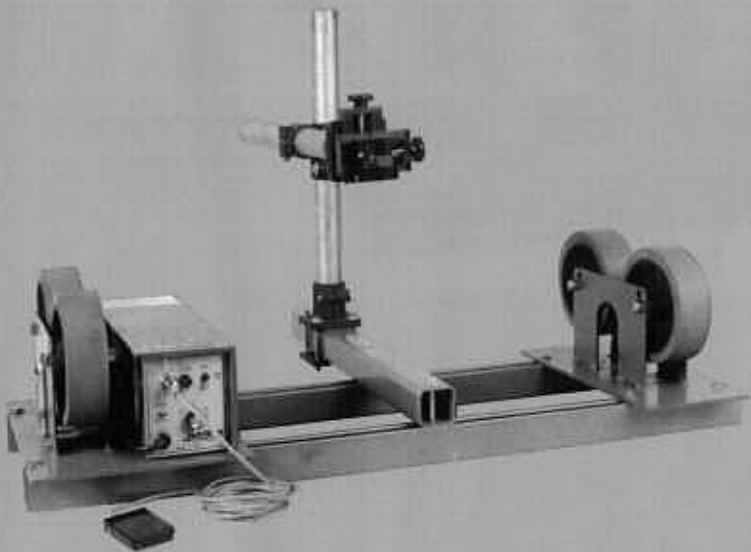
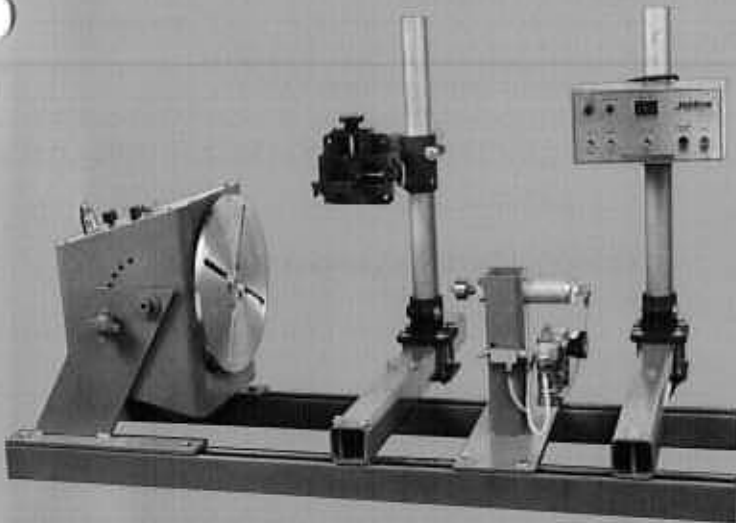


BENCHMASTER POSITIONERS AND TURNING ROLLS

Jetline's improved package system approach to benchtop welding applications is specifically designed and engineered to save time and money on an endless variety of different workpiece requirements. All components in the system are quickly interchangeable to minimize downtime between set-ups. There are no excessive costs because you buy only the components you need and can add to them at any time. The special capabilities of the Benchmaster system produce top quality circumferential welds faster and more efficiently to help you keep production moving.



Jetline[®]
engineering, inc.

JETLINE'S ADD-ON WELDING SYSTEM

Suitable for use with the ZB-200 positioner. Consult pages 6 and 7 for the component parts you need to complete your welding system.

