

HAFCO

METALMASTER



Edition : 2.0
Date: (07/25)

Instruction Manual

MANUAL PANBRAKE

PB-416D

Order Code: (S260)

MACHINE DETAILS

MACHINE.	Manual Pan Brake
MODEL NO.	PB-416D
SERIAL NO.	
DATE OF MANF.	

Imported by

Australia



www.machineryhouse.com.au

New Zealand



www.machineryhouse.co.nz

NOTE:

This manual is only for your reference. At the time of the compiling of this manual every effort to be exact with the instructions, specifications, drawings, and photographs of the machine was taken. Owing to the continuous improvement of the HAFCO METALMASTER machine, changes may be made at any time without obligation or notice. Please ensure the local voltage is the same as listed on the specification plate before operating any electric machine.

SAFETY SYMBOLS:

The purpose of safety symbols is to attract your attention to possible hazardous conditions



Indicates a potentially hazardous situation causing injury or death



Indicates an alert against unsafe practices.

Note: Used to alert the user to useful information

NOTE:

In order to see the type and model of the machine, please see the specification plate. Usually found on the back of the machine. See example (Fig.1)

Fig.1

HAFCO
METALMASTER

PRODUCT SPECIFICATIONS

Model: PB-416D

Capacity: 1260 x 1.6mm MFG Date: _____

Serial No:

Imported by Made in China
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1.1 SPECIFICATIONS

Order Code	S260
Model	PB-416D
Bending Capacity - Mild Steel (mm)	1.5
Bending Capacity - Aluminium (mm)	1.6
Bending Capacity - Soft Brass (mm)	1.6
Material Length Capacity (mm)	1260
Working Length (mm)	1020
Maximum Clamping Bar Lift (mm)	46
Folding Angle (deg.)	0-135°
Minimum Reverse Band (mm)	16
Minimum Height Pan Brake Sides (mm)	50
Footprint (Length x Width x Height (mm))	1730 x 740 x 1295
Weight (kg)	370

1.2 INCLUDED ACCESSORIES

1. Floor stand
2. Manual
3. Heavy duty telescopic spring for clamp
4. Foot clamp
5. Clamping Fingers

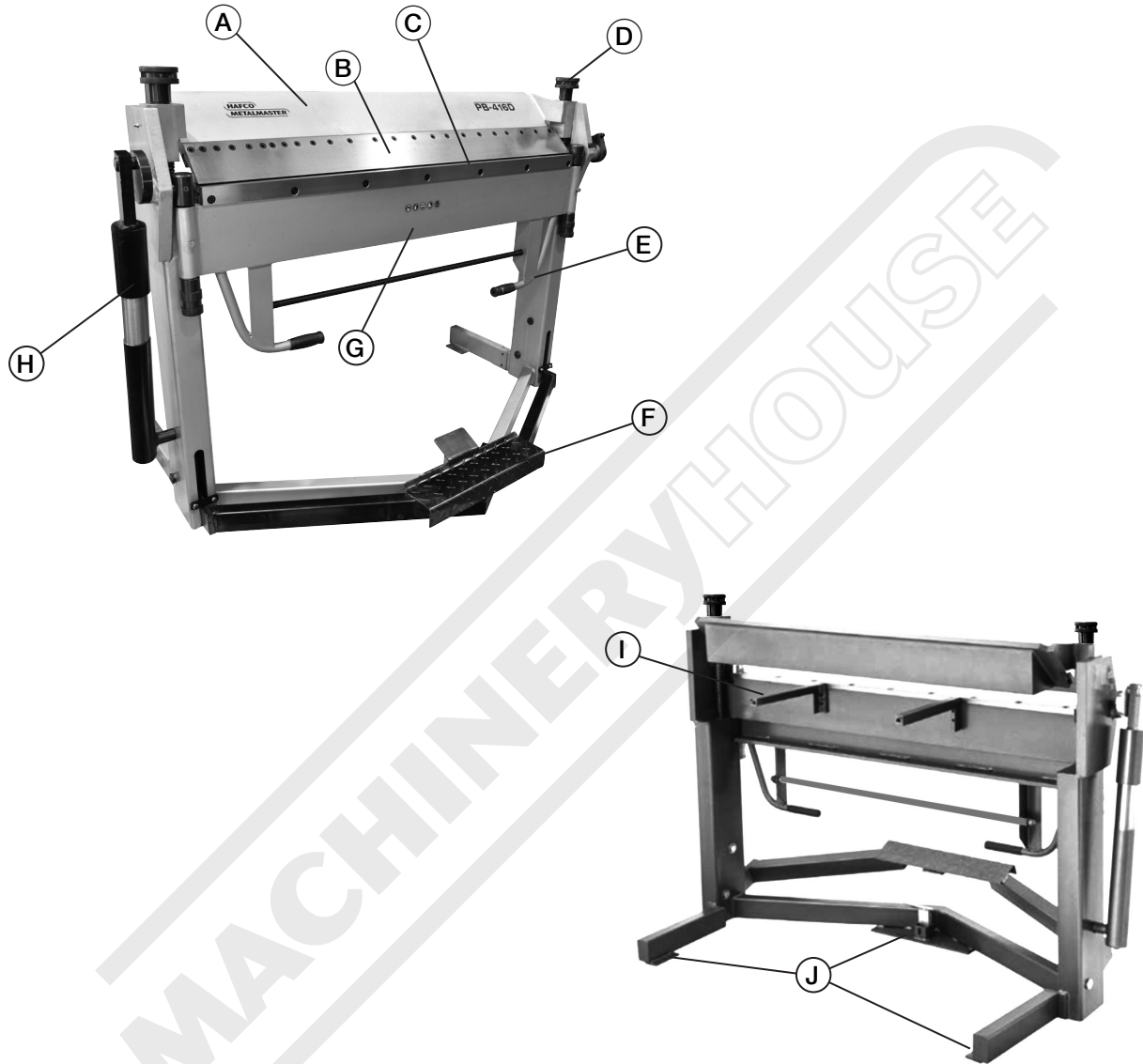


CAUTION!

