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Dorman 306-020

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Model: 306-020

1. PRODUCT OVERVIEW

The Dorman 306-020 Secondary Air Injection Pump is a direct replacement component designed to match the fit and function of the original pump in specified vehicle applications. This pump is crucial for your vehicle's emission control system, introducing fresh air into the exhaust stream to assist in the oxidation of unburnt hydrocarbons and carbon monoxide during cold starts.

Key Features:

- **Direct Replacement:** Engineered to match the original equipment's fit and function.
- **Restores Functionality:** Provides a reliable solution for pumps that have failed due to leaks or internal component issues.
- **Durable Construction:** Manufactured from quality materials for reliable performance and extended service life.



Figure 1: Front view of the Dorman 306-020 Secondary Air Injection Pump, showing the main housing and electrical connector.

2. COMPATIBILITY

This secondary air injection pump is compatible with a range of vehicles. To ensure precise fitment for your specific vehicle, it is recommended to verify compatibility using your vehicle's make, model, and trim level. Below is a list of known compatible vehicles:

- **Buick LaCrosse:** 2012, 2013, 2014
- **Buick Regal:** 2012, 2013, 2014, 2015
- **Chevrolet Blazer:** 1998, 1999, 2000
- **Chevrolet C1500 Suburban:** 1998, 1999
- **Chevrolet C2500 Suburban:** 1998, 1999
- **Chevrolet Cobalt:** 2009, 2010
- **Chevrolet Impala:** 2014
- **Chevrolet K1500 Suburban:** 1998, 1999
- **Chevrolet K2500 Suburban:** 1998, 1999
- **Chevrolet Malibu:** 2009, 2010, 2011, 2012, 2013, 2014
- **Chevrolet S10:** 1998, 1999, 2000

- **Chevrolet Silverado 1500:** 1999, 2000, 2001
- **Chevrolet Silverado 2500:** 1999, 2000, 2001
- **Chevrolet Suburban 1500:** 1998, 1999, 2000, 2001
- **Chevrolet Tahoe:** 1998, 1999, 2000, 2001
- **Ford Mustang:** 1996, 1997, 1998, 1999, 2000
- **Ford Taurus:** 1996-2007
- **GMC C1500 Suburban:** 1998, 1999
- **GMC C2500 Suburban:** 1998, 1999
- **GMC Jimmy:** 1998, 1999, 2000
- **GMC K1500 Suburban:** 1998, 1999
- **GMC K2500 Suburban:** 1998, 1999
- **GMC Sierra 1500:** 1999, 2000, 2001
- **GMC Sierra 2500:** 1999, 2000
- **GMC Sonoma:** 1998, 1999, 2000
- **GMC Yukon XL 1500:** 2001
- **GMC Yukon:** 1998, 1999, 2000, 2001
- **Lincoln Continental:** 1995-2002
- **Mercury Sable:** 1996-2005
- **Oldsmobile Bravada:** 1998, 1999, 2000
- **Pontiac G5:** 2009, 2010
- **Pontiac G6:** 2009, 2010
- **Saturn Aura:** 2009

3. SAFETY INFORMATION

Always prioritize safety when working on any vehicle. Failure to follow proper safety procedures can result in injury or damage to the vehicle.

- Disconnect the vehicle's battery before beginning any electrical work or component replacement.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the vehicle is securely supported on jack stands if working underneath.
- Allow the engine and exhaust system to cool completely before handling components.
- Refer to your vehicle's service manual for specific safety precautions and procedures.

4. PACKAGE CONTENTS

The Dorman 306-020 Secondary Air Injection Pump package typically includes:

- One (1) Dorman 306-020 Secondary Air Injection Pump.

Additional components such as mounting hardware, hoses, or check valves may need to be purchased separately, depending on the specific vehicle application and the condition of existing parts.

5. INSTALLATION INSTRUCTIONS

Installation of the secondary air injection pump requires mechanical aptitude and specific tools. If you are not confident in performing this repair, it is recommended to seek assistance from a qualified automotive technician.

General Steps:

1. **Preparation:** Park the vehicle on a level surface, engage the parking brake, and disconnect the negative terminal of the battery. Allow the engine to cool.
2. **Access:** Locate the secondary air injection pump. Its location varies by vehicle model; common locations include near the engine, under the battery tray, or in the fender well. You may need to remove other components (e.g., battery, battery tray, air intake components) to gain access.
3. **Disconnect:** Disconnect the electrical connector and any hoses or air lines attached to the old pump. Note their routing for reinstallation.
4. **Remove Old Pump:** Unbolt and remove the old secondary air injection pump from its mounting bracket.
5. **Inspect Related Components:** It is highly recommended to inspect and replace associated components such as check valves and air hoses, as their failure can lead to premature failure of the new pump. Water infiltration into the pump is often caused by faulty check valves.
6. **Install New Pump:** Position the new Dorman 306-020 pump onto the mounting bracket and secure it with the appropriate fasteners.
7. **Connect:** Reconnect all hoses, air lines, and the electrical connector. Ensure all connections are secure.
8. **Reassemble:** Reinstall any components that were removed for access.
9. **Final Check:** Reconnect the battery. Start the engine and check for proper operation and any diagnostic trouble codes.

