GILLIG CORPORATION

BOX 3008
HAYWARD, CALIFORNIA
94540-3008
TELEPHONE 510/785-1500
FAX # 510/785-6819

2004 SEP 24 P 12:25

DETROIT DIESEL CORPORATION

September 21, 2004

04V-470
(24 pages)

Mr. Kenneth Weinstein
Associate Administration for Safety Assurance
U.S. Department of Transportation
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Mr. Weinstein:

In accordance with the procedures outlined in 40CFR Part 573.6 Gillig is submitting the attached Safety Defect Information Report. Gillig was notified on September 13, 2004 of a safety recall on Series 50 engines supplied to Gillig by Detroit Diesel Corporation.

Gillig has sent Detroit Diesel the cross reference listing of VIN numbers vs. engine serial numbers and Detroit Diesel will conduct the recall.

Sincerely,

GILLIG CORPORATION

Charles E. Koske
Sr. Vice President Engineering

CEK/vo
Attachment

Cc: R. Birdwell

Form Approved: O.M.B. No. 2127-0004

Safety Defect and Noncompliance Report Guide for Vehicles
PART 573 Defect and Noncompliance Report[1]

On September 13, 2004, Gillig Corporation [MFR] decided that (a defect which relates to motor vehicle safety)(a noncompliance with Federal Motor Vehicle Safety Standard No. _____) exits in the motor vehicles listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

Date this report was prepared: September 20, 2004

Furnish the manufacturer's identification code for this recall (if applicable): _____

1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.

Gillig Corporation 25800 Clawiter Road Hayward, Ca 94545

Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.

Charles E. Koske Sr. Vice President Engineering

Telephone Number: (510) 264-3031 **Fax No.:** (510) 264-3897

Name and Title of Person who prepared this report.

Charles E. Koske
Sr. Vice President Engineering

Signed: Charles E Koske

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[1] Each manufacturer must furnish a report, to the Associate Administrator for Safety Assurance, for each defect or noncompliance condition which relates to motor vehicle safety.

This guide was developed from 49 CFR Part 573, "Defect and Noncompliance Reports" and also outlines information currently requested. Any questions, please consult the complete Part 573 or contact Mr. Jon White at (202) 366-5227 or by FAX at (202) 366-7882.

I. Identify the Vehicle Models Involved in the Recall

2. Identify the Vehicles Involved in the Recall, *for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide:*

Make(s): Gillig **Model Years Involved:** 1998-1999 **Model(s):** Phantom transit buses

Production Dates: not significant **Ending:** not significant

VIN Range: : not significant – uses of the S-50 engine option identifies vehicle to be recalled

Vehicle Type: Bus **Bodystyle:** high floor bus

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:

Use of the Detroit Diesel Series 50 engine

Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period.

Approximately 15% of Gillig buses built during the time period had S-40 engines

II. Identify the Recall Population

3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.

Model	Year	Number of Vehicles Potentially Involved
Phantom	1998	209
Phantom	1999	114
Total Number Potentially Affected by the Recall:		**323**

4. Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance:

Gillig has no knowledge – wasn't responded to on DDC form 573

Identify and describe how the recall population was determined—in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled vehicles:

Cross reference between Gillig serial numbers and engine serial numbers provided by DDC

III. Describe the Defect or Noncompliance

5. Describe the defect or noncompliance. The description should address the nature and physical location of the defect or noncompliance. Illustrations should be provided as appropriate.

Per DDC form 573 a defect of the compressor wheel of the turbocharger may fail.

Describe the cause(s) of the defect or noncompliance condition.

Per the DDC form 573 the cause is the material strength of the turbocharger compressor wheel was reduced leading to potential breakage

Describe the consequence(s) of the defect or noncompliance condition.

Per the DDC form 573 the turbocharger compressor wheel fail can result in shaft imbalance and lubricant passing into exhaust which could result in fire.

Identify any warning which can (a) precede or (b) occur.

Per the DDC form 573 the failure can occur without warning. In some cases visible smoke can be seen.

If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.

The turbocharger is an engine component supplied on engines from Detroit Diesel (DDC)

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, Michigan 48239-4001

Per DDC's Form 573 the turbocharger originated with Honeywell Turbocharging Technologies

Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:

Mr Glenn Lysinger Chief Quality Officer of Detroit Diesel

IV. Provide the Chronology in Determining the Defect/Noncompliance

If the recall is for a defect, complete item 6, otherwise item 7.

6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.

7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.

See attached DDC 573 report

V. Identify the Remedy

8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.

