

Detroit Diesel



Series DD15

Cylinder 06

Major Application: ON HIGHWAY

Effective: 10-Mar-2008

Labor Time Manual

Foreword

The labor times in this Manual represent the time required to perform a repair, replacement, and/or adjustment operation on Detroit Diesel DD15 engines compliant with EPA07 emissions not affected by collision damage. The labor times are representative of an average technician in a typical distributorship or dealership using normally available tools, service equipment, and all essential Special Service Tools to diagnose and perform the repair. The use of genuine Detroit Diesel parts and repair procedures prescribed in the EPA07 DD15 6SE800 Service Manual is the basis for this Manual. This publication DDC-WAR-MAN-0003-1207 is a new publication specific to the DD15 EPA07 compliant diesel engines.

Flat Rate Operations

These operations are non-negotiable and are required to be used in standard component replacements. All operations are box time except for general operations (labor operation code ends in 9900). Box time indicates the flat hours paid regardless of the time it takes to complete an operation.

Definition of a Warranty Repair

A warranty repair restores to operating condition, by repair or replacement, only the defective or damaged parts necessary to remove and replace the defective parts, according to the terms of the appropriate warranty statement. Other parts removed in the repair process will be reinstalled as-is, unless the user authorizes the additional expense. The intent of a warranty repair is to repair or replace the warranted parts and restore the rest of the component to its operating condition prior to the warrantable failure, not to restore the product to like new condition.

Procedure for Development of Labor Time Manual

The time to complete a repair, replacement, and/or adjustment operation, as provided in this Manual, is developed by Detroit Diesel Corporation (DDC.) personnel under conditions comparable to a typical distributorship or dealership. Development of most guides is generally based on the following:

Products: Production DD15 engines compliant with EPA07 emissions.

Tools: Use of normally available tools, service equipment, and all essential Special Service Tools indicated in the EPA07 DD15 6SE800 Service Manual.

Technicians: The manual assumes use of competent engine technicians, not specialists in any particular operating system, who have attended company training programs and are accustomed to following Service Manual procedures.

Elements of Time Manual

Each operation includes time to perform all elements of a complete repair operation in the EPA07 DD15 6SE800 Service Manual. Elements that comprise the time manual include the following:

Repair Time:

The actual time to perform the repair is obtained by timing a technician in the actual performance of the repair. It includes tasks such as removal, disassembly, cleaning, reassembly, installation, and/or adjustment of the affected component or assembly. The cleaning time in each operation is limited to that directly associated with the installation or replacement of components, such as mating surfaces and/or internal parts involved in the repair. It does not include cleaning other areas of the engine which may have been contaminated by the failure of the component being replaced. This time also includes time to perform other associated elements, such as open/close vehicle hood, raise/lower engine on hoist, procure special tools, and/or mount on overhaul stand.

Personal Allowance:

An allowance is added to the above repair time to provide for the personal need of the technician during a repair operation.

Contingency Allowance:

An additional allowance is provided, based on the total of the above times, to allow for variation in engine age and condition, seized components, and broken or seized bolts, studs, etc. Normal diagnosis requiring only limited time and no special equipment is also covered by this allowance.

Description of Operations

The following topics support types of operations.

Types of Operations

Basic Operation: An operation which is complete in itself and includes all of the steps needed to perform the operations as described in the EPA07 DD15 6SE800 Service Manual. The time for this operation includes Repair Time, Personal Allowance, and Contingency Allowance.

Combination Operation: An operation which describes additional work which may be performed in combination with a basic operation, usually when a major assembly or component has been removed from the engine. The time for a combination operation is in addition to the time specified for the basic operation, or for any applicable basic operation.

Consolidated Labor Operation: A consolidation of current published DD15 engines compliant with EPA-07 emissions basic and combination operations that are needed to correct a particular failure mode. The operation number for a Consolidated Labor Operation (CLO) is preceded by a "#". The basic and combined operations within the CLO are listed immediately after it. The operations included within these basic and combined operations are indented below them.

Description of Operations (continued):

Overlapping Operations:

Overlapping labor is the duplicate labor time allowance that may occur if more than one basic operation is claimed for performing a repair, and the same repair steps are included in each of the basic operations. Such overlapping labor is not reimbursable. To avoid claiming basic operations with overlapping time allowances, use an applicable combination operation for any added repair steps that are required, in addition to the basic operation being performed. If you experience an unusual repair situation, where an applicable combination operation is not available, then you should claim the actual time required to perform the added repair steps.

General Operation:

Utilized when there is no operation listed, and must be completely explained in the "Narrative" section of the AFA (Application for Adjustment).

Diagnosis and Tests

Normal Diagnosis:

This is the diagnosis time required to determine the cause of a routine service problem. Normal diagnosis includes defining those symptoms which are readily apparent to the senses. Normal diagnosis also includes the use of common testers by technicians, such as ammeters, compression testers, and integrated computer analysis.

Abnormal Diagnosis:

This is the diagnosis time required to determine the cause of an exceptional service problem that normal diagnosis fails to identify. Abnormal diagnosis time is reimbursable only when reasonable and fully explained on the Application for Adjustment (AFA).

Road or Dynamometer Test:

A supplemental allowance for performance of a post-repair test may be included on the AFA, if such a test is deemed to be required to verify correction of a problem.

Reappraisal Requests

Applicable labor times are subject to periodic review. However, a change in operation times is never made arbitrarily. Each change is a response to at least one of the following events or conditions:

- Component design change
- Design change in other components that affect accessibility of the component being repaired
- Change in the procedure or method of repair
- Change in the tools or equipment used in the repair process
- Final review and verification of times or review of reappraisal requests from distributors and dealers.

Review Procedure

The following actions are needed to assure accurate appraisal.

Service Outlet Action

To assure accurate appraisal of your requests, the following actions by the distributor or dealer are required:

1. Verify that the technician has followed the procedures outlined in the applicable Service Manual and used all specified special tools and equipment.
2. Complete a Suggested Labor Time Manual Operation Change form (18SE10), available through normal literature distribution channels.
3. Use one form for each time operation in question (or a combination of operations representing one repair job).
4. Provide video, with time and date displayed on screen, of total operation in question. Submit form and video to:
Detroit Diesel 13400 Outer Drive, West Detroit, Michigan 48239-4001 Attn: Warranty Manager
5. Identify the technician involved to facilitate review of the process.
6. Provide any additional comments, including time requirements for individual steps, which may help in identifying the problem area.

Detroit Diesel Action

When the video and reappraisal request is received, Detroit Diesel will take the following actions:1. Review the labor time operation in question. Recommendations and assistance will be offered in accordance with the results of this review.2. Detroit Diesel may conduct review at the service outlet, if necessary. Comparative reviews at additional service outlets may also be conducted, if they are required to provide valid results.3. Provide results of the review to the service outlet, and to the appointing distributor, if such service outlet is a dealer.

Vehicle Service Levels

The DD15 engines compliant with EPA07 emissions are used by the following Original Equipment Manufacturers (OEMs). When preparing your Adjustment for Application (AFA), identify the appropriate model, and note the proper service level. Make sure the proper service level is used while consulting the Labor Time Manual. Listed in Table 1 are the vehicle service levels. For additional service levels in other vehicle applications, perform an equipment model search in the warranty system menu under "Labor/Equipment Model/Equip Model Search".

