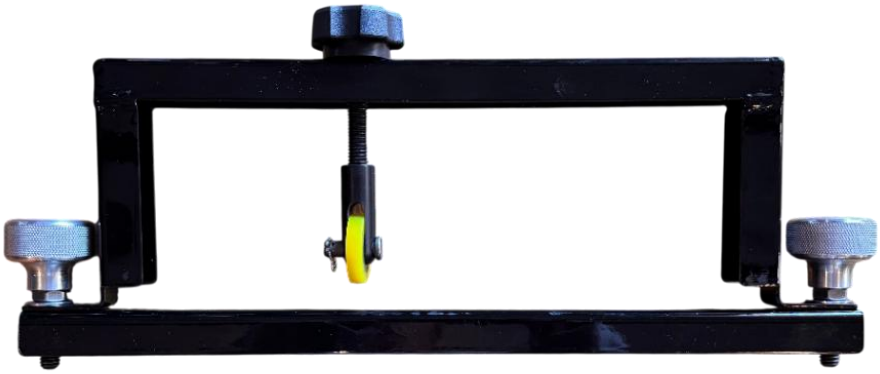
Williams & Hussey Machine and Tool Co.

PPG-1 Profile Pressure Guide Operations & Installation Manual



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Product Overview

The Profile Pressure Guide (PPG) provides additional downward pressure during multi-pass molding operations. Properly adjusted, it improves stock control, reduces vibration, and helps maintain consistent feed while machining deep or complex profiles.

The PPG is designed to work with the Williams & Hussey Multi-Pass System and should be adjusted each time the cutterhead height is changed.

Compatible Equipment

The Profile Pressure Guide is designed for use with the following Williams & Hussey equipment:

- Multi-Pass System
- GS-2-1 Guide System
- ½" Sub-Plate

If your machine uses a customer-designed sub-plate or an alternate guide system, bracket locations and roller height settings may differ from the examples shown in this manual.

How It Works

During the first machining pass, the workpiece entering the machine is still flat, so an **infeed Profile Pressure Guide is not required**. Once the first pass is complete, the workpiece contains a partial molding profile. Beginning with the second pass, both the infeed and outfeed Profile Pressure Guides support the lowest portion of the molding profile, helping maintain consistent stock control throughout the remaining machining passes.

Safety Information

WARNING

Read and understand these instructions before installing, adjusting, or operating the Profile Pressure Guide (PPG-1).

Never operate the molder with loose mounting hardware. Verify that all mounting knobs and roller adjustment knobs are securely tightened before operating the machine.

Before Installing, Adjusting, or Operating

- Turn the molder **OFF** and disconnect power.
- Raise the cutterhead to provide adequate working clearance.
- Wear safety glasses during installation and adjustment.
- Verify both Profile Pressure Guides are securely fastened before operating the machine.

CAUTION

- Apply only enough roller pressure to maintain positive stock control. Excessive roller pressure may affect feed performance or damage the workpiece.
- Verify the roller height before each machining operation.
- Do not overtighten the mounting knobs. Tighten only enough to securely hold the Profile Pressure Guide in position.

Before You Begin

Verify Package Contents

Your Profile Pressure Guide ships fully assembled and ready for installation.

Before beginning installation, verify that your kit includes:

- (2) Fully assembled Profile Pressure Guide assemblies

A complete Parts Breakdown is provided at the end of this manual for component identification and future reference.

Important Setup Information

The installation and setup procedures in this manual assume your molder is equipped with the following Williams & Hussey components:

- GS-2-1 Guide System
- Yellow measurement scale
- ½" thick sub-plate
- Multi-Pass System

The setup examples shown throughout this manual are based on this configuration.

If your machine uses a customer-designed sub-plate, a different guide system, or a different scale arrangement, bracket locations and roller height settings may vary.

The Profile Pressure Guide requires the Williams & Hussey Multi-Pass System and is not intended for use without it.

Installing the Profile Pressure Guides

The Profile Pressure Guides are shipped fully assembled and are ready for installation. Because the Profile Pressure Guide assemblies are interchangeable, either assembly may be installed on the infeed or outfeed side of the machine.

