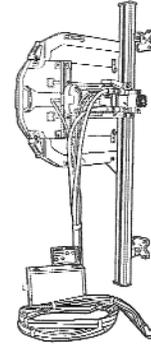


DIMAS



DIMAS WS 460, 2005-05, 541 40 43-82

DIMAS WS 460 OPERATING INSTRUCTIONS

English 1

DIMAS

English

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WARNING

Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-base paints,
- Crystalline silica from bricks and cement and other masonry products and
- Arsenic and Chromium from chemically treated lumber.

Your risk from these 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 those dust masks that are specially designed to filter out microscopic particles.

Key To Symbols

The symbols below are used on the machine and in this Operator's Manual. It is important that the user understands the significance of these in order to operate the machine safely.

Manual

Please read the Operator's Manual carefully and understand the contents before the machine is started.



Protective Equipment

Always wear:

- Approved protective helmet.
- Approved hearing protection.
- Approved protective glasses or a visor and other essential safety equipment.



WARNING

A large warning triangle with the text "Warning" signifies that there is a risk of serious personal injury or even death.



CAUTION

A smaller warning triangle with the text "Note" signifies that there is a risk of minor personal injury or damage to the machine.



Remark

A hand with a raised index finger with the text "Attention" signifies that a described element demands extra attention.



CE

This symbol indicates that the machine conforms to applicable EU directives.



Safety Instructions

During the design and production of Dimas products, great importance is placed on safety, as well as effectiveness and ease of use. To ensure that the machine remains safe you must pay attention to the following points:



WARNING

This machine is only intended for use together with a DIMAS PP 345, DIMAS PP 2325 D, DIMAS PP 2525 D, DIMAS RC 345 and DIMAS Smartbox. All other use is forbidden. The DIMAS Smartbox must be used with the PP 2325 D and PP 2525 D to utilize the power travel feature.



CAUTION

Under no circumstances may the machine be started without observing the safety instructions. Should the user fail to comply with these, Electrolux Construction Products or its representatives are free from all liability both directly and indirectly. Read through these operating instructions and make sure that you understand the contents before starting to use the wall saw. Should you, after reading these safety instructions, still feel uncertain about the safety risks involved do not use the wall saw. Please contact your dealer for more information.

Check that all couplings, connections and hydraulic hoses are in full working order.

Make sure that all hoses and electrical cables are connected to the machine correctly before you start the machine.

The safety distance is 15 feet or 4 meters in front of and to the side of the saw.

Make sure that there are no persons or animals in the working area.

Check that the blade guard is not damaged and that it has been fitted correctly.

Never cut without using the blade guard. The maximum size of saw blade when starting is 40" (1000mm). As accessories there are also blade guards for 32" (800mm), 49" (1240mm) and 63" (1600mm) blades.

Never remove the blade guard without first shutting off the hydraulic unit and ensuring that the blade has finished rotating completely.

Never disconnect the hydraulic hoses without first shutting off the hydraulic unit and ensuring the motors have stopped completely.

Check the machine, couplings and hydraulic hoses daily for leakage. A rupture or leak can cause a "hydraulic fluid injection" in the body or result in other serious physical injury.

Do not exceed the specified hydraulic fluid flow or pressure for the tool being used. Too high pressure or flow can result in rupturing.

Do not misuse hoses.

Do not use hoses that are distorted, worn or damaged.

Check that the hoses are connected correctly to the machine and that the hydraulic couplings lock as intended before pressurizing the hydraulic system. The couplings are locked by turning the outer sleeve on the female coupling so that the slot moves away from the ball.

Keep the hydraulic hoses and couplings free from dirt.

Always switch off the power to the hydraulic unit before moving the equipment.

Always saw in a manner that permits easy access to the emergency stop.

Never leave the wall saw with the power pack motor running or unsupervised.

Clearly mark out all cuts to be made before you start sawing, plan these so they can be carried out without danger to persons or the wall saw.

Check with construction drawings whether there are electrical cables, water pipes, gas pipes or drainage pipes with the working area.

Always check and mark out where gas conduits are routed. Cutting close to gas pipes always entails danger. Make sure that sparks are not caused when cutting in view of the risk of explosion. Remain concentrated and focused on the task. Carelessness can result in serious personal injury or death.

Check that electrical cables within the working area are not live.

Hoses that are marked and approved as electrically non conductive must be used when using hydraulic tools on or in the vicinity of electrical cables. The use of other types of hoses can result in serious physical injury or even death.

Observe care when lifting. You are handling heavy parts, which implies the risk of pinch injuries or other injuries.

Personal protective equipment according to the Operator's Manual must always be used and you should use protective clothing too. Never wear loose fitting clothes that can catch in moving parts.

People that need to be in close proximity of the machinery must wear hearing protection as the sound level when cutting exceeds 85 dB(A).

Only use blades recommended by Dimas.

Never saw without coolant. A poorly cooled blade can cause segments to come loose from the blade. The water coolant also binds concrete dust.

Never use a damaged or worn blade.

Do not use the machine if it is not working properly.

Regulations for the prevention of accidents and other general safety and occupational health regulations, must always be followed.

Store the equipment in a locked space away from children and adults untrained in use of the equipment.

