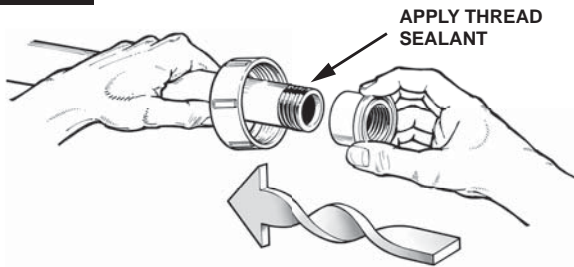
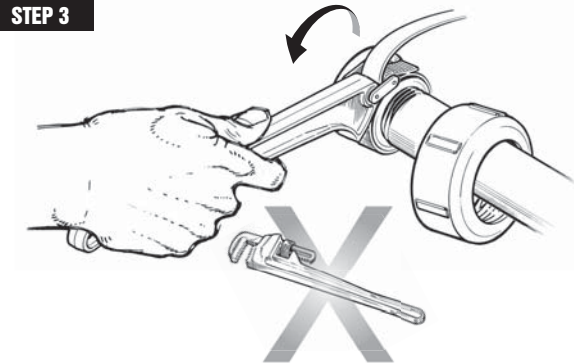


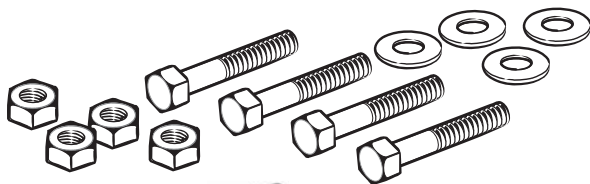
**STEP 2**



**STEP 3**



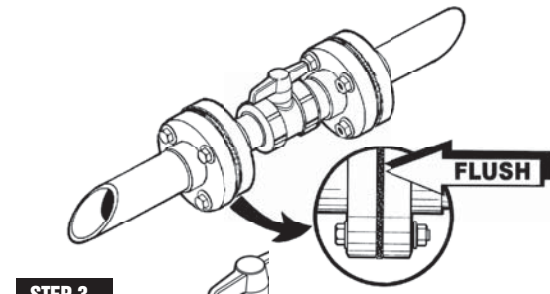
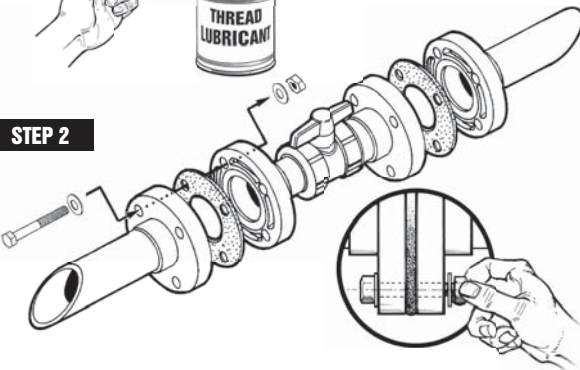
**FLANGED CONNECTION**



**STEP 1**



**STEP 2**



**STEP 3**

Tighten bolts in 5 ft. lbs. increments

BOLT TORQUES	
Valve Size	Torque Value
1/2" to 1-1/2"	12 ft. lbs.
2" to 4"	25 ft. lbs.
6" Venturied	40 ft. lbs.

**PRECAUTIONS AND WARNINGS**

**CAUTION:** The system must be designed and installed so as not to pull the components in any direction. Pipe system must be cut and installed in such a manner as to avoid all stress loads associated with bending, pulling, or shifting. All piping systems must be supported.

**CAUTION:** BEFORE THE VALVE IS CYCLED, all dirt, sand grit or other material shall be flushed from the system. This is to prevent scarring of internal components; e.g. ball, cup, wedge, seats, etc.

**WARNING:** System should not be operated or flushed out at flow velocities greater than 5 feet per second.

**WARNING:** NOT FOR DISTRIBUTION OF COMPRESSED AIR OR GAS

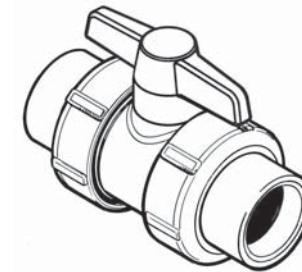
All air must be bled from the system during the initial fluid fill. Pressure testing of the system must not be made until all solvent cement joints have properly cured. Initial pressure testing must be made at approximately 10% of the system hydrostatic pressure rating to identify potential problems prior to testing at higher pressures.

