Installation Instructions

BENDIX® ATC/DYNO MODE RDU™

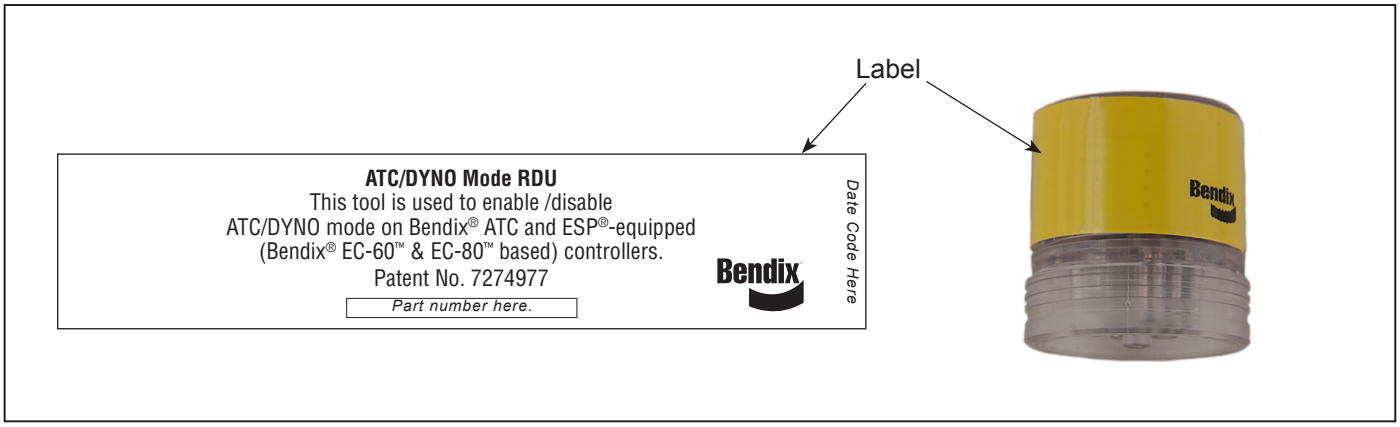

Figure 1 – Remote Diagnostic Unit with Label

DESCRIPTION

The Bendix® Remote Diagnostic Unit (RDU) is available in different configurations. This instruction sheet covers the RDU identified by the label shown in Figure 1.

DEVICE FEATURES

This RDU is a diagnostic tool that puts the Bendix® Premium and Advanced Electronic Control Units (ECUs) into the dynamometer mode. This RDU communicates across the vehicle data link and specifically designed for use with only the Bendix® EC-60™ and ESP® EC-80™ electronic controllers. Bendix makes no claims of its operation or usability with other brands of ABS systems.

PLACING THE ECU INTO DYNAMOMETER MODE

1. Turn the ignition on and verify that the ABS ECU goes through its power-up sequence of modulator activation. The power-up sequence is described in the Bendix Service Data sheet SD-13-4863 (Bendix® EC-60™ ABS/ATC Controllers (Standard & Premium)), or SD-13-4869 (Bendix® EC-60™ ABS/ATC/ESP Controllers (Advanced)), or SD-13-4986 (ESP® EC-80™ Controller).
2. Connect the RDU to the 9-pin diagnostic connector.
3. Verify the LED (Light Emitting Diode) sequence as described under *Dynamometer Mode Operation*. The process will take less than 10 seconds to place the ECU in dynamometer mode.
4. When finished with the testing that required the ABS ECU to be in dynamometer mode, hold a magnet to the reset area of the RDU as shown in Figure 3 to take the ECU out of the dynamometer mode.
5. Disconnect the RDU from the diagnostic connector.
6. Turn the key off.

DYNAMOMETER MODE OPERATION

When the RDU is plugged into the diagnostic connector and receives power, all the LEDs will illuminate for one half second, the green LED will flash four (4) times to indicate communication has been established with the ABS ECU. The green LED will continue to be illuminated while the RDU is placing the EDU in dynamometer mode.

Once the ECU is in dynamometer mode, the RDU will flash two (2) half moon patterns, first downward then upward on the LEDs, repeating this sequence. Also note that the ATC/ESP dash lamp will be illuminated when the ECU is in dynamometer mode.

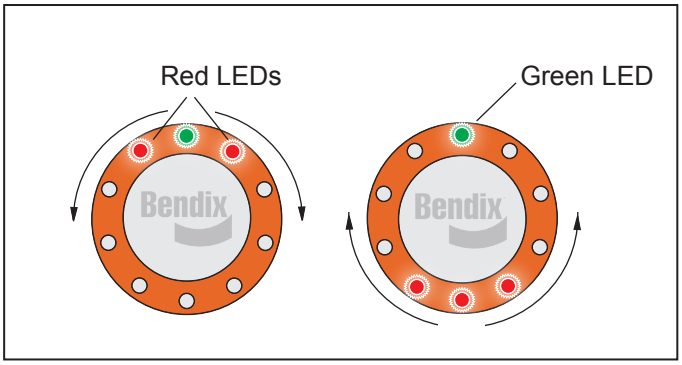

Figure 2 – Dynamometer Mode

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.**
- **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.**
- **You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.**

RESET DYNAMOMETER MODE OPERATION

1. To take the ECU out of the dynamometer mode, connect the RDU to the 9-pin diagnostic connector and follow the instructions on *Placing the ECU Into Dynamometer Mode*.
2. Hold a magnet up to the reset area of the RDU (shown below) for less than six (6) seconds. All the LEDs will illuminate and remain illuminated until the magnet is removed at which time the clear command is sent. If the magnet is held longer than six (6) seconds, the LEDs will go out and the unit will not send the reset command.
3. If the magnet was held too long, repeat the procedure until the reset command is sent.
4. Remove the RDU from the 9-pin diagnostic connector.

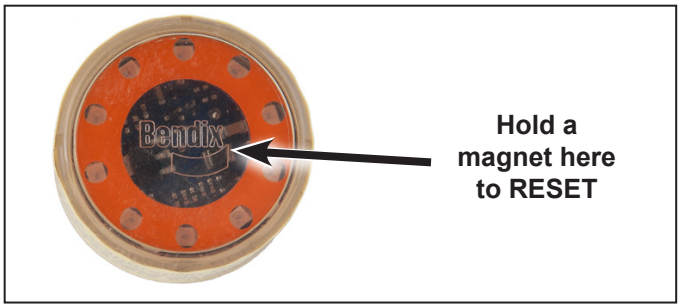

Figure 3 – Reset Switch

TROUBLESHOOTING

The RDU will indicate if it cannot establish communications with the ABS ECU by leaving the green LED illuminated solidly upon power up, and then illuminate all the LEDs after 10 seconds, until the RDU is removed from the 9-pin diagnostic connector.

1. Determine the issue with communications. Some possible issues may be a problem with the vehicle data link at the 9-pin connector, the ECU or the 9-pin diagnostic connector are not powering up, the J1708 or J1939 link is overloaded, or you may have a malfunctioning RDU.
2. Once the communication problem is corrected, repeat the process for *Placing the ECU into Dynamometer Mode*.
3. If this process is unsuccessful after several attempts, contact the Bendix Tech Team at 1-800-AIR-BRAKE (1-800-247-2725).

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