



OPERATOR'S HANDBOOK

Guillotine 650x1.5 / 1050x1.2



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Attention

WARNING

AMPUTATION HAZARD. The shear blades can easily pinch, crush, or amputate fingers or other body parts. Always keep hands, fingers, and other body parts away from the blades during operation.

SHARP METAL EDGES. Sharp edges on newly cut sheet metal workpieces can easily cause deep cuts while handling. Wear leather gloves to help protect your hands when handling workpieces, and always chamfer and debur sharp workpiece edges.

PROPER WORKPIECE MATERIAL. This shear is only intended for cutting ferrous and non-ferrous sheet metal or flat stock. Do not attempt to cut round metal stock, glass, wood, drywall, backer board, plywood, or other material not intended for this machine. Cutting incorrect materials can produce unexpected results, which increases the risk of injury, and may result in damage to the machine.

SECURE SHEAR BEFORE USE. Before using, fasten shear to a sturdy surface that can withstand the dynamic forces involved in shearing sheet metal. Otherwise, shear may unexpectedly move or fall, causing serious injury or property damage.

STABLE FOOTING. This shear requires you to apply a moderate/high level force while cutting. Without stable footing, you could slip or fall, which could cause personal injury. Always stand with both feet comfortably on a non-slip surface during operation.

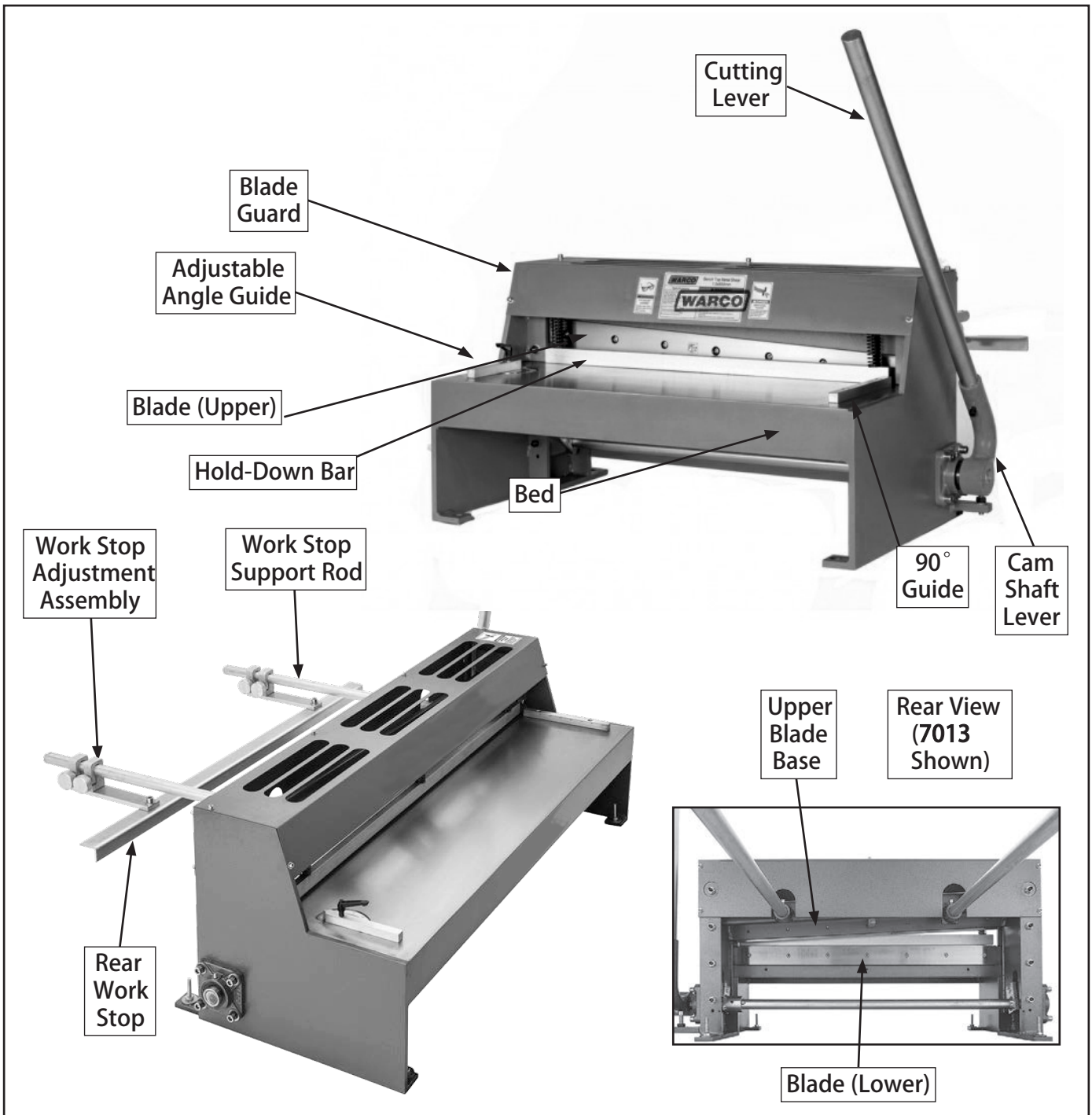
BODY POSITION. The forces and body motion required to operate this shear can result in operator injury over time if proper technique is not used. Always keep your body centered with the machine and your back straight when applying pressure against handles.

BLADE CONDITION. Blades that are sharp, undamaged, and properly adjusted will reduce risk of injury and improve cutting results. Always keep blades properly maintained.

BLADE GUARD. The blade guard is designed to reduce risk of amputation. Always keep guard properly attached and in good condition during operation.

RATED CAPACITY. Only use sheet metal that is within the rated capacity of this shear.

Identification



Controls & Components

Use Figures 1-2 and the descriptions below to become familiar with the basic controls of the 7013 and 7014 metal shears. The controls on both models function identically.

