



Operating Instructions and Parts Manual

16 ga. x 100 in. Box and Pan Brake

Model BPF-16100



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Part No. M-754115
Edition 2 03/2016
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1.0 IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THIS FOOT SHEAR.

WARNING – To reduce the risk of injury:

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. This box and pan 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 brake, do not use until proper training and knowledge have been obtained.
5. Do not use this brake for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear ANSI Z87.1 approved safety glasses or face shield while using this brake. (Everyday eyeglasses only have impact resistant lenses; they are *not* safety glasses.)
7. Before operating this machine, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Do not wear loose clothing. Confine long hair. Non-slip footwear or anti-skid floor strips are recommended.
8. Wear ear protectors (plugs or muffs) if noise reaches unsafe levels.
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.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. 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.
12. 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 after completion of maintenance.
13. 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.
14. Provide for adequate space surrounding work area and non-glare, overhead lighting.
15. Keep the floor around the machine clean and free of scrap material, oil and grease.
16. Keep visitors a safe distance from the work area. Keep children away.
17. Make your workshop child proof with padlocks, master switches or by removing starter keys.
18. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
19. 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.
20. Use recommended accessories; improper accessories may be hazardous.
21. Maintain tools with care. Keep blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
22. Do not stand on the machine. Serious injury could occur if the machine tips over.

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.

23. Remove loose items and unnecessary work pieces from the area before operating the machine.
24. Don't use in dangerous environment. Don't use machine in damp or wet location, or expose to rain. Keep work area well lighted.
25. Sheet metal stock has sharp edges; use caution when handling to prevent cuts.
26. Keep hands clear of bending area while operating.
27. Do not exceed rated capacity of brake.
28. The brake should be secured to floor with appropriate fasteners.

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, or possibly even fatal, injury.

SAVE THESE INSTRUCTIONS

2.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model BPF-16100 Box and Pan Brake. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or JET. JET can also be reached at our web site: www.jettools.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.



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

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4.0 Specifications

Model number	BPF-16100
Stock number	754115
Capacity (mild steel).....	16 gauge (1.5 mm)
Bending length capacity	100 in. (2540 mm)
Maximum box depth.....	4 in. (100 mm)
Maximum lift of beam	2-1/4 in. (57 mm)
Beam adjustment, front to rear.....	1 in. (25.4 mm)
Recommended minimum flange in capacity material.....	1 in. (25.4mm)
Number of fingers.....	15
Width of fingers	4@12 in., 4@6 in., 3@5 in., 1@4in., 1@3.5in., 1@3in., 1@2.5in.
Finger nose angle	45 deg.
Finger nose radius	1/32 in. (0.79 mm)
Overall dimensions, assembled (LxWxH)	140 x 30 x 76 in. (3550 x 750 x 1930 mm)
Overall dimensions, shipping (LxWxH)	118 x 30 x 39 in. (3000 x 760 x 1000 mm)
Weight, net	2450 lbs. (1110 kg)
Weight, shipping.....	2992 lbs. (1360 kg)

The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.

5.0 Setup and assembly

⚠WARNING

Read and understand all assembly instructions before attempting assembly. Failure to comply may cause serious injury.

5.1 Shipping contents

Refer to Figures 1 and 2.

- 1 Box and pan brake (not shown)
- 2 Leg stands – A
- 1 Handle – B
- 1 Center brace – C
- 1 Stop rod – D
- 2 Counterweight assemblies – E
- 1 Stop rod pin – F
- 1 Stop collar – G
- 1 Hex key, 6mm – H
- 12 Hex cap bolts, M12x45 – HP1
- 4 Socket set screws, M12x12 – HP2
- 1 Flat washer, M16 – HP3
- 12 Flat washers, M12 – HP4
- 12 Lock washers, M12 – HP5
- 5 Hex nuts, M12 – HP6
- 1 Hex nut, M16 – HP7
- 1 Cotter pin – HP8

