



Metal Cutting  
series

 simplifying

cutoff

[www.originalsaw.com](http://www.originalsaw.com)

Original Saw Company

465 Third Ave SE

Britt, IA 50423 USA

800.733.4063 ph

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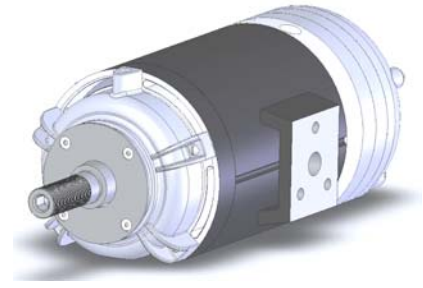
641.843.3869 fx

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## MOTORS

All Super Duty, Heavy Duty, and Contractor Duty Series motors are manufactured in our Northern Iowa facility. Producing our own motors allows us to uphold a very high level of quality in our machines. These totally enclosed fan cooled (TEFC) motors are manufactured with cooling ducts that move air through the motor laminations to keep them cool while keeping the internal portion of the motor sealed from dust and contamination. These motors also offer the added benefit of an integrated electro-mechanical brake system. These brake systems continue to operate even when the power drops out. Electronic brake systems cannot compete with their durability or reliability.



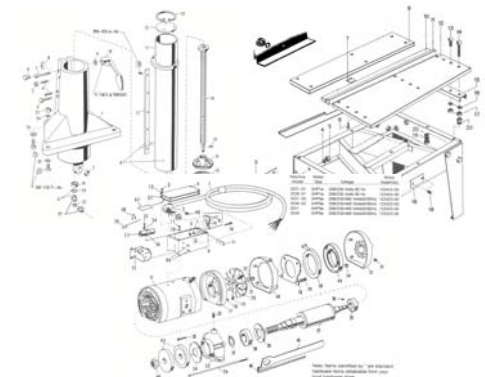
## CAST CONSTRUCTION

Original Saw Company's Radial Arm Saws are manufactured utilizing high quality heavy cast iron and cast aluminum construction. These high quality American castings provide a very rigid, vibration-free cutting platform to perform many different sawing and dado operations. It is because of this construction we can proudly say our machines are the best in the industry. Many of the machines we produce today will be around for generations.



## PARTS AND SERVICE

Original Saw Company strives for customer satisfaction. We stock a full supply of service parts for everything we manufacture and can even supply some parts for older DeWalt units dating back into the 1930's and 1940's. We will work through any issues you may run across during the life of your machine. This is the way Original Saw treats its customers when issues arise whether it is one year after the sale or ten years later; whether it is a machine problem or an application issue. This is why Original Saw Company is the one to rely on now and in the future.



## Contact Information

Company Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact Phone: \_\_\_\_\_

Contact e-mail \_\_\_\_\_

Please Describe cutting application: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please sketch cutting application if needed: Then fax to 641-843-3869 or scan and e-mail to [customerservice@originalsaw.com](mailto:customerservice@originalsaw.com)



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# Metal Cutting Theory

## Non-Ferrous Cutting

Cutting non-ferrous material such as aluminum, copper and soft brass is done effectively on Original Saw Metal Cutting Series machines.

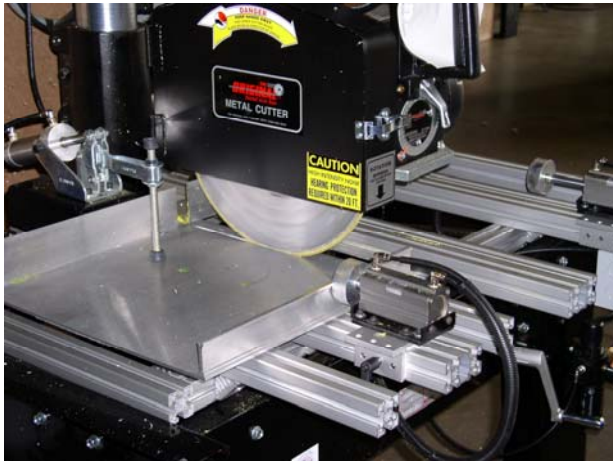
When choosing the proper blade, first take a look at the wall thickness on the material being cut (typically extruded aluminum). If the wall thickness is under 1/8", consider a high speed steel blade versus a carbide tipped blade. Next look at the stiffness of the material and shape of the extrusion. If there is a thin wall and a flat area, it might allow flex when cutting. This can cause the material to chatter during cutting and chip or break the carbide teeth.