OEM	Model	Description	Service Level
ADVANCE	MIXER	MIXER	3
AMERICAN LAFRANCE	ALL	ALL AMERICAN LAFRANCE	4
AMERICAN LAFRANCE	EAGLE	FIRE TRUCK	4
AMERICAN LAFRANCE	EAGLE MID ENGINE	EAGLE MID ENGINE	4
AMERICAN LAFRANCE	LIBERTY	LIBERTY	4
AMERICAN LAFRANCE	METROPOLITAN	FIRE TRUCK	4
AUSTRAL	CAB OVER ENGINE	CAB OVER ENGINE	1
AUSTRAL	FIRE TRUCK	FIRE TRUCK	3
AUSTRAL	HIGHDECK	COACH	3
AUSTRAL	HIGHWAYCOACH	COACH	3
AUSTRAL	TOURMASTER	COACH	3
AUSTRALIAN AUTO BUS	HIGHWAYCOACH	COACH	3
AUTOCAR	ALL	ALL AUTOCAR	3
BEAVER	MARQUIS	TOUR COACH	3
BEDFORD	CAB OVER	CAB OVER ENGINE	1
BEDFORD	TRUCK	CONVENTIONAL	3
BERING	ALL	ALL BERING TRUCK	1
BERING	LD-15	LOCAL DELIVERY TRUCK	1
BLUE BIRD	ALL	BLUE BIRD	3
BUS INDUSTRIES OF AME	ALL	ALL BUS INDUSTRIES OF AMERICA	3
CARMICHAEL	COBRA	FIRE TRUCK	3
CHUBB	PROTECTOR	FIRE EQUIPMENT	1
CLARK	FIRE PUMP	FIRE EQUIPMENT	X
COBUS	2400 C	33 PASSENGER AIRPORT SHUTTLE	3
COBUS	2700	NO DESCRIPTION ON THE WEB	3
COBUS	2700 S	83 PASSENGER AIRPORT SHUTTLE	3
COBUS	3000	111 PASSENGER AIRPORT SHUTTLE	3
CRANE CARRIER	IFL SERIES	REFUSE TRUCK	4
CRANE CARRIER	LE SERIES	REFUSE TRUCK	3
CRANE CARRIER	LET SERIES	REFUSE TRUCK	3
CRANE CARRIER	LETC SERIES	REFUSE TRUCK	3
CROWN COACH	ALL	ALL CRWN COACH	3
CUSTOM COACH	ALL	CUSTOM COACH	3
DAEWOO	ALL	ALL DAEWOO	1
DAFTRUCKS	CAB OVER	CAB OVER ENGINE	3
DENNING	CITY BUS	COACH	3
DENNING	HIGHWAYCOACH	COACH	3
DENNING	LANDSEER	COACH	3

OEM	Model	Description	Service Level
DENNING	MOTORHOME	COACH	3
DENNING	SCHOOL BUS	COACH	3
DENNIS	DART	TRANSIT BUS	3
DIAMOND RIO	CONVENTIONAL LONG	CONVENTIONAL	3
DIAMOND RIO	CONVENTIONAL SHORT	CONVENTIONAL	3
DINA	ALL	ALL DINA BUSES	3
DUPONT	TROLLEY BUS	CITY BUS	3
E ONE	ALL	ALL E ONE FIRE TRUCKS	3
E1	ALL	E ONE FIRE TRUCKS	3
EAGLE	ALL	ALL MODELS FOR EAGLE COACH	3
ERF	EC	DELIVERY TRUCK	1
EVOBUS	COACH	FORWARDENGINE	2
EVOBUS	COACH-MID/REAR	REAR OR MID ENGINE	4
EVOBUS	SETRA 217	REAR ENGINE	4
FCCC	B2 BUS CHASSIS	'BP'	2
FCCC	CENTURY CLASS 112 COACH	'N'	2
FCCC	CENTURY CLASS 120 COACH	'S'	2
FCCC	COLUMBIA 120 CONVENTIONAL	'P'	2
FCCC	CST 120 CONVENTIONAL	'O'	2
FCCC	CUSTOM CHASSIS	ALL 35 45 55 65 XB XC MBO OMC XC.	2
FCCC	EF FRT ENGINE BUS CHASSIS	'A0','BA','BB'	2
FCCC	ER REAR ENGINE BUS CHASSIS	'BC','BD','BE'	2
FCCC	FB 65 CHASSIS	'AZ'	2
FCCC	FBX 106 SHUTTLE BUS CHASSIS	'B5','B6','B7','B8'	2
FCCC	FL 106 CONVENTIONAL	'8'	2
FCCC	FL 112 CONVENTIONAL	'T'	2
FCCC	FL 50 CONVENTIONAL	'E'	2
FCCC	FL 60 CONVENTIONAL	'G'	2
FCCC	FL 70 CONVENTIONAL	'H'	2
FCCC	FL 80 CONVENTIONAL	'J'	2
FCCC	FLA HIGH COE, USF-11	'A'	2
FCCC	FLB HIGH COE	'B'	2
FCCC	FLC 112 SD MED CONV	'1' (<1998MY)	2
FCCC	FLC 120 LONG CONV	'2'	2
FCCC	FLD 112 MED CONV. AL	'3'	2
FCCC	FLD 112 SD MED CONV	'6'	2
FCCC	FLD 112 SD MED CONV	'6'	2
FCCC	FLD 112 SD MED CONV	'6'	2
FCCC	FLD 120 LONG CONV.	'5'	2
FCCC	FLD 120 LONG CONV.	'7' (1991 MY ONLY)	2
FCCC	FLD 120SD LONG CONV	'F'	2
FCCC	FLH ARGOSY HIGH COE	'L'	2
FCCC	FLT CARGO 60-COE (A	'2'	2
FCCC	FLT CARGO 70-COE	'7'	2
FCCC	FLT CARGO 80 - COE	'W'	2
FCCC	FS 65 CHASSIS	'AV'	2
FCCC	LEGACY FLD 120 (>200	'X'	2
FCCC	LONG CONV XL 48 RR	'U'	2
FCCC	LONG CONV. MILITAR	'M'	2
FCCC	LONG CONVENTIONAL	'D'	2
FCCC	LONG CONVENTIONAL	'C'	2

OEM	Model	Description	Service Level
FCCC	LOW COE ALUMINUM	'4'	2
FCCC	MB 45 CHASSIS	'AA, AB'	2
FCCC	MB 55 CHASSIS	'AC,AD'	2
FCCC	MB 60 CONVENTIONA	'V'	2
FCCC	MB 70 CONVENTIONA	'X'	2
FCCC	MB 80 CONVENTIONA	'Y'	2
FCCC	MBO CHASSIS	'A1','A2'	2
FCCC	MC 45 CHASSIS	'AE,AF'	2
FCCC	MC FRONT ENG MOTC	'CL','CM'	2
FCCC	MED CONV STEEL CA	'Z'	2
FCCC	MED CONV. STEEL CA	'R'	2
FCCC	MT 35 CHASSIS	'AM'	2
FCCC	MT 45 CHASSIS	'AN'	2
FCCC	MT 45 HEV CHASSIS	'CC','CD'	2
FCCC	MT 55 CHASSIS	'AR'	2
FCCC	OMC CHASSIS	'A3','A4'	2
FCCC	RIV	'9'	2
FCCC	S2 106 BUS CHASSIS	'CN','CP','CR'	2
FCCC	VCL CHASSIS	'AK'	2
FCCC	XB CHASSIS	'AT','AU'	2
FCCC	XB RAISED RAIL REAI	'CA','CB'	2
FCCC	XB RAISED RAIL REAI	'CS'	2
FCCC	XB STRAIGHT RAIL RI	'B0','B9'	2
FCCC	XC CHASSIS	'AG','AH'	2
FCCC	XC FORMED RAIL REA	'BX'	2
FCCC	XC MODULAR RAIL RI	'BY','BZ'	2
FCCC	XC RAISED RAIL REAI	MOTOR HOME 'B2'	2
FCCC	XC RAISED RAIL-LOW	'B3','B4' MOTORHOME	2
FCCC	XC STRAIGHT RAIL RI	'BU','BV'	2
FCCC	XC-F FORMED RAIL RI	'CK'	2
FCCC	XC-L LOWERED RAIL	'CU','CV'	2
FCCC	XC-M MODULAR RAIL	'CG'	2
FCCC	XC-P PWRLNR RAISE I	'CT'	2
FCCC	XC-R RAISE RAIL REA	'CH'	2
FCCC	XC-S STR RAIL REAR I	MOTOR HOME 'CJ'	2
FCCC	XC-S STRAIGHT RAIL	'AJ'	2
FCCC	XCA CHASSIS	'A6','A7'	2
FERRARA	ALL	FIRE EQUIPMENT	3
FIATRUCKS	CITY BUS	COACH	3
FLEXIBLE	METRO 30 FT.	TRANSIT BUS	3
FLEXIBLE	METRO 35 FT.	TRANSIT BUS	3
FLEXIBLE	METRO 40 FT.	TRANSIT BUS	3
FORD	700	UTILITY TRUCK	2
FORD	AT9513	CONVENTIONAL	3
FORD	CAB OVER	CAB OVER ENGINE	1
FORD	CONVENTIONAL LONG	CONVENTIONAL	3
FORD	CONVENTIONAL SHO	CONVENTIONAL	3
FORD	F800	F800	3
FORD	L-600	CONVENTIONAL	3
FORD	LA-9000	CONVENTIONAL	3
FORD	LLA-9000	CONVENTIONAL	3

