

CERTIFICATE OF
CONFORMANCE FOR NDT
RINSE NOZZLES, SPECIFICATION
COMPLIANCE, TROUBLE
SHOOTING GUIDE & CERTIFIED
REPLACEMENT PARTS

TRI-CON/Conard Holdings LLC

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Certificate of Conformance
Tri-Con/Conard Holdings
Complete Tri-Con NDT Wash Nozzle
S-1/2HH25-D

Tri-Con/Conard Holdings certifies spray wash nozzle model number S-1/2HH25-D, is the correct wash nozzle configuration with spray tip. Meets ASTM E 1417 requirements producing a coarse spray, for low pressure rinsing of penetrant material from parts, specified for use on aircraft parts. Tri-Con/Conard Holdings is the sole manufacturer of said spray wash gun S-1/2HH25-D.

Note: On the side on the wash nozzle body it say's Tri-Con Cleveland 44132. This is stating that the wash nozzle is made in Cleveland, OH and 44132 is the old zip code for Tri-Con. 44132 is not a viable part number, the correct part number for the correct complete wash nozzle & spray tip configuration is S-1/2HH25-D.

We also want to state that there are a variety of distributors out there that purchase/buy, the Tri-Con nozzle and do not use our correct part number. Instead they put their unique stock number on it. To make sure that you have and are using the correct wash gun configuration, please check our website at www.triconsprayers.com and click on the NDT tab or you can call Doug Directly at +1-216-496-2419.

How to make sure your using the correct wash nozzle configuration:

- 1) On the side of the spray nozzle body it will say Tri-Con Cleveland 44132
- 2) On the other side will have Pat. No
- 3) Where the hose attaches on onside will say 250 PSI
- 4) There will be an adaptor that screws onto the spray nozzle body should have a brass cone inserted into the adaptor. See pictures on page 3. **This wash nozzle & spray tip configuration does meet ASTM E 1417 Requirements.**

Using an incorrect wash nozzle & tip configuration:

- 1) On the side of the spray body will say Tri-Con Cleveland 44132
- 2) On the other side will have Pat. No.
- 3) Where the hose attaches on one side will say 250 PSI
- 4) The spray nozzle tip on this spray nozzle is reversible, this spray tip is called a E-C-325-CA Reversible Nozzle Tip. See pages 8-10 for pictures. Screwed onto the spray tip one way will give you a full fan spray, unscrew the spray tip and turn it around and screw it onto the spray nozzle body this will give you a straight stream spray. This spray tip looks like the one that is on the S-1/2HH25-D NDT Spray Wash Nozzle, instead it will have a small brass screen with a lot of small holes half way down inside the casting instead of the brass 1/2HH25-C spray tip screwed into the casting. Note that this spray tip looks like you would be able to screw the brass cone ½ HH into it, which you can't do. **This wash nozzle & spray tip configuration does not meet ASTM E 1417 Requirements.**

Tri-Con Rinse Nozzle Model Number S-1/2HH25-D.

This heavy duty Tri-Con spray wash nozzle meets ASTM E 1417 requirements, produces a coarse spray, for low pressure rinsing of penetrant material from parts, specified for use on aircraft parts.

**Description and Specs for spray tip:
FullJet Spray Nozzle, Coarse Spray, Small Capacity**

**Common Applications:
Washing and Rinsing Processes**

Specifications for spray tip (Tri Con Part # S-1/2HH25-C)

Capacity (gpm @ 10psi): 2.5

Material: Brass

Capacity Size: 25

Spray Angle @ 80psi (degrees): 61

Spray Angle: Standard

Maximum Free Passage Diameter (inches): 0.125

Orifice Diameter Nom. (inches): 0.188

Spray Angle @ 7psi (degrees): 64

Spray Angle @ 20psi (degrees): 67

Minimum Pressure (psi): 5

Maximum Pressure (psi): 80

I-400-1 & I-400-2 Air/Water Combination Wash System

Specifications Compliance: ASTM E1417, AMS 2647D, BPVC

Pictured below is the Correct NDT Wash Nozzle Configuration with Spray Tip That Produces a Coarse Spray.