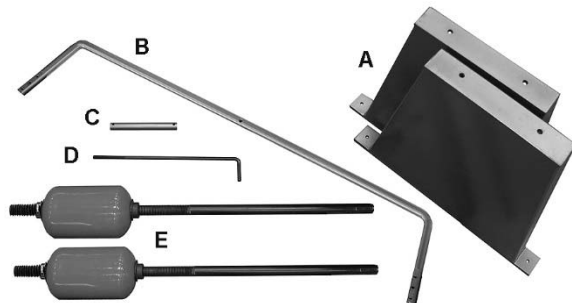


Figure 1

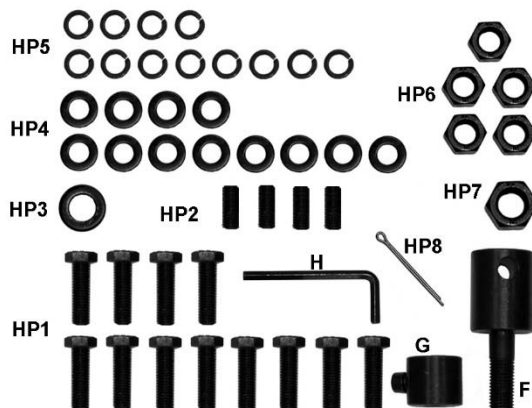


Figure 2

5.2 Tools required for assembly

Hex key 6mm (provided)
pliers

5.3 Unpacking and cleanup

1. Remove all contents from shipping crate and compare to the contents list in this manual. If shipping damage or any part shortages are identified, contact your distributor. Do not discard packing material until brake is assembled and operating satisfactorily.
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.

5.4 Assembly

Refer to exploded view if additional clarification is needed for assembly.

1. Remove bolts holding leg stands and brake to pallet.
2. Locate brake in a dry, well-lighted area with a sturdy, level floor. Machine location must allow room for loading and offloading stock, and access on all sides for maintenance.
3. Use hoist or forklift to carefully lift brake onto leg stands. Secure with M12 bolts, washers and nuts (HP1/HP4/HP5/HP6).

⚠WARNING

Do not allow anyone beneath the brake while moving it into position and until it is secured on leg stands.

4. Verify that brake is level; use shims if necessary. Secure leg stands to floor with appropriate fasteners, such as lag bolts (not provided).
5. The clamp handles are shipped in lowered position due to size constraints (thus, the fingers will contact platform before handles reach proper forward position). The handles must be repositioned before operating, as follows:
6. Remove screw, spring cover and spring (J, Figure 3). Slide handle outward just enough to clear stop pin, and rotate handle to a higher position, as shown. Reinstall spring, spring cover and screw, and tighten screw until there is no “play” in the handle.

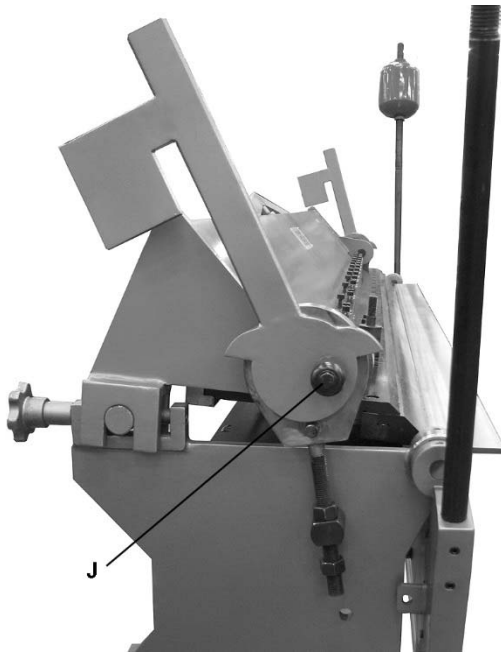


Figure 3

7. Install counterweight assemblies to left and right hinges and tighten set screws. See Figure 3.
8. Install handle (B) and center brace (C) to front of apron (HP1, HP4, HP5).
9. Install stop rod assembly on left side of brake, through weldment on apron, as shown in Figure 4. Secure stop rod pin (F) with flat washer and hex nut (HP7, HP3). Install cotter pin (HP8) at end of stop rod, and bend with pliers to secure.

