

PerSec[®]



CAREfill[™]

**Drycleaning Machine
Nipple Installation Guide**



The **CAREfill™** System has been specifically designed to reduce the risk of spills and eliminate perc solvent vapor emissions into the workplace during the drycleaning machine filling operation. The performance of the **CAREfill** System is directly related to proper fitting (nipple) installation.

The following text discusses proper **CAREfill** nipple placement and installation procedures. Once the nipples are installed, it is recommended that the **CAREfill** System checklist be reviewed before transferring solvent to ensure proper installation.



Regardless of your level of competence and experience in handling perc and servicing drycleaning machines, R. R. Street & Co. Inc. recommends that you consult the services of a competent drycleaning machine service representative in order to ensure proper installation of CAREfill nipples, and that you consult the PerSec Material Safety Data Sheet (MSDS).

CAREfill™ NIPPLE KIT CONTENTS

Inspect the **CAREfill** Nipple Kit package to verify receipt of a complete kit. A complete kit contains the seven items listed below. Should items be missing, please contact R. R. Street & Co. Inc. parts vendor, General Machinery (800) 821-5937.

*One (1) solvent delivery nipple
(part number 9936-13)

*One (1) vapor return nipple
(part number 9932-13)

*Two (2) irradiated polypropylene
gaskets (part number GK-71-3)

*Two (2) polypropylene
dust caps

*One(1) **CAREfill** Nipple Installation Guide

CAREfill NIPPLE INSTALLATION ON DRYCLEANING MACHINES



The CAREfill System has been carefully designed to reduce the risk of solvent spills and eliminate vapor emissions during the filling operation. **When upgrading existing equipment, it is imperative to install the dry-cleaning machine fittings properly. Consult the services of a competent drycleaning machine service representative for CAREfill parts installation.**

While specific drycleaning machine designs and personal preferences may vary, R. R. Street & Co. Inc. provides the following requirements and options for solvent nipple placement:

Installation REQUIREMENTS for the 3/4 Inch Solvent Nipple

1. Regardless of the installation site selected, the 3/4 inch solvent nipple must be installed in an area of the drycleaning machine which is contiguous with the machine solvent storage tank.
2. The 3/4 inch solvent nipple should be installed above the highest liquid solvent level so that the nipple is not continuously wet with solvent. **Never install this nipple below the highest solvent level in the drycleaning machine's solvent storage tank.**
3. Always wrap all pipe threads and pipe nipple threads with Teflon™ thread sealing tape and verify all pipe and fitting installations are tightened securely to ensure against leaks at pipe and fitting connections.
4. To insure against solvent leaks where pipe nipple or bulkhead union nuts and washers are utilized, insert one 3/4 inch irradiated polyethylene gasket (supplied in the Nipple Kit) on the pipe nipple or bulkhead union between the drycleaning machine and the pipe nipple or bulkhead union nut, (or washer). This gasket is chemically resistant to perchloroethylene, and therefore cannot be substituted. Contact your distributor if additional gaskets are required.
5. Always tighten CAREfill nipples by using a wrench fitted on the nipple's hex nut. Never tighten nipples by grasping the nipple portion of the fitting with a tool or wrench. This will damage the nipple surface, which could result in leaks or damage to the CAREfill dispensing coupler.



6. A 90° pipe elbow should be installed between the drycleaning machine and the **CAREfill** nipple to reduce torque and twist on the delivery hose when the **CAREfill** delivery hose is attached. This is very important for hard-to-reach installation sites, and in some instances may not be required.



7. **Never install CAREfill nipples through glass button trap covers or excessively light gauge material.**
8. The 3/4 inch solvent nipple has 3/4 inch female NPT threads.
9. The following text discusses several alternatives for selecting nipple location sites. There may be other installation options not listed.

Installation OPTIONS for the 3/4 Inch CAREfill Solvent Nipple

It is possible to install the 3/4 inch nipple through the top of the button trap cover, solvent manifold piping, or through the top of the clean solvent tank. Consult Diagrams 1-A through 1-D, respectively.