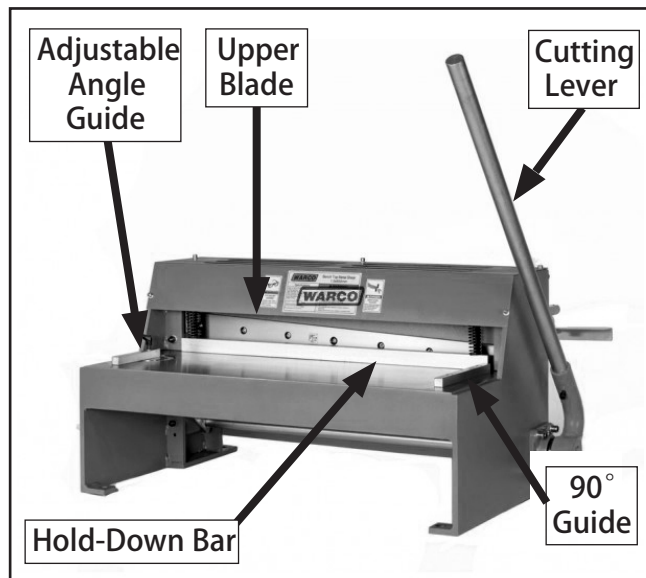


Figure 1. Basic controls (front).

Adjustable Angle Guide: Adjusts from 0° to 180° for making angled cuts.

Upper Blade: Moves with the cutting lever to shear the workpiece against the lower blade for cutting operations. The upper and lower blades are interchangeable and reversible.

Cutting Lever: Controls movement of the upper blade for cutting.

Hold-Down Bar: Spring-loaded bar holds the workpiece in position during cutting operation as cutting lever is pulled down.

90° Guide: Helps the operator square the workpiece with the blades.

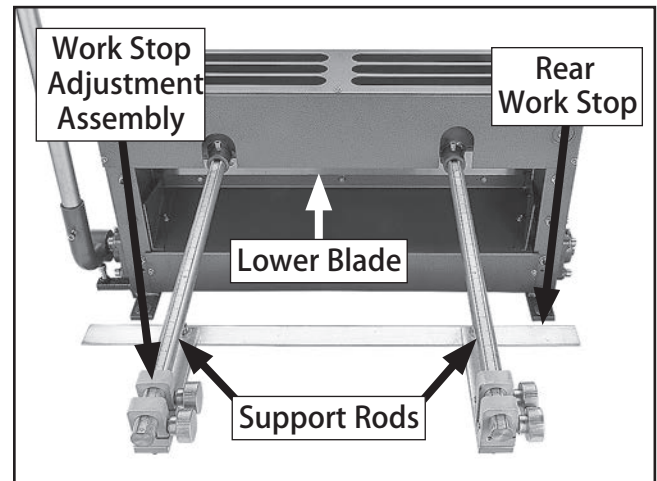


Figure 2. Basic controls (rear).

Work Stop Adjustment Assembly: Moves the rear work stop in or out at a specific distance from the lower blade. Allows the operator to set up the shear for multiple cuts of the same length.

Lower Blade: Fixed on frame. The upper and lower blades are interchangeable and reversible.

Rear Work Stop: Used for making repetitive cuts.

Support Rods: Provide a measurement reference from the blade to the work stops. Support the adjustable work stop assemblies and rear work stop.

Leveling

Leveling the shear helps the blades and other cast-iron components remain straight and flat during the life of the machine. Components on an unlevelled machine may slowly twist over time due to the dynamic loads placed on the machine during operation. Twisted components will impair the ability of the machine to cut straight or square.

If needed, use metal shims between the base and the workbench to level the machine. Measure with a precision level that is at least 12" long and sensitive enough to show a distance movement when a 0.003" shim is placed under one end of the level.

Assembly

The machine must be fully assembled before it can be operated. Before beginning the assembly process, refer to **Needed for Setup** and gather all listed items. To ensure the assembly process goes smoothly, first clean any parts that are covered or coated in heavy-duty rust preventative (if applicable).

Assembly of the Model **7013/7014** consists of attaching the work stop support rods, work stop adjustment assembly, and cutting lever.

To assemble shear:

1. Slide support rod into each bracket with measurement scale facing up (see **Figure 3**).

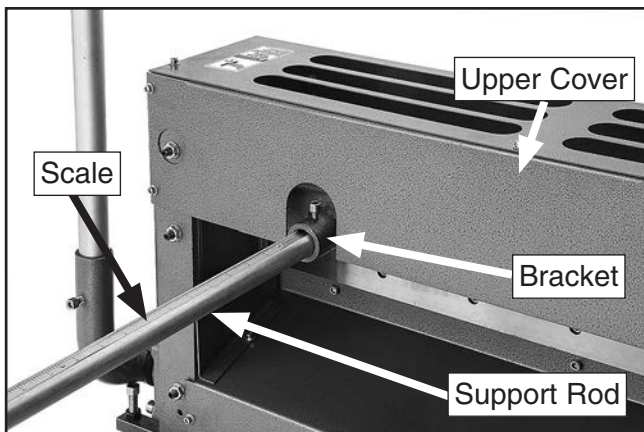


Figure 3. Connecting support rod to bracket.

2. Remove blade guard and upper cover.
3. Secure each support rod with (1) M8-1.25 x 15 cap screw (see **Figure 4**).

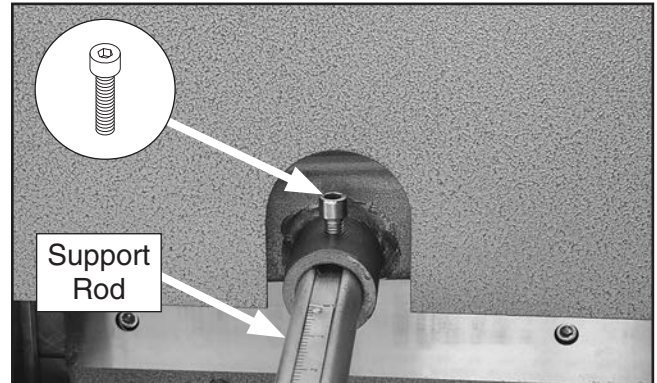


Figure 4. Support rod secured with cap screw.

