

# Installation Instructions



## Bendix® D-2®/SV-1™ Low Range Governor Module Assembly Kit

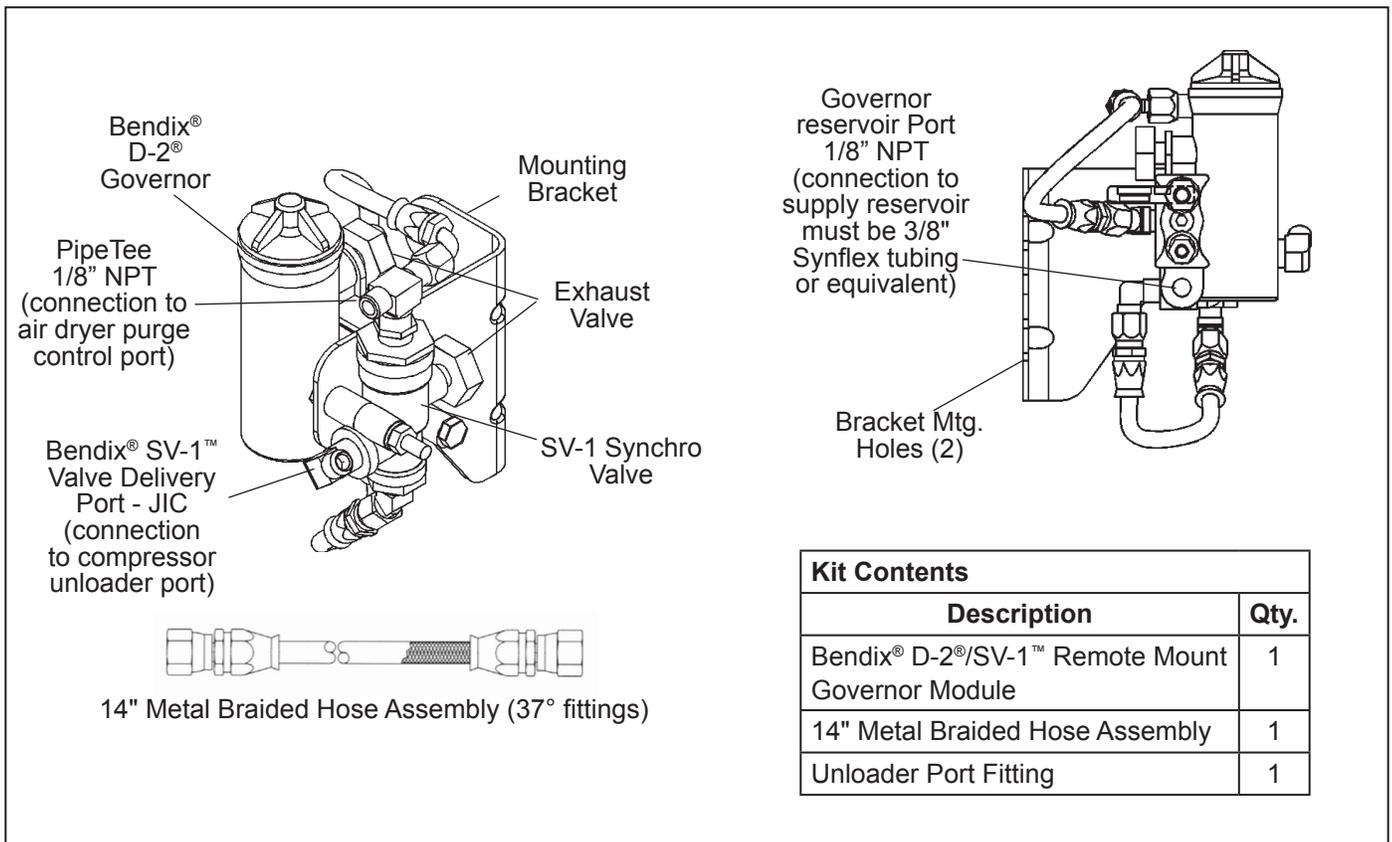


Figure 1 – Bendix® D-2®/SV-1™ Governor Module

### GENERAL

The Bendix® D-2®/SV-1™ governor module is for use with the Bendix® DuraFlo 596™ compressor (refer to Service Data sheet SD-01-670). The module offers convenient installation of the required components in a single, factory pre-assembled component group and provides for either direct mounting to the compressor or remote mounting as required by a specific application.

The module is primarily intended for use when changing over to (retrofitting) the DuraFlo 596 compressor. It can also be used as a replacement assembly, however, individual components (such as the D-2 governor and SV-1 synchro valve) may also be replaced as required by service.

The unique feature of the "low-range" governor module is a narrower pressure range between cut-in and cut-out, compared to the standard-range governor module.

The module is comprised of a D-2 governor, SV-1 synchro valve, mounting bracket, and various tubing or hose along with the appropriate fittings.

These instructions are general and intended to be a guide. In some cases additional preparations and precautions are necessary. In all cases follow the instructions contained in the vehicle maintenance manual in lieu of the instructions, precautions, and procedures presented here.

