

CHLOREP Informational Bulletin:

Modified Emergency Kit “C” Application for Certain Dual Valve Systems

Revision 2: March 13, 2013

Scope: This CHLOREP Bulletin was developed to provide modified instruction for Emergency Kit “C” (“C-Kit”) application to the Midland Manufacturing dual valve Models A-718-HC and Model A-718-A.

Approximately 150 railcars equipped with Midland Manufacturing’s (“Midland”) newer chlorine dual valve **Model A-718-HC** systems package (Figure 1), for which AAR Service Trial 422 has been completed, are currently in service. Midland’s **Model A-718-A** dual valve is currently under development and will be available for service in the second quarter of 2013.

Functionality of the dual valve assemblies are significantly different than those that have been in place for many years and are still currently in chlorine service (referred to herein as the “traditional” design, valves or fittings). The liquid and vapor valves are designed to actuate spring-loaded check valves, as opposed to the excess flow valves in the traditional design, that are positioned under the fittings flange in the manway plate. These dual valves are very similar to the configuration used in some other services but are a significant deviation from what has been typical for chlorine service. This new configuration is intended to reduce the likelihood of any product loss in an accident situation.¹



Figure 1: Midland Manufacturing Dual Valves System Arrangement

¹ CI Pamphlet 168, *Guidelines for Dual Valve Systems for Bulk Chlorine Transport*, was approved February 14, 2013 and is now available through the CI bookstore. This pamphlet contains performance criteria for dual valve systems to be used in bulk chlorine service. Available manufacturers, including Midland Manufacturing, who have valve systems which meet the criteria in Pamphlet 168 are included in Appendix A of the pamphlet.

A decal in the fittings housing will alert responders to railcars which have these unique fittings installed (Figure 2).

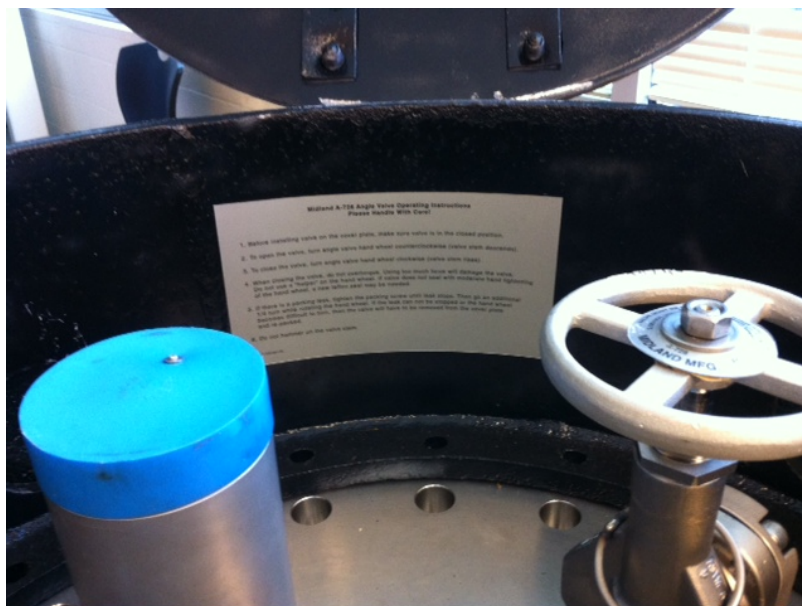


Figure 2: Decal Inside Fittings Housing

As mentioned above, the new vapor/liquid valves are quite different from existing valves. One unique feature of the new angle valves is their operation. The new vapor and liquid valves have a descending stem, which is necessary to activate and open the spring-loaded check valve. **This means that in the closed position, the angle valve will be at its highest point.** The operation of the valve is the same as the standard valves, turn left (counter clockwise) to open and turn right (clockwise) to close.

The procedure for application of the C-Kit will need to be modified for railcars with Midland's **Model A-718-HC** and **Model A-718-A** dual valves. Each valve has a nameplate which identifies the model number and is located on the outside edge of the bottom body flange opposite the outlet flange (Figure 3).



Figure 3: Location of Nameplate on Midland Dual Valves

On tank cars and trucks with standard chlorine fittings, the # 6 hood is used for vapor and/or liquid valve capping and the # 24 hood is used for the pressure relief valve (PRV). Because of the modified vapor/liquid dimensions in Midland's **Model A-718-HC** and **Model A-718-A** dual valve designs, the # 24 hood (Figure 4), normally used on the PRV's, must be used when capping the vapor/liquid valves.