3. Slide work stop adjustment assembly onto support rods, as shown in **Figure 5**, with flat side of L-bracket closest to shear. Tighten (4) knurled thumbscrews.

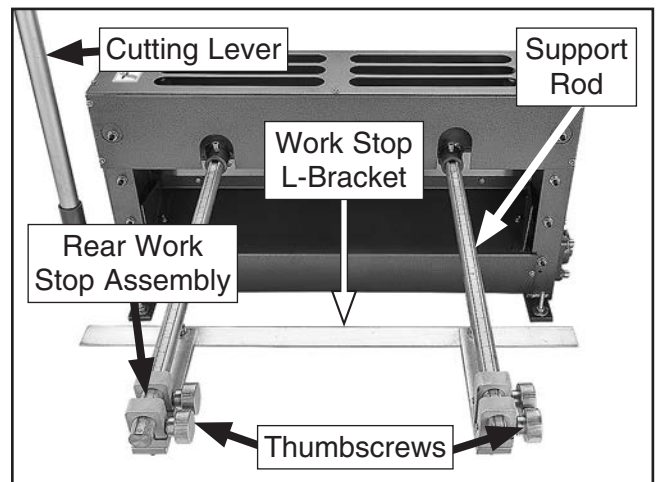


Figure 5. Work stop adjustment assembly installed.

4. Attach cutting lever and secure with pre-installed M8-1.25 x 10 set screw.

Cutting Tips

- Keep the upper blade properly adjusted to the lower blade. This will help ensure good cutting results and avoid blade damage.
- Before each operation, clear cut-offs or debris away from the shear.
- Make sure the 90° guide is square with the blades. This will help ensure the cut is square.
- Use the cutting lever to engage the hold-down bar with the workpiece, then check the workpiece position. If it is correct, continue lowering the cutting lever to complete the cut.
- The shearing action of the blades works similarly to a pair of scissors (see the illustration in **Figure 6**). Use even pressure on the cutting lever to produce good results.

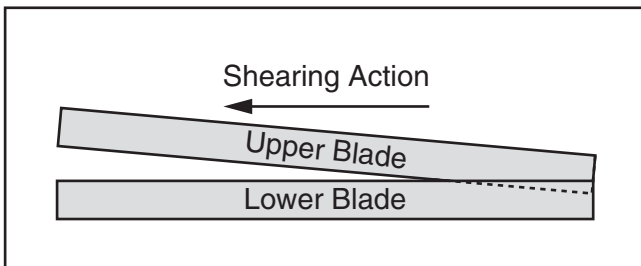


Figure 6. Blade shearing action.

Adjusting Hold-Down Bar

The hold-down bar secures the workpiece to the bed before the blades shear the workpiece.

The hold-down bar is adjustable for height. The **7013** uses two adjustment hex bolts and hex nuts (see **Figure 7**). The **7014** uses three adjustment hex bolts and hex nuts.

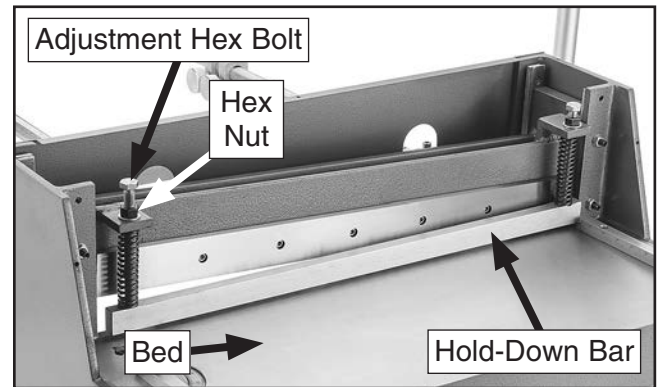


Figure 7. Hold-down bar adjustment (**7013** shown).

Tools Needed

	Qty
Open-End Wrenches 18mm.....	2
Hex Wrench 4mm.....	1
Ruler or Depth Gauge	1

To adjust height of hold-down bar:

1. Remove blade guard.
2. With blade raised, loosen hex nut, then rotate hold-down tension hex bolt (see **Figure 8**) to raise/lower hold-down bar to adjust clearance.

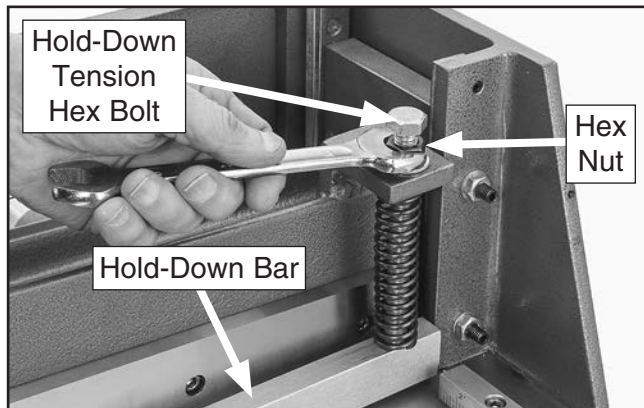


Figure 8. Loosening hex nut to adjust hold-down bar clearance.

3. Measure clearance between hold-down bar and bed to ensure it is even side to side. Adjust as necessary.
4. When clearance is even, tighten hex nut and re-install blade guard.

Adjusting Rear Work Stop

The rear work stop is used for making repetitive cuts. The adjustable assemblies allow for precise positioning of the work stop.

To position rear work stop:

1. Slide work stop adjustment assembly evenly along support rods so rear work stop leading edge is at approximate desired distance from cutting edges of blades (see **Figure 9**).

Note: Move work stop assembly evenly on both sides to keep it parallel with blades. Use scales on top of support rods for approximate positioning. Use fine ruler or tape measure for precise positioning.

