

J E T®

Operating Instructions and Parts Manual BP-1696H Box and Pan Brake



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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 Walter Meier distributor, or visit waltermeier.com.

WARRANTY

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

90 DAY WARRANTY	1 YEAR WARRANTY	Body Repair Kits Bottle Jacks Cable Pullers Cold Saws Hoists-Air Hoists-Electric Metal forming Mill/Drills Milling Machines MW Bandsaws MW Drill Presses MW Finishing Equipment MW Lathes MW Precision Vises	2 YEAR WARRANTY	Palet Trucks Rigging Equip. Service Jacks Stackers Surface Grinders Tapping Trolleys-Air Trolleys-Electric Web Slings Winches-Electric	3 YEAR WARRANTY	WW Benchtop Tools	Beam Clamps Chain Hoist- Manual Lever Hoists Pullers-JCH Models Scissor Lift Tables Screw Jacks Trolleys-Geared Trolleys-Plain Winches-Manual WW Air Filtration WW Bandsaws WW Buffers	5 YEAR WARRANTY	WW Drill Presses WW Dust Collectors WW Dust Filters WW Dust Fittings WW Jointers WW Lathes WW Planers WW Sanders WW Shapers WW Tablesaws	LIFE LIFETIME WARRANTY	Fastening Tools Mechanics Hand Tools Striking Tools Vises (no -precision) Clamps
Warranty reverts to 1 Year Warranty if woodworking (WW) products listed above are used for industrial or educational purposes.											

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 Warranties do not cover woodworking (WW) products used for commercial, industrial or educational purposes. Woodworking products with Five Year 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.

WALTER MEIER SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Walter Meier sells through distributors only. The specifications in Walter Meier catalogs are given as general information and are not binding. Members of Walter Meier reserve the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET®-branded products are not sold in Canada by Walter Meier.



Warnings

1. For your own safety read instruction manual before operating grinder.
2. Read and understand the entire owner's manual before attempting assembly or operation.
3. 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.
4. This hand brake 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 hand brake, do not use until proper training and knowledge have been obtained.
5. Do not exceed the rated capacity on this hand brake.
6. Do not use this hand brake 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.
7. Wear eye protection and always use guards and eye shields.
8. Always wear approved safety glasses/face shields while using this bench grinder. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
9. Before operating this bench grinder, 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.
10. Wear ear protectors (plugs or muffs) during extended periods of operation.
11. 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.
12. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
13. **KEEP GUARDS IN PLACE** and in working order at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.
14. Make sure the hand brake is firmly secured to the floor before use.
15. 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.
16. **SHEET METAL STOCK HAS SHARP EDGES.** To prevent cuts, use caution when handling.
17. **KEEP HANDS AND FINGERS** clear of the area in front and rear of the brake.
18. Provide for adequate space surrounding work area and non-glare, overhead lighting.
19. Make your workshop child proof with padlocks, master switches or by removing starter keys.
20. Keep visitors a safe distance from the work area. **Keep children away.**

Warnings

21. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted. Keep the floor around the machine clean and free of scrap material, oil and grease.
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. Do not overreach or use excessive force to perform any machine operation.
24. Use the right machine. Do not force a machine or attachment to do a job for which it was not designed. The right tool will do the job better and safer.
25. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
26. Make sure the work piece is securely attached or clamped to the table. Never use your hand to hold the work piece.
27. Do not stand on the machine. Serious injury could occur if the machine tips over.
28. Remove loose items and unnecessary work pieces from the area before starting the machine.
35. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

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



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



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

- - SAVE THESE INSTRUCTIONS - -

Specifications

Model	BP-1696H
Stock Number.....	752102
Capacity (mild steel)	16 Gauge
Bending Length Capacity.....	96"
Maximum Box Depth	4"
Maximum Lift of Beam	2-1/4"
Beam Adjustment	1"
Number of Fingers and Width	5 at 3"; 6 at 4"; 9 at 5"; 2 at 6"
Finger Nose Angle.....	45
Finger Nose Radius	1/32"
Overall Dimensions (Width x Depth x Height).....	122"x31"x63"
Weight.....	1,985 lbs

The above specifications were current at the time this manual was published, but because of our policy of continuous improvement, Walter Meier (Manufacturing) Inc., reserves the right to change specifications at any time and without prior notice, without incurring obligations.



Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury.

Unpacking

1. Remove the crate from around the machine.
2. Carefully clean all rust protected surfaces with a mild solvent or kerosene and a soft rag. Do not use lacquer thinner, paint thinner, or gasoline. These will damage painted surfaces.
3. Coat all machined surfaces with a light coat of oil to inhibit rust.
4. Remove the bolts holding the machine to the skid.
5. Carefully move the machine to a well-lighted area on a solid, level workbench, and secure to the bench with lag screws or bolts.

Machine location must allow access to all sides.

Assembly

The BP-1696H does not require assembly. However, it is important to make sure that the machine is level; otherwise the brake will not bend properly.

Use a machinist's level and shims if necessary.

Adjustments

The (#) in the text refers to the *Item Number* in the *Parts Breakdown* section.