Our machines, coupled with the use of the proper blade, will result in quality cuts. Carbide tipped non-ferrous blades generally use a slightly softer grade of carbide tooth in a C-2 or C-3 carbide. These grades of carbide effectively take the impact of cutting non-ferrous material. A triple chip grind and a negative 5° degree hook angle will reduce or remove the chance of the blade grabbing the material. This will provide a smooth cut finish. On extrusions with a thin wall, we recommend a high speed steel blade with approximately 250 to 300 teeth.

## Ferrous Cutting

Cutting ferrous material (steel) can also be done quickly and effectively on Original Saw metal cutting series machines. Material up to 8 gage can be effectively cut with our high speed steel blades. These blades, running at 3400 RPM, are considered friction cutting blades and are actually melting the material rather than cutting the material. With this type of cut, the advantages are speed over cut quality. The cut is very accurate, however there will be a slight burr because of the friction cutting action. Factors that affect the burr size are material thickness, type of material and the travel speed of the carriage.

Mist coolant on this application is prohibited and will make the burr size larger.



The view at left is a 12" wide aluminum extrusion being cut with our 900500-01 4 clamp system. This saw utilizes a semi-automatic power feed system to control the carriage. We have almost 20 years of experience in the aluminum cutoff application. Give our application engineers a chance to show you how Original Saw can simplify and stream line your aluminum and vinyl cutoff process and improve your bottom line.

800/733-4063 US and Canada



## Super Duty Metal Cutting Series type 7



Above inset photo shows  
standard manual chain carriage  
feed.



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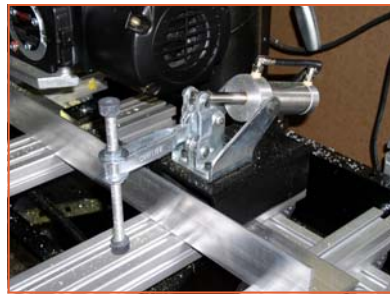
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RELIABLE





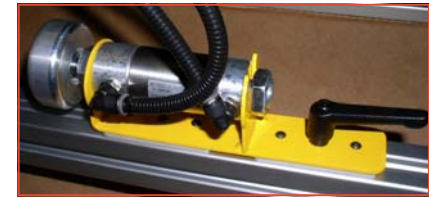
Above inset photo shows standard fence.



Above inset photos showing different clamping options.



Optional equipment



The Super Duty Metal Cutting Series is the ultimate workhorse of the industry. It is capable of operating 2 to 3 shifts per day. The Super Duty is also able to do a wide variety of cutoff work including miters, bevels and compound miter work. These massive 850 pound machines are constructed of cast and ductile iron for a vibration free operation. This series is more than a radial arm saw. When coupled with optional equipment, it is a platform for a wide variety of cutoff work as well as dado operations. The machines shine with a new, more durable powder coated finish.

MODEL:	3579-16M	3579-16L	3579-20M	3579-20L
Arm	Medium	Long	Medium	Long
Blade Size	16" / 400mm	16" / 400mm	20" / 500mm	20" / 500mm
<b>MOTOR: ALL MOTORS TOTALLY ENCLOSED FAN COOLED</b>				
HP	7.5*	7.5*	7.5*	7.5*
Phase	3	3	3	3
Hertz	50/60	50/60	50/60	50/60
Volts *	230/460 **	230/460 **	230/460 **	230/460 **
Brake	automatic	automatic	automatic	automatic
Arbor	1" dia x 1 3/8"	1" dia x 1 3/8"	1" dia x 1 3/8"	1" dia x 1 3/8"
<b>CAPACITIES: inches / metric</b>				
Max Cross Cut 1" Stock	24" / 609m m	32" / 812 mm	23" / 584 mm	31" / 787 mm
Max Miter 45° 1" Stock	16" / 406 mm	21 5/8" / 549 mm	16" / 406 mm	21 5/8" / 549 mm
Max Depth of Cut	5" / 127 mm	5" / 127 mm	7" / 175 mm	7" / 175 mm
Max Depth of Cut 45° Bevel	2" / 50mm	2" / 50 mm	3 3/8" / 85 mm	3 3/8" / 85 mm