OEM	Model	Description	Service Level
FORD	LLS-9000	CONVENTIONAL	3
FORD	LN 9000	CONVENTIONAL	3
FORD	LN-9000	CONVENTIONAL	3
FORD	LN-9000	CONVENTIONAL	3
FORD	LS-9000	CONVENTIONAL	3
FORD	LT-9000	CONVENTIONAL	3
FORD	LTA-9000	CONVENTIONAL	3
FORD	LTLA-9000	CONVENTIONAL	2
FORD	LTS-9000	CONVENTIONAL	3
FOREMOST	TERRA BUS	ICE FIELD BUS	3
FREIGHTLINER	ARGOSY	CONVENTIONAL	1
FREIGHTLINER	BUSINESS CLASS	CONVENTIONAL	1
FREIGHTLINER	C112	CENTURY CLASS	3
FREIGHTLINER	C120	CENTURY C120	3
FREIGHTLINER	CAB OVER	CAB OVER ENGINE	1
FREIGHTLINER	CARGO	MODEL CO CARGO	1
FREIGHTLINER	CASCADIA 113	CONVENTIONAL	3
FREIGHTLINER	CASCADIA 125	CONVENTIONAL	3
FREIGHTLINER	CASCADIA 132	CONVENTIONAL	3
FREIGHTLINER	CENTURY	ALL CENTURY MODELS	3
FREIGHTLINER	CENTURY CLASS 112 C	FLT < 5/1/2000	3
FREIGHTLINER	CENTURY CLASS 120 C	FLT < 5/1/2000	3
FREIGHTLINER	CL120	FREIGHTLINER CL120	3
FREIGHTLINER	CLASSIC	MODEL CLASSIC AND CLASSIC XL	2
FREIGHTLINER	CLASSIC 120	CONVENTIONAL	2
FREIGHTLINER	CLASSIC XL	CLASSIC XL	2
FREIGHTLINER	COLUMBIA	CONVENTIONAL	3
FREIGHTLINER	COLUMBIA 112	CONVENTIONAL	3
FREIGHTLINER	COLUMBIA 120	COLUMBIA 120	3
FREIGHTLINER	COLUMBIA 120 CONVI	FLT < 5/1/2000	3
FREIGHTLINER	CONDOR	CONDOR CLASS 8 LOW CAB FORWA	2
FREIGHTLINER	CONVENTIONAL LONG	CONVENTIONAL	2
FREIGHTLINER	CONVENTIONAL SHO	CONVENTIONAL	3
FREIGHTLINER	CORONADO	CONVENTIONAL	2
FREIGHTLINER	CORONADO 132	CONVENTIONAL	2
FREIGHTLINER	CST 112	CENTURY	3
FREIGHTLINER	CST 120	CENTURY	3
FREIGHTLINER	CST 120 CONVENTION	FLT < 5/1/2000	3
FREIGHTLINER	CUSTOM CHASSIS	ALL CUSTOM CHASSIS	2
FREIGHTLINER	CUSTOM CLASS	CONVENTIONAL	2
FREIGHTLINER	FC 70 CARGO	FC 70 CARGO	2
FREIGHTLINER	FC 80	CO CARGO MODEL FC 80	3
FREIGHTLINER	FC 80 CARGO	FC 80 CARGO	2
FREIGHTLINER	FL 106	CONVENTIONAL	3
FREIGHTLINER	FL 106 CONVENTIONA	FLT < 5/1/2000	1
FREIGHTLINER	FL 112 CONVENTIONA	FLT < 5/1/2000	1
FREIGHTLINER	FL 50 CONVENTIONAI	FLT < 5/1/2000	1
FREIGHTLINER	FL 60 CONVENTIONAI	FLT < 5/1/2000	1
FREIGHTLINER	FL 70 CONVENTIONAI	FLT < 5/1/2000	1
FREIGHTLINER	FL 80 CONVENTIONAI	FLT < 5/1/2000	1
FREIGHTLINER	FL112	BUSINESS CLASS FL 112	3

OEM	Model	Description	Service Level
FREIGHTLINER	FL50	CONVENTIONAL	1
FREIGHTLINER	FL60	CONVENTIONAL	1
FREIGHTLINER	FL70	CONVENTIONAL	1
FREIGHTLINER	FL80	CONVENTIONAL	1
FREIGHTLINER	FLA COE	FLA HIGH COE	1
FREIGHTLINER	FLA HIGH COE, USF-11	FLT < 5/1/2000	1
FREIGHTLINER	FLB	CAB OVER ENGINE	1
FREIGHTLINER	FLB COE	FLB HIGH COE	1
FREIGHTLINER	FLB HIGH COE	CONVENTIONAL	2
FREIGHTLINER	FLC 112	CONVENTIONAL	3
FREIGHTLINER	FLC 112 SD MED CONV	FLT < 5/1/2000	3
FREIGHTLINER	FLC-12042 ST	CENTURY CLASS	3
FREIGHTLINER	FLC-12064 ST	CENTURY CLASS	3
FREIGHTLINER	FLD 112	CONVENTIONAL	3
FREIGHTLINER	FLD 112 MED CONV. A	FLT < 5/1/2000	2
FREIGHTLINER	FLD 112 SD	CONVENTIONAL	3
FREIGHTLINER	FLD 112 SD MED CONV	FLT < 5/1/2000	3
FREIGHTLINER	FLD 120	CONVENTIONAL	2
FREIGHTLINER	FLD 120 CLASSIC LEG	CONVENTIONAL	2
FREIGHTLINER	FLD 120 MILITARY	CONVENTIONAL	2
FREIGHTLINER	FLD 120 MILITARY REM	CONVENTIONAL	2
FREIGHTLINER	FLD 120 SD	CONVENTIONAL	2
FREIGHTLINER	FLD 120SD LONG CON	FLT < 5/1/2000	2
FREIGHTLINER	FLD 132	CONVENTIONAL	2
FREIGHTLINER	FLD132 XL	CONVENTIONAL	2
FREIGHTLINER	FLH ARGOSY HIGH CO	FLT < 5/1/2000	2
FREIGHTLINER	FLS 112 LEGACY	CONVENTIONAL	3
FREIGHTLINER	FLT CARGO 60-COE (A	FLT < 5/1/2000	3
FREIGHTLINER	FREIGHTLINER CARGO	FLT < 5/1/2000	3
FREIGHTLINER	FREIGHTLINER CARGO	FLT < 5/1/2000	1
FREIGHTLINER	FREIGHTLINER CARGO	FLT < 5/1/2000	1
FREIGHTLINER	FS 65	FS 65	2
FREIGHTLINER	LONG CONV USF-1E, F	FLT < 5/1/2000	2
FREIGHTLINER	LONG CONV. MILITAR	FLT < 5/1/2000	2
FREIGHTLINER	LONG CONVENTIONA	FLT < 5/1/2000	2
FREIGHTLINER	LOW COE ALUMINUM	FLT < 5/1/2000	2
FREIGHTLINER	M2	BUSINESS CLASS MODEL M2	1
FREIGHTLINER	M2 100	CONVENTIONAL	2
FREIGHTLINER	M2 100 CS	BUSINESS CLASS M2 100 VIN 5-6 = C	3
FREIGHTLINER	M2 106 HD	BUSINESS CLASS HD M2 106 BBC	1
FREIGHTLINER	M2 106 MD	BUSINESS CLASS M2 MD 106 BBC	3
FREIGHTLINER	M2 106 MEDIUM DUTY	CONVENTIONAL	1
FREIGHTLINER	M2 106 SPORT CHASSI	BUSINESS CLASS VIN POS 5-6 = FC	1
FREIGHTLINER	M2 106 V HEAVY DUTY	CONVENTIONAL	2
FREIGHTLINER	M2 112 HD	BUSINESS CLASS HD M2 112 BBC	3
FREIGHTLINER	M2 112 MD	BUSINESS CLASS CONV M2 112 BBC	3
FREIGHTLINER	M2 112 MEDIUM DUTY	CONVENTIONAL	3
FREIGHTLINER	M2 112 SPORT CHASSI	BUSINESS CLASS VIN POS 5-6 = FH	3
FREIGHTLINER	M2 112 V HEAVY DUTY	CONVENTIONAL	3
FREIGHTLINER	MB 60 CONVENTIONA	FLT < 5/1/2000	1
FREIGHTLINER	MB 70 CONVENTIONA	FLT < 5/1/2000	2

