KELLER INDUSTRIES

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OPERATING INSTRUCTIONS

AND

PARTS LIST

WARRANTY

Keller Industries liability will be limited to the repair or replacement, at its option, of machinery parts proven defective within one year from date of shipment from factory. They will be shipped F.O.B. the factory. Keller Industries reserves the right to determine, after the inspection, whether the product is defective due to workmanship or material. Parts or modifications not of original manufacture or any abuse due to neglect or misuse will not be covered under this warranty.

Component parts and accessories, not of our manufacture, but utilized on our equipment, bear the warranty of the original manufacturer. Items included are motors, switches, relays, push-buttons, belts, blades, hydraulic and pneumatic equipment, etc.

In no event shall Keller Industries' liability under this warranty exceed the purchase price of the equipment claimed defective. No claims for defects will be honored if the nameplate has been removed or made illegible. There are no other warranties, expressed or implied, other than those herein stated.

No return goods will be accepted without prior written authorization by Keller Industries.

KELLER POWER HACKSAWS
OPERATION INSTRUCTIONS
FOR HIGH DUTY, WET CUT
& DRY CUT SERIES

1. **Daily lubrication.**
   - A. Lubricate all oil cups.
   - B. Lubricate connecting rod bushings
   - C. Fill auto oiler on guide bar.
   - D. Oil motor platform bushings as needed on models so equipped.
   - E. Check oil level in hydraulic reservoir on HD series only.

2. **Daily mechanical.**
   - A. Inspect entire machine for loose, damaged, or worn parts.
   - B. Check saw frame gibs for tightness. Adjust as necessary. See page 3.
   - C. Check main bearing for wear. See page 4.

3. Pressure adjustment. (HD series only)

   Blade pressure is adjustable by turning the crank handle on the front of the base. Clockwise decreases blade pressure and counter clockwise increases blade pressure. You will need to experiment with various settings to obtain maximum performance. See enclosed blade selection sheet.

4. **Stroke speed.**

   Stroke speed is adjusted by turning the crank handle on the front of the base or front leg of the machine. This moves the motor which changes the pitch of the drive pulley. On the HD series the control is located between the belt guard and the start-stop switch.

CAUTION:
MAKE STROKE SPEED CHANGES ONLY WHILE MACHINE IS RUNNING.

On the 601 and the 1D the drive belt must be placed in a different pulley grove to change stroke speed.

Do this only when machine is disconnected from electrical supply.

For heavier solids and non-ferrous materials the saw should run at 80 - 95 strokes per minute. For tubing, angles, small solids and ferrous materials use 95 or more strokes per minute.

5. **Changing the blade.**

   Loosen the tension screw on the saw frame. When the pressure on the saw blade has been decreased, remove the blade mounting screws. Install the new blade making sure the blade teeth are pointing towards the rear of the machine. The blade should always be installed on the vise side of the blade support bars. Once the new blade is in place, retighten the tension screw.

CAUTION:
TENSION CLAMP MAY BREAK IF BLADE IS OVERTIGHTENED.

KELLER POWER HACKSAWS
MAINTENANCE INSTRUCTIONS

1. **Squaring the saw.**

   Lower the saw frame to the lowest position obtainable on the saw. Place a square against the fixed vise jaw and the saw blade making sure the square clears the set of the blade teeth. Loosen the fixed vise jaw set screws and mounting bolt. Carefully tap the vise jaw in the appropriate direction until both surfaces of the square rest completely against the vise jaw and the saw blade. Retighten the mounting bolt first while making sure that the vise jaw does not move. Then tighten the set screws.

CAUTION:
IF THE SET SCREWS ARE TIGHTENED FIRST,
THE VISE JAW MAY BREAK
WHEN THE MOUNTING BOLT IS TIGHTENED.

