An OSC Technologies Company
WILLIAMS & HUSSEY
Machine and Tool Company

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MULTI-PASS KIT

Item# MPG In & Outfeed-K (green rolls)

Item# MPY In & Outfeed-K (yellow rolls)

Item# MPYG In & Outfeed-K (yellow & green roll)

INSTALLATION INSTRUCTIONS & USER GUIDE

Included:

(2)	54-15	Screw, Pivot, ⅝"
(2)	54-16	Screw, Rest, 9/16"
(4)	54-24 Rev A	Spring, Roller Pressure, 1¾"
(1)	54-513	Swing Arm, Infeed, Assembly (green or yellow feed roll)
(1)	P-123 or P-160	Feed Roll, Yellow or Green
(1)	P-122	Axle, Outfeed, Post Side, 1⅝"
(1)	P-224	Axle, Outfeed Open End, 3¾"
(1)	P-242	Thread Locker (use on 54-15, 54-16 & P-122 parts)

Tools Needed:

- Long Screw Driver
- Vise
- Hammer
- Wrench
- Safety Glasses

IMPORTANT – PLEASE READ CAREFULLY!

- Compatible with W&H models W7S, 154 & Original Molders prior to Serial # 22052, March 2006. All molders manufactured after this serial# and date have multi-pass as a standard feature.

- Item# 54-513 is a modified swing arm. The modified swing arm has a deeper arch cut, allowing the swing arm to sit lower on the head.

- SAVE the original P-100 swing arm. If you decide to upgrade to the Chip Extractor/Head Assembly (Item# 54-520-K) you will need the original swing arm.

- IF installing a Variable-Feed Kit (Item# VF-104-K) the P-111 (15 tooth) feed roll sprockets will change to VF-3 (14 tooth) sprockets. See Variable-Feed Instructions

- Planing with Multi-Pass - Loosen the (4) 54-25 pressure screws exposing ¼" of thread when planing. This will give you proper roller pressure. Failure to do so will cause feeding difficulties and possible feed system damage.

  Tighten pressure screws back when running moldings!

REMOVE INFEED SWING ARM ASSEMBLY

1. Disconnect power source.
2. Remove the 54-3 Chip Deflector.
3. Loosen T-Handle and raise the molder head to its highest position.

