



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

[www.dnr.mo.gov](http://www.dnr.mo.gov)

MAY 18 2012

Mr. Charles Liebal  
Product Manager  
OPW Fueling Containment Systems  
3250 Highway 70 Business West  
Smithfield, NC 27577

RE: APPROVAL LETTER 2012-1

Dear Mr. Liebal:

On March 22, 2012, OPW Fueling Containment Systems requested Missouri Petroleum Equipment Test Procedures (MOPETP) approval of a modification to MOPETP 2006-1 to allow for a Remote Fill/Offset Fill Configuration. This letter is to inform you and OPW Fueling Containment Systems, that the Missouri Department of Natural Resources approves this modification. Allowing this option has the potential to reduce the congestion to gasoline dispensing facilities with small lots and improve safety for gasoline transport drivers and customers.

Based on internal review, the department has determined that approval of the OPW Remote Fill Configuration via engineering review is appropriate. As part of the internal review process department and local agency staff reviewed the OPW Remote Fill/Offset Fill Configuration, components list, diagrams, and CARB information. There were no concerns raised regarding the configuration as submitted.

The Remote Fill/Offset Fill Configuration is currently California Air Resources Board (CARB) approved under CARB approval VR-102. All stage I vapor recovery equipment proposed for use is currently MOPETP approved in MOPETP 2006-1 and 2006-1A. This memo permits a modification of the previous configuration to allow for remote fill. Approval #2012-1 authorizes addition of only the currently CARB approved configuration that OPW has submitted for approval. Any alternate configurations or modifications require additional approval. All supporting documentation is included as a part of the approval. Additional information may be found on the following websites:

<http://www.arb.ca.gov/vapor/eos/eo-vr102/eo-vr102.htm>

<http://dnr.mo.gov/env/apcp/docs/opw-fueling2006-1.pdf>

<http://dnr.mo.gov/env/apcp/docs/opw-2006-1a.pdf>

Mr. Charles Liebal  
Page Two

Approval Conditions:

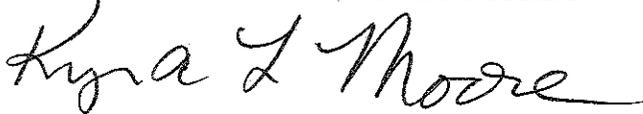
The approvals of the OPW Remote Fill/Offset Fill Configuration are conditional upon the following requirements:

1. See Approval #2006-1 and 2006-1A for the list of approved OPW Remote Fill/Offset Fill Configuration for all balance Vapor Recovery systems.
2. All installation and maintenance requirements provided in the CARB certifications (CARB Executive Order VR-102 or newer) must be followed.
3. The installation and replacement of the system must follow all instructions in the Installation, Operation and Maintenance Manual.

Thank you for your cooperation in the MOPETP process. If you should have any questions about this approval, please contact Ms. Diana L. Hill at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, by email at [diana.hill@dnr.mo.gov](mailto:diana.hill@dnr.mo.gov) or by telephone at (573) 751-4817.

Sincerely

AIR POLLUTION CONTROL PROGRAM



Kyra L. Moore  
Director

KLM:dhv

Enclosures

c: Bill Ruppel, St. Louis Regional Office  
Kathrina Donegan, St. Louis County Health Department  
Air Pollution Control Program, Vapor Recovery listserv



February 24, 2012

Missouri Department of Natural Resources, APCP  
1659 E. Elm  
Jefferson City, MO 65101

**Subject: MOPETP Approval for the OPW Remote Fill Configuration using the  
61JSK-4RMT**

We are writing to request MOPETP approval for a remote fill configuration consisting of the following OPW products:

- 61JSK-4RMT Jack Screw Kit (listed in CARB executive order VR-102).
- OPW 1-Series Spill Containers (listed in MOPETP approval # 2006-1 & 1A, EVR).
- OPW 71SO Series Drop Tubes (listed in MOPETP approval # 2006-1, EVR).
- OPW FSA Face Seal Adaptor (listed in MOPETP approval # 2006-1, EVR).
- OPW 61SALP Swivel Fill Adaptor (listed in MOPETP approval # 2006-1, EVR).
- OPW 634TT Fill Cap (listed in MOPETP approval # 2006-1, EVR).

All of the above products are CARB certified and a copy of the Executive Order and IOM manual are available online at <http://www.arb.ca.gov/vapor/eos/eo-vr102/eo-vr102.htm>. As noted above all items used in this configuration have MOPETP approval except the 61JSK-4RMT Jack Screw Kit.

To provide you with information regarding this configuration, attached to this letter is a brief description of the configuration, system layout drawing, copies of the catalog pages, installation and maintenance instructions for the configuration, representative product drawings, and excerpts from the CARB approval.

If you have any questions or need additional information my contact information is listed below.

Sincerely,

Charles Liebal  
OPW Fueling Containment Systems  
Product Manager  
Phone: (919) 934-2786 x206  
Email: [cliebal@opwfcs.com](mailto:cliebal@opwfcs.com)

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OPW Fueling Containment Systems

Mission Statement

3250 Highway 70 Business West  
Smithfield NC, USA 27577  
919-934-2786

Revolutionizing fueling operations globally by  
optimizing safety, efficiency, reliability, and  
environmental sustainability through innovative  
fuel handling and information management solutions



## Description of Vapor Recovery System

### 1.) System Component Description

The Phase 1 EVR remote fill configuration consists of the following products:

#### i. Remote Fill Connection Components

- 1. OPW 1-Series Thread-on Spill Container with the 1DK-2100 Drain Valve-** The OPW 1-Series Thread-on spill containers are screwed on to the 4" fill riser attached to the tank. A 4" pipe nipple is installed in the base. The 61SALP Series swivel fill adaptor is installed onto this nipple. The spill container offers a cast iron or a conductive composite bucket base, a flexible polyethylene bellows, and a cast iron mounting ring. Covers available for the spill container include aluminum (Models 1-XXXX), cast iron (1C-XXXX), and a sealable aluminum cover with an expandable seal to prevent water entry (models 1SC-XXXX). Special models of the spill container are the 65XX Multiport Spill Container Manhole, which incorporates the spill containers into a 36" though 48" diameter steel cover manhole. The 1DK-2100 drain valve is spring loaded and normally closed to prevent vapors from escaping from the drop tube when not being used.
- 2. OPW 61SALP Series Swivel Fill Adaptor-** The OPW 61SALP Series swivel fill adaptor is installed on a 4" nipple in the spill container base. The swivel fill adaptor allows 360 degrees of rotation of the fill connection to prevent vapors from escaping due to loosening of the adaptor from drop hose movement.
- 3. OPW 634TT Fill Cap-** The OPW 634TT fill cap is installed on the swivel fill adaptor when filling operations are not underway. The cap prevents water and debris from entering and vapors from escaping from the tank through the fill pipe.
- 4. 71SO Series Overfill Valve-** The 71SO Series Overfill valve is a 4" Drop tube with an integral overfill prevention valve. The valve shuts off the flow of the product into the tank before the tank can be filled beyond capacity. The valve is sealed to the drop tube and all penetrations through the valve are sealed to prevent vapors from migrating through the drop tube and escaping.
- 5. 61JSK-4RMT Jack Screw Drop Tube Lock Down Kit-** The 61JSK-4RMT is designed to lock an overfill prevention valve or drop tube into a 4" pipe tee (customer supplied) and make a remote system vapor tight. The design functions by placing the lower cage into the 4" tee on top of the flanged



drop tube and seal. The upper plate with three screws is then placed on top of the cage. After installing the nipple into the top of the tee the three screws are then tightened. As the screws are tightened the upper plate contacts the pipe nipple in the top of the tee and transfers this load through the lower cage to the drop tube seal causing the seal to compress and seal on the face seal adaptor in the bottom of the 4" tee creating a vapor tight remote system. Other features of the setup include face seal adaptors to provide a factory machined sealing face for the seals, a trap door to provide access for sticking the tank, and a cap. The cap used with the 61JSK-4RMT is nearly identical to the 62M series which currently has MOPETP approval. The only difference is that the cap used with the 61JSK-4RMT does not have a grommet in the center of the cap but the rest of the components are identical to the standard 62M cap.