\* Optional 10 Hp 3 phase motor also available

\*\*Available in the following 3 phase voltages 220/230/380/460/575/600 (50/60)

**Optional Accessories**

- S Series Manual Adjustable Measuring Systems
- S Series Material Handling Roller Tables
- S Series Material Handling Extension Tables
- Dust Collection Hoods
- Keyed Access Limiting Switch
- Emergency Stop Switch





## Metal Cutting Series Type 8



Above inset photo shows  
standard manual chain carriage



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Electronics Enclosure housing the variable frequency drive system



Standard "up front" mounted start/stop station

The type 9 version of the 22" Super Duty operates on a stable cutting platform. The updated type 9 version now uses a Variable Frequency Drive to power the arbor motor. The VFD starts the blade over a few seconds time to reduce the amp draw on the motor and provide a smooth start. This Series has a blade capacity of 22" and a cutting capacity of 8" deep in a single pass.

This series differs from the standard Super Duty Metal Cutting series by the addition of the VFD. All other operations are the same as the standard Metal Cutting series.

These machines are capable of operating in an industrial environment, operating in a 2—3 shift per day atmosphere. They are found in extrusion companies, sign manufacturing, aluminum window and door manufactures, hollow metal door operations, fenestration industries or anywhere large material or a large volume of pieces at a time are needing to be cut, bevel cut, or miter cut.

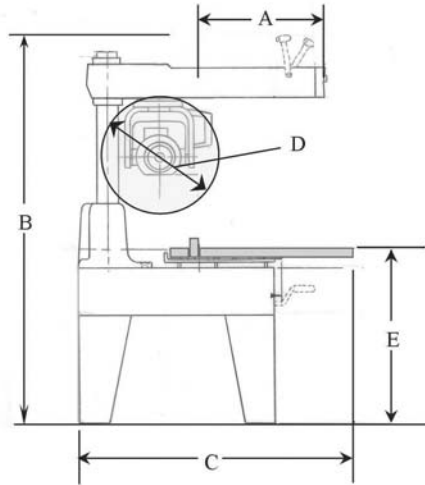
MODEL:	3579-22M	3579-22L
Arm	Medium	Long
Blade Size	22" / 550mm	22" / 550mm
<b>MOTOR: ALL MOTORS TOTALLY ENCLOSED FAN COOLED</b>		
HP	7.5	7.5
Phase	3	3
Hertz	50/60	50/60
Volts *	230/460**	230/460**
Amp (rated)	19 / 9.5	19 / 9.5
Brake	auto - electronic solid state	auto - electronic solid state
Arbor (diameter x length)	1" x 1 3/8"	1" x 1 3/8"
<b>CAPACITIES: inches / metric</b>		
Maximum Out-Rip	no ripping	no ripping
Max Cross Cut 1" Stock	23" / 584mm	31" / 787mm
Max Miter 45o 1" Stock	16" / 406mm	21 5/8" / 549mm
Max Depth of Cut	8" / 203mm	8" / 203mm

\*\*Available in the following 3 phase voltages 220/230/380/460/575/600 (50/60 Hz)

### Optional Accessories

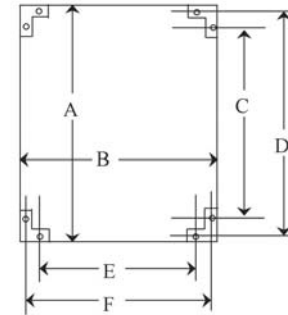
- Electronic Power Carriage Feed system
- OS Series Manual measuring systems
- OS Series Material Handling extension roller tables
- OS Series Material Handling flat extension tables
- Pneumatic material clamping tables
- Dust Collection Hoods

## side view



Index	Medium Arm	Long Arm
	Nos	Nos.
	3579-16M	3579-16L
	3579-20M	3579-20L
	3579-22M	3579-22M
A	24	32
B	64	64
C	51	59
D	16"/20"/22"	16"/20"/22"
E	34.5"	34.5"

