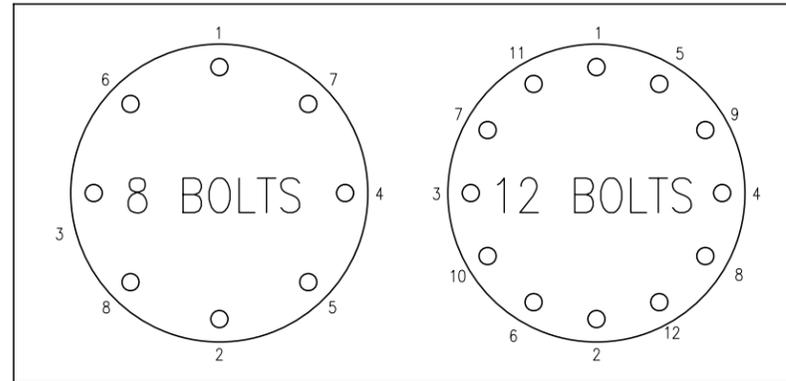


NOTES FOR THREADED CONNECTIONS:

- THREADS USED ON ALL CONNECTIONS
- USE SMOOTH-JAWED WRENCHES AND VISES ON SENSITIVE COMPONENTS SUCH AS VALVES; PIPE WRENCHES AND VISES ON PIPE FITTINGS
- SECURE ONE END OF JOINING ITEMS TO AVOID ROTATION DURING TIGHTENING
- APPLY LUBRICANT TO MALE THREADS, LUBRICANT BASED ON OPERATING CONDITIONS AND MANUFACTURER'S STANDARDS, TEFLON TAPE SHOULD BE STARTED PAST THE SECOND THREAD IF USED
- ALIGN, ENGAGE AND TIGHTEN THREADS, OBJECTIVE IS TO ACHIEVE A LEAK-FREE JOINT
- FOLLOW CRITERIA IN TABLE 1
- THREAD ENGAGEMENT CAN BE CHECKED BY COUNTING THREADS SHOWING AFTER TIGHTENING
- SEAL WELDING MAY BE EMPLOYED WHERE LEAKAGE CANNOT BE TOLERATED OR WOULD BE DIFFICULT TO DETECT

FIGURE 1: TORQUING PATTERN



NOTES FOR BOLTED FLANGE JOINTS:

1. USE CLEAN, PROPERLY SIZED GASKETS, FOLLOWING MANUFACTURER'S STANDARDS, ENSURING GASKET IS CENTERED
2. THREADS SHOULD BE OF QUALITY THAT NUTS CAN BE FINGER TIGHTENED, CHECK FOR EVIDENCE OF BURRS AND CRACKS
3. RESULT OF UNDER-TORQUING IS LEAKING, OVER-TORQUING IS DAMAGE TO FLANGE OR BOLTING, OR FAILURE OF JOINT
4. THOROUGHLY LUBRICATE THREADS AND SEATING SURFACES OF ALL BOLTS AND NUTS WITH PETROLEUM BASED LUBRICANT UNLESS OTHERWISE SPECIFIED
5. TABLE 1 (PIKOTEK INSULATING GASKETS) INDICATES THE TORQUE REQUIRED TO OBTAIN A TIGHT SEAL ON INSULATING GASKETS BASED ON FLANGE SIZE AND THREAD LUBRICANT USED, TABLE 3 (LAMONS KAMMPRO GASKETS) INDICATES TORQUE REQUIRED ON STANDARD GASKETS TO OBTAIN A TIGHT SEAL BASED ON FLANGE SIZE
6. ASSEMBLE FLANGED JOINT WITH GASKET CENTERED IN PLACE AND ALL BOLTS AND NUTS LUBRICATED, INSTALLED AND FINGER TIGHTENED, WITH ALL THREADS COMPLETELY ENGAGED UPON COMPLETION OF FLANGE CONNECTION
7. WHEN INSTALLING FLANGE INSULATION KIT, TIGHTEN NUTS OPPOSITE THE INSULATING SLEEVES AND WASHERS TO MINIMIZE POTENTIAL FOR DAMAGING OR SHORTING THE SLEEVES
8. TIGHTEN THE BOLTS EVENLY IN A CRISSCROSS PATTERN IN 25% INCREMENTS OF THE REQUIRED TORQUE
9. NUMBER THE BOLTS IN ORDER AS SHOWN IN FIGURE 1
10. TIGHTEN THE BOLTS TO 25% OF REQUIRED TORQUE IN THE ORDER INDICATED IN FIGURE 1 BASED ON NUMBER OF BOLTS (8, 12 USED)
11. CONTINUE TIGHTENING IN THIS CRISSCROSS PATTERN IN 25% INCREMENTS UNTIL REACHING 100%
12. A FINAL CLOCKWISE TIGHTENING, BOLT-TO-BOLT SEQUENCE SHOULD BE PERFORMED (NOT CRISSCROSSING PATTERN AS BEFORE) TO ENSURE ALL BOLTS ARE EVENLY STRESSED

TABLE 1: PIKOTEK INSULATING GASKETS

ANSI 600	6"	8"	TORQUE VALUE
NO LUBE	330	520	FT-LBS
LT. LUBE	270	425	FT-LBS
ANTI-SEIZE	230	350	FT-LBS

TABLE 2: LAMONS KAMMPRO GASKETS

ANSI 600	TORQUE VALUE
2"	150 FT-LBS
4"	350 FT-LBS
6"	550 FT-LBS
8"	800 FT-LBS

AS BUILT



NO.	DATE	BY	REVISION
1	10/12/10	GB	CHANGED TORQUE VALUES & PATTERN



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GAS PIPELINE
TORQUE & THREAD STANDARDS
DEER CREEK STATION

SCALE	DATE	DRAWN BY	APPROVED BY
NONE	6/2/10	CASSIE PETER	DAVE YEXLEY

DCS-MG-ONG-0004