

Parts Manual



See "General Information"
for New Parts Manual
Features.

3013C Industrial Engine *253 -2476 Engine Arrangement*

3131-Up (Engine)
G3P1-Up (Engine)

This Parts Manual is also Available in PDF Format on Compact Disk
(CD-ROM)-Caterpillar Form No. SERP3641

Product and Dealer Information

Note: For product identification plate locations, see the section "Product Identification Information" in the Operation and Maintenance Manual.

Delivery Date: _____

Product Information

Model: _____

Product Identification Number: _____

Engine Serial Number: _____

Transmission Serial Number: _____

Generator Serial Number: _____

Attachment Serial Numbers: _____

Attachment Information: _____

Customer Equipment Number: _____

Dealer Equipment Number: _____

Dealer Information

Name: _____ Branch: _____

Address: _____

Dealer Contact

Phone Number

Hours

Sales: _____

Parts: _____

Service: _____

MEMORANDA

GENERAL INFORMATION

1. ENGINE IDENTIFICATION

Caterpillar engines are identified with Serial Numbers and Arrangement Numbers. In some cases, Modification Numbers are also used. The serial number plate which shows these numbers is mounted on the engine.

Caterpillar dealers need this information to determine which components were included on the engine when it was assembled at the factory. This permits accurate identification of replacement part numbers.

2. ORDERING PARTS

WARNING

When replacement parts are required for this product Caterpillar recommends using Caterpillar replacement parts or parts with equivalent specifications including, but not limited to, physical dimensions, type, strength and material.

Failure to heed this warning can lead to premature failures, product damage, personal injury or death.

Quality Caterpillar replacement parts are available from Caterpillar dealers throughout the world. Their parts inventories are up to date and include all parts normally required to protect your investment in Caterpillar Engines. Dealers may offer repair kits or remanufactured parts to allow selection of the most effective repair alternative for a particular situation. When ordering parts, your order should specify the quantity, part number, part name, and the serial number/product identification number of the engine for which the parts are needed.

3. PARTS MANUAL ORGANIZATION

Product information in this manual is presented as "information elements" that represent all of the components for the specific model. An Engine Arrangement is an example of an information element. The information elements are organized alphabetically by part name and secondarily by part number within each major section of the manual.

4. TABLE OF CONTENTS

A table of contents (TOC) is found at the beginning of the manual. The TOC lists each section of the manual with a complete list of all information elements organized as they appear in the manual. Page numbers are provided for quick reference to detailed parts identification illustrations and serviceable consist lists.

5. MAINTENANCE PARTS INDEX

The Maintenance Parts Index, located near the beginning of the manual, references most frequently used maintenance part numbers, providing description, quantity, usage and page number. This information is organized alphabetically by part description.

6. INDEX

The index located near the front of the manual is an alphabetical listing of all information elements included in the manual. Page numbers are provided for quick reference to detailed parts identification illustrations and serviceable consist lists.

7. PART NUMBER INDEX

A numerical index listing all part numbers and the corresponding page number(s) appears at the back of the manual.

8. CAPTIONS

Captions located at the beginning each information element identify the part number and part name along with additional descriptive information. S/N information found in each caption should be used to select correct information for a specific engine. Field replacement options, identification of optional attachment components, and where used ("part of") information is also provided.

The first line of a caption is shown in larger type font to indicate the beginning of an information element. Captions for additional pages that may be required to illustrate an information element will be shown in standard type font and will include the term (*contd.*) .

9. NON-SERVICED PARTS

In some instances it is necessary to display non-serviced parts that are a link to lower level serviceable consist lists. These non-serviced part numbers are shown in *italic* type indicating that they are not available. All consist lists have not been converted to reflect this enhancement.

GENERAL INFORMATION

10. PARTS LIST REFERENCE NUMBERS

Numbers shown in the Ref No column correspond to numbers used in the associated graphic(s). An alphabetic suffix may be added to a reference number to identify lower level consist items. Numbers shown in the Graphic Ref column refer to the graphic number identifier displayed in the lower left corner of each illustration. The Graphic Ref number may be used in combination with the item Ref No to determine the correct part number. There may be intentional omission of a Ref No in a consist list as information is updated to reflect the latest serviceable part numbers.

11. INDENTED PART NAMES

When a part name is indented in a parts list, it is part of (included in) the group or assembly under which it is indented.

12. ILLUSTRATION REFERENCE LETTERS

When necessary, illustrations contain reference letters (A, B, C etc.) that are intended to track lines and harnesses from one point to another. They are also used to show where to reconnect illustrations that have been separated.

13. ABBREVIATIONS AND SYMBOLS

O.D. – Outside Diameter
I.D. – Inside Diameter
A – Not Part Of This Group
B – Use As Required
C – Change From Previous Type
D – Order By The Meter
E – Order By The Centimeter
F – Not Shown
G – Order By The Inch
I – Refer To Hydraulic Information System
M – Metric Part
R – Remfg Part May Be Available
Y – Separate Illustration
Z – Not Serviced Separately

 *New Feature*

14. <END>

This symbol indicates the end of an information element.

NOTE:

Continuing improvement and advancement of product design may cause changes to your engine which may not be included in this publication. Whenever a question arises regarding your Caterpillar product or this publication, please consult your Caterpillar dealer for the latest available information.

REPAIR ALTERNATIVES

REMANUFACTURED COMPONENTS

As an option when making repairs consider Caterpillar Remanufactured Components. Components that are available through the Caterpillar Remanufactured Program are identified three ways in the parts book:

- with the letter R in the note field of the parts list
- with an R* at the beginning of the first line of the caption
- with an *R at the end of the first line of the caption

Typical components included in the Remanufacturing Program include:

ALTERNATORS
CONNECTING RODS
CRANKSHAFTS - UNDERSIZE
CRANKSHAFTS - UPGRADE TO NEW
CYLINDER HEADS
ELECTRONIC CONTROL MODULES (ECM)
ELECTRONIC SENSORS
FUEL INJECTORS
FUEL NOZZLES
FUEL PUMPS
GOVERNORS
OIL PUMPS
PISTONS
SHORT BLOCKS
STARTERS
TURBOCHARGERS - COMPLETE
TURBOCHARGER CARTRIDGES
WATER PUMPS

Caterpillar Remanufactured engines for many engine arrangements are also available.

SUPPLEMENTAL COOLANT ADDITIVES

CUSTOMER BENEFITS:

Protects against cavitation, foam, erosion, corrosion, and scale buildup in cooling systems.

- Provides measured coolant conditioner.

DESCRIPTION:

Additives deplete from the coolant with normal operation. For this reason, Supplemental Coolant Additives (SCA) must be added to all heavy duty coolants at regular intervals. In addition, when not using a fully formulated, pre-charged antifreeze, like Caterpillar's DEAC, an initial charge of SCA must be added to the cooling system. The amount of SCA added to the system is dependent on the capacity of the system.

The SCA for initial fill is provided as a liquid. SCA's for maintenance intervals are available in liquid form and as a spin-on element. (No Spin-on available for 3600 Family of Engines)

NOTE:

The amount of SCA added at initial fill is not the same as the amount added at maintenance intervals.

The coolant additive elements can be used with any ethylene or propylene glycol type antifreeze which meets ASTM D4985 or ASTM D5345 Specifications.

NOTE:

For use with standard heavy duty coolant only, not for use with Extended Life Coolant.

PARTS NEEDED:

Cooling System Capacity		Liquid SCA at Initial Fill	Liquid SCA at Maintenance*	Spin-on SCA Maintenance Element*
Liters	Gallons			
22-30	(6-8)	3P-2044 (1)	6V-3542 (1)	111-2370 (1)
30-38	(8-10)	3P-2044 (1) 6V-3542 (1)	111-2372 (1)	111-2369 (1)
38-49	(10-13)	3P-2044 (1) 8T-1589 (1)	111-2372 (1)	111-2369 (1)
49-64	(13-17)	3P-2044 (2)	8T-1589 (1)	9N-3368 (1)
64-83	(17-22)	3P-2044 (2) 8T-1589 (1)	111-2372 (1) 6V-3542 (1)	111-2371 (1)
83-114	(22-30)	3P-2044 (3) 8T-1589 (1)	3P-2044 (1)	9N-3718 (1)
114-163	(30-43)	3P-2044 (5)	3P-2044 (1) 6V-3542 (1)	111-2371 (2)
163-242	(43-64)	3P-2044 (8)	3P-2044 (2)	9N-3718 (2)

* Normal maintenance period is 250 hrs. See your Operation and Maintenance Manual for complete coolant maintenance instructions.

() Indicates quantity required.

ENGINE ARRANGEMENT

253 - 2476 ENGINE AR-PRIMARY

25 BRAKE KW (34 BHP) AT 3000 RPM

SMCS-1000

i02233270

NOTE	PART NUMBER	QTY	PART NAME <small>123456(PRODUCTLEVEL)</small>	SEE PAGE
Y	265-6942		ALTERNATOR GP-CHARGING	48
Y	235-6804		CYLINDER BLOCK GP - LONG	16
Y	235-7069		CAMSHAFT GP	9
Y	252-9536		CONNECTION GP - ELECTRICAL	51
Y	217-5884		CONNECTION GP - ELECTRICAL	49
Y	219-7601		CONNECTION GP - ELECTRICAL	50
Y	245-8830		COVER GP - VALVE MECHANISM	10
Y	235-6967		CRANKSHAFT GP	12
Y	235-6806		CYLINDER BLOCK GP	14
Y	235-6978		CYLINDER HEAD GP	17
Y	241-6475		FILTER & LINES GP - FUEL	39
Y	266-0773		FILTER GP - ENGINE OIL	32
Y	197-8430		FLANGE GP - EXHAUST	37
Y	259-3124		FLYWHEEL GP	18
Y	197-8931		GLOW PLUG GP	52
Y	235-7039		GOVERNOR GP	41
Y	235-7019		HOUSING GP - FRONT	19
Y	236-4129		LIFTING GP - ENGINE	21
Y	161-8277		MANIFOLD GP - EXHAUST	38
Y	154-2435		MOUNTING GP-FAN	33
Y	265-6943		PAN GP - OIL	22
Y	235-6961		PISTON & ROD GP	26
Y	156-6998		PULLEY GP - CRANKSHAFT	27
Y	241-6395		PULLEY GP - WATER PUMP	28
Y	176-7711		PUMP & MTG GP - FUEL TRANSFER	44
Y	235-5526		PUMP GP - FUEL INJECTION	45
Y	218-2305		PUMP GP - WATER	34
Y	224-6663		SENSOR GP - TEMP& PRESS (ENG COOL TEMP, ENG OIL PR)	53
Y	176-7720		STARTING MOTOR GP - ELECTRIC	54
Y	235-6991		VALVE MECHANISM GP	29

Y - SEPARATE ILLUSTRATION

**CAT
PARTS**

FOR SERIAL #05050788 AND LATER

**271-2117 FUEL SOLENOID
271-5018 OIL PRESSURE SWITCH
271-6700 WATER TEMP SWITCH**

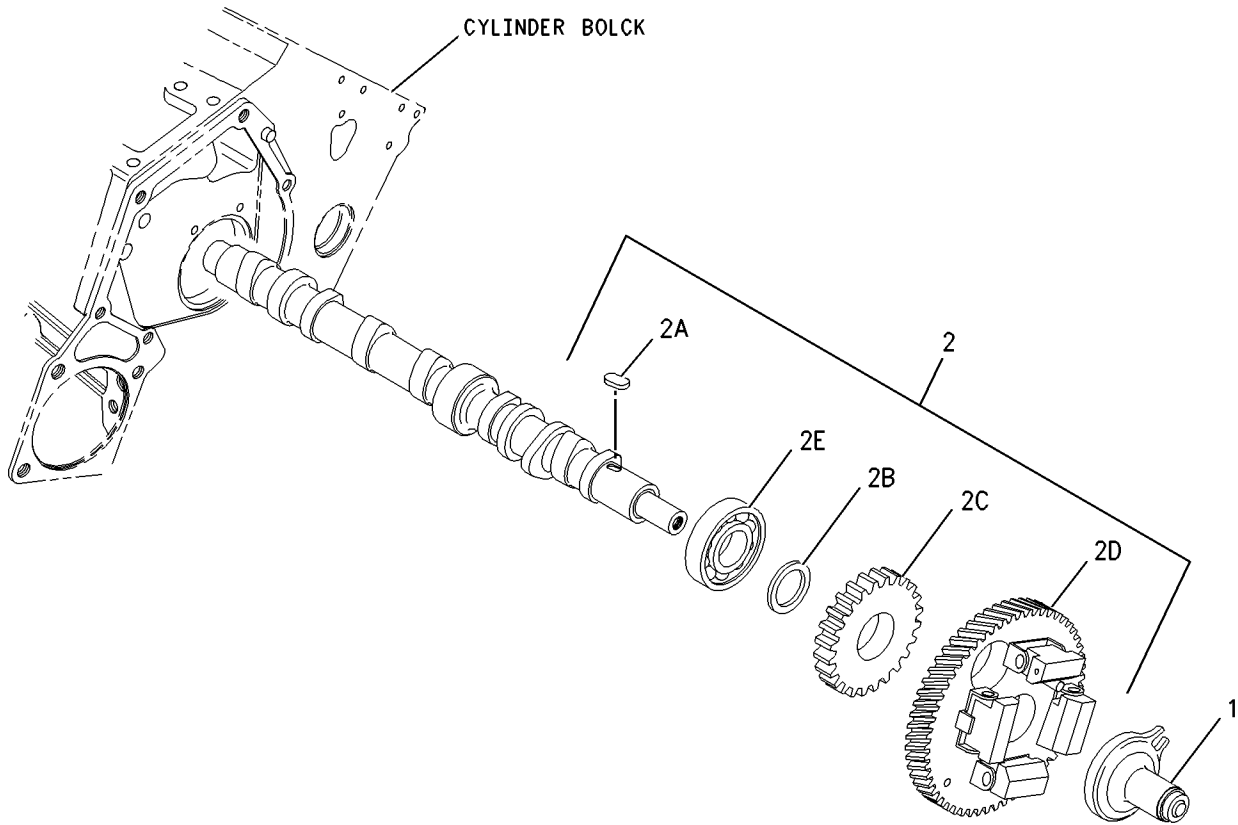
BASIC ENGINE

235 - 7069 CAMSHAFT GP

SMCS - 1210

i01909898

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	217-7174	1	TAPPET						
	2	1	156-6996	1	CAMSHAFT AS						
	2A	1	153-6492	1	KEY-WOODRUFF						
	2B	1	154-4506	3	SPACER						
	2C	1	154-4507	1	GEAR-CAMSHAFT (22 TEETH)						
	2D	1	154-4508	1	GEAR-CAMSHAFT (66 TEETH)						
	2E	1	156-6997	1	BEARING						



GRAPHIC #1

<END>

g00996021

BASIC ENGINE

245-8830 COVER GP-VALVE MECHANISM

SMCS-1107

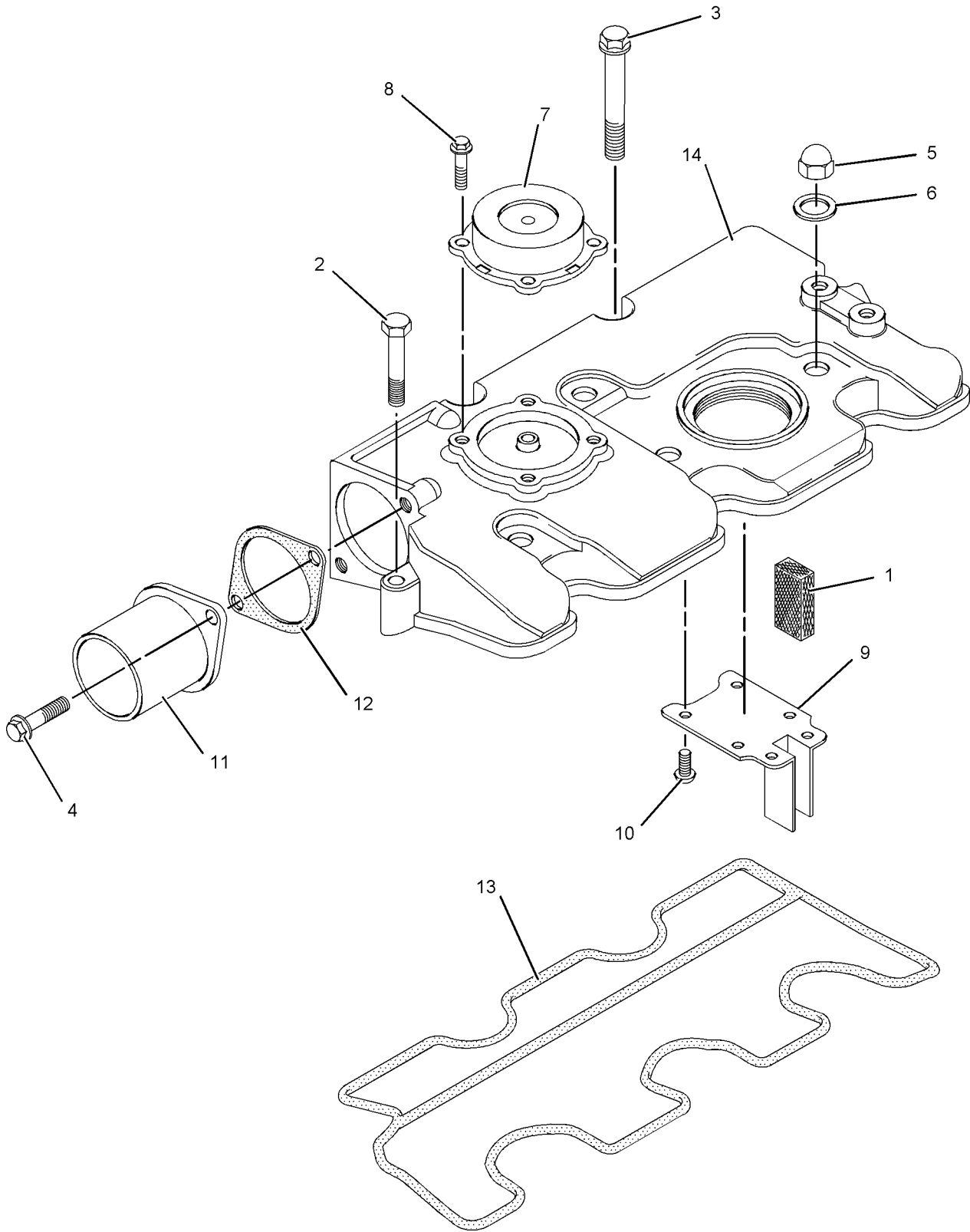
i02012391

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-5939	1	GAUZE (CRANKCASE BREATHER)						
	2	1	153-5961	2	BOLT						
	3	1	153-5962	2	BOLT						
	4	1	153-7640	2	BOLT						
	5	1	154-1347	3	NUT						
	6	1	190-3762	3	WASHER						
	7	1	217-5859	1	VALVE-BREATHER (CRANKCASE)						
	8	1	217-5860	4	BOLT						
	9	1	217-5861	1	PLATE-RETAINING						
	10	1	217-5862	1	BOLT						
	11	1	217-5863	1	CONNECTION-AIR						
	12	1	217-5864	1	GASKET						
	13	1	235-5531	1	SEAL-VALVE COVER						
	14	1	245-8829	1	COVER-VALVE						