OEM	Model	Description	Service Level
FREIGHTLINER	MB 80 CONVENTIONA	FLT < 5/1/2000	2
FREIGHTLINER	MED CONV STEEL CA	FLT < 5/1/2000	3
FREIGHTLINER	MED CONV. STEEL CA	FLT < 5/1/2000	3
FREIGHTLINER	MT 45 CHASSIS	16,000 TO 19,500 CLASS 5	3
FREIGHTLINER	RIV	PRE MAY 2000 MODEL CODE 9	3
FREIGHTLINER	SCHOOL BUS	FRONT ENGINE CHASSIS	2
FREIGHTLINER	SPORT CHASSIS	CONVENTIONAL	2
FREIGHTLINER	SPORT CHASSIS 112	C	2
FREIGHTLINER	XSPECIAL	TEMPORARY - PROCESS CLAIMS PRI	1
FWD/SEAGRAVE	FIRE TRUCK	FIRE TRUCK	3
GENERAL TRUCKS	LADDER TRUCK	CUSTOM	3
GILLIG	LOW FLOOR	TRANSIT COACH	4
GILLIG	PHANTOM	TRANSIT COACH	4
GILLIG	T-DRIVE	TRANSIT BUS	4
GMC BUS	ALL	RTS AND ALL GMC BUSES	3
GMC TRUCK	C70	AMBULANCE	2
GMC TRUCK	CAB OVER	GMC CAB OVER TRUCKS	1
GMC TRUCK	CONVENTIONAL	GMC TRUCKS-CONVENTIONAL CAB	3
GRADALL	XL3100	ON HIGHWAYMBE906 EGR	3
GRUMMAN	STEPVAN	BOX DELIVERY TRUCK	2
HENDRICKSON	HENDRICKSON	DRILL TRANSPORT	X
HINO	HIGHWAYCOACH	COACH	3
HME	1871 -SLE	TILT CAB	3
HME	1871PMFD	FIRE TRUCK	2
HOLIDAY	RAMBLER	HIGHWAYCOACH	3
HUSKY BRUTE	ALL	HUSKY BRUTE CRANE	3
HYUNDAI	ALL	HYUNDAI	3
IKARUS	256.44	BUS	3
IKARUS	386	BUS	3
IKARUS	396	BUS	3
IKARUS	C56	BUS	3
IKARUS	E94	BUS	3
IKARUS	E95	BUS	3
IKARUS	E99	BUS	3
INTERNATIONAL	5000	5000	3
INTERNATIONAL	7500	7500	3
INTERNATIONAL	7600	7600	3
INTERNATIONAL	8100	8100	4
INTERNATIONAL	8200	8200	3
INTERNATIONAL	8500	8500	3
INTERNATIONAL	8600	8600	3
INTERNATIONAL	9000	9000	3
INTERNATIONAL	9100	9100	2
INTERNATIONAL	9200	9200	2
INTERNATIONAL	9300	9300	2
INTERNATIONAL	9400	9400	2
INTERNATIONAL	9600	9600	1
INTERNATIONAL	9700	9700	1
INTERNATIONAL	9800	9800	1
INTERNATIONAL	9900	9900	2
INTERNATIONAL	CAB OVER	CAB OVER	1

OEM	Model	Description	Service Level
INTERNATIONAL	CONVENTIONAL LONG	CONVENTIONAL LONG NOSE	3
INTERNATIONAL	CONVENTIONAL SHO	CONVENTIONAL SHORT	4
IRIZAR	NEW CENTURY	ON HIGHWAY COACH	3
IVECO	9200	CONVENTIONAL	2
IVECO	EURO TECH	CAB OVER ENGINE	3
IVECO	LD5500	CAB OVER ENGINE	2
IVECO	MP4300	IVECO MP4300	3
IVECO	MP4500	CAB OVER ENGINE	3
IVECO	MP4700	CAB OVER ENGINE	3
IVECO	POWERSTAR 6500	IVECO POWERSTAR 6500	3
IVECO	POWERSTAR 6700	CONVENTIONAL	3
IVECO	POWERSTAR 7500	IVECO POWERSTAR 7500	3
IVECO	POWERSTAR 7700	CONVENTIONAL	3
IVECO	V4700	SLEEPER	2
JOHN DEERE	ALL	C & I EQUIPMENT	X
KENWORTH	C500	CONVENTIONAL	3
KENWORTH	CAB OVER	CAB OVER ENGINE	1
KENWORTH	CONVENTIONAL LONG	CONVENTIONAL	3
KENWORTH	CONVENTIONAL SHO	CONVENTIONAL	3
KENWORTH	K100	CAB OVER ENGINE	2
KENWORTH	SAR	CONVENTIONAL	3
KENWORTH	T2000	CONVENTIONAL	2
KENWORTH	T404	KENWORTH T404	4
KENWORTH	T450	CONVENTIONAL	3
KENWORTH	T600	CONVENTIONAL	2
KENWORTH	T604	KENWORTH T604	2
KENWORTH	T650	KENWORTH T650	2
KENWORTH	T800	CONVENTIONAL	2
KENWORTH	T900	KENWORTH T900	2
KENWORTH	T904	KENWORTH T904	2
KENWORTH	T950	KENWORTH T950	2
KENWORTH	W900	CONVENTIONAL	2
KENWORTH AUSTRALIA	C500	KENWORTH C500	3
KENWORTH AUSTRALIA	CAB OVER	KENWORTH CAB OVER	1
KENWORTH AUSTRALIA	CONVENTIONAL LONG	KENWORTH LONG NOSE CONVENTI	3
KENWORTH AUSTRALIA	CONVENTIONAL SHO	KENWORTH SHORT NOSE CONVENTI	3
KENWORTH AUSTRALIA	K100	CAB OVER ENGINE	2
KENWORTH AUSTRALIA	SAR	SHORT CONVENTIONAL	3
KENWORTH AUSTRALIA	T2000	KENWORTH T2000	2
KENWORTH AUSTRALIA	T404	KENWORTH T404	4
KENWORTH AUSTRALIA	T450	KENWORTH T450 FOR AUSTRALIA	3
KENWORTH AUSTRALIA	T600	SHORT CONVENTIONAL	4
KENWORTH AUSTRALIA	T604	KENWORTH AUSTRALIA T604	4
KENWORTH AUSTRALIA	T650	CONVENTIONAL	2
KENWORTH AUSTRALIA	T800	KENWORTH T800	2
KENWORTH AUSTRALIA	T900	KENWORTH T900	2
KENWORTH AUSTRALIA	T904	KENWORTH T904	2
KENWORTH AUSTRALIA	T950	KENWORTH T950	2
KENWORTH AUSTRALIA	W900	CONVENTIONAL	2
KME	ALL	ALL KME MODELS	3
KODIAK	SNOW BLOWER	SNOW BLOWER	3