SPEARS<sup>®</sup> MANUFACTURING COMPANY  
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 www.spearsmfg.com



**TRUE UNION BALL VALVE**  
**Installation Instructions**

TU88-3A-0912



These instructions cover general installation for all PVC & CPVC True Union Ball Valves. All applicable instructions & procedures should be read thoroughly before starting. Suitability of the intended service application should be determined prior to installation. Plastic piping systems should be engineered, installed, operated & maintained in accordance with accepted standards & procedures for plastic piping systems.

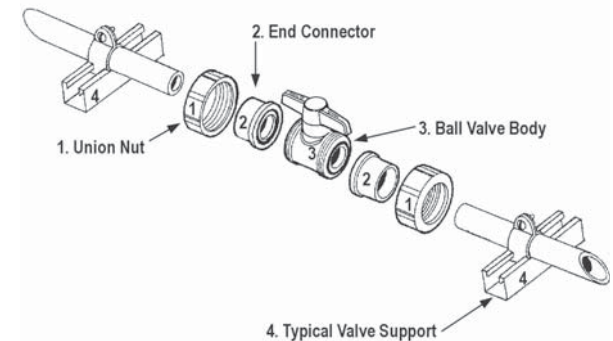
**SPECIAL INSTALLATION INFORMATION**

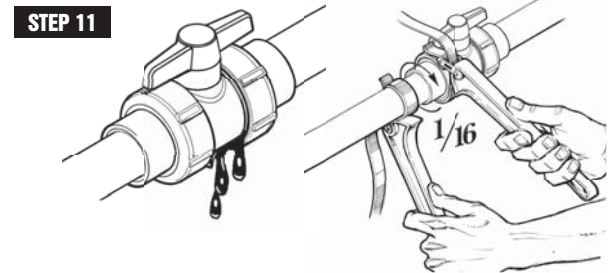
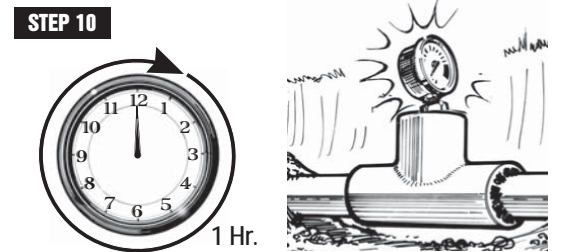
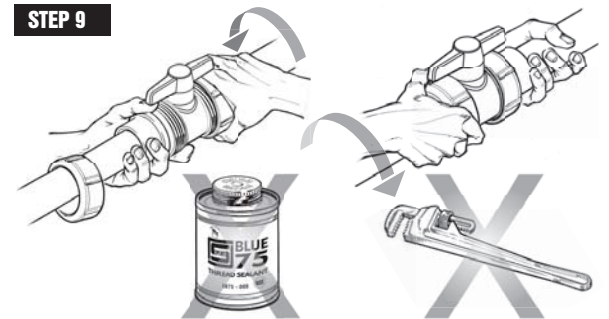
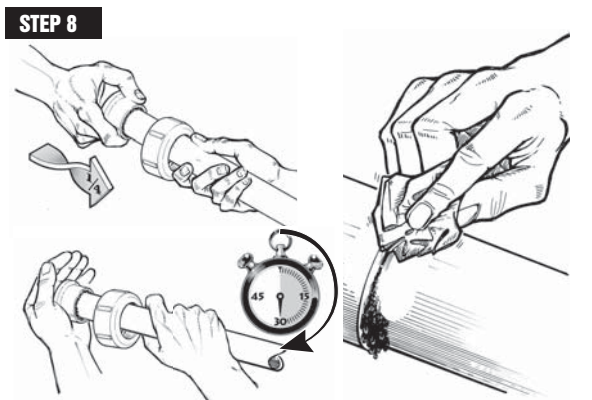
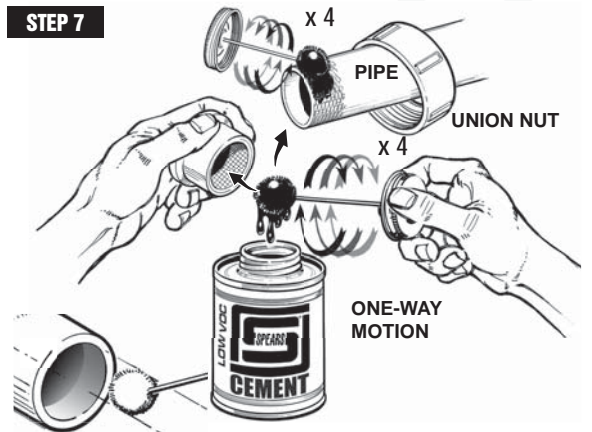
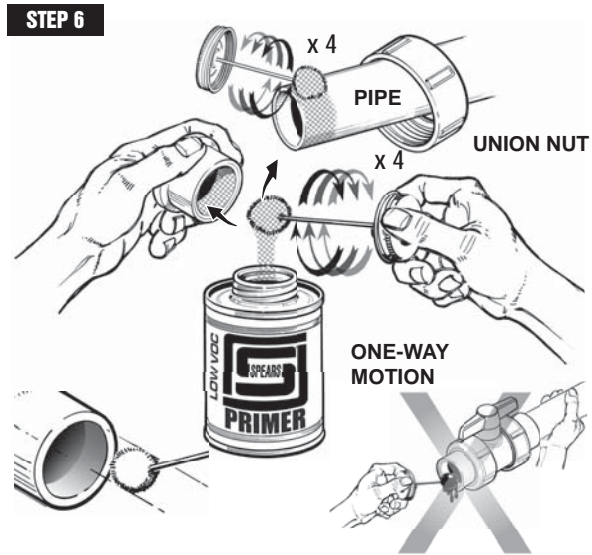
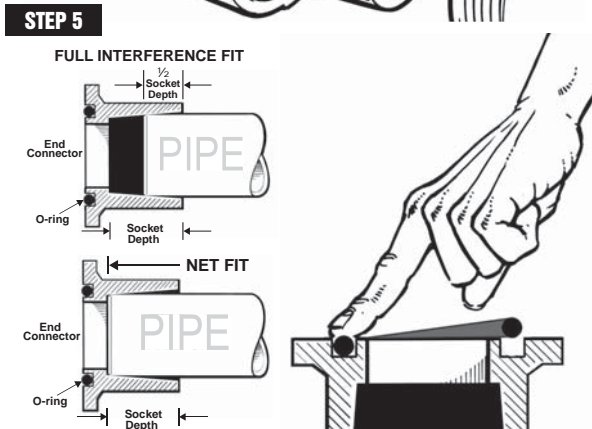
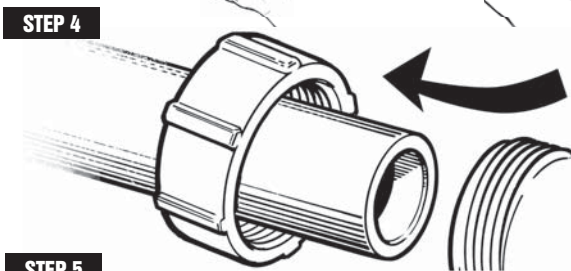
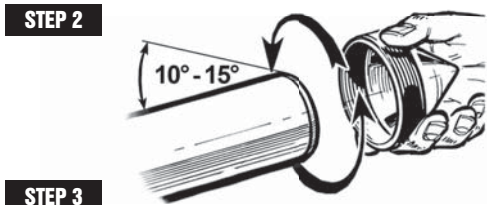
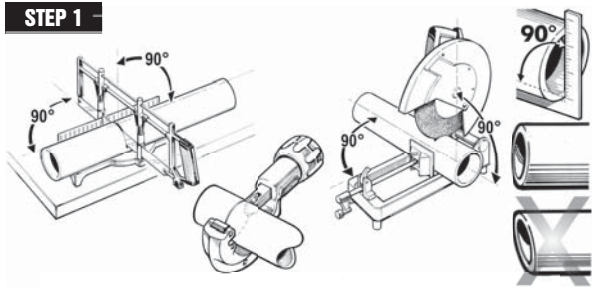
True Union type ball valves use removable end connectors. To avoid problems, NEVER ASSEMBLE THE JOINT TO THE END CONNECTORS WHILE THEY ARE ATTACHED TO THE VALVE CARTRIDGE.

**IMPORTANT:** Read Precautions & Warnings for all Valve Installations at the end of these instructions. It is absolutely necessary that all design, installation, operation & maintenance personnel be trained in proper handling, installation & precautions for installation & use of plastic piping systems before starting.

**LUBRICATION WARNING:** Some Lubricants, including vegetable oils, are known to cause stress cracking in thermoplastic materials. Formulation changes by lubricant manufacturers may alter compatibility of previously acceptable materials and are beyond our control. Lubricants are not required for installation of valves.

**INSTALLATION INSTRUCTIONS FOR SOLVENT WELDING APPLICATIONS**





**THREADED CONNECTION**

**WARNING:** SOME PIPE JOINT COMPOUNDS OR PTFE PASTES MAY CONTAIN SUBSTANCES THAT COULD CAUSE STRESS CRACKING TO PLASTIC. TRANSITIONS TO METAL PIPE REQUIRE THOROUGH CLEANING AND DEGREASING TO REMOVE ANY PIPE THREAD CUTTING OIL.

