



# Installation Instructions

KIT  
PC. No. 106029, 106031,  
106033

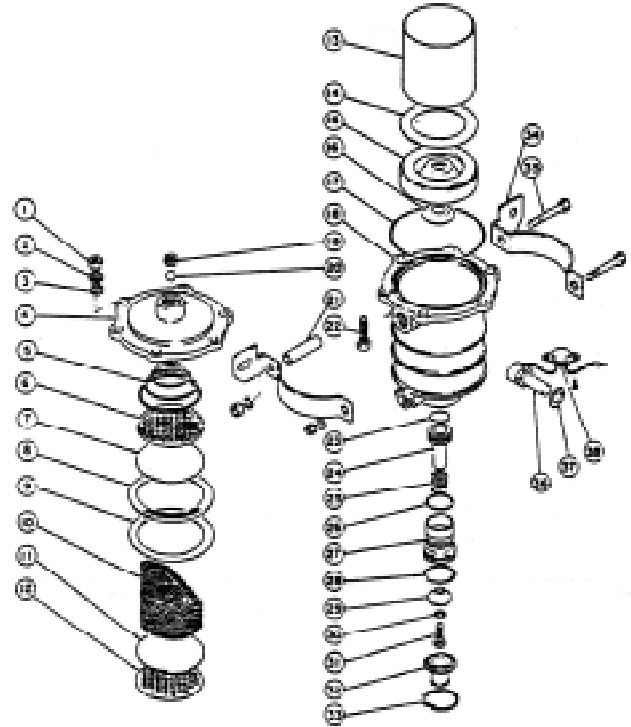
## NABCO DR-3B AIR DRYER MAINTENANCE KITS

### Purge Valve Maintenance Kit #106031

QUANTITY	DESCRIPTION	KEY
1	O-Ring	23
1	Valve Spring	25
1	O-Ring	26
1	O-Ring	28
1	Valve	29
1	Spring Washer	30
1	Exhaust Cover	32
1	Retaining Ring	33
	Lubricant	-

### Desiccant Cartridge Refill Kit #106033

QUANTITY	DESCRIPTION	KEY
1	Filter	7
1	Sealing Ring	8
1	Desiccant	10
1	Filter	11
1	Filter Gasket	14
1	Oil Filter	15
1	Gasket Ring	16
1	O-Ring	17
1	Stop Plate	19
1	Ball Check	20
	Lubricant	-



### Thermostat & Heater Maintenance Kit #106029

QUANTITY	DESCRIPTION	KEY
1	Heater	36
1	Gasket	37
1	Thermostat	38
2	FI Screw	-
2	Spring Washer	-
1	Heater Boot	-

**IMPORTANT:** These kits are designed for use in air dryers manufactured by NABCO (Nippon Air Brake Company Ltd.) and cannot be installed in any other air dryer. NABCO manufactured devices can be identified by the letters "NABCO" cast into the body.

Figure 1 This kit consists of the parts listed above.

### **IMPORTANT! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:**

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels.
2. Stop the engine when working around the vehicle.
3. If the vehicle is equipped with air brakes, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle.

4. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in manner that removes all electrical power from the vehicle.
5. When working in the engine compartment the engine should be shut off. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated, or electrically charged components.
6. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.

7. Never exceed recommended pressures and always wear safety glasses.
8. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
9. Use only genuine Bendix replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
10. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
11. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

#### GENERAL

Determine which kit is in use and follow the instructions presented for that kit.

#### REMOVAL

1. Identify and disconnect three air lines (in, out, and control).
2. Disconnect thermostat wire.
3. Loosen the two hex bolts securing the mounting straps of the dryer and slide the air dryer out of the mounting straps.

#### DISASSEMBLY

##### REMOVING THE DESICCANT CARTRIDGE ASSEMBLY (KIT #106033)

1. Remove the six bolts and detach the cover. NOTE: To prevent the cover from jumping out by inner spring, remove four of the six bolts and then hold the upper and lower flanged sections with clamps while removing the remaining two bolts.