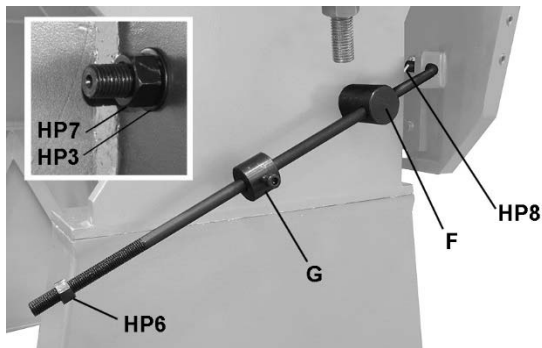


Figure 4

6.0 Adjustments

6.1 Counterweight position

Proper counterweight position determines amount of leverage for the bend, and most efficient movement of apron for the operator.

Adjust counterweight by backing out screw (K, Figure 5) and rotating upper and lower collars (L) as needed. When counterweight is at desired position, turn screw (K) until it re-engages counterweight.

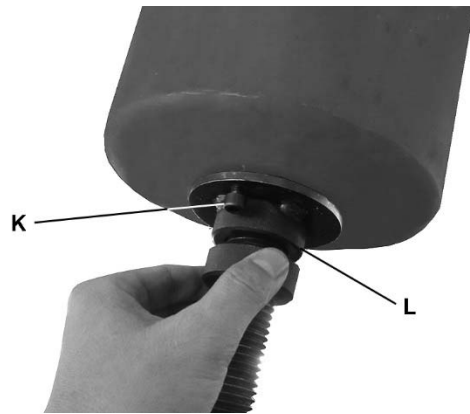


Figure 5

6.2 Apron adjustment

The apron assembly has been adjusted by the manufacturer for use with material having the capacity listed in the Specifications section. If any misalignment occurs, correct as follows.

The forward edge of hold-down fingers should be adjusted parallel to pivot edge of press bar. Release clamping pressure on hold-down assembly by pushing clamp handles slightly to the rear. Turn knobs (M, Figure 6) to adjust hold-down assembly for parallel.

The truss nuts (N, Figure 6) can be used to help achieve alignment in apron and hold-down assemblies, by eliminating any bowing at the center of these assemblies.

Finger alignment can be achieved by loosening the cap screws on the fingers and raising apron to 90-degree position. Push fingers forward against apron bar for proper alignment. Retighten all screws.

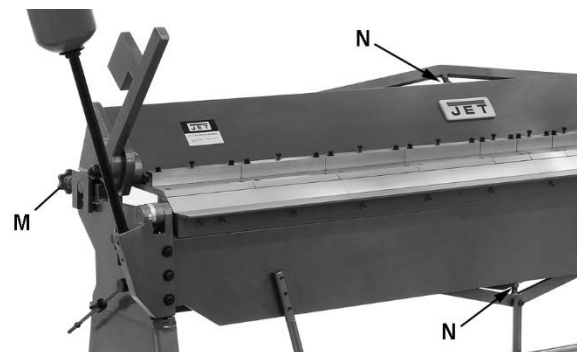


Figure 6

6.3 Adjusting for metal thickness

The hold-down assembly must be adjusted to allow for clearance when making bends according to material thickness. 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.

Turn both knobs (M, Figure 6) the same amount to maintain parallelism of fingers with apron.

6.4 Adjusting clamping pressure

Clamping pressure should be adjusted according to material thickness. Clamping pressure should be great enough to hold material securely in place but not so much that it is difficult to lock the clamping handles. Clamping pressure can be adjusted by turning the nuts on the threaded rod portion of yoke assembly (P, Figure 7).

When clamping handles are properly set, you will be able to feel them drop into locking position.

6.5 Repeat bends

Adjust stop collar on stop rod (Figure 4) to limit apron swing.

