

JET[®]

Owner's Manual Benchtop Cold Saw Model J-F225



WALTER MEIER (Manufacturing), Inc.
427 New Sanford Road
LaVergne, Tennessee 37086
Ph.: 800-274-6848
www.waltermeier.com

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Warranty and Service

Walter Meier (Manufacturing), Inc., warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Service Centers located throughout the United States can give you quick service. In most cases, any of these Walter Meier Authorized Service Centers can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your JET® tools. For the name of an Authorized Service Center in your area call 1-800-274-6848.

MORE INFORMATION

Walter Meier is consistently adding new products to the line. For complete, up-to-date product information, check with your local WMH Tool Group distributor, or visit waltermeier.com.

WARRANTY

JET products carry a limited warranty which varies in duration based upon the product (MW stands for Metalworking, WW stands for Woodworking).

90 DAY WARRANTY	1 YEAR WARRANTY	2 YEAR WARRANTY	5 YEAR WARRANTY	LIFE LIFETIME WARRANTY
Lathe Accessories Machine Accessories Mobile Bases Safety Equipment Specialty Items	Contractor Air Tools Hydraulic & Shop Tools Industrial Air Tools Light Industrial Air Tools Overhead Lifting Warehouse & Dock Equipment Winches	Metalworking Mechanical Components: Cold Saws MW Finishing Equipment Metalforming MW Lathes Mill/Drills MW Vises Milling Machines Surface Grinders MW Bandsaws Tapping MW Drill Presses <i>Metalworking Electrical Components on above products carry 1 Year Warranty</i>	Air Filtration Sanders Buffers Shapers Dust Collectors Tablesaws Dust Filters WW Bandsaws Dust Fittings WW Drill Presses Jointers WW Lathes Planers	Fastening Tools Lubrication Mechanics Hand Tools Striking Tools Vise Accessories Vises (non-MW) Clamps Workholding
<i>Warranty reverts to 1 Year if above products are used for commercial, industrial or educational purposes</i>				

WHAT IS COVERED?

This warranty covers any defects in workmanship or materials subject to the exceptions stated below. Cutting tools, abrasives and other consumables are excluded from warranty coverage.

WHO IS COVERED?

This warranty covers only the initial purchaser of the product.

WHAT IS THE PERIOD OF COVERAGE?

The general JET warranty lasts for the time period specified in the product literature of each product.

WHAT IS NOT COVERED?

Five Year and Lifetime Warranties do not cover products used for commercial, industrial or educational purposes. Products with Five Year or Lifetime Warranties that are used for commercial, industrial or education purposes revert to a One Year Warranty. This warranty does not cover defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair or alterations, or lack of maintenance.

HOW TO GET SERVICE

The product or part must be returned for examination, postage prepaid, to a location designated by us. For the name of the location nearest you, please call 1-800-274-6848.

You must provide proof of initial purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will repair or replace the product, or refund the purchase price, at our option. We will return the repaired product or replacement at our expense unless it is determined by us that there is no defect, or that the defect resulted from causes not within the scope of our warranty in which case we will, at your direction, dispose of or return the product. In the event you choose to have the product returned, you will be responsible for the shipping and handling costs of the return.

HOW STATE LAW APPLIES

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

LIMITATIONS ON THIS WARRANTY

WALTER MEIER (MANUFACTURING), INC., LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

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Warnings

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. The cold saw is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a cold saw, do not use until proper training and knowledge have been obtained.
5. Do not use this cold saw for other than its intended use. If used for other purposes, Walter Meier (Manufacturing), Inc., disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses/face shields while using this cold saw. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating the cold saw, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do **not** wear gloves.
8. Wear ear protectors (plugs or muffs) during extended periods of operation.
9. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the **OFF** position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.
16. Make sure the cold saw is firmly placed on a secure foundation.
17. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
18. Provide for adequate space surrounding work area and non-glare, overhead lighting.
19. Keep the floor around the machine clean and free of scrap material, oil and grease.

Warnings

20. Keep visitors a safe distance from the work area. **Keep children away.**
21. Make your workshop child proof with padlocks, master switches or by removing starter keys.
22. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
23. Maintain a balanced stance at all times so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
24. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and safer.
25. Use recommended accessories; improper accessories may be hazardous.
26. Maintain tools with care. Keep saw blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
27. Turn off the machine before cleaning. Use a brush or compressed air to remove chips or debris — do not use your hands.
28. Do not stand on the machine. Serious injury could occur if the machine tips over.
29. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
30. Remove loose items and unnecessary work pieces from the area before starting the machine.

Familiarize yourself with the following safety notices used in this manual:

CAUTION This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

WARNING This means that if precautions are not heeded, it may result in serious injury or possibly even death.

Introduction

The JET Model J-F225 Cold Saw is a pendulum bench saw designed for cutting metals. Operation is manual: after turning on the electrical power supply to the machine and clamping the workpiece in the vice, the operator starts the blade by pressing the microswitch located on the control lever; he then moves the head downwards in order to cut the material; after completing the cut, the cutting head returns to position ready for a new cutting cycle. The Model J-F225 can perform miter cuts up to 45° to the left.

