
**INTERNATIONAL® DT 466E
DIESEL ENGINES
Equipped With
International Diamond Logic™
Engine Control Module
For
1999 Through 2003 Model Year
Truck and Derivative Vehicle Applications**

Engine Operation and Maintenance Manual

Navistar, Inc.

2701 Navistar Drive, Lisle, IL 60532 USA

Technical Publications

An Operator's Manual is shipped with this engine for customer use. Additional technical publications are available for these engines and can be purchased by using the publications ordering information located at the end of the Introduction.

The additional publications are strongly recommended for the customer who performs his own maintenance and service on Navistar, Inc. manufactured engines.

It is the policy of Navistar, Inc. to improve its products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to make such changes on products sold previously.

**INTERNATIONAL®
DT 466E
DIESEL ENGINES**
Equipped With
**International Diamond Logic™
Engine Control Module**
For
**1999 Through 2003 Model Year
Truck and Derivative Vehicle Applications**

**Engine Operation
And Maintenance Manual**

Form No. 1 171 734 R8

© 2010 Navistar, Inc.

Preview Only

Scheduled (Normal) Maintenance Will

"Protect Your Investment"

Through Increased Equipment Reliability And Availability.

Normal maintenance is necessary to protect the long life built into your vehicle engine. Navistar, Inc. has designed a program to assist you in restricting delays and keep costly repairs to a minimum. This program consists of normal maintenance, scheduled lubrication intervals, adjustments and inspections. This program, when used, will result in reduced "down-time" and minimum repairs. The systematic procedure of lubrication, adjustments and inspection is outlined in the **MAINTENANCE INSTRUCTIONS** Section of this manual.

Instructions for operation, instrumentation, specifications, maintenance, records and troubleshooting are covered by this manual. The instructions are divided into sections to simplify reference to the most important information. The manual must be read completely prior to operating the engine to gain full knowledge of the engine and its correct normal maintenance and operation.

Preview Only

Preview Only

TABLE OF CONTENTS

INTRODUCTION

To The Operator.....	1
Safety Precautions.....	1
Publications Ordering Information.....	4

SECTION 1 – GENERAL INFORMATION

Component Location (Front View).....	5
Component Location (Left Side View).....	6
Component Location (Rear View).....	7
Component Location (Right Side View).....	8
Introduction:.....	9
DT 466E On-Highway Diesel Engine.....	9
Engine Identification:.....	9
DT 466E Series Diesel Engine Serial Number Locations.....	9
Explanation Of The Serial Number.....	11
Engine and Accessory Nameplates Locations.....	12
Turbocharger Identification (Non Wastegate Version).....	14
Turbocharger Identification (Wastegate Version).....	15

SECTION 2 – ENGINE SYSTEMS

General Features.....	17
Chassis Mounted Air-to-Air Cooler.....	18

SECTION 3 – WARRANTY INFORMATION

Emission Control Systems Maintenance And Limited Warranty.....	19
Federal Emission System Limited Warranty.....	19

TABLE OF CONTENTS

California Emission System Limited Warranty.....	20
NAVISTAR'S Emission Limited Warranty Coverage.....	21
The Emission Limited Warranty Does Not Cover.....	23

SECTION 4 – INSTRUMENTS AND INDICATORS

Instrument Panel	25
Engine Diagnostics Button	26
Water Temperature Gauge	28
Oil Pressure Gauge	29
Change Engine Oil Lamp	30
Air Cleaner Restriction Indicator	31
Air Restriction Indicator Test.....	32

SECTION 5 – OPERATION

Before Starting the Engine	33
Precautions.....	33
Engine Starting.....	34
Starting The Engine	35
Starting The Engine Above -12°C (10°F) Ambient Temperature.....	35
Starting The Engine Below -12°C (10°F) Ambient Temperature With Optional Ether Injector.....	37
Emergency Starting	40
Operating Instructions	41
Cold Weather Operation.....	41
Hot Weather Operation.....	42
Extended Idling Periods.....	42
CAP Shutoff.....	43
Engine Shutdown.....	43
Automatic Engine Idle Shutdown.....	43

TABLE OF CONTENTS

Shutdown Warning Light Or Audible Alarm.....	44
Parking.....	44
Road Operation.....	45
Downhill Operation.....	45
Idle Speeds.....	45