The regular (61JSK-44CB and 61JSK-4410) jack screw kits that currently have MOPETP approval use the same cage, plate, and three screw method to seal a drop tube or overfill prevention valve as the remote 61JSK-4RMT. The upper plate and screws are identical in all designs. The lower cage in all kits is the same material but different heights. In the 61JSK-44CB and 61JSK-4410 the jack screw kits are designed to be used inside of a spill container base and the distance between the top nipple and lower face seal adaptor is shorter than in the 61JSK-4RMT. The 61JSK-4RMT is designed to work with a standard 4" pipe tee and there is more distance between the top nipple and lower face seal adaptor.

The 61JSK-4RMT was added to CARB executive order VR-102 revision H on May 23, 2007. A 180 day field certification test was conducted on the product. The testing included TP-201.1D leak rate of drop tube overfill prevention devices and spill container drain valves.

- 6. OPW FSA-400 Series Face Seal Adaptor-** An OPW FSA-400 Series Threaded Riser Face Seal Adaptor provides a flat, true sealing surface on threaded pipes where a gasket seal exists per EVR requirements. In the remote fill configuration the FSA-400 is installed into the bottom of the 4" tee and on the top of the nipple in the top of the 4" tee. The FSA-400 provides a true sealing surface for the drop tube flange on the overfill prevention valve and the cap used for sticking the tank.

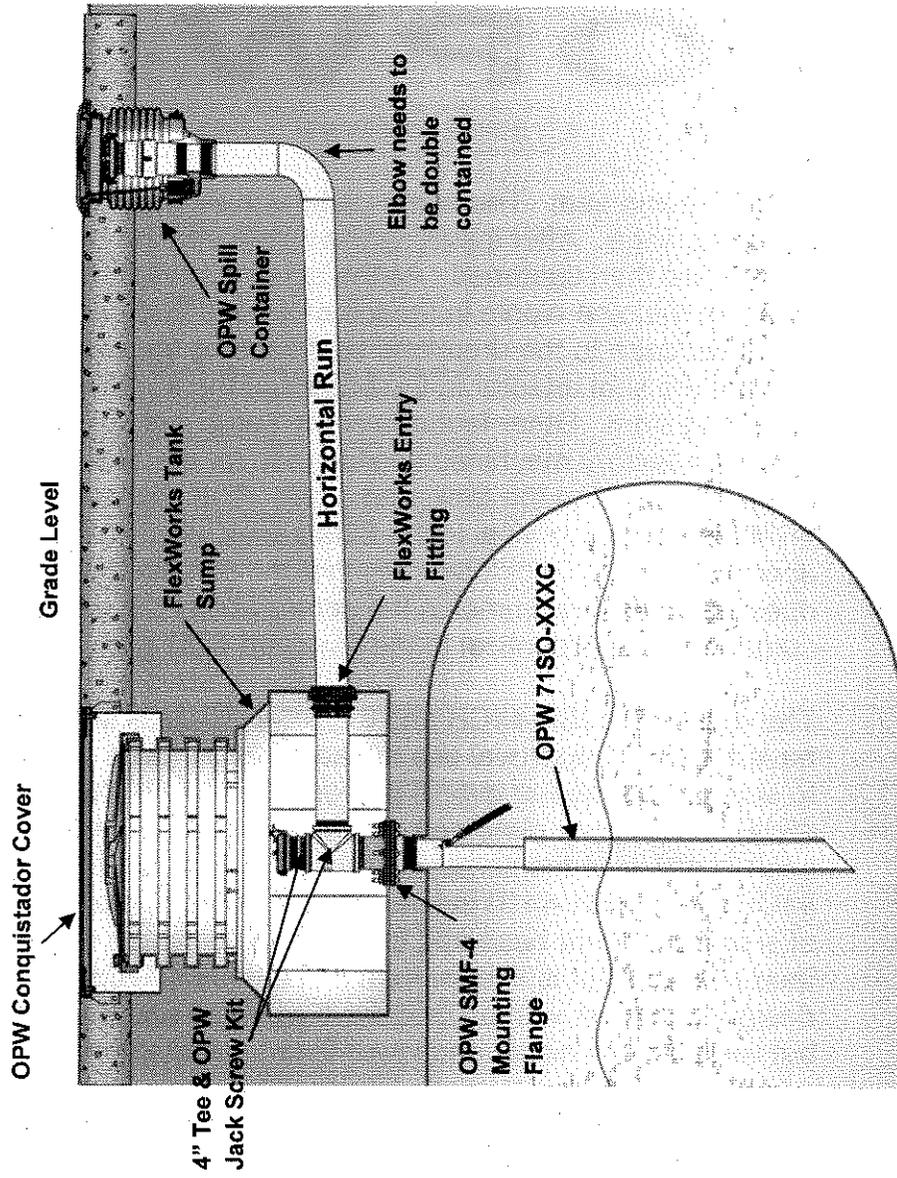
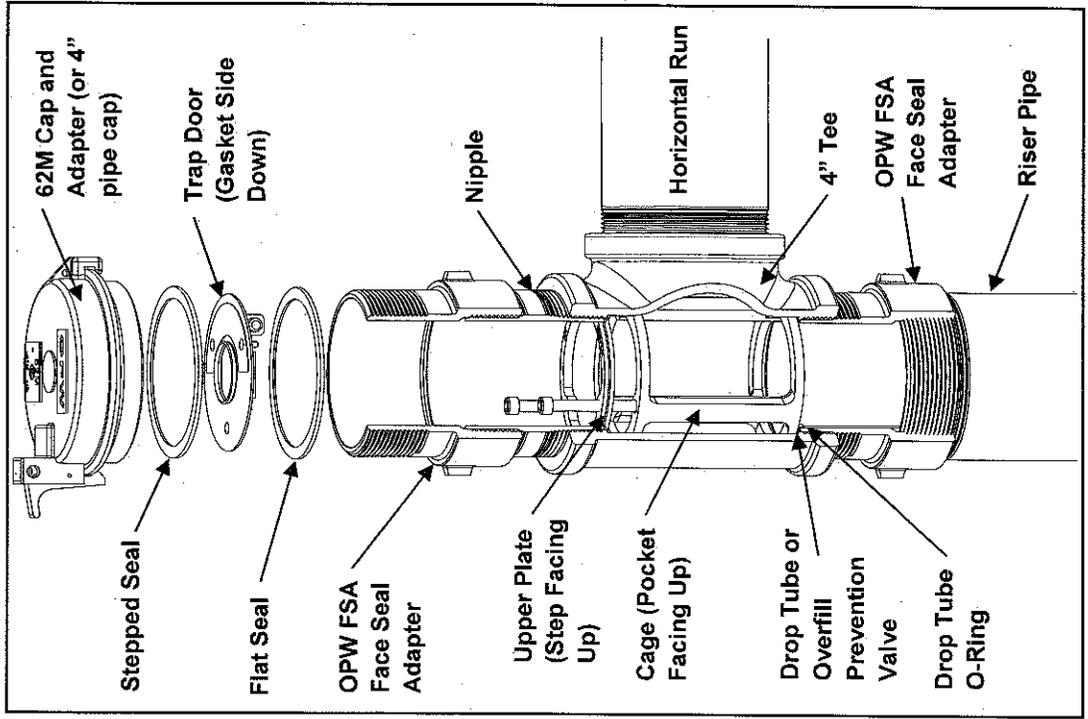
## 2.) System Layout Drawing

Two system layout drawings of the remote fill configuration can be found on the following pages.

# 71SO Vapor-Tight Remote Fill

**ONE COMPANY ONE WORLD. ONE SOURCE.™**

The OPW Vapor-Tight Remote Fill is designed for two-point vapor-tight remote-fill applications, where the fill point is not directly over the UST. A CARB approved vapor-tight 71SO overflow valve is installed in the sump through a riser pipe directly over the tank. The 61JSK-4RMT Kit installed within a 4" Tee provides an anchoring mechanism by locking the 71SO overflow valve in the tank fill riser. The "trap-door" assembly installed in the riser above the tank retains access for a gauge stick. The 61JSK-4RMT Kit coupled with any Vapor-Tight 71SO Overflow Valve will work for this application.