A. Installation Through the Button Trap Cover

1. If the button trap cover is selected for installation, verify the cover is heavy gauge material and not made of glass. Also verify that the **CAREfill** nipple installation will not interfere with the design function of the button trap cover. This cover must be capable of supporting moderate torque from the **CAREfill** delivery hose when attached.
2. For light gauge button trap covers, a pipe nipple or a bulk-head union should be installed into the button trap cover. This union, or pipe nipple, when installed with nuts and washers on the top and bottom sides of the button trap cover will provide additional strength for the installed **CAREfill** nipple. Pipe nipples may be obtained through local pipe and plumbing shops.
3. To insure against solvent leaks where pipe nipple or bulk-head union nuts and washers are utilized, insert one 3/4 inch irradiated polyethylene gasket (supplied in the Nipple Kit) on the pipe nipple or bulk-head union between the drycleaning machine and the pipe nipple or bulk-head union nut, (or washer). This gasket is chemically resistant to perchloroethylene, and therefore cannot be substituted. Contact your distributor if additional gaskets are required.

4. Consult Diagram 1-A for installation of the $\frac{3}{4}$ inch nipple through the top of the button trap cover.

B. Installation Through the Solvent Manifold Piping

For new generation machines, the **CAREfill** nipple can be installed in the solvent header or manifold pipe between the solenoid valves and the pump. This may require re-programming of the microprocessor. Consult Diagram 1-B for further details.

C. Installation Through the Top of the Drycleaning Machine Solvent Tank Using Existing Blind Plugs

1. Most machines have blind plugs on top or to the side of the base tanks. Plumb the **CAREfill** fittings into the top or side of the solvent tank by using reducers to arrive at a $\frac{3}{4}$ " opening. Carbon steel piping or elbows may be required to make the fittings accessible to the **CAREfill** delivery handcart or to install fittings above the potential fill line of the base tank.



DO NOT DRILL DIRECTLY INTO SOLVENT TANK!

D. Miscellaneous Solvent Nipple Installation Options

1. Purchase a heavy gauge steel button trap cover from the machine vendor. Install the **CAREfill** nipples as detailed above, or consult with a competent drycleaning machine service representative for other options.
2. Additional carbon steel piping may be required to extend the solvent nipple to an accessible location. **Do not run any supplemental piping below the highest solvent level of the machine's solvent storage tank.**



CAREfill $\frac{1}{2}$ inch Vapor Return Nipple Installation

When installing the $\frac{1}{2}$ inch vapor return nipple, it is imperative that it be installed properly. Again, consult the services of a competent drycleaning machine service representative for **CAREfill** parts installation. Due to variances in drycleaning machine design and personal preferences, exact nipple installation location may vary. Listed below are requirements for correct installation and possible options for $\frac{1}{2}$ inch nipple installations.

Installation REQUIREMENTS for the ½ Inch Vapor Return Nipple



1. The ½ inch vapor return nipple must be located at a point high enough to ensure that no liquid perc can be returned to the **CAREfill** drum. **Never install this nipple below the highest level of solvent in the drycleaning machine's solvent storage tank.**

2. It is important to locate this vapor return nipple in an area of the vapor zone which is directly connected to, or open to, the liquid solvent tank so that an unobstructed path for the return of solvent vapor exists.



3. **Never install the ½ inch vapor return nipple through glass or excessively light gauge material.** When attached, the **CAREfill** vapor return hose will apply moderate torque at the nipple attachment site.



4. **The ½ inch vapor return nipple has ¾ inch male NPS threads and must be sealed with an irradiated polyethylene gasket (supplied in the Nipple Kit).**

5. To insure against solvent leaks, always attach one ¾ inch irradiated polyethylene gasket (supplied in the Nipple Kit) on the vapor return nipple threads. This gasket is chemically resistant to perchloroethylene, and therefore cannot be substituted. Contact your distributor if additional gaskets are required.