Firmly secure or anchor concrete blocks that have been cut loose. The heavy weight of cut material can cause extensive damage if it is not moved under controlled conditions.

Always check the back of the wall where the blade penetrates the wall and is exposed when cutting through. Secure, cordon off and make sure that no people can be injured or materials damaged.

Make sure that other people are nearby when you are using the wall saw so that you can call for help should an emergency arise.



WARNING

Always use approved protective clothing and approved protective equipment when using the machine. Protective clothing and protective equipment cannot eliminate accident risks, but by using the right clothes and equipment you can reduce the seriousness if an accident should occur. Ask your dealer about approved and recommended protective clothing and protective equipment.

Introduction

WS 400 is a series of completely new wall saws from Dimas. The intention when developing the DIMAS WS 400 series was to produce a light weight yet powerful wall saw that is easy for one person to handle. This is achieved by using modern production methods and high performance materials.

Among the new features of the WS 400 series is the possibility to secure the blade radially on the saw. The saw unit is mounted on a carriage using a quick-action mounting bracket in addition to directly on the track, assembly of the saw is significantly easier.

The 360° cutting arm of the WS 400 series has been moved 2.5" closer to the track which significantly reduces the stresses on the saw and track.

The reduction of stress has enable Dimas to further optimize the wall saw and make it extremely compact. In addition to the compact design, the efficiency of cutting and the power applied at the cut has been increased. These innovations will help the operator save time during setup, cutting and tear-down.

Complete saw equipment consist of:

Saw Carriage

Saw Head

Track 90" (2.3m)

Track 40" (1m)

Five standard Track Brackets with Track Risers

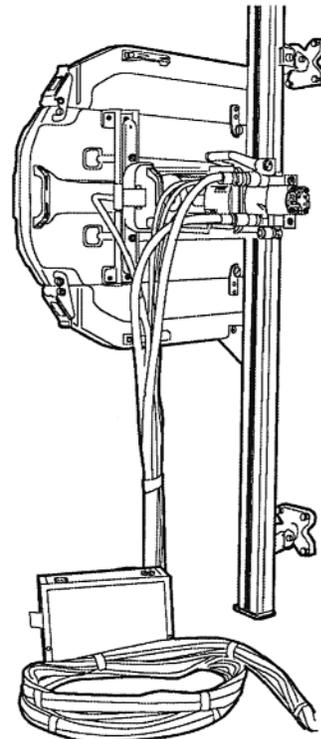
Blade Guard 32" (800mm) or one Blade Guard 40" (1000mm) (depending on customer order)

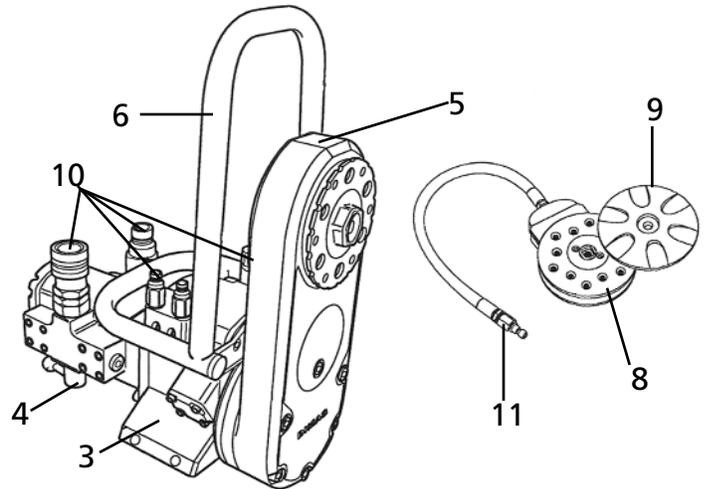
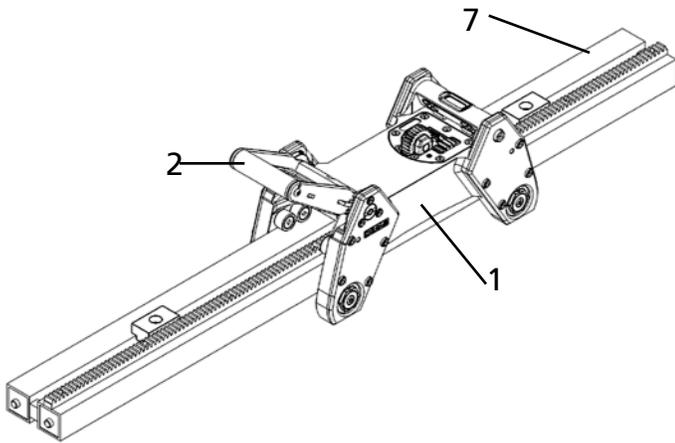
Blade Guard Guide

Tool Kit

Dimas Oil 150

As a large part of the sawing work consists transporting, the saw equipment is supplied in specially produced cases. The cases provide good protection during transport and reduced the number of packages that need to be moved between the workplaces, which makes the work more efficient.





The saw consists of the following components parts:

1. Saw Carriage

A separate saw carriage is one of the new features of the WS 400 series. A separate saw carriage results in a system that is easier and faster to setup than other saws. The saw carriage supplied is adjusted at the factory. The saw carriage features two levels to help facilitate mounting the track straight when cutting horizontally and vertically.