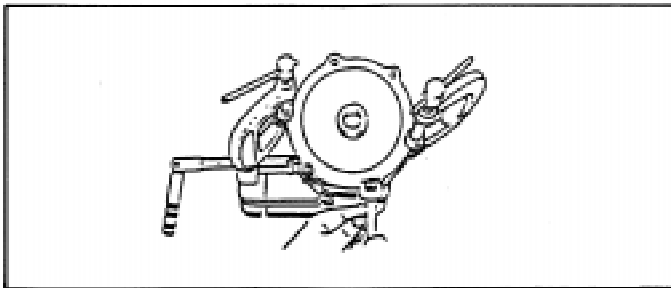


Figure 2

2. Remove the inner spring and filter plate. Remove the cartridge, cartridge guide, oil filter and gasket ring in that order. NOTE: Be sure not to spill desiccant when removing the cartridge.
3. Remove the filter from the upper side of the cartridge. Remove the desiccant from the cartridge and place in a suitable container. Remove the lower filter and filter plate.

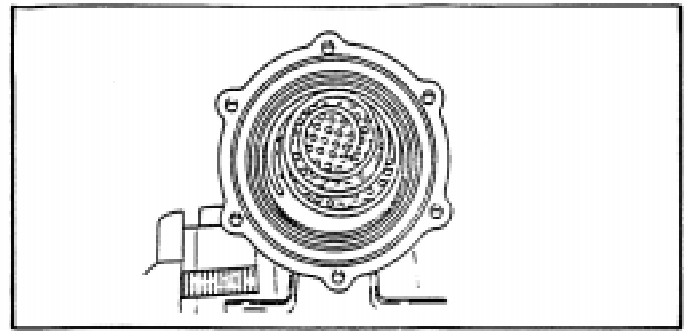


Figure 3

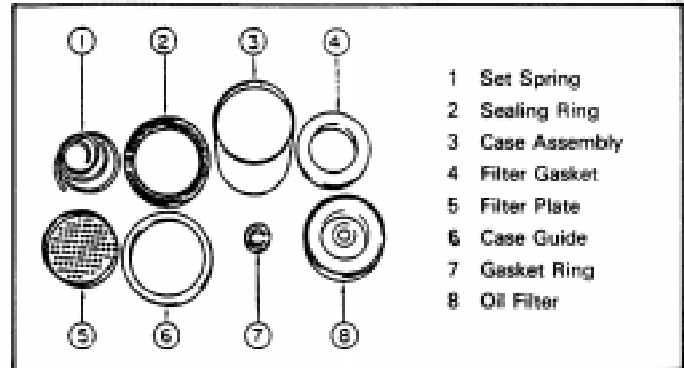


Figure 4

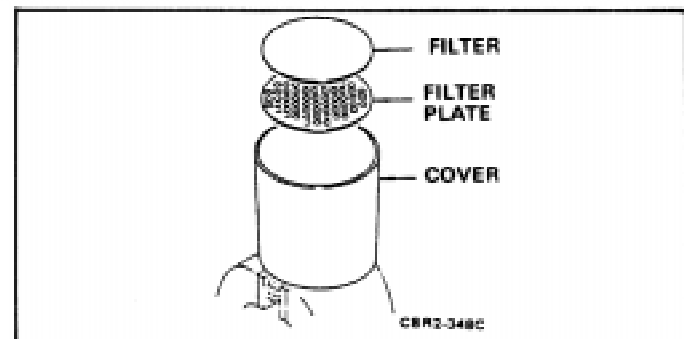


Figure 5

##### REMOVING THE PURGE VALVE ASSEMBLY (KIT #106031)

1. Remove the snap ring and exhaust cover.
2. Remove the bolts while holding the piston with a 10mm hex wrench.

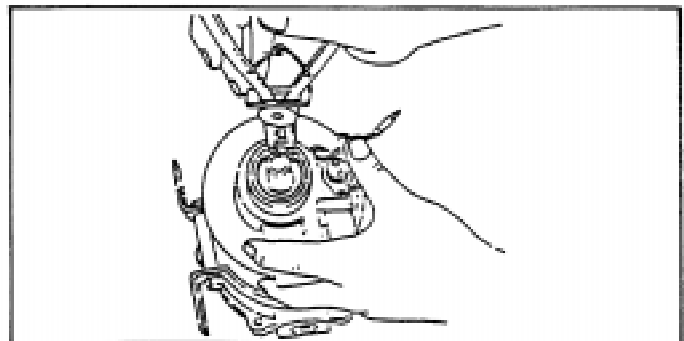


Figure 6

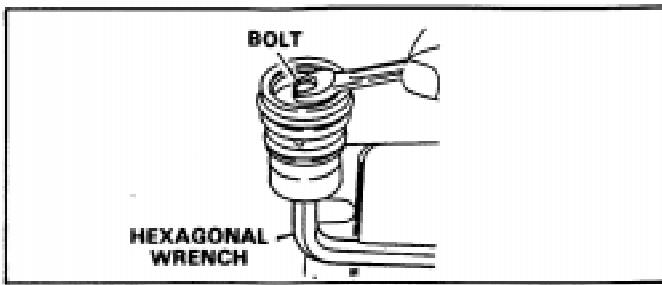


Figure 7

3. Disassemble the valve assembly.

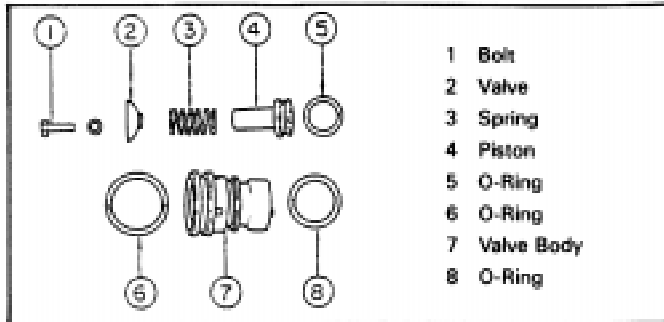


Figure 8

