

## ALIGNMENT OF PIPE

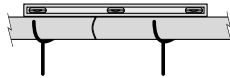
Proper alignment is important if a piping system is to be correctly fabricated.

Poor alignment may result in welding difficulties and a system that does not function properly.

Welding rings may be employed to assure proper alignment as well as the correct welding gap. In addition to using welding rings, some simple procedures can be followed to assist the pipe fitter. Below and on the following page are alignment procedures commonly used by today's craftsmen.

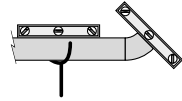
### PIPE-TO-PIPE

1. Level one length of pipe using spirit level.
2. Bring lengths together leaving only small welding gap.
3. Place spirit level over both pipes as shown and maneuver unpositioned length until both are level.
4. Tack weld top and bottom.
5. Rotate pipe 90°.
6. Repeat procedure.



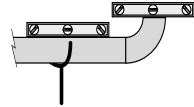
### 45° ELBOW-TO-PIPE

1. Level pipe using spirit level.
2. Place fitting to pipe leaving small welding gap.
3. Place 45" spirit level on face of elbow and maneuver elbow until bubble is centered.
4. Tack weld in place.



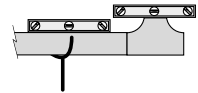
### 90° ELBOW-TO-PIPE

1. Level pipe using spirit level.
2. Place fitting to pipe leaving small welding gap.
3. Place spirit level on face of elbow and maneuver elbow until level.
4. Tack weld in place.



### TEE-TO-PIPE

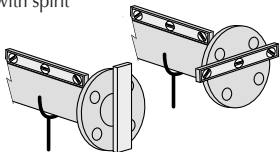
1. Level pipe using spirit level.
2. Place tee to pipe leaving small welding gap.
3. Place spirit level on face of tee and maneuver tee until level.
4. Tack weld in place.



## ALIGNMENT OF PIPE, CONT'D.

## FLANGE-TO-PIPE

1. Bring flange to pipe end leaving small welding gap.
2. Align top two holes of flange with spirit level.
3. Tack weld in place.
4. Center square on face of flange as shown.
5. Tack weld in place.
6. Check sides in same way.



## JIG FOR SMALL DIAMETER PIPING

The jig is made from channel iron 3' 9" long. Use  $\frac{1}{8}$ " x  $1\frac{1}{2}$ " for pipe sizes  $1\frac{1}{4}$ " thru 3";  $\frac{1}{8}$ " x  $\frac{3}{4}$ " for sizes 1" or smaller.

1. Cut out 90° notches about 9" from end.
2. Heat bottom of notch with torch.
3. Bend channel iron to 90° angle and weld sides.
4. Place elbow in jig and saw half thru sides of channel iron as shown. Repeat this step with several elbows so jig may be used for different operations.
5. A used hack saw blade placed in notch as shown will provide proper welding gap.

