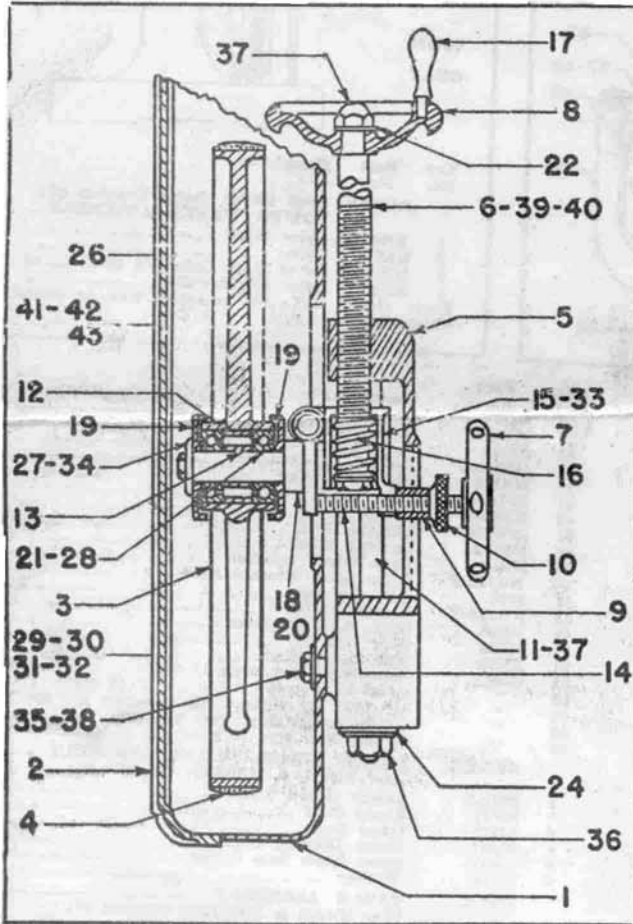


INSTRUCTION SHEET NO. BN91

BN905 and MBN935 BAND SAWS

EFFECTIVE 12-1-48 — SUBJECT TO CHANGE WITHOUT NOTICE.

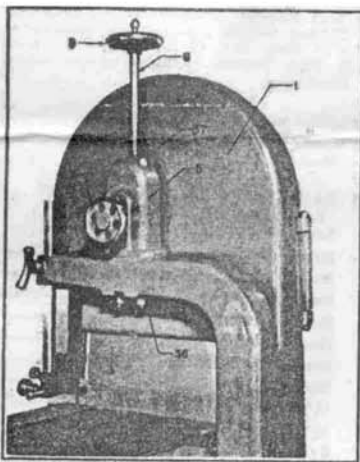
PLEASE NOTE: THERE WILL BE A MINIMUM CHARGE OF \$1.00 ON ALL ORDERS UNDER THAT AMOUNT.



Parts Listing

Key No.	Part No.	Description
	9BN7-X	UPPER WHEEL & BEARING UNIT
		Consists of:
3	BN7-A	Upper Wheel
4	BN7-T	Tire Only
12	BN20	Outer Bearing Spacer
13	BN21	Inner Bearing Spacer
18	BN14	Idler Shaft Bracket
19	BN38	Dust Collar (2 used)
27	BN26	Idler Wheel Shaft
28	SM40-A	Flange Washer
29	70336	Bell Bearings (2 used)
34	WS39	Oil Hole Cap Screw
	BN6-X	TENSIONING UNIT COMPLETE
		Consists of:
5	BN9	Tensioner Housing
6	BN11	Raising & Lowering Screw
7	NS37-B	Alignment Screw Hand Wheel
8	9S17	Hand Wheel
9	BN24	Alignment Screw Spacer
10	BN23	Lock Nut
11	BN5	Support Column (2 used)
14	BN12	Alignment Screw
15	BN8	Wheel Adjusting Bracket
16	BN22	Tension Spring
17	JL19-A	Handle
20	BN17	Bracket Pin
22	HSD20-C	Key Washer
24	DP5169-B	Flange Washer (2 used)
30	L350-A	Bronze Bearings (2 used)
36	Comm.	3/4"-18 Hex. Nut (2 used)
37	"	3/4"-24 Crown Nut (8 used)
39	"	7/16"-24 Hex. Jam Nut
40	"	7/16" I.D. Flat Washer
	BN60	Felt Washer (2 used)
	BN2-X	UPPER WHEEL GUARD ASSEMBLY
		Consists of:
1	BN2	Wheel Housing
2	BN2-A	Housing Cover
26	BN67	Hinge Stud
29	BN68	Hand Knob
30	BN37	Cover Locking Stud
31	BN44	Cover Handle Stop Collar
32	BN63	Washer
35	Comm.	3/4"-16 x 3/4" Cap Screw (2 used)
38	"	3/4" I.D. Flat Washer (2 used)

