



# VR PARTS

155 232 265 283 310

AEPBVRL DEC10



# A Tradition of Excellence Since 1955



Arrow Engine Company was founded in 1955 as Arrow Specialty Company by Jeff Davis in Tulsa, Oklahoma, beginning a tradition of providing premium service and exceptional products to the oil & gas industry, as well as other industrial markets throughout the world. Arrow is a market-leading provider of natural gas powered engines and parts, as well as gas compressors, gas production equipment, meter runs, engine electronics and chemical pumps. Today, Arrow continues its tradition of focusing on producing the most reliable equipment, parts and extraordinary customer service in the industry.

Arrow is a part of the Engineered Components segment formed by TriMas Corporation. TriMas Corporation is a diversified global designer, manufacturer and distributor of engineered and applied products that serve a variety of industrial, commercial and consumer end markets. TriMas provides its customers with highly-engineered products and services that reflect the company's commitment to market leadership, innovation and operational excellence. TriMas is organized into four reportable segments: Packaging, Aerospace, Energy and Engineered Components. With headquarters in Bloomfield Hills, Michigan, TriMas has approximately 4,000 employees at more than 50 facilities in 16 countries.



# **parts manual**

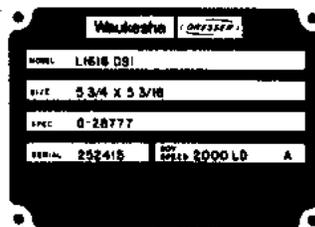
**VRG155, 232, 265, 283, 310 GAS**

**VRD155, 232, 283, 310, 310S DIESEL**

# WAUKESHA GENUINE PARTS INFORMATION AND ORDERING PROCEDURE

## PARTS ORDERING

- 1) Waukesha genuine parts are available worldwide and must be ordered through your local Waukesha Distributor. For the distributor closest to you, refer to the distributor listing in this manual.
- 2) Part numbers in this manual are for reference only, and should not be used for ordering parts. Your Waukesha Distributor will refer to your engine specification to make certain you receive the correct parts for your engine.
- 3) Always specify the engine model designation, specification number, and serial number, as found stamped on the engine nameplate.



ML-16-9

In the event the nameplate is either lost or defaced, the engine serial number is also stamped on the crankcase, usually near the front or rear.

- 4) Always include the part number, when known, along with the description of the part. State the quantity of the part you wish to order. Do not use the word "complete" or designate the quantity by sets.  
EXAMPLE: 172607 – Filter Element – (1) Ordered.  
NOTE: Quantities listed in this manual are quantity per engine.
- 5) If a special part is needed, the engine application should also be stated.
- 6) Anticipate your parts requirements:
  - a) Order parts early in the day.
  - b) Keep a supply of normal maintenance parts in stock.
  - c) Obtain a parts stocking recommendation from your local Waukesha Distributor.

## EXTENT OF PARTS MANUAL COVERAGE

This parts manual contains only standard or standard option parts. Variations of these parts as well as other special parts are not included. Contact your local Waukesha Distributor for assistance in identifying parts not included in this manual.

## SERVICE PARTS AVAILABILITY

Waukesha genuine factory engineered replacement parts are available throughout the world through authorized Waukesha Distributors. These parts have the advantage of being:

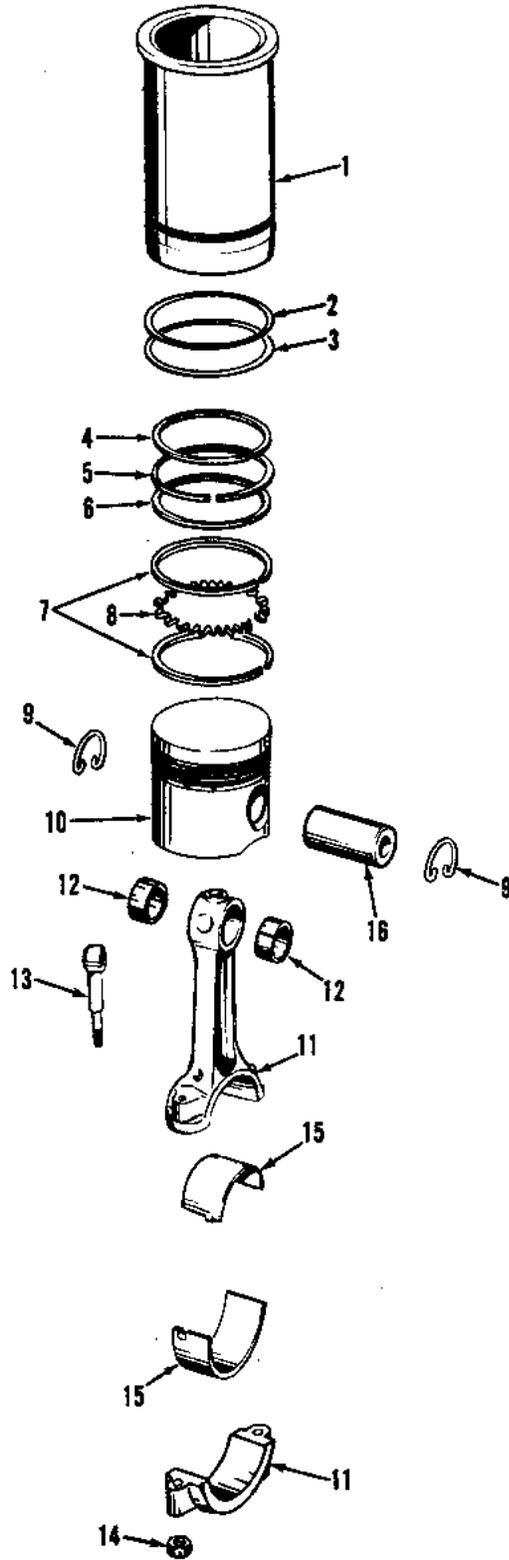
- 1) Specially engineered for your needs.
- 2) Continually reviewed to incorporate the latest material and engineering advances.
- 3) Constantly checked to insure that all replacement parts meet Waukesha quality control standards.



INDEX OF PARTS  
VR SERIES

<u>Part</u>	<u>Page</u>	<u>Part</u>	<u>Page</u>
Air Cleaner . . . . .	71, 73	Instrument Panel . . . . .	69
Alternator . . . . .	67	Intake Manifold . . . . .	39, 41, 43
Bearings . . . . .	7	Lube Oil Filter . . . . .	29, 31
Belt Tightener . . . . .	67	Magneto . . . . .	75
Belt, Water Pump . . . . .	45, 47, 67	Manifold, Exhaust . . . . .	39, 41, 43
Breather . . . . .	19	Manifold, Intake . . . . .	39, 41, 43
Bushing, Camshaft . . . . .	9	Muffler . . . . .	71, 73
Camshaft . . . . .	9	Oil Cooler, Filter . . . . .	33
Carburetor . . . . .	55, 57	Oil Pan . . . . .	25
Coil . . . . .	65	Oil Pump . . . . .	25, 27
Connecting Rod . . . . .	3, 5	Panel, Instrument . . . . .	69
Crankcase . . . . .	21, 23	Piston . . . . .	3, 5
Crankshaft . . . . .	7	Pulley, Crankshaft . . . . .	7
Cylinder Head . . . . .	11, 13	Pump, Fuel . . . . .	55
Cylinder Sleeve . . . . .	3, 5	Pump, Injection . . . . .	59, 61, 63
Distributor . . . . .	65	Pump, Oil . . . . .	25, 27
Element, Fuel Filter . . . . .	53	Pump, Water . . . . .	45, 47
Element, Lube Oil Filter . . . . .	29, 31	Push Rod . . . . .	9
Exhaust Manifold . . . . .	39, 41, 43	Radiator . . . . .	49, 51
Fan Blade . . . . .	49, 51	Rings, Piston . . . . .	3, 5
Filter, Fuel Oil . . . . .	53	Rocker Arm Cover . . . . .	19
Filter, Lube Oil . . . . .	29, 31	Rocker Arm . . . . .	15, 17
Filter, Oil Cooler . . . . .	33	Rod, Connecting . . . . .	3, 5
Flywheel . . . . .	7	Sleeve, Cylinder . . . . .	3, 5
Flywheel Housing . . . . .	9	Spark Plugs . . . . .	65, 75
Front Support . . . . .	49, 51	Starter . . . . .	9
Fuel Injector . . . . .	59, 61, 63	Switch, Starter . . . . .	9
Fuel Oil Filter . . . . .	53	Tachometer . . . . .	69
Fuel Pump . . . . .	55	Tachometer Drive . . . . .	21
Gear Cover . . . . .	35, 37	Thermostat . . . . .	45, 47
Governor . . . . .	37	Turbocharger . . . . .	77
Head, Cylinder . . . . .	11, 13	Valves . . . . .	11, 13
Hour Meter . . . . .	69	Valve Lifters . . . . .	9
Housing, Flywheel . . . . .	9	Vibration Damper . . . . .	7
Idler Gear . . . . .	9	Water Pump . . . . .	45, 47
Injection Pump . . . . .	59, 61, 63		

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



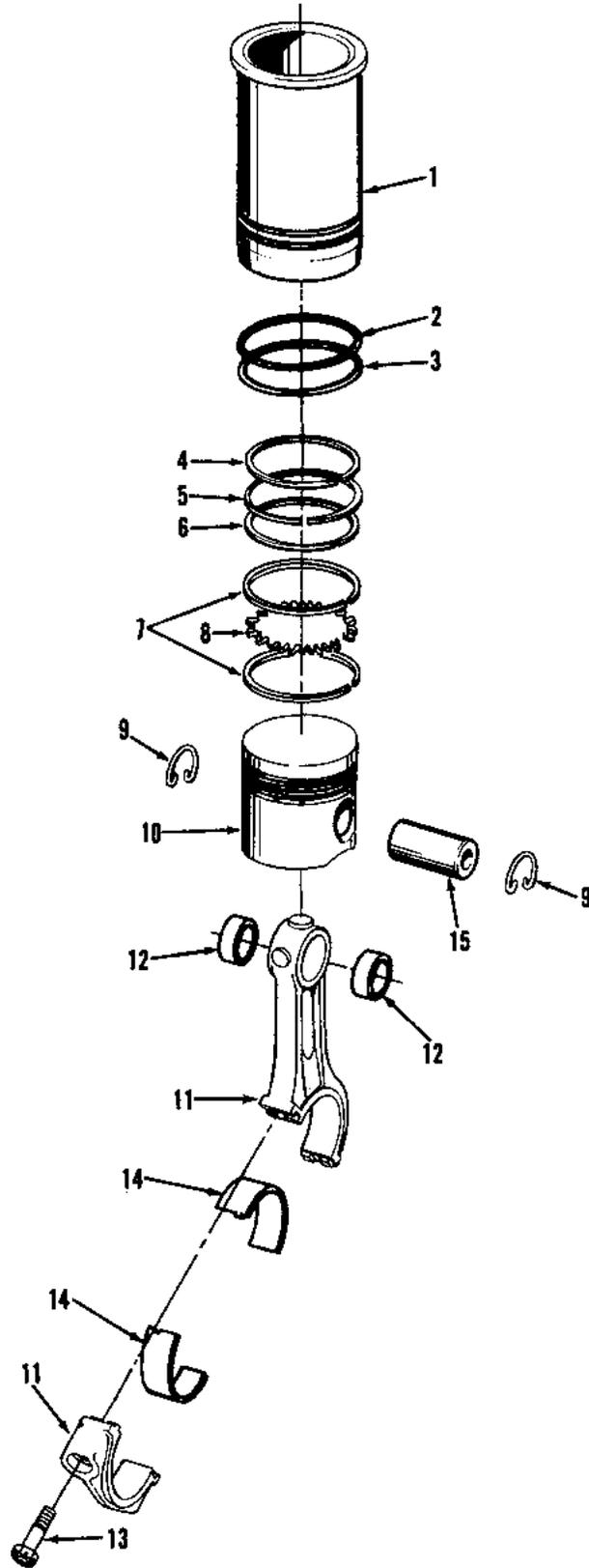
CONNECTING RODS, CYLINDER SLEEVES, PISTONS



CONNECTING RODS, CYLINDER SLEEVES, PISTONS  
Groups 4, 7, 30

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	190230	Sleeve, Cylinder					6					
	220030	Sleeve, Cylinder	4	4	6	6						
2	119563B	Ring, Packing - Cylinder Sleeve (Upper Groove)	4	4	6	6	6					
3	169288	Ring, Packing - Cylinder Sleeve (Lower Groove)	4	4	6	6	6					
4	193105	Ring, Piston - Compression (Top Groove)					6					
	220005	Ring, Piston - Compression (Top Groove)	4	4	6	6						
5	193005	Ring, Piston - Compression					6					
	220005A	Ring, Piston - Compression	8	8	12	12						
6	220005B	Ring, Piston - Oil		4		6						
7	193405	Rail, Oil Ring					12					
	220205	Rail, Oil Ring	6		12							
8	193305	Spacer, Oil Ring Rails					6					
	220205A	Spacer, Oil Ring Rails	4		6							
9	41298A	Retainer, Piston Pin	6	8	12	12	12					
10	183004	Piston	4	4	6	6						
	225004A	Piston					6					
11	A180107C	Rod, Connecting	4	4	6	6						
	C190107A	Rod, Connecting					6					
12	. 190008B	. Bushing, Piston Pin	8	8	12	12	12					
13	. 116243	. Bolt, Connecting Rod	8	8	12	12	12					
14	. 177299A	. Nut, Lock - Elastic Stop, 3/8"-24	6	8	12	12	12					
15	191010A	Bearing, Connecting Rod	8	8	12	12	12					
16	190006A	Pin, Piston	4	4	6	6						
	190106A	Pin, Piston					6					
<b>KITS</b>												
<u>Single Piston Ring Kits</u>												
	907-202	For Piston 183004 (Includes Items 4, 5, 7, 8)	4									
	907-190	For Piston 183004 (Includes Items 4-6)		4								
	907-183	For Piston 183004 (Includes Items 4, 5, 7, 8)			6							
	907-186	For Piston 183004 (Includes Items 4-6)				6						
	907-184	For Piston 225004A (Includes Items 4, 5, 7, 8)					6					
<u>Single Cylinder Sleeve Kits</u>												
	932-192	Piston 183004 (Includes Items 1-5, 7-10, 16)	4									
	932-191	Piston 183004 (Includes Items 1-6, 9, 10, 16)		4								
	932-183	Piston 183004 (Includes Items 1-5, 7-10, 16)			6							
	932-187	Piston 183004 (Includes Items 1-6, 9, 10, 16)				6						
	932-184	Piston 225004A (Includes Items 1-5, 7-10, 16)					6					

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



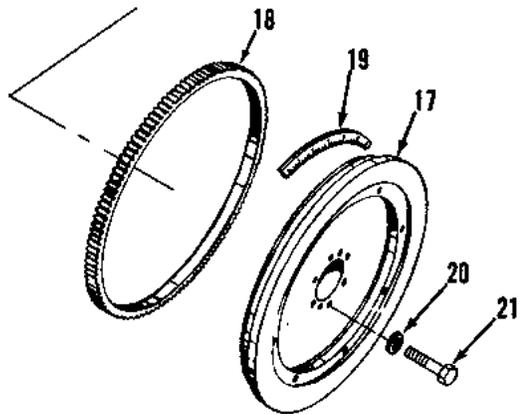
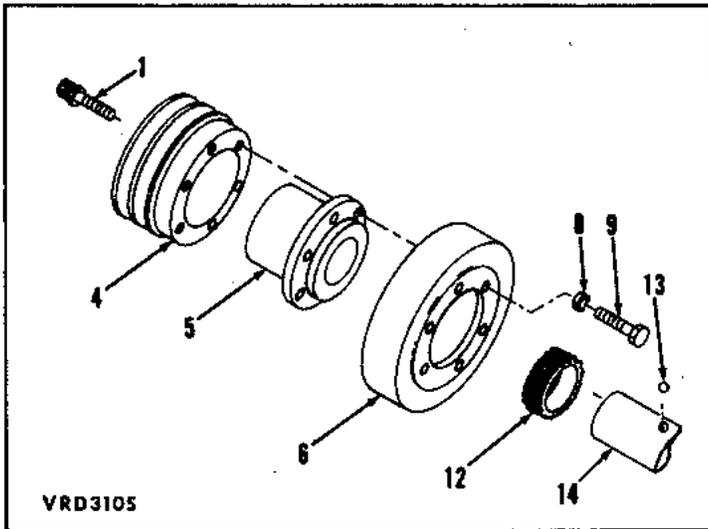
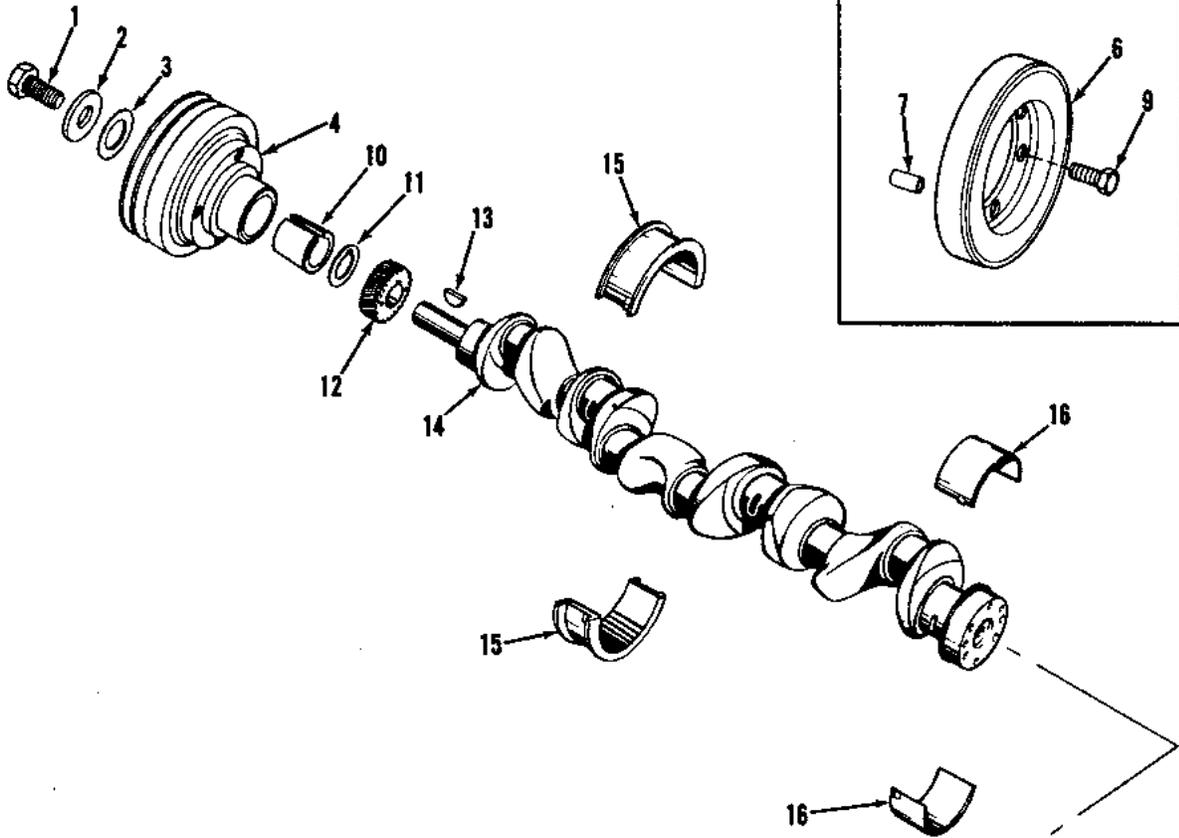
CONNECTING RODS, CYLINDER SLEEVES, PISTONS



CONNECTING RODS, CYLINDER SLEEVES, PISTONS  
Groups 4, 7, 30

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	221230P	Sleeve, Cylinder										
	221230W	Sleeve, Cylinder						6	6	6		
	221530A	Sleeve, Cylinder										6
2	119563B	Ring, Packing - Cylinder Sleeve (Upper Groove)						6	6	6	6	6
3	169288	Ring, Packing - Cylinder Sleeve (Lower Groove)						6	6	6	6	6
4	221505	Ring, Piston - Compression (Top Groove)						6		6		
	223305	Ring, Piston - Compression (Top Groove)							6		6	
	223605	Ring, Piston - Compression (Top Groove)										6
5	221005	Ring, Piston - Compression							6		6	
	221603A	Ring, Piston - Compression								6		
	223605A	Ring, Piston - Compression										6
6	223205B	Ring, Piston - Oil							6		6	
	223605B	Ring, Piston - Oil										6
7	221805	Rail, Oil Ring						12		12		
8	221705	Spacer, Oil Ring Rails						6		6		
9	41298A	Retainer, Piston Pin						12				
	44999	Retainer, Piston Pin							12	12	12	12
10	222404	Piston								6		
	223604N	Piston									6	
	223704D	Piston							6			
	224504C	Piston						6				
	223904G	Piston										6
11	D221407	Rod, Connecting						6	6	6	6	6
12	190008B	Bushing, Piston Pin						12	12	12	12	12
13	28594	Screw, Cap, Hex Head, 3/8"-24 x 1-7/8"						12	12	12	12	12
14	191210J	Bearing, Connecting Rod						12	12	12	12	12
15	190106A	Pin, Piston						6				
	221006A	Pin, Piston							6	6	6	6
<b>KITS</b>												
<u>Single Piston Ring Kits</u>												
907-185	For Pistons 224504C and 222404 (Includes Items 4, 5, 7, 8)							6		6		
907-187	For Piston 223704D (Includes Items 4, 5, 6)								6			
907-188	For Piston 223604N (Includes Items 4, 5, 6)										6	
907-224	For Piston 223904G (Includes Items 4, 5, 6)											6
<u>Single Cylinder Sleeve Kits</u>												
932-185	Piston 224504C (Includes Items 1-5, 7-10, 15)							6				
932-188	Piston 223704D (Includes Items 1-6, 9, 10, 15)								6			
932-186	Piston 222404 (Includes Items 1-5, 7-10, 15)									6		
932-189	Piston 223604N (Includes Items 1-6, 9, 10, 15)										6	
932-229	Piston 223904G (Includes Items 1-6, 9, 10, 15)											6

