

INSTRUCTIONS AND PARTS MANUAL

BEAM BUG III

Please record your equipment identification information below for future reference.
This information can be found on your machine nameplate.

Model Number: _____

Serial Number: _____

Date of Purchase: _____

Whenever you request replacement parts or information on this equipment, always supply the information you have recorded above.

LIT-BBIII-IPM-0319

Bug-O Systems is committed to empowering our customers by providing operator controlled mechanized solutions for their welding, cutting and custom applications.



BUG-O SYSTEMS
A DIVISION OF WELD TOOLING CORPORATION



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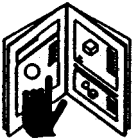
SAFETY

PROTECT YOURSELF AND OTHERS FROM SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.



ELECTRIC SHOCK can kill.

1. The equipment is not waterproof. Using the unit in a wet environment may result in serious injury. Do not touch the equipment when wet or standing in a wet location.
2. Never open the equipment without first unplugging the power cord or serious injury may result.
3. Verify the customer-supplied power connections are made in accordance with all applicable local and national electrical safety codes. If none exist, use International Electric Code (IEC) 950.
4. Never remove or bypass the equipment power cord ground. Verify the equipment is grounded in accordance with all applicable local and national electrical safety codes. If none exist, use International Electrical Code (IEC) 950.



READ INSTRUCTIONS

Read the instruction manual before installing and using the equipment.



EQUIPMENT DAMAGE POSSIBLE.

1. Do not plug in the power cord without first verifying the equipment is OFF and the cord input voltage is the same as required by the machine or serious damage may result.
2. Do not leave the equipment unattended. Remove from the worksite and store in a safe location when not in use.



FALLING EQUIPMENT can cause serious personal injury and equipment damage.

Faulty or careless user installation is possible. As a result, never stand or walk underneath equipment.



MOVING PARTS can cause serious injury.

1. Never try to stop the pinion from moving except by removing power or by using the STOP control.
2. Do not remove any protective panels, covers or guards and operate equipment.

CAUTION

DO NOT LEAVE EQUIPMENT UNATTENDED WHEN NOT IN USE!

Remove from work site and store in a safe location.

BEAM BUG III

INSTRUCTION AND PARTS MANUAL

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**THIS PRODUCT IS COVERED BY ONE OR
MORE PATENTS WORLD WIDE.**

ASSEMBLY INSTRUCTIONS

1. The **BEAM BUG III** is shipped in two boxes, open each box carefully:
 - A. The large box contains the machine, torch mount, torch, tips and hose.
 - B. The smaller box contains the flange rail.
2. A **BEAM RAIL** is required for the **BEAM BUG III** to operate on. When ordered with the **BEAM BUG III**, the **BEAM RAIL** is shipped in a separate box.
3. Install the **Rack Assembly (G)** on **Flange Rail (B)** [See Fig.1] in appropriate hole for the flange size being cut, using **Fasteners (X)** provided.
4. Remove small **Screw (A)** from torch end of **Flange Rail (B)**.
5. Plug **Power Cord (W)** into appropriate power source. **Pilot Light (Y)** will glow when power is on.
6. Lay machine on its back and carefully guide **Flange Rail (B)** through **Wheels (C)** from top of machine (handle side) toward bottom. Throw **Vertical Travel Switch (E)** "Down", carefully engage **Pinion (D)** with rack and feed rail through bottom set of **Wheels (F)**. When **Flange Rail (B)** is approximately 12" (300 mm) past bottom of machine, stop rail travel, and replace small **Screw (A)** from [Step 4] and throw **Vertical Travel Switch (E)** "Up". Rail should stop automatically when screw contacts limit switch.
7. Mount **Swivel Torchholder Assembly (H)** on **Rack (G)**.
8. Install **Right Angle Fittings (AA)** on **Torch (BB)**. Connect **Check Valves (CC)** into **Right Angle Fittings (AA)**. Connect **Hoses (K)** to **Check Valves (CC)**. Select and install proper **Tip size (DD)** in **Torch (BB)**. [See **Tip Chart (M)** on side of machine].
9. Place **Torch (BB)** into **Torchholder (H)** and connect **Supply Hoses (L)** and opposite end of **Hoses (K)** to **Manifold (S)**.

ASSEMBLY INSTRUCTIONS (CON'T.)

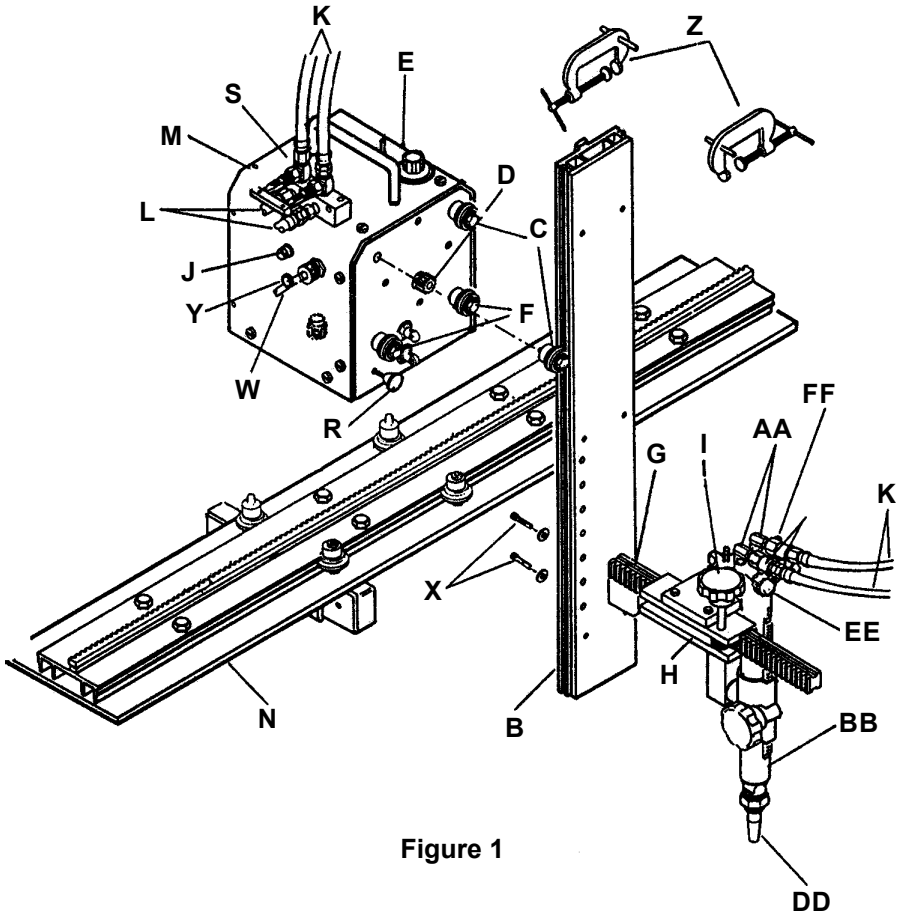
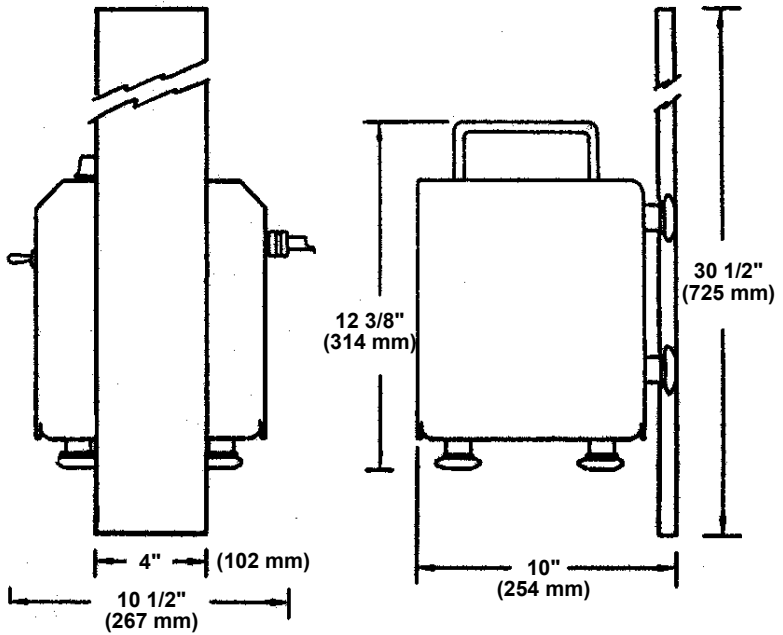


