

Table of Contents

IH: Engine Mechanicals - Sub-01E	1
Ironhead Gearcase/Cam Cover Pics and Information	1
Gearcase / Cam Cover Parts List	1
Internal Comparisons	3
1957-1970 Cam Covers	4
1957-1962 XL/XLH/XLCH Cover	5
1963-1966 XLH, 1963-1967 XLCH Cover	6
1967 XLH Cover	7
1968-1969 XLCH Cover	8
1968-1970 XLH Cover	8
1970 XLCH Cover	9
1971-1974 Cam Covers	10
1971-1972, 1974 XLH Cover	10
1975-1976 Cam Covers	11
1975-1976 XLH Cover	11
1975-1976 XLCH Cover	12
1977-1978 Cam Covers	12
1977-1978 XLH Cover	12
1979-E1984 Cam Covers	14
Starter Cutout on Top Rear	14
Breather Valves	14
Breather Vents	14
1979-1980 Ignition Changes	15
L1981 Production Changes	15
1979 XLH Cover	16
1979 XLS Cover	17
1980 XLH Cover	18
E1981 XLS Cover	20
L1984-1985 Cam Covers	21
1985 XL/XLS Cover	21

[Go To Technical Menu](#)

IH: Engine Mechanicals - Sub-01E

Ironhead Gearcase/Cam Cover Pics and Information

[Click Here](#) to go the Ironhead Gearcase/Cam Cover Removal and Installation page in the Sportsterpedia for fastener lists and gaskets.

Gearcase / Cam Cover Parts List

All part numbers were gathered from period specific Sportster parts catalogs from 1957-1985 including supplement and updated catalogs.

Year Model	Cam / Gearcase Cover Part Number	Casting Number	Gasket	Shifter Shaft Bushing
1952-1956 K Models	25200-52	25202-52	25224-52	
Notes:	Replaced with 25200-52A in 1963.			
1957-1962 XL/XLH/XLCH	25200-57	25202-52A	25224-52	
Notes:	Aluminum cover with single horizontal bar and square rear corner (not cut out). Uses generator "daisy wheel" oil deflector w/ sliding separator bushing/spring in cover Replaced by 25200-63A in 1968.			
1963-1966 XLH 1963-1967 XLCH	25200-63	25202-52A	25224-52	
Notes:	Aluminum cover with single horizontal bar and square rear corner (not cut out). Uses generator slinger washer oil deflector w/ stationary bushing in cover. Replaced by 25200-63A in 1968.			
1967 XLH	25201-67	25202-52A	25224-52	
Notes:	1966 style single bar aluminum cover with rear cutout added around new starter. Oil tank vent (62375-62) added to the rear of the cover. Replaced by 25201-67A in 1969.			
1968-1969 XLCH	25200-63A	02-68	25224-52	
Notes:	Aluminum cover with 6 horizontal ribs and square rear corner (not cut out).			
1968-1970 XLH	25201-67A	02-68	25224-52	
Notes:	Aluminum cover with 6 horizontal ribs and rear cutout for starter.			