Step 1 – Loosen the Mounting Knobs

Loosen the stud and knob assembly just enough to allow the mounting bracket to slide over the edge of the sub-plate.

NOTE

Do not completely remove the knob or stud assembly.

Step 2 – Install the Infeed Pressure Guide

Slide one Profile Pressure Guide onto the infeed side of the sub-plate.

Position the bracket in the desired location on the sub-plate. Ensure the bracket is fully seated over the edge of the sub-plate before tightening the stud and knob assembly securely.

Step 3 – Install the Outfeed Pressure Guide

Repeat the installation procedure on the outfeed side of the sub-plate.

Verify that both Profile Pressure Guides are securely mounted before adjusting the roller height.

Adjusting the Profile Pressure Guide

Proper Profile Pressure Guide (PPG) adjustment is essential for maintaining consistent stock control during multi-pass molding operations. Adjust the roller so it makes **light contact** with the lowest portion of the molding profile without interfering with smooth material feed.

WARNING

Setting the Profile Pressure Guide roller too low can cause feed problems, damage the workpiece, or create a safety hazard.

Always verify the roller height before machining. The roller height will typically change after each machining pass as the molding profile develops.

Adjusting Procedure

1. Adjust the Profile Pressure Guide roller until it makes light contact with the lowest portion of the molding profile on the outfeed side of the machine.
2. Rotate the adjustment knob to raise or lower the roller.
   - One full revolution = **1/16"**
   - One half revolution = **1/32"**
3. Tighten the adjustment knob securely.

CAUTION

Verify that the adjustment knob is securely tightened before operating the machine.

NOTE

The infeed and outfeed Profile Pressure Guides will typically require different roller height settings.

Example Setup

The following example demonstrates how to set up the Profile Pressure Guide for machining casing profile #2271 using rabbet dado profile #2852 to make the relief pass.

Machine Configuration

Component	Configuration
Relief Knife	Rabbet Dado Profile #2852
Finish Profile	Casing Profile #2271
Guide System	GS-2-1
Machine Configuration	½" Sub-Plate with Multi-Pass System

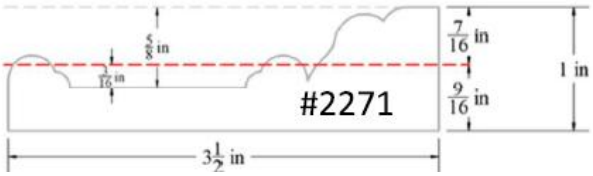
Relief Pass

Before machining profile #2271, make a relief (rabbet) cut using knife #2852. Removing a portion of the stock before machining the final profile reduces cutting load, improves feed performance, and produces a smoother finish.

Use the following calculations to determine the initial outfeed Profile Pressure Guide setting for the first machining pass.

Calculating the Initial Profile Pressure Guide Setting

Step 1 – Determine the Initial Depth of Cut



10/16"
- 3/16" Multi-Pass Gap
7/16" Initial Depth of Cut

Step 2 – Determine the Initial Outfeed PPG Setting

1" Stock Thickness
- 7/16" Initial Depth of Cut
9/16" Initial Outfeed PPG Setting

NOTE

The calculation above determines the initial outfeed Profile Pressure Guide setting for the first machining pass. Use the Multi-Pass Progression table below to determine the infeed and outfeed Profile Pressure Guide settings for each subsequent pass.

Multi-Pass Progression

The Profile Pressure Guide settings change as the profile develops in the workpiece. During the first pass, the stock entering the machine is still flat, so an infeed Profile Pressure Guide is not required. The outfeed Profile Pressure Guide supports the newly machined profile as it exits the cutterhead.

Beginning with the second pass, the workpiece already contains a partial profile as it enters the machine. At this point, both the infeed and outfeed Profile Pressure Guides should be adjusted to support the lowest portion of the molded profile.

Machining Progression

The table below illustrates the PPG settings used throughout this example. Different profiles and depths of cut will require different settings.

