



SEBP7406
April 2014

Parts Manual

C4.4 Industrial Engine

4401-Up (Engine)

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

TABLE OF CONTENTS

NAME	PAGE	NAME	PAGE
GENERAL INFORMATION	A2	CONNECTION GP-INLET.....	70
REPAIR ALTERNATIVES	A4	COVER GP-AIR INLET.....	72
SUPPLEMENTAL COOLANT ADDITIVES	A5	PIPE GP-EXHAUST.....	74
MAINTENANCE PARTS	A6	TURBOCHARGER GP	75
INDEX	A7	FUEL SYSTEM	81
ENGINE ARRANGEMENT	1	FILTER & LINES GP-FUEL.....	81
ENGINE AR.....	1	FILTER GP-FUEL.....	83
ENGINE AR-PRIMARY	2	PUMP GP-FUEL INJECTION	84
BASIC ENGINE	3	ELECTRICAL AND STARTING SYSTEM	90
BALANCER GP.....	3	ALTERNATOR GP-CHARGING.....	90
CAMSHAFT GP	5	GLOW PLUG GP	92
COVER GP-ENGINE.....	7	STARTING MOTOR GP-ELECTRIC	93
COVER GP-VALVE MECHANISM.....	8	SWITCH GP-PRESSURE.....	97
CRANKSHAFT GP.....	13	OPERATOR STATION	99
CYLINDER BLOCK AS.....	17	GAUGE GP-TEMPERATURE	99
CYLINDER BLOCK GP.....	19	PART NUMBER INDEX	B1
CYLINDER HEAD AS.....	21		
CYLINDER HEAD GP.....	22		
DRIVE GP-FAN.....	25		
FLYWHEEL GP.....	27		
GEAR GP-FRONT	28		
HOUSING GP-FLYWHEEL.....	30		
HOUSING GP-FRONT.....	32		
LIFTING GP-ENGINE.....	34		
MOUNTING GP-ENGINE	36		
PAN GP-OIL	37		
PISTON & ROD GP	41		
PLUG GP-CYLINDER HEAD.....	44		
PLUG GP-ENGINE.....	45		
PULLEY GP-CRANKSHAFT.....	47		
ROCKER ARM GP	48		
VALVE MECHANISM GP.....	49		
LUBRICATION SYSTEM	51		
FILLER GP-ENGINE OIL	51		
FILTER GP-ENGINE OIL	52		
PUMP GP-ENGINE OIL	53		
COOLING SYSTEM	54		
CONNECTION GP-WATER.....	54		
CONNECTOR GP-CAB HEATER LINES.....	56		
COOLER GP-ENGINE OIL.....	57		
FAN GP	60		
PUMP GP-WATER.....	62		
RADIATOR GP	65		
AIR INLET AND EXHAUST SYSTEM	69		
AIR CLEANER GP.....	69		

GENERAL INFORMATION

1. ENGINE IDENTIFICATION

Cat 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.

Cat 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 Cat replacement parts are available from Cat dealers throughout the world. Their parts inventories are up to date and include all parts normally required to protect your investment in Cat 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

14. DESCRIPTION OF TYPE CHANGES

Type - A type is defined as any configuration change that requires an additional Information Element for an Arrangement, Group, or Assembly. If serial number breaks for types are not available, a type # (Type 1, Type 2, etc.) will be displayed in the caption. These "type" changes are identified with a "C" note (change from previous type) in the Parts List. Only the "types" that apply to this Parts Manual will be included. Additional types may exist causing "C" notes to appear on an Information Element when no other types are shown.

15. <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 Cat product or this publication, please consult your Cat dealer for the latest available information.

REPAIR ALTERNATIVES

REMANUFACTURED COMPONENTS

As an option when making repairs consider Cat Remanufactured Components. Components that are available through the Cat 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

Cat 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 Cat 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.

MAINTENANCE PARTS

DESCRIPTION	PART NUMBER	QTY	WHERE USED	PAGE
AIR INLET AND EXHAUST SYSTEM				
FILTER ELEMENT AS-AIR (PRIMARY)	233-5182	1	AIR CLEANER GP	69
FILTER ELEMENT AS-AIR (SECONDARY)	233-5184	1	AIR CLEANER GP	69
GASKET-MANIFOLD	194-5390	1	TURBOCHARGER GP	78
BASIC ENGINE				
CAP AS (ENGINE OIL FILLER)	136-3608	1	COVER GP-VALVE MECHANISM	8
GASKET (VALVE COVER)	225-6451	1	COVER GP-VALVE MECHANISM	8
		1	COVER GP-VALVE MECHANISM	9
PLUG-DRAIN (ENGINE OIL)	7C-0351	2	PAN GP-OIL	37
		2	PAN GP-OIL	39
SEAL (VALVE COVER)	124-0506	1	COVER GP-VALVE MECHANISM	8
V-BELT SET (INCLUDES 2-BELTS) (FAN DRIVE)	128-5250	1	DRIVE GP-FAN	26
	4N-8771	1	DRIVE GP-FAN	25
COOLING SYSTEM				
CAP-RADIATOR	236-7764	1	RADIATOR GP	65
HOSE-RADIATOR	236-8781	1	RADIATOR GP	65
HOSE-RADIATOR (UPPER)	236-7722	1	RADIATOR GP	65
PLUG-DRAIN (COOLANT)	236-7765	1	RADIATOR GP	65
REGULATOR AS-WATER TEMPERATURE (CONNECTOR INCLUDED)	254-2268	1	CONNECTION GP-WATER	55
REGULATOR GP-TEMPERATURE (INCLUDES CONNECTOR) (WATER)	254-2267	1	CONNECTION GP-WATER	54
ELECTRICAL AND STARTING SYSTEM				
GLOW PLUG (12-VOLT)	232-6662	4	GLOW PLUG GP	92
FUEL SYSTEM				
FILTER ELEMENT-WTR SEP & FUEL	252-6338	1	FILTER GP-FUEL	83
LUBRICATION SYSTEM				
CAP-OIL FILLER (ENGINE)	130-9888	1	FILLER GP-ENGINE OIL	51
FILTER AS-ENGINE OIL	7W-2326	1	FILTER GP-ENGINE OIL	52

INDEX

NAME	PAGE	NAME	PAGE
A			
AIR CLEANER GP	69	FILTER & LINES GP-FUEL	81
ALTERNATOR GP-CHARGING	90	FILTER AS-ENGINE OIL	52
	91	FILTER ELEMENT AS-AIR (PRIMARY)	69
ALTERNATOR GP-CHARGING (12-VOLT)	90	FILTER ELEMENT AS-AIR (SECONDARY)	69
		FILTER ELEMENT-WTR SEP & FUEL	83
B			
BALANCER GP	3	FILTER GP-ENGINE OIL	52
		FILTER GP-FUEL	83
C			
CAMSHAFT GP	5	FILTER GP-WATER SEP & FUEL	83
	6	FILTER-SECONDARY	81
CAP AS (ENGINE OIL FILLER)	8	FLYWHEEL GP	27
CAP-OIL FILLER (ENGINE)	51		
CAP-RADIATOR	65	G	
CONNECTION GP-INLET-AIR	70	GASKET (VALVE COVER)	8
CONNECTION GP-WATER	54		9
	55	GASKET-MANIFOLD	78
CONNECTOR GP-CAB HEATER LINES	56	GAUGE AS-OIL LEVEL (DIPSTICK) (ENGINE)	39
COOLER GP-ENGINE OIL	57	GAUGE GP-TEMPERATURE	99
	58	GEAR GP-FRONT	28
	59	GLOW PLUG (12-VOLT)	92
COVER GP-AIR INLET	72	GLOW PLUG GP	92
COVER GP-ENGINE	7		
COVER GP-VALVE MECHANISM	8	H	
	9	HOSE-RADIATOR	65
	11	HOSE-RADIATOR (UPPER)	65
CRANKSHAFT GP	13	HOUSING GP-FLYWHEEL	30
	15	HOUSING GP-FRONT	32
	16		
CYLINDER BLOCK AS	17	L	
CYLINDER BLOCK GP	19	LIFTING GP-ENGINE	34
	20		35
CYLINDER HEAD AS	21	M	
CYLINDER HEAD GP	22	MOUNTING GP-ENGINE	36
	23		
	24	P	
D			
DRIVE GP-FAN	25	PAN GP-OIL-ENGINE	37
	26		39
E			
ENGINE AR	1	PIPE GP-EXHAUST	74
ENGINE AR-PRIMARY	2	PISTON & ROD GP	41
F			
FAN GP	60		43
	61	PLUG GP-CYLINDER HEAD	44
FILLER GP-ENGINE OIL	51	PLUG GP-ENGINE	45
			46
		PLUG-DRAIN (COOLANT)	65
		PLUG-DRAIN (ENGINE OIL)	37
			39
		PULLEY GP-CRANKSHAFT	47
		PUMP GP-ENGINE OIL	53
		PUMP GP-FUEL INJECTION	84
			87

INDEX

NAME	PAGE	NAME	PAGE
PUMP GP-WATER.....	62		
	64		
R			
RADIATOR GP.....	65		
REGULATOR AS-WATER TEMPERATURE (CONNECTOR INCLUDED).....	55		
REGULATOR GP-TEMPERATURE (INCLUDES CONNECTOR) (WATER).....	54		
ROCKER ARM GP.....	48		
S			
SEAL (VALVE COVER).....	8		
STARTING MOTOR GP-ELECTRIC.....	93		
	94		
	95		
	96		
SWITCH (OIL PRESSURE).....	98		
SWITCH AS-PRESSURE (ENGINE OIL).....	97		
SWITCH GP-PRESSURE-ENGINE OIL.....	97		
	98		
SWITCH-TEMPERATURE.....	99		
SWITCH-TEMPERATURE (FUEL).....	84		
	87		
T			
TURBOCHARGER GP.....	75		
	78		
V			
V-BELT SET (INCLUDES 2-BELTS) (FAN DRIVE).....	25		
	26		
VALVE MECHANISM GP.....	49		
	50		

ENGINE ARRANGEMENT

309-0313 ENGINE AR 83 BRAKE KW (111 BHP) AT 2200 RPM

SMCS - 1000

i05770529

NOTE	PART NUMBER	QTY	PART NAME						SEE PAGE
			1	2	3	4	5	6 (PRODUCT LEVEL)	
Y	311-7455	1	ALTERNATOR GP-CHARGING						90
Y	316-7955	1	CAMSHAFT GP						5
Y	316-8453	1	CONNECTION GP-INLET						70
Y	316-6941	1	CONNECTION GP-WATER						54
Y	316-6899	1	COOLER GP-ENGINE OIL						57
Y	298-5111	1	COVER GP-ENGINE						7
Y	316-7960	1	COVER GP-VALVE MECHANISM						11
Y	316-7951	1	CRANKSHAFT GP						15
Y	316-7950	1	CYLINDER BLOCK GP						19
Y	316-7953	1	CYLINDER HEAD GP						23
Y	316-7959	1	DRIVE GP-FAN						25
Y	314-5003	1	FAN GP						60
Y	323-6796	1	FILTER & LINES GP-FUEL						81
Y	298-5100	1	FILTER GP-ENGINE OIL						52
Y	315-3421	1	FILTER GP-FUEL						83
Y	301-8237	1	FLYWHEEL GP						27
Y	367-0592	1	GAUGE GP-TEMPERATURE						99
Y	298-5110	1	GEAR GP-FRONT						28
Y	315-3418	1	GLOW PLUG GP						92
Y	303-4618	1	HOUSING GP-FLYWHEEL						30
Y	315-3419	1	LIFTING GP-ENGINE						34
Y	311-4641	1	MOUNTING GP-ENGINE						36
Y	298-5096	1	PAN GP-OIL						37
Y	304-8762	1	PIPE GP-EXHAUST						74
Y	316-7952	1	PISTON & ROD GP						41
Y	298-5098	1	PLUG GP-ENGINE						45
Y	298-5131	1	PLUG GP-ENGINE						46
Y	360-7339	1	PULLEY GP-CRANKSHAFT						47
Y	298-5112	1	PUMP GP-ENGINE OIL						53
Y	316-7956	1	PUMP GP-FUEL INJECTION						84
Y	316-7961	1	PUMP GP-WATER						64
Y	316-7963	1	RADIATOR GP						65
Y	325-5612	1	STARTING MOTOR GP-ELECTRIC						93
			-OR-						
Y	420-3156	1	STARTING MOTOR GP-ELECTRIC						95
Y	316-6925	1	SWITCH GP-PRESSURE						97
Y	316-7962	1	TURBOCHARGER GP						75
Y	316-7954	1	VALVE MECHANISM GP						49

Y - SEPARATE ILLUSTRATION

<END>

ENGINE ARRANGEMENT

326-3311 ENGINE AR-PRIMARY

68 BRAKE KW (91 BBHP) AT 2200 RPM

SMCS - 1000

i05770581

NOTE	PART NUMBER	QTY	PART NAME						SEE PAGE
			1	2	3	4	5	6 (PRODUCT LEVEL)	
Y	322-4890	1	ALTERNATOR GP-CHARGING						91
Y	301-8245	1	BALANCER GP						3
Y	330-0367	1	CAMSHAFT GP						6
Y	317-6143	1	CONNECTION GP-WATER						55
Y	330-0370	1	CONNECTOR GP-CAB HEATER LINES						56
Y	330-0399	1	COOLER GP-ENGINE OIL						58
Y	316-6943	1	COVER GP-AIR INLET						72
Y	298-5111	1	COVER GP-ENGINE						7
Y	315-3407	1	COVER GP-VALVE MECHANISM						9
Y	330-0363	1	CRANKSHAFT GP						16
Y	330-0362	1	CYLINDER BLOCK GP						20
Y	330-0365	1	CYLINDER HEAD GP						24
Y	320-9223	1	DRIVE GP-FAN						26
Y	322-4889	1	FAN GP						61
Y	299-5071	1	FILLER GP-ENGINE OIL						51
Y	323-6796	1	FILTER & LINES GP-FUEL						81
Y	298-5100	1	FILTER GP-ENGINE OIL						52
Y	315-3421	1	FILTER GP-FUEL						83
Y	315-3418	1	GLOW PLUG GP						92
Y	319-1582	1	HOUSING GP-FRONT						32
Y	326-9013	1	LIFTING GP-ENGINE						35
Y	322-4888	1	PAN GP-OIL						39
Y	330-0364	1	PISTON & ROD GP						43
Y	298-5129	1	PLUG GP-CYLINDER HEAD						44
Y	360-7339	1	PULLEY GP-CRANKSHAFT						47
Y	322-2401	1	PUMP GP-FUEL INJECTION						87
Y	315-3411	1	PUMP GP-WATER						62
Y	330-0368	1	STARTING MOTOR GP-ELECTRIC						94
			-OR-						
Y	420-3188	1	STARTING MOTOR GP-ELECTRIC						96
Y	317-6146	1	SWITCH GP-PRESSURE						98
Y	330-0369	1	TURBOCHARGER GP						78
Y	330-0366	1	VALVE MECHANISM GP						50
	359-0733	1	CYLINDER BLOCK GP-SHORT						
Y - SEPARATE ILLUSTRATION									
<END>									

BASIC ENGINE

301-8245 BALANCER GP

SMCS-1220

i05770784

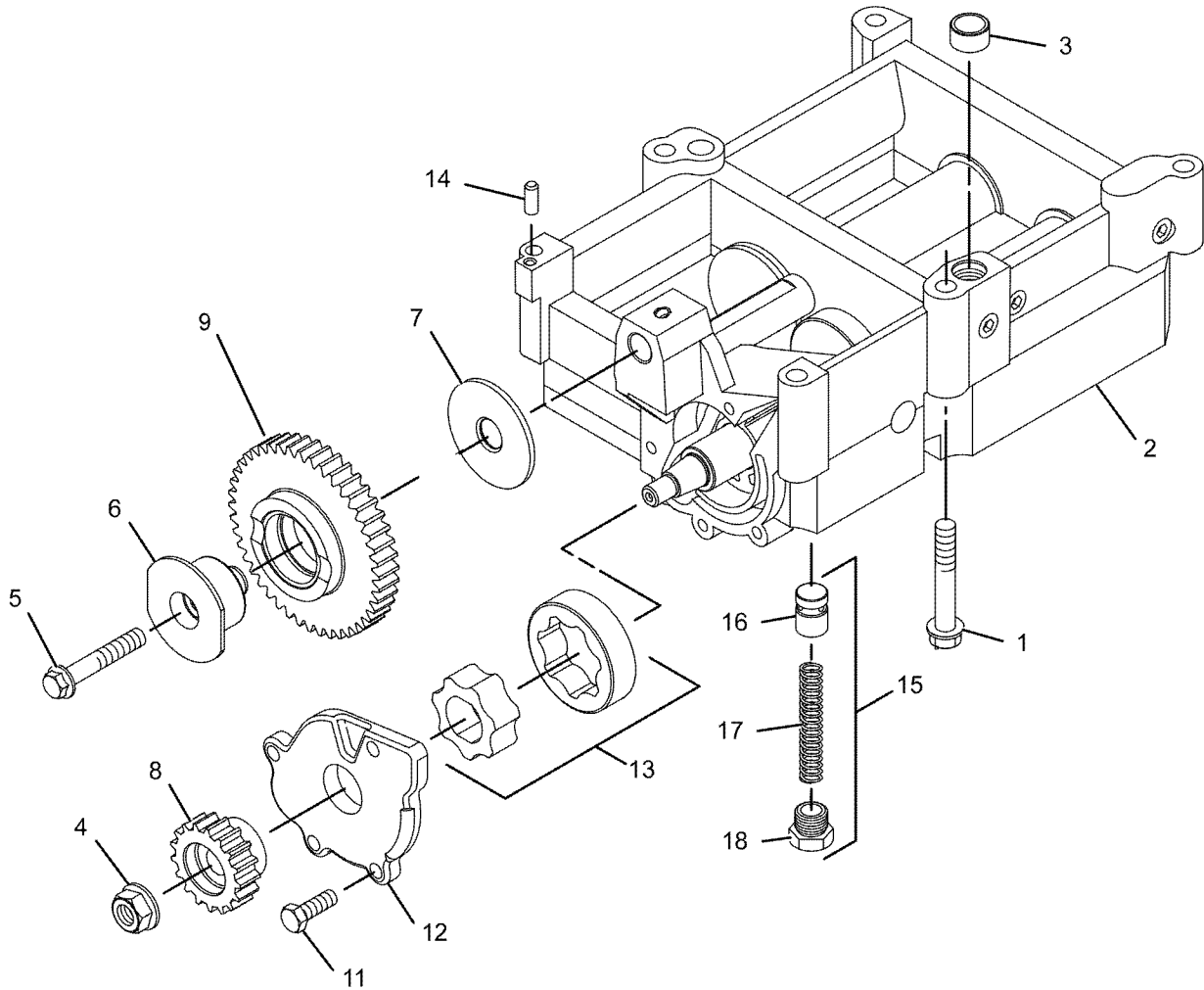
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
M	1	1	6I-0454	6	BOLT (M10X1.5X70-MM)						
	2	1	234-0615	1	BALANCER AS						
	3	1	8N-7998	1	DOWEL						
	4	1	195-2221	1	NUT (M12X1.75-THD)						
	5	1	234-0189	1	BOLT						
	6	1	234-0198	1	SHAFT-GEAR						
	7	1	234-0201	1	WASHER-THRUST						
	8	1	234-0204	1	GEAR-BALANCER (17-TEETH)						
	9	1	234-0205	1	GEAR AS (44-TEETH)						
	11	1	234-0212	5	BOLT						
	12	1	234-0220	1	COVER						
	13	1	234-0223	1	ROTOR AS						
	14	1	234-0614	1	DOWEL						
	15	1	234-0616	1	VALVE-RELIEF (ENGINE OIL PRESSURE)						
	16	1	234-0590	1	PLUNGER						
	17	1	234-0591	1	SPRING						
	18	1	234-0613	1	PLUG-RETAINER						

M - METRIC PART

BASIC ENGINE

301-8245 BALANCER GP (contd.)

i05770784



GRAPHIC #1

<END>

g01065190

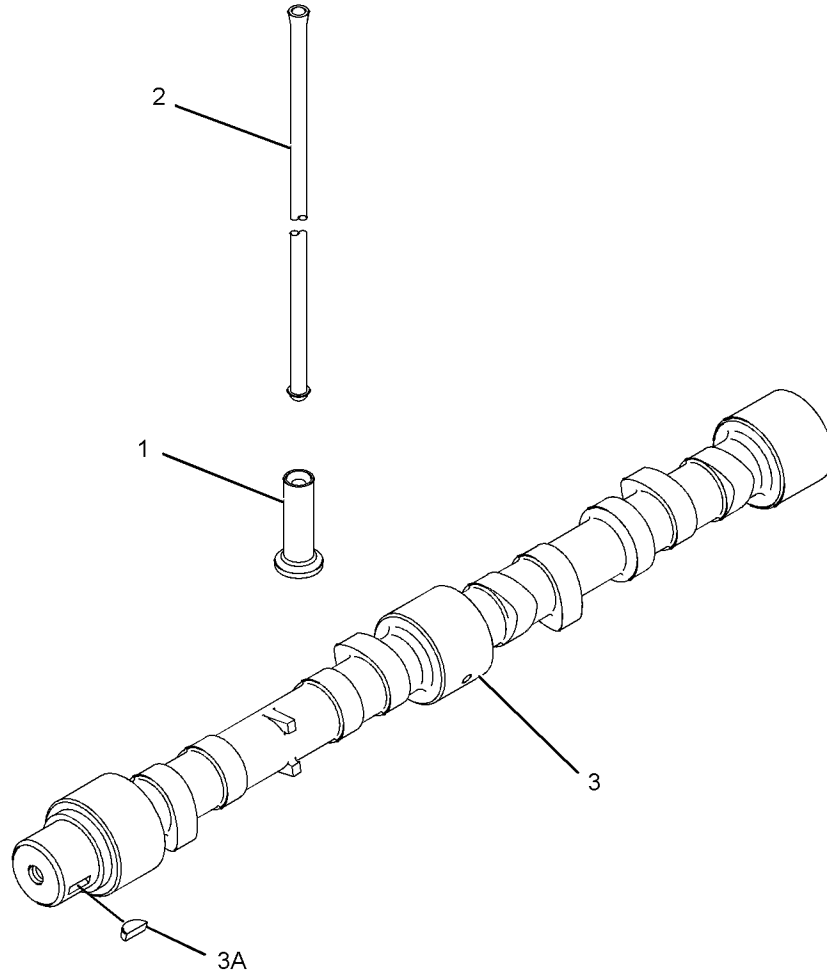
BASIC ENGINE

316-7955 CAMSHAFT GP

SMCS-1210

i05770708

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	315-3384	8	TAPPET						
	2	1	319-8426	8	PUSHROD						
	3	1	350-2433	1	CAMSHAFT AS						
	3A	1	1B-8736	1	KEY-WOODRUFF						



GRAPHIC #1

<END>

g02134393

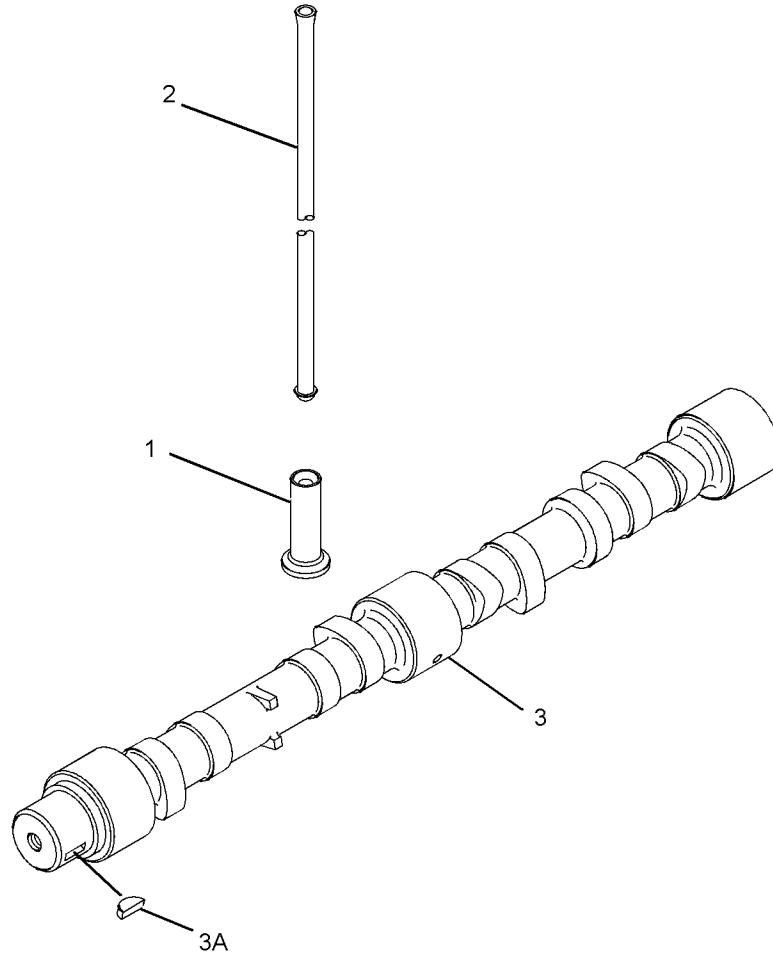
BASIC ENGINE

330-0367 CAMSHAFT GP

SMCS-1210

i05771235

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	315-3384	8	TAPPET						
	2	1	319-8426	8	PUSHROD						
	3	1	380-2600	1	CAMSHAFT AS						
	3A	1	1B-8736	1	KEY-WOODRUFF						



GRAPHIC #1

<END>

g02134051

BASIC ENGINE

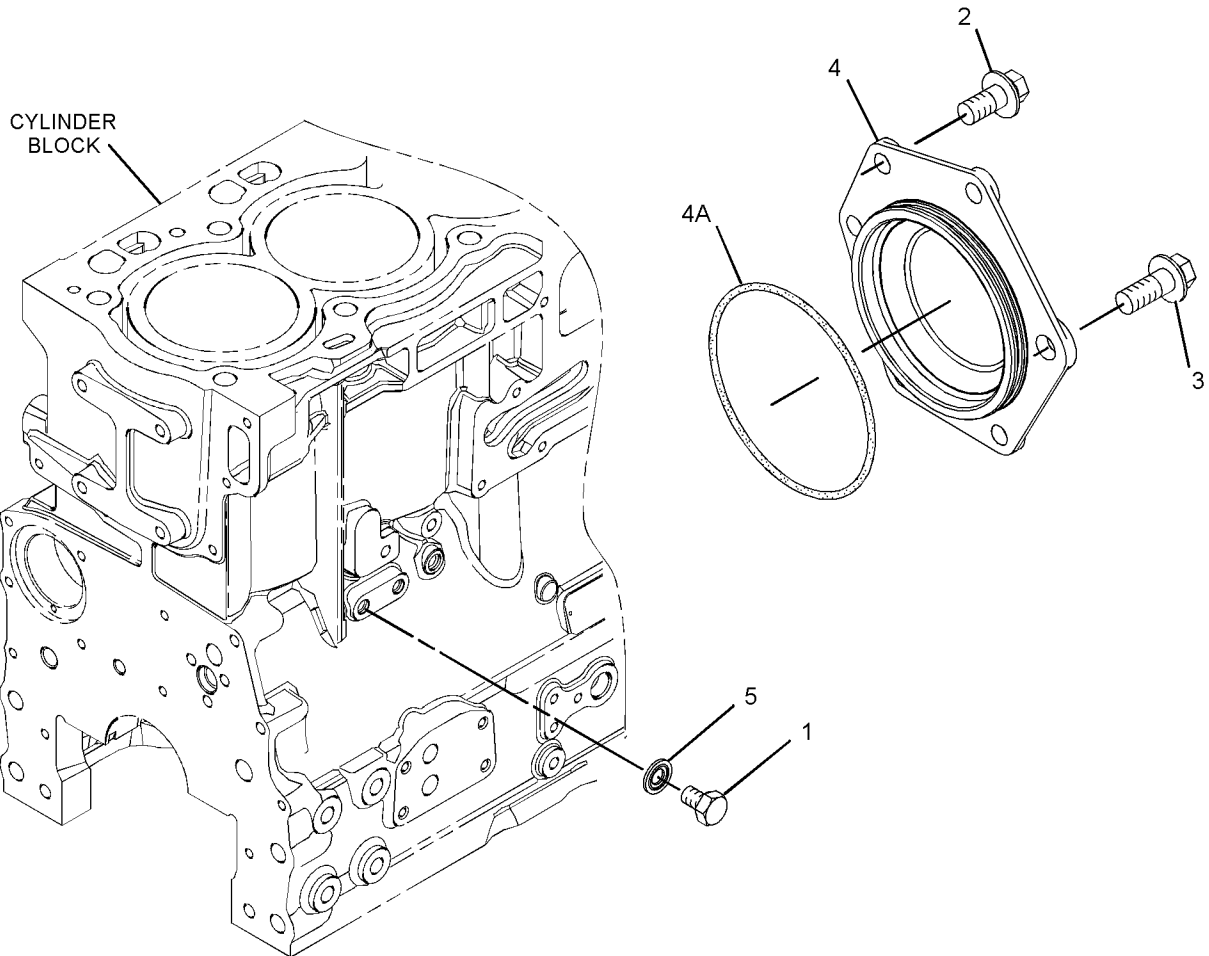
298-5111 COVER GP-ENGINE

SMCS-1000

i05770582

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	6I-0646	1	BOLT (M10X1.5X14-MM)						
M	2	1	100-4830	1	BOLT (M10X1.5X20-MM)						
	3	1	111-8222	5	BOLT (M8X16-MM)						
	4	1	329-7854	1	PLATE AS						
	4A	1	329-7856	1	SEAL-O-RING						
	5	1	214-3203	1	WASHER (SEALING)						

M - METRIC PART



GRAPHIC #1

<END>

g01304566

BASIC ENGINE

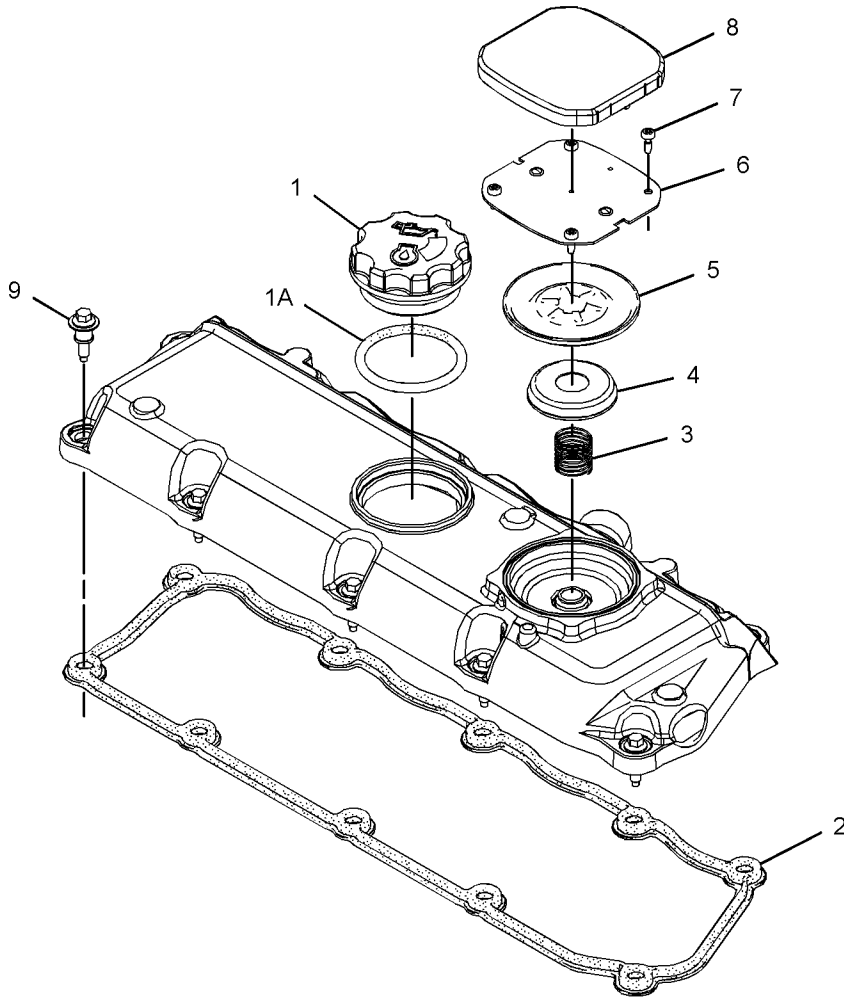
308-1393 COVER GP-VALVE MECHANISM

PART OF 316-7960 COVER GP-VALVE MECHANISM

SMCS-1107

i05770750

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	136-3608	1	CAP AS (ENGINE OIL FILLER)						
	1A	1	124-0506	1	SEAL (VALVE COVER)						
	2	1	225-6451	1	GASKET (VALVE COVER)						
	3	1	225-6456	1	SPRING						
	4	1	225-6461	1	CAP						
	5	1	225-6464	1	DIAPHRAGM (CRANKCASE PRESSURE CONTACTOR)						
	6	1	225-6477	1	PLATE						
	7	1	225-6478	4	SCREW-MACHINE						
	8	1	225-6479	1	CAP						
	9	1	349-2746	1	BOLT						



GRAPHIC #1

<END>

g03139884

BASIC ENGINE

315-3407 COVER GP-VALVE MECHANISM

SMCS-1107

i05770785

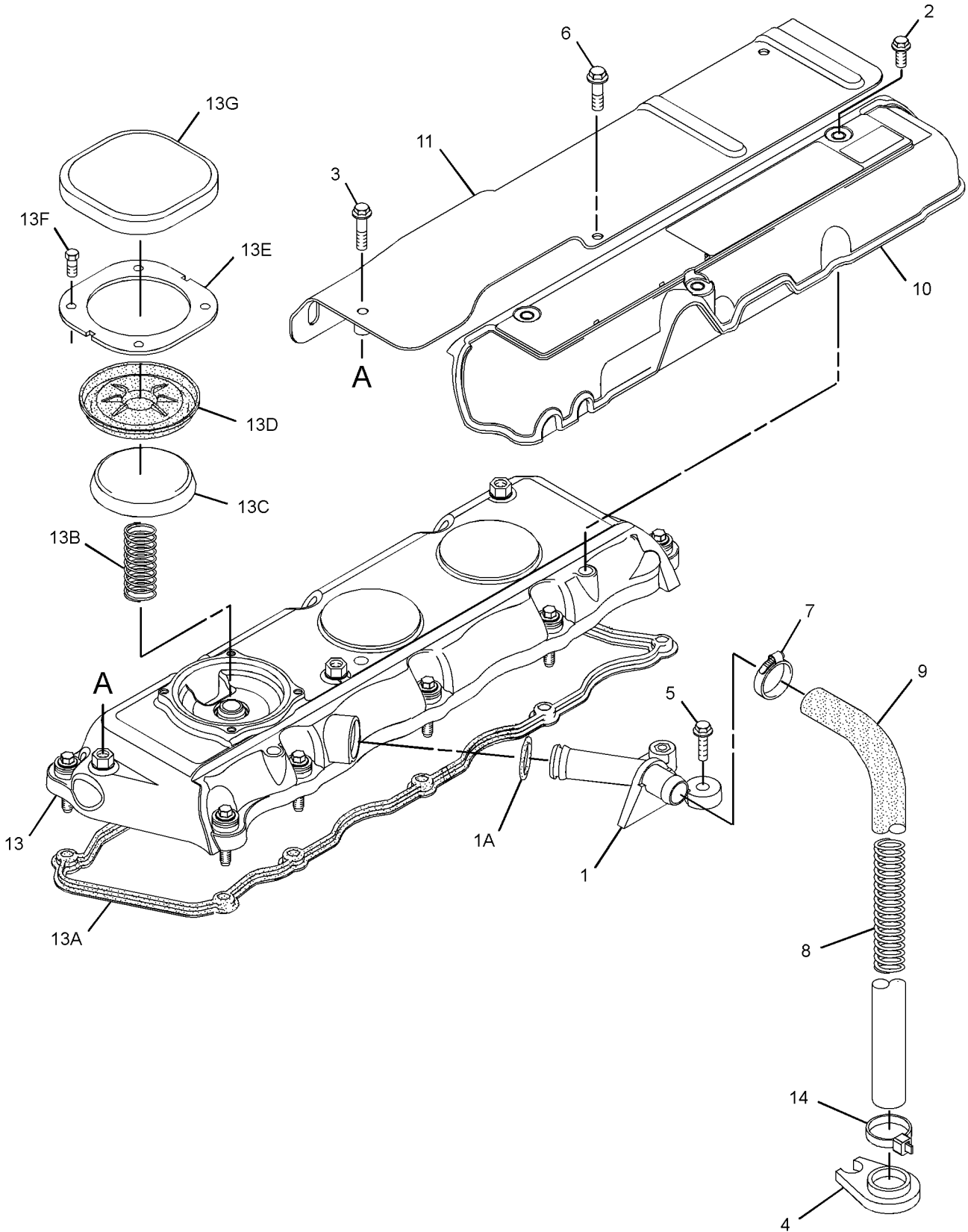
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	315-3380	1	TUBE AS-BREATHER						
	1A	1	150-7732	1	SEAL-O-RING						
	2	1	6I-0846	3	BOLT (M6X1X14-MM)						
	3	1	6I-0917	1	BOLT (M6X1X25-MM)						
	4	1	7C-1281	1	BRACKET						
	5	1	100-4838	1	BOLT (M6X20-MM)						
M	6	1	100-4841	2	BOLT (M6X1X10-MM)						
	7	1	5D-1026	1	CLAMP-BAND						
	8	1	162-1565	1	SPRING (CRANKCASE BREATHER HOSE)						
	9	1	198-8645	1	HOSE (CRANKCASE BREATHER)						
	10	1	230-9127	1	COVER						
	11	1	237-0769	1	SHIELD-HEAT						
	13	1	308-1792	1	COVER GP-VALVE MECHANISM						
	13A	1	225-6451	1	GASKET (VALVE COVER)						
	13B	1	225-6456	1	SPRING						
	13C	1	225-6461	1	CAP						
	13D	1	225-6464	1	DIAPHRAGM (CRANKCASE PRESSURE CONTACTOR)						
	13E	1	225-6477	1	PLATE						
	13F	1	225-6478	4	SCREW-MACHINE						
	13G	1	225-6479	1	CAP						
	14	1	217-9039	1	STRAP-CABLE						

M - METRIC PART

BASIC ENGINE

315-3407 COVER GP-VALVE MECHANISM (contd.)

i05770785



GRAPHIC #1

<END>

g03179398

BASIC ENGINE

316-7960 COVER GP-VALVE MECHANISM

SMCS-1107

i05770746

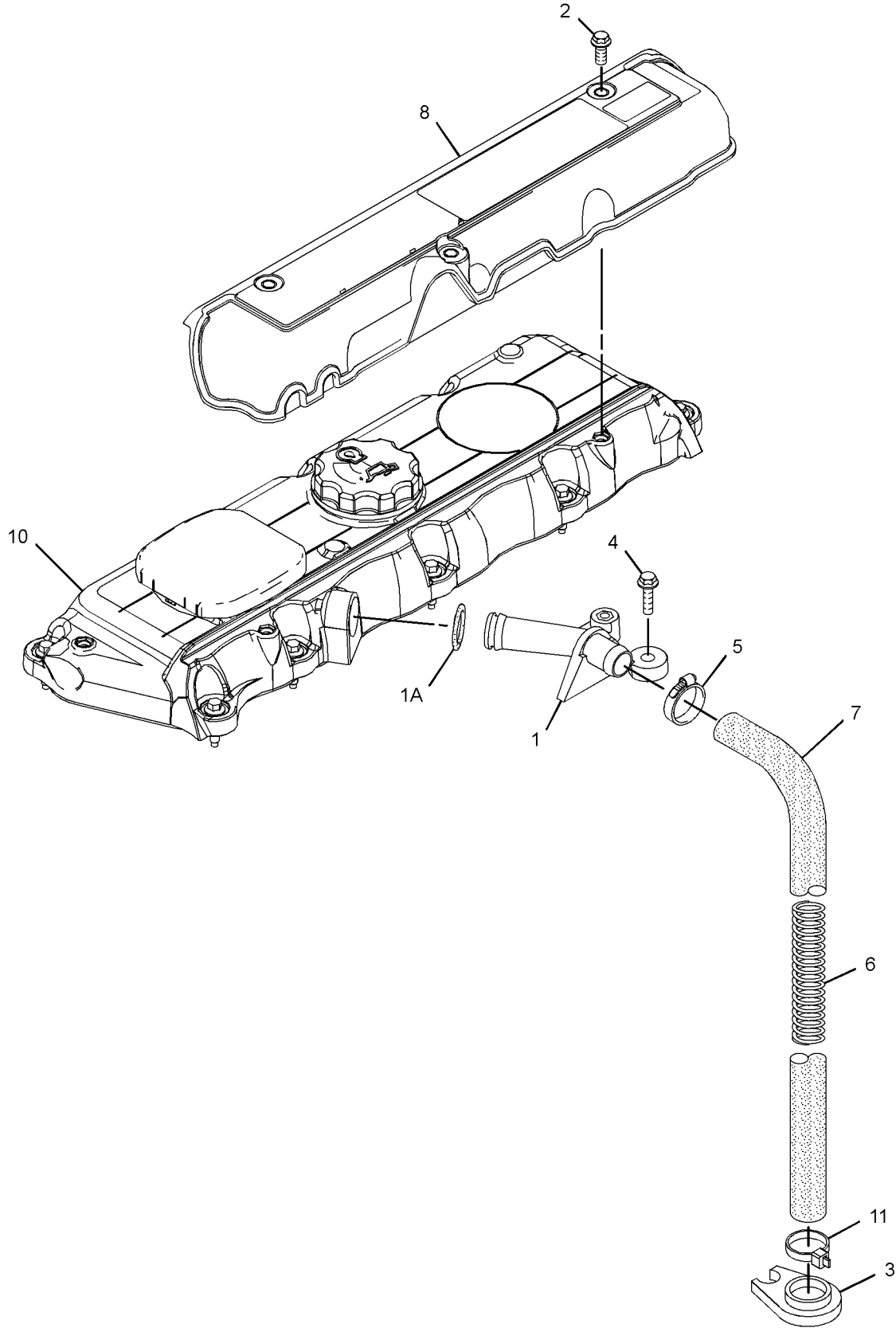
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	315-3380	1	TUBE AS-BREATHER						
	1A	1	150-7732	1	SEAL-O-RING						
	2	1	6I-0846	3	BOLT (M6X1X14-MM)						
	3	1	7C-1281	1	BRACKET						
	4	1	100-4838	1	BOLT (M6X20-MM)						
	5	1	5D-1026	1	CLAMP-BAND						
	6	1	162-1565	1	SPRING (CRANKCASE BREATHER HOSE)						
	7	1	198-8645	1	HOSE (CRANKCASE BREATHER)						
	8	1	230-9127	1	COVER						
Y	10	1	308-1393	1	COVER GP-VALVE MECHANISM						8
	11	1	217-9039	1	STRAP-CABLE						