BASIC ENGINE

245-8830 COVER GP-VALVE MECHANISM (contd.)

i02012391



GRAPHIC #1

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g01043068

BASIC ENGINE

235-6967 CRANKSHAFT GP

SMCS-1202

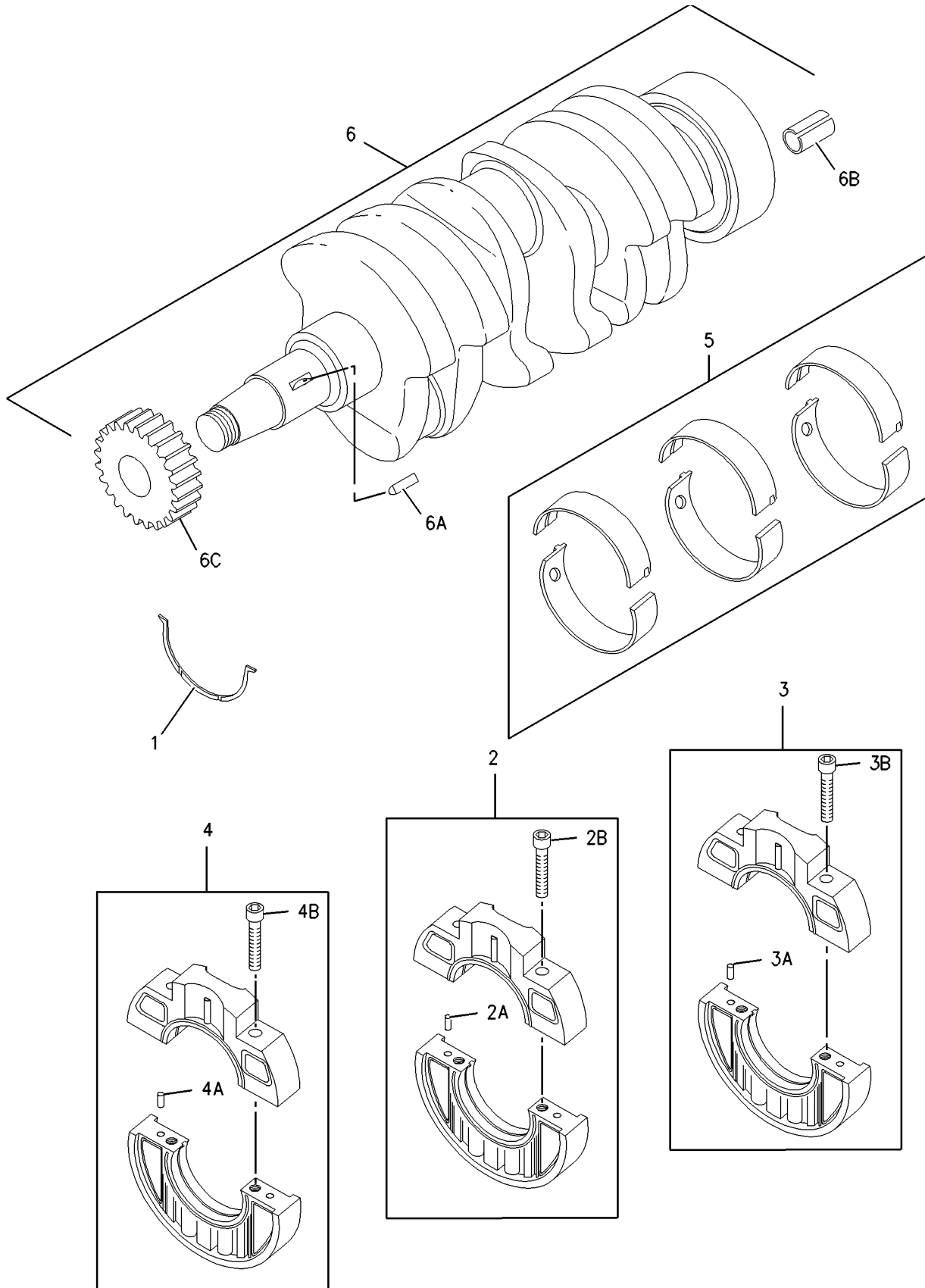
i01909902

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	154-1231	2	WASHER - THRUST						
	2	1	156-6967	1	BEARING AS						
	2A	1	153-5402	2	DOWEL						
	2B	1	154-0385	2	BOLT						
	3	1	156-6968	1	BEARING AS						
	3A	1	153-5402	2	DOWEL						
	3B	1	154-0385	2	BOLT						
	4	1	156-6970	1	BEARING AS						
	4A	1	153-5402	2	DOWEL						
	4B	1	154-0385	2	BOLT						
	5	1	156-6977	1	KIT-CRANKSHAFT BEARING (MAIN)						
	6	1	235-6962	1	CRANKSHAFT GP						
	6A	1	153-5518	1	KEY						
	6B	1	153-5519	1	PIN						
	6C	1	154-1202	1	GEAR-CRANKSHAFT (33 TEETH)						

BASIC ENGINE

235-6967 CRANKSHAFT GP (contd.)

i01909902



GRAPHIC #1

<END>

g00996782

BASIC ENGINE

235-6806 CYLINDER BLOCK GP

SMCS-1201

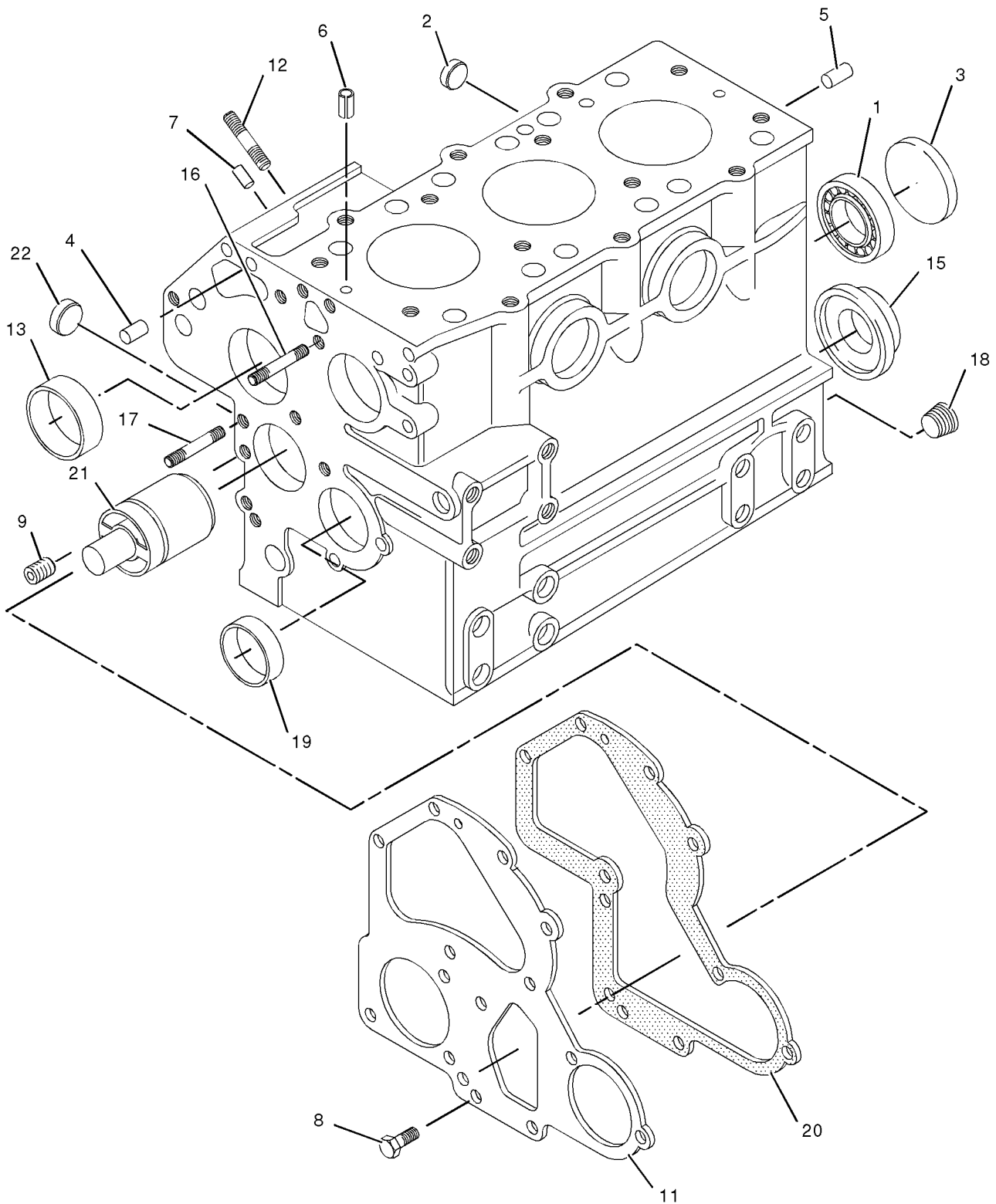
i02027508

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	6B-0924	1	BALL BEARING						
	2	1	153-5387	1	PLUG						
	3	1	153-5391	1	PLUG						
	4	1	153-5394	2	DOWEL						
	5	1	153-5395	2	DOWEL						
	6	1	153-5396	2	PIN						
	7	1	153-5402	2	DOWEL						
	8	1	153-6838	2	BOLT						
	9	1	154-0175	3	PLUG						
	11	1	154-0391	1	PLATE						
	12	1	154-0393	2	STUD						
	13	1	156-6969	1	BALL BEARING						
	15	1	156-6973	1	SEAL						
	16	1	183-1163	1	STUD						
	17	1	183-1164	1	STUD						
	18	1	183-1165	1	PLUG-SEALING						
	19	1	183-1168	1	BUSHING						
	20	1	215-2620	1	GASKET						
	21	1	217-5771	1	SHAFT						
	22	1	221-1136	3	PLUG						
	F		154-0390	2	BOLT						
	F		156-6971	2	BOLT						
F - NOT SHOWN											

BASIC ENGINE

235-6806 CYLINDER BLOCK GP (contd.)

i02027508



GRAPHIC #1

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g01048765

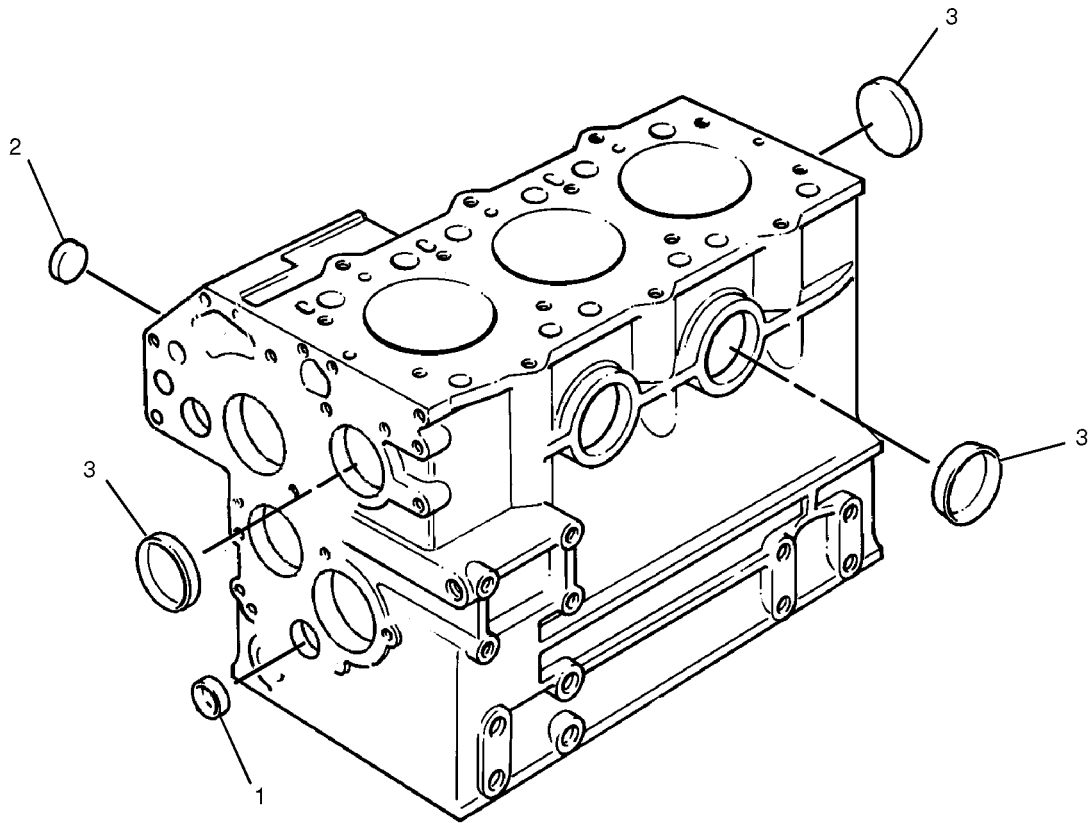
BASIC ENGINE

235-6804 CYLINDER BLOCK GP-LONG

SMCS-1020

i02103312

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-5381	1	PLUG						
	2	1	153-5382	1	PLUG						
	3	1	153-5384	4	PLUG						



GRAPHIC #1

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g01046824

BASIC ENGINE

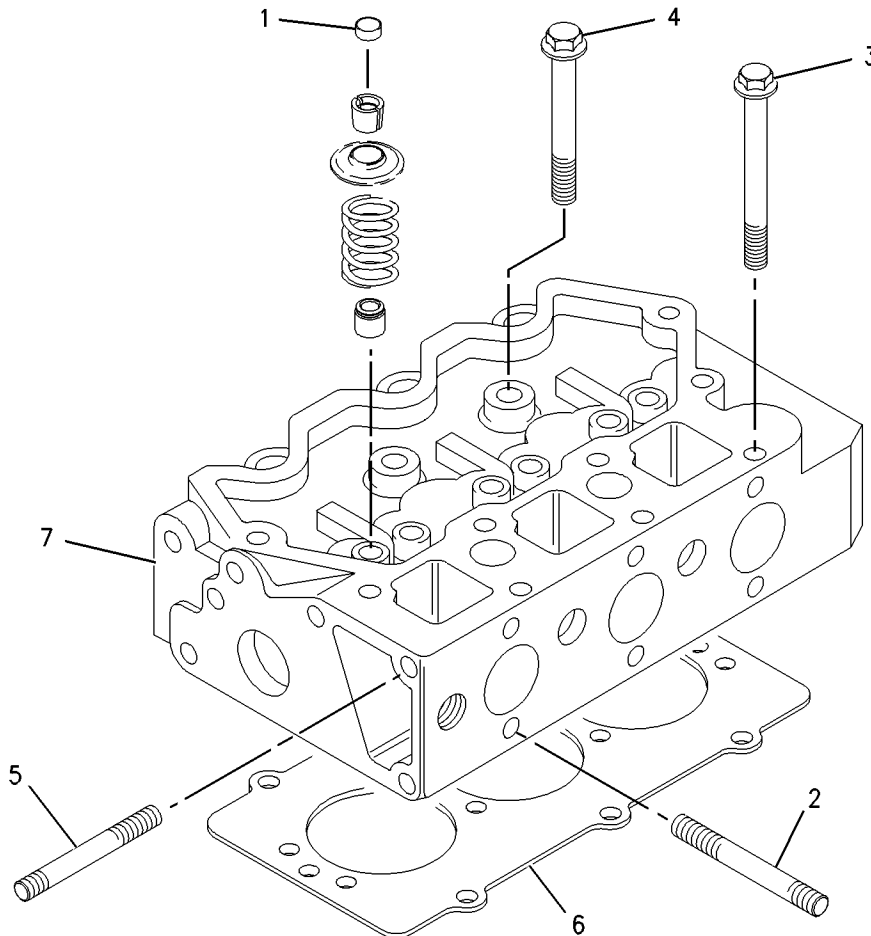
235-6978 CYLINDER HEAD GP

SMCS-1100

i01909899

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	153-5573	6	CAP						
	2	1	153-5944	2	STUD						
	3	1	156-6988	11	BOLT						
	4	1	156-6989	3	BOLT						
	5	1	160-7626	2	STUD						
	6	1	218-8533	1	GASKET (1.3 MM THK)						
		1	218-8537	1	GASKET (1.4 MM THK)						
Y	7	1	235-6974	1	CYLINDER HEAD GP						31