2. **Saw frame gib adjustment.**

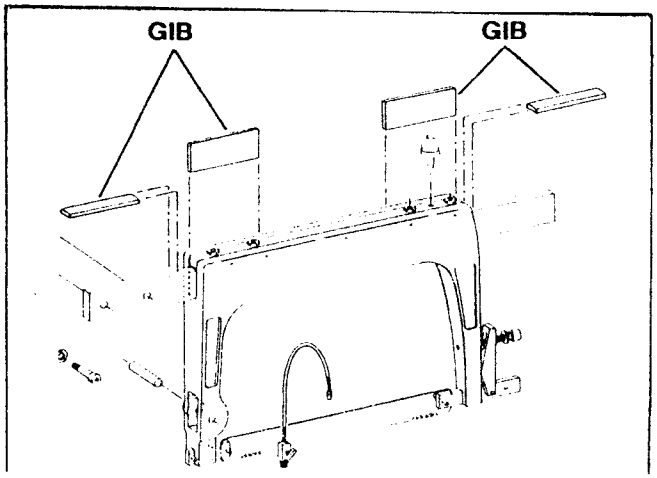
   Gib adjustment is necessary when it appears there is excess side to side movement with the saw frame assembly. To adjust the gibs, always start with the top gibs and then proceed to the side gibs. (see below) To tighten gibs, first loosen the gib locking nut, then tighten the gib set screw against the gib.

CAUTION:
SNUG LIGHTLY ONLY.

Then retighten the locking nut. After the top saw frame gibs have been tightened, repeat the procedure on the side gibs. The saw frame should run smoothly and freely after the gibs have been tightened. You can check the movement of the saw frame by removing the belt guard and manually turning the drive pulley.

CAUTION:
MAKE SURE THE POWER IS DISCONNECTED FROM THE MACHINE BEFORE PERFORMING THIS TASK.

If the gibs are over tightened, the drive pulley will turn hard. If this is the case, readjust the gibs.

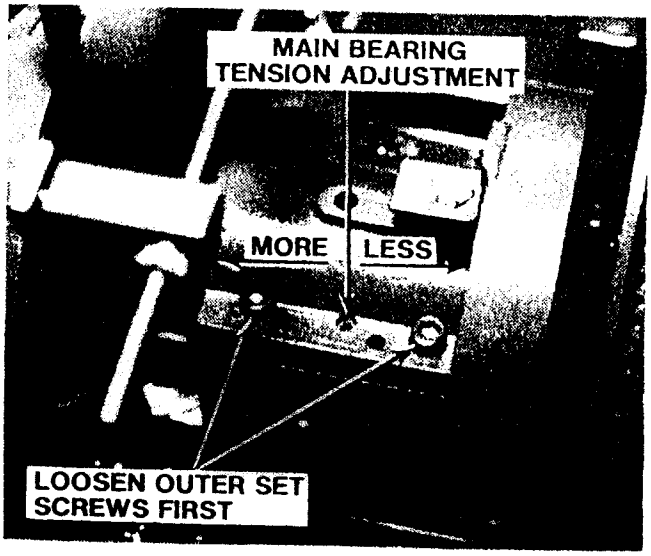


3. **Main bearing adjustment.**

When it appears that there is excess movement in the guide bar support arm, it is time to adjust the main bearing. Loosen the two outer cap screws. (see below) Turn the small set screw counter clockwise. This will allow the main bearing housing to clamp around the guide bar support arm tube. Retighten the outer cap screws. Do not overtighten or the saw frame will no longer raise or lower freely.

CAUTION:

