



When Performance Matters.™

CUSTOMERCARE

jacobsen.com



When Performance Matters.[™]

Suzuki K6A-YH6 Engine Technical/Repair Manual



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.

Foreword

General

This manual provides detailed information and procedures to safely repair and maintain the following:

Suzuki K6A-YH6 gasoline engine

This manual is intended to introduce and guide the user through the latest factory-approved troubleshooting and repair techniques and practices.

Before you attempt to troubleshoot or make repairs, you must be familiar with the operation of this engine. Refer to the operator's manual and parts manual for specific information on these topics.

THE INFORMATION CONTAINED IN THIS MANUAL IS BASED ON ENGINES MANUFACTURED UP TO THE TIME OF PUBLICATION. JACOBSEN RESERVES THE RIGHT TO CHANGE ANY OF THIS INFORMATION WITHOUT NOTICE.

CALIFORNIA Proposition 65 Warning



WARNING

Certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Trademark Acknowledgement

Jacobsen acknowledges the following trademarks for company names or products mentioned within this publication:

Jacobsen® is a registered trademark of Textron Inc.

Suzuki® is a registered trademark of the American Suzuki Motors Corporation

ThreeBond™ is a trademark of the ThreeBond Co., Ltd.

Plastigage® is a registered trademark of AE Clevite Inc.

JACOBSEN
A Textron Company

How to Use This Manual

This manual is designed to provide multiple ways to locate and access repair information.

Read each section in entirety before beginning a procedure. Proper understanding of machine operation and components is the key to successful diagnostics and repair.

Make use of special information features with in this manual in order to be better prepared to perform repairs. Always follow manual procedures and safety guidelines. Never take shortcuts.

Table of Contents

Major machine components or topics of interest are separated into specific chapters. Each manual lists these chapters in a main Table of Contents.

Chapter Table of Contents

Each chapter begins with a detailed Table of Contents related to the specific machine component or system.

Use the Chapter Table of Contents to find specific component or procedural information.

Index

An alphabetical Index is located at the back of the manual.

Use the Index to find specific components and related procedures.

Required Tools and Materials

Some procedures will require the use of specific tools and/or materials. These tools and/or materials will be listed for reference, prior to beginning a procedure.

Specifications

Specifications are listed at the point of use with in the procedure.

Quick Reference Specifications

A list of all machine specifications can be found in Chapter 2 Specifications and General Information. This is a list of all specifications from each chapter, combined and listed in one place for easy reference.

Warnings and Cautions

Warning and Caution indicators are located throughout the manual at specific points of interest. These notices are given to prevent personal injury, death and/or equipment damage. Always heed these notices, and practice common sense when performing any maintenance or repair procedure.

Notes

Special notes are given in order to draw attention to detailed instructions. These notes are intended to give further important information regarding the machine and/or a step in a procedure.

Troubleshooting

Troubleshooting charts are provided in chapter 6 to aid in the diagnostic process. Use these suggestions to aid in identifying a potential mechanical or machine adjustment problem.

Table of Contents

Safety	1
Specifications and General Information	2
Maintenance	3
Theory of Operation	4
Tests and Adjustments	5
Diagnostic Troubleshooting	6
Repair	7
Tools and Materials	8

Chapter 1

Safety

1

Introduction	1-2
Prepare for the Job	1-2
Safety Notices	1-2
Keep Work Area Clean	1-2
Keep Work Area Well Ventilated	1-3
Use Proper Eye and Face Protection	1-3
Use Lifting Equipment Safely	1-3
Use Compressed Air and Air Tools Safely	1-3
Handle Fuel Safely	1-4
Store Volatile and Hazardous Materials Safely	1-4
Handle Chemical Products Safely	1-4
Service Electrical Components Safely	1-4
Dispose of Waste Materials Safely	1-5

Introduction

Safety is the most important element of any repair procedure. Knowledge of the procedure to be performed and safe work habits are essential to preventing death, personal injury, or property damage. Use the following statements as a common-sense guide to proper work and tool-use habits.