In the pictures below on pages 4-5 is the Model I-400-1 Air/Water Wash Nozzle is Correct NDT Wash Nozzle Configuration with Spray Tip if it is called out in ASTM E Specs (NDT Use / Specifications Compliance: ASTM E1417, AMS 2647D, BPVC)





In the pictures below on pages 6-7 is the Model I-400-2 Air/Water Wash Nozzle is Correct NDT Wash Nozzle Configuration with Spray Tip if it is called out in ASTM E Specs (NDT Use / Specifications Compliance: ASTM E1417, AMS 2647D, BPVC)





Picture below on pages 8-9 are pictures of the Incorrect Wash Nozzle Configuration
This is the model F-C-125 Reversible Nozzle Water Spray Nozzle
Provides a full fan spray when attached one way then when reversed gives you a straight stream spray. **Please note that the brass ½ HH-25 spray nozzle will not thread into the reversible spray nozzle.**





This is a picture of the E-C-325-CA Reversible Spray Tip.

This spray tip doesn't work with the S-1/2HH-25-D NDT Rinse Nozzle, nor will the brass 1/2HH-25 spray tip screw into the E-C-325-CA. Shouldn't be used with the S-1/2HH-25-N replacement nozzle by itself, during any part of the rinsing process.

The E-C-325-CA spray tip is only to be used with the following two NDT Rinse Nozzle, I-400-1 and I-400-2. Please refer to pages 3-7 for the correct configuration.



