

D/DT-239

DIESEL ENGINES

FOR CONSTRUCTION EQUIPMENT

APPLICATIONS

FORM

EPC-239-4

JUNE, 1980

(Includes Partial Rev. No. 3 Dated 12-83)

(Supersedes Form EPC-239-3)

**NOTE: Industrial Product Applications Were Formerly
Listed in Form ENG-4.**

Due to a continuous program of research and development, some procedures, specifications and parts may be altered in a constant effort to update and improve our products. Periodic revisions may be made to this publication and mailed automatically to distributors. It is recommended that customers contact their distributor for information on the latest revision.

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The black tabs shown on the right-hand side of this page line up with the corresponding tabs in the catalog. Tabs are quickly located by bending the catalog.

IT IS THE POLICY OF INTERNATIONAL HARVESTER COMPANY 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 INSTALL SUCH CHANGES ON PRODUCTS PREVIOUSLY SOLD.

TO THE OWNER

When ordering parts, always give the following information:

1. The IH Part number, including suffix or prefix letters, the name of the part and the quantity needed. Do not include the illustration reference number.
2. The complete engine serial number of the machine, including the serial sequence number and suffix letter code. (Refer to "SERIAL NUMBERS" in "INTRODUCTION".)

We suggest that you write the engine serial number in the space provided below, for ready reference when parts are needed.

ENGINE

(Stamped on the right hand side of the engine crankcase behind the oil filler or above the valve tappet cover.)

INTRODUCTION

This catalog contains a list of service parts for the D and DT-239 Diesel Engines used in the following applications. (See NOTE):

ENGINE APPLICATION

D-239 2500A, 2500B, 2544 and 3500A Tractors
2505B, 2510B, 3514 and 260A Loader
Tractors

2514B Loader Backhoe Tractor
100E PAYloader
TD-7E PAYdozer

250A PAYhoe
250A PAYloader

250A PAYtractor
260A PAYhoe

260A PAYloader

125E PAYloader
TD-8E PAYdozer

NOTE: For D-239 engine used in the TD-8C and 125C applications, refer to chassis parts catalog.

The D-239 is a four cylinder 3.875 x 5.060 inch naturally aspirated diesel engine. The DT-239 is a four cylinder 3.875 x 5.060 inch turbocharged diesel engine.

This catalog is divided into major sections which, in turn, are sub-divided into units. A listing of the major sections is shown on the flyleaf preceding this publication. The tabs on the right hand side of the first page of each of these indexes correspond to the tabs shown on the flyleaf. A numerical index at the back of the catalog contains a listing of part numbers showing the section and page number where each part is listed and described.

Illustrations, in the form of exploded views, are provided to aid in locating and identifying parts. Parts illustrated are of typical parts and not necessarily detailed drawing. Reference numbers in the illustration tie-in each simple part, assembly or group of parts with a list of parts following each illustration. Parts are listed in reference number order as shown in the illustration, followed by the noun name of the part with the modifying descriptive information which serves to specifically identify the item. Parts not shown in the illustration appear at the end of the unit list affected. Parts listed are for all applications. When parts are not common to all applications, the reference number will be followed by the phrase "See individual engine variations."

Locate your specific applications under heading "ENGINE VARIATIONS" located at end of unit parts list.

ASSEMBLIES. Wherever possible the component parts of assemblies are shown in the "exploded views" by use of boxes, brackets or arrows. When assemblies can not be shown as mentioned they will be listed by one of the following methods.
(a) The listings are fully covered by descriptions for simple assemblies.

(b) When four or more parts are contained in the assemblies, the listing of components immediately follows the description with the wording "(Composed of --)".
(c) Assemblies consisting of many parts shown the assembly number at the beginning of the unit list, followed by the listing of the components.

The quantity of each item is shown following the description of the item. Where no quantity is shown, this indicates that only "-1-" is required.

Individual parts of an assembly not available for service are shown with the symbol (§). In these cases, the complete assembly must be ordered for service.
In many parts lists, it is possible to include more than one assembly. The assemblies are listed at the beginning of the parts lists with the letters A, B, C, etc., preceding the part number of the assembly. The number required information is shown in parentheses following the description of the parts. When letters (A, B, C, etc.) are shown without a quantity it should be understood to mean only (1) is required. Parts without letters after the description indicate the part is used for all assemblies listed in the heading.

Exceptions to the above methods are explained by footnotes in the text.

MISCELLANEOUS PARTS

Standard bolts, screws, nuts, etc. — are not identified by a reference number. These parts are known as COMMON HARDWARE items and appear in abbreviated nomenclature and are shown indented under the major items with which they are used. They should be ordered as listed, since they are not component parts of the pieces they attach.
WARNING: Attaching parts especially made for their location should never be substituted with regular standard parts. The following rules are established to govern the listing of attaching parts:

All Carriage, Machine and Blow BOLTS, NUTS, Cap, Machine and Set SCREWS, will be considered furnished with National Coarse Thread unless otherwise specified. The number of threads per inch will be eliminated.
Hardware sizes will only be shown when more than one size is used to mount a part. Only one dimension will be shown to differentiate hardware.
Standard bolts used in International Harvester Products are manufactured under standards known as Unified National Coarse Thread (U.N.C.) and Unified National Fine Thread (U.N.F.) with the number of threads per inch for various diameters as follows:

No. of Threads per inch (U.N.F.)	No. of Threads (U.N.C.)	Diameter of Bolts
28	20	1/4"
18	18	5/16"
16	16	3/8"
24	16	7/16"
20	14	1/2"
20	13	9/16"
18	12	5/8"
18	11	3/4"
16	10	7/8"
14	9	1"
14	8	1-1/8"
12	7	1-1/4"
12	7	1-3/8"
12	6	1-1/2"

All NUTS will be considered "hex" unless otherwise specified.
 All WASHERS will be considered "Plain" unless otherwise specified. The "ID", "OD" and "No." identity will be eliminated. The inside dimension will be listed first, followed by the outside diameter and the thickness.
 All lock WASHERS will be considered "Medium" type unless specified as "Light" or "Heavy."

All cotter PINS will be considered "Extended-Prong" type unless otherwise specified.
 All groove PINS will be considered "Standard Groove" unless otherwise specified.
 All common RIVETS will be considered "Annealed" unless otherwise specified.

All countersunk-head tubular RIVETS will be considered "Copper-Plated Steel" unless otherwise specified.

All oval-head tubular RIVETS will be considered "Brass."

WHEN ORDERING PARTS, ALWAYS USE INTERNATIONAL HARVESTER PART NUMBERS AND DESCRIPTIONS SHOWN IN THE PARTS LIST.

SERIAL NUMBERS
MODEL
ENGINE SERIAL NUMBER (+)

3514
 2544 } 239DT2D (*)

TD-7E 239DCDO50000
 100E 239DCDO50000
 TD-8E 239TCGD001000
 125E 239TCGD001000

Attachments that do not affect replacement of standard parts or units have not been coded.

A Suffix Letter Code, as outlined below, is added to the Engine Serial Number as a means of identifying tractors with special features, thus facilitating servicing. This code applies primarily to special features that replace standard parts or units used internally, but also may be used to identify tractors equipped with one of two or more optional parts where identification of said optional parts is deemed necessary to proper servicing. Each suffix letter used is stamped in the blank space following the serial number on the Engine Block following the Engine Serial Number.

The engine serial number is stamped on the right hand side of the crankcase behind the oil filler or above the valve tappet cover.

2544 (GEAR DRIVE)
 2544 (HYDROSTATIC)
 3514 (GEAR DRIVE)
 3514 (HYDROSTATIC)
 44
 45
 46
 47

MODEL
ENGINE SERIAL NUMBER DESIGNATION

Some models were built with the following engine serial number designations and will be listed in this catalog:
 (+) - Only the sequence number of the complete engine serial number is listed in this catalog to identify parts except the following:
 (*) - Starting sequence number not available at time of printing.

GEAR DRIVE (SM) TRANSMISSION	HYDROSTATIC (HS) TRANSMISSION	TORQUE CONVERTER (TC) TRANSMISSION
250A	250A	250A
2500A	250A	250A
2500B	260A	2500B
2505B	239DT2D646000	2500B
2510B	239DT2D652000	2500B
2514B	239DT2D440000	2500A
3500A	239DT2D180000	2500A
2500A		2500A
2500B		2500A
2505B		2500B
2510B		2500B
2514B		2500A
3500A		2500B

INTRODUCTION

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SUFFIX LETTER
ON ENGINE BLOCK

U HIGH-ALTITUDE ATTACHMENT

Customers should be urged to supply the complete engine serial number when ordering parts. No attempt is made at the factory to have the engine and chassis serial numbers correspond.

