# Model 700C-7

## Sanitary Diaphragm Seals for Sanitary Piping Systems
## Extended - Sanitary Tank Spud

**Process Connection**
4" Tri-Clamp
**Instrument Connection Sizes**
1/4" NPTF, 1/2" NPTF or 1/4" Aminco

**Dimensional Data**
Refer to drawings below

**Standard Features and Options**
This clamped, off-line seal has a diaphragm welded to the tank spud plug. The 700C-7 Series Diaphragm Seals are designed to ensure that the surfaces exposed to the process are virtually crack and crevice free. The diaphragm and wetted materials are 316 Stainless Steel. The displacement of this seal is 0.15 cubic inches. The 700C Extended - Sanitary Tank Spud is offered with 2" and 6" tank spud extension lengths. Tank spud and tank spud plugs can be supplied as individual components.

This model meets the requirements of the 3-A Sanitary Standard.

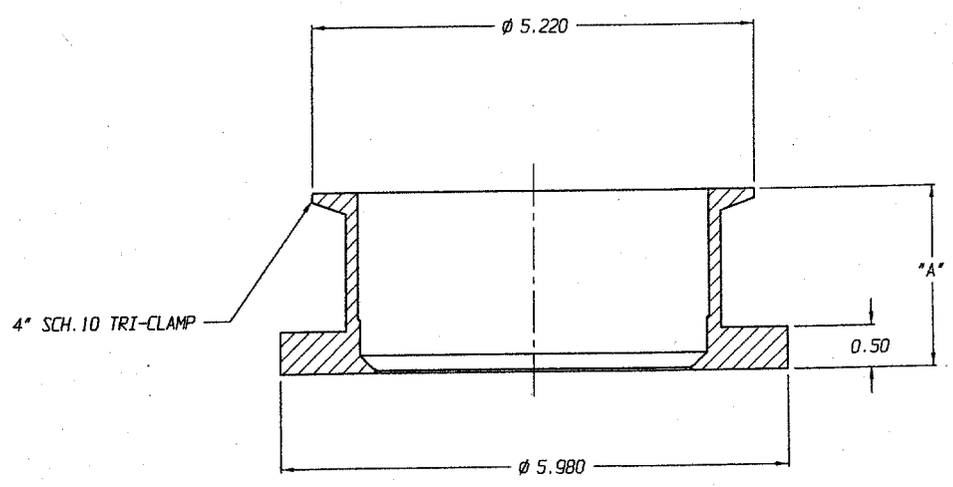
**Offerings**
**Tank Spud:** 316 Stainless Steel
**Tank Spud Plug:** 316L Stainless Steel
**Diaphragm:** 316 Stainless Steel
**Note:** This assembly is supplied complete with tank spud clamp and ethylene propylene o-ring.
**Tank Spud & Blind Tank Spud Plug**
To order the Tank Spud or Blind Tank Spud Plug, refer to drawings below for component part numbers.