Figure 1

TECHNICAL DATA



Power Input: BUG-1490 120/30-60/1
 BUG-1492 240/50-60/1

Weight: 37 lbs. (17 kg)
 20 lbs. (9 kg) - Without Flange Rail

Dimensions: 10-1/2" W x 10" L x 12-3/8" H
 (267 mm x 250 mm x 314 mm)

Travel Speed: 2 to 50 ipm (50-1250 mm/min)

Flange Travel: 22" (560 mm)

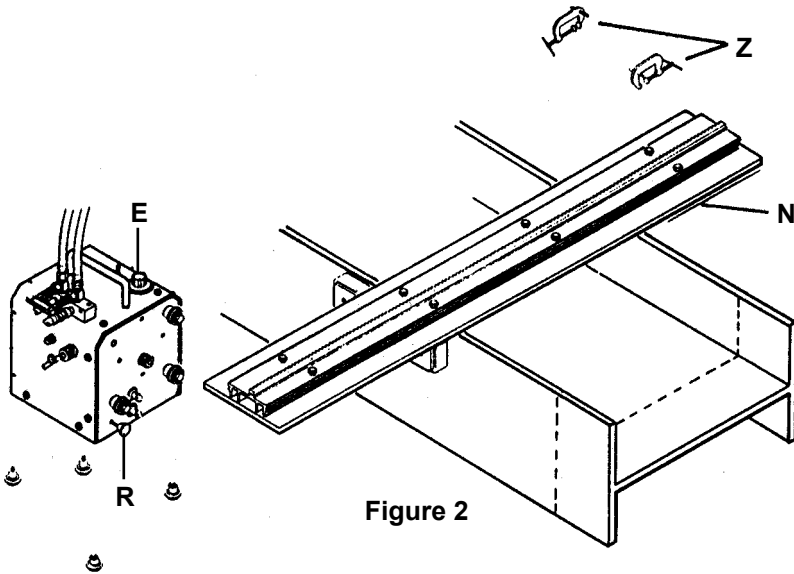
NOTE: The BEAM BUG III must be used with one of the beam rails described on Page 16.

OPERATING INSTRUCTIONS

SQUARE CUTS

1. Accurately mark the line where the cut will be made on the beam. Install **Beam Rail (N)** approximately 8" (200 mm) behind this line (The rack teeth on beam rail should face away from line). Make sure beam is free of dirt, chips, and other debris which would prevent magnets or beam rail from setting flat and result in a crooked cut. Place **Beam Rail (N)** on the beam and adjust, making sure it is parallel to the layout line (parallelism is most important). Next install the two "**C**" **Clamps (Z)** to hold down end opposite magnets.(Ref. Fig. 2)
2. Depress **Clutch Knob (R)** and slide **BEAM BUG III** onto beam rail.

NOTE: **Clutch Knob (R)** faces away from rack teeth on beam rail. Be sure all four wheels are on the rail before starting. (Ref. Fig. 2)



3. In case **Torchholder (H)** was bumped during shipment, check to see that it is parallel to the rail as follows (Ref. Fig. 3):

- A. Lock **Rackholder (I)** on **Rack (G)** [or torchholder assembly].
- B. Swing **Torch (BB)** to a horizontal position and measure distance from **Torch Tip (DD)** to edge of **Rack (N)**.
- C. Swing **Torch (BB)** 180° and measure distance from **Torch Tip (DD)** to edge of **Rack (N)** on other side.
- D. These two measurements must be equal. If they are not, loosen **Socket Head Cap Screw (T)** and nudge **Torchholder (H)** around the vertical axis, and retighten **Clamp Screw (U)** when the measured distances (repeating Steps 2 and 3) are equal.