OEM	Model	Description	Service Level
KOVATCH	ALL	KOVATCH	3
LEYLAND	CITY BUS	HIGHWAYCOACH	3
LINK BELT	ALL	CRANE	3
MACK	ALL	MACK	3
MACK	CAB OVER	CAB OVER ENGINE	1
MACK	CONVENTIONAL LONG	CONVENTIONAL	3
MACK	CONVENTIONAL SHORT	CONVENTIONAL	3
MARATHON	ALL	MOTOR COACHES	4
MARMON	57-L	CONVENTIONAL	2
MASA	ALL	COACH	3
MCI	102-C3	T-DRIVE TRANSIT	4
MCI	102DL3	MCI MODEL 102DL3	4
MCI	102EL3	COACH	4
MCI	103EL3	MCI MODEL 103EL3	4
MCI	96A3	COACH	4
MCI	D SERIES	TOUR TOUR COACH	4
MCI	E SERIES	TOUR COACH	4
MCI	G SERIES	TOUR COACH	4
MCI	J SERIES	TOUR COACH	4
MCI	MC-12	COACH	4
MCI	MC-9	COACH	4
MCI	TC40102-N	COACH	4
MERCEDES	ALL	MERCEDES	3
MILLS-TUI	6-9500	FIRE TRUCK	3
MILLS-TUI	FIRE TRUCK	FIRE TRUCK	3
MONACO	EXECUTIVE	MOTOR HOME	3
MONACO	NAVIGATOR	MOTOR HOME	3
MONACO	ROADMASTER	MOTORHOME	3
MONACO	ROYALE	CUSTOM COACH	3
MONACO	SIGNATURE	MOTOR HOME	3
MOTOR COACH AUSTRALIA	HIGHWAYCOACH	COACH	3
NABI	40LFW	COACH	4
NABI	416	COACH	4
NABI	436	COACH	4
NABI	45COMPO	COMPOSIT BODY	4
NABI	60LFW	COACH	4
NEOPLAN	ANGLE DRIVE	TRANSIT BUS	4
NEOPLAN	CITYLINER	TOUR COACH	4
NEOPLAN	INTERMODAL	COACH	4
NEOPLAN	METROLINER	TOUR COACH	4
NEOPLAN	SKYLINER	DOUBLE DECK COACH	4
NEOPLAN	STARLINER	TOUR COACH	4
NEOPLAN	T_DRIVE	TRANSIT BUS	4
NEW FLYER	C35LF	TRANSIT BUS	4
NEW FLYER	C40LF	COACH	4
NEW FLYER	D35	TRANSIT BUS	4
NEW FLYER	D40	TRANSIT BUS	4
NEW FLYER	D60LF	TRANSIT BUS	4
NEW FLYER	INVERO	BUS	4
NEWELL	ALL CUSTOM	MOTOR HOME	3
NISSAN	CAB OVER	CAB OVER ENGINE	1

OEM	Model	Description	Service Level
NOVA	82VW	NOVA MODEL 82 V W	2
NOVA	CLASSIC	NOVA TRANSIT CLASS	4
NOVA	RTS-04	COACH	4
NOVA	RTS-06	COACH	4
NOVA	T60606	COACH	4
OBI	ORION 1	TRANSIT BUS	4
OBI	ORION 4	TRANSIT COACH	4
OBI	ORION 5	HIGH FLOOR	4
OBI	ORION 6	LOW FLOOR	4
OBI	ORION 7	HIGH FLOOR	4
OMNIBUS	ALL	OMNIBUS	3
ORION	HYBRID ELECTRIC <6/1/01	'3'	4
ORION	ORION II	'2'	4
ORION	ORION V - CNG	'B'	4
ORION	ORION V - DIESEL	'A'	4
ORION	ORION V <6/1/01	'5'	4
ORION	ORION VI - CNG	'D'	4
ORION	ORION VI - DIESEL	'C'	4
ORION	ORION VI - HYBRID EI	'E'	4
ORION	ORION VI <6/1/01	'6'	4
ORION	ORION VII - CNG	'G'	4
ORION	ORION VII - DIESEL	'F'	4
ORION	ORION VII - HYBRID E	'H'	4
ORION	ORION VII <6/1/01	'7'	4
OSHKOSH	CONVENTIONAL LONG	CONVENTIONAL	3
OSHKOSH	F SERIES	CONV. MIXER	3
OSHKOSH	H SERIES	H SERIES	3
OSHKOSH	MPT SERIES	MPT SERIES	3
OSHKOSH	P SERIES	SPEC UTILITY	3
OSHKOSH	S SERIES	F/D MIXER	3
PEMFAB	FIRE TRUCK	FIRE TRUCK	3
PETERBILT	320	CAB OVER ENGINE	1
PETERBILT	330	CONVENTIONAL	2
PETERBILT	357	357	2
PETERBILT	362	CAB OVER ENGINE	1
PETERBILT	377	CONVENTIONAL	2
PETERBILT	378	CONVENTIONAL	2
PETERBILT	379	CONVENTIONAL	2
PETERBILT	385	CONVENTIONAL	2
PETERBILT	387	387	2
PETERBILT	CAB OVER	CAB OVER ENGINE	1
PETERBILT	CONVENTIONAL LONG	CONVENTIONAL	3
PETERBILT	CONVENTIONAL SHO	CONVENTIONAL	3
PETERBILT	LCF	LCF COE	1
PHOENIX	TRANSIT MIXER	TRANSIT MIXER	3
PIERCE	ALL	ALL PIERCE MODELS	3
PIERCE	DASH	PUMPER	3
PIERCE	QUANTUM	FIRE APPARATUS	3
PISTEN BULLY	PARK 300	PISTEN BULLY PARK 300	X
PISTEN BULLY	PARK EDGE	PISTEN BULLY PARK EDGE	X
PISTEN BULLY	PB EDGE	PISTEN BULLY PB EDGE	X

OEM	Model	Description	Service Level
PISTEN BULLY	PB100	PISTEN BULLY PB100	X
PISTEN BULLY	PB300	PISTEN BULLY PB300	X
PISTEN BULLY	PB300 W	PISTEN BULLY PB300 W	X
PISTEN BULLY	PB600	PISTEN BULLY PB600	X
PISTEN BULLY	POLAR 300	PISTEN BULLY POLAR 300	X
PISTEN BULLY	POLAR 300W	PISTEN BULLY POLAR 300W	X
PISTEN BULLY	TRAIL BULLY	PISTEN BULLY TRAIN BULLY	X
PISTEN BULLY	TRAIL EDGE	PISTEN BULLY TRAIN EDGE	X
POWERTRANS	INDUSTRIAL	MINE TRUCK	X
PREVOST	ALL	PREVOST	4
PREVOST	H3	TOUR COACH	4
PREVOST	X3	TOURING COACH	4
PREVOST	XL11	TOUR COACH	4
RABA	CONTACT 302	BUS	3
ROMAN	16250FL	CAB OVER	1
ROMAN	17250HOCLL	REAR ENGINE BUS	3
ROMAN	19300DF	CAB OVER	1
ROMAN	22300FNL	CAB OVER	1
ROMAN	26250DF	CAB OVER	1
ROMAN	26300DF	CAB OVER	1
ROSENBAUER	PANTHER	AIRPORT CRASH TRUCK	4
ROSENBAUER	PUMA	AIRPORT CRASH TRUCK	3
ROSENBAUER	SIMBA	AIRPORT CRASH TRUCK	4
RTS	T80208	TRANSIT COACH	3
SEAGRAVE	CAB	TILT CAB	2
SEAGRAVE	E-1	FIRE TRUCK	2
SEAGRAVE	FLAME	FIXED CAB	3
SEAGRAVE	PUMPER	FIXED CAB	3
SEAGRAVE	TB50DA	FIRE EQUIPMENT	2
SEAGRAVE	TR54DA	MARAUDER TILT CAB	2
SETRA	S217 HDH	COACH	4
SETRA	S417	COACH	4
SIMON-DUPLEX	ALL	SIMON-DUPLEX FIRE TRUCKS	3
SPARTAN	ALL	SPARTAN	3
SPARTAN	GLADIATOR	FIRE TRUCK	3
SPARTAN	MONARCH	FIRE TRUCK	3
STERLING	6500 SPORTCHASSIS	6500 SPORTCHASSIS	2
STERLING	9500CH	STERLING LT 9500 CH	3
STERLING	9500S	CONVENTIONAL	3
STERLING	A 9500	VIN 5-6 = A2	3
STERLING	A SERIES	ALL A SERIES	3
STERLING	ACTERRA	CONVENTIONAL	2
STERLING	ATEGO	CABOVER	1
STERLING	CARGO	CAB OVER	1
STERLING	CONDOR	CONDOR	1
STERLING	L 7500	L 7500	2
STERLING	L 8500	VIN 5-6 = AW	2
STERLING	L 9500	L 9500	3
STERLING	L SERIES	ALL L SERIES	3
STERLING	LC SERIES CAR HAUL	LC SERIES CAR HAULER	3
STERLING	M5500 ACTERRA	M5500 ACTERRA	2