Wheel Alignment and Blade Tension



All Walker-Turner Band Saws are carefully inspected during manufacture and tested when final assembly is completed. It is quite possible, however, for the machines to get out of alignment while in transit. For this reason the machine should be carefully checked and adjusted, if needed, before putting the machine into operation. A carefully set-up machine will give far superior results to one

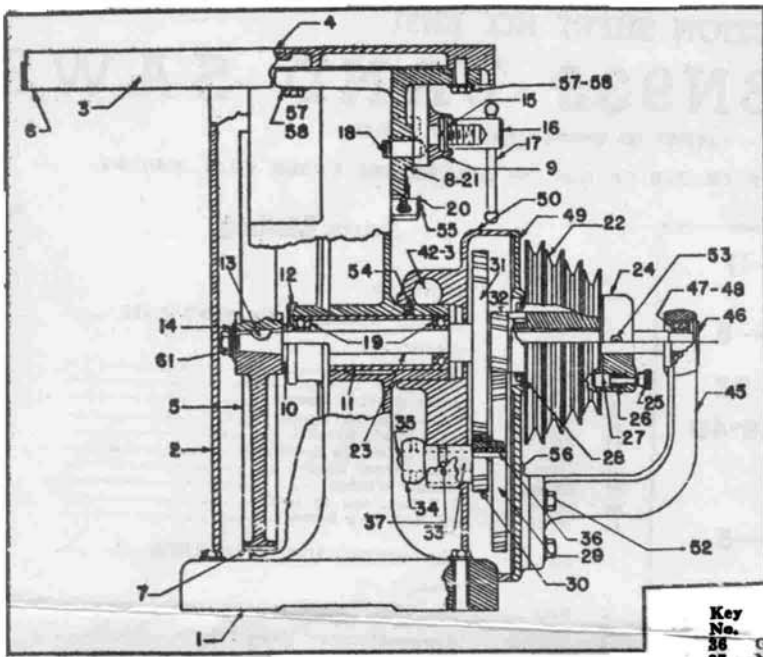
that is carelessly set up. The band saw blade should "track" on the center of the rims of both upper and lower wheels. It should run with enough tension to hold this position and to remain rigid when pressure is applied to it. To check blade alignment or when replacing a blade the following procedure should be followed. Loosen the guide blocks in both blade guides and move them away

from the blade. Loosen guide roller and slide it as far back as it will go. Turn machine by hand and note tracking position of blade. (Turn machine so that blade travels down through the table, as it does under actual working conditions.)

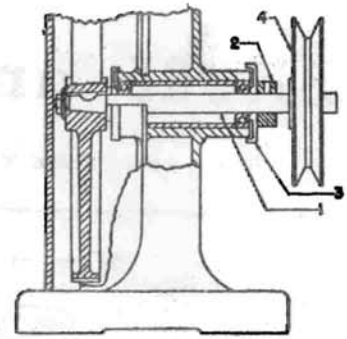
The blade will not track unless tension is sufficient to make the blade taut. Handwheel No. 8 in the photograph at the left controls the blade tension by moving the upper wheel assembly up or down as required. Handwheel No. 7 controls blade alignment by tilting the upper wheel. Turning the wheel to the right tilts the upper edge of the wheel in, causing the blade to run toward the back of the rim; turning the wheel to left has the opposite effect. When aligning the blade turn wheel No. 7 slowly as it is extremely sensitive.