A prepared list of safety guidelines can never be complete. Every workshop environment is different. Always consider Safety first, as it applies to your individual working conditions. Use this machine and other machinery with caution and respect. Failure to do so could result in serious Personal injury, damage to the equipment, or poor work results.

1.3 IDENTIFICATION

Become familiar with the names and locations of the controls and features shown below to better understand the instructions when mentioned later in this manual.



A	Clamping Leaf	F	Foot Pedal
B	Clamping Fingers	G	Bending Leaf
C	Clamping Base	H	Clamping Strut
D	Clamping Pressure Adjustment	I	Back Gauge
E	Lifting Handle	J	Mounting Feet

2. IMPORTANT INFORMATION

2.1 GENERAL METALWORKING MACHINE SAFETY

DO NOT use this machine unless you have read this manual or have been instructed in the use of this machine in its safe use and operation.



WARNING

This manual provides safety instructions on the proper setup, operation, maintenance, and service of this machine. Save this manual, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine is solely responsible for its safe use. This responsibility includes, but is not limited to proper installation in a safe environment, personnel training and authorization to use, proper inspection and maintenance, manual availability and comprehension, of the application of the safety devices, integrity, and the use of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



- ✓ Always wear safety glasses or goggles.
- ✓ Wear appropriate safety footwear.
- ✓ Wear respiratory protection where required.
- ✓ Gloves should never be worn while operating the machine, and only worn when handling the workpiece.
- ✓ Wear hearing protection in areas > 85 dBA. If you have trouble hearing someone speak from one metre (three feet) away, the noise level from the machine may be hazardous.
- ✓ DISCONNECT THE MACHINE FROM POWER when making adjustments or servicing.
- ✓ Check and adjust all safety devices before each job.
- ✓ Ensure that guards are in position and in good working condition before operating.
- ✓ Ensure that all stationary equipment is anchored securely to the floor.
- ✓ Ensure all machines have a start/stop button within easy reach of the operator.
- ✓ Each machine should have only one operator at a time. However, everyone should know how to stop the machine in an emergency.

2.1 GENERAL SAFETY REQUIREMENTS Cont.

- ✓ Ensure that keys and adjusting wrenches have been removed from the machine before turning on the power. Appropriate storage for tooling should be provided.
- ✓ Ensure that all cutting tools and blades are clean and sharp. They should be able to cut freely without being forced.
- ✓ Stop the machine before measuring, cleaning or making any adjustments.
- ✓ Wait until the machine has stopped running to clear cuttings with a vacuum, brush or rake.
- ✓ Keep hands away from the cutting head and all moving parts.
- ✓ Avoid awkward operations and hand positions. A sudden slip could cause the hand to move into the cutting tool or blade.
- ✓ Return all portable tooling to their proper storage place after use.
- ✓ Clean all tools after use.
- ✓ Keep work area clean. Floors should be level and have a non-slip surface.
- ✓ Use good lighting so that the work piece, cutting blades, and machine controls can be seen clearly. Position any shade lighting sources so that they do not cause any glare or reflections.
- ✓ Ensure there is enough room around the machine to do the job safely.
- ✓ Obtain first aid immediately for all injuries.
- ✓ Understand that the health and fire hazards can vary from material to material. Make sure all appropriate precautions are taken.
- ✓ Clean machines and the surrounding area when the operation is finished.
- ✓ Use proper lock out procedures when servicing or cleaning the machines or power tools.

DO NOT

- × Do not distract an operator. Horseplay can lead to injuries and should be strictly prohibited.
- × Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewellery that can become entangled in moving parts. Confine long hair.
- × Do not handle cuttings by hand because they are very sharp. Do not free a stalled cutter without turning the power off first. Do not clean hands with cutting fluids.
- × Do not use rags or wear gloves near moving parts of machines.
- × Do not use compressed air to blow debris from machines or to clean dirt from clothes.
- × Do not force the machine. It will do the job safer and better at the rate for which it was designed.

2.1 GENERAL SAFETY REQUIREMENTS Cont.

HAZARDS ASSOCIATED WITH MACHINES include, but are not limited to:

- Being struck by ejected parts of the machinery.
- Being struck by material ejected from the machinery.
- Contact or entanglement with the machinery.
- Contact or entanglement with any material in motion.

Health Hazards (other than physical injury caused by moving parts)

- Chemicals hazards that can irritate, burn, or pass through the skin.
- Airborne items that can be inhaled, such as oil mist, metal fumes, solvents, and dust.
- Heat, noise, and vibration.
- Ionizing or non-ionizing radiation. (X-ray, lasers, etc.)
- Biological contamination and waste.
- Soft tissue injuries (for example, to the hands, arms, shoulders, back, or neck) resulting from repetitive motion, awkward posture, extended lifting, and pressure grip.

Other Hazards

- Slips and falls from and around machinery during maintenance
- Unstable equipment that is not secured against falling over
- Safe access to/from machines (access, egress)
- Environment in which the machine is used (in a machine shop, or on a work site)



WARNING!