Y-SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g00995808

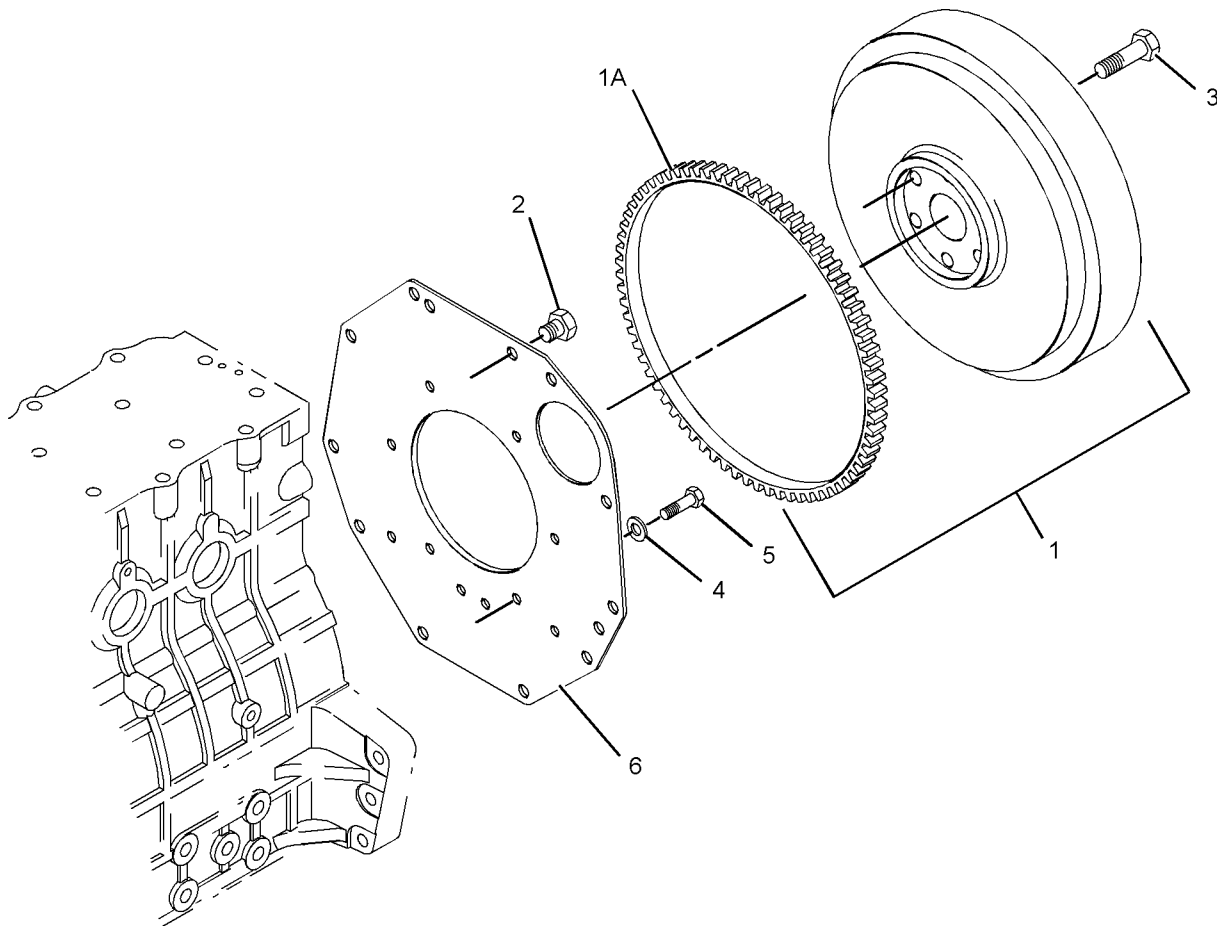
BASIC ENGINE

259-3124 FLYWHEEL GP

SMCS-1156

i02233632

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	138-7417	1	FLYWHEEL AS						
	1A	1	156-6960	1	GEAR-STARTING MOTOR (109-TEETH)						
	2	1	153-6868	2	BOLT						
	3	1	154-2406	6	BOLT						
	4	1	155-7984	10	WASHER						
	5	1	165-2141	10	BOLT						
	6	1	226-7902	1	PLATE						



GRAPHIC #1

<END>

g01126968

BASIC ENGINE

235-7019 HOUSING GP-FRONT

SMCS-1151, 1162

i01909893

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-5960	1	NUT						
	2	1	153-5962	3	BOLT						
	3	1	153-6838	1	BOLT						
	4	1	153-6856	7	BOLT						
	5	1	153-7985	1	WASHER						
	6	1	153-7990	1	PLATE						
	7	1	154-1672	1	HOUSING-FRONT						
	8	1	154-1673	1	PIN						
	9	1	154-1675	1	SEAL						
	10	1	154-1676	1	GEAR AS (62 TEETH)						
	10A	1	154-1677	3	BUSHING						
	10B	1	154-1678	3	DOWEL						
	10C	1	154-1679	1	SPRING						
	11	1	165-2139	2	BOLT						
	12	1	215-2621	1	GASKET						

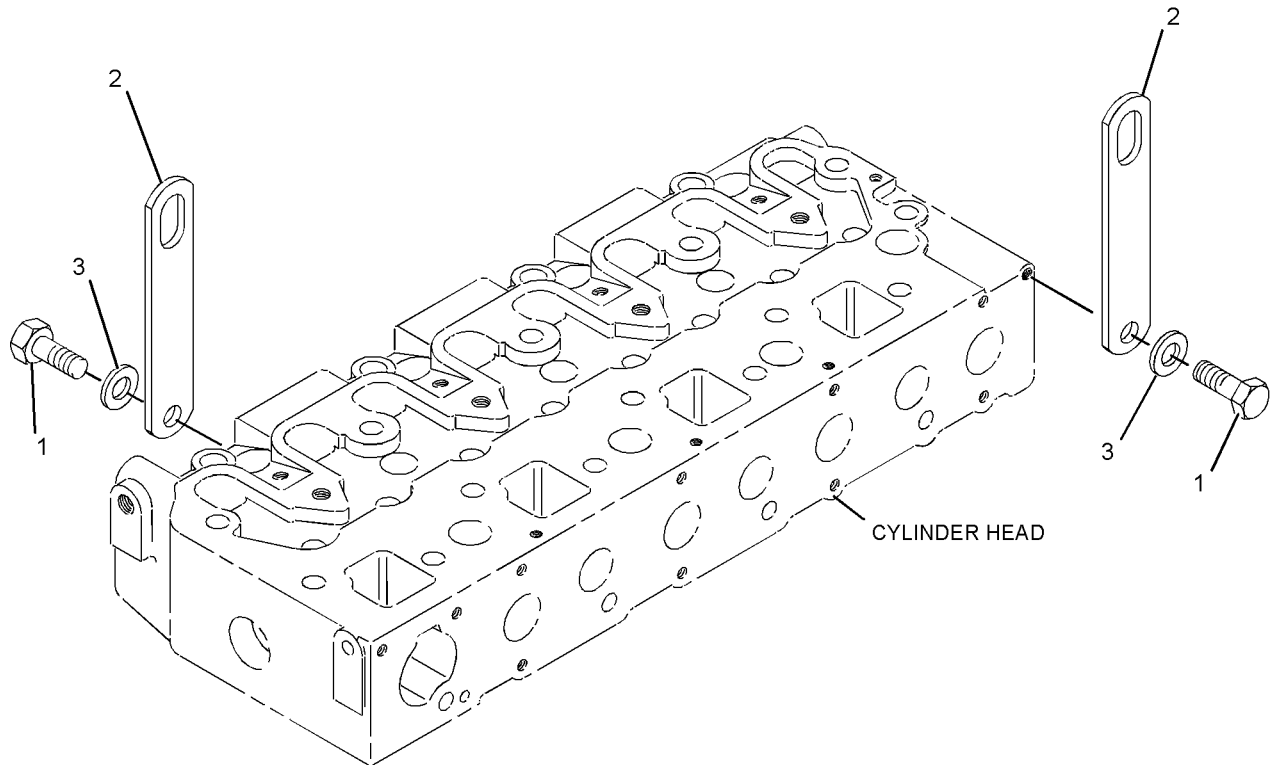
BASIC ENGINE

236-4129 LIFTING GP-ENGINE

SMCS-1122

i02077560

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	165-2141	2	BOLT						
	2	1	236-4128	2	PLATE-LIFTING						
	3	1	155-7984	2	WASHER						



GRAPHIC #1

<END>

g01066442

BASIC ENGINE

265-6943 PAN GP-OIL

SMCS-1302

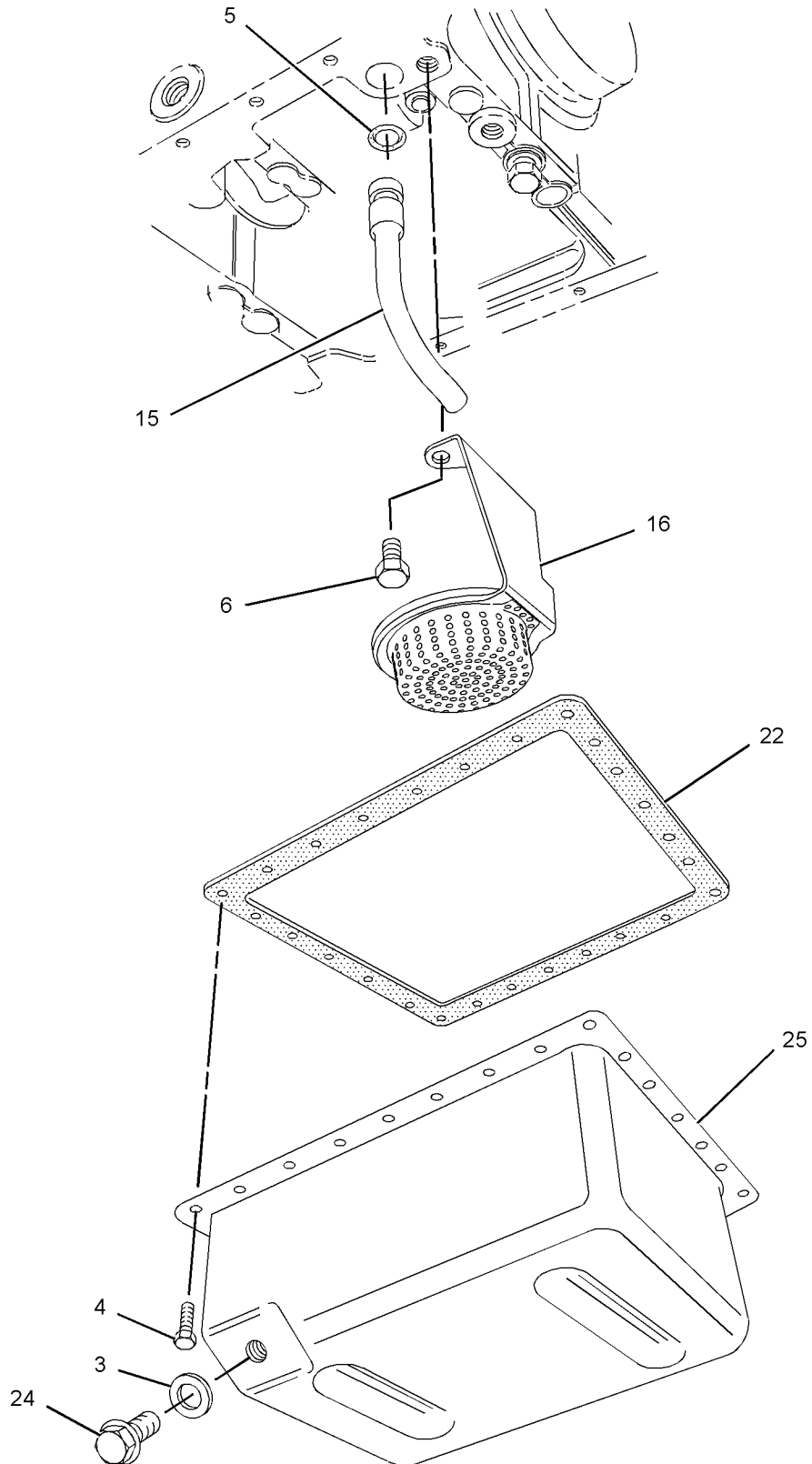
i02252821

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	2	153-5933	1	SEAL						
	2	3	153-5936	2	WASHER						
	3	1	153-6412	2	WASHER						
	4	1	153-6833	26	BOLT						
	5	1	153-6835	1	SEAL-O-RING						
	6	1,2	153-6838	3	BOLT						
	7	2	153-6841	2	SEAL-O-RING						
	8	3	153-6848	1	COVER						
	9	3	153-6849	1	SPRING						
	10	3	153-6850	1	COLLAR						
	11	3	153-6851	1	CLIP						
	12	3	153-6853	1	SEAL-O-RING						
	13	3	154-1941	1	ROTOR						
	14	3	154-1942	1	VALVE-RELIEF (ENGINE OIL PRESSURE)						
	15	1	155-8060	1	TUBE-OIL						
	16	1	155-8063	1	STRAINER						
	17	3	160-4150	1	SHIM (0.1-MM THK)						
		3	160-4151	1	SHIM (0.15-MM THK)						
		3	160-4152	1	SHIM (0.2-MM THK)						
		3	160-4153	1	SHIM (0.5-MM THK)						
	18	2	180-6118	1	BOLT						
	19	3	190-3828	1	TUBE AS-OIL						
	20	2	209-7087	1	TUBE AS-GAUGE						
	21	2	209-7091	1	GAUGE AS-OIL LEVEL (DIPSTICK) (ENGINE)						
	22	1	215-2604	1	GASKET						
	23	2	217-7358	1	CAP (ENGINE OIL FILLER)						
	24	1	218-2334	2	PLUG-DRAIN (ENGINE OIL PAN)						
	25	1	235-7094	1	PAN-OIL						

BASIC ENGINE

265-6943 PAN GP-OIL (contd.)

i02252821



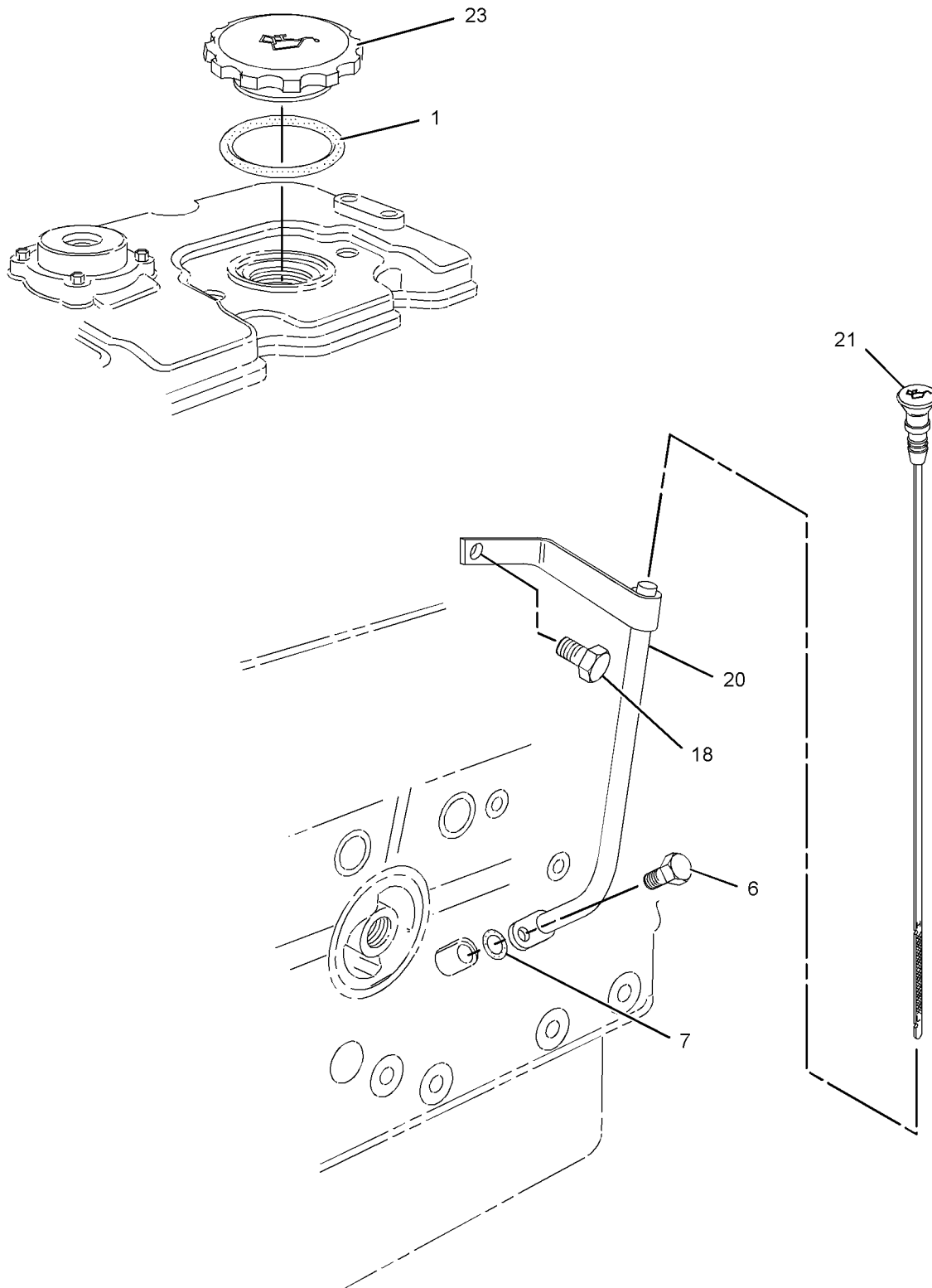
GRAPHIC #1

g01127190

BASIC ENGINE

265-6943 PAN GP-OIL (contd.)