2. Locking Handle

Used to lock the saw unit in the saw carriage.

3. Saw Head

Houses the feed motors for the saw's travel and the arm's 360° rotation as well as two slip clutches that prevent the saw from being damaged if it should jam.

4. Speed Valve

The speed of saw motor is controlled with this valve. There are two or three positions of the motor (depending on saw configuration). The speed of rotation to be used depends on the blade size used.

5. Cutting Arm

The cutting arm allows blades up to 40" (1000 mm) to be used as the start blade. The cutting arm can be rotated 360° in either direction, which gives great freedom when planning the cut. As the cutting arm has been moved in 2.5" (63.5 mm) closer to the track compared to earlier saw models, the forces that affect the saw are reduced significantly, which give straighter cuts and less friction losses between the blade body and the cut.

6. Blade Guard Guide

The blade guard is suspended from this guide. When the saw is to be lifted the blade guard guide acts as a handle. The blade guard guide also acts as a protective cage for the saw.

7. Track

The machine is supplied with two tracks, one 40" (1m) and one 90" (2.3m).

8. Quick-Attach Blade Flange

The quick-attach blade flange is another new feature on the WS 400 series. The flange unit can be mounted on the blade before the blade is fitted on the saw. Doing so permits easier assembly of the blade on the saw especially when flush cutting. The flange also is ready for flush cutting by simply removing the outer blade flange.

9. Outer Blade Flange

Locks the saw blade on the quick-attach blade flange.

10. Hydraulic Hose Connections

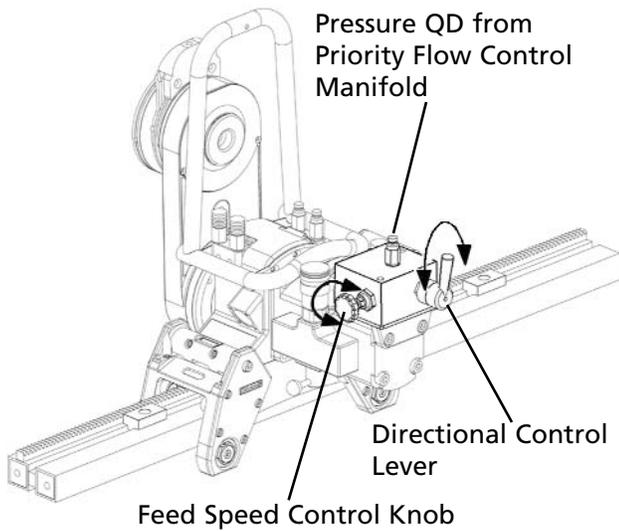
The hydraulic flow in the large hoses drives the blade while the hydraulic flow in the smaller hose drives the direction of the saw and the arm rotation.

The hoses connected to the saw's small female couplings (closest to the arm) drive the arm rotation while those connected to the small male couplings (furthest from the arm) drive the saw along the track.

11. Water Connector

Water coolant for the blade is connected here. In addition to cooling blade, the water also helps to control the dust.

Power Travel (Optional)



If your saw is equipped with an optional power travel manifold:

1. Set the feed speed control knob to set the maximum speed that you would like to feed the saw along the track.
2. Move the directional control lever in the direction you would like the saw to travel.

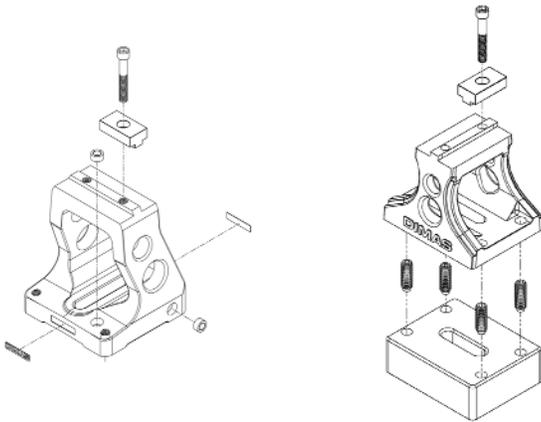
Note: To stop the saw, position the directional control lever vertical or turn the feed speed knob clockwise until the saw stops.

The power travel comes with a priority flow manifold that includes a pressure relief valve. This will stop the saw from feeding when it hits an obstruction such as a track safety stop or if a blade should get pinched in a cut.

Assembling/Installing Equipment

Wall Mounting

There are two types of wall mounting brackets for the DIMAS WS 400 series. One, which utilizes the standard track bracket, but has a spacer to elevate the saw head to allow enough clearance for the 360° arm to rotate and not hit any obstructions. This track bracket can be used on earlier versions without the spacer. The second bracket is longer, however can only be used with the 460 saws. (Available July 2005)



CAUTION

The DIMAS WS 400 series may only be used with the two track brackets described above. Older Dimas track brackets are similar to the new standard track brackets, but have a longer base. This bracket must not be used with the WS 400 series as there is a risk that the arm catches on the base of the mounting.