1970 XLCH	25200-70	02-68		
Notes:	Aluminum cover with 6 horizontal ribs and square rear corner (no cut out). Previous boss for magneto redesigned to accept a circuit breaker. Oil tank vent (62375-57) added to the rear of the cover.			
1971-1972 XLH 1974 XLH	25201-71	71-25202	25224-52	
Notes:	Polished.			
1971-1972 XLCH 1974 XLCH	25200-71	71-25202	25224-52	
Notes:				
1973 XLH	25201-73 black	71-25202	25224-52	
Notes:				
1973 XLCH	25200-73 black	71-25202	25224-52	
Notes:				
1975-1976 XLH	25211-75	71-25202	25224-52	
Notes:	Shifter moved to the left side of the bike in 1975.			
1975-1976 XLCH	25205-75	71-25202	25224-52	
Notes:				
1977-1978 XL 1978 XLCH	25201-75	76-25202F	25244-52A	
Notes:				
1977 XLCH	25200-75	76-25202F	25244-52A	
Notes:	Replaced by 25201-75 (1978 parts sup).			
1979 XL	25201-79 25201-79A	79-25202F	25244-52A	
Notes:	Polished. Original cover has a reed type breather valve assembly (26909-79A). Replaced by 25201-79A which has a deeper boss in the nosecone to mount the ignition. Kit includes a spacer (25262-80) to extend ignition to original location. Rubber plug (25221-77) installed in 1979-E1981 cover.			
1979 XLCH	25200-79	79-25202	25244-52A	
Notes:	Polished. Original cover has a reed type breather valve assembly (26909-79A). Replaced by 25200-79A which has a deeper boss in the nosecone to mount the ignition. Kit includes a spacer (25262-80) to extend ignition to original location.			
1979 XLS	25205-79 25205-79A	79-25202	25244-52A	
Notes:	Gray. Replaced by 25205-79A which has a deeper boss in the nosecone to mount the ignition. Kit includes a spacer (25262-80) to extend ignition to original location.			
1980 XL	25208-80 25201-79A	80-25222	25244-52A	
Notes:	Polished			
1980 XLS	25209-80	80-25222	25244-52A	
Notes:	-80 parts book says, polished. -81 book says black.			

E1981 XL	25227-81	81-25223	25244-52A	
Notes:	Polished. Angle cut upper feed galley slot. No pins in cam bushings.			
E1981 XLS	25229-81	81-25223	25244-52A	
Notes:	Black. Angle cut upper feed galley slot.			
L1981-1982 XLS	25209-81	25222-81	25263-81	
Notes:	Black. Straight cut upper feed galley slot. No casting for tach drive. No pins in cam bushings. 7/16"-14x1/2" allen hd plug screw (2506) installed thru 1985 in place of rubber plug.			
L1981-E1984 XL 1983-E1984 XLS/XLX	25208-81	25222-81	25263-81	
Notes:	Polished. No casting for tach drive. No pins in cam bushings.			
1983-1985 XLX	25207-83		25263-81	
Notes:	Kit w/ aluminum finish. No casting for tach drive.			
L1984 XLX	25207-84	25222-84A	25263-81	
Notes:	Aluminum finish. Replaced by 25207-84A (-85A parts book)			
L1984 XL/XLS	25208-84	25222-84A	25263-81	
Notes:	Polished. Replaced by 25219-86 (-85A parts book)			
1985 XLX	25207-84A	25222-84A	25263-81	
Notes:	Black.			
1985 XL/XLS	25208-84A	25222-84A	25263-81	
Notes:	Polished. Replaced by 25219-86 (-85A parts book)			

Internal Comparisons

You can interchange some covers if you are not concerned about the look of a stocker for your year bike (better resale trying to stay stock). ¹⁾

Also be aware that some covers had the round cut out for the electric starter XLH that came out in 1967. You can slap a cover on and wing it, BUT the proper way is to have the cover line reamed when the motor is apart.

(so the cam cover and the right case half are a match in tolerances)