i02252821



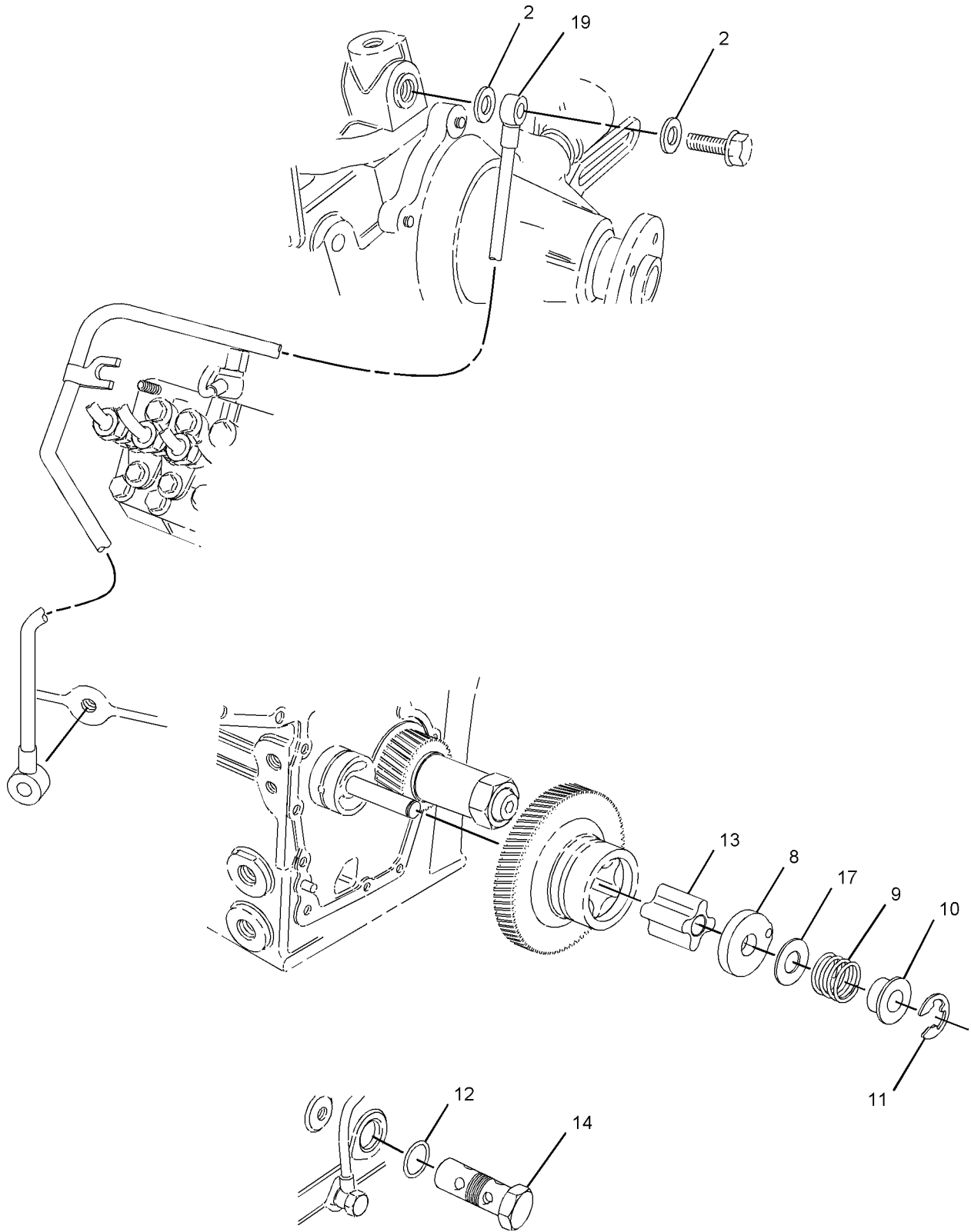
GRAPHIC #2

g01127193

BASIC ENGINE

265-6943 PAN GP-OIL (contd.)

i02252821



GRAPHIC #3

<END>

g01127195

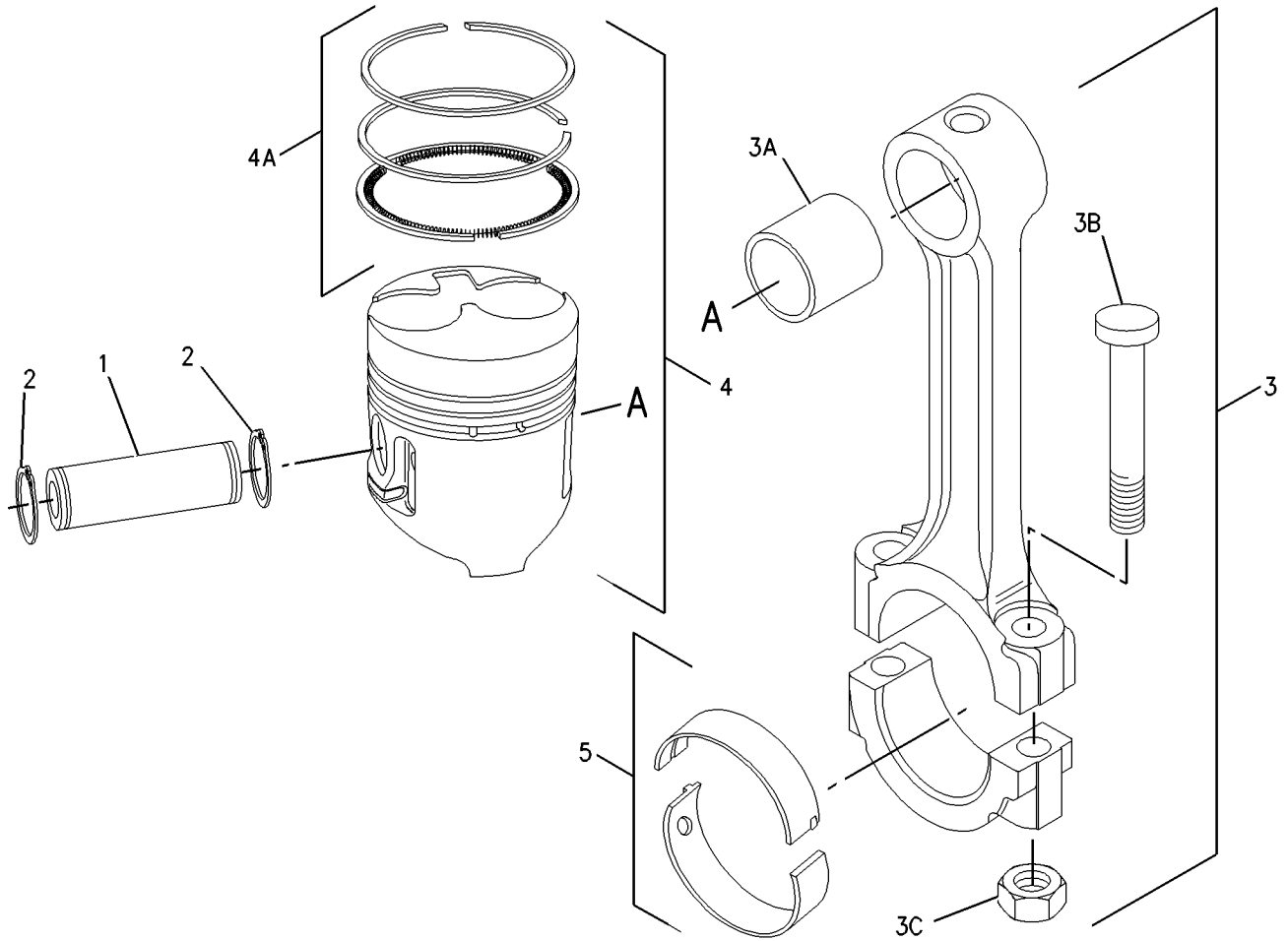
BASIC ENGINE

235-6961 PISTON & ROD GP

SMCS-1225

i01909904

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	154-0873	1	PIN						
	2	1	154-0874	2	CLIP						
	3	1	156-6980	3	ROD AS-CONNECTING (EACH INCLUDES)						
	3A	1	154-0869	1	BUSHING						
	3B	1	154-0870	2	BOLT						
	3C	1	154-0871	2	NUT						
	4	1	235-6891	3	PISTON AS (EACH INCLUDES)						
	4A	1	217-1456	1	KIT-PISTON RING						
	5	1	156-6978	1	KIT-CRANKSHAFT BEARING (ROD)						



GRAPHIC #1

<END>

g00995612

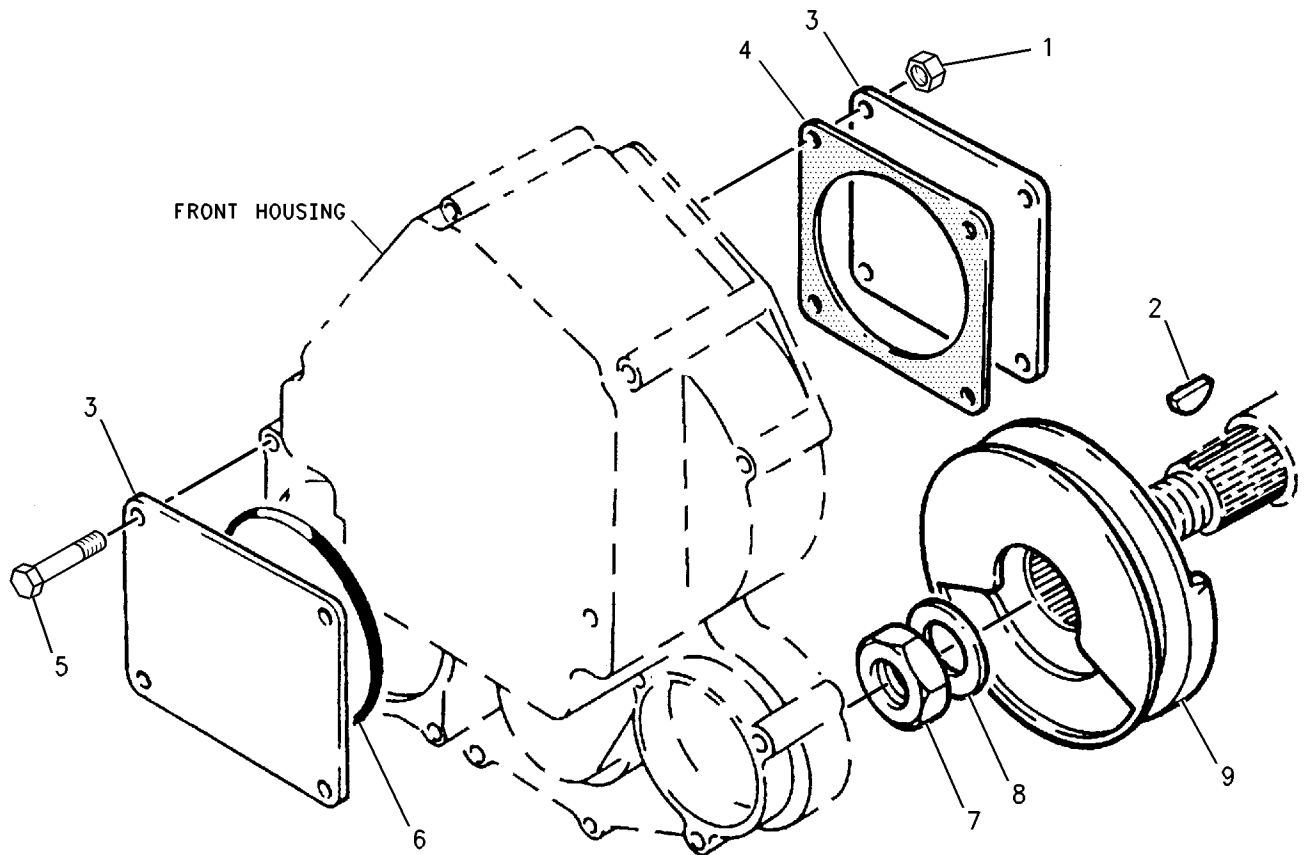
BASIC ENGINE

156-6998 PULLEY GP-CRANKSHAFT

SMCS-1205

i01790750

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-5592	4	NUT						
	2	1	153-6492	1	KEY-WOODRUFF						
	3	1	153-6493	2	COVER						
	4	1	153-6494	1	GASKET						
	5	1	180-6115	4	BOLT						
	6	1	153-6497	1	SEAL-O-RING						
	7	1	154-1880	1	NUT						
	8	1	154-1881	1	WASHER						
	9	1	156-6999	1	PULLEY-CRANKSHAFT						



GRAPHIC #1

<END>

g00685664

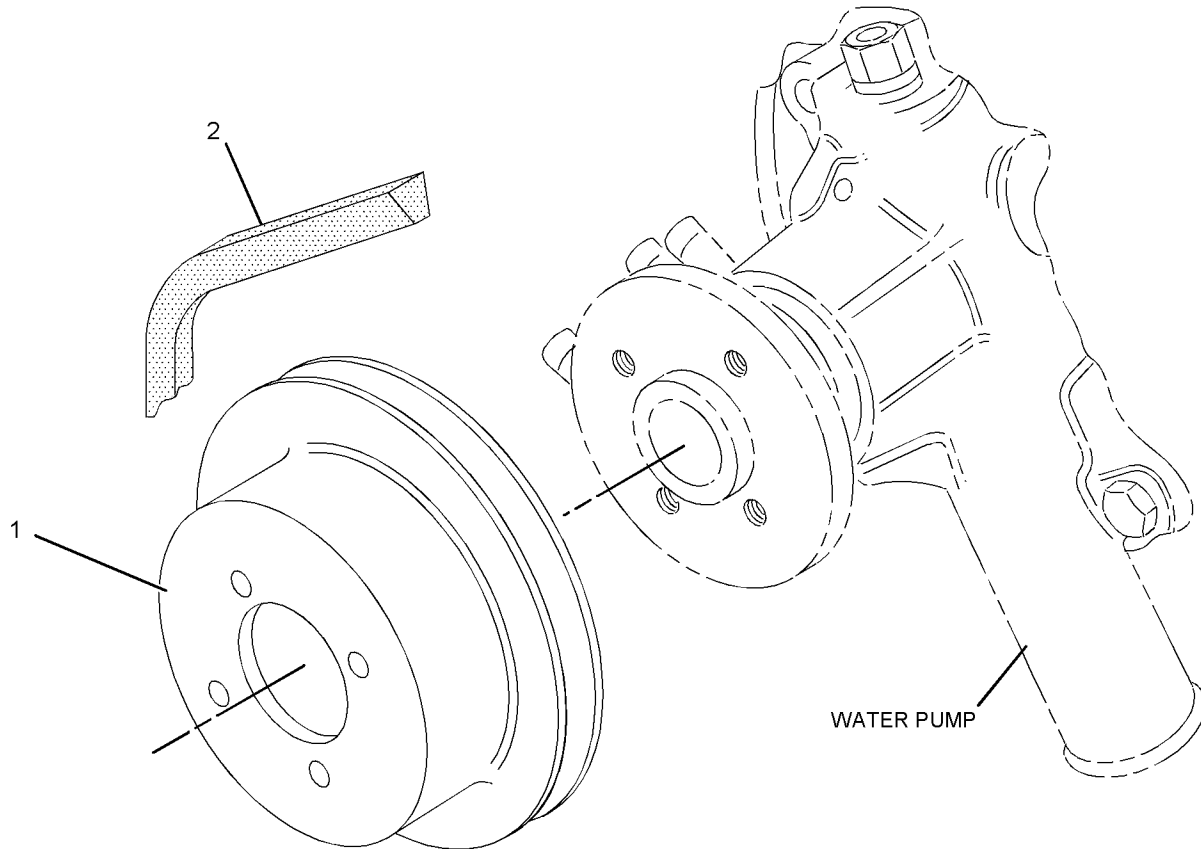
BASIC ENGINE

241-6395 PULLEY GP-WATER PUMP

SMCS-1384

i01992100

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	154-1822	1	PULLEY-WATER PUMP						
	2	1	162-2468	1	V-BELT (WATER PUMP)						