OPERATING INSTRUCTIONS

SQUARE CUTS

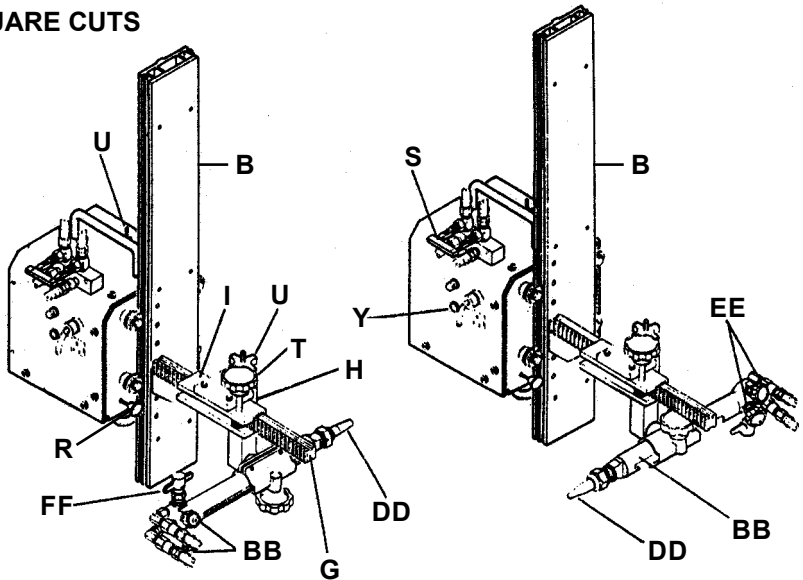


Figure 3

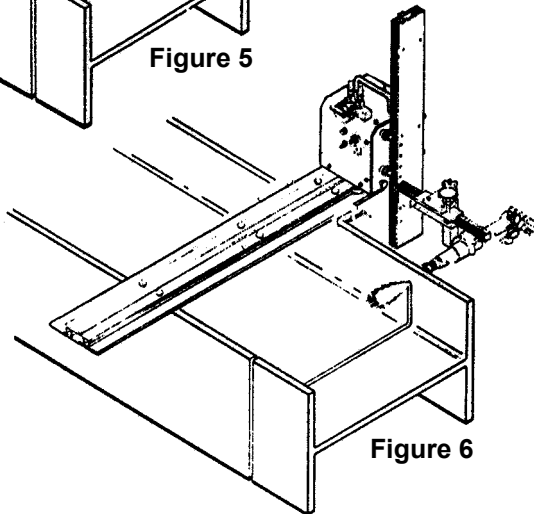
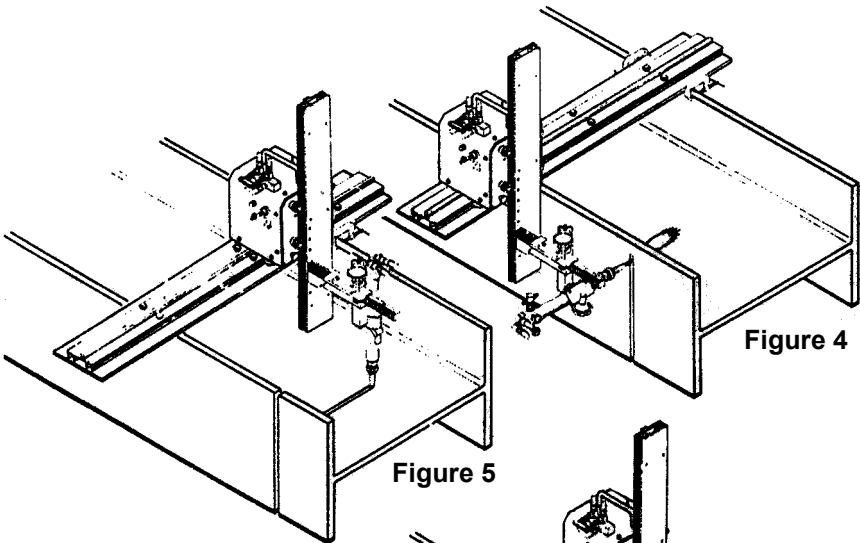
4. Plug the **Power Cord (W)** into an appropriate power source. **Pilot Light (Y)** will glow when power is on.
5. Open **Torch Valves (EE)** throw **Quick Acting Manifold (S)** lever "Down" to "Open" position to set fuel gas and oxygen regulators. See **Chart (M)** on the side of machine for tip size and pressure vs. thickness.
6. Close **Torch Valves (EE)**, reopen slightly and light - adjust preheat flame. Turn off preheat with **Quick Acting Manifold (S)**.
7. To make a square cut: (Ref. Fig. 4, 5 & 6).
 - A. Set **Rack (G)** in holes on **Flange Rail (B)** which corresponds to the thickness of the flange you are cutting. Run **BEAM BUG III** out beyond flange and swing torch so tip faces flange.
 - B. Run **Flange Rail (B)** downwards until **Torch Tip (DD)** is slightly below bottom of flange and stop (use maximum speed).
 - C. Switch on gases using the **Quick Acting Manifold (S)** light **Torch (BB)**, and set cutting speed. When preheat is adequate, open **Cutting Oxygen Valve (FF)** [bat handle on torch] and start vertical travel - adjust speed to suit.

NOTE: As cut comes close to web slow down vertical travel to insure adequate penetration of web - once past web, increase travel speed to optimum.
 - D. When cut has reached the top of flange, turn off preheat gases using the **Quick Acting Manifold (S)** and **Cutting Oxygen Valve (FF)**, limit switch will stop travel.

OPERATING INSTRUCTIONS (CONT'D.)

SQUARE CUTS

- E. Depress **Clutch Button (R)** and move **BEAM BUG III** over web. Swing torch vertical and position tip over cut in web, switch on gases using the **Quick Acting Manifold (S)** and relight torch. When preheat is adequate open **Cutting Oxygen Valve (FF)** [bat handle on torch] and start travel in cut direction. Adjust speed to optimum. Stop horizontal travel as close to flange as possible, and turn off gases using **Quick Acting Manifold (S)** and **Cutting Oxygen Valve (FF)**.
- F. Swing torch to horizontal position (tip facing flange). Move **BEAM BUG III** out beyond edge of flange and repeat Steps 2, 3 & 4.
8. We recommend the first flange cut to be on the magnet side of **BEAM RAIL**.



OPERATING INSTRUCTIONS (CONT'D.)

B. COPING CUTS

1. Follow directions for square cut and use **Knob (Y)** to move torch “In” and “Out” for the “COPING” cut.

C. BEVEL CUTS

1. Flanges may require preheating prior to cutting.
2. Position torch horizontally at top of flange to be cut, light torch (preheat flame) throw **Vertical Travel Switch (E)** “Down”. This will preheat flange. Once the tip has passed the flange bottom, stop travel, and prepare to make upwards cut. (Always cut vertically “Up”). See Step 7 of “SQUARE CUTS” on page 9.
3. A hand preheating torch may be used on heavy sections.