2. To keep rear work stop assemblies secured in desired position, tighten knurled thumbscrews (see **Figure 9**).

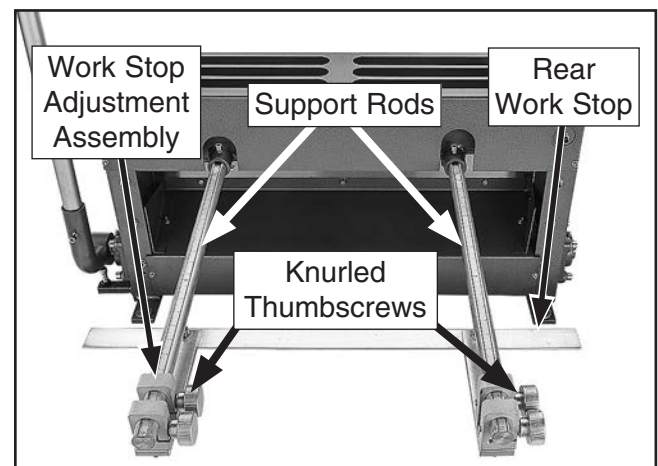


Figure 9. Rear work stop controls.

To adjust rear work stop assembly position:

1. Measure distance between cutting edge of bed and leading edge of work stop. Compare to scale measurement on each support rod.
2. If measurement *does not* match scale, loosen cap screws securing support rods and adjust each one until measurements match.
3. Re-tighten cap screws to secure support rods.

Adjusting 90° Guide

The 90° guide (see **Figure 10**) helps the operator square the workpiece with the blades. To work properly, it must be square with the blades.

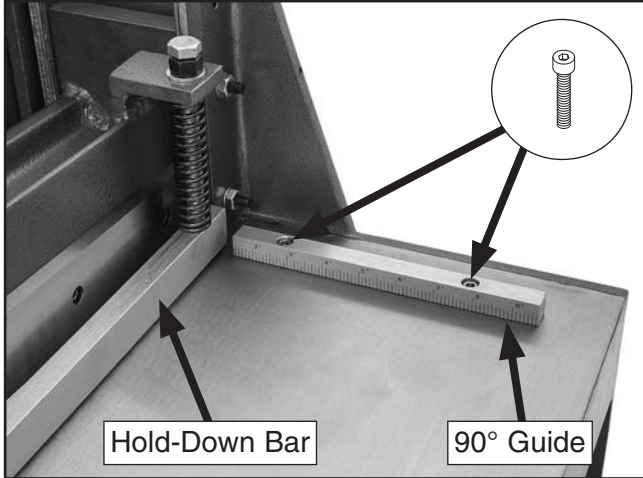


Figure 10. 90° guide (blade cover removed for clarity).

Tools Needed	Qty
Square	1
Hex Wrench 5mm.....	1

To square 90° guide with upper blade:

1. Loosen (2) cap screws securing 90° guide.
2. Use cutting lever to fully lower blade.
3. Place square against hold-down bar and 90° guide.
4. Keeping square even against hold-down bar, adjust 90° guide so it is even against square, then re-tighten cap screws on 90° guide to secure setting.
5. Lift cutting lever to return blade to up position.

Using Angle Cutting Guide

Use the angle cutting guide as a side work stop to cut a workpiece at an angle other than 90°.

To use angle cutting guide:

1. Calculate angle of cut and mark on workpiece.
2. Loosen adjustable lever on angle cutting guide, use scale to set angle to match desired cut, then tighten lever (see **Figure 11**).

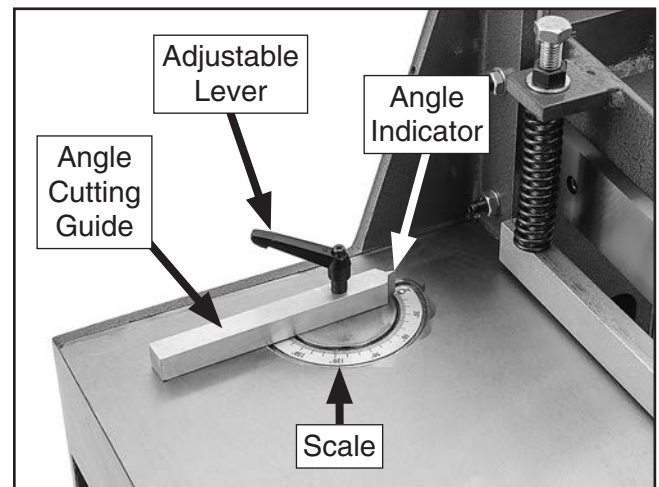


Figure 11. 7013/7014 angle cutting guide (blade cover removed for clarity).

3. Align workpiece with angle cutting guide and position cut mark beneath blade to verify cut angle.
4. Pull cutting lever to cut workpiece.

Adjusting Blade Gap

The gap between the upper and lower blades (as they pass each other) must remain even along the length of the blades to produce clean cuts. Initially, this adjustment has been made at the factory. However, over time and with normal wear, you may need to re-adjust the blade gap.

If the blade gap is too wide, the workpiece will not cut correctly and show signs of bending, ripping, or tearing. If the blade gap is too narrow, the upper blade will have difficulty lowering past the lower blade and the cutting edges may become damaged.

Checking Blade Gap

Use the shear to cut a piece of paper along the full length of the blades. All cuts should be sharp without bending or tearing the paper.

- If the blades do not cut the paper cleanly on one end of the shear, the upper blade needs to be adjusted on that end.
- If the blades do not cut the paper cleanly along the entire length of the blades, both ends of the upper blade need to be adjusted.

Adjusting Upper Blade

The blade gap is controlled by four set screws and hex nuts on the front and rear of each side of the upper blade base (see **Figure 12**).

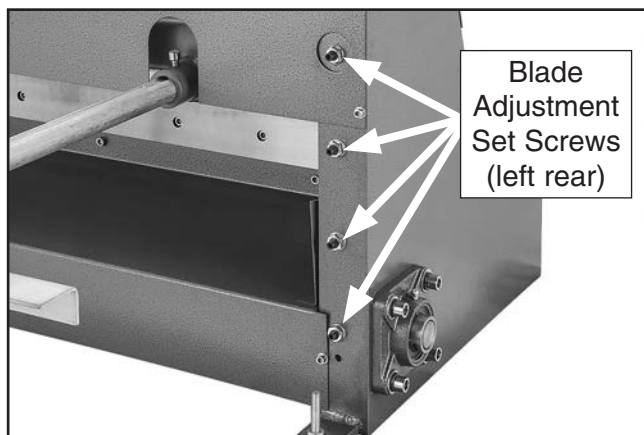


Figure 12. Upper blade adjustment set screws (4 of 16 shown) on the **7013** and **7014**.

