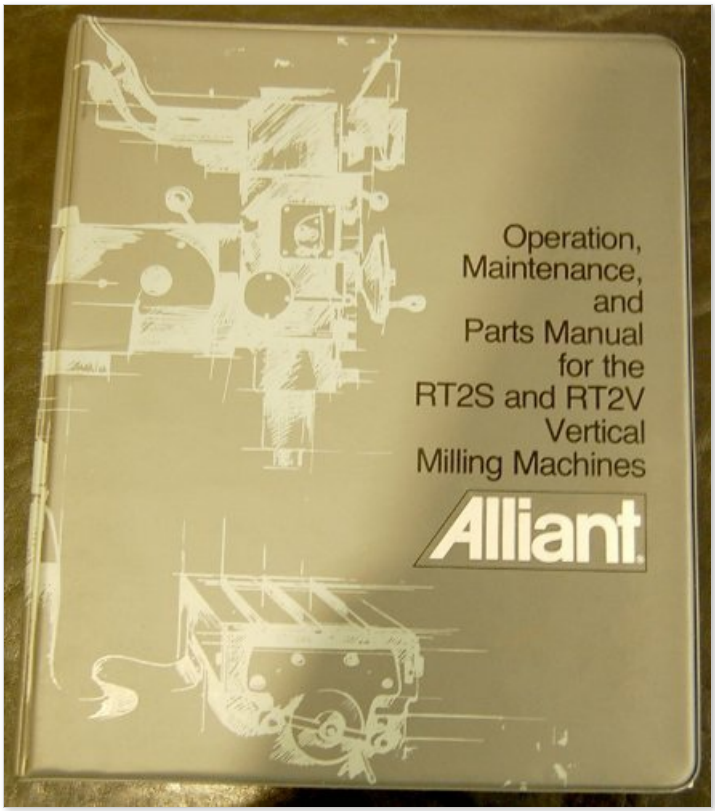
Alliant RT2S RT2V

Alliant RT2S RT2V Vertical Milling Machine Manual

Operation, Maintenance, and Parts Instructions

Introduction

This manual provides essential information for the safe and efficient operation, routine maintenance, and identification of parts for the Alliant RT2S and RT2V Vertical Milling Machines. Adherence to these instructions will ensure optimal performance and longevity of your machine.



This image displays the front cover of the manual for the Alliant RT2S and RT2V Vertical Milling Machines. The cover is light gray with white line drawings of machine components and the title 'Operation, Maintenance, and Parts Manual for the RT2S and RT2V Vertical Milling Machines' along with the 'Alliant' brand logo.

Safety Information

Always prioritize safety when operating or maintaining the machine. Read and understand all safety warnings and instructions provided in this manual before beginning any operation or maintenance task. Failure to do so may result in serious injury or damage to the equipment.

Setup and Installation

Uncrating and Initial Setup

1. **Proper Method for Lifting Machine:** Use appropriate lifting equipment and techniques to safely move the machine from its packaging. Refer to the machine's weight specifications.
2. **Uncrating and Installation:** Carefully remove all packaging materials. Inspect the machine for any shipping damage.
3. **Level the Machine:** Ensure the machine is placed on a stable, level surface. Use leveling feet and a precision level to achieve proper alignment.

Machine Head Alignment

1. **Align Y Axis:** Follow the procedure to align the Y-axis for accurate movement.
2. **Align X Axis:** Follow the procedure to align the X-axis for accurate movement.

Operation

Standard Head Controls

- **Spindle Brake:** Engages to stop spindle rotation.
- **Changing Spindle Speed:** Instructions for adjusting the spindle speed.
- **Changing Drives Belt Replacement:** Procedure for replacing drive belts.
- **Replacing the Brake Block on the Standard Milling Head:** Steps for brake block replacement.

Variable Speed Head Controls

- **High and Low Range Switch:** Selects between high and low speed ranges.
- **High-Neutral-Low Lever:** Controls the gear selection for variable speeds.
- **Automatic Quill Feed Engagement:** Activates automatic quill feed.
- **Feed Rate Selector:** Adjusts the rate of automatic quill feed.
- **Feed Reversing Knob:** Changes the direction of the quill feed.
- **Quill Depth Stop:** Sets the maximum depth for quill travel.
- **Micrometer Depth Control:** Provides fine adjustment for quill depth.
- **Quill Locking Lever:** Secures the quill in position.
- **Handwheel Feed Control:** Manual control for quill movement.
- **Automatic Feed Spindle Brake:** Engages the spindle brake during automatic feed operations.
- **Collet Feed Trip Adjustment:** Adjusts the collet feed trip mechanism.
- **Collet Aligning Screw Replacement:** Procedure for replacing the collet aligning screw.

Maintenance

Preventive Maintenance

Regular preventive maintenance is crucial for the longevity and optimal performance of your Alliant milling machine. Refer to the detailed schedule within this manual for lubrication points, cleaning procedures, and inspection intervals.

Component Replacement Procedures

- **Swivel Belt Housing:** Instructions for maintenance and replacement.
- **Changing Spindle Speed Changing Drives:** Detailed steps for drive system adjustments.
- **Motor Removal:** Procedure for safely removing the motor.
- **Timing Belt Replacement:** Steps for replacing the timing belt.
- **Drive Belt Replacement:** Steps for replacing the drive belt.
- **Replacing the Brake Shoes on the Variable Speed Head:** Instructions for brake shoe replacement.

Parts Information

This section provides detailed illustrations and corresponding parts lists to assist in identifying and ordering replacement components for your machine.

Assembly Illustrations and Parts Lists

- **Base Machine Assembly Parts Illustration**
- **Standard Head Assembly Parts Illustration (Plate 2)**
- **Variable Speed Head Assembly Parts List Illustration**
- **Variable Speed Pulley Parts List Illustration (Plate 4)**
- **Quill Feed Assemblies & Parts**
- **Quill Feed Engagement Assembly Parts List Illustration (Plate 6)**
- **Hi-Neutral-Low Assembly Parts List 1 -7 Hi-Neutral-Low Assembly Illustration (Plate 7)**
- **Quill Locking Assembly Parts List Illustration (Plate 8)**
- **Brake Handle and Brake Shoe Assembly Parts List 1 -8 Brake Handle and Brake Shoe Illustration (Plate 8)**
- **Head Tilting Assembly Parts List 1**
- **Plates Installation Parts & Assemblies Illustration (Plate 16)**
- **Knee Locking Assembly Parts List 1 -17 Illustration (Plate 17)**

Electrical Diagram

A comprehensive electrical diagram is included in this manual to assist with electrical troubleshooting and maintenance. Refer to this diagram for wiring configurations and component identification.

Specifications

This section outlines the key technical specifications for the Alliant RT2S and RT2V Vertical Milling Machines.

- **RT 2S Main Machine Features:** Detailed description of features specific to the RT2S model.
- **RT 2V Basic Machine Dimension:** Key dimensions for the RT2V model.
- **Head Dimensions:** Specifications for the machine head.
- **Variable Speed Head Dimensions:** Specific dimensions for the variable speed head.
- **Machine Specifications:** General technical data for both models.

Troubleshooting

Specific troubleshooting guidance for common operational issues is integrated within the relevant operation and maintenance sections of this manual. For complex issues, consult a qualified technician.

Warranty and Support

Information regarding the product warranty is included within this manual. For technical support or service inquiries, please refer to the contact details provided in the original purchase documentation or on the manufacturer's official website.