

Table of Contents

- EVO: Suspension** 1
- Swingarm** 1
 - Rigid Mount Bikes*** 1
 - Sub Documents 1
 - Rubber Mount Bikes*** 3

[Go To Technical Menu](#)

EVO: Suspension

Swingarm

Rigid Mount Bikes

Sub Documents

- [1998 1200S Swingarm Bearing / Bushing Inspection and Replacement](#)
- [1986-Up Swingarm Pics](#)
- [1995-1998 Swingarm \(47547-87B\) and Parts Dimensions](#)
- [Swingarm Debris Deflector Pics](#)

86-88 models are shown to have two bearings and 89-03 models with only one bearing in the catalogs. However, two bearings are used in 86-03 Sportster swingarms and they are both installed on the right side pivot. ^{1) 2) 3) 4) 5) 6) 7) 8) 9) 10) 11) 12) 13) 14) 15) 16)}

Both left and right sides were described as having bearings until the 2000 parts book came out correctly describing the left side as having a bushing.

The part number for the bearing (set) changed in 2000 from (47082-81) to (48367-98).

According to the pics on the [JW Boon](#) website for NOS parts, even though the part number changed for the right bearing, it appears to be a place of origin change.

Both part numbers refer to a 'Timken LM11749' bearing: (47082-81 made in Poland) and (48367-98 made in USA). ¹⁷⁾

The Prefix designates the duty class: LL - Lighter than Light; L - Light; LM - Light Medium; M - Medium; HM - Heavy Medium, H - Heavy ¹⁸⁾

Swingarm with bearing(s) and bushings.

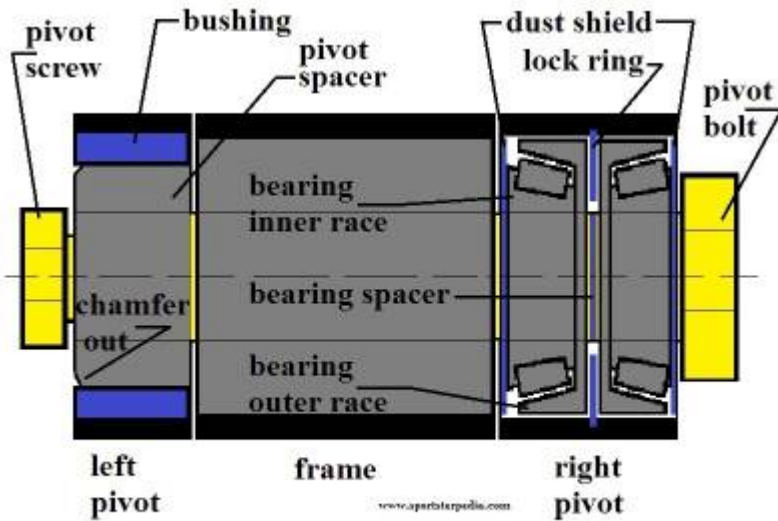
Note: Inspect pivot shaft and swingarm bearings every 5,000 miles.
Lube swingarm bearings every 10,000 miles. ¹⁹⁾

REAR FORK WITH RIGHT BEARING	LEFT BUSHING	RIGHT BEARING ONLY	BEARING OUTER RACE
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1986-1987 XLH 883/DLX XLH 1100	47532-86			
1987 XLH 883 Hug 1988 - all	47547-87	(1) 47083-81	(2) 47082-81 (Timken LM11749) Poland PC X0242 ²⁰⁾	(2) LM11710
E1989 - all				
L1989-1990 - all	47547-89			
— Supercedes for 1989L - all	47566-89			
1991-1999 - all	47547-87B			
— Supercedes for 1991-1994 - all	47547-87A	(1) 47083-81A		
2000-2003	47587-00	Supercedes 47083-81	(2) 48367-98 (Timken LM11749) USA PS ²¹⁾	
2004 - all	47587-04	???	???	???
2005-2021 - all	47400134BHP			
— Supercedes 2005-2013 - all	47587-05	???	???	???
— Supercedes 2014-2020 - all	47587-05A			

