Retail Fueling Basics

WORKBOOK

(Everything you Always Wanted to Know About a Gas Station but were Afraid to Ask!)

OPW®
RETAIL FUELING
a DOVER® company

RETAIL FUELING BASICS
(101 LEVEL TRAINING)

Everything You Ever Wanted to Know About a Gas Station but Were Afraid to Ask!

WORKBOOK

Fill in the blanks and callouts in this workbook while you watch each video.

The three major governing bodies for the retail fueling industry (those who make the rules) are:

1.

2.

3.

For a fueling system at a retail site to operate correctly, we must have 4 things:

1. A way to _____ the fuel.
2. A way to _____ the underground storage tank.
3. A way to _____ the fuel.
4. A way to _____ the fuel.

STORING THE FUEL

UST = _____ _____ _____

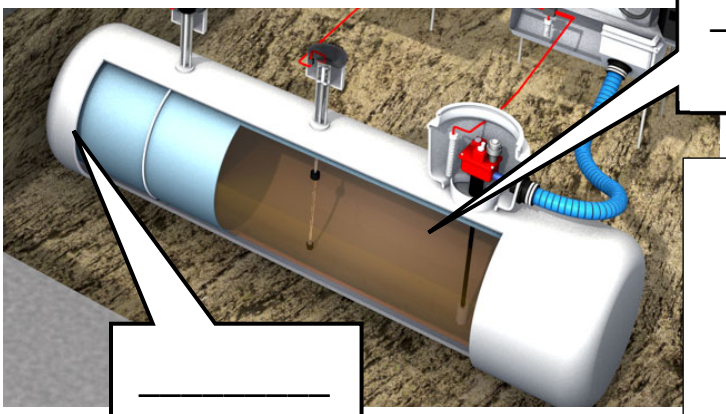
Why do stations put their tanks underground?

What is a tank pad?

How are most modern tanks constructed?

What is an "interstitial space"? Why is it needed?

Label the callouts in this UST diagram.



_____
TANK

_____
TANK

The gap in-between these tanks is called…

_____ Space or
Annular Space

Gasoline is a _____ that really, really wants to be a _____. In so doing, it builds up _____ in the tank. This buildup needs to be _____.

Every gasoline tank must have a vent line going to a vent _____.

What is the name & purpose of this item?

What is a VOC?

Why does this need to be mounted at least 12' above grade?

Why wouldn't you need this item on a <u>diesel</u> vent line? What is used instead?

FILLING THE UST

Tanks come from the factory with several ____" openings called _____.

Attached to these openings would be a length of pipe called a _____.

A transport driver will connect a _____ hose to the _____ port and a smaller diameter _____ hose will be connected to the _____ port for gasoline (no _____ hose needed for diesel).

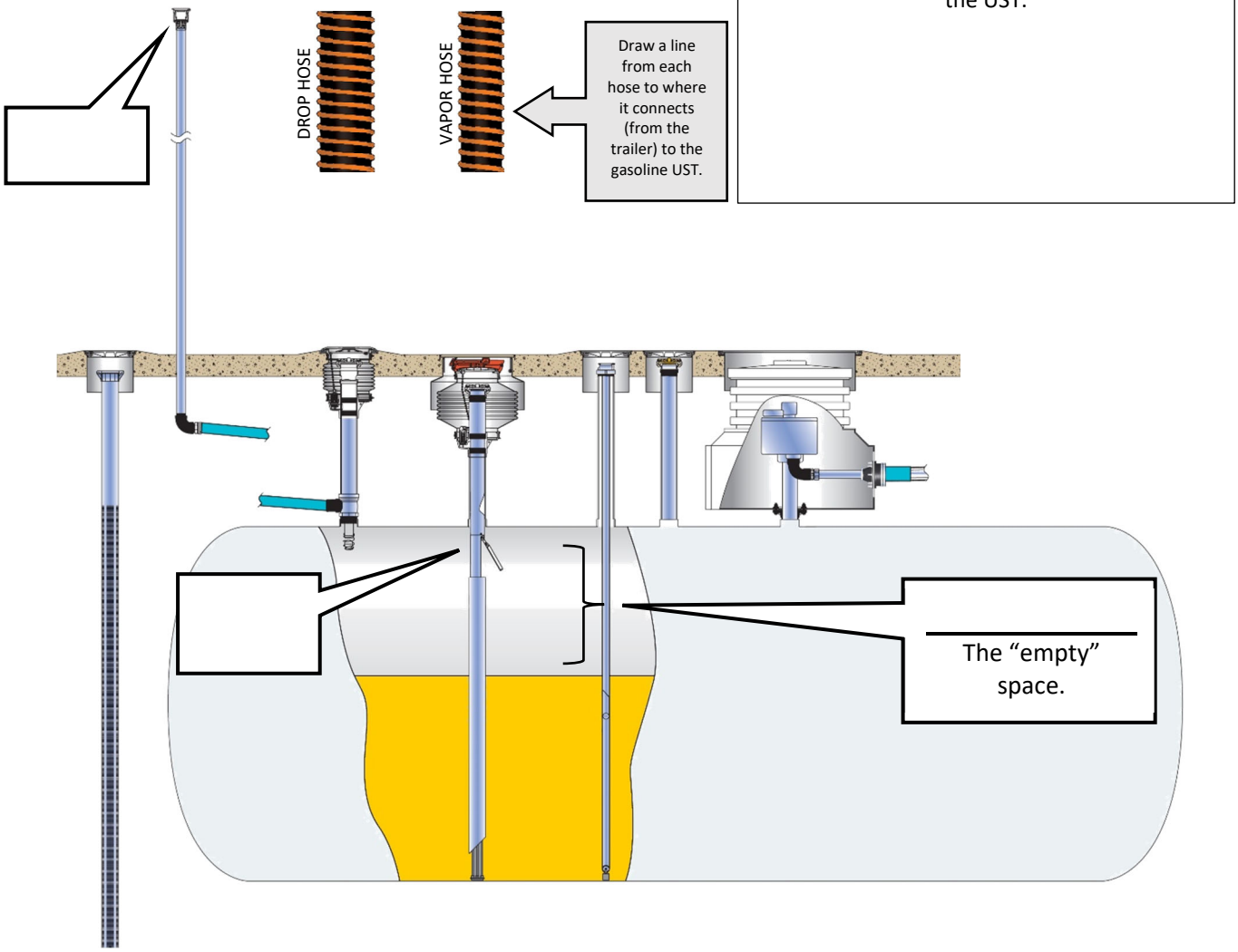
What is this item called and what is its purpose?