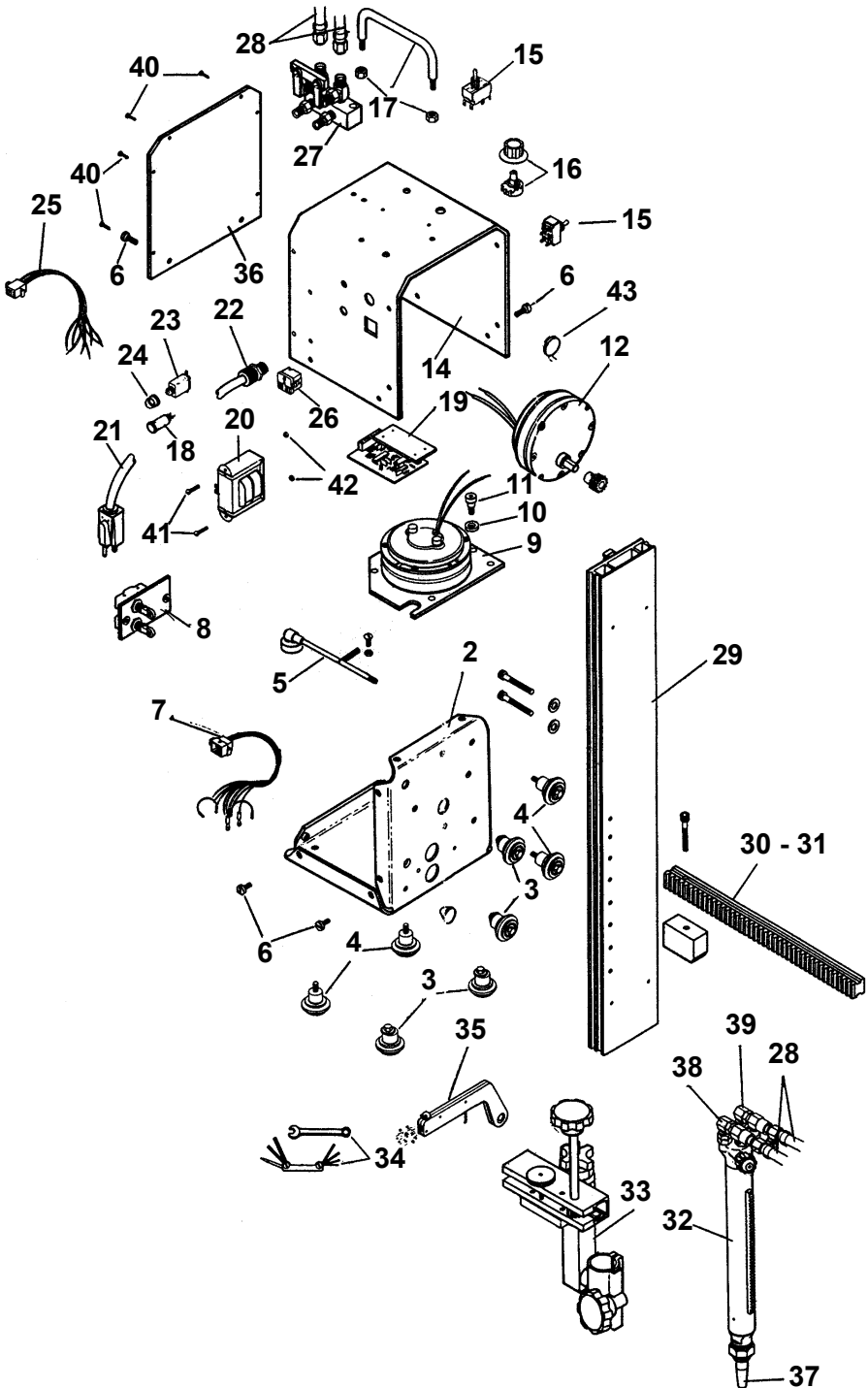
D. MITER CUTS

1. Miter cuts can be made with the following BEAM RAILS: ARR-9214, ARR-9236, ARP-9045, and ARR-9046, see page 17. for more detailed descriptions and capacities.
2. Accurately mark a line where cut will be made on the beam. Install the BEAM RAIL approximately 8" (200mm) behind this line (The rack teeth should face away from line). Again as in square cutting, having the BEAM RAIL parallel to the line is most important! Make adjustments as required. When the BEAM RAIL and line are parallel install the two “**C**” **Clamps (Z)** to hold down end opposite the magnets.
3. Preheating the flanges before cutting may be required when mitering a beam. See procedure under “BEVEL CUTS”.

E. CAUTION

1. Be sure the flanges under the BEAM RAIL are smooth and free from burrs, slag, etc. Any obstruction under the BEAM RAIL results in a crooked cut.
2. Always use at least 2 PSI fuel gas pressure with the BUG-1295 (TYPE MT) torch!
3. Be sure to raise **Flange Rail (B)** and **Torch (BB)** to clear top at flange before engaging horizontal travel!
4. The BEAM BUG III is protected by a **Circuit Breaker (J)** against electrical malfunctions, or overloads. If the circuit breaker pops, determine and correct the cause, before pushing in button to reset.
5. If the **Torchholder Assembly (H)** is bumped or dropped check to see that it is still parallel to **Rail (N)** as per Step 3 of “SQUARE CUTS”. (Periodic checks are recommended to insure square cuts).

EXPLODED VIEW / BEAM BUG III



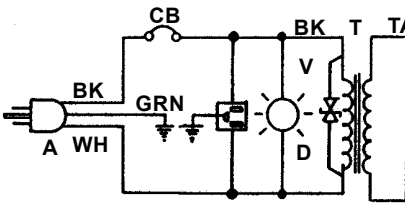
PARTS LIST / BEAM BUG III

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	BUG-1451	Base Assembly (Includes Items #2 thru #12)
2	BUG-1452	Base L-Plate
3	BUG-1982	Ext. Adj. Leg & Wheel Assembly
4	GOF-3003	Fixed Wheel Assembly
5	BUG-1456	Cam Clutch Assembly
6	FAS-0155	1/4-20 x 1/2 Pan. Hd. Screw
7	BUG-1467	Wire Harness
8	BUG-1221	Vertical Limit Kit
9	BUG-1463	Horizontal Drive Unit, (Includes GOF-3014 Pinion w/Set Screw)
10	GOF-3008	Spacer
11	FAS-0654-PREC	5/16 x 3/8 Soc. Hd. Sh. Screw
12	BUG-1464	Vertical Drive Unit, (Includes GOF-3014 Pinion w/Set Screw)
13	BUG-1461	Enclosure Assembly (Includes Items #14 thru #26)
14	BUG-1462	Panel
15	BUG-2255	Toggle Switch
16	BUG-9686	Pot. & Knob Control
17	GOF-3019	Handle w/ (2) 1/4 - 28 Hex Nuts
* 18	BUG-1415	Pilot Light 120 VAC
19	BUG-1725	Precision Speed Control
* 20	BUG-9675	Transformer 120 VAC
* 21	BUG-9445	Power Cord
22	BUG-9446	Cord Grip
* 23	BUG-2923	Circuit Breaker .7A
24	BUG-2924	Reset Button Seal
25	BUG-1468	Wire Harness
26	BUG-2287	Socket, 120 VAC Outlet
27	GOF-3025	Quick Acting Manifold
28	CIR-1010-5	Hose Assembly 50" (1270mm)
29	ARR-1240	Flange Rail Assembly
30	BUG-1443	Rack Assembly 12" (304 mm)
31	BUG-1444	Rack Assembly 18" (457 mm)
32	BUG-1295	2-Hose Machine Torch w/Check Valves
33	BUG-1475	Torchholder Assembly
34	BUG-9444	Tool Kit
35	HOB-1094	Shoot-A-Lite (Not Shown in Exploded View)
36	BUG-1458	End Cover
37	BUG-1252-1, 2 or 3	Acetylene Cutting Tip (One set provided per Customer's Selection)
	BUG-1253-1, 2 or 3	Propane NG Tip
	BUG-1265-1, 2 or 3	Mapp Tip
	(Suffix Specifies Size)	
38	BUG-1296	Oxygen 90° Hose Adaptor
39	BUG-1297	Acetylene 90° Hose Adaptor
40	FAS-0115	#6 - 32 x 1/2 Pan. Hd. Screw
41	FAS-0224	#8 - 32 x 3/8 Rd. Hd. Screw
42	FAS-1320	#8 - 32 Hex Nut
43	BUG-1393	Volt Trap 120 VAC

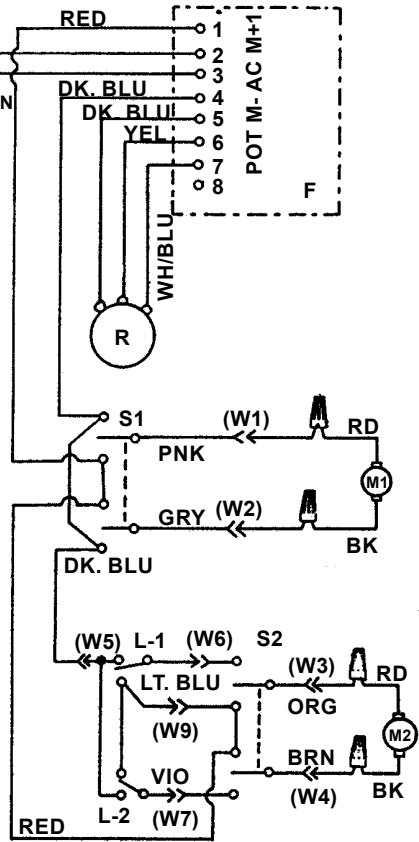
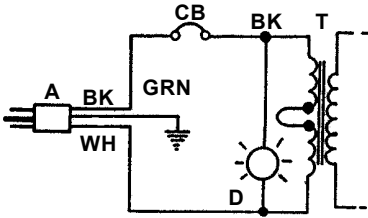
*See Electrical Component Chart for 240 VAC Part Numbers.