1. Mount track brackets onto surface to be cut using 1/2" (12mm) size expansion anchors. Torque down the mounting nut (or bolt) to ensure the anchor has good holding strength and will not pull out.
2. If the anchor pulls out when being torqued down or when mounting on brick, block or hollow precast walls it may be necessary to "through-bolt" with a piece of "all-thread" and a large backing plate installed on the opposite side of the wall (see Fig. A).
3. Use of three (3) track brackets is required when using large diameter blades on 90" (2.3m) and 120" (3.1m) long tracks, when operating WS 400 series wall saws,

when mounting any saw on 120" (3.1m) long tracks and when heavy cutting conditions are encountered (extremely hard aggregate, high steel concentrations).

4. Leveling screws should be utilized in all mounting to help ensure the track brackets remain stable through out the cutting operation.

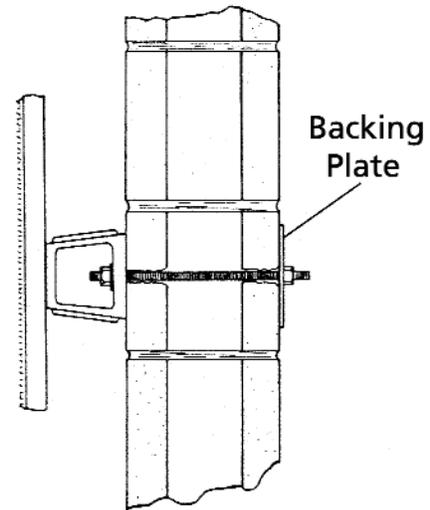


Figure A.

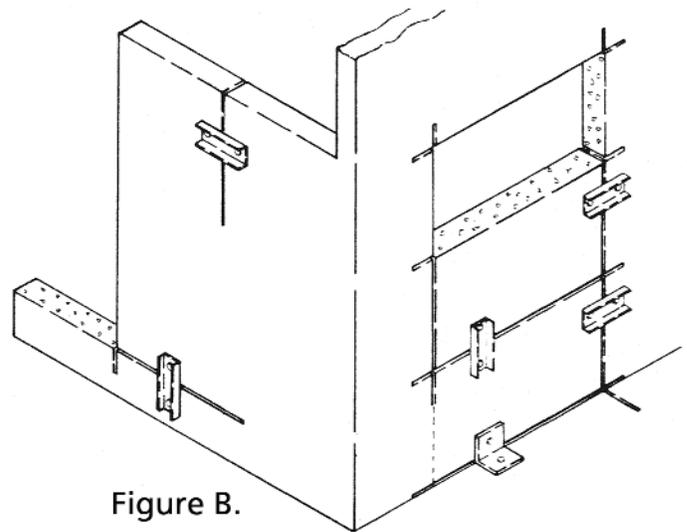


Figure B.

Cutting

1. To help minimize blade deflection and thus provide straighter cut lines, all wall sawing should be done by using a step cutting procedure:
 - a. Start with a 24" diameter blade. (40" blade is the largest blade recommended for the pilot cut.)
 - b. The first pass should be 1 to 2 inches deep, trailing the saw arm.
 - c. Subsequent passes, 3 to 4 inches deep.
 - d. Step up blade diameter in 6 inch increments i.e. 24", 30", 36".
 - e. Smaller diameter blades must cut sufficient width for clearance for larger diameter blades.
2. On applications requiring a bottom horizontal cut, this cut should be made first to prevent the weight of the slab from pinching the saw blade. The use of the proper metal straps will prevent the cut portion from moving (Fig. B).

Mounting Track On Wall

1. Test drill several small holes 7/8 penetration on each cut line, if steel reinforcement bar is present in the wall to make sure that a bar does not lie in the plane of the cut. If this occurs, the cut lines should be moved to ensure that the blade does not cut the bars longitudinally.
2. Set minimum 1/2" size anchors approximately 6 inches from the cut line (Fig. C). The distance between anchors will depend on the track length selected. Use 2 or 3 anchors for single length of track. The choice of distance between anchors allows the track to be moved longitudinally on the wall without disturbing track mounting brackets.
3. Install the track mounting brackets on the anchors with bolts so that the bracket edge is 3.6 inches (91.44mm) from the cut line (Fig C). Do not tighten down. (If preferred, install the brackets on the track and attach the assembly to the anchors).
4. Level the brackets with the leveling screws so that the tops of the brackets are parallel with the plane of the wall.
5. Secure the track to the brackets with T-washers and capscrews. Gear rack should be to the side of the track nearest the cut line.



CAUTION

Make sure that the safety stops are at each end of the track to prevent the saw from running off the track.

6. Check to make sure the track is parallel to the wall and the cut line. And that it does not have bends or twists. Tighten the anchor bolts. When using two interconnecting tracks, make sure the tracks are aligned properly.