GRAPHIC #1

<END>

g01048774

BASIC ENGINE

235-6991 VALVE MECHANISM GP

SMCS-1102, 1121, 1123

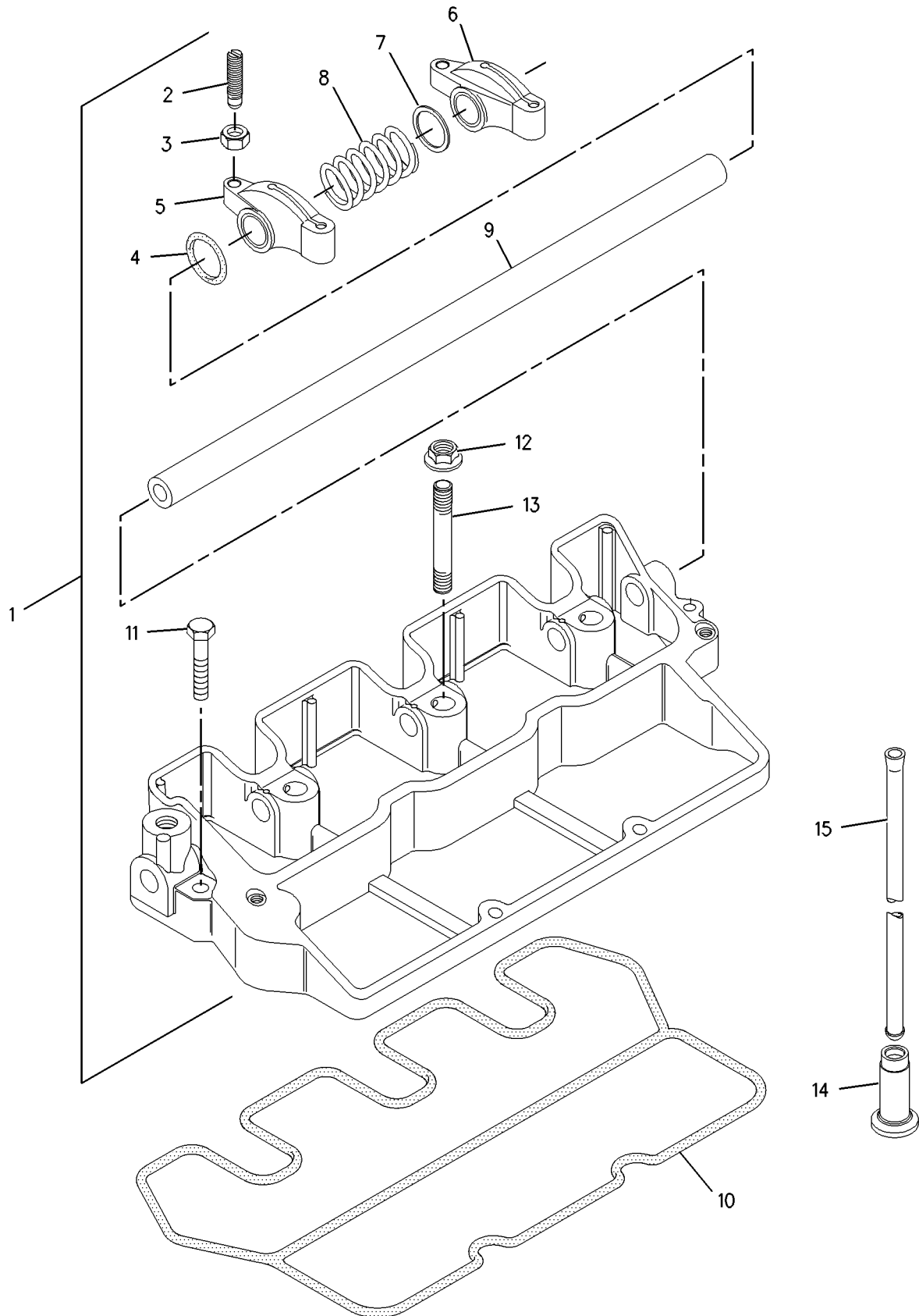
i02065469

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	235-6989	1	ROCKER ARM AS						
	2	1	153-5587	6	SCREW-ADJUSTMENT						
	3	1	153-5590	6	NUT						
	4	1	153-6835	1	SEAL-O-RING						
	5	1	154-1240	3	LEVER-RH						
	6	1	154-1241	3	LEVER-LH						
	7	1	154-1243	4	WASHER						
	8	1	154-1242	2	SPRING						
	9	1	235-6984	1	SHAFT-ROCKER ARM						
	10	1	235-7012	1	SEAL						
	11	1	153-5961	2	BOLT						
	12	1	153-7988	3	NUT						
	13	1	154-1246	3	STUD						
	14	1	154-1249	6	TAPPET						
	15	1	160-3534	6	PUSHROD						

BASIC ENGINE

235-6991 VALVE MECHANISM GP (contd.)

i02065469



GRAPHIC #1

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g00995938

BASIC ENGINE

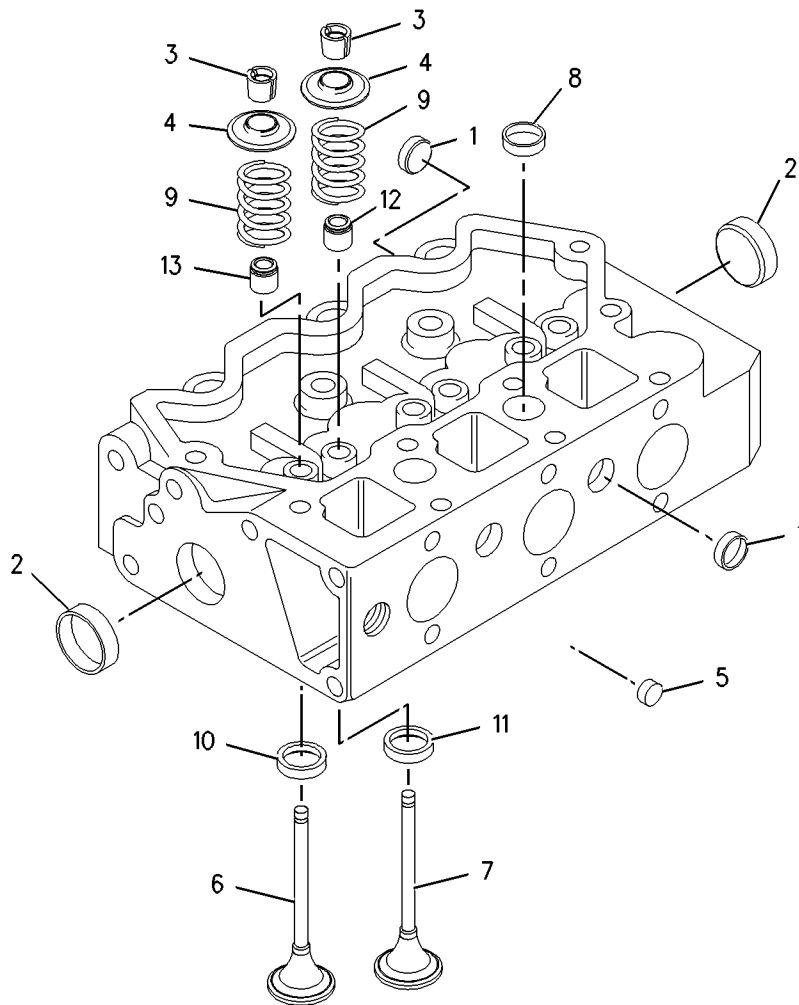
235-6974 CYLINDER HEAD GP

PART OF 235-6978 CYLINDER HEAD GP

SMCS-1100

i01910959

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE	
					1	2	3	4	5	6 (PRODUCT LEVEL)		
	1	1	153-5382	4	PLUG							
	2	1	153-5552	2	PLUG							
	3	1	153-5556	12	RETAINER							
	4	1	153-5557	6	CAP							
	5	1	154-0887	2	PLUG							
	6	1	154-0888	3	VALVE - INLET							
	7	1	154-0889	3	VALVE - EXHAUST							
	8	1	156-6987	5	PLUG							
	9	1	190-3748	6	SPRING							
	10	1	230-9126	4	INSERT-VALVE (INLET)							
	11	1	235-6973	4	INSERT-VALVE (EXHAUST)							
	12	1	153-5554	3	SEAL (EXHAUST)							
	13	1	153-5559	3	SEAL (INLET)							



GRAPHIC #1

<END>

g01001598

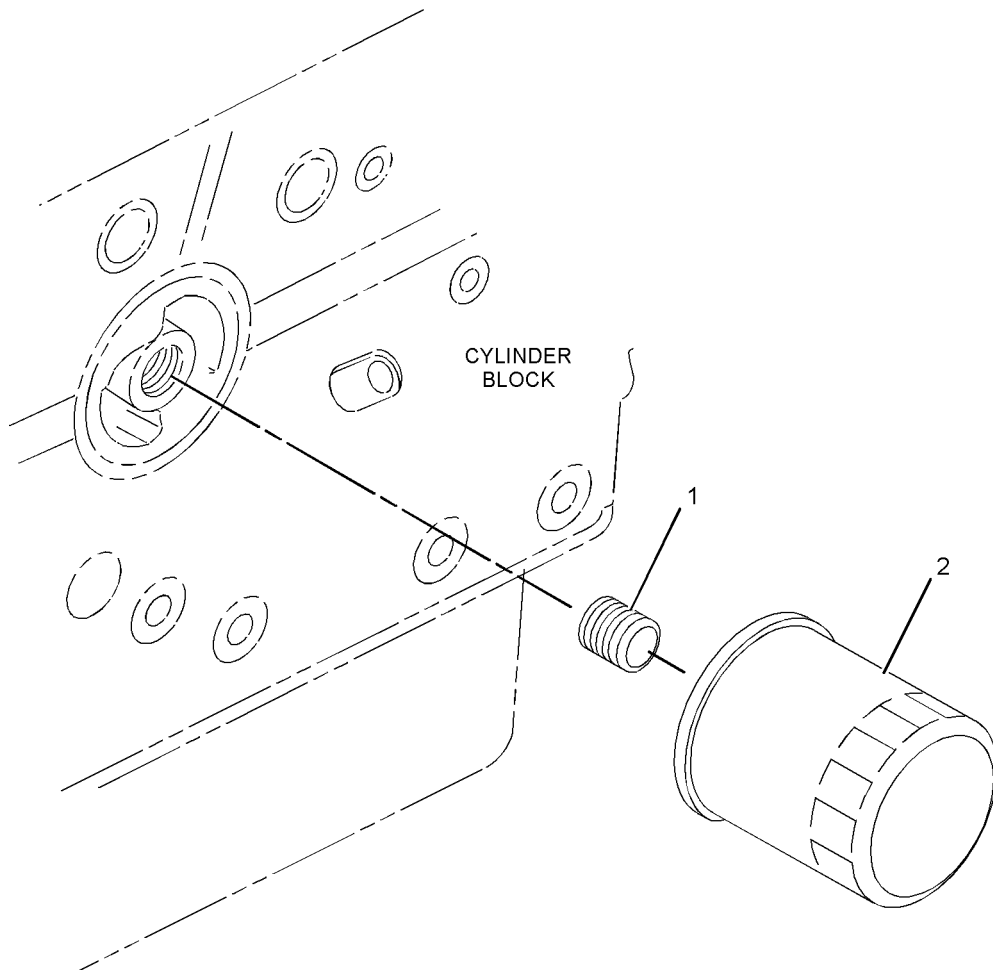
LUBRICATION SYSTEM

266-0773 FILTER GP-ENGINE OIL

SMCS-1306, 1308

i02233547

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-6879	1	CONNECTION						
	2	1	220-1523	1	FILTER AS-ENGINE OIL						



GRAPHIC #1

<END>

g01062016

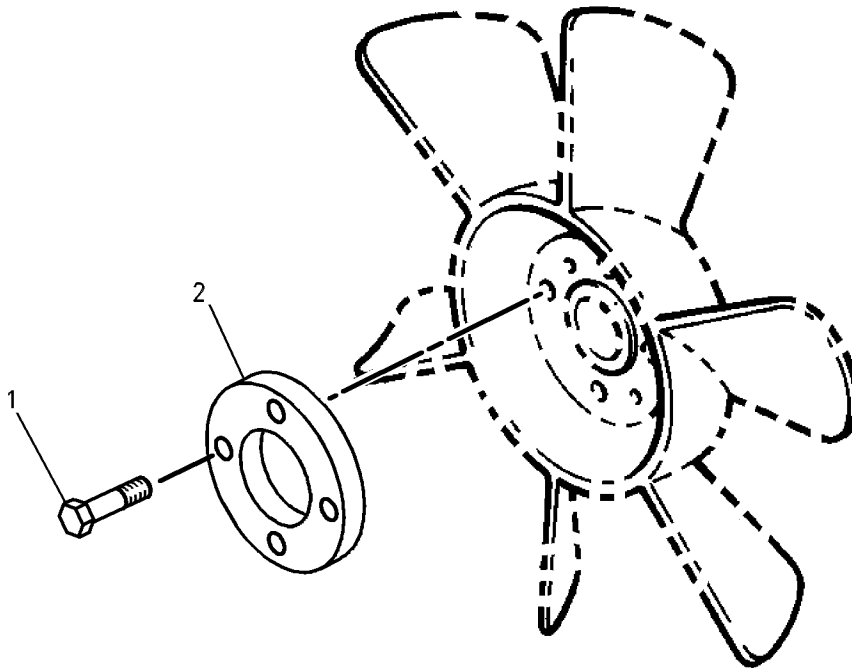
COOLING SYSTEM

154-2435 MOUNTING GP-FAN

SMCS-1356

i00897568

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-7640	4	BOLT						
	2	1	154-2433	1	PLATE						



GRAPHIC #1

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g00485543

COOLING SYSTEM

218-2305 PUMP GP-WATER

SMCS-1361

i02044689

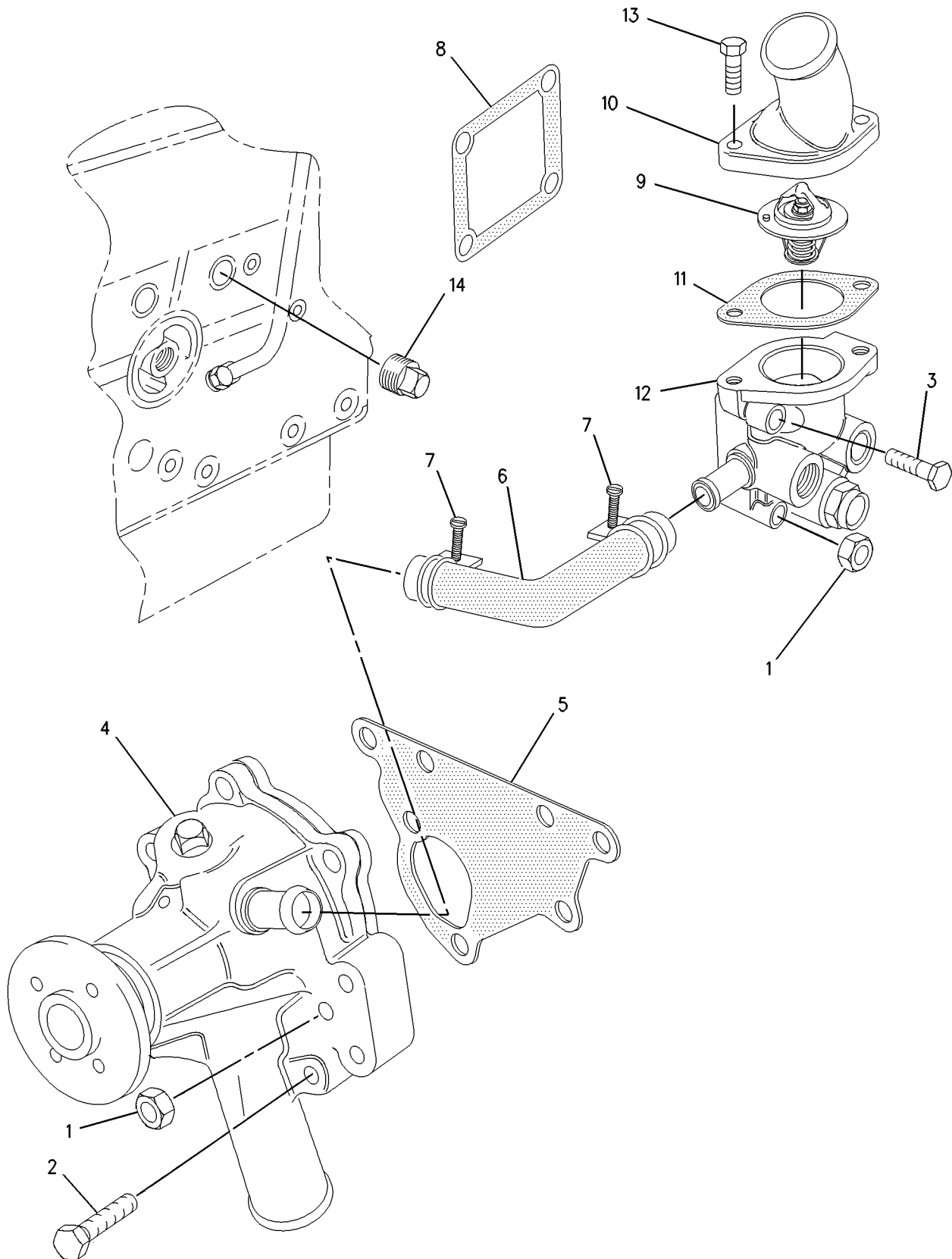
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME	SEE PAGE
					1 2 3 4 5 6 (PRODUCT LEVEL)	
	1	1	153-5960	3	NUT	
	2	1	153-5961	4	BOLT	
	3	1	153-6856	2	BOLT	
Y	4	1	154-1816	1	PUMP GP-WATER	36
	5	1	215-2616	1	GASKET (WATER PUMP)	
	6	1	154-1823	1	HOSE	
	7	1	154-1824	2	CLAMP-HOSE	
	8	1	215-2617	1	GASKET	
	9	1	154-1826	1	REGULATOR-WATER TEMPERATURE	
	10	1	154-1827	1	COVER-HOUSING	
	11	1	154-1828	1	GASKET-COVER (WATER TEMPERATURE REGULATOR)	
	12	1	154-2700	1	HOUSING-REGULATOR	
	13	1	165-2141	2	BOLT	
	14	1	218-2317	1	PLUG	

Y-SEPARATE ILLUSTRATION

COOLING SYSTEM

218-2305 PUMP GP-WATER (contd.)