The machine is the sole responsibility of the owner for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training, proper inspection and maintenance, manual availability and comprehension. The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



WARNING!

Machines are safeguarded to protect the operator from injury or death with the placement of guards. Machines must not be operated with the guards removed or damaged.

2.2 SAFETY SPECIFIC TO PANBRAKES

DO NOT use this machine unless you have been instructed in its safe use and operation or have read and understood this manual.



Safety glasses must be worn at all times in work areas



Long and loose hair must be contained



Gloves must not be worn when using this machine



Sturdy footwear must be worn at all times in work areas



Close fitting/protective clothing must be worn



Rings and jewelry must not be worn.

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Locate and ensure you are familiar with all machine operations and controls.
- ✓ Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- ✓ Ensure working parts are well lubricated and the jaws and fingers free of rust and dirt.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present
- ✓ Be aware of other people in the area. Ensure the area is clear before using equipment.

OPERATIONAL SAFETY CHECKS

- ✓ Remove the pan brake fingers that are in the way. Use only the pan brake fingers required to make the bend.
- ✓ Ensure the pan brake fingers that are not removed for an operation are securely seated and firmly tightened before the machine is used.
- ✓ Ensure your fingers and limbs are clear before operating the pan brake.
- ✓ Lower finger clamps to work. Do not drop.
- ✓ Check workpiece is secure.
- ✓ Keep clear of moving counterweight (where fitted).

ENDING OPERATIONS AND CLEANING UP

- ✓ Lower finger clamps to a safe position.
- ✓ Return all accessories to storage racks.
- ✓ Leave the work area in a safe, clean and tidy state.

DON'T

- ✗ Do not use faulty equipment. Immediately report suspect machinery.
- ✗ Do not use a pan brake for bending metal that is beyond its capacity for thickness, shape or type.
- ✗ Do not attempt to bend rod, wire, strap or spring steel sheets.

POTENTIAL HAZARDS AND INJURIES

- ✓ Sharp edges and burrs.
- ✓ Squash/crush and pinch points.
- ✓ Impact from counterweight.

3 SET-UP

3.1 UNPACKING

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. If items are damaged, please contact your distributor.

NOTE: Save all the packaging materials until you are completely satisfied with the machine and have resolved any issues with the distributor, or the shipping agent.

When unpacking, check the packing list to make sure that all parts shown are included. If any parts are missing or broken, please contact your distributor.

3.2 CLEAN - UP

The unpainted surfaces of the machine have been coated with a waxy oil to protect them from corrosion during shipment. Remove the protective coating with a solvent cleaner or a citrus based degreaser.

Optimum performance from your machine will be achieved when you clean all moving parts or sliding contact surfaces that are coated with rust preventive products.

It is advised to avoid chlorine based solvents, such as acetone or brake parts cleaner, as they will damage painted surfaces and strip metal should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

3.3 SITE PREPARATION

When selecting the site for the machine, consider the largest size of work piece that will be processed through the machine and provide enough space around the machine for operating the machine safely. Consideration should be given to the installation of auxiliary equipment. Leave enough space around the machine to open or remove doors/covers as required for the maintenance and service as described in this manual.

It is recommended that the machine is anchored to the floor to prevent tipping or shifting. It also reduces vibration that may occur during operation.

3.4 LIFTING INSTRUCTIONS



This machine is extremely heavy.

Serious personal injury may occur if safe moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the machine from the crate.



On the day that the machine arrives, make sure that a forklift or lifting device, with sufficient capacity is available to unload the machine from the vehicle. Ensure access to the chosen site is clear and that doors and ceilings are sufficiently high and wide enough to receive the machine. Lifting supervision must be done by someone with rigging experience.

3.5 ANCHORING TO THE FLOOR

OPTIONS FOR MOUNTING

The machine is best mounted on a concrete slab. Masonry anchors with bolts are the best way to anchor machinery, because the anchors sit flush with the floor surface, making it easy to unbolt and move the machine later if needed. (Fig. 3.1)

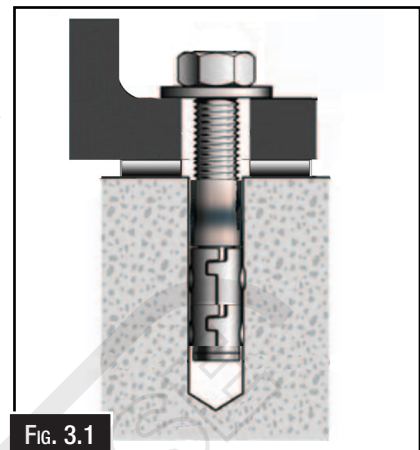


FIG. 3.1

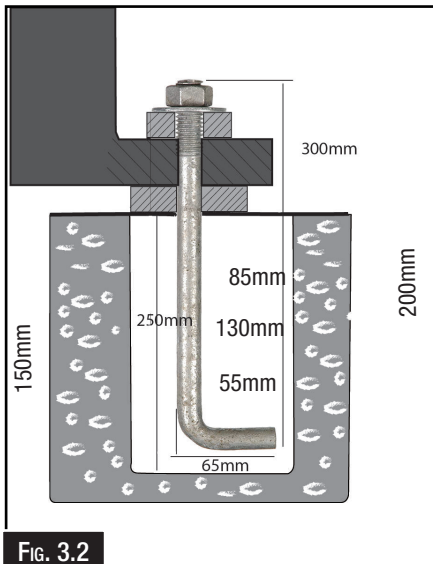


FIG. 3.2

In some cases a suitable foundation may not be available and a new one may need to be prepared.