### REMOVING THE THERMOSTAT AND HEATER (KIT #106029)

1. Loosen the screw, then remove the protector and clamp plate.
2. Remove the thermostat, then remove the heater. NOTE: When removing, be sure not to break the harness.

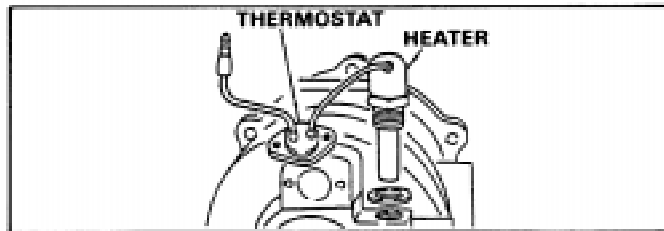


Figure 9

### CLEAN & INSPECT

1. Clean all disassembled parts in cleaning solvent.
2. Check for scratches, cracks or damage and replace faulty parts if necessary.

### REASSEMBLY

#### INSTALLING THE THERMOSTAT AND HEATER (KIT #106029)

1. Install the heater, then install the thermostat.
2. Install the protector and clamp plate.

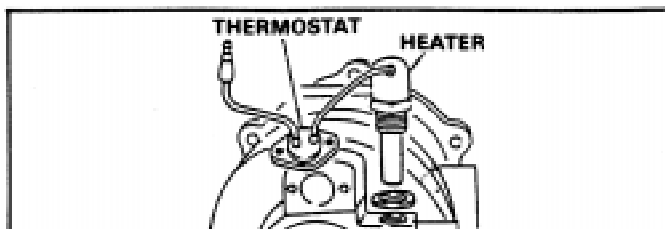


Figure 10

#### REASSEMBLING THE PURGE VALVE ASSEMBLY (KIT #106031)

1. Apply a coat of grease to the O-ring and install it over the piston.
2. Apply a coat of grease to the frictional surfaces of the piston and valve body. Install the spring and piston into the valve body and use a hex wrench to tighten the piston with the bolts via the valve.