If the paper *does not* cut cleanly after proper adjustment of the upper blade, the blades may need to be sharpened or replaced.

Tools Needed

	Qty
Open-End Wrench 14mm.....	1
Hex Wrench 4mm.....	1
Feeler Gauge 0.002"	1

To adjust upper blade:

1. Remove blade guard.
2. Loosen hex nuts on set screws identified for adjustment in **Checking Blade Gap** (see **Figure 13**).

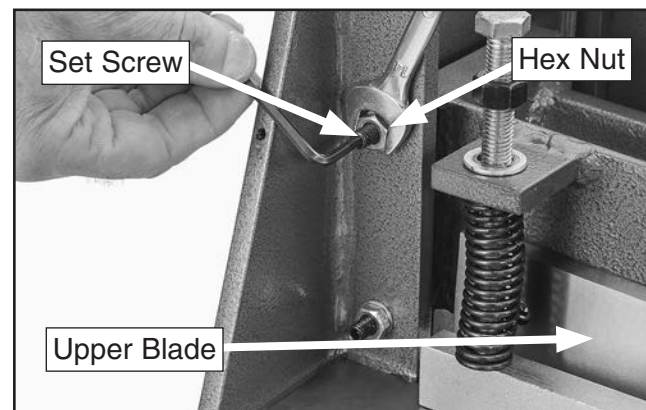


Figure 13. Adjusting set screws to align upper blade with lower blade.

3. Use feeler gauge to adjust blade gap to 0.002":
 - To move blade toward front, rotate rear set screws clockwise and front set screws counterclockwise.
 - To move blade toward back, rotate rear set screws counterclockwise and front set screws clockwise.
4. Repeat previous **Checking Blade Gap** procedure to test adjustments.
 - If blade gap is correct, hold each set screw in position and tighten its hex nut.
 - If blade gap is not correct, repeat **Steps 2–4** until cut is even.
5. Re-install blade guard when complete.

Replacing Blades

Both upper and lower blades are identical and have two cutting edges, so that if one cutting edge becomes dull, you can reverse the blade and use the fresh, sharp cutting edge. Both blades can be resharpened as an alternative to replacing.

If both cutting edges are dull, re-sharpen the blades on a surface grinder and make sure they stay flat along their entire length. If the blade becomes too thin and the cap screws that secure it extend beyond the opposite side of the cutting edge, you will need to replace it. If the blade is nicked or damaged, replace it.

Items Needed	Qty
Another Person.....	1
Wood Block 2x4	1
Heavy Leather Work Gloves.....	1
Hex Wrench 4mm, 5mm.....	1
Open-End Wrench 18mm.....	1

To remove/re-install upper blade:

1. Remove blade guard.
2. Loosen hex nut, then loosen hex bolt to release spring tension on hold-down bar (see **Figure 14**).

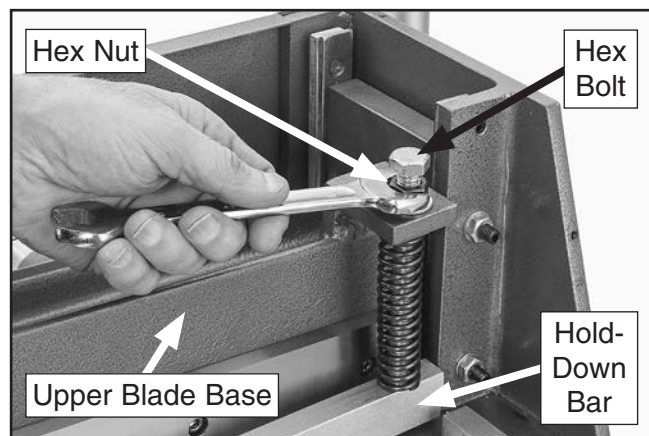
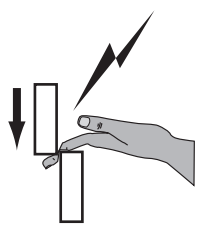


Figure 14. Loosening hex nut to release spring tension on hold-down bar.



!WARNING
The shear blades or hold-down bar can easily pinch, crush, or amputate fingers or other body parts. Always keep hands, fingers, and other body parts away from the blades and hold-down bar when removing blades.

3. Unscrew hex bolt from hold-down bar, then remove spring, flat washer, and hold-down bar (see **Figure 15**).

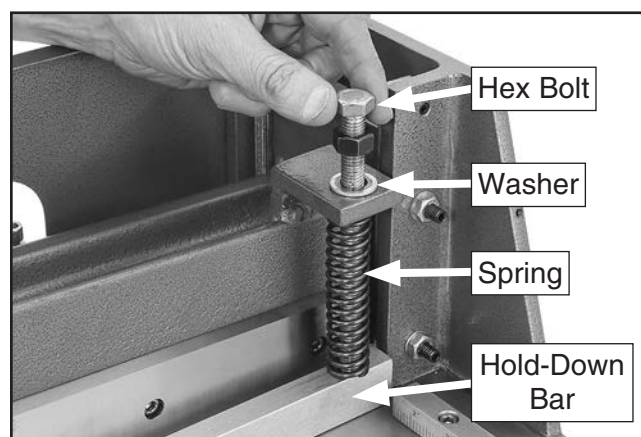


Figure 15. Removing hold-down bar.

4. With blade fully raised, place wood block under open side of upper blade to prevent it from dropping in **Step 5** (see **Figure 16**).



Figure 16. Use a wood block to keep blade from dropping during the removal process.

5. Remove cap screws (7 on **7013**; 11 on **7014**) and blade. Have another person wearing heavy leather work gloves hold blade during removal.

