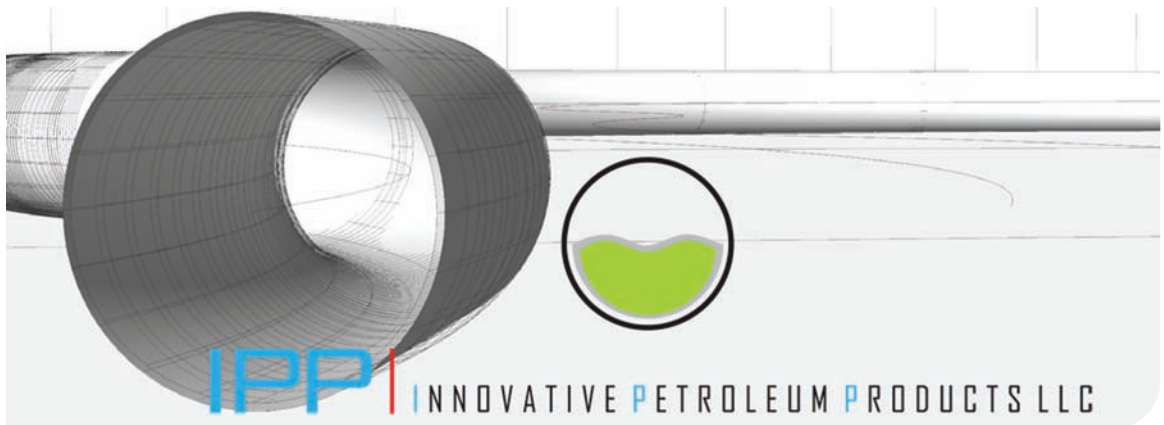


# FuelGuard Flexible Entry Boot Installation Manual



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# FuelGuard Flexible Entry Boot

## DESCRIPTION

Flexible Entry Boots are best described as a rubber entry boot which provides some flexibility in its construction. FuelGuard rubber entry and test boots are manufactured of Ultra High Nitrile rubber, rendering them fuel and ozone resistant. The selection of rubber is specially designed to have negligible swell in all fuels including E85 and Biodiesel.

FuelGuard boots have also a lower shore hardness rubber compound for better sealing at the interface of the sump and the boot. FuelGuard test boots are manufactured of the same compound.

All other components, nuts, bolts and backing rings are manufactured from non corrodible materials, brass and glass reinforced nylon respectively.



FuelGuard boots are available in sizes from 1/2" to 4" nominal bore, and in more than 25 variants enabling any application to be sealed using the boots. All boots are designed and supplied to allow single wall entry and/or double wall pipe termination in the boot.

## SPECIFICACIONES

Boot Type :	Ultra High Nitrile Rubber, with brass nuts and bolts and glass reinforced nylon stiffener and backing rings. Both penetration and test boots come with or without schraeder valves as required.
Hole Penetrations :	2"(50.8mm), 1-1/2"(25.4mm) y 3/4"(19.5mm) boots - hole saw 3"(76.2mm) 4"(101.6mm), 3"(76.2mm), y 2.5"(63.5mm) boots-hole saw 5"(127mm).
Temperature range :	Boots can be worked with at ambient temperatures between -4°F(-20°C) y 160°F(71°C).
Operating pressures:	5 PSI Maximun
Test pressure :	8 PSI.
Approved Fuel Types :	All Petroleum Products (Motor Vehicle Fuels, High Blend Fuels, Concentrated Fuels, Aviation & Marine Fuels) E85 and Biodiesel.
Test ports :	Either 1/4"(6.35mm) or 3/8"(9.52mm)
Sizes:	1-1/2"(12.7mm), 3/4"(19.049mm), 1"(25.4mm), 1-1/2"(38.09mm), 2"(50.8mm), 2-1/2"(63.5mm), 3"(76.19mm) and 4"(101.6mm). <b>Also available in reduction boots</b> 1-1/2"(38.09mm) - 2"(50.8mm), 4"(101.6mm) - 2"(50.8mm), 1-1/2"(38.09mm) - 3"(76.19mm), 2-1/2"(63.5mm) - 2"(50.8mm), 4"(101.6mm) - 3"(50.8mm) and 5"(127mm) - 4"(101.6mm).

