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# EVO: Oiling & Lubrication

## Oil Tank, Lines and Routing

## Oil Cap

## Oil Tank Assembly Part Numbers

### Sub Documents

- [1982-1993 Sportster Retrofit Oil Tank Kit \(except XR-1000\)](#)
- [Pics and Information on 1983-1993 Sportster Oil Tanks](#)
- [Pics and Information on 1994-2003 Sportster Oil Tanks](#)
- [Pics and Information on 2004-2009 Sportster Oil Tanks](#)
- [Pics and Information on 2010-2013 Sportster Oil Tanks](#)
- [Pics and Information on 2014-2022 Sportster Oil Tanks](#)
- [How to Distinguish Between 1982-2003 Oil Tanks at a Glance](#)

Tank Assembly per Year Model: [1](#)) [2](#)) [3](#)) [4](#)) [5](#)) [6](#)) [7](#)) [8](#)) [9](#)) [10](#)) [11](#)) [12](#)) [13](#)) [14](#)) [15](#)) [16](#)) [17](#)) [18](#)) [19](#)) [20](#)) [21](#)) [22](#)) [23](#)) [24](#)) [25](#)) [26](#)) [27](#)) [28](#)) [29](#)) [30](#)) [31](#)) [32](#))

Year	Model	Tank Part #	Oil Cap	Battery Tray
1983-1993	All	62475-83	62595-82A	66191-83
1982-1993	All except XR-1000	62475-97A (98 tank)	62634-84A	66194-94A (97)
	Notes: Retrofit oil tank kit with battery box, oil lines and fittings. See the link above under sub documents (1982-1993 Sportster Retrofit Oil Tank Kit) for more information.			
1994-1996	All	62475-94	62595-82A	66194-94
1997-1998	All	62475-97 62475-97A (2013)	62634-84A	66194-94A (97) 66194-98 (98)
1999	All	62475-97	62634-84A	66194-98
2000-2003	All (except 883R)	62888-99	62634-84A	66194-98
	883R	62951-02 (black)		

2004-2006	All	62888-04 62888-04B (10psi relief valve)	63000-04 63000-04A (2006)	66194-04 66194-04B (2006)
2007-2009	All (except XR1200)	62888-04A 62888-04B (10psi relief valve)	63000-04A 63000-04B (2009)	66194-04C
	07-08 1200N	62954-10 (requires hose reroute)	62592-07	
	09 883N/1200N		62592-07A	
	XR1200/XR1200X	62888-08	63008-08	
2010-2013	All (except XR1200/XR1200X)	62954-10 (10psi relief valve)	63000-04B	66194-04D
	883N/1200N		62592-07A	
	XR1200/XR1200X	62888-08A	63008-08	
2014-2022	All	62500017	63000-04B	66000031
	883N		62592-07A	

## Oil Tank Interchangeability

- These oil tanks will fit listed models without issue;
  - 2004-2009 models (except XR1200/XR1200X): 62888-04, 62888-04A, 62888-04B.
  - XR1200/XR1200X: 62888-08, 62888-08A.
  - 2014-2016 models: 62500017.
- These tanks will fit listed models with alterations;
  - 2004-2009 models can use the 2010-2013 tank if hose routings are changed to suit. <sup>33)</sup>

## Oil Line Routing

- **1986-1990 (all models):**
  - Oil feed from the tank runs to the lower rear fitting of the oil pump (3/8" hose and routes UNDER the starter).  
It then makes a soft bend down towards the ground in the area between the starter and the rear cylinder exhaust pushrod tube.  
(also that is the area where the seam is for the sprocket cover and the cam cover where they meet)  
The hose can be slipped behind these covers (at the junction of the two covers) without removing the covers.  
The hose then drops down to follow along the frame (look from underneath the bike) and over to the oil pump.  
Feed the hose starting at the oil pump, and then going along the frame tube, then up to the starter at the area (behind the covers).  
You should be able to feed that hose under the starter to the oil tank without having to remove the starter or any covers and without any kinks. <sup>34)</sup>
  - Oil feed from the pump to the filter runs from the lower front (smaller) AN fitting to the

outside threaded hole at the filter pad.