6. Always wrap all pipe threads and pipe nipple threads with Teflon™ thread sealing tape and verify all pipe and fitting installations are tightened securely to ensure against leaks at pipe and fitting connections.

7. Always tighten **CAREfill** nipples by fitting a wrench onto the nipple's hex nut. **Never tighten nipples by grasping the nipple portion of the fitting with a wrench or tool.** This could damage the nipple surface which could result in leaks and damage to the **CAREfill** dispensing coupler.



8. The following text discusses several alternatives for selecting nipple location sites. There may be other installation options not listed.

Installation OPTIONS for the ½ inch CAREfill Vapor Return Nipple

It is possible to install the ½ inch vapor return nipple through the top of the button trap cover, or through the top of the clean solvent tank. Consult Diagrams 1-A through 1-D, respectively.

A. Vapor Return Nipple Installation Through the Button Trap Cover

1. The ½ inch vapor return nipple may be installed through the top of the button trap cover. Verify that the cover is heavy gauge material and not made of glass. Also verify that the **CAREfill** nipple installation will not interfere with the design function of the button trap cover. This cover must be capable of supporting moderate torque from the **CAREfill** delivery hose when attached.
2. Installations of the 1/2 inch vapor return nipple will be identical to the ¾ inch nipple with the exception that no pipe nipple is required since the ½ inch vapor return **CAREfill** nipple has male NPS threads. Consult Diagram 1-A for further options.

B. Vapor Return Nipple Installation Through the top of the Machine Solvent Tank

1. The vapor return nipple may also be installed through the top of the drycleaning machine solvent tank using the blind plugs on the machine. Consult Diagram 1-D.
2. **This nipple must be installed above the highest possible level of solvent stored in the drycleaning machine solvent tank so that liquid solvent is never returned to the CAREfill delivery container.**