The foundation should be concrete approximately 200mm thick with pockets left clear for the hold down bolts. The hold down bolts can be “L” shape as per the example in Fig. 3.2

3.6 MACHINE LEVELLING

To set your machine up so that it operates to optimum performance, apply the following procedure. After your machine has been anchored to a concrete slab floor, it then needs to be levelled. Loosen the hold down bolts and place a level on the surface of the working table. Metal shims need to be placed under the corner of the base of the machine until level. Once level then tighten the hold down bolts. (Fig. 3.3).

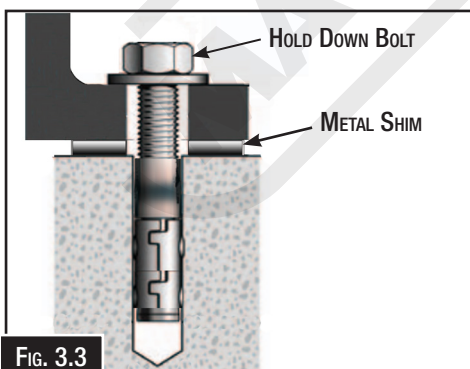


FIG. 3.3



CAUTION!

The machine must not rest on supports other than those defined in Fig. 3.3



WARNING!

DO NOT operate any machine before it is fully assembled and all guards have been fitted and secured. Failure to do so may cause death or injury.

3.7 ASSEMBLY

The machine must be fully assembled before it can be operated. First clean any parts that are coated in rust preventative to ensure the assembly process can proceed smoothly.

Mounting The Support Legs:

The support legs of the machine (back of the machine) are packed with the machine. These must be attached to the machine so that it can stand on the floor. (Fig. 3.4)



FIG. 3.4

Loosening Work Stop:

Before leaving the factory the clamping cap screw on the work stop collar was tightened to stop the bending leaf from moving. Before operating the machine, use an 8mm hex wrench to loosen the clamping cap screw so that the bending leaf is free to rotate through its full arc. (Fig. 3.5)

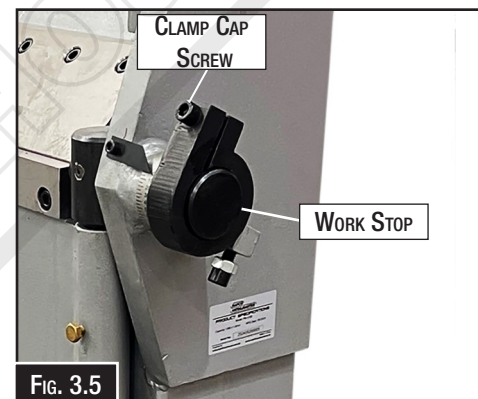


FIG. 3.5

Clamping Pressure:

When the machine left the factory the clamp pressure was locked down to prevent parts moving during transport. Before operating the machine the pressure must be adjusted so that the foot pedal locks down when the work piece is clamped. (Fig. 3.6)

NOTE! Make sure that the adjustment is made at each end of the machine in even amounts, so that the work piece is clamped evenly.

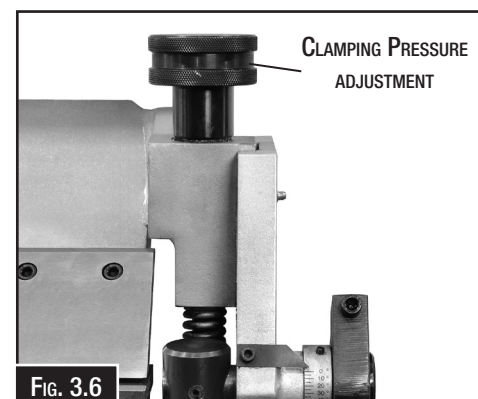


FIG. 3.6



CAUTION!

A prepared list of safety guidelines can never be complete. Every workshop environment is different. Always consider Safety first, as it applies to your individual working conditions. Use this machine and other machinery with caution and respect. Failure to do so could result in serious Personal injury, damage to the equipment, or poor work results.

4. OPERATION

4.1 OPERATIONAL OVERVIEW.

The purpose of this overview is to provide any novice machine operator with a basic understanding of how the machine is used during a normal operation, so that the machine controls and components if they are discussed at a later stage in this manual will be easy to understand.

This overview, due to the generic nature, is not intended to be an instructional guide. To learn more about specific operations, read this entire manual, watch content on the internet, seek additional training from experienced machine operators, and do additional research outside of this manual by reading “how-to” books, and trade magazines.

To complete a typical operation:

1. Examine the work-piece to make sure it is suitable for bending.
2. If required for the operation, adjust the clamping fingers spacing.
3. Adjust the clamping pressure to suit the work-piece thickness.
4. Adjust the setback to suit the thickness. (Should be $1\frac{1}{2}$ x thickness)
5. Put on safety glasses, leather gloves and leather boots.
6. Properly position the work-piece underneath the clamping fingers and lock the foot pedal in the down position to secure the work-piece.
7. Uses proper body position and both hands, to raise the bending leaf to form the correct bend angle.
8. Lower the bending leaf, then unlock the foot pedal to release and remove the work-piece.

4.2 ALIGNING FINGERS

The bend needs to be even along its entire length, so the clamping fingers must be parallel with the clamping surface and the bending leaf.

To Align The Clamping Fingers:

1. Lower the clamping leaf until the fingers just touch the clamping surface.
2. View the bottom edge of each finger to determine if any are out of alignment.
3. If a finger is misaligned, then loosen the cap screw just enough to move it up or down. (Fig. 4.1)
4. Align finger parallel with clamping surface and bending block, and then tighten cap screw.