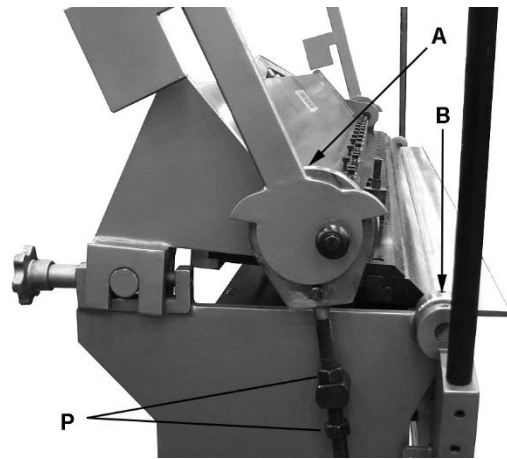


Figure 7

7.0 User-maintenance

7.1 Lubrication

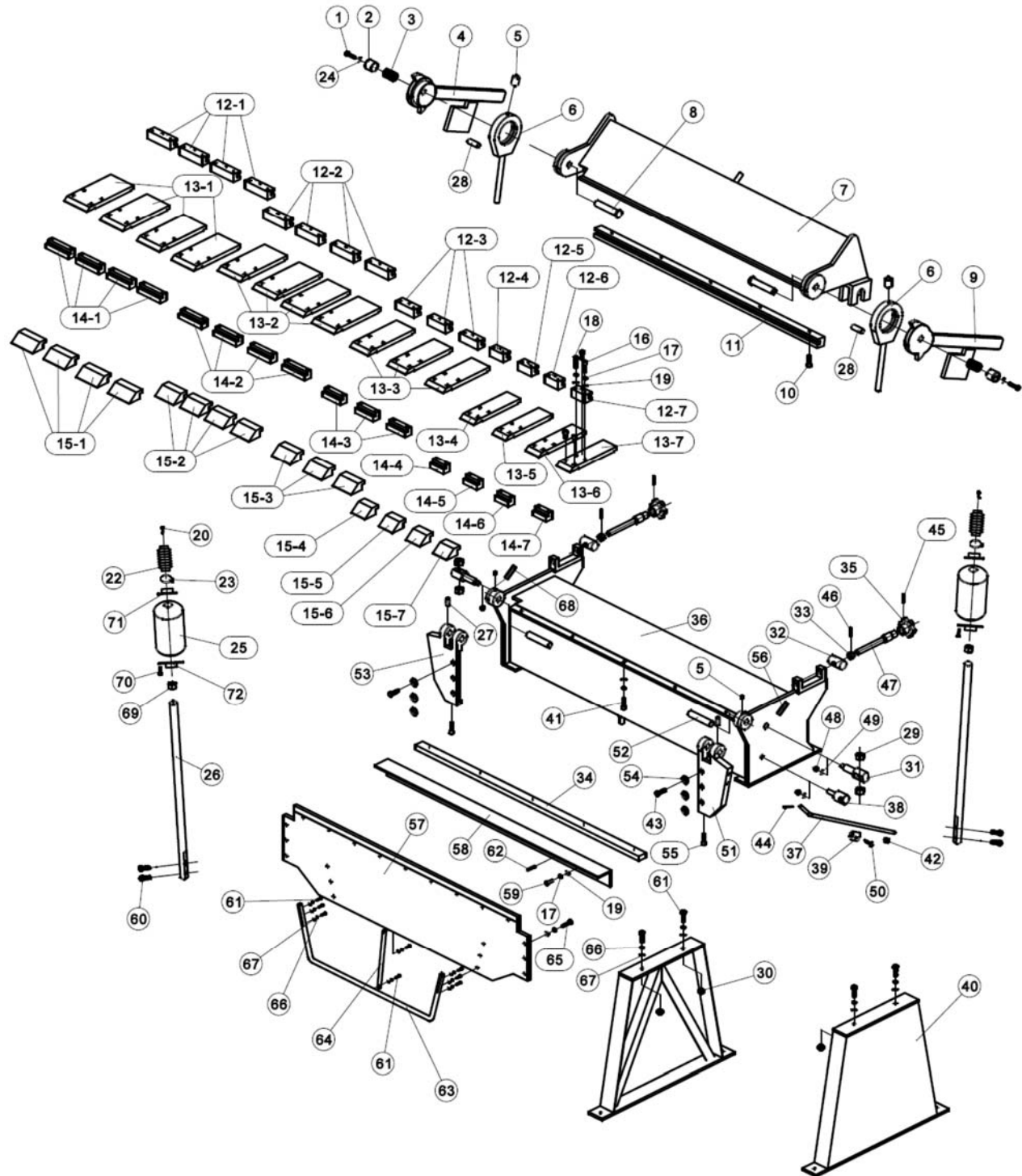
The machine must be lubricated every day of service with a few drops of oil at the pivot points. Oil pinholes are located at both yoke assemblies (A, Figure 7) and the apron assembly near the hinge pin (B).