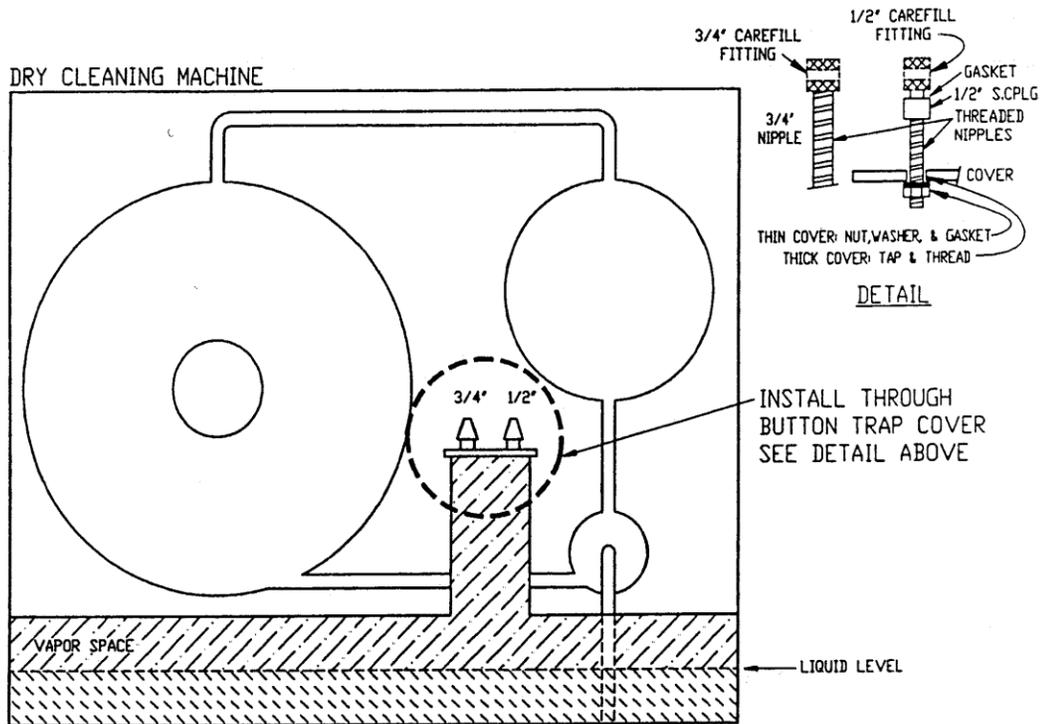


C. Miscellaneous Vapor Return Nipple Installation Options

1. Purchase a heavy gauge steel button trap cover from the machine vendor. Install the **CAREfill** nipples as detailed above. For other possible installation sites, consult a competent drycleaning machine service representative.
2. Additional carbon steel piping may be required to extend the solvent nipple to an accessible location. Consult Diagram 1-D. **Do not run any supplemental piping below the highest solvent level of the machine's solvent storage tank.**