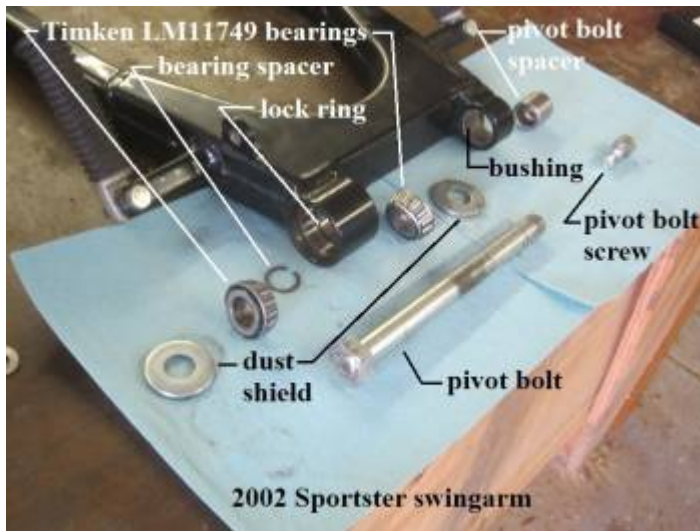
Swingarm related parts

Pivot Bolt	Pivot Bolt Screw	Bearing Dust Shield (2-right)	Pivot Bolt Spacer	Swingarm Hole Plug
86-88 (41568-86) all models	86-88 (2892) all models	82-03 (41579-81) all models	86-03 (5741) all models	86-96 / 99-03 (740) all models
89-90 (41568-89) all models	89-92 (2925) all models			97-98 (761) all models
91- 92 (41568-89A) all models	93-03 (2925A) all models 3/8" Allen head			
93-03 (41568-81B) all models (1" hex head bolt) includes pivot bolt screw & spacer				



86-03 Swingarm Parts

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Rubber Mount Bikes

For the 2004-later models, the swingarm uses a bearing in each side and the assembly is part of the motor mounting system as well.

See [Rubber Mount Engine Mounts](#) in the Sportsterpedia for assembly including the swingarm.

REAR FORK WITH 2 BEARINGS		LEFT OR RIGHT BEARING ONLY
2004	47587-04	9209 supersedes bearing 9270A ²⁴⁾
2005-2018	47587-05A	

2004 swingarm and bearings from an 883.



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26)

Notes gathered from the XLFORUM:

- There is a pivot shaft that supports the swing arm bearings/bolts on the outside, and goes through the rear mounting lug on the tranny case. If the pivot shaft is loose in the rear mount lug, it will need to be replaced. ²⁷⁾
- Symptoms of swingarm problems: ²⁸⁾
 - Excessive play in the rear wheel, difficulty keeping in a straight line in slow moving traffic.
 - Spherical Bearings having play in them.
 - Rear rubber mounts well out of shape.
 - Torx bolt head shearing off.
- All of the rubber mounts are open to this problem... Because of the fact that the swing arm is mounted to the mount... An it's rubber-mounted with a spherical bearing... It's got some "flex" stock most don't notice it... Till its really bad! ²⁹⁾
- Replace the swing arm bearing when you have it apart... and above all else... follow the TSB for reinstalling the rear brake don't cross thread the pivot bolt. ³⁰⁾
- When you have the swingarm out, use a few sockets and some all thread (a bolt could work as well) in a vise to press the bearings out. ³¹⁾ There might be some surface rust in there, just soak it with some rust solvent for a couple of hours before you press it. ³²⁾

Broken Pivot Bolts:

- I think the design issue is that the pivot shaft is too small for the hole it goes through in the engine.