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



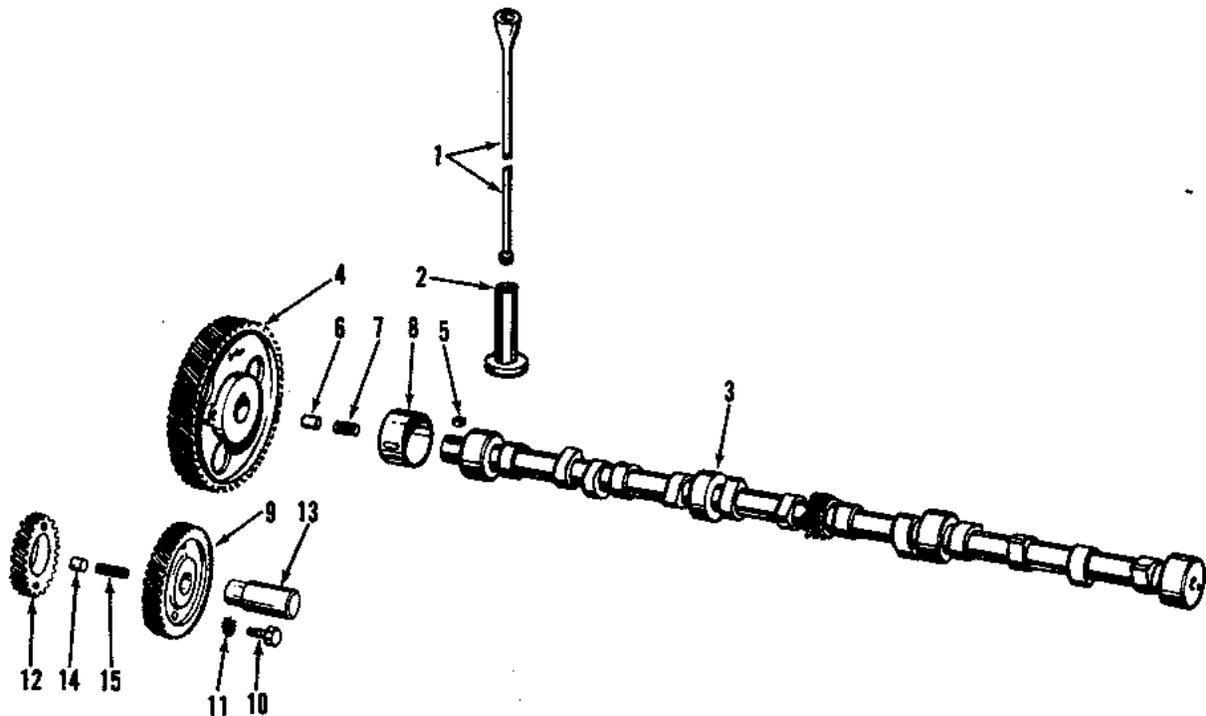
CRANKSHAFT, CRANKSHAFT PULLEY, FLYWHEEL



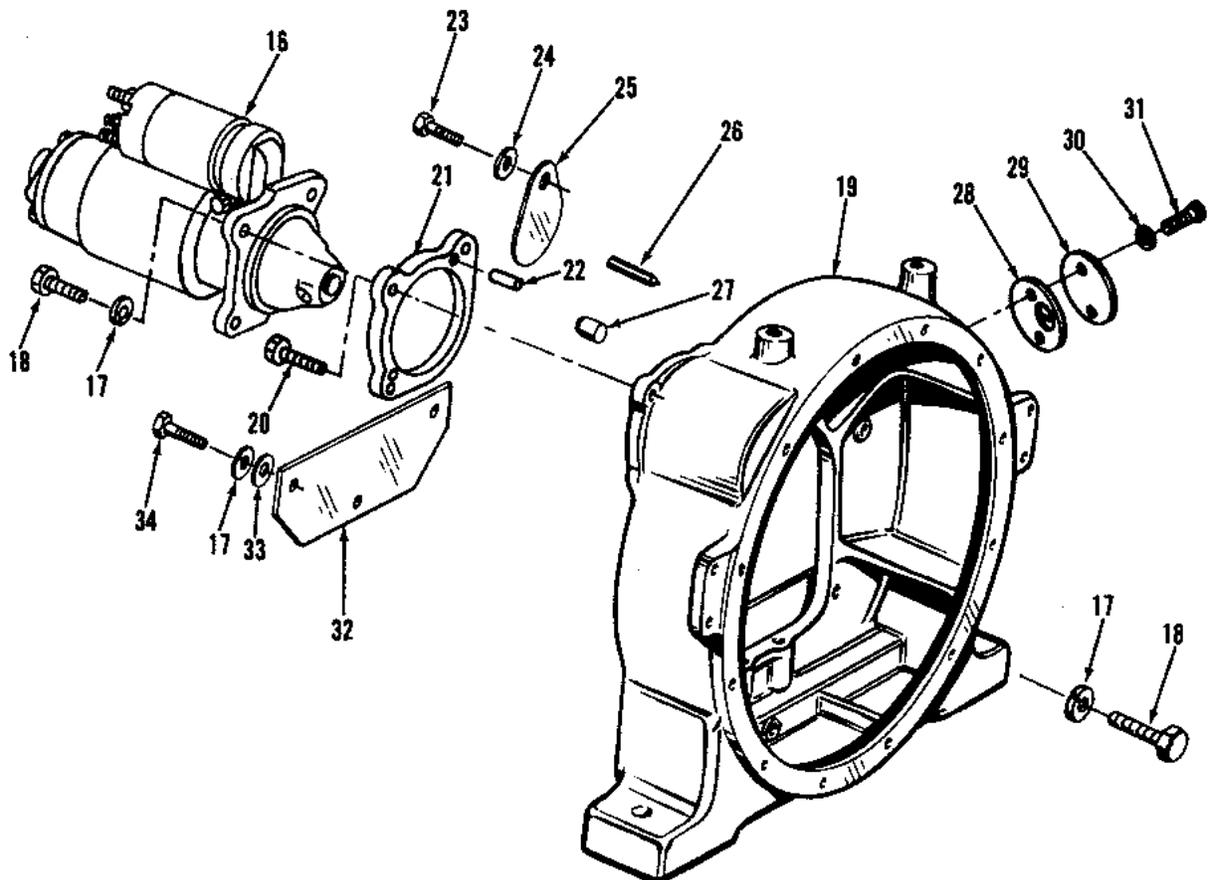
**CRANKSHAFT, CRANKSHAFT PULLEY, FLYWHEEL**  
Groups 11, 13, 95

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	26670	Screw, Cap, Hex Head, 3/4"-16 x 1"	1	1	1	1						
	26740	Screw, Cap, Hex Head, 3/4"-16 x 1-1/2"					1	1	1	1	1	
	28620	Screw, Cap, Ferry Head, 3/8"-24 x 1-1/4"										6
2	B476	Washer, Plain, 3/4"	1	1	1	1	1	1	1	1	1	
3	73346	Gasket	1	1	1	1	1	1	1	1	1	
4	191195E	Pulley, Crankshaft	1	1	1	1						
	221295F	Pulley, Crankshaft					1	1	1	1	1	
	221495	Pulley, Crankshaft										1
5	207980	Adapter										1
6	168682A	Damper, Vibration										1
	199060	Damper, Vibration										1
7	B3568	Pin, Dowel										2
8	21052	Washer, Lock, 3/8"										6
9	28384	Screw, Cap, Place Type, 3/8"-16 x 5/8"										6
	21352	Screw, Cap, Hex Head, 3/8"-16 x 1-1/4"										6
10	168008	Taper, Crankshaft Pulley	1	1	1	1	1	1	1	1	1	
11	164011	Gasket	1	1	1	1	1	1	1	1	1	
12	190012	Gear, Crankshaft	1	1	1	1	1	1	1	1	1	
	190012C	Gear, Crankshaft										1
13	26105	Key, Woodruff, No. 27	1	1	1	1	1	1	1	1	1	
	207988	Ball, Spherical										1
14	181411	Crankshaft	1	1		1						
	186311A	Crankshaft				1						
	191211B	Crankshaft					1					
	221211C	Crankshaft						1				
	221411F	Crankshaft								1	1	
	221411H	Crankshaft										1
15	181218A	Bearing, Main - Thrust	2	2	2	2						
	191118B	Bearing, Main - Thrust					2					
	221018E	Bearing, Main - Thrust						2	2	2	2	2
16	181122	Bearing, Main	4	4	6	6						
	191122	Bearing, Main					6					
	221022D	Bearing, Main - Upper Only						6	6	6	6	6
	221022E	Bearing, Main - Lower Only						6	6	6	6	6
17	C180313C	Flywheel Assembly	1	1		1						
	A190613G	Flywheel Assembly							1		1	
	C190613G	Flywheel Assembly								1	1	
	A221413A	Flywheel Assembly										1
18	180089	Gear, Ring - Flywheel	1	1								
	190065	Gear, Ring - Flywheel				1		1		1	1	
	190066	Gear, Ring - Flywheel										1
19	161632A	Tape, Timing				1		1		1	1	
	161633A	Tape, Timing	1	1								
	161632D	Tape, Timing										1
20	21634	Washer, Internal Shakeproof, 7/16"	6	6								
	810245	Washer, Plain, 7/16"							6	6	6	6
21	118947F	Screw, Cap, Flywheel	6	6								6
	28469	Screw, Cap, Place Type, 7/16"-20 x 1-3/4"										6
<b>KITS</b>												
<u>Crankshaft and Crankshaft Bearing Kits</u>												
	911-203	Crankshaft 181411	1	1								
	911-231	Crankshaft 186311A				1						
	911-232	Crankshaft 191211B					1					
	911-233	Crankshaft 221211C						1				
	911-234	Crankshaft 221411F							1		1	
	911-208	Crankshaft 221411H								1		1
<u>Main Bearing Kits</u>												
	918-157	(Includes Items 15, 16)	1	1								
	918-206	(Includes Items 15, 16)				1	1					
	918-159	(Includes Items 15, 16)						1				
	918-256	(Includes Items 15, 16)							1		1	
	918-302	(Includes Items 15, 16)								1		1

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



CAMSHAFT, IDLER GEAR



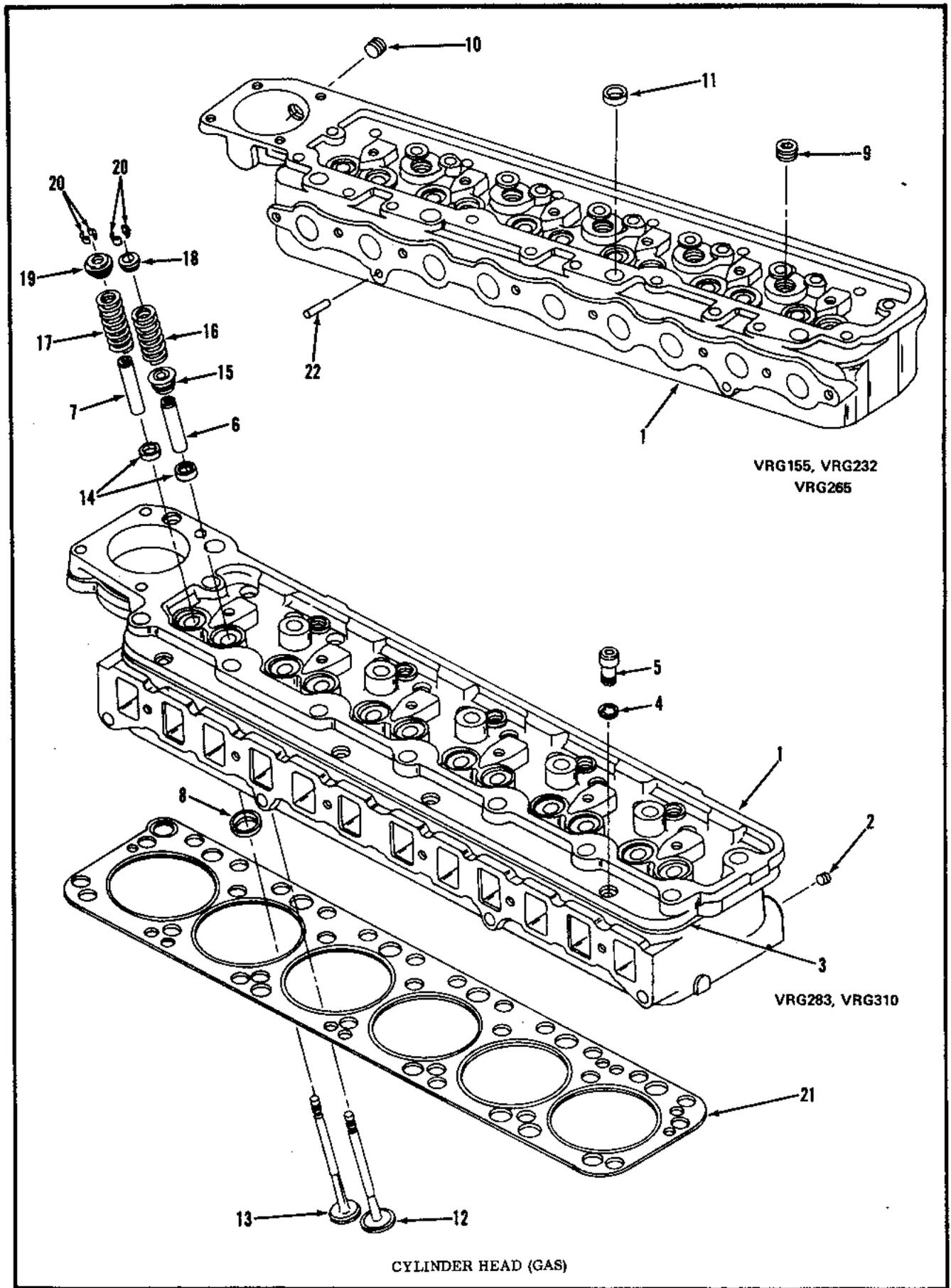
FLYWHEEL HOUSING, STARTER,



CAMSHAFT, IDLER GEAR  
Groups 15, 20, 23

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	180238A	Rod, Push	8		12							
	180338A	Rod, Push		8	12							
	190438A	Rod, Push					12					
	221038A	Rod, Push						12		12		
	223138	Rod, Push							12		12	12
2	180037	Lifter, Valve	8	8	12	12	12	12	12	12	12	12
	C180323	Camshaft Assembly	1	1								
	A185223	Camshaft Assembly			1	1						
	A190223B	Camshaft Assembly					1					
	A222023A	Camshaft Assembly						1		1		
	A221623E	Camshaft Assembly							1		1	1
3	. 180323	. Camshaft	1	1								
	. 185223	. Camshaft			1	1						
	. 190223B	. Camshaft					1					
	. 222023A	. Camshaft						1		1		
	. 221623E	. Camshaft							1		1	1
4	. 190026	. Gear, Camshaft	1	1	1	1	1	1	1	1	1	1
	. 190126B	. Gear, Camshaft							1		1	1
5	. 21011	. Key, Woodruff, No. 13	1	1	1	1	1	1	1	1	1	1
	. 21005	. Key, Woodruff, No. 6							1		1	1
6	76420	Button, Thrust	1	1	1	1	1	1	1	1	1	1
7	74993	Spring, Thrust Button	1	1	1	1	1	1	1	1	1	1
8	160027S	Bushing, Camshaft (Pre-reamed to size)	1	1	1	1	1	4	4	4	4	4
	AC191315C	Gear, Idler - Assembly	1	1	1	1			1	1	1	1
	. C191315C	. Gear, Idler - Assembly							1	1	1	1
9	. . 191315C	. . Gear, Idler							1	1	1	1
10	. . 21275	. . Screw, Cap. Hex Head, 1/4"-20 x 3/4"			2	2	2	2	2	2	2	2
11	. . 21607	. . Washer, External Shakeproof, 1/4"			2	2	2	2	2	2	2	2
12	. . 155193	. . Gear, Fuel Pump Drive			1	1	1	1	1	1	1	1
13	. 180216A	. Spindle, Idler Gear			1	1	1	1	1	1	1	1
14	41349	Button, Thrust	1	1	1	1	1	1	1	1	1	1
15	150033	Spring, Thrust Button	1		1				1		1	1
		KIT										
		<u>Camshaft Bushing Kit</u>										
	927-44	(Includes Item 8)						1	1	1	1	1
		FLYWHEEL HOUSING, STARTER, SWITCH										
		Groups 57, 204										
16	60963	Starter				1			1		1	
	60965	Starter	1		1		1	1		1		
	69580	Starter										
17	21052	Washer, Lock, 3/8"	13	13	13	13	13	13	13	13	13	11
18	21348	Screw, Cap. Hex Head, 3/8"-16 x 1"	11	11	11	11	11	11	11	11	11	8
	C195157	Housing, Flywheel - Assembly										1
19	180957	Housing, Flywheel	1	1								
	190257J	Housing, Flywheel			1	1	1	1	1	1	1	
	. 195157	. Housing, Flywheel										1
20	. 21352	. Screw, Cap. Hex Head, 3/8"-16 x 1-1/4"										1
21	. B9840D	. Spacer										1
22	. 26794	. Pin, Roll, 3/8" x 1"										2
23	21305	Screw, Cap. Hex Head, 5/16"-18 x 1/2"			1	1	1	1	1	1	1	1
24	21051	Washer, Lock, 5/16"			1	1	1	1	1	1	1	1
25	117235	Cover, Timing			1	1	1	1	1	1	1	1
26	116242	Pointer, Timing			1	1	1	1	1	1	1	1
27	B9132	Pin, Dowel	2	2	2	2	2	2	2	2	2	2
28	B7042B	Pointer, Timing	1	1								
29	B7042	Cover, Timing	1	1								
30	21050	Washer, Lock, 1/4"	2	2								
31	21271	Screw, Cap. Hex Head, 1/4"-20 x 1/2"	2	2								
32	116845	Plate, Dust	1	1	1	1	1	1	1	1	1	
	116845D	Plate, Dust										1
33	Y18813H	Washer, Plain, 3/8"										3
34	21343	Screw, Cap. Hex Head, 3/8"-16 x 3/4"	2	2	2	2	2	2	2	2	2	3

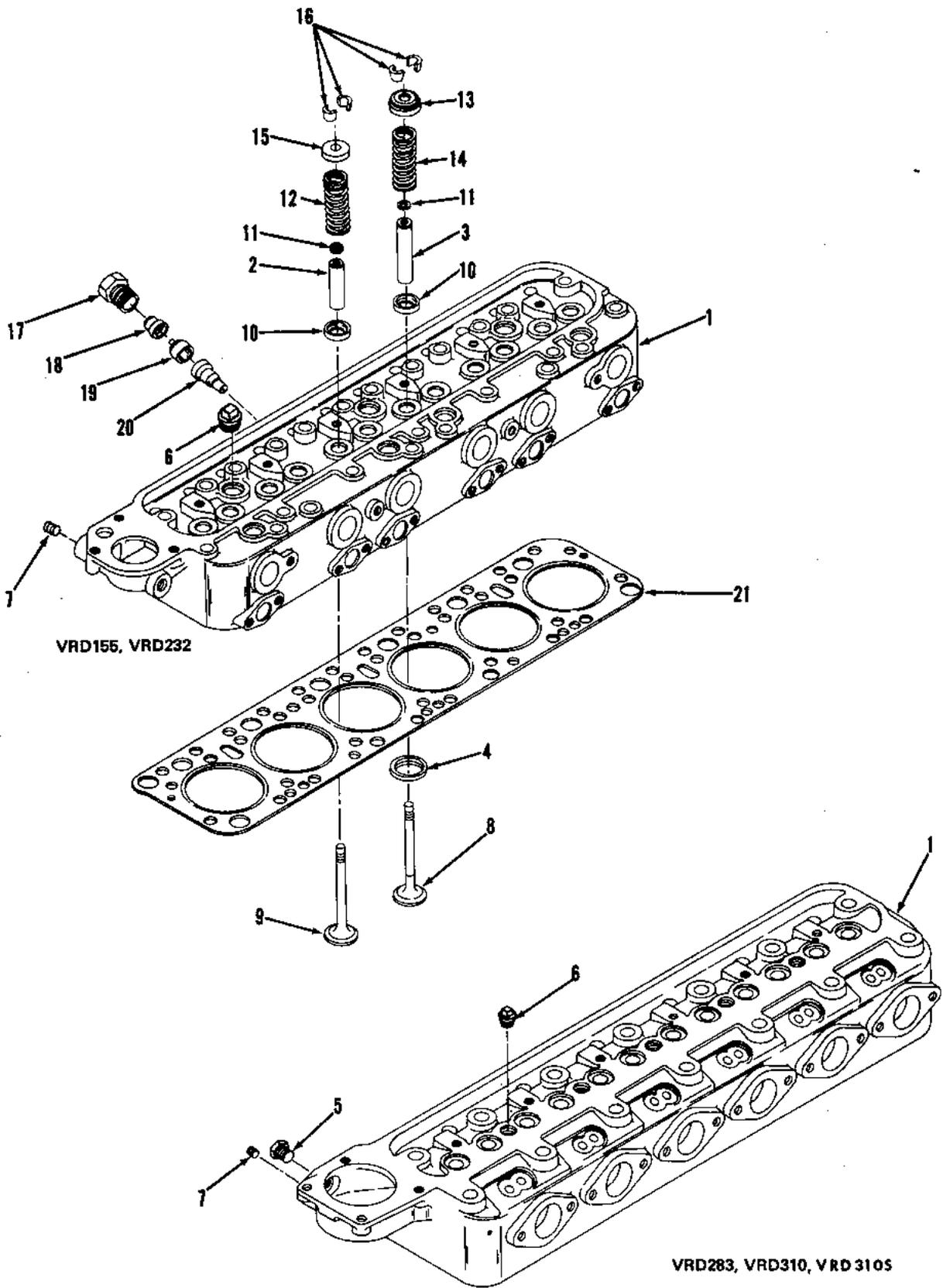
ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS





CYLINDER HEAD (GAS)  
Group 2

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	AM180602	Head, Cylinder - Assembly	1									
	EC185502D	Head, Cylinder - Assembly			1							
	AK190902E	Head, Cylinder - Assembly					1			1		
	AC222502B	Head, Cylinder - Assembly						1			1	
2	M180602	Head, Cylinder	1									
	C185502D	Head, Cylinder			1							
	K190902E	Head, Cylinder					1					
	C222502B	Head, Cylinder						1			1	
2	26411	Plug, Pipe, Allen Head, 1-3/8"						2			2	
3	163674	Gasket, Cylinder Head Top to Cylinder Head Bottom (Caution: Refer to Service Bulletin No. 7-1841B if necessary to replace this gasket)										
4	26565	Washer, Internal Shakeproof, 3/8"						1			1	
5	21544	Screw, Cap, Socket Head, 3/8"-16 x 1"					10			10		
6	190109	Guide, Valve - Intake					8					
	222209	Guide, Valve - Intake	4		6			6			6	
7	180009D	Guide, Valve - Exhaust	4									
	180009E	Guide, Valve - Exhaust			6							
8	224609	Guide, Valve - Exhaust					6	6			6	
	164765B	Insert, Valve Seat - Exhaust	4									
9	164763B	Insert, Valve Seat - Exhaust			6							
	166529	Insert, Valve Seat - Exhaust					8					
	166469	Insert, Valve Seat - Exhaust						6			6	
	78283C	Plug, Pipe, Countersunk Headless, 1"					3					
10	B4171	Plug, Expansion	5		7							
11	21951	Plug, Pipe, Countersunk Headless, 3/8"						2			1	
12	157110	Plug, Cup					4					
13	180336C	Valve, Intake	4									
	190036A	Valve, Intake			6							
	190736B	Valve, Intake					6					
	222436B	Valve, Intake						6			6	
14	190336C	Valve, Exhaust	4									
	190136D	Valve, Exhaust			6							
	190636	Valve, Exhaust					8					
	222536C	Valve, Exhaust						6			6	
15	162406	Collar, Valve Spring	8		12							
16	166870	Seal, Valve Stem - Intake	4		6		6	6		6		
17	190035	Spring, Valve - Intake	4				6	6		6		
	224135	Spring, Valve - Intake			6			6		6		
18	190235	Spring, Valve - Exhaust	4				6	6		6		
	224035A	Spring, Valve - Exhaust			6			6		6		
19	76771	Retainer, Valve Spring - Intake	4		6							
	163670	Retainer, Valve Spring - Intake					6	6		6		
20	151398	Rotator, Valve - Exhaust	4				6	6		6		
	166518	Rotator, Valve - Exhaust			6			6		6		
21	B6466A	Taper, Valve Spring	16		24							
	163235	Taper, Valve Spring					24	24		24		
22	180100	Gasket, Cylinder Head	1									
22	185000D	Gasket, Cylinder Head			1							
	191300E	Gasket, Cylinder Head					1					
	221600K	Gasket, Cylinder Head						1			1	
	B9824	Pin, Dowel			2		6	4			4	

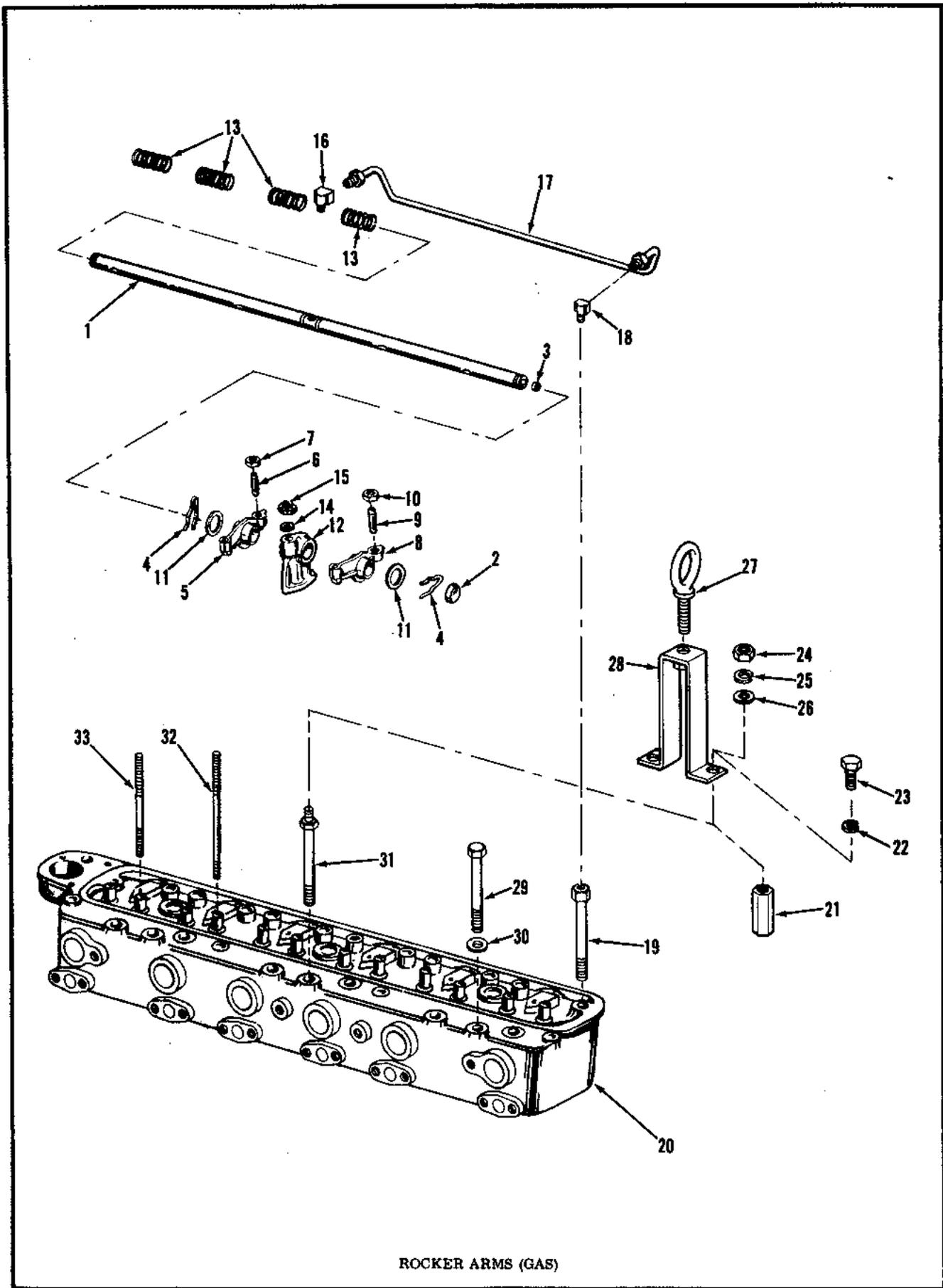


CYLINDER HEAD (DIESEL)