1

Prepare for the Job

Preparation is essential to complete a procedure in a safe and efficient manner.

- Wear proper clothing. Loose or baggy clothing could become tangled in moving parts.
- Use eye/face protection. Always use proper eye/face protection to protect your eyes from flying debris or chemical splatters.
- Wear protective footwear. Wear safety shoes (steel-toe) to protect your feet from falling objects.
- Use gloves when handling parts. Parts may have sharp edges or may be hot.
- Remove jewelry prior to servicing electrical systems.
- Prepare proper tools and equipment. Always use the correct tool for the job. Improper or homemade tools can cause injury or machine damage.
- Prepare needed parts and materials. Gather the needed parts and materials before beginning the procedure.
- Allow machine to cool. Many components can get hot during operation. Be sure to allow enough time for components to cool before beginning service.
- Prepare proper work-space lighting. A well-lit work area can make the job easier.
- Follow procedures and safety warnings. Service procedures are written to be as safe and efficient as possible. Never take shortcuts.
- Be prepared for emergencies. Accidents can happen, even under the best conditions. Fire extinguishers and first aid kits should be well maintained and easily accessible.

Safety Notices

Throughout this manual, the following key safety words will be used to alert the reader of potential hazards. Become familiar with these words and their meaning. Take all precautions to avoid the hazards described.



This safety alert symbol is used to alert you to potential hazards.



DANGER

Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

NOTICE

Indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage. It may also be used to alert against unsafe practices.

Keep Work Area Clean

A clean, organized, well lit work area is important to promote safe working conditions.

- Keep floor clean of debris and clear of parts and tools.
- Clean up any spilled fuel, oil, and/or chemicals immediately.
- Store all air hoses and electrical cords properly when not in use.

Keep Work Area Well Ventilated



WARNING

Never operate the engine without proper ventilation; exhaust fumes can be fatal if inhaled.

Certain test and adjustment procedures require the engine to be running. Be sure work area is well ventilated; never run the engine in an enclosed area.

Use Proper Eye and Face Protection



WARNING

Always use approved personal protection equipment. Avoid workplace hazards by wearing properly maintained, approved eye and face protection. Failure to use appropriate protection equipment may result in death or serious injury.

Always wear eye protection while in a shop environment.

- Safety Glasses: Safety glasses offer a minimum level of protection from flying debris.
- Face Shields: Face shields are often used along with safety glasses to offer a higher level of protection when sparks and flying debris are present.
- Vented Goggles: Goggles offer side protection not offered by safety glasses alone.
- Unvented Goggles: Unvented goggles offer protection from chemical splashes and vapors.

Use Lifting Equipment Safely



WARNING

Always check the lifting capacity and condition of hoists, slings, cables, or chains before use. Using underrated or worn lifting components can result in death or serious injury.

- Always use a lifting device with a lifting capacity greater than the weight of the item being lifted.
- Secure the load to the lifting device using cables, chains, or slings rated to handle the load being lifted. Fasteners being used to connect lifting devices must be strong enough to handle the load. Also be sure the mounting point of load is strong enough to handle the load.

- When using a lifting device, always connect the load so it is balanced.
- Always use a lifting device on a hard, level surface.
- Lower the lifting device to the lowest point before moving. Move the load slowly.
- Always support the load as soon as possible; never leave a load suspended in mid-air.

Use Compressed Air and Air Tools Safely



WARNING

Always wear approved eye and ear protection while using compressed air. Misuse of compressed air could result in death or serious injury.

- **When using air nozzles, air pressure should not exceed 30 psi (206.8 kPa).**
- **Never direct air nozzles or tools at a person.**
- **Never point air nozzles directly at skin.**
- Compressed air is a useful tool when used in a safe manner.
- Always use eye and ear protection while using compressed air and air tools.
- When using air tools, do not exceed the air pressure rating for the tool.
- When using an impact wrench, always use approved impact sockets. Never use standard sockets on an impact wrench.
- Disconnect the air supply before changing air tool attachments.
- Never point air nozzles or air tools at another person.
- Always maintain air tools properly.

1