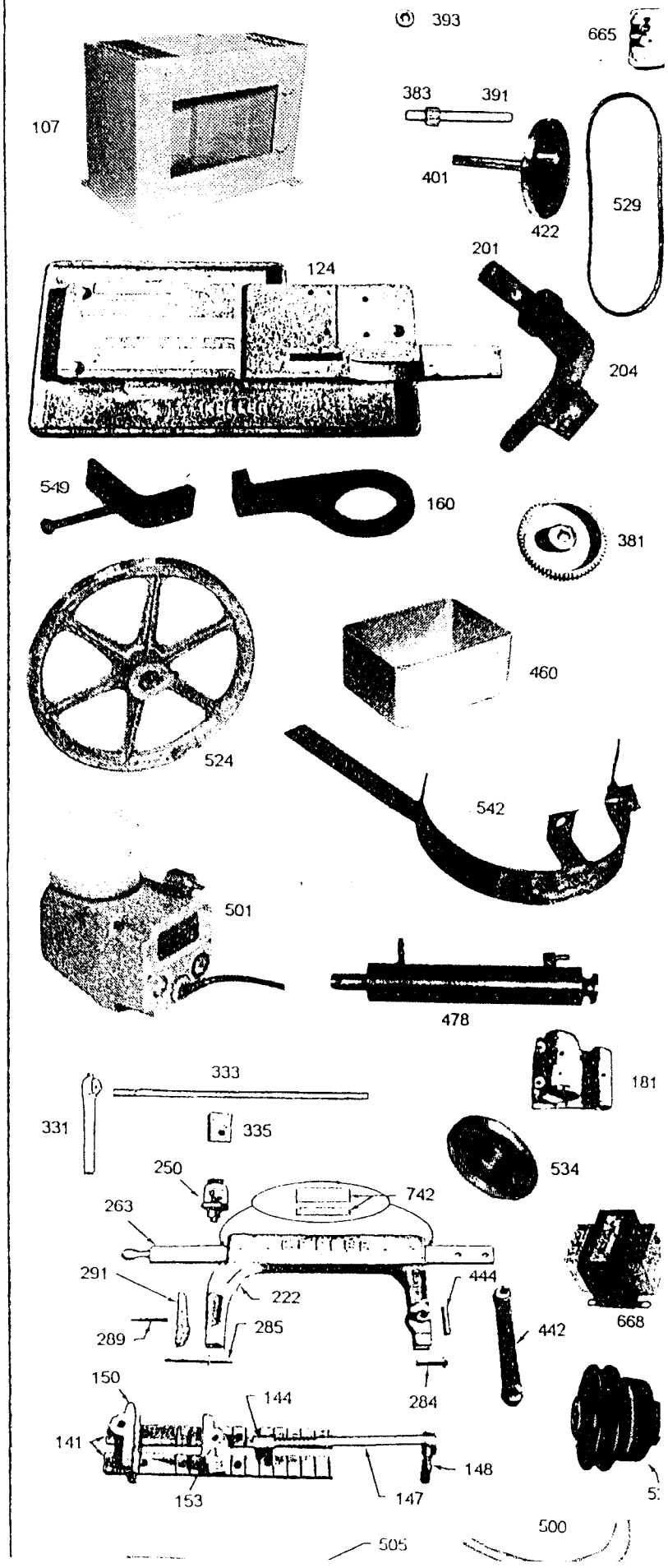
If the outer socket head cap screws are overtightened the main bearing housing may break.



Part #	Description	Model #
101	Bench leg	601
102	Floor leg	601
103	Front leg (dry)	1 - 3
104	Back leg (dry)	1 - 3
105	Front leg (wet)	1 - 3
106	Back leg (wet)	1 - 3
107	Saw base	3HD
109	Saw base	5HD
120	Table	601
121	Table	1D
122	Table	3D
123	Table	1W
124	Table	3
125	Table	5
140	Vise rail set (sm)	601 - 1
141	Vise rail set (med)	3
142	Vise rail set (lg)	5
143	Vise nut (sm)	601 - 1
144	Vise nut (med)	3
145	Vise nut (lg)	5
146	Vise screw (sm)	601 - 1
147	Vise screw (lg)	3 - 5
148	Vise handle	all
149	Vise jaw / solid	601 - 1
150	Vise jaw / solid	3
151	Vise jaw / solid	5
152	Vise jaw / loose	601 - 1
153	Vise jaw / loose	3
154	Vise jaw / loose	5
160	Lift lever	HD
161	Foot lever	HD
163	Flange casting	HD
165	Pressure lever	3HD
166	Pressure lever	5HD
167	Spring yoke	HD
168	Spring (sm)	HD
169	Spring (lg)	HD
172	Tension adj. screw	3HD
173	Tension adj. screw	5HD
174	Crank handle	3 - 5
180	Main bearing (sm)	601
181	Main bearing (lg)	1 - 3 - 5
200	Support arm tube	601
201	Support arm tube	1 - 3 - 5
202	Support arm	601
203	Support arm	1
204	Support arm	3
205	Support arm	5
220	Saw frame	601
221	Saw frame	1
222	Saw frame	3
223	Saw frame	5
250	Auto oiler	3 - 5
260	Guide bar	601
261	Guide bar	1
263	Guide bar	3
264	Guide bar	5
280	Blade support bar	601
281	Blade tension bar	601
282	Blade support bar	1
283	Blade tension bar	1
284	Blade support bar	3
285	Blade tension bar	3
286	Blade support bar	5
287	Blade tension bar	5
288	Tension bolt	601
289	Tension screw	1 - 3 - 5
290	Tension clamp	601
291	Tension clamp	1 - 3
292	Tension clamp	5
320	Stock rest	601 - 1
321	Stock rest	3
322	Stock rest	5
330	Stock stop	601
331	Stock stop	1 - 3 - 5
332	Gage bar	601 - 1
333	Gage bar	3 - 5
334	Hold dn block	1
335	Hold dn block	3 - 5
340	Hook-up bar	601
342	Hook-up bar	1 - 3 - 5
360	Motor Shelf	601 - 1D
361	Motor Shelf	1 - 3 - 5
362	Motor shelf (HD)	HD
380	Drive gear	601
381	Drive gear	1 - 3 - 5
382	Pinion gear	601
383	Pinion gear	1 - 3 - 5
390	Pinion shaft	601
391	Pinion shaft	1 - 3 - 5
392	Shaft collar	601
393	Shaft collar	1 - 3 - 5
400	Crankshaft	601
401	Crankshaft	1 - 3 - 5
420	Crank disk	601
421	Crank disk	1
422	Crank disk	3 - 5
440	Connecting rod	601