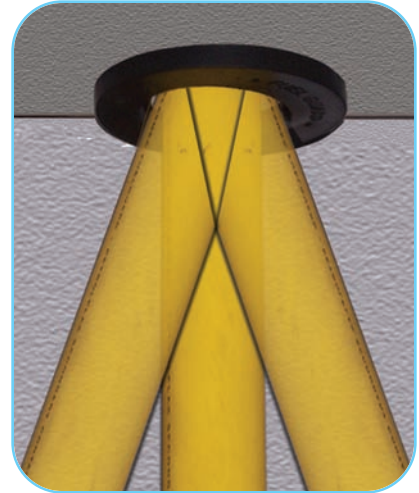
# FuelGuard Flexible Entry Boot

## INSTALLATION

Installation, use, and maintenance of all FuelGuard products shall be in accordance with the manufacturer's recommendations, State and county approvals. In event of conflicts, the stricter requirement shall govern. (Innovative Petroleum Products installation manual available directly from the factory, or at [www.innovativepetroleum.com](http://www.innovativepetroleum.com))

## DESIGN

FuelGuard entry boots are designed in such a way so as to offer the maximum flexibility to penetrating pipe (15° from the perpendicular), while offering the maximum seal possible on Polyethylene, fiberglass and steel sumps. Installation is easy and quick. Although the design has a lower shore hardness rubber, allowing the boot to create a better seal on the surface of the sump or pipe, it is always recommended to always use a silicone based adhesive between the boot and sump interface. This will ensure a 100% water seal, even if there is ground movement or a high water table.



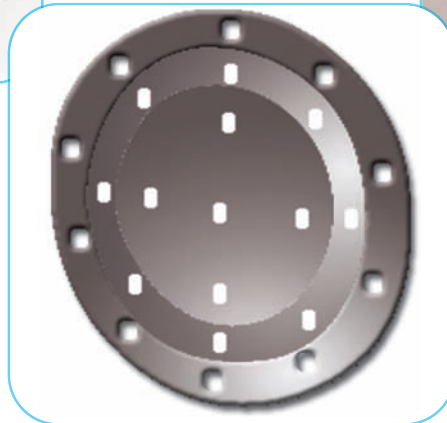
## TOOLS

Basic tools are required to install FuelGuard boots on site, that is over and above the common tools used in the trade, these are :



Hole saws and hole saw  
Arbor

**IPP part #'s:**  
T-HS-3, T-HS-3.5, T-HS-5  
y T-HS-AUB



Rubber Boot Template

**IPP part #'s :**  
RBT001



Permanent markers silver  
color

**IPP part #'s :**  
SP39100

Other tools required are:  
tape measure, electric drill,  
water level and steel ruler.

# FuelGuard Flexible Entry Boot

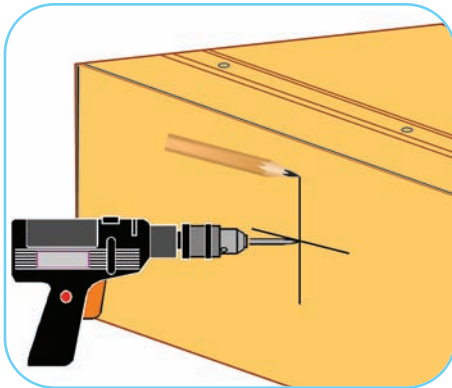
## INSTALLATION PROCEDURES

Prior to starting the installation of the FuelGuard entry boots, the installer needs to ensure that he has contacted the dispenser manufacturer and obtained the correct footprint of the dispenser that will be used. This is extremely important as each dispenser has its own individual footprint and product centers. It is the responsibility of the Oil Company, the distributor and contractor to assure that the measurements to be used in installing the entry boots are correct prior to installation.

Hay 6 pasos para instalar las botas de entrada FuelGuard correctamente:

### Step 1

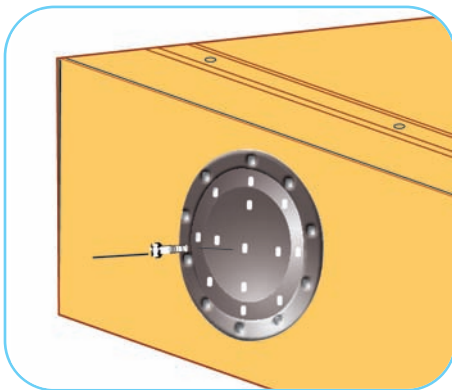
Mark and drill pilot hole



Using a tape measure and water level identify the centre of the where the pipe penetration has to pass to achieve correct fall back to the tank for the pipe. Mark the centre with a cross using a permanent marker (SP39100), remembering that the centre has to fall in line with the footprint of the dispenser, in order not to put too much strain on either the entry boot or the flexible hoses. Using a 1/4"(6.35mm) drill bit, drill the centre of the cross.