Y - SEPARATE ILLUSTRATION

BASIC ENGINE

316-7960 COVER GP-VALVE MECHANISM (contd.)

i05770746



GRAPHIC #1

<END>

g03177261

BASIC ENGINE

232-7400 CRANKSHAFT GP

SPLINED

PART OF 316-7951, 330-0363 CRANKSHAFT GP

SMCS-1202

i05584214

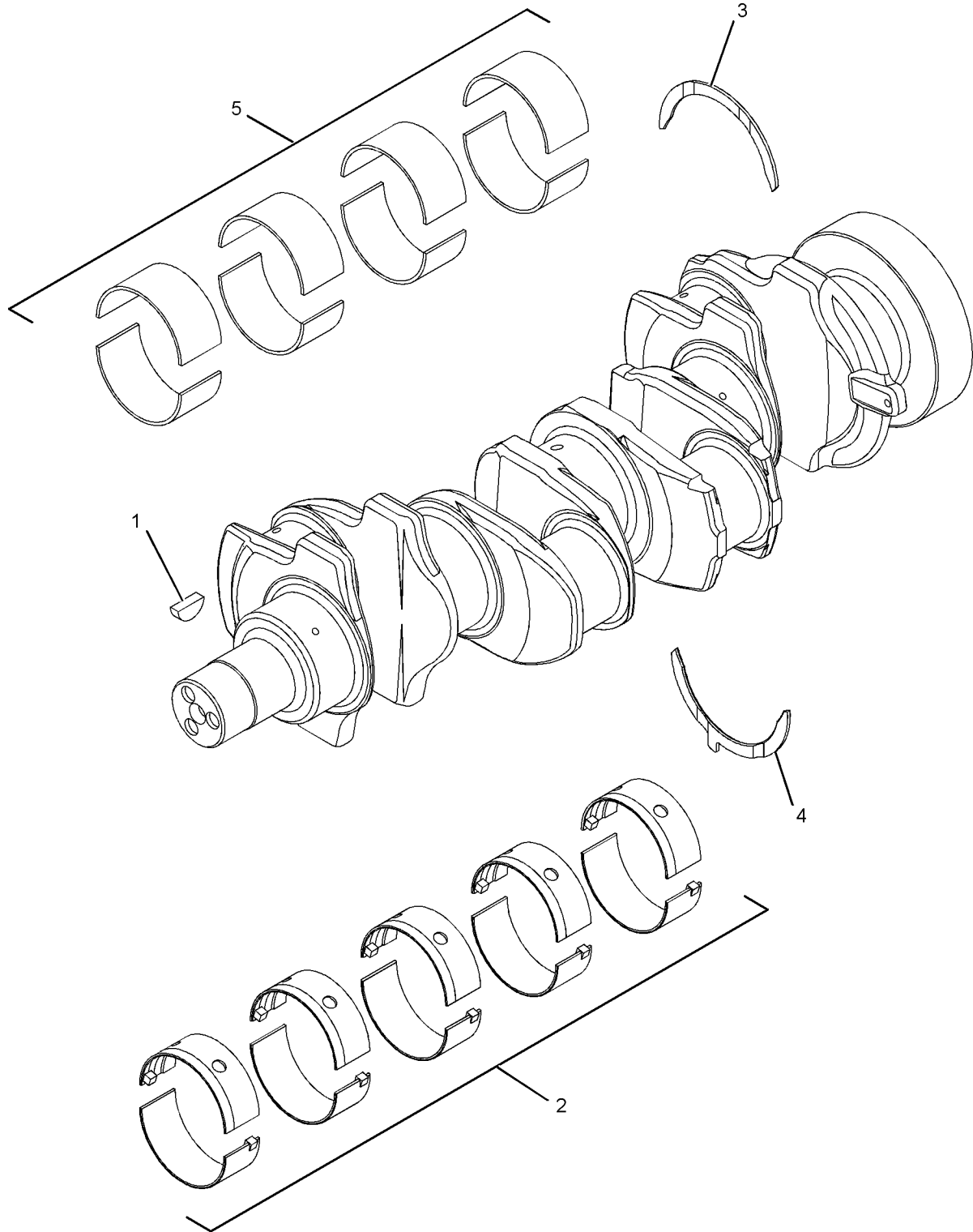
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	1B-8736	1	KEY-WOODRUFF						
	2	1	225-7772	1	BEARING SET-MAIN (STANDARD)						
AB		1	233-3785		KIT-CRANKSHAFT BEARING (0.50-MM US)						
AB		1	233-3784		KIT-CRANKSHAFT BEARING (0.25-MM US)						
AB		1	233-3786		KIT-CRANKSHAFT BEARING (0.75-MM US)						
	3	1	032-9090	2	WASHER-THRUST (STANDARD-UPPER)						
AB		1	067-6873		WASHER-THRUST (0.18-MM OS)						
	4	1	032-9091	2	WASHER-THRUST (STANDARD-LOWER)						
AB		1	067-6874		WASHER-THRUST (0.18-MM OS)						
	5	1	353-2205	1	KIT-ROD BEARING						
AB		1	353-2206		KIT-ROD BEARING (0.25-MM US)						
AB		1	353-2207		KIT-ROD BEARING (0.50-MM US)						
AB		1	353-2208		KIT-ROD BEARING (0.75-MM US)						

A - NOT PART OF THIS GROUP
 B - USE AS REQUIRED

BASIC ENGINE

232-7400 CRANKSHAFT GP (contd.)

i05584214



GRAPHIC #1

<END>

g01369317

BASIC ENGINE

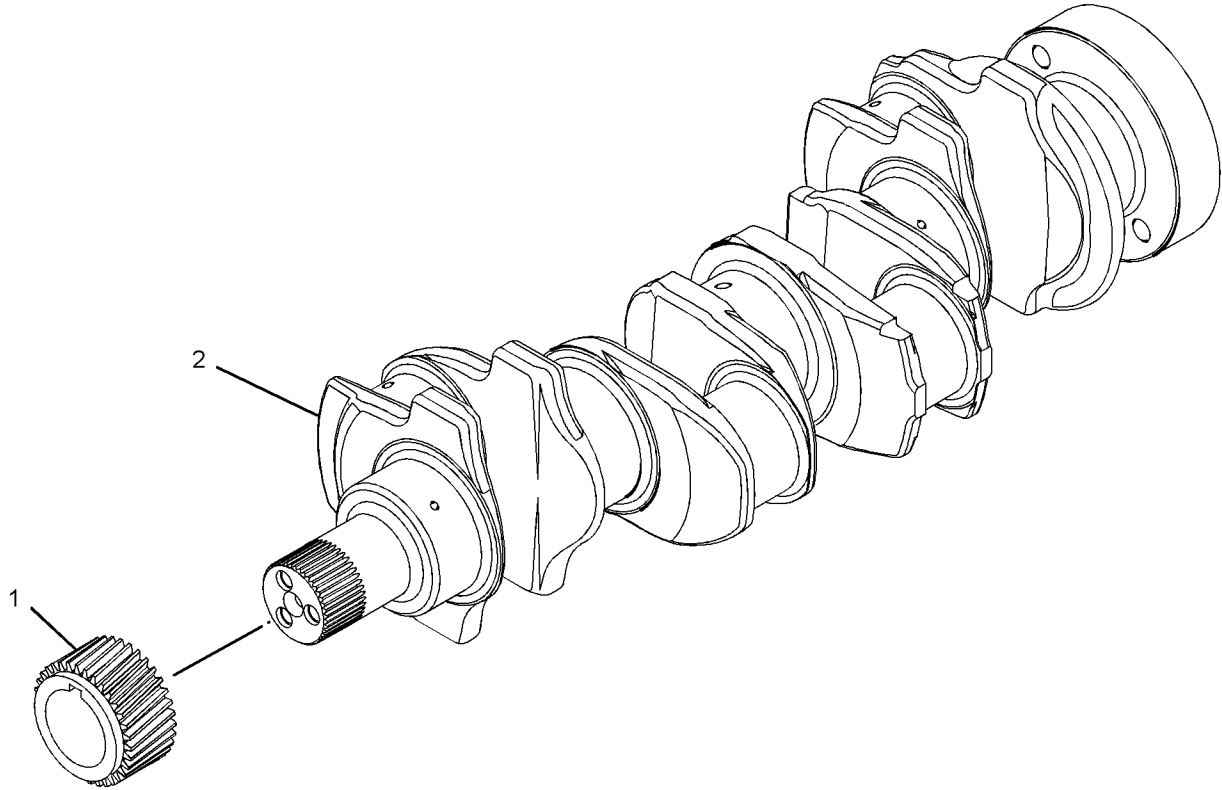
316-7951 CRANKSHAFT GP

SMCS-1202

i05770638

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	216-8314	1	GEAR-CRANKSHAFT (34-TEETH)						
JY	2	1	232-7400	1	CRANKSHAFT GP (WITH SPLINE) (CONNECTING ROD, 63.48-MM DIA)						13

J - CHECK CONNECTING ROD JOURNAL TO ENSURE THIS IS THE CORRECT CRANKSHAFT
 Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g01400305

BASIC ENGINE

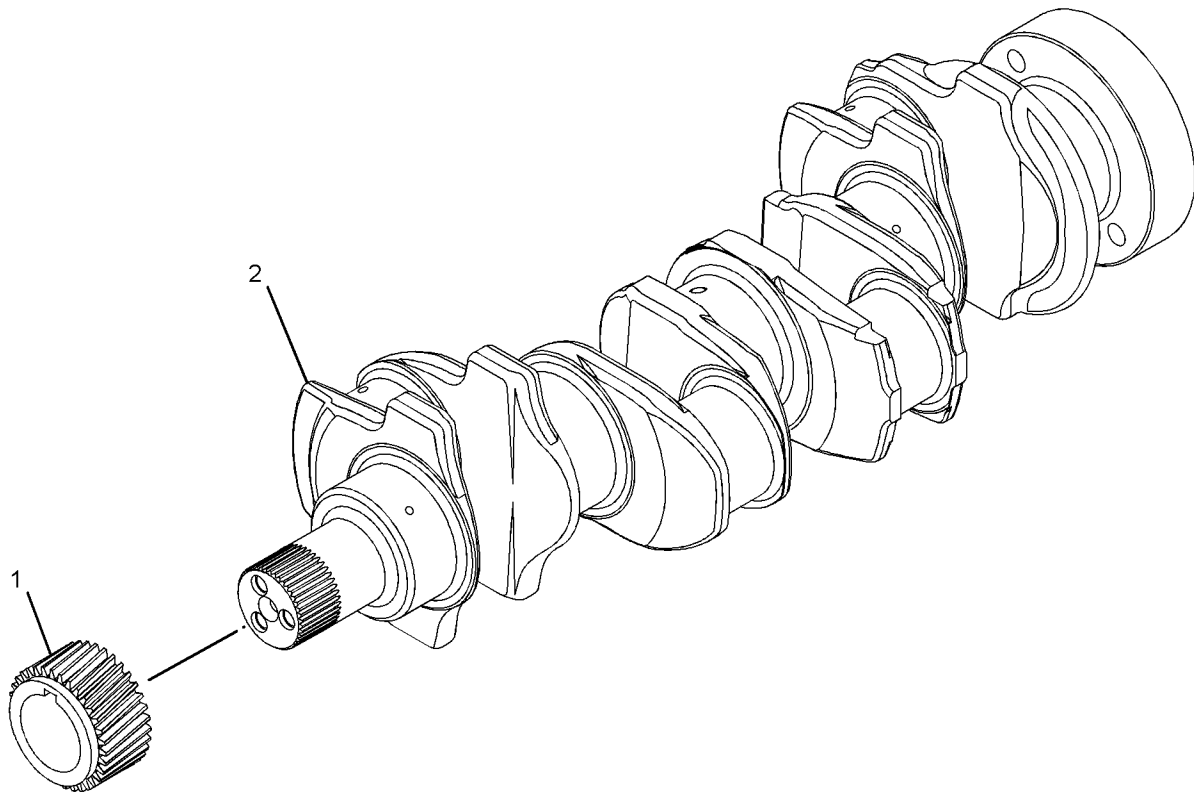
330-0363 CRANKSHAFT GP FIELD REPLACEMENT ORDER 274-4716 KIT-CRANKSHAFT

SMCS-1202

i05771223

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	216-8314	1	GEAR-CRANKSHAFT (34-TEETH)						
JY	2	1	232-7400	1	CRANKSHAFT GP (WITH SPLINE) (CONNECTING ROD, 63.48-MM DIA)						13

J - CHECK CONNECTING ROD JOURNAL TO ENSURE THIS IS THE CORRECT CRANKSHAFT
Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g01693233

BASIC ENGINE

336-3516 CYLINDER BLOCK AS

PART OF 330-0362 CYLINDER BLOCK GP

SMCS-1201

i05771394

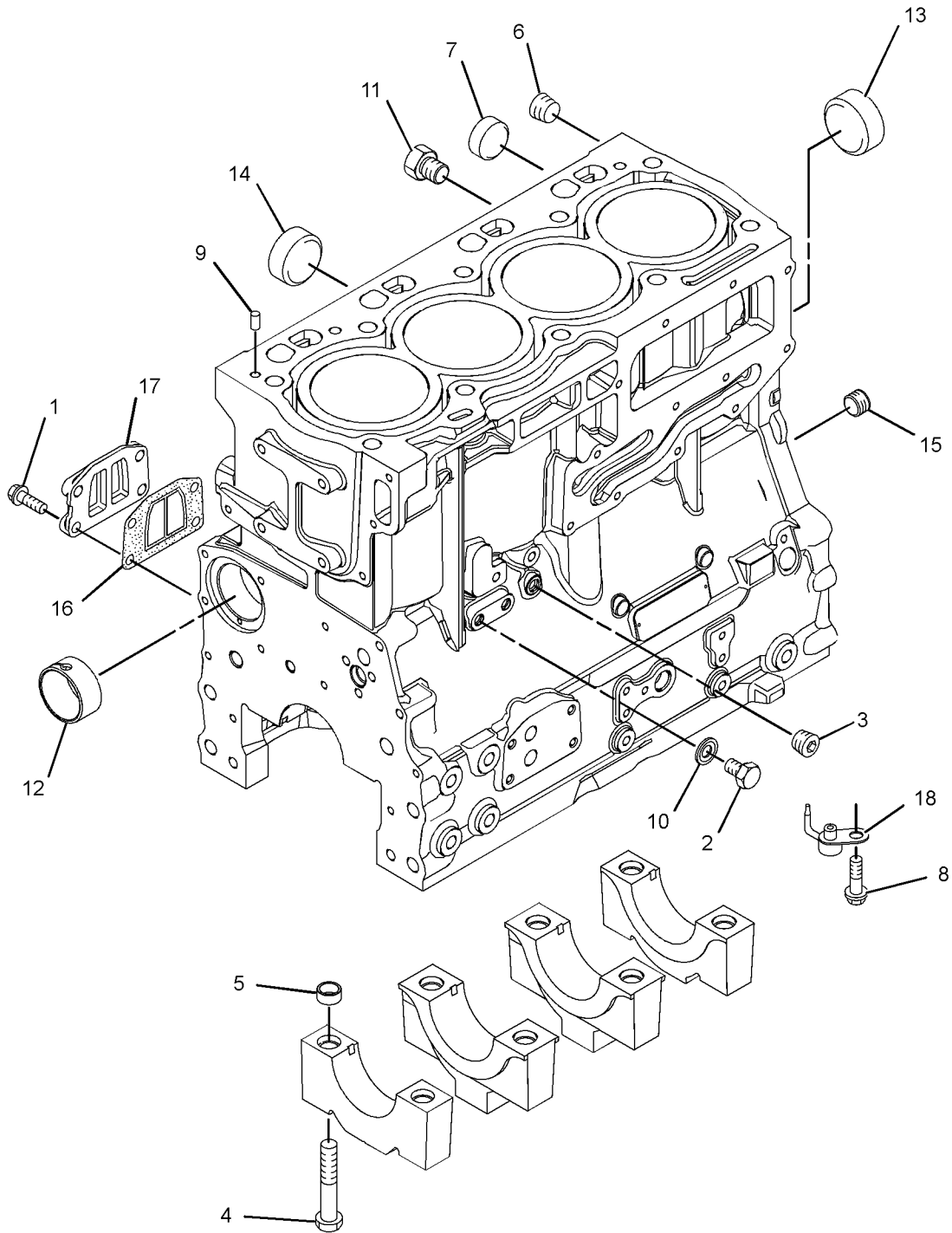
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0645	4	BOLT (M8X1.25X25-MM)						
	2	1	6I-0646	1	BOLT (M10X1.5X14-MM)						
	3	1	035-8063	1	PLUG						
	4	1	0S-2353	10	BOLT (5/8-18X3.75-IN)						
	5	1	067-6002	10	DOWEL						
	6	1	067-6006	1	PLUG						
	7	1	067-6043	1	PLUG-SIDE						
M	8	1	100-4841	4	BOLT (M6X1X10-MM)						
	9	1	185-0884	2	DOWEL						
	10	1	214-3203	1	WASHER (SEALING)						
	11	1	225-8858	1	PLUG						
	12	1	366-8853	1	BEARING						
	13	1	232-7596	1	PLUG						
	14	1	232-7597	2	PLUG						
	15	1	232-7599	1	PLUG						
	16	1	233-9408	1	GASKET						
	17	1	252-6318	1	PLATE						
	18	1	276-5605	4	JET AS-PISTON COOLING						

M - METRIC PART

BASIC ENGINE

336-3516 CYLINDER BLOCK AS (contd.)

i05771394



GRAPHIC #1

<END>

g01586142

BASIC ENGINE

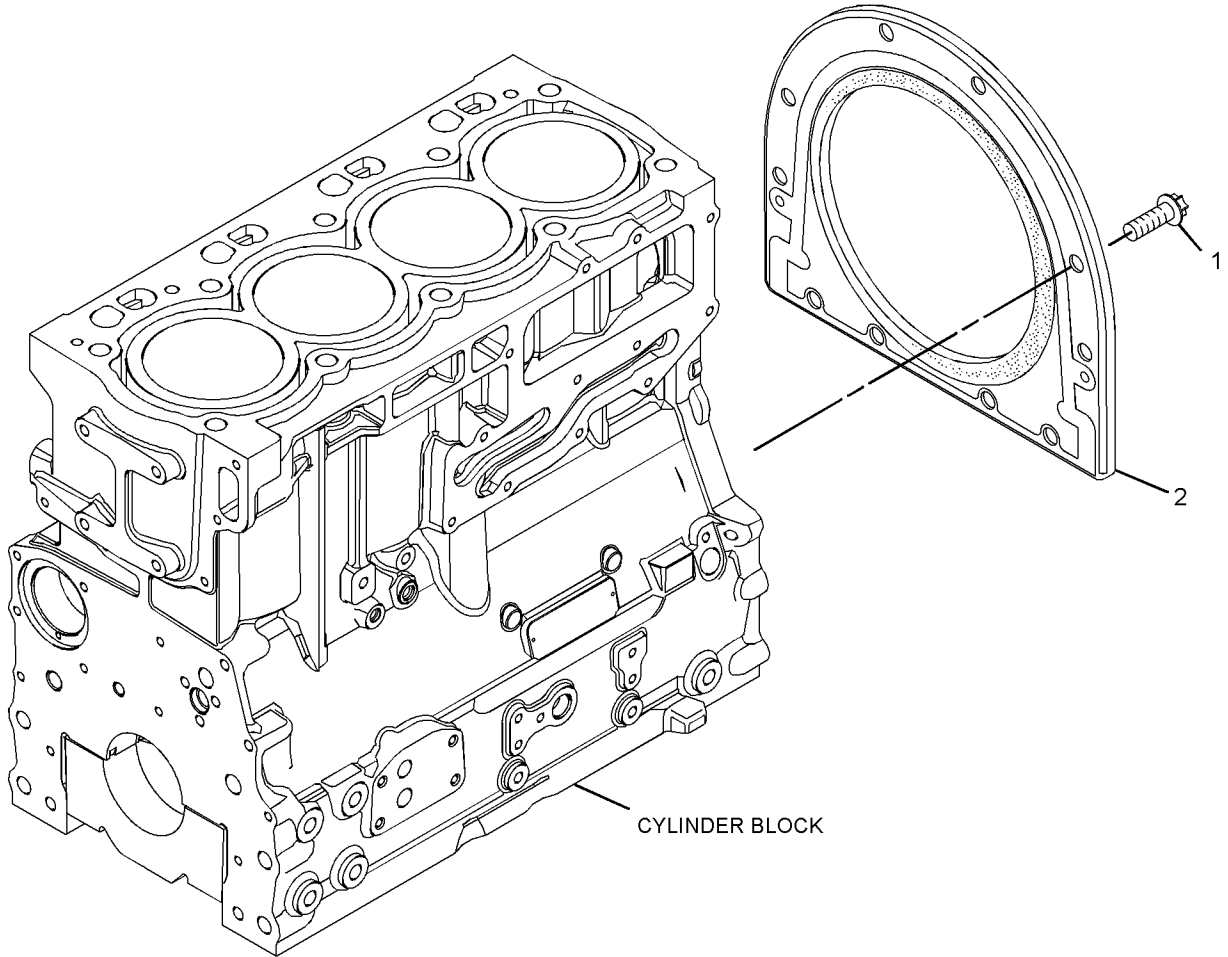
316-7950 CYLINDER BLOCK GP

SMCS-1201

i05770637

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
M	1	1	209-9219	10	BOLT (M8X1.25X16-MM)						
	2	1	232-7449	1	HOUSING AS						

M - METRIC PART



GRAPHIC #1

<END>

g01951544

BASIC ENGINE

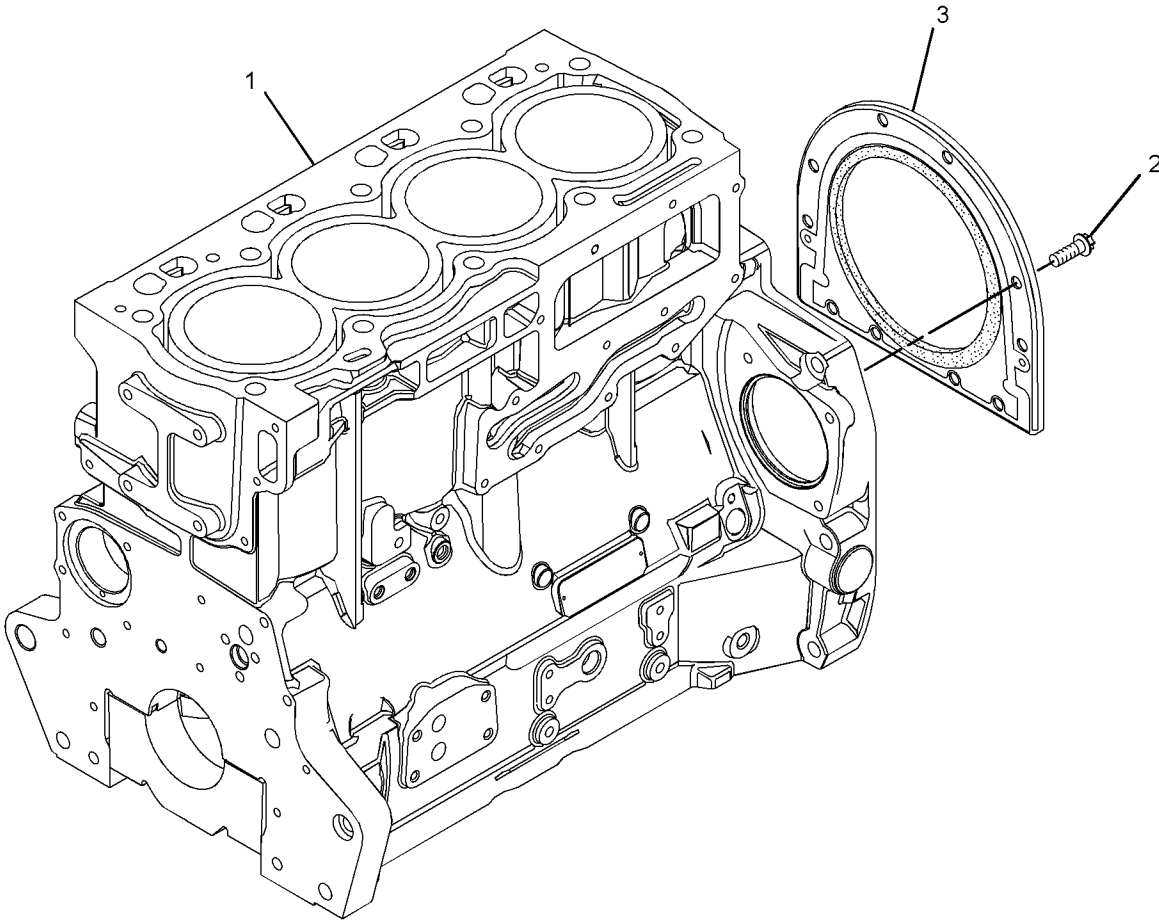
330-0362 CYLINDER BLOCK GP

SMCS-1201

i05771289

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
Y	1	1	336-3516	1	CYLINDER BLOCK AS						17
M	2	1	209-9219	10	BOLT (M8X1.25X16-MM)						
	3	1	232-7449	1	HOUSING AS						

M - METRIC PART
Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g03346307

BASIC ENGINE

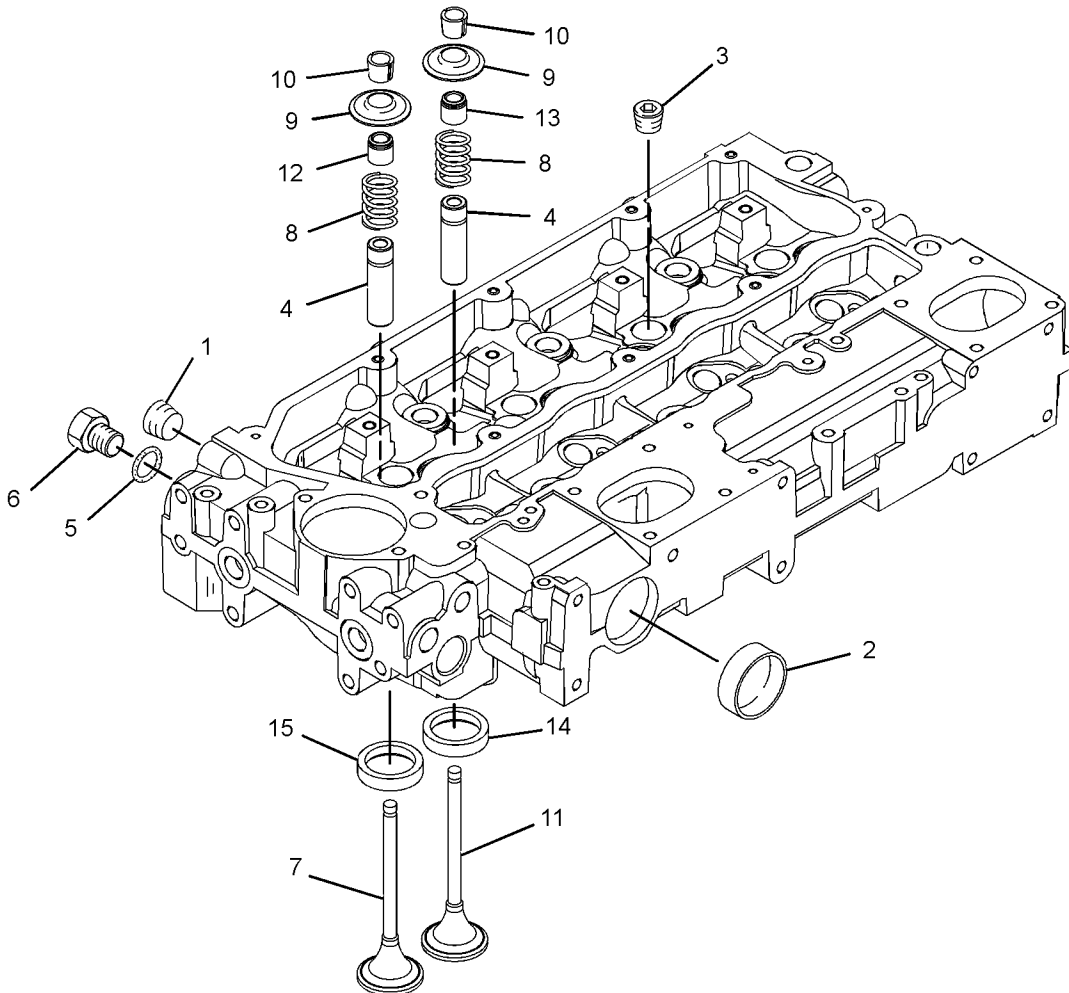
315-3389 CYLINDER HEAD AS

PART OF 316-7953 CYLINDER HEAD GP

SMCS-1100, 1101

i05770651

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	2B-0858	2	PLUG-PIPE						
	2	1	9Y-5015	2	PLUG-FREEZE						
	3	1	067-6006	4	PLUG						
	4	1	185-0882	8	GUIDE-VALVE						
	5	1	199-9751	1	SEAL-O-RING						
	6	1	232-1322	1	PLUG						
	7	1	315-3390	4	VALVE-INLET						
	8	1	361-3332	8	SPRING-VALVE						
	9	1	315-3392	8	CAP						
	10	1	315-3393	16	COLLET						
	11	1	315-3394	4	VALVE-EXHAUST						
	12	1	252-6438	4	SEAL-INLET VALVE (GREEN)						
	13	1	254-3954	4	SEAL-EXHAUST VALVE (BROWN)						
	14	1	322-9663	4	INSERT-VALVE SEAT						
	15	1	322-9664	4	SEAT-VALVE						



GRAPHIC #1

<END>

g01542313

BASIC ENGINE

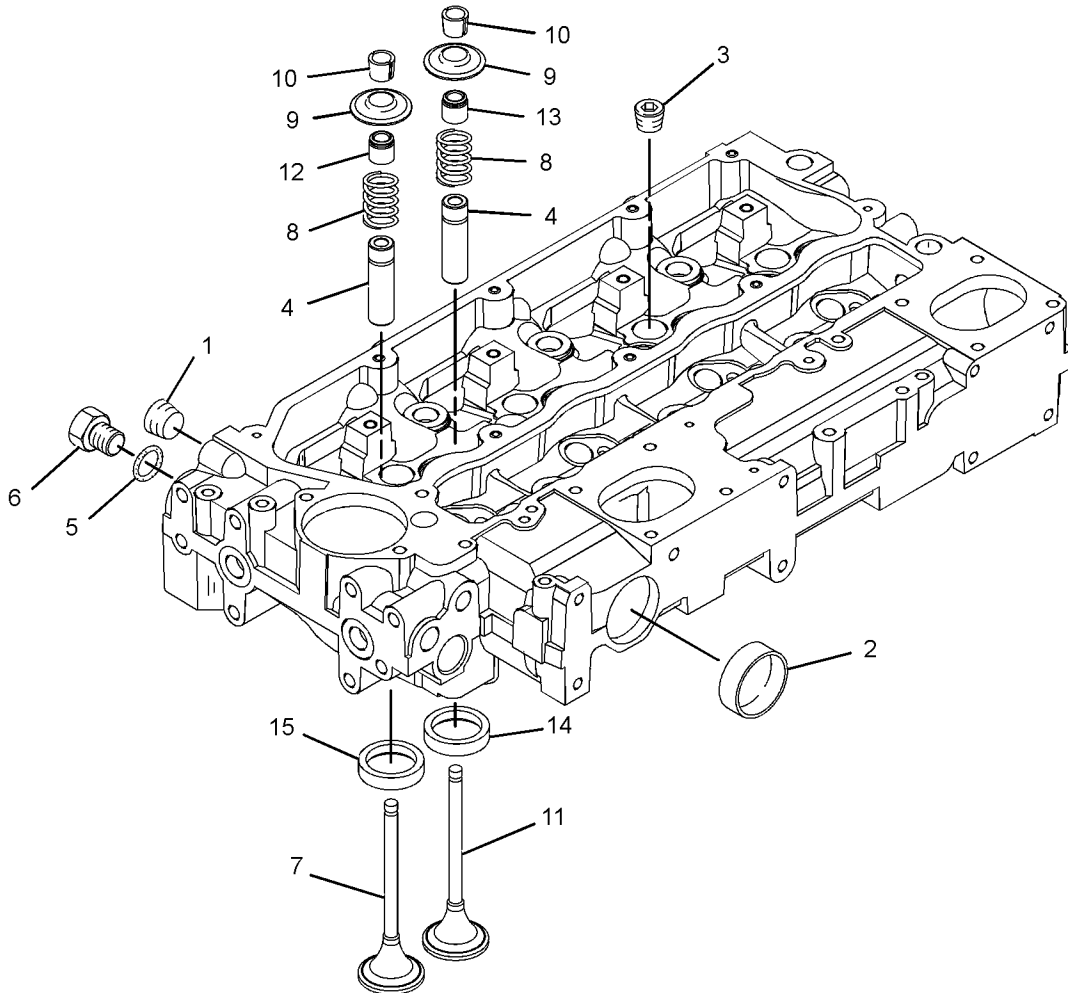
316-7896 CYLINDER HEAD GP

PART OF 330-0365 CYLINDER HEAD GP

SMCS-1100

i05771384

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	2B-0858	2	PLUG-PIPE						
	2	1	9Y-5015	2	PLUG-FREEZE						
	3	1	067-6006	4	PLUG						
	4	1	185-0882	8	GUIDE-VALVE						
	5	1	199-9751	1	SEAL-O-RING						
	6	1	232-1322	1	PLUG						
	7	1	315-3390	4	VALVE-INLET						
	8	1	361-3332	8	SPRING-VALVE						
	9	1	315-3392	8	CAP						
	10	1	315-3393	16	COLLET						
	11	1	315-3394	4	VALVE-EXHAUST						
	12	1	252-6438	4	SEAL-INLET VALVE (GREEN)						
	13	1	254-3954	4	SEAL-EXHAUST VALVE (BROWN)						
	14	1	322-9663	4	INSERT-VALVE SEAT						
	15	1	322-9664	4	SEAT-VALVE						



GRAPHIC #1

<END>

g01542313

BASIC ENGINE

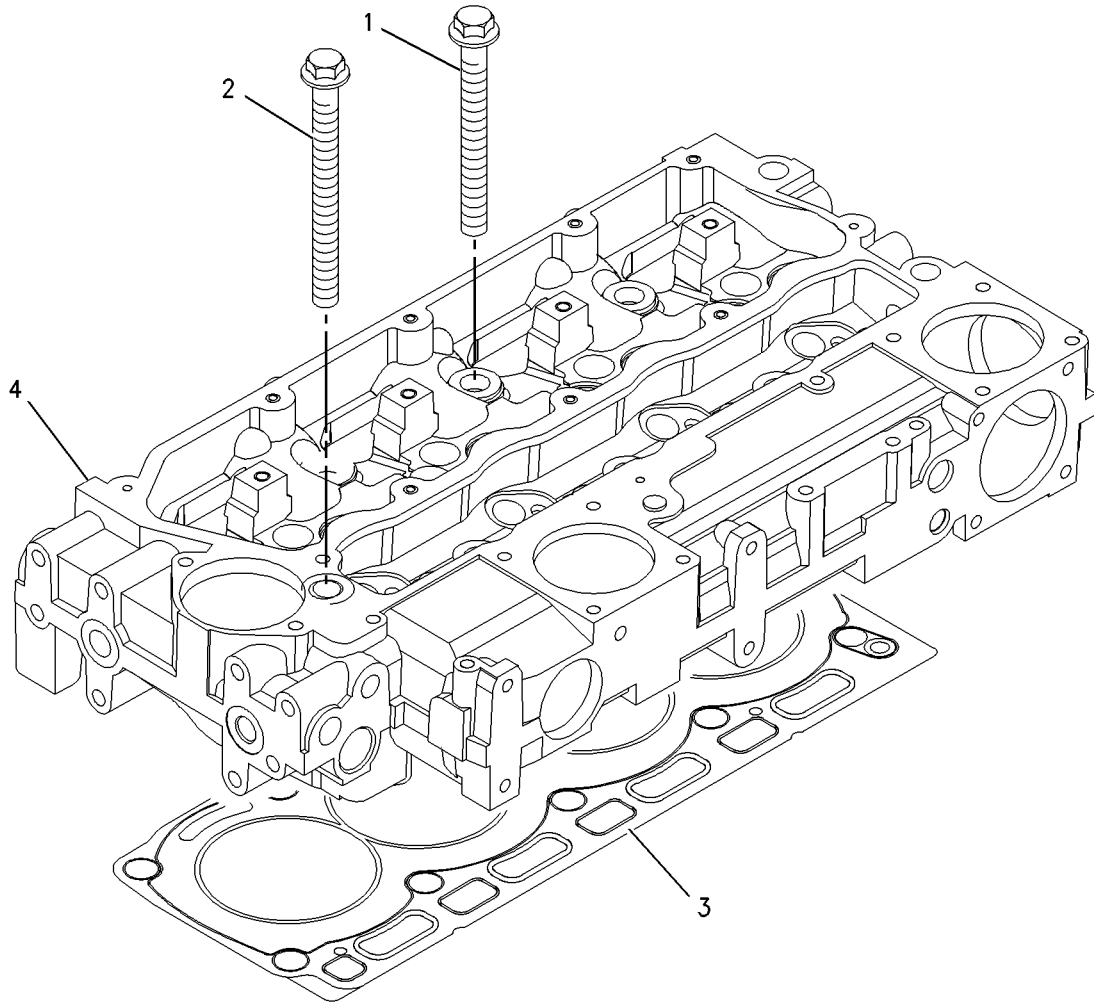
316-7953 CYLINDER HEAD GP

SMCS-1100

i05770642

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	225-5501	7	BOLT (M15X1.5X137-MM)						
	2	1	225-5502	3	BOLT (M15X1.5X162-MM)						
	3	1	258-4946	1	GASKET-CYLINDER HEAD						
Y	4	1	315-3389	1	CYLINDER HEAD AS						21

Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g00909291

BASIC ENGINE

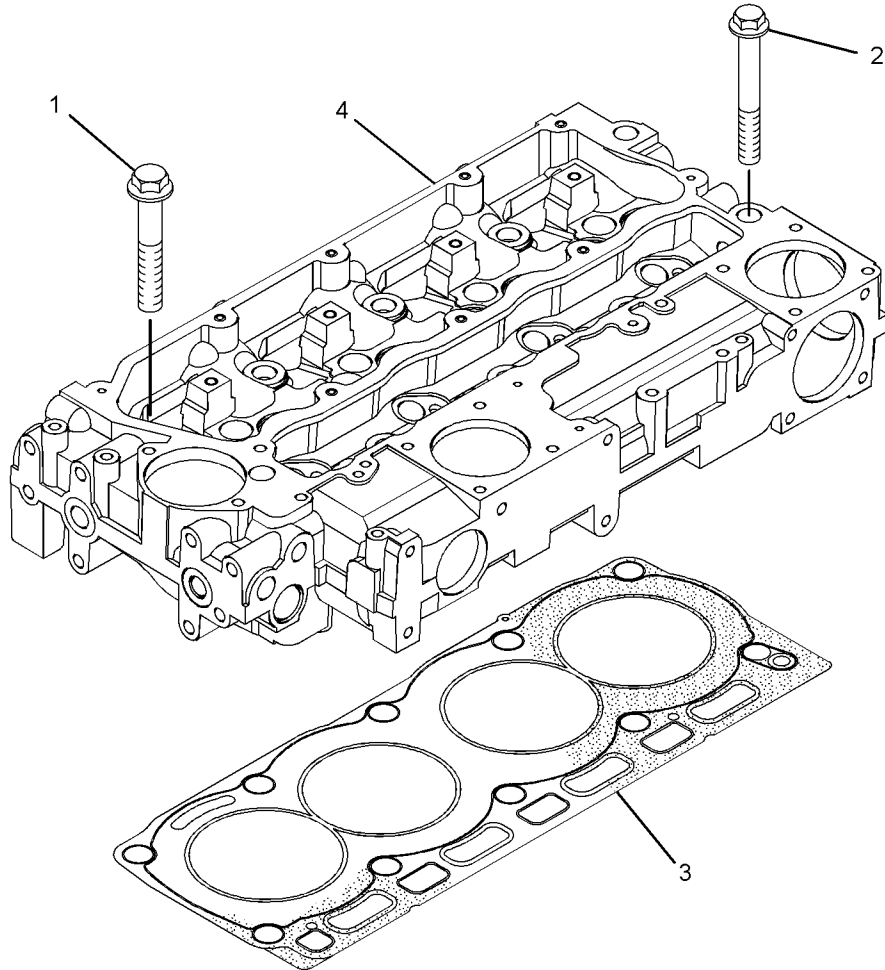
330-0365 CYLINDER HEAD GP

SMCS-1100

i05771231

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	225-5501	7	BOLT (M15X1.5X137-MM)						
	2	1	225-5502	3	BOLT (M15X1.5X162-MM)						
	3	1	258-4946	1	GASKET-CYLINDER HEAD						
Y	4	1	316-7896	1	CYLINDER HEAD GP						22

Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g01523242

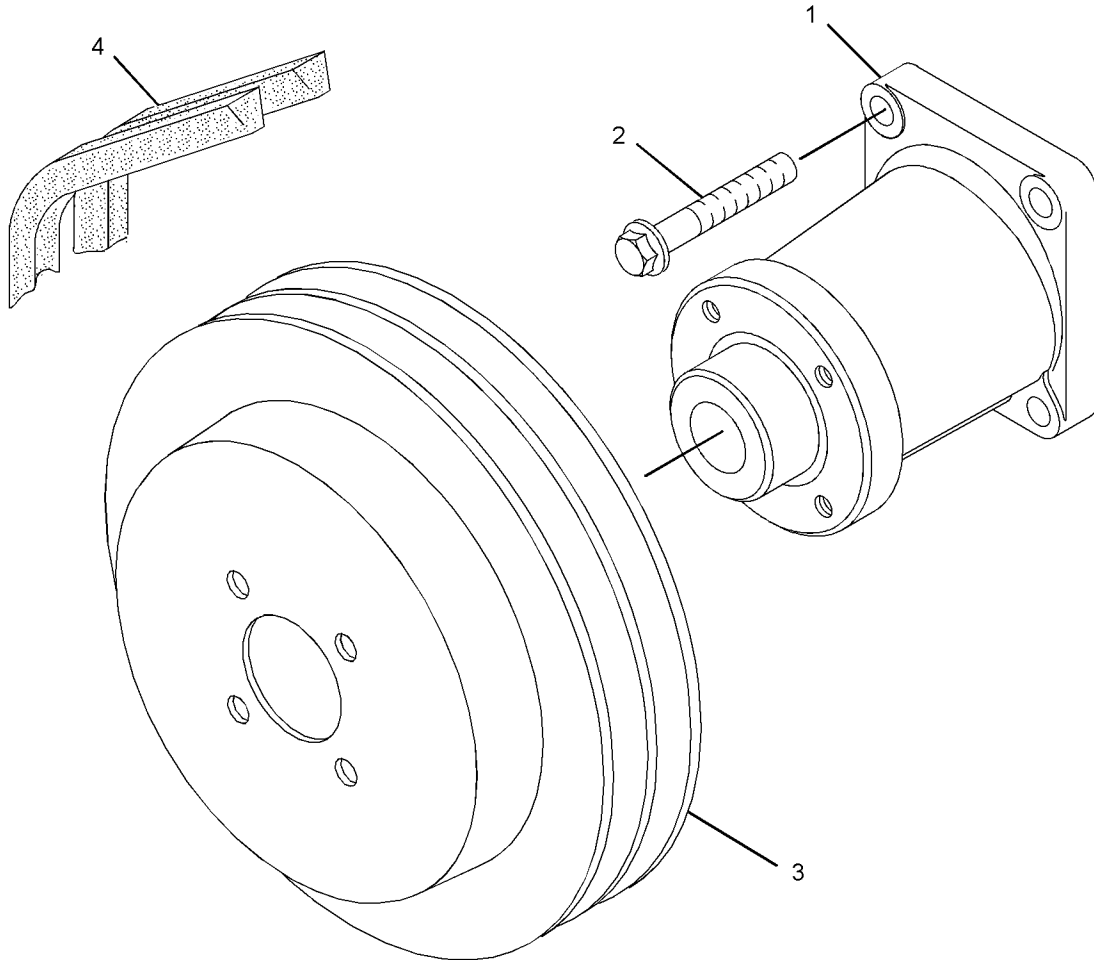
BASIC ENGINE

316-7959 DRIVE GP-FAN

SMCS-1359

i05770734

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	230-8065	1	HOUSING AS						
	2	1	111-0859	4	BOLT (M10X1.5X35-MM)						
	3	1	130-3880	1	PULLEY-FAN DRIVE						
	4	1	4N-8771	1	V-BELT SET (INCLUDES 2-BELTS) (FAN DRIVE)						



GRAPHIC #1

<END>

g01377656

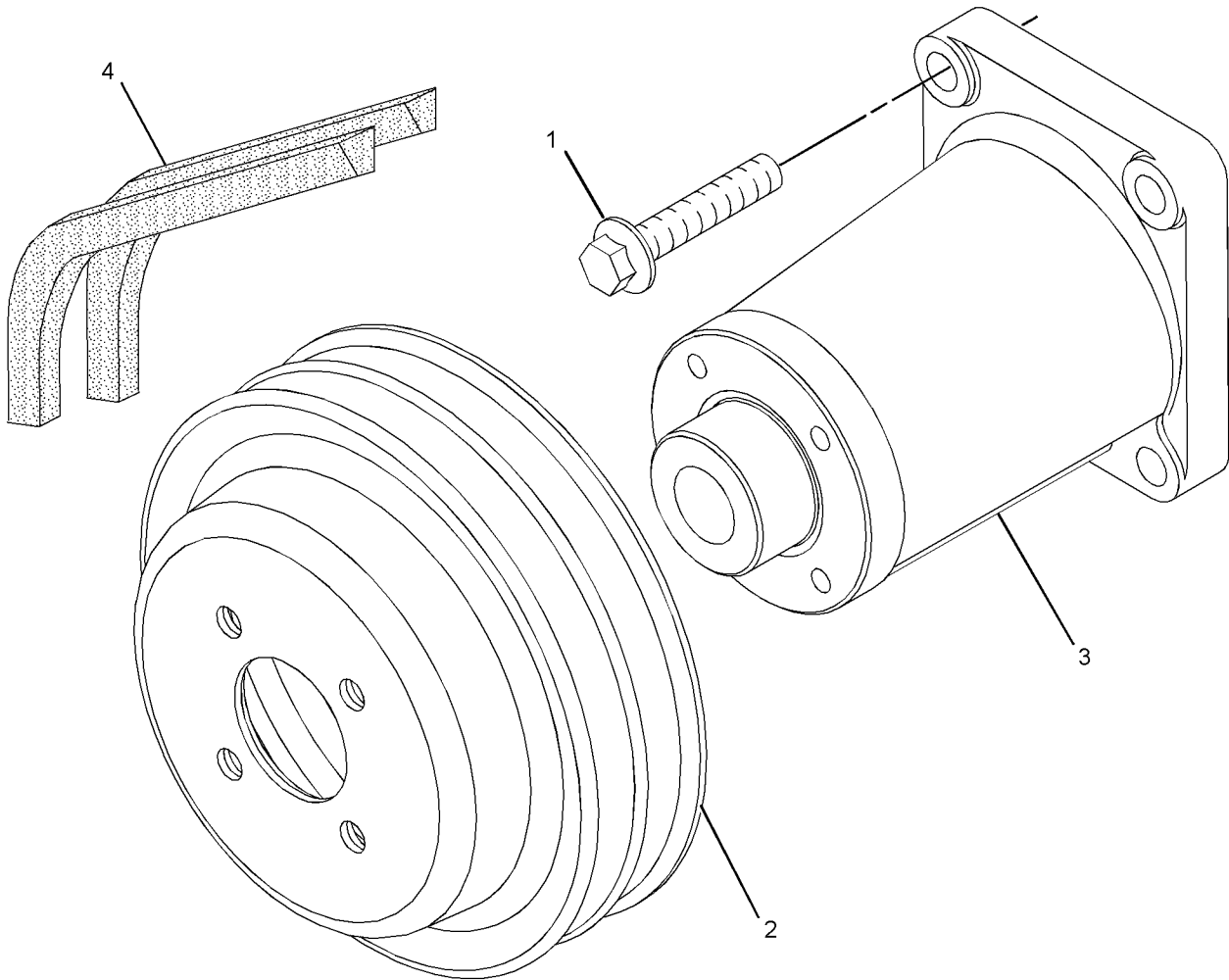
BASIC ENGINE

320-9223 DRIVE GP-FAN

SMCS-1359

i05770793

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	111-0859	4	BOLT (M10X1.5X35-MM)						
	2	1	130-3879	1	PULLEY-FAN DRIVE						
	3	1	230-8065	1	HOUSING AS						
	4	1	128-5250	1	V-BELT SET (INCLUDES 2-BELTS) (FAN DRIVE)						



GRAPHIC #1

<END>

g01531554

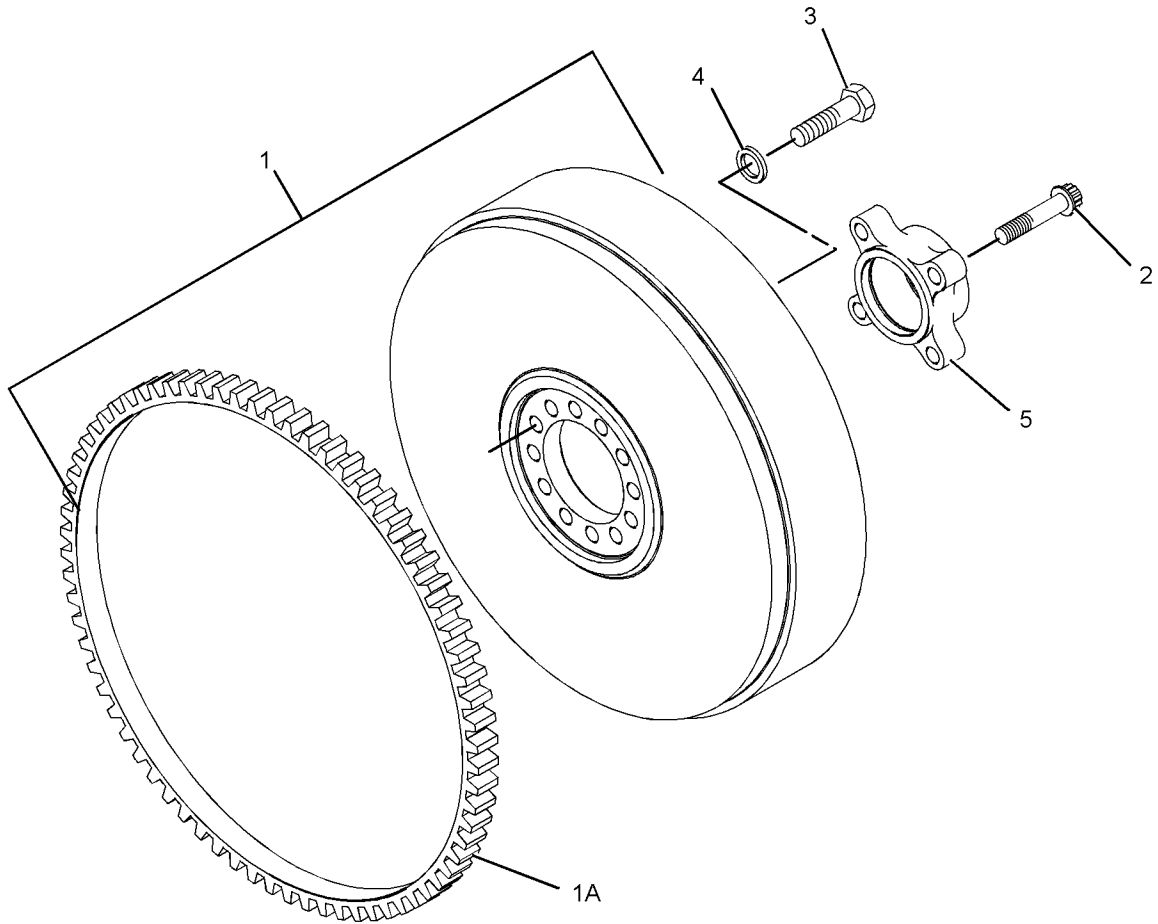
BASIC ENGINE

301-8237 FLYWHEEL GP

SMCS-1156

i05770590

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	103-6131	1	FLYWHEEL AS						
	1A	1	033-7687	1	RING-STARTING MOTOR (126-TEETH)						
	2	1	103-6132	4	BOLT (1/2-20X2.25-IN)						
	3	1	0S-1603	6	BOLT (1/2-20X1.5-IN)						
	4	1	5P-8245	6	WASHER-HARD (13.5X25.5X3-MM THK)						
	5	1	149-5599	1	HOUSING						



GRAPHIC #1

<END>

g01235653

BASIC ENGINE

298-5110 GEAR GP-FRONT

SMCS-1151, 1162, 1206

i05770580

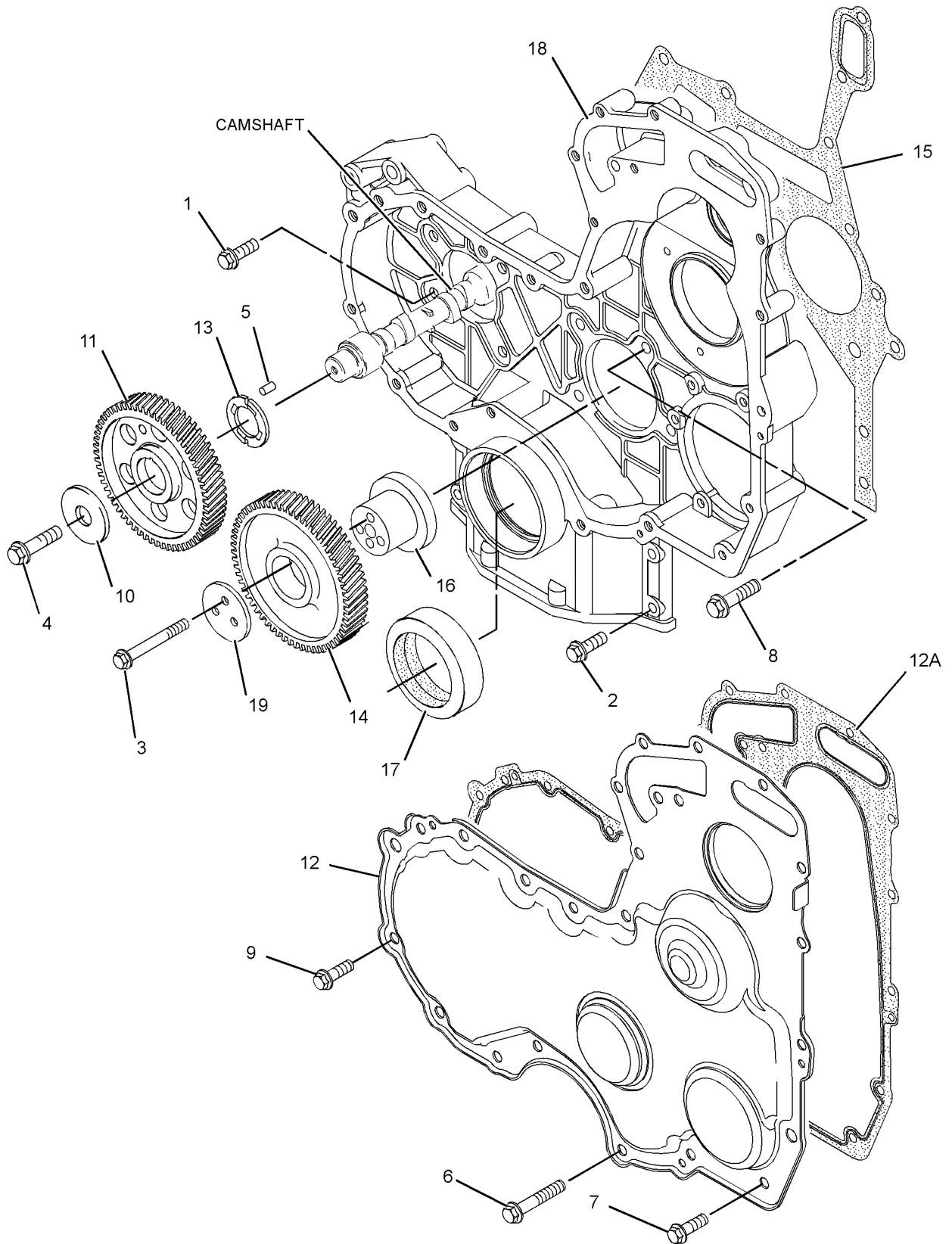
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	6	BOLT (M8X1.25X20-MM)						
M	2	1	6I-0645	4	BOLT (M8X1.25X25-MM)						
M	3	1	6I-0650	3	BOLT (M10X1.5X65-MM)						
	4	1	7C-4616	1	BOLT (M12X1.75X45-MM)						
	5	1	067-6179	1	DOWEL						
M	6	1	100-3751	5	BOLT (M8X1.25X65-MM)						
M	7	1	100-4830	1	BOLT (M10X1.5X20-MM)						
M	8	1	101-3895	2	BOLT (M8X1.25X35-MM)						
M	9	1	124-3815	9	BOLT (M8X1.25X16-MM)						
	10	1	133-1011	1	WASHER						
	11	1	216-8634	1	GEAR-CAMSHAFT (68-TEETH)						
	12	1	226-8767	1	COVER AS-FRONT						
	12A	1	226-8766	1	GASKET-COVER						
	13	1	232-3666	1	WASHER-THRUST						
	14	1	251-4336	1	GEAR AS-IDLER (73-TEETH)						
	15	1	277-3012	1	GASKET-COVER (HOUSING)						
	16	1	324-0444	1	HUB-IDLER GEAR						
	17	1	288-0422	1	SEAL-OIL						
	18	1	323-3515	1	HOUSING-FRONT						
	19	1	295-1711	1	PLATE-RETAINING						
ABF		1	225-6522	1	PLUG-CUP (ALSO ORDER IF ONLY ORDERING HOUSING-FRONT)						

A - NOT PART OF THIS GROUP
 B - USE AS REQUIRED
 F - NOT SHOWN
 M - METRIC PART

BASIC ENGINE

298-5110 GEAR GP - FRONT (contd.)

i05770580



GRAPHIC #1

<END>

g01304618

BASIC ENGINE

303-4618 HOUSING GP-FLYWHEEL

SMCS-1157

i05770596

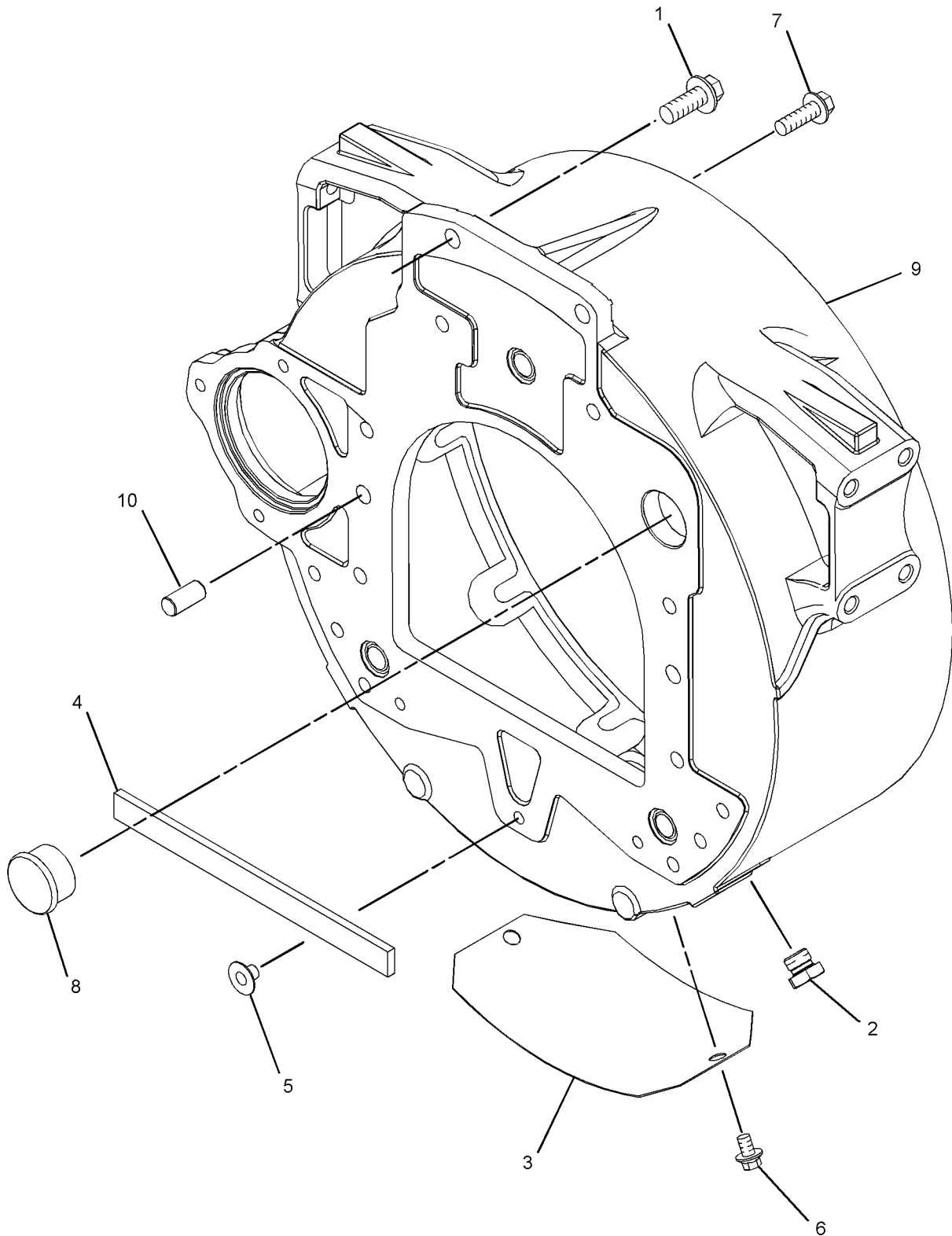
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME	SEE PAGE
					1 2 3 4 5 6 (PRODUCT LEVEL)	
M	1	1	6I-0423	2	BOLT (M12X1.75X30-MM)	
	2	1	375-9272	2	PLUG	
	3	1	7W-1176	1	PLATE-COVER	
	4	1	7W-4642	1	SHIELD-DUST	
	5	1	101-3617	3	PLUG	
	6	1	114-4363	2	BOLT (M8X1.25X12-MM)	
M	7	1	121-0883	6	BOLT (M10X1.5X30-MM)	
	8	1	199-3109	1	PLUG	
	9	1	220-8632	1	HOUSING-FLYWHEEL	
	10	1	287-8597	2	DOWEL	

M - METRIC PART

BASIC ENGINE

303-4618 HOUSING GP-FLYWHEEL (contd.)

i05770596



GRAPHIC #1

<END>

g01368852

BASIC ENGINE

319-1582 HOUSING GP-FRONT

SMCS-1151, 1162, 1206

i05770792

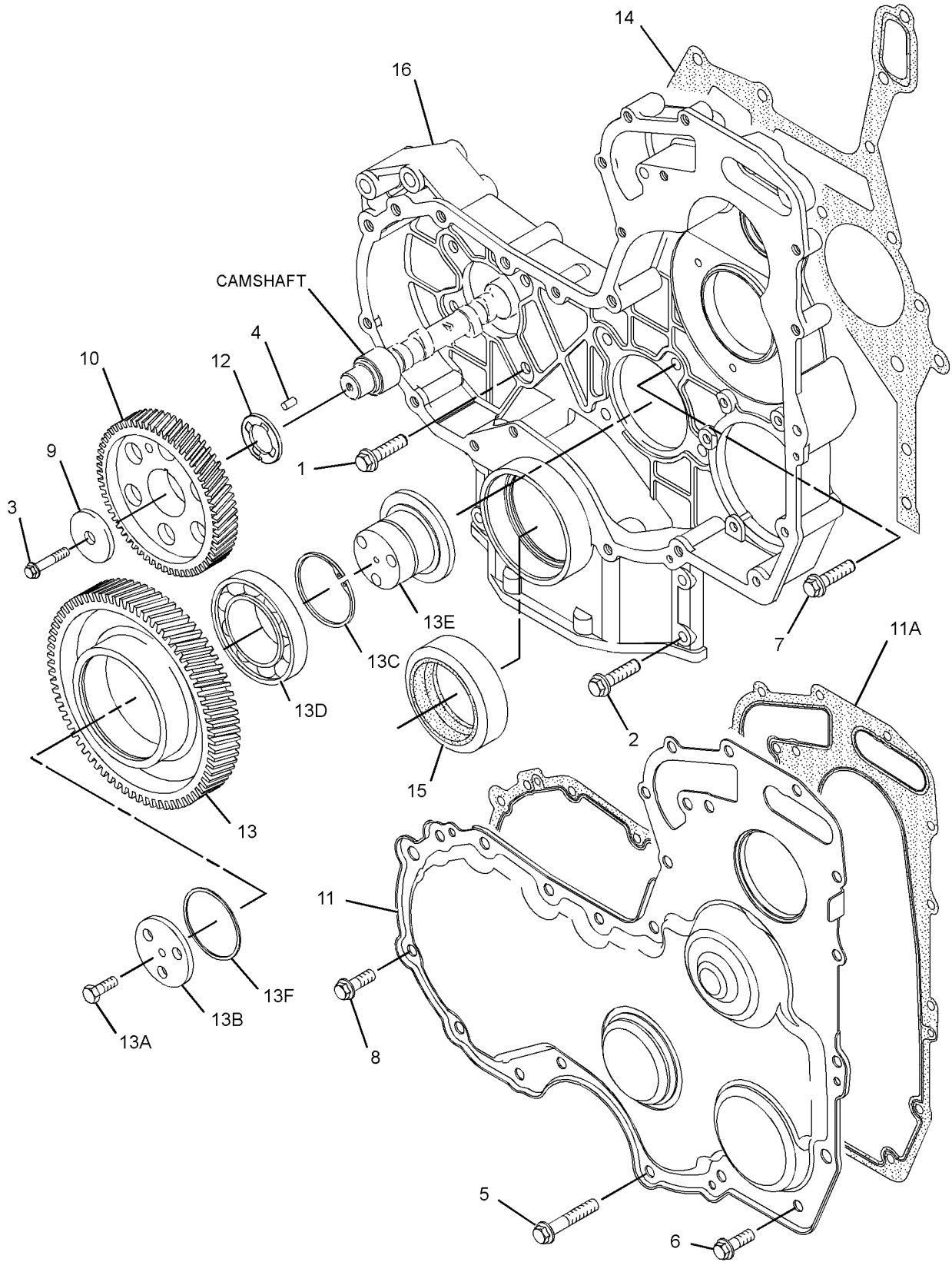
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	6	BOLT (M8X1.25X20-MM)						
M	2	1	6I-0645	7	BOLT (M8X1.25X25-MM)						
	3	1	7C-4616	1	BOLT (M12X1.75X45-MM)						
	4	1	067-6179	1	DOWEL						
M	5	1	100-3751	5	BOLT (M8X1.25X65-MM)						
M	6	1	100-4830	1	BOLT (M10X1.5X20-MM)						
M	7	1	101-3895	2	BOLT (M8X1.25X35-MM)						
M	8	1	124-3815	9	BOLT (M8X16X1.25-MM)						
	9	1	133-1011	1	WASHER						
	10	1	216-8634	1	GEAR-CAMSHAFT (68-TEETH)						
	11	1	226-8767	1	COVER AS-FRONT						
	11A	1	226-8766	1	GASKET-COVER						
	12	1	232-3666	1	WASHER-THRUST						
	13	1	235-1418	1	GEAR AS-IDLER (73-TEETH)						
M	13A	1	5C-9553	1	BOLT (M6X1X16-MM)						
	13B	1	235-1064	1	PLATE-RETAINING						
	13C	1	235-1352	2	CLIP						
	13D	1	235-1358	1	BEARING						
	13E	1	235-1391	1	HUB-IDLER GEAR						
	13F	1	235-1398	2	WASHER-THRUST						
	14	1	277-3012	1	GASKET-COVER						
	15	1	288-0422	1	SEAL-OIL						
	16	1	323-3515	1	HOUSING-FRONT						

M - METRIC PART

BASIC ENGINE

319-1582 HOUSING GP-FRONT (contd.)

i05770792



GRAPHIC #1

<END>

g01431239

BASIC ENGINE

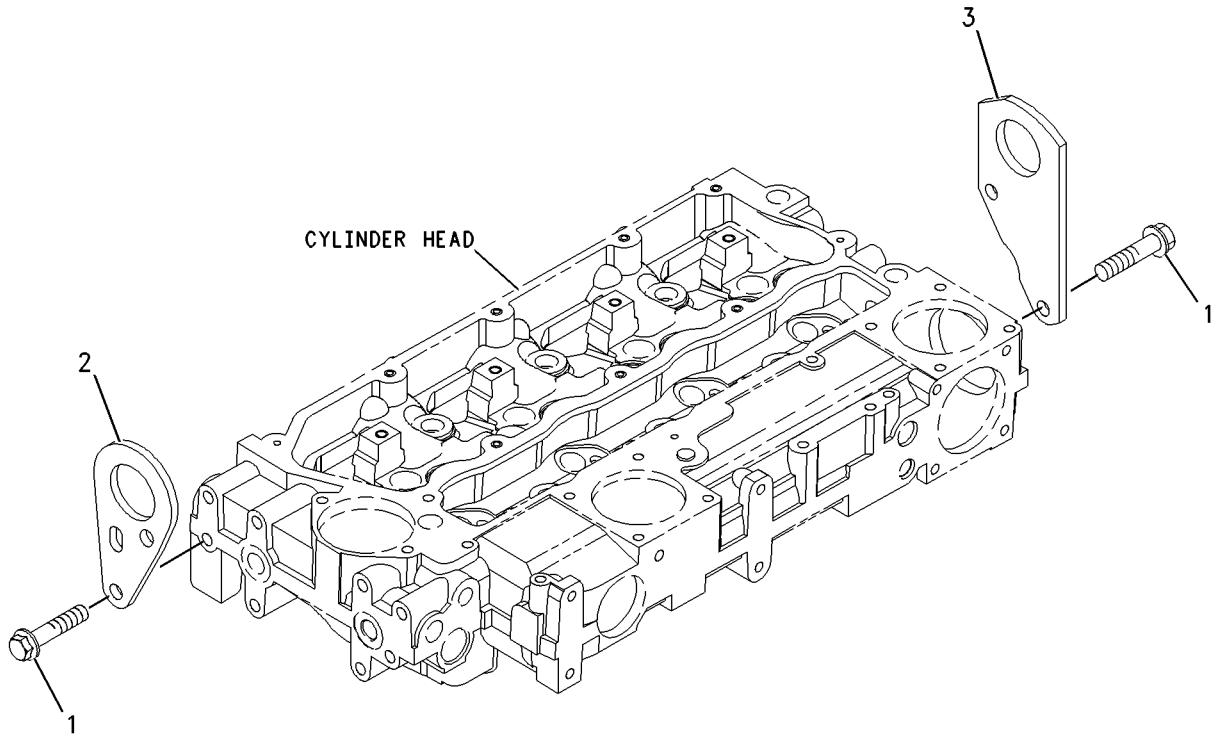
315-3419 LIFTING GP-ENGINE

SMCS-1122

i05770624

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
M	1	1	100-4830	4	BOLT (M10X1.5X20-MM)						
	2	1	225-8848	1	PLATE-LIFTING						
	3	1	275-2452	1	PLATE-LIFTING						

M - METRIC PART



GRAPHIC #1

<END>

g00912754

BASIC ENGINE

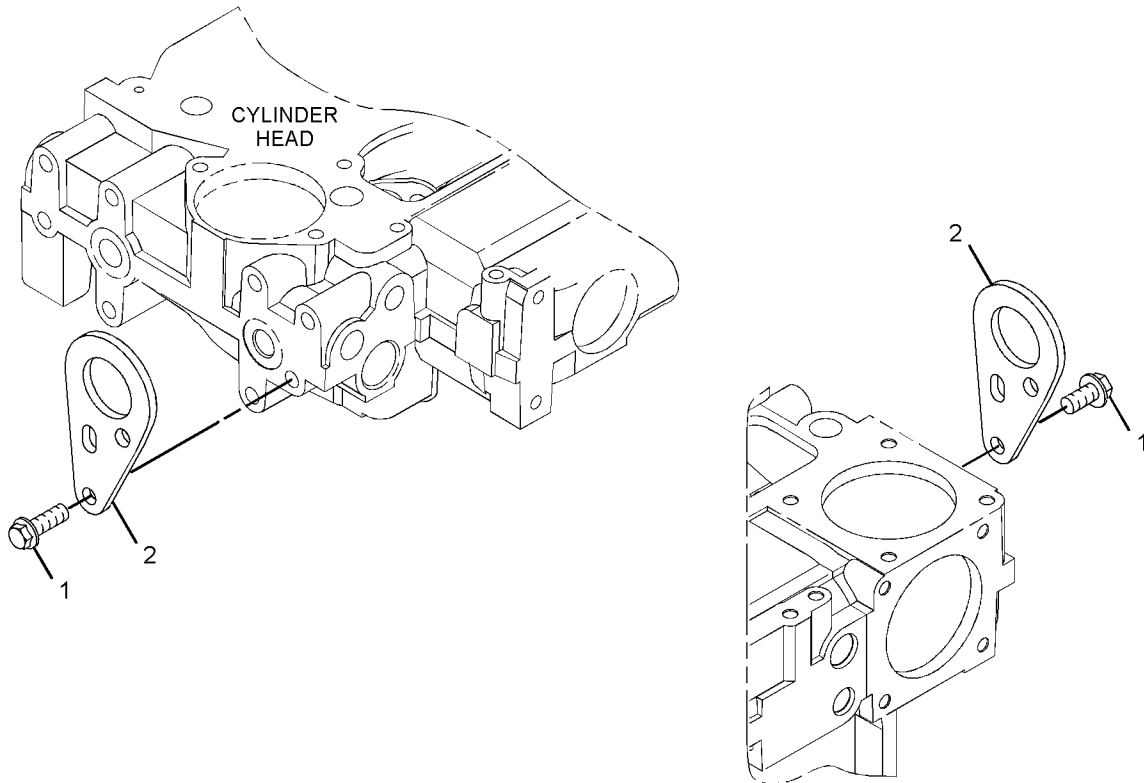
326-9013 LIFTING GP-ENGINE

SMCS-1122

i05771220

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
M	1	1	100-4830	4	BOLT (M10X1.5X20-MM)						
	2	1	225-8848	2	PLATE-LIFTING						

M - METRIC PART



GRAPHIC #1

<END>

g01636462

BASIC ENGINE

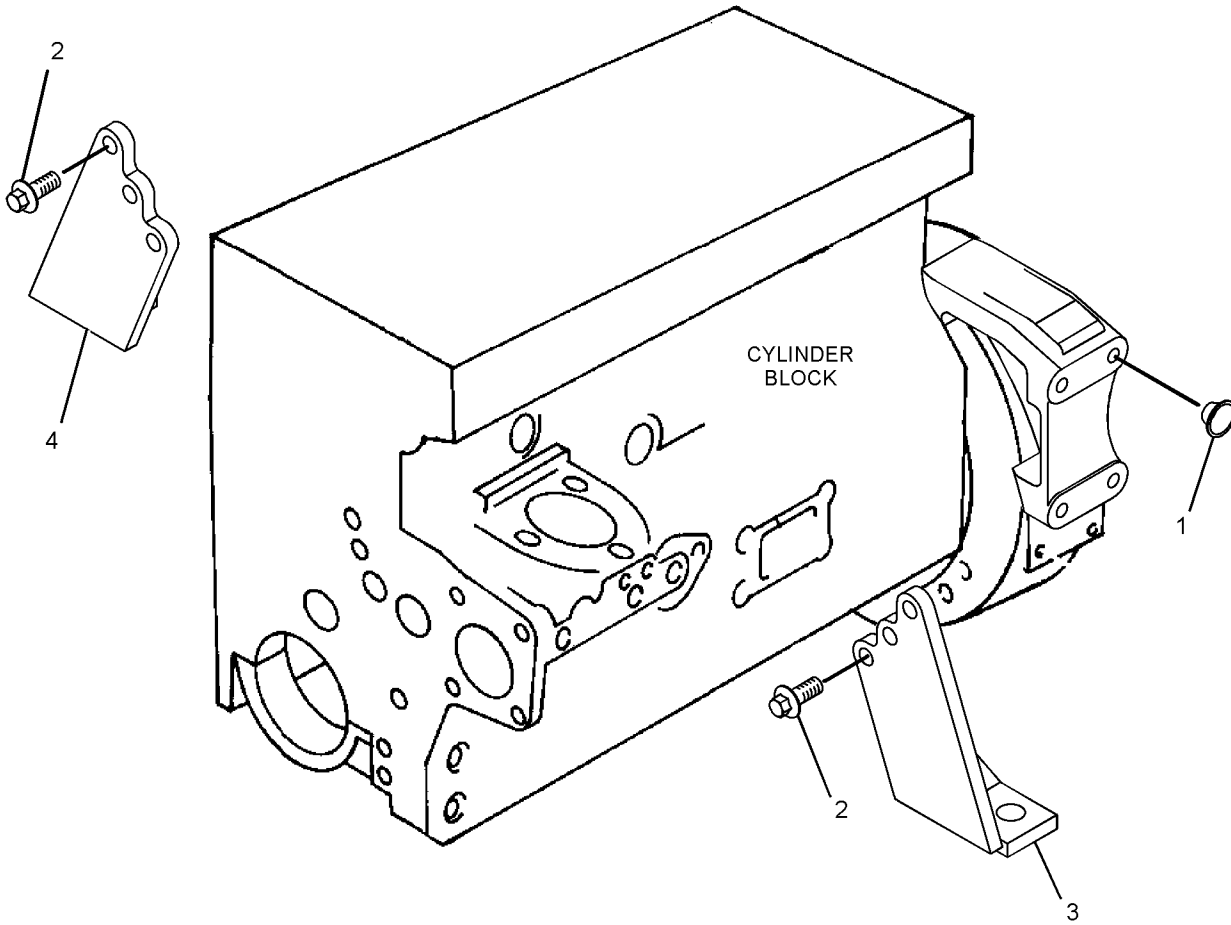
311-4641 MOUNTING GP-ENGINE

SMCS-1152, 1153, 1154

i05770611

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	6H-3616	4	PLUG-PROTECTION						
M	2	1	6I-0423	6	BOLT (M12X1.75X30-MM)						
	3	1	101-7185	1	BRACKET						
	4	1	101-7186	1	BRACKET						