**Certified Replacement Parts
For I-400-1, I-400-2 & S-1/2HH-25-D NDT Rinse Nozzles**

F-C-125-N-NDT





Complete Rebuild Kit



BB-104
Gland Nut



BB-103
Retainer Cap
with O-Ring



C-228
Internal Valve Stem
with O-Ring



V-016
O-Ring for
Water Outlet



V-1000
3/4" Hose Washer



BB-106
Steel Spring

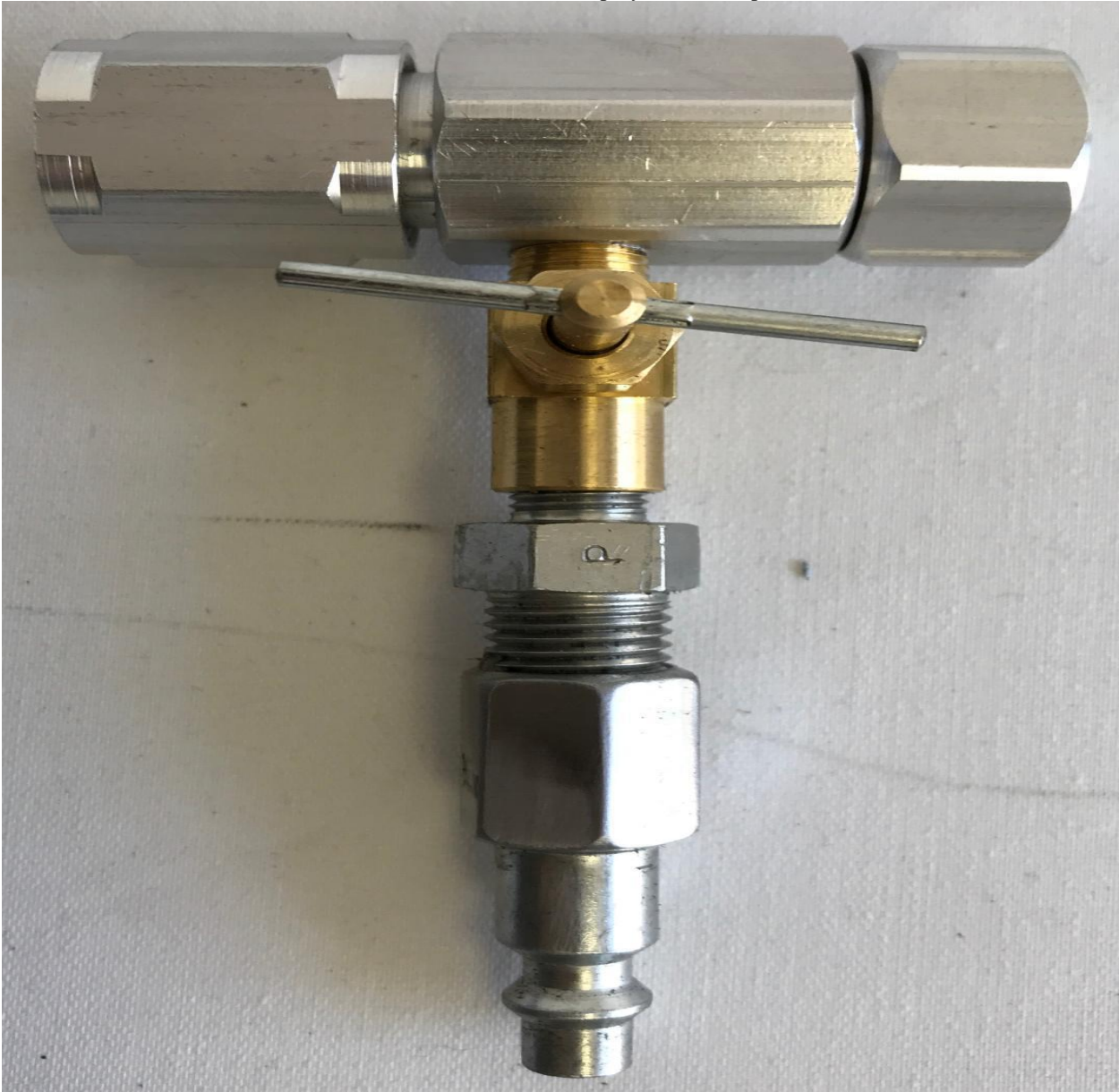


VIT-106
O-Ring for
Valve Stem Head

I-400-1-3 Pressure Booster Spray Head Complete (used with model I-400-1)



I-400-2-5 Pressure Booster Spray Head Complete



Certification of Conformance

Certification

I do certify that the products above are of the quality specified and conform to all requirements of the purchase order.

S-1/2HH-25-D Tri-Con Rinse Nozzle, I-400-1 & I-400-2 Air/Water Wash Nozzle. Meets ASTM E1417, AMS2647D, BPVC Requirements.

Company Name: Conard Holdings LLC dba Tri-Con

Address: 22362 Haber Drive

City: Fairview Park State: OH Postal Code: 44126

Name & Title Of Company Quality Representative: Doug Conard Owner
Print Name & Title

Date: 01/01/2019

Troubleshooting Guide

Problem

Water is leaking at the water inlet (where your hose threads into the bottom of the nozzle body)

Solution(s)

- 1) First check to make sure that there is a black $\frac{3}{4}$ " hose washer inserted into the nozzle body. If the hose washer is there simply reconnect your hose and try spraying again.
- 2) Next only if you are continuously threading your hose on and off of the nozzle body throughout the day, this can cause normal wear of the nozzle body threads over time. You will want to check the threads inside the nozzle at the water inlet. Making sure that they are still good and not worn down. Should your threads be worn down to the point that they are no longer functioning correctly, you will need to contact either Tri-Con or your distributor to order a new nozzle body.
- 3) Next you'll want to check your hose threads to make sure that they are good, making sure that your hose threads aren't worn or bad. You'll need to change your hose should you find that either of these are occurring. If your hose threads are good then you'll want to make sure that your hose connection is securely tightened, then try spraying again. **(Please note you should only have your hose snugly hand tightened into the nozzle body)** then try spraying again.
- 4) Still leaking next you can take a pair of channel locks or pipe wrench & use them to tighten the hose into the nozzle body **(Remember don't over tighten, you just want the connect snug)** Over tightening can cause damage to the $\frac{3}{4}$ " washer, not allowing it to seal up correctly, causing damage to your hose or the threads on your hose. This could also result in either the hose, hose threads or threads inside nozzle to become stripped or cross threaded. If this happens you will need to either contact your distributor or Tri-Con to order a new replacement nozzle.
- 5) Still having an issue with it leaking please contact your distributor that you purchased the rinse nozzle from your distributor will then contact Tri-Con directly, who then will make the next recommended steps that you will need to take. If you purchased spray nozzle(s) directly from Tri-Con then please call them directly. Then they will make further recommendations.

