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IH: Oiling & Lubrication - Sub-03B

77-85 Oil Pump and Parts (approximate) Dims

See also [77-85 Oil Pump - Individual Parts and Pics](#)

Note: All dims are taken from a used pump (unless otherwise noted) and should be viewed as approximate measurements only.

The only intent is to show general measurements for comparison.

✓ Specs from the FSM are shown with a checkmark by them.

Oil Pump Body Dims







Oil Pump Cover Dims



Roll Pin Dims



Gear Shaft Dims

The same gear shaft part number (26488-75) was used from 77-90.

The teeth pitch are all the same on the gear.

However, there are variations of the exact length of the shaft.

Reported Dims: ¹⁾

The shaft lengths reportly vary from around 4.160" to 4.205".

The shaft diameters vary from 0.495" to 0.496".

Gear diameters (hard to get a good measurement here) vary from 1.220" to 1.215".

Gear thickness 0.437" on all. Distance from drive gear to retaining ring groove 2.580".

The only difference in markings on the 2 shaft lengths other than the length itself is the hash marks on top of the gear.

Also noticed was that some of the holes in the gearshaft for the pins are drilled to different depths. ²⁾



Longer shaft (L), Shorter shaft (R) with hash marks on the top. Reason for the hash marks presently unknown. ³⁾



Lengths slightly different. ⁴⁾

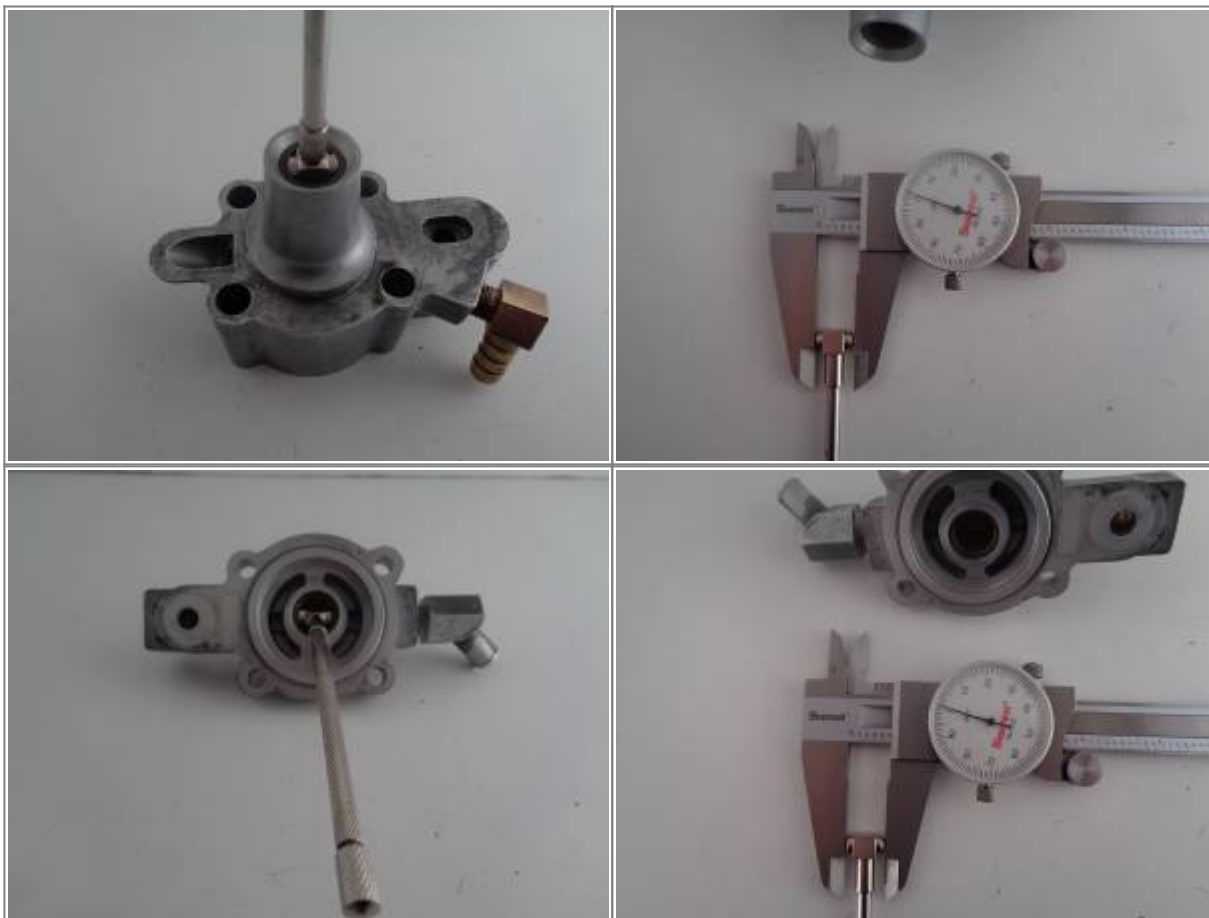
The dims in the pics below were taken on a driveshaft from a used 79 oil pump. ⁵⁾