Machining Stage	Head Scale	Infeed PPG Setting	Outfeed PPG Setting
Sized Stock	1"	Not Required	Not Required
Relief Pass (#2852)	1"	Not Required	Not Required
First Pass	1 3/16"	Not Required	9/16"
Second Pass	1 1/16"	9/16"	7/16"
Finish Pass	1"	7/16"	3/8"

After Each Pass

After completing each machining pass:

1. Lower the cutterhead by the same increment used for the previous pass.
2. Lower both the infeed and outfeed Profile Pressure Guides by the **same increment**.
3. Repeat until the final profile is achieved.

Example: Lower both the cutterhead and both Profile Pressure Guide 1/16" between passes.

Operating Tips

For best results:

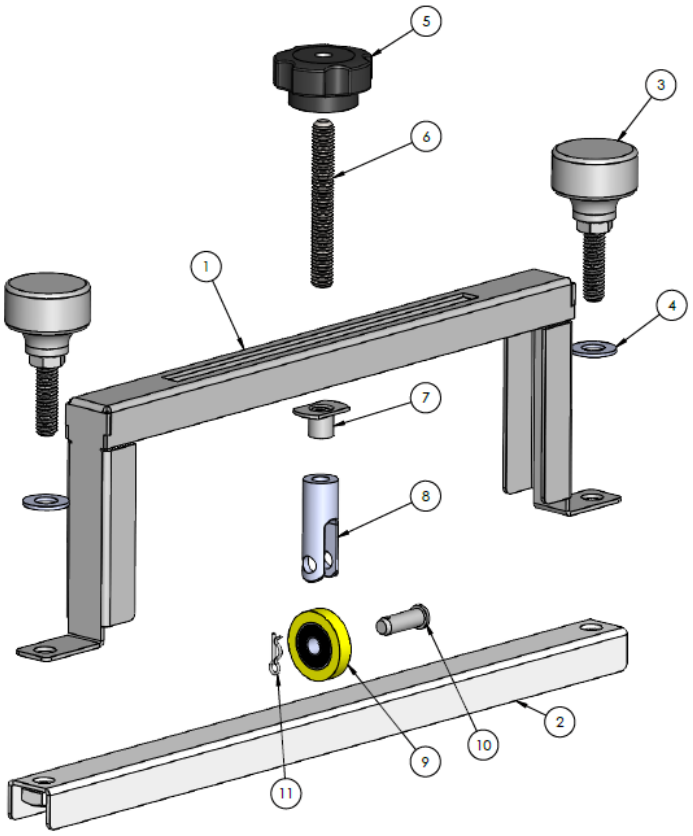
- Verify the roller contacts the lowest portion of the molding profile before each pass.
- Apply only enough pressure to maintain consistent stock control.
- Verify roller height after changing knives or adjusting the cutterhead height.
- Make multiple shallow passes rather than one heavy pass to improve cut quality and feed performance.
- Verify that all mounting and adjustment knobs are securely tightened before machining.

Troubleshooting

If feed quality or stock control is inconsistent, refer to the table below.

Problem	Possible Cause	Solution
Stock hesitates	Roller too low	Raise the roller slightly
Roller marks	Roller pressure too high	Reduce pressure
Chatter	Roller pressure too light	Lower the roller
Uneven feed	Roller not centered	Reposition the guide

Parts Breakdown



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	PPG-23	BRACKET- PPG	1
2	PPG-25	BRACKET- PPG	1
3	068654-07	Knob and stud assy - adj arm stop	2
4	080674	3/8" Flat Washer	2
5	PPG-22	Lock Knob 3/8-16	1
6	PPG-15	3/8-16 x 3 ssscppt	1
7	096605-14	Nut, Weld, 3/8-16 x 7/16	1
8	PPG-17	ROLLER HOUSING	1
9	ppg-13	Pressure Guide Roller - YELLOW - 60	1
10	PPG-19	Pin, Clevis, 5/16 x 1",SS,Finished	1
11	PPG-18	Pin,Hair Pin Clip, .054 x 3/4"	1

NOTE: PARTS 5 THRU 11 CAN BE ORDERED UNDER KIT #PPG-30.

Thank you for purchasing a Williams & Hussey accessory.

For replacement parts, technical support, or application assistance, contact:

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