## GENERAL SAFETY GUIDELINES



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



When working on or around a vehicle, the following guidelines should be observed **AT ALL TIMES**:

- ▲ Park the vehicle on a level surface, apply the parking brakes and always block the wheels. Always wear personal protection equipment.
- ▲ Stop the engine and remove the ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. 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.
- ▲ 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.
- ▲ If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system, a Bendix® DRM™ dryer reservoir module, or a Bendix® AD-9si® air dryer, be sure to drain the purge reservoir.
- ▲ Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
- ▲ Never exceed manufacturer's recommended pressures.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.
- ▲ Never connect or disconnect a hose or line containing pressure; it may whip and/or cause hazardous airborne dust and dirt particles. Wear eye protection. Slowly open connections with care, and verify that no pressure is present. Never remove a component or plug unless you are certain all system pressure has been depleted.
- ▲ Use only genuine Bendix® brand replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, wiring, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
- ▲ Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
- ▲ Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
- ▲ For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.
- ▲ The power **MUST** be temporarily disconnected from the radar sensor whenever any tests **USING A DYNAMOMETER** are conducted on a vehicle equipped with a Bendix® Wingman® system.

### REMOVAL

1. Remove as much road dirt and grease from the exterior of the compressor and module as possible.
2. Identify for re-connection, then remove the air dryer purge tubing or hose at the pipe tee installed in Bendix® SV-1™ synchronizing (synchro) valve on the module assembly. (See Figure 1.)
3. Identify for re-connection, then remove the 3/8" Synflex tubing or (equivalent I.D.) hose at the Bendix® D-2® governor reservoir port (marked RES) on the module assembly. (See Figure 1.)
4. Identify for re-connection, then remove the metal braided hose from the right angle fitting installed in the synchro valve delivery port on the module assembly. (See Figure 1.)
5. Remove the metal braided hose from the fitting installed in the compressor unloader port. (See Figure 2.)
6. Remove the two 13mm nuts and lock washers and flat washers that secure the module mounting bracket on the studs in the rear end cover of the compressor. Remove the module from the compressor.

**Note:** The fitting in the governor reservoir port is not supplied with the Bendix D-2/SV-1 governor module and must be removed and reused in the replacement unit.

## INSTALLATION

1. All torques specified are assembly torques and typically can be expected to fall off after assembly is accomplished. **Note: Do not re-torque** after the initial assembly torques fall off unless instructed otherwise.
2. It will be necessary to install several fittings that are not supplied in the kit. Read the appropriate instructions for the module being installed and obtain the fittings required. When using a thread sealant on the fittings, make certain the sealant material will not enter and contaminate the system.
3. Fittings for the compressor unloader port, governor reservoir port, and the pipe tee installed in the synchro valve are not included with the kit.
4. Facing the rear of the compressor, remove the 13mm cap screw on the top left and bottom left of the compressor rear end cover. Install the two 13mm studs provided in the kit. The chamfered lead threads of the studs should be installed into the compressor. Torque to 195-212 in-lbs.
5. Install the governor module on the studs and orient it as shown in *Figure 2*. Secure the module bracket on the studs installing the flat washers, then lock washers and 13mm nuts. Torque the nuts to 195-212 in-lbs.

**Note:** Hold the stud hex when torquing the nuts.

6. Install one end of the 14 inch metal braided, hose assembly on the compressor unloader port fitting and the other end on the right angle fitting located in the delivery port of the SV-1™ synchro valve. (See *Figures 1 & 2*.)
7. Connect the air dryer purge tubing or hose to the fitting installed in the pipe tee on SV-1 valve (this fitting is not supplied with the module or kit). (See *Figure 1*.)

**Note:** If an air dryer is not in use on the vehicle, install a plug in the synchro valve pipe tee.

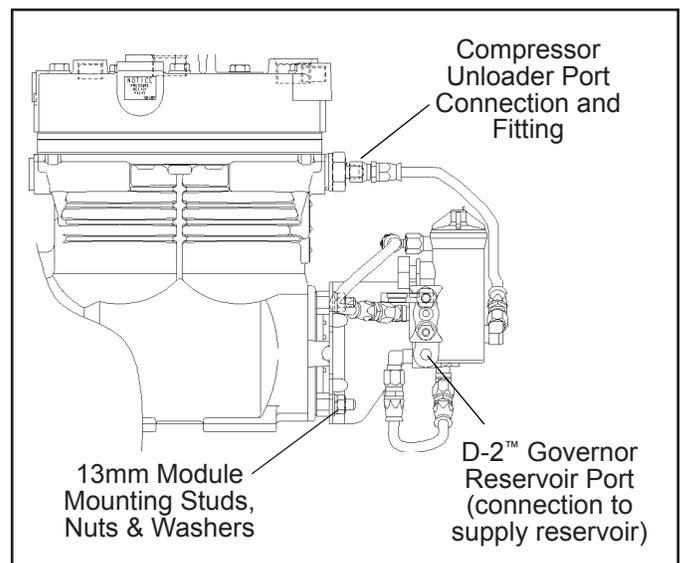
8. Connect a length of hose to the governor reservoir port (marked RES) fitting (this fitting is not supplied with the module or kit) on the module assembly. (See *Figures 2 & 4*.)