Specifications

Model Number..... J-F225
 Stock Number..... 414220

Disc Blade

Disc diameter (in) 9
 Hole diameter (in) 1.3
 Blade thickness (in) 0.08

Cutting Speed

Blade Speed (RPM)..... 50

Vise Opening (Max)..... 6

Motor..... 1HP, 1PH, 115VAC, 60Hz

Other

Coolant Capacity2.7 quarts
 Dimensions.....25"L x 15"W x 28"H
 Weight..... 84 lbs

Cutting Capacity

Degree	Round	Square (vise slot clamp)	Rectangle
90°	∅ 2-1/2"	1-1/2"(W) x 1-1/2"(H)	1"(W) x 2-1/2"(H)
45°	∅ 2"	1-1/2"(W) x 1-1/2"(H)	3/4"(W) x 2-1/2"(H)

Features

In this section, refer to Figure 1 except where otherwise specified.

Miter Cutting Head

The *miter cutting head* (Figure 1) is the unit that cuts the material and consists of a cast iron base, blade support unit and guard, transmission unit, and motor. The depth of cut is set by adjusting the *depth cut stop*. The miter cutting head swivels and can be adjusted from 0–45°.

Miter Positioning

The cutting angle (miter position) is manually adjusted and described in *Performing Angle Cuts* on page 10.

Self-centering Vise

The *self-centering vise* holds the work piece in place during cutting. The work piece is secured in the vise by turning the *vise handle*.

Trigger Handle

The *trigger handle* is located on the *operating lever* used to raise and lower the saw. It contains a *micro-switch* (Figure 9), which starts the saw when pressed.

Flood Coolant System

Coolant is dispensed directed onto the saw blade from a coolant fitting on the upper blade guard. Coolant is provided through tubing from the coolant pump mounted on the back of the motor casing.

The *coolant flow control valve* (Figure 2) is located on the back of the saw. Adjust the valve to achieve desired flow. Flow starts when the switch on the machine is turned on and the *micro-switch* in the *trigger handle* is depressed. Releasing the *micro-switch* stops coolant flow.

This coolant system can operate with either a soluble oil base coolant or water-soluble synthetic coolant. Coolant should be changed regularly. Some recommended brands are *DoAll* and *Lenox*. These coolants are available at your local industrial distributor.

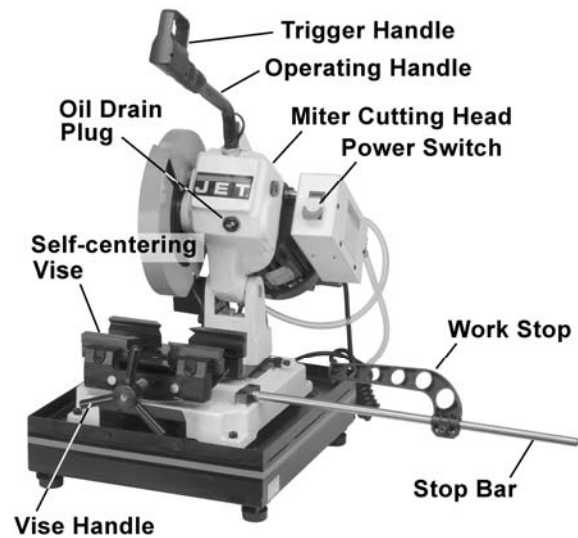


Figure 1

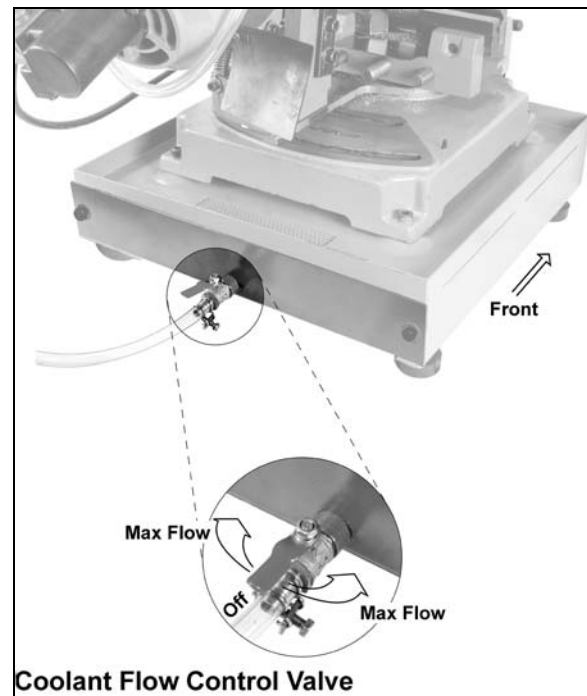


Figure 2

Unpacking

Remove packing and two wrapped parcels containing the handle and workstop, requiring simple assembly, from shipping container. Then lift machine from container and place on sturdy work surface.

Assembly

Handgrip

Tools required

- 23mm wrench
- Crosspoint screwdriver

Referring to Figure 3:

1. Screw the *threaded end* (D) of the operating handle into the *threaded opening* (E) of the crank case. Back off slightly, aligning the position of the *trigger handle* (A) for a comfortable grip when operator stands before the machine.
2. Secure the *operating handle* (B) by tightening the *lock nut* (C) with a 23mm wrench.
3. Attach the *connector* (F) of the cable to the *socket* (G) on the side of the switchbox.
4. Attach the *cable cover* (H) to the crankcase (K). Secure the cover with four M4x6 *pan head screws* (J).