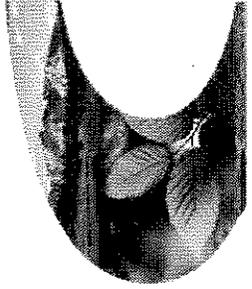


## 61JSK-4RMT Includes

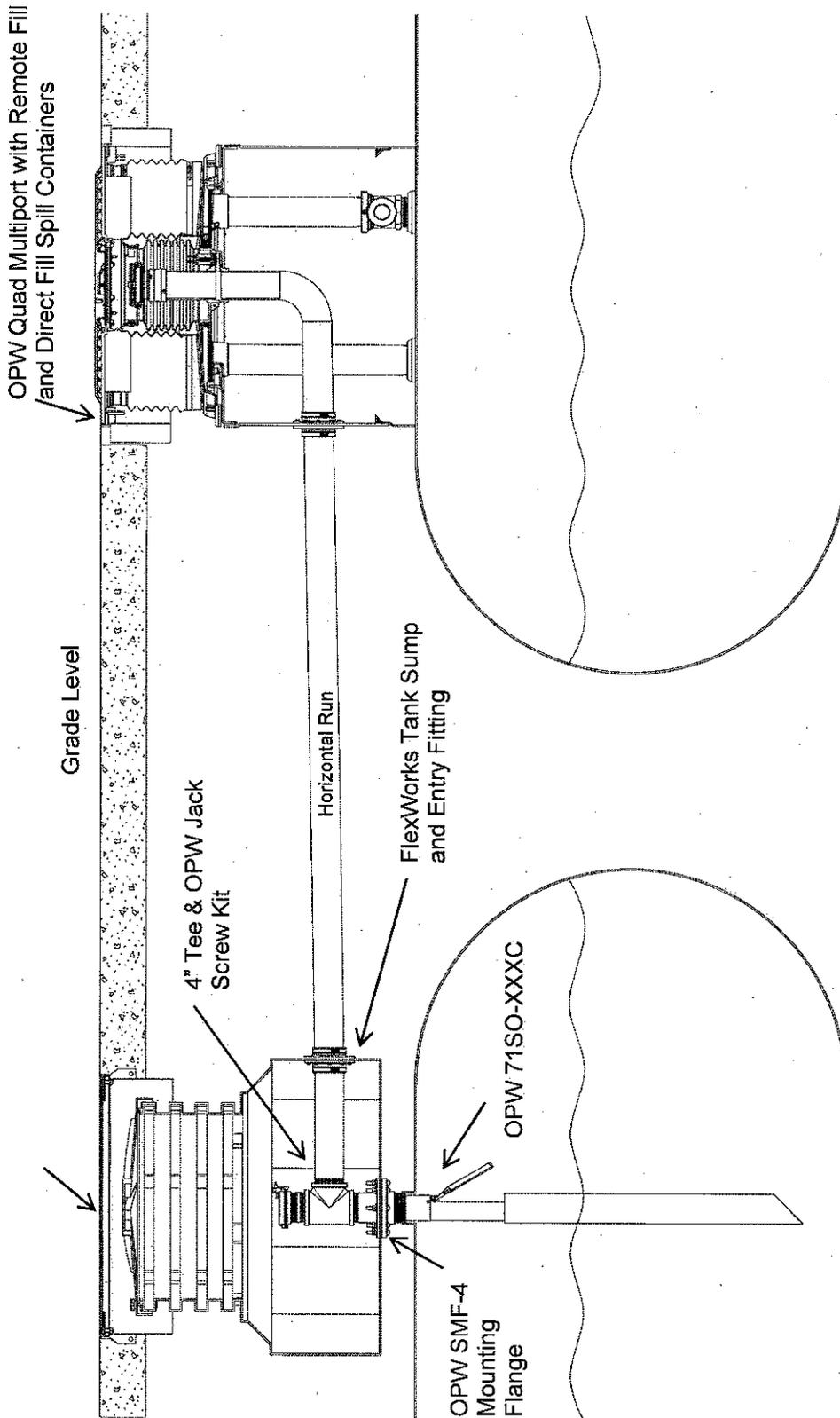
- ◆ Cap ◆ Jack Screw
- ◆ Adaptor ◆ Flat Seal
- ◆ Trap Door ◆ Stepped Seal

**OPW**  
FUELING CONTAINMENT SYSTEMS

3250 US Highway 70 Business W.  
Smithfield, NC USA 27577  
Customer Service: 1-800-422-2525  
www.opwglobal.com



**Multiport 71SO Vapor Tight Remote Fill with 61JSK-4RMT Configuration**





A DOVER COMPANY

### 3.) Component Cut Sheets

The catalog pages for the 61JSK-4RMT remote fill jack screw kit and the 71SO overfill valve can be found below.

OPW 61SO OVERFILL PREVENTION VALVES

#### OPW 61SO Overfill Prevention Valves

The OPW 61SO Overfill Prevention Valve is designed to prevent the overfill of underground storage tanks by providing a positive shut-off of product delivery. The shut-off valve is an integral part of the drop tube used for gravity filling. The OPW 61SO allows easy installation (without breaking concrete) and requires no special manholes.

The OPW 61SO is a two-stage shut-off valve. When the liquid level rises to about 95% of tank capacity, the valve mechanism is released, closing automatically with the flow. This reduces the flow rate to approximately 5 gpm through a bypass valve. The operator may then stop the filling process and disconnect and drain the delivery hose. As long as the liquid exceeds the 95% level, the valve will close automatically each time delivery is attempted.

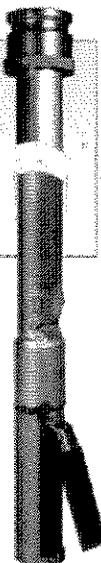
If the delivery is not stopped and the liquid rises to about 98% of tank capacity, the bypass valve closes completely. No additional liquid can flow into the tank until the level drops below a reset point.

Models of the 61SO are available to meet virtually any UST application including two-point, coaxial, poppeted coaxial and remote fill. Mechanical approved models are also available. The OPW 61SO is approved by the New York City Fire Department. (Approval #4902).



#### Materials

- Valve body: Cast aluminum
- Float: Nitrile rubber, closed cell foam
- Valve: Aluminum
- Seals: Vitor\*
- Upper & lower Drop Tube: Aluminum
- Plastic parts: Acetal
- Hardware: Stainless steel



#### Important

In order to prevent product spillage from the Underground Storage Tank (UST), properly maintained delivery equipment and a proper connection at the tight-fit adaptor are essential. Delivery personnel should be trained and trained to inspect delivery elbows and hoses for damaged and missing parts. They should always make certain there is a positive connection between the adaptor and elbow. If delivery equipment is not properly maintained, or the elbow is not securely coupled to the adaptor, a serious spill may result when the OPW 61SO closes, causing a hazard and environmental contamination.

**NOTE:** The OPW 61SO is designed for use on light fill gravity drop applications only. Do not use for pressure fill applications.

#### Features

- ◆ Simple, Easy and Quick Installation – no excavation or special manholes required.
- ◆ Economical – costs a fraction of expensive, complicated and difficult-to-install valves.
- ◆ Furnished Complete – supplied with new upper and lower drop tubes, mounting hardware and thorough instructions for quick job site time.
- ◆ Completely Automatic Operation – no prechecks to perform, no resets, and no overrides to be broken or stored.
- ◆ No Pressurization of the Tank – operates directly from liquid level.
- ◆ Will Accept a Dipstick for Gauging
- ◆ Retrofits Directly – for both new and existing tanks with 4" fill rivers.
- ◆ Quick Drain Feature – automatically drains hose when head pressure is relieved.
- ◆ Best Flow Rate in The Industry\*

\* Test witnessed by Bowmer-Merwin, Inc., an independent laboratory. Results available upon request.