- Oil feed from the filter to the pump is from the center hole at the filter pad to the upper (larger) AN fitting on the pump.
- Oil return to the tank is on the upper front of the oil pump (3/8" hose fitting, 2 fittings together ending in hose barb).
- Vent line from the oil tank is on the rear of the cam cover (1/4" hose 90° fitting).
- The primary / transmission is vented to atmosphere from the top of the transmission near the rear motor mount just in front of the solenoid (1/4" hose fitting).
  - The hose should run straight up and then loop back down (without kinks).

- **1991-1993:**

- Oil feed from the tank runs to the lower rear fitting of the oil pump (3/8" hose).
- Oil feed from the pump to the filter runs from the lower front AN fitting on the pump to the (cam side) threaded hole at the filter pad.  
(from there, oil is routed into the engine internally)
- Oil return to the tank is on the upper front of the oil pump (3/8" hose fitting).
- Vent line from the oil tank is on the rear of the cam cover (1/4" hose 90° fitting).
- The primary / transmission is vented to atmosphere from the top of the transmission near the rear motor mount (3/8" hose straight fitting).

- **1994-2003:**

- Oil feed hose from the tank doubles as a drain to a point.  
A short 1/2" hose runs from the oil tank down the left side of the bike to a plastic 3-way 90° tee just above the lower left frame.  
The tee has (2) 1/2" and (1) 3/8" nipples.  
A short 1/2" drain hose runs from the tee around the outside of the left rear tube to a steel plug welded on a bracket to the rear of the right frame tube.  
Then a longer 3/8" hose runs from the tee, behind the motor and between the motor and the seat downtubes to the lower rear fitting of the oil pump. The hose rests above and is zip tied to the top of the right lower tube.
- Oil feed from the pump to the filter runs from the lower front AN fitting on the pump to the (cam side) threaded hole at the filter pad.  
(from there, oil is routed into the engine internally)
- Oil return to the tank is on the upper front of the oil pump (3/8" hose fitting).
- Vent line from the oil tank is on the rear of the cam cover (1/4" hose 90° fitting).
  - Both (return and vent) lines run thru a oil line clip (bracket) that screw onto the small rear stud of the starter.  
The clip is secured by a nylok nut. Both hoses are secured away from the moving sprocket with the clip installed.
- Primary / transmission vent:
  - 1994-1999: The primary / trans is vented to atmosphere from the top of the transmission near the rear motor mount (vertical 3/8" hose straight fitting).
  - 2000-2003: The primary / trans is vented to atmosphere from a nipple fitting on top of the primary near the starter (horizontal 3/8" hose straight fitting).

## Simplified Oil Line Routing Drawings: <sup>35)</sup>

Click on a drawing to enlarge:





## Oil Lines

### HD Part numbers for 1994-2003 Oil Line Hoses:

63564-94	Oil feed / drain hose from tank to 90° elbow, 1/2" I.D.
62494-94A	62494-94B 1/2" plastic 90° elbow
63542-94A	Oil feed/drain hose from 90° elbow to tee, 1/2" I.D.
63576-95	1" plastic corrugated hose shield
62493-89	1/2" x 3/8" x 1/2" plastic tee
63504-94	Oil drain hose from tee to block off plug behind rear tube, 1/2" I.D.
63500-68	Oil feed hose from tee to oil pump, 3/8" I.D. x 5/8" O.D. (25 foot length - cut to fit)
62631-91	Oil feed hose from oil pump to oil filter
62361-94	Oil return hose from oil pump to oil tank, 3/8" I.D.
63501-68A	Vent hose, oil tank to cam chest, 1/4" I.D. x 1/2" O.D. (25 foot length - cut to fit)

See this XLForum thread regarding 1994-2003 Oil Lines (replacement)

(<http://xlforum.net/forums/showthread.php?t=2078814> Post#144)



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# Oil Tank Pressure

See the full article, [Oil Tank Pressure](#), in the REF section of the Sportsterpedia.

There should not be any noticeable pressure in the oil tank.