It should be a tighter fit like an axle through a bearing. The purpose of the lock plate is to keep the pivot shaft from spinning so you can tighten the swingarm bolts. I think it does that job just fine. But, because the pivot shaft is too small, when you install the lock plate, the lock plate centers the pivot shaft in its hole. So the engine transmits its forces not directly into the pivot shaft, but rather into the lock plate bolts, then into the lock plate, then finally into the pivot shaft. Those little lock plate bolts cant handle that kind of stress so one or two of them break. I think a better fix would be a larger pivot shaft, or a shim or bushing of some sort to take up the space between the pivot shaft and its bore. ³³⁾

- I agree that a tighter pivot shift fit would help but the plate also holds against lateral shift of the shaft to the left under hard cornering loads. The combination of that force plus wiggling of the shaft in the motor opening definitely contributes to the problem ³⁴⁾

If you are replacing the bearings, it's worth reading this extensive thread about replacing the engine rubber mounts:

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap?t=1526368>

Go To Technical Menu

1)

1986-1988 HD Sportster Parts Catalog 99451-88 pg 67

2)

1986-1989 HD Sportster Parts Catalog 99451-89 pg 69

3)

1986-1990 HD Sportster Parts Catalog 99451-90 pg 69

4)

1991 HD Sportster Parts Catalog 99451-91 pg 61

5)

1991-1992 HD Sportster Parts Catalog 99451-92 pg 63

6)

1993 HD Sportster Parts Catalog 99451-93 pg 63

7)

1993-1994 HD Sportster Parts Catalog 99451-94 pg 63

8)

1995 HD Sportster Parts Catalog 99451-95 pg 61

9)

1995-1996 HD Sportster Parts Catalog 99451-96 pg 65

10)

1997 HD Sportster Parts Catalog 99451-97 pg 65

11)

1998 HD Sportster Parts Catalog 99451-98 pg 67

12)

1999 HD Sportster Parts Catalog 99451-99 pg 73

13)

2000 HD Sportster Parts Catalog 99451-00A pg 73

14)

2001 HD Sportster Parts Catalog 99451-01A pg 75

15)

2002 HD Sportster Parts Catalog 99451-02 pg 75

16)

2003 HD Sportster Parts Catalog 99451-03 pg 75

17)

Hippysmack of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/frame-mount-evo-sportster-talk-1986-2003-models/198447-swingarms#post4357938>

18)

<https://www.motionindustries.com/productDetail.jsp?sku=00657537>

19)

1998 HD Sportster FSM pg 1-2

20) 21)

https://www.jwboon.com/index2.php?content=https%3A//www.jwboon.com/dbhtml/catalog/Bool_AND/Section_frame/Fits_Sportster/Page_15

22)

drawing by Hippysmack

23)

photo by spibbie of the XLFORUM, annotated by Hippysmack

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-suspension-frame-forks-handlebars-fuel-tank-oil-tank-fenders/173380-help-swingarm-pivot-issue/page2?t=1861454&page=2>

24)

<https://estore.chester-harley-davidson.co.uk/9209-swingarm-bearing-p110248.html>

25) 26)

photo by DéDé of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-suspension-frame-forks-handlebars-fuel-tank-oil-tank-fenders/197711-swingarm-bearing-change-rubbermount#post4329173>

27)

XLXR

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap/page3?t=1526368&highlight=motor+mounts&page=3>

28)

Loony

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap/page3?t=1526368&highlight=motor+mounts&page=3>

29)

04xl1200c

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap/page3?t=1526368&highlight=motor+mounts&page=3>

30)

04xl1200c

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap/page6?t=1526368&highlight=motor+mounts&page=6>

31)

Screw Loose Dan

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/efi-sportster-motorcycle-talk-2007-and-up/190511-swingarm->

bearings?postid=5569081#post4107816

³²⁾

madlim

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/efi-sportster-motorcycle-talk-2007-and-up/190511-swingarm-bearings?postid=5569081#post4107816>

³³⁾

Rog48

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap/page12?t=1526368&highlight=motor+mounts&page=12>

³⁴⁾

LuxBlue

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/rubber-mount-sportster-motorcycle-talk-2004-2006/140794-check-motor-mounts-and-swing-arm-bearings-asap/page12?t=1526368&highlight=motor+mounts&page=12>

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