#### Advantages of Overfill Prevention Compared to Overfill Warning Systems:

- ◆ Completely Automatic Operation – does not rely on the alertness or speed of response of the delivery attendant for certainty of overfill prevention.
- ◆ Keeps the Top of UST "Dry," per EPA Requirements – eliminating possible leaks at loose bung fittings and the need for double containment on vent lines.
- ◆ Does Not Rely on Pressure in the UST to Stop Flow – allowing faster fill times and reducing spill risk.
- ◆ Speeds Delivery Operations – product flows unimpeded into the tank until the hose "kicks" that accompanies the valve shut-off provides a clear signal that the liquid has reached the shut-off level.
- ◆ Simple and Inexpensive Installation – in both two-point and coaxial fill applications, no additional excavation, manholes or vent piping are required.

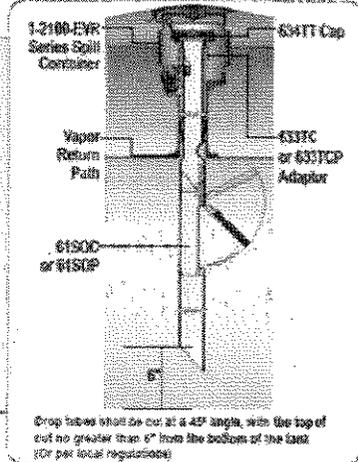
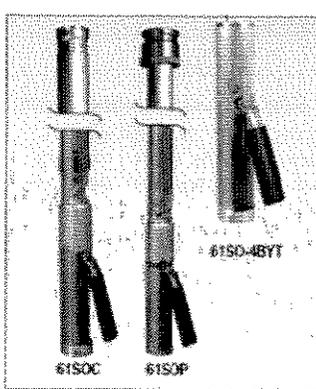
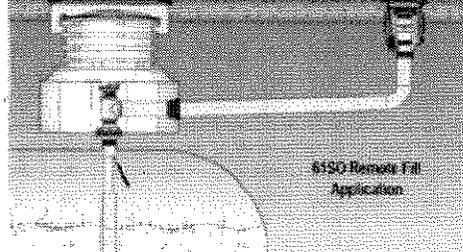
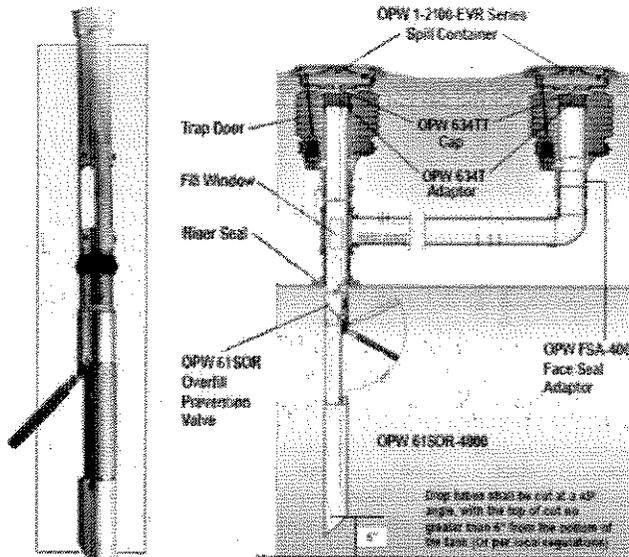
#### Listings and Certifications

#### OPW Fueling Containment Systems

3250 Highway 70 Business West  
Smithfield NC, USA 27577  
919-934-2786

#### Mission Statement

Revolutionizing fueling operations globally by optimizing safety, efficiency, reliability, and environmental sustainability through innovative fuel handling and information management solutions



### 6150R Remote-Fill

The OPW 6150R is designed for two-point remote-fill applications, where the fill point is not directly over the UST. The valve is installed in the tank through a riser pipe directly over the tank. A window in the drop tube is aligned with the entrance of the fill pipe from the remote-fill location to allow product to flow into the drop tube and down through the valve. A riser seal prevents product from flowing into the tank from outside the drop tube. A "trap door" assembly installed in the riser above the tank provides access for a gauging stick. Trap door, adaptor and cap are included with 6150R.

### 6150 Two-Point

The OPW 6150 Two-Point is used for two-point fill applications, tanks equipped with separate product and vapor return connections. The OPW 6150 replaces the standard fill drop tube in 4" fill riser pipes. The 6150M models are specially designed for compatibility with M-85 and M-100 methanol fuels and Ethanol (E85).

### 6150C Coaxial

The OPW 6150C is used for coaxial fill applications, tanks equipped with a single product/vapor return connection. The 6150C replaces the standard coaxial fill drop tube in a 4" riser fill pipe.

### 6150-4BYT

Shipped without drop tubes, the 6150-4BYT is designed to adapt to existing coaxial and conventional drop tubes that meet specific OPW standards. (The 6150C-4BYT kit is required to adapt the 6150-4BYT for coaxial applications.)

6150-4000 Series Instruction Sheet Order Number: H11754M  
 6150C Coaxial Fill Tube Instruction Sheet Order Number: C61634PM  
 6150R Remote Fill Tube Instruction Sheet Order Number: H11964M

OPW OVERFILL PREVENTION SYSTEM

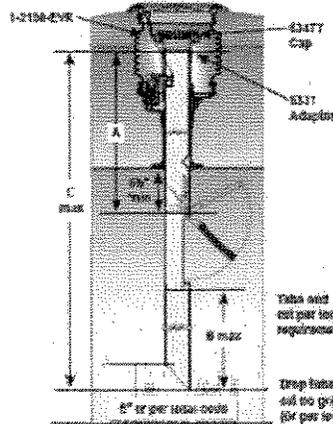
## Typical Application Assembly

Installation schematic typical, exact dimensions will vary with tank configuration.

### 6150-4000

\* From inside wall of tank to bottom of upper tube

6150K Float Kit Instruction Sheet  
Order Number: H11463PA



## Replacement Parts

Part #	Description
6150K-4000	Float Kit
C632904	Test-Point Inlet Tube
C636328	Coaxial Inlet Tube
5901756	Inlet Tube/Adaptor Assy. for 6150P
H115031H	Drop Tube O-Ring
C63748	Trap Door Assy. (Remote)

Tubes need cut per local requirements

Drop tubes must be cut at a 45° angle, with the top of cut no greater than 6\"/>

## Ordering Specifications

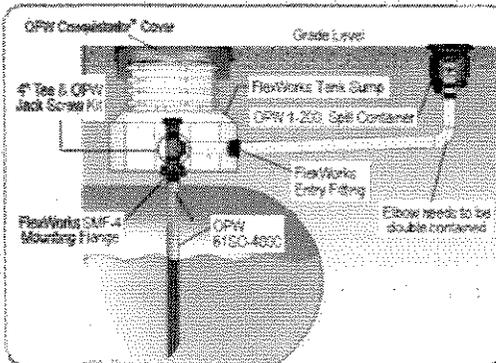
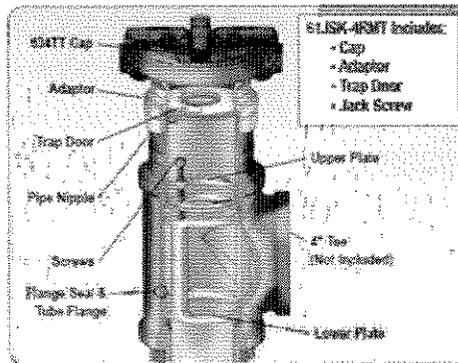
Product Suffix #	Description	A-Upper Tube Length		B-Lower Tube Length		C-Overall Length		Max. Rise Length		Max. Nominal Tank Dia.		Max. Actual Tank Dia.		Weight	
		ft.	m	in.	m	in.	m	in.	m	in.	m	in.	lbs.	kg	
6150M-412C-EVR*	CARB 4", two-point, ethanol/methanol	120	3.1	not included		233*	5.9	113%	2.9	120	3.1	126	3.2	25	11
6150C-4001	Coaxial	80	1.5	83	2.1	154*	3.9	53%	1.4	96	2.4	107	2.7	10	7
6150C-4011	Coaxial	120	3.1	162	2.6	233*	5.9	113%	2.9	120	3.1	126	3.2	25	11
6150P-4002	CARB, pop. coaxial	80	1.5	83	2.1	154*	3.9	53%	1.4	96	2.4	107	2.7	20	9
6150P-4012	CARB, pop. coaxial	100	2.7	162	2.6	221*	5.6	101%	2.6	120	3.1	126	3.2	27	12
6150CM-4000*	Coaxial, ethanol/methanol	60	1.8	not included		233*	5.9	113%	2.9	120	3.1	126	3.2	25	11
6150-4BYT	Overfill valve only, no drop tubes applied														
6150R-4000**	Remote	72	1.8	83	2.1	166*	4.2	65%	1.7	96	2.4	107	2.7	10	9
6150RM-4000**	Remote, ethanol/methanol	72	1.8	not included		189*	4.7	65%	1.7	120	3.1	126	3.2	10	9
6150K-4RMT	Jack Screw Kit for Remote application														