OEM	Model	Description	Service Level
STERLING	M6500 ACTERRA	M6500 ACTERRA	2
STERLING	M7500 ACTERRA	M7500 ACTERRA	2
STERLING	M8500 ACTERRA	M8500 ACTERRA	2
STERLING	SC SERIES	ALL SC SERIES	3
STERLING	ST 9500	ST 9500	3
STERLING B	BULLET	STERLING BULLET	1
STERLING M	360	REBADGED MITSUBISHI FUSO	1
SUNNY-D	OREGON ROAD RUNN	SQUEEZE BALER	X
SUPERIOR	ALL	CUSTOM FIRE TRUCKS	3
SUTPHEN	ALL	SUTPHEN FIRE TRUCKS	3
SUTPHEN	DS2000	FIRE TRUCK	3
TEREX	CRANE CARRIER	CRANE CARRIER	2
THOMAS BUILT	'MMFC 96'	REAR ENGINE	2
THOMAS BUILT	98 MINOTOUR DRW	FORWARDENGINE	2
THOMAS BUILT	98 MINOTOUR SRW	FORWARDENGINE	2
THOMAS BUILT	ALL STAR	FORWARDENGINE	2
THOMAS BUILT	B2 BUS CHASSIS	B2 BUS CHASSIS	1
THOMAS BUILT	CHARTOUR	FORWARDENGINE	2
THOMAS BUILT	CONVENTIONAL	SHUTTLE	2
THOMAS BUILT	ER TRANSIT	REAR ENGINE	2
THOMAS BUILT	ER TRANSIT CHASSIS	FORWARDENGINE	2
THOMAS BUILT	FS65 CONVENTIONAL	FORWARDENGINE	2
THOMAS BUILT	LERM	FORWARDENGINE	2
THOMAS BUILT	M ON ER CHASSIS	REAR ENGINE	2
THOMAS BUILT	MINOTOUR DRW	FORWARDENGINE	2
THOMAS BUILT	MINOTOUR GP	FORWARDENGINE	2
THOMAS BUILT	MINOTOUR SRW	REAR ENGINE	2
THOMAS BUILT	MMFC 96	FORWARDENGINE	2
THOMAS BUILT	MVP	FORWARDENGINE	2
THOMAS BUILT	MVP-EF	FORWARDENGINE	2
THOMAS BUILT	MVP-EF CHASSIS ONL	FORWARDENGINE	2
THOMAS BUILT	MVP-ER	REAR ENGINE	2
THOMAS BUILT	MVP-ER CHASSIS ONL	REAR ENGINE	2
THOMAS BUILT	SAF-T-LINER C2	FORWARDENGINE	2
THOMAS BUILT	SAF-T-LINER HDX	REAR ENGINE	2
THOMAS BUILT	SAF-T-LINER HDX CH/	REAR ENGINE	2
THOMAS BUILT	SCAT (CHEVROLET)	FORWARDENGINE	2
THOMAS BUILT	SCAT (NAVISTAR)	FORWARDENGINE	2
THOMAS BUILT	SLF 200	CITY BUS	2
THOMAS BUILT	TL960	REAR ENGINE	2
THOMAS BUILT	TRANSIT COACH	COACH	2
THOMAS BUILT	TRANSIT LINER	TRANSIT COACH	2
THOMAS BUILT	TYPE A	SCHOOL BUS	2
THOMAS BUILT	TYPE C	SCHOOL BUS	2
THOMAS BUILT	TYPE D	SCHOOL BUS	2
THOMAS BUILT	VISTA	REAR ENGINE	2
THOMAS DENNIS	MVP-EF	131	2
THOMAS DENNIS	SLF229	MERCEDES 904	2
THOMAS DENNIS	SLF232	MERCEDES 906	2
THOMAS DENNIS	SLF235	MERCEDES 906	2
TIMKEN	CUSTOM STEEL HUST	STEEL HAULER	3

OEM	Model	Description	Service Level
TMC	T80208	COACH	4
TOR	ALL	CAB OVER	1
UD	CWB455	UD EQUIPMENT, MODEL CWB455 / A	3
UNIMOG	3350	UNIMOG 3350 MM WHEELBASE	2
UNIMOG	3900	UNIMOG 3900 MM WHEELBASE	2
UNIMOG	ALL	ALL MODELS OF UNIMOG	2
UNIMOG	UNIMOG 3350 MM WH	'E1 & E2'	2
UNIMOG	UNIMOG 3900 MM WH	'E3 & E4'	2
VANHOOL	ALL	VANHOOL	4
VANHOOL	C2000	TOUR COACH	4
VANHOOL	COMMUTER	COACH	4
VANHOOL	T2100	TOUR COACH	4
VANHOOL	T2100 SHELL	COACH	4
VANHOOL	T2145	COACH	4
VANHOOL	T900 ALICRON	TOURIST COACH	4
VANHOOL	TD925	DBL DECK COACH	4
VANHOOL	URBAN	BUS	4
VOLVO	610	TRUCK	2
VOLVO	660	VOVLO 660	2
VOLVO	770	CONVENTIONAL	2
VOLVO	ACL64BT	LONGNOSE CONVENTIONAL	2
VOLVO	STRADA	STRADA	3
VOLVO	VHD	ALL VHD SERIES	2
VOLVO	VN	VN SERIES	2
VOLVO	VNL	CONVENTIONAL	2
VOLVO	VNL64T	CONVENTIONAL	2
VOLVO	VNM	CONVENTIONAL	2
VOLVO	VNM42T	ON HIGHWAYTRUCK	3
VOLVO	WAH42	SHORTNOSE CONVENTIONAL	3
VOLVO	WAH64	SHORTNOSE CONVENTIONAL	3
VOLVO	WG42T	CONVENTIONAL	2
VOLVO	WG64T	CONVENTIONAL	2
VOLVO	WHR64TB/F	CAB OVER ENGINE	1
VOLVO	WIA64TES	CONVENTIONAL	2
VOLVO	WIA64TTS	CONVENTIONAL	3
WESTERN STAR	4800	WESTERN STAR MODEL 4800	4
WESTERN STAR	4800FX	VIN POS 5-6 = AE =4800FX AUSTRALI	4
WESTERN STAR	4900	CONVENTIONAL	3
WESTERN STAR	4900/5900/6900 SERIES	4900/5900/6900 SERIES	3
WESTERN STAR	4900FA	4900FA ALL ARE 109 BBC, SERVICE L	4
WESTERN STAR	5900	CONVENTIONAL	3
WESTERN STAR	6900	CONVENTIONAL	3
WESTERN STAR	ALL	CONVENTIONAL	3
WHITE	CAB OVER	CAB OVER	1

Vehicle Service Levels

Note: If your OEM is not listed, record that on your AFA.