WIRING DIAGRAM

BUG-1490 120 VAC



BUG-1492 240 VAC

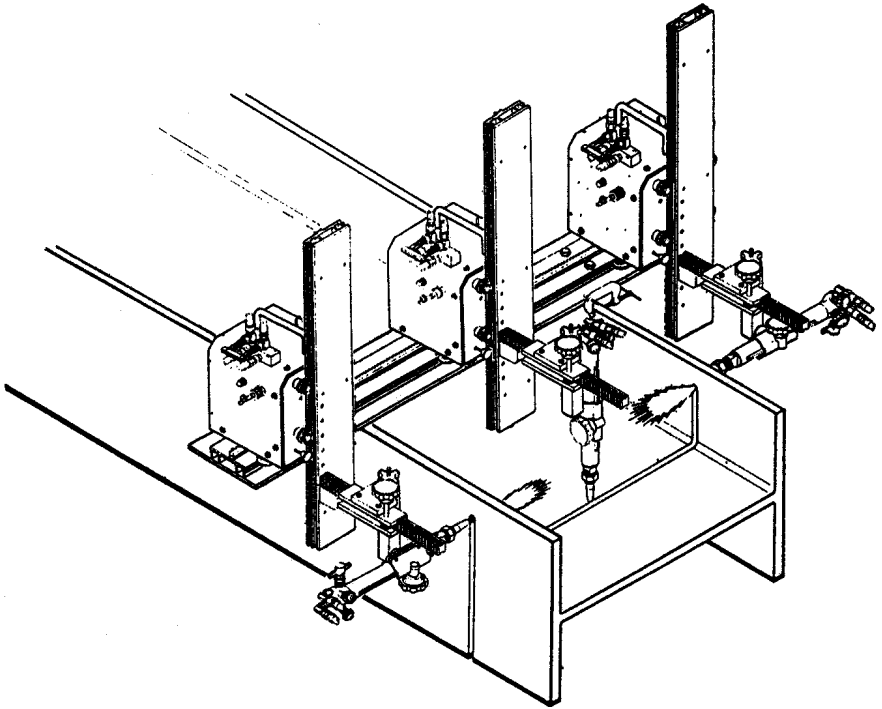


ELECTRICAL COMPONENT CHART

ITEM	DESCRIPTION	BUG-1490 120 VAC	BUG-1492 240 VAC
A	Power Cord	BUG-9445	GOF-3115
B	Socket	BUG-2287	(*)
D	Pilot Light	BUG-1415	BUG-1428
CB	Circuit Breaker	BUG-2923	BUG-2923
T	Transformer	BUG-9675	GOF-3112
V	Volt Trap	BUG-1393	BUG-1563
F	Precision Speed Control	BUG-1725	
P	Potentiometer Control	BUG-9686	
M1	Horizontal Drive Unit	BUG-1463	
M2	Vertical Drive Unit	BUG-1464	
S1	Forward-Off-Reverse Switch, Horizontal	BUG-2255	
S2	Forward-Off-Reverse Switch, Vertical	BUG-2255	
L1, L2	Vertical Limit Kit (Includes 2 Switches)	BUG-1221	
to W1 W2	Wire Harness Connector Pins	BUG-1467, BUG-1468	

Note: *Item "B" BUG-2287 socket is disconnected on 240 VAC machines.

BEAM RAILS



1. **ARR-9114 BEAM RAIL** for 14" (350 mm) Beams "Square Cut Only".
2. **ARR-9214 BEAM RAIL** for "MITER CUTTING" up to 14" (350 mm) Beams.
3. **ARR-9236 BEAM RAIL** for "MITER CUTTING" up to 36" (900 mm) Beams.

These rails have a swivel magnet bar on one side for easy alignment, and are fastened by clamps on the opposite flange of the beam.

ARR-9114

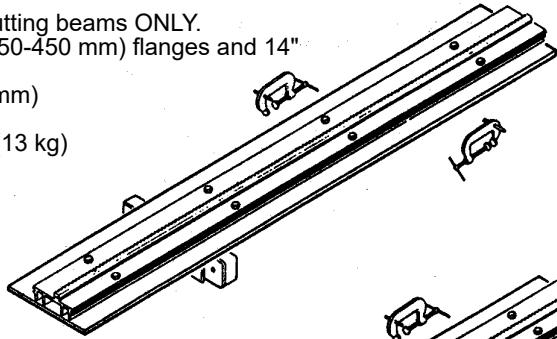
Beam Rail for square cutting beams ONLY.

Capacity: Cuts 2"-18" (50-450 mm) flanges and 14" (350 mm) webs.

Length: 46-1/2" (1180 mm)

Net Wt.: 18 lbs. (8 kg)

Shipping Wt.: 28 Lbs. (13 kg)

**ARR-9214**

Swivel-Mounted Beam Rail for straight, bevel, coping and miter cuts on the web. (May also be used for miter cuts on the flanges by rotating the beam).

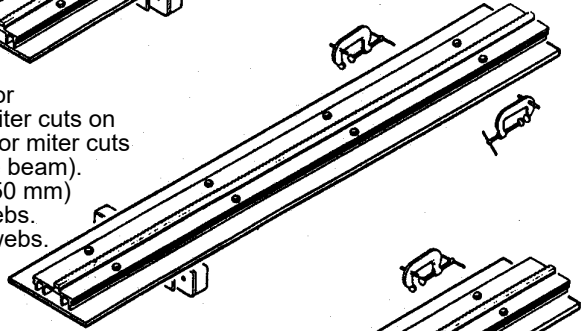
Capacity: Cuts 2"-18" (50-450 mm) flanges and 36" (900 mm) webs.

Miter cuts on 14" (350 mm) webs.

Length: 72" (1830 mm)

Net Wt.: 28 Lbs. (13 kg)

Shipping Wt.: 41lbs. (18 kg)

**ARR-9236**

Swivel-Mounted Beam Rail, same as above but, with greater capacity:

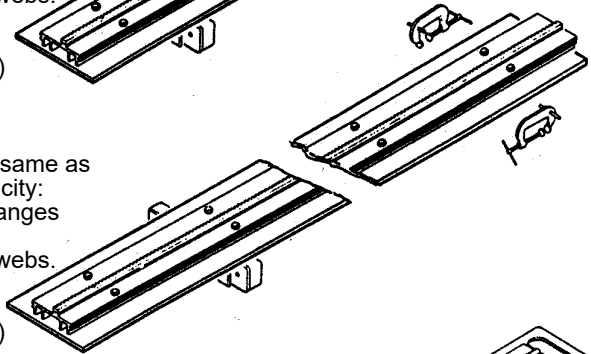
Cuts: 2"-18" (50-450 mm) flanges and 66" (1675 mm) webs.