M - METRIC PART



GRAPHIC #1

<END>

g01407801

BASIC ENGINE

298-5096 PAN GP-OIL-ENGINE

SMCS-1302

i05770555

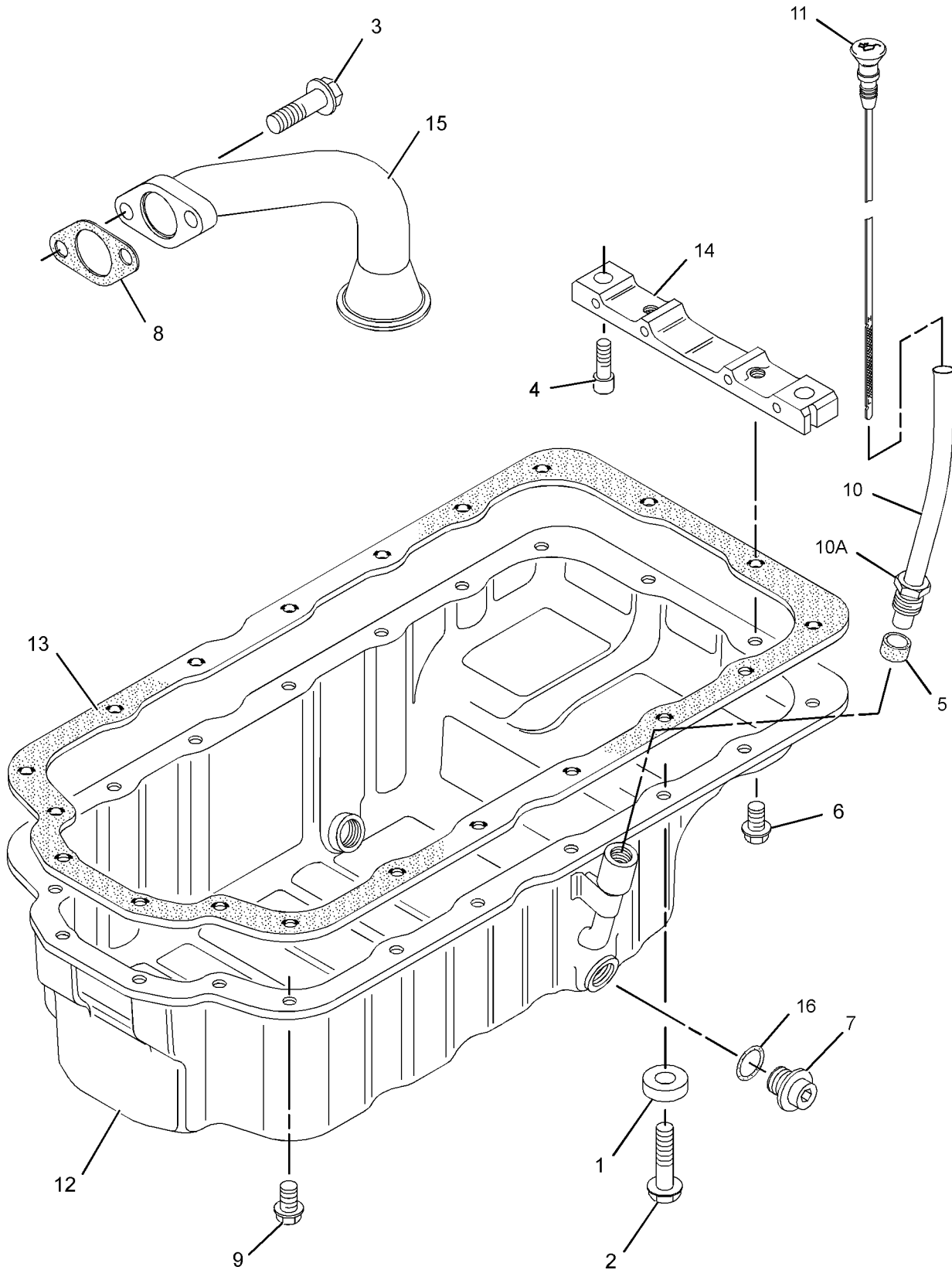
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	5C-1809	1	SPACER (8X19X6.5-MM)						
M	2	1	6I-0217	1	BOLT (M8X1.25X20-MM)						
M	3	1	6I-0260	2	BOLT (M8X1.25X25-MM)						
M	4	1	6I-0363	2	BOLT (M6X1X20-MM)						
	5	1	6I-1497	1	SEAL						
M	6	1	6I-4072	2	BOLT (M8X1.25X14-MM)						
	7	1	7C-0351	2	PLUG-DRAIN (ENGINE OIL)						
	8	1	067-6213	1	GASKET						
M	9	1	124-3815	17	BOLT (M8X16X1.25-MM)						
	10	1	124-7702	1	TUBE AS						
	10A	1	6I-4079	1	NUT						
	11	1	130-1161	1	GAUGE AS-OIL LEVEL (DIPSTICK) (ENGINE)						
	12	1	214-3281	1	PAN-OIL						
	13	1	225-6005	1	GASKET						
	14	1	230-8094	1	BRIDGE						
	15	1	230-8218	1	TUBE-SUCTION						
	16	1	275-9883	2	SEAL						

M - METRIC PART

BASIC ENGINE

298-5096 PAN GP-OIL (contd.)

i05770555



GRAPHIC #1

<END>

g01304644

BASIC ENGINE

322-4888 PAN GP-OIL-ENGINE

SMCS-1302

i05770795

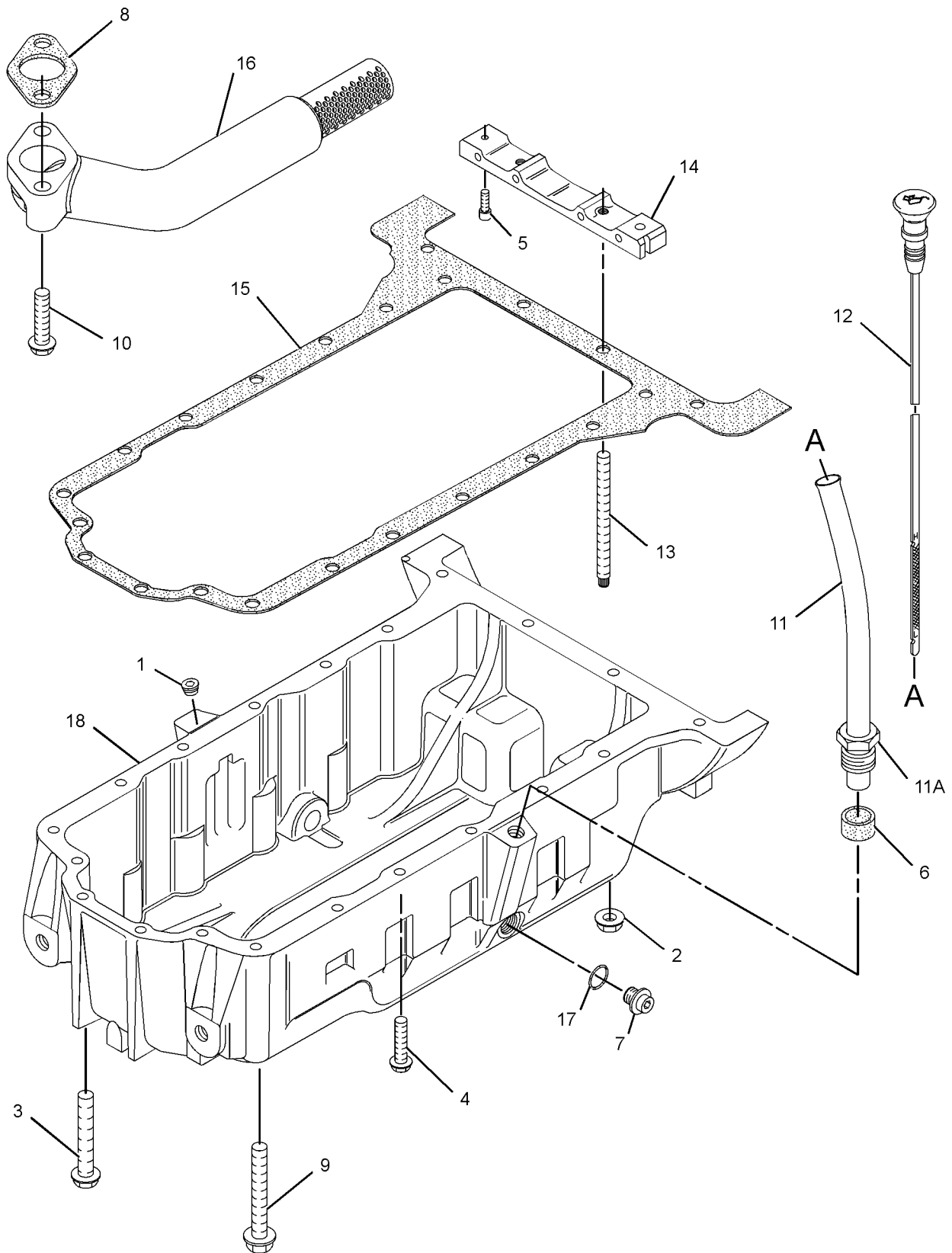
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	6I-0289	1	PLUG						
	2	1	6I-0291	2	NUT (M8X1.25-THD)						
	3	1	6I-0292	5	BOLT (M8X1.25X140-MM)						
	4	1	6I-0293	12	BOLT (M8X1.25X80-MM)						
M	5	1	6I-0363	2	BOLT (M6X1X20-MM)						
	6	1	6I-1497	1	SEAL						
	7	1	7C-0351	2	PLUG-DRAIN (ENGINE OIL)						
	8	1	067-6213	1	GASKET						
	9	1	359-9666	1	BOLT-FLANGE HEAD						
M	10	1	101-3895	2	BOLT (M8X1.25X35-MM)						
	11	1	124-7702	1	TUBE AS						
	11A	1	6I-4079	1	NUT						
	12	1	131-4291	1	GAUGE AS-OIL LEVEL (DIPSTICK) (ENGINE)						
	13	1	155-4828	2	STUD						
	14	1	230-8094	1	BRIDGE						
	15	1	237-5932	1	GASKET						
	16	1	237-5933	1	TUBE-OIL SUCTION						
	17	1	275-9883	2	SEAL						
	18	1	303-2124	1	PAN-OIL						

M - METRIC PART

BASIC ENGINE

322-4888 PAN GP-OIL (contd.)

i05770795



GRAPHIC #1

<END>

g01324852

BASIC ENGINE

316-7952 PISTON & ROD GP

SMCS-1225

i05770640

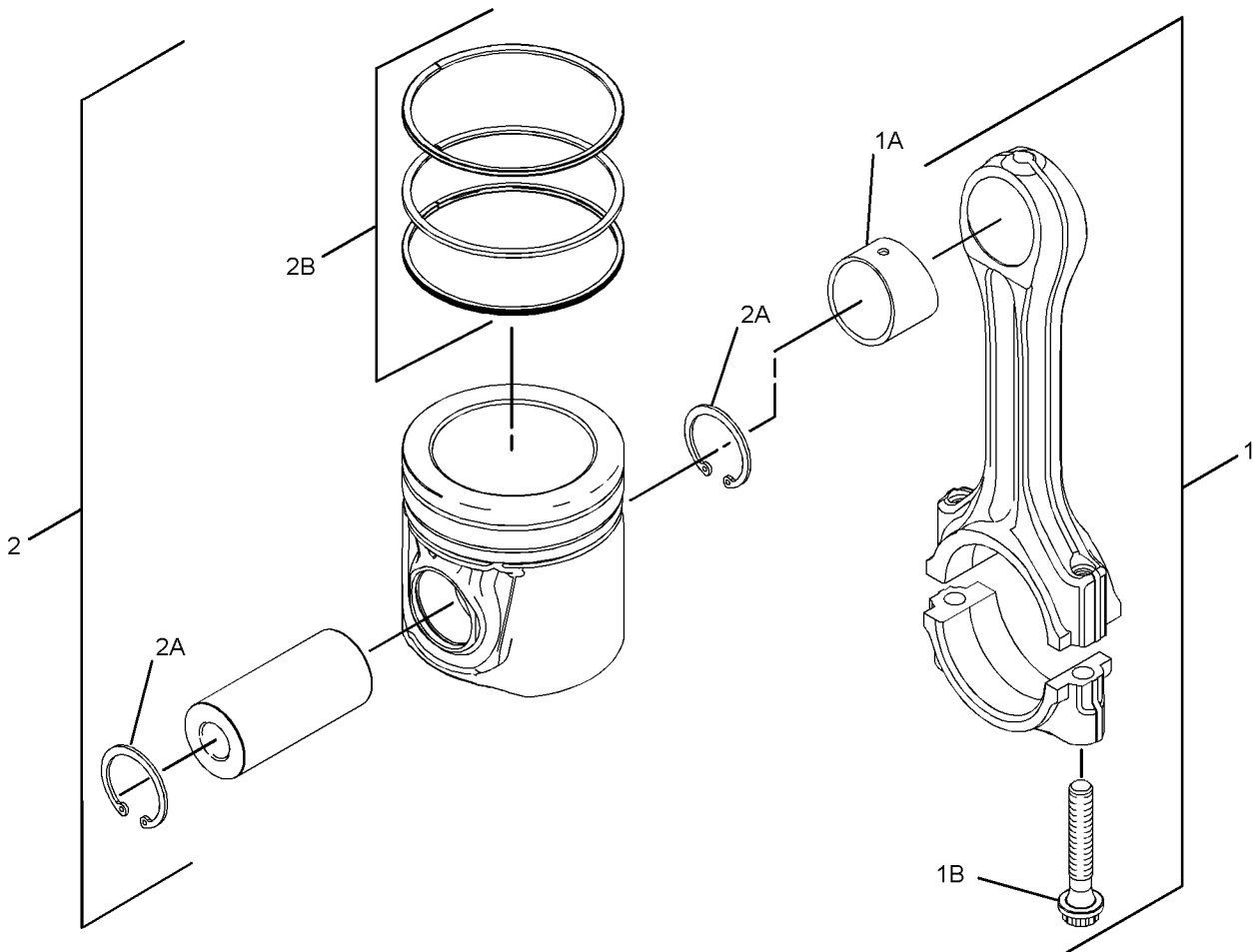
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
BJ	1	1	225-5441	4	ROD AS-CONNECTING (L-GRADE)						
					-OR-						
BJ		1	225-5451	4	ROD AS-CONNECTING (GRADE K)						
					-OR-						
BJ		1	225-5453	4	ROD AS-CONNECTING (J-GRADE)						
					-OR-						
BJ		1	225-5454	4	ROD AS-CONNECTING (GRADE H)						
					-OR-						
BJ		1	225-5458	4	ROD AS-CONNECTING (GRADE G)						
					-OR-						
BJ		1	225-5459	4	ROD AS-CONNECTING (F-GRADE)						
					(EACH INCLUDES)						
	1A	1	225-5438	1	BUSHING						
	1B	1	225-5439	2	BOLT-SPECIAL (CONNECTING ROD)						
	2	1	315-3395	4	KIT-PISTON & RING						
					(EACH INCLUDES)						
	2A	1	124-3536	2	RING-RETAINING						
	2B	1	276-7476	1	KIT-PISTON RING						
AB		1	380-2065		KIT-PISTON RING (0.5-MM OS)						
					(INCLUDES 3 PISTON RINGS)						
AB		1	396-4592		KIT-PISTON & RING (0.5-MM OS)						
					(INCLUDES PISTON & RETAINING RING)						

A - NOT PART OF THIS GROUP
 B - USE AS REQUIRED
 J - ENSURE THAT CORRECT ROD LENGTH IS FITTED

BASIC ENGINE

316-7952 PISTON & ROD GP (contd.)

i05770640



GRAPHIC #1

<END>

g01369796

BASIC ENGINE

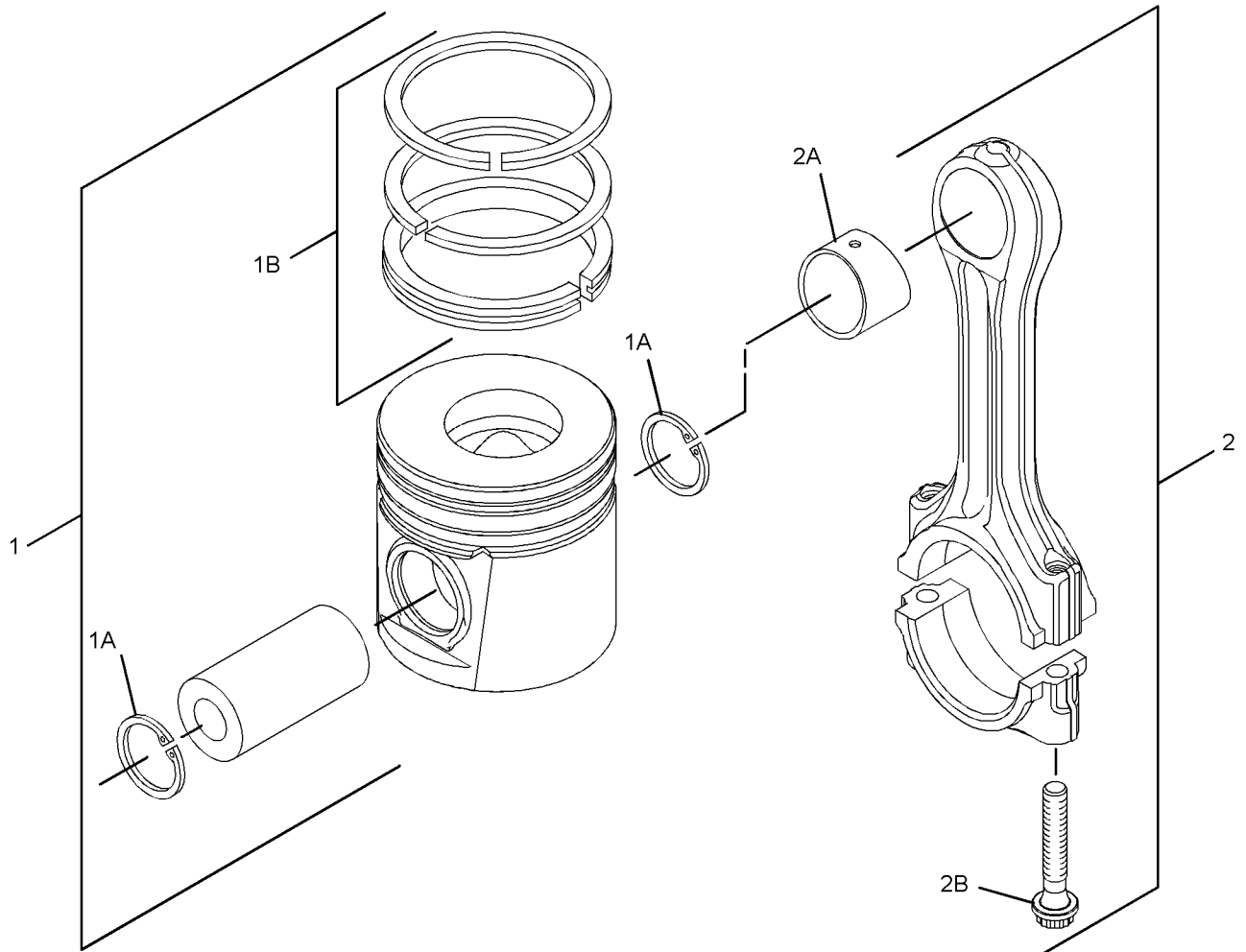
330-0364 PISTON & ROD GP

SMCS-1225

i05772529

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	315-3395	4	KIT-PISTON & RING (EACH INCLUDES)						
	1A	1	124-3536	2	RING-RETAINING						
	1B	1	276-7476	1	KIT-PISTON RING						
AB		1	380-2065		KIT-PISTON RING (0.5-MM OS) (INCLUDES 3 PISTON RINGS)						
AB		1	396-4592		KIT-PISTON & RING (0.5-MM OS) (INCLUDES PISTON & RETAINING RING)						
	2	1	225-5441	4	ROD AS-CONNECTING (L-GRADE) -OR-						
		1	225-5451	4	ROD AS-CONNECTING (GRADE K) -OR-						
		1	225-5453	4	ROD AS-CONNECTING (J-GRADE) -OR-						
		1	225-5454	4	ROD AS-CONNECTING (GRADE H) -OR-						
		1	225-5458	4	ROD AS-CONNECTING (GRADE G) -OR-						
		1	225-5459	4	ROD AS-CONNECTING (F-GRADE) (EACH ROD ASSEMBLY INCLUDES)						
	2A	1	225-5438	1	BUSHING						
	2B	1	225-5439	1	BOLT-SPECIAL (CONNECTING ROD)						

A - NOT PART OF THIS GROUP
B - USE AS REQUIRED



GRAPHIC #1

<END>

g01523198

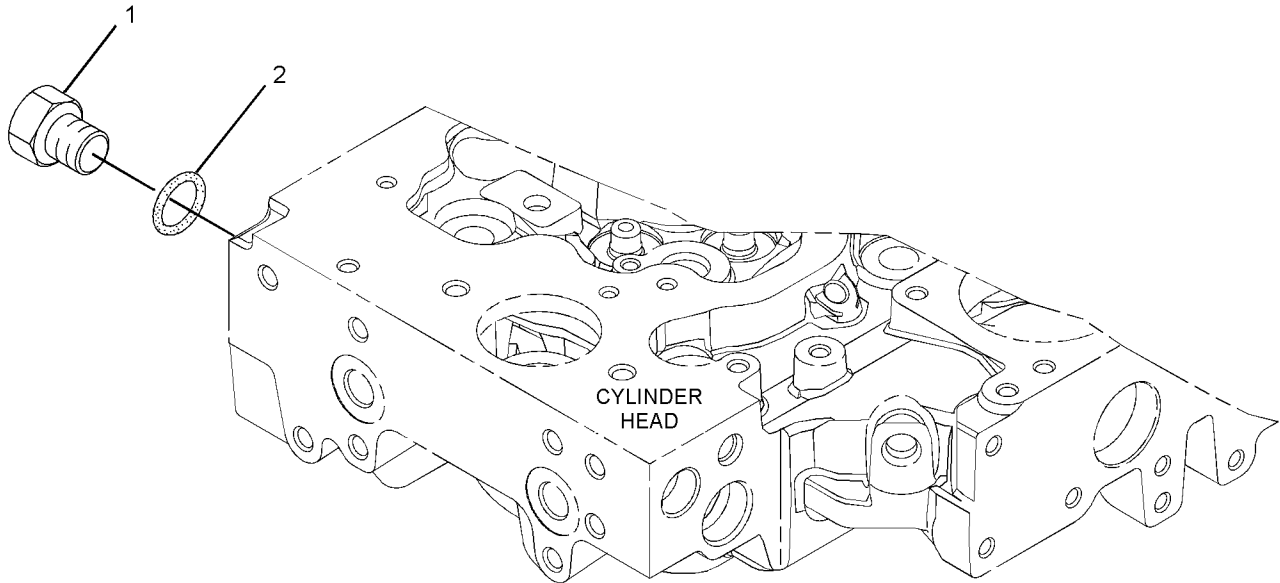
BASIC ENGINE

298-5129 PLUG GP-CYLINDER HEAD

SMCS-1100

i05770780

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	232-1322	1	PLUG						
	2	1	199-9751	1	SEAL-O-RING						



GRAPHIC #1

<END>

g01305536

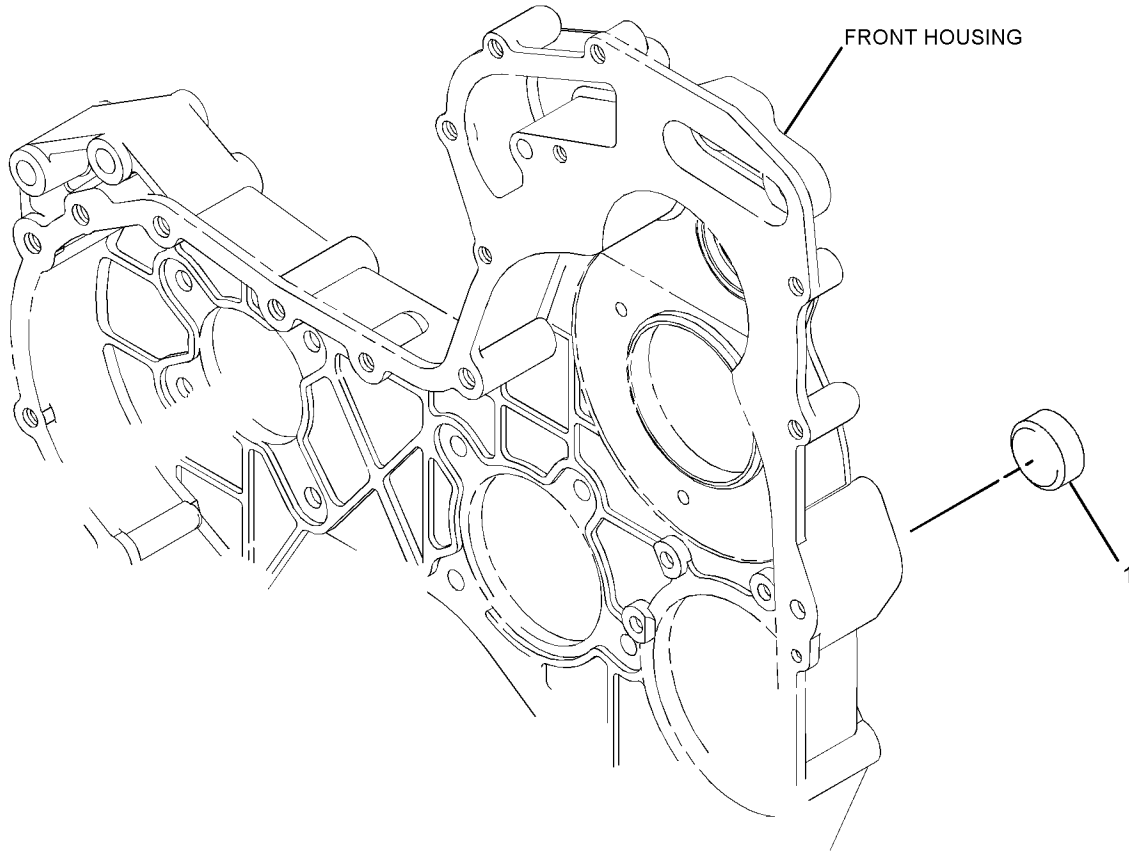
BASIC ENGINE

298-5098 PLUG GP-ENGINE

SMCS-1100, 1201

i05770570

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	225-6522	1	PLUG-CUP						



GRAPHIC #1

<END>

g01304747

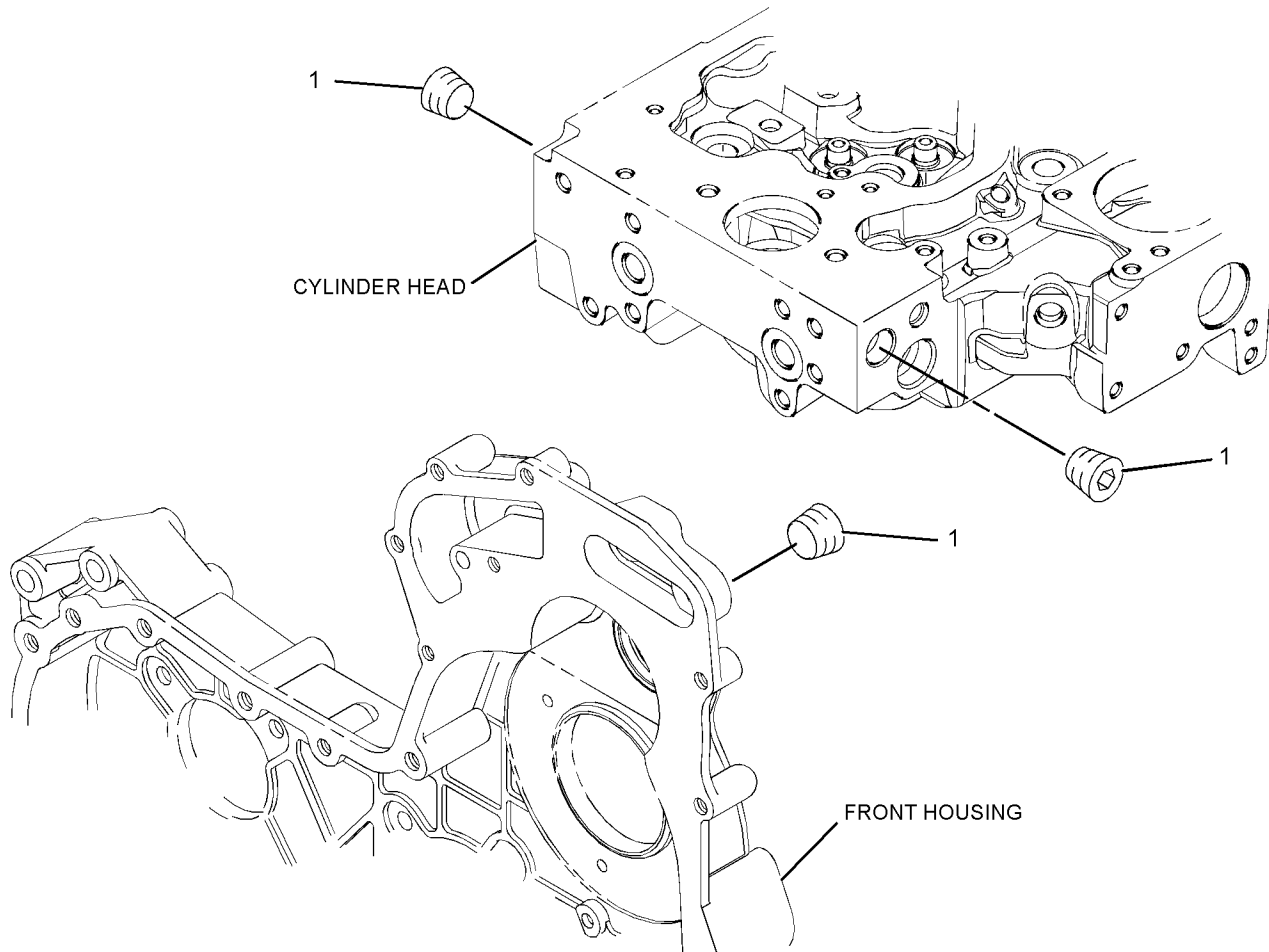
BASIC ENGINE

298-5131 PLUG GP-ENGINE

SMCS-1100, 1201

i05770588

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	2B-0858	3	PLUG-PIPE						



GRAPHIC #1

<END>

g01305448

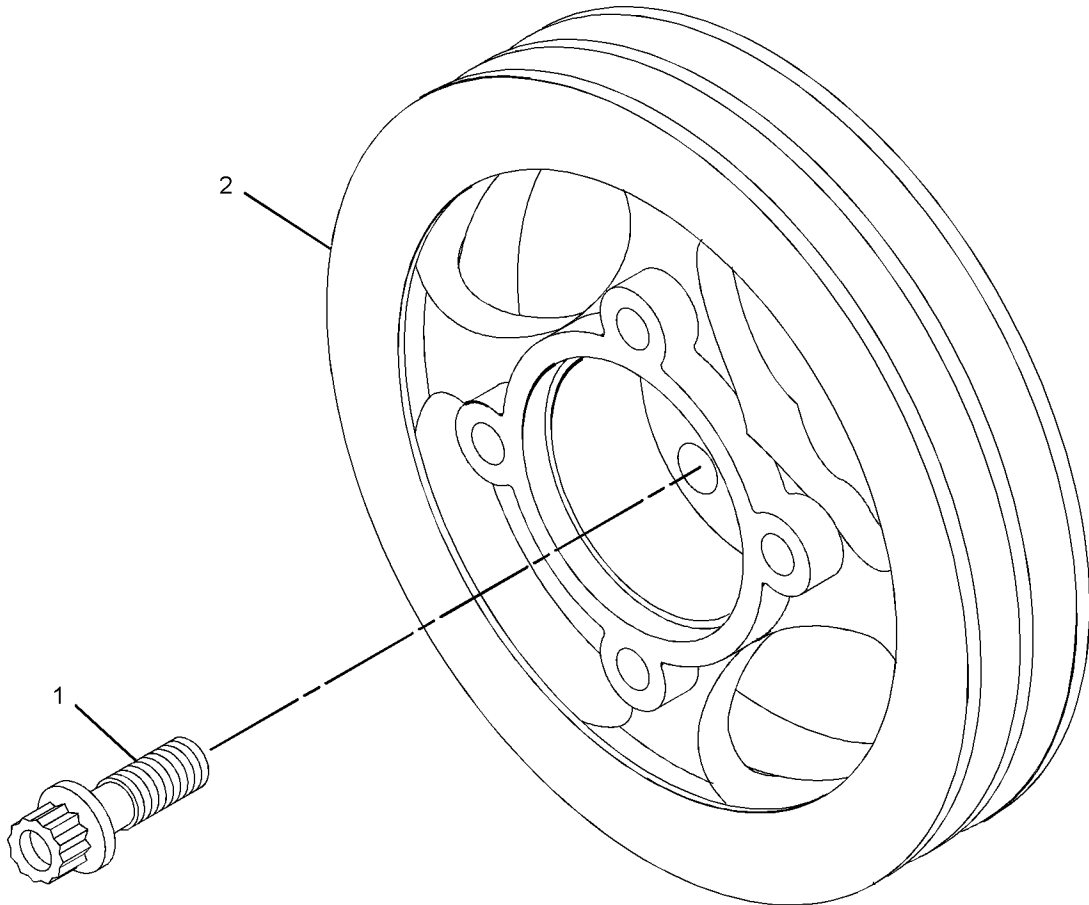
BASIC ENGINE

360-7339 PULLEY GP-CRANKSHAFT

SMCS-1205

i05770763

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	334-9334	3	BOLT						
	2	1	359-0746	1	PULLEY - CRANKSHAFT						



GRAPHIC #1

<END>

g02154868

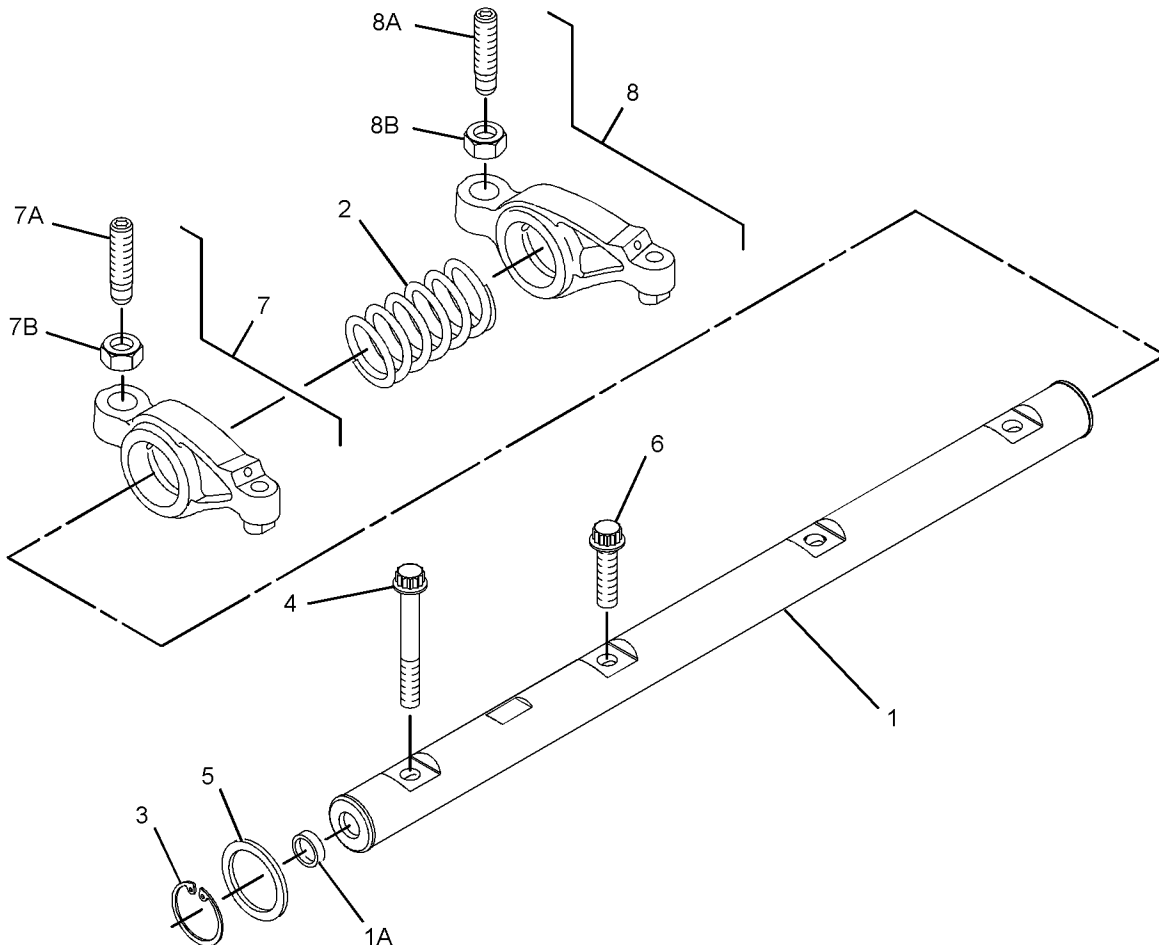
BASIC ENGINE

315-3385 ROCKER ARM GP PART OF 316-7954, 330-0366 VALVE MECHANISM GP

SMCS-1123

i05770692

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	225-5634	1	SHAFT AS						
	1A	1	225-5629	2	PLUG						
	2	1	225-5638	3	SPRING						
	3	1	225-5959	2	CLIP						
	4	1	225-5960	1	BOLT (M8X1.25X60-MM)						
	5	1	225-5961	2	WASHER (26.7X34.32X0.38-MM THK)						
	6	1	225-5962	3	BOLT (M8X1.25X30-MM)						
	7	1	315-3386	4	ROCKER ARM AS (EACH INCLUDES)						
	7A	1	278-5113	1	ADJUSTING SCREW (TORX)						
	7B	1	315-3387	1	NUT						
	8	1	315-3388	4	ROCKER ARM AS (EACH INCLUDES)						
	8A	1	278-5113	1	ADJUSTING SCREW (TORX)						
	8B	1	315-3387	1	NUT						



GRAPHIC #1

<END>

g01399975

BASIC ENGINE

316-7954 VALVE MECHANISM GP

SMCS-1102, 1121, 1123, 1209

i05770686

NOTE	PART NUMBER	QTY	PART NAME						SEE PAGE
			1	2	3	4	5	6 (PRODUCT LEVEL)	
Y	315-3385	1	ROCKER ARM GP						48

Y - SEPARATE ILLUSTRATION

<END>

BASIC ENGINE

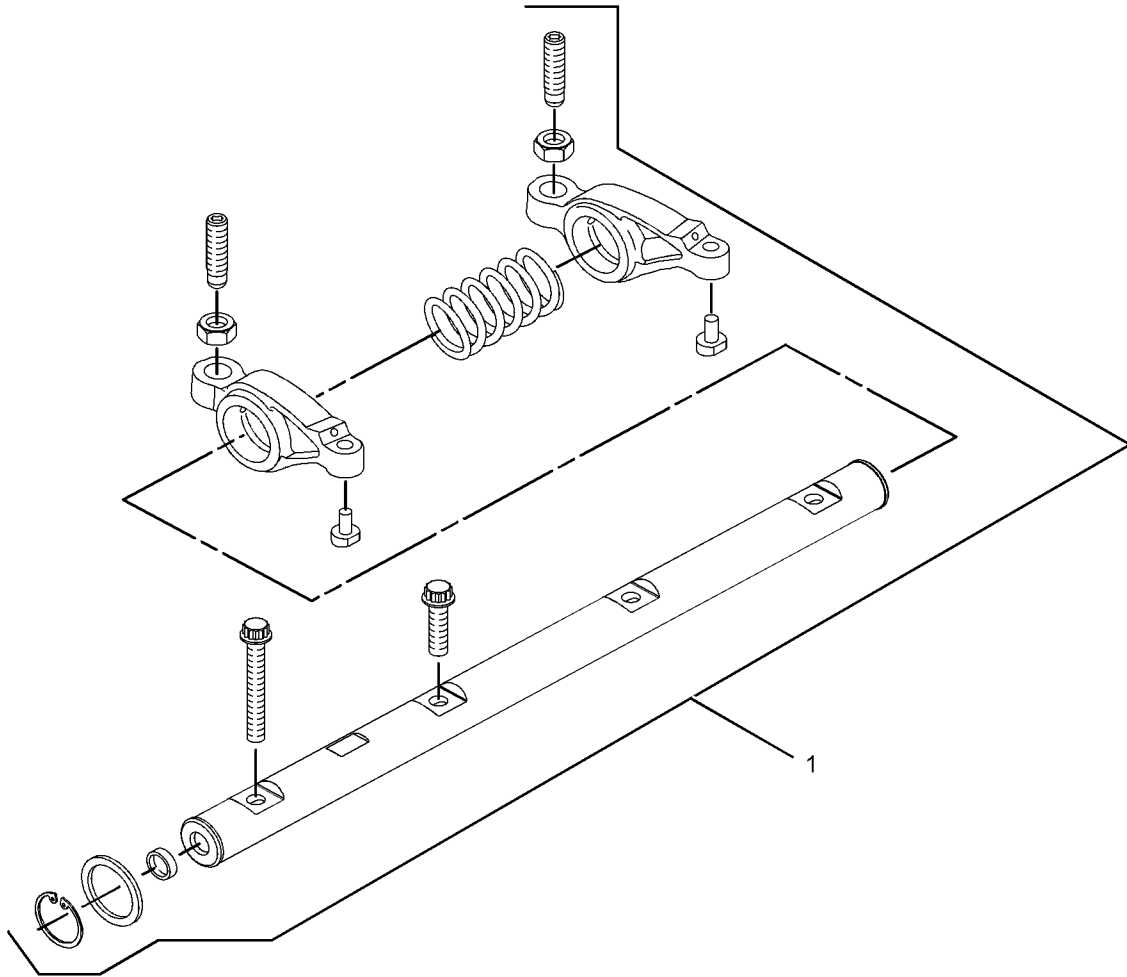
330-0366 VALVE MECHANISM GP

SMCS-1102, 1121, 1123, 1209

i05771233

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
Y	1	1	315-3385	1	ROCKER ARM GP						48

Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g01611483

LUBRICATION SYSTEM

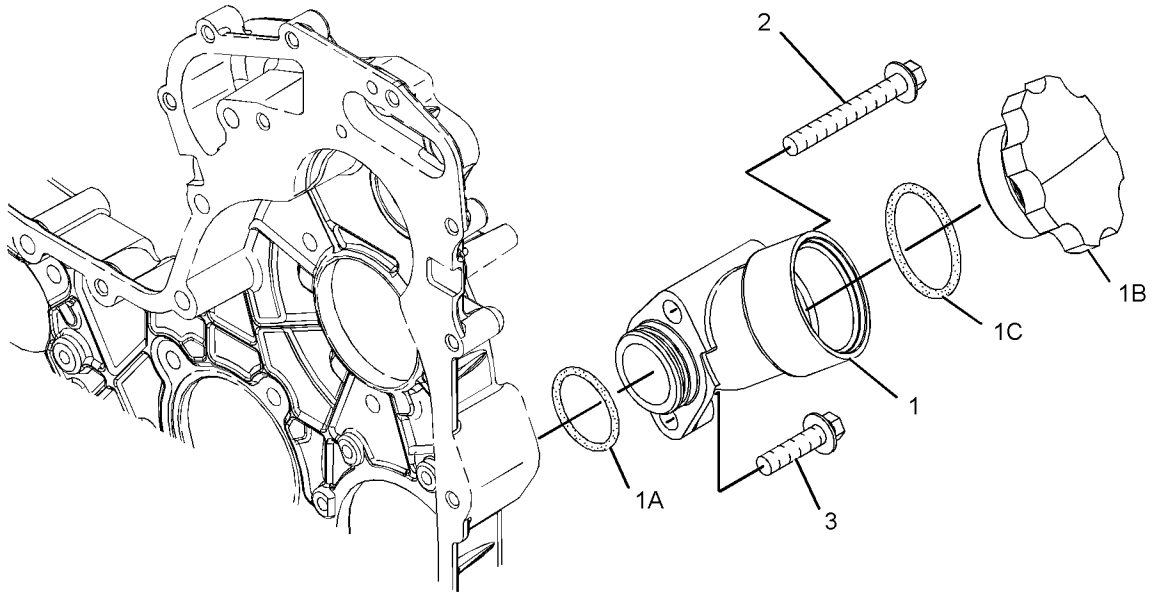
299-5071 FILLER GP-ENGINE OIL

SMCS-1316

i05770782

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	321-2383	1	FILLER GP-ENGINE OIL						
	1A	1	306-2337	1	SEAL-O-RING						
	1B	1	130-9888	1	CAP-OIL FILLER (ENGINE)						
	1C	1	113-1504	1	SEAL-O-RING						
	2	1	6I-4374	1	BOLT (M8X1.25X60-MM)						
M	3	1	6I-0254	1	BOLT (M8X1.25X30-MM)						

M - METRIC PART



GRAPHIC #1

<END>

g01333629

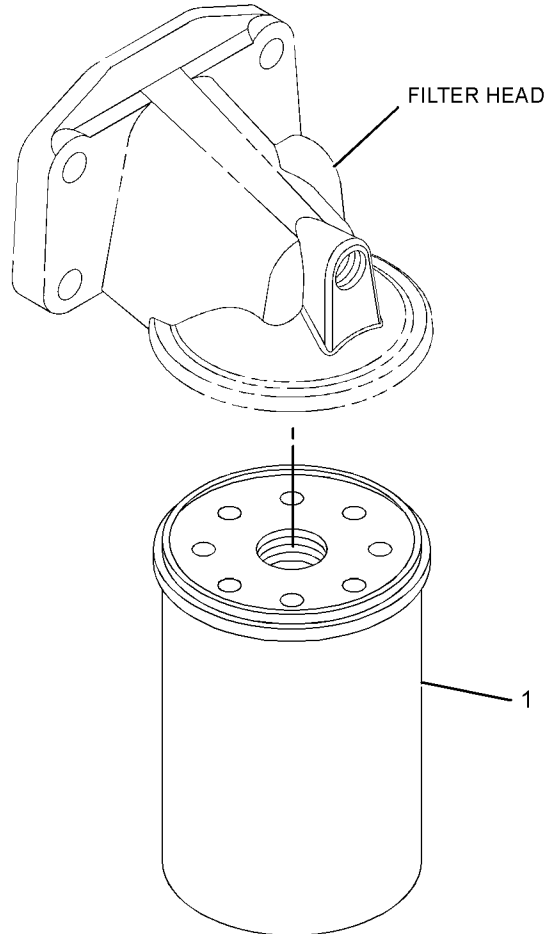
LUBRICATION SYSTEM

298-5100 FILTER GP-ENGINE OIL

SMCS-1306, 1308

i05770574

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	7W-2326	1	FILTER AS-ENGINE OIL						



GRAPHIC #1

<END>

g01304792

LUBRICATION SYSTEM

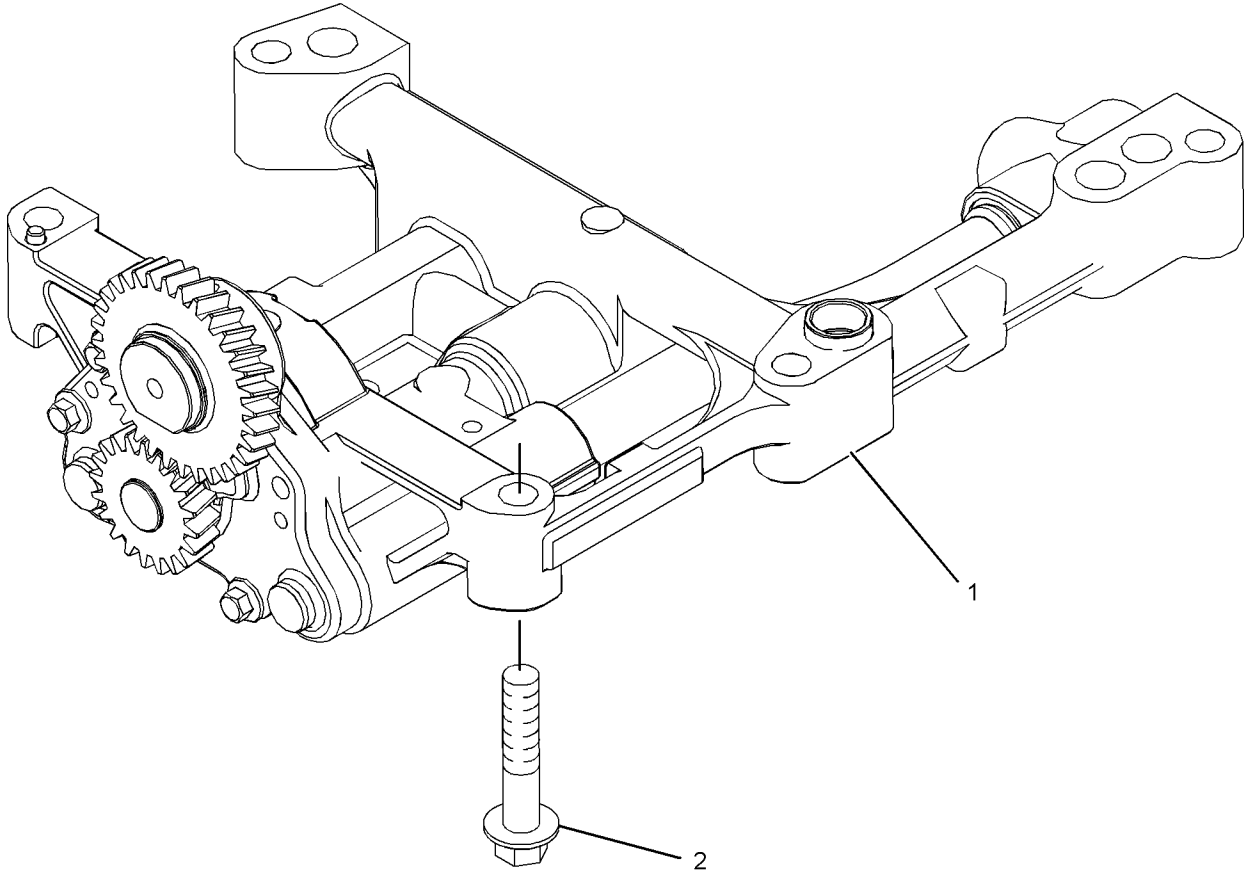
298-5112 PUMP GP-ENGINE OIL

SMCS-1304, 1315

i05770584

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	225-8329	1	PUMP AS-ENGINE OIL						
M	2	1	100-4461	5	BOLT (M10X1.50X50-MM)						

M - METRIC PART



GRAPHIC #1

<END>

g01304952

COOLING SYSTEM

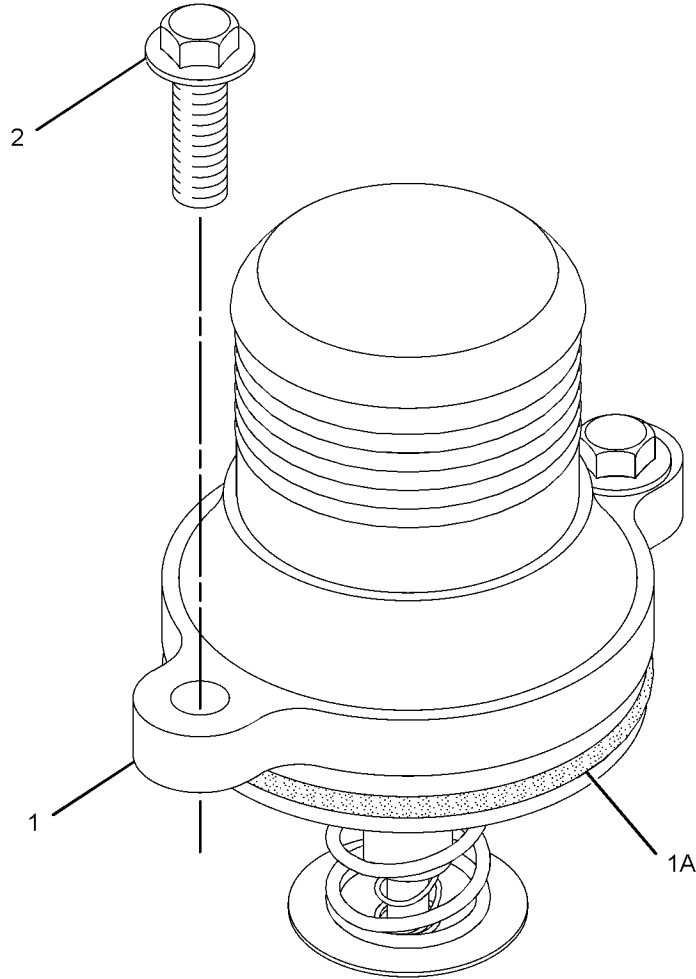
316-6941 CONNECTION GP-WATER

SMCS-1380

i05770635

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	254-2267	1	REGULATOR GP-TEMPERATURE (INCLUDES CONNECTOR) (WATER)						
	1A	1	254-2270	1	SEAL-O-RING						
M	2	1	6I-0260	2	BOLT (M8X1.25X25-MM)						

M - METRIC PART



GRAPHIC #1

<END>

g01319398

COOLING SYSTEM

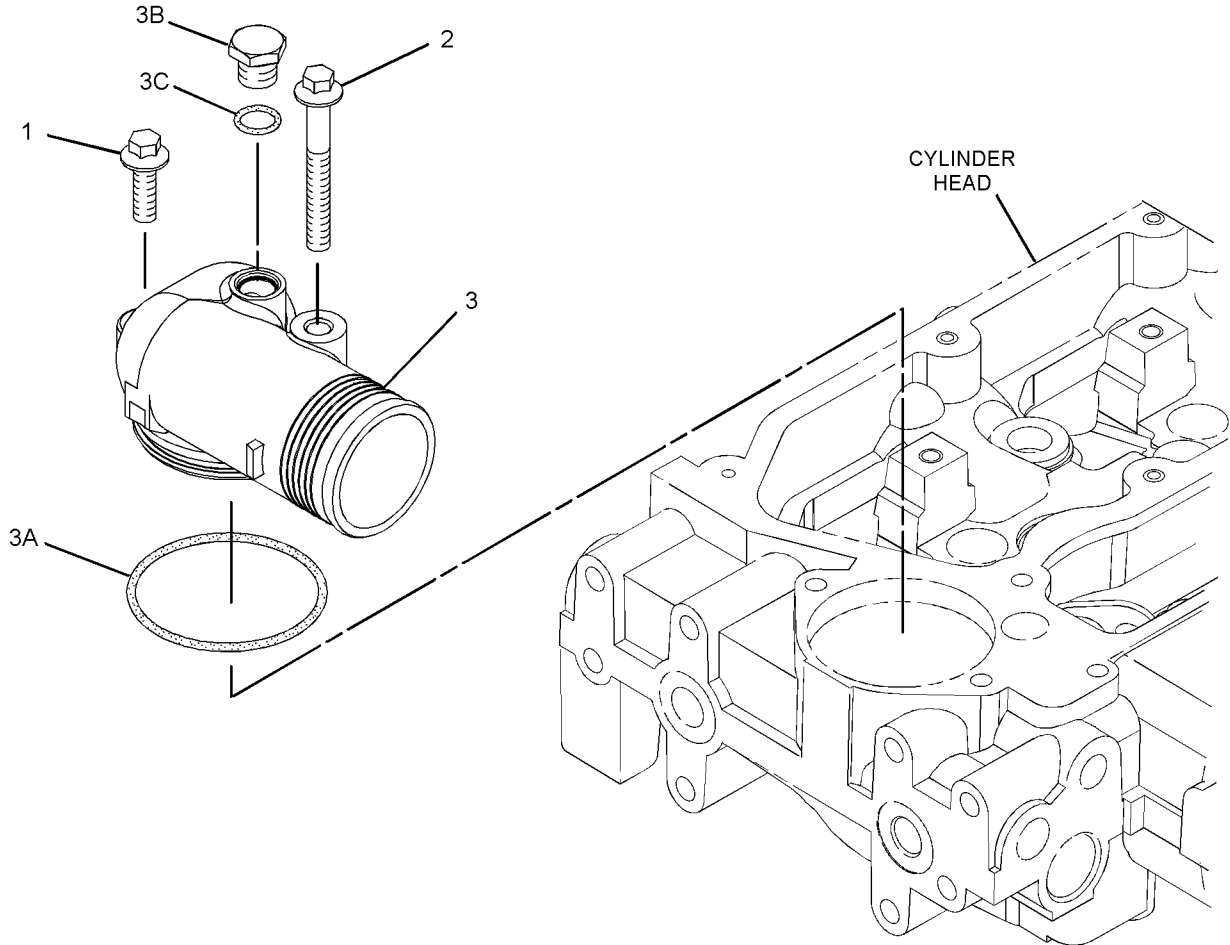
317-6143 CONNECTION GP-WATER

SMCS-1380

i05770790

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0260	1	BOLT (M8X1.25X25-MM)						
M	2	1	100-3751	1	BOLT (M8X1.25X65-MM)						
	3	1	254-2268	1	REGULATOR AS-WATER TEMPERATURE (CONNECTOR INCLUDED)						
	3A	1	254-2270	1	SEAL-O-RING						
	3B	1	291-8813	1	PLUG						
	3C	1	291-8845	1	SEAL-O-RING						

M - METRIC PART



GRAPHIC #1

<END>

g01441723

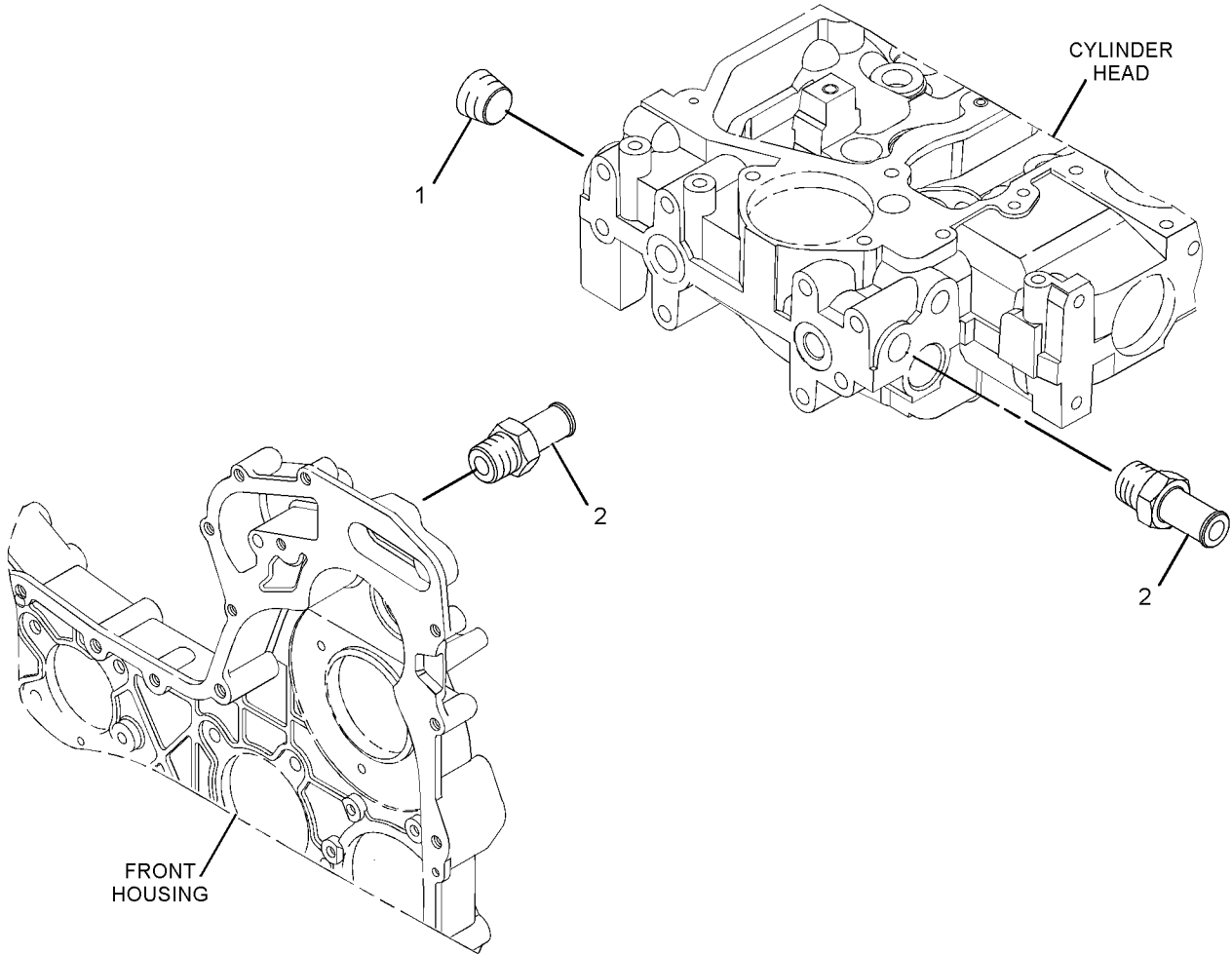
COOLING SYSTEM

330-0370 CONNECTOR GP-CAB HEATER LINES

SMCS-1380

i05770822

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	2B-0858	1	PLUG-PIPE						
	2	1	7W-4669	2	ADAPTER						



GRAPHIC #1

<END>

g01688954

COOLING SYSTEM

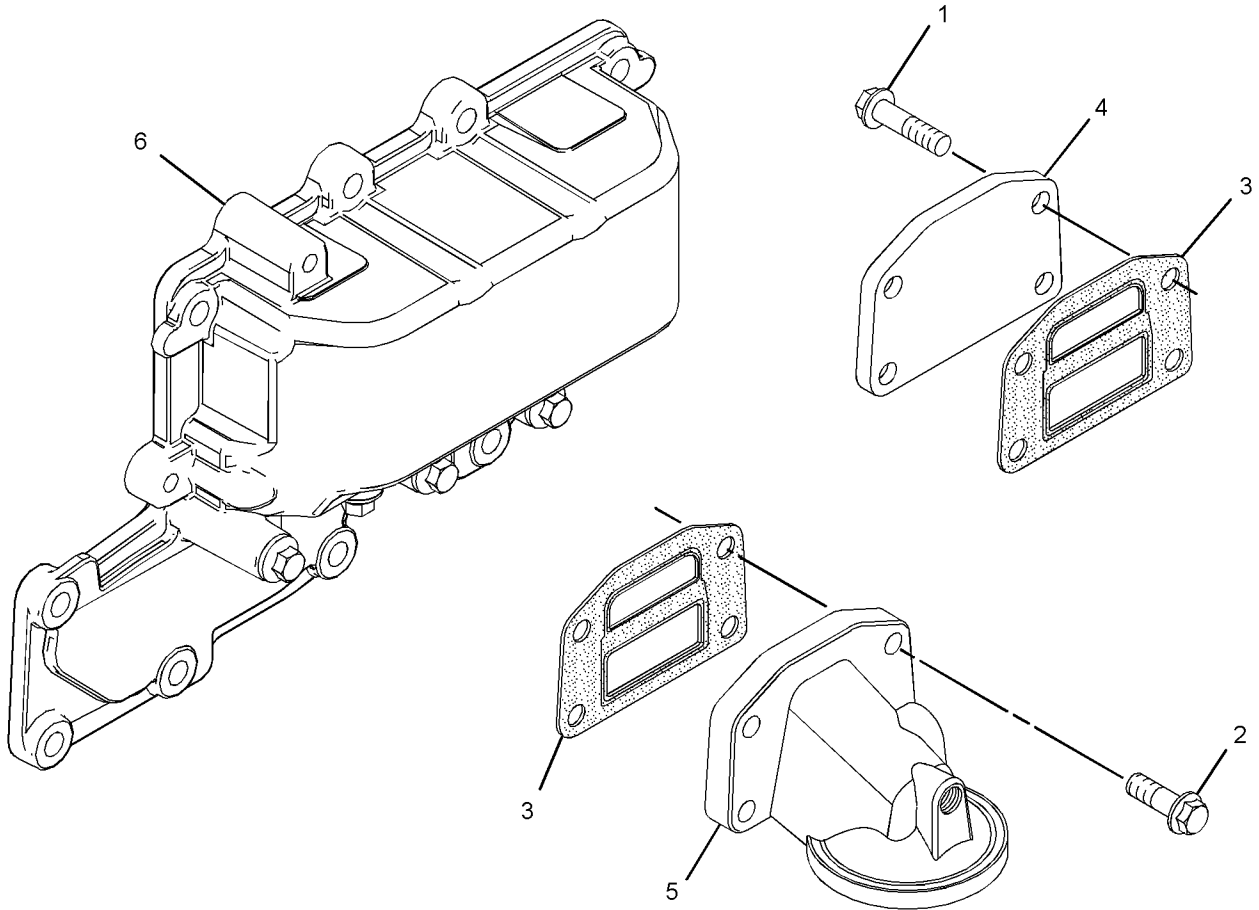
316-6899 COOLER GP-ENGINE OIL

SMCS-1378

i05770626

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	6I-0572	4	BOLT (M8X1.25X20-MM)						
M	2	1	6I-0645	4	BOLT (M8X1.25X25-MM)						
	3	1	225-7944	2	GASKET (ENGINE OIL FILTER BASE)						
	4	1	232-3751	1	PLATE						
	5	1	249-0974	1	HEAD AS-OIL FILTER						
Y	6	1	354-1274	1	COOLER GP-ENGINE OIL						59

M - METRIC PART
Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g02151330

COOLING SYSTEM

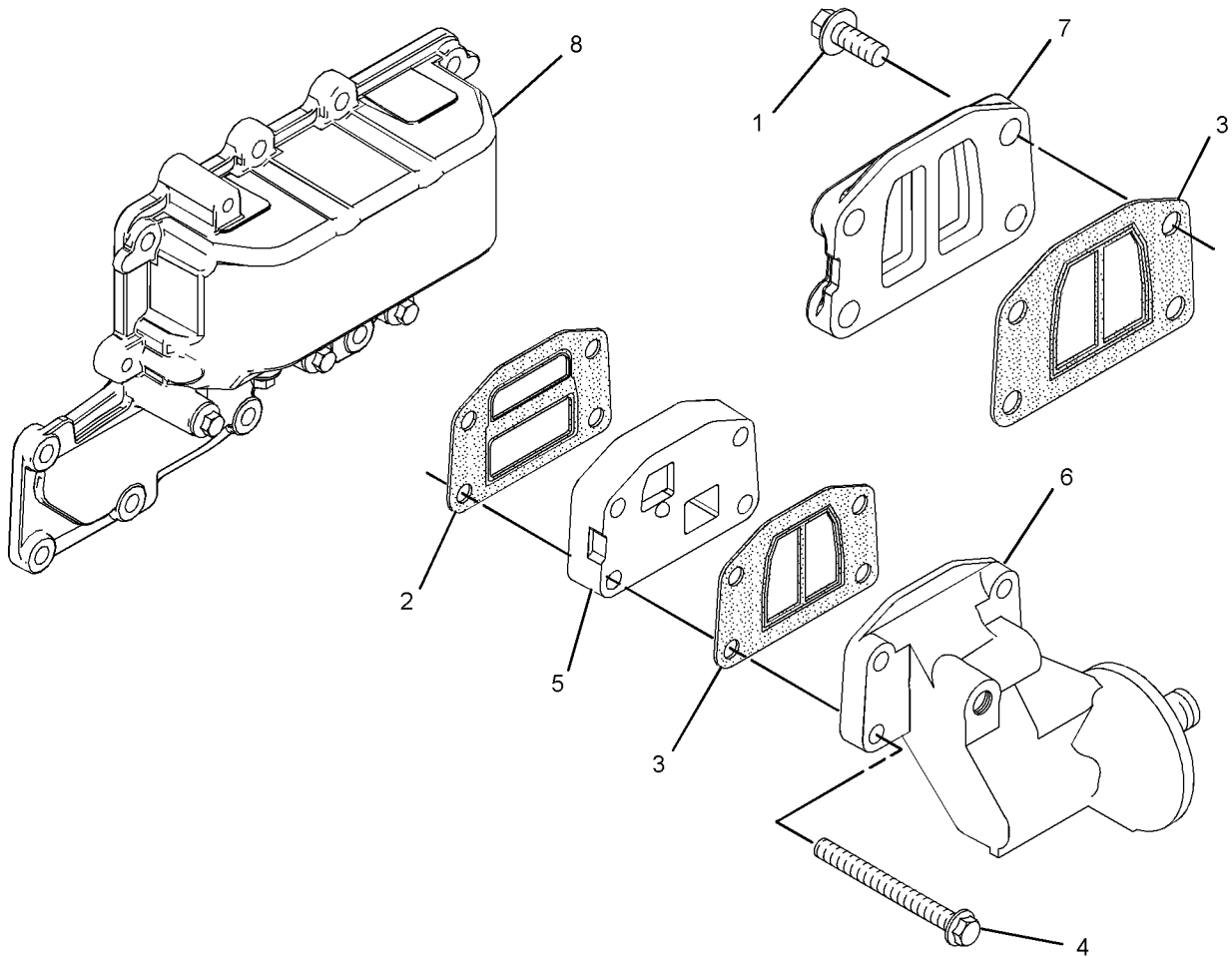
330-0399 COOLER GP-ENGINE OIL

SMCS-1378

i05770821

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
M	1	1	6I-0645	4	BOLT (M8X1.25X25-MM)						
	2	1	225-7944	1	GASKET (ENGINE OIL FILTER BASE)						
	3	1	233-9408	2	GASKET						
	4	1	235-2451	4	BOLT (M6X1X35-MM)						
	5	1	244-6872	1	ADAPTER-FILTER						
	6	1	249-0975	1	HEAD AS-OIL FILTER						
	7	1	252-6318	1	PLATE (BLANKING)						
Y	8	1	354-1274	1	COOLER GP-ENGINE OIL						59

M - METRIC PART
Y - SEPARATE ILLUSTRATION



GRAPHIC #1

<END>

g02152641

COOLING SYSTEM

354-1274 COOLER GP-ENGINE OIL

PART OF 316-6899, 330-0399 COOLER GP-ENGINE OIL

SMCS-1378

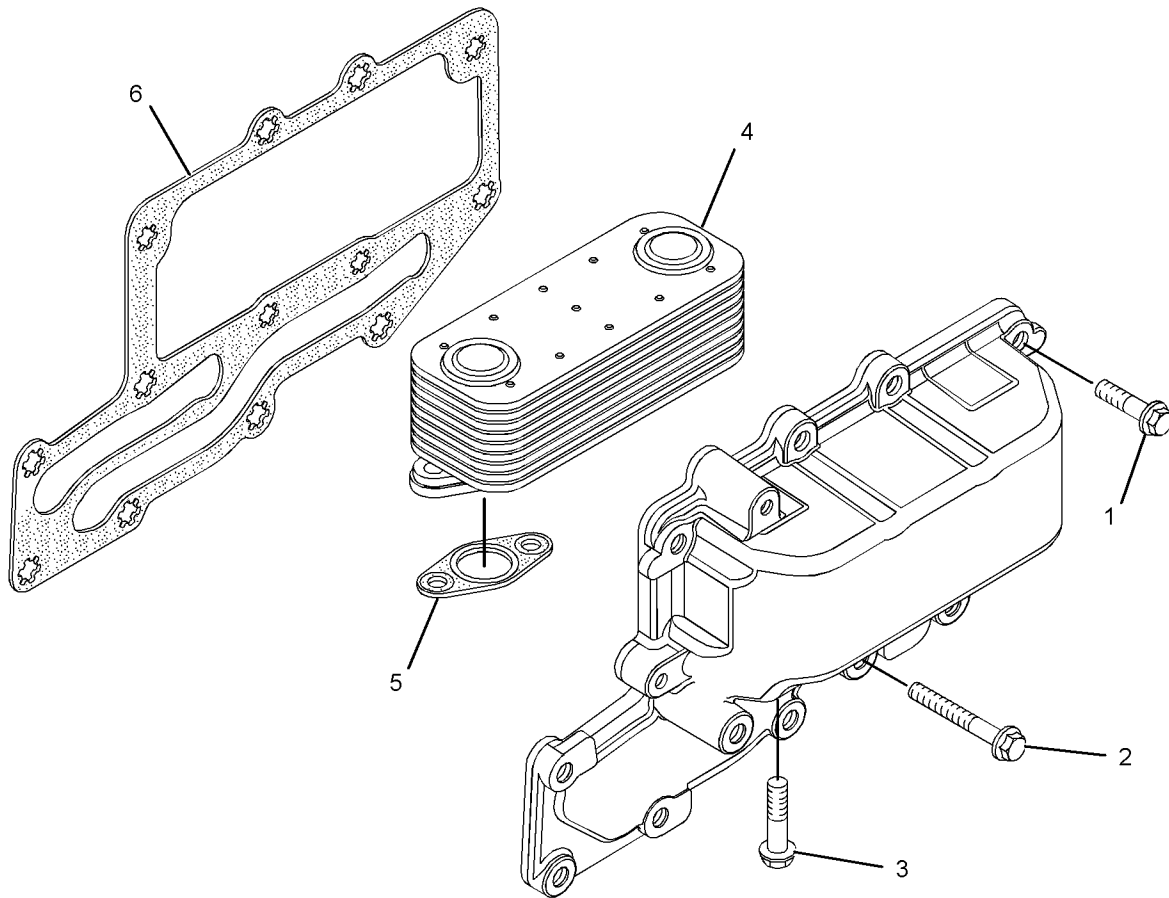
i05770629

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0260	10	BOLT (M8X1.25X25-MM)						
	2	1	6I-4374	3	BOLT (M8X1.25X60-MM)						
M	3	1	101-3895	4	BOLT (M8X1.25X35-MM)						
	4	1	225-6817	1	COOLER-OIL						
J	5	1	225-6818	2	SEAL						
	6	1	272-2265	1	SEAL						

AVAILABLE REPAIR KIT(S) :

J			416-8777	1	KIT-SEALING (ENGINE OIL COOLER) (INCLUDES SEALS & LEAFLET)					
---	--	--	-----------------	---	---	--	--	--	--	--

J - KIT MARKED J SERVICES PART(S) MARKED J
M - METRIC PART



GRAPHIC #1

<END>

g02140458

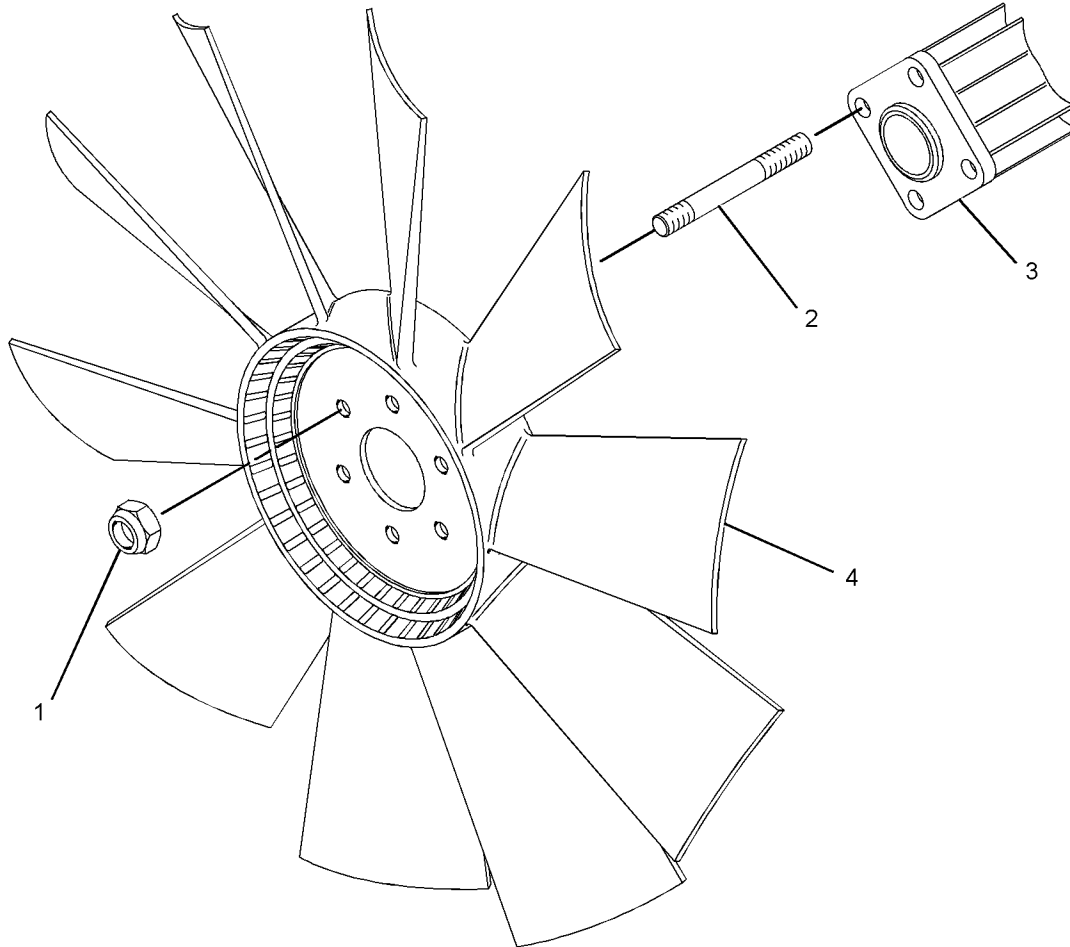
COOLING SYSTEM

314-5003 FAN GP

SMCS-1356

i05770617

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	113-6349	4	NUT (M8X1.25-THD)						
	2	1	135-6362	4	STUD						
	3	1	135-6363	1	EXTENSION-FAN						
	4	1	114-2474	1	FAN (10-BLADE)						



GRAPHIC #1

<END>

g01326057

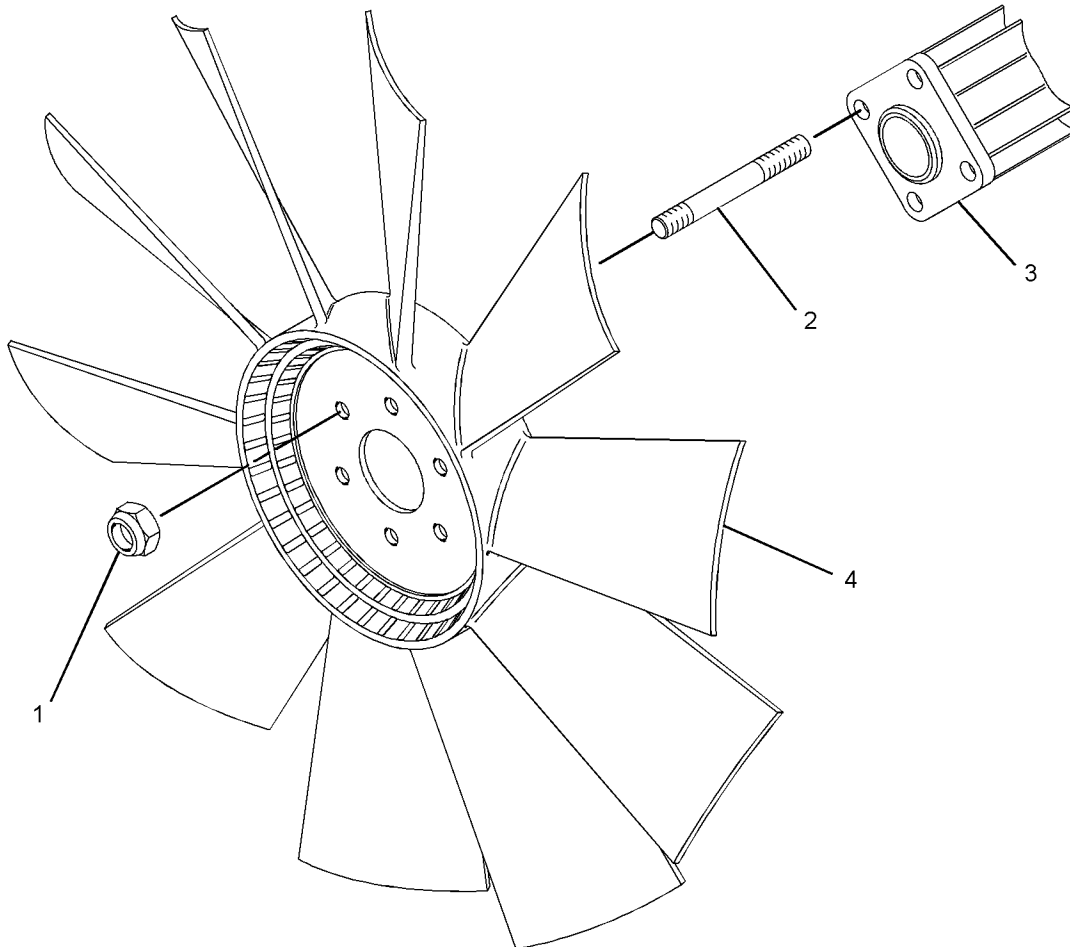
COOLING SYSTEM

322-4889 FAN GP

SMCS-1356

i05770819

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	113-6349	4	NUT (M8X1.25-THD)						
	2	1	135-6362	4	STUD						
	3	1	135-6363	1	EXTENSION-FAN						
	4	1	185-9538	1	FAN (10-BLADE)						



GRAPHIC #1

<END>

g01326057

COOLING SYSTEM

315-3411 PUMP GP-WATER

SMCS-1361

i05770786

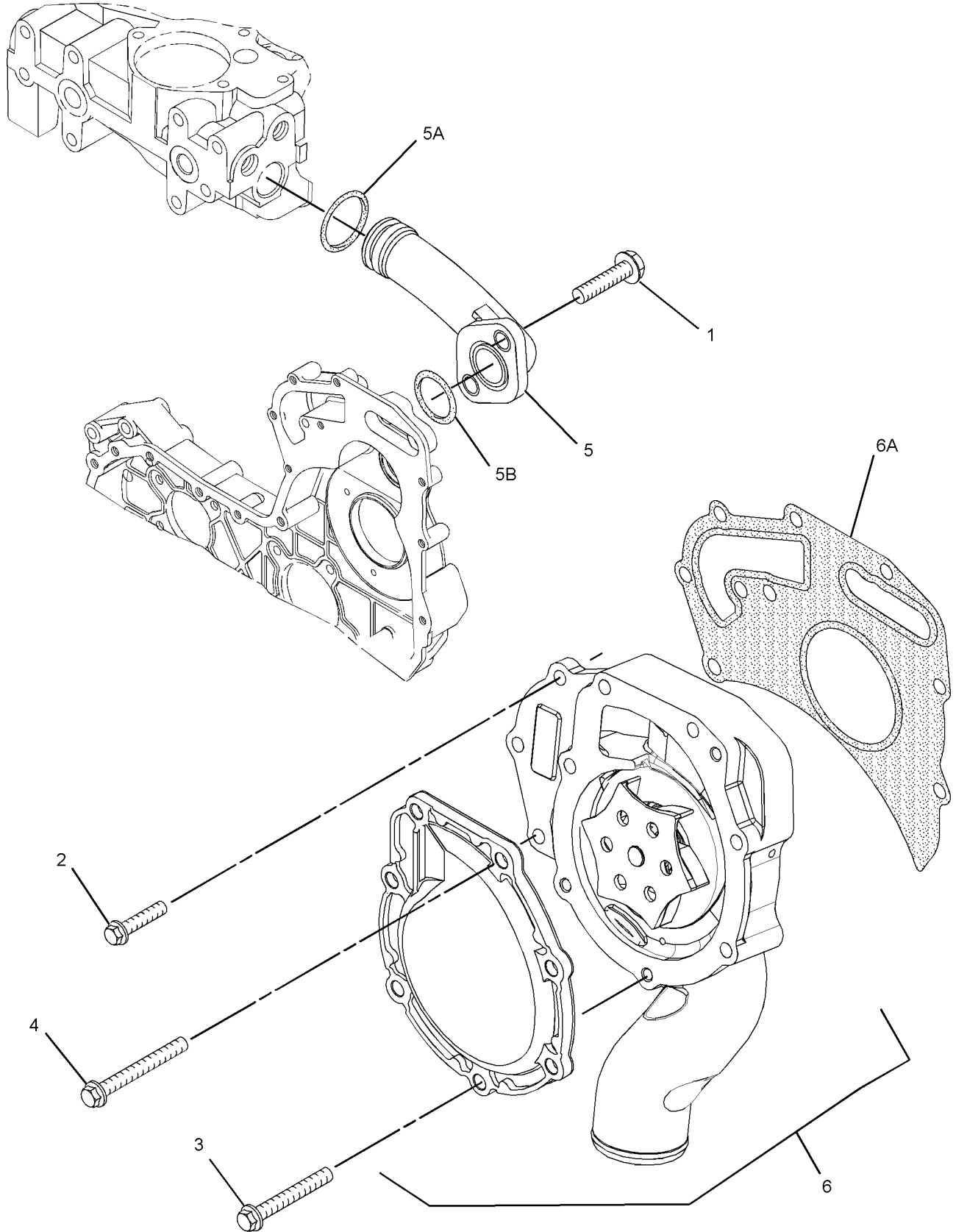
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	2	BOLT (M8X1.25X20-MM)						
M	2	1	6I-0254	2	BOLT (M8X1.25X30-MM)						
M	3	1	100-3751	5	BOLT (M8X1.25X65-MM)						
	4	1	113-8129	2	BOLT (M8X1.25X75-MM)						
	5	1	225-7741	1	CONNECTION AS						
	5A	1	225-7738	1	SEAL-O-RING						
	5B	1	225-7739	1	SEAL-O-RING						
	6	1	355-2252	1	PUMP GP-WATER						
	6A	1	225-8019	1	GASKET						