REPAIR PARTS

Part #	Description	Model #
441	Connecting rod	1
442	Connecting rod	3 - 5
443	SF conn. pin	601
444	SF conn. pin	1 - 3
445	SF conn. pin	5
460	Hyd tank w/cover	HD
478	Hyd cyl - complete	HD
479	Hyd pump - complete	HD
500	Hyd lines	HD
501	Coolant pump/115v	wet
502	Coolant pump/230v	wet
505	Flex coolant tube	wet
520	Motor pulley	601-1D
521	Motor pulley	1 - 3 - 5
522	Pulley	601
523	Pulley	1D
524	Pulley	1 - 3 - 5
525	V-Belt	601
527	V-Belt	1D
528	V-Belt	1 - 3
529	V-Belt	HD
532	Speed adj. screw	HD
533	Speed adj. screw	1 - 3
534	Handle wheel	HD
541	Gear guard	601
542	Gear guard	1 - 3 - 5
548	Shut-off bckt	601
549	Shut-off bckt	1 - 3 - 5
550	Shut-off bckt	HD
561	Backing plate	601
562	Backing plate	1D
563	Backing plate	3
564	Backing plate	HD
580	Crank disk guard	601
581	Crank disk guard	1
582	Crank disk guard	3
584	Crank disk guard	5
591	Belt guard	601
592	Belt guard	1D
593	Belt guard	3
594	Belt guard	HD/A
665	Switch (1 phase)	
666	Switch (3 phase)	
668	440v Transformer	
740	Brass gib set	601
741	Brass gib set	1
742	Brass gib set	3
743	Brass gib set	5

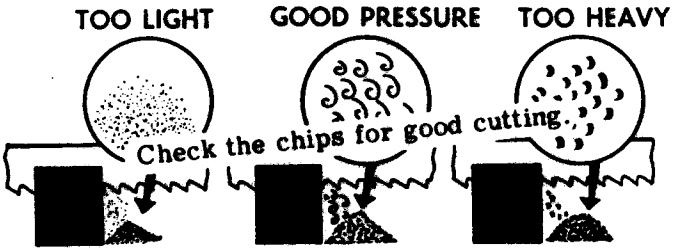


BLADE SELECTION, APPLICATION OF SPEED AND FEED

HOW TO SELECT AND USE POWER HACK SAW BLADES

Power hack saws automatically take a Full Stroke each time, automatically Lift the blade on reverse stroke and apply steady cutting pressure throughout the length of the stroke.

The proper tensioning of the power hack saw blade is most important. Insufficiently tensioned blades wear rapidly, cut inaccurately and deliver a blank with a poor finish. A blade tensioned too tightly breaks prematurely or pulls out at the pin hole.



If chips are burned you are feeding too heavy. If chips are fine and powdery you are feeding too light. A free cut with nicely curley chips indicate ideal feeding pressure, fastest cutting time and longest blade life.