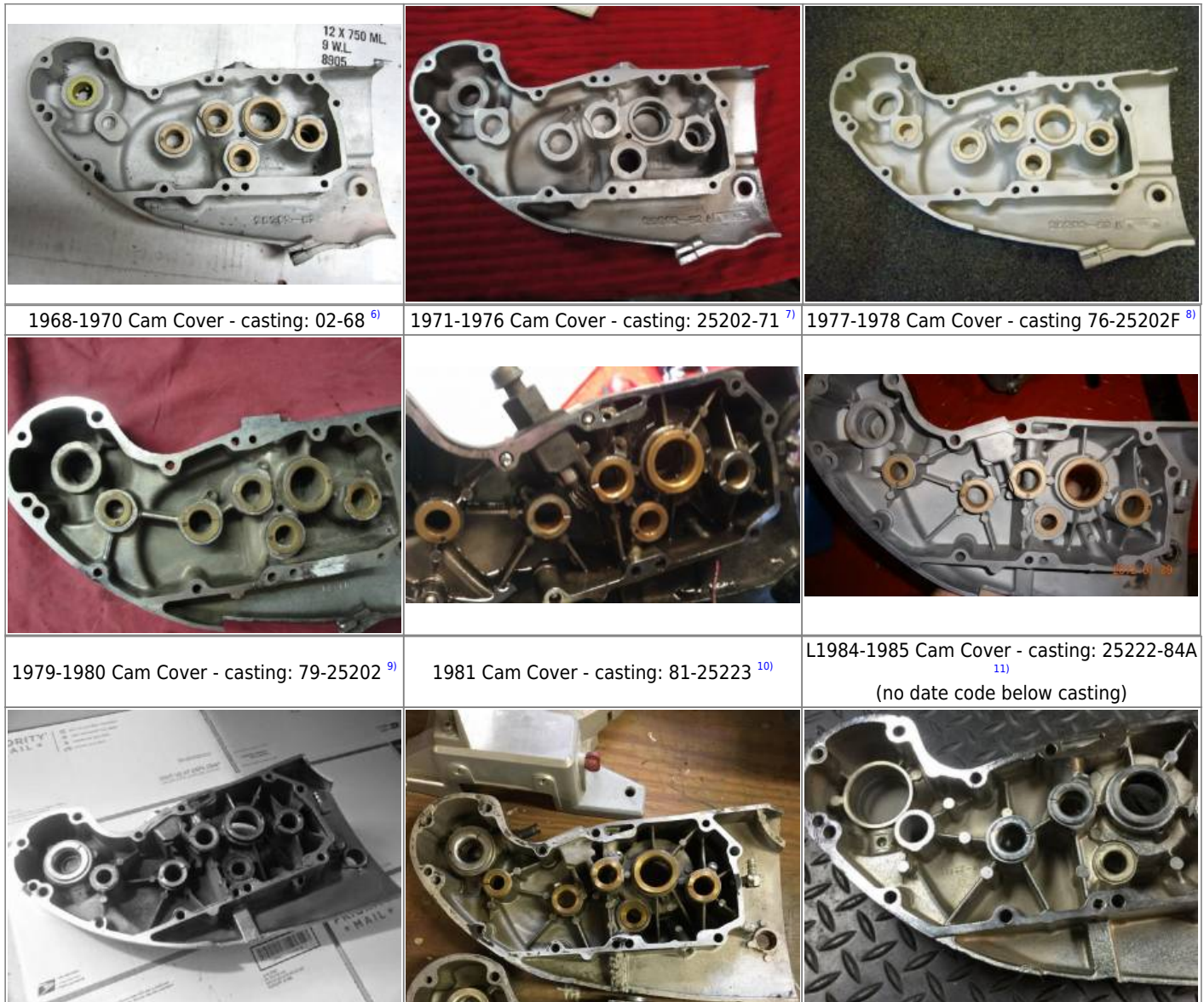
52-78 cover had only one breather port at 6:00. ²⁾

79-85 had two. One at 6:00 and one at 10:00.

52-76 uses .625" pinion bushing bore.

77-85 uses .562" pinion bushing bore.

1952-1956 Cam Cover - casting: 25202-52 ³⁾	1957-1962 Cam Cover - casting: 25202-52A ⁴⁾	1963-1967 Cam Cover - casting: 25202-52A ⁵⁾
---	--	--



1957-1970 Cam Covers

1957 thru 1970 Sportsters had cams designed for an ignition to be mounted on top of the cam cover. ¹²⁾ These cams are not interchangeable with post 1971 motors (what can be called the 'cone' cam cover). Early XLs had XL cams, 1966 thru the 1970s had hotter cams known as P cams. 1970 on had the larger 1-15/16" intake valve with pistons to match (piston had a relief cut into the dome for the larger valve clearance). Optional cams were known as PB cams, a bit more umph than P in the upper mid range. P cams are frequently seen for sale on ebay. When hunting for parts you want to ask, "Pre 1971 or Post 1971" for cams and covers including the sprocket cover.

1957-1962 XL/XLH/XLCH Cover

Part number (25200-57). Casting number is (25202-52A).