**Note:** The governor reservoir port air line must be 3/8" Synflex tubing or equivalent I.D., hose or tubing.

## OPERATING TESTS

Test and inspect the compressor and governor unloader system for proper operation and pressure setting. Start the vehicle engine and build up air pressure in the air brake system while observing the pressure registered by the dash gauge.

1. Cycle the compressor through the loaded and unloaded cycle several times by making a series of brake applications to reduce the air pressure. Make certain that the governor cuts out at approximately 130 psi (cut in should be approximately 120 psi).
2. Note that the Bendix® DuraFlo 596™ cycles to the loaded and unloaded conditions promptly. This can be confirmed by installing a test gauge in the unused unloader port on the compressor and observing the reaction during transition from the loaded and unloaded condition. Air pressure should be applied and exhausted with a distinct “snap action” with no appreciable lag for build up or release of pressure. If prompt action is not noted, check the installation for kinked or restricted tubing or hose.
3. Using a soap solution, check for leakage at all air connections made during the installation. If leakage is detected, tighten fittings as required.



**Figure 2 – Installation**

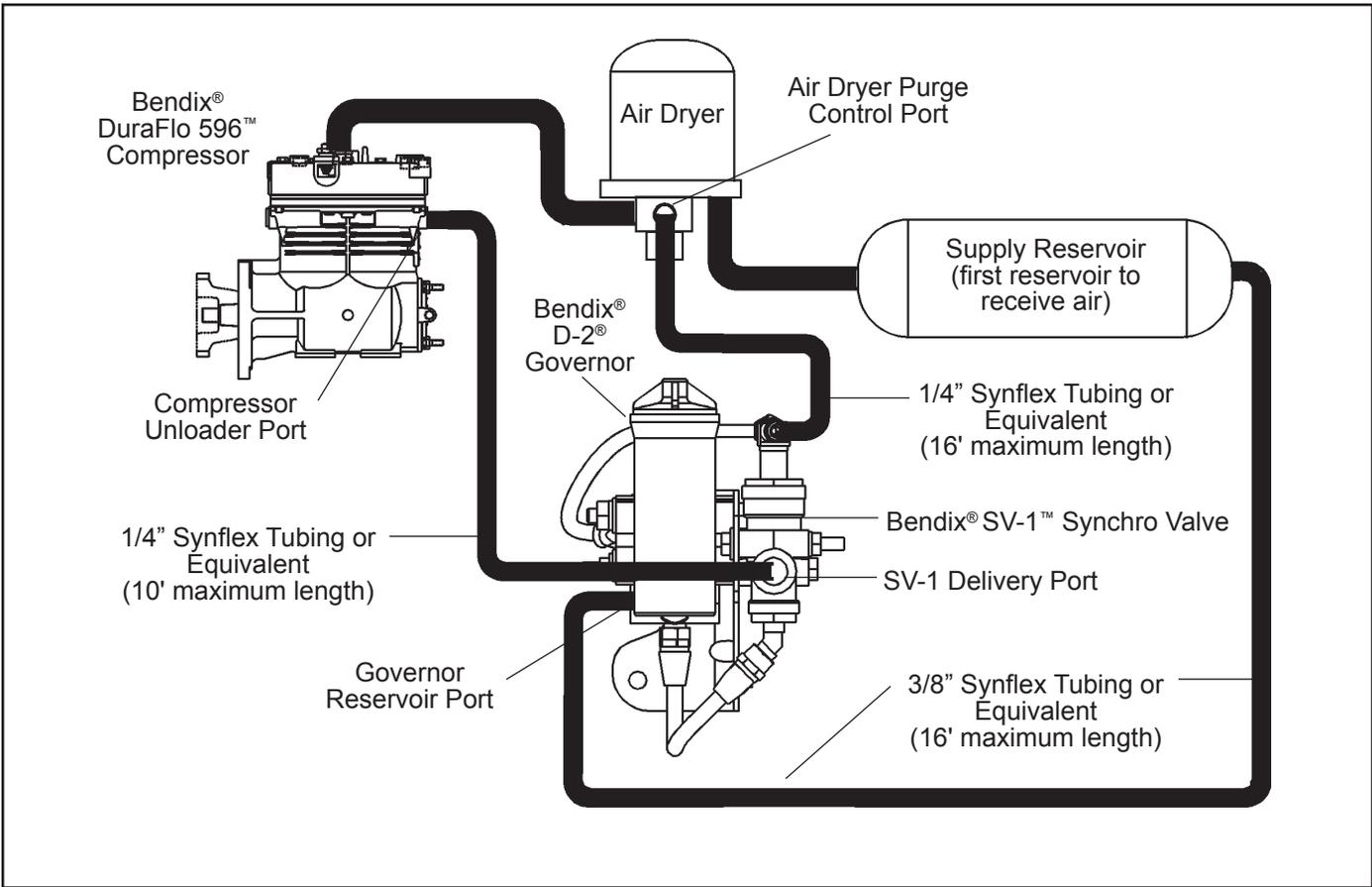


Figure 3 – Bendix® D-2®/SV-1™ Governor Module Installation

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