M - METRIC PART

COOLING SYSTEM

315-3411 PUMP GP-WATER (contd.)

i05770786



GRAPHIC #1

<END>

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COOLING SYSTEM

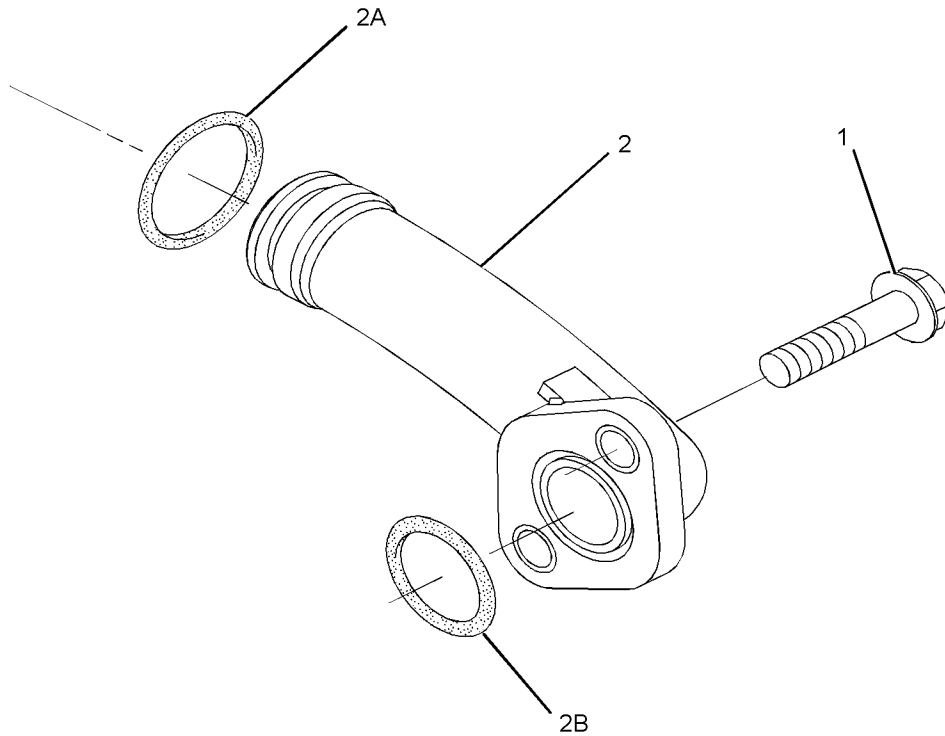
316-7961 PUMP GP-WATER

SMCS-1361

i05770751

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	2	BOLT (M8X1.25X20-MM)						
	2	1	225-7741	1	CONNECTION AS						
	2A	1	225-7738	1	SEAL-O-RING						
	2B	1	225-7739	1	SEAL-O-RING						
AVAILABLE REPAIR KIT(S) :											
			247-0144	1	KIT-WATER PUMP						
					(INLCUDES 2 DIFFERENT GASKETS)						

M - METRIC PART



GRAPHIC #1

<END>

g01710341

COOLING SYSTEM

316-7963 RADIATOR GP

SMCS-1353

i05770756

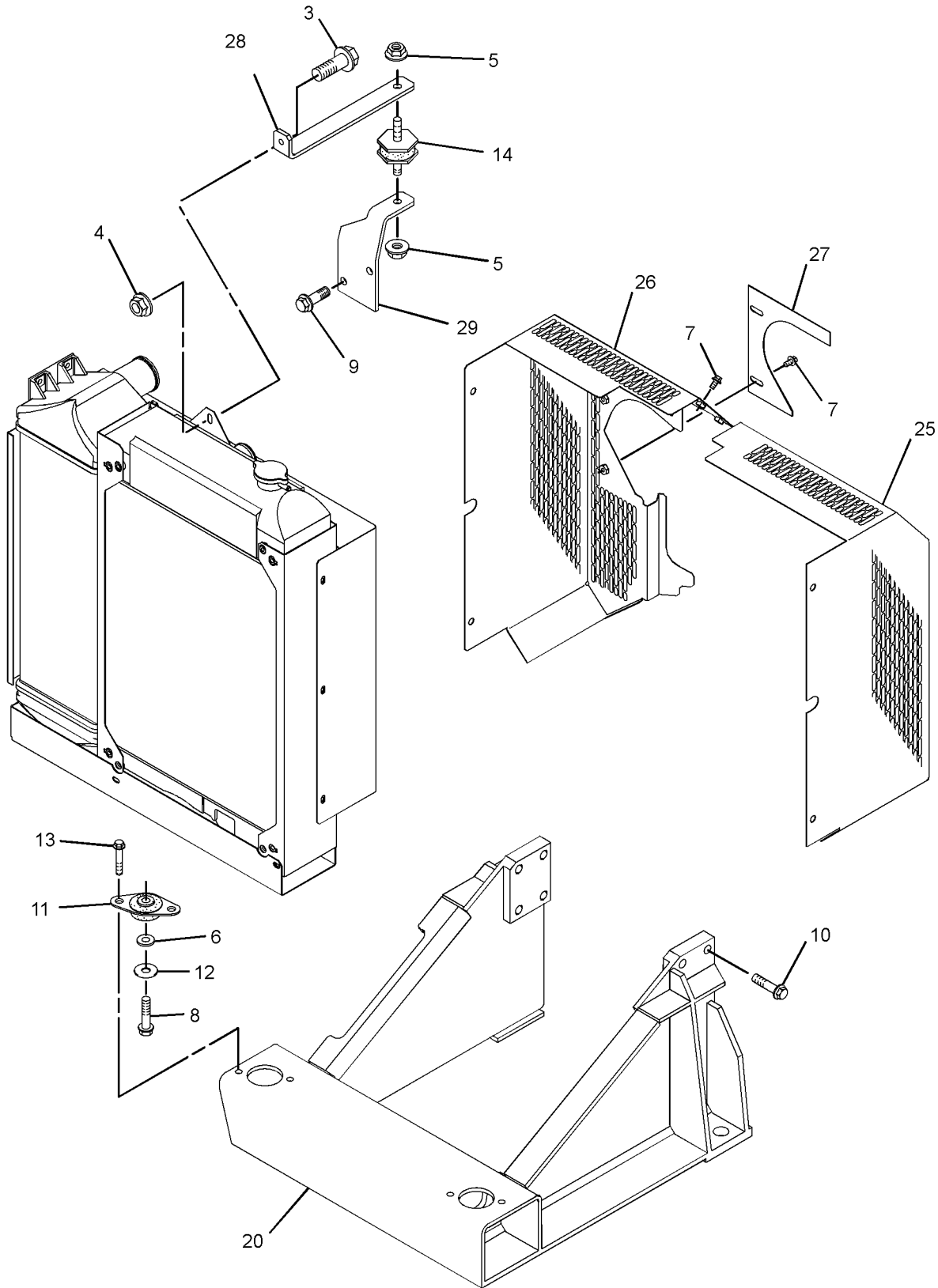
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	2	3E-7404	6	CLAMP-HOSE						
	2	2	5P-0597	3	CLAMP-HOSE						
M	3	1	6I-0260	1	BOLT (M8X1.25X25-MM)						
	4	1	6I-0291	1	NUT (M8X1.25-THD)						
	5	1	6I-0594	2	NUT (M10X1.5-THD)						
	6	1	7W-2601	2	SPACER						
	7	1	100-4458	4	BOLT (M8X1.25X14-MM)						
M	8	1	100-4461	2	BOLT (M10X1.5X50-MM)						
M	9	1	100-4830	2	BOLT (M10X1.5X20-MM)						
	10	1	101-7537	8	BOLT (M12X1.75X35-MM)						
	11	1	101-7538	2	MOUNT						
	12	1	101-7540	2	WASHER						
	13	1	101-7541	4	BOLT						
	14	1	101-7546	1	MOUNT						
	15	2	103-1067	3	CLAMP-HOSE						
	16	2	236-7722	1	HOSE-RADIATOR (UPPER)						
	17	2	236-7734	1	HOSE (AFTERCOOLER)						
	18	2	236-7735	2	HOSE (AFTERCOOLER)						
	19	3	236-7766	1	RADIATOR AS						
	19A	3	114-4363	12	BOLT (M8X1.25X12-MM)						
	19B	3	236-7760	1	GUARD-RADIATOR						
	19C	3	236-7763	1	BRACKET-MOUNTING						
	19D	3	236-7764	1	CAP-RADIATOR						
	19E	3	236-7765	1	PLUG-DRAIN (COOLANT)						
	20	1	236-8773	1	BRACKET-MOUNTING						
	21	2	236-8776	1	CONNECTOR						
	22	2	236-8777	1	HOSE-AIR INLET						
	23	2	236-8780	1	TUBE						
	24	2	236-8781	1	HOSE-RADIATOR						
	25	1	236-8782	1	GUARD (RADIATOR) (LH)						
	26	1	326-0497	1	GUARD-RADIATOR (RH)						
	27	1	236-8784	1	GUARD-FAN						
	28	1	311-4621	1	BRACKET						
	29	1	316-7990	1	BRACKET						

M - METRIC PART

COOLING SYSTEM

316-7963 RADIATOR GP (contd.)

i05770756



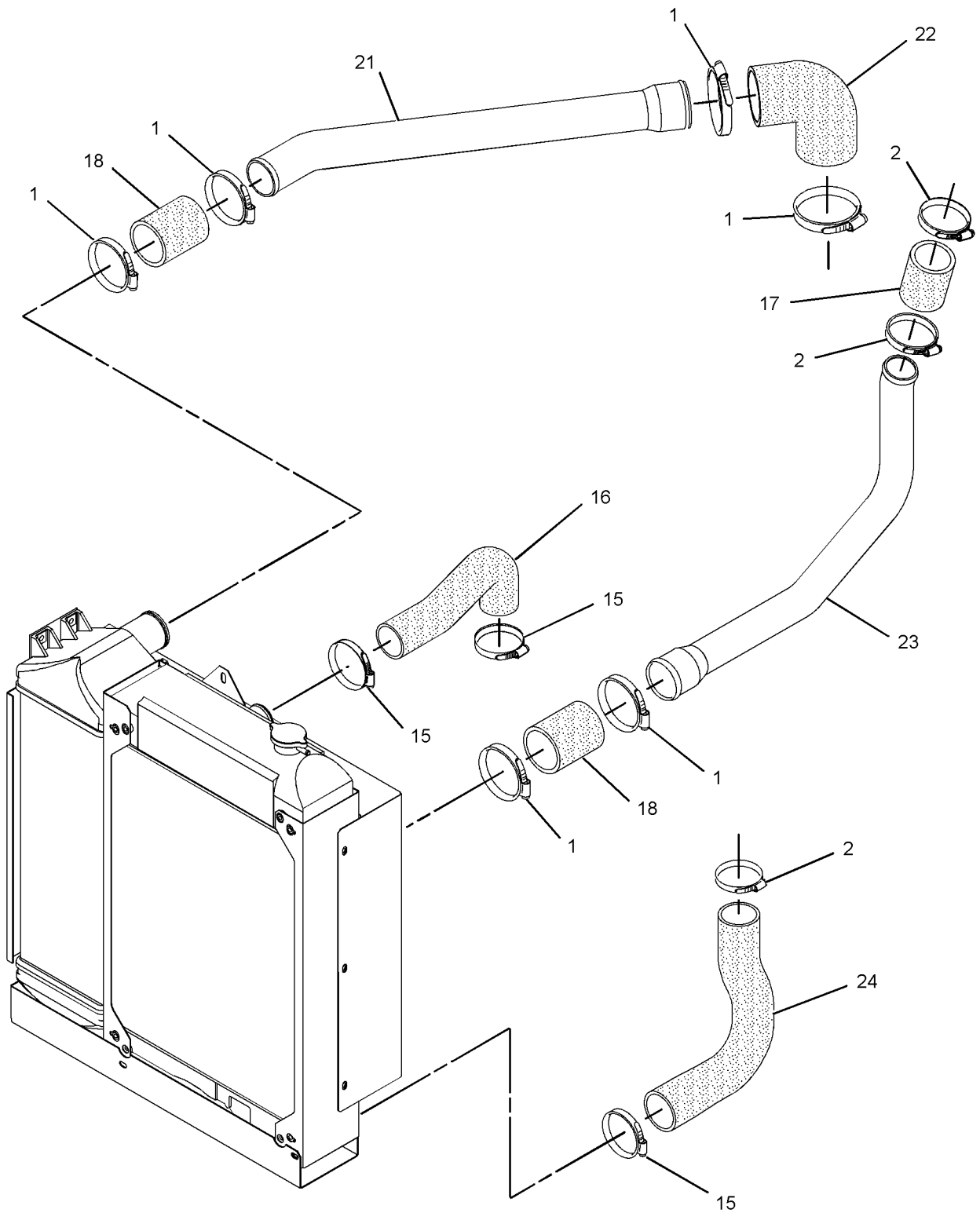
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g01618195

COOLING SYSTEM

316-7963 RADIATOR GP (contd.)

i05770756



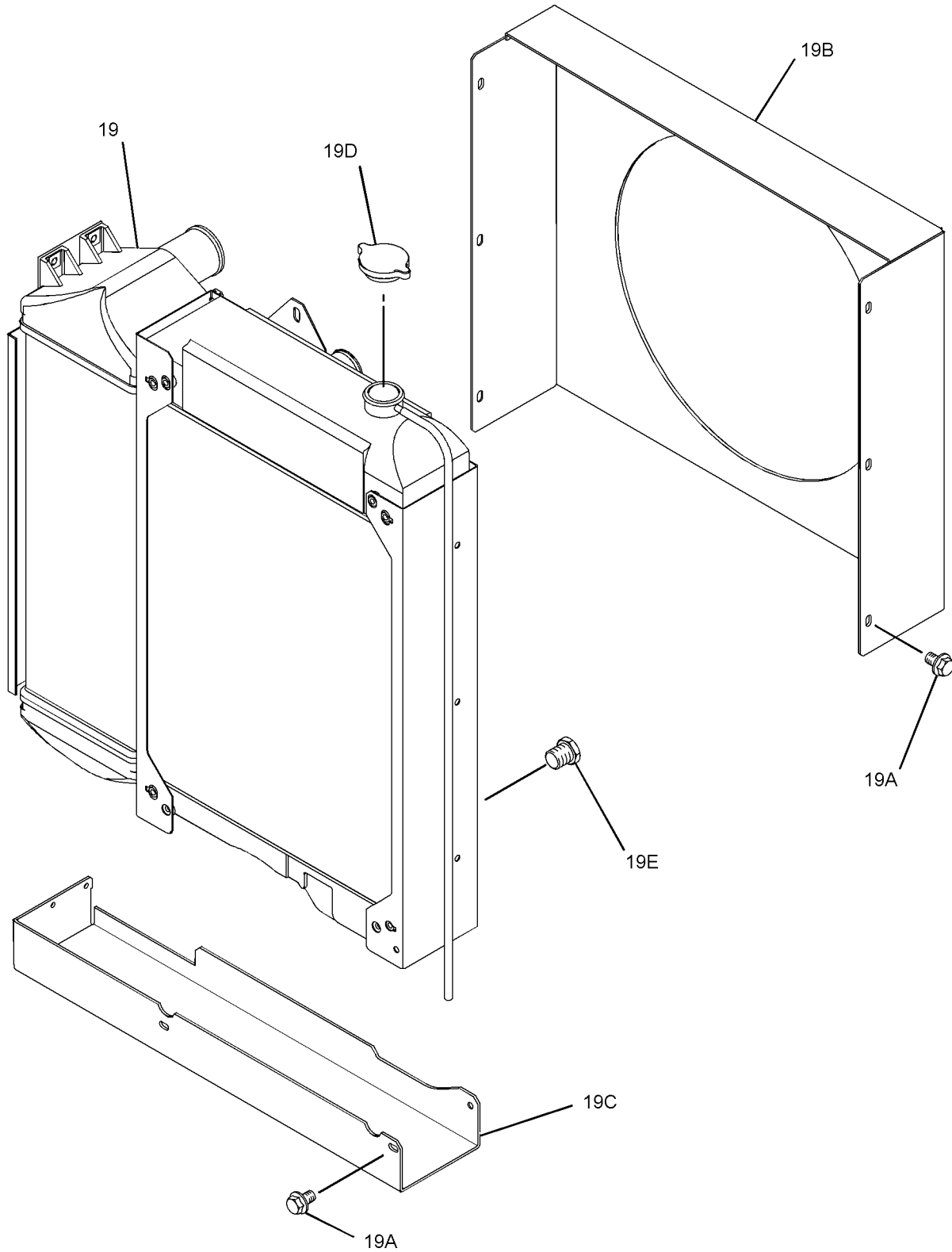
GRAPHIC #2

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COOLING SYSTEM

316-7963 RADIATOR GP (contd.)

i05770756



GRAPHIC #3

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AIR INLET AND EXHAUST SYSTEM

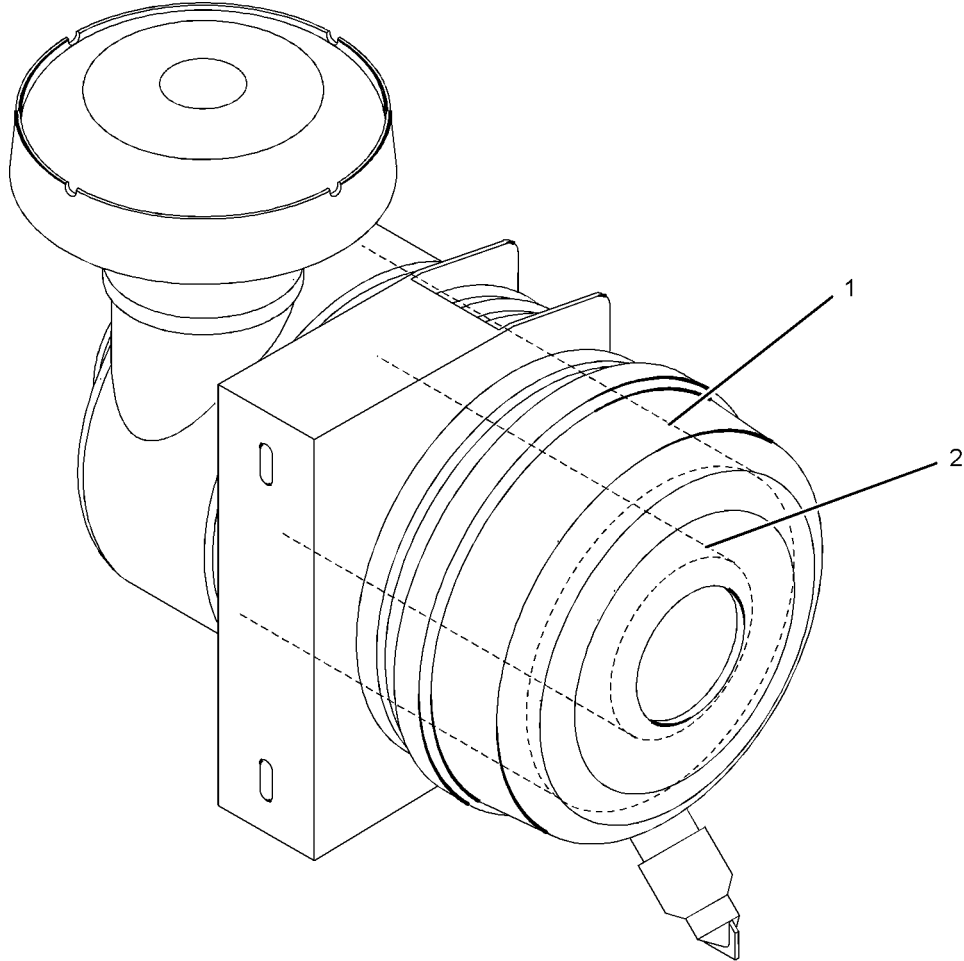
233-5180 AIR CLEANER GP

PART OF 316-7962 TURBOCHARGER GP

SMCS-1051, 1054

i05770753

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	233-5182	1	FILTER ELEMENT AS-AIR (PRIMARY)						
	2	1	233-5184	1	FILTER ELEMENT AS-AIR (SECONDARY)						



GRAPHIC #1

<END>

g01086817

AIR INLET AND EXHAUST SYSTEM

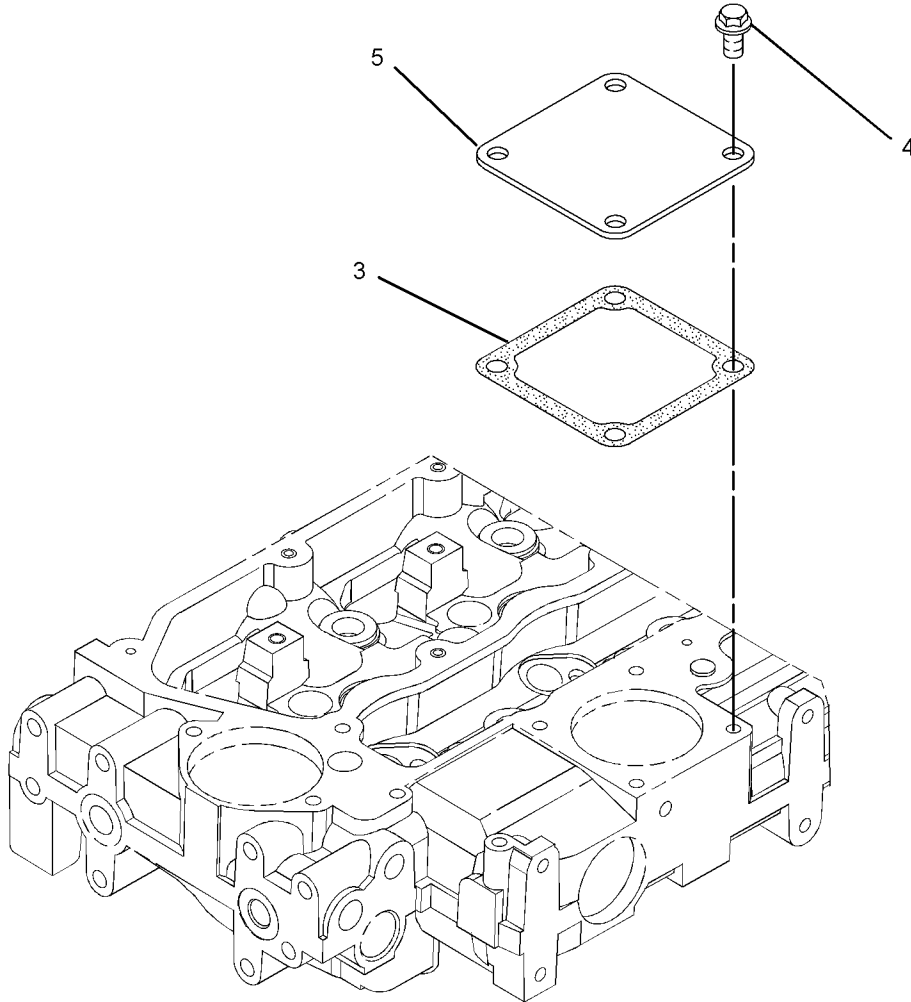
316-8453 CONNECTION GP-INLET-AIR

SMCS-1087

i05770757

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	2	6I-0645	4	BOLT (M8X1.25X25-MM)						
	2	2	111-8222	8	BOLT (M8X16-MM)						
	3	1,2	114-2579	3	GASKET						
M	4	1	124-3815	4	BOLT (M8X16X1.25-MM)						
	5	1,2	185-6627	3	PLATE						
	6	2	238-8289	1	PIPE AS						
	6A	2	238-8288	1	GASKET-INLET						

M - METRIC PART



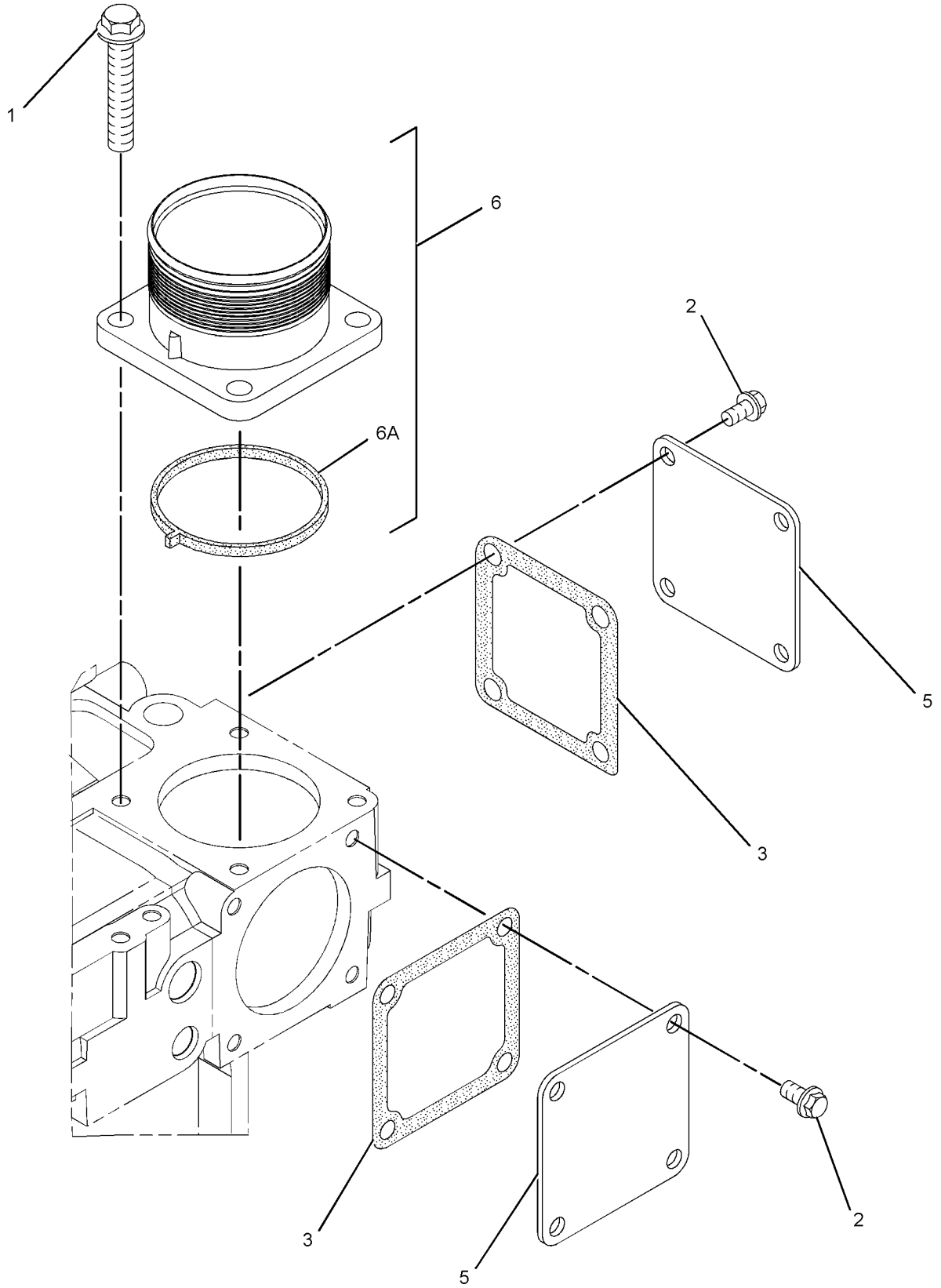
GRAPHIC #1

g01401700

AIR INLET AND EXHAUST SYSTEM

316-8453 CONNECTION GP-INLET (contd.)

i05770757



GRAPHIC #2

<END>

g01401713

AIR INLET AND EXHAUST SYSTEM

316-6943 COVER GP-AIR INLET

SMCS-1087

i05770788

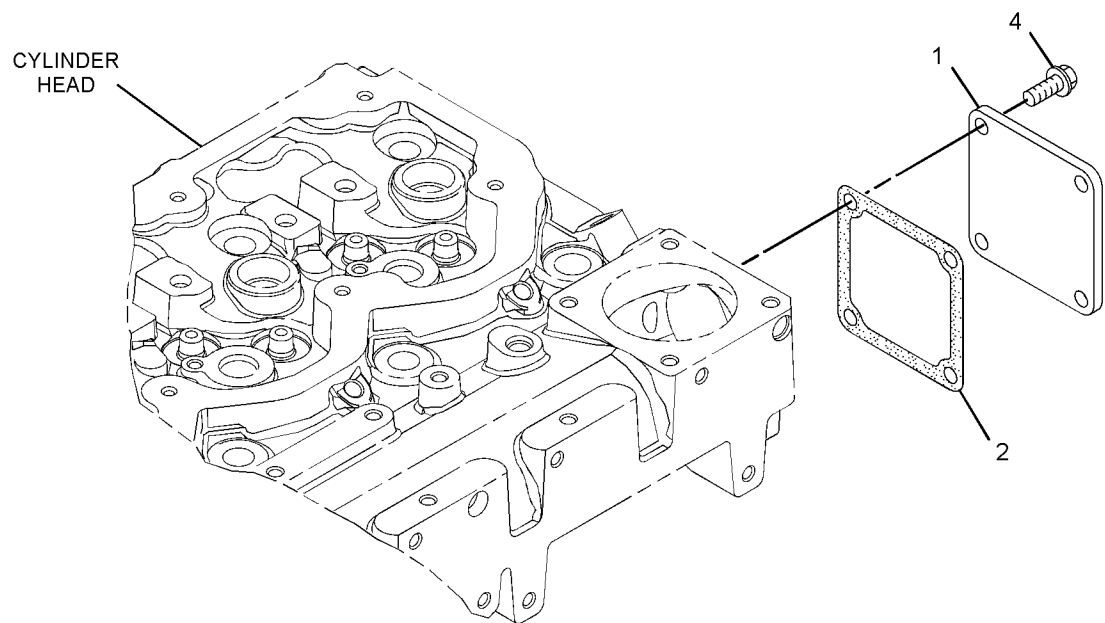
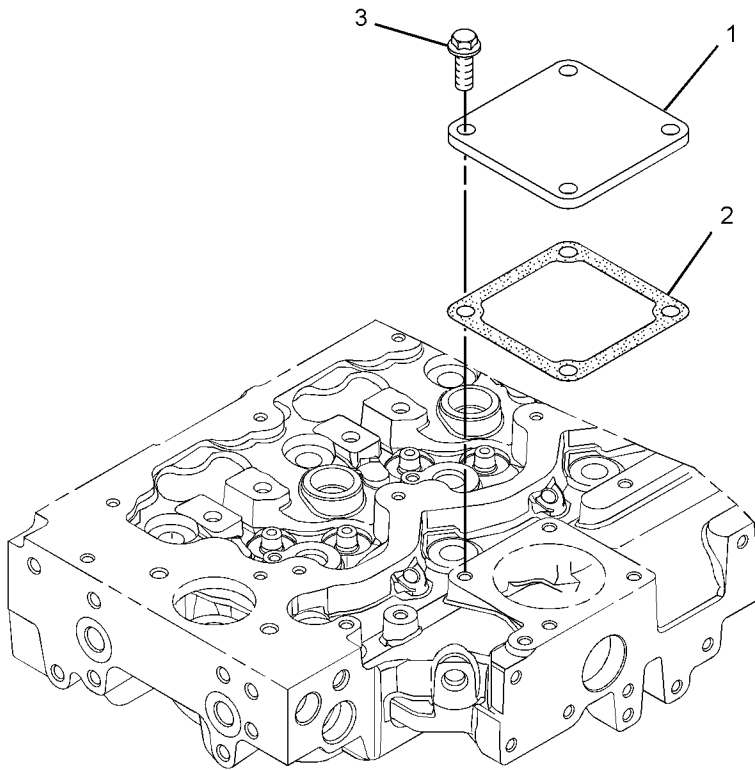
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	185-6627	2	PLATE						
	2	1	114-2579	2	GASKET						
M	3	1	124-3815	4	BOLT (M8X16X1.25-MM)						
	4	1	111-8222	4	BOLT (M8X16-MM)						

M - METRIC PART

AIR INLET AND EXHAUST SYSTEM

316-6943 COVER GP-AIR INLET (contd.)

i05770788



GRAPHIC #1

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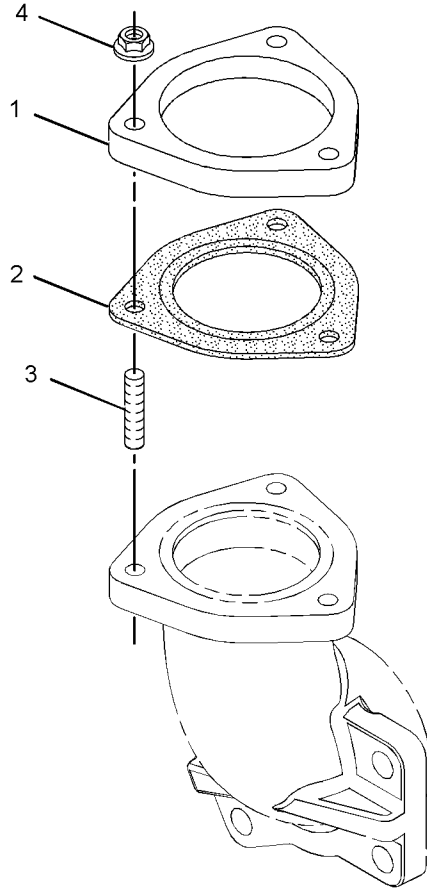
AIR INLET AND EXHAUST SYSTEM

304-8762 PIPE GP-EXHAUST

SMCS-1061

i05770610

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	6I-4013	1	FLANGE						
	2	1	6I-4039	1	GASKET (EXHAUST)						
	3	1	6I-4012	3	STUD						
	4	1	6I-0563	3	NUT (M10X1.5-THD)						



GRAPHIC #1

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g01373067

AIR INLET AND EXHAUST SYSTEM

316-7962 TURBOCHARGER GP

SMCS-1052, 1053

i05770752

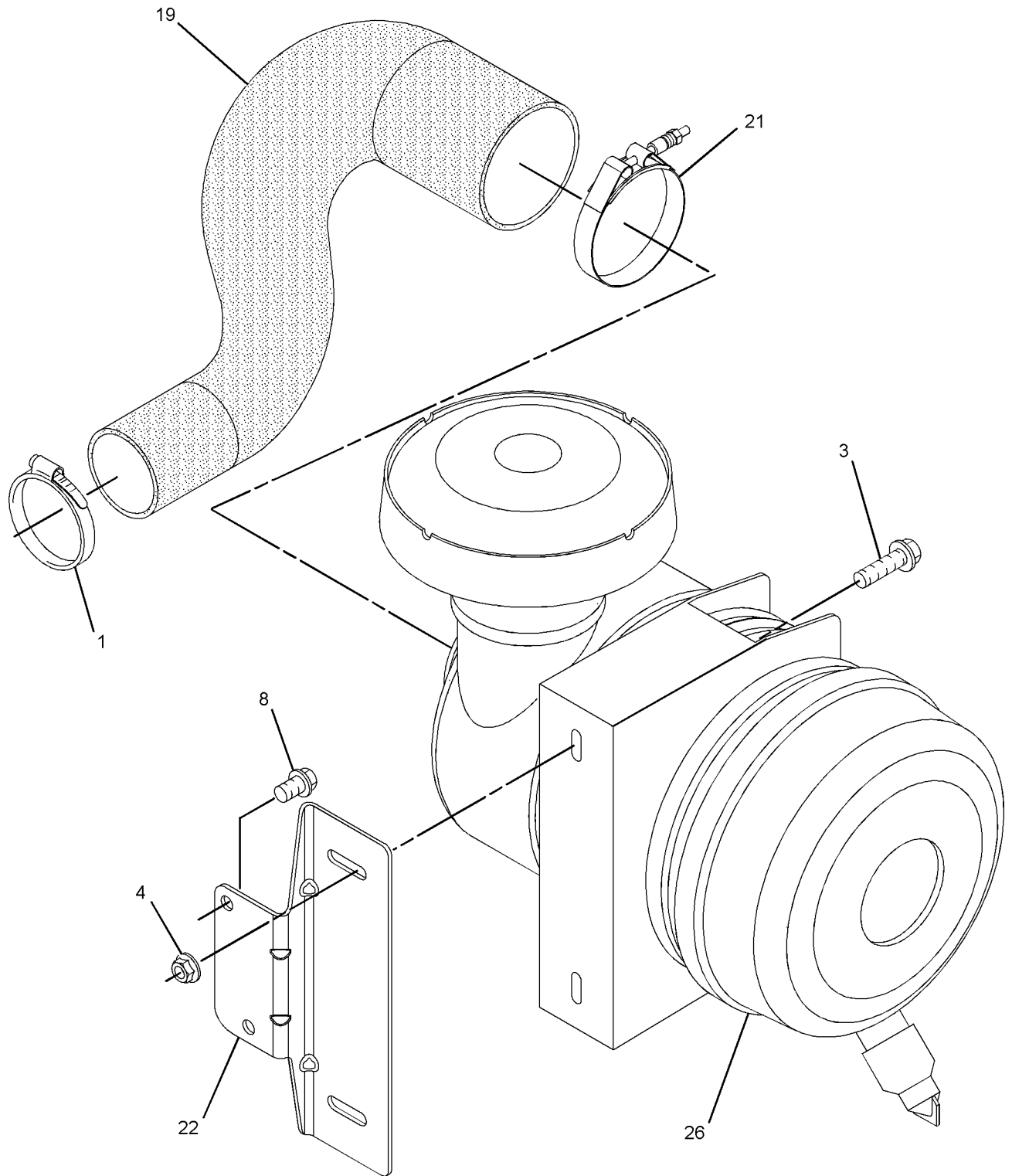
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	2	5P-0598	1	CLAMP-HOSE						
M	2	1	6I-0217	2	BOLT (M8X1.25X20-MM)						
M	3	2	6I-0254	2	BOLT (M8X1.25X30-MM)						
	4	2	6I-0291	2	NUT (M8X1.25-THD)						
	5	1	6I-0563	7	NUT (M10X1.5-THD)						
M	6	1	6I-0593	2	BOLT (M10X1.5X30-MM)						
M	7	1	6I-0654	3	BOLT (M10X1.5X25-MM)						
M	8	2	100-4830	2	BOLT (M10X1.5X20-MM)						
	9	1	106-8916	2	BOLT (M6X16-MM)						
	10	1	147-5553	7	STUD						
	11	1	174-9638	8	BOLT						
	12	1	194-5390	1	GASKET-MANIFOLD						
	13	1	225-8525	1	TUBE AS						
	13A	1	225-8524	2	BOLT-SPECIAL (BANJO)						
	13B	1	225-8526	4	WASHER (10.4X13.75X1.37-MM THK)						
	14	1	353-3477	1	GASKET-TURBOCHARGER						
	15	1	353-3478	1	GASKET-TURBOCHARGER						
	16	1	225-8536	1	GASKET						
	17	1	227-4562	1	ELBOW-EXHAUST						
	18	1	232-6189	1	TUBE AS						
	19	2	236-8750	1	HOSE-AIR						
	20	1	371-6059	1	MANIFOLD-EXHAUST						
	21	2	101-7860	1	CLIP						
	22	2	290-2488	1	BRACKET-MOUNTING						
	23	1	302-0581	1	ADAPTER-EXHAUST						
	24	1	307-2805	1	BRACKET						
	25	1	316-7989	1	TURBOCHARGER						
Y	26	2	233-5180	1	AIR CLEANER GP						69
	27	1	225-8530	1	GASKET						