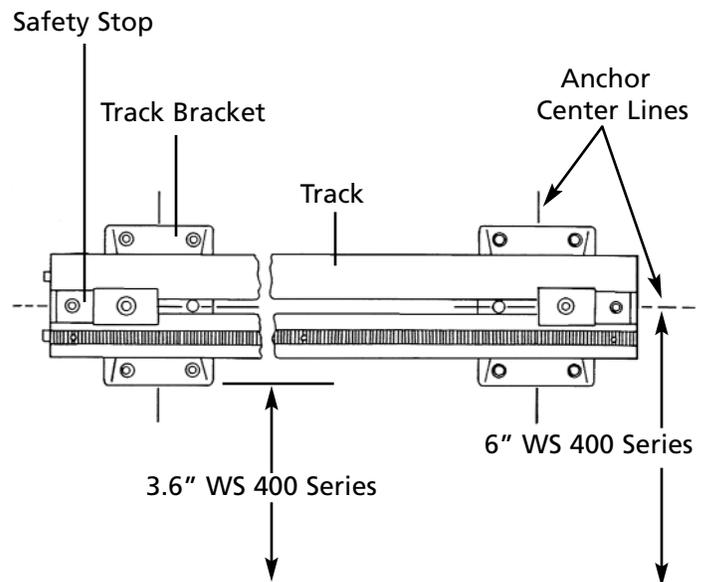
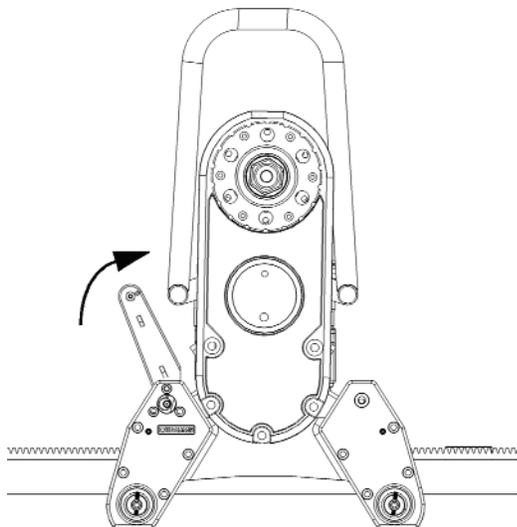
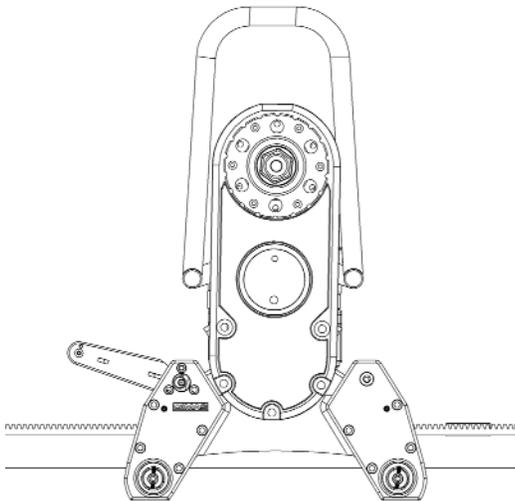


Figure C

Assembling The Saw

1. Push retention rollers outward to the release position. This allows the saw to be placed on the track with no interference.
2. Place saw carriage at any location on track. Make sure that the pinion gear meshes properly with the track rack and that the saw is down firmly on the track. Then push retention rollers inward to the lock position.
3. Make sure that locking handle is parallel with the track and ready to receive the saw head. In vertical cuts it is recommended to place the saw carriage with the locking handle pointing towards the ceiling to help hold the weight of the head when connecting.



3. Fit the saw body in the saw carriage by lifting the saw body into position. When the saw is placed in position, the locking handle moves up into an intermediate position. In this position the saw remains in the saw carriage without it needing to be held. However, it is not sufficiently held to begin cutting.



Remark

With a vertical cut it is usually easier to assemble the saw carriage with the handle upwards on the track.

4. To secure the saw, lift the locking handle towards the saw until the handle locks in the upright position.



WARNING

Cutting without the saw securely assembled in the saw carriage could cause significant injuries and / or could be fatal.

5. When the saw unit is mounted in the saw carriage, the hydraulic hoses should be fitted. There are two types of hydraulic hoses for the saw:

The four thin hoses control the feed motors, i.e. the saw's travel feed on the track and the 360° rotation of the cutting arm. The two thick hoses drive the blade.

The couplings should be wiped clean to reduce the risk of contamination before the hoses are fitted. Both the thin and thick hoses are locked by turning the outer sleeve on the female coupling so that the groove in the sleeve moves away from the ball.

6. Connect the incoming water hose and the hydraulic hoses to a hydraulic unit.



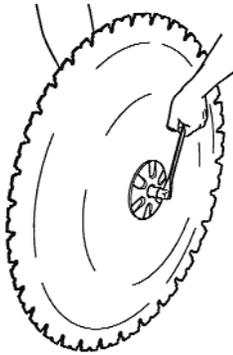
WARNING

This machine is only intended for use together with a DIMAS PP 345, DIMAS PP 2325 D, DIMAS PP 2525 D, DIMAS RC 345 and DIMAS Smartbox. All other use is forbidden. The DIMAS Smartbox must be used with the PP 2325 D and PP 2525 D to utilize the power travel feature.

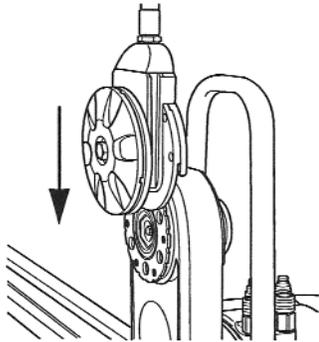
Fit The Blade

On the Dimas WS 400 series the blade is fitted in an entirely new way. Our new quick-attach blade flange allows the operator to secure the blade to the blade flange in the traditional way, with the flange mounted to the saw head, or while it is off the saw head.