**CYLINDER HEAD (DIESEL)**  
Group 2

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	CE181502B	Head, Cylinder - Assembly		1		1			1		1	
	AA186402K	Head, Cylinder - Assembly										
	CA223202Y	Head, Cylinder - Assembly										
	AA223202X	Head, Cylinder - Assembly										
	CA223202W	Head, Cylinder - Assembly										
	. E181502B	. Head, Cylinder		1								1
2	. A186402K	. Head, Cylinder				1						
	. A223202Y	. Head, Cylinder							1			
3	. A223202X	. Head, Cylinder									1	
	. A223202W	. Head, Cylinder										1
4	. . 180009D	. . Guide, Valve - Exhaust		4		6						1
	. . 223009A	. . Guide, Valve - Exhaust							8		6	6
5	. . 181009C	. . Guide, Valve - Intake		4		6					6	6
	. . 223009A	. . Guide, Valve - Intake							6		6	6
6	. . 163215C	. . Insert, Valve Seat - Intake		4		6					6	6
	. . 28543	. . Plug, Pipe, Hex Head, 3/8"							1		1	1
7	. . B4171	. . Plug, Expansion		5		7					1	1
	. . 78283B	. . Plug, Pipe, Square Head, 1-3/4"							5		5	5
8	. . 21951	. . Plug, Pipe, Countersunk Headless, 3/8"				2						
	. . 26750	. . Plug, Pipe, Hex Head, 1/4"							1		1	
9	. 186236A	. Valve, Intake		4		6					6	6
	. 223236	. Valve, Intake							6		6	6
10	. 223236A	. Valve, Intake									6	6
	. 186136C	. Valve, Exhaust				6						
11	. 186336A	. Valve, Exhaust		4								
	. 223336D	. Valve, Exhaust							6		6	6
12	. 223336E	. Valve, Exhaust									6	6
	. 162406	. Collar, Valve Spring		8		12						
13	. 163236	. Seal, Valve Stem - Intake		4		6					6	6
	. 163236	. Seal, Valve Stem - Intake and Exhaust							12		12	
14	. 224135	. Spring, Valve - Exhaust		4		6			6		6	6
	. 151398	. Rotator, Valve - Intake		4							6	6
15	. 166518	. Rotator, Valve - Intake		4								
	. 163670	. Retainer, Valve Spring - Intake				6					6	6
16	. 224135	. Spring, Valve - Intake							6		6	6
	. 224035A	. Spring, Valve - Intake		4		6			6		6	6
17	. 76771	. Retainer, Valve Spring - Exhaust		4		6						
	. 163670	. Retainer, Valve Spring - Exhaust		4		6						
18	. 163235	. Taper, Valve Spring		16		24			6		6	6
	. 116920	. Plug, Cell Holder		4		6			24		24	24
19	. 116919	. Spacer, Cell Holder		4		6						
	. 116918	. Cap, Cell		4		6						
20	. 0116915	. Body, Cell		4		6						
	. 180100	Gasket, Cylinder Head		4		6						
21	. 186500H	Gasket, Cylinder Head		1								
	. 223100L	Gasket, Cylinder Head				1						
	. 223100K	Gasket, Cylinder Head							1		1	1



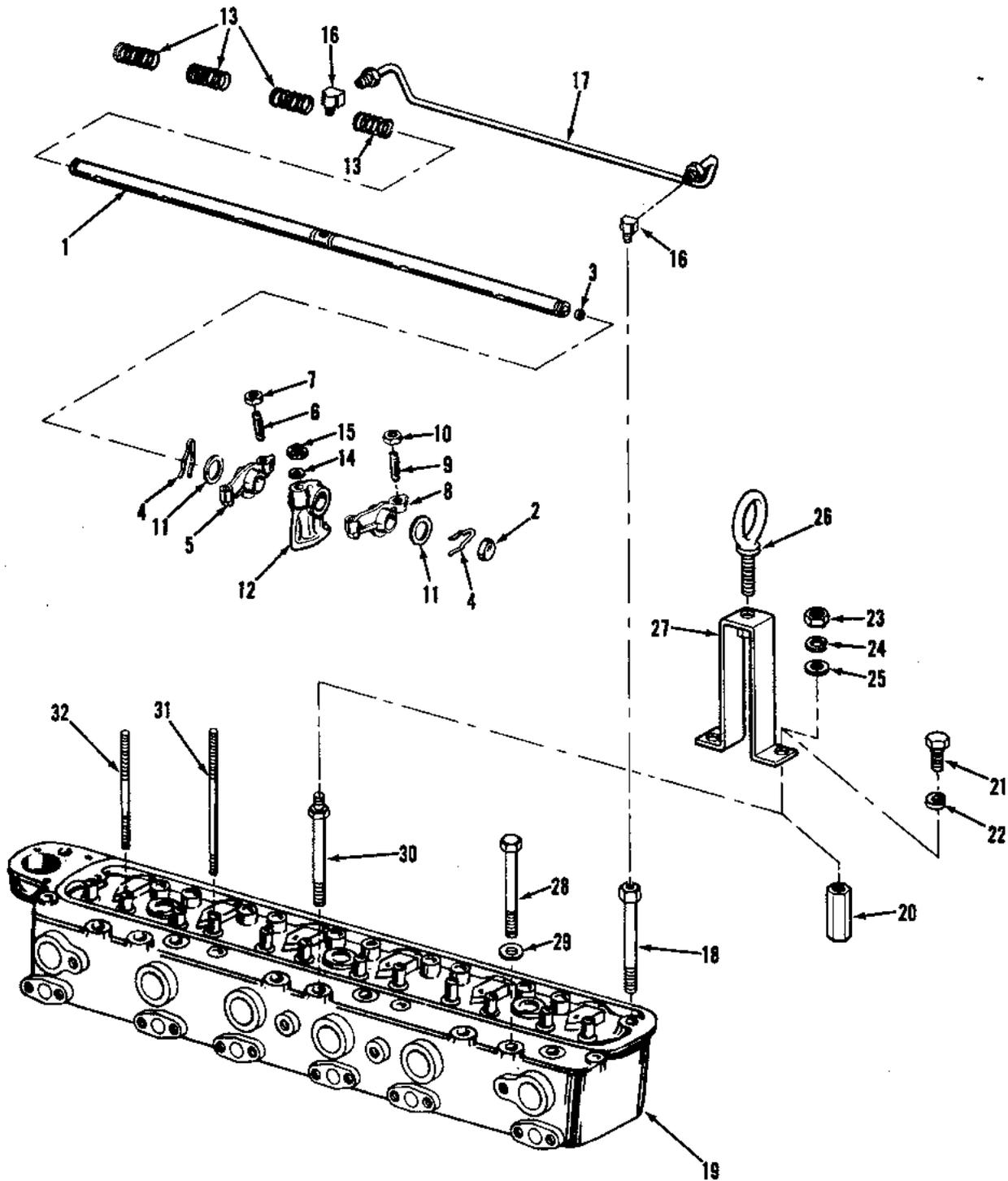
ROCKER ARMS (GAS)



ROCKER ARMS (GAS)  
Group 2

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	E0180153	Shaft, Rocker Arm - Assembly	1									
	CA185153	Shaft, Rocker Arm - Assembly			1							
	AA190253C	Shaft, Rocker Arm - Assembly					1					
	AA222053E	Shaft, Rocker Arm - Assembly						1		1		
1	. 0180153	. Shaft, Rocker Arm	1									
	. A185153	. Shaft, Rocker Arm			1							
	. A190253C	. Shaft, Rocker Arm					1					
	. A222053E	. Shaft, Rocker Arm						1				
2	. . B2857	. . Plug, Cup						1		1		
3	. . 118028A	. . Plug, Restrictor	2				2	2		2		
4	. 76898	. Cotter, Rocker Arm Shaft	4		4		4	4		4		
5	. 0180567A	. Arm, Rocker - Assembly - R. H.	4		6		6	6		6		
	. C222067A	. Arm, Rocker - Assembly - R. H.					6	6		6		
6	. . 120860	. . Screw, Adjusting	4		6		6	6		6		
7	. . 21195	. . Nut, Thin Hex, 3/8"-24	4		6		6	6		6		
8	. 0180467A	. Arm, Rocker - Assembly - L. H.	4		6		6	6		6		
	. C222167A	. Arm, Rocker - Assembly - L. H.					6	6		6		
9	. . 120860	. . Screw, Adjusting	4		6		6	6		6		
10	. . 21195	. . Nut, Thin Hex, 3/8"-24	4		6		6	6		6		
11	. 76899	. Washer, Plain	4		4		16	12		12		
	. 117489	. Spacer										
12	. 180068F	. Support, Rocker Arm	4		6		6	6		6		
13	. 73888	. Spring	2		4		4	4		4		
14	B6717	Washer, Plain, 3/8"	4		6		6	6		6		
15	177299A	Nut, Lock - Elastic Stop, 3/8"-24	4		6		6	6		6		
16	73017A	Connector, Inverted	4		6		6	6		6		
	73018A	Elbow, Inverted	1				1	1		1		
17	0151103	Line, Oil	1		1		1	1		1		
	A151161A	Line, Oil					1	1		1		
	A159190	Line, Oil			1							
18	73018A	Elbow, Inverted	1		1		1	1		1		
19	116273	Screw, Cap, Cylinder Head (Drilled)	1		1		1	1		1		
	117456	Screw, Cap, Cylinder Head (Drilled)					1	1		1		
	155169	Screw, Cap, Cylinder Head (Drilled)					1	1		1		
20	M180602	Head, Cylinder (See Page 11)	1									
	C185502D	Head, Cylinder (See Page 11)			1							
	K190902E	Head, Cylinder (See Page 11)					1	1		1		
	C222502B	Head, Cylinder (See Page 11)						1		1		
21	157267A	Adapter, Eye Bolt					2	2		2		
	199123A	Adapter, Eye Bolt					2	2		2		
22	26126	Washer, Lock, 9/16"					2	2		2		
23	21428	Screw, Cap, Hex Head, 1/2"-13 x 1-1/4"					2	2		2		
	26987	Screw, Cap, Hex Head, 9/16"-18 x 1"					2	2		2		
24	21205	Nut, Hex, 1/2"-13	2		2							
25	21054	Washer, Lock, 1/2"	2		2		2	2		2		
26	Y18813K	Washer, Plain, 1/2"	2		2		2	2		2		
27	151182	Bolt, Eye	1		1		1	1		1		
28	A151286A	Bracket, Lifting	1		1							
	C199122	Bracket, Lifting						1		1		
	A199948A	Bracket, Lifting					1	1		1		
29	116312	Screw, Cap, Cylinder Head	8		14							
	159030	Screw, Cap, Cylinder Head						11		11		
	164472	Screw, Cap, Cylinder Head					19					
30	B355	Washer, Cylinder Head Cap Screw					22					
	155064	Washer, Cylinder Head Cap Screw						14		14		
31	116777	Screw, Cap, Cylinder Head	2		2		2	2		2		
	117457A	Screw, Cap, Cylinder Head					2	2		2		
	159029	Screw, Cap, Cylinder Head					2	2		2		
32	156827B	Stud, Rocker Arm Support			2		2	2		2		
	156827D	Stud, Rocker Arm Support					2	2		2		
33	117453	Stud, Rocker Arm Support			4							
	156827	Stud, Rocker Arm Support					4	4		4		
	156827A	Stud, Rocker Arm Support	4									

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS

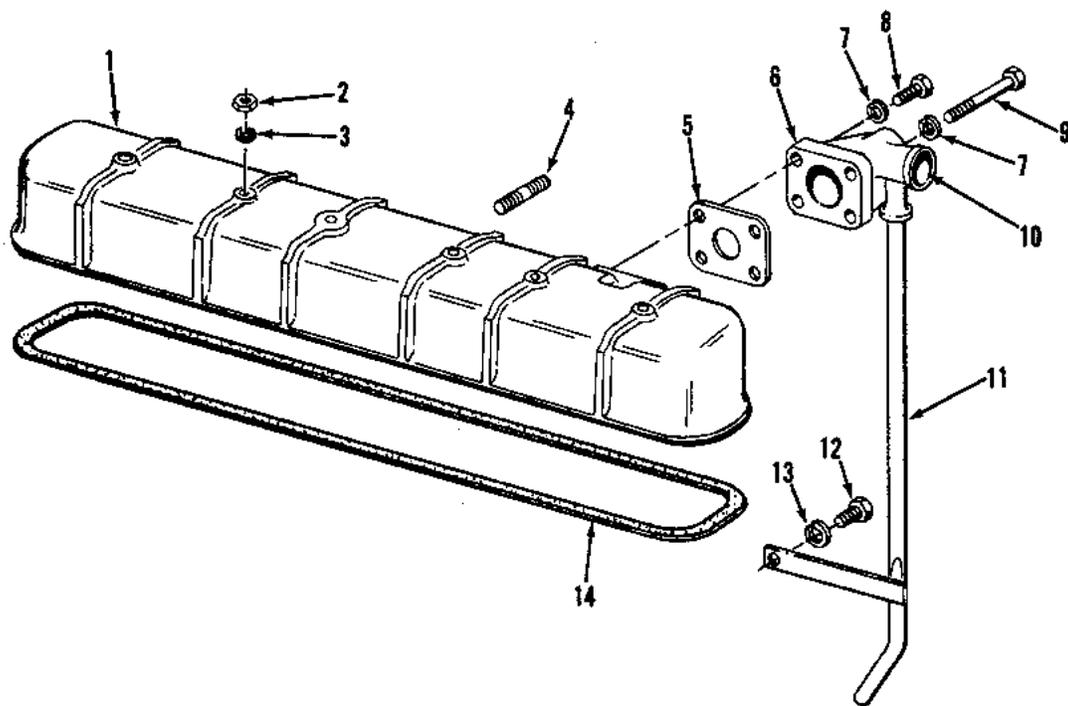


ROCKER ARMS (DIESEL)



ROCKER ARMS (DIESEL)  
Group 2

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	G0180153	Shaft, Rocker Arm - Assembly		1								
	AA185153	Shaft, Rocker Arm - Assembly				1						
	AA223169A	Shaft, Rocker Arm - Assembly							1		1	1
2	. 0180153	. Shaft, Rocker Arm		1								
	. A185153	. Shaft, Rocker Arm				1						
3	. A223169A	. Shaft, Rocker Arm							1		1	1
	. . B2857	. . Plug, Cup		2		2			2		2	2
4	. . 118028A	. . Plug, Restrictor				1						
	. 76898	. Cotter, Rocker Arm Shaft		4		4			4		4	4
5	. 0180567A	. Arm, Rocker - Assembly - R. H.		4		6						
	. A223367	. Arm, Rocker - Assembly - R. H.							6		6	6
6	. . 120860	. . Screw, Adjusting		4		6			6		6	6
	. . 21195	. . Nut, Thin Hex, 3/8"-24		4		6			6		6	6
8	. 0180467A	. Arm, Rocker - Assembly - L. H.		4		6						
	. A223267	. Arm, Rocker - Assembly - L. H.							6		6	6
9	. . 120860	. . Screw, Adjusting		4		6			6		6	6
	. . 21195	. . Nut, Thin Hex, 3/8"-24		4		6			6		6	6
10	. 76899	. Washer, Plain		8		6			6		6	6
	. 180068F	. Support, Rocker Arm		4		6						
11	. 223068	. Support, Rocker Arm				12						
	. 73888	. Spring		2		4			4		4	4
14	B6717	Washer, Plain, 3/8"		4		6						
	21052	Washer, Lock, 3/8"							6		6	6
15	21193	Nut, Hex, 3/8"-24							6		6	6
	177299A	Nut, Lock - Elastic Stop, 3/8"-24		4		6						
16	73018A	Elbow, Inverted		2		2			2		2	2
	0151103	Line, Oil		1								
17	A151161A	Line, Oil							1		1	1
	A159190	Line, Oil										
18	116273	Screw, Cap, Cylinder Head (Drilled)		1		1						
	155169A	Screw, Cap, Cylinder Head (Drilled)							1			
19	168722B	Screw, Cap, Cylinder Head (Drilled)									1	1
	E181502B	Head, Cylinder (See Page 13)		1								
20	A186402K	Head, Cylinder (See Page 13)				1						
	A223202Y	Head, Cylinder (See Page 13)							1			
21	A223202X	Head, Cylinder (See Page 13)									1	1
	A223202W	Head, Cylinder (See Page 13)										
22	199123A	Adapter, Eye Bolt							2		2	2
	157268	Adapter, Eye Bolt										
23	26987	Screw, Cap, Hex Head, 9/16"-18 x 1"							2		2	2
	26126	Washer, Lock, 9/16"							2		2	2
24	21205	Nut, Hex, 1/2"-13		2		2						
	21054	Washer, Lock, 1/2"		2		2						
25	Y18813K	Washer, Plain, 1/2"		2		2						
	151182	Bolt, Eye		1		1			1		1	1
27	117974A	Bolt, Eye										
	0151286	Bracket, Lifting		1		1						
28	C199122	Bracket, Lifting							1		1	1
	116312	Screw, Cap, Cylinder Head		15		22						
29	159030B	Screw, Cap, Cylinder Head							11			
	168722A	Screw, Cap, Cylinder Head									11	11
30	B355	Washer, Cylinder Head Cap Screw		17		25						
	152879	Washer, Cylinder Head Cap Screw									14	14
31	155064	Washer, Cylinder Head Cap Screw							14			
	116777	Screw, Cap, Cylinder Head		2		2						
32	159029A	Screw, Cap, Cylinder Head							2		2	2
	166652A	Screw, Cap, Cylinder Head									2	2
32	156827B	Stud, Rocker Arm Support				2			2		2	2
	156827D	Stud, Rocker Arm Support									2	2
32	44544	Stud, Rocker Arm Support							4		4	4
	117453	Stud, Rocker Arm Support		4		4						



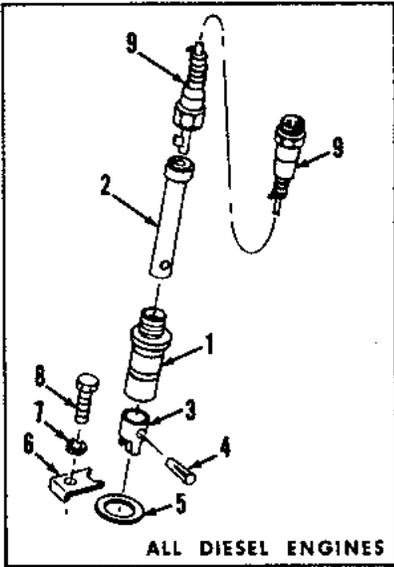
ROCKER ARM COVER, BREATHER



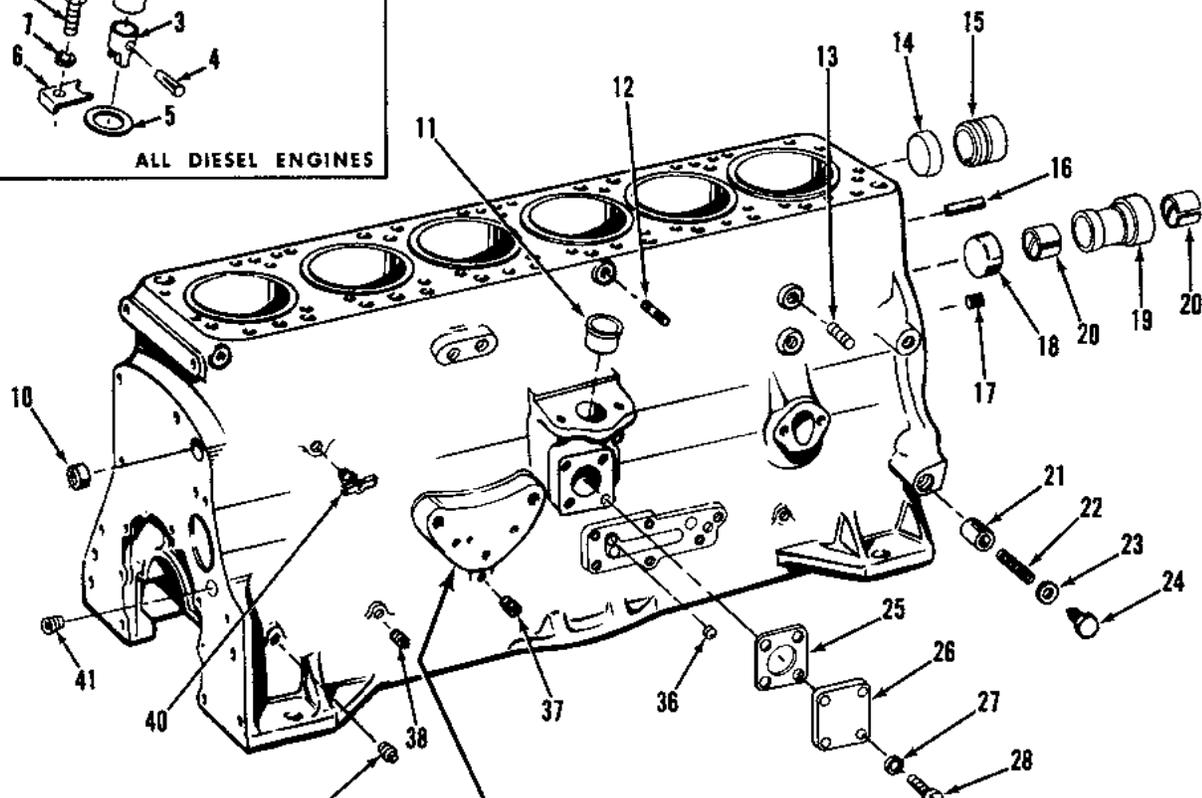
ROCKER ARM COVER, BREATHER  
Groups 39, 70

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	180239	Cover, Rocker Arm	1	1								
	185139	Cover, Rocker Arm			1	1						
	190539	Cover, Rocker Arm					1					
	221039	Cover, Rocker Arm						1		1		
	223139	Cover, Rocker Arm							1		1	1
2	21193	Nut, Hex. 3/8"-24	4	4	6	6	6	6	6	6	6	6
3	Y18813H	Washer, Plain. 3/8"	4	4	6	6	6	6	6	6	6	6
4	155380	Stud					2	2		2		
5	199412	Gasket, Breather Flange	1	1	1	1	1	1	1	1	1	1
6	164822	Flange, Breather	1	1								
	199413	Flange, Breather			1	1	1	1	1	1	1	1
7	21050	Washer, Lock. 1/4"	4	4	4	4	4	4	4	4	4	4
8	21275	Screw, Cap, Hex Head, 1/4"-20 x 3/4"	1	1	2	2	2	2	2	2	2	2
9	21293	Screw, Cap, Hex Head, 1/4"-20 x 2-1/4"	2	2	2	2	2	2	2	2	2	2
10	199414	Plug	1	1	1	1	1	1	1	1	1	1
11	199411	Tube, Breather							1		1	1
	199411A	Tube, Breather					1	1		1		
	199411B	Tube, Breather			1	1						
	207474	Tube, Breather	1	1								
12	21340	Screw, Cap, Hex Head, 3/8"-16 x 5/8"					1	1	1	1	1	1
13	21052	Washer, Lock, 3/8"					1	1	1	1	1	1
14	180040D	Gasket, Rocker Arm Cover	1	1								
	185040D	Gasket, Rocker Arm Cover			1	1						
	162551A	Gasket, Rocker Arm Cover					1					
	159020D	Gasket, Rocker Arm Cover						1		1		
	190040G	Gasket, Rocker Arm Cover							1		1	1

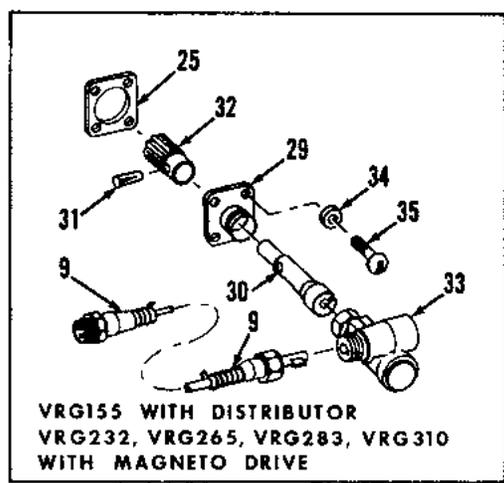
ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