Note: Always consult your vehicle's specific service manual for detailed, step-by-step instructions and torque specifications.



Figure 2: Side view of the Dorman 306-020 pump, showing the product label and hose connection point.

6. OPERATING PRINCIPLES

The Dorman 306-020 Secondary Air Injection Pump operates automatically as part of the vehicle's emission control system. Its primary function is to pump fresh air into the exhaust manifold during specific engine operating conditions, typically during cold starts. This additional air helps to:

- **Reduce Emissions:** Promote the oxidation of unburnt fuel (hydrocarbons) and carbon monoxide before the catalytic converter reaches its optimal operating temperature.
- **Catalytic Converter Efficiency:** Aid in the rapid warm-up of the catalytic converter, allowing it to become effective sooner.

The vehicle's engine control unit (ECU) monitors various sensors and activates the pump as needed. There are no user-adjustable settings or operational controls for this component.

7. MAINTENANCE

The Dorman 306-020 Secondary Air Injection Pump is designed to be a maintenance-free component. However, its longevity can be affected by the condition of other parts within the secondary air injection system.

Recommendations:

- **Regular Inspection:** Periodically inspect the air lines and check valves connected to the pump for cracks, leaks, or blockages.
- **Address Related Issues:** If the pump fails due to water intrusion, ensure that the root cause (often faulty check valves) is addressed to prevent recurrence.
- **Keep Area Clean:** Ensure the area around the pump is free from excessive dirt and debris.

8. TROUBLESHOOTING

Common symptoms of a failing secondary air injection pump include a lit Check Engine Light (CEL) and associated diagnostic trouble codes (DTCs).

Common Diagnostic Trouble Codes (DTCs):

- **P0410:** Secondary Air Injection System Malfunction
- **P0411:** Secondary Air Injection System Incorrect Flow Detected
- **P1414:** Secondary Air Injection System High Voltage Output (specific to some Ford models, as noted in user feedback)

Troubleshooting Steps:

1. **Scan for Codes:** Use an OBD-II scanner to retrieve any stored DTCs. This will help pinpoint the issue.
2. **Visual Inspection:** Check the pump, hoses, and electrical connections for any visible damage, corrosion, or loose connections.
3. **Check Fuses/Relays:** Verify that the fuse and relay for the secondary air injection pump are intact and functioning correctly.
4. **Test Pump Operation:** In some cases, the pump can be manually activated using a diagnostic tool to confirm if it runs. Listen for unusual noises.
5. **Inspect Check Valves:** Faulty check valves can allow exhaust gases or moisture to enter and damage the pump. Ensure they are functioning properly and not stuck open or closed.
6. **Verify Power and Ground:** Use a multimeter to check for proper voltage at the pump's electrical connector when it should be active, and ensure a good ground connection.

If troubleshooting indicates a faulty pump, replacement with the Dorman 306-020 is the recommended solution.

9. SPECIFICATIONS

Specification	Detail
Manufacturer	Dorman Products
Brand	Dorman
Model Number	306-020

Specification	Detail
Item Weight	1.84 pounds
Product Dimensions	6.24 x 6.24 x 7.22 inches
Manufacturer Part Number	306-020
OEM Part Numbers	215-356; 215-364; 32-3003M; 32-3400M; 32-3500M; 322900M; 323001M; 323400M; 323500M; 323504M; 33-2900FS; 33-3000FS; 33-3001FS; 33-3400FS; 33-3500FS; AIP10; AIP18; AP20; AP28; FD0315289; FD0315290; GM0315283; GM0315285; SK306020; 12555164; 12560095; 12620313; 12630667; F50Y-9A486-A; F5DZ-9A486-D; F60Z-9A486-AA; F6DZ-9A486-BA; F6DZZ-9A486-DA; F6ZZ9A486DA; XR3E9A486AA; XR3Z-9A486-AA
Hollander Number	341-353, 341-357, 341-358
Position	Rear (as per some vehicle applications)

10. WARRANTY AND SUPPORT

Dorman Products stands by the quality of its automotive parts. For specific warranty information regarding the Dorman 306-020 Secondary Air Injection Pump, please refer to the official Dorman website or contact Dorman customer support directly. Dorman has over a century of experience in providing automotive solutions.

For further assistance or technical support, please visit the [Dorman Store on Amazon](#) or the official Dorman Products website.

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