## **During normal operation;**

With the tank cap / dipstick removed, tank pressure is vented to atmosphere from the top of the tank.

With the tank cap / dipstick installed, tank pressure is vented to the cam chest via a hose connecting the two.

## **During shutdown;**

The oil tank vent is connected to the cam chest and the cam chest is vented out the breather valve(s) in the cam cover or heads, respectively.

So if you have pressure in your oil tank and the vent to the cam chest is not blocked then the cam chest is also pressurized.

If the cam chest is holding pressure, then your breather valve(s) can not be venting properly.

Bottom line is that if the vent system is working properly, you shouldn't have excessive pressure build up in the oil tank. <sup>40)</sup>

# Fittings

## At the Oil Tank

### 1983-1993

The vent is the right angle nipple fitting on top of the tank (1/4" hose fitting).

The return is the upper right angle nipple on the back side (3/8" hose fitting).

The feed is the right angle nipple on the bottom of the tank (3/8" hose fitting).

The drain is the bigger straight nipple on the back near the bottom of the tank (1/2" hose fitting).





## 1994-2003

Be careful of the feed line on 94-03 models as the FSM diagram is mis-leading. <sup>42)</sup>

Feed comes off the oil pump with a 3/8" hose running under the engine to a 1/2" x 1/2" x 3/8" tee, a 1/2" hose to the drain and a 1/2" hose to the tank from the tee.

The vent is the upper right angle nipple fitting on the bottom of the tank (1/4" hose fitting).

The return is the lower right angle nipple fitting on the bottom of the tank (3/8" hose fitting).

The feed and drain use the same hose and it's the larger upper straight nipple on the back side of the tank (1/2" hose fitting).

The drain is connected to one side of the tee around to the steel plug nipple on the rear of the frame under the swingarm.



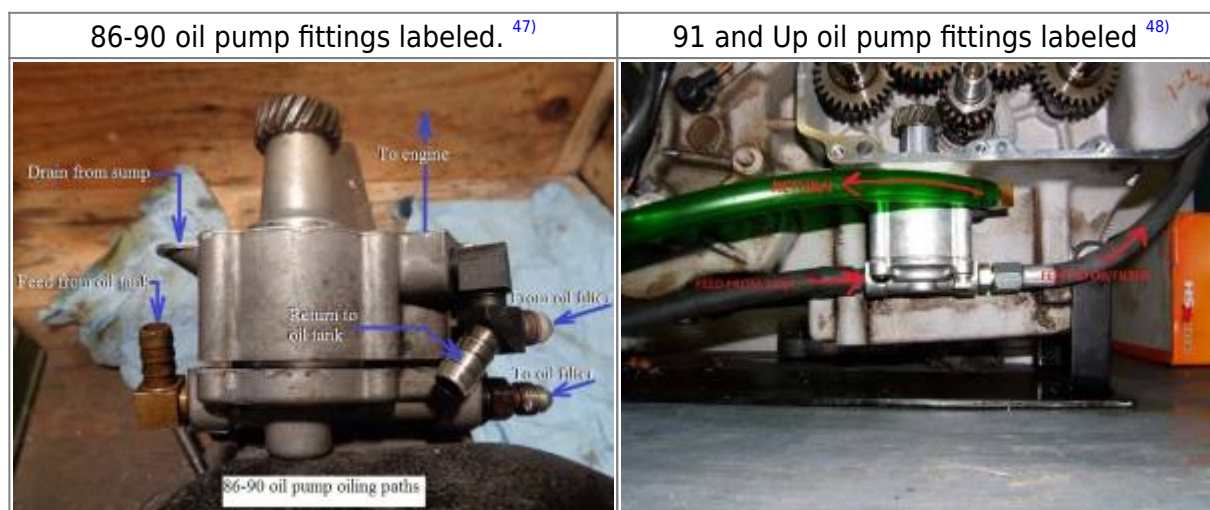
## 2004-Up

2004-2009 Oil Tank Fittings <sup>44)</sup>	2010-2013 Oil Tank Fittings (All except XR1200X / XR1200R) <sup>45)</sup>	2014 and Up Oil Tank Fittings <sup>46)</sup>
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## At the Oil Pump

