
	<p>WP/SEA MINIMUM REQUIREMENTS Tightening Flanges</p>	
MEMORY JOGGERS		
Ensure that the following conditions are met before proceeding. If not met, address on WP/SEA.		
<ul style="list-style-type: none"> ➤ Communicate the “RIGHT TO STOP WORK AUTHORITY POLICY” and is exercised by all crewmembers and other personnel that believe something or some condition has changed. The job is to be stopped and accessed before proceeding. The WP/SEA may need to be modified or a new WP/SEA maybe required before starting the work task again. ➤ All flanges/associated equipment must be adequately supported & not subject to excessive vibration, pulsation, or shock/impact loading. ➤ The gasket area must not show signs of leakage and the piping, flanges, and bolts and nuts must not be significantly corroded (i.e., to the point of affecting the integrity of the metal). ➤ The proper tools and materials required to complete the work are available and in good condition: properly-sized hammer wrenches and hammer; i.e. brass hammer if required; properly-sized bolts and nuts ➤ Gas testing is to be carried out in hazardous areas immediately before replacing flanges. ➤ Gas Detection at Worksite at all times. ➤ Personnel must be aware of and stay alert to hammer-swinging ➤ Barriers and signs are to be erected. Barriers are to be removed as soon as practically possible ➤ Pollution protection must be in place below work site before Tightening Flanges procedure ➤ If applicable, check fuel, water and oil in air compressor before starting. ➤ Wherever possible, cables and hoses to be kept to minimum lengths, run through mouse holes, secured at regular intervals and kept away from ladders, walkways and wet areas. Where not possible warning notice should be posted. ➤ Check pins and whip checks must be fitted across all crows’ foot connectors before Tightening Flanges ➤ Hammer striking may result in flying fragments. 		

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MINIMUM REQUIREMENT

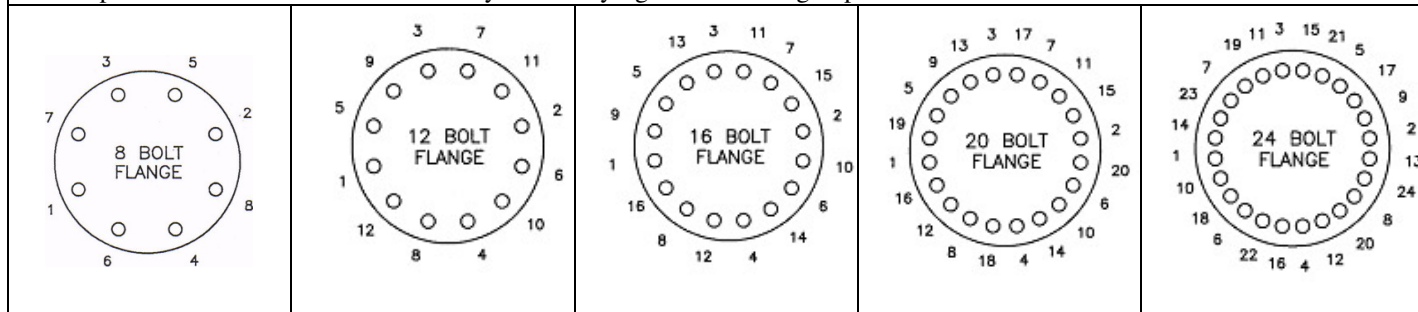
MINIMUM REQUIREMENTS

1) Verify **All** conditions identified in the “Memory Joggers” section are met (or are not applicable); if **ANY** are not met, **STOP** and add the necessary step to the WP/SEA to ensure the safest method possible.

CAUTION

Ensure hammer handle is dry and free of foreign material. If possible, use mechanical device to hold wrench when striking with hammer. Keep fingers and hands out of the way. Wear gloves, safety glasses at all times. Establish what communication process will be used between crewmembers.

2) Using proper sequence from diagram below,
 a. carefully and safely tighten one nut on first bolt using hammers and hammer wrenches,
 b. use impact wrench to complete installation of nuts,
 Replace new bolt and nuts and carefully and safely tighten nuts using impact wrench and/or hammers and hammer.



3) Carefully and safely repeat step #2 until all old bolts/nuts are replaced with new ones.

CAUTION

Maintain communications with the customer representative regarding “precautions”; if a significant change occurs or leaks are detected, STOP the “tightening flange” process; correct all unsafe conditions before continuing

4) Once all bolts and nuts are replaced, conduct final tightening following same number sequence.

NOTE

If leak develops and absorbent pads are used to collect liquids, properly dispose in DOT drums. Place all scrap iron into scrap iron basket and all paper and plastic waste in trash dumpster.

5) The equipment and location have been left in a clean, safe condition. All tools, equipment and barriers have been removed and all persons have been accounted for.