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## REF: Tools - 116

# Engine Sprocket and Clutch Removal / Installation

A reversible impact wrench has been used successfully to remove both the engine sprocket and the clutch basket nut.

However, it's been debatable whether you can accurately install them back to proper torque without using a torque wrench instead.



## Engine and Clutch Sprocket Locking Tools

### 4 Speed

Here's a very simple and easy (and free) tool to make to lock your clutch hub to remove or torque the nut.  
Take 2 clutch discs and 3 steels, install them into your clutch hub assembly, drill two 5/16 holes thru the old clutches and steels, and use 2 1/4 inch bolts to bolt them together. Leave the bolts just a shade loose so fitting the tool back into the hub is made easier because the parts can float around a little. Now install your 2 pieces of 1 x 1 angle iron cut to 4 inches in between the sprocket and drum as a jamming tool and you are all locked up without buying an expensive holding tool. <sup>3)</sup>



### Clutch Sprocket Locking Tool <sup>4)</sup>

This is the sprag I used to jam the clutch and engine sprockets to tighten the engine mainshaft nut (120 foot pounds). It has a divot cut out of it for the where the footpeg mount goes in a 77 model. It is right on 4" long and made from about 1/4" flat strap. It is wide enough to fit on all three rows of the teeth on the sprocket. It is made from a piece of scrap metal so the countersunk hole is not necessary, just part of whatever it was before it became a special tool. It fits between the two sprockets to stop them from turning <sup>5)</sup>



Two more little pieces to jam between the inner and outer clutch drums, with the main sprag still in place. You have to be careful to keep them all in position when tightening. <sup>6)</sup>



### Clutch Sprocket Locking Tools <sup>7)</sup>

	<p>1976-Earlier Sportster Sprocket Locking Tool 97200-55</p> 	<p>HD sprocket lock tool 97200-55 1976 and earlier</p>  <p>Flat stack 1 pc 190°T x380°L x115°W 1 pc 350° L Spacers 2 spacers 130° Dia = 1.65" H All drilled for 5/16" bolts</p>
<p><b>Primary Locking Tool <sup>8)</sup></b></p>	<p><b>1976-Earlier Sportster Sprocket Locking Tool (97200-55) <sup>9)</sup></b></p>	<p><b>1976-Earlier Sportster Sprocket Locking Tool (97200-55) Specs <sup>10)</sup></b></p>

## 5 Speed

Any of these 'wedges' can be used but be sure not to put pressure on the shifter shaft with them.

	
<p>A heavy duty 4" door hinge works well. A cheap 4" door hinge bends like a pretzel. The derlin block just gets shredded up. But, the heavy duty 4" hinge works great. <sup>11)</sup></p>	<p>A closed 4" BRASS hinge also works well. <sup>12)</sup></p>
	
<p>Home made sprocket lock 4.19" x 1.5" x 5/16" steel with beveled edges <sup>13)</sup></p>	

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-electrical/sportster-motorcycle-electrical-and-ignition/169896-2000-883-stator-replacement?t=1823130>

3)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/63858-special-tools/page6?highlight=sprocket+lock#post2138321>

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5) 6)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/144166-homemade-tool-question?t=1562755>

9)

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10)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/63858-special-tools/page14?t=395586&page=14>

11)

VaFish

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-drivetrain/sportster-motorcycle-transmission-clutch-primary-secondary-drive/186890-locking-the-primary-drive-with-a-leather-belt?t=1997193>

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-motor-engine/sportster-motorcycle-bottom-end/32092-bottom-end-noise-and-the-primary-drive-sprocket-nut?t=53268>

13)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-drivetrain/sportster-motorcycle-transmission-clutch-primary-secondary-drive/172622-1200s-5-speed-transmission-inspection?t=1848977>

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