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Comp Cams 424

COMP Cams 424 Bronze Distributor Gear Instruction Manual

For Big Block Chrysler Applications

Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your COMP Cams 424 Bronze Distributor Gear. This component is specifically designed for Big Block Chrysler and 426 Hemi applications, particularly when installing a steel roller camshaft. Adherence to these instructions will ensure optimal performance and longevity of the gear.

The COMP Cams 424 Bronze Distributor Gear is manufactured from AMPCO-45 extruded aluminum bronze with 5 percent nickel added, featuring a high-strength tooth design engineered to resist wear, even with high-pressure oil pumps.

Product Overview



Image 1: The COMP Cams 424 Bronze Distributor Gear. This image displays the bronze gear with its helical teeth and central shaft bore,

highlighting its robust construction. The gear is designed to interface with the camshaft and distributor shaft.

The COMP Cams 424 distributor gear is a critical component for engine builders utilizing steel roller camshafts in Big Block Chrysler engines. Stock cast iron distributor gears are incompatible with steel camshafts and will lead to premature wear and failure. This bronze gear provides the necessary compatibility and durability.

- **Material:** AMPCO-45 extruded aluminum bronze with 5% nickel.
- **Shaft Diameter:** 0.484 inches.
- **Application:** Big Block Chrysler and 426 Hemi engines.
- **Purpose:** Required when installing a steel roller camshaft.
- **Design:** High strength tooth design for wear resistance.

Setup and Installation

Proper installation is crucial for the longevity and performance of your distributor gear. Consult a qualified automotive technician if you are unsure about any steps.

Required Tools and Materials:

- Distributor removal/installation tools
- Pin punch set
- Hammer
- New roll pin (if not supplied with gear)
- Assembly lubricant or engine oil
- Feeler gauges (for end play check)

Installation Procedure:

1. **Remove Distributor:** Carefully remove the existing distributor from the engine, noting its orientation and rotor position for reinstallation.
2. **Remove Old Gear:** Locate the roll pin securing the old distributor gear to the distributor shaft. Using a suitable pin punch and hammer, carefully drive out the roll pin. Remove the old gear.
3. **Inspect Shaft:** Clean and inspect the distributor shaft for any burrs, damage, or wear. Ensure the shaft diameter is compatible with the new gear (0.484 inches).
4. **Install New Gear:** Slide the COMP Cams 424 Bronze Distributor Gear onto the distributor shaft. Align the roll pin hole in the gear with the hole in the shaft.
5. **Secure Gear:** Insert a new roll pin through the aligned holes and gently tap it into place until it is flush or slightly recessed. Ensure the gear is securely fastened and does not wobble.
6. **Check End Play:** Verify the distributor gear end play. The recommended end play is typically between 0.015" and 0.030". Adjust as necessary using shims if the distributor design allows. Refer to your engine's service manual for specific end play recommendations.
7. **Lubricate:** Apply a generous amount of assembly lubricant or engine oil to the new bronze gear teeth and the distributor shaft where it contacts the engine block.
8. **Reinstall Distributor:** Carefully reinstall the distributor into the engine, ensuring the rotor is pointing to the correct cylinder for ignition timing. Ensure the gear meshes correctly with the camshaft.
9. **Set Timing:** After installation, set the engine's ignition timing according to the manufacturer's specifications.

Operating Considerations

The COMP Cams 424 Bronze Distributor Gear is designed for high performance applications, particularly with steel roller camshafts. Proper break-in and lubrication are essential for its longevity.

- **Initial Start-up:** During the initial engine start-up and break-in period, ensure adequate oil pressure and lubrication to the distributor gear.
- **Oil Type:** Use a high-quality engine oil with appropriate ZDDP (Zinc Dialkyldithiophosphate) content, especially for flat tappet camshafts or engines with older valvetrain designs, as ZDDP provides anti-wear properties. Consult your engine builder or camshaft manufacturer for specific oil recommendations.
- **Compatibility:** This bronze gear is specifically designed for use with steel roller camshafts.*Do not use with cast iron camshafts*, as this can lead to accelerated wear of the bronze gear.

Maintenance

Regular inspection and proper lubrication are key to maintaining the performance and lifespan of your COMP Cams 424 Bronze Distributor Gear.

- **Periodic Inspection:** During routine engine maintenance (e.g., spark plug changes, valve adjustments), visually inspect the distributor gear for signs of wear, pitting, or unusual patterns.
- **Lubrication:** Ensure the engine's oiling system is functioning correctly, providing consistent lubrication to the distributor gear. Low oil pressure or inadequate oil flow can lead to premature wear.
- **Oil Changes:** Adhere to recommended engine oil change intervals using the specified oil type. Contaminated or degraded oil can reduce lubrication effectiveness.

Troubleshooting

If you experience issues after installing the COMP Cams 424 Bronze Distributor Gear, consider the following common problems and solutions:

Symptom	Possible Cause	Solution
Excessive gear wear (rapidly)	Incorrect camshaft material (e.g., cast iron cam with bronze gear). Insufficient lubrication or incorrect oil type. Improper gear mesh or end play. High-pressure oil pump without proper relief.	Ensure camshaft is steel roller. Verify oil pressure and use recommended oil. Re-check gear installation and end play. Consult engine builder regarding oil pump compatibility.
Engine misfires or erratic timing	Distributor not fully seated. Roll pin not fully secured. Incorrect ignition timing.	Ensure distributor is fully seated and gear is meshed. Verify roll pin is secure. Re-set ignition timing.

Specifications

Feature	Detail
Part Number	424
Material	AMPCO-45 Extruded Aluminum Bronze with 5% Nickel

Feature	Detail
Shaft Diameter	0.484 inches
Application	Big Block Chrysler, 426 Hemi
Compatibility	Steel Roller Camshafts
Item Weight	9.2 ounces (approx.)

Warranty and Support

For specific warranty information regarding your COMP Cams 424 Bronze Distributor Gear, please refer to the official COMP Cams website or contact their customer support directly. Warranty terms typically cover manufacturing defects under normal use conditions.

Manufacturer: COMP Cams

Website: www.compcams.com

Customer Support: Refer to the manufacturer's website for current contact information, including phone numbers and email addresses for technical assistance.

Always ensure you have your product model number (424) and purchase details available when contacting support.

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