engine and related parts. Just brush or spray on the cleaning solution, let it stand, then rinse it away with a garden hose. Clean all oily or greasy parts with cleaning solvent as you remove them.

### WARNING

*Never use gasoline as a cleaning agent. It presents an extreme fire hazard. Be sure to work in a well-ventilated area when using cleaning solvent. Keep a fire extinguisher, rated for gasoline fires, handy in any case.*

Special tools are required for some repair procedures. These may be purchased at a dealer, rented from a tool rental dealer, or fabricated by a mechanic or machinist, often at a considerable savings.

Much of the labor charge for repairs made by dealers is for removal and disassembly of other parts to reach the defective unit. It is frequently possible to perform preliminary operations yourself and then take the defective unit to the dealer for repair at considerable savings.

Once you have decided to tackle the job yourself, read the entire section in this manual which pertains to it, making sure you have identified the proper one. Study the illustrations and text until you have a good idea of what is involved in completing the job satisfactorily. If special tools are required, make arrangements to get them before you start. It is frustrating and time-consuming to get partly into a job and then be unable to complete it.

Simple wiring checks can be easily made at home; but knowledge of electronics is almost a necessity for performing tests with complicated electronic testing gear.

During disassembly of parts, keep a few general cautions in mind. Force is rarely needed to get things apart. If parts are a tight fit, like a bearing in a case, there is usually a tool designed to separate them. Never use a screwdriver to pry apart parts with machined surfaces such as crankcase halves and cam cover. You will mar the surfaces and end up with leaks.

Make diagrams wherever similar-appearing parts are found. For instance, case cover screws are often not the same length. You may think