Narrow blades require more tension and accurate aligning than wide blades. With a little experience in changing blades the operator will soon become familiar with the adjustments required and the correct tension to apply to the blade.

When replacing blades the table clip, which will be found underneath the table edge at the end of the saw slot, must be removed in order to get the blade free. Be sure to replace the clip as it is necessary to keep the table true. Full instructions for adjusting both upper and lower guides will be found inside of this sheet.



**LOWER
WHEEL
ASSEMBLY**



**BN905
ONLY**

Key Part Description

**BN91-X (For BN905 Only) Consists of:
LOWER WHEEL ASSEMBLY**

1	BN31	Drive Shaft
2	SA7	Collar
3	NB-10	Drive Shaft Collar (2 used)
4	BN18	Drive Shaft Pulley

Parts shown but not indicated will be found on illustration at left.

Parts Listing

Key No.	Part No.	Description
MAIN FRAME ASSEMBLY		
(For BN905 & MBN935) Consists of:		
Frame Only		
1	BN1	Table Segment Guide (2 used)
18	BN33	Indicator Point
20	BN68	1/4"-18 x 5/16" Allen Screw (2 used)
54	Comm.	10-32 x 5/16" Round Head Screw
65		
LOWER WHEEL & BEARING ASSEMBLY		
(For MBN935 Only) Consists of:		
Lower Wheel		
5	BN7	Tire only
7	BN7-T	Wheel Spacer
10	BN28	Bearing Spacer
11	BN29	Drive Shaft Collar
12	NB10	No. 7 Woodruff Key
13		Washer
14	DP6169-B	Ball Bearings (2 used)
19	465966	Drive Shaft
23	BN80	1/2"-18 Hex. Jam Nut
61	Comm.	
GEAR UNIT ASSEMBLY		
(For MBN935 Only) Consists of:		
24	NB103	Direct Drive Pulley Hub
25	NB99-K	Hand Nut
26	NB109	Pulley Hub Plunger Spring
27	NB99-A	Pulley Hub Plunger
28	NB108	Oil Seal
29	NB89	Reduction Idler Gear 96 T.
30	NB88	Reduction Idler Gear 80 T.
31	NB86	Reduction Drive Gear 96 T.
32	NB87	Reduction Drive Gear 80 T.
22	NB93	4'ulley
33	NB101	Gear Lever Cam
34	NB97	Gear Shift Lever
35	NB102	Gear Lever Cam Pin

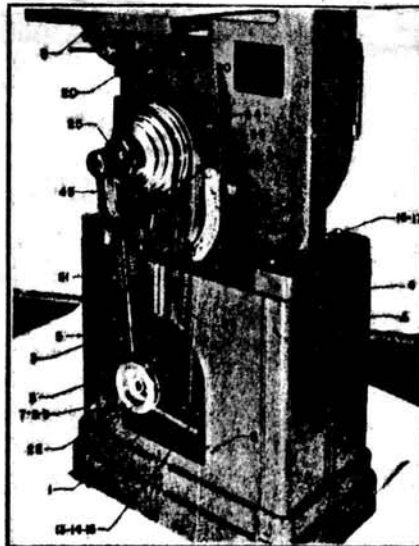
Key No.	Part No.	Description
36	G-101-A	Bronze Bearings
37	NB107	Gear Lever Cam Screw
38	NB98	Shift Lever Segment
39	BN55-A	Shift Lever Plunger
40	NB106	Plunger Spring
41	SJ249-A	Hand Knob
42	MD61-A	Locking Plug
43	DDP63	Locking Plug
44	NB105	Locking Stud
45	NB122	Drive Shaft Bracket
46	NB122-P	Drive Shaft Bracket Plug
47	2203	Ball Bearing
48	NB122-C	Bearing Collar
49	NB85	Gear Housing Cover
50	NB84	Gear Housing
51	BN59	Belt Guard Stud
52	Comm.	3/8"-16 x 1" Hex. Bolt (3 used)
53	"	5/16"-18 x 5/16" Allen Screw (2 used)
56	"	1/4"-20 x 1/4" Fillister Head Screw (11 used)
59	"	1/4"-20 x 1 1/4" Hex. Bolt (2 used)
60	"	1/4"-20 Hex. Nut (3 used)
BN2-BX		
(For BN905 & MBN935) Consists of:		
2	BN2-B	Lower Guard Cover
*	BN67	Hinge Stud
*	BN68	Hand Knob
*	BN87	Cover Locking Stud
*	BN44	Cover Knob Stop Collar
*	BN63	Washer
BN6-X		
TABLE ASSEMBLY		
(For BN905 & MBN935) Consists of:		
3	BN6	Table
4	NB11-A	Table Insert
6	NB11-B	Table Clip
8	BN15	Table Tilting Bracket
9	BN16	Table Locking Segment
15	BN34	Segment Stud
16	BN85	Segment Clamp Nut
17	BN86	Clamp Nut Handle
21	BN41	Table Tilting Gauge
57	Comm.	3/8"-16 x 1" Hex. Bolt (3 used)
58	"	3/4" I.D. Flat Washer (3 used)
		*Not Illustrated