Click on a pic to enlarge: ¹³⁾



1957-1962 XL/XLH/XLCH Cam Cover 25200-57



1957-1962 XL/XLH/XLCH Cam Cover 25200-57



1957-1962 XL/XLH/XLCH Cam Cover 25200-57



1957-1962 XL/XLH/XLCH Cam Cover 25200-57



1957-1962 XL/XLH/XLCH Cam Cover 25200-57



1963-1966 XLH, 1963-1967 XLCH Cover

Part Number (25200-63). Casting number is (25202-52A).

Click on a pic to expand: ¹⁴⁾





1967 XLH Cover

Part number (25201-67). Casting number (25202-52A).
Same as 1967 XLCH but has the cut-out for electric start.



15)



16)

1968-1969 XLCH Cover

Cover part number (25200-63A). Casting number is (02-68).

The oil tank is still vented to the fitting at the top of the right case behind the rear cylinder.

Looks similar to the 68 H cover with exceptions.

The XLCH cover has a squared (uncut) rear corner, no 90° fitting on back and the ignition boss on top is set up to accept a magneto.

Click on any pic to enlarge: [17\)](#)



1968-1970 XLH Cover

Cover part number (25201-67A). Casting number is (02-68). Top rear corner is cut out for the electric starter.

The oil tank is vented to the cam chest at a 90° fitting on the back of the cam cover.

1968-1969 covers came with oil tank vent fitting (62375-62).

1970 XLH covers came with oil tank fitting (62375-57).

Both fittings are 1/8"-27 NPT to 1/4" hose barb 90° elbows.



18)



19)



20)



21)

1970 XLCH Cover

Cover part number (25200-70). Casting number (02-68). TOP REAR IS NOT CUT for electric start. 1970-up XLH and XLCH motors all now vent the oil tank air space to the cam chest at a 90° fitting on the back of the cam cover.

The previous year's vent location on the top of the rear engine case was deleted for XLCH. The fitting (62375-57) is a 1/8"-27 NPT to 1/4" hose barb 90° elbow.

Click on a pic to enlarge: ²²⁾





1971-1974 Cam Covers

1971-1972, 1974 XLH Cover

Cover part number (25200-71). Casting number (71-25202).

Gasket (25224-52). Updated gasket (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (2) solid dowel pins (used at front and rear of cover).

[Click Here](#) to see full fastener list.

The difference in this cover from the 1973 XLH cover is this one is polished and the 1973 cover is black.

Click on a pic to enlarge: ²³⁾





1975-1976 Cam Covers

1975-1976 XLH Cover

Cover part number (25211-75). Casting number (71-25202).

Gasket (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (2) solid dowel pins (used at front and rear

of cover).

[Click Here](#) to see full fastener list.

1975-1976 XLCH Cover

Cover part number (25205-75). Casting number (71-25202).

Gasket (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (2) solid dowel pins (used at front and rear of cover).

[Click Here](#) to see full fastener list.

Click on a pic to enlarge: ²⁴⁾



1977-1978 Cam Covers

1977-1978 XLH Cover

HD Part number (25201-75). Casting number (76-25202F).

Gasket: (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (1) front solid dowel pin (rear dowel hole in cover drilled but not in case).

[Click Here](#) to see full fastener list.

Click on a pic to enlarge: ²⁵⁾





1979-E1984 Cam Covers

Starter Cutout on Top Rear

L1976-1980 Sportsters use a Prestolite starter which required a section of the top rear corner of the cam cover to be factory removed for clearance.

1981-1985 Sportsters use a Nippon Denso starter which doesn't require the cam cover clearance thus the corner is squared off (uncut).

Breather Valves

1979-E1982 production cam covers were installed with a reed type breather valve (26909-79).

In L1982, a new rubber umbrella type breather valve was used in production covers.

Breather valve kit (26909-79A) was then introduced to adapt 1979-E1982 covers with the new umbrella valve system.

So you may find used 1979-E1982 covers with the umbrella valves instead.

[Click Here](#) for more information on breather valves.

1979-1981 Sportsters use a 1-5/8" slinger washer (31067-63).