Control Features

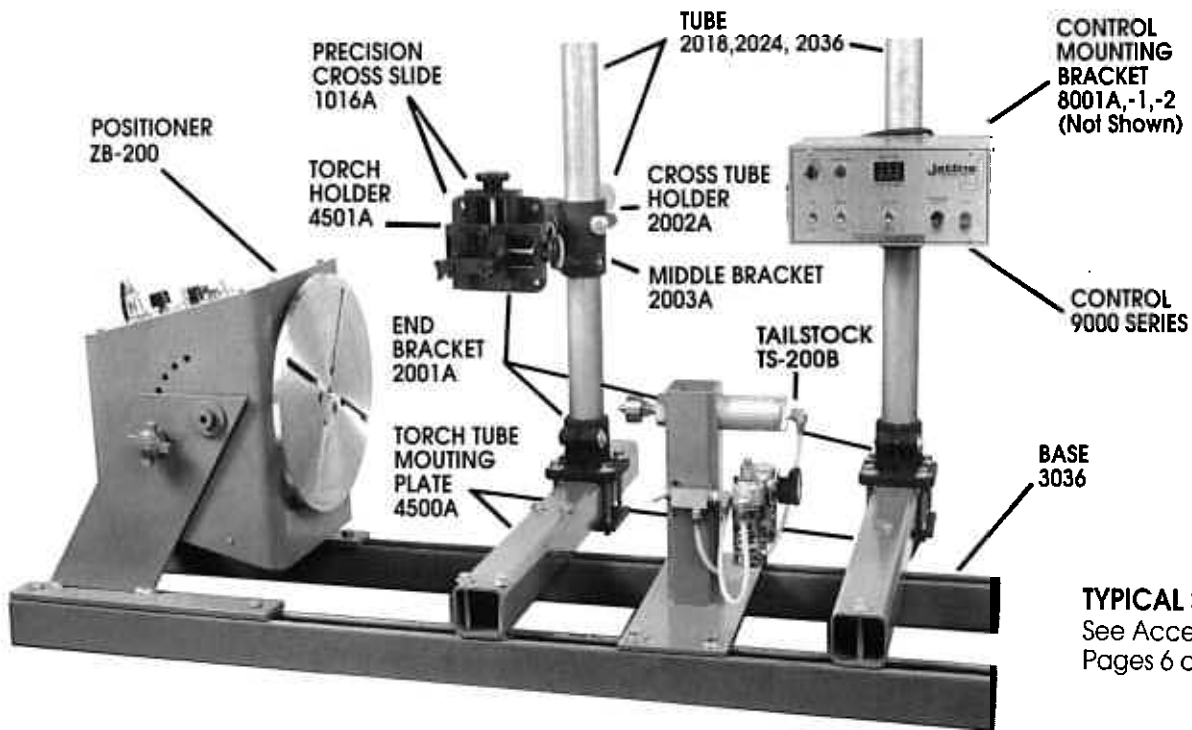
- Solid-State control with SCR feedback system*
- Protected against high-frequency
- Dynamic brake for instant stop*
- Plug-in socket for remote foot control or external signal from sequence panel for automatic run-stop*

* Except ZB-75ACA

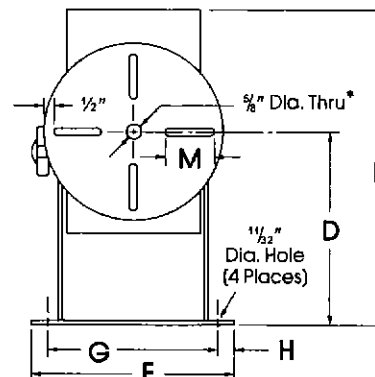
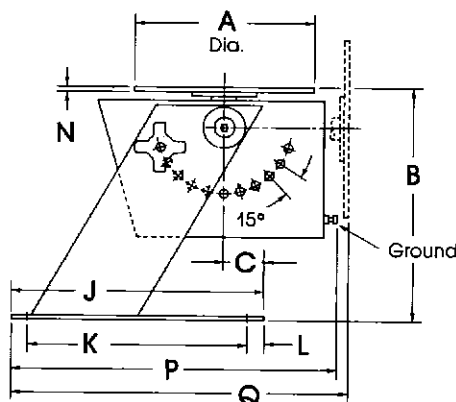
Optional Features and Accessories

- See pages 6 and 7 for optional components
- 220 volt 50 cycle operation in place of standard 115/1/60
- Sequencing control for automatic timing and sequencing of rotation, see last page
- Remote foot switch—Run/Stop control

Additional speed ranges available on special order.



TYPICAL SYSTEM
See Accessories
Pages 6 and 7



**SEE CHARTS
FOR DIMENSIONS**

*Not available on ZB-75

Model ZB-75



ZB-75ACA



ZB-75DCA

Weight Capacity:

Faceplate Vertical—75 lbs. (34 Kg.) with CG 4" from plate
 Faceplate Horizontal—100 lbs. (45 Kg.) with CG 4" off center

Table Tilt:

Tilt of 90°—flat to vertical

Faceplate:

8" diameter aluminum with 4 tooling slots (no thru-hole)

Ground Current Conduction:

Ampco Bronze, Spring Loaded Rotary Ground—300 amps

Speed Ranges Available:

Model ZB-75DCA 0.3 to 10 RPM (For automatic welding)

Model ZB-75DCB .08 to 3.2 RPM (For automatic welding)

Model ZB-75ACA .01 to 7.5 RPM (For manual welding)

Foot Control standard on ZB-75ACA

Foot Switch optional on ZB-75DCA&B

| | A | B | C | D | E | F | G | H |
|--------|-----|-----------------|-----------------|-----------------|------------------|-----------------|-----|-----------------|
| Inches | 8 | 7 $\frac{7}{8}$ | 3 $\frac{1}{2}$ | 7 $\frac{7}{8}$ | 14 $\frac{1}{2}$ | 9 $\frac{7}{8}$ | 8 | 3 $\frac{1}{4}$ |
| mm | 203 | 187 | 88 | 187 | 368 | 250 | 203 | 19 |

| | J | K | L | M | N | P | Q |
|--------|-----|-----|----|----|-----------------|-----|-----------------|
| Inches | 6 | 4 | 1 | 2 | 3 $\frac{1}{8}$ | 10 | 7 $\frac{1}{2}$ |
| mm | 152 | 101 | 25 | 50 | 9 | 254 | 190 |