Gear Shaft Bushing Dims

- ✓ The bushing to shaft clearance is .0005" maximum service limit.⁶⁾
The gearshaft dia. measures .499".
With .0005" clearance on all sides, the bushing I.D. cannot be greater than .500".
(both bushings below are out of service limit)



Gear Shaft Retaining Ring Dims

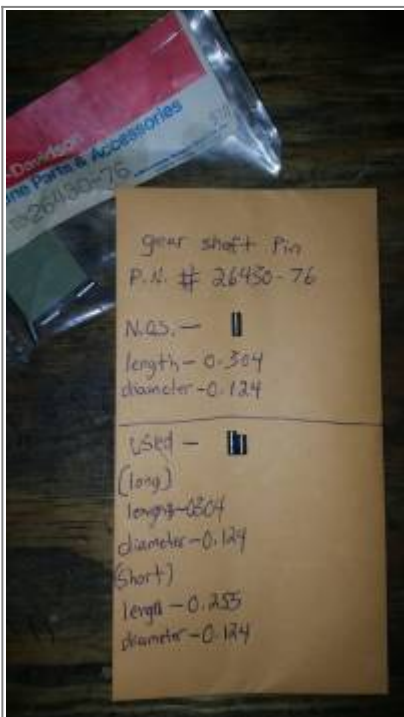


Gear Shaft Pin Dims

Gear shaft pin (26430-76)

These can have slight differences in length also.

Different pins were mic'd and the dims noted as below:



Various pin lengths noted using
NOS and used pins ⁷⁾

Below are more dims (parts from taken from a 79 oil pump).



Check Valve Dims

Brand: Circle Seal

Manufacturer Part Number: P106-376

Patent #3626977



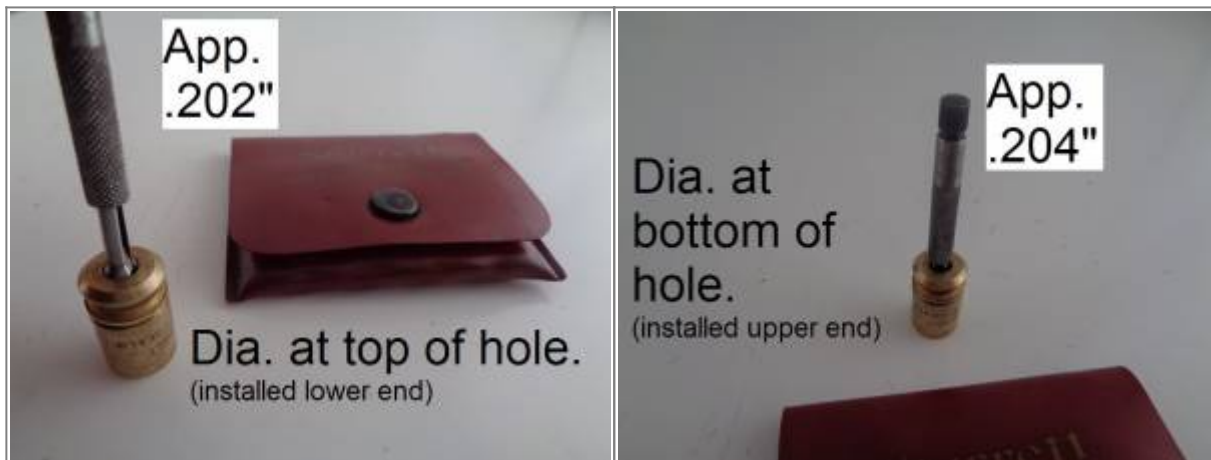
The installed upper end is slightly smaller than the lower end.
The body is a two piece compressed design.



A small rod was inserted into the check valve to measure the plunger travel which is app. .0845"



App. .002" difference in diameter was noticed between the top and bottom of the hole in the check valve.