DESIGNATION OF PARTS

Throughout this catalog, the term "Front" indicates the fan end. Whenever the terms "Right" or "Left" are used, it should be understood to mean from a rear position looking toward the fan end.

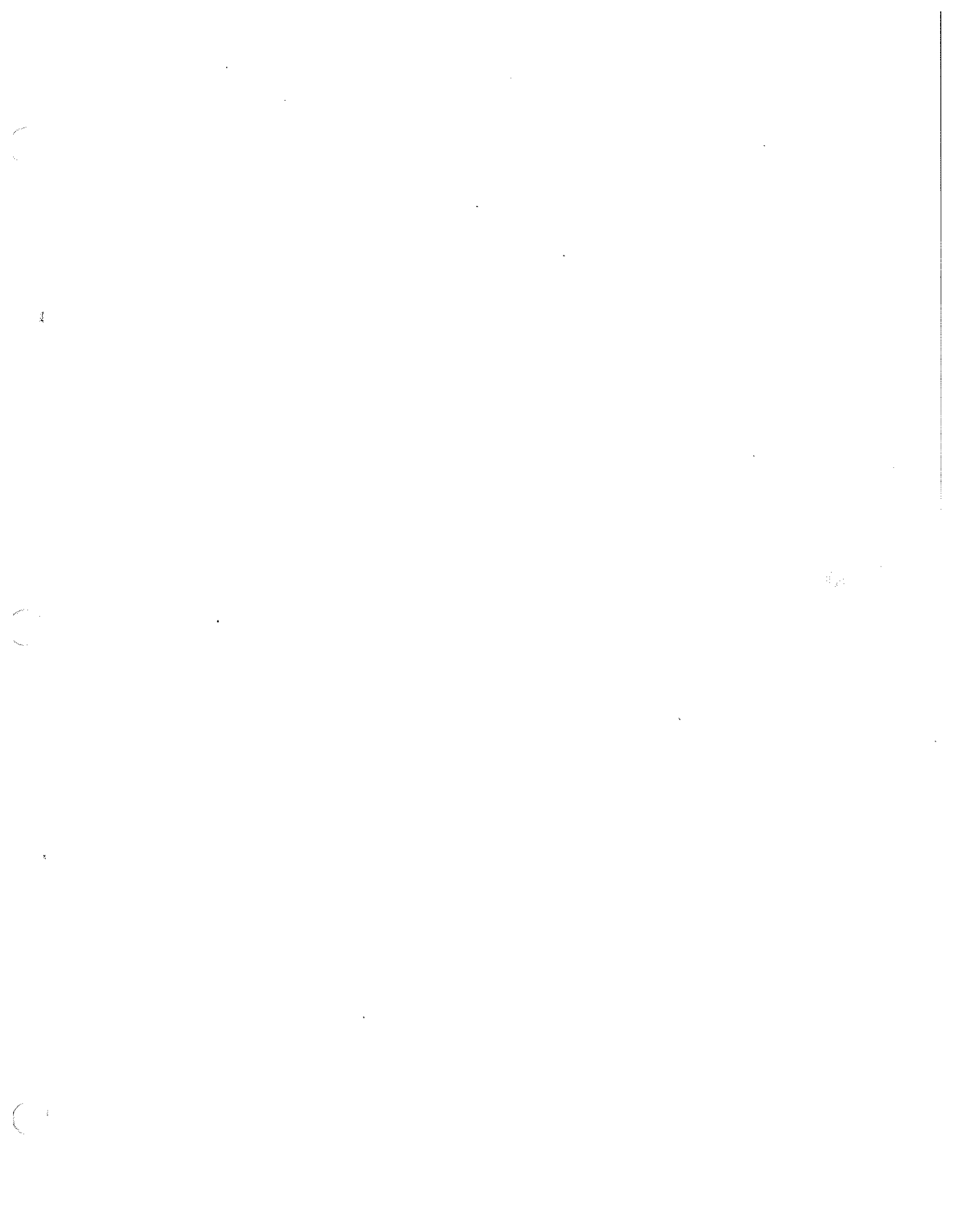
REFER TO SECTION TWO FOR "QUICK REFERENCE LIST FOR FILTERS, FILTER ELEMENTS AND BELTS."

ALPHABETICAL INDEX

DESCRIPTION	PAGE	FICHE	DESCRIPTION	PAGE	FICHE
Alternator (Not furnished with Replacement Service Engine) Adapter, engine	10-2	(%)	Lubricating Oil	13-2, 13-3, 13-4, 7-2, 10-3, 11-18, 11-24, 11-29	
Alternator	9-2		Flywheel Housing	10-3	
Air Cleaner	10-3		Flywheel	7-2	
Breather	8-4, 6-4, 10-3		Flywheel Ring	7-4	
Brackets	9-2		Head, cylinder	8-2, 8-5, 10-3	
Blade, fan	(%)		Housing, flywheel	10-3	
Blade, fan (Not furnished with Replacement Service Engine)	(%)		Idle Gear	6-3	
Belt, water pump and alternator	7-3		Kit, crankshaft bearing cap	6-3	
Camshaft	6-3, 4-2, 7-3		Muffler, exhaust (Not furnished w/Replacement Service Engine)	14-3	
Camshaft, Connecting Rod	6-3, 4-2, 7-3		Manifold, exhaust and intake	14-2	
Camshaft, Crankshaft	6-3, 4-2, 7-3		Nozzle and Nozzle Holder	11-34	
Connecting Rod	6-3, 4-2, 7-3		Nozzle Mounting Crap	8-3	
Connecting Rod, Crankshaft	6-3, 4-2, 7-3		Packages, service	2-3	
Balancer	7-4, 7-5		Pan, crankcase oil	6-6	
Bearings	7-4, 7-5		Pistons	4-2	
Belt, water pump and alternator	7-3		Pumps	11-18, 11-24, 11-29	
Belt, water pump and alternator (Not furnished with Replacement Service Engine)	(%)		Fuel Injection	11-18, 11-24, 11-29	
Blade, fan	(%)		Fuel Feed	11-33, 13-6, 13-7	
Blade, fan (Not furnished with Replacement Service Engine)	(%)		Lubricating Oil	13-2, 13-3, 13-4, 7-2, 10-3, 11-18, 11-24, 11-29	
Brackets	9-2		Fuel Feed	11-33, 13-6, 13-7	
Alternator	9-2		Fuel Feed	11-33, 13-6, 13-7	
Air Cleaner	10-3		Fuel Feed	11-33, 13-6, 13-7	
Breather	8-4, 6-4, 10-3		Fuel Feed	11-33, 13-6, 13-7	
Brackets	9-2		Fuel Feed	11-33, 13-6, 13-7	
Blade, fan	(%)		Fuel Feed	11-33, 13-6, 13-7	
Blade, fan (Not furnished with Replacement Service Engine)	(%)		Fuel Feed	11-33, 13-6, 13-7	
Belt, water pump and alternator	7-3		Fuel Feed	11-33, 13-6, 13-7	
Camshaft	6-3, 4-2, 7-3		Fuel Feed	11-33, 13-6, 13-7	
Camshaft, Connecting Rod	6-3, 4-2, 7-3		Fuel Feed	11-33, 13-6, 13-7	
Camshaft, Crankshaft	6-3, 4-2, 7-3		Fuel Feed	11-33, 13-6, 13-7	
Connecting Rod	6-3, 4-2, 7-3		Fuel Feed	11-33, 13-6, 13-7	
Connecting Rod, Crankshaft	6-3, 4-2, 7-3		Fuel Feed	11-33, 13-6, 13-7	
Cooler, lubricating oil	13-4		Fuel Feed	11-33, 13-6, 13-7	
Connections	11-2		Fuel Feed	11-33, 13-6, 13-7	
Fuel Injection Pump	11-2		Fuel Feed	11-33, 13-6, 13-7	
Fuel Feed Pump	11-17, 11-32		Fuel Feed	11-33, 13-6, 13-7	
Turbocharger	15-2		Fuel Feed	11-33, 13-6, 13-7	
Covers	6-8		Fuel Feed	11-33, 13-6, 13-7	
Crankcase front	6-8		Fuel Feed	11-33, 13-6, 13-7	
Valve housing	6-11, 8-4, 8-5		Fuel Feed	11-33, 13-6, 13-7	
Crankcase Motor (Not furnished w/Replacement Service Engine)	6-2		Fuel Feed	11-33, 13-6, 13-7	
Crankshaft	7-2, 8-2, 8-5		Fuel Feed	11-33, 13-6, 13-7	
Cylinder Head	8-2, 8-5		Fuel Feed	11-33, 13-6, 13-7	
Damper, vibration	7-2		Fuel Feed	11-33, 13-6, 13-7	
Exhaust manifold	14-2, 14-3		Fuel Feed	11-33, 13-6, 13-7	
Ready-to-Run Engine	1-2		Fuel Feed	11-33, 13-6, 13-7	
Skeleton	1-2		Fuel Feed	11-33, 13-6, 13-7	
Support	10-2		Fuel Feed	11-33, 13-6, 13-7	
Fan	(%)		Fuel Feed	11-33, 13-6, 13-7	
Filters	(%)		Fuel Feed	11-33, 13-6, 13-7	
Fuel	11-36, 11-37		Fuel Feed	11-33, 13-6, 13-7	

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Valve push	3-2				
Rocker Arms	8-3				
Rings, piston	4-2				
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Sleeve, cylinder	4-2				
Switch, oil pressure	13-8				
<u>T</u>					
Tappet, valve	3-2				
Thermostat	5-2				
Turbocharger	15-3				
<u>V</u>					
Valves					
Exhaust	8-3				
Intake	8-6				
Vibration Damper	7-2				
<u>W</u>					
Water pump	5-2				



Printed in United States of America.