\* For use with M63 & M100 methanol tanks \*\*Remote fill applications \*\*\*Remote fill, methanol

† Methanol (M63) and Ethanol (E65) models do not include lower drop tube. Adaptor for 3" A.O. Smith Fiberglass Pipe (Drop Tube) is included. Appropriate length of 3" A.O. Smith Fiberglass Pipe is required for lower Drop Tube (not furnished).

## 6150 Vapor-Tight Remote Fill

The OPW Vapor-Tight Remote Fill is designed for two-point vapor-tight remote-fill applications, where the fill point is not directly over the UST. A CARB approved vapor-tight 6150 overfill valve is installed in the sump through a riser pipe directly over the tank. The 6150K-4RMT Kit installed within a 4" Tee provides an anchoring mechanism by locking the 6150 overfill valve in the tank fill riser. The "trap-door" assembly installed in the riser above the tank retains access for a gauge stick. The 6150K-4RMT Kit coupled with any Vapor-Tight 6150 Overfill Valve will work for this application.



# OPW

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## Materials

Valve body: Cast aluminum  
Float: Nitrile rubber, closed cell foam  
Valve: Aluminum  
Seals: Viton®  
Upper & lower Drop Tube: Aluminum  
Plastic parts: Acetal  
Hardware: Stainless steel

## Features

- ◆ **Simple, Easy and Quick Installation** – no excavation or special manholes required.
- ◆ **Economical** – costs a fraction of expensive, complicated and difficult-to-install valves.
- ◆ **Furnished Complete** – supplied with new upper and lower drop tubes, mounting hardware and thorough instructions for quick job site time.
- ◆ **Completely Automatic Operation** – no prechecks to perform, no resets and no overrides to be broken or abused.
- ◆ **No Pressurization of the Tank** – operates directly from liquid level.
- ◆ **Will Accept a Dipstick for Gauging**
- ◆ **Retrofits Directly** – for both new and existing tanks with 4" fill risers.
- ◆ **Quick Drain Feature** – automatically drains hose when head pressure is relieved.
- ◆ **Best Flow Rate in The Industry\***

\* Test witnessed by Tower-Tower, Inc., an independent laboratory. Results available upon request.

## Advantages of Overfill Prevention Compared to Overfill Warning Systems:

- ◆ **Completely Automatic Operation** – does not rely on the alertness or speed of response of the delivery attendant for certainty of overfill prevention.
- ◆ **Keeps the Top of UST "Dry," per EPA Requirements** – eliminating possible leaks at loose bung fittings and the need for double containment or vent lines.
- ◆ **Does Not Rely on Pressure in the UST to Stop Flow** – allowing faster fill times and reducing spill risk.
- ◆ **Speeds Delivery Operations** – product flows unimpeded into the tank until the hose "lock" that accompanies the valve shut-off provides a clear signal that the liquid has reached the shut-off level.
- ◆ **Simple and Inexpensive Installation** – in both two-point and coaxial fill applications, no additional excavation, manholes or vent piping are required.

## Important

In order to prevent product spillage from the Underground Storage Tank (UST), properly maintained delivery equipment and a proper connection at the tight-fit adaptor are essential. Delivery personnel should be trained and trained to inspect delivery elbows and hoses for damaged and missing parts. They should always make certain there is a positive connection between the adaptor and elbow. If delivery equipment is not properly maintained, or the elbow is not securely coupled to the adaptor, a serious spill may result when the OPW 7150 closes, causing a hazard and environmental contamination.

**NOTE:** The OPW 7150 is designed for use on light-fill gravity drop applications only. Do not use for pressure fill applications.

## OPW 7150 Overfill Prevention Valves

The CARB-certified OPW 7150 vapor-tight Overfill Prevention Valve is designed to prevent the overfill of underground storage tanks by providing a positive shut-off of product delivery. The shut-off valve is an integral part of the drop tube used for gravity filling. The OPW 7150 allows easy installation (without breaking concrete) and requires no special manholes.

The OPW 7150 is a vapor-tight two-stage shut-off valve. When the liquid level rises to about 95% of tank capacity, the valve mechanism is released, closing automatically with the flow. This reduces the flow rate to approximately 5 gpm through a bypass valve. The operator may then stop the filling process and disconnect and drain the delivery hose. As long as the liquid exceeds the 95% level, the valve will close automatically each time delivery is attempted.

If the delivery is not stopped and the liquid rises to about 96% of tank capacity, the bypass valve closes completely. No additional liquid can flow into the tank until the level drops below a reset point.

7150 Instruction Sheet Order Number: H13324PA

## Listings and Certifications



Look for this logo for authentic OPW 7150 Approved products.

OPW

117

## OPW Fueling Containment Systems

3250 Highway 70 Business West  
Smithfield NC, USA 27577  
919-934-2786

## Mission Statement

Revolutionizing fueling operations globally by optimizing safety, efficiency, reliability, and environmental sustainability through innovative fuel handling and information management solutions



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OPW 7150 OVERFILL PREVENTION VALVE

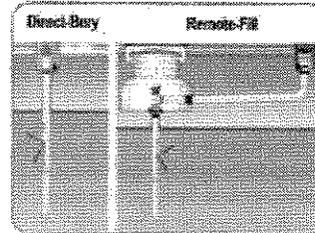
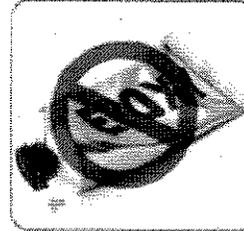
### Raising The Standard In Overfill Prevention

From the company that brought you the industry standard OPW 6150, OPW raises the standard with the introduction of the New 7150 Overfill Prevention Valve – breakthrough innovation that takes overfill prevention to a whole new level of overfill perfection.

- Eliminates curing issues due to hot or cold temperatures
- Easier, quicker, installation
- Higher quality, more reliable installation
- Lower costs
- Greater protection against fugitive emissions and pressure decay
- Fastest flow rate in the industry

The new 7150 is a two-stage, positive shut-off valve, providing completely automatic operation with no pre-checks to perform, no resets, and no overrides to be broken or abused. The valve closes when the tank level rises to 95% capacity and provides a special bypass valve so the tank can be filled to a maximum capacity of 98%. The 7150 is available for direct-bury and remote applications.