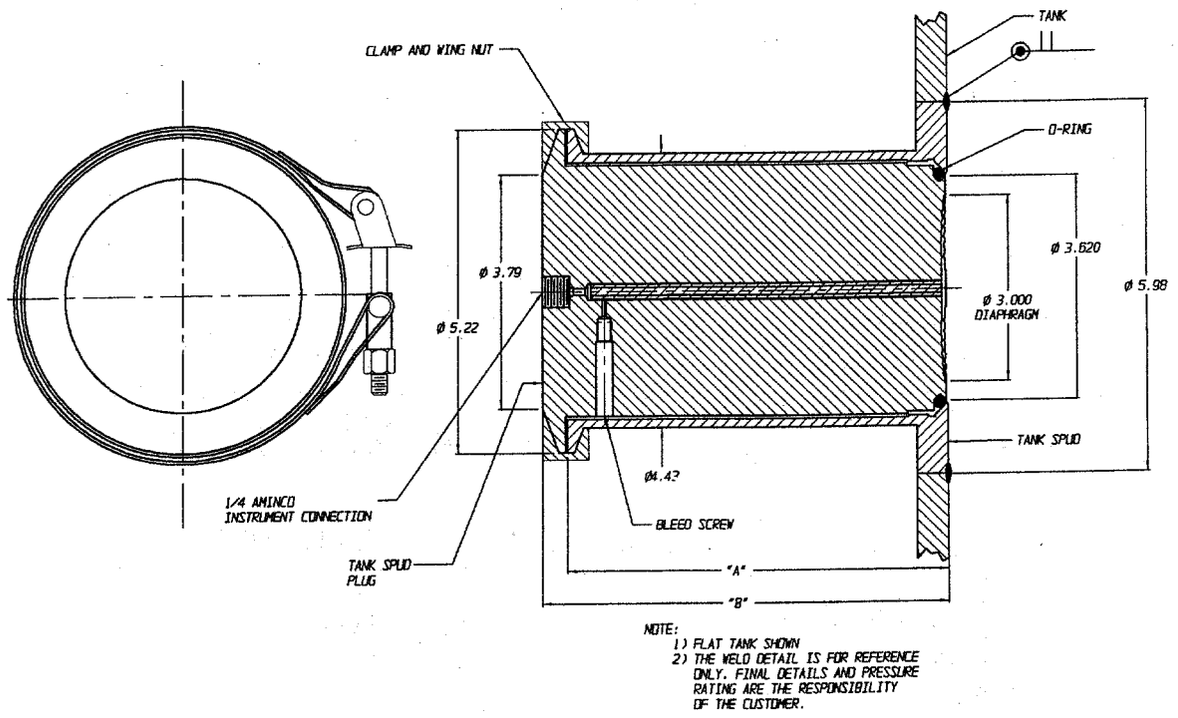
**CONTROL ENGINEERING DATA**

CATALOG NUMBERS AS RECEIVED FOR THE 700C SERIES MUST CONTAIN ELEVEN (11) CHARACTERS.

700C-7 4 6 1 2 N

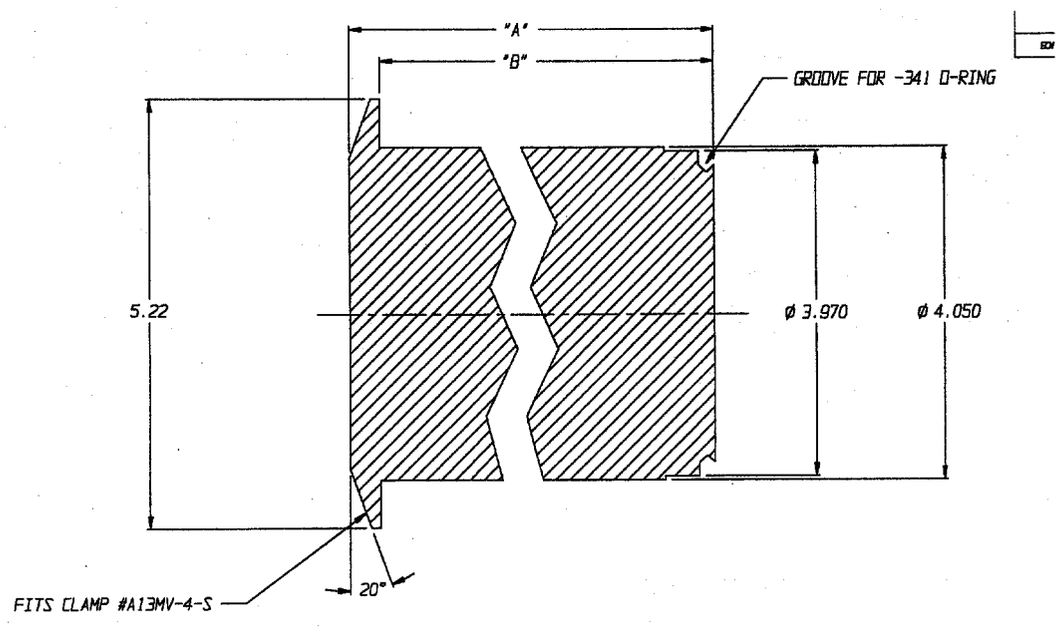
**(11) FILL FLUID**
N = (Standard)
**(10) INSTRUMENT CONNECTION**
0 = Blind (Tank Spud Plug)
1 = 1/4" NPTF w/Bleed
2 = 1/2" NPTF w/Bleed
4 = 1/4" Aminco with bleed
**(9) LOWER TANK SPUD**
0 = Not Supplied
1 = Supplied
**(8) EXTENSION LENGTH**
2 = 2"
6 = 6"
**(7) CLAMP CONNECTION**
4 = 4" Tri-Clamp
**(1-6) DIAPHRAGM SEAL DESIGN**
700C-7= EXTENDED - TANK SPUD SEAL




| SPUD LENGTH | "A" | "B" |
|---|---|---|
| 2" | 2.12" | 2.59"<br>2.49" |
| 6" | 6.12" | 6.59"<br>6.49" |

Tank Spud
**When ordering separately use, part no.**
**2" - 527105S6**
**6" - 527114S6**




Blind Tank Spud Plug
**When ordering separately use, part no.**
**2" - 52712236**
**6" - 527109S6**

## SANITARY TANK SPUD WELDING PROCEDURE

Because the clearance between the inside diameter of the tank spud and the tank spud plug extension is minimal, the tank spud must be welded to the tank with a minimum of distortion. A recommended welding procedure is outlined below. An area with a minimum of 9-1/4" (235 mm) on the tank is needed to weld the tank spud as shown in Figure 1.

