

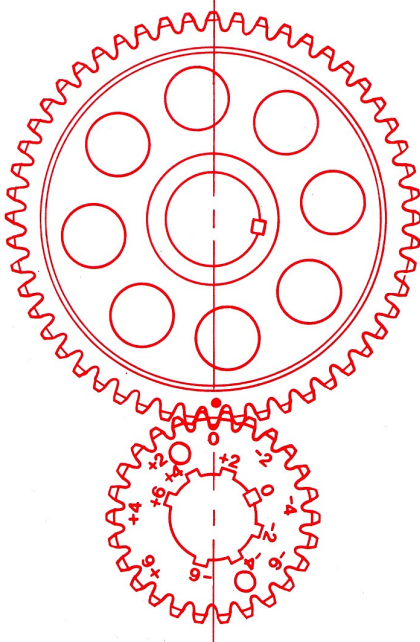
Nornda Automotive

Assembly Instructions

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To Suit - Holden

1 Standard Timing Using keyway and tooth marked 'O'



1. Rotate the engine until the camshaft retaining screws are visible through the holes in the gear, and remove the screws.
2. Withdraw the camshaft and gear from the engine, taking care not to damage the camshaft bearings with the edges of the cams.
3. Press the old gear off the camshaft and remove the camshaft retaining plate.
4. Remove the Woodruff key and oil slinger from the front of the crankshaft gear. Using a suitable puller, withdraw the crankshaft gear from the shaft.
5. Using a suitable dolly, fit the crank gear to the crankshaft.
6. When fitting a new gear to the camshaft, support the camshaft in a press under the front bearing journal, then install the thrust plate so it does not foul the Woodruff key.

Prior to pressing on the timing gear, heat the bore to approximately 200°F. Use a hot plate, hot oil or boiling water. Be sure the gear is installed hot to permit easy fitting. Apply pressure only to the gear boss in the centre of the gear.

Press the new gear into the camshaft until a clearance as specified exists between the thrust plate and the hub of the gear.

7. Installation is a reversal of the removal procedure, with particular attention to the following points:

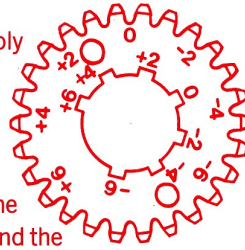
Check the timing gear lubrication hole in the engine plate nozzle is clear and pointing in the correct direction for adequate lubrication of timing gears.

Ensure the valve timing marks on the timing gears are in alignment when installing the gears.

2 Advanced Timing (+2° +4° +6° +8°)

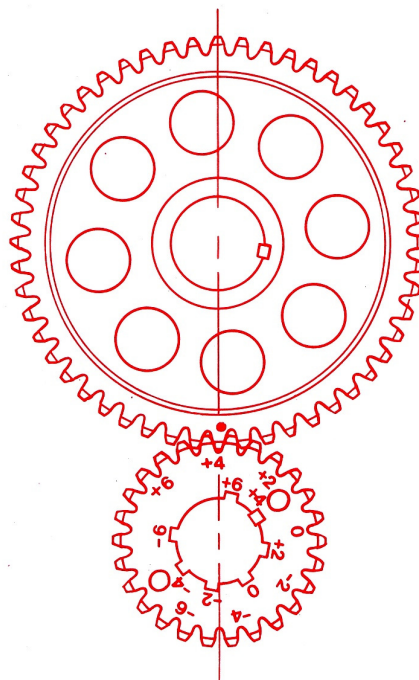
NOTE: We recommend to always degree-in the camshaft before making any timing changes.

1. Before assembly carefully inspect crankshaft sprocket. Note the position of each keyway on the inside diameter and the position of the equivalent timing mark on the outside gear tooth.



2. Fit the crankshaft sprocket to the crankshaft, ensuring that the keyway selected is aligned to the crankshaft keyway.

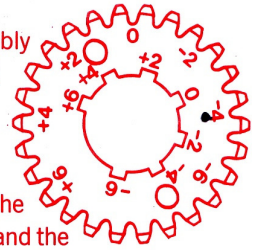
3. Rotate the crankshaft anti-clockwise until the same advance position on the outer sprocket is aligned with the timing mark on the camshaft sprocket.



3 Retard Timing (-2° -4° -6° -8°)

NOTE: We recommend to always degree-in the camshaft before making any timing changes.

1. Before assembly carefully inspect crankshaft sprocket. Note the position of each keyway on the inside diameter and the position of the equivalent timing mark on the outside gear tooth.



2. Fit the crankshaft sprocket to the crankshaft, ensuring that the keyway selected is aligned to the crankshaft keyway.

3. Rotate the crankshaft clockwise until the same advance position on the outer sprocket is aligned with the timing mark on the camshaft sprocket.