## footprint



Index	Dimensions
	<b>Super Duty Series</b>
A	48"
B	36"
C	46 1/2"
D	34 1/2"



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Horizontal Beam Saw  
Metal Cutting  
type 2



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Photo at left shows the stand mounted control panel and electrics enclosure for optional powered carriage feed sys-

Our Horizontal Beam Saw Series is constructed of cast iron, cast aluminum, machined structural box tubing and heavy welded 'U' channel frame. It is capable of cutoff lengths of up to 65" and up to 8" deep. The hardened, ground, smooth replaceable track rails and our time tested motors will produce many years of trouble free service. The Horizontal Beam Saw is capable of a variety of cut off operations in sheet metal, structural panels, aluminum plate, formed decking, plus many other sheet and plate materials. It can also be utilized as a multiple part cutoff saw.

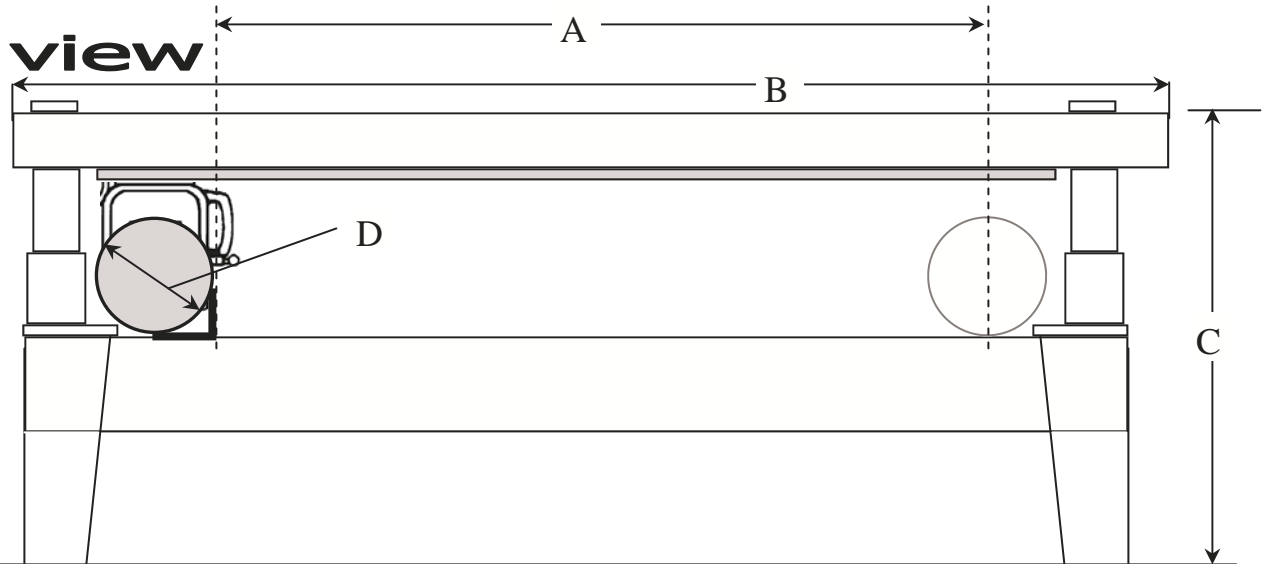
**Standard equipment for metal cutting includes:** complete machine, legs, frame, motor with automatic electromechanical brake, magnetic starter with low voltage controls, aluminum extruded t-slot rail table top, aluminum angle fence, manual chain carriage feed, complete upper and lower blade guarding and blade wrench kit.