For most cutting jobs, the all-hard blade is first choice for straight, accurate cutting. The all-hard tungsten blade is unexcelled for retaining its sharp teeth. It handles work hardening materials, abrasive materials, stainless, high manganese steels and the low machinability bronzes. Molybdenum blades are good for fast, accurate cutting, but especially on low or medium alloy steels, iron and most non-ferrous metals.

You gain more by selecting the COARSEST TOOTH for the work. This is necessary for good chip appearance as more pressure can be applied for a better bite, without clogging. (Of course, the feed-pressure-per tooth must be kept below the point of fracturing the teeth).

Large Sections and soft materials require coarse teeth. Thin sections and hard-to-machine materials require fine teeth.

USE HEAVY FEED PRESSURE

Normally you should set the feed pressure as heavy as possible without breaking the teeth or making the blade cut crooked. Excessive pressure and stroke speed increase the cutting rate at the expense of blade wear. (When in doubt, keep pressure at maximum but reduce the stroke speed).

The heaviest practical pressure . . . and the fastest reasonable stroke speed produce the most efficient cutting.

A feed-rate that is too light results in rubbing instead of cutting; (tooth points overheat, soften and break down).

For optimum feed rate: Use heavy feed for hard, very dense material—light feed for thin soft material. For maximum production, you can increase feed by using coarse blades on soft materials. But remember to use moderate feed when straight, accurate cutting is required.

USE PLENTY OF COOLANT

Start the coolant flow before the first cutting stroke. Coolant is needed on all materials (except cast iron, copper and some brasses) to reduce friction, blade wear, and chip clogging. Keep coolant flowing until job is finished and the blade is stopped. For best blade life and fastest cutting time use TRIM EP, a product of Master Chemical Corporation.

BLADE SELECTION, SPEED AND FEED CHART

TYPE OF MATERIALS		TEETH PER INCH		STROKES PER MIN	FEED		
		MATERIAL 2" and Under	MATERIAL Over 2"		RATE		POUNDS PRESSURE
ALUMINUM	Alloy	6	3	100-150	L	M	150
	Pure	6	3	100-135	L	M	150
BRASS	Free Machining	6-10	3-6	120-150	L	M	150
	Hard	6-10	6	100-135	L	M	150
	Tubing	10-14	10-14	120-150	L	M	150
BRONZE	Commercial	6-10	3-6	90-120	L	M	300
	Manganese	6-10	6	60-90	L	M	150
COPPER		6-10	3-6	90-120	M	H	300
HIGH DENSITY ALLOYS	A-286	4	3	50-75	M	H	400
	Discalloy	4	3	50-75	M	H	400
	Hasteloy	4	3	50-75	M	H	400
	Titanium	4	3	50-75	M	H	400
IRON	Cast	6-10	4-6	90-120	M	H	300
	Malleable	6-10	6	90	M	H	300
	Pipe	10-14	10-14	90-120	M	H	150-200
MAGNESIUM		6	3-4	120-150	M	H	150
NICKEL ALLOY	Inconel	6-10	3-6	50-80	L	M	150-300
	Monel	6-10	3-6	60-90	L	M	150-300
	Nickel	6-10	3-6	60-90	L	M	150-300
NICKEL-SILVER		6-10	6	60	L	M	300
STEEL	Alloy	6-10	3-6	60-120	L	H	150-300
	Carbon Tool	6-10	6	60-90	L	H	225
	Cold Rolled	6	3-6	100-135	L	H	275
	Hot Rolled	6	3-6	100-135	L	H	275
	High Speed	6-10	6	60-90	L	M	225
	Machinery	6-10	3-6	100-135	L	M	300
	Pipe and Tubing	10-14	6-14	90-135	L	M	100-150
	Stainless	6-10	3-6	60-90	L	H	150-300
	Structural	6-10	6-10	90-135	L	M	225
	Tool	6-10	6	60-90	L	H	225

Where more than one tooth specification is given, select the proper blade on the bases of the shape and size of the material. Use blade with coarser teeth for cutting large, solid stock; blades with finer teeth for smaller stock.