Miter cuts on 36" (900 mm) webs.

Length: 102" (2590 mm)

Net Wt.: 36 lbs. (16 kg)

Shipping Wt.: 51lbs. (23 kg)

**ARR-9045**

Adjustable Beam Rail, includes two (2) squaring bars and adjustable locks for miter cutting flanges 0°-45° to 14"

(355 mm) wide, and webs;

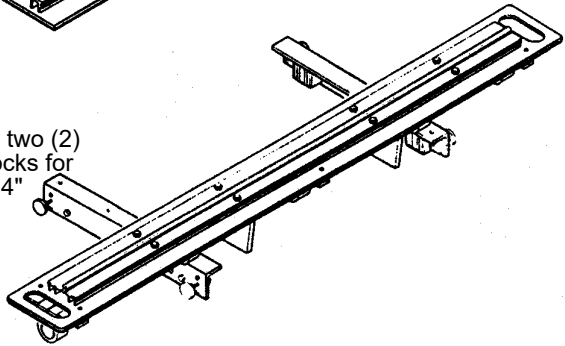
0°-13° to 36" (915 mm) wide

0°-45° to 24" (610 mm) wide

36" (915 mm) of travel.

Net Wt.: 50 lbs. (23 kg)

Shipping Wt.: 75 lbs. (34 kg)

**ARR-9046**

Adjustable Beam Rail, similar to above but, cuts webs;

0°-34° to 60" (1524 mm) wide.

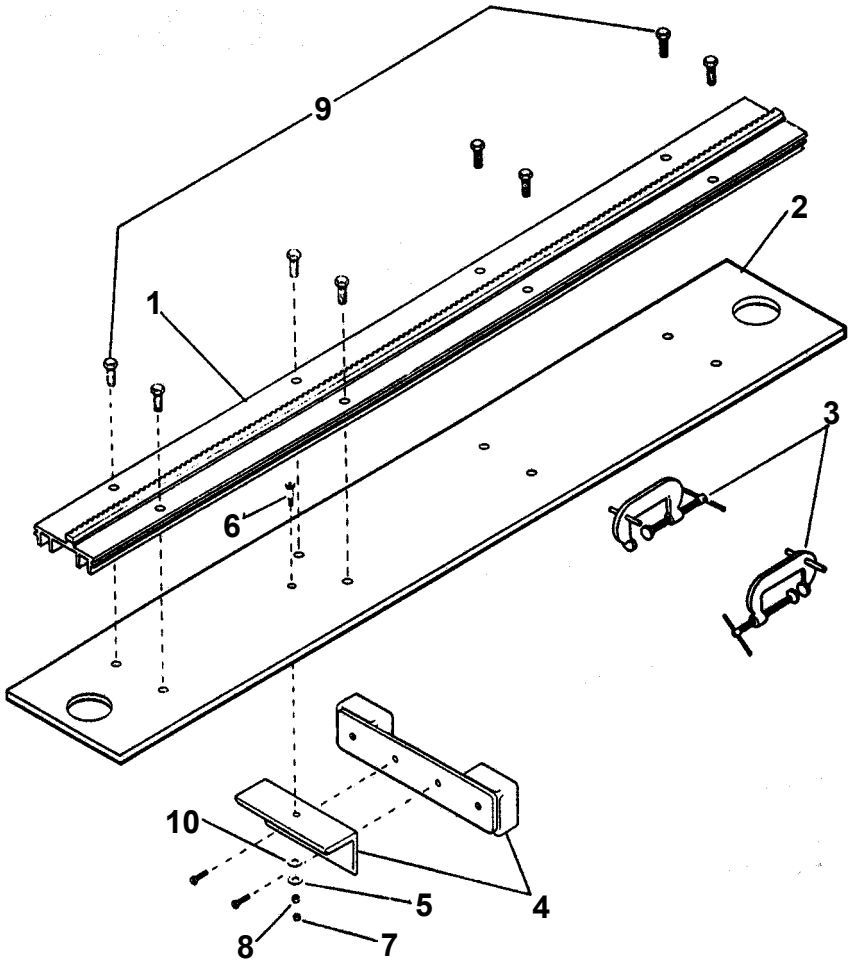
0°-45° to 50" (1270 mm) wide.

72" (1830 mm) of travel.

Net Wt.: 65 Lbs. (30 kg)

Shipping Wt.: 90 Lbs. (41 kg)

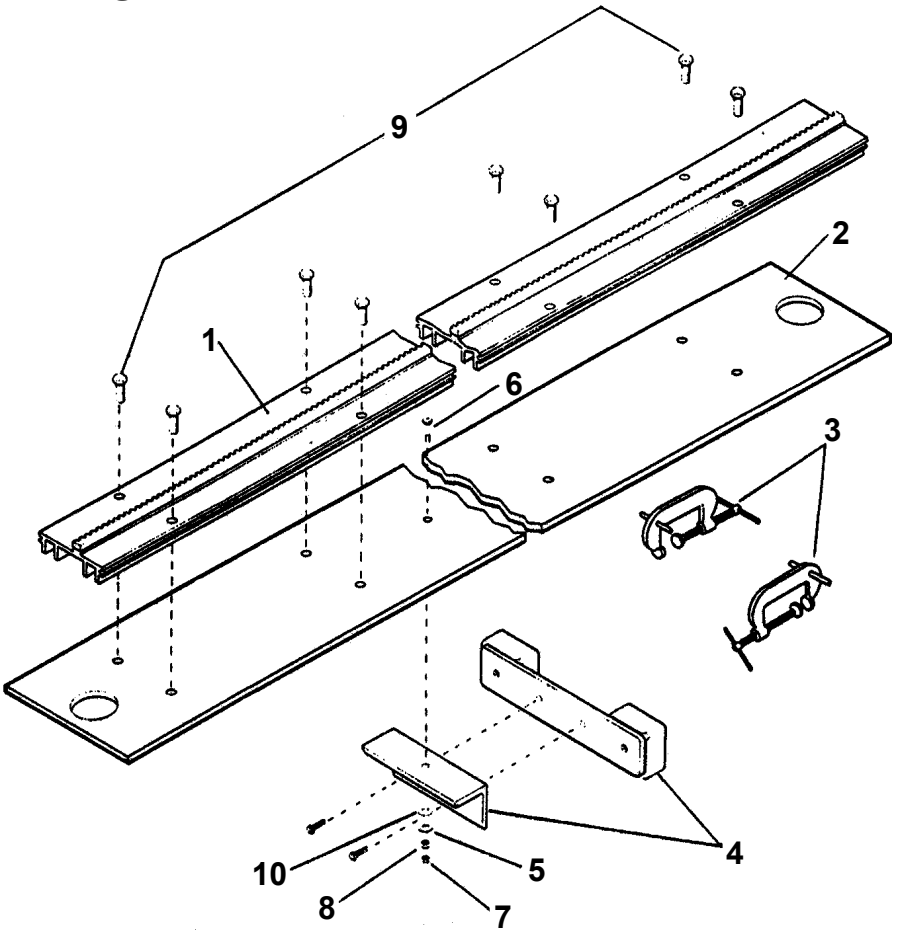
EXPLODED VIEW / PARTS LIST / BEAM RAILS



ARR-9114 BEAM RAIL FOR 14" (350 mm) BEAMS

<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	1	ARR-1085	H.D. Aluminum Rigid Rail 46-1/2" (1.18 m)
2.	1	ARR-9113	Web Plate 46-1/2" (1.18 m)
3.	2	ARR-9230	"C" Clamp
4.	1	ARR-9235	Angle and Magnet Assembly
5.	1	BUG-1988	Washer
6.	1	FAS-0656	5/16 x 5/8 x 1/4-20 Soc. Hd. Shld. Screw
7.	1	FAS-1350	1/4-20 Hex Jam Nut
8.	1	FAS-1351	1/4-20 Hex Nut
9.	8	FAS-2370	5/16-18 x 1-1/8 Hex Hd. Cap Screw
10.	1	WAS-0250	5/16 SAE Washer