MODEL:	3690-01-01	3690-01-03	3691-01-05	3691-01-01	3691-01-03	3691-01-05	3691-01-07
Blade Size	14" / 350mm	14" / 350mm	16" / 400mm	16" / 400mm	16" / 400mm	20" / 400mm	22" / 550mm
<b>MOTOR:</b>							
HP	3	5	5	5	7.5	7.5	7.5
Phase	1	3	3	1	3	3	3
Hertz	60	50/60	50/60	60	50/60	50/60	50/60
	3450	3450/2825	3450/2825	3450	3450/2825	3450/2825	3450/2825
Volts *	230	208/230/460	208/230/460	208/230/460	208/230/460	208/230/460	208/230/460
Watts	2238	3730	3730	3730	5592	5592	5592
Brake	automatic	automatic	automatic	automatic	automatic	automatic	automatic
Arbor diameter	1" / 25.4mm	1" / 25.4mm	1" / 25.4mm	1" / 25.4mm	1" / 25.4mm	1" / 25.4mm	1" / 25.4mm
Arbor length	2 3/16 / 55mm	2 3/16 / 55mm	2 3/16 / 55mm	3 1/8 / 79mm	3 1/8 / 79mm	1 3/8 / 35mm	1 3/8 / 35mm
<b>CAPACITIES: inches / metric</b>							
Max Cross Cut 1" Stock	66" / 1651mm	66" / 1651mm	66" / 1651mm	65" / 1651mm	65" / 1651mm	62" / 1574mm	60" / 1524mm
Max cross Cut 4" Stock	63" / 1600mm	63" / 1600mm	63" / 1600mm	63" / 1600mm	63" / 1600mm	62" / 1574mm	60" / 1524mm
Max Cross Cut 6" Stock	N / A	N / A	N / A	N / A	N / A	62" / 1574mm	60" / 1524mm
Max Cross Cut 8" stock	N / A	N / A	N / A	N / A	N / A	N/A	60" / 1524mm
Max Depth of Cut	4 1/8" / 104mm	4 1/8" / 104mm	4 15/16 / 125mm	4 3/8" / 111mm	6 1/4" / 158mm	7" / 177mm	8" / 202mm
Max Depth of Cut 45° Bevel	1 3/4" / 44mm	1 3/4" / 44mm	2" / 50mm	2" / 50mm	3 1/4" / 82mm	3 1/2" / 88mm	4" / 101mm

\*\*Available in the following 3 phase voltages 220/230/380/460/575/600 (50/60)  
 \*\*\* 22" crosscut dimensions are set for a 8" depth of cut using 22" diameter blade



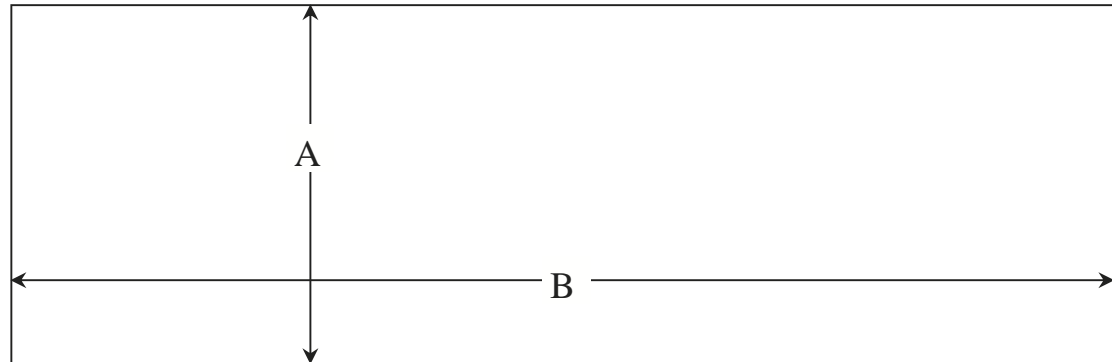
## side view



Index #	A	B	C	D
Model#	Crosscut			Blade
3690-01-01	66"	105"	60"	14" Dia
3690-01-03	66"	105"	60"	14" Dia
3690-01-05	64"	105"	60"	16" Dia
3691-01-01	63"	105"	62"	16" Dia
3691-01-03	63"	105"	62"	16" Dia
3691-01-05	62"	105"	64"	20" Dia
3691-01-07	60"	105"	65"	22" Dia

## footprint

Index	Dimensions
	Panel Cutting Series
A	46"
B	100"



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# Super Duty Metal Cutting Series

## Benefits:

- Cut off 32" wide material in one pass. —————>
- Square cabinet doors and cut off wide shelving. —————>
  
- Miter a 16" wide panel at 45 degrees. —————>
- Extra power to cut multiple pieces at a time. Cuts up to 7.00" —————>  
deep on 20" / 400mm machines.
- Safety and peace of mind with automatic blade braking —————>  
system and full magnetic starter.
- Carriage return spring (OSHA required). —————>
- Automatic adjusting lower guard (OSHA required). —————>

## Features:

- Long heavy dual core cast iron arm.
- Cast iron latch located into cast iron ring gives accuracy throughout the full cut length.
  