ALL DIESEL ENGINES



VRG155, VRD155  
VRG232, VRD232



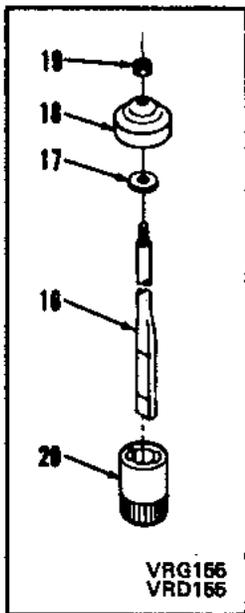
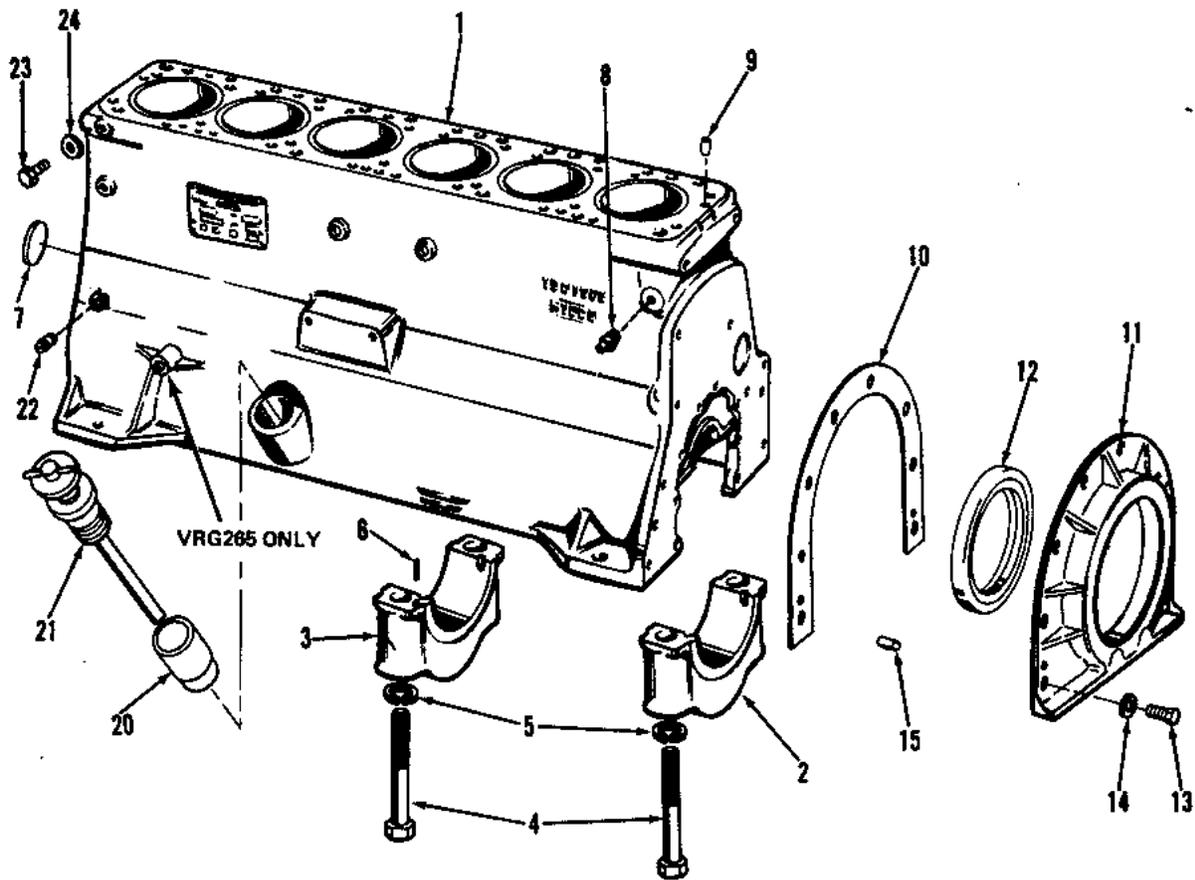
VRG155 WITH DISTRIBUTOR  
VRG232, VRG265, VRG283, VRG310  
WITH MAGNETO DRIVE

CRANKCASE (RIGHT SIDE)



CRANKCASE (RIGHT SIDE)  
Group 20

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	C73640E	Drive, Tachometer Assembly		1		1			1		1	1
	. 73640E	. Body, Tachometer Drive		1		1			1		1	1
2	. 73639B	. Shaft, Tachometer Drive		1		1			1		1	1
3	. B5634A	. Coupling		1		1			1		1	1
4	. B6169	. Pin, Groove, 1/8" x 1"		1		1			1		1	1
5	116292	Gasket, Tachometer Drive		1		1			1		1	1
6	118769	Clamp, Tachometer Drive		2		2			2		2	2
7	21052	Washer, Lock, 3/8"		2		2			2		2	2
8	21350	Screw, Cap. Hex Head, 3/8"-16 x 1-1/8"		2		2			2		2	2
9	158858A	Cable, Tachometer	1	1								
	158858C	Cable, Tachometer			1	1	1	1	1	1	1	1
10	120934	Plug, Cup		1	1	1	1	1	1	1	1	1
11	80118	Plug, Distributor Hole		1	1	1	1	1	1	1	1	1
12	B8053	Stud		1	1	1	1	1	1	1	1	1
13	B1437	Stud	2	3	1	1						
	B2240	Stud					2	2	2	2	2	2
14	73314A	Plug, Cup		1		1			1	1	1	1
15	168105	Bushing, Governor Gear		1	1	1	1	1	1	1	1	1
16	160024	Tube, Oil, Timing Gears		1	1	1	1	1	1	1	1	1
17	78280B	Plug, Pipe, Slotted Head, 1/4"			2	2						
18	B6156	Plug, Idler Hole		1	1	1	1	1	1	1	1	1
19	0120916A	Sleeve, Idler Gear - Assembly		1		1			1		1	1
20	. 120921	. Bushing, Idler Gear		2		2			2		2	2
21	150116	Plunger, Oil Relief Valve	1	1	1	1	1					
22	118172	Spring, Oil Relief Valve	1	1	1	1	1					
23	B8230	Washer, Copper	1	1	1	1	1					
24	150134	Screw, Oil Relief Valve	1	1	1	1	1					
25	120181A	Gasket, Cover		1	1	1	1	1	1	1	1	1
26	120180	Plate, Cover		1	1	1	1	1	1	1	1	1
	120180B	Plate, Cover										1
27	26758	Washer, Plain - Copper, 3/16"		4	4	4	4	4	4	4	4	4
28	26051	Screw, Machine, Round Head, No. 10-24 x 5/8"		4	4	4	4	4	4	4	4	4
	26189	Screw, Machine, Fillister Head, No. 10-24 x 5/8"		4		4	4	4	4	4	4	4
	26390	Screw, Machine, Fillister Head, No. 10-24 x 7/8"										4
	E161520	Drive, Tachometer Assembly	1		1		1	1	1	1		
29	. 161520	. Body, Tachometer Drive	1		1		1	1	1	1		
30	. 199701	. Shaft, Tachometer Drive	1		1		1	1	1	1		
31	. B4027	. Pin, Groove, 1/8" x 3/4"	1		1		1	1	1	1		
32	. 161518	. Gear, Tachometer Drive	1		1		1	1	1	1		
33	74541C	Adapter, Right Angle	1		1		1	1	1	1		
34	26758	Washer, Plain - Copper, 3/16"	4		4		4	4	4	4		
35	26051	Screw, Machine, Round Head, No. 10-24 x 5/8"	4		4		4	4	4	4		
36	157109	Plug, Cup					1	1	1	1	1	1
37	Y18802	Plug, Pipe, Allen Head, 1/8"	1	1	1	1	1	1	1	1	1	2
38	78283G	Plug, Pipe, Countersunk Headless, 1/4"	3	3	2	2	2					
39	26743	Plug, Pipe, Hex Head, 1/8"	2	2	1	1	1	1	1	1	1	3
40	76400	Cock, Drain, 1/4"	1	1	1	1	1	1	1	1	1	
	78282C	Plug, Pipe, Square Head, 1/4"										1
41	21951	Plug, Pipe, Countersunk Headless, 3/8"						2	2	2	2	2



CRANKCASE (LEFT SIDE)



CRANKCASE (LEFT SIDE)  
Group 20

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	A180220L	Crankcase Assembly (Includes Camshaft Bushing)	1	1								
	A185320	Crankcase Assembly (Includes Camshaft Bushing)			1	1						
	A190620B	Crankcase Assembly (Includes Camshaft Bushing)										
	A221620G	Crankcase Assembly (Includes Camshaft Bushing)					1			1		
	A221620H	Crankcase Assembly (Includes Camshaft Bushing)						1				
	A221620J	Crankcase Assembly (Includes Camshaft Bushing)							1			
	C221520F	Crankcase Assembly (Includes Camshaft Bushing)										1
2	. 180046C	. Cap. Main Bearing (Serviced only as Semi-finished)	2	2	3	3						
	. 190046D	. Cap. Main Bearing (Serviced only as Semi-finished)					3					
	. 221046A	. Cap. Main Bearing (Serviced only as Semi-finished)						6	6	6	6	
	. 221046B	. Cap. Main Bearing (Serviced only as Semi-finished)										6
3	. 180049C	. Cap. Main Bearing - Thrust (Serviced only as Semi-finished)	1	1	1	1						
	. 190049D	. Cap. Main Bearing - Thrust (Serviced only as Semi-finished)					1					
	. 221049A	. Cap. Main Bearing - Thrust (Serviced only as Semi-finished)						1	1	1	1	
	. 221049C	. Cap. Main Bearing - Thrust (Serviced only as Semi-finished)										1
4	. 44929	. Screw, Main Bearing Cap					8					
	. 151796	. Screw, Main Bearing Cap						14	14	14	14	14
	. 156062	. Screw, Main Bearing Cap	6	6	8	8						
5	. 21054	. Washer, Lock, 1/2"	6	6	8	8						
	. 21055	. Washer, Lock, 5/8"						14	14	14	14	14
	. 26126	. Washer, Lock, 9/16"					8					
6	. B1883	. Pin, Dowel	6	6	8	8						
	. B6202	. Pin, Dowel						14	14	14	14	14
7	. 985	. Plug, Expansion						1	1	1	1	1
	. 3337	. Plug, Expansion	1	1	1	1						
8	78282E	Plug, Pipe, Square Head, 1/2"	1	1								
	78283A	Plug, Pipe, Countersunk Headless, 1/2"			1	1	1	1	1	1	1	1
9	B3568	Pin, Dowel			2	2	2	2	2	2	2	2
10	44930B	Gasket, Oil Retainer	1	1								
	44930E	Gasket, Oil Retainer			1	1	1	1	1	1	1	1
11	190190A	Retainer, Oil Seal (Rear)	1	1								
	E163617	Retainer, Oil Seal (Rear)			1	1	1	1	1	1	1	1
12	. 163666D	. Seal, Oil - Rear			1	1	1	1	1	1	1	1
	0116002A	Seal, Oil - Rear	1	1								
13	21305	Screw, Cap, Hex Head, 5/16"-18 x 1/2"	8	8								
	28201	Screw, Cap, Hex Head, 5/16"-18 x 5/8"			8	8	8	8	8	8	8	8
14	21051	Washer, Lock, 5/16"	8	8								
15	B565	Pin, Dowel			2	2	2	2	2	2	2	2
	A180152A	Gauge, Oil Depth - Assembly	1	1								
16	. 180152A	. Blade, Oil Depth Gauge	1	1								
17	. 80665A	. Washer, Oil Depth Gauge	1	1								
18	. 73341	. Cap, Oil Depth Gauge	1	1								
19	. Y7076	. Nut, Oil Depth Gauge	1	1								
20	160172	Tube, Oil Filler	1	1								
	166147	Tube, Oil Filler			1	1	1	1	1	1	1	1
21	158355K	Gauge, Oil Depth			1	1						
	158355U	Gauge, Oil Depth					1					
	158355W	Gauge, Oil Depth						1	1	1	1	1
22	26743	Plug, Pipe, Hex Head, 1/8"	1	1	3	2	3	7	6	7	6	1
23	21338	Screw, Cap, Hex Head, 3/8"-16 x 1/2"					1	1				
24	B8556	Washer, Plain - Copper, 3/8"				1	1					

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS





OIL PUMP (VANE TYPE)  
Group 80

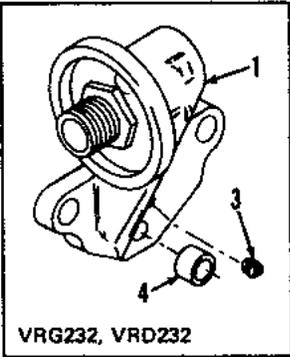
ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	AH180180	Pump, Oil - Assembly (With Screen)	1	1								
	0B180180	Pump, Oil - Assembly (With Screen)			1	1						
	. H180180	. Pump, Oil - Assembly	1	1								
	. B180180	. Pump, Oil - Assembly			1	1						
1	. . 21309	. . Screw, Cap, Hex Head, 5/16"-18 x 3/4"	4	4	4	4						
2	. . 21051	. . Washer, Lock, 5/16"	4	4	4	4						
3	. . 180482	. . Cover, Oil Pump	1	1								
	. . 180682	. . Cover, Oil Pump	1	1								
4	. . 150029	. . Spring, Oil Pump Vane	1	1	1	1						
5	. . 41198	. . Vane, Oil Pump	2	2	2	2						
6	. . 180184	. . Shaft, Oil Pump	1	1	1	1						
7	. . 180180D	. . Body, Oil Pump	1	1	1	1						
8	. . 26529	. . Pin, Roll, 3/16" x 1"	1	1	1	1						
9	. . 180051	. . Gear, Oil Pump - Drive	1	1	1	1						
10	. 44937	. Screen, Oil Pump	1	1								
	. 116244	. Screen, Oil Pump			1	1						
11	. 21065	. Pin, Cotter, 1/8" x 1"	1	1	1	1						
12	21052	Washer, Lock, 3/8"	1	1	1	1						
13	21354	Screw, Cap, Hex Head, 3/8"-16 x 1-3/8"	1	1	1	1						
KITS												
Oil Pump Repair Kits												
	980-94	For Pump Assembly AH180180 (Includes Items 1, 2, 4-6, 8-13)	1	1								
	980-43	For Pump Assembly 0B180180 (Includes Items 1, 2, 4-6, 8-13)			1	1						
OIL PAN Group 14												
14	180178	Gasket, Oil Pan	1	1								
	185178A	Gasket, Oil Pan			1	1						
	190078E	Gasket, Oil Pan					1	1	1	1	1	1
15	180214A	Pan, Oil	1	1								
	185114A	Pan, Oil			1	1						
	221014	Pan, Oil					1	1	1	1	1	
	221114A	Pan, Oil										1
16	21051	Washer, Lock, 5/16"	2	2								2
17	117897	Bolt, Oil Pan - Rear	2	2	2	2	2	2	2	2	2	
	117897A	Bolt, Oil Pan - Rear										
	120387B	Bolt, Oil Pan - Rear										2
18	B175	Gasket	1	1	1	1	1	1	1	1	1	1
19	76909	Plug, Drain			1	1	1	1	1	1	1	1
20	119992	Tee, Drain	1	1								
21	78282D	Plug, Pipe, Square Head, 3/8"	2	2								
22	39104	Stud, Oil Pan					10	10	10	10	10	
	63699	Stud, Oil Pan										10
23	207182	Washer, Conical			31	31	31	31	31	31	31	
	21051	Washer, Lock, 5/16"										31
24	21185	Nut, Hex, 5/16"-24					10	10	10	10	10	10
25	21307	Screw, Cap, Hex Head, 5/16"-18 x 5/8"	23	23	31	31	21	21	21	21	21	21
	21313	Screw, Cap, Hex Head, 5/16"-18 x 1"										21



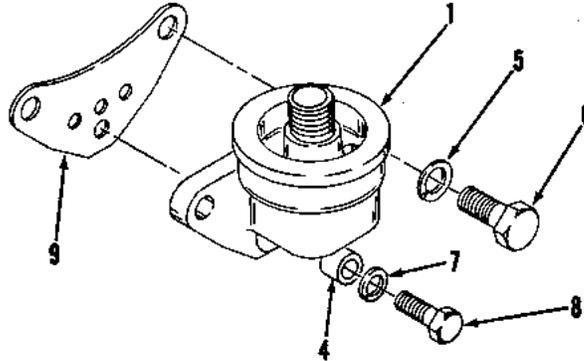
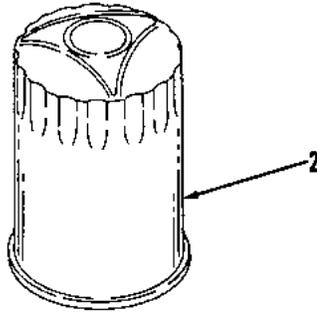


OIL PUMP (GEAR TYPE)  
Group 80

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	EA193380	Pump, Oil - Assembly (With Screen)					1					
	CA193380A	Pump, Oil - Assembly (With Screen)						1	1	1	1	
	. DA193380	. Pump, Oil - Assembly					1					
	. AA193380A	. Pump, Oil - Assembly					1	1	1	1	1	
	. EA193380A	. Pump, Oil - Assembly										1
1	. . 180051	. . Gear, Oil Pump Drive					1	1	1	1	1	1
2	. . 26529	. . Pin, Roll, 3/16" x 1"					1	1	1	1	1	1
3	. . A193380	. . Body, Oil Pump					1	1	1	1	1	1
	. . A193380A	. . Body, Oil Pump										
4	. . . 155164	. . . Bushing, Oil Pump Body (Upper)					1	1	1	1	1	1
	. . . 155164A	. . . Bushing, Oil Pump Body (Upper) (Pre-reamed to size)					1	1	1	1	1	1
5	. . . 44979	. . . Bushing, Oil Pump Body (Lower)					1	1	1	1	1	1
	. . . 44979A	. . . Bushing, Oil Pump Body (Lower) (Pre-reamed to size)					1	1	1	1	1	1
6	. . 116870	. . Plunger, Relief Valve					1	1	1	1	1	1
7	. . 157819	. . Spring, Relief Valve					1	1	1	1	1	1
	. . 199981	. . Spring, Relief Valve					1	1	1	1	1	1
8	. . B2458B	. . Screw, Adjustment					1	1	1	1	1	1
9	. . 21067	. . Pin, Cotter, 1/8" x 1-3/4"					1	1	1	1	1	1
10	. . 135085B	. . Gear, Oil Pump - Idler					1	1	1	1	1	1
11	. . 135283	. . Shaft, Oil Pump Idler Gear					1	1	1	1	1	1
12	. . 176228	. . Gasket, Oil Pump Cover					1	1	1	1	1	1
13	. . 21050	. . Washer, Lock, 1/4"					6	6	6	6	6	6
14	. . 21275	. . Screw, Cap, Hex Head, 1/4"-20 x 3/4"					4	4	4	4	4	4
15	. . 21879	. . Screw, Cap, Hex Head, 1/4"-20 x 3-1/2"					1	1	1	1	1	1
16	. . 26310	. . Screw, Cap, Hex Head, 1/4"-20 x 3"					1	1	1	1	1	1
17	. . 21280	. . Screw, Cap, Hex Head, 1/4"-20 x 1"					1	1	1	1	1	1
18	. . 21294	. . Screw, Cap, Hex Head, 1/4"-20 x 2-1/2"					1	1	1	1	1	5
19	. . 221182	. . Cover, Oil Pump					1	1	1	1	1	1
	. . A221382A	. . Cover, Oil Pump										1
	. . C193084B	. . Shaft, Oil Pump Drive - Assembly					1	1	1	1	1	1
20	. . . 193084B	. . . Shaft, Oil Pump Drive					1	1	1	1	1	1
21	. . . 117488M	. . . Ring, Retaining					1	1	1	1	1	1
22	. . . 21004	. . . Key, Woodruff, No. 5					1	1	1	1	1	1
23	. . . 135081B	. . . Gear, Oil Pump - Driven					1	1	1	1	1	1
24	. 119144	. Screen, Oil Pump					1	1	1	1	1	1
25	. 21502	. Pin, Cotter, 1/8" x 1-1/2"					1	1	1	1	1	1
26	21354	Screw, Cap, Hex Head, 3/8"-16 x 1-3/8"					2	2	2	2	2	2
27	21052	Washer, Lock, 3/8"					2	2	2	2	2	2
KITS												
Oil Pump Repair Kits												
	980-144	For Pump Assembly EA193380 (Includes Items 1, 2, 6-12, 20-23)					1					
	980-146	For Pump Assemblies CA193380A and EA193380A (Includes Items 1, 2, 6-12, 20-23)						1	1	1	1	1

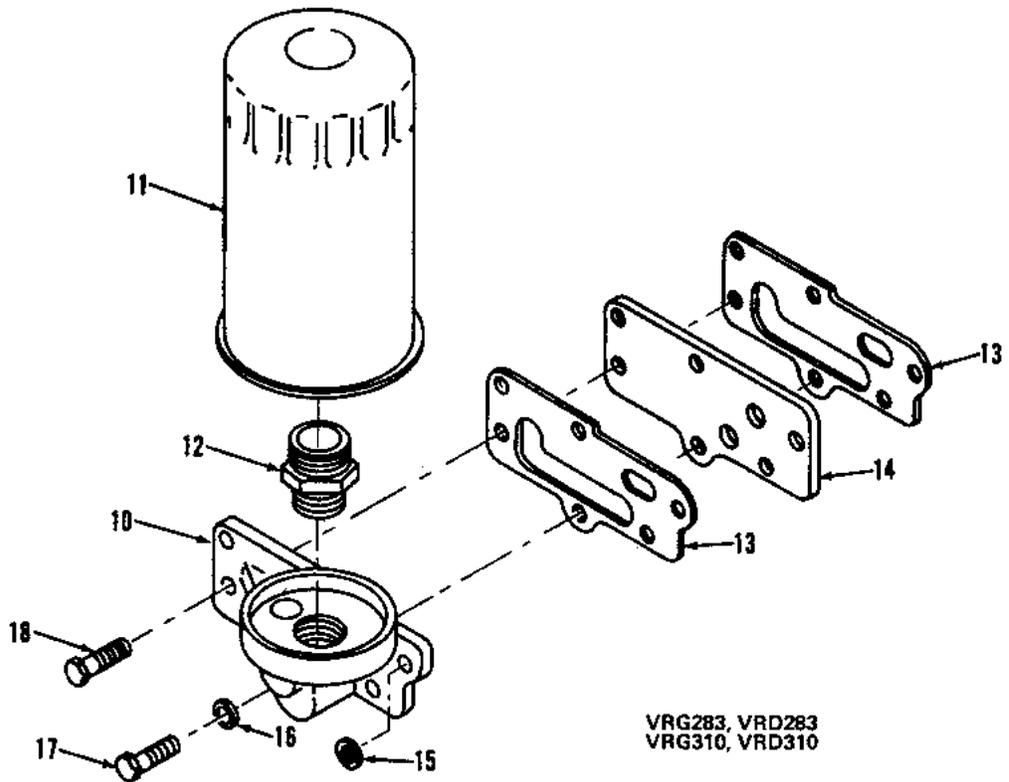


VRG232, VRD232



VRG155, VRD155

LUBE OIL FILTER



VRG283, VRD283  
VRG310, VRD310

LUBE OIL FILTER

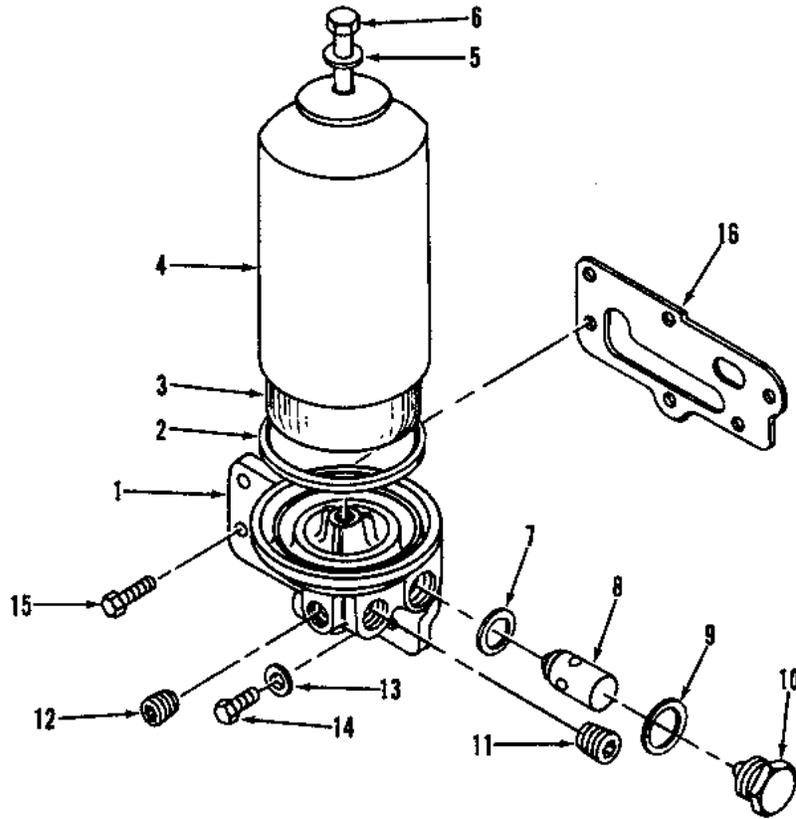


LUBE OIL FILTER  
Group 55

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	A154076B	Base, Lube Oil Filter	1	1								
	207931	Base, Lube Oil Filter			1	1						
2	199269	Element, Lube Oil Filter	1	1	1	1						
3	26743	Plug, Pipe, Hex Head, 1/8"			1	1						
4	810983	Spacer	1	1	1	1						
5	21054	Washer, Lock, 1/2"	2	2	2	2						
6	21428	Screw, Cap, Hex Head, 1/2"-13 x 1-1/4"	2	2	2	2						
7	21052	Washer, Lock, 3/8"	1	1	1	1						
8	21370	Screw, Cap, Hex Head, 3/8"-16 x 3-1/4"	1	1								
	21352	Screw, Cap, Hex Head, 3/8"-16 x 1-1/4"			1	1						
9	117926B	Gasket, Filter Base	1	1	1	1						
LUBE OIL FILTER Group 55												
	A199984A	Filter, Lube Oil - Assembly						1	1	1	1	
10	. 199984A	. Base, Lube Oil Filter						1	1	1	1	
11	. 199982	. Element, Lube Oil Filter						1	1	1	1	
12	. 199983	. Adapter, Lube Oil Filter						1	1	1	1	
13	164831	Gasket, Filter Base (With Diesel or Distributor Ignition)						1	1	1	1	
	164831	Gasket, Filter Base (With Magneto Ignition)						2	2	2	2	
14	208018	Spacer, Filter Base (With Magneto Ignition)						1	1	1	1	
15	B2135	Washer, Plain - Copper, 5/16"						1	1	1	1	
16	21051	Washer, Lock, 5/16"						5	5	5	5	
17	21312	Screw, Cap, Hex Head, 5/16"-18 x 7/8" (With Diesel or Distributor Ignition)						1	1	1	1	
	26322	Screw, Cap, Hex Head, 5/16"-18 x 1-1/8" (With Magneto Ignition)						1	1	1	1	
18	21312	Screw, Cap, Hex Head, 5/16"-18 x 7/8" (With Diesel or Distributor Ignition)						5	5	5	5	
	21315	Screw, Cap, Hex Head, 5/16"-18 x 1-1/4" (With Magneto Ignition)						5	5	5	5	