i02044689



GRAPHIC #1

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g00869413

COOLING SYSTEM

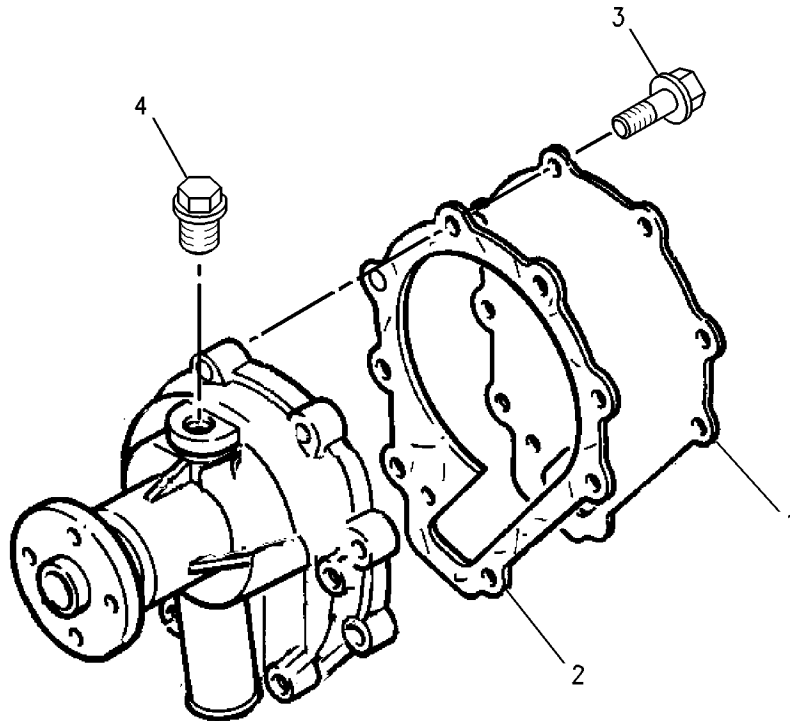
154-1816 PUMP GP-WATER

PART OF 218-2305, 246-9217 PUMP GP-WATER

SMCS-1361

i01705193

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	154-1818	1	PLATE						
	2	1	154-1819	1	GASKET-WATER PUMP						
	3	1	154-1820	3	BOLT						
	4	1	217-7381	1	PLUG						



GRAPHIC #1

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g00702044

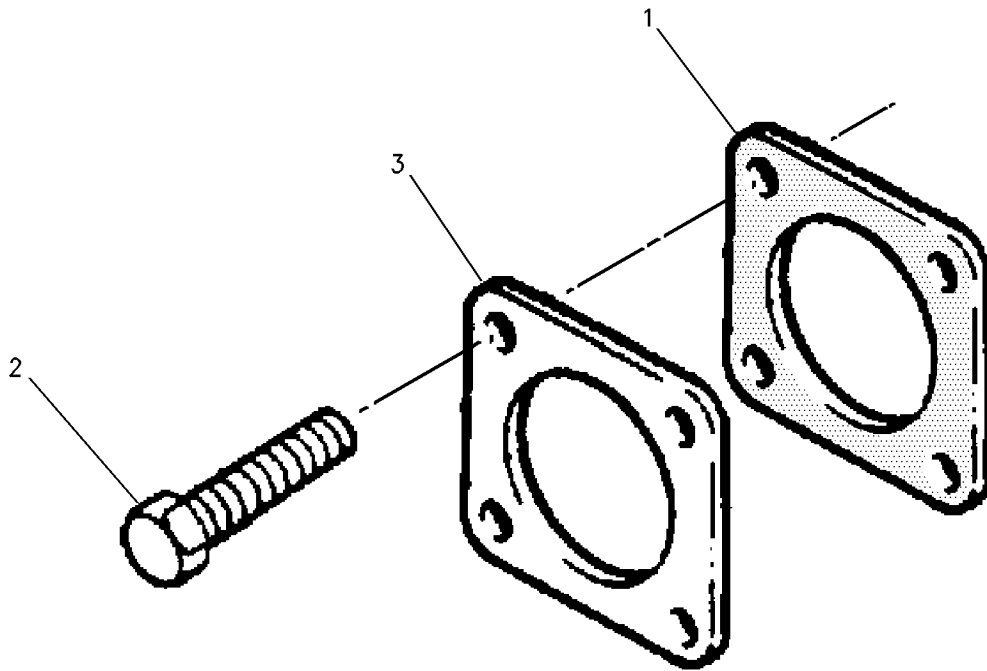
AIR INLET AND EXHAUST SYSTEM

197-8430 FLANGE GP-EXHAUST

SMCS-1061

i01427308

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-7920	1	GASKET						
	2	1	168-9001	4	BOLT						
	3	1	197-8429	1	FLANGE						



GRAPHIC #1

<END>

g00771339

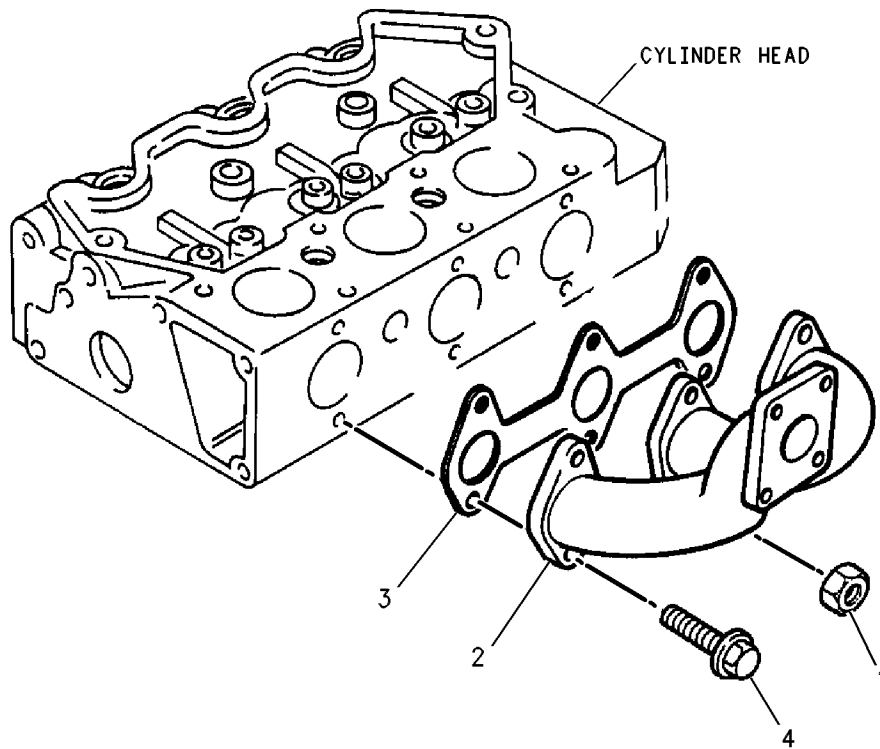
AIR INLET AND EXHAUST SYSTEM

161-8277 MANIFOLD GP-EXHAUST

SMCS-1059

i02233661

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-5960	2	NUT						
	2	1	161-8280	1	MANIFOLD-EXHAUST						
	3	1	161-8282	1	GASKET-MANIFOLD						
	4	1	153-6861	4	BOLT						



GRAPHIC #1

<END>

g00461596

FUEL SYSTEM

241-6475 FILTER & LINES GP-FUEL

SMCS-1261, 1274

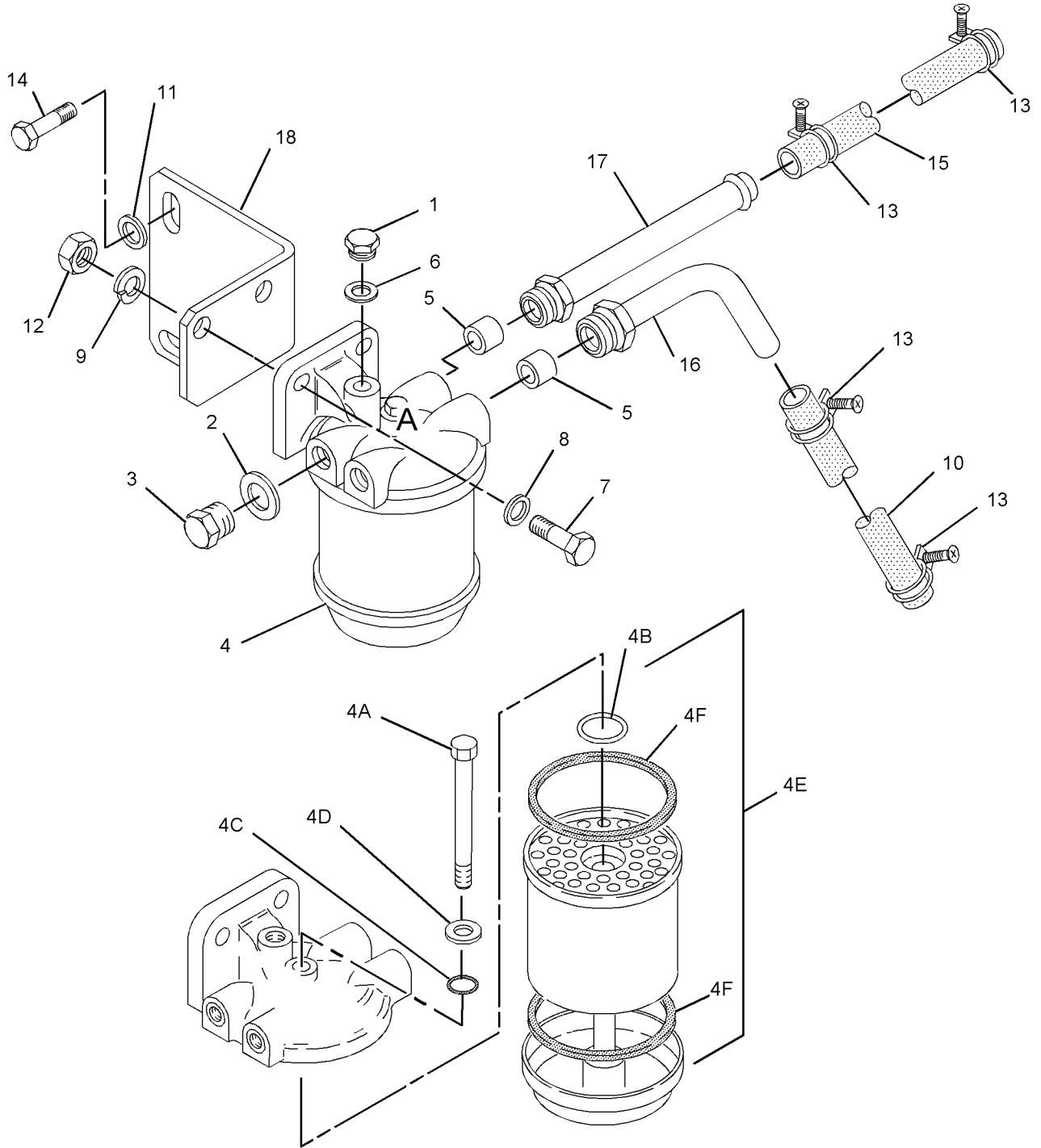
i01992096

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	7W-4694	1	PLUG						
	2	1	032-8100	1	WASHER (0.53X.72X.06-IN THK)						
	3	1	033-7849	1	PLUG						
	4	1	033-7854	1	FILTER AS-FUEL						
	4A	1	1D-4533	1	BOLT (1/4-20X2.25-IN)						
	4B	1	6F-4855	1	SEAL-O-RING						
	4C	1	6V-5586	1	SEAL-O-RING						
	4D	1	7M-7549	1	WASHER						
	4E	1	067-6987	1	KIT-ELEMENT (FUEL FILTER)						
	4F	1	069-2922	2	GASKET (FUEL FILTER)						
	5	1	067-6269	2	OLIVE						
	6	1	067-6317	1	WASHER						
	7	1	138-7162	2	BOLT						
	8	1	154-1399	2	WASHER						
	9	1	154-2403	2	WASHER						
	10	1	155-7983	1	LINE-FUEL						
	11	1	155-7984	2	WASHER						
	12	1	155-8085	2	NUT						
	13	1	160-3550	4	CLAMP-HOSE						
	14	1	165-2141	2	BOLT						
	15	1	183-4330	1	TUBE-FUEL						
	16	1	218-2355	1	LINE-FUEL						
	17	1	233-0606	1	TUBE-FUEL						
	18	1	233-0612	1	BRACKET						

FUEL SYSTEM

241-6475 FILTER & LINES GP-FUEL (contd.)

i01992096



GRAPHIC #1

EXPLODED VIEW OF AREA A
<END>

g01074671

FUEL SYSTEM

235-7039 GOVERNOR GP

SMCS-1264, 1908

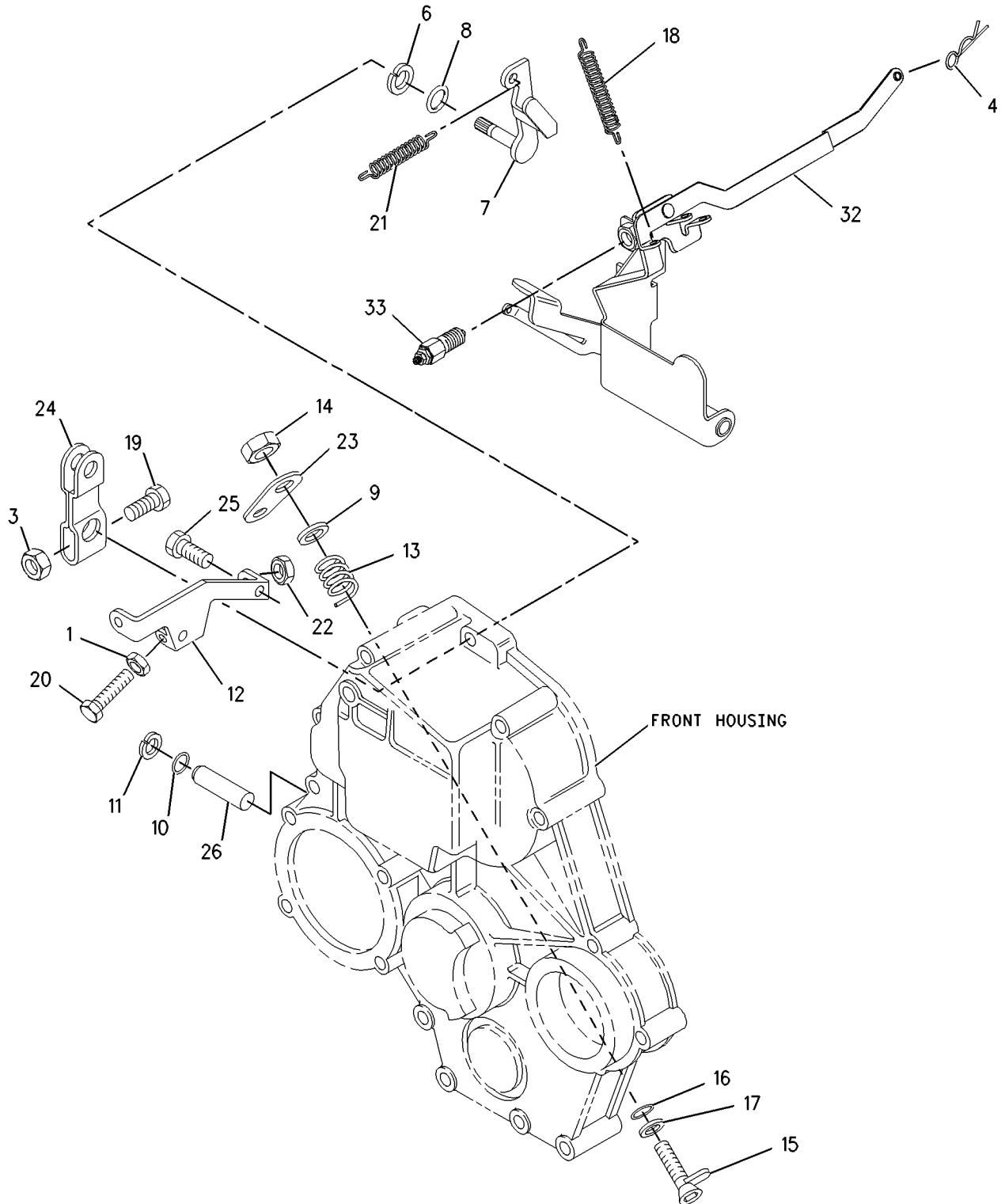
i02117032

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	133-5512	1	NUT						
	2	2	139-5511	1	CAP						
	3	1	153-5960	1	NUT						
	4	1	153-7983	1	PIN						
	5	2	153-7987	1	WASHER						
	6	1	154-1396	1	CLIP						
	7	1	154-1401	1	ARM						
	8	1	154-1403	1	SEAL-O-RING						
	9	1	154-1408	1	WASHER						
	10	1	154-1410	2	SEAL-O-RING						
	11	1	154-1411	1	CLIP						
	12	1	154-1412	1	BRACKET						
	13	1	154-1416	1	SPRING						
	14	1	154-1636	2	NUT						
	15	1	154-1637	1	ARM						
	16	1	154-1638	1	SEAL-O-RING						
	17	1	154-1639	1	CLIP						
	18	1	154-1641	1	SPRING (VIMS, ENGLISH, SWEDISH)						
	19	1	155-8009	1	BOLT						
	20	1,2	158-7936	3	BOLT						
	21	1	160-3541	1	SPRING						
	22	1,2	162-2207	2	NUT						
	23	1	166-5268	1	LEVER						
	24	1	183-3570	1	LEVER						
	25	1	183-3572	2	BOLT						
	26	1	191-0542	1	SHAFT						
	27	2	191-9296	1	BOLT						
	28	2	191-9297	1	NUT						
	29	2	211-7739	1	KIT-CAP (TAMPER RESISTANT)						
	30	2	217-7111	1	BOLT AS						
	30A	2	153-7987	1	WASHER						
	30B	2	212-0743	1	NUT						
	30C	2	212-0744	1	SEAL-O-RING						
	30D	2	212-0745	1	BOLT						
	30E	2	212-0747	1	RING-RETAINING						
	31	2	217-7115	1	CAP (TAMPER RESISTANT)						
	32	1	235-7037	1	LEVER						
	33	1	235-7038	1	SCREW-ADJUSTMENT						