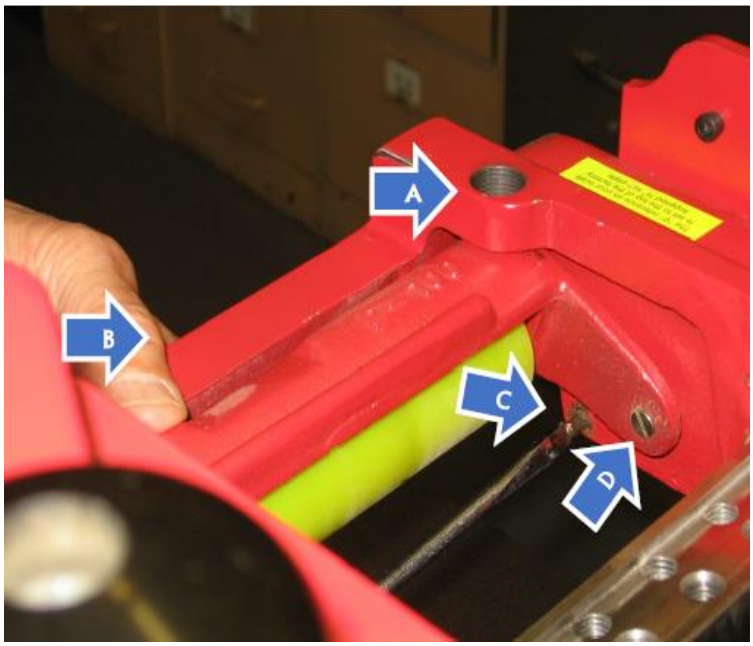
Remove Infeed Swing Arm

A. Remove (2) pressure screw assemblies

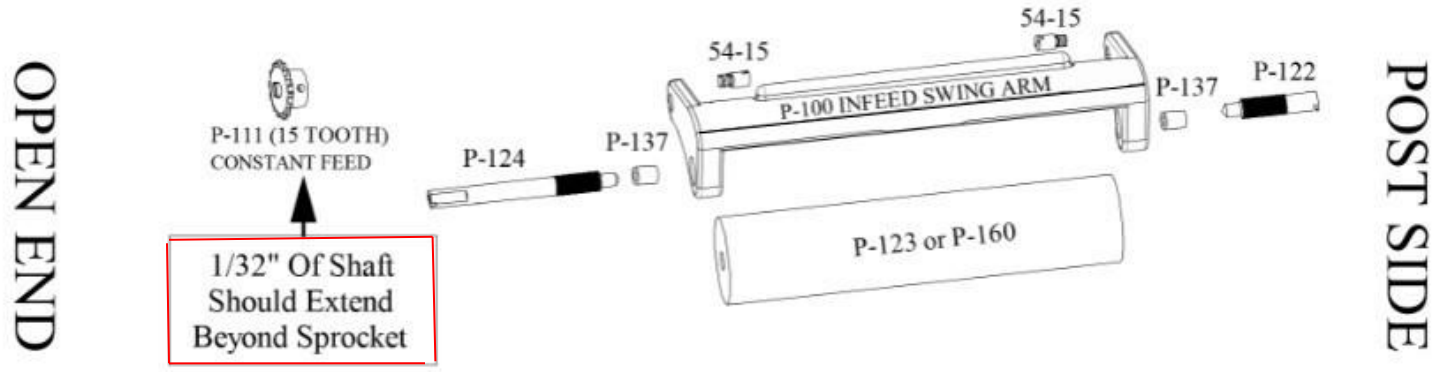
B. Lift swing arm assembly up

C. Using a flat head long screwdriver remove the 54-16 rest screw

D. Using a flat head screwdriver remove (2) 54-15 pivot screws



4. Release chain off roller sprocket, **leaving chain engaged on drive sprocket inside chain guard.**
5. Remove infeed swing arm assembly
6. Remove the P-111 sprocket off the P-124 Infeed axle by loosening the set screw, set aside. Attach the P-111 sprocket on the new multi-pass swing arm roller axle, see diagram. Put a drop of thread locker on set screw; align set screw on **FLAT** of axle, tighten.



54-513 MULTI-PASS INFEED SWING ARM ASSEMBLY

REMOVE OUTFEED SWING ARM ASSEMBLY

1. Follow same Steps A-D on page 3.

2. Release chain off roller sprocket, **leaving chain engaged on drive sprocket inside chain guard**.

3. Remove outfeed swing arm assembly.

4. Remove the P-111 sprocket off the P-224 outfeed axle by loosening the set screw, set aside.

5. Removing the axles from the Outfeed swing arm. Place the roll in a vise lengthwise, vertical. The P-122 axle will be flush with the casting and in many cases tough to remove. Fit a flat head screw driver into the P-122 axle slot and give it a good whack with a hammer, this should loosen the thread locker so the axle can be removed. The P-224 axle does not have thread locker it should come out easier. If not, follow the same method as the P-122. These can be re-used if they are in good condition and not bent.

   IF the axles will not release from the threaded hole use a hack saw and cut the axles. New axles have been provided for this reason.

INSERT NEW ROLL TO OUTFEED SWING ARM

Items Needed: 54-4 Outfeed Swing Arm, P-122 Axle, 1⅝, P-224 Axle, 3¾, P-111 Sprocket, Thread Locker, Vise

1. Very Important: Each side of the feed roll has a different threaded depth. The roll side marked in RED has ¼" depth reamed section. This is the post side. Using a drop or two of thread locker on the P-122 axle (1-⅝") insert the axle through the outfeed swing arm into the roll and tighten.

2. Insert the P-224 axle (3¾") through the outfeed swing arm and into the roll, tighten.

3. Place the P-224 axle side in a vise with the flat on the shaft against one of the jaws. The roller will be standing up vertically and tighten.

4. Replace the P-111 sprocket on the P-224 axle, use thread locker on set screw. Sprocket hub should be facing in toward the swing arm leaving a **1/8"** of the shaft exposed beyond the sprocket. See diagram on page 3 for sprocket placement.