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
000001	ENGINE ASSEMBLY - R&R	-	21.0	24.0	26.9	29.4	-
000005	FENDER (EACH) - R&R (IF REQUIRED)	-	.2	.2	.2	.2	-
000006	STEERING SHAFT - R&R	-	.5	.5	.5	.5	-
000007	SEAT (EACH) - R&R	-	.5	.5	.5	.5	-
000008	FLOOR BOARDS - R&R	-	.1	.1	.1	.1	-
000009	TRANSMISSION FROM ENGINE (WHEN REMOVED AS PACKAGE)	.9	-	-	-	-	-
000010	FENDER R&R (STERLING RIGHT SIDE ONLY IF REQUIRED- INCLUDES WASHER SOLVENT BOTTLE)	-	-	-	-	-	-
000011	ENGINE COVER (STERLING MODELS W/DOG HOUSE) R&R	-	-	-	.3	-	-
011000	CYLINDER BLOCK R&R	18.0	-	-	-	-	-
011005	ENGINE - STEAM CLEAN AND PAINT (WHEN NEEDED)	-	.3	.3	.3	.3	-
011900	GENERAL OPERATION FOR CYLINDER BLOCK (1.1)	-	-	-	-	-	-
012000	CYLINDER HEAD - R&R	-	14.0	14.5	15.1	15.7	-
012002	VALVES AND SEATS - GRIND (ONE CYLINDER)	1.2	-	-	-	-	-
012003	VALVE SPRINGS (HEAD REMOVED) - R&R (ONE CYLINDER)	.2	-	-	-	-	-
012004	VALVE SEALS (HEAD REMOVED) - R&R ONE CYLINDER	.6	-	-	-	-	-
012103	INJECTOR TUBES - REPLACE EACH	.4	-	-	-	-	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
012104	VALVEGUIDES - R&R ONE CYLINDER	.2	-	-	-	-	-
012105	VALVESEATS - REPLACE EACH	.2	-	-	-	-	-
012106	CYLINDER HEAD - PRESSURE TEST (DISASSEMBLED)	.8	-	-	-	-	-
012900	GENERAL OPERATION FOR CYLINDER HEAD (1.2)	-	-	-	-	-	-
013000	CRANKSHAFT (ENGINE REMOVED) - R&R	5.7	-	-	-	-	-
013100	CRANKSHAFT THRUST WASHERS - R&R	.3	.5	.5	.5	.5	-
013200	CRANKSHAFT FRONT OIL SEAL - R&R	.2	4.8	4.9	5.5	6.0	-
013300	CRANKSHAFT REAR OIL SEAL - R&R	.3	7.5	8.0	8.0	9.0	-
013500	MAIN BEARINGS - R&R (ALL)	2.8	4.3	4.3	4.3	4.3	-
013501	MAIN BEARINGS - R&R (EACH)	.3	.5	.5	.5	.5	-
013502	ROD BEARINGS - R&R (ALL)	1.8	2.4	2.4	2.4	2.4	-
013503	ROD BEARINGS - R&R (EACH)	.2	.4	.4	.4	.4	-
013600	VIBRATION DAMPER - R&R	.3	1.8	1.9	2.3	2.8	-
013700	BELT SET - R&R	.3	.3	.3	.3	.3	-
013800	CRANKSHAFT PULLEY - R&R	.2	1.0	1.0	1.1	1.3	-
013900	GENERAL OPERATION FOR CRANKSHAFT (1.3)	-	-	-	-	-	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
014000	FLYWHEEL - R&R	.3	.9	.9	.9	.9	-
014900	GENERAL OPERATION FOR FLYWHEEL (1.4)	-	-	-	-	-	-
015000	FLYWHEEL HOUSING / GEAR CASE - R&R	1.4	12.2	13.0	13.5	13.9	-
015001	GEAR TRAIN (COMPLETE) - R&R	1.8	3.0	3.2	3.4	3.4	-
015002	GEAR (EACH) - R&R	.2	.8	.8	.8	.8	-
015202	ADJUSTABLE IDLER GEAR - R&R	.2	.5	.5	.5	.5	-
015203	IDLER GEAR ASSEMBLY - ADJUST	.3	-	-	-	-	-
015900	GENERAL OPERATION FOR FLYWHEEL HOUSING OR GEAR TRAIN (1.5)	-	-	-	-	-	-
016000	CYLINDER KIT - R&R (ONE)	4.0	16.1	16.6	17.2	17.9	-
016001	CYLINDER KIT - R&R (EACH ADDITIONAL)	.3	.5	.5	.5	.5	-
016002	PISTON OIL SPRAY NOZZLE - R&R (EACH)	.1	.1	.1	.1	.1	-
016900	GENERAL OPERATION FOR CYLINDER KIT (1.6)	-	-	-	-	-	-
017000	CAMSHAFT R&R- EXHAUST	1.5	3.9	4.0	4.1	4.3	-
017100	CAMSHAFT R&R- INTAKE	1.5	3.8	3.9	4.0	4.2	-
017101	CAMSHAFT FRAME R&R	2.0	5.1	5.2	5.4	5.6	-
017900	GENERAL OPERATION FOR CAMSHAFT (1.7)	-	-	-	-	-	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
018000	ROCKER ARM ASSEMBLY R&R- EXHAUST	.9	2.5	2.6	2.7	2.9	-
018001	ROCKER ARM ASSEMBLY R&R- INTAKE	.9	2.4	2.5	2.6	2.8	-
018002	ROCKER ARM ADJUSTING SCREWS - R&R (PER CYLINDER)	.1	.2	.2	.2	.2	-
018003	ROCKER ARM R&R (EACH) ASSEMBLY REMOVED	.1	.2	.2	.2	.2	-
018300	VALVESPRINGS AND/OR SEALS (HEAD INSTALLED) - R&R (ONE CYLINDER)	-	1.0	1.0	1.0	1.0	-
018500	ROCKER COVER - R&R	.2	.6	.7	.7	.8	-
018501	CRANKCASE BREATHER ASSEMBLY - R&R	.1	.5	.5	.5	.5	-
018900	GENERAL OPERATION FOR VALVES & INJECTOR MECHANISMS (1.8)	-	-	-	-	-	-
021000	INJECTOR - R&R (ONE)	.6	1.7	1.8	1.8	1.9	-
021001	INJECTOR - R&R (EACH ADDITIONAL)	.1	.3	.3	.3	.3	-
021003	FUEL SYSTEM - PRESSURE TEST	-	.5	.5	.5	.5	-
021004	COMPRESSION TEST (3 CYLINDERS)	.7	1.0	1.0	1.0	1.0	-
021005	INJECTOR HARNESS ASSEMBLY R&R	.5	1.3	1.4	1.4	1.5	-
021514	SOLENOID (ENGINE BRAKE) R&R	.1	.2	.2	.2	.2	-
021800	SENSOR- CAMSHAFT OR CRANKSHAFT POSITION (CMP OR CKP)	.2	.7	.7	.7	.7	-
021801	DDEC CONNECTOR - R&R (EACH) (HARNESS REPAIR KIT)	.2	.2	.2	.2	.2	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
021802	DDEC SENSOR - R&R (EACH)	.1	.4	.4	.4	.4	-
021809	TURBO SPEED SENSOR - R&R	-	.2	.2	.2	.2	-
021816	DELTAP SENSOR R&R	.1	.4	.4	.4	.4	-
021817	TURBO COMPRESSOR - OUT TEMP SENSOR - R&R	.1	.2	.2	.2	.2	-
021901	REPROGRAM MCM OR CPC	.5	.5	.5	.5	.5	-
022000	FUEL PUMP ASSEMBLY-R&R (HIGH PRESSURE)	.5	3.9	4.0	4.1	4.3	-
022001	FUEL RAIL- R&R (HIGH PRESSURE)	.8	1.4	1.5	1.5	1.6	-
022002	FUEL LINE- R&R (HIGH PRESSURE)(EACH)	.1	.2	.2	.2	.2	-
022900	GENERAL OPERATION FOR INJECTORS OR ECM (2.1)(2.2)	-	-	-	-	-	-
023000	FUEL MODULE ASSEMBLY - R&R	1.0	2.3	2.4	2.4	2.5	-
023300	FUEL FILTER ELEMENTS- R&R	.1	.3	.3	.3	.3	-
024001	HC DOSER INJECTION VALVE(NOZZLE) R&R	.2	1.0	1.0	1.1	1.2	-
024002	HC DOSER BLOCK ASSEMBLY (ELECTRONIC) R&R	.1	.5	.6	.6	.6	-
024003	HC DOSER FUEL LINE R&R (NOZZEL SUPPLY)	.2	.6	.7	.8	.9	-
024004	HC DOSER INJECTION VALVEMOUNT (EXHAUST) R&R	.1	.2	.2	.2	.2	-
025000	FUEL LINE - R&R (EACH)	.1	.5	.5	.5	.5	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
029900	GENERAL OPERATION FOR FUEL FILTERS AND LINES (2.3)(2.5)	-	-	-	-	-	-
031000	AIR CLEANER AND ADAPTER - R&R	-	.4	.4	.4	.5	-
031001	AIR CLEANER ELEMENT - R&R (EACH)	-	.2	.2	.2	.2	-
031002	AIR INLET MANIFOLD - R&R	3.0	6.3	6.5	6.5	6.8	-
031005	AIR INLET PIPING - R&R	-	.3	.3	.3	.3	-
031006	AIR TO AIR PIPING - R&R	-	.3	.3	.3	.3	-
031007	CHARGE AIR COOLER - R&R (FROM RADIATOR)	-	.8	.8	.8	.8	-
031008	INTAKE THROTTLE VALVE R&R	.1	.3	.3	.3	.3	-
031011	CHARGE AIR COOLER LEAK TEST	-	.3	.3	.3	.3	-
035000	TURBO R&R	1.2	2.4	2.5	2.6	2.8	-
035005	TURBO OIL SUPPLY LINE AND FITTINGS	-	.1	.1	.1	.1	-
035006	TURBO OIL DRAIN LINE AND FITTINGS - R&R	-	.1	.1	.1	.1	-
035010	AXIAL POWER TURBINE AND GEARBOX ASSEMBLY-R&R	2.0	3.9	4.0	4.2	4.5	-
035011	AXIAL POWER TURBINE AND GEARBOX (SEPARATE AND REASSEMBLE)	.3	.3	.3	.3	.3	-
039900	GENERAL OPERATION FOR AIR SYSTEM (3.)	-	-	-	-	-	-
041000	OIL PUMP AND SUPPLY TUBES - R&R	.1	.3	.3	.3	.3	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
041003	LUBE OIL - SYSTEM FLUSH	-	1.0	1.0	1.0	1.0	-
042000	OIL FILTER ELEMENT (INCLUDES DRAIN AND REFILL OIL PAN)- R&R	.2	.7	.7	.7	.7	-
042001	OIL MODULE ASSEMBLY - R&R	1.4	2.9	3.0	3.0	3.2	-
044100	OIL COOLER ELEMENTS - R&R	.2	.6	.6	.6	.6	-
044101	OIL COOLER PRESSURE TEST	.6	-	-	-	-	-
047000	OIL PAN & GASKET - R&R	.5	1.8	1.8	1.8	1.9	-
047001	DIPSTICK AND TUBE - R&R	.1	.3	.4	.4	.5	-
049900	GENERAL OPERATION FOR LUBRICATING SYSTEM (4.)	-	-	-	-	-	-
051001	WATERPUMP - R&R	.3	1.7	1.8	1.9	2.0	-
051002	COOLING SYSTEM - FLUSH	-	.7	.7	.7	.7	-
052000	THERMOSTAT- R&R	.3	.9	.9	.9	.9	-
053000	RADIATOR ASSEMBLY - R&R	-	2.3	2.6	2.9	3.2	-
053001	FAN - R&R	.1	.4	.5	.5	.5	-
053002	FAN HUB ASSEMBLY - R&R	.5	1.3	1.4	1.4	1.4	-
053004	BELT TENSIONER ASSEMBLY - R&R	.1	.3	.3	.3	.3	-
053005	COOLING SYSTEM - PRESSURE CHECK	-	.5	.5	.5	.5	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
053007	BELT- R&R(EACH)	-	.2	.2	.2	.2	-
054000	COOLANT COLLECTOR ASSEMBLY-R&R	2.5	4.6	4.8	5.0	5.3	-
059900	GENERAL OPERATION FOR COOLING SYSTEM (5.)	-	-	-	-	-	-
061000	EXHAUST MANIFOLDS - R&R	1.5	4.1	4.2	4.4	4.7	-
061005	EGR COOLER INLET PIPE (EXHAUST) - R&R	.1	.3	.3	.4	.5	-
061006	EGR VALVE- R&R	.4	1.2	1.3	1.4	1.5	-
061007	EGR COOLER - R&R	.6	1.2	1.3	1.3	1.5	-
061008	EGR DELIVERY PIPE - R&R	.1	.3	.3	.3	.3	-
061010	EGR MIXER HOUSING R&R	.4	1.0	1.0	1.0	1.0	-
061027	EGR VALVETEST	-	-	-	-	-	-
061028	INTAKE THROTTLE VALVETEST	-	-	-	-	-	-
061029	DELTAP, BARO SENSOR, DIAGNOSTIC TEST	-	-	-	-	-	-
061030	EGR COOLER PRESSURE TEST	-	1.0	1.0	1.0	1.0	-
069900	GENERAL OPERATION FOR EXHAUST SYSTEMS (6.1)	-	-	-	-	-	-
071000	ALTERNATOR- R&R	.3	.8	.8	.8	.8	-
071001	ALTERNATOR AND A/C COMP BRACKET - R&R	.4	1.1	1.1	1.1	1.3	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
073000	STARTERMOTOR AND DRIVE ASSEMBLY - R&R	.5	1.0	1.0	1.0	1.0	-
079900	GENERAL OPERATION FOR ELECTRICAL INSTRUMENTS OR IGNITION (7.)	-	-	-	-	-	-
111000	ENGINE MOUNT (FRONT) - R&R	.5	2.2	2.4	2.4	2.4	-
119900	GENERAL OPERATION FOR ENGINE MOUNT (11.1)	-	-	-	-	-	-
124000	AIR COMPRESSOR - R&R	.6	1.5	1.6	1.7	1.9	-
125000	HYDRAULIC PUMP - R&R	.1	.5	.5	.5	.5	-
129900	GENERAL OPERATION FOR MISC OR ACCESSORIES (12.)	-	-	-	-	-	-
132000	ENGINE DYNAMOMETER TEST	4.0	-	-	-	-	-
132001	CHASSIS DYNAMOMETER TEST	-	1.5	1.5	1.5	1.5	-
132100	REPAIR VALIDATION	-	.2	.2	.2	.2	-
132200	ENGINE PERFORMANCE TEST	-	.5	.5	.5	.5	-
139900	GENERAL OPERATION FOR INSPECTIONS (13.2)	-	-	-	-	-	-
140000	ENGINE TUNE-UP	1.0	1.0	1.0	1.0	1.0	-
149900	GENERAL OPERATION FOR TUNE-UP (14.0)	-	-	-	-	-	-
267-0020A	SURGE TANK, RADIATOR MOUNTED - R&R	-	.5	.5	.5	.5	-
342-1010A	TRANS, MANUAL OR AUTOMATED W/AUX,R/R	-	6.5	7.0	6.5	6.5	-