M - METRIC PART
Y - SEPARATE ILLUSTRATION

AIR INLET AND EXHAUST SYSTEM

316-7962 TURBOCHARGER GP (contd.)

i05770752



GRAPHIC #2

<END>

g03121697

AIR INLET AND EXHAUST SYSTEM

330-0369 TURBOCHARGER GP

SMCS-1052, 1053

i05771236

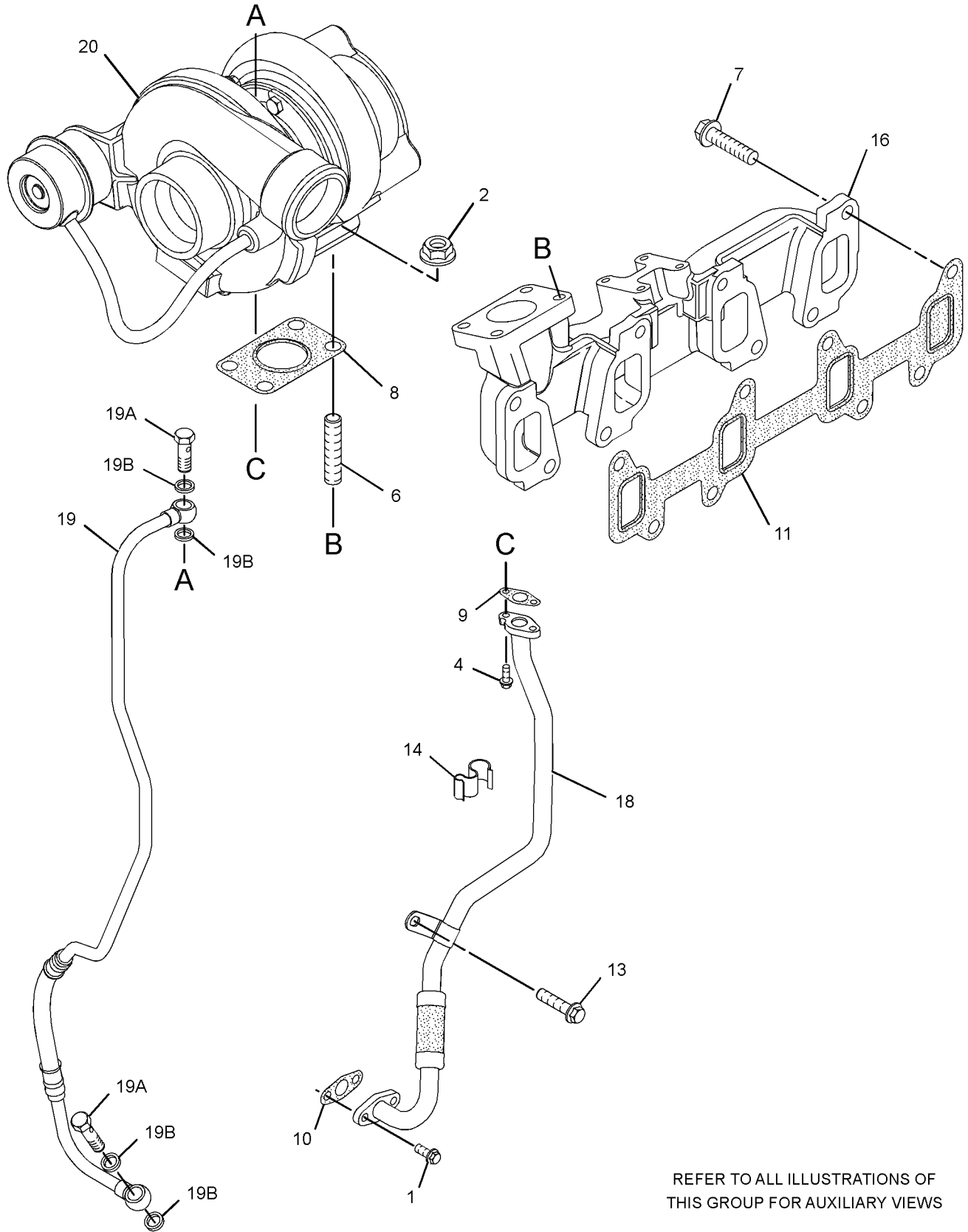
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	2	BOLT (M8X1.25X20-MM)						
	2	1	6I-0563	4	NUT (M10X1.5-THD)						
	3	2	6I-0572	4	BOLT (M8X1.25X20-MM)						
	4	1	106-8916	2	BOLT (M6X16-MM)						
	5	2	141-1667	2	CLAMP-HOSE						
	6	1	147-5553	4	STUD						
	7	1	174-9638	8	BOLT						
	8	1	194-5390	1	GASKET-MANIFOLD						
	9	1	353-3477	1	GASKET-TURBOCHARGER						
	10	1	353-3478	1	GASKET-TURBOCHARGER						
	11	1	225-8536	1	GASKET						
	12	2	234-3030	1	GASKET-INLET						
	13	1	237-3794	1	BOLT						
	14	1	237-3921	1	CLIP						
	15	2	237-3922	1	TUBE						
	16	1	371-5700	1	MANIFOLD-EXHAUST						
	17	2	263-5376	1	HOSE						
	18	1	322-9615	1	TUBE-TURBOCHARGER						
	19	1	322-9616	1	TUBE AS-TURBOCHARGER						
	19A	1	225-8524	2	BOLT-SPECIAL (BANJO)						
	19B	1	225-8526	4	WASHER (10.4X13.75X1.37-MM THK)						
	20	1	330-0386	1	TURBOCHARGER						

M - METRIC PART

AIR INLET AND EXHAUST SYSTEM

330-0369 TURBOCHARGER GP (contd.)

i05771236



REFER TO ALL ILLUSTRATIONS OF THIS GROUP FOR AUXILIARY VIEWS

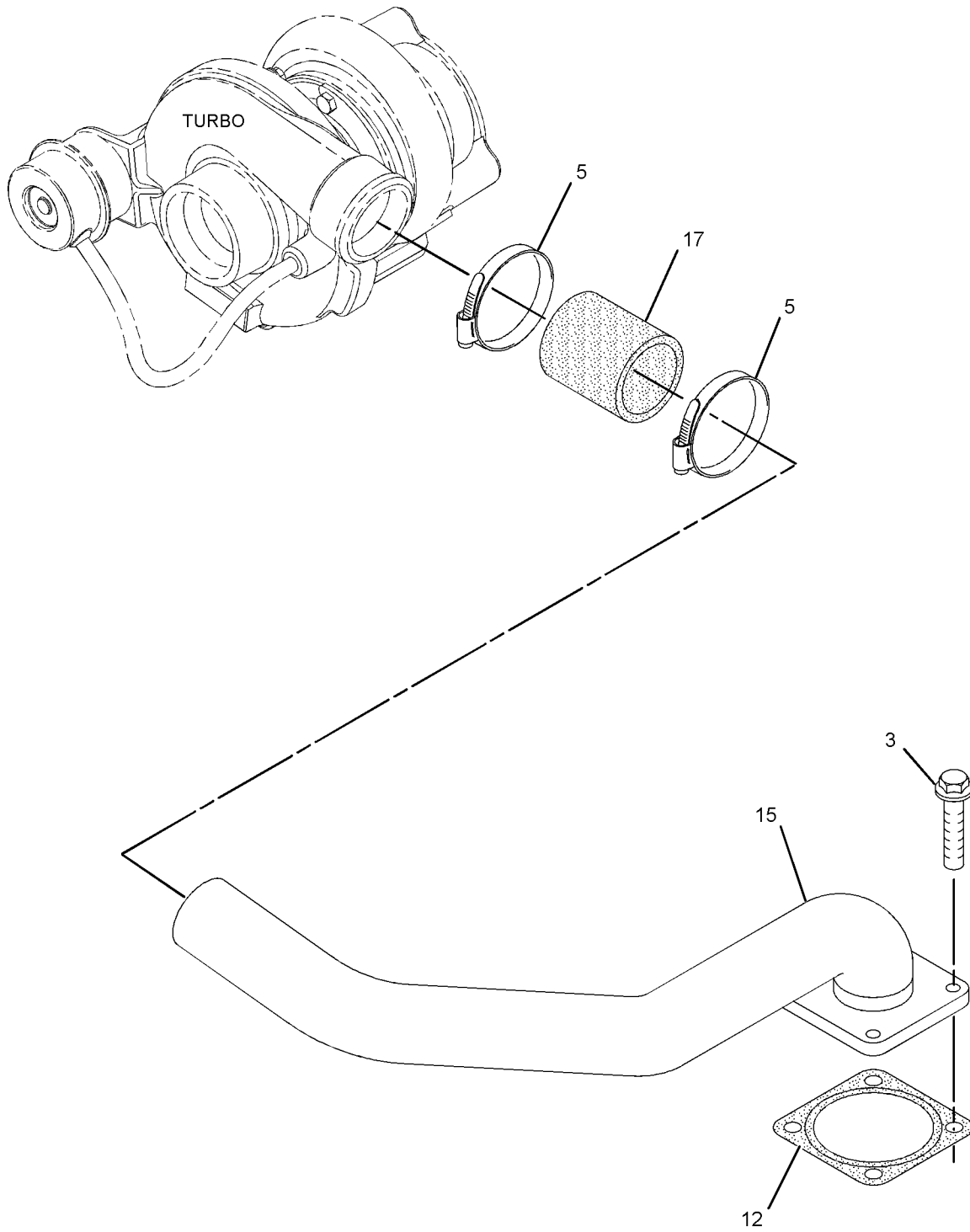
GRAPHIC #1

g01687680

AIR INLET AND EXHAUST SYSTEM

330-0369 TURBOCHARGER GP (contd.)

i05771236



GRAPHIC #2

<END>

g01687681

FUEL SYSTEM

323-6796 FILTER & LINES GP-FUEL

SMCS-1261, 1274

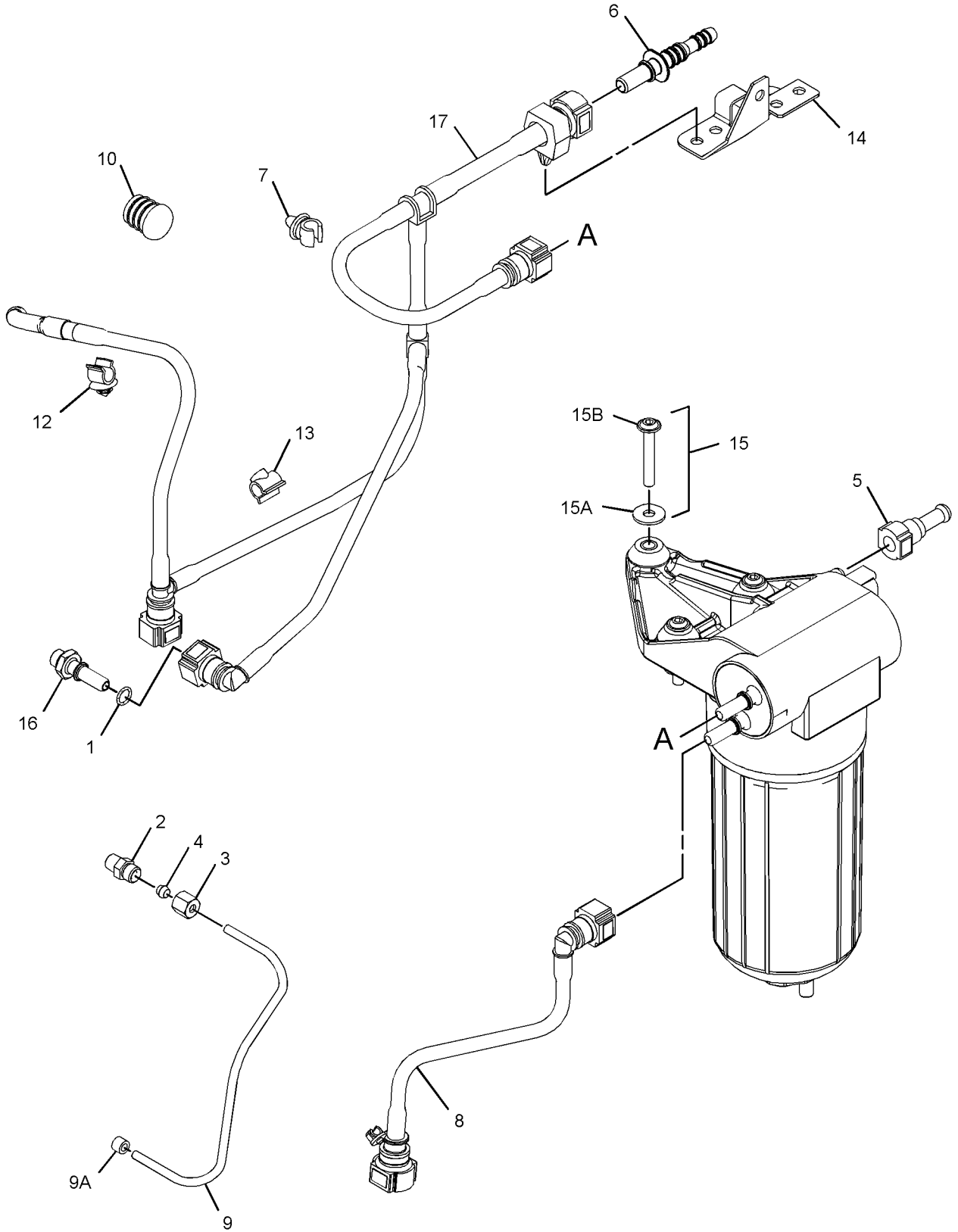
i05770759

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	8T-7876	1	SEAL-O-RING						
	2	1	035-8017	1	UNION						
	3	1	365-3308	1	NUT-COMPRESSION						
	4	1	067-6265	1	FITTING-BRASS						
	5	1	215-9508	1	FITTING (QUICK DISCONNECT, MALE)						
	6	1	215-9509	1	FITTING (QUICK DISCONNECT, FEMALE)						
	7	1	232-3126	1	CLIP						
	8	1	232-9759	1	LINE AS-FUEL INJECTION (LOW PRESSURE FEED)						
	9	1	236-2144	1	TUBE AS						
	9A	1	067-6999	1	FERRULE						
	10	1	237-0286	1	PLUG						
	12	1	311-6822	1	CLIP-TUBE						
	13	1	318-2365	1	CLIP						
	14	1	318-9510	1	BRACKET						
	15	1	318-9512	1	KIT-MOUNTING						
	15A	1	232-9758	3	WASHER (6.51X17.785X1.6-MM THK)						
	15B	1	318-9511	3	BOLT						
	16	1	320-9213	1	CONNECTION						
	17	1	323-6797	1	TUBE						
		1	289-2478		CLIP						
					AVAILABLE REPAIR KIT(S):						
			357-4187	1	KIT-FUEL PRIMING PUMP (INCLUDES SPACERS & ISOLATORS)						

FUEL SYSTEM

323-6796 FILTER & LINES GP-FUEL (contd.)

i05770759



GRAPHIC #1

<END>

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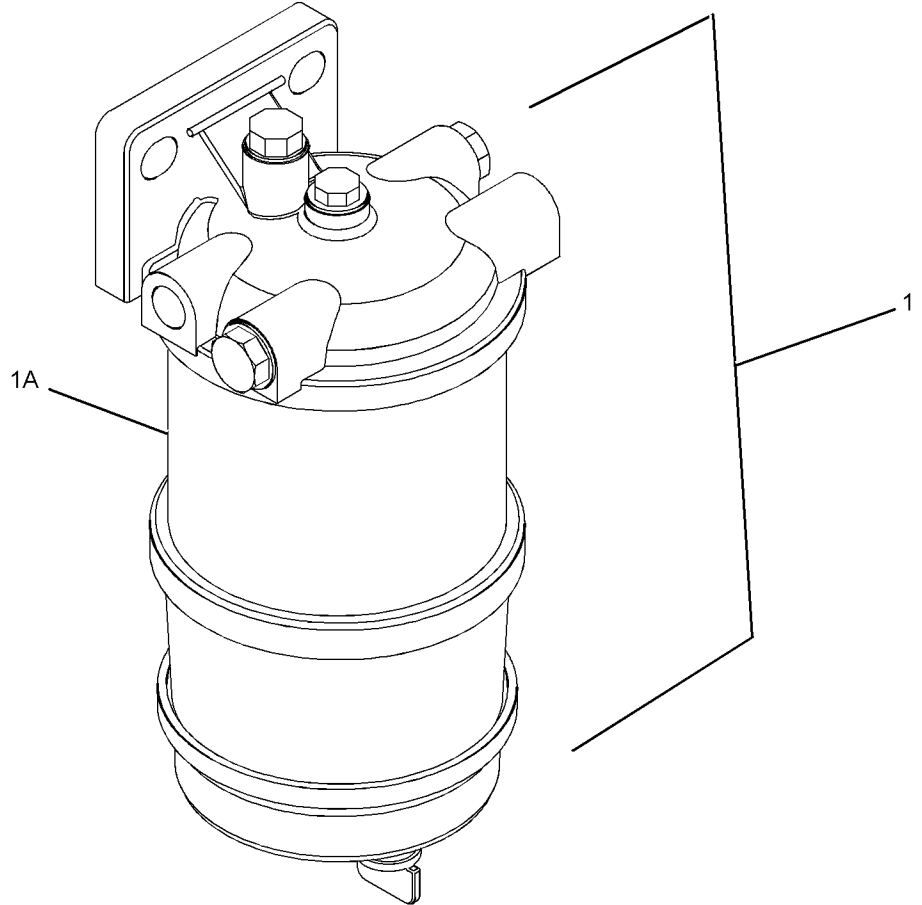
FUEL SYSTEM

315-3421 FILTER GP-FUEL

SMCS-1261

i05770625

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	252-6334	1	FILTER GP-WATER SEP & FUEL						
	1A	1	252-6338	1	FILTER ELEMENT-WTR SEP & FUEL						



GRAPHIC #1

<END>

g01398258

FUEL SYSTEM

316-7956 PUMP GP-FUEL INJECTION

SMCS-1251, 1290

i05770721

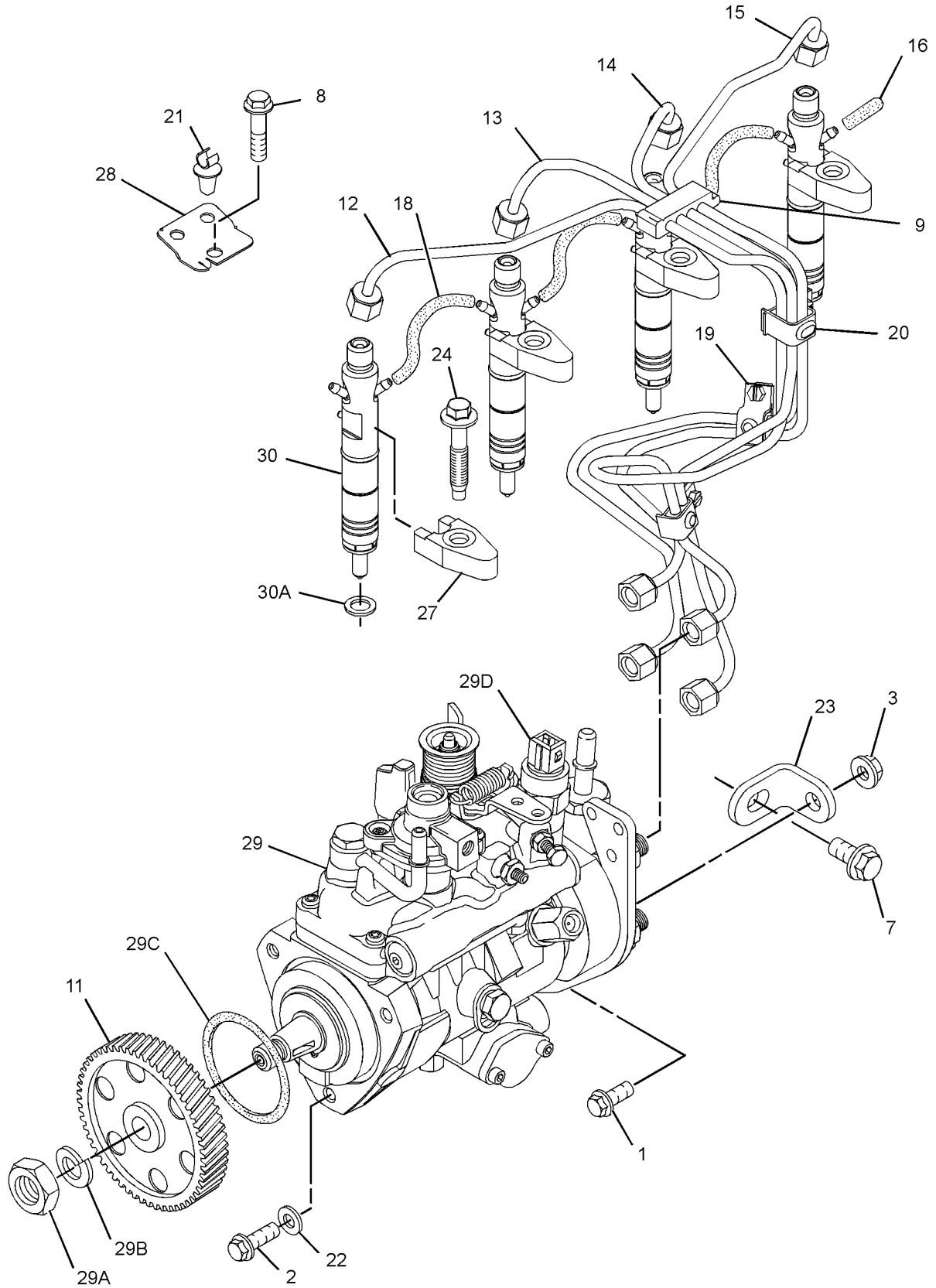
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	1	BOLT (M8X1.25X20-MM)						
M	2	1	6I-0260	3	BOLT (M8X1.25X25-MM)						
	3	1	6I-0291	1	NUT (M8X1.25-THD)						
M	7	1	100-4830	1	BOLT (M10X1.5X20-MM)						
M	8	1	124-3815	1	BOLT (M8X1.25X16-MM)						
	9	1	140-8714	1	CLIP						
	11	1	230-8989	1	GEAR-FUEL PUMP (68-TEETH)						
	12	1	230-8995	1	TUBE AS (CYL NO. 1)						
	13	1	230-8996	1	TUBE AS (CYL NO. 2)						
	14	1	230-8997	1	TUBE AS (CYL NO. 3)						
	15	1	230-8998	1	TUBE AS (CYL NO. 4)						
	16	1	232-1328	1	CAP						
	17	2	232-1793	1	CABLE						
	18	1	232-1794	3	HOSE						
	19	1	232-2725	2	CLIP						
	20	1	232-2726	1	CLIP						
	21	1	232-3126	1	CLIP						
	22	1	232-3149	3	WASHER (8.35X16.85X1.55-MM THK)						
	23	1	232-3157	1	BRACKET						
	24	1	232-3274	4	BOLT (M8X1.25X48.1-MM)						
	25	2	169-5326	1	SWITCH-TEMPERATURE (FUEL)						
	27	1	238-8671	4	CLAMP-INJECTOR						
	28	1	240-5571	1	BRACKET						
	29	1	316-7986	1	PUMP AS-FUEL INJECTION						
	29A	1	111-3422	1	NUT						
	29B	1	111-3423	1	WASHER						
	29C	1	152-3968	1	SEAL-O-RING						
	29D	1	176-6219	1	VALVE GP-SOLENOID (12-VOLT)						
	30	1	316-7987	4	ATOMIZER AS (EACH INCLUDES)						
	30A	1	140-8718	1	WASHER						
		1	275-1038	1	SEAL-O-RING						
	31	2	232-1323	1	PLUG-CUP						

M - METRIC PART

FUEL SYSTEM

316-7956 PUMP GP-FUEL INJECTION (contd.)

i05770721



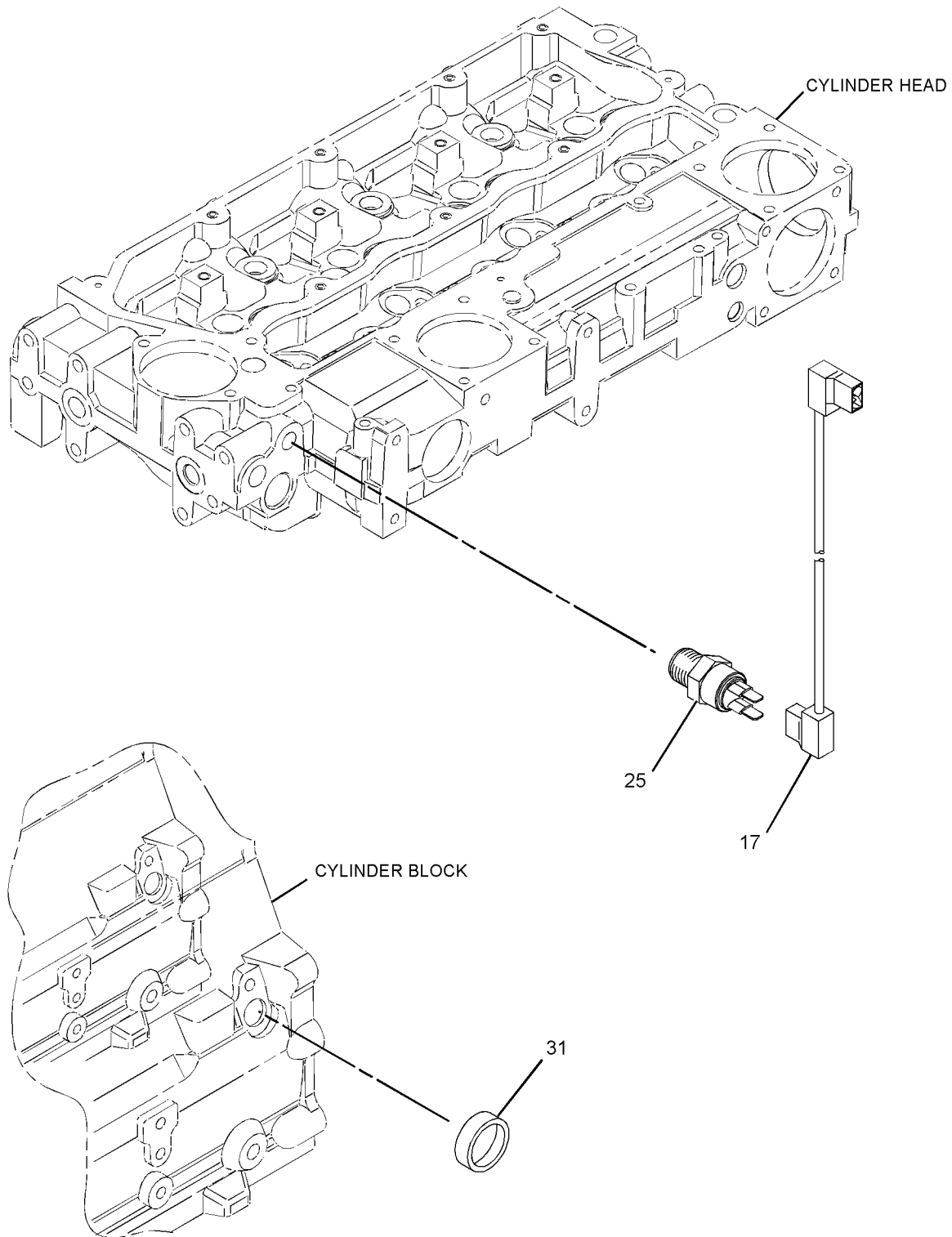
GRAPHIC #1

g01543473

FUEL SYSTEM

316-7956 PUMP GP-FUEL INJECTION (contd.)

i05770721



GRAPHIC #2

<END>

g01543474

FUEL SYSTEM

322-2401 PUMP GP-FUEL INJECTION

SMCS-1251, 1290

i05770794

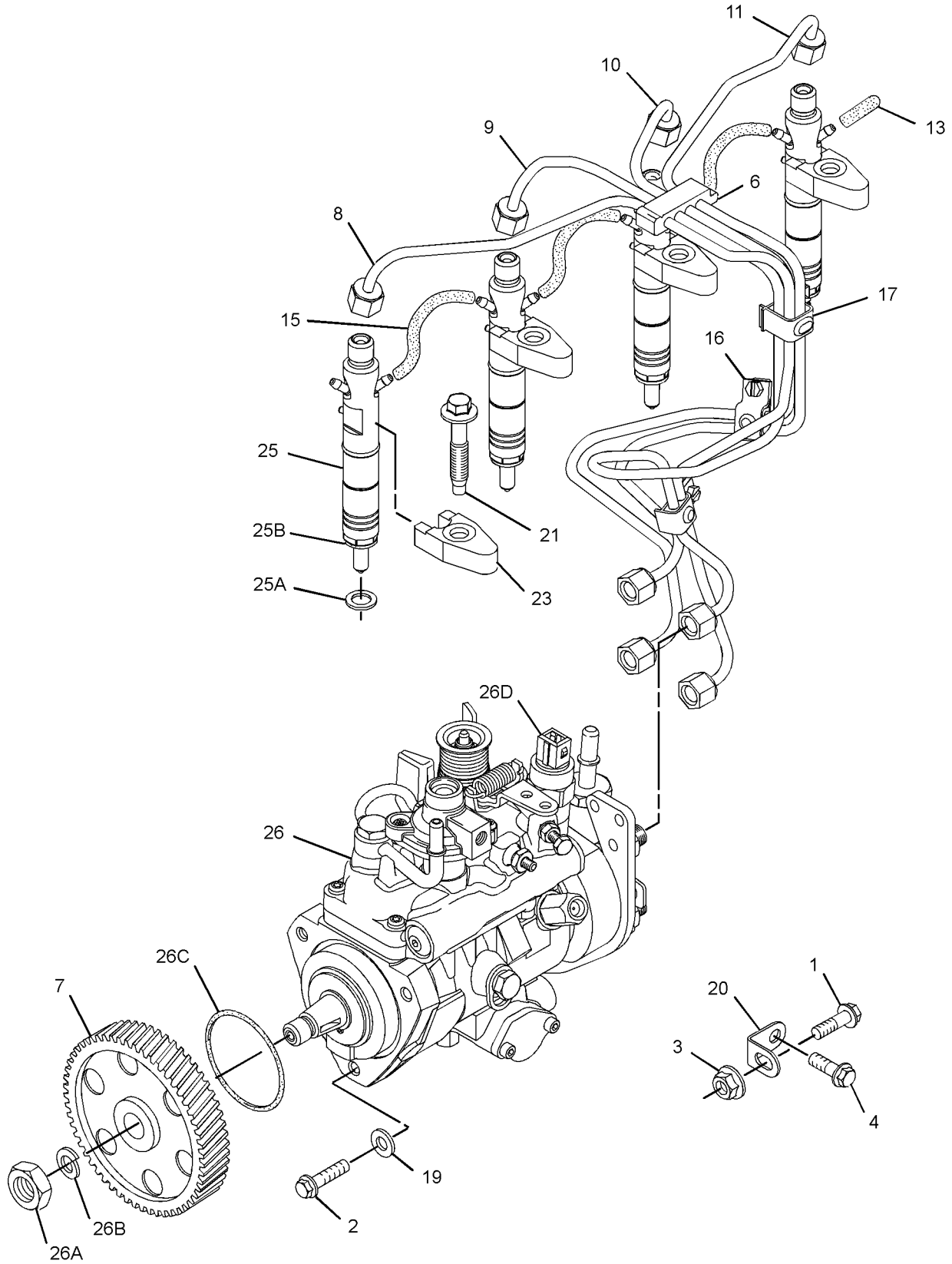
NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
M	1	1	6I-0217	1	BOLT (M8X1.25X20-MM)						
M	2	1	6I-0260	3	BOLT (M8X1.25X25-MM)						
	3	1	6I-0291	1	NUT (M8X1.25-THD)						
M	4	1	100-4830	1	BOLT (M10X1.5X20-MM)						
M	5	2	124-3815	1	BOLT (M8X1.25X16-MM)						
	6	1	140-8714	1	CLIP						
	7	1	230-8989	1	GEAR-FUEL PUMP (68-TEETH)						
	8	1	230-8995	1	TUBE AS (CYL NO. 1)						
	9	1	230-8996	1	TUBE AS (CYL NO. 2)						
	10	1	230-8997	1	TUBE AS (CYL NO. 3)						
	11	1	230-8998	1	TUBE AS (CYL NO. 4)						
	12	2	232-1323	1	PLUG-CUP						
	13	1	232-1328	1	CAP						
	14	2	232-1793	1	CABLE						
	15	1	232-1794	3	HOSE						
	16	1	232-2725	2	CLIP						
	17	1	232-2726	1	CLIP						
	18	2	232-3126	1	CLIP						
	19	1	232-3149	3	WASHER (8.35X16.85X1.55-MM THK)						
	20	1	232-3157	1	BRACKET						
	21	1	232-3274	4	BOLT (M8X1.25X48.1-MM)						
	22	2	169-5326	1	SWITCH-TEMPERATURE (FUEL)						
	23	1	238-8671	4	CLAMP-INJECTOR						
	24	2	240-5571	1	BRACKET						
	25	1	315-3381	4	ATOMIZER AS (EACH INCLUDES)						
	25A	1	140-8718	1	WASHER						
	25B	1	275-1038	1	SEAL-O-RING						
	26	1	322-2399	1	PUMP GP-FUEL INJECTION						
	26A	1	111-3422	1	NUT						
	26B	1	111-3423	1	WASHER						
	26C	1	152-3968	1	SEAL-O-RING						
	26D	1	176-6219	1	VALVE GP-SOLENOID (12-VOLT)						

M - METRIC PART

FUEL SYSTEM

322-2401 PUMP GP-FUEL INJECTION (contd.)

i05770794



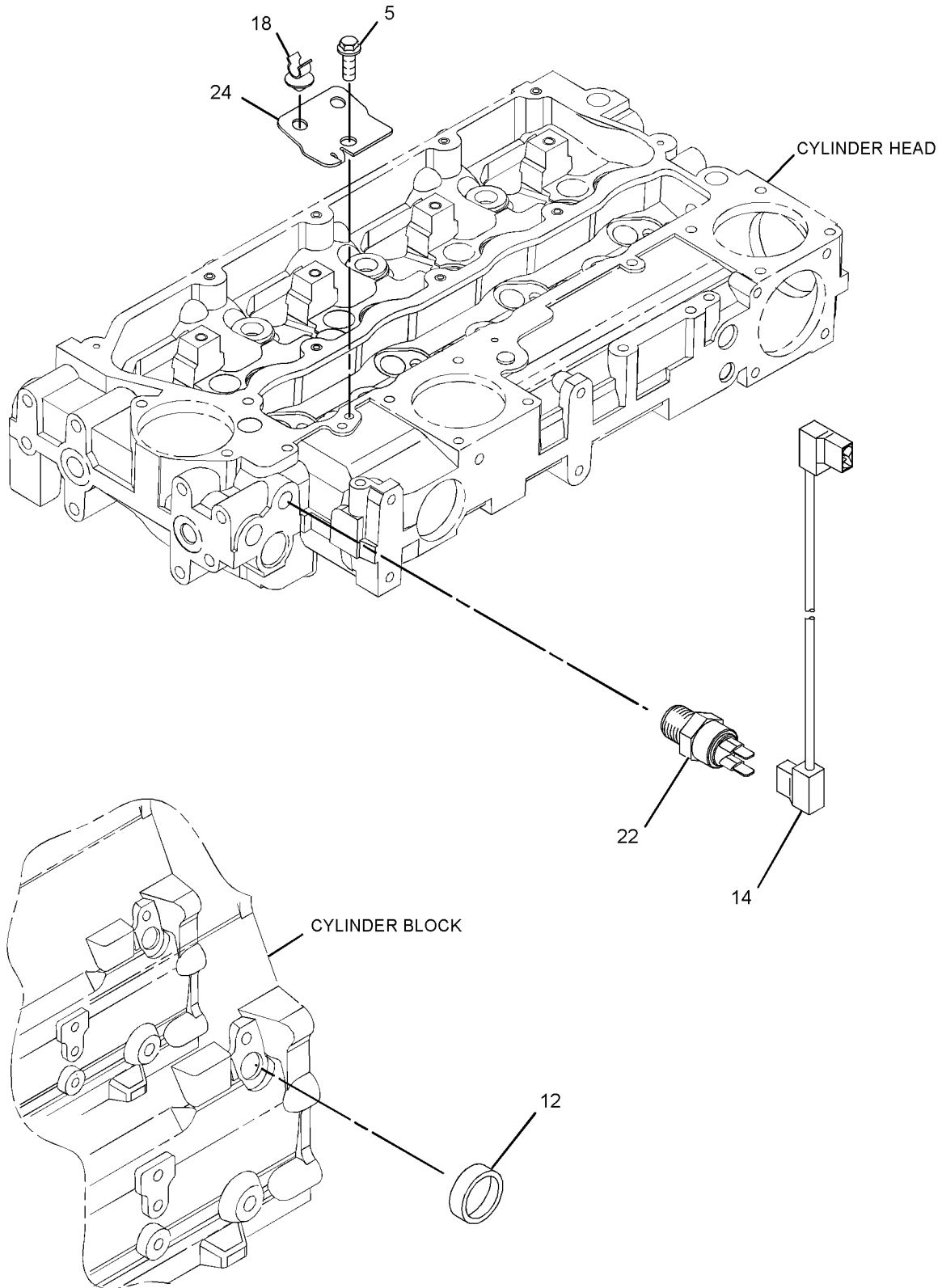
GRAPHIC #1

g01691713

FUEL SYSTEM

322-2401 PUMP GP-FUEL INJECTION (contd.)

i05770794



GRAPHIC #2

<END>

g01691674

ELECTRICAL AND STARTING SYSTEM

311-7455 ALTERNATOR GP-CHARGING

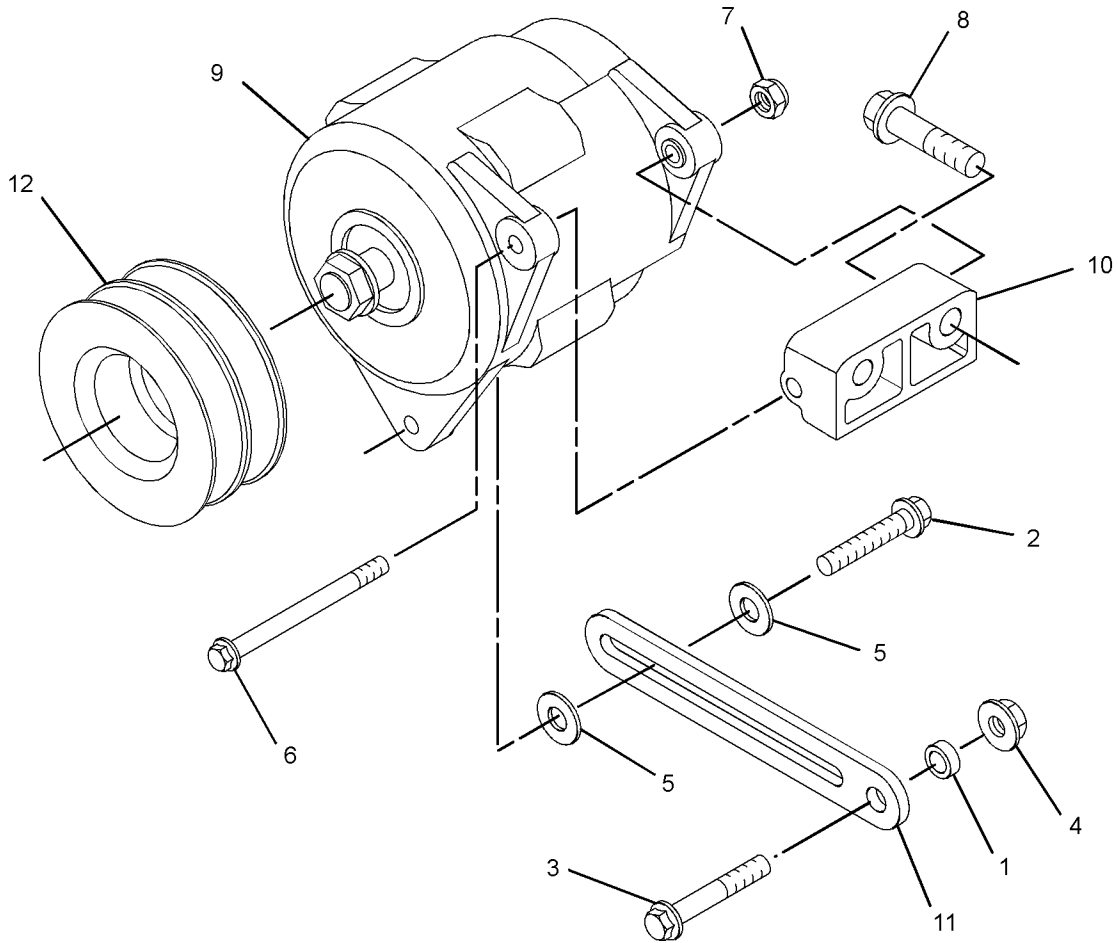
12 VOLT

SMCS-1405

i05770614

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	6B-0933	1	SPACER (10.31X19.05X6.35-MM THK)						
M	2	1	6I-0260	1	BOLT (M8X1.25X25-MM)						
M	3	1	6I-0454	1	BOLT (M10X1.5X70-MM)						
	4	1	6I-0594	1	NUT (M10X1.5-THD)						
	5	1	067-6366	2	WASHER						
	6	1	359-9666	1	BOLT-FLANGE HEAD						
	7	1	113-6349	1	NUT (M8X1.25-THD)						
M	8	1	140-8783	2	BOLT (M10X1.5X45-MM)						
	9	1	339-7767	1	ALTERNATOR GP-CHARGING (12-VOLT)						
	10	1	233-9530	1	BRACKET						
	11	1	233-9531	1	LEVER-ADJUSTING						
	12	1	228-7391	1	PULLEY-ALTERNATOR						