Blades should be wide enough to withstand required pressure...1-1/4" for light cutting (such as pipe or tubing) with short run blades...1-1/2" to 1-3/4" for heavy cutting with longer blades. For general purpose cutting a 1-1/2" x .075" x 6" tooth blade is recommended.

*When saw using Medium to heavy feed rate, always use a coolant.

Features	Models	"A" SERIES				"H.D." SERIES		"GRAVITY FEED" SERIES					
		5HA	3HA	3WA	1WA	5HD	3HD	3W	1W	3D	1D	601 Floor Portable	601 Bench
Capacity Solids		10" x 10"	7" x 7"	7" x 7"	5" x 5"	10" x 10"	7" x 7"	7" x 7"	5" x 5"	7" x 7"	5" x 5"	4" x 4"	4" x 4"
Drive Motor		1-1/2HP	1 HP	3/4 HP	1/2 HP	1-1/2 HP	1 HP	3/4 HP	1/2 HP	1/2 HP	1/2 HP	1/3 HP	1/3 HP
Feed Pressure		Air/Oil/Hydrau.	Air/Oil/Hydrau.	Air/Oil/Hydrau.	Air/Oil/Hydrau.	Mech./Spring	Mech./Spring	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity
Wet Cutting		Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	None	None	None	None
Coolant Capacity		5 Gal.	5 Gal.	2.5 Gal.	2.5 Gal.	5 Gal.	5 Gal.	2.5 Gal.	2.5 Gal.	None	None	None	None
45° Angle Cut Capacity		5.5"	4.25"	4.25"	3.5"	5.5"	4.25"	4.25"	3.25"	4.25"	3.25"	3"	3"
Blade Relief		Standard	Standard	Standard	Standard	Standard	Standard	None	None	None	None	None	None
Feed Pressure		0 - 150	0 - 150	0 - 150	0 - 150	0 - 200	0 - 200	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity
Feed Rate		Variable	Variable	Variable	Variable	Variable	Variable	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity
Strokes Per Minute		70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	70 - 150	110/165	120-160	120-160
Stroke Length		5.5"	5.5"	5.5"	4"	5.5"	5.5"	5.5"	4"	5.5"	4"	3.75"	3.75"
Blade Length		18"	14"	14"	12"	18"	14"	14"	12"	14"	12"	10" & 12"	10" & 12"
Weight Lbs.		557	446	320	275	557	446	320	275	320	275	134	126
Floor Space		18" x 51"	16" x 43"	15" x 43"	14" x 41"	18" x 51"	16" x 43"	15" x 43"	14" x 41"	15" x 43"	14" x 41"	13" x 36"	13" x 36"
Ht. to Vise Surface		28"	28"	25"	25"	28"	28"	25"	25"	25"	25"	23"	5"
Total Height		45"	45"	38"	25"	45"	45"	38"	25"	38"	25"	33"	33"
Auto Shutoff		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto Oiler On Saw		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No

Standard Equipment On All Saws

- Horsepower rated start/stop switch
- Solid cast iron frame, support are vise jaws and main bearing
- Adjustable cutoff stop
- Quick acting swivel vise
- Oil cup lubrication
- Adjustable gibed saw frame
- Safety guarding
- Bronze oilite bearings on turning pinion shafts

Optional Equipment On All Saws

- 45° quick set angle vise block
- Work light
- Stock rest
- Electrical: all saws can be supplied with different voltages. Magnetic controls and non-domestic voltages are available at additional cost.

Diefiler Specifications — All Models

Length of stroke	1-1/2 inches
Strokes per minute	350 to 450 SPM
Chuck capacity:	
Minimum (adaptor not required)	1/8" diameter
Maximum	1/2" x 1/2"
Extended tool working surface	3/8" x 1-5/8" clearance chuck hole
›le tilt (in 4 directions)	up to 8 degrees
.ole area	10" x 10"
Throat depth	7-1/4"
Motor	1/3 H.P. 1800 RPM 115 Volt Single phase 60 Hz, 3-wire cord/plug/switch

DIMENSIONS:

Base plate	7" x 18"
Overall length	18-3/4"
Overall width	10-3/4"
Height (table model)	11"
Maximum height	25-3/4"

SHIPPING WEIGHTS WITH MOTOR:

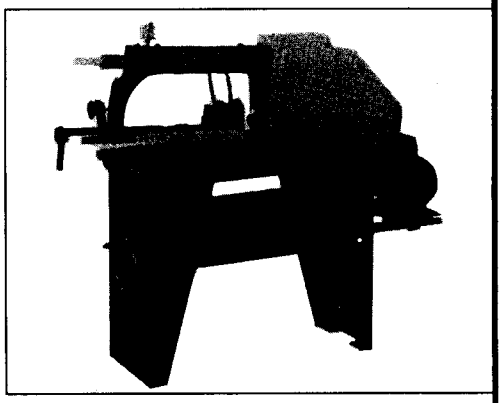
Model F256B	84 lbs.

"Gravity Feed" Series Wet & Dry Cutting Power Hacksaws - Four to Seven Inch Capacity

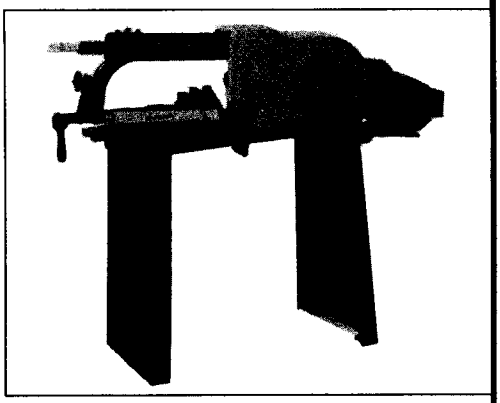
The "Gravity Feed" Series power hacksaws are the most simple, reliable, and durable saws you'll ever operate. As the name implies, this is a straight-forward, weight-of-the-saw frame feed system. It employs the same rugged cast iron construction as the rest of the line and are easily assembled by the end user. Easy operation and maintenance make these saws popular with owners.

The saws meet the smaller capacity metal sawing requirements of the small to medium size facilities and are also very popular in the school and education markets.

The series shares export potential to markets where simple design, easy operation, and maintenance are a prerequisite.



"Gravity Feed" Series 3W Hacksaw 6 inch capacity



"Gravity Feed" Series 1D Hacksaw 5 inch capacity

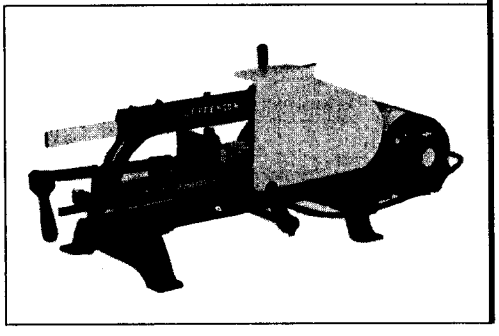
All "Gravity Feed" Series Saws Feature:

Specifications on page 8.

- ❑ Adjustable gibed frame with replaceable gibs
- ❑ Horsepower rated switch
- ❑ Auto shutoff adjustable cutoff stop
- ❑ Quick-acting swivel vise
- ❑ Oil cup lubrication
- ❑ Auto lubrication on saw frame
- ❑ Safety guarding vari-speed strokes
- ❑ Oilite bearings throughout
- ❑ Solid cast iron frame

Partial List Of Satisfied Users:

- ❑ Har-Bur Middle School, Burlington, CT
- ❑ Brooklyn Auto High School, Brooklyn, NY
- ❑ SCM Chemical, Baltimore, MD
- ❑ City Of Davenport, Davenport, IA
- ❑ Calco Seal, Cedar Grove, NJ
- ❑ Lani High & Elementary School, Lani, MI
- ❑ Lawson Products Inc., Des Plaines, IL
- ❑ U.S. Navy, Port Hueme, CA
- ❑ Orange & Rockland Utilities, Middleton, NY
- ❑ U.S. Steel Group, Gary, IN
- ❑ Martin Marrietta, Piketon, OH
- ❑ Ford Motor Co., Avon Lake, OH
- ❑ T.P.L.. Construction, Princeton, NJ
- ❑ City Of Dublin, Dublin, OH
- ❑ Wilson International Export, Jumble, TX
- ❑ Metro North Comuter Railroad, White Plains, NY



"Gravity Feed" Series 601 Bench Hacksaw 4 inch capacity