Problem

Water is leaking at the pack nut (this is located behind the trigger handle where the hex gland nut is threaded into the nozzle body & the brass valve stem goes through the hex gland nut)

Solution(s)

1) First take a 7/16" or 16mm wrench and give the gland nut a slight turn to the right to tighten & then try spraying again. Still leaking give the gland nut another slight turn to the right. **PLEASE DON'T TIGHTEN THE GLAND NUT ALL THE WAY DOWN AS TIGHT AS YOU CAN CAUSE THE GLAND NUT TO STRIP. THIS CAN ALSO CAUSE THE VALVE STEM TO RELEASE VERY SLOW OR NOT AT ALL OR WON'T ALLOW THE SPRAYER TO CLOSE PROPERLY & WILL ALLOW IT TO CONTINUE TO SPRAY.** This can cause the O-ring to become distorted in a couple of ways. First by making it to flat and will not allow the O-ring to seal properly, second it can cause the O-ring to break. This can also cause the gland nut to strip or cross thread.

Problem

Water is still leaking from behind the trigger handle (Rather it's spraying out in all Directions and onto you)

Solution(s)

2) You will need to carefully take the nozzle body apart and replace the O-ring or pack nut (if you have not ever done this before please go to our website <https://www.triconsprayers.com> and go to our blog post at the bottom of the home page and click on it. This will show you how to safely take your nozzle body apart and then reassemble it.)

Problem

The brass valve stem is releasing slowly or not at all

Solution(s)

1) Take a 7/16" or 16mm wrench and give the gland nut a slight turn to the left to loosen & then try spraying again. Repeat this process as needed.

Problem

**Valve stem will not release, when you engage the trigger handle or there is no tension
When you squeeze the trigger handle.**

Solution(s)

1) If the valve stem is not releasing properly, this is caused by over tightening the pack nut and retainer cap. You'll want to first slightly loosen the pack nut, once the pack nut is loosened enough it will release the valve stem.

Problem

You squeeze the trigger handle and there isn't any tension

Solution(s)

- 1) If you engage the trigger handle and there is no tension. Then you will need to carefully take the nozzle body apart and replace the spring. This is done by taking a 7/8" or 34mm wrench and loosen the retainer cap to replace the spring inside, **Warning you'll need to keep pressure on the retainer cap since there is a compressed spring underneath the cap. This can cause the cap to fly off and cause bodily harm. (if you have not ever done this before please go to our website <https://www.triconsprayers.com> and go to our blog post at the bottom of the home page and click on it. This will show you how to safely take your nozzle body apart and then reassemble it.)**

Problem

Water is leaking at the retainer cap (This is the hex shaped cap on the back of the nozzle body)

Solution(s)

1) Take a 7/8" or 34mm wrench and give the retainer cap a slight turn to the right to tighten & then try spraying again. Still leaking give the retainer cap another slight turn to the right then try spraying again. **PLEASE NOTE THAT THE RETAINER CAP SHOULD SEAT DOWN AGAINST THE BACK OF THE NOZZLE BODY. DON'T TIGHTEN THE RETAINER CAP OR TIGHTEN ALL THE WAY DOWN AS TIGHT AS YOU CAN THIS CAN CAUSE THE RETAINER CAP TO STRIP. THIS TOO CAN CAUSE THE SPRING TO RELEASE VERY SLOWLY TAKING LONGER FOR THE SPRAYER TO CLOSE PROPERLY TO STOP SPRAYING OR MAY CAUSE IT TO STICK IN THE OPEN POSITION CAUSING IT TO SPRAY CONTINUOUSLY.** This will cause the O-ring to become distorted in a couple of ways. First by making it to flat and will not allow the O-ring to seal properly, second it can cause the O-ring to break.