Detroit Diesel will conduct a Safety Recall Campaign per their 573 report

Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.

Per DDC there are none

Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.

Per DDC form 573 exhaust temperature sensors were added in May, 1999

VI. Identify the Recall Schedule

Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.

Gillig has already supplied DDC the Vehicle serial numbers and contact information to enable them to conduct the recall.

VII. Furnish Recall Communications

9. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributer, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.*

Note that these documents are to be submitted separately from those provided in accordance with Part 573.8 requirements.

Safety Defect and Noncompliance Report Guide for Vehicles
PART 573 Defect and Noncompliance Responsibility and Reports[1]

On July 15, 2004, Detroit Diesel [MFR] decided that (a defect which relates to motor vehicle safety)(a noncompliance with Federal Motor Vehicle Safety Standard No. _____) exits in the motor vehicles listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Responsibility and Reports.

Date this report was prepared: July 15, 2004

Furnish the manufacturer's identification code for this recall (if applicable): _____

1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.

Detroit Diesel Corporation
13400 Outer Drive West
Detroit, Michigan 48239

Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.

Glenn W. Lysinger
Chief Quality Officer

Telephone Number: (313) 592-7357 **Fax No.:** (313) 592-7888

Name and Title of Person who prepared this report.

Glenn W. Lysinger
Chief Quality Officer

Signed: _____

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1 Each manufacturer must furnish a report, to the Associate Administrator for Safety Assurance, for each defect or noncompliance condition which relates to motor vehicle safety.

This guide was developed from 49 CFR Part 573, "Defect and Noncompliance Responsibility and Reports" and also outlines information currently requested. Any questions, please consult the complete Part 573 or contact Mr. George Person at (202) 366-5210 or by FAX at (202) 366-7882.

I. Identify the Vehicle Models Involved in the Recall

2. Identify the Vehicles Involved in the Recall, *for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide:*

Make(s): Series 50 **Model Years Involved:** 1998 and 1999 **Model(s):** Transit

Production Dates: Beginning: 1-1-1998 **Ending:** 12-31-99

VIN Range: Beginning: 4R-22360 **Ending:** 4R-31113

Vehicle Type: N/A **Bodystyle:** N/A

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:
Engines in vehicles of this group which have not had a temperature sensor installed in the exhaust system are to the recalled.

Make(s): _____ **Model Years Involved:** _____ **Model(s):** _____

Production Dates: Beginning: _____ **Ending:**

VIN Range: Beginning: _____ **Ending:** _____

Vehicle Type: _____ **Bodystyle:** _____

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:

_____

Make(s): _____ **Model Years Involved:** _____ **Model(s):** _____

Production Dates: Beginning: _____ **Ending:**

VIN Range: Beginning: _____ **Ending:** _____

Vehicle Type: _____ **Bodystyle:** _____

Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:

_____

Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period.

II. Identify the Recall Population

3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.

Model	Year	Number of Vehicles Potentially Involved
Series 50	1998	2,147
"	1999	1,274

Total Number Potentially Affected by the Recall:
3,421

4. Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance:

Identify and describe how the recall population was determined--in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled vehicles:

Build records and warranty information records were examined to determine the population which was built prior to when the temperature sensor had already been installed.

III. Describe the Defect or Noncompliance

5. Describe the defect or noncompliance. The description should address the nature and physical location of the defect or noncompliance. Illustrations should be provided as appropriate.

The turbocharger on these engines may fail. The failure would consist of breakage of the turbocharger compressor wheel.

Describe the cause(s) of the defect or noncompliance condition.

The strength of the material in the turbocharger compressor wheel was reduced as a result of duty cycle and configuration. This could lead to breakage of the wheel.

Describe the consequence(s) of the defect or noncompliance condition.

Turbocharger compressor wheel failure can result in shaft imbalance and lubricating oil passing into the exhaust system. This can result in a fire.

Identify any warning which can (a) precede or (b) occur.

The failure can occur without warning. When such a condition occurs, visible exhaust smoke can be seen out the tailpipe. In cases where particulate filters are installed on the exhaust system, there is no visible smoke.

If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.

The turbocharger is in question were manufactured by:

Honeywell Turbocharging Technologies

3201 W. Lomita Blvd.

Torrance, CA

Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:

Jeff Donnell, President

IV. Provide the Chronology in Determining the Defect/Noncompliance

If the recall is for a defect, complete item 6, otherwise item 7.

6. With respect to a defect, furnish a chronological summary (including dates) of all the principle events that were the basis for the determination of the defect. The summary should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.