The *apron* assembly has been adjusted at the factory for use with material having the capacity as listed in the Specifications section. During shipment of this unit the machine may have come out of alignment.

The forward edge of the *holddown fingers* (1, 2, 3, 4) should be adjusted parallel to the pivot edge of the clamp block. Release clamping pressure on the *holddown assembly* (800) by pushing the clamp handles (8, 9) to the rear. Adjust the hex cap screws as necessary for parallelism.

The center of the *apron* can be adjusted by tightening the *truss nut* on the apron assembly (803).

Finger alignment can be achieved by loosening all cap screws (15) and rotating the *apron* (803) to the 90-degree position. Push the *fingers* forward against the *angle bar* (36) for proper alignment. Tighten screws (15).

Operation

Adjusting for Metal Thickness

The *holddown assembly* (800) must be adjusted to allow for clearance when making bends according to the thickness of the material. Clearance for material within four gauges of the capacity should be twice the thickness of the material. For lighter gauges use 1-1/2" times the thickness. The forward edge of the holddown fingers should be adjusted parallel to the pivot edge of the clamp block. Release clamping pressure on the holddown assembly by pushing *clamp handles* (8, 9) slightly to the rear. Adjust hex cap screws (16) as necessary for parallelism. The center of the *apron* can be adjusted by tightening the *truss nut* on the apron assembly (803).

Adjusting the Clamping Pressure

The clamping pressure should be adjusted according to the thickness of the material. The clamping pressure should be great enough to hold the material securely in place but not so much that it is difficult to lock the *clamp handles* (8, 9). Clamping pressure can be adjusted by turning the nuts (24) on the threaded rod portion of the *toggle assembly* (10, 11).

Flange Capacity

The recommended minimum flange capacity is one inch.

Repeat Bends

Adjust the *gauge stop* (26) on the *gauge rod* (31) to limit the swing of the *apron* assembly.

Counter Weight

The *counter weights* (44) can be moved up or down to provide more or less leverage.