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

ENGINES

1

ENGINES

REF. NO.	PART NUMBER	DESCRIPTION
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REPLACEMENT SERVICE ENGINE (See NOTE A)

3 136 263 R94 ENGINE, replacement service (For 2500A, 2500B, 2510B, and 2514 with Synchromesh Transmission) (See NOTE C)

3 144 470 R93 ENGINE, replacement service (For 2500A, 2500B, 2510B, and 2514B with Hydrostatic Transmission) (See NOTE B)

3 139 190 R95 ENGINE, replacement service (For 3500A Synchromesh and Hydrostatic Transmission, also order PUMP, 546 599 R93) (See NOTE C)

3 144 617 R92 ENGINE, replacement service (For TD-7E and 100E) (See NOTE B)

3 144 619 R92 ENGINE, replacement service (For TD-8E and 125E) (See NOTE B)

3 218 750 R92 ENGINE, replacement service (For 250A w/Synchromesh Transmission) (See NOTE C)

3 218 760 R92 ENGINE, replacement service (For 250A w/Hydrostatic Transmission) (See NOTE C)

3 218 560 R92 ENGINE, replacement service (For 250A w/Torque Converter Transmission) (See NOTE C)

3 218 086 R93 ENGINE, replacement service (For 260A w/Hydrostatic Transmission) (See NOTE C)

3 218 570 R93 ENGINE, replacement service (For 260A w/Torque Converter Transmission) (See NOTE C)

NOTE A: When ordering a Service Engine, give complete serial number (including letters and numerals) shown on crankcase of engine to be replaced.

NOTE B: Includes all current parts listed throughout this catalog for this particular engine variation, except as noted. Optional parts, packages and (X) - As required parts listed in Section 2 thru 17 are not included.

NOTE C: Engine no longer available. Service parts will be furnished throughout this catalog. Skeleton engine is available for service.

SKELETON SERVICE ENGINE (See NOTE A)

3 144 170 R91 ENGINE, skeleton service (For ALL Models except TD-8E and 125E) (Consists of -

- Camshaft w/Gear and Bearings
- Connecting Rods w/Bearings
- Crankcase Assembly
- Crankshaft w/Bearings
- Piston w/Pins, Sleeves and Rings
- Balancer

3 144 825 R91 ENGINE, skeleton service (For TD-8E and 125E) (Consists of -

- Camshaft w/Gear and Bearings
- Connecting Rods w/Bearings
- Crankcase Assembly
- Crankshaft w/Bearings
- Piston w/Pins, Sleeves and Rings
- Balancer

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

MISCELLANEOUS

2

QUICK REFERENCE

FOR

FILTER ELEMENTS AND BELTS

Engine	Model	Fuel Filters	Lubrication Filters	Belts — Fan, Water Pump and Alternator
D-239	2500A, 2500B, 2505B, 2510B, 2514B, 2544, 3500A, 3514, 250A TC, 250A SM, 250A HS, 250 ATC, 250A SM, 250A HS	3 144 477 R92 700551 and below 640237 and below 646363 and below 3 132 428 R2 700552 and up 640237 and up 646363 and up	3 136 046 R93 or 398 080 R2	
D-239	260A	3 132 428 R2		
D-239	TD-7E and 100E	3 144 477 R92 051516 and below 3 132 428 R2 051517 and up	3 132 737 R93	Refer to Chassis Parts Catalog
DT-239	TD-8E and 125E	3 144 477 R92 003048 and below 3 132 428 R2 003049 and up	3 132 737 R93	

MISCELLANEOUS

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
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PACKAGES AND KITS

NOTE: For detail list of parts, refer to page indicated.

SECTION 4 - CONNECTING ROD AND PISTON

4-2	3 059 263 R93	SET, piston ring (For four ring pistons) (All models)	4-2	3 139 594 R91	SET, piston ring (For three ring pistons) (TD-7E and 100E)
4-2	3 138 670 R92	SET, piston ring (For four ring pistons) (All models)	4-3, 4-4	3 144 518 R92	SET, piston ring (For three ring pistons) (TD-8E and 125E)
4-4	3 144 452 R92	SET, piston ring (For three ring pistons) (All Models, except TD-7E, TD-8E, 100E and 125E)	4-4	3 218 416 R91	SET, piston ring (For three ring pistons) (All Models, except TD-7E, TD-8E, 100E and 125E)

SECTION 5 - COOLING

5-2, 5-5	3 055 285 R93	PACKAGE, water pump body body conditioning (For all models)	5-6	3 218 768 R91	PACKAGE, water pump bearing reconditioning (For TD-7E, TD-8E, 100E and 125E)
5-6	3 218 771 R91	PACKAGE, water pump bearing reconditioning (For TD-7E, TD-8E, 100E and 125E)	5-6	3 132 293 R92	PACKAGE, exhaust rocker arm

SECTION 6 - CRANKCASE

6-3	3 144 434 R91	KIT, crankshaft bearing cap (rear)	8-3, 8-6	3 132 292 R92	PACKAGE, intake rocker arm
6-3	3 144 440 R91	KIT, crankshaft bearing cap (intermediate)	8-3, 8-6	3 132 293 R92	PACKAGE, exhaust rocker arm
6-3	3 228 431 R91	PACKAGE, crankcase gasket (For TD-7E, TD-8E, 100E and 125E)	8-4	3 144 786 R92	PACKAGE, valve housing cover breather field improvement and 125E)
6-4	3 136 813 R99	PACKAGE, crankcase gasket (For all Models, except TD-7E, TD-8E, 100E and 125E)	8-4	3 136 800 R98	PACKAGE, cylinder head gasket (For TD-7E and 100E)

SECTION 7 - CRANKSHAFT

7-3	3 228 133 R93	PACKAGE, crankshaft oil seal service	8-4, 8-6	3 228 677 R91	PACKAGE, valve seals service
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SECTION 8 - CYLINDER HEAD

8-3, 8-6	3 132 292 R92	PACKAGE, filter service	8-4	3 144 786 R92	PACKAGE, valve housing cover breather field improvement and 125E)
11-36	3 078 526 R91	PACKAGE, fueling pump gasket	8-4	3 136 799 R99	PACKAGE, cylinder head gasket (For all Models, except TD-7E, TD-8E, 100E and 125E)
11-28	3 144 477 R92	PACKAGE, filter service	8-4	3 136 800 R98	PACKAGE, cylinder head gasket (For TD-7E and 100E)
11-31	3 132 290 R91	PACKAGE, fueling pump shim service	8-7	3 144 826 R94	PACKAGE, cylinder head gasket (For TD-8E and 125E)
11-21	3 059 093 R91	SET, fuel pump gasket - external	8-7	3 136 800 R98	PACKAGE, cylinder head gasket (For TD-7E and 100E)
11-22	3 059 094 R93	SET, fuel pump gasket - internal	8-4, 8-6	3 144 786 R92	PACKAGE, valve housing cover breather field improvement and 125E)
11-23	3 218 819 R91	PACKAGE, fuel pump support	8-4, 8-6	3 144 786 R92	PACKAGE, valve housing cover breather field improvement and 125E)
11-33	3 136 002 R91	PACKAGE, fuel feed pump repair	8-4, 8-6	3 144 786 R92	PACKAGE, valve housing cover breather field improvement and 125E)