Tighten with a crosspoint screwdriver. Make sure the cable can move freely inside the cover and is not pinched between the cover base and crankcase.

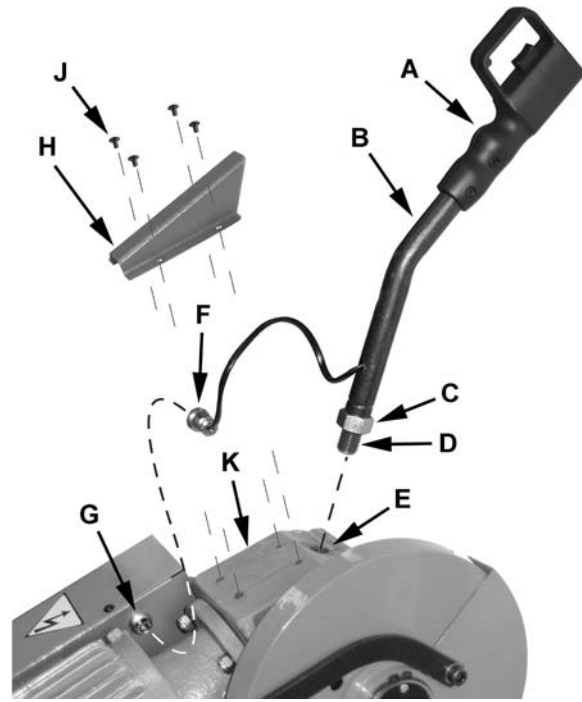


Figure 3

Work Stop

Tools required

- adjustable wrench

Referring to Figure 4, assemble the workstop as follows:

1. Loosen the *lock knob* (A) on the *stock stop* (B) and slide it onto the *stop bar* (C).
2. Thread the *assembly* (D) into the *mounting bracket* (E). Place an adjustable wrench at the *indents* (F) and tighten the rod.

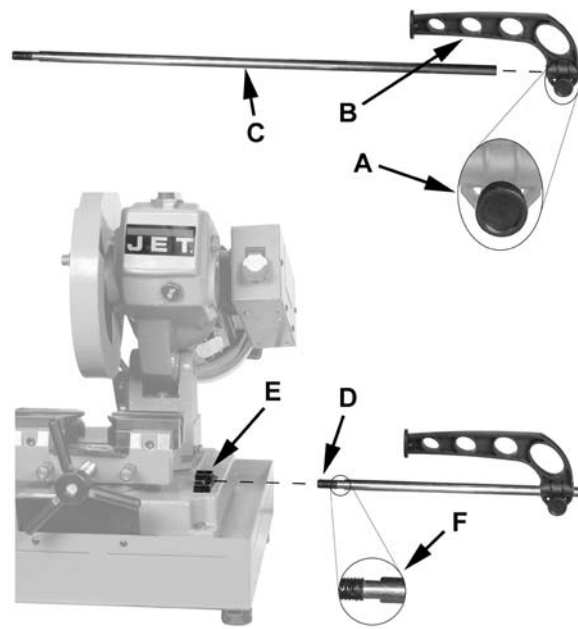


Figure 4

Electrical

Electrical Requirements

When connecting the cold saw to the power source outlet, the outlet must be properly grounded to protect the operator from electrical shock.

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electrical shock. This machine is equipped with an electric cord having an equipment-grounding conductor-outlet that is properly installed and grounded in accordance with all local codes and ordinances.

This saw is equipped with a power cord. Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green (with or without yellow stripes) is the equipment -grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Plug power cord into a 110-120V properly grounded outlet protected by a 14-amp fuse or circuit breaker.

⚠️WARNING Do not touch the prongs of the power cord plug when plugging or unplugging to or from an outlet.

⚠️WARNING If improperly grounded, this power tool can cause serious injury from electrical shock, particularly when used in damp locations or near plumbing. If an electrical shock occurs, there is the potential of a secondary hazard such as your hands coming in contact involuntarily with the rotating blade.

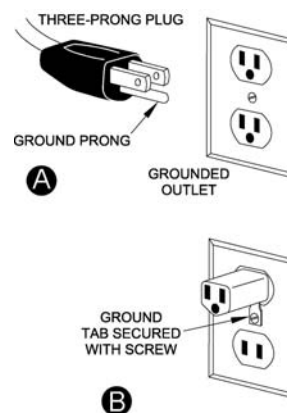
Electrical Connections

The J-F225 Cold Saw is rated at 115V, 1Phase and is designed for use on a circuit with an outlet that looks the one shown in Fig. A. and have a grounding prong, also shown in Fig. A. A temporary adapter (Fig. B) may be used to connect the plug to a two-prong receptacle (Fig. B) if a properly grounded outlet is not available. A temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. **This adapter is not applicable in Canada.** The green colored lug must be fastened to the cover plate screw.

Important: The adapter illustrated in Fig. B is for use only if you already have a *properly grounded* two-prong receptacle. Do not modify

the plug provided-if it will not fit the outlet, have the proper outlet installed by a qualified electrician. Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

⚠️WARNING Before plugging into the power source, be sure that power switch is in the OFF position.



Extension Cords

Use only three-wire extension cords that have three-prong grounding type plugs and three-prong receptacles that accept the tool's plug. Replace or repair damaged or worn core immediately.