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS

NOTE: THIS FILTER PREVIOUSLY  
USED ON VRG265, VRG283  
VRD283, VRG310, VRD310



VRG265

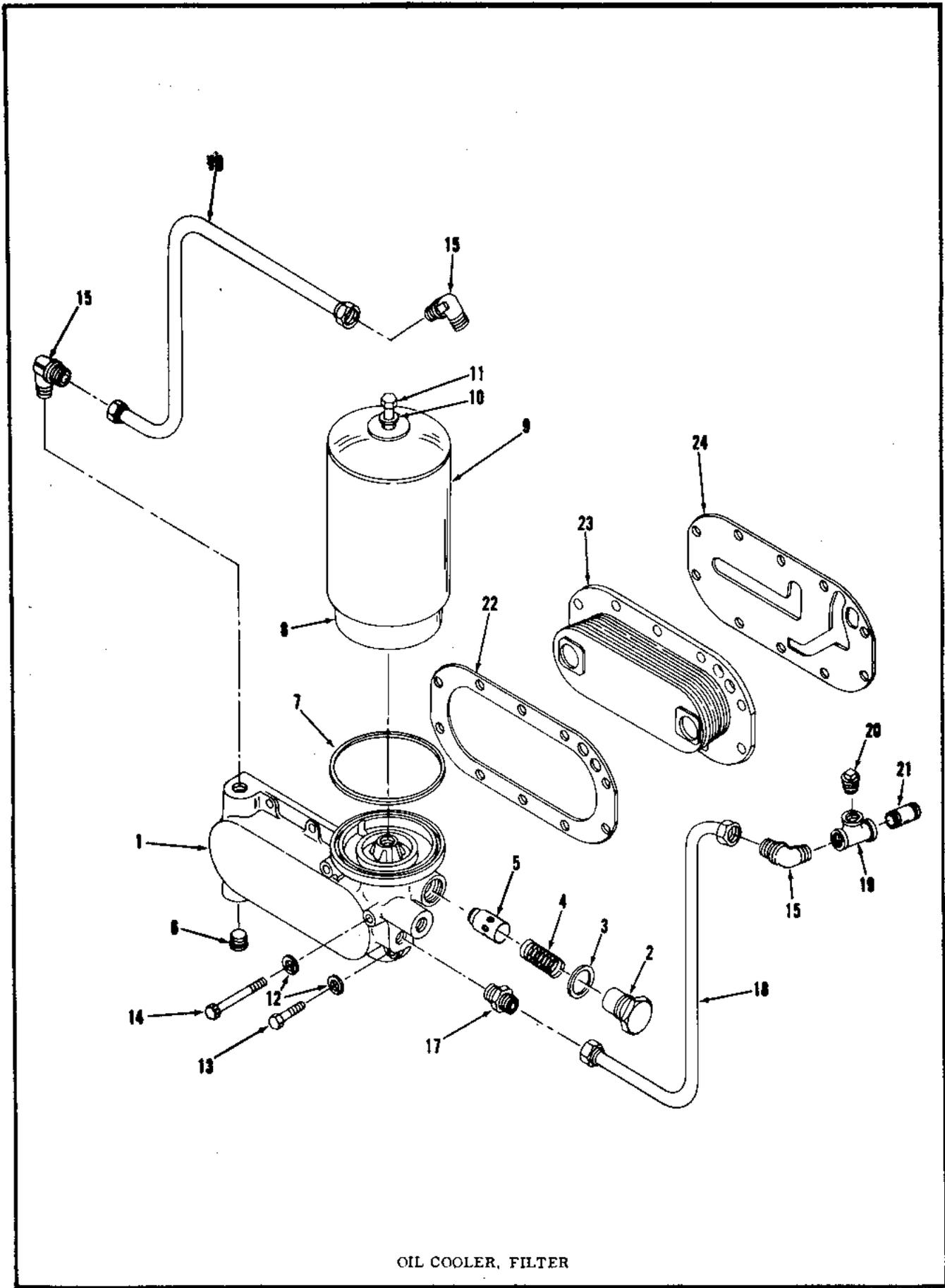
LUBE OIL FILTER



LUBE OIL FILTER  
Group 55

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	A164836	Filter, Lube Oil - Assembly					1					
1	. 164836	. Base, Lube Oil Filter					1					
2	. 493011	. Gasket, Filter Shell					1					
3	. 493009	. Element, Lube Oil Filter					1					
4	. 493010	. Shell					1					
5	. 493007	. Gasket, Center Bolt					1					
6	. 493008	. Bolt, Center					1					
7	. 164834	. Seal					1					
8	. 164835A	. Piston, Relief Valve					1					
9	. 164832	. Washer, Copper					2					
10	. 164833	. Plug, Relief Valve					2					
11	. 78283A	. Plug, Pipe, Countersunk Headless, 1/2"					2					
12	. 21951	. Plug, Pipe, Countersunk Headless, 3/8"					1					
13	21950	Washer, Plain - Brass, 5/16"					1					
14	26939	Screw, Cap, Hex Head, 5/16"-18 x 3/4"					1					
15	28116	Screw, Cap, Hex Head, 5/16"-18 x 7/8"					6					
16	164831	Gasket, Filter Base					1					

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



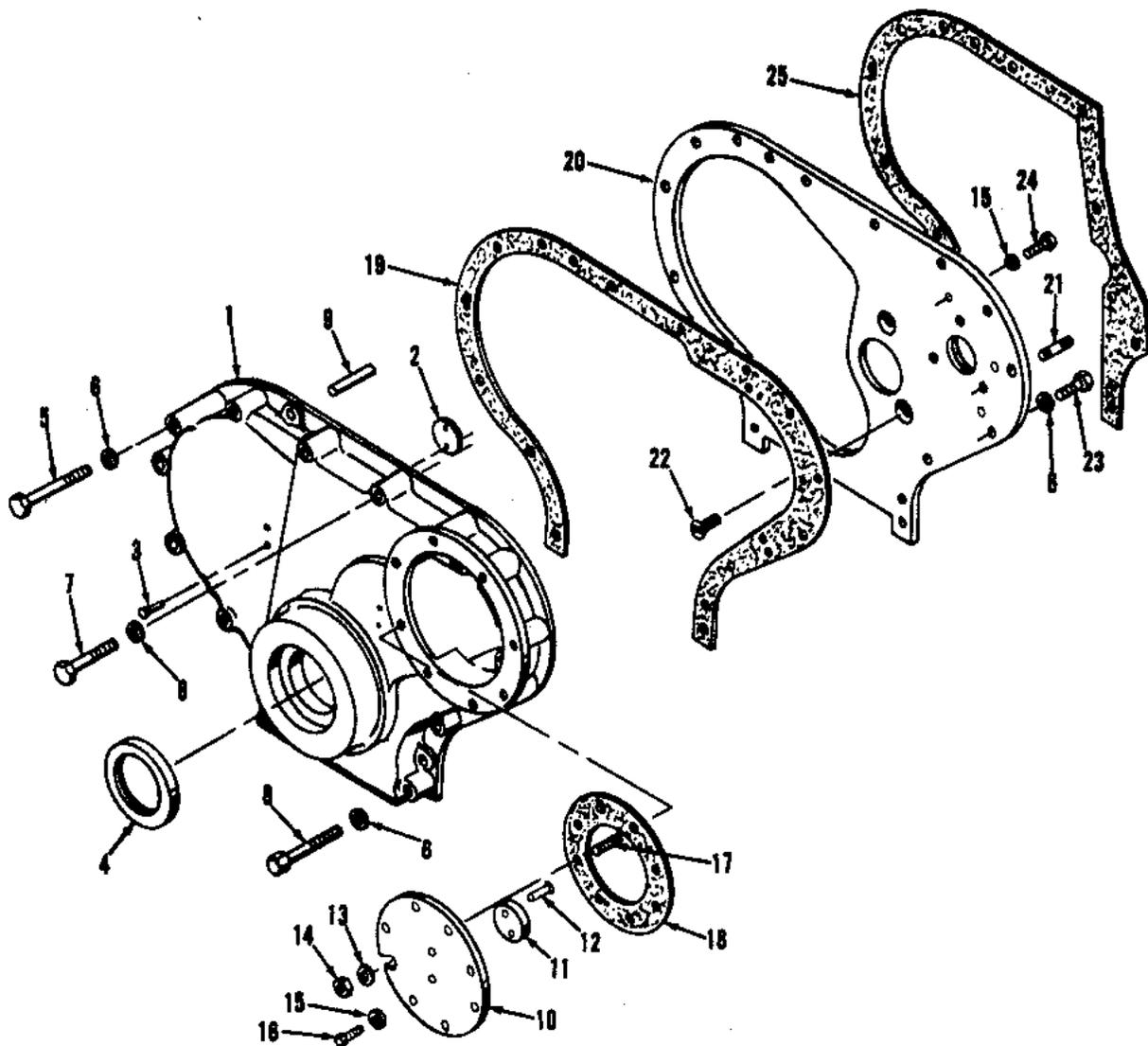
OIL COOLER, FILTER



OIL COOLER, FILTER  
Groups 17, 55

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	C169115	Base, Oil Cooler - Assembly										1
1	. 169115	. Base, Oil Cooler										1
2	. 169313	. Plug, Retainer										1
3	. 169312	. Washer, Copper										1
4	. 199519	. Spring, Relief Valve										1
5	. 169315	. Piston, Relief Valve										1
6	. 21951	. Plug, Pipe, Countersunk Headless, 3/8"										1
7	493011	Gasket, Filter Shell										1
8	493009	Element, Lube Oil Filter										1
9	493010	Shell										1
10	493007	Gasket, Center Bolt										1
11	493008	Bolt, Center										1
12	21051	Washer, Lock, 5/16"										10
13	26322	Screw, Cap, Hex Head, 5/16"-18 x 1-1/8"										8
14	21324	Screw, Cap, Hex Head, 5/16"-18 x 2-3/4"										2
15	164724F	Elbow, Flex										3
16	A169229	Tube, Water										1
17	164717E	Connector, Flex										1
18	A169230	Tube, Oil										1
19	78208B	Tee, Pipe, 3/8"										1
20	78282D	Plug, Pipe, Square Head, 3/8"										1
21	118566X	Nipple, Pipe, 3/8" x 1"										1
22	169117	Gasket, Oil Cooler										1
23	169121	Cooler, Oil										1
24	169118	Gasket, Oil Cooler										1

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



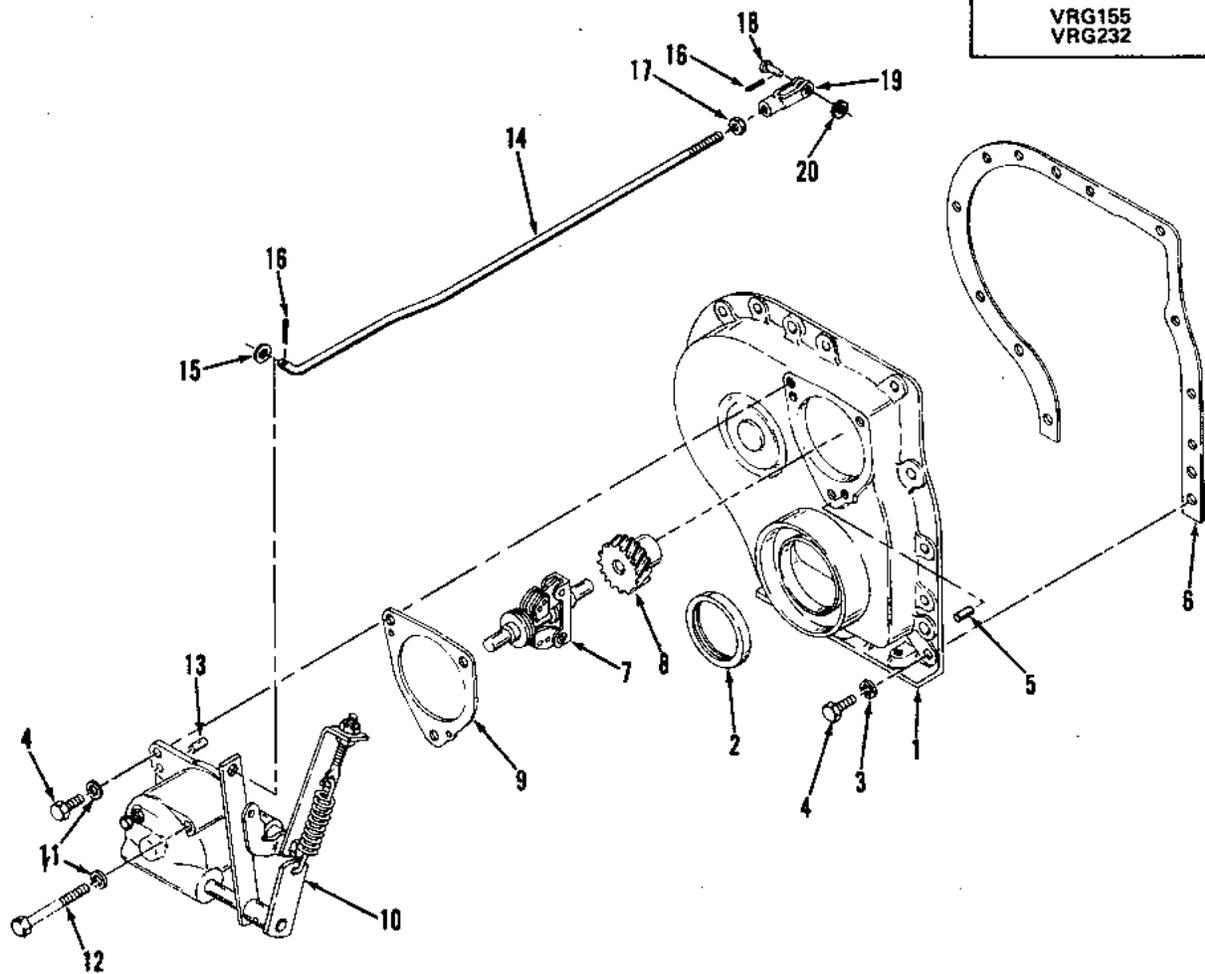
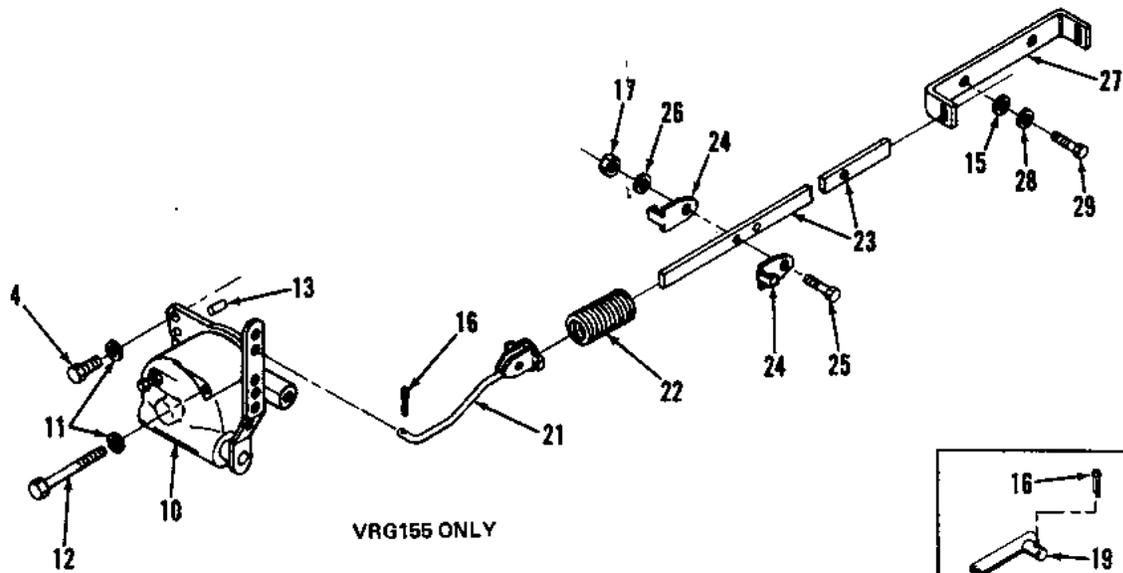
GEAR COVER (DIESEL)



GEAR COVER (DIESEL)  
Group 45

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG283	VRD283	VRG310	VRD310	VRD310S
1	A191945H	Cover, Gear - Assembly		1		1					
	A191945M	Cover, Gear - Assembly						1		1	1
2	. B6016C	. Button, Thrust		2		2		2		2	2
3	. 26809	. Rivet, Countersunk Head, 1/8" x 5/8"		4		4		4		4	4
4	. 168630A	. Seal, Oil - Front		1		1		1		1	1
5	21323	Screw, Cap, Hex Head, 5/16"-18 x 2-1/2"		1		1		1		1	1
6	21051	Washer, Lock, 5/16"		15		15		15		15	15
7	21319	Screw, Cap, Hex Head, 5/16"-18 x 1-3/4"		1		1		1		1	1
8	21321	Screw, Cap, Hex Head, 5/16"-18 x 2"		8		8		8		8	8
9	B2315	Pin, Dowel		2		2		2		2	2
10	A155214B	Cover, Fuel Pump - Assembly		1		1		1		1	1
11	. 156219	. Button, Thrust				1		1		1	
	. 156219A	. Button, Thrust		1							1
12	. 21841	. Rivet, Countersunk Head, 1/8" x 1/2"		2		2		2		2	2
13	207182	Washer, Conical		1		1		1		1	1
14	21185	Nut, Hex, 5/16"-24		1		1		1		1	
	21187	Nut, Thin Hex, 5/16"-24									1
15	B2135	Washer, Plain - Copper, 5/16"		10		10		10		10	10
16	21307	Screw, Cap, Hex Head, 5/16"-18 x 5/8"		7		7		7		7	7
17	39104	Stud		1		1		1		1	1
18	155215	Gasket, Fuel Pump Cover		1		1		1		1	1
19	155213A	Gasket, Gear Cover		1		1		1		1	1
20	A191954D	Plate, Front - Assembly		1		1					
	A191954G	Plate, Front - Assembly						1		1	1
21	. 28546	. Stud, Fuel Injection Pump		3		3		3		3	3
22	21751	Screw, Machine, Flat Head, 5/16"-18 x 3/4"		2		2		2		2	2
23	21312	Screw, Cap, Hex Head, 5/16"-18 x 7/8"		5		5		5		5	5
24	21309	Screw, Cap, Hex Head, 5/16"-18 x 3/4"		3		3		3		3	3
25	41479A	Gasket, Front Plate		1		1		1		1	1

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



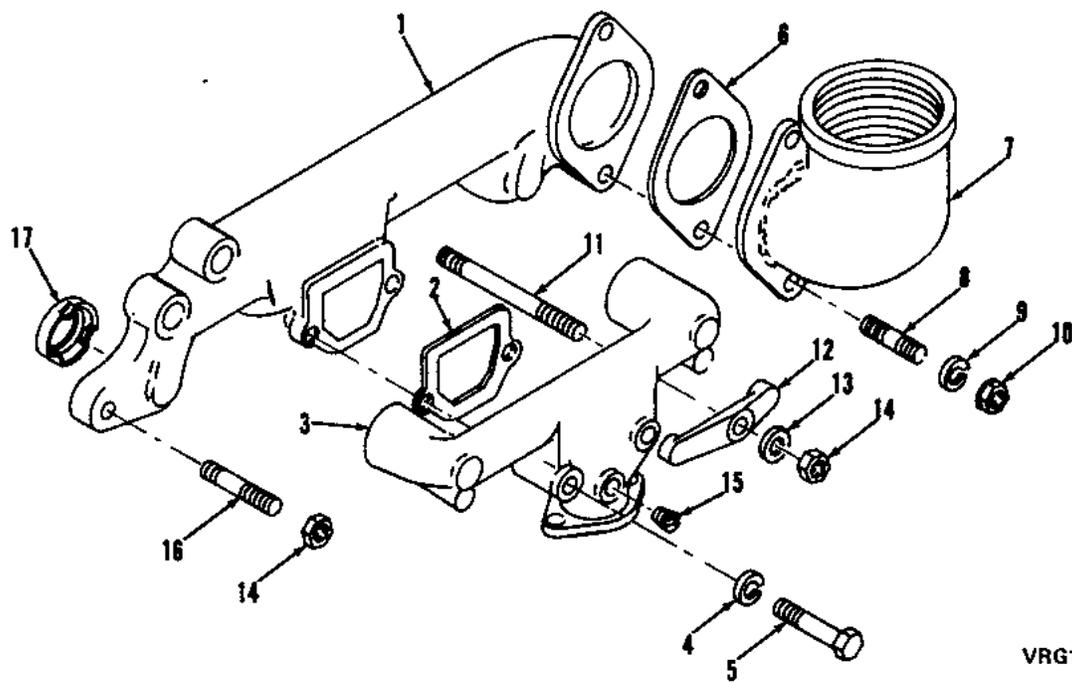
GOVERNOR, GOVERNOR LINKAGE, GEAR COVER (GAS)