### Step 2

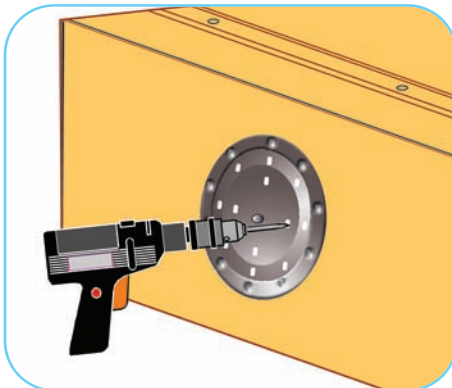
Attach boot template



Attach the FuelGuard (RBT001) template to the sump using a 1/4"(6.35mm) nut and bolt – supplied with the kit.

### Step 3

Drill boot penetration bolt holes

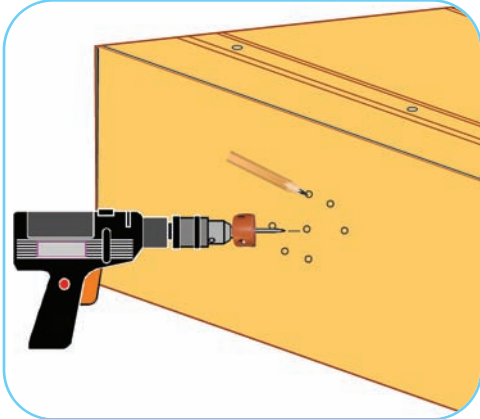


Establish the which entry boot you will use (Note : IPP has 2 standard sizes one with 4 holes and the other with 6 holes). Select the correct set of holes to match boot to be installed and drill bolt holes into the sump.

# FuelGuard Flexible Entry Boot

## Step 4

Drill rubber penetration



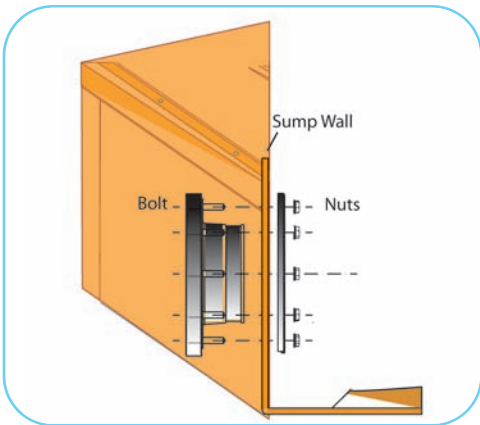
Remove template and use the hole saws (T-HS-3, T-HS-3.5, T-HS-5 and T-HS-AUB) to drill correct hole into the sump in order to pass the rubber boot through the sump wall.

Hole saw sizes are as follows :

Boot	Hole saw
3/4" - 1 1/2" - 2"	3" T-HS-3
2 1/2" - 3" - 4"	5" TH-HS-5

## Step 5

Install boot

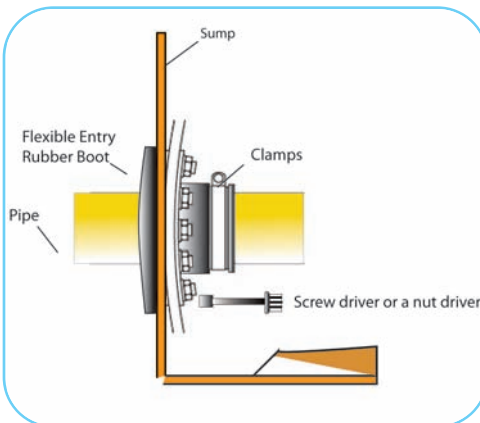


Once all the holes have been drilled, insert the boot into the holes from the outside of the sump, making sure that all the holes line up. From the inside of the sump insert the mounting ring, followed by the washers and nuts. Use a nut driver to fasten to a hand tight fit only

(NOTE : DO NOT USE POWER DRILLS FOR THIS OPERATION)

## Step 6

Pass pipe through and seal



Insert the pipe into the boot and fasten the hose clamps sandwiching the rubber boot between the hose clamp and pipe. Hose clamps are tightened using either a screw driver or a nut driver.

NOTE: Boots installed with pipe penetrating the boot at angles greater than 15° from the perpendicular could have both short term and long term damage. In these cases the manufacturers warranty will not be valid.



IPP

| INNOVATIVE PETROLEUM PRODUCTS LLC

**Innovative Petroleum Products**

317 Vicki Towers lane  
St Augustine  
Florida, 32092  
USA

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- Tel : +1 904 354 8705 • Tel : +1 904 940 8863
- Fax : +1 425 955 8722
- Email: [sales@innovativepetroleum.com](mailto:sales@innovativepetroleum.com)
- Web page <http://www.innovativepetroleum.com>