SECTION 11 - FUEL SYSTEM

11-36	3 144 477 R92	PACKAGE, filter service	11-36	3 132 305 R92	PACKAGE, piston relief valve service (For 2544, 3500, 3514 and 260A)
11-28	3 078 526 R91	PACKAGE, fueling pump gasket	13-7	3 132 503 R91	SET, oil pump gear (For all Models, except 2544, 3500, 3514 and 260A)
11-31	3 132 290 R91	PACKAGE, fueling pump shim service	13-7	3 136 450 R91	SET, oil pump gear (For 2544, 3500, 3514 and 260A)
11-21	3 059 093 R91	SET, fuel pump gasket - external	15-4	3 078 878 R91	PACKAGE, turbocharger reconditioning
11-22	3 059 094 R93	SET, fuel pump gasket - internal			
11-23	3 218 819 R91	PACKAGE, fuel pump support			
11-33	3 136 002 R91	PACKAGE, fuel feed pump repair			

SECTION 13 - LUBRICATION

13-7	3 132 305 R92	PACKAGE, piston relief valve service (For 2544, 3500, 3514 and 260A)			
13-6	3 132 503 R91	SET, oil pump gear (For all Models, except 2544, 3500, 3514 and 260A)			
13-7	3 136 450 R91	SET, oil pump gear (For 2544, 3500, 3514 and 260A)			

SECTION 15 - TURBOCHARGER

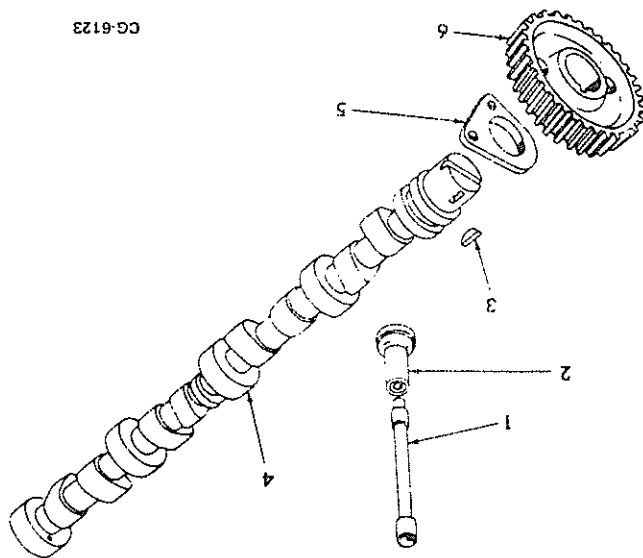
15-4	3 078 878 R91	PACKAGE, turbocharger reconditioning			
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REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

CAMSHAFT

3

1	3 144 341 R1	ROD, valve push (8)
2	3 055 052 R1	TAPPET, valve (8)
3	124 551	KEY, Woodruff (replaces 112 139)
4	3 055 046 R3	CAMSHAFT
5	3 055 051 R2	PLATE, camshaft thrust
5	3 218 896 R1	PLATE, camshaft thrust
	179 816	SCREW, hex-hd cap (2)
	3 050 129 R1	WASHER, lock (2)
6	3 055 176 R1	GEAR, camshaft (66 teeth)



CAMSHAFT AND RELATED PARTS

REF. NO.	PART NUMBER	DESCRIPTION
REF. NO.	PART NUMBER	DESCRIPTION

CAMSHAFT

EPC-239-4

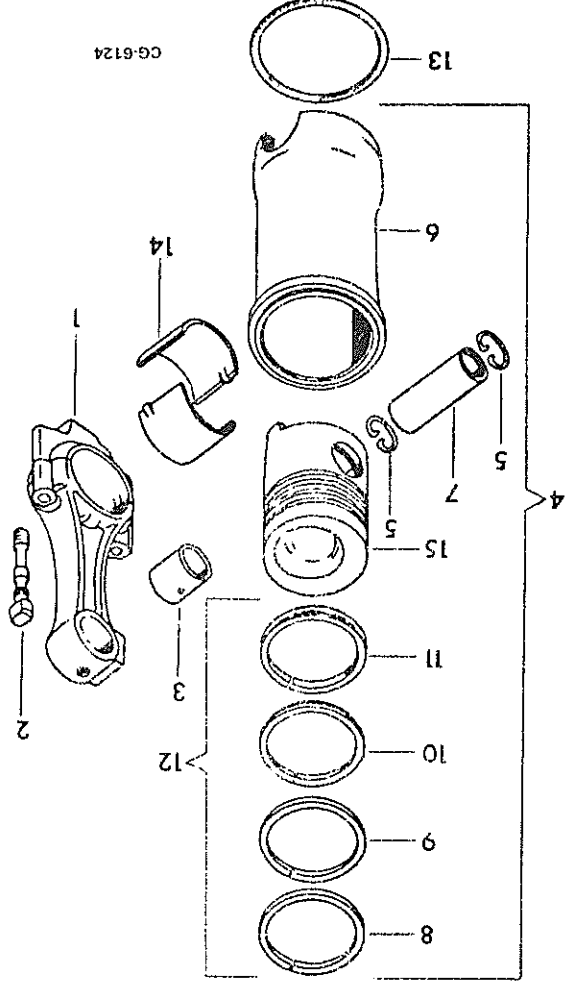
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FOR COMPLETE LISTING OF PARTS

CONNECTING ROD
AND PISTON

(X) - As Required.

1	3 055 030 R24	ROD ASSY w/two BOLT, 3 055 033 R11, BUSHING 3 132 018 R2 and two NUT, connecting (Will work for ROD ASSY, 3 132 996 R91) (4)
2	3 055 033 R11	BOLT w/NUT, connecting rod (8)
3	3 132 018 R2	BUSHING, piston pin (4)
4	3 138 882 R92	PISTON ASSY w/SLEEVES (Order 3 ring type PISTON w/SLEEVE) (4)
5	933 327 R1	RING, piston pin retainer (8)
6	3 139 592 R4	SLEEVE, cylinder
	3 218 538 R1	SHIM, cylinder sleeve counterbore (.05 mm) (X)

7	3 218 539 R1	SHIM, cylinder sleeve counterbore (.10 mm) (X)
	3 218 540 R1	SHIM, cylinder sleeve counterbore (.25 mm) (X)
	3 218 541 R1	SHIM, cylinder sleeve counterbore (.50 mm) (X)
	3 218 542 R1	SHIM, cylinder sleeve counterbore (.80 mm) (X)
7	3 055 217 R2	PIN, piston (4)
8		RING, piston compression (First) (Not Furnished Separately) (4)
9		RING, piston compression (Second) (Not Furnished Separately) (4)
10		RING, piston compression (Third) (Not Furnished Separately) (4)
11		RING, piston oil (Not Furnished Separately) (4)
12	3 059 263 R93	SET, piston ring (Consists of three compression and one oil ring) (4)
12	3 138 670 R92	SET, piston ring (Heavy duty and industrial, all chrome rings) (Consists of three compression and one oil ring) (4)
13	3 228 344 R1	RING, cylinder sleeve packing
14	3 055 351 R91	BEARING ASSY, connecting rod (Standard) (4)
14	3 056 834 R11	BEARING ASSY, connecting rod (0.250 mm U/S) (4)
14	3 056 879 R11	BEARING ASSY, connecting rod (0.500 mm U/S) (4)
14	3 055 781 R11	BEARING ASSY, connecting rod (0.750 mm U/S) (No longer available) (4)
15		PISTON (Order 3 ring type PISTON w/SLEEVE)



CONNECTING RODS, PISTONS AND SLEEVES (4-Ring Pistons)