Approximate shipping weight: 30 pounds

Model ZB-200 (Standard)



Weight Capacity:

Faceplate Vertical – 200lbs. (90 Kg.) with CG 4" from plate
 Faceplate Horizontal – 400 lbs. (180 Kg.) with CG 4" off center

Table Tilt:

Tilt of 135° – flat to 45° past vertical

Tilt lock is positive, cannot slip under load

Faceplate:

12" diameter aluminum with 4 tooling slots; 5/8" diameter through-hole (1 $\frac{5}{8}$ " and 3" optional)

Ground Current Conduction:

200 amps (Optional System for 500 amps)

No carbon brushes to wear or crystalize

Speed Ranges Available:

ZB-200A 0.2 to 10 RPM Max torque: 140 in lb

ZB-200B 0.07 to 3.3 RPM Max torque: 420 in lb

ZB-200C 0.4 to 20 RPM Max torque: 70 in lb

ZB-200D 0.6 to 30 RPM Max torque: 47 in lb

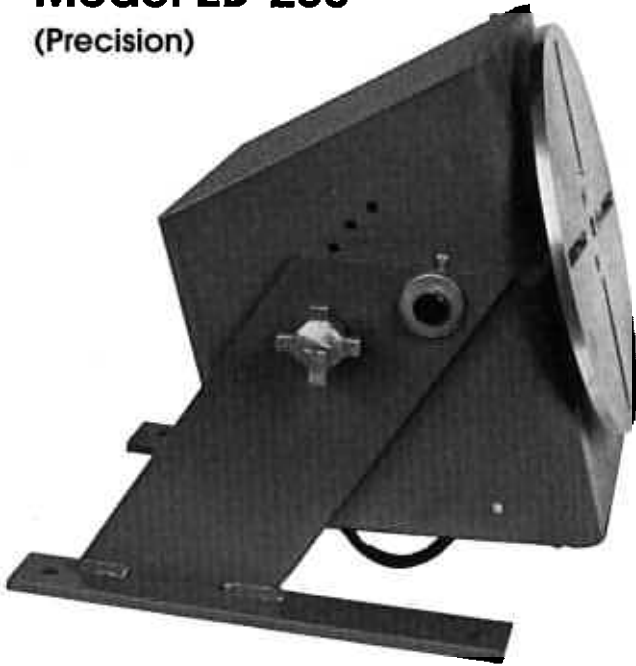
Speed holding accuracy is $\pm 2\%$ of rated speed

| | A | B | C | D | E | F | G | H |
|--------|-----|------------------|-----------------|-----------------|------------------|------------------|-----|-----------------|
| Inches | 12 | 10 $\frac{7}{8}$ | 2 $\frac{1}{4}$ | 9 $\frac{7}{8}$ | 15 $\frac{7}{8}$ | 13 $\frac{1}{2}$ | 12 | 3 $\frac{1}{4}$ |
| mm | 304 | 276 | 57 | 244 | 403 | 342 | 304 | 19 |

| | J | K | L | M | N | P | Q |
|--------|-----|------------------|----|-----|-----------------|------------------|------------------|
| Inches | 14 | 12 $\frac{1}{2}$ | 1 | 4 | 3 $\frac{1}{8}$ | 14 $\frac{1}{4}$ | 13 $\frac{1}{4}$ |
| mm | 355 | 317 | 25 | 100 | 9 | 362 | 336 |

Approximate shipping weight: 70 pounds

Model ZB-200 (Precision)



Physical characteristics of the precision range of ZB-200 positioners are the same as for the standard models.

ZB-200XC precision positioners are provided with tach-generator feedback motors and a precision speed control which provides a speed holding accuracy of $\pm 0.1\%$ of the rated speed.