Lightly oil all machined (unpainted) parts when not in use, to inhibit rust.

8.0 Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

8.1.1 BPF-16100 Floor Box and Pan Brake – Exploded View



8.1.2 BPF-16100 Floor Box and Pan Brake – Parts List

Index No	Part No	Description	Size	Qty
1	F008836	Hex Cap Screw	M10x25	2
2	BPF16100-02	Spring Cover		2
3	BPF16100-03	Spring		2
4	BPF16100-04	Clamp Handle (LH)		1
5	BPF1248-05	Zerk Fitting		4
	BPF16100-06A	Yoke Assembly (includes #5,6,28)		2
6		Yoke		2
7	BPF16100-07	Hold-Down Assembly		1
8	BPF16100-08	Shaft		2
9	BPF16100-09	Clamp Handle (RH)		1
10	F005432	Socket Head Cap Screw	M10x45	10
11	BPF16100-11	Long Press A		1
12-1	BPF16100-12-1	Joint Open	12"	4
12-2	BPF16100-12-2	Joint Open	6"	4
12-3	BPF16100-12-3	Joint Open	5"	3
12-4	BPF16100-12-4	Joint Open	4"	1
12-5	BPF16100-12-5	Joint Open	3.5"	1
12-6	BPF16100-12-6	Joint Open	3"	1
12-7	BPF16100-12-7	Joint Open	2.5"	1
13-1	BPF16100-13-1	Holder, Finger	12"	4
13-2	BPF16100-13-2	Holder, Finger	6"	4
13-3	BPF16100-13-3	Holder, Finger	5"	3
13-4	BPF16100-13-4	Holder, Finger	4"	1
13-5	BPF16100-13-5	Holder, Finger	3.5"	1
13-6	BPF16100-13-6	Holder, Finger	3"	1
13-7	BPF16100-13-7	Holder, Finger	2.5"	1
14-1	BPF16100-14-1	Washer, Finger	12"	4
14-2	BPF16100-14-2	Washer, Finger	6"	4
14-3	BPF16100-14-3	Washer, Finger	5"	3
14-4	BPF16100-14-4	Washer, Finger	4"	1
14-5	BPF16100-14-5	Washer, Finger	3.5"	1
14-6	BPF16100-14-6	Washer, Finger	3"	1
14-7	BPF16100-14-7	Washer, Finger	2.5"	1
15-1	BPF16100-15-1	Finger	12"	4
15-2	BPF16100-15-2	Finger	6"	4
15-3	BPF16100-15-3	Finger	5"	3
15-4	BPF16100-15-4	Finger	4"	1
15-5	BPF16100-15-5	Finger	3.5"	1
15-6	BPF16100-15-6	Finger	3"	1
15-7	BPF16100-15-7	Finger	2.5"	1
16	F005436	Socket Head Cap Screw	M10x65	30
17	F002116	Lock Washer	10 mm	42
18	F005428	Socket Head Cap Screw	M10x25	15
19	F002643	Flat Washer	10 mm	42
20	F005381	Socket Head Cap Screw	M6x12	2
22	BPF1248-02	Sleeve		2
23	BPF16100-23	Clamp		2
24	BPF16100-24	Flat Washer		2
25	BPF16100-25	Counterweight Assembly		2
26	BPF16100-26	Rod		2
27	F010405	Socket Set Screw	M6x20	4
28	BPF16100-28	Stop Pin		2
29	F003091	Hex Nut	M20	4
30	F003084	Hex Nut	M12	4
31	BPF16100-31	Swivel Pin Assembly		2
32	BPF1248-32	Adjusting Nut		2
33	BPF1248-33	Stop Nut		2
34	BPF16100-34	Long Press B		1
35	BPF1248-35	Knob		2
36	BPF16100-36	Base Assembly		1