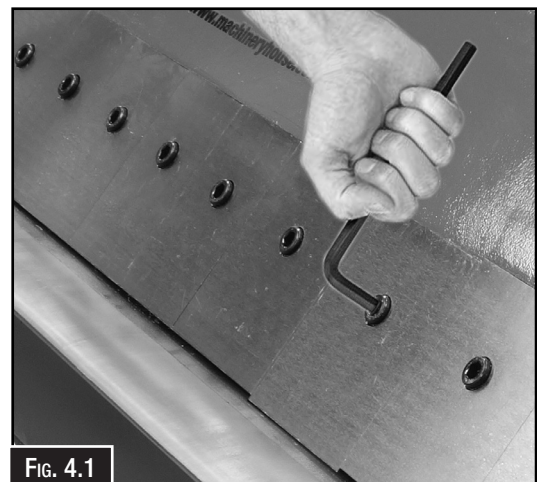


FIG. 4.1



WARNING!

DO NOT operate any machine before it is fully assembled and all guards have been fitted and secured. Failure to do so may cause death or injury.

4.3 SPACING FINGERS

For folding box sections, the clamping fingers can be spaced apart for clearance. This requires removing one or more of the fingers, so the others can be spaced to match the inside width of the workpiece.

To Space The Clamping Fingers:

1. On the fingers that need to be removed, loosen the cap screw. (Fig. 4.2)
2. Remove the fingers from the clamping leaf.

Note: A mix and match of the finger widths may be required to appropriately match the inside width of the workpiece

3. Align remaining fingers and tighten the cap screws

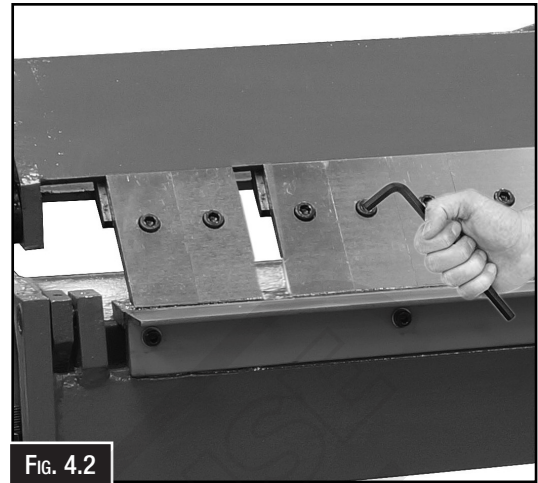


FIG. 4.2

4.4 ADJUSTING THE SETBACK

Before beginning a bending operation, consideration must be given to the thickness of the material and whether sharp or rounded bends are required.

To achieve this, the setback needs to be set. Setback is the distance from the forward edge of the fingers to the edge of the bending leaf. The setback distance is determined by the thickness of the workpiece material and the desired radius of the bend.

Setback is normally set at 1½ times the thickness of the workpieces under 22 gauge, and two times the thickness of workpieces when thicker than 22 gauge.

To adjust setback:

1. Calculate the setback required for the bend.
2. Raise the clamping leaf about 10mm off the clamping surface.
3. Raise the bending leaf 90°. (Fig. 4.4).
4. Release the lock screw and adjust the bending leaf in or out as required. (Setback should be 1½ times the work piece thickness)

Note: Setback adjustment needs to be done evenly at both ends of the bending leaf.

5. Lower the clamping fingers onto the clamping surface and check setback distance.
6. If necessary, repeat Steps 2–4 until desired setback is achieved.
7. Check finger alignment (refer to Aligning Fingers on Page 13).

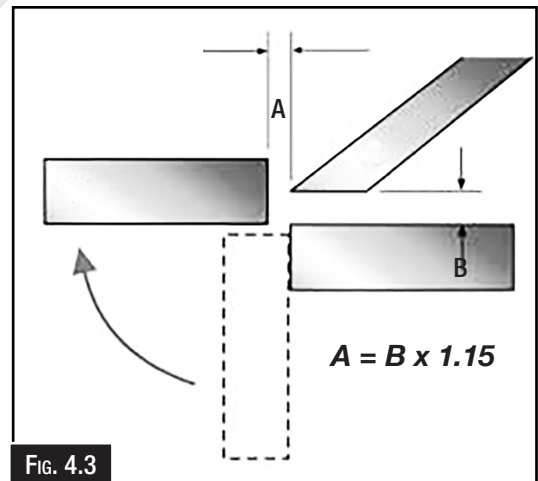


FIG. 4.3

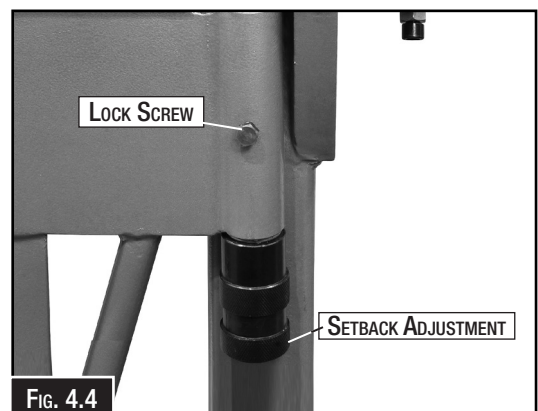


FIG. 4.4

4.5 ADJUSTING CLAMP PRESSURE

Clamping pressure needs to be adjusted for different workpiece thicknesses. The ideal pressure will have a medium resistance at the clamping handles but allows for the foot pedal to lock down.