The speed control is mounted in a separate control box with a digital RPM meter. The control is connected to the positioner using a 8ft cable. The control includes:

- Power on/off switch and fuse
- Forward/reverse switch
- Ten-turn speed control potentiometer
- Weld speed/rapid traverse switch
- Manual/automatic switch

Speed Ranges Available:

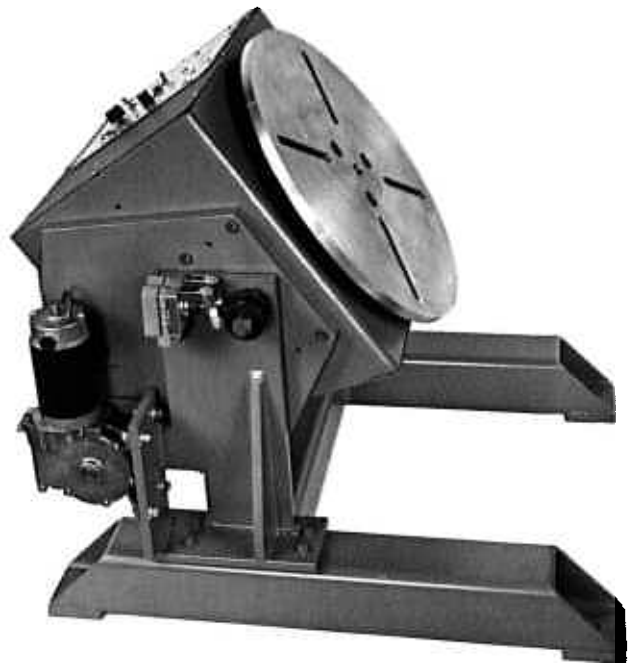
| | |
|-------------|-----------------|
| ZB-200XC-12 | 0.024 to 12 RPM |
| ZB-200XC-15 | 0.03 to 15 RPM |
| ZB-200XC-20 | 0.04 to 20 RPM |
| ZB-200XC-30 | 0.06 to 30 RPM |
| ZB-200XC-60 | 0.12 to 60 RPM |

| | A | B | C | D | E | F | G | H |
|--------|-----|------------------|----|-----------------|------------------|------------------|-----|------------------|
| Inches | 12 | 13 $\frac{3}{4}$ | 3 | 9 $\frac{3}{8}$ | 16 $\frac{3}{8}$ | 13 $\frac{3}{8}$ | 12 | 1 $\frac{1}{16}$ |
| mm | 304 | 349 | 76 | 244 | 415 | 346 | 304 | 20 |

| | J | K | L | M | N | P | Q |
|--------|-----|-----|----|-----|---------------|------------------|------------------|
| Inches | 14 | 12 | 1 | 4 | $\frac{3}{8}$ | 16 $\frac{3}{8}$ | 15 $\frac{3}{8}$ |
| mm | 355 | 304 | 25 | 101 | 9 | 409 | 384 |

Approximate shipping weight: 110 pounds

Model ZB-500



Weight Capacity:

Faceplate Vertical—500 lbs. (227 Kg.) with CG 4" from plate

Faceplate Horizontal—1000 lbs. (454 Kg.) with CG 4" off center

Table Tilt:

Tilt of 120°—flat to 30° past vertical

Faceplate:

18" diameter aluminum with 4 tooling slots; $\frac{5}{8}$ " diameter through-hole

Ground Current Conduction:

500 amps

No carbon brushes to wear or crystallize

Speed Ranges Available:

| | | |
|----------|------------------|---------------------------|
| ZB-500A | 0.07 to 3.6 RPM | Max torque: 1720 in lb |
| ZB-200B | 0.09 to 4.3 RPM | Max torque: 1800 in lb |
| ZB-200E | 0.22 to 10.8 RPM | Max torque: 1040 in lb |
| ZB-200XA | 0.01 to 4.44 RPM | $\pm 0.1\%$ Speed holding |
| ZB-200XD | 0.02 to 8.88 RPM | $\pm 0.1\%$ Speed holding |

Other speeds available on request

| | A | B | C | D | E | F | G | H |
|--------|-----|------------------|-----|-----|-----|------------------|------------------|----|
| Inches | 18 | 22 $\frac{3}{4}$ | 13 | 18 | 28 | 26 $\frac{1}{4}$ | 22 $\frac{1}{4}$ | 2 |
| mm | 457 | 577 | 330 | 457 | 711 | 666 | 565 | 50 |

| | J | K | L | M | N | P | Q |
|--------|-----|-----|-----------------|-----|---------------|-----|------------------|
| Inches | 30 | 27 | 1 $\frac{1}{2}$ | 5 | $\frac{3}{8}$ | N/A | 16 $\frac{3}{4}$ |
| mm | 762 | 685 | 38 | 127 | 15 | N/A | 425 |

Approximate shipping weight: 350 pounds

BENCHMASTER TURNING ROLLS

Adding to the versatility of the Benchmaster Package System are these inexpensive turning rolls which may be used with auxiliary components shown on pages 6 and 7.

The TD-1000A driver has a weight capacity of 1000 lbs. and a turning capacity of 2000 lbs. when coupled with the TI-1000A idler. It provides a speed range of 3 to 65 I.P.M. with a diameter capacity of 1/2" to 32".