USE PROPER EXTENSION CORD. Make sure your extension cord is good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage, The smaller the gage number, the heavier the cord.

Amp Rating	Volts	Total length of cord in feet			
	120V 240V	25 50	50 100	100 200	150 300
AWG					
0 – 6		18	16	16	14
6 – 10		18	16	14	12
10 – 12		16	16	14	12
12 – 16		14	12	not rcmd	not rcmd

Table 1

Adjustments

⚠WARNING Remove power when making any adjustments. Failure to comply may result in serious injury!

Performing Angle Cuts

The JET J-F225 can perform cuts at angles up to 45° to the left. Adjust the angle of a cut as follows while referring to Figure 5:

1. Loosen two *hex cap screws* (A) with a 6mm hex wrench to free the turntable.
2. Turn the *machine body* to any position between 0–45°, reading position on the angle scale on the base.
3. Tighten the *hex cap screws* (A).

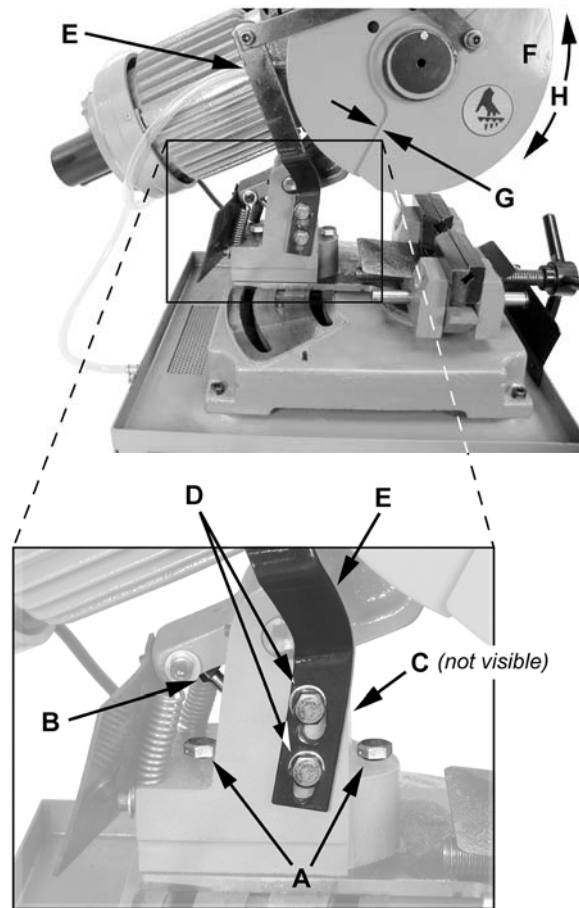


Figure 5

Blade Travel Adjustment

Tools required

- 12mm wrench
- 13mm wrench

The *height of retract* and *depth of cut stop* adjustments limit the upper and lower travel limits of the saw blade.

To make adjustments (refer to Figure 5):

Height of retract – this is the upper travel limit of the saw blade when the trigger handle is raised. Adjustment is made by setting the position of screw **B**.

Depth of cut stop – this is the lower travel limit of the saw blade when the trigger handle is brought down. Adjustment is made by setting the position of screw **C** (not visible in photo).

Blade Guard Adjustment

⚠WARNING Remove power when making any adjustments. Failure to comply may result in serious injury!

Referring to Figure 5:

When the saw head is lowered all the way, the blade should not be visible (G). If the blade is visible, the *blade guard* (F) needs to be adjusted as follows:

1. Loosen two *socket head cap screws* (D) just enough to permit the *bracket* (E) movement for adjustment.
2. Manually adjust the blade guard (H) until blade is not visible at G.

Note: During step 2, the saw must be in the lowered position.

3. Tighten the two *socket head cap screws* (D).

Changing the Saw Blade

⚠WARNING The cold saw must not be connected to the power source when changing saw blades. Failure to comply may result in serious injury!

Remove the saw blade as follows while referring to Figure 6:

1. Remove the screw (A) and cover plate (B), or loosen the screw just enough to slide the cover plate away to reveal the hub.
2. Remove the *socket head cap screw* C that secures the *bracket* (D) to the *lower blade guard* (E).
3. Raise the *lower blade guard* (E) upwards (F).
4. Remove *socket head cap screw* (G) that secures the *blade* (H).

Note: This screw has a left thread requiring a clockwise turn to loosen and a counterclockwise turn to tighten.

5. Remove the *blade* (H) and *outer flange* (J). Discard the old blade (or have it resharpened) and replace with a new one.
6. Install the new blade in the reverse order described above. Note that the flange (J) has a pin (K) that needs to match up with the *correct keyhole* (L), if the blade has more than one keyhole, make the selection such that the mounting holes of the flange and blade are centered.