To adjust the pressure:

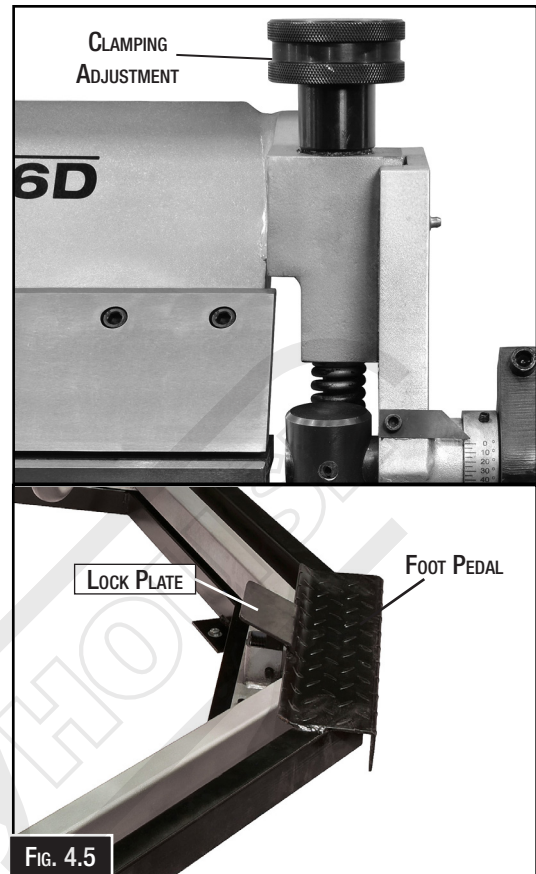
1. Lower the clamping leaf so the fingers just touch the workpiece. If the clamping foot pedal locks down the clamping leaf then the pressure is suitable for the workpiece.
2. If not, then turn both sets up or down until clamping foot pedal is in the right position.

NOTE: *If the clamping pressure is correctly adjusted, the lock plate will spring forward and secure the foot pedal down when it is fully depressed. (Fig. 4.5)*



CAUTION!

HAFCO/METALMASTER recommends that the foot pedal always be locked down before making the bend.



NOTE: *Rotate one pressure adjustment knob a small amount, then rotate the other knob the same amount and direction. This prevents the clamping leaf from binding on the shafts and keeps it parallel with the clamping base.*

4.6 BENDING SPRING-BACK

Spring-back occurs when the material angle tries to return to its original shape after being bent. When working on the pan brake, the operator will over-bend to the bending angle, which is an angle past the required bent angle, compensating for the spring-back. Over-bending to the bending angle allows the desired bent angle to be achieved when the workpiece is released from the pressure applied.

Variables in spring-back are normal. The stronger (higher tensile) a material is, the greater the spring back will be. The sharper the radius is, the less spring-back there will be (up to a point).

And the greater the bend radius is in relationship to the material thickness, the greater the spring back.

The following ranges for the spring-back are approximate, if there is a 1-to-1 relationship between the material thickness and inside radius:

304 stainless steel: 2 to 3 degrees

Mild aluminium: 1.5 to 2 degrees

Cold-rolled steel: 0.75 to 1.0 degrees

Hot-rolled steel: 0.5 to 1.0 degrees

Copper and brass: 0.00 to 0.5 degrees

4.7 BENDING BASICS

Bending operations require the clamping fingers to be parallel with the edge of the clamping surface and bending leaf, and the setback and clamping pressure must be correctly adjusted for the thickness of the workpiece.

1. Calculate the required setback for the bend and make the adjustment to the machine if needed (refer to Adjusting Setback on Page 14).
2. Lift the clamping leaf.
3. Place the workpiece between the clamping fingers and clamping surface.
4. Line up the bending marks on the workpiece with the fingers, then clamp it in place using clamping handles.

Note: Ensure the clamping handles lock down. If not the clamping pressure may need to be adjusted (refer to Adjusting Clamping Pressure on Page 14).

5. With the operators body square to the machine and using both hands, lift the bending leaf until the workpiece reaches desired bend angle.
6. Raise clamping leaf and remove workpiece.

4.8 ADJUSTING THE WORK STOP

The work stop mechanism allows for the bending leaf to produce repetitive bends at the same angle.

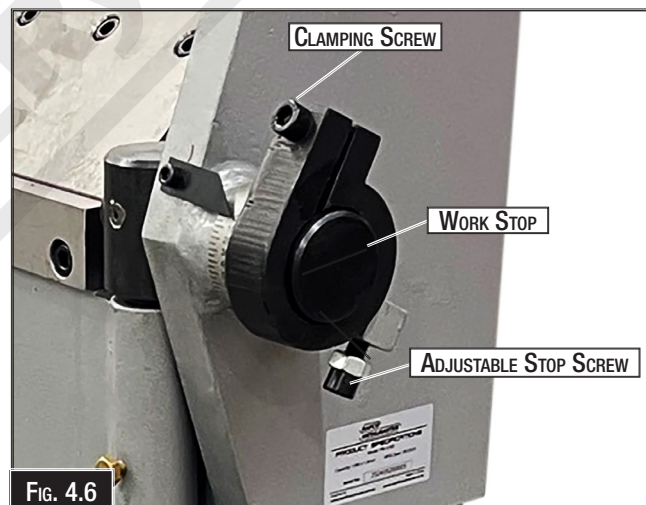
To adjust the work stop:

1. Loosen the clamping cap screw on the work stop collar (Fig. 4.6) so that it is loose on the shaft.
2. Raise the bending leaf to the correct angle.