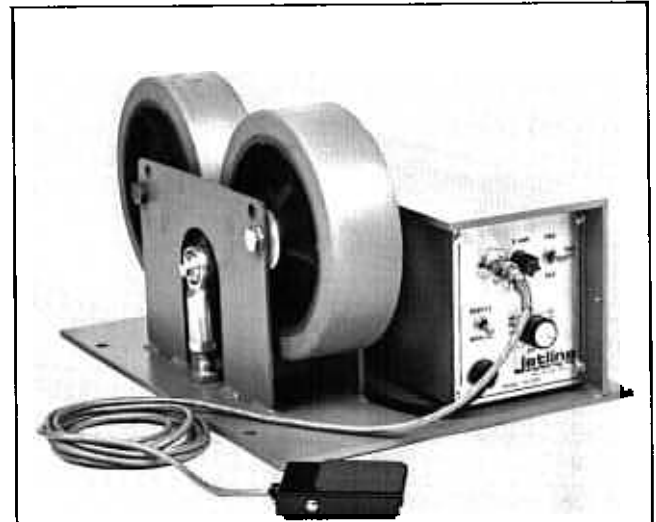
Control Features

- Solid-state control with SCR feedback system
- Protected against high-frequency
- Dynamic brake for instant stop
- Plug-in socket for remote foot control or external signal from sequence panel for automatic run-stop*
- Remote foot switch—Run/Stop control

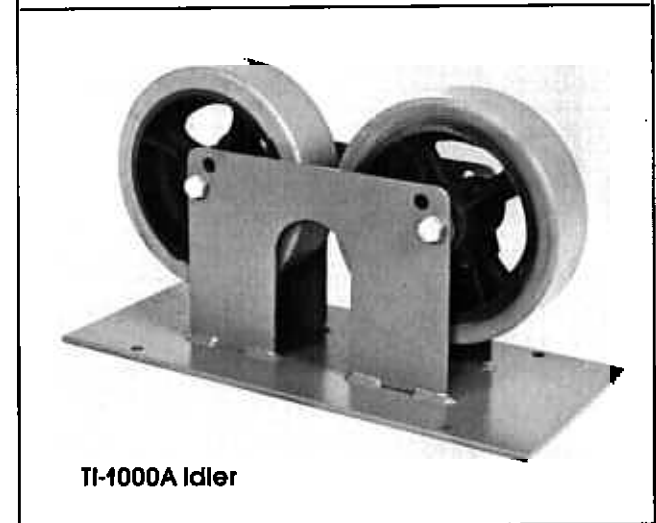
Optional Features and Accessories

- 220 volt 50 cycle operation in place of standard 115/1/60
- Several sequencing controls for automatic timing and sequencing of rotation. See last page.

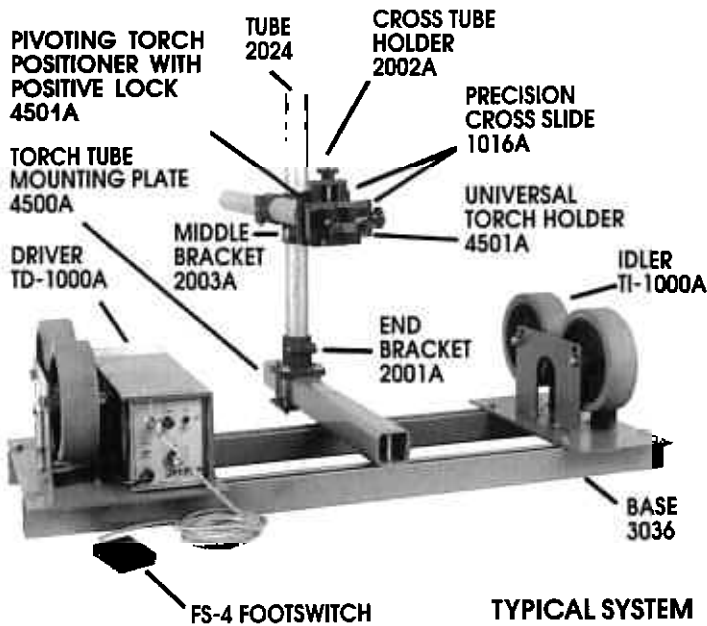
Benchmaster turning rolls are designed for the many small welding applications that could be tying up large production equipment.