Lubrication

The machine is thoroughly lubricated at the factory and should not require attention for one year of ordinary operation. The lower wheel is journaled on two grease sealed ball bearings. Additional grease can be applied when needed by removing set screw No. 54 shown in the illustration in the upper left hand corner of this page. When lubrication of the upper wheel is required, remove plug from bolt No. 34 (see line drawing on first page) and apply grease through hole in spindle.

Light machine oil should be applied to all other moving parts from time to time to keep them operating freely and also as a preventive of rust.

The gear housing on Model No. MBN935 is packed with sufficient grease for one year of operation. When lubrication is required, remove housing cover, clean out the old grease and re-pack with two cans of SLS Lubricant.

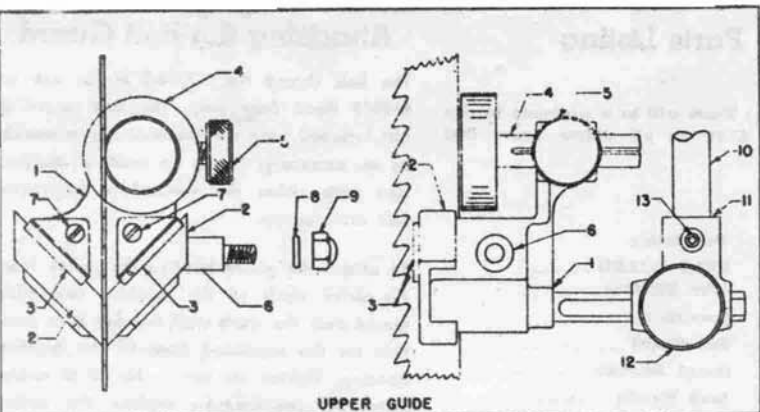


Parts Listing

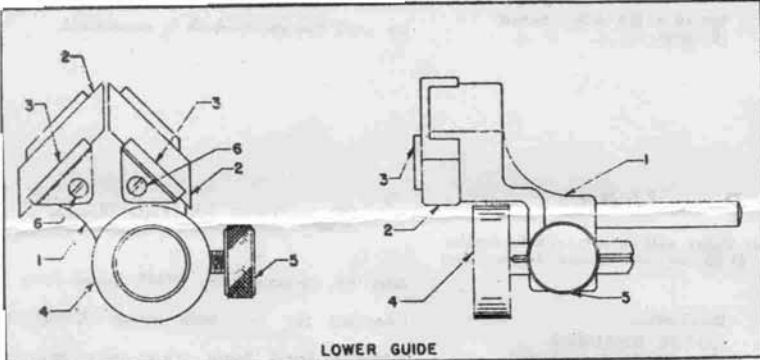
No. Key	No. Part	Description
11BN48 BASE WITH MOTOR BRACKET		
(For BN905 & MBN935)		
Consists of:		
1	BN10	Motor Plate
2	BN19	Motor Plate Segment
3	BN50	Base Partition (Rear)
4	BN51	Base Partition (Front)
5	BN52	Base End Piece (2 used)
6	BN57	Motor Plate Shaft
7	IJ87	Segment Locking Stud
8	Comm.	1/2"-24 Acorn Nut
9	"	1/4" I.D. Flat Washer
10	"	5/16"-18 x 1 Oval Hd. Screw (8 used)
11	"	5/16"-18 Hex. Nut (8 used)
12	"	5/16" I.D. Lock Washers (8 used)
18	"	5/16"-18 x 1 1/4" Sq. Hd. Bolts (4 used)
14	"	5/16"-18 Hex. Nuts (4 used)
15	"	3/16" I.D. Flat Washer (4 used)
16	"	3/8"-16 x 2 1/2" Hex. Bolts (4 used)
17	"	3/8"-16 Hex. Nuts (4 used)
23	NB95	Motor Pulley 3/4" Bore (for MBN935)
24	VB48	18" V Belt
28	PV25A	Motor Pulley 3/4" Bore (for BN905)