What component does this connect to in the spill bucket? Why is this item made from brass or bronze?

Why are spill buckets used? What would happen if there were no spill bucket?

Label the callouts in this diagram.

STAGE 1 VAPOR RECOVERY:
As the fuel is being dropped by the transport driver, describe what happens to the vapors in the UST.



What is the difference between a single-point and a double-point fill?

What is a "multiport"?

What is this component and what is its function?

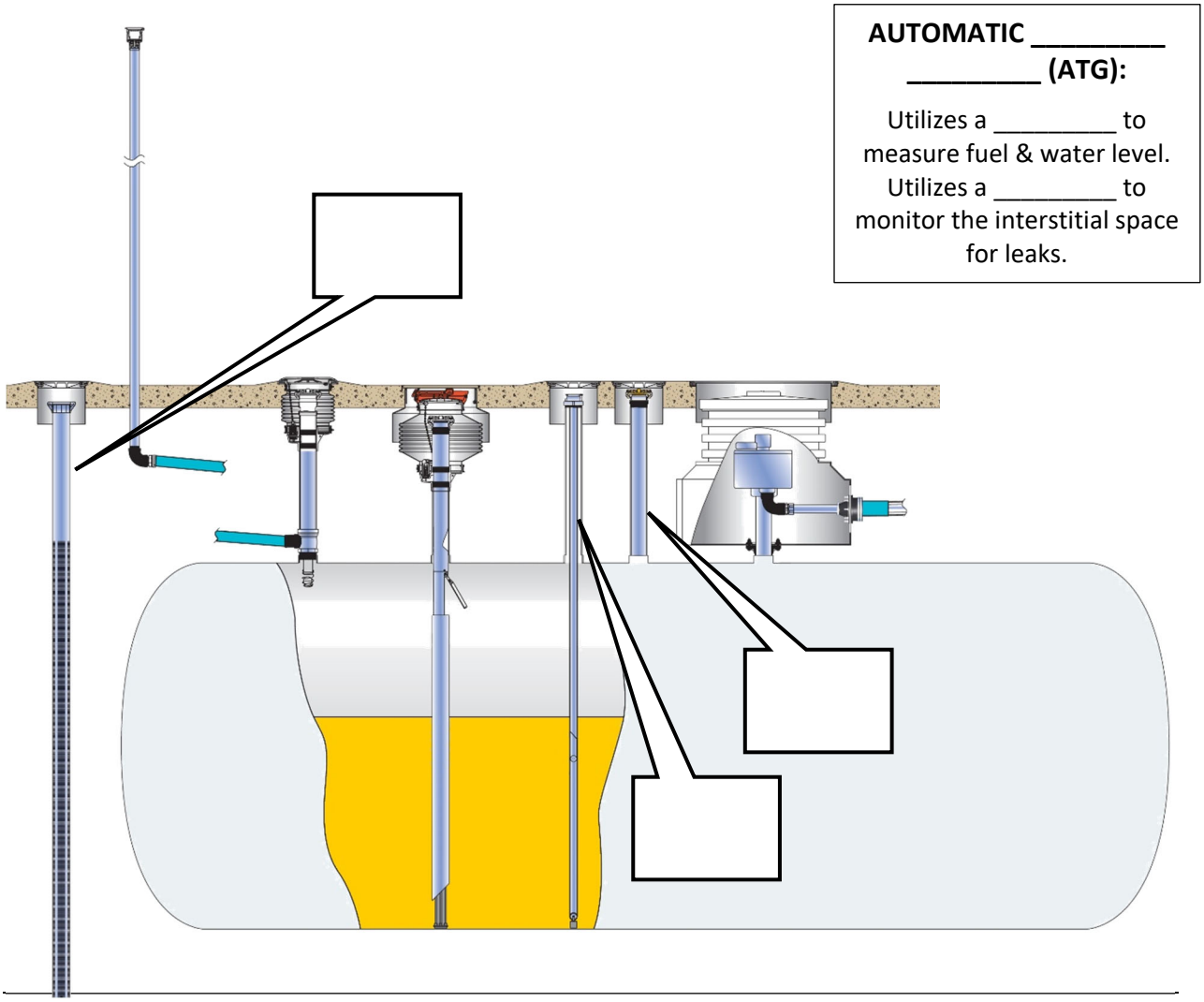
Homework: What is the shutoff percentage required by <u>your</u> local Authority Having Jurisdiction (AHJ)?