### No Epoxy Sealants Required!



### 7150 Ordering Specifications

Product No.	Description	A- Upper Tube Length		B- Lower Tube Length		C- Overall Length		Max. Rise Length		Max. Nominal Tank Dia.		Max. Actual Tank Dia.		Weight	
		in.	m	in.	m	in.	m	in.	m	in.	m	in.	m	lbs.	kg
7150-400C	Vapor-Tight Overfill Valve, 5 Ft. Bury, 3 Foot Tank	60	1.5	83	2.1	100-204	3.9	83-102	1.4	96	2.4	107	2.7	16	7
7150-440C	Vapor-Tight Overfill Valve, 10 Ft. Bury, 10 Foot Tank	120	3.1	102	2.6	204-204	5.9	113-102	2.9	126	3.1	126	3.2	25	11
7150-420C	Vapor-Tight Overfill Valve, 10 Ft. Bury, 10 Foot Tank	120	3.1	125	3.2	208-204	6.5	113-102	2.9	144	3.7	150	3.8	26	12
7150-400B	Non Vapor-tight Overfill Valve, 5 Ft. Bury, 3 ft. Tank	60	1.5	83	2.1	100-204	3.9	83-102	1.4	96	2.4	107	2.7	16	7
7150-401B	Non Vapor-tight Overfill Valve, 10 Ft. Bury, 10 ft. Tank	120	3.1	102	2.6	204-204	5.9	113-102	2.9	126	3.1	126	3.2	25	11
7150-TOOLC	7150 Installation Tool													2.5	1
6150K-4RMT	Jack Screw Kit For Vapor-Tight Remote Applications													1.5	0.7
6150K-4410	Jack Screw Kit For Composite Base Spill Buckets													1	0.5
6150K-44CB	Jack Screw Kit For Cast Iron Base Spill Buckets													1	0.5

### Replacement Parts

Part No.	Description
6150K-0001	Replacement Flare Kit
H1931M	Drop Tube Seal
H14940M	Lower Tube Seal

6150K-4410 AND 6150K-44CB  
Instruction Sheet Order Number:  
H13230M



### OPW Fueling Containment Systems

3250 Highway 70 Business West  
Smithfield NC, USA 27577  
919-934-2786

### Mission Statement

Revolutionizing fueling operations globally by optimizing safety, efficiency, reliability, and environmental sustainability through innovative fuel handling and information management solutions



## 4.) Installation and Maintenance Instructions



### **OPW Installation and Maintenance Instructions** **OPW 61JSK-4RMT and 71JSK-4RMT Remote Jack Screw Kit**

**IMPORTANT:** Please read these warnings and assembly instructions completely and carefully before starting. Failure to do so may cause product failure, or result in environmental contamination due to liquid leakage into the soil, creating hazardous spill conditions.

**IMPORTANT:** Check to make sure the product is intact and undamaged and all parts have been supplied. Never substitute parts for those supplied. Doing so may cause product failure.

**WARNING-DANGER:** Using electrically operated equipment near gasoline or gasoline vapors may result in a fire or explosion, causing personal injury and property damage. Be sure that the working area is free from such hazards, and always use proper precautions.

**NOTE:** At all times when product is in the storage tank keep the riser pipe capped, so the vapors cannot escape into the environment.

**Notice:** OPW products must be used in compliance with applicable federal, state, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and material to be handled. All illustrations and specifications in this literature are based on the latest production information available at the time of publication. Prices, materials, and specification are subject to change at any time, and models may be discontinued at any time, in either case, without notice or obligation.

#### **Standard Product Warranty**

OPW warrants that products sold by it are free from defects in materials and workmanship for a period of one year from the date of manufacture by OPW (ECO products two years from date of manufacture.) Proof of purchase may be required. As the exclusive remedy under this limited warranty, OPW, will at its sole discretion, repair, replace, or issue credit for future orders for any product that may prove defective within the one year date of manufacture period (repairs, replacements, or credits may be subject to prorated warranty for remainder of the original warranty period, complete proper warranty claim documentation required.) This warranty shall not apply to any product that has been altered in any way, which has been repaired by any party other than a service representative authorized by OPW, or when failure is due to

misuse, or improper installation or maintenance. OPW shall have no liability whatsoever for special, incidental or consequential damages to any party, and shall have no liability for the cost of labor, freight, excavation, clean up, downtime, removal, reinstallation, loss of profit, or any other cost or charges.

For any product certified to California 2001 standards, OPW warrants that product sold by it are free from defects in material and workmanship for a period of one year from date of manufacture or one year from date of registration of installation not to exceed 15 months from date of manufacture by OPW.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

#### **61JSK-4RMT and 71JSK-4RMT Performance Specifications:**

This OPW Jack Screw Kit is designed to lock an OPW Overfill Prevention Valve or OPW Straight Drop Tube into a 4" Pipe Tee and make a Remote system vapor tight inside a sump.

#### **Torque Specification:**

5/16-18 Screw, 6.0 ft-lbs minimum to 7.0ft-lbs maximum.

4" Nipple, 125 ft-lbs minimum to 250 ft-lbs maximum.

4" NPT Thread, 125 ft-lbs minimum to 250 ft-lbs maximum.

**IMPORTANT:** The figures in this installation and maintenance instruction may contain vapor recovery equipment (including model numbers) that is not certified by the California Air Resources Board (CARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of certified Phase I Vapor Recovery System Equipment.

**OPW 61JSK-4RMT & 71JSK-4RMT REMOTE JACK SCREW KIT, INSTALLATION INSTRUCTIONS:**

**Items In 61JSK-4RMT and 71JSK-4RMT Kit:**  
62M Cap and Adaptor, Trap Door, Stepped Seal, Flat Seal, Three Screws, Upper Plate and Lower Cage.

**Step 1**  
Install the remote OPW Spill Container in accordance with the OPW Installation Instructions supplied with the product. **Note:** The FSA-400-(S) is not required. For remote piping follow pipe manufacturers' installation instructions and local agency requirements.

**Step 2:**  
Clean the top of the riser pipe coming from the top of UST. Apply a gasoline resistant pipe dope on the threads of an OPW FSA-400-(S) Face Seal Adapter and install onto the riser pipe. Torque from 125 ft-lbs min. to 250 ft-lbs max using the OPW 61SA-TOOL.

**Step 3: (See Figure 2)**  
Install the 4" Tee onto the OPW FSA-400-(S) Face Seal Adapter with a gasoline resistant pipe dope, which is installed onto the riser pipe. Torque from 125 ft-lbs min. to 250 ft-lbs max. With the 4" Tee assembled, install the OPW Overfill Prevention Valve or OPW Straight Drop Tube in accordance with the OPW Installation Instructions supplied with the product.

**Step 4: (See Figure 2)**  
Install the Jack Screw assembly into the Tee. Make sure the bottoms of the three screws are seated in the pockets on the Jack Screw Lower Cage (as shown).

**Typical Installation**

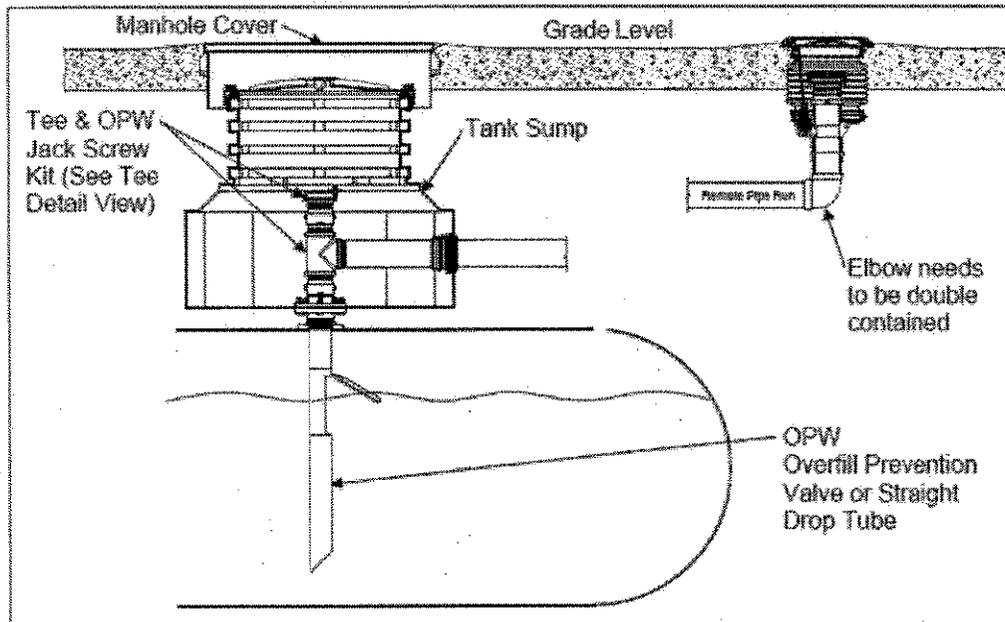


Figure 1  
OPW JSK-4RMT Remote Jack Screw Kit

**Step 5: (See Figure 2)**

Assemble screws into upper plate. Adjust the screws so that the top plate will be located just below the bottom of the threads of the Tee. Apply the supplied thread locker to the threads above the top plate on all three screws of the Jack Screw Top Assembly.