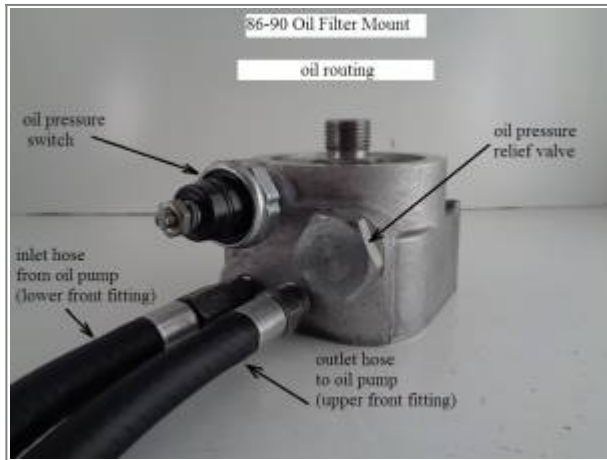
Fittings are labeled in the pics below.



## At the Filter Pad

### 1986-1990

Oil filter connections. <sup>49)</sup>



## Check Your Hoses for Cracks

Periodically inspect all your oil hose connections for leaks or cracks / deterioration, especially before long rides.



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## Drain Hose Locations per Year Model

### 83-93 models

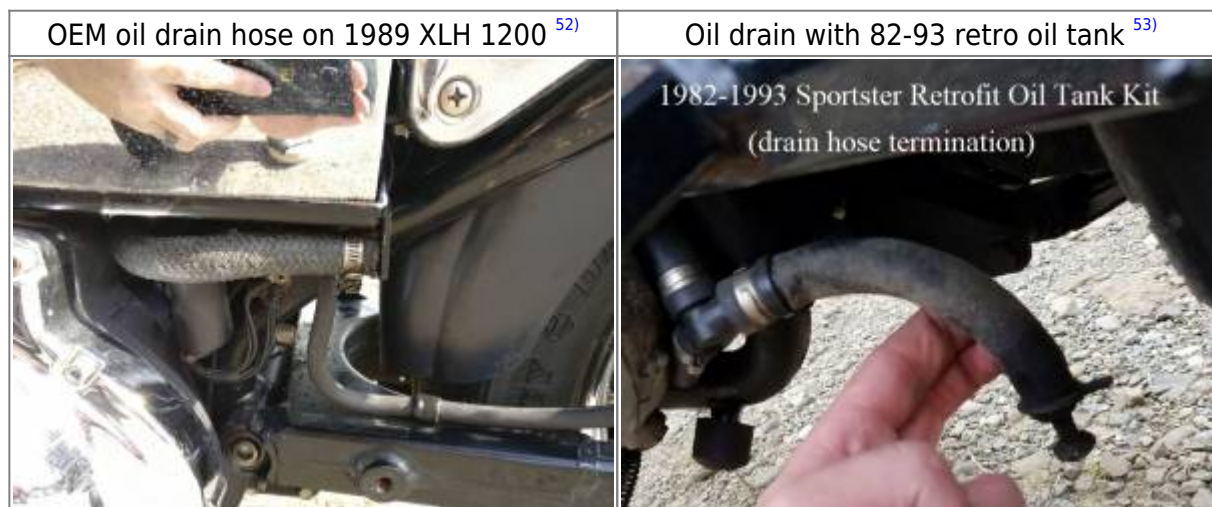
There is a dedicated drain hose from the oil tank.

It comes out from the tank, makes a 90 degree bend to the rear and fits into a cylindrical plug welded to the underside of the battery tray.

(on the rear part of the tray, near where the battery strap is fastened) <sup>51)</sup>

You should see the oil feed fitting on the bottom of the tank from the chain guard side.

The drain fitting is at the bottom of the sheet metal that forms the back of the tank.



## 94-03 models

There is a tee in the feed hose (near the frame on the left side of the bike) and the drain hose comes off that tee.