1982-E1984 Sportsters use a 1-3/4" slinger washer (31066-82) to accommodate the larger crankcase breather valve.

L1984-1985 Sportsters don't use a generator or slinger washer.

Breather Vents

1979 is the first year a hole was drilled and tapped in top front of the cam cover for the breather vent to connect up to the air cleaner housing

The previous location on the front bottom of the cam cover for the breather tube was plugged off with a 1/8"x27 plug and the tube deleted.

A rubber hose was now piped from the top of the cam cover to the A/C (keeping the breather line from

crossing the cover from the bottom).

This design was used from 1979-1990.

Some have removed the lower plug to add a second breather to atmosphere although the reviews for that mod vary.

[Click Here](#) for more information on that mod in the Sportsterpedia.

1979-1980 Ignition Changes

1979 models got a new Prestolite breakerless electronic ignition module in the cam cover nosecone.

1980 models changed to a Magnavox ignition system using different parts in the cam cover nosecone and the module was moved out of the nosecone.

This resulted in the "pocket" in the newer cover nosecone for 1980 models getting a little deeper.

Since the 1980 cover was also sold as replacement for 1979 models, the deeper pocket wouldn't work for 1979 ignitions.

So a spacer (25262-80) was included with the 1979-1980 replacement cover to extend 1979 ignitions to original location when using the newer cover.

The replacement cover part number is (25201-79A) which includes the spacer.



L1981 Production Changes

L1981-E1982 Gearcase/Cam Cover/Gasket Changes:

[Click Here](#)

to download TSB M-841.

Cases:

L1981-E1982 engines may have one of two different types of gear case cover and crankcase set combinations.

Old style cases have a slanted slot for an upper oil feed galley to the lifters and no rear dowel pin (or bolt) to attach the cover.

New style cases have a large boss around the upper feed galley with a single hole (no slot) for a feed oil galley to the lifters.

New style cases also have an extra mounting screw hole added to the top rear corner of the cover

mounting boss.

Cam Cover Gasket:

Gasket (25224-52A) originally (1977) had a single hole in the top center to transfer oil from the gasket to the upper case galley.

Along with 1979 case changes, the hole was slotted at an angle and along with L1981 case changes, the gasket was redesigned.

Old style gasket (25224-52A) can only be used with the old style covers, XLH (25227-81) and XLS (25229-81).

New style gasket (25263-81) can only be used with the new style covers, XLH (25208-81) and XLS (25209-81).

Cam Cover:

Old style cam covers can be used on new style cases along with the old style gasket.

New style cam covers cannot be used on old style cases.

1979 XLH Cover

HD Part number (25201-79). Casting number (79-25202F).

Finish: Polished.

Gasket: (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (1) front solid dowel pin (rear dowel hole in cover drilled but not in case).

[Click Here](#) to see full fastener list.

Replacement cover kit (25201-79A) comes with the 1980 cover and a spacer ring (25262-80) for the ignition module.

See "1979-1980 Ignition Changes" above.

Below is the original cover. Click on a pic to enlarge:





1979 XLS Cover

HD Part number (25205-79). Casting number (79-25202F).

Finish: Gray.

Gasket: (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (1) front solid dowel pin (rear dowel hole in cover drilled but not in case).

[Click Here](#) to see full fastener list.

Replacement cover kit (25201-79A) comes with the 1980 cover and a spacer ring (25262-80) for the ignition module.

See "1979-1980 Ignition Changes" above.

Below is the original cover. It's the same as the original 1979 XLH cover except for the finish.

Click on a pic to enlarge: ³¹⁾





1980 XLH Cover

Part number for cover (25208-80). Casting number (80-25222).

Gasket: (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (1) front solid dowel pin (rear dowel hole in cover drilled but not in case).

[Click Here](#) to see full fastener list.

This cover was also sold as a replacement cover for 1979 models with an added spacer ring for 1979 ignitions.

Part number for the replacement kit for 1979-1980 models is (25201-79A).

Click on a pic to enlarge: [32\)](#)





E1981 XLS Cover

Part number (25229-81). Casting number (81-25223). Tach drive casting still there but the hole wasn't drilled for the drive unit.