**Step 6: (See Figure 2)**

Apply a gasoline resistant pipe dope on the threads of the pipe nipple. Install the nipple into the Tee and tighten securely. Torque nipple from 125 ft-lbs min. to 250 ft-lbs max.

**Note:** The top plate should not be in contact with the nipple at this point. If the nipple hits the top plate while being tightened, adjust the top plate down by turning each screw counter clockwise, lower the top plate on the Jack Screw, and then reinstall the nipple.

**Step 7: (See Figure 2)**

Using a 7/8" Allen wrench, alternately and evenly tighten the three (3) screws clockwise on the Jack Screw Assembly until the Upper Plate contacts the bottom of the 4" nipple. Make sure that the step in the Upper Plate is completely inside of the 4" nipple. Tighten the three (3) screws evenly and securely with 6.0 ft-lbs minimum to 7.0 ft-lbs maximum torque to ensure that the drop tube flange is sealed securely to the OPW FSA-400-(S).

**Step 8: (See Figures 2 & 3)**

To prevent a liquid overflow, the trap door must be installed on the sticking port of the riser or over the top of the riser that contains an overfill valve that does not have a fixed non-removable cap. Remove the flat seal from the 62M Cap. The stepped seal and flat seal should be installed into the 62M Cap as shown in Figure 3 with trap door assembly gasket side down. If the opening over the 4" Tee is not the sticking port, a permanent 4" pipe cap must be installed.

**Step 9: (See Figures 2 & 3)**

Proceed with installation of the OPW 62M Cap and Adapter in accordance with the OPW Installation Instructions supplied with the products. Install 62M Cap with trap door assembly and seals onto the top of a FSA-400-(S) Face Seal Adapter which is installed onto the pipe nipple. **Note:** Do not remove the pipe plug installed in the top of the cap.

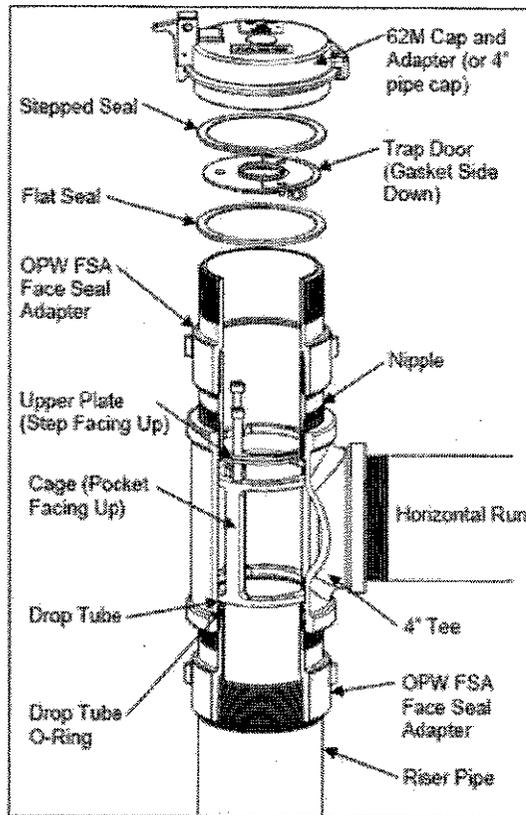


Figure 2

**Operation and Maintenance:**

If a leak develops at the drop tube: Re-torque the (3) screws on the Jack Screw. (Torque value: 6.0 ft-lbs min. to 7 ft-lbs max.) If this does not correct the leak, check for burrs, clean the sealing surface on the FSA-400-(S) and replace the o-ring on the drop tube.

**NOTE:** Loctite 242, thread locker, must be reapplied each time the screws are adjusted.

**Important:** Leave these instructions with Station Operator.

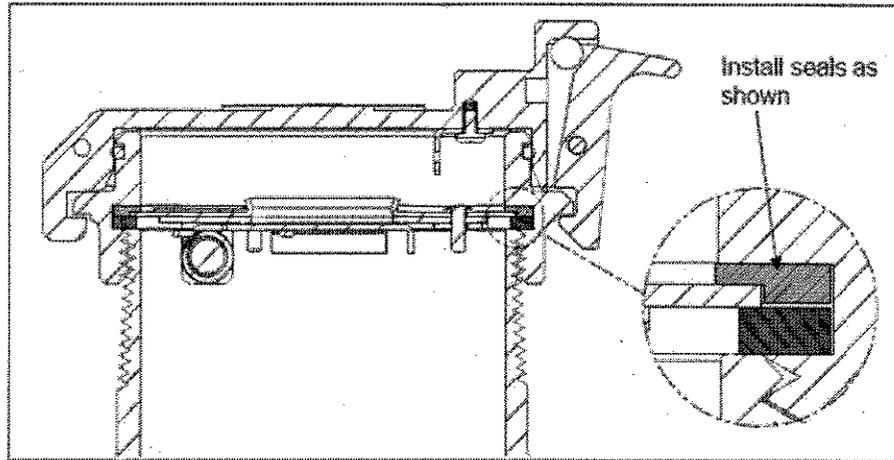


Figure 3.

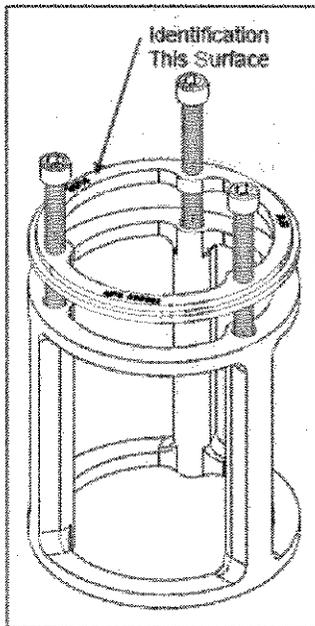


Figure 4

Product Identification

Manufacture: "OPW"

Model: "61JSK"

Manufacture Date: "MFG MM DD YY" where MM=Month, DD=Day and YY=year.

## 5.) Representative Product Drawings

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ITEM	PART NO.	DESCRIPTION	QTY.
1	60521	UPPER PLATE, ALUMINUM	1
2	60517	LOWER CASE, ALUMINUM	1
3	H15647M	5/16-18 SCREW, STAINLESS STEEL	3
4	603749	TRAP DOOR S/A	1
5	201478	62M MONITORING CAP S/A	1
6	H8823M	242 LOCUTITE KIT	1
7	H14741PA	INSTRUCTION SHEET KIT	1
8	201526	WARNING TAG	1
9	H10519M	CABLE TIE	1

\* ITEMS NOT SHOWN

REV.	DATE	BY	CHKD.	DESCRIPTION
1	10/17/07	JK	JK	ISSUE
2	11/15/07	JK	JK	REVISED
3	12/17/07	JK	JK	REVISED
4	01/22/08	JK	JK	REVISED
5	02/20/08	JK	JK	REVISED

DATE: 02/20/08  
 DRAWN BY: JK  
 CHECKED BY: JK  
 APPROVED BY: JK

OPW  
 OILFIELD PRODUCTS  
 JACK SCREW KIT (REMOVER PILLS)

DRAWING NO. DC-6 LMR-480T

TRAINER  
 DAVID J. HARRIS, ENGINEER  
 10/17/07  
 METRIC: 1/16" = 1.5748  
 MACHINING: 1/16" = 1.5748  
 CREATING: 10/17/07  
 CHECKED: 11/15/07  
 APPROVED: 12/17/07





**6.) CARB EVR approval**

Excerpts from the CARB Executive Order relating to the remote fill configuration are shown below. The Executive order is available online at <http://www.arb.ca.gov/vapor/eos/eo-vr102/eo-vr102.htm>.

