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TWIN CAM 88 - 34T REAR CAMSHAFT SPROCKET:
INSTALLATION INSTRUCTIONS

1. This kit includes one 34 tooth rear cam drive sprocket, one 3/16 drive key and three shims (for properly setting the sprocket spacing on the end of the rear camshaft). Shim thicknesses are: .005, .010, and .020. The sprocket kit (Andrews Products part # 288010) is a direct replacement for the stock sprocket (H/D part # 25563-99) and spacer. Stock spacers are made in five thicknesses; .350, .355, .360, .365 or .370. To set the proper length of sprocket plus shim, combining the shim(s) with the new sprocket will permit length adjustments to match the assembled length of the original stock sprocket and spacer.
2. Remove the 9 bolts holding outer cam cover. When this cover is reinstalled later, note that there is a specific bolt tightening sequence and torque setting for these 9 bolts. Read the H/D manual!
3. Before proceeding further, put the transmission in 4th or 5th gear. With the spark plugs removed (so there will be no compression pressure to fight), position the engine (by turning the rear wheel) so that all camshaft timing marks are properly aligned. This step will simplify reassembly later.
4. Remove the retaining bolts for the 17 tooth crankshaft sprocket and the 34 tooth rear camshaft sprocket. There is a factory tool available which locks both sprockets together and prevents the engine from turning while these bolts are removed (or reinstalled). The tool is a **crankshaft/camshaft sprocket locking tool**. Part number is H/D-42314. It is well worth the cost.
5. Following the factory service manual, the outer chain tensioning shoe must now be retracted. This is most easily done with another H/D tool: **cam chain tensioner unloader with retention pins**; part number H/D-42313. Moving and locking the chain tensioner to a retracted location without this tool will be difficult.
6. Remove the crankshaft sprocket retaining bolt and the camshaft sprocket retaining bolt. Both sprockets and the outer camshaft drive chain can now be removed.
7. Fit the new 34 tooth sprocket and drive key to the keyway on the end of the rear cam. Installing the 3/16 drive key may require hand stoning or filing the key to achieve an exact size on size fit. **The fit of the key into the cam and sprocket keyways should be snug and NOT loose.** If the 3/16 key is too long, it should be cut shorter so that there is no interference with the retaining washer.
8. Both sprockets and the chain can be "trial fitted" to check lateral alignment of the two sprockets. To adjust alignment, there are 3 shims supplied in each sprocket kit; one .005" shim; one .010" shim, and one .020" shim. Andrews Products 34 tooth sprockets are machined to the same length as a stock sprocket with a .350 spacer; (approximately .690 length). For stock sprockets with a .350 spacer, no shim is required. For a .355 spacer, use the .005 shim; for a .360 spacer, use the .010 shim; for a .365 spacer, use the .005 + the .010 shim and for a .370 spacer, use the .020 shim. **(Read H/D service manual on this very important point).**
9. Position the engine so the sprockets and chain can be reinstalled with all timing marks correctly aligned.
10. Install the two retaining bolts with loctite primer and retaining compound. When tightening these bolts, **torque must not exceed 25 ft-lbs.** The crankshaft/camshaft sprocket locking tool will prevent the engine from turning during this operation. Stock H/D bolts and washers are OK but bolts should be grade 8 ratings with shoulders.