OPERATION NO.	BASIC ENGINE	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
360-0010A	PTO R/R	-	1.2	1.2	1.2	1.2	-
386-0022A	DRIVELINE INSTALLATION	-	.5	.5	.5	.5	-
460-0015A	AIR RESERVOIR R/R	-	.7	.7	.7	.7	-
556-0065A	BUMPER END CAP R/R	-	-	-	.5	-	-
644-0015A	HOOD R/I (REMOVE AND INSTALL)	-	.9	.9	1.0	1.0	-
667-0020B	SPLASH SHIELD (INNER FENDER)	-	-	-	.2	-	-
700-0010A	A/C SYSTEM RECOVER, VAC,&CHARGE	-	1.0	1.0	1.0	1.0	-
828-0025A	RAIN TRAY R/R	-	1.1	1.1	1.1	1.1	-

OPERATION NO.	FUEL SYSTEM	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
021900	MOTOR CONTROL MODULE (MCM) - R&R	.2	2.9	3.0	3.0	3.2	-
021912	COMMON POWERTRAIN CONTROL MODULE (CPC) R&R	.4	.4	.4	.4	.5	-
021913	CSC LOG FILE (SNAP SHOT) REQUEST-PARKED	.3	.3	.3	.3	.3	-
021914	CSC LOG FILE (SNAP SHOT) REQUEST-ROAD TEST	-	.5	.5	.5	.5	-

OPERATION NO.	EXHAUST SYSTEM	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
061064	DIESEL PARTICULATEFILTER (DPF) AND/OR DIESEL OXIDATIONCATALIST (DOC)	.5	.5	.5	.5	.5	-
062600	REGENERATION OF ATD (PARKED)	-	.7	.7	.7	.7	-

OPERATION NO.	FREIGHTLINER	ENG. REM.	IN CHASSIS SERVICE LEVELS				
			1	2	3	4	X
939-6220D	NO PROBLEM FOUND (NPF)	-	1.0	1.0	1.0	1.0	-