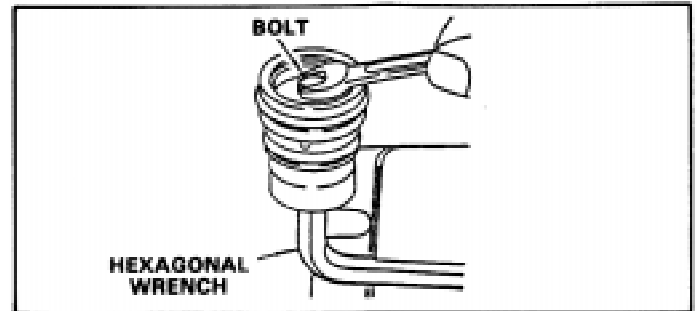


Figure 11

3. Install the exhaust cover by lightly tapping around it with a suitable hammer.

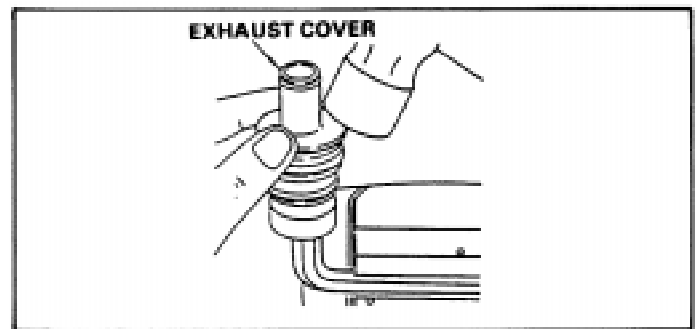


Figure 12

4. Install the O-ring to the valve body and apply a coat of grease to the frictional surface.
5. Install the purge valve assembly to the body and secure it with the snap ring.

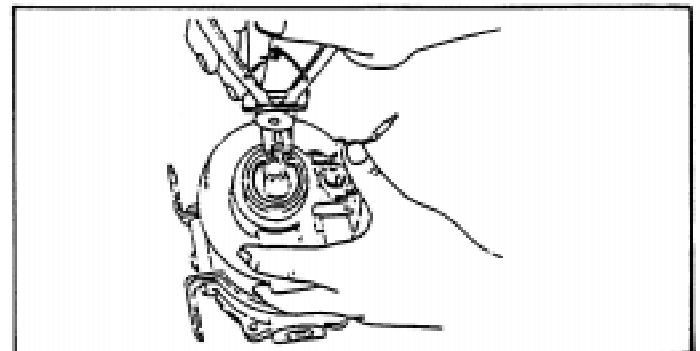


Figure 13

#### INSTALLING THE DESICCANT CARTRIDGE ASSEMBLY (KIT #106033)

1. Place the filter plate and filter into the cartridge, then position the desiccant. The standard weight of the desiccant to be used is 16.93 oz. (480 grams). NOTE: Be sure to install the filter with the thick, soft layer side facing up.

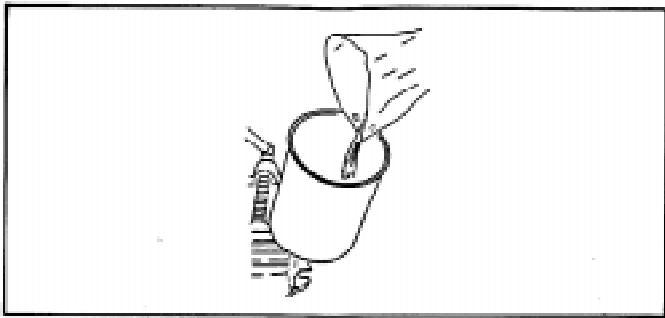


Figure 14

2. To properly seat the desiccant, lightly tap around the cartridge with a plastic hammer prior to installing the filter. NOTE: Be sure to install the filter with the thick, soft layer side facing down.