**Executive Order VR-102-K OPW Phase I Vapor Recovery System**

**Exhibit 1**

**OPW Phase I Vapor Recovery System Equipment List**

<u>Equipment</u>	<u>Manufacturer/Model Number</u>
Pressure/Vacuum Vent Valve	FFS PV-Zero Husky 5885
Spill Containers	Spill Container OPW 1-Series  OPW / Pomeco Container Bellows Capacity – 5, 7.5, or 15 gallons Single or Double Wall Type of Base – Composite or Cast Iron
Replacement Drain Valve Kit	OPW 1DK-2100
Dust Caps	OPW 634TT-EVR (product) OPW 1711T-EVR (vapor) OPW 634LPC (product) OPW 1711LPC (vapor) CompX CSP1-634LPC (product) CompX CSP3-1711LPC (vapor) CompX CSP2-634LPC (product) CompX CSP4-1711LPC (vapor)
Product Adaptor	OPW 61SALP
Vapor Adaptor	OPW 61VSA
Jack Screw Kit	OPW 61JSK-4410 (Only used with Composite Base Spill Container) OPW 61JSK-44CB (Only used with Cast Iron Base Spill Container)  OPW 61JSK-4RMT (Only Used on Remote-Fill Configuration)
Face Seal Adaptor	OPW FSA-400 OPW FSA-400-S
Drop Tube	OPW 61T (various lengths)



**Exhibit 1 (continued)**

**OPW Phase I Vapor Recovery System Equipment List**

<u>Equipment</u>	<u>Manufacturer/Model Number</u>
Drop Tube Overfill Prevention Device <sup>1</sup>	OPW 61SO
	OPW 71SO
Double Fill	OPW (Configuration Only)
Remote Fill	OPW (Configuration Only)
Tank Bottom Protector <sup>1</sup>	OPW/Pomeco 6111-1400
Tank Gauge Port Components <sup>1</sup>	OPW 62M (Cap and Adaptor)
	Morrison Brothers 305XPA1100AKEVR (cap & adaptor kit)
	Morrison Brothers 305-0200AAEVR (replacement adaptor)
	Morrison Brothers 305XP-110ACEVR (replacement cap)
	Ever-Tite 4097AGBR Adaptor
	Ever-Tite 4097AGMBRNL Adaptor Ever-Tite 4097MBR Cap
	Veeder-Root 312020-952 (cap & adaptor)

<sup>1</sup> If these components are installed or required by regulations of other agencies, only those components and model numbers specified above shall be installed or used.



### Double Fill Configuration

1. OPW Double Fill Configuration shall be allowed for installation provided that no more than two fill and two vapor return points are installed on any single underground storage tank and that no offset of the vapor recovery riser pipe is installed. An example of an OPW Dual Fill configuration is shown in Figure 2C.

### Remote Fill Configuration

1. No liquid condensate traps are allowed with this configuration.
2. For new installations and existing installations undergoing major modifications, the Phase I vapor return piping from the remote vapor access point to the tank shall have a minimum slope of one-eighth (1/8) inch per foot of pipe run. A slope of one-quarter (1/4) inch or more per foot of pipe run is recommended wherever feasible. For existing installations, the Phase I vapor return piping from the remote vapor access point to the tank shall be installed so that any liquid in the line will drain toward the storage tank.
3. For new installations and existing installations undergoing major modifications, the Phase I vapor return piping from the remote vapor access point to the tank shall have a minimum nominal internal diameter of four inches (4" ID). For existing installations, the Phase I vapor return piping from the remote vapor access point to the tank shall have a minimum nominal internal diameter of three inches (3" ID).
4. The submerged fillpipe riser shall be fitted with a 4" pipe cap or if the submerged fillpipe riser is used as a port to manually gauge the fuel level in the UST (sticking port), a 62M cap and adaptor, as specified in Exhibit 1, shall be installed.

### Vapor Recovery Riser Offset

1. The vapor recovery tank riser may be offset from the tank connection to the vapor recovery Spill Container provided that the maximum horizontal distance (offset distance) does not exceed 20 inches. One example of an offset is shown in Figure 2G.
2. The vapor recovery riser shall be offset up to 20 inches horizontal distance with use of commercially available, 4 inch diameter steel pipe fittings.

### Tank Gauge Port Components

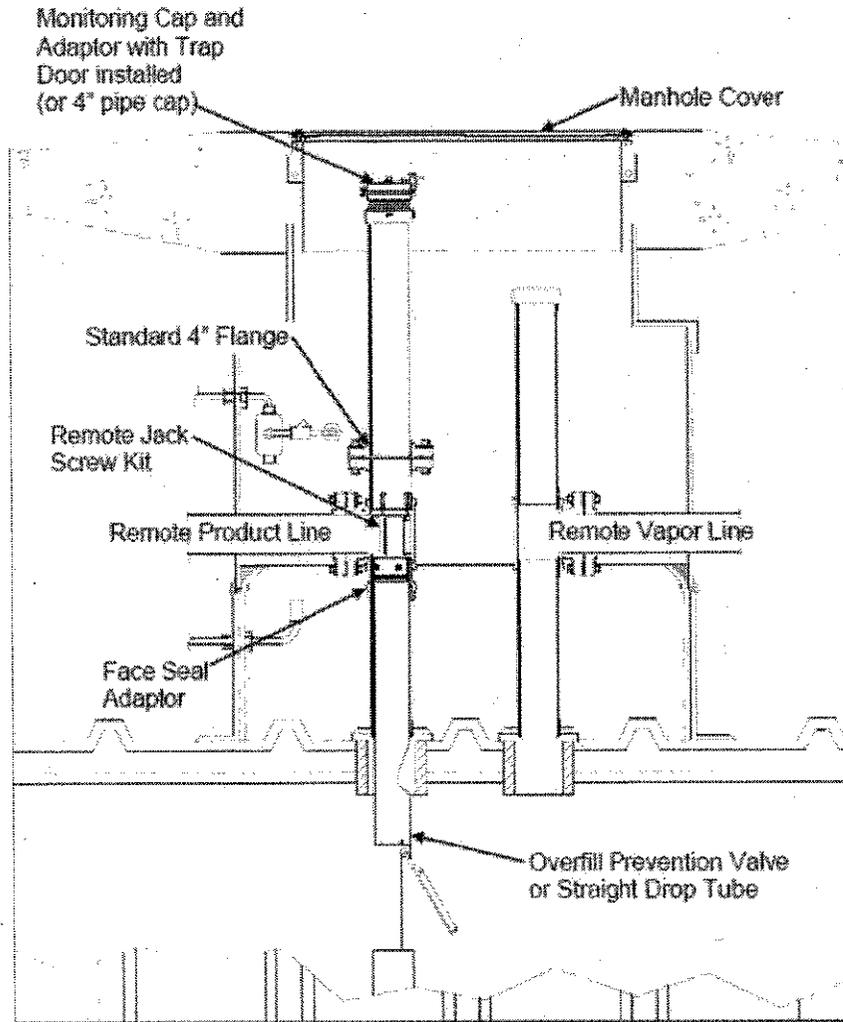
The tank gauge adaptor and cap are paired. Therefore, an adaptor manufactured by one company shall be used only with a cap manufactured by the same company.

### Connections and Fittings

All connections and fittings not specifically certified with an allowable leak rate shall not leak. The absence of vapor leaks shall be verified with the use of commercial liquid leak

Executive Order VR-102-K, OPW Phase I Vapor Recovery System, Exhibit 2, Page 4

Figure 2E  
Typical Remote-Fill Tank Top Configuration



Executive Order VR-102-K, OPW Phase I Vapor Recovery System, Exhibit 2, Page 11

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