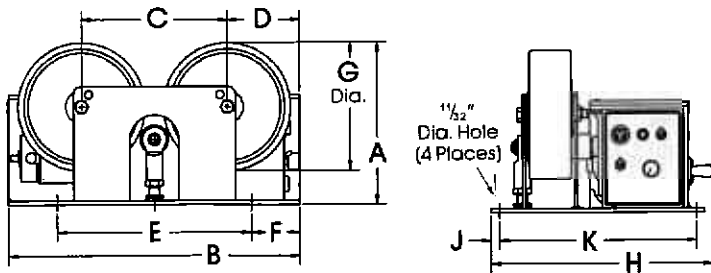
TD-1000A Driver



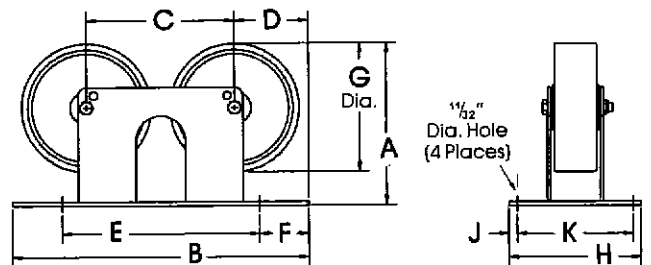
TI-1000A Idler



TYPICAL SYSTEM
See Accessories
Pages 6 and 7



| | A | B | C | D | E | F | G | H | J | K |
|--------|-----|-----|-----|-----|-----|----|-----|-----|----|-----|
| Inches | 10 | 18 | 9 | 4½ | 12 | 3 | 8 | 13½ | ½ | 12 |
| mm | 250 | 457 | 228 | 114 | 304 | 76 | 203 | 342 | 12 | 304 |



| | A | B | C | D | E | F | G | H | J | K |
|--------|-----|-----|-----|-----|-----|----|-----|-----|----|-----|
| Inches | 10 | 18 | 9 | 4½ | 12 | 3 | 8 | 8 | ¾ | 6½ |
| mm | 250 | 457 | 228 | 114 | 304 | 76 | 203 | 203 | 19 | 165 |

Approximate shipping weight complete: 135 pounds.

ACCESSORIES

PRECISION CROSS SLIDE 1016A

1 1/2" travel—accurate and fine adjustment. Connect two together for horizontal and vertical adjustment.



END BRACKET 2001A

Mounts tube to base. Mounts cross slide to tube end.



CROSS TUBE HOLDER 2002A

Connects two tubes in vertical and horizontal torch positioning.



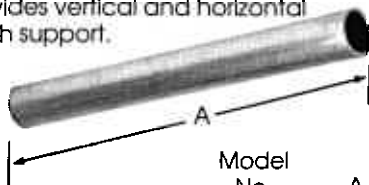
MIDDLE BRACKET 2003A

Supports cross tube for 360° swivel.



TUBE 2018, 2024, 2036

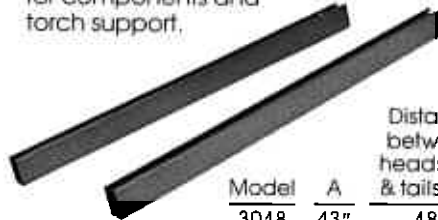
Provides vertical and horizontal torch support.



| Model No. | A |
|-----------|-----|
| 2018 | 18" |
| 2024 | 24" |
| 2036 | 36" |

BASE 3018, 3024, 3030, 3036, 3042, 3048

One pair. Provides common connection for components and torch support.



| Model | A | Distance between headstock & tailstock |
|-------|-----|--|
| 3018 | 43" | 18" |
| 3024 | 48" | 24" |
| 3030 | 54" | 30" |
| 3036 | 60" | 36" |
| 3042 | 66" | 42" |
| 3048 | 72" | 48" |

TORCH TUBE MOUNTING PLATE 4500A

Provides connection for 2001A bracket to base.



TORCH HOLDER 4501A

Mounts torch on cross slide. Universal V-Block shape holds most round or oblong torches.



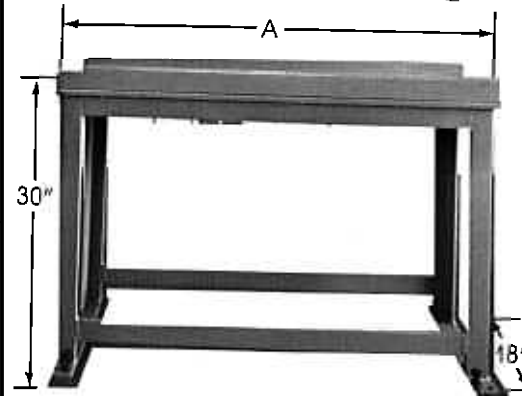
PIVOTING TORCH POSITIONER WITH POSITIVE LOCK 4503A

Allows torch to be set in a number of positions—360° rotation and 180° swivel.