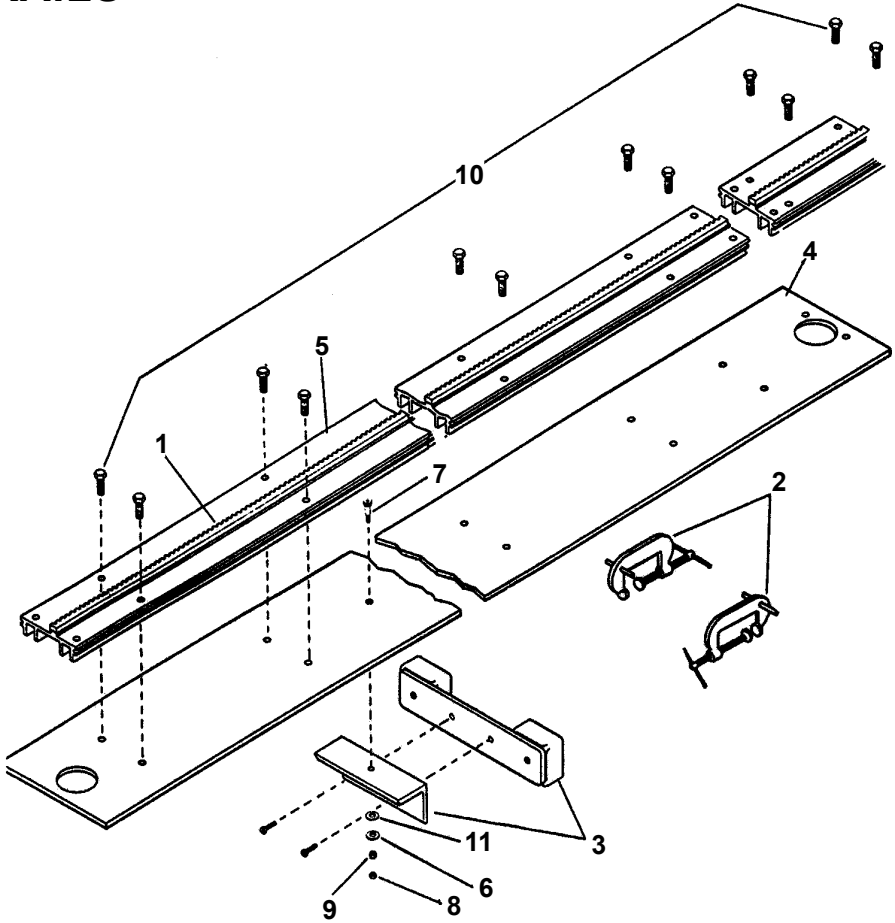
EXPLODED VIEW / PARTS LIST / BEAM RAILS



ARR-9214 BEAM RAIL FOR 36" (900 mm) BEAMS

<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	1	ARR-9212	Rail 72" (1830 mm)
2.	1	ARR-9213	Web Plate
3.	2	ARR-9230	"C" Clamp
4.	1	ARR-9235	Angle and Magnet Assembly
5.	1	BUG-1988	Washer
6.	1	FAS-0656	5/16 x 5/8 x 1/4-20 Soc. Hd. Shld. Screw
7.	2	FAS-1350	1/4-20 Hex Jam Nut
8.	12	FAS-2370	5/16-18 x 1-1/8 Hex Hd. Cap Screw
9.	1	WAS-0250	5/16 SAE Washer

EXPLODED VIEW / PARTS LIST / BEAM RAILS



ARR-9236 BEAM RAIL FOR 66" (1675 mm) BEAMS

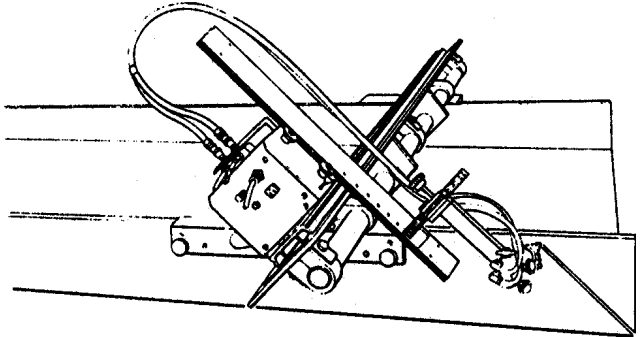
<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	1	ARR-1080	H.D. Aluminum Rigid Rail 93-1/2" (2.37m)
2.	2	ARR-9230	"C" Clamp
3.	1	ARR-9235	Angle and Magnet Assembly
4.	1	ARR-9237	Web Plate 102" (2590mm)
5.	1	ARR-9240	Rail
6.	1	BUG-1988	Washer
7.	1	FAS-0656	5/16 x 5/8 x 1/4-20 Soc. Hd. Shld. Screw
8.	2	FAS-1350	1/4-20 Hex Jam Nut
9.	20	FAS-2370	5/16-18 x 1-1/4 Hex Hd. Cap Screw
10.	1	WAS-0250	5/16 SAE Washer

ADJUSTABLE BEAM RAILS

ARR-9045 / ARR-9046

The adjustable beam rail makes it possible to use the BEAM BUG III for miter cutting in addition to straight cutting, beveling and coping. The adjustable beam rail can be positioned for 0° - 45° cuts, in either direction on any beam up to a 36" (915 mm) wide flange, [60" (1525 mm) with ARR-9046].

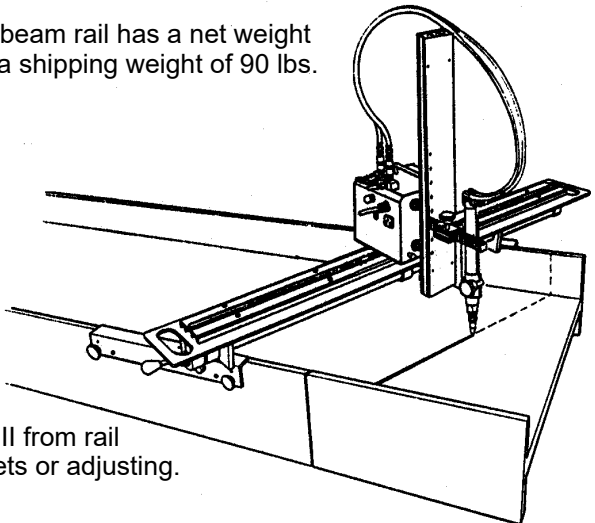
The adjustable beam rail is positioned on the work using two magnetic bars, which fasten on each flange. Two stop plates hold the rail perpendicular to the work for straight cutting. By loosening the eccentric clamp assemblies and sliding the stop plates toward the center, the rail can be rotated to any angle between 0° and 45° in either direction. The rail is locked in the appropriate position, parallel to the layout line, by tightening the clamp assemblies.