Parts Listing

Key No.	Part No.	Description
11BN70X UPPER GUIDE COMPLETE (Specify for metal or wood)		
1	BN70	Guide Bracket and Stud
2	BN73M	Guide Blocks (for Metal)
	BN73W	Guide Blocks (for Wood)
3	BN75	Guide Block Clip (2 used)
4	NB24-N	Ball Bearing Guide Roller
5	BN76	Roller Lock Screw
6	BN74	Front Guard Stud
7	Comm.	10-32 x 3/8" Rd. Hd. Screw (2 used)....
8	"	1/4" LD. Flat Washer
9	"	1/4"-20 Crown Nut
9BN32X GUIDE SUPPORT ROD COMPLETE		
10	BN82	Guide Support Rod
11	NB84	Guide Rod Elbow
12	BN49	Guide Lock Screw
13	Comm.	3/8"-16 x 3/4" Allen Screw
11BN64 TELESCOPING FRONT GUARD		



UPPER GUIDE



LOWER GUIDE

Parts Listing

Key No.	Part No.	Description
9BN48X LOWER GUIDE COMPLETE (Specify for metal or wood)		
1	9BN48N	Guide Bracket and Stud
2	BN73M	Guide Blocks (for Metal)
	BN73W	Guide Blocks (for Wood)
3	BN75A	Guide Block Clip (2 used)
4	NB24-N	Ball Bearing Guide Roller
5	BN76	Roller Lock Screw
6	Comm.	10-32 x 3/8" Rd. Hd. Screw

RECOMMENDED SPECIFICATIONS FOR SPECIFIC MATERIALS

Material	No. Teeth Per Inch	Set	Temper	Speed of Blade, Ft. Per Minute
Aluminum alloy (pistons, moulding)	12-14	R	B	200
Aluminum pure	8-10	S	B	1000-3000
Aluminum sheets	8-10	S	C	1000-3000
Asbestos sheets (thin gauges, transite, asbestos board, etc.)	8-12	S	A	200
Babbitt	10-14	R	B	2000
Bakelite	8-10	S	A	560-2000
Brass cast, soft (screw stock, red-yellow brass, etc.)	10-14	S	B	560-2000
Brass cast, hard	10-14	R	A	200-560
Brass sheets and tubing	14	S	C	560-2000
Bronze (manganese, tobis, etc.)	10-14	R	A	200
Bronze castings	10-14	S or R	B	300-560
Bronze moulding	14-18	S	B	560-2000
Builders board	8-12	S	A	200
Carbon tool steel	12-14	R	A	300
Cast iron	12-14	R	A	200
Cold rolled steel	10-12	R	B	200
Copper	8-12	S	C	560
Drill rod	14	R	A	200
Everbright (nickel, copper alloy)	10-12	R	A	200-300
Fibre	8-10	S	A	300-560
High-speed steel	12-14	R	A	200
Hose-canvas and rubber	8-10	S or G	C	2000
Hose-metallic	18-22	S or G	C	560
Iron bars	12-14	R	B	200
Iron sheets	14-18	R	B	200
Machinery steel	10-14	R	B	200
Malleable iron	12-14	R	A	200
Metal wood	14	R	B	2000
Mica	10-12	S	A	300-560
Monel metal	10-12	R	A	200
Nickel silver	18-22	S	B	200
Nickel steel	12-14	R	A	200
Pipe	14-18	R or S	B	200
Rubber-hard	10-14	S	A	200
Slats	10-14	S	A	200
Structural steel	10-14	R	B	200
Transite	10	H	A	200
Tubing-steel	14-18	R	B	200