Note: The scale on the stop collar displays the relative angle of the bending leaf.

3. Rotate the work stop clockwise until it rests on the stop block, then re-tighten the clamping cap screw to secure the setting.

Note: If needed, loosen the hex nut on the adjustable stop screw, then use the cap screw for additional fine adjustment.



WARNING!

Take care when operating this machine. Crush Points can occur when operating this machine. Crush points can cause severe injury to the operator. All care must be taken.

5. MAINTENANCE

It is very important that regular maintenance of the equipment is carried out. The operators needs to follow the daily maintenance procedures.

For optimum performance from this machine, the maintenance schedule listed below and in this section must be followed.

5.1 SCHEDULE

Daily Check

- Loose mounting bolts or fasteners.
- Cracked or damaged casting, and fingers.
- Any other condition that could hamper the safe operation of this machine

Weekly Check

- Clean machine
- Lubricate gears
- Lubricate hinge bushings

5.2 LUBRICATION

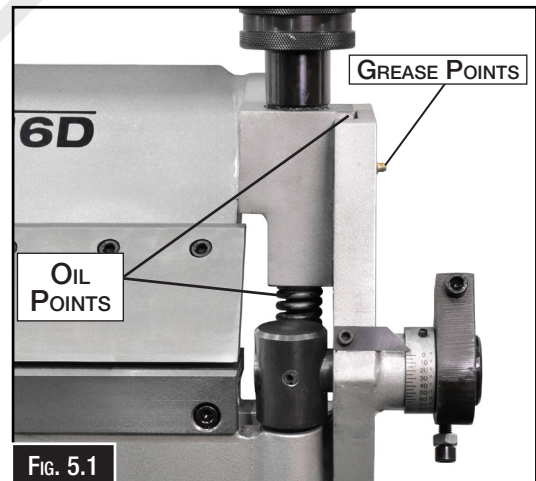
Clamping Leaf:

Use a grease gun to lubricate the grease nipple shown in Fig. 5.1 making sure to lubricate both sides of the clamping leaf then raise and lower the clamping leaf several times to distribute the lubricant.

Apply a thin coat of oil to the guide pin slots and screws shown in Fig. 5.1.

Bending Leaf:

Use an oil can to lubricate the hinge pin in making sure to lubricate both sides of the bending leaf then raise and lower the bending leaf several times to distribute the lubricant. Place a thin layer of oil on any machine surface..



WARNING!

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5.3 TROUBLE SHOOTING

If the machine develops a problem, review the trouble shooting section below to find a fix for the problem. If the problem cannot be solved then contact your dealer for help or to book a service engineer.

PROBLEM	POSSIBLE CAUSES	CORRECTION
Heavy Resistance During Bends	<ol style="list-style-type: none"> 1. Work piece exceeds machine capacity 2. Not enough setback. 	<ol style="list-style-type: none"> 1, Use sheet metal that does not exceed the machine's capacity 2, Properly calculate and adjust setback.
Bend radius is not consistent across the work piece.	<ol style="list-style-type: none"> 1. Bending leaf not parallel with clamping leaf. 2. Clamping fingers or bending blocks not properly aligned. 3. Too much setback 	<ol style="list-style-type: none"> 1. Adjust bending leaf parallel with clamping leaf. 2. Properly align clamping fingers and bending blocks 3. Properly calculate and adjust setback.
Workpiece moves while bending	<ol style="list-style-type: none"> 1. Clamping pressure not correctly adjusted. 2. Not enough pressure applied with the foot pedal. 	<ol style="list-style-type: none"> 1. Correctly adjust clamping pressure for workpiece thickness. 2. Lock foot pedal down so clamping leaf secures the work piece.
Work Piece Moves During Bend	<ol style="list-style-type: none"> 1. Lack of clamping pressure 2. Oil on the surface of the work piece. 3. Misaligned bending leaf 	<ol style="list-style-type: none"> 1. Adjust the clamping pressure. 2. Clean the surface of the work piece 3. Align the bending leaf so that it is parallel to the clamping leaf

MANUAL PAN BRAKE

PB-416D

Order Code: (S260)

Edition : 2.0

Date: (07/25)

The following section covers the spare parts diagrams and lists that were current at the time this manual was originally printed. Due to continuous improvements of the machine, changes may be made at anytime without notification.

HOW TO ORDER SPARE PARTS

1. Have your machines model number, serial number & date of manufacture on hand, these can be found on the specification plate mounted on the machine.
2. A scanned copy of your parts list/diagram with required spare part/s identified.

NOTE: SOME PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

3. Go to www.machineryhouse.com.au/contactus and fill out the inquiry form attaching a copy of scanned parts list.



WARNING!