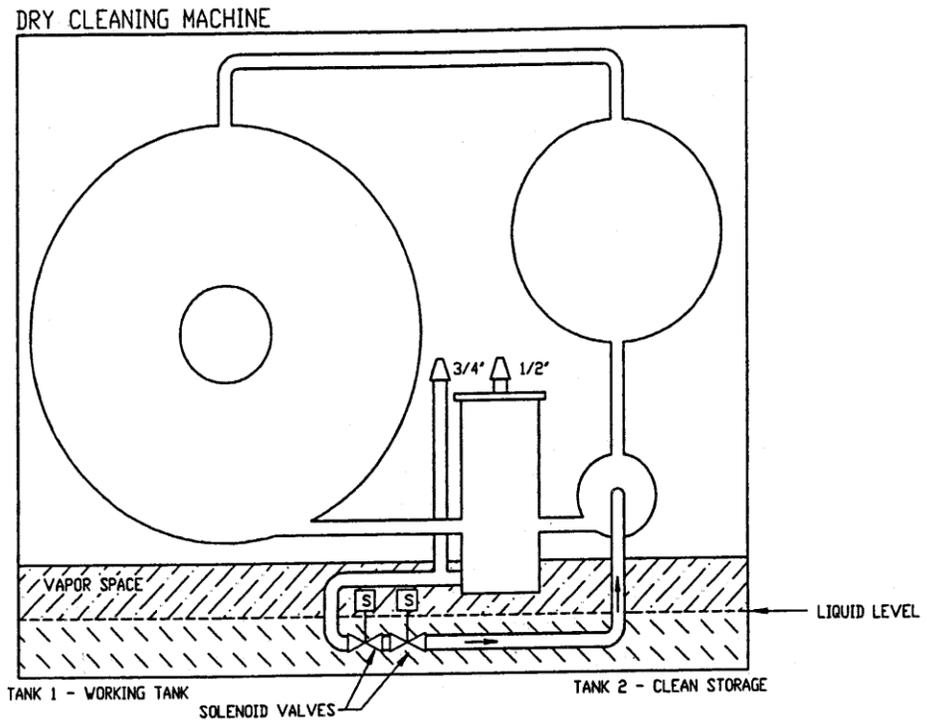
Diagram 1-A



CAREFILL NIPPLE INSTALLATION
BUTTON-TRAP DETAIL

NIPINST2

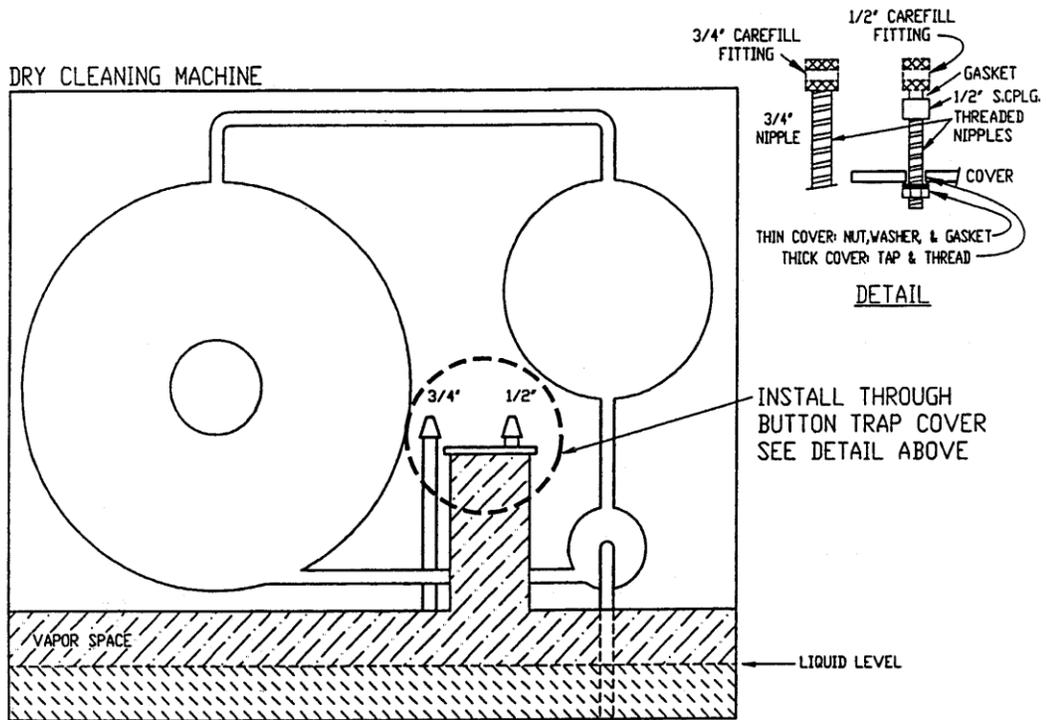
Diagram 1-B



CAREFUL NIPPLE INSTALLATION
FOR COMPUTER CONTROLLED MACHINES

NIPINST3

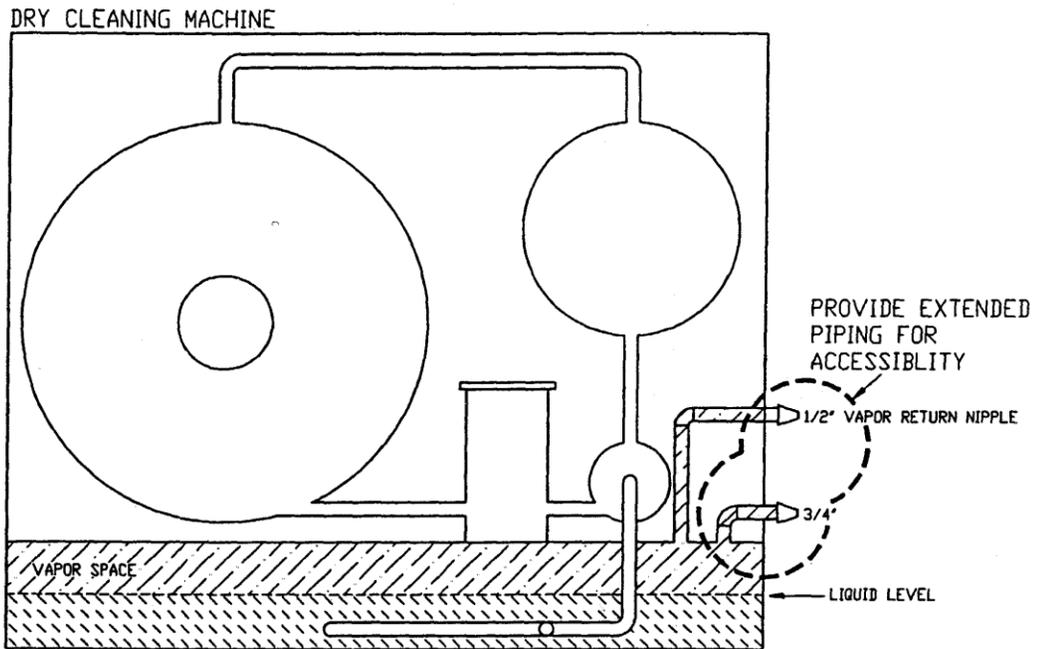
Diagram 1-C



CAREFILL NIPPLE INSTALLATION
BUTTON-TRAP DETAIL

NIPINST1

Diagram 1-D



CAREfill Nipple Installation through
Top of Solvent Tank using
Blind Plugs

NIPINST4

CAREfill System Checklist at Drycleaning Site

Regardless of who installed the **CAREfill** fittings on the drycleaning machine, it is the distributor's responsibility to provide a final inspection of the installation and verify the fittings are installed correctly immediately prior to making the initial **CAREfill** delivery to that drycleaning machine. If any deficiencies are observed, the customer must be notified and asked to correct the problem. No **CAREfill** deliveries should be made if the installation appears to be sub-standard. The following procedure will provide a basic guideline for inspection and is most critical before the first **CAREfill** delivery is made into a given drycleaning machine.



1. **Verify that each CAREfill drycleaning machine nipple is installed above the highest possible solvent level in the drycleaning machine's solvent storage tank.**
2. All **CAREfill** pipe threads and pipe nipples must be securely tightened and wrapped with Teflon™ thread seal tape to prevent possible leakage.
3. All vapor return nipples must have one ¾ inch irradiated polyethylene gasket (supplied in the Nipple Kit) attached to the nipple threads to prevent leaks.
4. All solvent delivery nipples utilizing pipe nipples or bulk-head unions with nuts and washers must have a ¾ inch irradiated polyethylene gasket (supplied in the Nipple Kit) inserted between the drycleaning machine and the nut (or washer) to prevent solvent leaks.



5. Always tighten **CAREfill** nipples by using a wrench fitted on the nipple's hex nut. **Never tighten nipples by grasping the nipple portion of the fitting with a tool or wrench.** This will damage the nipple surface, which could result in leaks or damage to the **CAREfill** dispensing coupler.