M - METRIC PART



GRAPHIC #1

<END>

g02726504

ELECTRICAL AND STARTING SYSTEM

322-4890 ALTERNATOR GP-CHARGING

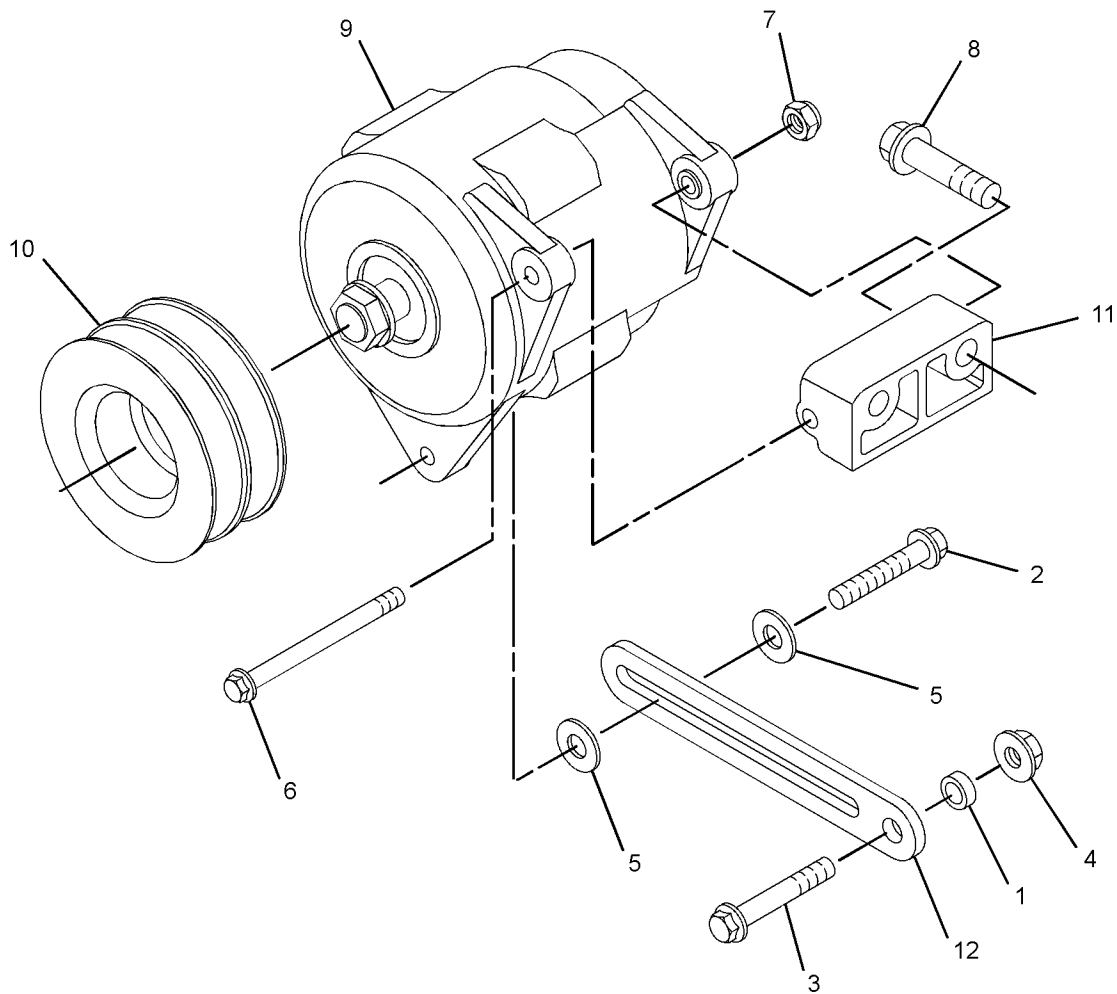
12 VOLT

SMCS-1405

i05770801

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	6B-0933	1	SPACER (10.31X19.05X6.35-MM THK)						
M	2	1	6I-0260	1	BOLT (M8X1.25X25-MM)						
M	3	1	6I-0454	1	BOLT (M10X1.5X70-MM)						
	4	1	6I-0594	1	NUT (M10X1.5-THD)						
	5	1	067-6366	2	WASHER						
	6	1	359-9666	1	BOLT-FLANGE HEAD						
	7	1	113-6349	1	NUT (M8X1.25-THD)						
M	8	1	140-8783	2	BOLT (M10X1.5X45-MM)						
	9	1	339-7766	1	ALTERNATOR GP-CHARGING						
	10	1	228-7391	1	PULLEY-ALTERNATOR						
	11	1	233-9530	1	BRACKET						
	12	1	233-9531	1	LEVER-ADJUSTING						

M - METRIC PART



GRAPHIC #1

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g03376267

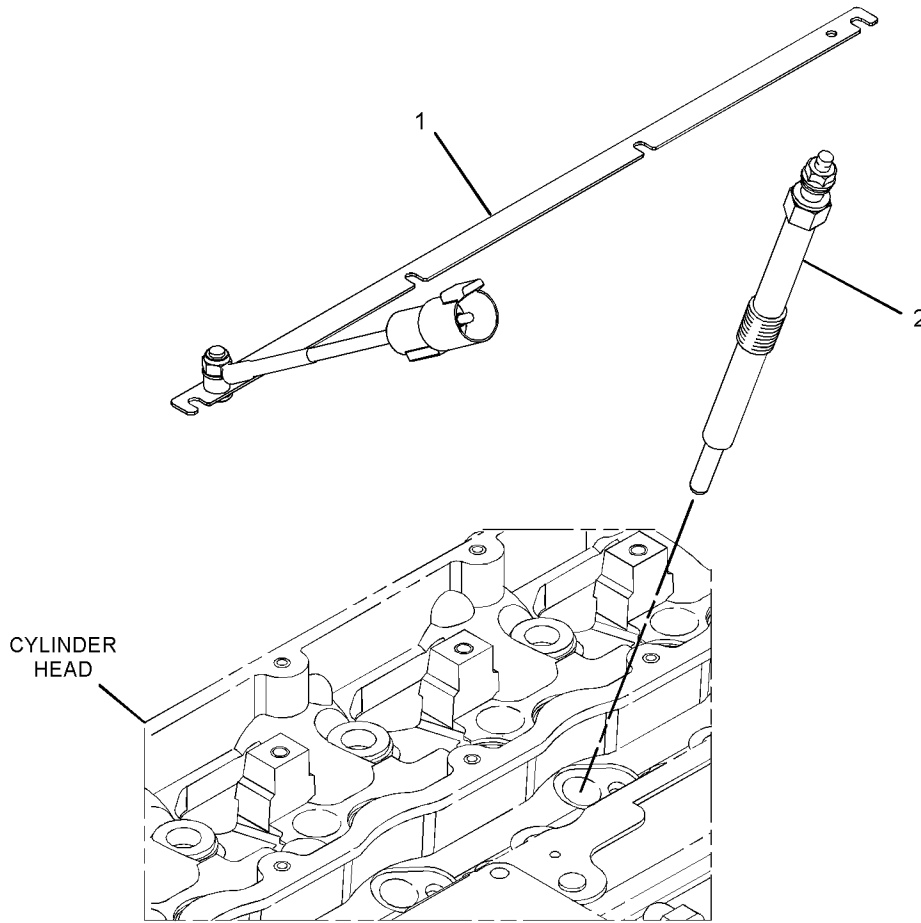
ELECTRICAL AND STARTING SYSTEM

315-3418 GLOW PLUG GP

SMCS-1412

i05770619

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
1	1	1	368-3151	1	BUS BAR GP						
			369-2472	1	SPACER						
			370-2909	1	WIRE AS (STARTING AID)						
			276-1151	1	PIN-CONNECTOR (8-GA TO 10-GA)						
			369-0473	1	LOCKNUT						
2	1	1	232-6662	4	GLOW PLUG (12-VOLT)						



GRAPHIC #1

<END>

g02788466

ELECTRICAL AND STARTING SYSTEM

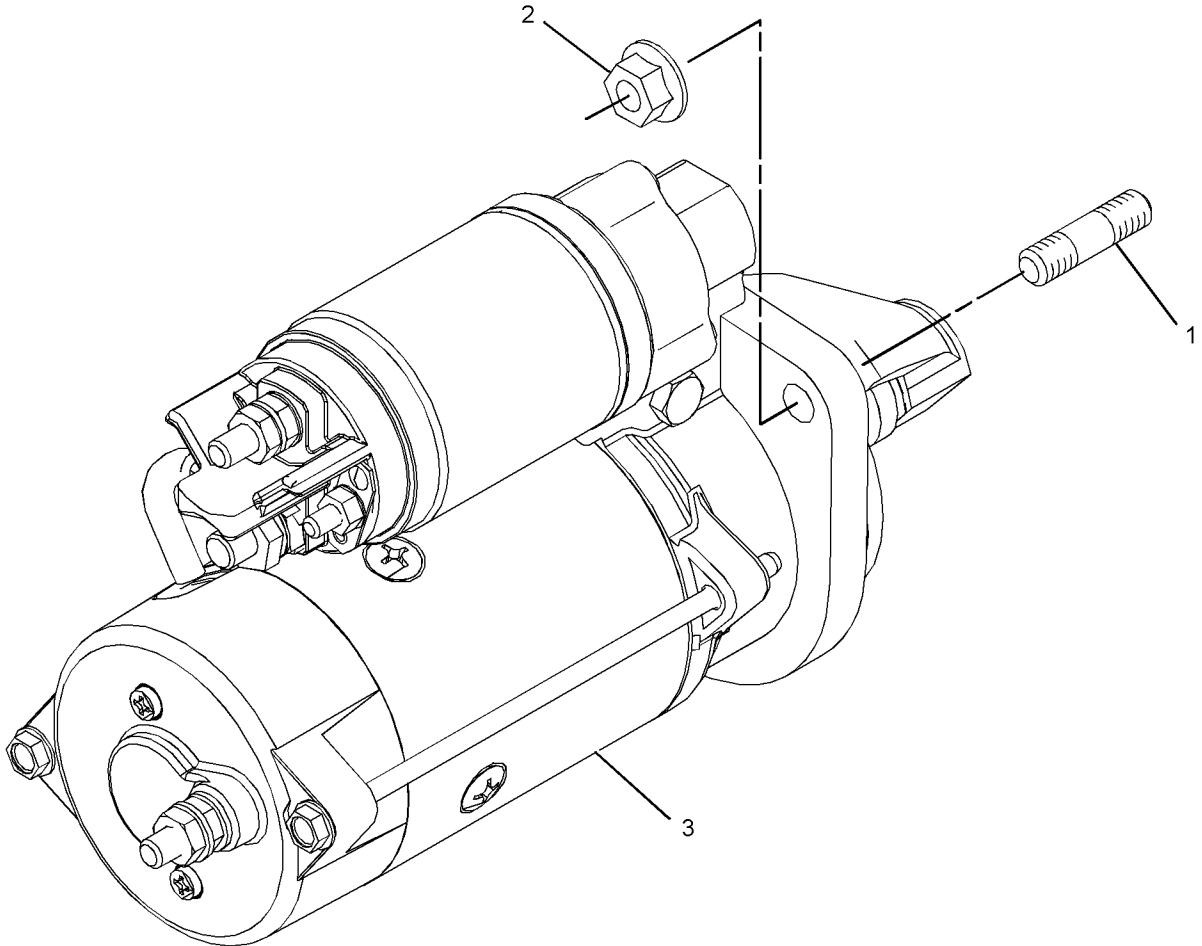
325-5612 STARTING MOTOR GP-ELECTRIC

12 VOLT, 3.2 KW

SMCS-1453

i05770761

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	6I-0364	3	STUD (M10X1.5X45-MM)						
	2	1	6I-0594	3	NUT (M10X1.5-THD)						
	3	1	364-4130	1	STARTING MOTOR GP-ELECTRIC						



GRAPHIC #1

<END>

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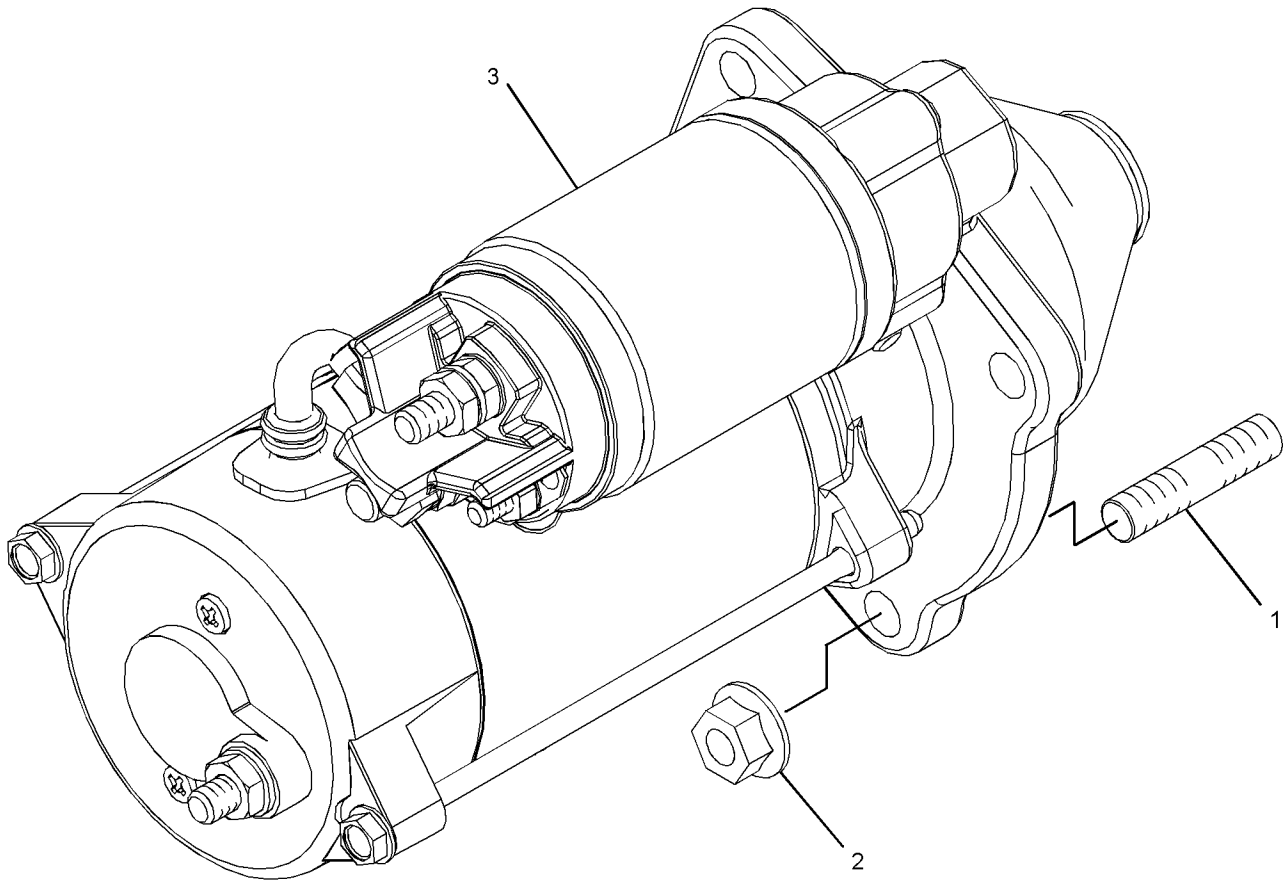
ELECTRICAL AND STARTING SYSTEM

330-0368 STARTING MOTOR GP-ELECTRIC

SMCS-1453

i05770631

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	6I-0364	3	STUD (M10X1.5X45-MM)						
	2	1	6I-0594	3	NUT (M10X1.5-THD)						
	3	1	364-4131	1	STARTING MOTOR GP-ELECTRIC						



GRAPHIC #1

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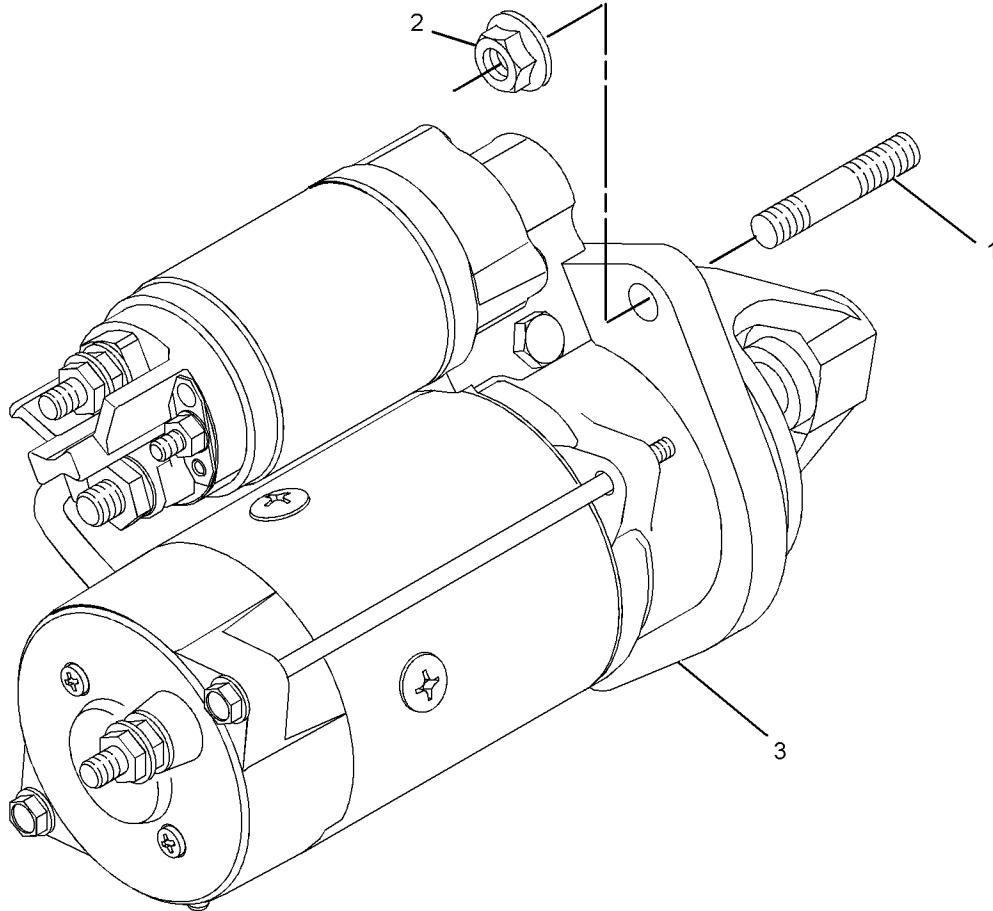
ELECTRICAL AND STARTING SYSTEM

420-3156 STARTING MOTOR GP-ELECTRIC

SMCS-1453

i05770613

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	6I-0364	3	STUD (M10X1.5X45-MM)						
	2	1	6I-0594	3	NUT (M10X1.5-THD)						
	3	1	357-5202	1	MOTOR-STARTING						



GRAPHIC #1

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g01870874

ELECTRICAL AND STARTING SYSTEM

420-3188 STARTING MOTOR GP-ELECTRIC

SMCS - 1453

i05770639

NOTE	PART NUMBER	QTY	PART NAME						SEE PAGE
			1	2	3	4	5	6 (PRODUCT LEVEL)	
	6I-0594	3	NUT (M10X1.5-THD)						
	357-5203	1	STARTER-MOTOR						
	6I-0364	3	STUD (M10X1.5X45-MM)						

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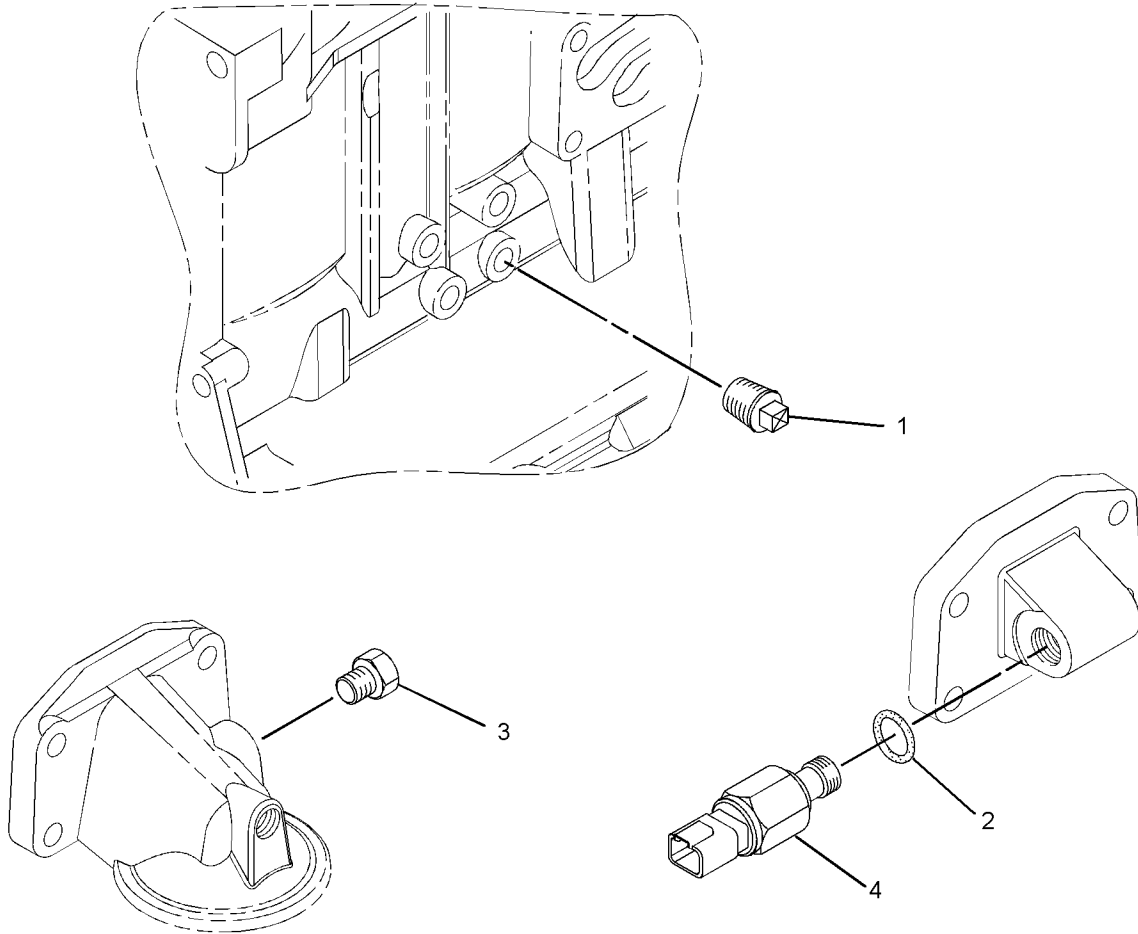
ELECTRICAL AND STARTING SYSTEM

316-6925 SWITCH GP-PRESSURE-ENGINE OIL

SMCS-7400, 7421

i05770630

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	035-8063	1	PLUG						
	2	1	199-9267	1	SEAL-O-RING						
	3	1	225-7941	1	PLUG						
	4	1	237-4894	1	SWITCH AS-PRESSURE (ENGINE OIL)						



GRAPHIC #1

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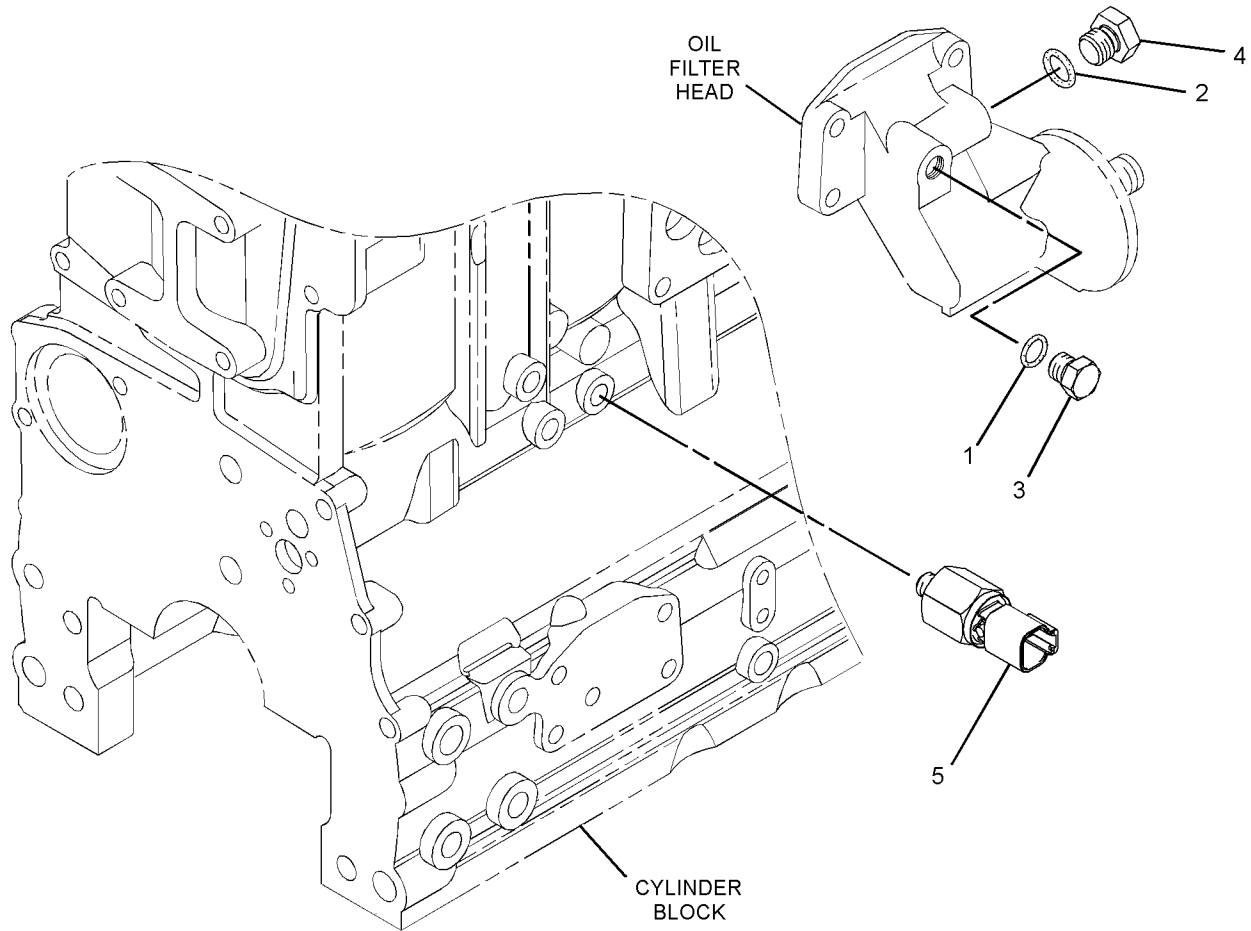
ELECTRICAL AND STARTING SYSTEM

317-6146 SWITCH GP-PRESSURE-ENGINE OIL

SMCS-7400, 7421

i05770812

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6 (PRODUCT LEVEL)	
	1	1	8T-7876	1	SEAL-O-RING						
	2	1	199-9267	1	SEAL-O-RING						
	3	1	225-7941	1	PLUG						
	4	1	232-3861	1	PLUG (BLANKING)						
	5	1	253-7909	1	SWITCH (OIL PRESSURE)						



GRAPHIC #1

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g01441476

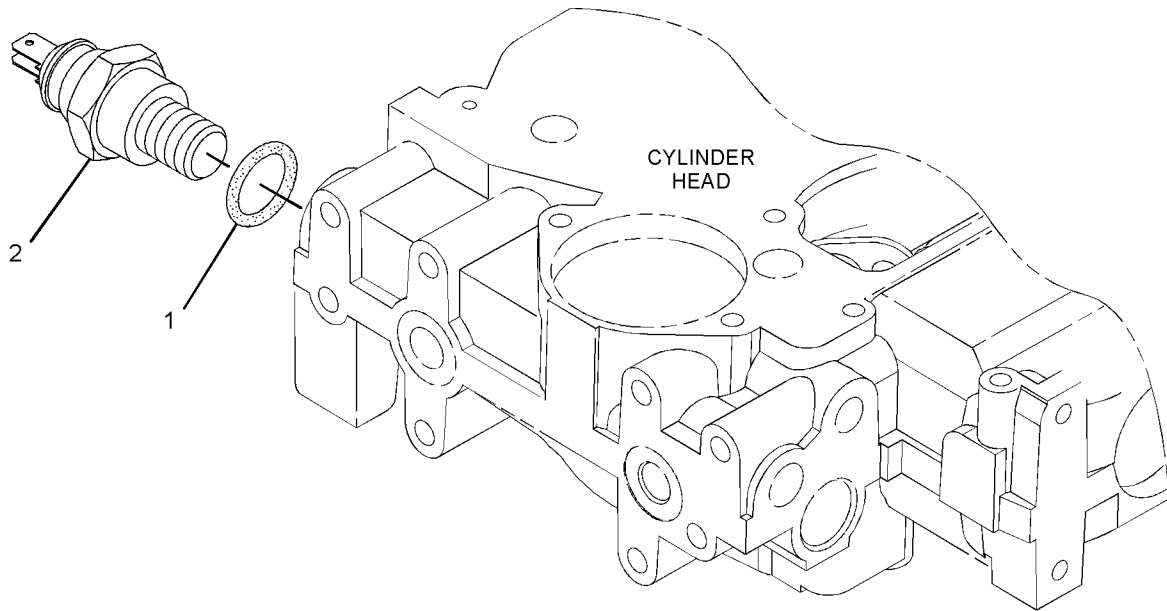
OPERATOR STATION

367-0592 GAUGE GP-TEMPERATURE

SMCS-7450

i05770567

NOTE	REF NO	GRAPHIC REF	PART NUMBER	QTY	PART NAME						SEE PAGE
					1	2	3	4	5	6	
	1	1	199-9751	1	SEAL-O-RING						
	2	1	367-0593	1	SWITCH-TEMPERATURE						



GRAPHIC #1

<END>

g02633297

PART NUMBER INDEX

Part	Page	Part	Page	Part	Page	Part	Page
0			65	8T-7876	81	103-6132	27
OS-1603	27		75		98	106-8916	75
OS-2353	17		84				78
			87			111-0859	25
1		6I-0292	39	9			26
		6I-0293	39			111-3422	84
		6I-0363	37	9Y-5015	21		87
			39		22	111-3423	84
1B-8736	5	6I-0364	93				87
	6		94	0		111-8222	7
	13		95				70
			96				72
2		6I-0423	30	032-9090	13	113-1504	51
			36	032-9091	13	113-6349	60
		6I-0454	3	033-7687	27		61
			90	035-8017	81		90
2B-0858	21		91	035-8063	17	113-8129	91
	22	6I-0563	74		97		62
	46		75	067-6002	17	114-2474	60
	56		78	067-6006	17	114-2579	70
		6I-0572	57		21		72
			78		22	114-4363	30
		6I-0593	75	067-6043	17		65
		6I-0594	65	067-6179	28	121-0883	30
3E-7404	65		90		32	124-0506	8
			91	067-6213	37	124-3536	41
			93		39		43
			94	067-6265	81	124-3815	28
			95	067-6366	90		32
			96		91		37
4N-8771	25	6I-0645	17	067-6873	13		70
			28	067-6874	13		72
			32	067-6999	81		84
			57				87
			58			124-7702	37
			70				39
5C-1809	37	6I-0646	7	1		128-5250	26
5C-9553	32		17			130-1161	37
5D-1026	9		17	100-3751	28	130-3879	26
	11	6I-0650	28		32	130-3880	25
5P-0597	65	6I-0654	75		55	130-9888	51
5P-0598	75	6I-0846	9		62	131-4291	39
5P-8245	27		11	100-4458	65	133-1011	28
		6I-0917	9		65		32
		6I-1497	37	100-4461	53	135-6362	60
			39		65		61
			39	100-4830	7	135-6363	60
		6I-4012	74		28		61
6B-0933	90	6I-4013	74		32	136-3608	8
	91	6I-4039	74		34	140-8714	84
6H-3616	36	6I-4072	37		35		87
6I-0217	28	6I-4079	37		65	140-8718	84
	32		39		75		87
	37	6I-4374	51		84	140-8783	90
	62		59		87		91
	64			100-4838	9	141-1667	78
	75				11	147-5553	75
	78			100-4841	9		78
	84				17	149-5599	27
	87			7C-0351	37	150-7732	9
6I-0254	51		39		9		11
	62	7C-1281	9	101-3617	30	152-3968	84
	75		11	101-3895	28		87
	37	7C-4616	28		32	155-4828	39
	54		32		39	162-1565	9
	55		30	101-7185	36		11
	59	7W-1176	30	101-7186	36	169-5326	84
	65	7W-2326	52	101-7537	65		87
	84	7W-2601	65	101-7538	65	174-9638	75
	87	7W-4642	30	101-7540	65		78
	90	7W-4669	56	101-7541	65	176-6219	84
	91			101-7546	65		87
6I-0289	39			101-7860	75	185-0882	21
6I-0291	39			103-1067	65		22
				103-6131	27		
		8N-7998	3				

PART NUMBER INDEX

Part	Page	Part	Page	Part	Page	Part	Page
185-0884	17		9		87	237-0769	9
185-6627	70	225-6479	8	232-3157	84	237-3794	78
	72		9		87	237-3921	78
185-9538	61	225-6522	28	232-3274	84	237-3922	78
194-5390	75		45		87	237-4894	97
	78	225-6817	59	232-3666	28	237-5932	39
195-2221	3	225-6818	59		32	237-5933	39
198-8645	9	225-7738	62	232-3751	57	238-8288	70
	11		64	232-3861	98	238-8289	70
199-3109	30	225-7739	62	232-6189	75	238-8671	84
199-9267	97		64	232-6662	92		87
	98	225-7741	62	232-7400	▶13	240-5571	84
199-9751	21		64		15		87
	22	225-7772	13		16	244-6872	58
	44	225-7941	97	232-7449	19	247-0144	64
	99		98		20	249-0974	57
		225-7944	57	232-7596	17	249-0975	58
			58	232-7597	17	251-4336	28
		225-8019	62	232-7599	17	252-6318	17
		225-8329	53	232-9758	81		58
		225-8524	75	232-9759	81	252-6334	83
209-9219	19		78	233-3784	13	252-6338	83
	20	225-8525	75	233-3785	13	252-6438	21
214-3203	7	225-8526	75	233-3786	13		22
	17		78	233-5180	▶69	253-7909	98
214-3281	37	225-8530	75		75	254-2267	54
215-9508	81	225-8536	75	233-5182	69	254-2268	55
215-9509	81		78	233-5184	69	254-2270	54
216-8314	15	225-8848	34	233-9408	17		55
	16		35		58	254-3954	21
216-8634	28	225-8858	17	233-9530	90		22
	32	226-8766	28		91	258-4946	23
217-9039	9		32	233-9531	90		24
	11	226-8767	28		91	263-5376	78
220-8632	30		32	234-0189	3	272-2265	59
225-5438	41	227-4562	75	234-0198	3	275-1038	84
	43	228-7391	90	234-0201	3		87
225-5439	41		91	234-0204	3	275-2452	34
	43	230-8065	25	234-0205	3	275-9883	37
225-5441	41		26	234-0212	3		39
	43	230-8094	37	234-0220	3	276-1151	92
225-5451	41		39	234-0223	3	276-5605	17
	43	230-8218	37	234-0590	3	276-7476	41
225-5453	41	230-8989	84	234-0591	3		43
	43		87	234-0613	3	277-3012	28
225-5454	41	230-8995	84	234-0614	3		32
	43		87	234-0615	3	278-5113	48
225-5458	41	230-8996	84	234-0616	3	287-8597	30
	43		87	234-3030	78	288-0422	28
225-5459	41	230-8997	84	235-1064	32		32
	43		87	235-1352	32	289-2478	81
225-5501	23	230-8998	84	235-1358	32	290-2488	75
	24		87	235-1391	32	291-8813	55
225-5502	23	230-9127	9	235-1398	32	291-8845	55
	24		11	235-1418	32	295-1711	28
225-5629	48	232-1322	21	235-2451	58	298-5096	1
225-5634	48		22	236-2144	81		▶37
225-5638	48		44	236-7722	65	298-5098	1
225-5959	48	232-1323	84	236-7734	65		▶45
225-5960	48		87	236-7735	65	298-5100	1
225-5961	48	232-1328	84	236-7760	65		2
225-5962	48		87	236-7763	65		▶52
225-6005	37	232-1793	84	236-7764	65	298-5110	1
225-6451	8		87	236-7765	65		▶28
	9	232-1794	84	236-7766	65	298-5111	1
225-6456	8		87	236-8750	75		2
	9	232-2725	84	236-8773	65		▶7
225-6461	8		87	236-8776	65	298-5112	1
	9	232-2726	84	236-8777	65		▶53
225-6464	8		87	236-8780	65	298-5129	2
	9	232-3126	81	236-8781	65		▶44
225-6477	8		84	236-8782	65	298-5131	1
	9		87	236-8784	65		▶46
225-6478	8	232-3149	84	237-0286	81	299-5071	2

2

PART NUMBER INDEX

Part	Page	Part	Page	Part	Page	Part	Page
	▶51		24		▶35		43
		316-7950	1	329-7854	7		
			▶19	329-7856	7		
3		316-7951	1	330-0362	2	4	
			▶15		▶20		
301-8237	1	316-7952	1	330-0363	2	416-8777	59
	▶27		▶41		▶16	420-3156	1
301-8245	2	316-7953	1	330-0364	2		▶95
	▶3		▶23		▶43	420-3188	2
302-0581	75	316-7954	1	330-0365	2		▶96
303-2124	39		▶49		▶24		
303-4618	1	316-7955	1	330-0366	2		
	▶30		▶5		▶50		
304-8762	1	316-7956	1	330-0367	2		
	▶74		▶84		▶6		
306-2337	51	316-7959	1	330-0368	2		
307-2805	75		▶25		▶94		
308-1393	▶8	316-7960	1	330-0369	2		
	11		▶11		▶78		
308-1792	9	316-7961	1	330-0370	2		
309-0313	▶1		▶64		▶56		
311-4621	65	316-7962	1	330-0386	78		
311-4641	1		▶75	330-0399	2		
	▶36	316-7963	1		▶58		
311-6822	81		▶65	334-9334	47		
311-7455	1	316-7986	84	336-3516	▶17		
	▶90	316-7987	84		20		
314-5003	1	316-7989	75	339-7766	91		
	▶60	316-7990	65	339-7767	90		
315-3380	9	316-8453	1	349-2746	8		
	11		▶70	350-2433	5		
315-3381	87	317-6143	2	353-2205	13		
315-3384	5		▶55	353-2206	13		
	6	317-6146	2	353-2207	13		
315-3385	▶48		▶98	353-2208	13		
	49	318-2365	81	353-3477	75		
	50	318-9510	81		78		
315-3386	48	318-9511	81	353-3478	75		
315-3387	48	318-9512	81		78		
315-3388	48	319-1582	2	354-1274	57		
315-3389	▶21		▶32		58		
	23	319-8426	5		▶59		
315-3390	21		6	355-2252	62		
	22	320-9213	81	357-4187	81		
315-3392	21	320-9223	2	357-5202	95		
	22		▶26	357-5203	96		
315-3393	21	321-2383	51	359-0733	2		
	22	322-2399	87	359-0746	47		
315-3394	21	322-2401	2	359-9666	39		
	22		▶87		90		
315-3395	41	322-4888	2		91		
	43		▶39	360-7339	1		
315-3407	2	322-4889	2		2		
	▶9		▶61		▶47		
315-3411	2	322-4890	2	361-3332	21		
	▶62		▶91		22		
315-3418	1	322-9615	78	364-4130	93		
	2	322-9616	78	364-4131	94		
	▶92	322-9663	21	365-3308	81		
315-3419	1		22	366-8853	17		
	▶34	322-9664	21	367-0592	1		
315-3421	1		22		▶99		
	2	323-3515	28	367-0593	99		
	▶83		32	368-3151	92		
316-6899	1	323-6796	1	369-0473	92		
	▶57		2	369-2472	92		
316-6925	1		▶81	370-2909	92		
	▶97	323-6797	81	371-5700	78		
316-6941	1	324-0444	28	371-6059	75		
	▶54	325-5612	1	375-9272	30		
316-6943	2		▶93	380-2065	41		
	▶72	326-0497	65		43		
316-7896	▶22	326-3311	▶2	380-2600	6		
		326-9013	2	396-4592	41		

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