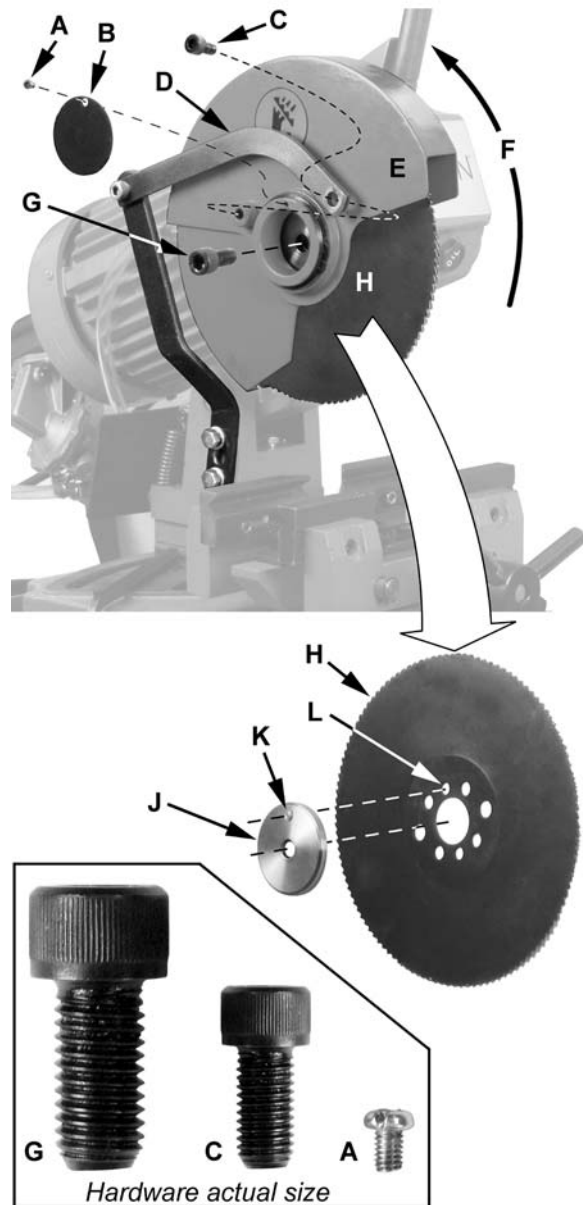


Figure 6

Controls

Power Switch – The *power switch* has two positions, *off* and *on*. To operate the machine, the *Power switch* must be set to *on*. Then depress *micro-switch* (Figure 8) in the *trigger handle* to start.

Locking Key – When the saw is not in use, the switch should be locked in the off position. To lock the switch in the off position, pull out the *safety key* (Figure 7). The saw will not start with the key removed. However, if the key is removed while the switch is in the on position, it can be turned off once. The saw will not restart until the key has been reinserted into the switch.

Trigger Handle – To operate, the *On/Off switch* must be set to *on* and the *microswitch* on the *trigger handle* (Figure 8) depressed.

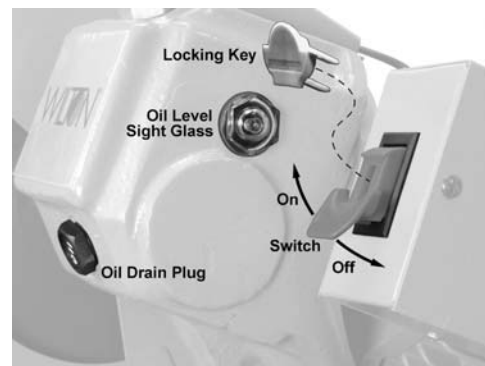


Figure 7

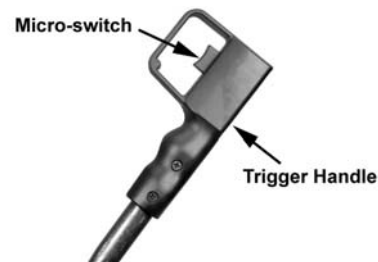


Figure 8

Operation

Before using the machine:

1. Check that safety devices (ex., blade guards) are in position and work perfectly and that personal safety requirements are complied with.
2. Check the sharpness of the blade and verify coolant flow.

To operate:

3. Make sure the work piece is securely clamped in the vise.
4. Turn the power *on* (Figure 7).
5. Grip the *trigger handle* (Figure 8) on the control lever.

6. Start the blade by pressing the *micro-switch* on the handgrip.

The down stroke speed of the head is controlled manually by the operator.

When the cut is complete:

7. Raise the head.
8. Remove the work piece from the vise using the vise hand wheels.

Maintenance

Maintenance Requirements

⚠WARNING All maintenance must be carried out with the *power switched off*. Failure to comply may result in serious injury!

On completion of maintenance, ensure that replaced parts and/or any tools used have been removed from the machine before starting it up.

Periodic Maintenance

- ❑ Remove chips from the machine and *table* (A), preferably with a brush
- ❑ Clean *coolant tray* (C) and change coolant regularly (see *Coolant* section below)
- ❑ Top up the coolant level (see *Coolant*)
- ❑ Check the wear of the blade and change if necessary (see *Changing the Saw Blade* on page 11)
- ❑ Clean the vise and lubricate all the joints and sliding surfaces, using good quality oil
- ❑ Attend to daily, weekly and annual lubrication recommendations (see the *Lubrication* section on this page)

Coolant

This coolant system can operate with either a soluble oil base coolant or water-soluble synthetic coolant. Coolant should be changed regularly. Some recommended brands are *DoAll* and *Lenox*. These coolants are available at your local industrial distributor.

Coolant Type:

- ❑ Soluble Oil Base
- ❑ Water-Soluble Synthetic Coolant

Referring to Figure 9:

The *coolant tray* (C) is located on the back of the cabinet stand. Remove two *hex cap screws* and *washers* (D) with a 5mm hex wrench and slide open as shown. Check coolant level in the *tray* (B) periodically and top off if necessary. Coolant can also be added by pouring directly on the *table* (A), which will drain into the tank through the *chip strainer*.