Index No	Part No	Description	Size	Qty
37	BPF1248-37	Stop Rod		1
38	BPF1248-38	Stop Rod Pin		1
39	BPF1248-39	Stop Collar		1
40	BPF16100-40	Stand		2
41	F005431	Socket Head Cap Screw	M10x40	10
42	F003084	Hex Nut	M12	1
43	F009542	Hex Cap Screw	M12x40	6
44	F003910	Cotter Pin	3x40 mm	1
45	BPF1248-45	Round Pin	4x40 mm	2
46	BPF1248-46	Round Pin	6x30 mm	2
47	BPF16100-47	Lead Screw		2
48	F003088	Hex Nut	M16	2
49	F009542	Flat Washer	16 mm	2
50	BPF16100-50	Special Bolt	M8x25	1
	BPF16100-51A	Hinge Assembly (RH) (includes #27,51,73)		1
51		Hinge (RH)		1
52	BPF16100-52	Hinge Pin		2
	BPF16100-53A	Hinge Assembly (LH) (includes #27,53,73)		
53		Hinge (LH)		1
54	BPF16100-54	Special Washer		6
55	F005429	Socket Head Cap Screw	M10x30	2
56	BPF16100-56	Scale (RH)		1
57	BPF16100-57	Apron Assembly		1
58	BPF16100-58	Insert Bar		1
59	F005429	Socket Head Cap Screw	M10x30	12
60	F010423	Socket Set Screw	M12x12	4
61	F009545	Hex Cap Screw	M12x45	12
62	BPF16100-62	Round Pin	8x25 mm	4
63	BPF16100-63	Handle		1
64	BPF16100-64	Center Brace		1
65	F009542	Hex Cap Screw	M12x40	6
66	F002118	Lock Washer	12 mm	12
67	F002646	Flat Washer	12 mm	12
68	BPF16100-68	Scale (L.H)		1
69	BPF1248-71	Hex Nut		2
70	F005383	Socket Head Cap Screw	M6x20	2
71	BPF1248-72	Special Nut A		2
72	BPF1248-69	Special Nut B		2
73	BPF1248-75	Scale Pointer (not shown)		1
	F012226	Hex Key (not shown)	6mm	1
	LM000080	ID Label, BPF-16100 (not shown)		1
	LM000133	Warning Label (not shown)		1
	JET-203	JET Logo with adhesive (not shown)	203 x 84mm	1

Some parts are shown for reference only, and may not be available individually.

Non-proprietary parts, such as fasteners, can usually be found at local hardware stores, or may be ordered from JET.

9.0 Warranty and service

JET warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

Warranty Period

The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

Who is Covered

This warranty covers only the initial purchaser of the product from the date of delivery.

What is Covered

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials outside recommended guidelines may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

Warranty Limitations

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

How to Get Technical Support

Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

More Information

JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

How State Law Applies

This warranty gives you specific legal rights, subject to applicable state law.

Limitations on This Warranty

JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

JET 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.

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Product Listing with Warranty Period

90 Days – Parts; Consumable items
1 Year – Motors; Machine Accessories
2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes
5 Year – Woodworking Machinery
Limited Lifetime – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools; Air Tools

NOTE: JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.



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