Denso 471-0705

Denso 471-0705 A/C Compressor User Manual

Model: 471-0705 | Brand: Denso

1. Introduction

The Denso 471-0705 A/C Compressor is a precision-engineered replacement component designed for automotive air conditioning systems. This unit is built to Denso's high standards, ensuring efficient refrigerant compression and circulation for optimal cooling performance. This manual provides essential information for the proper installation, operation, and maintenance of your Denso A/C compressor to ensure its longevity and reliable function.

2. Safety Information

WARNING: Automotive air conditioning systems contain refrigerants under high pressure. Improper handling can lead to serious injury, including frostbite, chemical burns, or environmental damage. It is highly recommended that installation and service be performed by a certified automotive technician.

- Always wear appropriate Personal Protective Equipment (PPE), including safety glasses, gloves, and long sleeves, when working with refrigerants or automotive components.
- Ensure the vehicle's battery is disconnected before beginning any work on the A/C system.
- Never vent refrigerant into the atmosphere. Use proper recovery and recycling equipment.
- Be aware of hot surfaces and moving parts in the engine bay.
- Refer to your vehicle's service manual for specific procedures and torque specifications.

3. What's in the Box

Your Denso 471-0705 A/C Compressor package includes:

- One (1) Denso 471-0705 A/C Compressor with Clutch

Note: O-rings and other installation hardware are typically not included and must be purchased separately.

4. Installation Guide

This section outlines the general steps for replacing an A/C compressor. Specific procedures may vary by vehicle model. Always consult your vehicle's service manual.

Figure 4.1: Front view of the Denso 471-0705 A/C Compressor, showing the clutch assembly and electrical connection point.

Figure 4.2: Side view of the Denso 471-0705 A/C Compressor, illustrating the robust casing and various connection points.

1. **System Discharge:** Safely discharge the refrigerant from the A/C system using a certified recovery machine.
2. **Old Compressor Removal:** Disconnect electrical connectors and refrigerant lines. Remove mounting bolts and carefully extract the old compressor.
3. **System Inspection and Flushing:** Inspect the entire A/C system (condenser, evaporator, lines, orifice tube/expansion valve) for debris or contamination. Flush the system if necessary to remove any contaminants or old oil. Replace the orifice tube or expansion valve and receiver/drier or accumulator.
4. **Oil Management:** The Denso 471-0705 compressor comes pre-filled with the correct amount of PAG oil. However, it is crucial to verify the total system oil capacity for your specific vehicle and adjust the oil level in the new compressor if needed, based on the amount of oil removed from the old compressor and other system components. Use only the specified type and viscosity of PAG oil.
5. **New Compressor Installation:** Install new O-rings on the refrigerant lines. Lubricate O-rings with clean PAG oil. Mount the new Denso 471-0705 compressor, ensuring all mounting bolts are torqued to vehicle manufacturer specifications. Reconnect refrigerant lines and electrical connectors.
6. **System Evacuation:** Evacuate the A/C system using a vacuum pump for at least 30-45 minutes (or longer depending on system size and ambient temperature) to remove air and moisture. Hold vacuum for at least 15 minutes to check for leaks.
7. **Refrigerant Recharge:** Recharge the system with the correct type and amount of refrigerant (e.g., R-134a) as specified by your vehicle manufacturer.
8. **Leak Test and Performance Check:** Perform a final leak test using a leak detector. Start the vehicle and test the A/C system for proper operation and cooling performance.

5. Operation

The Denso 471-0705 A/C Compressor is an integral part of your vehicle's air conditioning system. When the A/C system is activated, the compressor engages its clutch, allowing the engine to drive the compressor. The compressor then circulates refrigerant throughout the system, compressing it from a low-pressure gas to a high-pressure gas. This high-pressure gas then flows to the condenser, where it releases heat and condenses into a liquid. The liquid then passes through an expansion device, where its pressure drops, causing it to cool rapidly. This cold, low-pressure liquid then enters the evaporator, absorbing heat from the passenger cabin and turning back into a low-pressure gas, completing the cycle. The "High output" design ensures efficient and effective cooling.

6. Maintenance

Proper maintenance helps extend the life of your A/C compressor and system:

- **Regular System Checks:** Have your A/C system inspected annually by a qualified technician.
- **Refrigerant Level:** Ensure the refrigerant level is correct. Low refrigerant can cause the compressor to work harder and potentially fail prematurely.
- **Drive Belt Inspection:** Periodically check the serpentine belt that drives the compressor for cracks, fraying, or excessive wear. Ensure proper belt tension.
- **Leak Detection:** If you notice a decrease in cooling performance, have the system checked for refrigerant leaks immediately.

- **Cabin Air Filter:** Replace your vehicle's cabin air filter regularly to ensure good airflow and reduce strain on the system.

7. Troubleshooting

If you experience issues with your A/C system, consider the following common problems and potential solutions:

Problem	Possible Cause	Solution
No cold air / Weak cooling	Low refrigerant level, clogged condenser/evaporator, faulty expansion valve/orifice tube, electrical issue, faulty compressor clutch.	Check for leaks and recharge system. Inspect and clean components. Consult a technician for diagnosis and repair.
Compressor making loud noises	Internal compressor failure, low oil, worn clutch bearing, loose mounting.	Have system inspected by a professional. May require compressor replacement.
Compressor clutch not engaging	Low refrigerant pressure (safety switch), electrical issue (fuse, relay, wiring), faulty clutch coil, faulty pressure switch.	Check refrigerant level. Inspect fuses and relays. Test electrical connections. Professional diagnosis recommended.
A/C system cycles on and off rapidly	Low refrigerant charge, overcharge, faulty pressure switch.	Verify correct refrigerant charge. Inspect pressure switches.

For complex issues or if you are unsure about any step, it is always best to consult a certified automotive technician.

8. Specifications

Figure 8.1: Approximate dimensions of the Denso 471-0705 A/C Compressor.

Manufacturer: Denso

Brand: Denso

Model: NEW COMPRESSOR W/ CLUTCH

Item Weight: 13.9 pounds

Item Model Number: 471-0705

Exterior: Machined

Manufacturer Part Number: 471-0705

Voltage: 120 Volts *(Note: This specification may refer to testing voltage or a general product line detail. The operational voltage in a vehicle is typically 12V DC.)*

ASIN: B0049GLHBW

First Available Date: October 27, 2010

9. Warranty and Support

For warranty information and technical support regarding your Denso 471-0705 A/C Compressor, please contact Denso directly or the authorized retailer from whom you purchased the product. Warranty terms and conditions can vary based on the point of purchase and region. It is important to retain your proof of purchase for any warranty claims.

Note: Some third-party sellers, including certain online marketplaces, may not be authorized Denso dealers for warranty purposes. Always verify warranty coverage with your seller or Denso directly.

For general inquiries or to locate an authorized Denso service center, please visit the official Denso website.