1. Start by removing any dirt from the contact surfaces on the blade flange and blade.
2. Check the blade's direction of rotation. The blade should rotate counterclockwise as seen from the saw side.
3. Bolt the quick-attach blade flange, the blade and the outer blade flange, together.

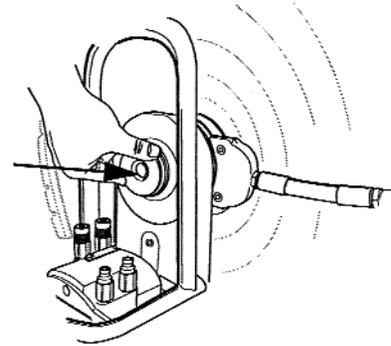


4. Hang the blade and blade flange assembly on the cutting arm (blade is not shown in the figure).



5. Carefully rotate the blade until the quick-attach blade flange seats onto the cutting arm utilize the power travel feature.

6. Press in the blade spindle into the cutting arm at the same time as the blade is rotated carefully. When the blade spindle can no longer be pressed in by hand it should be tightened using the supplied 18mm wrench until it is properly secured (tightening torque 30-30Nm or 22 ft lbs - 29.58 ft lbs).

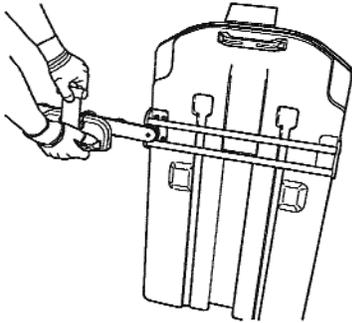


WARNING

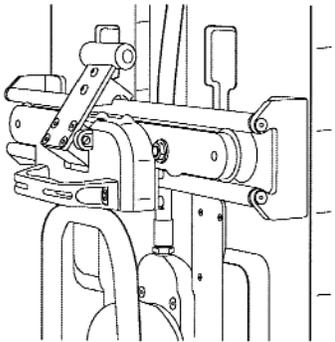
Exercise care when assembling the blade so that it does not become loose when cutting.

Fitting The Blade Guard

1. Guide the blade guard carriage between the rails on the blade guard.



2. Lift the blade guard over the blade and hang the guard in the blade guard guide on the saw. Exercise care so that the runners on the blade guard are positioned in the slots on the water block.



3. Lock the blade guard by pulling the handle out from the guard. When the guard needs to be removed, press the handle in towards the guard.

Operation

Before Cutting

Enclose the area to be cut so that unauthorized persons can not be injured or disturb the operator.

Check that the blade guard is not damaged or broken. A broken or damaged blade guard must never be used.

Check the oil level in the cutting unit. Adjust the speed valve on the saw motor to the correct position, depending on the blade diameter.



CAUTION

A higher speed than the recommended speed can result in personal injury and damage to the equipment.

If cutting is to begin in another position than where the saw unit is located, run the saw unit to the start position.

Sawing

Always start by cutting a pilot cut. This is done by feeding the blade 1.2"-2.8" (3-7 cm) deep. Now make the pilot cut. The cut should not be made at maximum speed, but with care in order to obtain a straight cut.

When the pilot cut is finished, a deeper cut can be made. The depth of these is determined from instance to instance and depends on factors such as hardness of the concrete, amount of reinforcing bar, etc.



Remark

When the saw is cutting, the water jet from the blade cutting will spray up towards the ceiling.

Stop Cutting

Once cutting is completed, rotate the blade from the wall and shut down the blade rotation and the water flow.

Shut down the hydraulic unit.

After Cutting

Cleaning

The saw should be cleaned once cutting is finished. It is important to clean all of the saw equipment. It is a good idea to disconnect the water hose from the pivot arm and use this to wash down the saw unit, track, blade guard, track bracket. If necessary you can also use a brush to clean the equipment.



CAUTION

Do not use a high pressure washer to clean the saw.

Dismantling the Saw

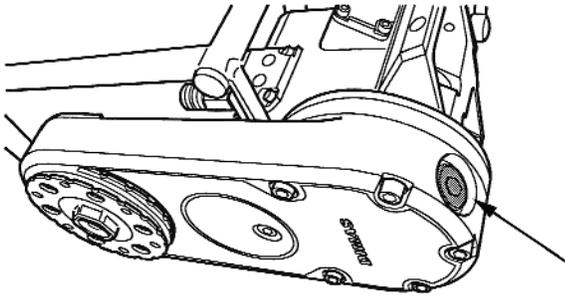
1. Allow the motor to stop completely.
2. Shut off and disconnect the incoming water to the hydraulic unit.
3. Disconnect the incoming cables from the hydraulic unit.
4. Disconnect the hydraulic hoses and the water hose from the saw unit.
5. The other steps are done in the reverse order to assembling.

Maintenance

In addition to the daily maintenance such as cleaning and lubrication, the machine must be serviced. After 50 hours of cutting, the wall saw should be serviced at an accredited Dimas workshop. The saw should then be serviced after every 100 hours of operation. The service is important so that as the user you have a machine that works as effectively as possible and for as long as possible.