6. Clean blade with mineral spirits, then apply thin coat of quality metal protectant before re-installing blade.

7. Reverse **Steps 1–5** to re-install blade.

To remove/re-install lower blade:

1. Loosen cap screws securing support rods to rear work stop assembly. Remove assembly.

2. Remove (2) outer cap screws from lower cover, and cap screws (3 on **7013**; 5 on **7014**) from upper cover (see **Figure 17**).

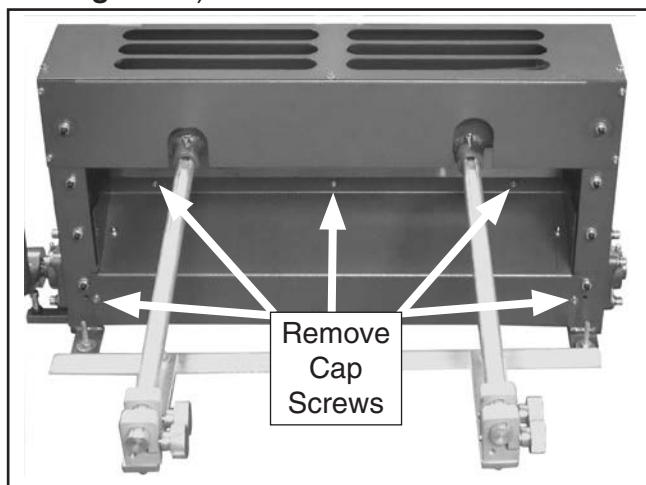


Figure 17. Remove rear lower cover cap screws to access lower blade (**7013** shown).

3. Loosen cap screws securing lower blade to frame (see **Figure 18**). **7013** uses 7 cap screws; **7014** uses 11 cap screws.

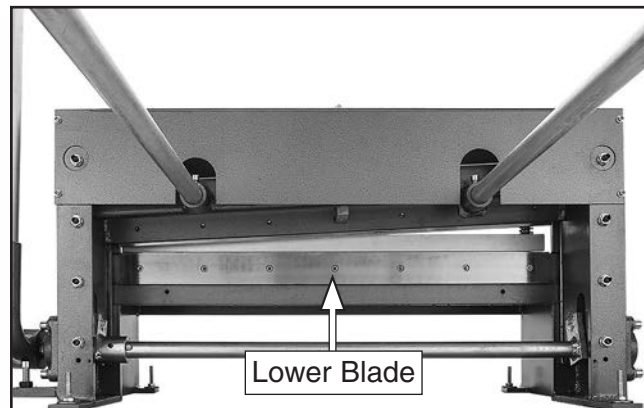


Figure 18. Lower blade removal (viewed from bottom).

4. Have another person wearing heavy leather work gloves support blade and remove it.

5. Clean blade with mineral spirits, then apply thin coat of quality metal protectant before re-installing blade.

6. Reverse **Steps 1–3** to re-install blade.

7. Check and adjust blade gap, following procedures.

Adjusting Gibs

There are two copper gibs on each end of the upper blade base (see **Figure 19**). They are made of copper so the plates wear instead of the upper blade base. Each copper gib screws into a steel plate and is adjusted with four set screws and hex nuts. The set screws maintain pressure between the copper gibs and upper blade base to keep the movement tight and precise.

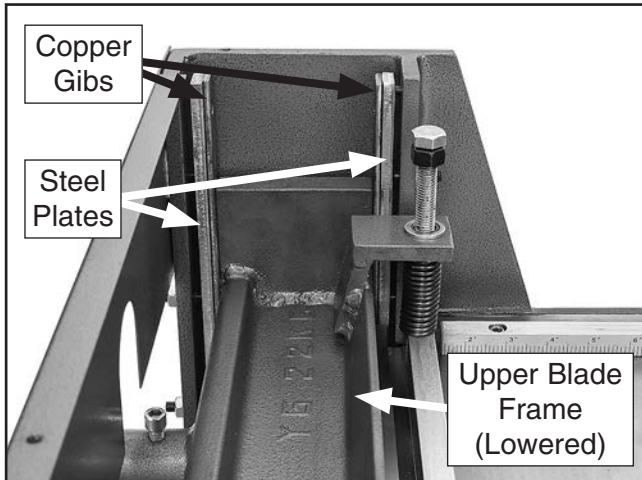


Figure 19. Gib operation.

If the gibs are too loose, the quality of the cuts will suffer because the movement will be sloppy when the cutting lever is pulled down. If the gibs are too tight, it will be difficult to lower the upper blade, and the cutting edges of the blades may become damaged.

The goal of adjusting the gibs is to keep the front-to-back movement of the sliding shafts snug without interfering with the sliding action.

Tools Needed	Qty
Open-End Wrench 14mm.....	1
Hex Wrench 4mm.....	1

To adjust gibs:

1. Remove blade guard.

2. On each side of shear, loosen hex nuts on gib set screws (see **Figure 20**).

Note: On front, two gib set screws are above bed and two gib set screws are beneath bed.

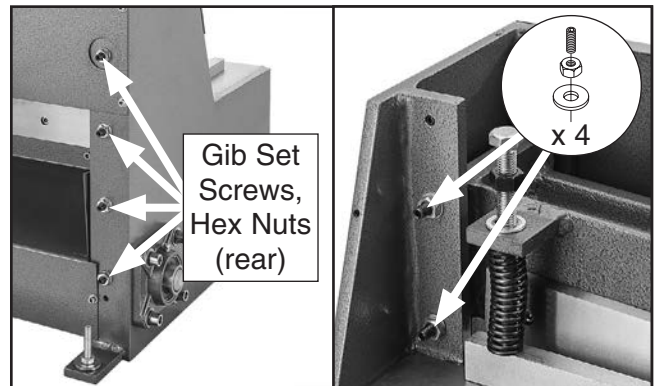


Figure 20. Gib set screws and hex nuts.

3. Using wrench to keep hex nut slack, use hex wrench to tighten all gib set screws in even increments until gibs are snug against upper blade base (see **Figure 21**). Back off each set screw $\frac{1}{8}$ turn and hold in place while tightening hex nut.