FUEL SYSTEM

235-7039 GOVERNOR GP (contd.)

i02117032



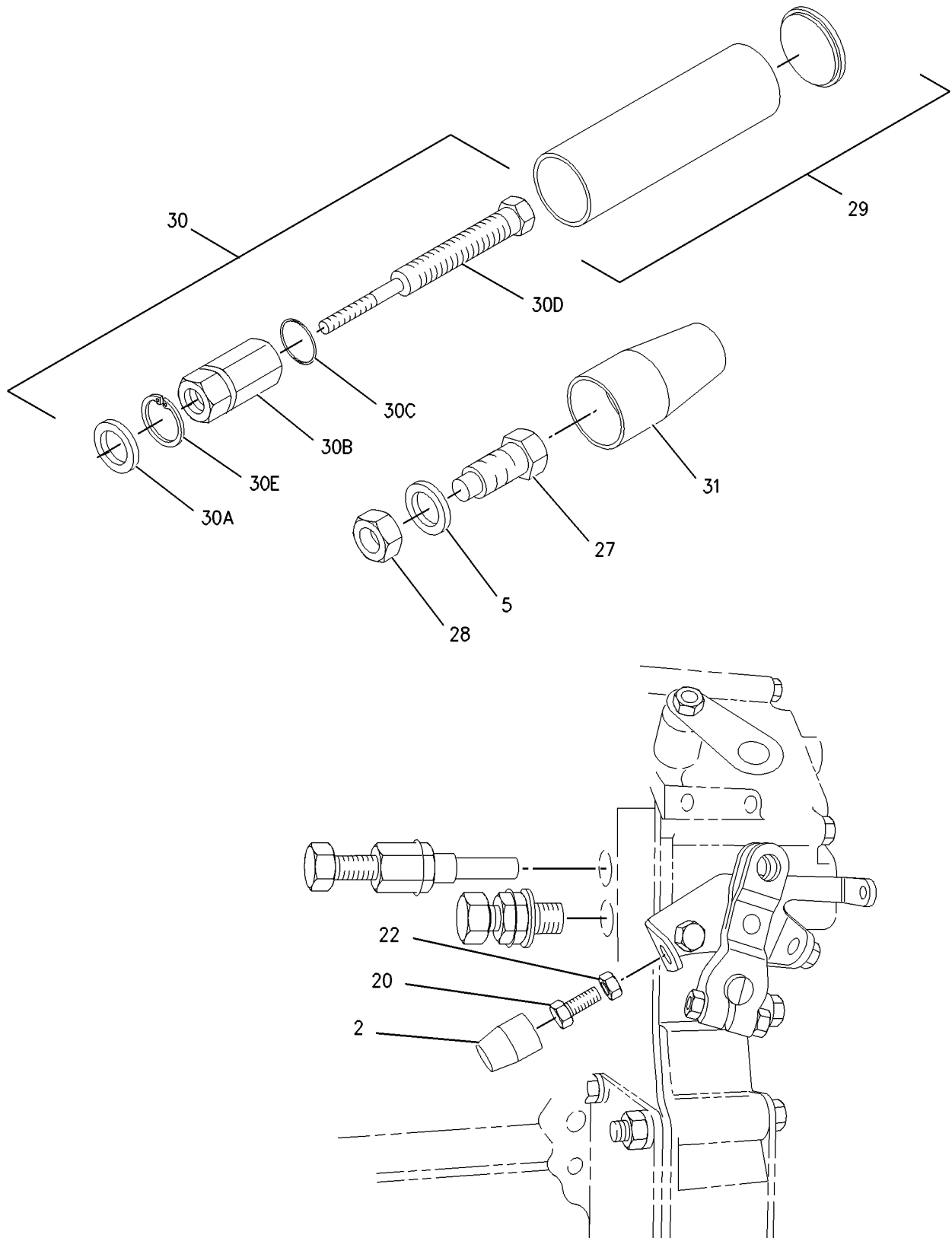
GRAPHIC #1

g00996114

FUEL SYSTEM

235-7039 GOVERNOR GP (contd.)

i02117032



GRAPHIC #2

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g00996116

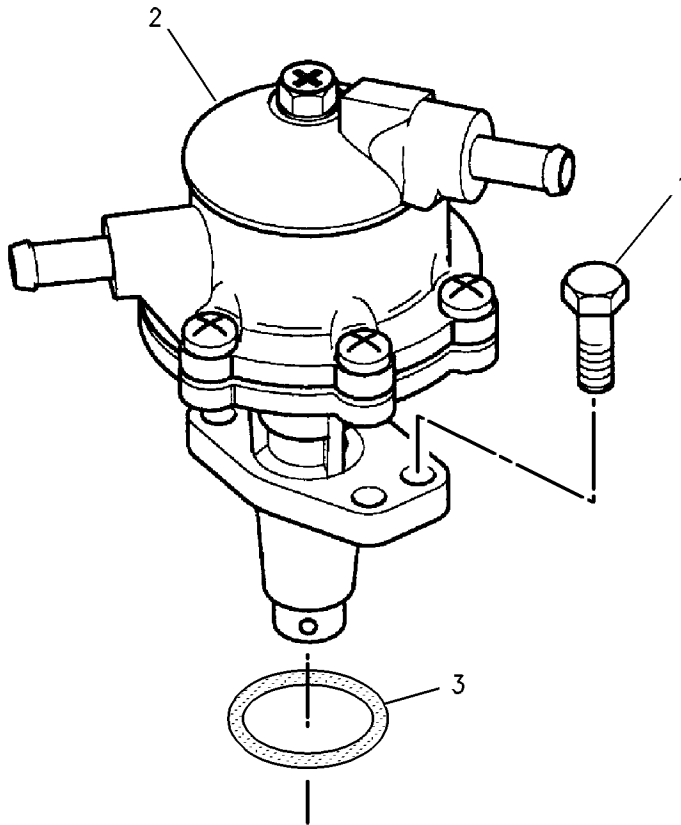
FUEL SYSTEM

176-7711 PUMP & MTG GP-FUEL TRANSFER

SMCS-1256

i02013850

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-6873	2	BOLT						
	2	1	176-7712	1	PUMP GP-FUEL TRANSFER						
	3	1	176-7719	1	SEAL-O-RING						



GRAPHIC #1

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g00758159

FUEL SYSTEM

235-5526 PUMP GP-FUEL INJECTION

SMCS-1251, 1290

i02135598

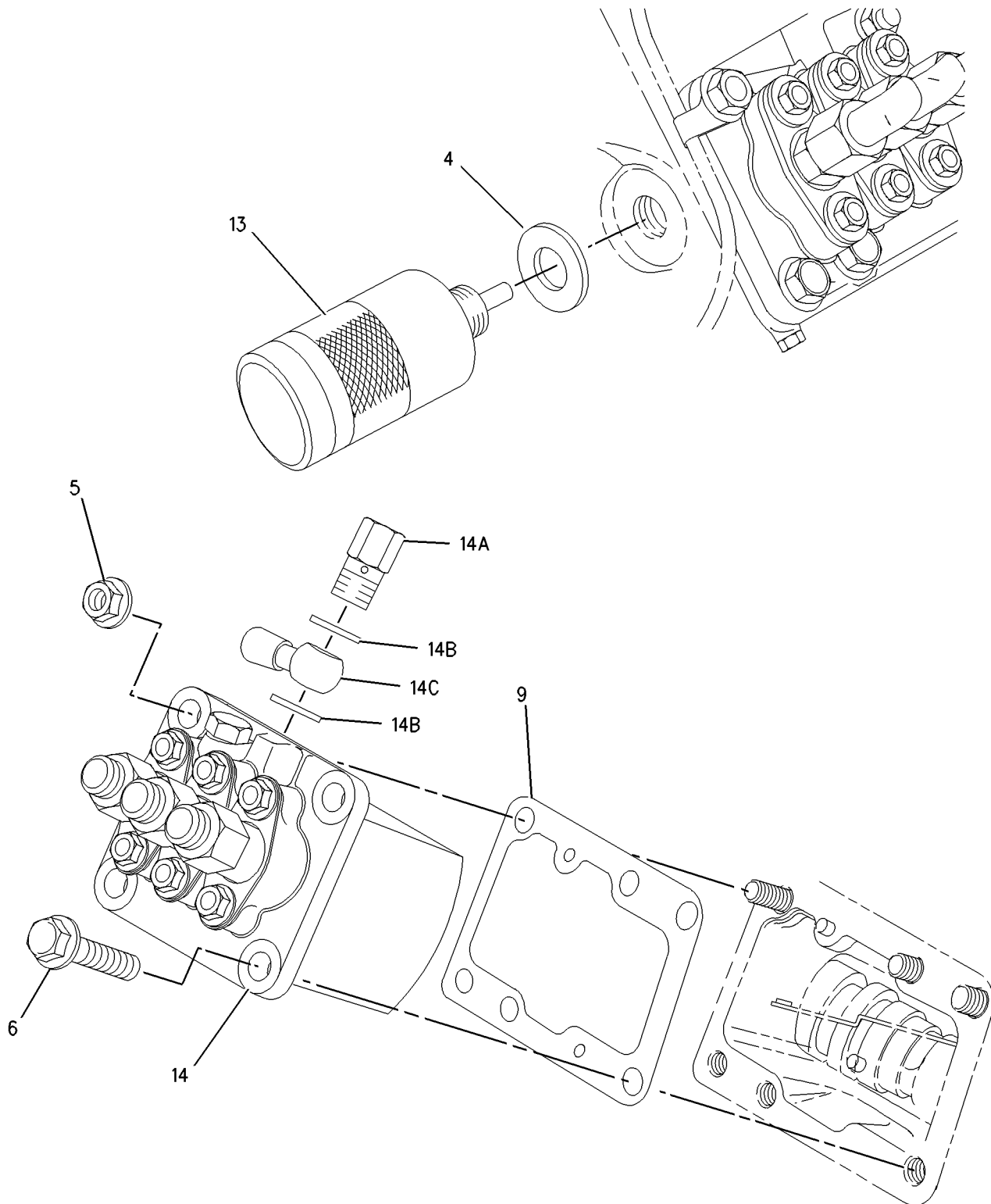
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	2	153-5960	2	NUT						
	2	2	154-2716	3	SEAL						
	3	2	153-6393	4	DAMPER						
	4	1	153-6412	1	WASHER						
	5	1	153-5592	2	NUT						
	6	1	154-2713	2	BOLT						
	7	2	154-2715	2	WASHER						
	8	2	154-3018	3	INJECTOR AS-FUEL						
					(EACH INCLUDES)						
		2	202-1196	1	WASHER-SPECIAL						
		2	205-4731	1	NUT						
B	9	1	236-4961	1	SHIM (0.2-MM THK) (.2MM THK)						
B		1	236-4959	1	SHIM (0.3-MM THK) (.3MM THK)						
B		1	236-4954	1	SHIM (0.4-MM THK) (.4MM THK)						
B		1	236-4952	1	SHIM (0.5-MM THK) (.5MM THK)						
B		1	160-7034	1	SHIM (0.9-MM THK)						
	10	2	183-3353	2	BOLT						
	11	2	190-3801	1	LINE						
	12	2	190-3803	1	BOLT						
	13	1	217-5204	1	SOLENOID (FUEL SHUTOFF)						
	14	1	235-5522	1	PUMP GP-FUEL INJECTION						
	14A	1	205-4726	1	BOLT						
	14B	1	205-4727	2	WASHER						
	14C	1	205-4728	1	CONNECTOR						
	15	2	235-5523	1	LINE AS-FUEL						
	16	2	235-5524	1	LINE AS-FUEL						
	17	2	235-5525	1	LINE AS-FUEL						

B-USE AS REQUIRED

FUEL SYSTEM

235-5526 PUMP GP-FUEL INJECTION (contd.)

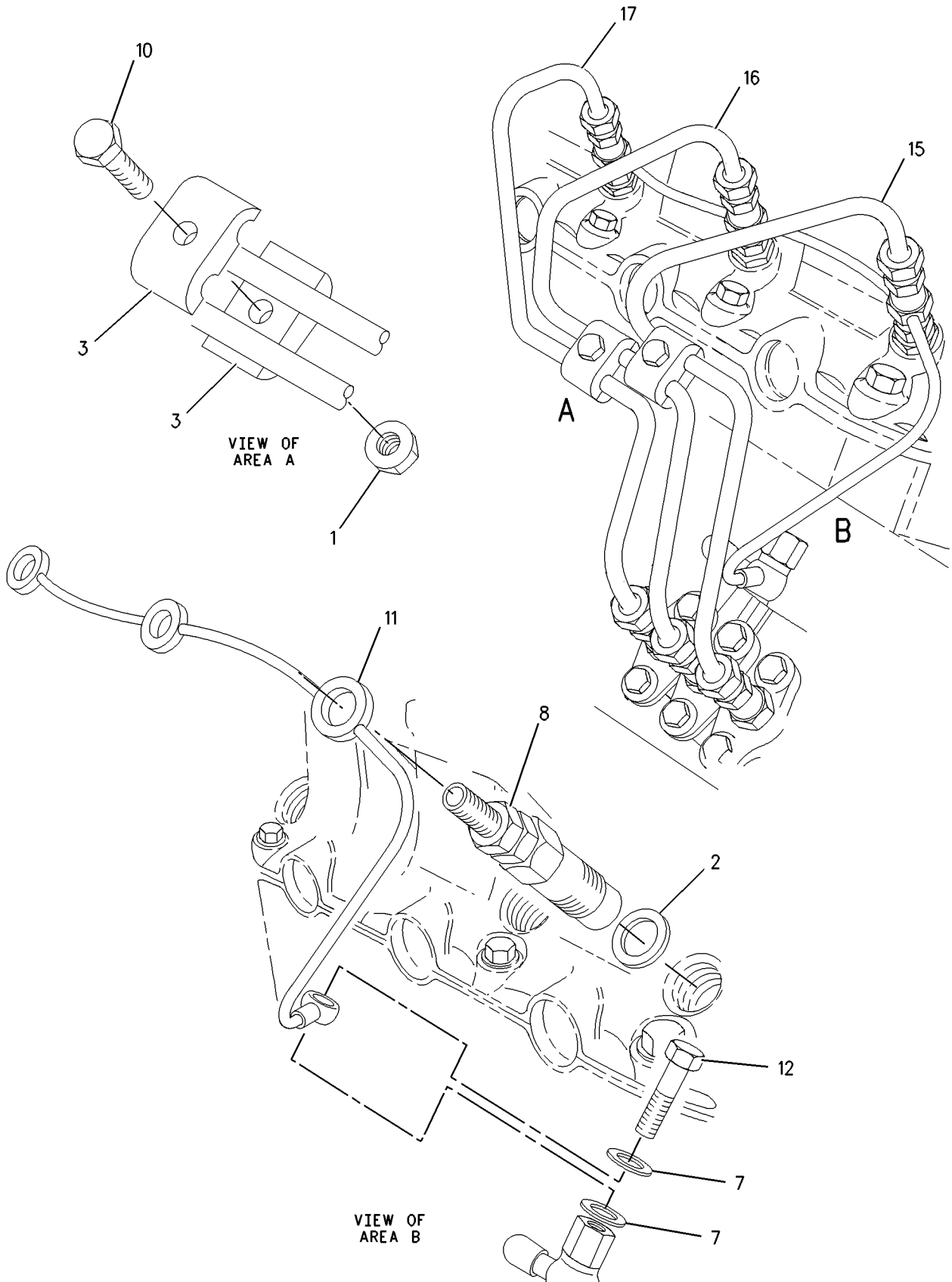
i02135598



FUEL SYSTEM

235-5526 PUMP GP-FUEL INJECTION (contd.)