A miter cut on the web is set up using the same eccentric clamps and sliding either one of the magnetic mounting assemblies away from the other one. The rail is then clamped in position, ready to cut, 0°-45°. Two knob screws with ball ends enable you to "slide" the magnetic bar easily from one position to the other, and may also be used to release the magnets from the workpiece.

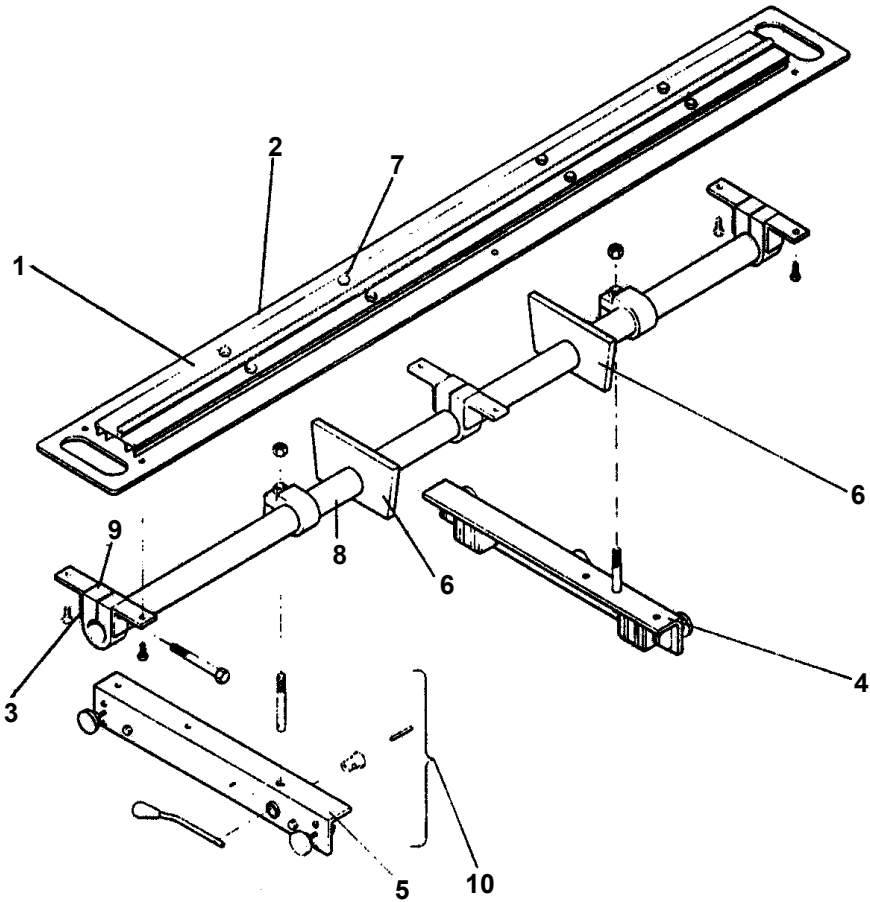
The adjustable beam rail has a net weight of 42 lbs. (19 kg) and a shipping weight of 75 lbs. (34 kg).

ARR-9046 adjustable beam rail has a net weight of 65 lbs. (30 kg) and a shipping weight of 90 lbs. (41 kg).



CAUTION:
Remove BEAM BUG III from rail
when releasing magnets or adjusting.

EXPLODED VIEW / PARTS LIST / ADJUSTABLE BEAM RAIL / ARR-9045



<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	1	ARR-1207	Web Rail 58"
2.	1	ARR-1213-65	Web Plate 65"
3.	3	ARR-1215	Tube Clamp Assembly
4.	1	ARR-1216	Magnetic Mounting Bar Assy. L.H.
5.	1	ARR-1217	Magnetic Mounting Bar Assy. R.H.
6.	2	ARR-1225	Stop Plate
7.	10	FAS-2370	Hex Hd. Cap Screw 5/16-18 x 1-1/8
8.	1	MUG-1054	Cross Beam 59" (1499 mm)
9.	2	MUG-1103	Tube Clamp
10.	2	ARR-1218	Eccentric Clamp Release Assembly

WARRANTY

**LIMITED 3-YEAR
WARRANTY**

MODEL _____
SERIAL NO. _____
DATE PURCHASED: _____
WHERE PURCHASED: _____

For a period ending one (1) year from the date of invoice, Manufacturer warrants that any new machine or part is free from defects in materials and workmanship and Manufacturer agrees to repair or replace at its option, any defective part or machine. HOWEVER, if the invoiced customer registers the Product Warranty by returning the Warranty Registration Card supplied with the product within 90 days of the invoice date, or by registering on-line at www.bugo.com, Manufacturer will extend the warranty period an additional two (2) years which will provide three (3) total years from the date of original invoice to customer. This warranty does not apply to machines which, after Manufacture's inspection are determined by Manufacturer to have been damaged due to neglect, abuse, overloading, accident or improper usage. All shipping and handling charges will be paid by the customer.

The foregoing express warranty is exclusive and Manufacturer makes no representation or warranty (either express or implied) other than as set forth expressly in the preceding sentence. Specifically, Manufacturer makes no express or implied warranty of merchantability or fitness for any particular purpose with respect to any goods. Manufacturer shall not be subject to any other obligations or liabilities whatsoever with respect to machines or parts furnished by Manufacturer.

Manufacturer shall not in any event be liable to Distributor or any customer for any loss of profits, incidental or consequential damages or special damages of any kind. Distributor's or customer's sole and exclusive remedy against Manufacturer for any breach of warranty, negligence, strict liability or any other claim relating to goods delivered pursuant hereto shall be for repair or replacement (at Manufacturer's option) of the machines or parts affected by such breach.

Distributor's Warranty:

In no event shall Manufacturer be liable to Distributor or to any customer thereof for any warranties, representations or promises, express or implied, extended by Distributor without the advance written consent of Manufacturer, including but not limited to any and all warranties of merchantability or fitness for a particular purpose and all warranties, representations or promises which exceed or are different from the express limited warranty set forth above. Distributor agrees to indemnify and hold Manufacturer harmless from any claim by a customer based upon any express or implied warranty by Distributor which exceeds or differs from Manufacturer's express limited warranty set forth above.

HOW TO OBTAIN SERVICE:

IF YOU THINK THIS MACHINE IS NOT OPERATING PROPERLY, RE-READ THE INSTRUCTION MANUAL CAREFULLY, THEN CALL YOUR AUTHORIZED BUG-O DEALER/DISTRIBUTOR. IF THEY CANNOT GIVE YOU THE NECESSARY SERVICE, WRITE OR PHONE US TO TELL US EXACTLY WHAT DIFFICULTY YOU HAVE EXPERIENCED. BE SURE TO MENTION THE MODEL AND SERIAL NUMBERS.