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REF: Primary Drive & Clutch

34T to 38T Engine Sprocket Conversion on 1992 XL883 Deluxe

Article by bval of the XLFORUM ¹⁾

Bike: 1992 XLH Deluxe 883.

Engine: SE 1200 upgrade kit.

This mod was done in an effort to lower the RPM at cruising speeds on the freeway.

The OEM sprocket has 34 teeth and which was swapped out for a 2004 (Japanese version, Part # 40290-04) 38 tooth sprocket and 2004 (96 link, Part # 40147-04) primary chain.

The front transmission sprocket was already changed to the 1200 (29T) sprocket without a noticeable difference in lowering RPMs.

The sprockets look completely different and are in fact physically different but work extremely well with no modifications other than a spacer.

The 2004 sprocket has 8 mounting holes while the 2003 and earlier only have 4 holes.

The overall depth of the sprockets are different so you need to use an additional spacer between the sprocket and the spacer or race that's already there.

That way the chain lines up right between the clutch sprocket and engine sprocket.

Mounting the 8 hole sprocket to the 4 hole rotor is not an issue.

4 holes in the rotor assembly line up perfectly leaving 4 holes empty in the new sprocket.



You can see below that the part that presses onto the rotor (which is also the offset so the sprocket line

up with the clutch sprocket) is a different depth.
 So this was the need for the spacer (.085") to get the sprockets to line up.
 Machined bushings at OSH (Orchard Supply Hardware) measuring 1-1/4" O.D. and 1" I.D..
 The O.D. and I.D. was the exact size of the spacer/race that's already on the crankshaft.
 They all varied a little in thickness but, out of several purchased, 2 were found that were .043" to make the needed thickness.



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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/frame-mount-evo-sportster-talk-1986-2003-models/106420-38t-sprocket-conversion-pre-2004?t=956950>

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