SECTION 6 – SPECIFICATIONS AND CAPACITIES

Engine Specifications.....	47
Fuel Requirements.....	51
Recommended Fuel For International® Diesels.....	51
Advisory.....	51
Diesel Fuel/Gasoline Blends.....	52
Hazards Of Fire And Explosion.....	52
Engine Performance Problems.....	53
Cooling System.....	53
Requirements.....	53
Rotella Extended Life Coolant (Red in Color).....	54
Cooling System Specifications.....	55
Maintaining Required Inhibitor Concentration (For Extended Life Coolant) {Red In Color}.....	55
Coolant Testing For Inhibitor Concentration – (For Extended Life {Red} Coolants).....	55
Cooling System Requirements – (For Conventional Coolant (Green In Color).....	56
Ethylene Glycol Antifreeze.....	56
Propylene Glycol Antifreeze.....	56
Maintaining Required Conditioner Concentration (For Conventional Antifreeze {Green In Color}).....	56
Coolant Filter/Conditioner (If Equipped).....	57
Coolant Testing For Conditioner Concentration – (For Conventional {Green} Coolants).....	58
Cleaning The Cooling System.....	60
Corrosion Prevention.....	60

TABLE OF CONTENTS

Radiator Fins.....	61
Coolant Hoses.....	62
Thermostat.....	62
Contamination Of Coolant.....	62
Engine Lubrication Requirements.....	62
Oil Quality.....	62
Oil Viscosity.....	63
Oil Change Interval.....	64
Identification Symbol.....	64
Crankcase Oil Specifications.....	65
DT 466E Series Diesel Engine Crankcase Refill Capacities.....	65
Checking Engine Oil Level.....	65

SECTION 7 – MAINTENANCE INSTRUCTIONS

General.....	67
Maintenance Operations.....	67
Maintenance Operations - 1 through 6 Daily Maintenance Schedule.....	73
OPERATION 1 - Check Oil Level (Daily).....	73
OPERATION 2 - Check Coolant Level (Daily).....	74
OPERATION 3 - Water Separator, Fuel System - If Equipped (Daily).....	74
OPERATION 4 - Inspect Air-to-Air Cooler (Daily).....	75
OPERATION 5 - Inspect for External Leakage (Daily).....	75
OPERATION 6 - Inspect Air Cleaner Restriction Indicator (Daily).....	76
Maintenance Operations - 7 through 10 Inspection Interval: Every 21,100 km, (13,000 miles), 550 hours, 6 months or 1,900 gallons of Fuel; Whichever Occurs First.....	77
OPERATION 7 — Inspect Belt.....	77
OPERATION 8 - Change Engine Oil And Oil Filter.....	78
Reset Change Oil Light.....	80
OPERATION 9 - Check Coolant SCA Concentration.....	80

TABLE OF CONTENTS

OPERATION 10 - Inspect Air Intake Piping.....	81
Maintenance Operations - 11 thru 12 Inspection Interval: Every 48,300 km (30,000 miles), 1,100 hours, 12 months or 4,200 gallons of Fuel; Whichever Occurs First.....	82
OPERATION 11 - Measure Air Intake Restriction.....	82
Optional Dual Element Cleaner.....	82
OPERATION 12 - Change Fuel Filter And Strainer Assembly.....	85
Bleeding Air From Fuel System.....	88
Maintenance Operation - 13 Replacement Intervals Depend On Type Of Coolant Used. See Section 7, Table 2 For Replacement Interval. Coolant Types Are Extended Life (Red In Color) And Conventional (Green In Color).....	89
Change Coolant Filter (If Equipped for early 1999 model year).....	89
Change Coolant Filter (If Equipped For Late 1999 Model Year And Following Years).....	89
Maintenance Operation - 14 Inspection Interval: Every 24 Months.....	91
Pressurize Induction System.....	91
Maintenance Operation - 15 Inspect Vibration Damper.....	91
Inspect Vibration Damper.....	91
Maintenance Operation - 16 Inspection Interval: Annually.....	91
Adjust Valve Lash.....	91
Maintenance Operations 17 And 18 Inspection Interval: Every 290,000 To 322,000 Km (180,000 to 200,000 miles), 6,700 To 7,500 hours; Whichever Occurs First.....	91
OPERATION 17 - Measure Crankcase Pressure.....	91
OPERATION 18 - Inspect Turbocharger.....	92
Maintenance Operation - 19 Inspection Interval: ANNUALLY.....	92
Inspect Electrical System.....	92
Maintenance Operation - 20 Inspection Interval: Every 322,000 Km (200,000 miles), 3,800 hours Or 2 Years; Whichever Occurs First.....	92
Service Cooling System.....	92
For School Bus.....	94
Clean Cooling System.....	95