OPEN END

POST SIDE

INSTALL BOTH SWING ARM ASSEMBLIES TO MOLDER HEAD

Items Needed: Infeed Swing Arm Assembly, Outfeed Swing Arm Assembly, (4) 54-15 Pivot Screws, (2) 54-16 Rest Screws, Long Screwdriver, Thread Locker

1. Insert the Multi-Pass Infeed Swing Arm Assembly into the infeed side of the head casting from the underside of the head casting. Attach swing arm with (2) 54-15 pivot screws, use thread locker, tighten screws.

2. Engage the short chain that is dangling from the drive sprocket inside the chain guard on to the P-111 feed roll sprocket. The chain should be in a straight path from the inside chain guard sprocket to the feed roll sprocket. Tip: short chain should be on the right-side drive sprocket located inside the chain guard.

3. Pulling the swing arm up, insert the 54-16 rest screw into the head casting, use thread locker, tighten screw. The swing arm should be resting on the rest screw and the chain is engaged on both sprockets.

4. Insert the outfeed swing arm assembly into the outfeed side of the head casting from the underside of the head casting. Attach with (2) 54-15 Pivot Screws, use thread locker, tighten screws.

5. Engage the long chain that is dangling from the drive sprocket inside the chain guard onto the P-111 feed roll sprocket. The chain should be in a straight path from the inside chain guard sprocket to the feed roll sprocket. Tip: long chain should be on the left-side drive sprocket located inside the chain guard.

6. Pulling the swing arm up, insert the 54-16 rest screw into the head casting, use thread locker, tighten screws. The swing arms should be resting on the rest screw and the chain is engaged on both sprockets.

INSTALL PRESSURE SCREW ASSEMBLIES

1. Thread (1) 54-40 or 54-51 check nut onto (1) 54-25 pressure screw, insert the NEW 54-24 Rev A spring inside the pressure screw then the 54-26 spring guide (see image). Insert the pressure screw assembly into one of the 2 threaded holes on top of the head, screw in and tighten. Insert the remaining assembly, equally tightening the pressure screws. **TIP**: The bottom of the spring guide should be sitting on top of the swing arm.

Planing with Multi-Pass

Loosen the (4) 54-25 pressure screws exposing ¼" of thread when planing. This will give you proper roller pressure. Failure to do so will cause feeding difficulties and feed system damage.

Tighten pressure screws back when running moldings!

MOLDER DESIGN

Our molders are designed to cut a maximum depth of ¾" and a maximum width of 6 ¾". Some profiles deeper than ¾" can been achieved with running stock on a "V" block, cutting with multiple knives, making compound moldings, etc. Our knife department will make recommendations and forward a knife drawing for approval if needed.

Profiles that cut a full depth like a half round, may require a template or sled to ride on. A profile with a drastic height difference like standard knife # 2271 requires our Profile Pressure Guide (PPG). The PPG accessory has an additional roller assembly to keep pressure on the low side of the stock, eliminating the stock from lifting during that last 1-2 passes. See the PPG-1 video on website.

Open Ended Design: Our molders open-ended design gives you the ability to run wide boards.

Constant Radius (curves) Application: Constant radius (curves) profile cuts are achieved by segmenting stock together, then cutting the stock to the radius shape using a CNC/router and creating matching guides to hold the stock in place.

Elliptical Application: Curves that have a change in radius will require our EJ-92 Elliptical Jig. Using the same method as the curves and segmenting the stock together, cutting the stock to the radius shape and creating a template for the stock to ride on top of. A video is available on-line for curves and elliptical cuts.

Achieving A Smooth Finish: To obtain a good quality finish, take lighter passes on deep cut profiles, use clean sized wood, keep your knives clean and sharpened. In most cases sanding should not be necessary.

ADVANTAGES OF TAKING MULTIPLE PASSES

The multi-pass system is designed to take light passes on deep cut profiles, hardwoods and wide profile cuts. Taking multiple passes on these types of examples will ease motor tension, reduce wear and tear on knives and most importantly provide a smooth finish.