Since the introduction of the 1998 and 1999 model year engines, there have been 13 cases of turbocharger failure for which the word fire was reported . The information on these failures was determined by a search of warranty records. Some of these, upon investigation revealed there was no fire, but fire suppression equipment had been activated. A summary chart is attached. There have been no accidents, injuries or fatalities associated with these fires.

7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.

V. Identify the Remedy

8. A description of the manufacturer's program for remedying the defect or noncompliance. This program shall include a plan for reimbursing an owner or purchaser who incurred costs to obtain a remedy for the problem addressed by the recall within a reasonable time in advance of the manufacturer's notification of owners, purchasers and dealers, in accordance with §573.13 of this part. A manufacturer's plan may incorporate by reference a general reimbursement plan it previously submitted to NHTSA, together with information specific to the individual recall. Information required by §573.13 that is not in a general reimbursement plan shall be submitted in the manufacturer's report to NHTSA under this section. If a manufacturer submits one or more general reimbursement plans, the manufacturer shall update each plan every two years, in accordance with §573.13. The manufacturer's remedy program and reimbursement plans will be available for inspection by the public at NHTSA headquarters.

Detroit Diesel will conduct a Safety Recall Campaign to install an exhaust temperature sensor and reprogram the ECM calibration.

9. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.

N/A

Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.

The temperature sensors are not installed on the engines being recalled.

Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.

Exhaust temperature sensors were introduced into production in May of 1999.

VI. Identify the Recall Schedule

10. Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please, identify any foreseeable problems with implementing the recall.

Exhaust temperature sensors are currently available through the Detroit Diesel Service Parts System.

VII. Furnish Recall Communications

11. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.*

Note that these documents are to be submitted separately from those provided in accordance with Part 579.5 requirements.

1998 and 1999 Built Series 50 Turbocharger Failures With Reported Fire

Serial Nr.	Miles	Build Date	Repair Date	Customer
4R-23408	52,248	4-2-98	10-1-99	MTA #4555
4R-23822	76,655	5-5-98	11-38-99	Metro Transit
4R-23833	121,043	5-5-98	10-2-00	MTA #4125
4R-24094	54,175	5-21-98	5-17-00	Metro Transit
4R-24101	67,612	5-22-98	5-17-00	Metro Transit
4R-24193	69,123	5-30-98	6-6-00	Metro Transit
4R-26963	83,429	1-21-99	8-22-00	Pierce Transit
4R-27041	58,950	1-26-99	7-6-00	Metro Transit
4R-27207	94,094	2-5-99	12-28-00	Toronto Transit
4R-27686	72,048	3-16-99	9-4-02	Capital District
4R-27931	105,312	4-6-99	1-20-03	Port Authority
4R-29477	93,293	8-23-99	7-17-01	City of Ottawa
4R-30730	66,104	11-24-99	7-5-01	Sonoma County Transit

Draft

DETROIT DIESEL

July 15, 2004

To: All Distributors – U.S. and Canada

Attn.: General Service Manager

Subject: **Safety Recall 04C-2**
Series 50 Exhaust Temperature Sensor

Attached is your copy of Safety Recall 04C-2. Also attached is a list of engine serial numbers that, according to our records, were sold and shipped to your Distributorship, and are affected by Safety Recall 04C-2.

It is essential that units still in your inventory be modified.

If any of these engines have been sold and delivered, it will be required that owners be notified of this Recall so corrective action can be taken. Owners can be notified by sending the attached owner letter.

Additionally, a quantity of adhesive labels has been included so that, upon completion of the repairs, the label can be affixed on the valve cover indicating the campaign has been completed.

If you determine that any of the engines listed, are now located outside your area, or in the event you have any questions, contact Detroit Diesel.

POWERNET can be utilized to determine if a particular engine serial number is affected by this campaign by utilizing "Data Type 5, Campaign" on the Unit History Menu Selection Screen.

The attached Recall bulletin should be used when announcing this modification to your dealer organization if required.

Sincerely,

R. P. Dziadzio, Manager
Service Operations

Draft

DETROIT DIESEL

July 15, 2004

To: All Distributors – U.S. and Canada

Attn.: General Service Manager

Subject: **Safety Recall 04C-2**
Series 50 Exhaust Temperature Sensor

Attached is your copy of Safety Recall 04C-2. Our records show no engines eligible for this modification were shipped to your Distributorship.

A quantity of adhesive labels has been included so that, upon completion of the repairs, the label can be affixed on the valve cover indicating the campaign has been completed.