i02135598



GRAPHIC #2

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g00996853

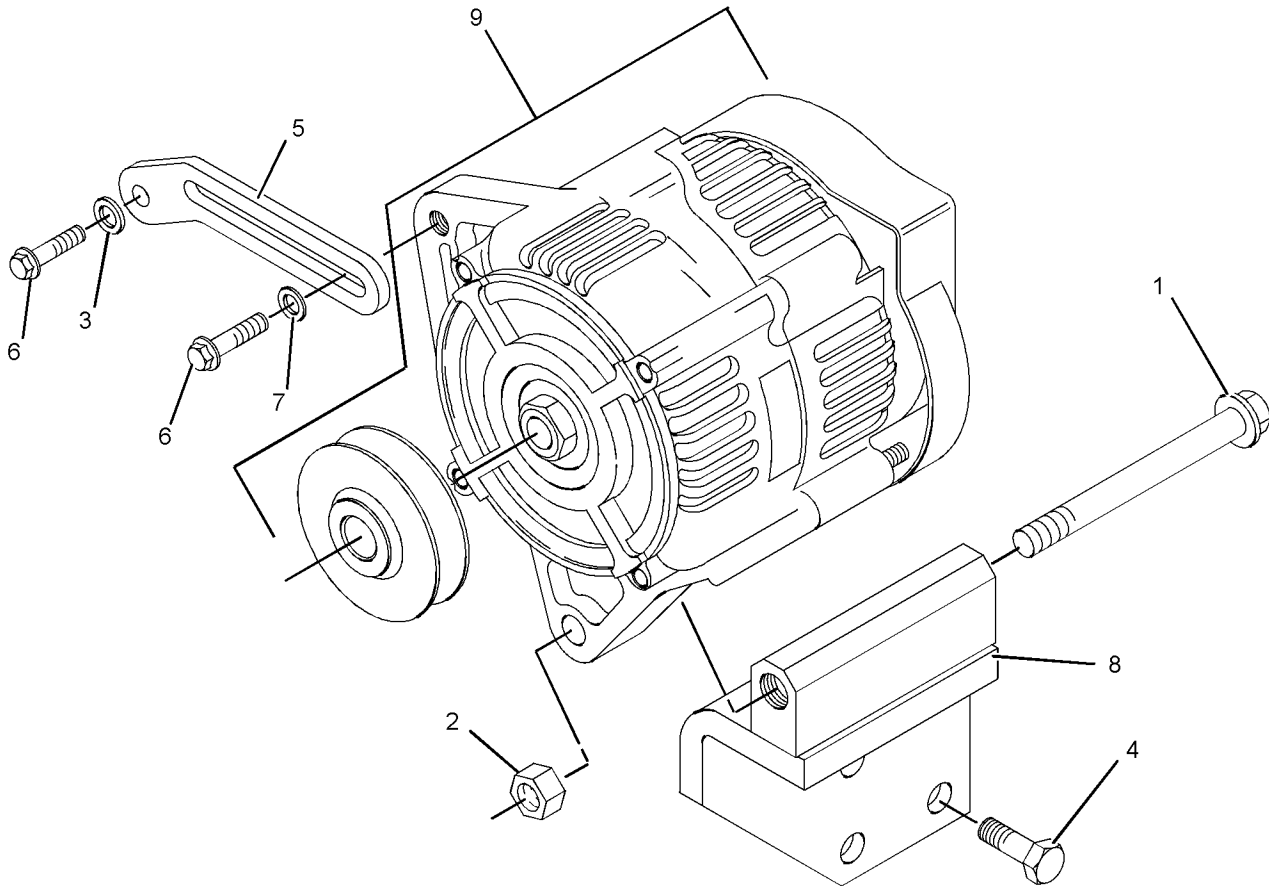
ELECTRICAL AND STARTING SYSTEM

265-6942 ALTERNATOR GP-CHARGING

SMCS-1405

i02233477

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	100-8451	1	BOLT						
	2	1	153-5592	1	NUT						
	3	1	155-7984	1	WASHER						
	4	1	165-2141	3	BOLT						
	5	1	168-8999	1	LEVER-ADJUSTING						
	6	1	168-9001	2	BOLT						
	7	1	168-9002	1	WASHER						
	8	1	246-4267	1	BRACKET						
	9	1	265-9712	1	ALTERNATOR GP-CHARGING						



GRAPHIC #1

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g01128107

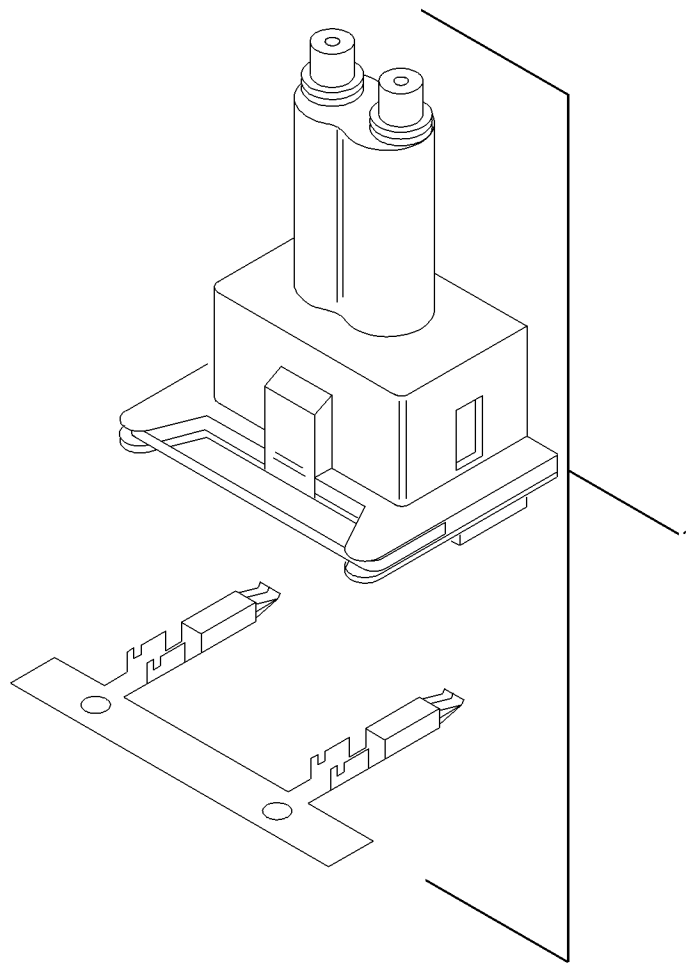
ELECTRICAL AND STARTING SYSTEM

217-5884 CONNECTION GP-ELECTRICAL

SMCS-1408

i02135600

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME	SEE PAGE
					1 2 3 4 5 6 (PRODUCT LEVEL)	
	1	1	193-0161	3	CABLE AS-ADAPTER	



GRAPHIC #1

<END>

g00852753

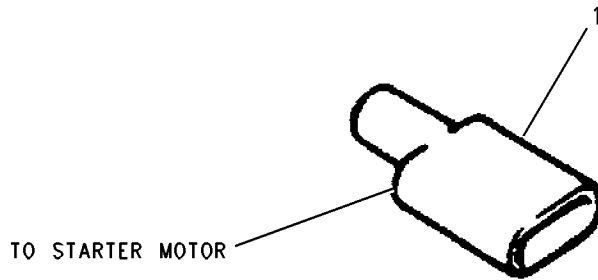
ELECTRICAL AND STARTING SYSTEM

219-7601 CONNECTION GP-ELECTRICAL

SMCS-1408

i01689507

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	197-8555	2	TERMINAL						



GRAPHIC #1

<END>

g00870996

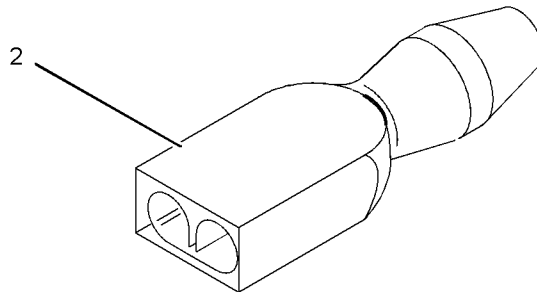
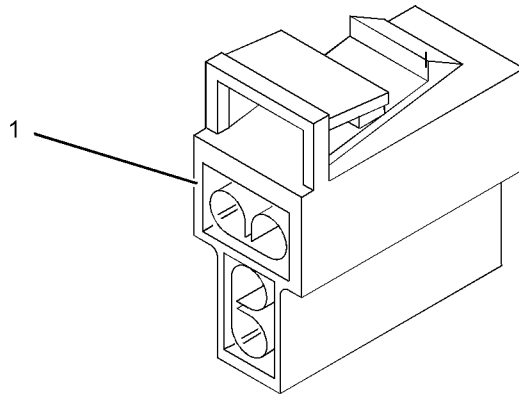
ELECTRICAL AND STARTING SYSTEM

252-9536 CONNECTION GP-ELECTRICAL

SMCS-1408

i02072753

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	183-4037	1	CONNECTOR AS						
	2	1	197-8555	1	TERMINAL						



GRAPHIC #1

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g01062282

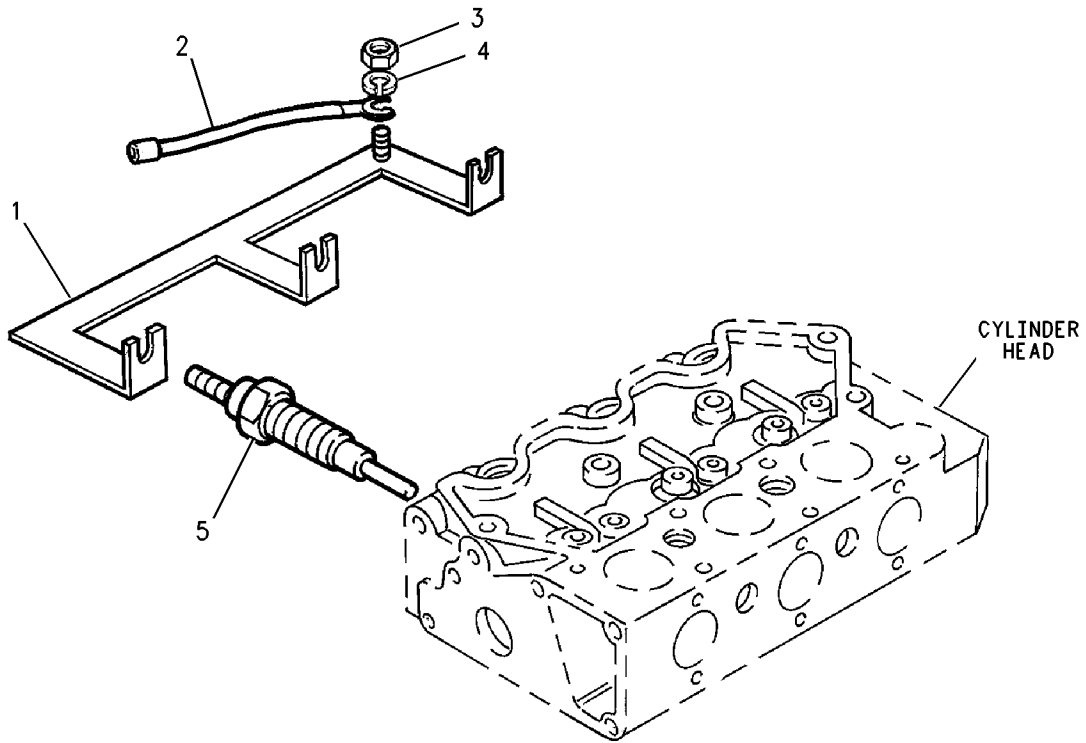
ELECTRICAL AND STARTING SYSTEM

197-8931 GLOW PLUG GP

SMCS-1412

i02252804

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	155-8073	1	SUPPORT - PLUG						
	2	1	155-8075	1	WIRE						
	3	1	155-8076	1	NUT						
	4	1	155-8077	1	WASHER						
	5	1	172-4585	3	GLOW PLUG (FAST START)						



GRAPHIC #1

<END>

g00767243

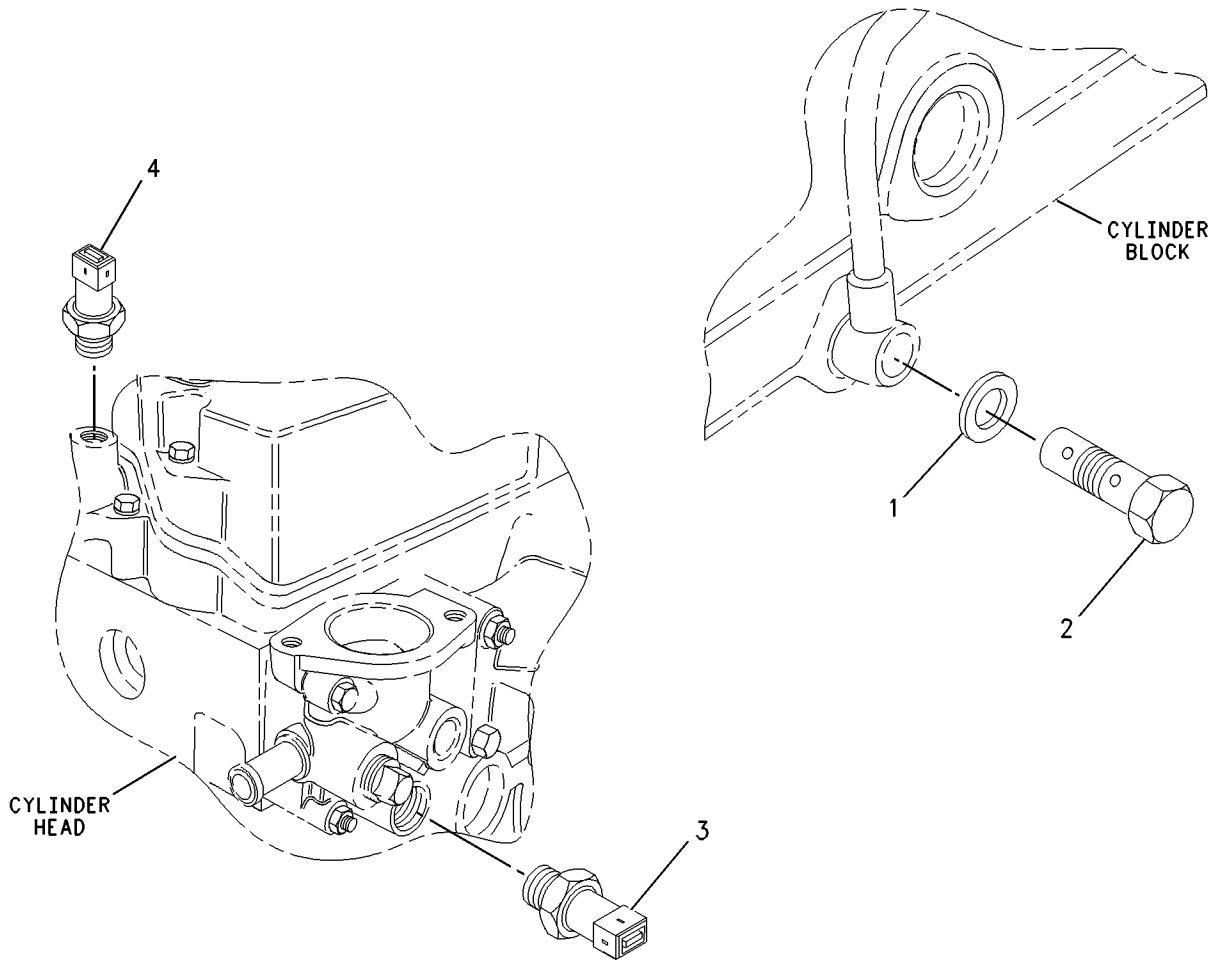
ELECTRICAL AND STARTING SYSTEM

224-6663 SENSOR GP-TEMP & PRESS

SMCS-7400

i02117067

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	153-5936	2	WASHER						
	2	1	153-6881	1	BOLT						
	3	1	217-5793	1	SWITCH AS (ENGINE COOLANT TEMPERATURE)						
	4	1	224-6658	1	SWITCH-PRESSURE (ENGINE OIL PRESSURE)						



GRAPHIC #1

<END>

g00938447

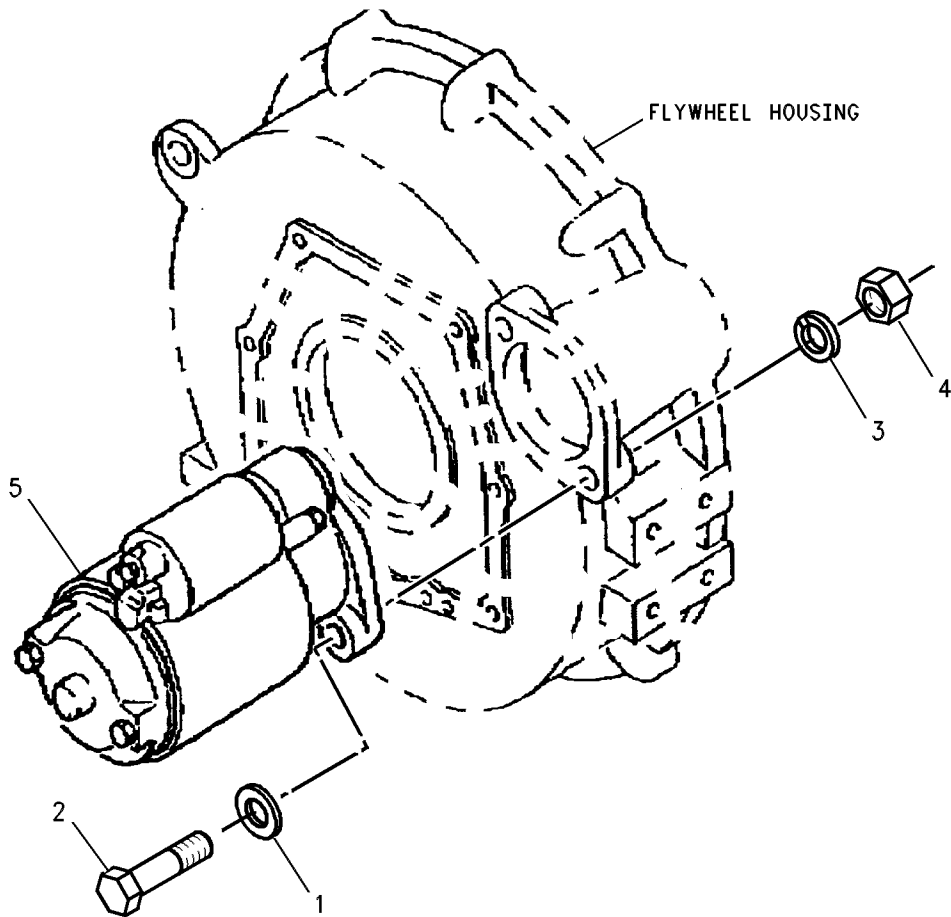
ELECTRICAL AND STARTING SYSTEM

176-7720 STARTING MOTOR GP-ELECTRIC

SMCS-1453

i01926071

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	154-1399	2	WASHER						
	2	1	154-2401	2	BOLT						
	3	1	154-2403	2	WASHER						
	4	1	155-8085	2	NUT						
	5	1	163-3361	1	STARTING MOTOR GP-ELECTRIC						



GRAPHIC #1

<END>

g00642383



3131-Up
G3P1-Up

3013C Industrial Engine

SEBP3641-06