Lubrication

For long life and trouble free operation, it is essential that this machine is kept clean and well lubricated.

- ❑ Vise and leadscrew – oil daily with Regal R&O 68
- ❑ Pivot joints and bearings – grease weekly with Texaco Starplex 2 or equivalent
- ❑ Gearbox oil – check level weekly, full level is top of *sight glass* (see Figure 7) with head in full up position; gearbox oil should be changed annually. Unscrew operating arm (B, Fig. 3) and add oil through opening in crankcase (E, Fig. 3)

Lubricant – add or change Texaco Meropa 460 or equivalent.

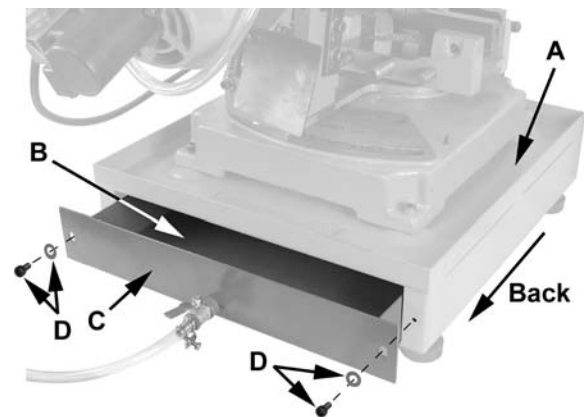


Figure 9

Blade Selection

When using the J-F225 cold saw, it is important to select the correct type of blade for the material to be cut. This section explains the limitations and specific applications of the different types of blades.

General characteristics:

Fine Tooth Pitch – used for thin wall materials such as sheet steel, tubes and profiles

Coarse Tooth Pitch – used for large cross-sections – for soft materials (aluminum alloys and soft alloys in general).

Determining proper tooth pitch

Proper tooth pitch depends on:

- the size of the section;
- the hardness of the material;
- wall thickness.

Solid sections call for discs with a coarse tooth pitch, while small cross-sections require blades with finer teeth. This is because when cutting walls of small cross-section (1–7 mm)



profiles, it is important that the number of teeth actually making the cut should not be too small, otherwise the effect obtained will be one of tearing rather than of chip removal, leading to a large increase in shearing stress. On the other hand, when cutting thick materials or solid sections using an excessively fine tooth pitch, the chip collects as a spiral inside the gullet, and since fine tooth pitches have small gullets, the accumulated chip will exceed the gullet capacity and press against the walls of the workpieces, resulting in poor cutting (same situation with soft materials), greater shearing stress and hence breakage of the blade.

Choice of tooth pitch T as a function of cross-section to be cut for light alloy solid pieces and profiles			
S in mm.	Pitch T	S and sp in mm.	Pitch T
10	6	10 sp=0.5	3-4
30	8	30 sp=1.5	4-5
50	10	50 sp=2.5	6-7
70	12	70 sp=3.5	8-9
90	14	90 sp=4.5	8-9
130	18	130 sp=6.5	10

KEY:
 s = diameter or width of the solid piece to be cut in mm.
 sp = thickness of the wall to be cut in mm.
 T = tooth pitch in mm.

Table 2

A larger pitch should be chosen when, as a result of the shape of the piece to be cut, the cross-section at any given point exceeds the average cross-section given above.

Cutting and feeding speed

The cutting speed, in m/min, and the head feeding speed, in cm²/min, are limited by the amount of heat generated near to the points of the teeth. If the head feeding speed is too high, the cut will not be straight in either the vertical or the horizontal plane. As we have already said, the cutting speed depends on the strength (kg/mm²) and hardness (HRC) of the material and the dimensions of the thickest section. The feeding speed depends on the cross-section of the material. Solid or thick-walled materials (thickness > 5mm) can therefore be cut at high speed providing there is sufficient swarf removal by the blade, while thin-walled materials such as tubes or thin profiles must be cut with a low feeding speed.

WARNING A new blade requires a break-in period, during which time about half the normal feeding speed should be used.

Coolant

The cooling fluid ensures that the blade teeth and material in the area of the cut do not overheat. The fluid must be an excellent lubricant so as to prevent abrasion of the teeth and welding of the chips to the teeth themselves (seizing).