Remove the tank spud from the tank spud plug prior to welding it to the tank.

Vertical locations of the tank spud center line should be at least 1-1/2" (38 mm) below minimum measurement level shown as item A in Figure 1.

1. Cut a 6" ± 1/16" (153 mm +2.-0) diameter hole in the tank shown as item B in Figure 1.
2. Position the tank spud as shown in Figure 2:
   A. The inner surface of the spud (at horizontal center line) is flush with the inner surface of the tank shown as item E in Figure 2.
   B. The outer vertical surface of the spud is as near vertical as possible.
3. Tack weld the outer surfaces in four places shown as item F in Figure 2.
4. Weld the inner surface of the tank spud to the tank. Use the recommended welding procedure. Grind the weld smooth so that the surface is free from crevices where particulate can accumulate (Item H in Figure 2).

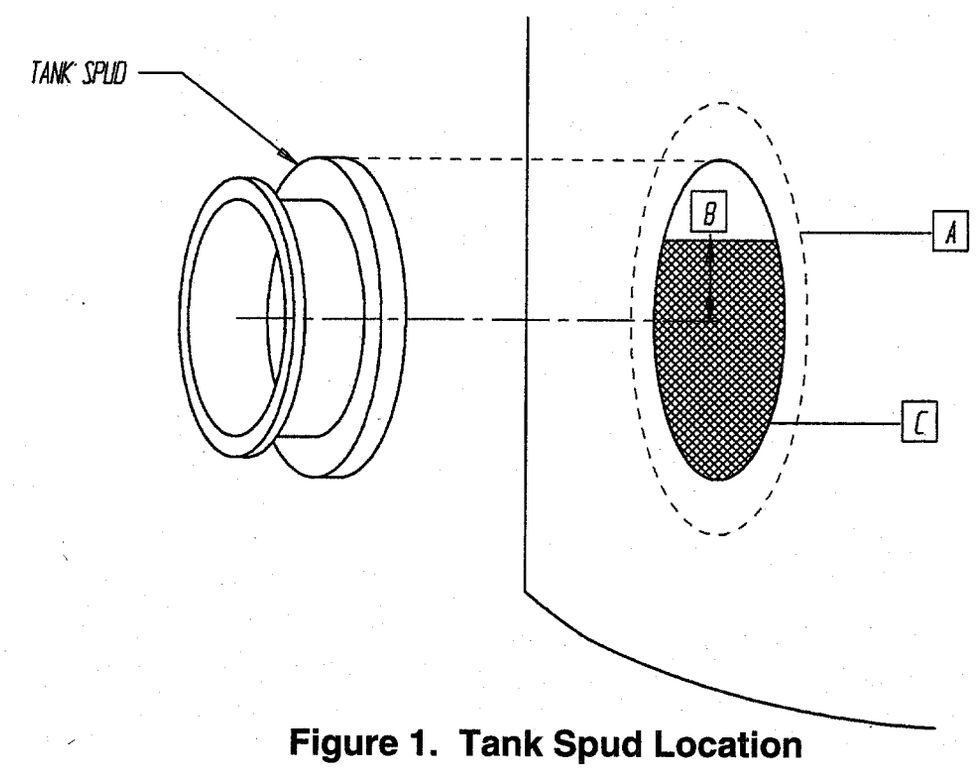



Figure 1. Tank Spud Location

## RECOMMENDED WELDING PROCEDURE

## CAUTION

**Excessive heat will distort the tank spud. Allow adequate cooling time between passes.**

The tank spud is 316 Stainless Steel, therefore, use a compatible low carbon welding rod.

1. Weld the indicated portions of the tank spud in the sequence depicted in Figure 3.
2. After each section is welded, cool the tank spud with water until temperature is below 700°F (370°C) before welding the next section.
3. The outer surface can be welded if desired, after the inner weld is completed. Again, use the recommended welding procedure.