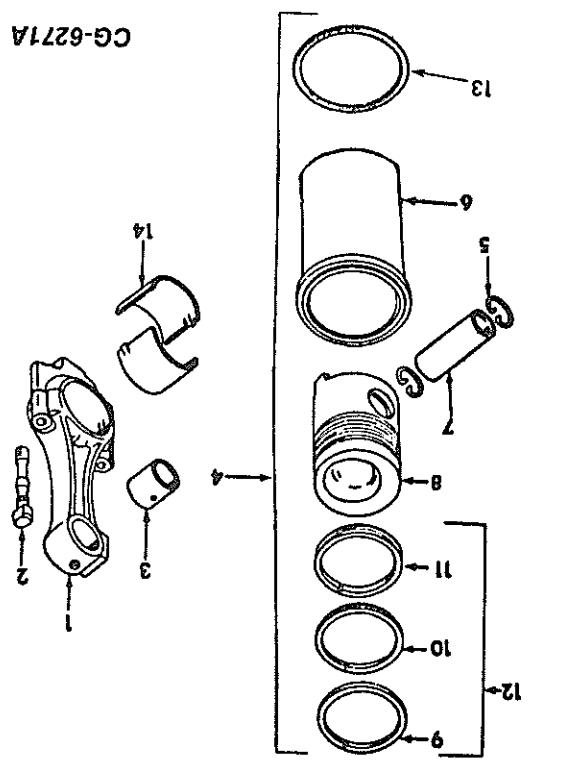
REF. NO.	PART NUMBER	DESCRIPTION
REF. NO.	PART NUMBER	DESCRIPTION

CONNECTING ROD AND PISTON

CONNECTING ROD AND PISTON

EPC-239-4

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
11		RING, piston oil (Not furnished separately) (4)	11		RING, piston oil (Not furnished separately) (4)
12		(See individual Engine Variations)	12		(See individual Engine Variations)
13	3 228 348 R1	RING, cylinder sleeve packing (Replaces 3 055 021 R2) (4)	13	3 228 344 R1	RING, cylinder sleeve packing (4)
		3500 HS - 182012 and below			3500 HS - 182012 and below
		TD-7E/100E - 53693 and up			TD-8E/125E - 5988 and below
		260A HS - 653714 and up			260A HS - 653713 and below
		260A TC - 706837 and up			260A TC - 706836 and below
		250A HS - 646362 and up			250A HS - 646361 and below
		250A SM - 640236 and up			250A SM - 640235 and below
		2500A, 2500B, 2505B, 2510B, 2514 SM and HS - + and up			2500A, 2500B, 2505B, 2510B, 2514 SM and HS - + and below
14	3 055 351 R91	BEARING ASSY, connecting rod (Standard) (4)	14	3 056 834 R11	BEARING ASSY, connecting rod (0.250 mm Undersize) (4)
14	3 056 879 R11	BEARING ASSY, connecting rod (0.500 mm Undersize) (4)	14	3 056 879 R11	BEARING ASSY, connecting rod (0.500 mm Undersize) (4)
14	3 055 781 R11	BEARING ASSY, connecting rod (0.750 mm Undersize) (No longer available) (4)	14	3 055 781 R11	BEARING ASSY, connecting rod (0.750 mm Undersize) (No longer available) (4)
1		(See individual Engine Variation)	1		(See individual Engine Variation)
2	3 055 033 R11	BOLT, w/nut connecting (8)	2	3 055 033 R11	BOLT, w/nut connecting (8)
3		(See individual Engine Variation)	3		(See individual Engine Variation)
4		(See individual Engine Variation)	4		(See individual Engine Variation)
5		(See individual Engine Variation)	5		(See individual Engine Variation)
6	3 139 592 R4	SLEEVE, cylinder (4)	6	3 139 592 R4	SLEEVE, cylinder (4)
7		(See Individual Engine Variation)	7		(See Individual Engine Variation)
8		PISTON (Not furnished separately) (4)	8		PISTON (Not furnished separately) (4)
9		RING, piston compression (First) (Not furnished separately) (4)	9		RING, piston compression (First) (Not furnished separately) (4)
10		RING, piston compression (Second) (Not furnished separately) (4)	10		RING, piston compression (Second) (Not furnished separately) (4)
		SHIM, cylinder sleeve counterbore (.05 mm) (X)			SHIM, cylinder sleeve counterbore (.05 mm) (X)
		3 218 538 R1			3 218 539 R1
		SHIM, cylinder sleeve counterbore (.10 mm) (X)			SHIM, cylinder sleeve counterbore (.10 mm) (X)
		3 218 540 R1			3 218 540 R1
		SHIM, cylinder sleeve counterbore (.25 mm) (X)			SHIM, cylinder sleeve counterbore (.25 mm) (X)
		3 218 541 R1			3 218 541 R1
		SHIM, cylinder sleeve counterbore (.50 mm) (X)			SHIM, cylinder sleeve counterbore (.50 mm) (X)
		3 218 542 R1			3 218 542 R1
		SHIM, cylinder sleeve counterbore (.80 mm) (X)			SHIM, cylinder sleeve counterbore (.80 mm) (X)
7		(See Individual Engine Variation)	7		(See Individual Engine Variation)
8		PISTON (Not furnished separately) (4)	8		PISTON (Not furnished separately) (4)
9		RING, piston compression (First) (Not furnished separately) (4)	9		RING, piston compression (First) (Not furnished separately) (4)
10		RING, piston compression (Second) (Not furnished separately) (4)	10		RING, piston compression (Second) (Not furnished separately) (4)



ENGINE VARIATIONS (TD-7E and 100E)

1	3 055 030 R24	ROD ASSY w/two BOLT, 3 055 033 R11, two NUT and BUSHING, 3 132 018 R2, connecting (4)	3	3 132 018 R2	BUSHING, piston pin (4)
4	3 139 591 R96	PISTON ASSY w/SLEEVE (4)	4	3 139 591 R96	PISTON ASSY w/SLEEVE (4)
5	933 327 R1	RING, piston pin retainer (8)	5	933 327 R1	RING, piston pin retainer (8)
5	3 228 245 R1	RING, piston pin retainer (8)	5	3 228 245 R1	RING, piston pin retainer (8)
7	3 055 217 R2	PIN, piston (4)	7	3 055 217 R2	PIN, piston (4)
12	3 139 594 R91	SET, piston ring (4) (replaces 687 014 C91)	12	3 139 594 R91	SET, piston ring (4) (replaces 687 014 C91)

CONNECTING ROD AND PISTON

EPC-239-4

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
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4	3 139 591 R96	PISTON ASSY w/SLEEVE (4)	4	3 139 591 R96	PISTON ASSY w/SLEEVE (4)
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ENGINE VARIATIONS - Continued

1	3 144 741 R91	ROD ASSY w/two BOLT, 3 055 033 R11, two NUT, and BUSHING, 3 132 018 R2, connecting (4)	3	3 144 740 R2	BUSHING, piston pin (4)
3	3 144 740 R2	BUSHING, piston pin (4)	4	3 144 516 R97	PISTON ASSY w/SLEEVE (4)
5	3 228 422 R1	RING, piston pin retainer (8) (Replaces 934 592 R1)	5	3 228 245 R1	RING, piston pin retainer (8)
7	3 132 039 R2	PIN, piston (4)	7	3 055 217 R2	PIN, piston (4)
12	3 144 518 R92	SET, piston ring (4) (Replaces 3 139 594 R92, 687 014 R91)	12	3 218 416 R91	SET, piston ring (4) 2500A, 2500B, 2505B, 2510B, 2514B w/Synchromesh Trans- mission 2544 and 3514 3500A Synchromesh and Hydro- static Transmission
1	3 055 030 R24	ROD ASSY w/two BOLT, 3 055 033 R11, two NUT, and BUSHING, 3 132 018 R2, connecting (4)	3	3 132 018 R2	BUSHING, piston pin (4)
4	3 218 759 R95	PISTON ASSY w/SLEEVE (4) (replaces 3 144 257 R93, 2500A, 2500B, 2505B, 2510B, 2514B w/Synchromesh transmission 2544 and 3514 3500A Synchromesh and Hydrostatic transmission)	12	3 144 452 R92	SET, piston ring (4) optional for 2500A, 2500B, 2505B, 2514B, 2500A SM 640276 and below 250A HS 646393 and below 250A TC 700637 and below
12	3 139 594 R91	SET, piston ring (4) 2514B w/Hydrostatic Transmission 476075 and below 260A w/Hydrostatic Transmission 653714 and below 260A w/Torque Converter Trans- mission 725094 and below	12	3 139 594 R91	SET, piston ring (4) 2514B w/Hydrostatic Transmission 476075 and below 260A w/Hydrostatic Transmission 653714 and below 260A w/Torque Converter Trans- mission 725094 and below

(All Models except TD-7E, TD-8E, 100E and 125E)