Figure 4: Emergency Kit “C” Part # 24A Hood Assembly

Before attempting to cap a leaking Midland **Model A-718-HC** liquid or vapor valve on the dual valve systems package for chlorine, the inlet/outlet flange on the leaking valve must be removed in order for the # 24 hood to fit (Figure 5). This is done by removing the 3 bolts that are securing the flange to the valve body (a $\frac{3}{4}$ ” deep socket is recommended). To remove the flange from the valve, it is recommended that a 1” x 18” stabber pipe is threaded into the flange to assist in separating it from the body. The pipe plug does not have to be removed; it can be placed on top of the handle. The Midland **Model A-718-A** liquid or vapor valve does not require the inlet/outlet flange to be removed, but does require the use of the #24 hood.

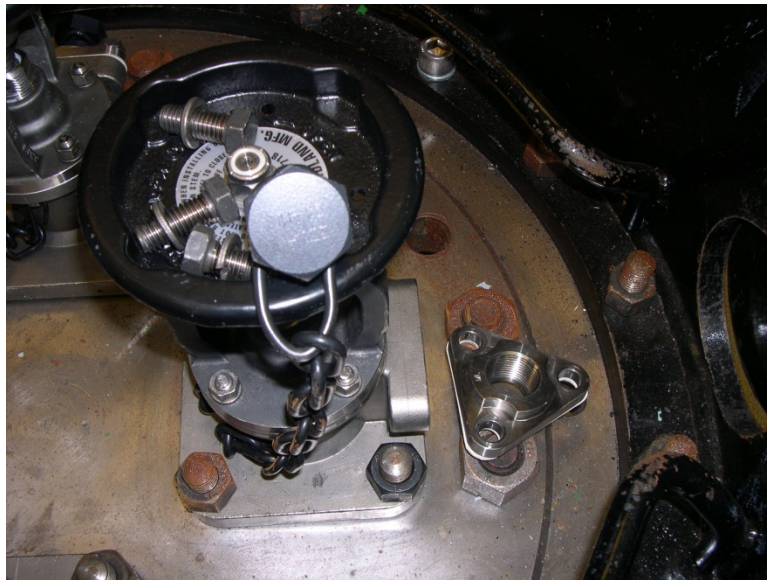


Figure 5: Midland Model A-718-HC Dual Valve with Flange Removed

To proceed with installing the #24 hood, standard procedures should be followed per the C-Kit instruction book (Figure 6).

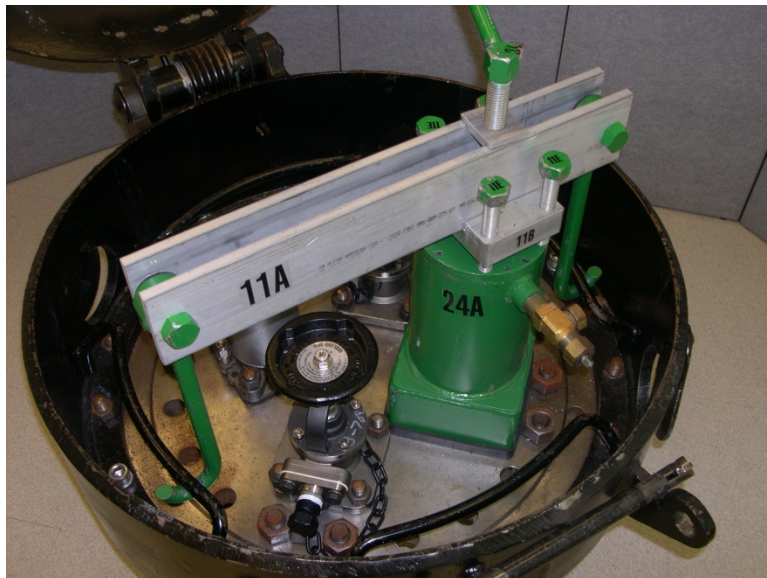


Figure 6: Midland Dual Valves Arrangement with Emergency Kit "C" Applied

It is anticipated that the frequency of capping applications will be reduced, even below that of the traditional design, with this new dual valve configuration. However, it is important that all who might be called upon to respond to a tank car with this configuration are alert to the differences and the need to treat the C-Kit application differently.

The following table provides a summary of the differences between the chlorine liquid/vapor valves with respect to C-Kit application.

Valve Arrangement	C-Kit Hood Required	Flange Removal?
Standard valves	#6	No
Midland Model A-718-HC dual valve	#24	Yes
Midland Model A-718-A dual valve	#24	No
Other dual valves included in Pamphlet 168	#6	No