GOVERNOR, GOVERNOR LINKAGE, GEAR COVER (GAS)  
Groups 31, 33, 45

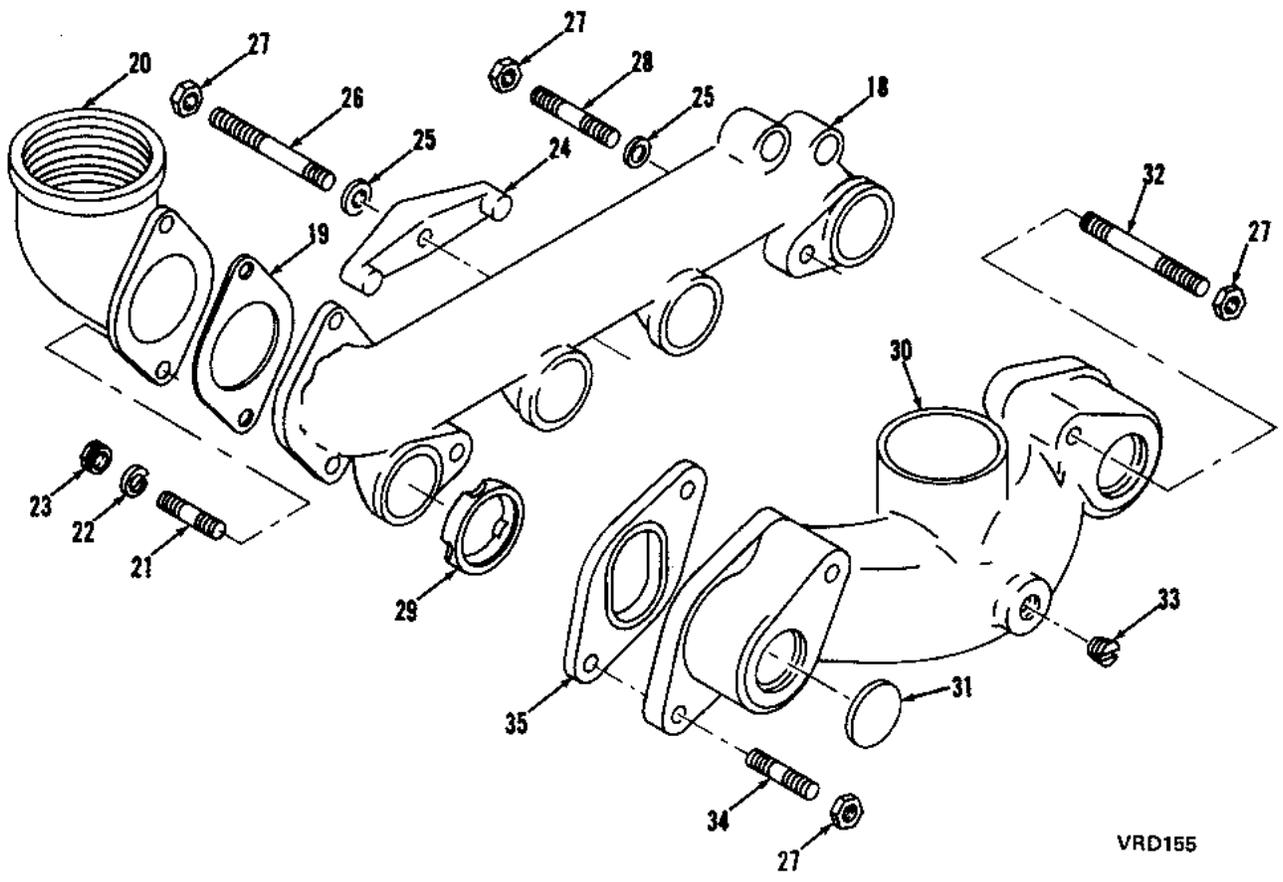
ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD3105
1	AA190345C	Cover, Gear - Assembly	1		1		1	1		1		
2	. 168630A	. Seal, Front Oil	1		1		1	1		1		
3	21630	Washer, Internal Shakeproof, 5/16"	12		12		12	12		12		
4	21309	Screw, Cap, Hex Head, 5/16"-18 x 3/4"	14		14		14	14		14		
5	B3568	Pin, Dowel	2		2		2	2		2		
6	44931A	Gasket, Gear Cover	1									
	44931B	Gasket, Gear Cover			1		1	1		1		
7	A180373P	Shaft, Governor - Assembly	1		1		1	1		1		
8	. 190228E	. Gear, Governor	1		1		1	1		1		
9	41283A	Gasket, Governor Housing	1									
	41283B	Gasket, Governor Housing			1		1	1		1		
10	180344F	Housing, Governor	1									
	180344N	Housing, Governor			1		1	1		1		
11	B2135	Washer, Plain - Copper, 5/16"	3		3		3	3		3		
12	21324	Screw, Cap, Hex Head, 5/16"-18 x 2-3/4"	1		1		1	1		1		
13	B1883	Pin, Dowel	2		2		2	2		2		
14	163561	Rod, Governor					1	1		1		
	166174	Rod, Governor	1									
	167610	Rod, Governor			1							
15	Y18813E	Washer, Plain, 3/16"	2		1		1	1		1		
16	21057	Pin, Cotter, 1/16" x 1/2"			2		2	2		2		
	21058	Pin, Cotter - Plated, 1/16" x 1/2"	3									
17	21263	Nut, Hex, No. 10-32			1							
	21264	Nut, Hex - Plated, No. 10-32	1				1	1		1		
18	B3743	Pin, Rod End					1	1		1		
19	116508	End, Governor Rod					1	1		1		
	167611	End, Governor Rod	1		1							
20	Y18813G	Washer, Plain, 1/4"					1	1		1		
21	A164219	End, Governor Spring	1									
22	163562	Spring, Governor Rod	1									
23	164220A	Rod, Control	1									
24	163556	End, Governor Spring	2									
25	26012	Screw, Machine, Round Head, No. 10-32 x 1/2"	1									
26	26420	Washer, Lock - Plated, No. 10	1									
27	116510	Guide, Governor Control Rod	1									
28	21536	Washer, Lock, 1/4"	2									
29	21272	Screw, Cap, Hex Head, 1/4"-20 x 1/2"	2									

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



VRG155

INTAKE-EXHAUST MANIFOLD



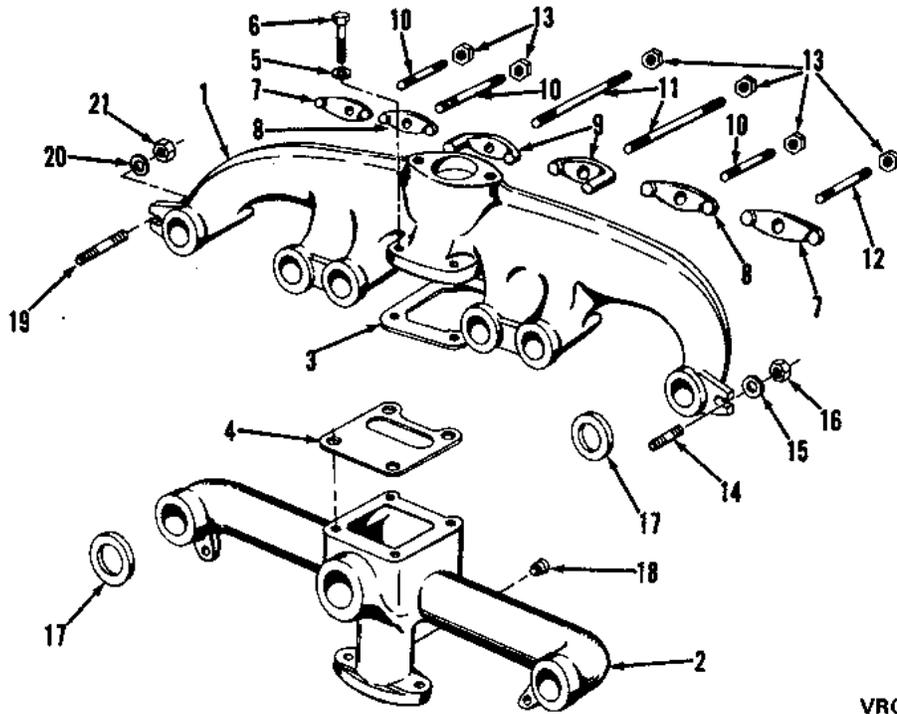
VRD155

INTAKE, EXHAUST MANIFOLD



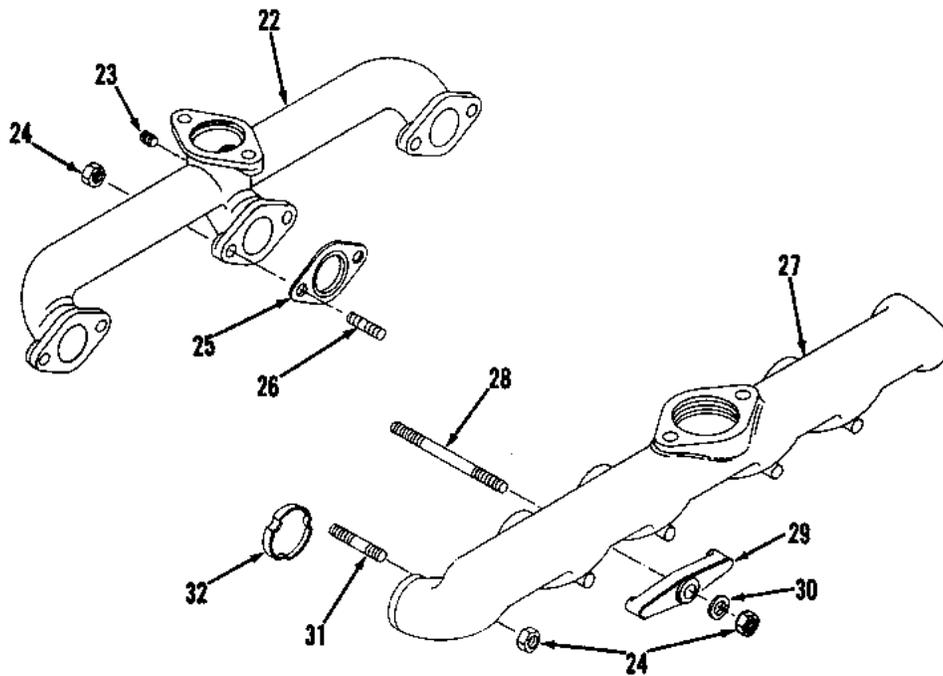
INTAKE-EXHAUST MANIFOLD  
Group 43

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	A180742	Manifold Assembly										
1	. 180742	. Manifold, Exhaust	1									
2	. 116383A	. Gasket, Intake to Exhaust Manifold	1									
3	. 180341	. Manifold, Intake	1									
4	. 21052	. Washer, Lock, 3/8"	2									
5	. 21365	. Screw, Cap, Hex Head, 3/8"-16 x 2-1/2"	2									
6	207475	Gasket, Exhaust Flange	1									
7	207465	Flange, Exhaust	1									
8	44108	Stud	2									
9	21052	Washer, Lock, 3/8"	2									
10	26881	Nut, Thin Hex, 3/8"-24	2									
11	151012	Stud	2									
12	41266	Clamp, Manifold	2									
13	76911	Washer, Plain, 3/8"	2									
14	B2943	Nut, Hex, 3/8"-24	4									
15	78280A	Plug, Pipe, Slotted Head, 1/8"	1									
16	48458	Stud	2									
17	44932C	Gasket, Manifold	6									
INTAKE, EXHAUST MANIFOLD Groups 41, 42												
18	181742	Manifold, Exhaust		1								
19	207475	Gasket, Exhaust Flange		1								
20	207465	Flange, Exhaust		1								
21	44108	Stud		2								
22	21052	Washer, Lock, 3/8"		2								
23	26881	Nut, Thin Hex, 3/8"-24		2								
24	117168	Clamp, Manifold		1								
25	B221	Washer, Plain, 3/8"		2								
26	117453	Stud		1								
27	21193	Nut, Hex, 3/8"-24		7								
28	118531	Stud		2								
29	41426A	Gasket, Exhaust Manifold		4								
30	A181741	Manifold, Intake - Assembly		1								
31	. 41526A	. Plug, Expansion		2								
32	B2031	Stud		2								
33	78280A	Plug, Pipe, Slotted Head, 1/8"		1								
34	B654	Stud		2								
35	158726	Gasket, Intake Manifold		2								



VRG232, VRG265

INTAKE-EXHAUST MANIFOLD



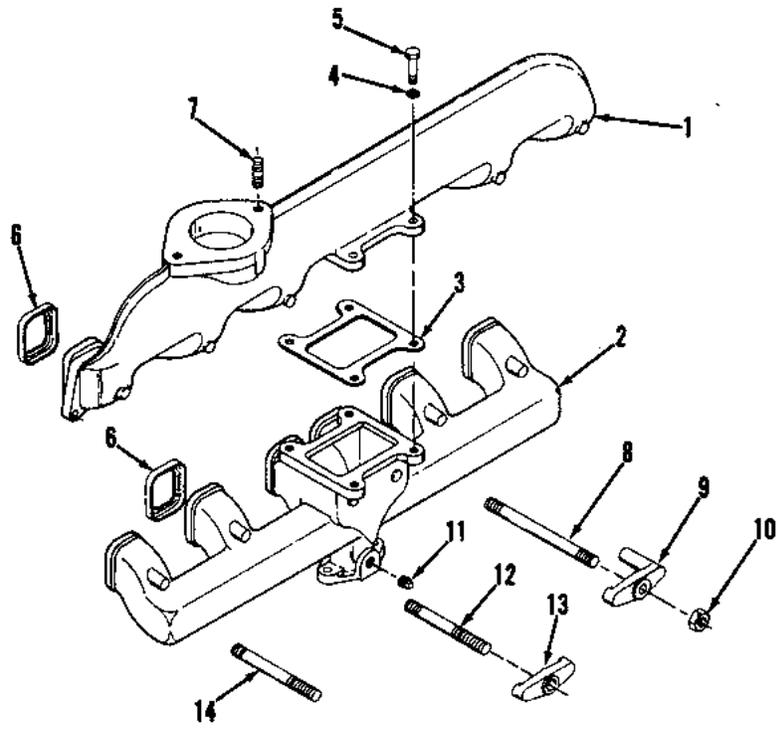
VRD232

INTAKE, EXHAUST MANIFOLD



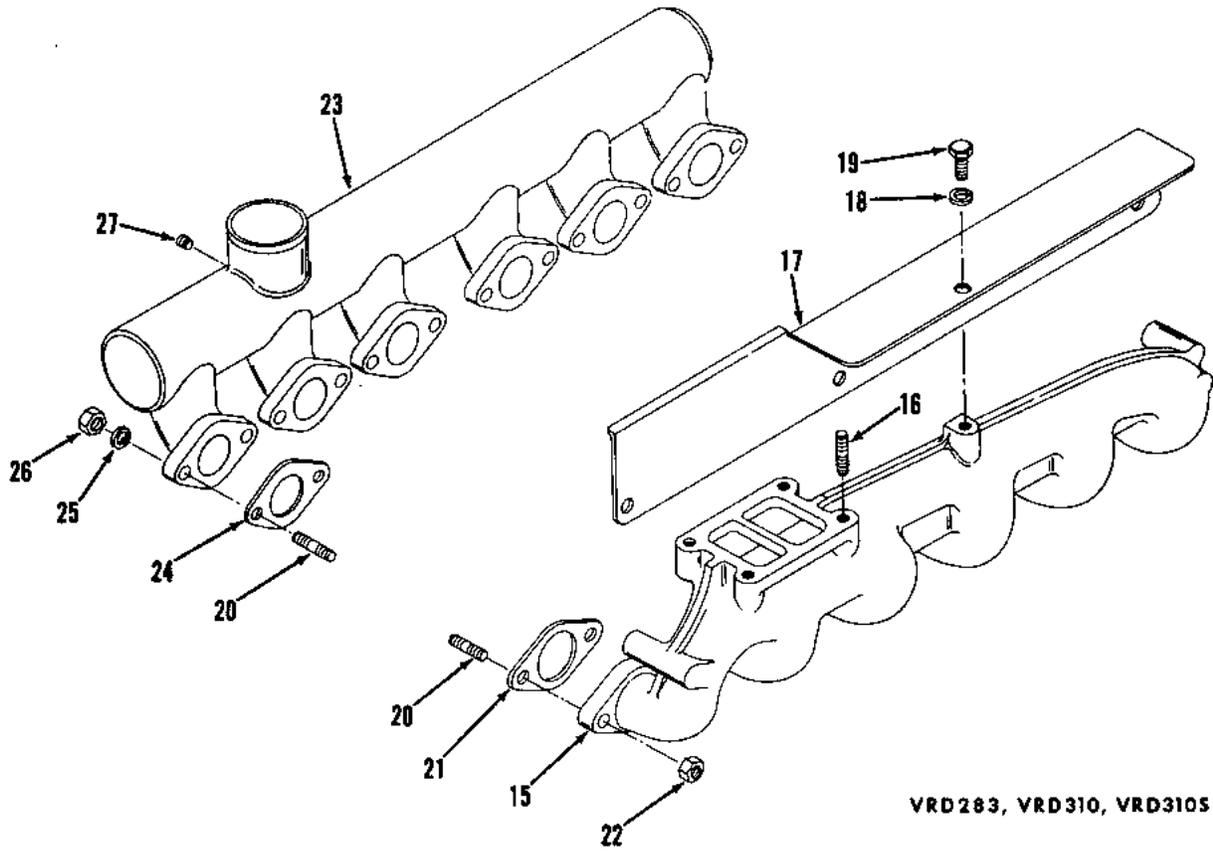
INTAKE-EXHAUST MANIFOLD  
Group 43

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	A185342M	Manifold Assembly			1							
	A190342P	Manifold Assembly					1					
1	. 185342M	. Manifold, Exhaust			1							
	. 190342P	. Manifold, Exhaust					1					
2	. 185541	. Manifold, Intake			1							
	. 190941	. Manifold, Intake					1					
3	. 116202	. Gasket, Intake to Exhaust Manifold			2		1					
4	. 167284	. Shield, Heat			1							
5	. 21052	. Washer, Lock, 3/8"			4							
	. 21729	. Washer, Lock, 3/8"					4					
6	. 21349	. Screw, Cap, Hex Head, 3/8"-16 x 1"					4					
	. 21352	. Screw, Cap, Hex Head, 3/8"-18 x 1-1/4"			4							
7	116296	Clamp, Manifold - End			2		2					
8	116203	Clamp, Manifold - Intermediate			2		2					
9	116201	Clamp, Manifold - Center					2					
	157937	Clamp, Manifold - Center			2							
10	B9621	Stud			3							
	151012	Stud					3					
11	107120	Stud					2					
	158407	Stud			2							
12	B9714	Stud			1							
	151012B	Stud					1					
13	B2943	Nut, Hex, 3/8"-24			6		6					
14	B320A	Stud					1					
15	158357	Spacer					1					
16	28252	Nut, Thin Hex, 7/16"-20					1					
17	41271A	Gasket, Manifold			8							
	44932C	Gasket, Manifold					9					
18	78280A	Plug, Pipe, Slotted Head, 1/8"					1					
19	B2610	Stud					1					
20	73558	Washer, Flat, 7/16"					1					
21	B659	Nut, Hex, 7/16"-20					1					
INTAKE, EXHAUST MANIFOLD Groups 41, 42												
22	186141	Manifold, Intake					1					
23	78282A	Plug, Pipe, Square Head, 1/8"					1					
24	21193	Nut, Hex, 3/8"-24					10					
25	B1997	Gasket, Intake Manifold					3					
26	B291	Stud					6					
27	186142	Manifold, Exhaust					1					
28	44544	Stud, Long					2					
29	117168	Clamp, Exhaust Manifold					2					
30	B221	Washer, Plain, 3/8"					2					
31	118531	Stud, Short					2					
32	44932C	Gasket, Exhaust Manifold					6					



VRG283, VRG310

INTAKE-EXHAUST MANIFOLD



VRD283, VRD310, VRD310S

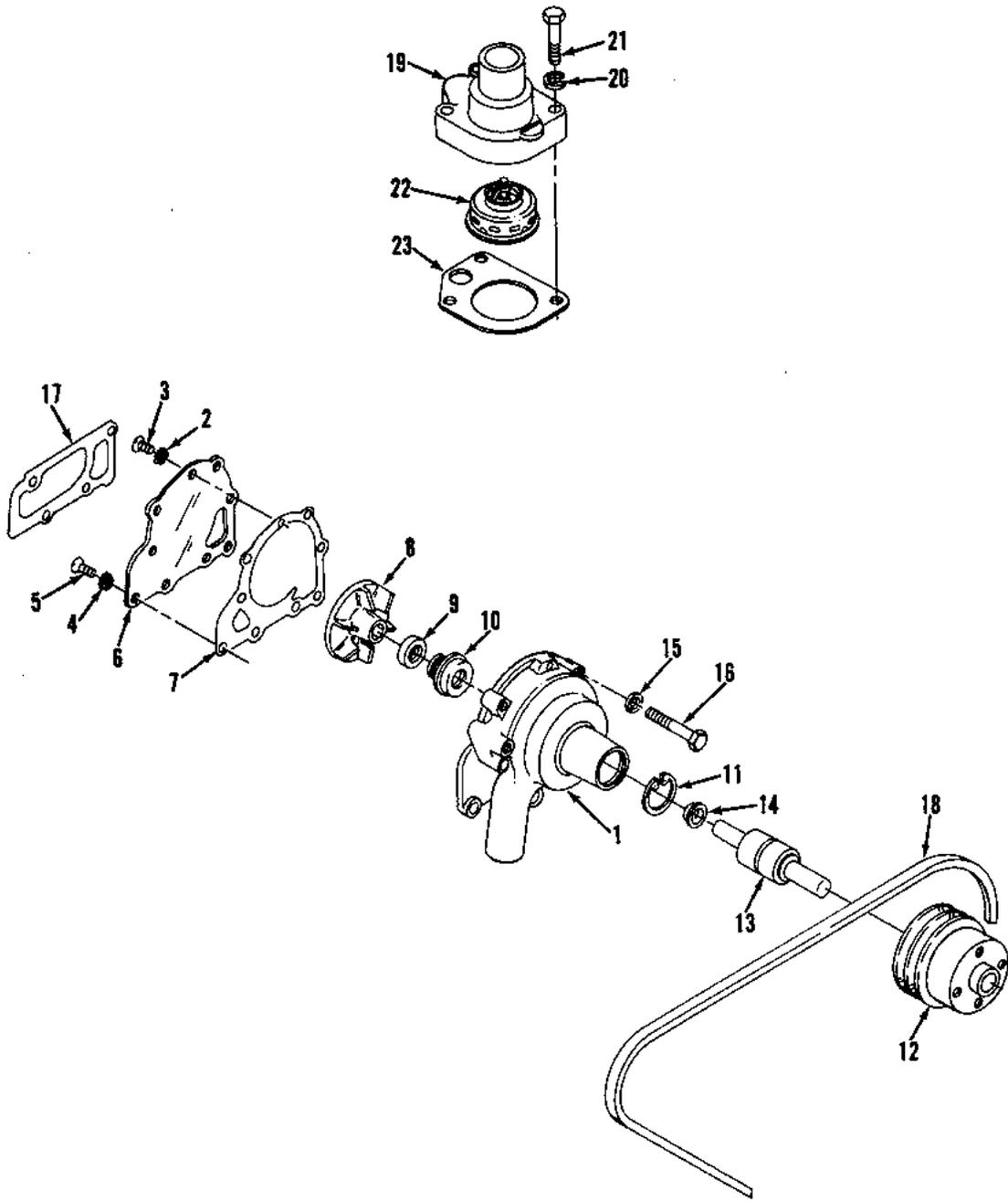
INTAKE, EXHAUST MANIFOLD



INTAKE-EXHAUST MANIFOLD  
Group 43

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	C222142A	Manifold Assembly						1		1		
1	. 222142A	. Manifold, Exhaust						1		1		
2	. 222341	. Manifold, Intake						1		1		
3	. 159884	. Gasket, Intake to Exhaust Manifold						1		1		
4	. 21052	. Washer, Lock, 3/8"						4		4		
5	. 21348	. Screw, Cap, Hex Head, 3/8"-16 x 1"						4		4		
6	159883	Gasket, Manifold						12		12		
7	B5763	Stud						2		2		
8	107120	Stud						2		2		
9	158978	Clamp, Manifold - Long						2		2		
10	B2943	Nut, Hex, 3/8"-24						6		6		
11	78280A	Plug, Pipe, Slotted Head, 1/8"						1		1		
12	74358	Stud						3		3		
13	158978A	Clamp, Manifold - Short						4		4		
14	117453	Stud						1		1		
INTAKE, EXHAUST MANIFOLD Groups 41, 42												
	A223142B	Manifold, Exhaust - Assembly							1		1	
15	. 223142B	. Manifold, Exhaust							1		1	
	. 223242	. Manifold, Exhaust										1
16	. B654	. Stud						4		4		4
17	. 168741B	. Shield, Heat						1		1		1
18	. 21052	. Washer, Lock, 3/8"						4		4		4
19	. 21340	. Screw, Cap, Hex Head, 3/8"-16 x 5/8"						4		4		4
20	B654	Stud						24		24		24
21	166629A	Gasket, Exhaust Manifold						6		6		6
22	B2943	Nut, Hex, 3/8"-24						12		12		12
23	223141	Manifold, Intake						1		1		1
24	166595A	Gasket, Intake Manifold						6		6		6
25	21052	Washer, Lock, 3/8"						12		12		12
26	21193	Nut, Hex, 3/8"-24						12		12		12
27	Y18802	Plug, Pipe, Allen Head, 1/8"						1		1		1