Troubleshooting Blade and Cutting Problems

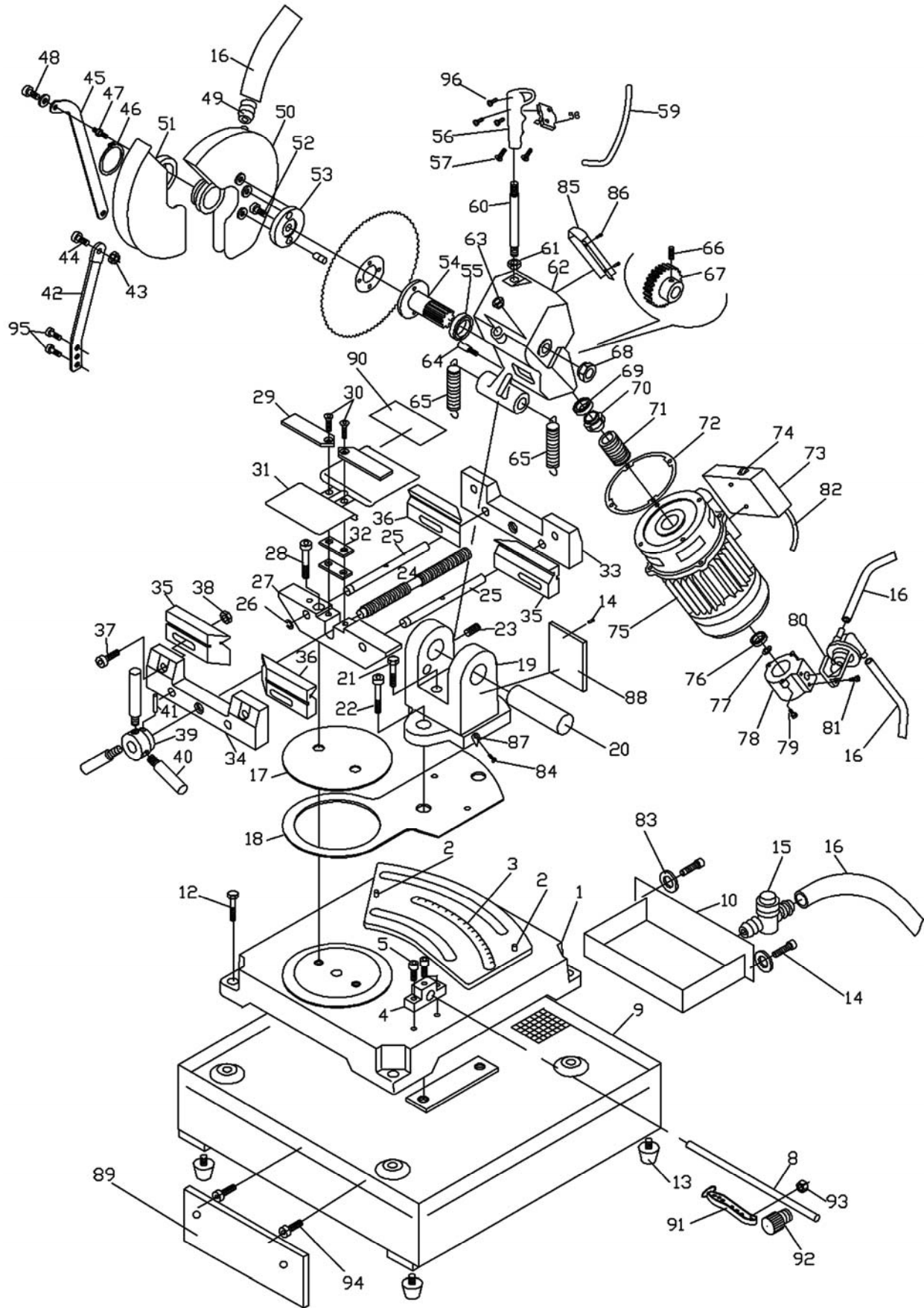
Problem	Probable Cause	Solution
Teeth breaking	Incorrect lubricant/coolant fluid	Ensure proper coolant flow.
	Material too hard	Check the cutting speed, feed speed and air pressure parameters and the type of blade you are using.
	Disc not worn--in correctly	With a new blade it is necessary to start cutting at half feeding speed. After the wearing--in period (a cutting surface of about 300 cm ² for hard materials and about 1000 cm ² for soft materials) the cutting and feed speeds can be brought up to normal values
	Disc with excessively fine tooth pitch	The swarf wedges into the bottom of the teeth causing excessive pressure on the teeth themselves
	New blade inserted in a partially completed cut	The surface of the cut may have undergone work hardening. When starting work again, use a lower cutting speed and head feed speed. A tooth from the old blade may be left in the cut: check and remove before starting work again.
	Work piece not clamped firmly in place	Any movement of the work piece during cutting can cause broken teeth: check the vise, jaws and clamping pressure.
Rapid tooth wear	Feed speed too slow	The blade runs over the material without removing it: increase feed speed.
	Cutting pressure too high	Reduce cutting pressure.
	Blade speed too high	The teeth slide over the material without cutting it: reduce the blade speed.
	Insufficient coolant	Check the coolant level and clean coolant lines and nozzles.
	Incorrect fluid concentration	Check and use the correct concentration.
	Material defective	The materials may present altered zones either on the surface, such as oxides or sand, or in section, such as under-cooled inclusions. These zones, which are much harder than the blade, cause the teeth to break: discard or clean these materials.
Broken blade	Feed speed too high	Reduce blade speed.
	Teeth in contact with material before starting the cut	Always check the position of the blade before starting a new job.
	Insufficient coolant	Check the coolant level and clean coolant lines and nozzles.
Spindle motor will not turn	Electrical power supply	Check: the cables, plug and socket. Also check that the motor connections are in place.
	Transformer	Check that the voltages are present both on the input and output. Otherwise replace.
	Contactora	Check that the phases in it are present both on the input and output, that it is not jammed, that it closes when powered and that it is not causing short circuits. Change if any of these problems are found.
	Thermal relay	Make sure it is closed, ie check that the phases are present in input and output that it is not causing short circuits and responds when the reset coil is closed. If it has tripped to protect the motor, check the amperage setting, reset, and check the motor. Change if necessary.
	Motor	Check that it has not burnt out, that it turns freely and that there is no moisture in the connection terminal board box. The winding can be rewound or replaced.