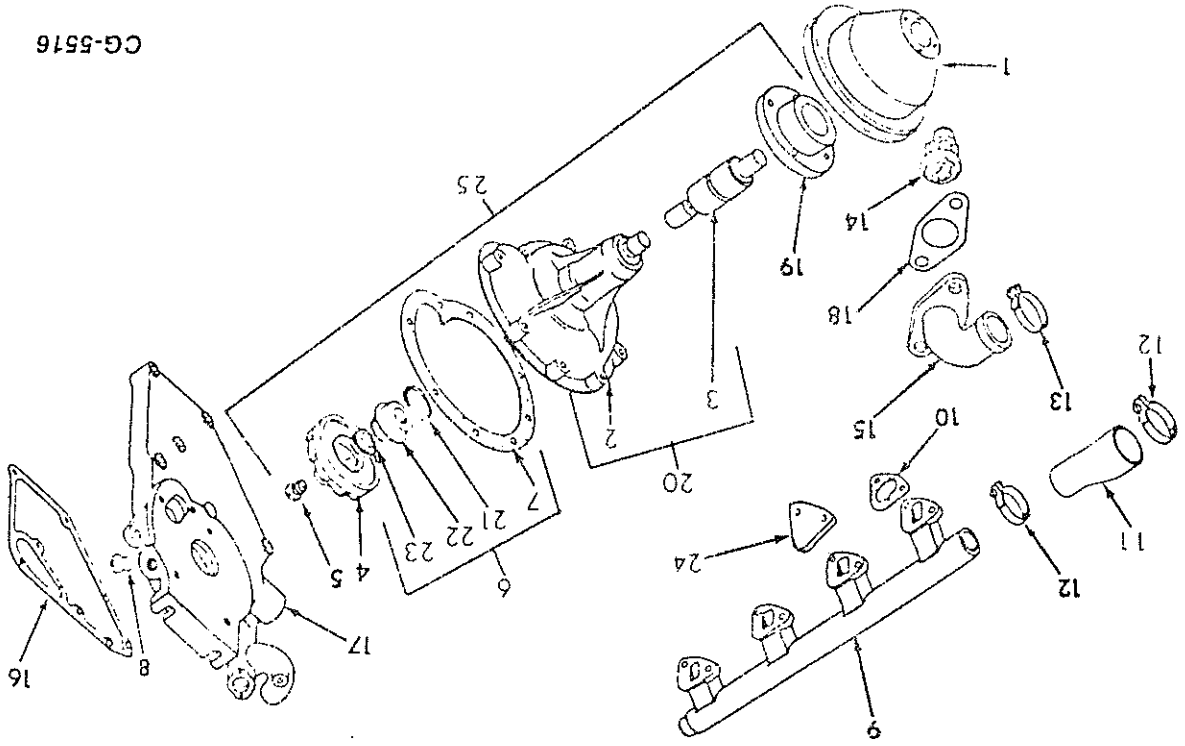
1	3 055 030 R24	ROD ASSY w/two BOLT, 3 055 033 R11, two NUT, and BUSHING, 3 132 018 R2, connecting (4)	3	3 132 018 R2	BUSHING, piston pin (4)
4	3 218 759 R95	PISTON ASSY w/SLEEVE (4) (replaces 3 144 257 R93, 2500A, 2500B, 2505B, 2510B, 2514B w/Synchromesh transmission 2544 and 3514 3500A Synchromesh and Hydrostatic transmission)	12	3 144 452 R92	SET, piston ring (4) optional for 2500A, 2500B, 2505B, 2514B, 2500A SM 640276 and below 250A HS 646393 and below 250A TC 700637 and below
12	3 139 594 R91	SET, piston ring (4) 2514B w/Hydrostatic Transmission 476075 and below 260A w/Hydrostatic Transmission 653714 and below 260A w/Torque Converter Trans- mission 725094 and below	12	3 139 594 R91	SET, piston ring (4) 2514B w/Hydrostatic Transmission 476075 and below 260A w/Hydrostatic Transmission 653714 and below 260A w/Torque Converter Trans- mission 725094 and below

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

COOLING

5

1	PULLEY, water pump (refer to Chassis Parts Catalog)	3 055 306 R1	GASKET, water collecting pipe (4)
2	HOUSING (Not Furnished separately)		(See Individual Engine Variation)
3	BEARING, pump (replaces 3 144 445 R1)	3 055 192 R91	(See Individual Engine Variation)
4	(See Individual Engine Variation)		(See Individual Engine Variation)
5	PLUG, closing	3 055 308 R1	PLUG, water pump recondition- ing
6	PACKAGE, water pump recondition- ing	3 055 285 R93	GASKET, water pump carrier
7	GASKET, water pump	3 055 177 R1	(See Individual Engine Variation)
8	444 630 PLUG, 3/8" pipe		GASKET, water outlet
9	(See Individual Engine Variation)		HUB, water pump pulley OR HUB, water pump pulley
19		3 132 146 R1	
19		3 132 148 R1	
20		3 132 677 R31	BODY ASSY, water pump



CG-5516

WATER PUMP, THERMOSTAT, THERMOSTAT BY PASS
AND RELATED PARTS
(For 3514, 2544, 2500A, 2500B, 2505B, 2510B, 2514B,
3500A, 250A and 260A)

REF. PART NO.	DESCRIPTION	REF. PART NO.	DESCRIPTION
1	PULLEY, water pump (refer to Chassis Parts Catalog)	3 055 306 R1	GASKET, water collecting pipe (4)
2	HOUSING (Not Furnished separately)		(See Individual Engine Variation)
3	BEARING, pump (replaces 3 144 445 R1)	3 055 192 R91	(See Individual Engine Variation)
4	(See Individual Engine Variation)		(See Individual Engine Variation)
5	PLUG, closing	3 055 308 R1	PLUG, water pump recondition- ing
6	PACKAGE, water pump recondition- ing	3 055 285 R93	GASKET, water pump carrier
7	GASKET, water pump	3 055 177 R1	(See Individual Engine Variation)
8	444 630 PLUG, 3/8" pipe		GASKET, water outlet
9	(See Individual Engine Variation)		HUB, water pump pulley OR HUB, water pump pulley
19		3 132 146 R1	
19		3 132 148 R1	
20		3 132 677 R31	BODY ASSY, water pump

COOLING

COOLING

REF. NO.	PART NUMBER	DESCRIPTION
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WATER PUMP, THERMOSTAT, THERMOSTAT BY-PASS
 AND RELATED PARTS - Continued
 (3514, 2544, 2500A, 2500B, 2505B, 2510B, 2514B,
 3500A, 250A and 260A)

4	3 055 211 R2	IMPELLER, water pump
9	3 055 255 R1	PIPE, water collecting
21		RING, sealing (Not furnished separately)
22		RING, retainer with seal (Not furnished separately)
23		RING, sealing (Not furnished separately)
24	3 132 721 R1	PLATE, cover (2)
	103 025	SCREW, hex-hd (4)
	103 320	WASHER, lock (4)
25		(See Individual Engine Variation)

ENGINE VARIATIONS

2544 and 3514

4	787 579 R2	IMPELLER, water pump
9	3 055 255 R1	PIPE, water collecting
	103 025	NUT, hex (8)
	3 055 574 R1	WASHER, spring (3)
	103 320	WASHER, lock (4)
	444 667	PLUG (2)
	3 136 506 R1	RING, packing
11	3 132 144 R1	HOSE, pipe to carrier
	2500A, 2500B, 2505B, 2510B,	below
	2514B - 98821 and below	below
	3500A (SM) - 161329 and	below
	3500A (HS) - 181857 and	below
11	3 132 144 R1	HOSE, pipe to carrier
12	3 218 259 R1	CLAMP, hose (2)
13	3 136 499 R1	CLAMP, water pipe to thermostat
15	3 132 352 R1	ELBOW, water outlet (For 2544)
15	3 132 142 R2	FLANGE, water outlet (For 3514)
	179 840	SCREW, hex-hd cap (2)
	103 321	WASHER, lock (2)
17	3 136 678 R2	CARRIER, water pump (Replaces
	3 132 141 R1)	
	102 634	NUT, hex (2)
	3 218 395 R1	DISC, spring (2)
	445 686	PLUG, pipe
	179 830	SCREW, 3" long hex-hd cap
	186 270	SCREW, 3-1/2" long hex-hd cap
	103 320	WASHER, lock (4)
25	3 132 739 R92	PUMP ASSY, water (Does not
	179 822	include item 7)
	103 320	SCREW, hex-hd cap (8)
	103 320	WASHER, lock (8)
15	3 132 142 R2	FLANGE, water outlet
	3500A (HS) - 181858 and up	
	2514B - 98822 and up	
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98822 and up	
	3500A (SM) - 161330 and up	
	3500A (HS) - 181857 and	
12	3 144 921 R1	CLAMP, hose (2)
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
12	3 218 259 R1	CLAMP, hose (2)
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98821 and below	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
11	3 144 028 R1	HOSE, pipe to carrier
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98822 and up	
	3500A (SM) - 161330 and up	
	3500A (HS) - 181858 and up	
12	3 218 259 R1	CLAMP, hose (2)
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98821 and below	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
11	3 144 028 R1	HOSE, pipe to carrier
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98821 and below	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
11	3 132 144 R1	HOSE, pipe to carrier
	2500A, 2500B, 2505B, 2510B,	
	2514B - 98821 and below	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161330 and up	
	3500A (HS) - 181858 and up	
	103 025	NUT, hex (8)
	3 055 574 R1	WASHER, spring (3)
	103 320	WASHER, lock (4)
	444 667	PLUG (2)
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161330 and up	
	3500A (HS) - 181858 and up	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161330 and up	
	3500A (HS) - 181858 and up	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
	3 136 506 R1	RING, packing
9	3 218 034 R1	MANIFOLD, water collecting
	2500A, 2500B, 2505B, 2510B,	
	2514B - 098822 and up	
	3500A (SM) - 161329 and	
	3500A (HS) - 181857 and	
	103 025	NUT, hex (8)
	933 570 R1	WASHER, spring (7)
	712 616 R1	PLUG, hex-hd
	933 610 R1	