Oil Change Cutting Arm

There is an oil plug for draining and filling the oil located on the cutting arm. This plug should be cleaned when changing the oil. The new oil is filled through the hole where the oil plug sits.



The cutting arm contains 4 oz of Dimas Oil 150, a transmission oil of the type EP 150. The oil should be replaced for the first time in connection with the first service and then twice a year. A bottle of oil is supplied when the saw is new.

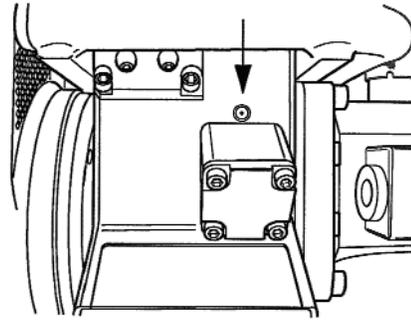


Remark

Remember oil can pose a hazard to health and the environment. Use care and proper procedures to contain and dispose of the used oil.

Lubricating

There are several grease fittings on each saw unit. Grease fittings can be found on all rollers with the exception of the side rollers, the locking handles and the feed motor worm drives. (Dimas recommends lubricating with VEIDEC POWER LUBE or equivalent grease every 50 hours of operation)



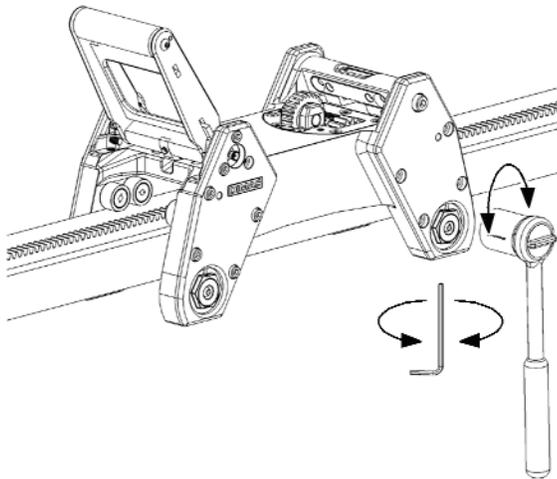
Adjusting The Rollers

In order for the saw to run stable and cut a straight line, the rollers must contact the track and not have too much play. When there is too much play between the saw carriage and track, the rollers must be adjusted.

The lower rollers should be adjusted if vertical play is observed between the saw carriage and the track. To adjust, loosen the four 6mm socket head setscrews located on the bottom of the saw carriage. Loosening the setscrews will allow you to turn the lower eccentric bushing. Place a 0.002" - 0.003" shim between the roller you are adjusting and the track. Rotate the eccentric bushing using a 27mm or 1-11/16" socket until the shim is held firmly between the roller and the track but you can still pull it out. Once this is achieved re-tighten the 6mm socket head setscrew associated with the roller. Move on to the next roller until they are all adjusted.

Note: Do not over tighten the 6mm socket head setscrew. This could cause a slight deformity in the eccentric bushing which could cause the plunge portion of the roller to stick.

Note: The upper rollers located directly underneath the saw carriage are fixed and cannot be adjusted.

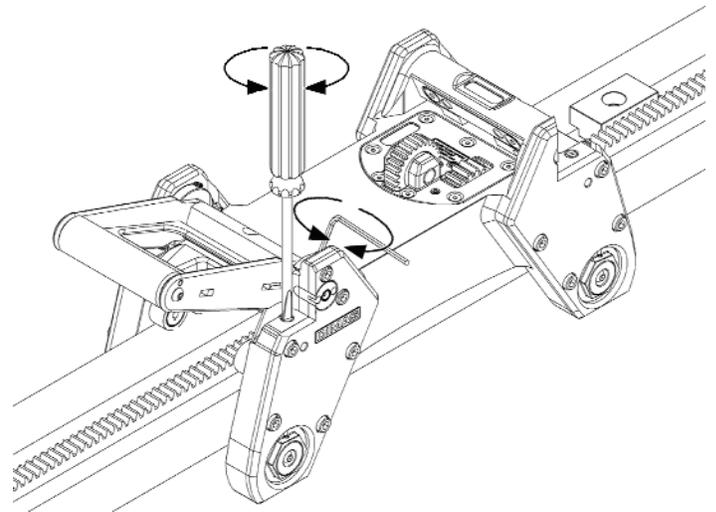


Adjusting The Side Rollers

The side rollers should be adjusted if side play is observed between the saw carriage and the track.

To adjust, locate the eccentric side roller shaft and loosen the 4mm socket head setscrew located on the side of two of the saw carriage legs. Place a 0.002" - 0.003" shim between the side roller you are adjusting and the track. Use a flat head screw driver to rotate the side roller eccentric shaft until the shim is held firmly between the side roller you are adjusting and the track. Re-tighten the 4mm socket head setscrew. Repeat on the other adjustable side roller.