2) Still leaking then you will need to carefully take the nozzle body apart and replace the O-ring on the retainer cap with a new O-ring or if you already have a rebuild kit you can simply replace the whole retainer cap. You'll need to keep pressure on the retainer cap since there is a compressed spring underneath the cap. This can cause the cap to fly off and cause bodily harm. **(If you have not ever done this before please go to our website <https://www.triconsprayers.com> and go to our blog post at the bottom of the home page and click on it. This will show you how to safely take your spray nozzle apart and then reassemble it.)**

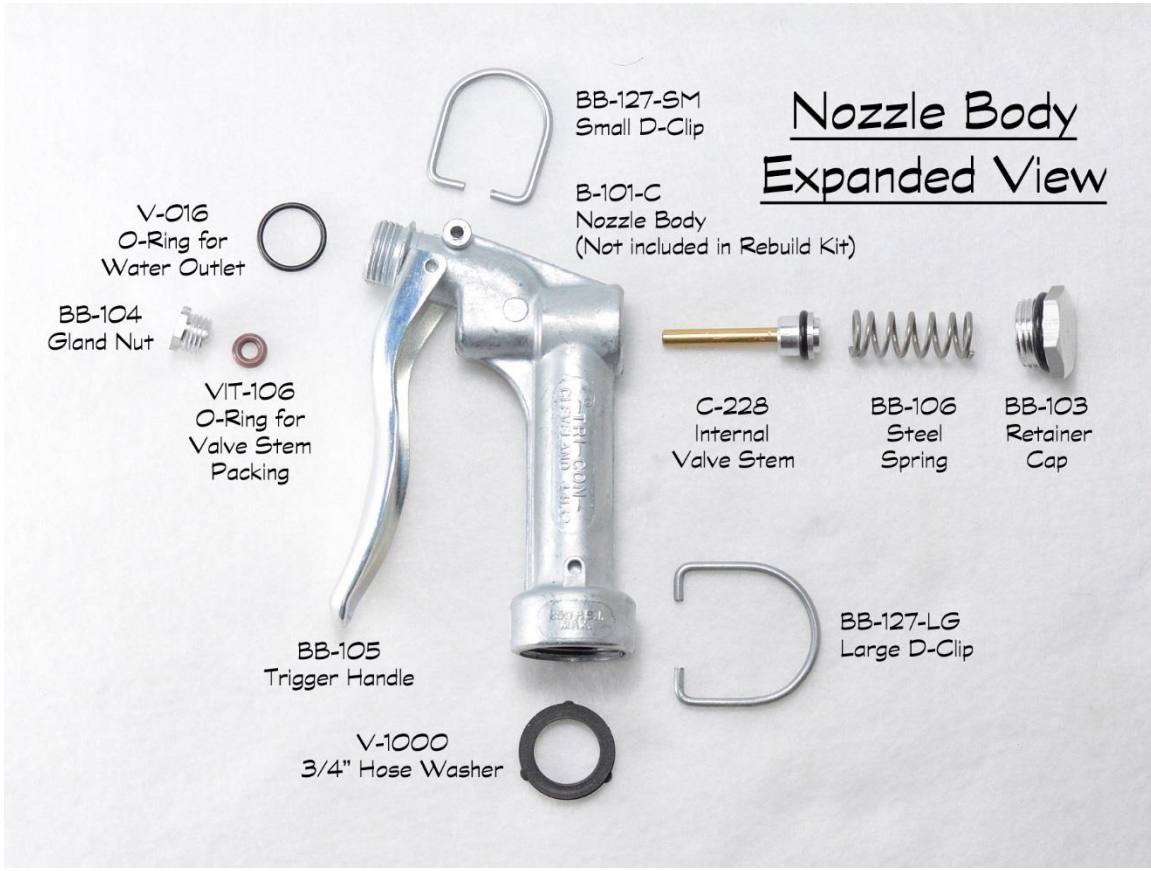
Problem

Water is leaking from the water outlet end of the nozzle, this is where the adaptor nut and Spray tip thread onto the nozzle body. Please note that the adaptor nut and spray tip should snugly seat down against the O-ring on the nozzle. You can accomplish this by Hand tightening or using a 7/8" or 34mm wrench to snugly tighten.

Solution(s)

- 1) First unscrew the adaptor nut & spray tip off of the nozzle body either by hand or using a 7/8" or 34mm wrench. Check the O-ring to make sure that it hasn't become damaged (cracked, split or broken) replace this O-ring if any of these have happened.
- 2) Then make sure that the spray tip is snugly tightened onto the nozzle body. **Do not over tighten the adaptor & spray tip this will cause the O-ring to become distorted and not allow it to seal properly.**

Nozzle Body Expanded View



Expanded View of Complete Rebuild Kit