Parts List

Index No.	Part No.	Description	Size	Qty
1	J-F225-101	Base		1
2	F225-102	Spring Pin	Ø M4x10	2
3	F225-103	Scale		1
4	F225-104	Support Block		1
5	TS-1503041	Socket Head Cap Screw	M6x16	2
8	F225-108	Stop Rod		1
9	J-F225-109	Cabinet		1
10	J-F225-110	Coolant Tank		1
12	TS-1490041	Hex Cap Screw	M8x25	4
13	F225-113	Rubber Foot		4
14	TS-1502031	Socket Head Cap Screw	M5x12	2
15	F225-115	Coolant Valve		1
16	F225-116	Coolant Tubing		1
17	F225-117	Disc		1
18	F225-118	Swivel Plate		1
19	J-F225-119	Pivot Block		1
20	F225-120	Pivot Pin		1
21	TS-1490101	Hex Cap Screw	M8x55	2
22	3AEH-3C-13	Socket Head Cap Screw	M8x90	2
23	TS-1523051	Socket Set Screw	M6x16	2
24	F225-124	Lead Screw		1
25	F225-125	Guide Rod		2
26	5515388	Retaining Ring	S14	2
27	J-F225-127	Middle Support		1
28	TS-1504111	Socket Head Cap Screw	M8x55	2
29	F225-129	Plate (Serial no.11111107 and lower)	6mm	2
29	F225-129N	Plate (Serial no.12011108 and higher)	9mm	2
30	TS-1514031	Flat Head Screw	M6x20	2
31	F225-131	Cover		1
32	F225-132	Support Plate		2
33	J-F225-133	Rear Vise Jaw		1
34	J-F225-134	Front Vise Jaw		1
35	F225-135	Jaw Insert		2
36	F225-136	Jaw Insert		2
37	TS-1503051	Socket Head Cap Screw	M6x20	4
38	TS-1540041	Hex Nut	M6	4
39	F225-139	Handle Hub		1
40	F225-140	Handle		3
41	F225-141	Spring Pin		1
42	F225-142	Support Link		1
43	TS-1541031	Lock Nut	M8	1
44	TS-1504041	Socket Head Cap Screw	M8x20	1
45	F225-145	Guard Link		1
46	F225-146	Retaining Ring	S60	1
47	F225-147	Screw		1
48	TS-1504031	Socket Head Cap Screw	M8x16	1
49	F225-149	Connector Fitting		1
50	F225-150	Fixed Blade Guard		1
51	F225-151	Moveable Blade Guard		1
52	F225-152	Socket Head Cap Screw (LH Thread)	M12x25 LH	1
53	F225-153	Blade Shaft Flange		1
54	F225-154	Blade Shaft		1
55	F225-155	Oil Seal	TC 30 40 5	1
56	F225-156	Handle Grip		1
57	TS-2284081	Flat Head Screw	M4x8	4

Index No.	Part No.	Description	Size	Qty
58	F225-158	Limit Switch		1
59	F225-159	Cable		1
60	F225-160	Handle		1
61	TS-154010	Hex Nut	M16	1
62	J-F225-162	Head		1
63	F225-163	Oil Plug		1
64	F225-164	Spring Screw	4x16mm	1
65	F225-165	Spring		2
66	WH45-42	Socket Set Screw	M6x4	1
67	F225-167	Worm Gear		1
68	F225-168	Oil Sight Glass		1
69	BB-6001ZZ	Ball Bearing	6001ZZ	1
70	F225-170	Nut		1
71	F225-171	Worm		1
72	F225-172	Head Gasket		1
73	J-F225-173	Switch Box		1
74	F225-174	Switch		1
75	J-F225-175	Motor	1HP, 115V	1
	F225-175C	Capacitor (not shown)	250VAC, 400MFD	1
	F225-175MC	Magnetic Contact (not shown)	115V, 1Ph	1
	F225-175OR	Overload Relay (not shown)		1
76	BB-609ZZ	Bearing	609ZZ	1
77	F225-177	E-Clip	E-10	1
78	F225-178	Pump Connection Box		1
79	TS-1501051	Socket Head Cap Screw	M4x16	3
80	F225-180	Coolant Pump		1
81	TS-1503051	Socket Head Cap Screw	M6x20	2
82	F225-182	Power Cord		1
83	TS-1550021	Flat Washer	M4	2
84	TS-1532032	Pan Head Screw	M4x10	1
85	J-F225-185	Cover		1
86	TS-2171012	Pan Head Screw	M4x6	4
87	F225-187	Indicator		1
88	F225-188	Rubber Sheet		1
89	F225-189	Front Cover Plate		1
90	F225-190	Rear Plate		1
91	F225-191	Stock Stop		1
92	F225-192	Thumbscrew	M6x20	1
93	TS-1540041	Hex Nut	M6	1
94	TS-2171012	Pan Head Screw	M4x6	2
95	TS-1504031	Socket Head Cap Screw	M8x16	2
96	F225-196A	Tapping Screw	M3x10	3

Exploded View



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Walter Meier (Manufacturing), Inc.
427 New Sanford Road
LaVergne, Tennessee 37086
Ph.: 800-274-6848
www.waltermeier.com