6. Verify that the ¾ inch **CAREfill** nipple is plumbed directly into the button trap cover, clean solvent receiving tank, or solvent tank header (manifold) system.



7. Ensure that the vapor return nipple is plumbed directly into a vapor space contiguous to the perc solvent tank. **Failure to verify this may allow return of processed perc, over-pressuring of the drycleaning machine or introduction of solvent vapors into the workplace.**

8. Inspect the ½ inch **CAREfill** nipple to verify that it is plumbed above the highest possible liquid level to prevent backflow of process perc into the **CAREfill** drum. This nipple should never transfer liquid solvent back to the drum.
9. Verify that the proper valve alignments are made before proceeding with solvent transfer.
10. Verify that protective dust caps have been installed on the drycleaning machine **CAREfill** nipples and that the dust caps are placed on the nipples when not transferring solvent.
11. Verify that both **CAREfill** nipples are accessible to the **CAREfill** handcart's 5-foot delivery hoses.
12. Ensure that both **CAREfill** nipples are within close proximity to each other.



13. For inaccessible locations hard pipe extensions, or optional **CAREfill** handcart hose extensions may be needed. (See Bill of Materials.) **If hard pipe extensions (supplemental piping) are used, inspect and verify that the supplemental piping does not run below the highest level of solvent in the drycleaning machine's solvent storage tank.** If handcart hose extensions are used, the operator must drain the hose before uncoupling as discussed in the Delivery system Operations section of this manual.
14. Where hard pipe extensions (supplemental piping) are used, verify the piping is permanently secured to the drycleaning machine, where applicable.
15. Verify that both **CAREfill** nipples are positioned to avoid trip/catch hazards for employees.



16. **Verify that a 120-volt electrical outlet is within 14 feet of the CAREfill fittings installed at the drycleaning establishment. Distances exceeding 14 feet will require the distributor to utilize a UL-approved electrical extension cord.**
17. Inspect both **CAREfill** nipples at the drycleaning establishment for accumulation of foreign matter or leaks. Clean these fittings if necessary before coupling to the **CAREfill** cart hoses.