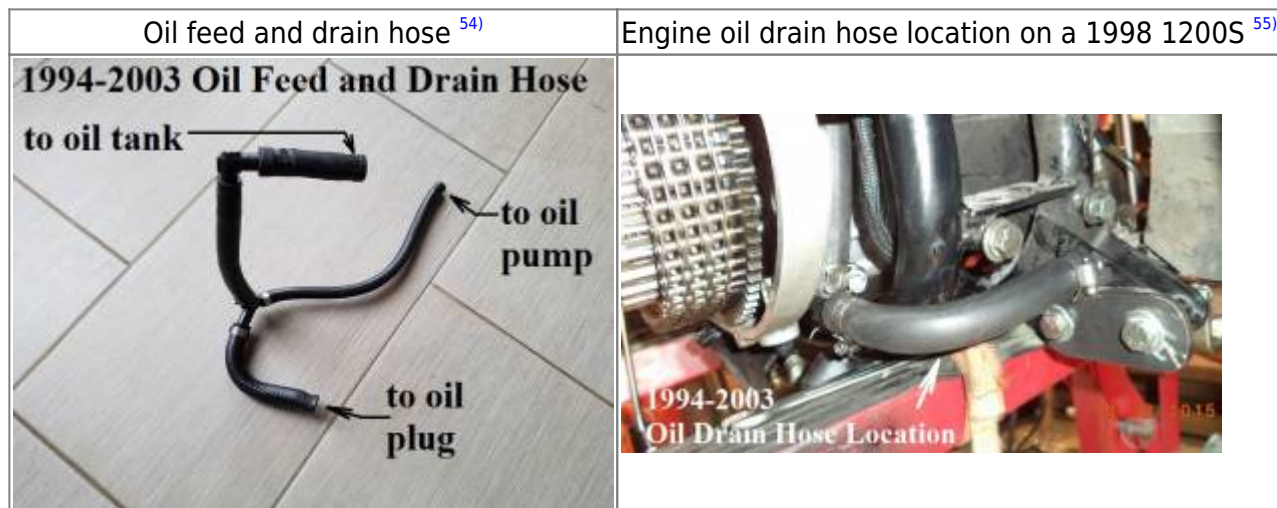
There is a steel plug welded to the rear of the frame under the swingarm.

The drain hose fits over that plug with a worm clamp to hold it there.

You can use auto (fuel) hose from the local car parts store drain hose replacement.

If you cut it the right length, you can bend it without kinking it.

Kinking the hose will not change the flow or anything but may show up as a leak later as the hose ages.



## 04-05 models

### Sub Documents

- [04-05 Oil Drain Plug Mods](#)



There is a plastic clamp (33123-04) from the bottom frame rail that has a hollow stud for the oil tank drain hose to clamp onto.

The drain hose is anchored up inside the lower rails.



## 06-Up models

The MoCo eliminated the clamp itself and went to a solid plastic plug (33123-06). <sup>58)</sup>

It has a small head that hose clamps into the drain hose and dangles between the bottom frame rails. It just barely peeks below the frame rails. You can cut the hose a little shorter so it doesn't hang too far below the rails <sup>59)</sup>



The plastic plug was updated (33123-06A).

09-up oil tank drain plug <sup>61)</sup>
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## Drain Hose Mods

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1986 HD Sportster Parts Catalog pg 67

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1986-1987 HD Sportster Parts Catalog pg 71

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1986-1988 HD Sportster Parts Catalog pg 79

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1986-1989 HD Sportster Parts Catalog pg 81

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1986-1990 HD Sportster Parts Catalog pg 81

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/205256-oil-tank#post4647082>

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kd460 of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/lubrication-and-lubricants/133998-oil-hose-kind#post2862911>

[35\)](#)

drawings by Hippysmack

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Left photo courtesy of Ebay seller, Robison Motorcycles [Link to Ebay Store](#)

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Right photo by Hippysmack

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photos by Hippysmack

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photo courtesy of Boneyard Cycles in Melbourne, FL

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-suspension-frame-forks->

[handlebars-fuel-tank-oil-tank-fenders/40457-whoa-oil-tank-vomits-oil?t=87313](#)

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Hippysmack

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