SUPPORT STRUCTURE

5018, 5024, 5030, 5036, 5042, 5048, Fabricated base to support Benchmaster System.



| | MODEL NO. | | | | | |
|---|-----------|------|------|------|------|------|
| | 5018 | 5024 | 5030 | 5036 | 5042 | 5048 |
| A | 42" | 48" | 54" | 60" | 66" | 72" |

UNIVERSAL 3-JAW CHUCK 6034A

Use to mount weldment or tooling to positioner
4" adjustment (includes adapter)
Can be used on ZB-75.



THREE-JAW CHUCK 6039
Has 9" adjustment and includes adapter.

60314
Similar to 6039 except 14" adjustment. (60314 for use on ZB-200 and ZB-500 only)



TURNING ROLL END STOP 7010

Use to limit creep.



FOOT SWITCH FS-4

Remote on-off switch.



FOOT CONTROL FC-5A

Remote on-off with variable speed.



IDLERSTAND IS-200

Supports weldment part concentricity. (For 1" to 8 1/2" diameter parts)

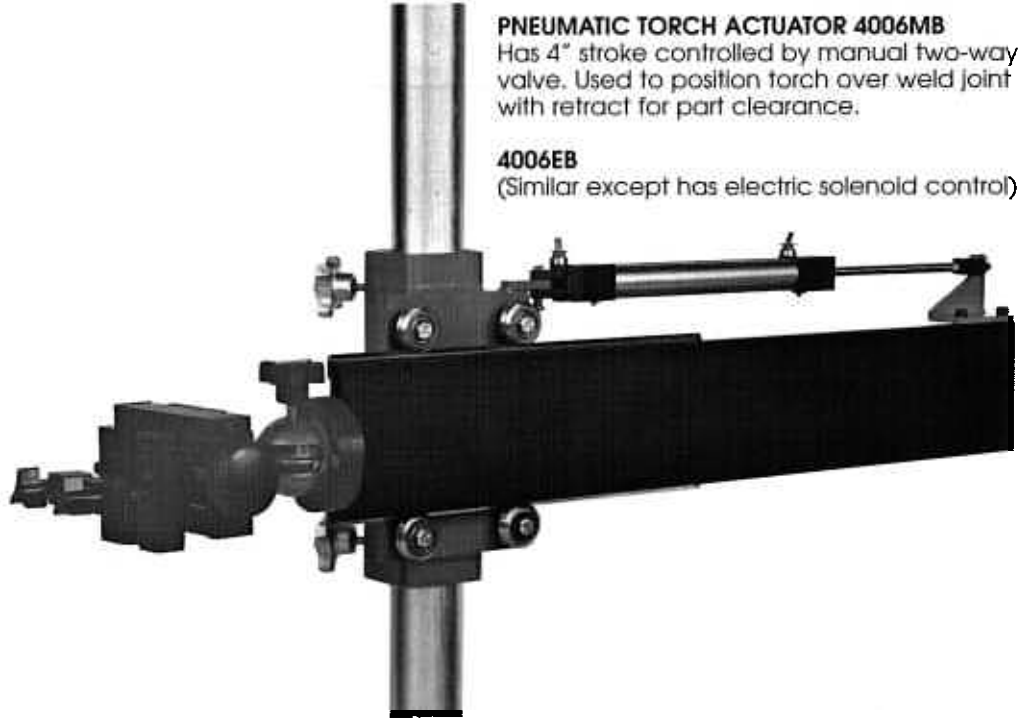


PNEUMATIC TORCH ACTUATOR 4006MB

Has 4" stroke controlled by manual two-way valve. Used to position torch over weld joint with retract for part clearance.

4006EB

(Similar except has electric solenoid control)



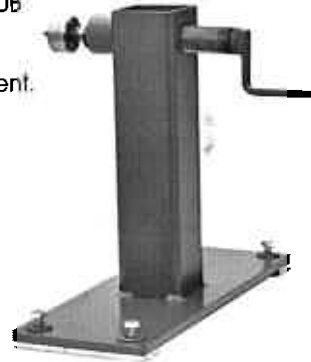
TAILSTOCK TS-200B

Weldment support, maintains part concentricity and provides up to 140 lbs. horizontal pressure. Includes live center, 2" stroke air cylinder and air regulation system.



TAILSTOCK TS-200S

Similar to TS-200B except has manual 2" screw adjustment.



SHIELD-ALL WELD VIEWER WH-158M

Complete visibility of controls with eye protection against flash burns. Increases productivity and operator comfort.



CONTROLS

LIMIT SWITCH CONTROL 9024-MIG
Sequence control energizes rotation, activates power supply and pneumatic torch retractor. Turns off all functions after adjustable limit switch trip. Overlap controlled by limit switch setting.

9024-CWF
Similar to 9024-MIG but for GTAW.