Gasket: Must use gasket (25224-52A).

Fasteners: (8) cover screws, (2) generator mounting bolts and (1) front solid dowel pin (rear dowel hole in cover drilled but not in case).

[Click Here](#) to see full fastener list.

Click on a pic to enlarge: ³³⁾





L1984-1985 Cam Covers

1985 XL/XLS Cover

Part number (25208-84A). Casting number (25222-84A). Gasket: (25263-81).

Fasteners: (9) cover screws, (2) oil filter housing bolts, (1) front solid dowel pin in gearcase and (1) rear dowel pin in case near transmission.

[Click Here](#) to see full fastener list.

This cover is almost identical to the 1986-1990 Sportster cover.

In fact, the -85A parts book lists the 1986 cover for replacement on L1984 XL/XLS models.

So they are compatible. The main visual difference is in the casting numbers.

1985 casting# (25222-84A) is a standalone number cast in the front, not far from the breather valve with no circle date code.

1986-1990 casting# (25222-84A) is in the same spot but all have a circle date code under the casting number (date of casting is in the circle).

Click on a pic to enlarge: ³⁴⁾



L1984-1985 cover casting# (25222-84A) ³⁵⁾



1986-1990 cover casting# (25222-84A) ³⁶⁾



Go To Technical Menu

1)

Monte03 of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/52221-cams-cover-interchange#post1084712>

2)

Dr Dick of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/172350-77-breather-please-view->

[pics/page2?t=1845601&page=2](#)

3) 5) 6) 7) 9) 11)

photo by Dr Dick of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/172350-77-breather-please-view-pics/page2?t=1845601&page=2>

4)

photo by ironheadjunkie of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/132743-oil-line-routing/page2?t=1421916&page=2>

8)

photo by DirtyCory of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/127032-getting-this-78-back-to-the-way-it-should-be/page9?t=1297584&page=9>

10)

photo by Scott of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/197215-cam-cover-id-help-please-warning-huge-pics?t=2073823>

12)

Monte03 of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/52221-cams-cover-interchange?t=230843>

13)

photos courtesy of Ebay seller, animalhouse2010, [Link to Ebay store:](#)

14)

photo courtesy of Ebay seller, Motorcycle Dreams. [Link to Ebay Store:](#)

15) 16)

photo courtesy of Ebay seller, market406. [Link to Items for Sale page](#)

17)

photos courtesy of Brewer's Performance Inc. in Laura, Ohio [Link to website](#)

18) 19) 21)

photo courtesy of Flashback Enterprises in Imlay City, MI, [Link to Ebay Store](#)

20)

photo courtesy of Ebay seller, cyclewarehouse. [Link to Items for Sale](#)

22)

pics by Scott of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/197215-cam-cover-id-help-please-warning-huge-pics?t=2073823>

23)

photos courtesy of Ebay seller, 57harleyrider. [Link to Ebay Store](#)

24) 30)

photo courtesy of Ebay seller, gnarlydavidson1. [Link to Items for Sale page](#)

25) 33)

photos courtesy of NitroFrankie Go-Fast HD, [Ebay Items for Sale Page](#)

26)

1979-1980 Sportster Nosecone Design Change Composite from [NitroFrankie Go-Fast HD](#) and [WheatStateParts](#)

27)

photo courtesy of Royal Motorworks Citroen Parts Plus, [Link to Ebay Store](#)

28) , 29) , 34) , 35)

photo courtesy of NitroFrankie Go-Fast HD, [Ebay Items for Sale Page](#)

31)

photos courtesy of Ebay seller, Harley-Davidson Parts Accessories. [Link to Ebay Store](#)

32)

photos courtesy of Ebay seller, WheatStateParts. [Link to Ebay Store](#)

36)

photo courtesy of DeadpartsMC, [Link to Ebay Store](#)

From:

<https://sportsterpedia.com/> - **Sportsterpedia**

Permanent link:

<https://sportsterpedia.com/doku.php/techtalk:ih:engmech01e>

Last update: **2023/12/20 02:24**