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



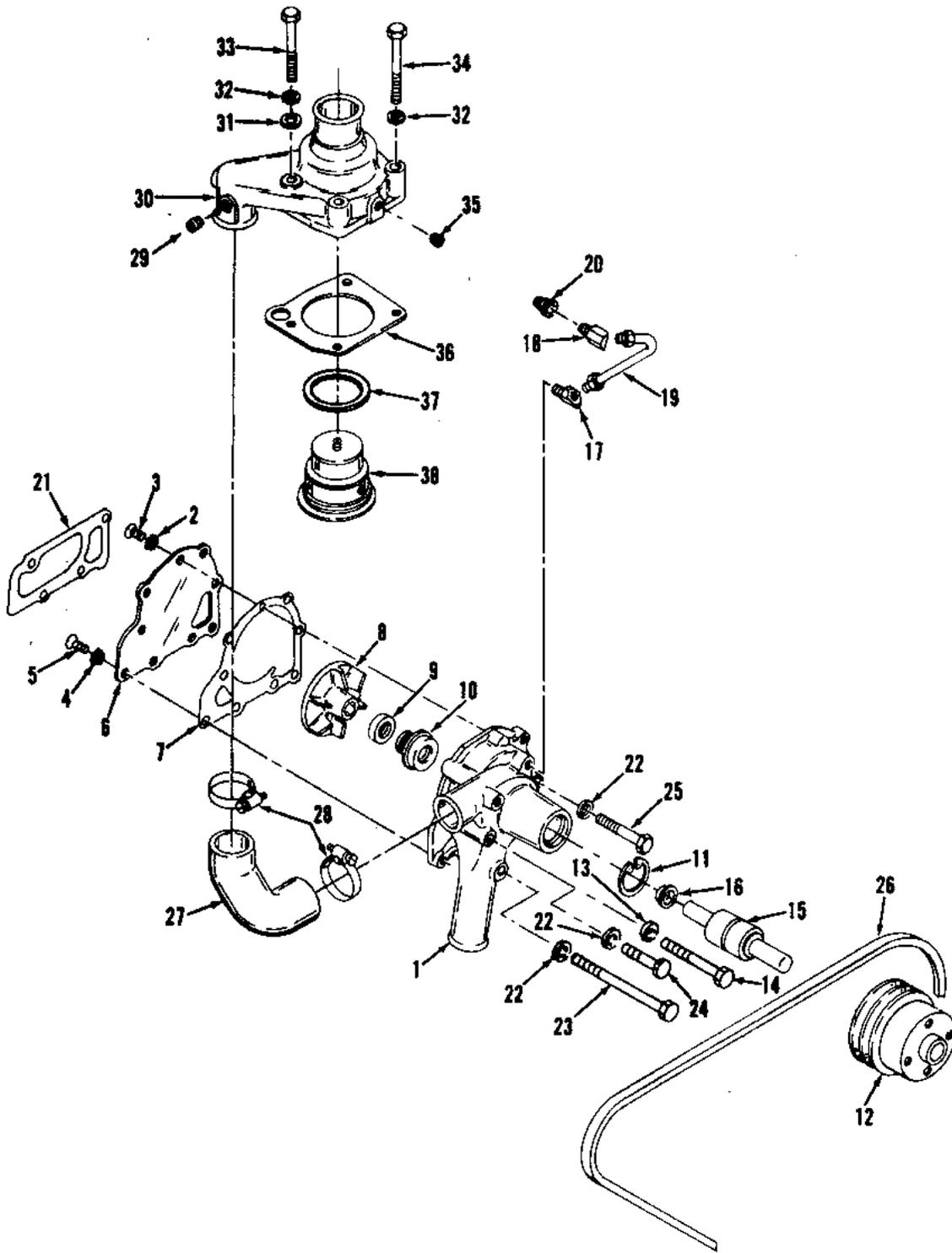
WATER PUMP, THERMOSTAT HOUSING



**WATER PUMP, THERMOSTAT HOUSING**  
Groups 21, 60

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	M190460	Pump, Water - Assembly	1	1	1	1						
1	. 190460	. Body, Water Pump	1	1	1	1						
2	. 21642	. Washer, External Shakeproof, 3/16"	1	1	1	1						
3	. 26543	. Screw, Machine, Flat Head, No. 10-32 x 5/8"	1	1	1	1						
4	. 21842	. Washer, External Shakeproof, 1/4"	2	2	2	2						
5	. 21139	. Screw, Machine, Flat Head, 1/4"-20 x 5/8"	4	4	4	4						
6	. 163771	. Cover, Water Pump	1	1	1	1						
7	. 163772	. Gasket, Water Pump Cover	1	1	1	1						
8	. 190163A	. Impeller, Water Pump	1	1	1	1						
9	. 161647A	. Seat, Water Pump Seal	1	1	1	1						
10	. 120320	. Seal, Water Pump	1	1	1	1						
11	. 44999R	. Ring, Retaining	1	1	1	1						
12	. 221586F	. Pulley, Water Pump	1	1	1	1						
13	. 0190156	. Shaft, Water Pump	1	1	1	1						
14	. . 78645	. . Slinger	1	1	1	1						
15	21052	Washer, Lock, 3/8"	4	4	4	4						
16	21369	Screw, Cap, Hex Head, 3/8"-16 x 3"	4	4	4	4						
17	152311	Gasket, Water Pump	1	1	1	1						
18	A166226	Belt, Water Pump (Set of Two) (Engines Equipped with Alternator or Belt Tightener)	1	1	1	1						
	A810496	Belt, Water Pump (Set of Two) (Engines Equipped with Altronic Generator)	1		1							
19	221278A	Housing, Thermostat (With Radiator)	1	1	1	1						
	221278	Housing, Thermostat (Without Radiator)	1	1	1	1						
20	21729	Washer, Lock 3/8"	3	3	3	3						
21	21361	Screw, Cap, Hex Head, 3/8"-16 x 1-3/4"	3	3	3	3						
22	163691	Thermostat	1	1	1	1						
23	117231	Gasket, Thermostat Housing	1	1	1	1						
		KITS										
		<u>Water Pump Repair Kit</u>										
	960-213	For Water Pump Assembly M190460 (Includes Items 2-5, 7-11, 13, 15, 17)	1	1	1	1						

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS

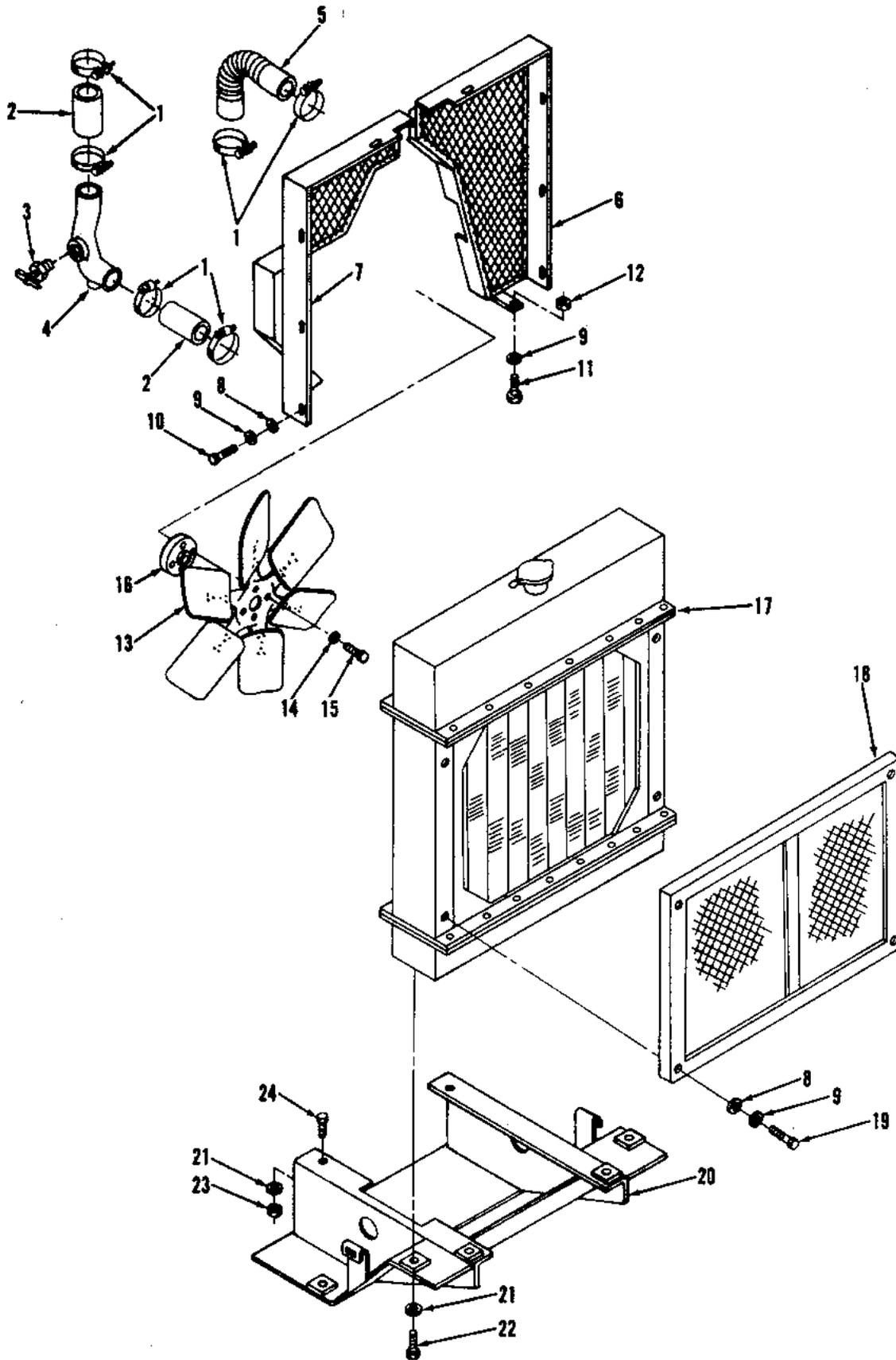


WATER PUMP, THERMOSTAT HOUSING



WATER PUMP, THERMOSTAT HOUSING  
Groups 21, 60

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	E190660	Pump, Water - Assembly					1					
	H221560	Pump, Water - Assembly						1	1	1	1	1
1	. 190660	. Body, Water Pump					1					
	. 221560	. Body, Water Pump						1	1	1	1	1
2	. 21642	. Washer, External Shakeproof, 3/16"										
3	. 21138	. Screw, Machine, Flat Head, No. 10-32 x 1/2"										
4	. 21842	. Washer, External Shakeproof, 1/4"						3	3	3	3	3
5	. 21139	. Screw, Machine, Flat Head, 1/4"-20 x 5/8"						5	5	5	5	5
6	. 163771A	. Cover, Water Pump										
	. 163671B	. Cover, Water Pump										
7	. 163772	. Gasket, Water Pump Cover					1	1	1	1	1	1
	. 163672A	. Gasket, Water Pump Cover						1	1	1	1	1
8	. 190363	. Impeller, Water Pump					1	1	1	1	1	1
	. 221163	. Impeller, Water Pump						1	1	1	1	1
9	. 161647A	. Seat, Water Pump Seal					1	1	1	1	1	1
10	. 120320	. Seal, Water Pump					1	1	1	1	1	1
	. 120320B	. Seal, Water Pump						1	1	1	1	1
11	. 44999R	. Ring, Retaining					1	1	1	1	1	1
12	. 190294A	. Pulley, Water Pump					1	1	1	1	1	1
	. 221586A	. Pulley, Water Pump						1	1	1	1	1
13	. 21052	. Washer, Lock, 3/8"					1	1	1	1	1	1
14	. 21372	. Screw, Cap. Hex Head, 3/8"-16 x 3-3/4"					1	1	1	1	1	1
15	. 0190156	. Shaft, Water Pump - Assembly					1	1	1	1	1	1
	. A190156	. Shaft, Water Pump - Assembly						1	1	1	1	1
16	. . 78645	. Slinger					1	1	1	1	1	1
17	73404A	Elbow, Inverted					1	1	1	1	1	1
	73018B	Elbow, Inverted					1	1	1	1	1	1
18	73018B	Elbow, Inverted					1	1	1	1	1	1
19	A164548B	Line, Vent					1	1	1	1	1	1
	A164548G	Line, Vent						1	1	1	1	1
	A164548H	Line, Vent						1	1	1	1	1
	A164548J	Line, Vent						1	1	1	1	1
20	B8677	Bushing, Reducing, 1/4" to 1/8"										1
21	152311	Gasket, Water Pump										1
	163673A	Gasket, Water Pump						1	1	1	1	1
22	21052	Washer, Lock, 3/8"					3	4	4	4	4	4
23	21374	Screw, Cap. Hex Head, 3/8"-16 x 4-1/4"					1	1	1	1	1	1
	21375	Screw, Cap. Hex Head, 3/8"-16 x 4-1/2"					1	1	1	1	1	1
24	21352	Screw, Cap. Hex Head, 3/8"-16 x 1-1/4"					2	2	2	2	2	2
25	21365	Screw, Cap. Hex Head, 3/8"-16 x 2-1/2"					1	1	1	1	1	1
26	A154337	Belt, Water Pump (Set of Two)					1	1	1	1	1	1
	A810496	Belt, Water Pump (Set of Two)						1	1	1	1	1
	A810496A	Belt, Water Pump (Set of Two)						1	1	1	1	1
27	A164952	Hose					1	1	1	1	1	1
28	41236C	Clamp, Hose					2	2	2	2	2	2
29	21951	Plug, Pipe, Countersunk Headless, 3/8"					1	1	1	1	1	1
30	221478	Housing, Thermostat					1	1	1	1	1	1
31	B221	Washer, Plain, 3/8"					1	1	1	1	1	1
32	21729	Washer, Lock, 3/8"					4	4	4	4	4	4
33	21366	Screw, Cap. Hex Head, 3/8"-16 x 2-1/2"					4	4	4	4	4	4
	21885	Screw, Cap. Hex Head, 3/8"-16 x 2-1/4"					1	1	1	1	1	1
	26567	Screw, Cap. Hex Head, 3/8"-16 x 3-1/4"					3	3	3	3	3	3
34	26440	Screw, Cap. Hex Head, 3/8"-16 x 3-1/2"					1	1	1	1	1	1
35	Y18802	Plug, Pipe, Allen Head, 1/8"					3	3	3	3	3	3
36	162400	Gasket, Thermostat Housing					1	1	1	1	1	1
37	199175	Gasket, Thermostat					1	1	1	1	1	1
38	162492A	Thermostat					1	1	1	1	1	1
	199174	Thermostat						1	1	1	1	1
KITS												
<u>Water Pump Repair Kits</u>												
	960-200	Water Pump Assembly E190660 (Includes Items 2, 4, 5, 7-11, 13-15, 21, 25)					1					
	960-214	Water Pump Assembly H221560 (Includes Items 4, 5, 7-11, 15, 21, 22)						1	1	1	1	1



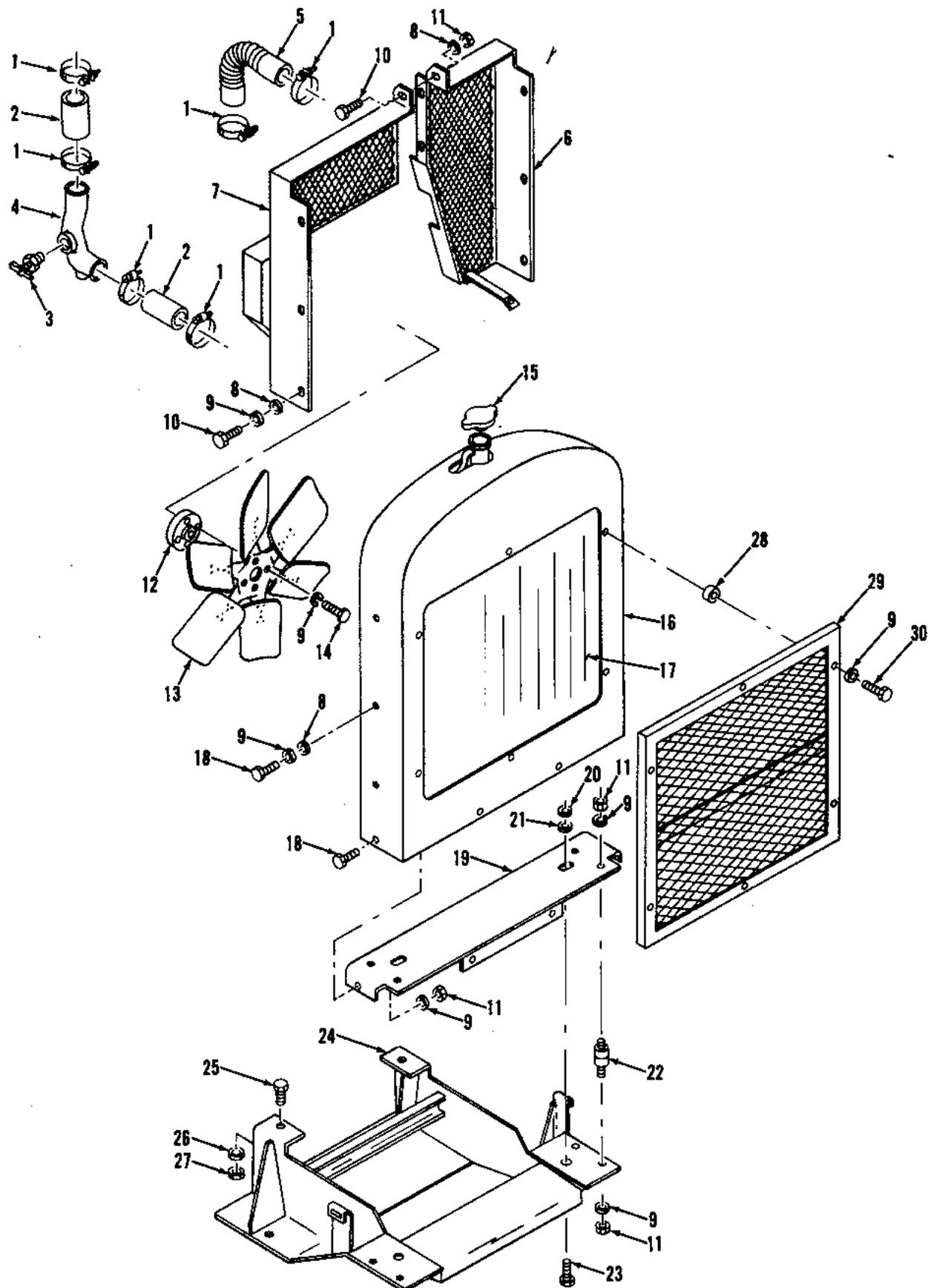
RADIATOR, FAN, FRONT SUPPORT (Previous Configuration)



**RADIATOR, FAN, FRONT SUPPORT (Previous Configuration)**  
Groups 200, 219

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	41236C	Clamp, Hose	6	6	6	6	6	6	6	6	6	6
2	15026C	Connection, Hose, 1-3/4" I.D. x 3"	1	1	1	1						
	20751B	Connection, Hose, 2" I.D. x 3"	1	1	1	1	1	1	1	1	1	1
	78978	Connection, Hose, 2-1/8" I.D. x 3-1/2"					1	1	1	1	1	1
3	48993	Cock, Drain					1	1	1	1	1	1
	73413A	Cock, Drain	1	1	1	1						
4	199093A	Connection, Lower Radiator					1	1	1	1	1	1
	207100	Connection, Lower Radiator	1	1	1	1						
5	120233	Connection, Hose, Flexible, 2" I.D. x 12"					1	1	1	1	1	1
	151069	Connection, Hose, Flexible, 2" I.D. x 14"	1	1	1	1						
6	199100B	Guard, Fan - L. H.	1	1	1	1	1	1	1	1	1	1
7	199101B	Guard, Fan - R. H.	1	1	1	1	1	1	1	1	1	1
8	Y18813G	Washer, Plain, 1/4"	14	14								
9	21050	Washer, Lock, 1/4"	14	14	4	4	4	4	4	4	4	4
10	21271	Screw, Cap, Hex Head, 1/4"-20 x 1/2"	9	9								
	26003	Screw, Drive, Round Head, No. 8 x 1/2"			8	8	8	8	8	8	8	8
11	21273	Screw, Cap, Hex Head, 1/4"-20 x 5/8"	1	1								
12	28102	Nut, Flex Loc, 1/4"-20	1	1								
13	120413	Blade, Fan (Pusher)			1	1	1	1	1	1	1	1
	120413A	Blade, Fan (Pusher)	1	1								
	120414	Blade, Fan (Suction)			1	1	1	1	1	1	1	1
	120414C	Blade, Fan (Suction)	1	1								
14	21051	Washer, Lock, 5/16"	4	4	4	4	4	4	4	4	4	4
15	21312	Screw, Cap, Hex Head (Pusher Blade), 5/16"-18 x 7/8"			4	4	4	4	4	4	4	4
	21322	Screw, Cap, Hex Head (Pusher Blade), 5/16"-18 x 2-1/4"	4	4								
	21325	Screw, Cap, Hex Head (Suction Blade), 5/16"-18 x 3-1/4"	4	4	4	4						
	26249	Screw, Cap, Hex Head (Suction Blade), 5/16"-18 x 1-3/8"					4	4	4	4	4	4
16	78805H	Spacer, Fan Blade (Suction)					1					
	157015F	Spacer, Fan Blade (Suction)						1	1	1	1	1
	207973	Spacer, Fan Blade (Suction)	1	1	1	1						
	207973A	Spacer, Fan Blade (Pusher)	1	1								
17	199072B	Radiator	1	1	1	1	1	1	1	1	1	1
18	199941	Guard, Radiator	1	1	1	1	1	1	1	1	1	1
19	21303	Screw, Cap, Hex Head, 1/4"-20 x 1-1/2"	4	4	4	4	4	4	4	4	4	4
20	207101	Support, Front			1	1						
	207101A	Support, Front	1	1								
	118154D	Support, Front					1	1	1	1	1	1
21	21054	Washer, Lock, 1/2"	6	6	6	6	6	6	6	6	6	6
22	21431	Screw, Cap, Hex Head, 1/2"-13 x 1/2"	4	4	4	4	4	4	4	4	4	4
23	21205	Nut, Hex, 1/2"-13	2	2	2	2	2	2	2	2	2	2
24	21433	Screw, Cap, Hex Head, 1/2"-13 x 1-3/4"	2	2	2	2	2	2	2	2	2	2

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS

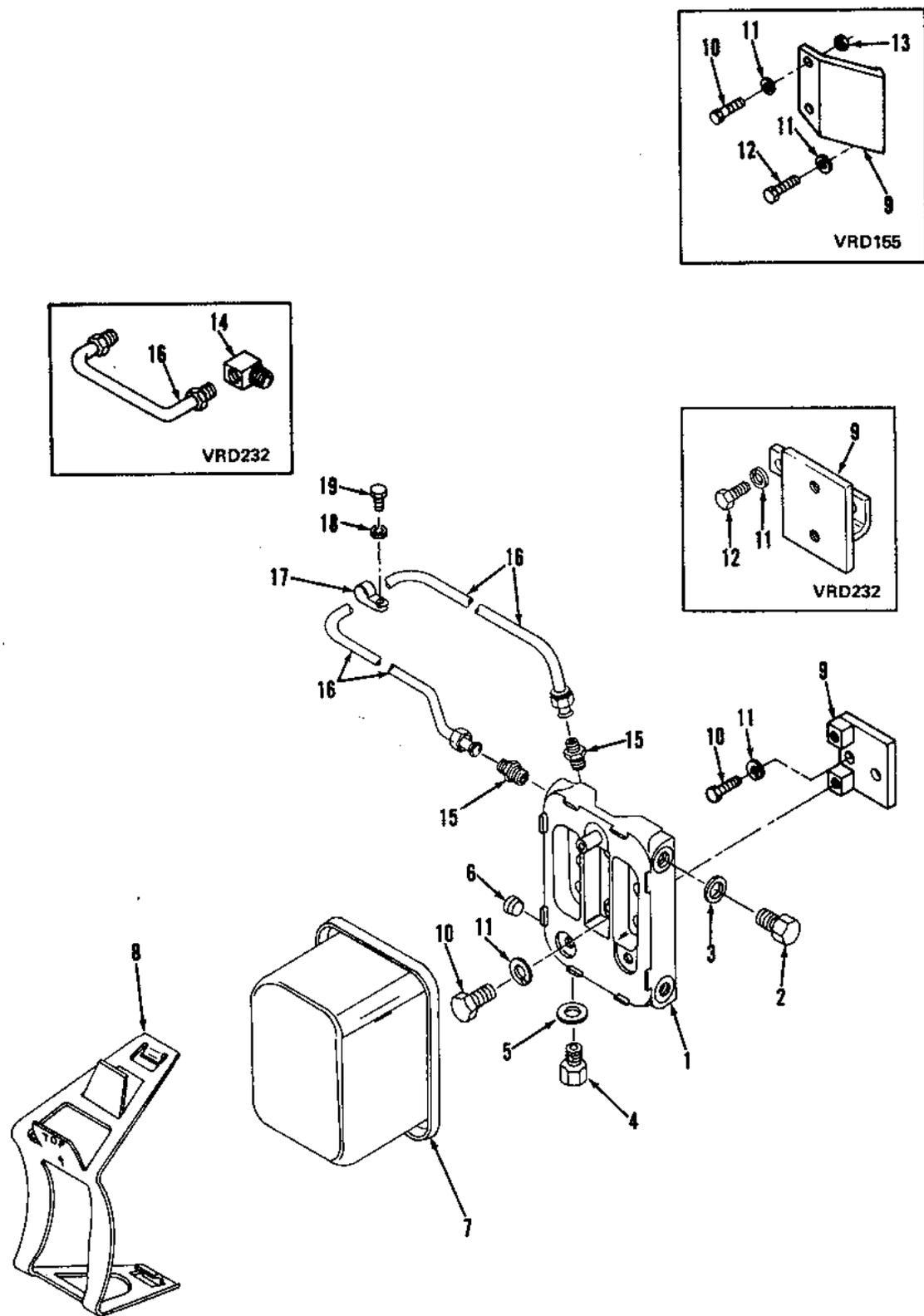


RADIATOR, FAN, FRONT SUPPORT (Current Configuration)