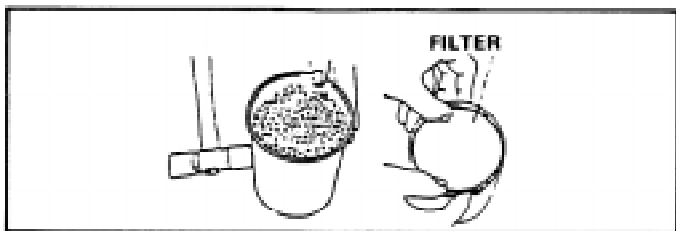


Figure 15

3. Position the gasket ring in the body. Next, install the filter gasket and oil filter as a unit.

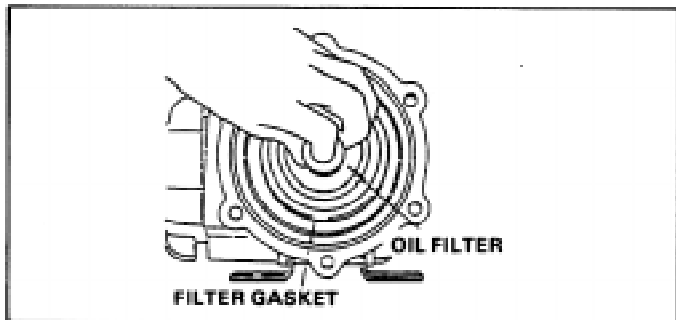


Figure 16

4. Install the cartridge and cartridge guide.

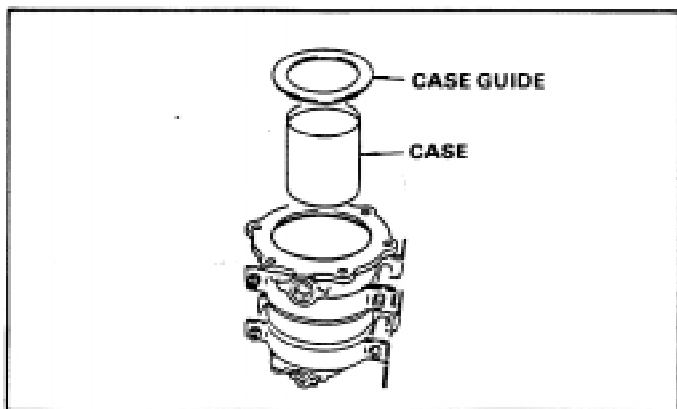


Figure 17

5. Apply a coat of grease to the O-ring and sealing ring before installing them into the body. NOTE: Use the lubricant provided in this kit.

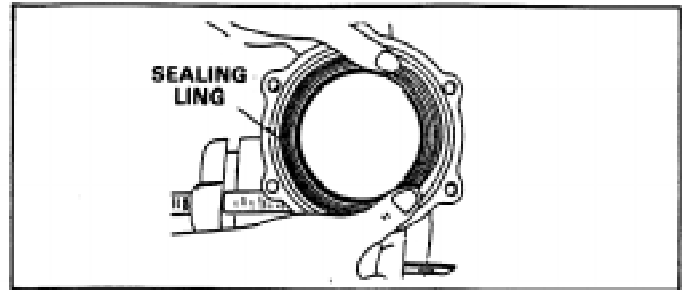


Figure 18

6. Install the filter plate and inner spring.

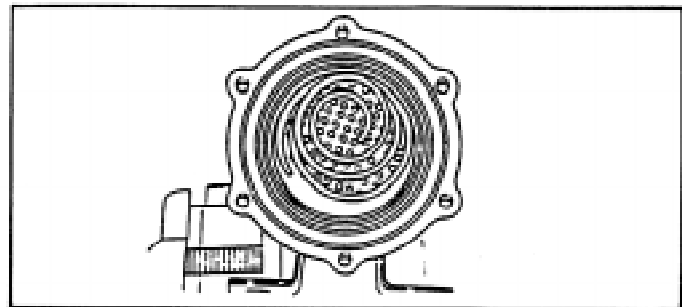


Figure 19

7. Install the cover. NOTE: Insert the bolts from the bottom and tighten.

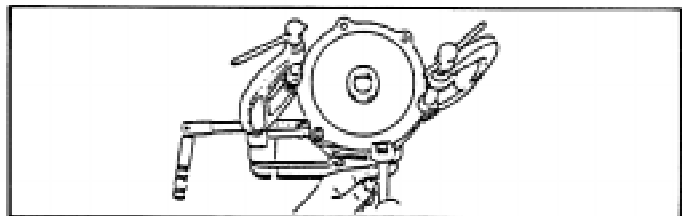


Figure 20

### INSTALLATION

1. Install the air dryer on the vehicle.
2. Connect all air lines and electrical connections.

### INSPECTION AFTER INSTALLATION OF THE AIR DRYER

1. Start the engine. Ensure that air is discharged from the exhaust port of the dryer when air pressure reaches the maximum value and when the brake system is changed from "loaded" to "unloaded" condition. The air should be discharged quickly and the pressure gradually decreased so that the sound of air discharging cannot be heard after three seconds.
2. After air pressure has dropped to the minimum value and the brake system is changed from "unloaded" to "loaded" condition, air leakage from the exhaust port should be less than 20 sccm (20 ml)/minute).
3. Check that no air leaks from any connection.