Removing the knurled nut and swinging back the belt guard will expose the belt, motor pulley and driven pulley. The spring plunger on the face of the driven pulley must be in coordination with the gear lever. When the gear lever is in the "IN" position the spring plunger must be withdrawn until the catch pin can be turned out of the slot in which it fits. If the plunger is not withdrawn serious damage may result to the gears or other parts of the speed reducer. With the gear lever in the "OUT" position the plunger should be turned until the catch pin is directly over its slot, turning the pulley slowly by hand will permit the pin to drop into place. The saw is then ready for high speed operation.

When the saw is used for high speed work, for cutting wood or similar materials, a speed of 3000 feet per minute is recommended. The two smaller steps of the driven pulley should not be used without the gear reducer except for special work. If the gear lever does not respond to normal pressure DO NOT force it, but move it easily back and forth or else move the saw blade by hand to assist the gears in meshing.

BLADE SELECTION

The most important step in operating a metal cutting band saw is the selection of the blade to fit the type of work to be done. Points to consider in blade selection are width, set, number of teeth to the inch and temper.

The width of the blade is determined by the diameter of the smallest curve to be cut. A 1/2" blade will cut a radius of 1/4" while a 3/8" will cut a radius of 1/2" when properly set. Another point to consider is the pressure of feed, a wide blade will withstand much more feed pressure than a narrow one. Therefore, the widest blade consistent with the radius to be cut should be selected.

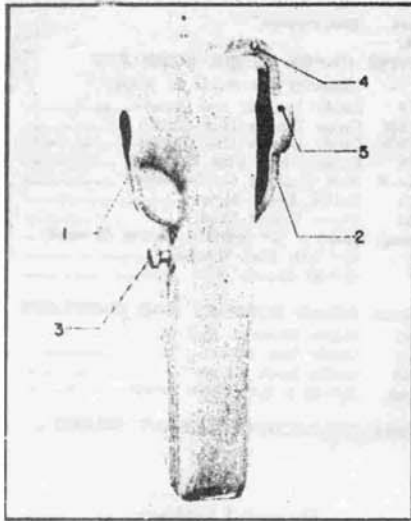
The "set" is divided into three classes (see chart at left), "G" Group or wavy set is where three or more teeth wave to the right and the next three or more to the left, etc. This set allows small tooth spacing. "S" Straight set is where one tooth is set to the right, the next to the left, etc. "R" Raker set is where one straight tooth alternates with two set teeth. The purpose of the straight tooth being to clear the kerf.

Number of teeth per inch is determined by the thickness of the work. The smaller the tooth, the slower the saw will cut, however at least two complete teeth must be in contact with the work at all times.

If there is any doubt as to the correct blade to use, consult the manufacturer, from which you purchase your blades.

OPERATING INSTRUCTIONS

The geared speed reducer built into this band saw is a precision unit and should be treated as such. The gear lever has two positions, one of which brings into action the gear train, this position marked "IN" on the gear housing. The other position is marked "OUT" and the lever in this position will disengage the gear train.



Parts Listing

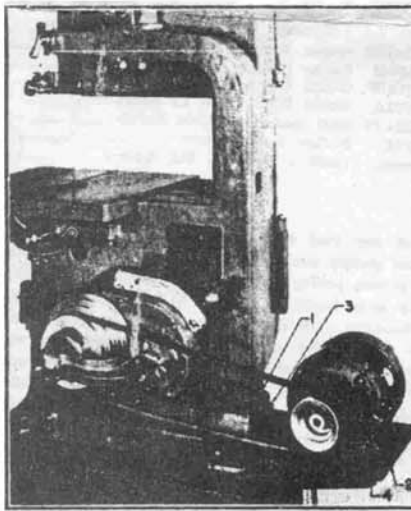
Please Note: There will be a minimum invoice charge of \$1.00 on all orders under that amount.