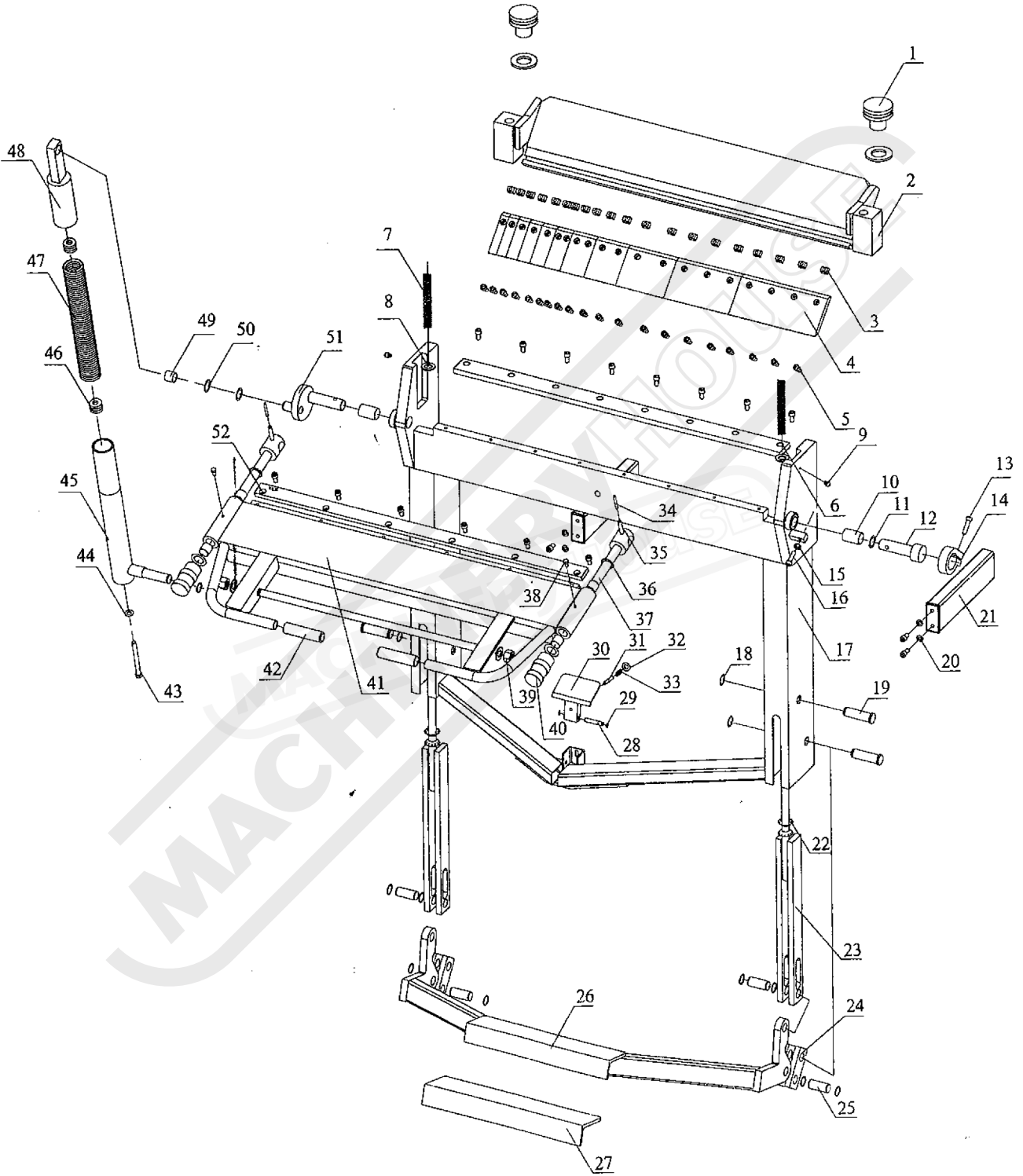
Electricity is dangerous and could cause death. All electrical work must be carried out by a qualified electrician.



CAUTION!

It is impossible to cover all possible hazards. Every workshop environment is different. These are designed as a guide to be used to compliment training and as a reminder to users prior to equipment use. Always consider safety first, as it applies to the individual working conditions.

SPARE PARTS DIAGRAM



SPARE PARTS LIST

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
1	ADJUSTING NUT	2	27	TREAD PLATE RUBBER	1
2	CLAMPING LEAF	1	28	ROLL PIN	2
3	T-NUT M10X1.5	20	29	EXT RETAINING RING 10MM	1
4	UPPER FINGERS	11	30	FOOT PEDAL LOCK	1
5	CAP SCREW M10 X 20	38	31	SPRING PIN 8 X 15	1
6	CLAMPING BLOCK	1	32	FLAT WASHER M8	1
7	ADJUSTING NUT SPRING	2	33	PEDAL LOCK SPRING	1
8	FLAT WASHER M8	6	34	SPRING PIN 6 X 50	2
9	GREASE NIPPLE M8	2	35	SPRING PIN 10 X 50	2
10	BUSHING	2	36	O-RING 33 X 25	2
11	FLAT WASHER M30	2	37	SETBACK KNOB	2
12	FOLDING LEAF PIN	1	38	HEX BOLT M8 X 15	2
13	CAP SCREW M10 X 20	1	39	HEX NUT M20	2
14	STOP COLLAR	1	40	SETBACK KNOB	2
15	HEX NUT M10	1	41	BENDING LEAF	1
16	CAP SCREW M10 X 40	1	42	OPERATING HANDLE	2
17	LEG	1	43	HEX BOLT M12 X 150	1
18	EXT RETAINING RING 25MM	13	44	STAR WASHER M12	2
19	LEG PIN	3	45	BOTTOM TELESCOPING STRUT	1
20	CAP SCREW M10 X 30	4	46	SPIRAL BLOCK	1
21	EXTENSION BRACKET	2	47	SPRING	1
22	DISC SPRING 40 X 20 X 1 X2.4	4	48	TOP TELESCOPING STRUT	1
23	ROD	2	49	BUSHING	
24	FOOT PEDAL LEVER	4	50	SHIM RINGS	1
25	LEVER PIN	4	51	CRANK	2
26	FOOT PEDAL	1	52	BENDING LEAF BLADE.	1

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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