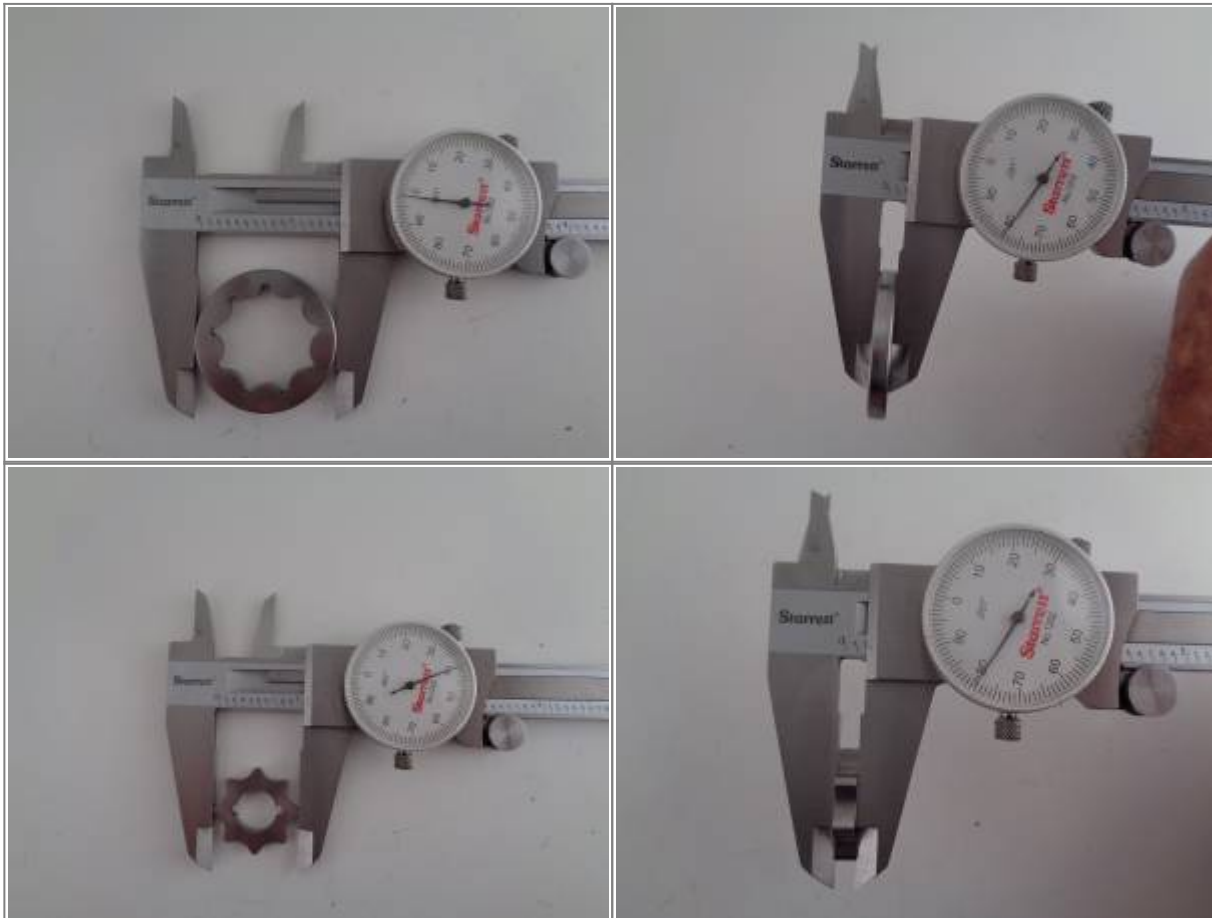
Gerotor Dims

Feed Gerotors

77-E83 Chamfered Feed Gerotors

✓ Each gerotor set has an inner and an outer piece and both of these should measure the same in thickness.⁸⁾

(Ea second pic below):



✓ Maximum wear limit between the inner and outer gerotor set is .004"⁹⁾



This is the most common way to measure how high the feed gerotor sits above the rim of the cover (as in the FSM).¹⁰⁾

Generally, the straightedge is stood straight up across the flat gerotor surface and a feeler gauge is inserted between the straightedge and the cover.

Measurements should be taken on at least four sides to verify that the cover isn't warped.

- ✓ The dimension between the top of the feed gerotors and the lip of the cover should be between .001"-.011" ¹¹⁾



However, if the straightedge is not flat on the bottom edge, it will allow the leading edge of an oversized feeler to partially get in it which may lead to a false reading. Laying the straightedge on it's side will also work if it is not bent.



A dial depth gauge is a little more tedious.
First, set the gauge on the gerotor top,
Zero the gauge once you're sure it is flat and square
Then move the gauge so the depth rod falls on the cover area



A depth rod on a caliper is more difficult to use.

You have to rock the base of the caliper square on the gerotor top while holding it tight and drop the rod on the cover.

It's easy to rock it out of square with the gerotor.



Return (scavenge) Gerotors

77-E83 Chamfered Return Gerotors

✓ Each gerotor set has an inner and an outer piece and both of these should measure the same in thickness. ¹²⁾

(Ea second pic below):



- ✓ Maximum wear limit between the inner and outer gerotor set is .004" ¹³⁾



Separator Plate Dims



Inner Plate





Outer Plate





Spring Washer Dims



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1)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/194881-let-s-study-the-77-85-oil-pump-parts-and-changes-and-when/page8?t=2071153&page=8>

2)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/194881-let-s-study-the-77-85-oil-pump-parts-and-changes-and-when/page8?t=2071153&page=8>

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3) 4)

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5)

photos by Hippysmack

6) 8) 9) 11) 12) 13)

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7)

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10)

70-78 Sportster FSM pg 3-27, 3-28

14)

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