WELD TIMER CONTROL 9030-21
Similar to 9024-MIG except uses timing function for weld duration. Overlap controlled by timer setting.

9031-1
Similar to 9030-21 except for GTAW.

PULSE ENCODER CONTROL 9038
Controls weld length and overlap by means of a pre-settable pulse counter connected to the drive motor.

9038-CWF
Same as 9038 except for GTAW.

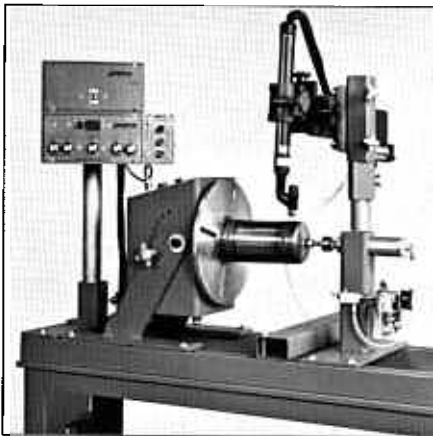
OPTIONS

TTP-1
Ten turn potentiometer in place of standard one turn potentiometer.

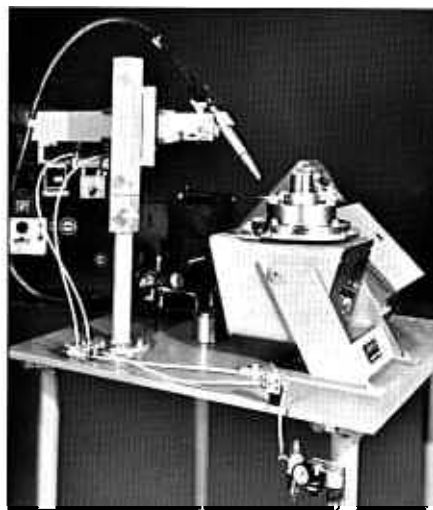
DIGITAL RPM METER 912
Gives direct digital readout of faceplate speeds in revolutions per minute (.0 to 19.99 RPM).

DIGITAL ACTUAL WELD SPEED METER 913
Similar to Model 912 except shows actual welding speed.

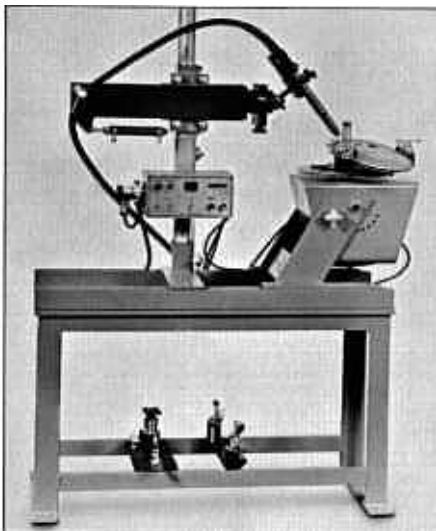
APPLICATIONS



System comprised of standard components for plasma welding on a stainless filter housing. The 9031-1 control provides start & stop timer sequencing of arc on, wire feed and rotation.



Custom system for GMAW welding automotive clutch part. Model 4006M torch retractor is shown in the "back" position to provide clearance for part unloading.



MIG welding system comprised of standard components. The 4503A locking ball torch positioner allows the torch to be placed in the absolute best welding position. The 4006M pneumatic torch retractor pulls the torch back to give clearance for loading/unloading the parts. The 9030-21 control gives precise weld times resulting in perfect overlap each time.

ASSOCIATED PRODUCTS

FMP-1500
This welding positioner is the largest in the Jetline range of positioners. The ZB-1500 is suitable for either manual or mechanized welding applications. Both rotation and tilt are motorized. The rotation speed is adjustable using a ten-turn potentiometer from 0.034 to 1.70 RPM. Tilt speed is constant, the unit will tilt 135° in 22 seconds. Rotation and tilt are controlled from a portable pendant control. The positioner has a capacity of 1,500 lbs. at 4" eccentricity and 4" overhang and a rotational torque of 6,000 lb in. The headstock has a 3" thru-hole and is fitted with a 30" diameter faceplate with tooling slots. The welding ground capacity is 1,000 amps.

FMTD/I-5000
This set of turning and idler rolls, when used as a pair, is capable of carrying parts with a weight of up to 10,000 lbs. Each unit includes four rubber-tired wheels and can rotate parts from 13" to 92" diameter. Speed is adjustable up to 116 IPM, according to the model selected, using the ten-turn potentiometer on the portable hand pendant. The units can be used for manual or automatic welding purposes. When used for automatic welding, they can be interfaced with a wide range of Jetline fixturing, controls and system integration products.

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BP-7/98-5M (Replaces BP1-94)

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