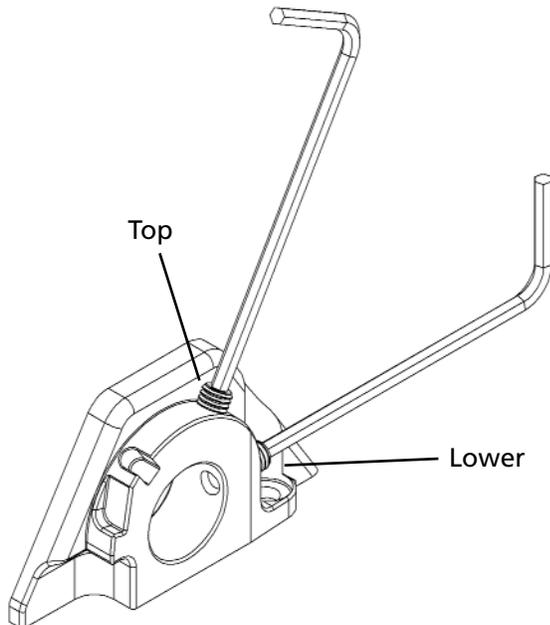
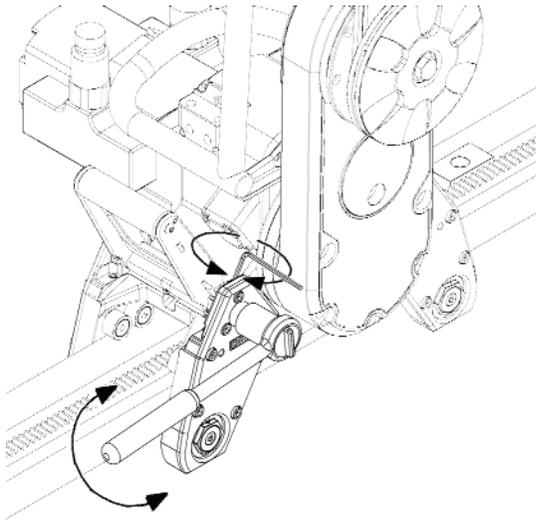
Note: Make sure that the carriage can be removed and re-installed on the track. If it is difficult to re-assemble on the track, it is being held-up by the side roller and needs to be re-adjusted for more clearance.



Adjusting The Locking Handle

As the saw wears, the locking handle may need to be adjusted if play is noticed between the saw head and the saw carriage.

To adjust the locking handle; loosen the two top 6mm socket head setscrews (one on each side of the handle mount). Turn the eccentric bushings with the supplied adjustment tool until the cam lies tight against the saw head. Tighten the top 6mm socket head setscrew. Adjust the other side. Remove saw head and tighten the lower 6mm socket head setscrews on both sides.



Grease The Blade Spindle

In order for the blade spindle to be fitted as easily as possible, it may be necessary to grease the hexagonal blade spindle.

Note: Also check that the hexagonal shaft is not damaged.

ELECTROLUX CONSTRUCTION PRODUCTS

Product Limited Warranty

Equipment manufactured by Electrolux Construction Products (a division of Electrolux Professional Outdoor Products, Inc.) is warranted to be free from defects in material and workmanship if operated properly, without abuse or negligence in normal service applications for a period of **two (2) years from date of purchase by the original consumer purchaser** with the following exception:

| | | | |
|---------------------------|------------------|------------------------|--------------|
| Target DR 150 Core Drills | Three (3) months | Felker FRS-30 | One (1) year |
| Felker FTS-50 | Three (3) months | Felker FRS-38 | One (1) year |
| Felker FTS-70 | Six (6) months | Felker FRS-51 | One (1) year |
| Felker TM-75 | One (1) year | Felker Track Master II | One (1) year |
| Felker FTS-150 | One (1) year | | |

Keep all payment records (bill of sale/delivery slip). The date on these records establishes the warranty period. Should warranty service be required, you must show proof of purchase. If proof of purchase cannot be supplied, the warranty period will be determined from the date of manufacture of the product.

All warranty claims will be determined after inspection at a designated facility. Write or call Electrolux at 17400 W. 119th Street, Olathe, KS 66061, 800-365-5040, for instructions. The customer must prepay the freight and absorb any labor expense required to return or replace a product submitted to Electrolux for warranty consideration. Electrolux will pay return shipping expenses for repaired or approved replacement products. **Under no circumstances will Electrolux be responsible for incidental or consequential damages.**

The responsibility of Electrolux under this warranty is limited to the repair or replacement, at our option, of defective parts and assemblies at its plant in Olathe, KS and Torrance, CA, and does not cover engines, motors, pumps, transmissions and other trade accessories sold with, attached to, or operated with Electrolux products. Such components, parts and accessories are subject to the original manufacturer's warranty policy and procedures. Normal wear items, such as filters, V-belts and wheels are not covered under this warranty.

The Electrolux warranty does not apply to defects caused by abuse, modifications, low voltage, acts of God, unreasonable use, faulty repairs made by others or damage or loss caused by failure to provide reasonable maintenance. All warranties are void if the equipment or any of its components are altered or modified by the purchaser, or if the product is used in a manner or with a blade not recommended by the manufacturer.

The foregoing express warranties are in lieu of all other warranties. **ELECTROLUX EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Some states do not allow exclusion of warranties or limitations of damages, so the limitations and exclusions contained in this warranty may not apply to you. This warranty gives you specific legal rights. You may have additional rights, which vary from state to state.