COOLING

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
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WATER PUMP, THERMOSTAT, THERMOSTAT BY-PASS,
AND RELATED PARTS - Continued
(3514, 2544, 2500A, 2500B, 2505B, 2510B, 2514B,
3500A, 250A and 260A)

ENGINE VARIATIONS - Continued

(2500A, 2500B, 2505B, 2510B, 2514B,
and 3500A) - Continued

17	3 136 678 R2	CARRIER, water pump	179 830	SCREW (2 except 3500A)
			186 270	SCREW (1 except 3 For 3500A)
			186 272	SCREW, 4" hex-hd
			102 634	NUT, hex (2)
			445 686	PLUG, 1/2" pipe
			3 050 129 R1	WASHER, lock (5)
			3 055 574 R1	WASHER (1 For 3500A)
25	3 136 053 R92	PUMP ASSY, water (Does not include item 7)	179 822	SCREW, 1-1/2" hex-hd cap (7)
			3 050 129 R1	WASHER, lock (8)
			28 301 R1	SCREW, 1-3/8" hex-hd cap

(250A and 260A)

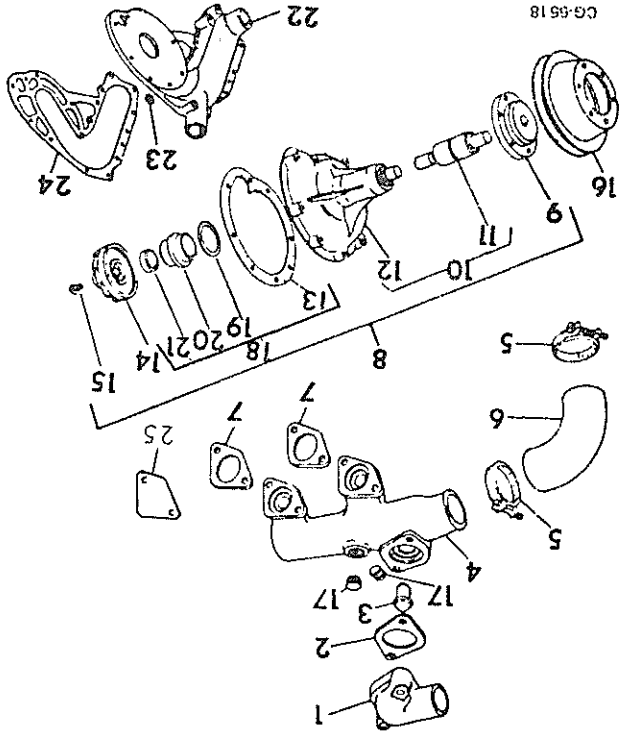
4	3 055 211 R2	IMPELLER, water pump		
9	3 218 034 R1	PIPE, water collecting	103 025	NUT, hex (8)
			3 055 574 R1	WASHER, spring (3)
			103 320	WASHER, lock (4)
			444 637	PLUG, pipe (2)
			3 136 506 R1	RING, packing
11	3 144 028 R1	HOSE, pipe to carrier		
12	3 218 259 R1	CLAMP, hose (Replaces 3 144 921 R1)		
				(2)
15	3 132 142 R2	ELBOW, water outlet	179 840	SCREW, hex-hd cap (2)
			3 050 221 R1	WASHER, lock (2)
17	3 136 678 R2	CARRIER, water pump	179 830	SCREW, 3" hex-hd (2)
			186 276	SCREW, 3-1/2" hex-hd (3)
			186 272	SCREW, 4" hex-hd (1)
			102 634	NUT (2)
			3 050 129 R1	WASHER, lock (5)
			445 686	PLUG, 1/2" pipe
			3 055 574 R1	WASHER
25	3 136 053 R92	PUMP ASSY, water (Does not include item 7)	179 822	SCREW, 1-1/2" hex-hd cap (7)
			3 050 129 R1	WASHER, lock (8)
			28 301 R1	SCREW, 1-3/8" hex-hd cap

COOLING

REF. NO.	PART NUMBER	DESCRIPTION
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9	3 055 188 R1	HUB, pulley TD-7E 52678 and below TD-8E 4306 and below 100E 41065 and below 125E 41692 and below
9	3 218 766 R1	HUB, pulley TD-7E 52679 and up TD-8E 4307 and up 100E 41066 and up 125E 41693 and up
10	3 144 662 R92	BODY ASSY, pump (Order PACKAGE 3 218 768 R91) TD-7E 52678 and below TD-8E 4306 and below 100E 41065 and below 125E 41692 and below
10	3 218 769 R1	BODY ASSY, pump TD-7E 52679 and up TD-8E 4307 and up 100E 41066 and up 125E 41693 and up
11	3 144 445 R1	BEARING, pump (Order PACKAGE 3 218 771 R91) TD-7E 52678 and below TD-8E 4306 and below 100E 41065 and below 125E 41692 and below
11	3 218 765 R91	BEARING, pump TD-7E 52679 and up TD-8E 4307 and up 100E 41066 and up 125E 41693 and up
12		HOUSING, pump (Not furnished separately)
13	3 055 177 R1	GASKET, pump (Not part of PUMP ASSY)
14	787 579 R2	IMPELLER, pump
15	3 055 308 R1	PLUG, closing
16	3 055 178 R1	PULLEY, fan and pump SCREW, hex-hd cap (6) WASHER, lock (6)
17	444 667	PLUG, 1/2"NPTF pipe (3)
18	3 055 285 R93	PACKAGE, water pump reconditioning
19		RING, sealing (Not furnished separately)
20		RING, retainer with seal (Not furnished separately)
21		RING, seal (Not furnished separately)

WATER PUMP, THERMOSTAT, THERMOSTAT BY-PASS AND RELATED PARTS
(TD-7E, TD-8E, 100E and 125E)



1	3 132 718 R1	ELBOW, water outlet SCREW, hex-hd cap (2) 179 847 103 321
2	3 132 143 R1	GASKET, water outlet elbow
3	3 228 046 R1	THERMOSTAT (180 to 203 Deg.) (Replaces 3 138 683 R1)
4	3 132 727 R2	MANIFOLD, water collecting NUT, hex (8) 103 025 103 320
5	3 218 259 R1	STRAP, clamping (2)
6	3 132 720 R1	HOSE, elbow to manifold
7	3 055 306 R1	GASKET, water collecting manifold (4)
8	3 144 456 R93	PUMP ASSY, water (Less Ref 13) 186 270 102 634 NUT, hex (4) 3 050 129 R1 WASHER, lock (8) 28 300 R1 SCREW, 3-3/8" hex-hd cap

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
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COOLING