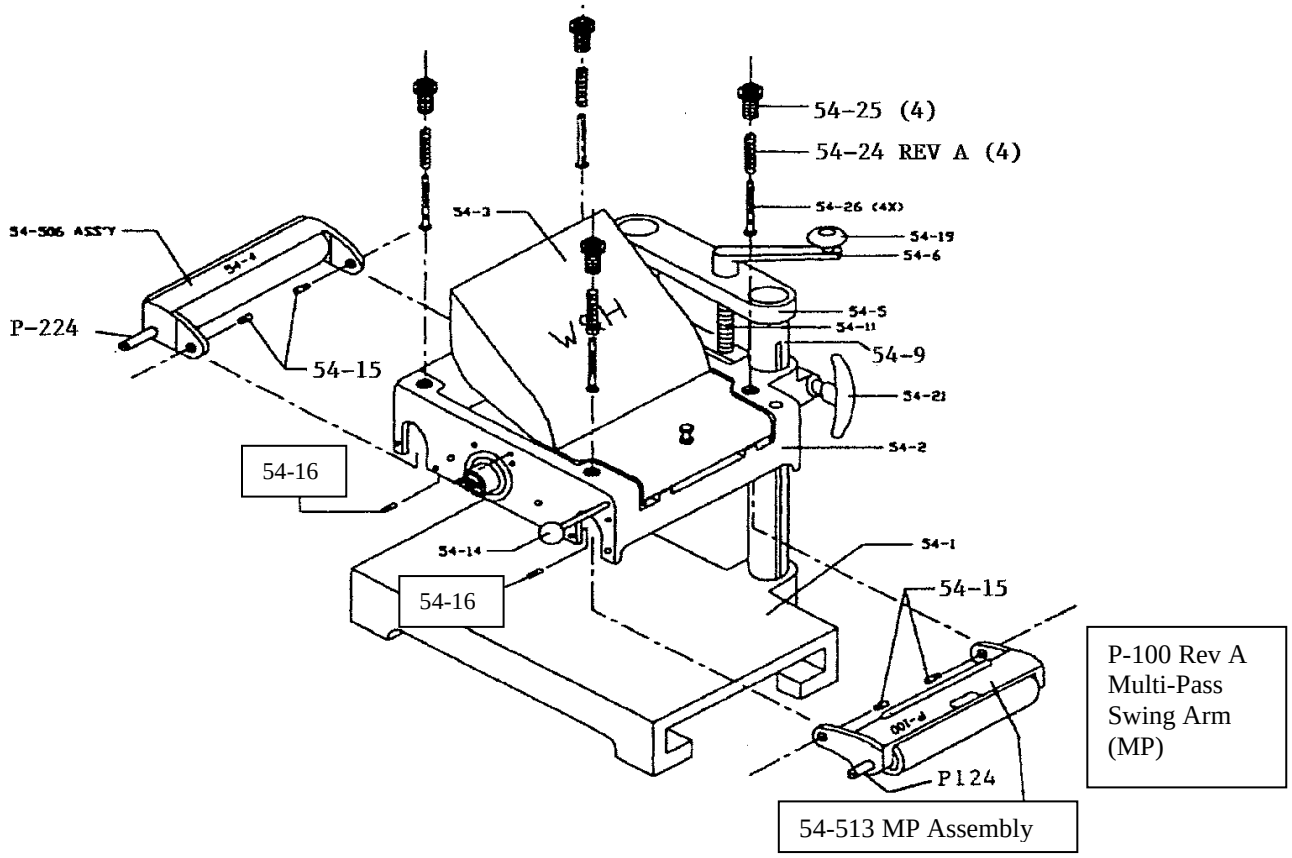
With the combination of the modified swing arm sitting lower and the longer springs you can raise the head up to 3/16" above stock height and take a light pass. The longer springs keeps adequate roller pressure on the stock eliminating the chance of chatter. Deep cuts may require 2-3 passes. See the example below for taking multiple passes.

NOT all profiles will require multiple passes. Shallow profiles, small profiles and soft wood profiles may only need one pass.

Molders prior to March 2006 were designed to make a single pass. An additional step of roughing out wood from deep cut areas before running the profile would have been recommended.

EXAMPLE FOR TAKING THE MAXIMUM 3 CUTS @ 1/16" EACH

- You have a ½" sub plate, finished stock height is ¾"
- Set the scale at 1-7/16" (1/2" + ¾" + 3/16" = 1-7/16"). Lock in head.
- Feed stock through, this will be a light pass.
- Lower the head 1/16", lock in head, feed stock through.
- Lower the head 1/16", lock in head, feed stock through, this should be the finished profile.



CONTACT INFORMATION

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