



# INSTALLATION OF BLIND

## ASSIGNMENT

CUSTOMER:

MAIN MECHANICAL CONTRACTOR  
FOR CHEMICAL PLANT

LOCATION:

FREEPORT, TX, USA



## BACKGROUND

Contractor purchased Equalizer SWi1214TM Hydraulic Spreading Wedge Tools and FA1TM Mechanical Alignment Tools for a scheduled shutdown. The contractor's personnel were trained by Equalizer qualified staff at site on the correct and safe use of the equipment.

Maintenance work was scheduled on 18" 600# pipework where the contractor had to spread the flanges and set a 2¾" wide blind in order to test the line. The main focus of the contractor when contacting us, was to spread the pipework to enable the blind to be installed.

## PROBLEM

The contractor began to de-torque and remove the bolts the day before maintenance was scheduled. They had only removed one quarter when the flange began to misalign and this resulted in the remaining bolts binding and seizing in the boltholes. Consequently, the operators spent 23 hours attempting to cut the jammed bolts in order to pull them out. This was a slow, unsuccessful and costly process.



## TRADITIONAL METHODS

### ALIGNMENT:

Previously the contractor had been using Line Up pins but because of the tension on the line they were unable to get the joint back into alignment. For this particular job there were no overhead structures or anchor points to set up chain lifts or other rigging equipment. All site cranes were being used on other planned jobs at separate locations on the plant. No crane was available as the problem was not envisaged therefore it was not planned for.

### SPREADING:

In order to spread the pipework to allow the blind flange to be installed the operators previously used Banana Wedges or similar methods. A very labour intensive and unsafe method of spreading flanges.

## THE SOLUTION

We recommended 1 x FA9TE Hydraulic Fixed Flange and Rotational Alignment Tool and 2 x SWi1214TM Mechanical Spreading Wedges. All tools were offered as either a rental or purchase, both available ex stock. We were requested at the planning meeting the following morning and training was requested by the contractor prior to operating the equipment.

## OUTCOME:

The FA9TE alignment tool was attached at the 12 o'clock position on one flange to lift the opposite flange and bring the joint back into alignment. The alignment tool was set and levelled on the flange and then the pump and hose were connected. Set up and alignment took no more than 5 minutes. The seized bolts were removed and new bolts were inserted on the lower part of the flange (4-8 o'clock), leaving access to lower in the 18" blind.

In order to create the gap to install the blind, two SWi1214TM Mechanical Spreading Wedges were inserted on each side (3-9 o'clock). Once a sufficient gap was achieved, safety blocks were inserted and both the SWi1214TM Mechanical Spreading Wedges and the FA9TE Hydraulic Fixed Flange and Rotational Alignment Tool were removed. The blind was lowered into the correct position with no difficulty and all remaining bolts were installed.

The job was completed safely and successfully in 40 minutes with no issues.



Job completed safely and on time.

Job completed in 40 minutes with our tools and expertise. Customer to remove 20 planned hours from next scheduled shutdown.

Cost saving.  
Less manpower = Less risk.

No requirement for a crane or heavy equipment.

Job completed with 2 operators as opposed to previous occasions where up to 6 operators were involved excluding crane personnel etc.