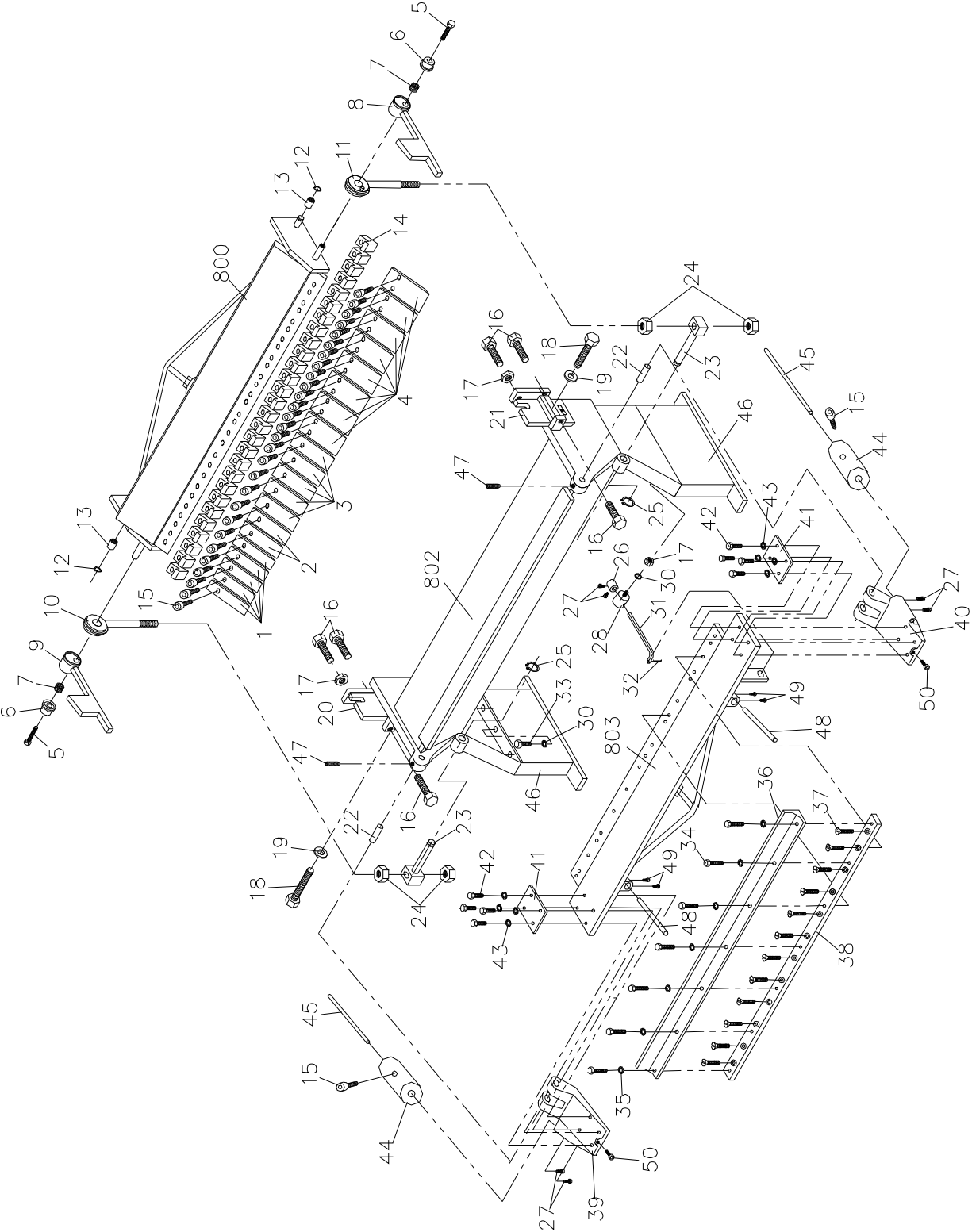
Lubrication

The machine must be lubricated every day of service with a few drops of oil. Oil pinholes are located at both *toggle assemblies* (10, 11) and the *apron assembly* (803) near the *swivel pin* (23). Lightly oil the machined parts when not in use to prevent rust.

Parts List

Index No	Part No	Description	Size	Qty
1.....	BP1696F-01.....	Finger,3".....		5
2.....	BP1696F-02.....	Finger,4".....		2
3.....	BP1696F-03.....	Finger,5".....		5
4.....	BP1696F-04.....	Finger,6".....		8
5.....	HB1697F-05.....	Hex Head Screw.....	M16x35.....	2
6.....	HB1697F-06.....	Cover.....		2
7.....	HB1697F-07.....	Spring.....		2
8.....	HB1697F-08.....	Clamp Handle R.H.....		1
9.....	HB1697F-09.....	Clamp Handle L.H.....		1
10.....	HB1697F-10.....	Toggle Ass'y L.H.....		1
11.....	HB1697F-11.....	Toggle Ass'y R.H.....		1
12.....	HB1697F-12.....	C-Clip.....	20.....	2
13.....	HB1697F-13.....	Brass Bushing.....	26x20.2x20.....	2
14.....	BP1697F-14.....	Finger Clamp.....		28
15.....	HB1697F-15.....	Socket Cap Screw.....	M12x35.....	30
16.....	HB1697F-16.....	Hex Head Screw.....	M12x80.....	6
17.....	HB1697F-17.....	Hex Nut.....	M12.....	7
18.....	HB1697F-18.....	Hex Head Screw.....	M16x50.....	2
19.....	HB1697F-19.....	Plain Washer.....	16.....	2
20.....	HB1697F-20.....	Step Bracket Comp.L.H.....		1
21.....	HB1697F-21.....	Step Bracket Comp.R.H.....		1
22.....	HB1697F-22.....	Brass Pivot Pin.....		2
23.....	HB1697F-23.....	Swivel Pin Ass'y.....		2
24.....	HB1697F-24.....	Hex Nut.....	M24.....	4
25.....	HB1697F-25.....	C-Clip.....	32.....	2
26.....	HB1697F-26.....	Gauge Stop.....		1
27.....	HB1697F-27.....	Socket Cap Screw.....	M10x30.....	6
28.....	HB1697F-28.....	Gauge Ring.....		1
30.....	HB1697F-30.....	Sping Washer.....	12.....	7
31.....	HB1697F-31.....	Gauge Rod.....		1
32.....	HB1697F-32.....	Cotton Pin.....	4x35.....	1
33.....	TS-1492031.....	Hex Head Screw.....	M12x35.....	6
34.....	TS-1505051.....	Socket Cap Screw.....	M10x35.....	7
35.....	TS-1550071.....	Plain Washer.....	10.....	7
36.....	HB1697F-36.....	Angle Bar.....		1
37.....	TS-1516011.....	Socket Head Flat Screw.....	M10x20.....	12
38.....	HB1697F-38.....	Insert Bar.....		1
39.....	HB1697F-39.....	Support,Apron Ass'y L.H.....		1
40.....	HB1697F-40.....	Support,Apron Ass'y R.H.....		1
41.....	HB1697F-41.....	Fixing Plate.....		2
42.....	TS-1492051.....	Hex Head Screw.....	M12x50.....	8
43.....	TS-2360121.....	Plain Washer.....	12.....	8
44.....	HB1697F-44.....	Counterweight.....		2
45.....	HB1697F-45.....	Counterweight Rod.....		2
46.....	HB1697H-46.....	Stand.....		2
47.....	TS-1525041.....	Set Screw.....	M10x20.....	2
48.....	HB1697H-48.....	Bending Handle.....		2
49.....	TS-1491031.....	Hex Head Screw.....	M10x25.....	4
50.....	TS-1506031.....	Socket Cap Screw.....	M12x30.....	2
800.....	BP1696F-800.....	Holddown Ass'y.....		1
802.....	HB1697H-802.....	Base Ass'y.....		1
803.....	HB1697F-803.....	Apron Ass'y.....		1

Assembly Drawing



Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 800-274-6848 Monday through Friday (see our website for business hours, www.waltermeier.com). Having the Model and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.



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