If this method isn't used, what other method might be in place? What is the main problem in using this alternative method?

What component prevents fuel from splashing (causing excessive vapors) while a transport driver is dropping fuel? How does it accomplish this?

AUTOMATIC _____ _____ (ATG):

Utilizes a _____ to measure fuel & water level.
Utilizes a _____ to monitor the interstitial space for leaks.



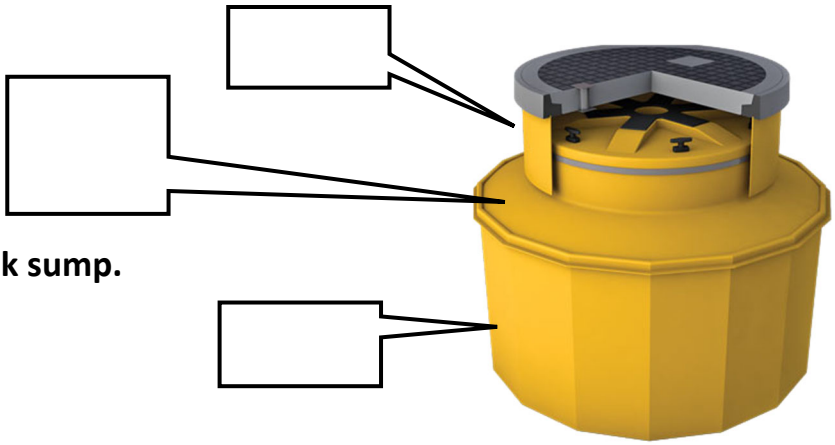
MOVING THE FUEL

If, in the U.S., there is no pumping unit inside a fuel dispenser, why do we often call it a "pump"?

Why did the industry switch from suction systems to _____ systems?

What is the component that pressurizes a fueling system? What acronym does it normally go by?

Label the components of a tank sump.



Piping and conduit penetrate sumps by means of _____ fittings.

Fuel piping can fall into one of two categories: Flexible or _____.

Rigid piping is usually called FRP, or _____-_____ _____. This pipe is manufactured in "sticks" requiring _____ to be buried (that could potentially leak over time).

Flexible piping is created by _____ several layers of non-permeable material. Since flexible piping can be placed on a reel, a continuous run from _____ to _____ can be made.

Flexible piping is usually run through an _____ pipe, allowing protection from backfill, but also allows for _____ without breaking concrete.

Flexible piping for a retail station must be _____-walled. Just like with tanks, there is a _____ layer, a _____ layer and an _____ space between them.

DISPENSING THE FUEL

Under each dispenser is a chamber called a UDC, or _____-_____ _____. This is designed to catch any spills or leaks from the dispenser or piping connections. It is often monitored by an electronic sensor.

The _____ requires that there is an emergency valve for every product line under each dispenser. This valve goes by several names – list them here:

What is a "poppet" and what is its function? What is the difference between a single-poppet and a double-poppet valve?

What could happen if a crash valve isn't properly attached to the stabilizer bar?

What is the enhancement that OPW has made to this valve to prevent leaks with "nuisance breaks"?

What is important to remember about replacing a shear valve? Does the entire valve need to be replaced after a break?

What component of the valve causes it to close in the event of a fire?

List the components of Hanging Hardware:

What does a breakaway valve prevent?

What are the two major types of breakaway valves?

Why is a whip hose so important to the proper operation of a breakaway valve?

List the two major benefits of a swivel.

Presented by

For more information, contact us at training@opwglobal.com.