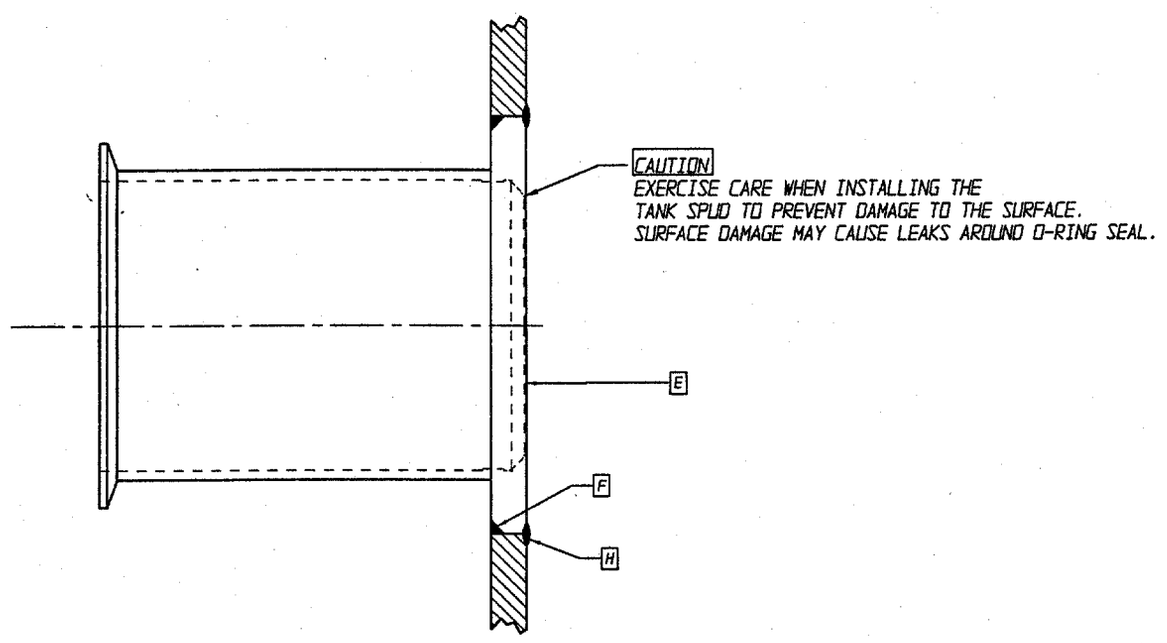



Figure 2. Welding Location

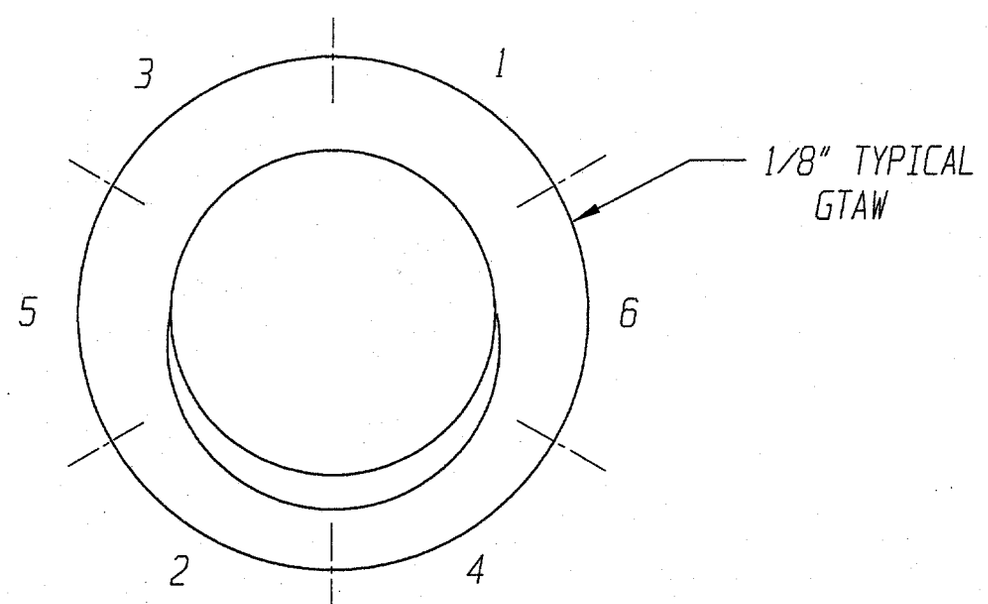



Figure 3. Welding Sequence View - Inside Tank