Key No.	Part No.	Description
	11BN2	BELT GUARD (For BN1135)
		Consists of:
1	NB90	Belt Guard
2	BN43	Guard Bracket
3	BN91	Lock Handle
4	BN43-A	Bracket Pin
5	Comm.	$\frac{3}{8}$ "-16 x $\frac{3}{4}$ " Allen Screw (2 used)

Attaching the Belt Guard

The Belt Guard No. 11BN-2 is for use on BN905 Band Saw only. The belt guard is not included with the machine but available as an accessory. It can be used in conjunction with either the vertical or horizontal belt drive set-up.

To attach the guard remove the pulley from the drive shaft of the machine and slide guard over the shaft until bracket is in position on the machined boss of the bearing housing. Tighten set screws No. 5 to secure guard in position. To replace the pulley loosen lock screw No. 3 and swing guard up until the drive shaft is accessible.



Parts Listing

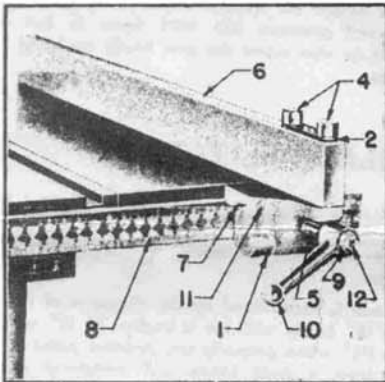
Please Note: There will be a minimum invoice charge of \$1.00 on all orders under that amount.

Key No.	Part No.	Description
	9BN5	MOTOR BRACKET (For BN905 & MBN935)
		Consists of:
1	BN3	Motor Plate Bracket
2	BN4	Motor Plate
3	Comm.	$\frac{3}{8}$ "-16 x 1" Hex. Bolts (8 used)
4	"	$\frac{5}{16}$ "-18 x $1\frac{1}{4}$ " Sq. Hd. Bolts** (4 used)
"	"	$\frac{3}{8}$ "-16 x $1\frac{1}{4}$ " Sq. Hd. Bolts** (4 used)

**Includes Nut and Flat Washer
*Not Illustrated

The 9BN Motor Base

Also an accessory the 9BN5 Motor Base is intended for use with either BN905 or MBN935 Band Saws when they are not mounted on the 11BN1 Base. The frame of the band saw is drilled and tapped to accommodate the three cap screws that hold the base in place.



RIP FENCE

Parts Listing

Key No.	Part No.	Description
	9BN81	RIP FENCE AND BAR
		Consists of:
1	CS84	Rip Guide Carriage
2	CS83	Fence Support Plate
4	DDS68N	Rip Guide Bolt (2 used) ..
5	CS79	Carriage Locking Stud
6	CS80	Fence
7	SRS65	Indicator Point
9	SS14-A	Bevel Washer
10	CS90-S	Lock Handle
11	Comm.	10-32 x $\frac{3}{4}$ " Rd. Hd. Screw
12	"	$\frac{5}{16}$ "-24 x 1" Hex Bolt....
8	NB58-R & L	Rip Fence Support Bar Specify R or L (includes studs and nuts) (2 used)

The No. 9BN80 Rip Fence is available as an accessory for both BN905 and MBN935 Band Saws. The two bolts No. 6 are loosened to adjust the fence when necessary to align it with the blade. The rip fence support is supplied in two pieces so that it does not have to be removed from the table when removing or replacing the blades.

General Instructions

The table on this machine can be tilted 45° to the right and 10° to the left. Check table position with a tri-square resting on the table with the blade of the square held against the side of the saw blade behind the teeth. Corrections can be made if necessary by moving the indicator point or the graduated scale. Having definitely checked the 90° position, adjust the stop screw under the table if necessary. A second stop at the 45° position should also be checked and set. To tilt the table to the left remove the knurled head which will be found on the 90° stop.

The 9B10 Rip Fence assembly available as an accessory is attached to the front edge of the saw table. The support bar is made in two pieces to eliminate removing or disturbing it when changing blades. Included with the fence is a fill-in bar that fits into the meter gauge slot to keep the rip fence from dropping into it. The dowel pin in the bar fits the hole drilled in the table slot locating the bar in the correct position.

WALKER-TURNER DIVISION

PLAINFIELD, NEW JERSEY, U.S.A.

• **KEARNEY & TRECKER CORPORATION** •

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