- Miter latch system provides repeatable accuracy.
- 5 horse power 1 phase and 7.5 horse power 3 phase arbor motors with die cast rotors and precision machined arbors that are Totally Enclosed Fan Cooled (TEFC).
- Automatic electromechanical brake system built into the motor and a magnetic starter with low / overload protection and low voltage (24volt) control.
- Spring attachment will return carriage to its rest or start position if the handle is released. (Units without the optional power or manual cross-feed.)
- Lower blade guard automatically adjusts over different thickness material.



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## Accessories



### Powered carriage system

This accessory converts the standard metal cutting radial arm saw into a semi automatic cut off machine. The system consists of:

**Arm mounted control panel:** this panel contains the arbor motor start/stop station, e-stop, carriage forward and reverse buttons and the variable speed adjustments, as well as a system on/off.

**Adjustable cam stops:** these adjustable stops will allow the length of cut or carriage travel to be adjusted. This stop limits the carriage travel but actuation the limit switch on the carriage to automatically sent the carriage back to the home or rest position behind the fence.

**Electronics Enclosure:** This enclosure houses the DC drive unit and the motor controls.

**Drive Motor and Gearbox:** This is the drive motor and gearbox that powers the carriage through the toughest Materials with smooth precision

### OS Series extension tables, measuring systems



The OS Series of extension tables and measuring systems will attach up to all metal cutting series radial arm saws and beam saws, they include roller extension tables, flat extension tables, manual measuring systems. Please see additional flyer or website for additional details. [www.originalsaw.com/accessories](http://www.originalsaw.com/accessories)

### Mist Coolant Systems - (for non ferrous cutting only)

Cat# 030401 Mist coolant System—manual system requires compressed air and 110 volt electrical (Mfg by Trico)

Cat# 030423 limit switch - converts 030401 mist coolant system to automatic shuts off coolant when carriage is in home position

Cat# 030412 Mist coolant system –automatic consist of stainless steel coolant tank, and limit switch and on off switch to shut off system. Unit will shut off coolant when carriage is in home position behind the fence

Cat# 030656 Mist Coolant Case ((4) 1 gallon containers)



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# Pneumatic Clamping Systems

Original Saw's Pneumatic clamping systems allow for a variety of clamping applications. The below listed items consist of cylinders clamping the material back against the fence or over center cylinders clamping the material against the table top, or a combination of both. The front firing cylinders are mounted on adjustable slide carriages with locking handle to adjust to any material width. The over center clamps are mounted behind the fence and when not clamped are fully behind the fence to allow for clear loading and unloading of the machine.

**900500-00** Pneumatic clamping system 2 cylinders clamp against fence

**900500-01** Pneumatic clamping system 2 cylinders clamp against fence and 2 cylinders clamp against table

**900500-02 Overarm Bar clamp system** 2 cylinders clamp against fence , bar clamp holds material down to table on either side of blade



Above photos from right: rear pushing cylinder, (clamps material against fence) over arm clamping system (holds multiple pieces) over center clamp (presses material against t-slot extrusion) table

## Saw Blades - metal cutting

Non-Ferrous cutting Blades (aluminum, brass)

T1613 16" 100Tooth x 1" carbide T

T2013 20" 120 Tooth x 1" carbide

T2012 22.5" 120 tooth x 1 ' carbide

Ferrous cutting blades (steel)

T1614 16" x 300 tooth HSS

T2012 20" x 300 tooth HSS

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## Original Saw<sup>™</sup> Family of Products

- Metal Cutting Series
- Super Duty Series Radial Arm Saws
- Heavy Duty Series Radial Arm Saws
- Contractor Duty Series Radial Arm Saws
- S - Series Manual Measuring Systems
- S - Series Material Handling Tables
- Electric Arbor Motors
- Power Drive Carriage Systems
- Pneumatic Clamping Systems



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