POWERNET can be utilized to determine if a particular engine serial number is affected by this campaign by utilizing "Data Type 5, Campaign" on the Unit History Menu Selection Screen.

The attached Recall bulletin should be used when announcing this modification to your dealer organization if required.

If you have any questions regarding this Recall, please contact Detroit Diesel.

Sincerely,

R. P. Dziadzio, Manager
Service Operations

Draft

DETROIT DIESEL

A DaimlerChrysler Powersystems Company

Dear Equipment Manufacturer:

Detroit Diesel Corporation (DDC) and the National Highway Traffic Safety Administration (NHTSA) have determined that there is a safety concern on the exhaust systems on certain Series 50 engines in transit buses. This Safety Recall will require the installation of an exhaust temperature sensor and reprogramming of the ECM. This concern involves the potential for a turbocharger failure to result in an engine compartment fire.

Our records indicate that some of the affected engines were shipped to you. A list of those engine serials numbers is enclosed.

To help assure customer satisfaction with the equipment you have assembled with these engines, owners of these affected engines should be instructed to contact their Detroit Diesel service outlet to arrange a service date to have the necessary repairs completed.

This service will be completed at no charge to owners of all affected engines under the engine warranty or under the provisions of this Recall notice.

Instructions for the campaign have been sent to all Detroit Diesel Distributors and Dealers. The time necessary to modify these engines is approximately 2.5 hours.

If you wish to have Detroit Diesel notify owners of your equipment by sending the attached letter, please provide us with the equipment identification numbers (related to the serial numbers of the engines corresponding to each piece of equipment) of your involved equipment, and the names and addresses of the purchasers. Otherwise, you may decide to notify the owners yourself. Please promptly advise us of your wishes.

We are sorry to cause you this inconvenience, however, we have taken this action in the interest of continued customer satisfaction with both your products and ours.

DETROIT DIESEL CORPORATION
CAMPAIGN BULLETIN 04C-2
SERVICE ADMINISTRATION CAMPAIGN COORDINATOR (RX-5)

Draft

DETROIT DIESEL

A DaimlerChrysler Powersystems Company

Attention Owner:

This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act.

Detroit Diesel Corporation (DDC) has decided that a defect which relates to motor vehicle safety exists in the exhaust systems in certain Series 50 engines in transit buses.

The turbocharger can fail, allowing lubricating oil to enter the exhaust system. This can result in a fire in the engine compartment.

Records available to us indicate that your vehicle is equipped with one of these affected engines. DDC will repair your engine at no charge to you to install an exhaust temperature sensor to prevent the possibility of an exhaust or engine compartment fire. At the same time, the ECM will need to be reprogrammed to initiate activation of the sensor. We estimate that it will take approximately 2.5 hours to repair your engine. Please contact your authorized Detroit Diesel Distributor to arrange a service date.

If you have any questions about this recall campaign, you may call 313-592-3708. If you believe that DDC has failed or is unable to remedy the defect without charge within a reasonable time, you may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 or call the toll-free Auto Safety Hotline at 1-888-327-4236.

We are sorry to cause you this inconvenience; however, we have taken this action in the interest of your continued satisfaction with our products.

DETROIT DIESEL CORPORATION
CAMPAIGN BULLETIN 04C-2
SERVICE ADMINISTRATION CAMPAIGN COORDINATOR (BX-5)

Draft

SAFETY RECALL BULLETIN

Subject: **Safety Recall 04C-2**
Series 50 Exhaust Temperature Sensor

Defect Involved

Detroit Diesel Corporation (DDC) has determined that certain Series 50 engines in buses will need to have an exhaust temperature sensor installed. At the same time it will be necessary to program the ECM software logic to shutdown the engine in the event of a fire in the exhaust system.

The cause of the problem was engines experiencing turbocharger failure. This can lead to fire in the exhaust system of the bus.

Engines Involved

A list of engines located in your area of responsibility that require this correction is attached.

The table below gives descriptive information to help identify the affected units:

Model Series	Model Year	Inclusive Mfg. Date (From)	(To)
50	1998	4R-22360	4R-26735
	1999	4R-26736	4R-31113

Owner Notification

Detroit Diesel Corporation and Detroit Diesel Distributors will notify owners of equipment incorporating engines identified with this recall. A copy of the owner letter that will be used by DDC is enclosed with this bulletin.

Draft

Distributor / Dealer Modification Responsibility

Detroit Diesel Distributors are to service all engines subject to this Recall. The Recall is to be performed at no charge to owners on all affected engines under the engine warranty or under the provisions of this Recall notice.

