



Installation Instructions

18SP397—Install DDEC III/IV Ambient Air Temperature Sensor and Harness

Introduction

The Ambient Air Temperature Sensor (ATS) is used to measure outside air temperature for DDEC. It uses a temperature sensor with an integral bracket for mounting purposes and a dedicated harness.

Ambient Air Temperature Sensor kit P/N 23518521 listed in Table 1 includes the following items:

Part No.	Qty.	Description
23524102	1	Harness, Air Temp. Sensor
23518328	1	Sensor, Air Temp. (W/ Mtg. Brkt.)
23515250	1	Sensor, Air Temp. (3/8" NPTF)
12162193	1	Connector, Air Temp. Sensor
12103881	5	Terminal, Female
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Table 1. Kit 23518521

Additional Tool Required

The following Kent-Moore® tool is required for proper kit installation:

- J-35123 Packard Crimp Tool for Metri-Pack™ 150 Series Terminals.

This tool can be ordered directly from an authorized Detroit Diesel service outlet or from the supplier below:

Kent-Moore
29784 Little Mack
Roseville, MI 48066-2298
(800) 328-6657

Installation of the Ambient Air Temperature Sensor and Harness

Use the following procedure to install the ambient air temperature sensor and harness.

NOTE:

The terminals contained in this kit are "pull to seat." Insert the cable into the connector **before** installing the terminal on the cable. For crimping instructions, refer to section "Connector and Terminal Information" in the **DDEC III/IV Application & Installation Manual** (7SA800). This manual is available through authorized Detroit Diesel service outlets.

1. Unplug the connector for the oil pressure sensor.
2. Take the ambient ATS harness and plug the OPS connector into the oil pressure sensor. Plug the oil pressure sensor connector (from the engine sensor harness) into the 3-pin connector (oil pressure sensor connector mate) on the ATS Harness.
3. Route the harness along the engine sensor harness towards the ECM 30-way connector.
4. Remove the engine sensor harness 30-way connector from the ECM.
5. Insert the single lead (circuit 907) into cavity R-1. Crimp a 12103881 terminal on the lead using tool J 35123.
6. Seat the terminal into the connector and reinstall the 30-way connector.
7. Route the body of the harness to the desired location for the ATS Sensor. Remove any excess harness material and discard.
8. Install the black lead (circuit 452) into cavity "A" of ATS connector 12162193 and the green lead (circuit 907) into cavity "B." Crimp the 12103881 terminals on each lead using tool J-35123. Insert the terminals into the connector.
9. Select the desired ambient ATS for the application:
 - A. 23515250 air temp sensor
 - Mounts in a 3/8" NPTF hole
 - Requires that a bracket be fabricated with a drilled and tapped hole
 - B. 23518328 air temp sensor w/ integrated mounting brackets
 - Mounting: Integrated mounting pad/not threaded

NOTE:

Preferred mounting location for both sensors is in a protected location of the frame rails and away from any heat sources, such as exhaust piping.

10. Secure the sensor to the desired location and plug in the ATS connector.
11. Secure the harness to adjacent components with wire ties.

