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## PRW DUAL GEAR DRIVES INSTALLATION INSTRUCTIONS

<b>PARTS LIST</b>	
<b>ITEM</b>	<b>QUANTITY</b>
<i>Crank gear</i>	<i>1 each</i>
<i>Dual idler gear</i>	<i>1 each</i>
<i>Cam gear</i>	<i>1 each</i>
<i>Bronze ring</i>	<i>1 each</i>
<i>5 degree bushings (except Ford)</i>	<i>(varies by model)</i>
<i>Cam button</i>	<i>1 each</i>
<i>Cam locking plate</i>	<i>1 each</i>
<i>Cam bolts</i>	<i>3 each</i>
<i>Permanent threadlocker, Red</i>	<i>1 2ml bullet</i>

### **Installation**

#### **Step 1**

Clean all components of any preserves or deposits.

#### **Step 2**

Remove the timing cover.

#### **Step 3**

Hand turn crank to top dead center of cylinder #1. This should line up the timing marks of the cam and crank gears or sprockets. The timing mark on the cam gear should be at 6 o'clock and the crank mark should be at 12 o'clock.

#### **Step 4**

Remove the old timing set.

#### **Step 5**

Clean from the mounting surface of the block any deposits left over from the gasket. Do the same for the timing cover.

#### **Step 6**

Using a small dab of grease, install the bronze ring onto the back of the cam gear.

#### **Step 7**

With the # 1 cylinder still at top dead center install both the cam and crank gears. The chamfered side of the crank gear faces the crank.

#### **Step 8**

For GM and Mopar install desired off set bushing on the cam dowel pin. If the cam is not being degreed inset the 0° bushing (bushing with hole right in the middle). Ford cam gears do not require offset bushings. Line up your desired timing as it is marked on the cam gear. Part #'s 0130201, 0130202, 0135102 are marked with advanced (A), retarded (R), & standard (0), part # 0146001 is marked with +4, +8, & 0.

**Step 9**

With the lock plate in place on the cam gear, torque the cam bolts with washers to factory specs.

**Step 10**

Bend the tabs of the lock plates over the heads of the bolts.

**Step 11**

Slide the idler gear into place with the larger gear on the left and the long part of the idler axle facing the block. The smaller gear should have free vertical movement of 0.005”- 0.075” when the idler gears are with both the cam and crank gears. Turn the crank two full revolutions to insure the clearance. Abnormal wear or damage will occur if the smaller gear does not have enough running clearance.

**Step 12**

During operation the idler axles are always in contact with the front timing cover. All clearance should be between the block and the idler axle. To check for clearance install the idler gear about half way. Then install the cover with the gasket and push the cover into place. Hand-tighten the cover bolts then remove the cover. This will show you where the idle gear will sit. If the clearance is not sufficient, 0.005” minimum, grind off from the axle if necessary.

**Step 13**

Install the cam thrust bearing in the cam gear (solid side facing out).

**Step 14**

Check for clearance between the cam thrust and the front timing cover. There should be between 0.005-0.010” of clearance. An easy way to check the clearance is by putting clay on the end of the cam thrust bearing. Install the cover with the gasket on and hand-tighten. Then remove the cover and check the putty. If clearance is needed grind the required endplay off of the cam thrust bearing.

**Step 15**

After all clearances are met install the timing cover with a sealant along the gasket. Torque the timing cover bolts to OEM specs.

**Note:** PRW gear drives are manufactured to fit under stock steel or chrome replacement timing covers. If an aftermarket aluminum cover is being used some modification may be needed in the cover for the bearing-to-cover clearance. Failure to get the proper clearance could result in a cracked timing cover or timing malfunction.

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