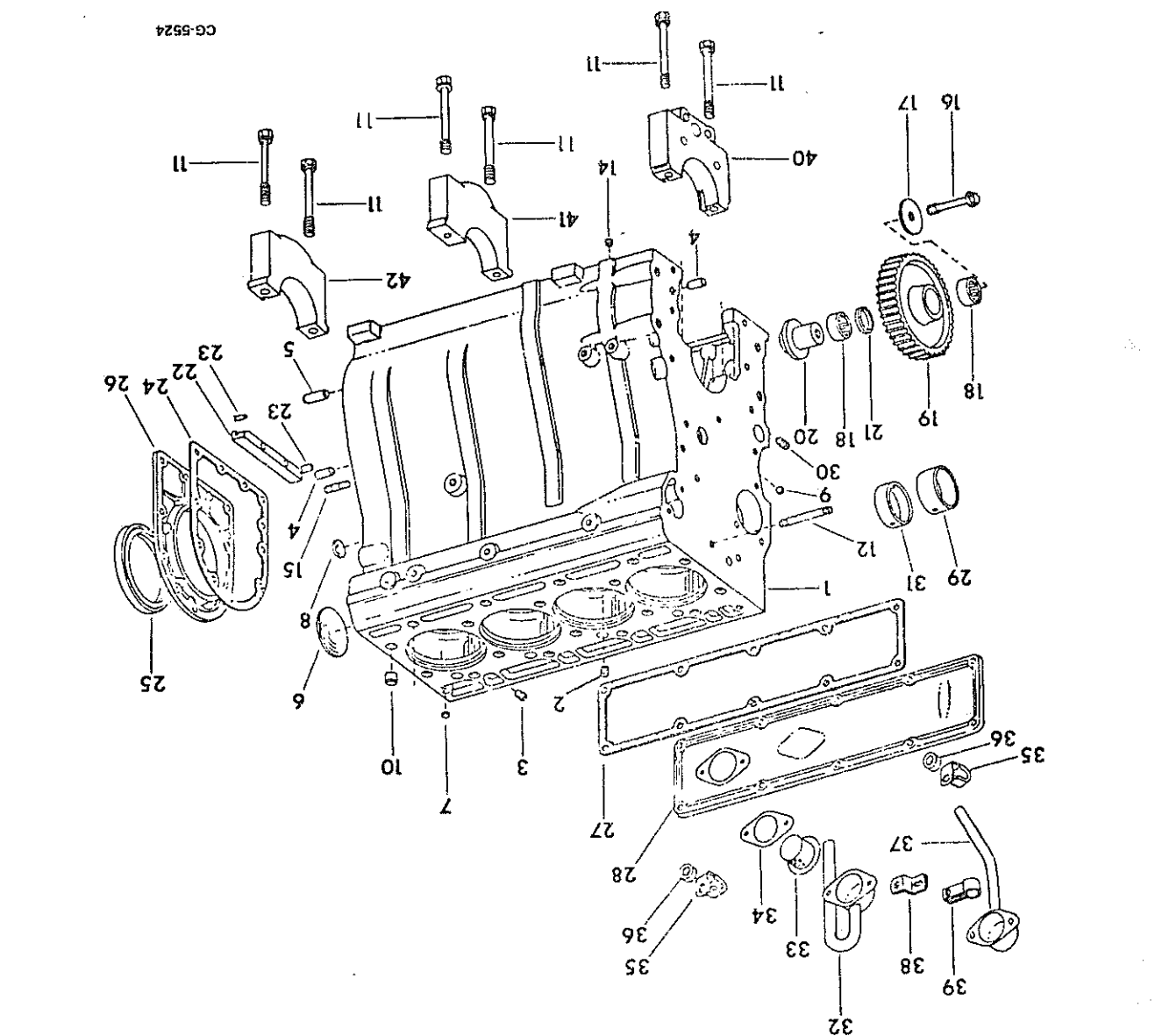
WATER PUMP, THERMOSTAT, THERMOSTAT BY-PASS
AND RELATED PARTS - Continued
(TD-7E, TD-8E, 100E and 125E)

22	3 138 524 R1	CHANNEL, water	179 818	SCREW, 1" long hex-hd cap (3)
			179 825	SCREW, 1-7/8" long hex-hd cap
			179 826	SCREW, 2" long hex-hd cap
			426 444	SCREW, 3-1/4" long hex-hd cap (5)
			102 634	NUT, hex (7)
			933 570 R1	SPRING WASHER (5)
			3 050 129 R1	WASHER, lock (5)
23	3 055 246 R1	GASKET, water channel		
24	3 136 766 R2	GASKET, water channel		
25	3 132 721 R1	PLATE, cover	103 025	SCREW, hex-hd cap (2)
			103 320	WASHER, lock (2)
			3 218 768 R91	PACKAGE, water pump body recon-
				ditioning
				(Consists of
				1 BODY w/
				BEARING
			3 218 769 R91	1 HUB
			3 218 766 R1	1 HUB
			3 218 771 R91	PACKAGE, water pump
				bearing recon-ditioning
				(Consists of
				1 BEARING
			3 218 765 R1	1 HUB
			3 218 766 R1	1 HUB

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

GRANKCASE

REF. NO.	PART NUMBER	DESCRIPTION
1	3 228 620 R91	CRANKCASE ASSY (Will work for 3 132 154 R91 or 3 055 611 R94)
		(Replaces 3 136 316 R21)
		(Consists of -
		1 PLUG
		4 PLUG
		4 PIN
		2 COVER
		2 PLUG
		10 SCREW
		1 PLUG
		3 138 885 R1
		3 055 173 R1
2	103 883	PLUG, pipe
3	20 990 R1	PLUG, hex-hd
4	933 537 R1	CRANKCASE
5	172 602	1 CRANKCASE
6	141 284	1 CAP
7	141 242	3 CAP
8	144 520 R1	1 CAP
9	103 883	2 CAP
10	3 055 008 R1	1 BEARING
11	3 055 009 R2	2 BEARING
12	3 055 007 R1	2 BUSHING
13	3 055 270 R1	1 STUD



CG-5524

REF. NO.	PART NUMBER	DESCRIPTION
1	3 228 620 R91	CRANKCASE ASSY (Will work for 3 132 154 R91 or 3 055 611 R94)
		(Replaces 3 136 316 R21)
		(Consists of -
		1 PLUG
		4 PLUG
		4 PIN
		2 COVER
		2 PLUG
		10 SCREW
		1 PLUG
		3 138 885 R1
		3 055 173 R1
2	103 883	PLUG, pipe
3	20 990 R1	PLUG, hex-hd
4	933 537 R1	CRANKCASE
5	172 602	1 CRANKCASE
6	141 284	1 CAP
7	141 242	3 CAP
8	144 520 R1	1 CAP
9	103 883	2 CAP
10	3 055 008 R1	1 BEARING
11	3 055 009 R2	2 BEARING
12	3 055 007 R1	2 BUSHING
13	3 055 270 R1	1 STUD

CRANKCASE

CRANKCASE AND RELATED PARTS

EPC-239-4

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
3	3 144 520 R1	PLUG, pipe (Replaces 103 884) (4)	31	3 055 009 R2	BEARING, camshaft (2)
4	141 242	PIN, dowel (4)	32		(See Individual Engine Variation)
5	141 284	PIN, dowel (2)	33		(See Individual Engine Variation)
6	172 602	PLUG, expansion	34		(See Individual Engine Variation)
7	3 136 004 R1	PLUG, cup	35		(See Individual Engine Variation)
8	933 537 R1	COVER, closing (2)	36		(See Individual Engine Variation)
9	3 136 004 R1	PLUG, cup	37		(See Individual Engine Variation)
10	3 055 007 R1	BUSHING, dowel (2)	38		(See Individual Engine Variation)
11	3 138 580 R1	SCREW, camshaft bearing cap (Used w/CRANKCASE, (8) 3 132 154 R91 and 3 055 611 R94)	39		(See Individual Engine Variation)
11	3 138 885 R1	SCREW, camshaft bearing cap (Used w/CRANKCASE, 3 136 316 R13) (10)	40	3 136 316 R13	CAP, camshaft bearing front (Order CRANKCASE ASSY, (Order KIT, 3 144 440 R91) (3)
11	3 138 885 R1	SCREW, camshaft bearing cap (Used w/CRANKCASE, 3 136 316 R13) (10)	41		CAP, camshaft bearing intermediate (Order KIT, 3 144 434 R91)
12		(See Individual Engine Variation)	42		CAP, camshaft bearing rear (Order KIT, 3 144 434 R91)
13	NOT USED				
14	3 055 173 R1	PLUG		2 SCREW	(Consists of - § 1 CAP and 4 KIT, camshaft bearing cap Nos. 2, 3
15	3 055 270 R1	STUD, rear (Left hand thread)			
16	3 055 374 R2	BOLT, idler gear carrier			
17	3 055 372 R1	RING, anti-wear idler gear			
18	3 058 816 R91	RETAINER, needle bearing (2)			
18	3 058 816 R91	RETAINER, needle bearing (2)			
18	3 136 515 R91	RETAINER, needle bearing (2)			
19	3 055 043 R3	GEAR, idler			
20	3 055 373 R1	CARRIER, idler gear			
21	787 656 R1	RING, distance			
22	3 055 214 R1	STRIP, crankcase sealing			
23	714 868 R1	STRIP, sealing (2)			
24	3 055 215 R1	GASKET, camshaft seal retainer			
25	3 138 701 R91	SEAL, rear oil			
26	3 055 216 R1	RETAINER, rear oil seal			
27	3 055 393 R3	GASKET, side cover			
28		(See Individual Engine Variation)			
29	3 055 008 R1	BEARING, camshaft front			
30	103 884	PLUG (3)			

CRANKCASE AND RELATED PARTS - Continued

§ - Not Furnished Separately.
(Continued on next page)