Upon completion of this Recall, or if there is knowledge to the fact that this Recall has been performed on an engine that is listed on the complete serial number list provided by DDC, please apply the "CAMPAIGN 04C-2 COMPLETE" label on the valve cover.

Parts Information

- **SENSOR KIT 23524969**

⇒	Sensor, Exhaust Temperature	23521882
⇒	Harness, Exhaust Temperature Sensor	23524831
⇒	Adaptor, M-14 x 1.5 Threaded	23524760
⇒	Cap, M-14 x 1.5 Threaded Adaptor	23524980

⇒ **DDEC Calibration** 6N4D-XXXX

(1996) → 6N4D-6536
(1997) → 6N4D-6574
(1998) → 6N4D-6595

Corrective Procedure

- **Reference ATTACHMENT I**

Installation Instructions (16SP466); INSTALL EXHAUST GAS TEMPERATURE MEASUREMENT; Kit 23524969 on a Series 50 Engine, pp. 1-4.

Draft

Warranty Information

Claim Type:	01
Activity Indicator:	04C2
Failure Code:	029
Complaint Code:	XX
Primary Failed Part:	23521882
Labor:	2.5 hours
Parts Return:	None

It is expected that this Recall will be completed as soon as possible. Should you have any additional questions, please contact Detroit Diesel.

Affix the following label to the valve cover:

CAMPAIGN
04C-2
COMPLETED

DETROIT DIESEL CORPORATION
13400 Outer Drive West
Detroit, Michigan 48239-4001

Draft

CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED
CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED
CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED
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CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED	CAMPAIGN 04C-2 COMPLETED

DETROIT DIESEL

Installation Instructions

18SP464—Install Exhaust Gas Temperature Measurement Kit 23524968, 23525702, or 23525703 on a Series 50 Engine

Introduction

Three kits have been released for use on transit busses powered by Detroit Diesel Series 50® diesel-fueled engines. The kit numbers are listed in Table 1. Components of kits 23524968, 23525702, and 23525703 are shown in columns A, B, and C, respectively.

Item	Part No.	Quantity			Description
		A	B	C	
–	23524968	1			Kit, Exhaust Gas Temperature Measurement
–	23525702		1		Kit, Exhaust Gas Temperature Measurement
–	23525703			1	Kit, Exhaust Gas Temperature Measurement
1	23521882	1	1	1	– Sensor, Exhaust Temperature (with 72 in. long cable)
2	23524831	1			– Harness, Exhaust Temperature Sensor – 160 in. L.
2	23525686		1		– Harness, Exhaust Temperature Sensor – 98 in. L.
2	23525685			1	– Harness, Exhaust Temperature Sensor – 28 in. L.
–	18SP464	1	1	1	– Installation Instructions

Table 1 – Service Kits and Components

Installation

Install the exhaust temperature sensor from the kit in the exhaust outlet of the muffler/catalyst assembly as follows:

1. Record the engine serial number, vehicle identification number, and bus number. Verify that the vehicle ignition is switched to the OFF position.

⚠ CAUTION:

To avoid the possibility of personal injury (burns) from the hot muffler/catalyst assembly, allow the engine to cool to ambient temperature before working on the muffler/catalyst assembly or installing the sensor.

2. With the engine at ambient temperature, remove the adaptor cap from the muffler/catalyst assembly.
3. Install the exhaust temperature sensor (item 1). Use care to route the cable away from any hot surface.
4. Remove the three-terminal oil pressure sensor connector. Connect it to the compatible three-pin end of the electrical harness (item 2). Plug the remaining three-pin connector into the oil pressure sensor.
5. Remove the thirty-pin vehicle interface harness connector from the ECM. Strip and install the ten, blunt cut and unterminated single wire of the electrical harness (item 2) into cavity D-3 using the typical DDEC® pull-to-seat crimped terminator.

6. Connect the two-pin female Weather Pack™ connector on the electrical harness to the male connector on the end of the exhaust temperature sensor. Route the sensor cable and conduit along existing wiring in the engine compartment and tie-wrap to secure them in place.
7. Reconnect the thirty-pin vehicle interface connector to the ECM.
8. Plug in a DDR (diagnostic data reader) and verify that a reading is received for exhaust temperature and that no Active Codes exist.

DETROIT DIESEL
CORPORATION

13400 Outer Drive, West / Detroit, Michigan 48239-4001
Telephone: 313-592-5000
www.detroitdiesel.com