Figure 21. Tightening gib set screw.

4. Make a test cut to check sliding action of knives. If necessary, rotate set screws clockwise to tighten gib or counterclockwise to loosen, then repeat test cut and adjust until you are satisfied with gib adjustment and shearing action.
5. Hold set screws with hex wrench and re-tighten hex nuts (see **Figure 21**).
6. Check and adjust blade gap.
7. Re-install blade guard.

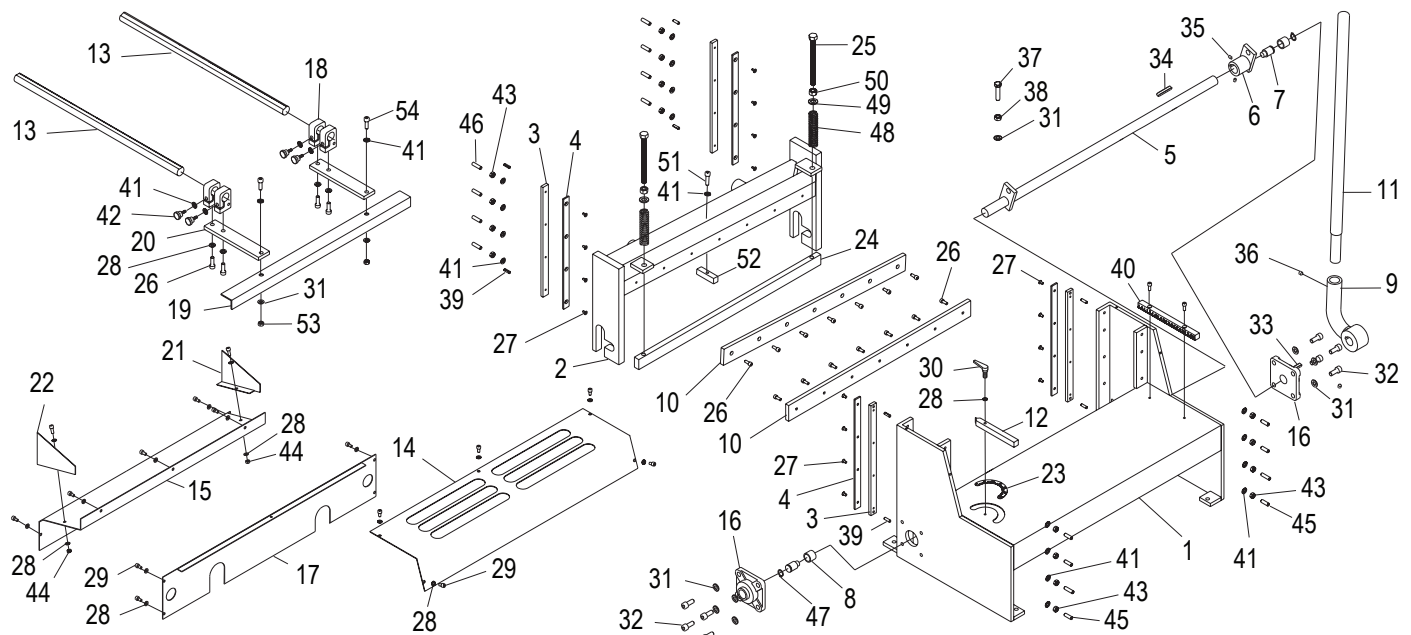
SERVICE

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support. **Note:** *Please gather the serial number and manufacture date of your machine.*

Troubleshooting

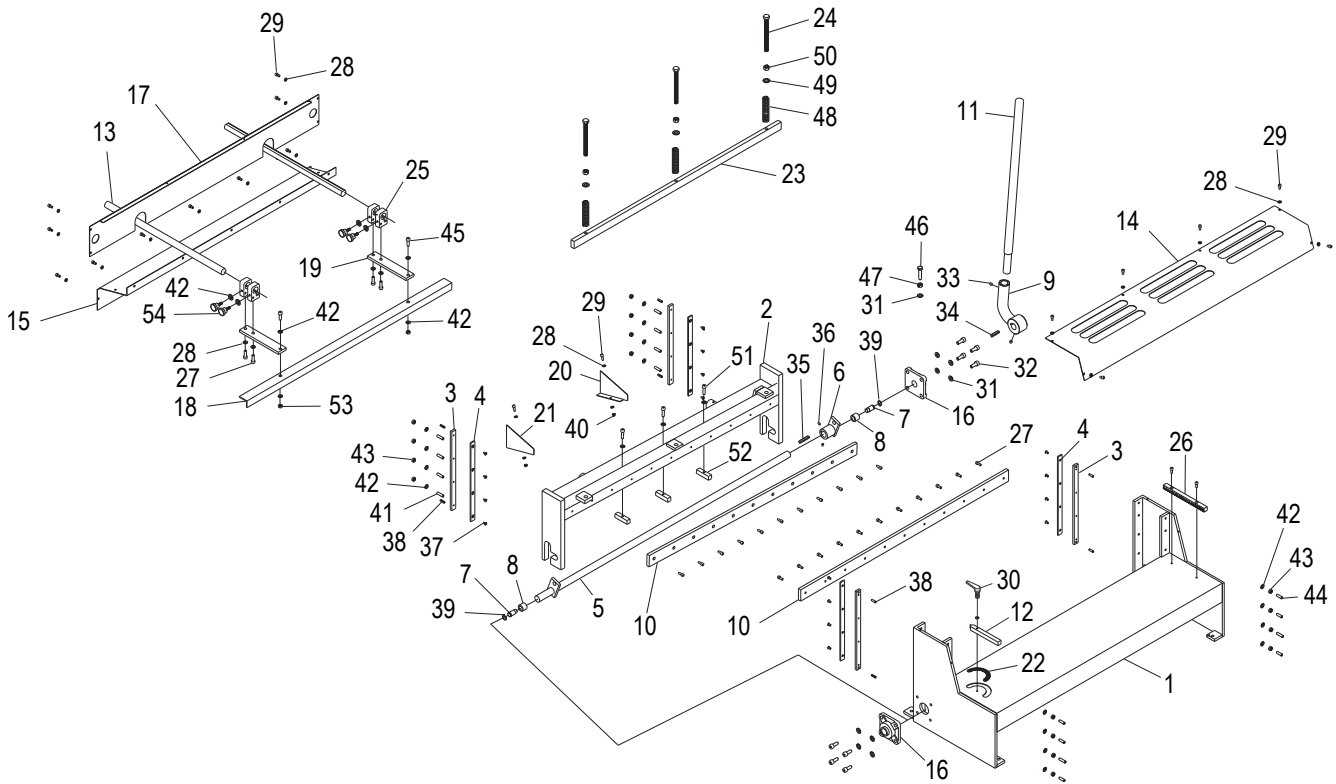
Symptom	Possible Cause	Possible Solution
Shear will not cut workpiece.	<ol style="list-style-type: none">1. Workpiece thickness exceeds shear capacity.2. Blades worn or damaged.3. Blade gap not correct.4. Not enough pressure applied to cutting lever.	<ol style="list-style-type: none">1. Only use workpiece material that is within shear capacity .2. Sharpen/replace blades .3. Properly adjust blade gap .3. Safely increase pressure on cutting lever.
Cuts are not square.	<ol style="list-style-type: none">1. 90° guide not square with blades.2. Rear work stop not parallel to blades.3. Hold-down bar not properly securing workpiece during cut.4. Blade gap not correct.	<ol style="list-style-type: none">1. Adjust 90° guide square with blades .2. Properly adjust rear work stop parallel to blades .3. Adjust hold-down bar for even pressure on workpiece .4. Properly adjust blade gap .
Poor quality of cuts (ripping or tearing).	<ol style="list-style-type: none">1. Blade gap not correct.2. Blades worn or damaged.3. Gibs too loose.	<ol style="list-style-type: none">1. Properly adjust blade gap .2. Sharpen/replace blades.3. Properly adjust gibs .
Arm difficult to use.	<ol style="list-style-type: none">1. Blade gap not correct.2. Cutting lever movement difficult.3. Gibs too tight.	<ol style="list-style-type: none">1. Properly adjust blade gap .2. Lubricate pillow bearings and copper gibs .3. Properly adjust gibs .

Parts List for 650x1.5 Guillotine



Parts No.	Description	Specification	Parts No.	Description	Specification
1	Frame		28	Flat washer	6mm
2	Upper blade frame		29	Cap screw	M6-1x12 SS
3	Plate	8x20x350 steel	30	Adjustable handle	49L,M6-1x25
4	Gib	4x20x350 copper	31	Flat washer	10mm
5	Cam coupler		32	Cap screw	M10-1.5x25
6	Cam		33	Key	8x8x40
7	Cam shaft		34	Key	8x8x50
8	Cam ring		35	Set screw	M6-1x10
9	Cam shaft lever		36	Set screw	M8-1.25x10
10	Blade	11x50x680mm	37	Hex bolt	M10-1.5x45
11	Cutting lever	30x800mm	38	Hex nut	M10-1.5
12	Angle cutting guide		39	Roll pin	6x20
13	Rear support rod		40	90° guide	
14	Blade guard		41	Flat washer	8mm
15	Lower cover		42	Knurled thumb screw	M8-1.25x45
16	Pillow bearing	UCF205	43	Hex nut	M8-1.25
17	Upper cover		44	Hex nut	M6-1
18	Rear stop slider bracket (alum)		45	Set screw	M8-1.25x25
19	Rear stop plate		46	Set screw	M8-1.25x30
20	Rear stop slider plate		47	Shaft spacer	16mm
21	Lower cover panel (L)		48	Compression spring	3x22x94
22	Lower cover panel (R)		49	Flat washer	12mm
23	Angle cutting scale		50	Hex nut	M12-1.75
24	Hold-down bar		51	Set screw	M8-1.25x30
25	Hex bolt	M12-1.75x145	52	Retaining block	
26	Cap screw	M6-1x16 SS	53	Lock nut	M8-1.25
27	Flat HD SCR	M5-.8x10	54	Cap screw	M8-1.25x25

Parts List for 1050x1.2 Guillotine



REF	DESCRIPTION	SPECIFICATION	REF	DESCRIPTION	SPECIFICATION
1	Frame		28	Flat washer	6mm
2	Upper blade frame		29	Cap screw	M6-1x12 SS
3	Plate	8x20x350 steel	30	Adjustable handle	49L,M6-1x25
4	Gib	4x20x350 copper	31	Flat washer	10mm
5	Cam coupler		32	Cap screw	M10-1.5x25
6	Cam		33	Set screw	M8-1.25x10
7	Cam shaft		34	Key	8x8x40
8	Cam ring		35	Key	8x8x50
9	Cam shaft lever		36	Set screw	M6-1x10
10	Blade	11x50x1075mm	37	Flat HD SCR	M5-.8x10
11	Cutting lever	30x800mm	38	Roll pin	6x20
12	Angle cutting guide		39	Shaft spacer	16mm
13	Rear support rod		40	Hex nut	M6-1
14	Blade guard		41	Set screw	M8-1.25x30
15	Lower cover		42	Flat washer	8mm
16	Pillow bearing	UCF205	43	Hex nut	M8-1.25
17	Upper cover		44	Set screw	M8-1.25x25
18	Rear stop plate		45	Cap screw	M8-1.25x25
19	Rear stop slider plate		46	Hex bolt	M10-1.5x45
20	Lower cover panel (L)		47	Hex nut	M10-1.5
21	Lower cover panel (R)		48	Compression spring	3x22x94
22	Angle cutting scale		49	Flat washer	12mm
23	Hold-down bar		50	Hex nut	M12-1.75
24	Hex bolt	M12-1.75x145	51	Set screw	M8-1.25x30
25	Rear stop slider bracket (alum)		52	Retaining block	
26	90° guide		53	Lock nut	M8-1.25
27	Cap screw	M6-1x16 SS	54	Knurled thumb screw	M8-1.25x45

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