RADIATOR, FAN, FRONT SUPPORT (Current Configuration)  
Groups 200, 219

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	41236C	Clamp, Hose	6	6	6	6	6	6	6	6	6	
2	15026K	Connection, Hose, 1-3/4" I.D. x 4-1/2"	1	1	1	1						
	78978B	Connection, Hose, 2-1/8" I.D. x 4-1/2"					1	1	1	1	1	
	Y6174	Connection, Hose, 2" I.D. x 4-1/2"			1	1	1	1	1	1	1	
3	73413A	Cock, Drain	1	1	1	1						
	48993	Cock, Drain						1	1	1	1	
4	207100	Connection, Lower Radiator	1	1	1	1						
	199093B	Connection, Lower Radiator					1					
	199093A	Connection, Lower Radiator						1	1	1	1	
5	120233	Connection, Hose, Flexible, 2" I.D. x 12"	1	1	1	1	1	1	1	1	1	
6	199100C	Guard, Fan - L. H.	1	1	1	1						
	199100D	Guard, Fan - L. H.					1	1	1	1	1	
7	199101C	Guard, Fan - R. H.	1	1	1	1						
	199101D	Guard, Fan - R. H.					1	1	1	1	1	
8	B277	Washer, Plain, 5/16"	19	19	19	19	17	17	17	17	17	
9	21051	Washer, Lock, 5/16"	39	38	38	38	37	37	37	37	37	4
10	21307	Screw, Cap. Hex Head, 5/16"-18 x 5/8"	10	10	10	10	9	9	9	9	9	
11	21181	Nut, Hex. 5/16"-18	13	13	13	13	12	12	12	12	12	
12	207973	Spacer, Fan Blade (Suction)	1	1	1	1						
	78805H	Spacer, Fan Blade (Suction)					1					
	157015F	Spacer, Fan Blade (Suction)						1	1	1	1	
	207973A	Spacer, Fan Blade (Pusher)	1	1	1	1						
	157015F	Spacer, Fan Blade (Pusher)						1	1	1	1	
13	116360C	Blade, Fan (Suction)	1	1								
	152197A	Blade, Fan (Suction)			1	1	1	1	1	1	1	1
	207978	Blade, Fan (Pusher)	1	1								
	151611	Blade, Fan (Pusher)			1	1	1	1	1	1	1	
14	21309	Screw, Cap. Hex Head, 5/16"-18 x 3/4" (Suction)					1	1	1	1	1	4
	21325	Screw, Cap. Hex Head, 5/16"-18 x 3-1/4" (Suction)	4	4	4	4						
	26249	Screw, Cap. Hex Head, 5/16"-18 x 1-3/8" (Suction)					4	4	4	4	4	
	21322	Screw, Cap. Hex Head, 5/16"-18 x 2-1/4" (Pusher)	4	4	4	4						
	21312	Screw, Cap. Hex Head, 5/16"-18 x 7/8" (Pusher)					4					
	26249	Screw, Cap. Hex Head, 5/16"-18 x 1-3/8" (Pusher)						4	4	4	4	
15	207944	Cap. Pressure	1	1	1	1	1	1	1	1	1	
16	C207901	Shell, Radiator	1	1	1	1	1	1	1	1	1	
17	207913	Radiator	1	1	1	1	1	1	1	1	1	
18	21309	Screw, Cap. Hex Head, 5/16"-18 x 3/4"	10	10	10	10	10	10	10	10	10	
19	207971	Plate, Mounting, Radiator	1	1	1	1	1	1	1	1	1	
20	21053	Washer, Lock, 7/16"	2	2	2	2	2	2	2	2	2	
21	Y18813J	Washer, Plain, 7/16"	2	2	2	2	2	2	2	2	2	
22	119627	Mount, Vibration	4	4	4	4	4	4	4	4	4	
23	28469G	Screw, Cap. Place Type, 7/16"-20 x 1-1/4"	2	2	2	2	2	2	2	2	2	
24	207902A	Support, Front	1	1								
	207903A	Support, Front			1	1						
	207904A	Support, Front					1	1	1	1	1	
25	21433	Screw, Cap. Hex Head, 1/2"-13 x 1-3/4"	2	2	2	2	2	2	2	2	2	
26	21054	Washer, Lock, 1/2"	2	2	2	2	2	2	2	2	2	
27	21205	Nut, Hex. 1/2"-13	2	2	2	2	2	2	2	2	2	
28	116514V	Spacer, Guard	6	6	6	6	6	6	6	6	6	
29	199941A	Guard, Radiator	1	1	1	1	1	1	1	1	1	
30	21317	Screw, Cap. Hex Head, 5/16"-18 x 1-1/2"	6	6	6	6	6	6	6	6	6	



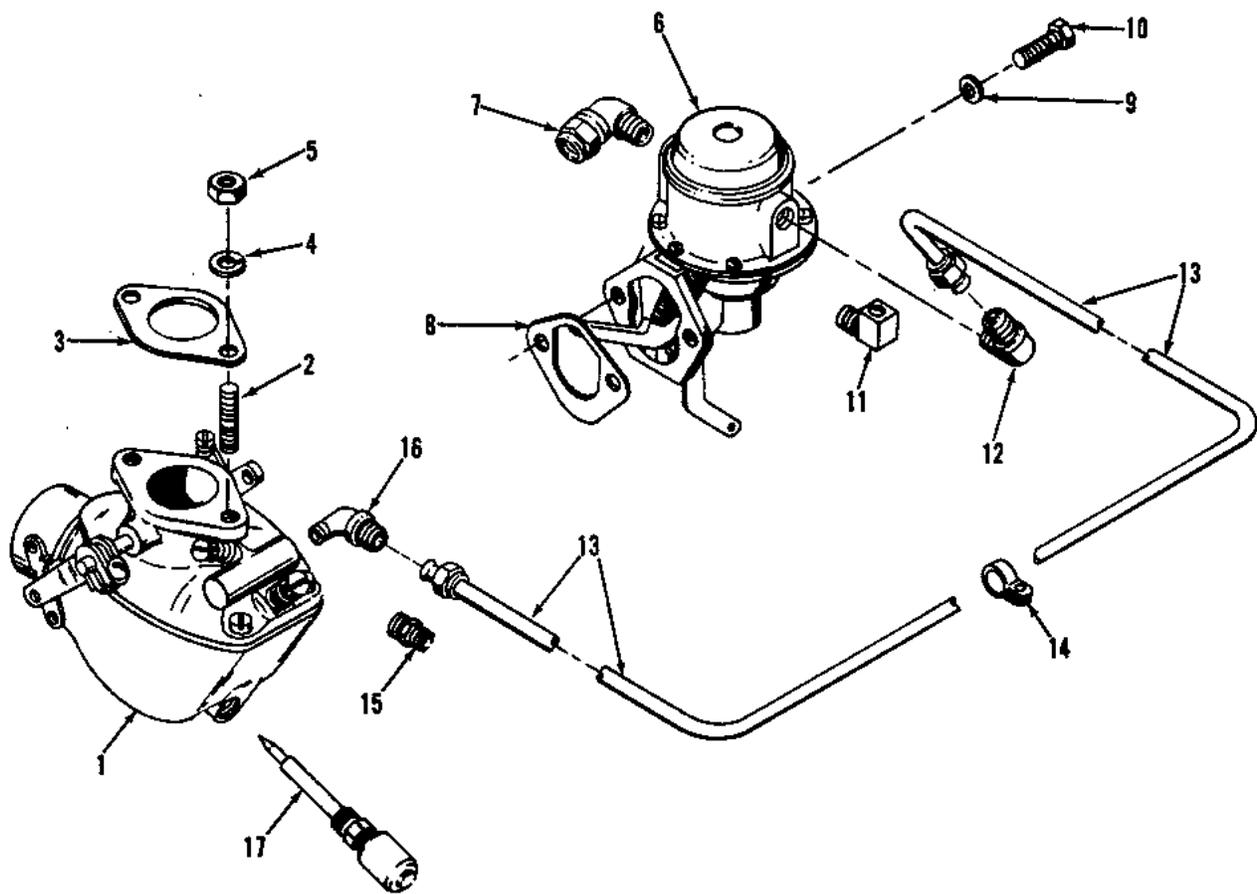
FUEL OIL FILTER



FUEL OIL FILTER  
Group 54

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	AC194788	Filter, Fuel - Assembly		1								
	AA194790	Filter, Fuel - Assembly							1		1	1
	DA194790	Filter, Fuel - Assembly				1						
	. C194788	. Base, Filter - Assembly		1								
	. A194790	. Base, Filter - Assembly				1			1		1	1
1	. . 177428	. . Base, Filter		1		1			1		1	1
2	. . 194719	. . Plug, Filter Vent		1		1			1		1	1
3	. . 194721	. . Washer, Seal		1		1			1		1	1
4	. . 194720	. . Plug, Filter Drain		1		1			1		1	1
5	. . 194723	. . Washer, Seal		1		1			1		1	1
6	. . 106343	. . Plug, Pipe, Allen Head, 1/4"		1		1			1		1	1
7	. 177429	. Element, Fuel Filter		1		1			1		1	1
8	. 177430	. Clamp, Spring		1		1			1		1	1
9	. 177426	. Bracket, Fuel Filter							1		1	1
	. 194799	. Bracket, Fuel Filter				1						
	. 207897	. Bracket, Fuel Filter		1								
10	21343	Screw, Cap, Hex Head, 3/8"-16 x 3/4"				2						
	21346	Screw, Cap, Hex Head, 3/8"-16 x 7/8"		2								
	21348	Screw, Cap, Hex Head, 3/8"-16 x 1"							2		2	2
	. 21348	. Screw, Cap, Hex Head, 3/8"-16 x 1"							2		2	2
11	21052	Washer, Lock, 3/8"		2		2			2		2	2
	. 21052	. Washer, Lock, 3/8"		2		2			2		2	2
12	. 21340	. Screw, Cap, Hex Head, 3/8"-16 x 5/8"		2		2						
13	. 21189	. Nut, Hex, 3/8"-16		2								
14	. 73018E	. Elbow, Inverted		2								
	73018G	Elbow, Inverted				1						
15	164717C	Connector, Flex							1		1	1
	. 164717C	. Connector, Flex										1
16	A176240B	Line, Fuel				1						
	C199166	Line, Fuel							1		1	1
	A207639	Line, Fuel		1								
17	169013H	Clip		2								1
18	Y18813H	Washer, Plain, 3/8"										1
19	21343	Screw, Cap, Hex Head, 3/8"-16 x 3/4"										1

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



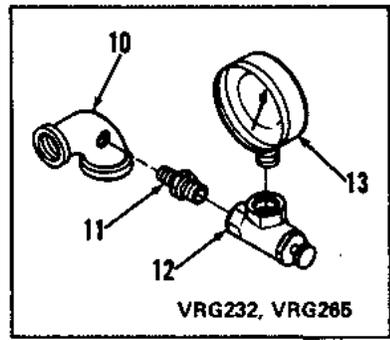
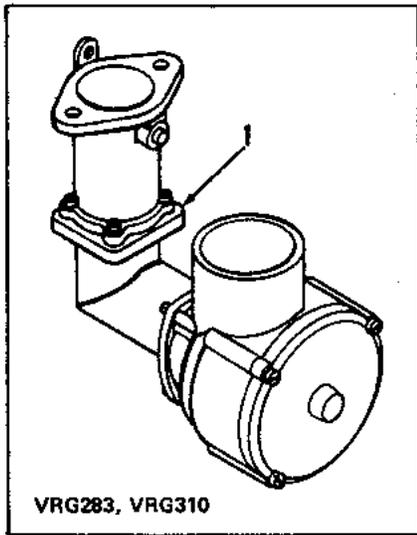
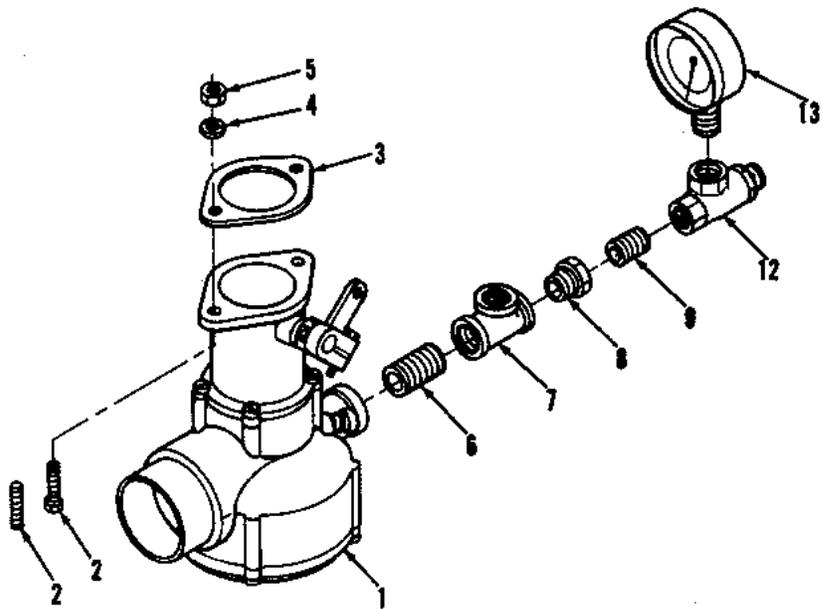
GASOLINE CARBURETOR, GASOLINE AND DIESEL FUEL PUMP



GASOLINE CARBURETOR, GASOLINE AND DIESEL FUEL PUMP  
Groups 19. 214

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	51083B	Carburetor			1							
	52080	Carburetor					1					
	A52080B	Carburetor	1									
	53079C	Carburetor						1		1		
2	B291	Stud						2		2		
	B4025	Stud			2							
	44108	Stud	2				2					
3	B365	Gasket, Carburetor			1							
	B1331F	Gasket, Carburetor						1		1		
	B4096	Gasket, Carburetor	1				1					
4	21051	Washer, Lock, 5/16"			2							
	21052	Washer, Lock, 3/8"						2		2		
	21729	Washer, Lock - Plated, 3/8"	2				2					
5	21186	Nut, Hex, 5/16"-24			2							
	21193	Nut, Hex, 3/8"-24						2		2		
	21194	Nut, Hex - Plated, 3/8"-24	2				2					
6	A164556B	Pump, Fuel	1		1		1	1		1		
	A164557B	Pump, Fuel		1		1					1	1
7	78407	Elbow, Flex			1		1	1		1		
8	73842B	Gasket, Fuel Pump	1	1	1	1	1	1	1	1	1	1
9	B2135	Washer, Plain - Copper, 5/16"	2	2	2	2	2	2	2	2	2	2
10	21316	Screw, Cap, Hex Head, 5/16"-18 x 1-1/4"	2	2	2	2	2	2	2	2	2	2
11	73018D	Elbow, Inverted		1								
12	164724A	Elbow, Flex	1									
	164724B	Elbow, Flex				1			1	1	1	
13	A164579A	Line, Fuel						1		1		
	A199771	Line, Fuel					1					
	A199772	Line, Fuel			1							
	A199906	Line, Fuel				1						
	A199906B	Line, Fuel		1								
	A199939A	Line, Fuel						1		1		1
	A207470	Line, Fuel	1									
14	169013H	Clip		1	1	1	1	1	1	1	1	
	169013	Clip	1									
15	164717A	Connector, Flex	1									
16	164724C	Elbow, Flex							1		1	
	164724B	Elbow, Flex			1		1					
17	164433	Valve, Solenoid, Fuel Shut-off					1					
	164433C	Valve, Solenoid, Fuel Shut-off	1		1							
	199744	Valve, Solenoid, Fuel Shut-off						1		1		

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



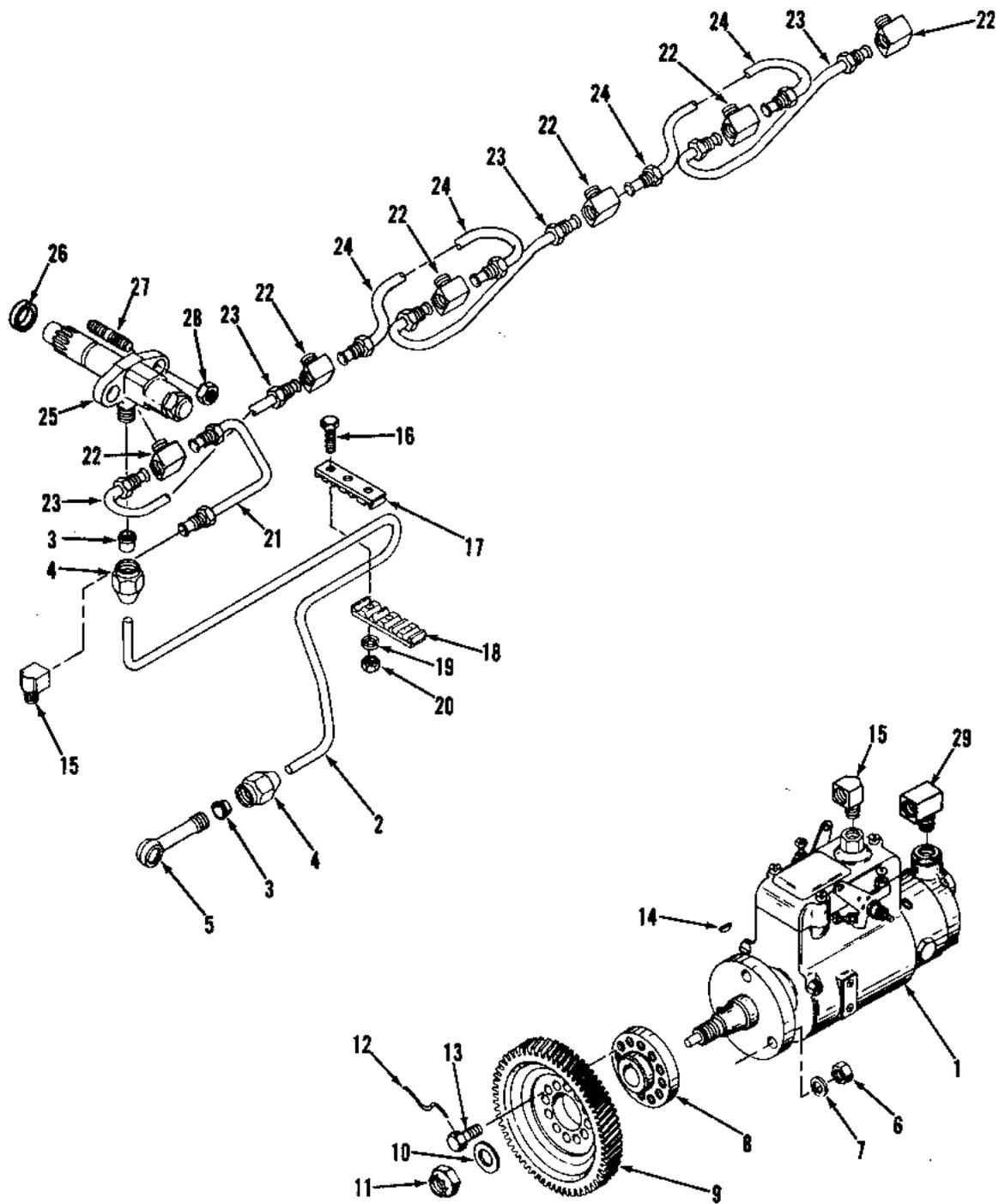
NATURAL GAS CARBURETOR



NATURAL GAS CARBURETOR  
Group 214

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	51090A	Carburetor			1							
	52083A	Carburetor					1					
	A52083B	Carburetor	1									
	A199097	Carburetor						1		1		
	. 499278	. Valve, Air-Gas - Assembly	1		1		1	1		1		
	. . 498925	. . Diaphragm, Air-Gas Valve	1		1		1	1		1		
2	B291	Stud						2		2		
	B4025	Stud			2							
	21350	Screw, Cap, Hex Head, 3/8"-16 x 1-1/8"					2					
	26720	Screw, Cap, Hex Head, 3/8"-24 x 1-1/4"	2									
3	B365	Gasket, Carburetor			1							
	B1331F	Gasket, Carburetor						1		1		
	B4096	Gasket, Carburetor	1				1					
4	21051	Washer, Lock, 5/16"			2							
	21052	Washer, Lock, 3/8"					2	2		2		
	21729	Washer, Lock - Plated, 3/8"	2									
5	21185	Nut, Hex, 5/16"-24			2							
	21189	Nut, Hex, 3/8"-16					2					
	21193	Nut, Hex, 3/8"-24						2		2		
	21194	Nut, Hex - Plated, 3/8"-24	2									
6	73654Z	Nipple, Pipe, 1/2" x 2-1/2"						1		1		
	119434W	Nipple, Pipe, 1/2" x 1-1/8"	1		1		1					
7	78208C	Tee, Pipe, 1/2"	1					1		1		
8	78212C	Bushing, Reducing, 1/2" to 1/4"	1					1		1		
9	154981B	Nipple, Pipe, 1/4" x 7/8"	1					1		1		
10	166457	Elbow, Reducing, 1" x 1/2" x 90°			1		1					
11	B1993	Nipple, Reducing, 1/4" to 1/8"			1		1					
12	117864	Valve, Test	1		1		1	1		1		
13	50794A	Gauge, Fuel Pressure	1		1		1	1		1		

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS

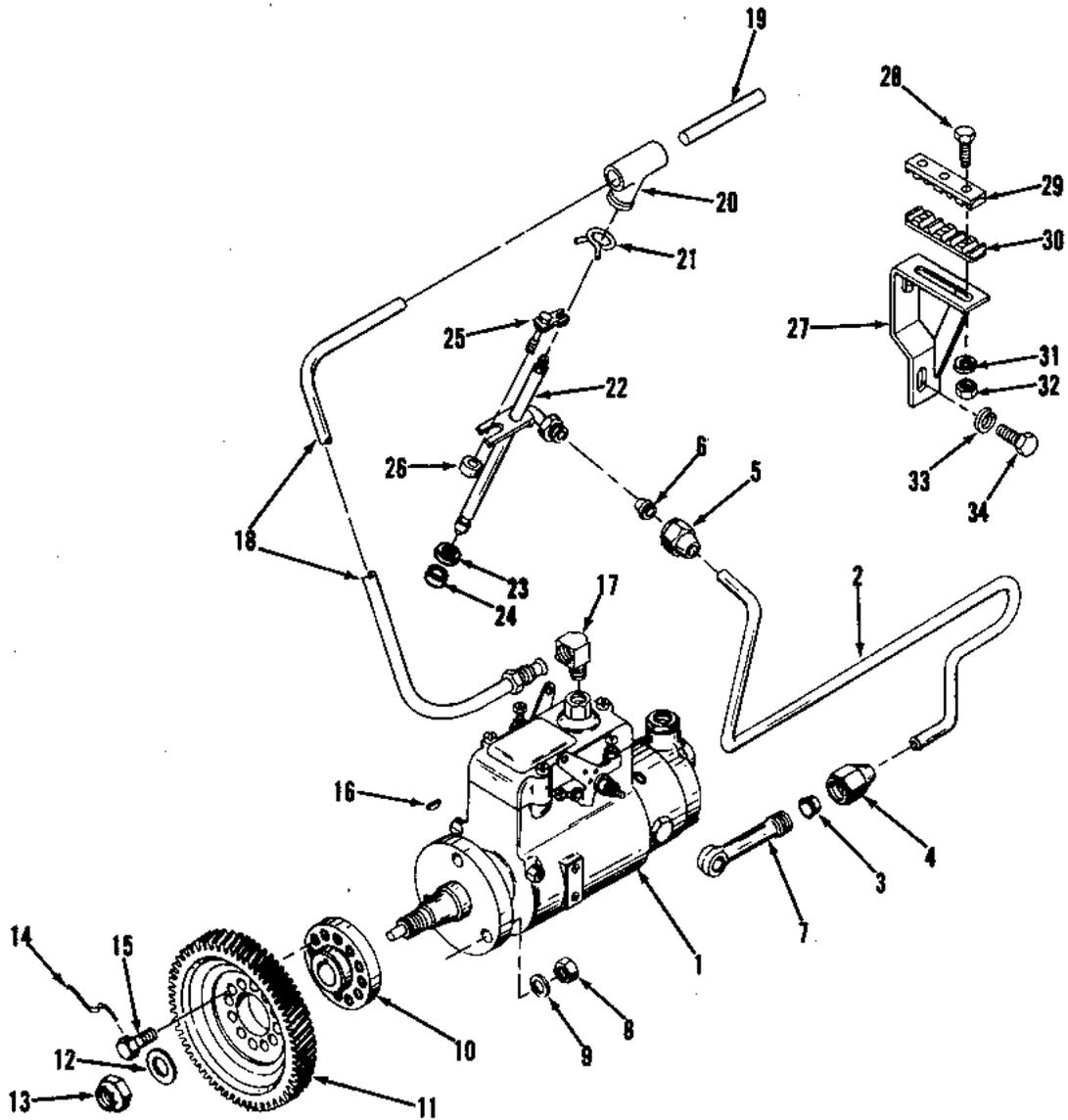


INJECTION PUMP



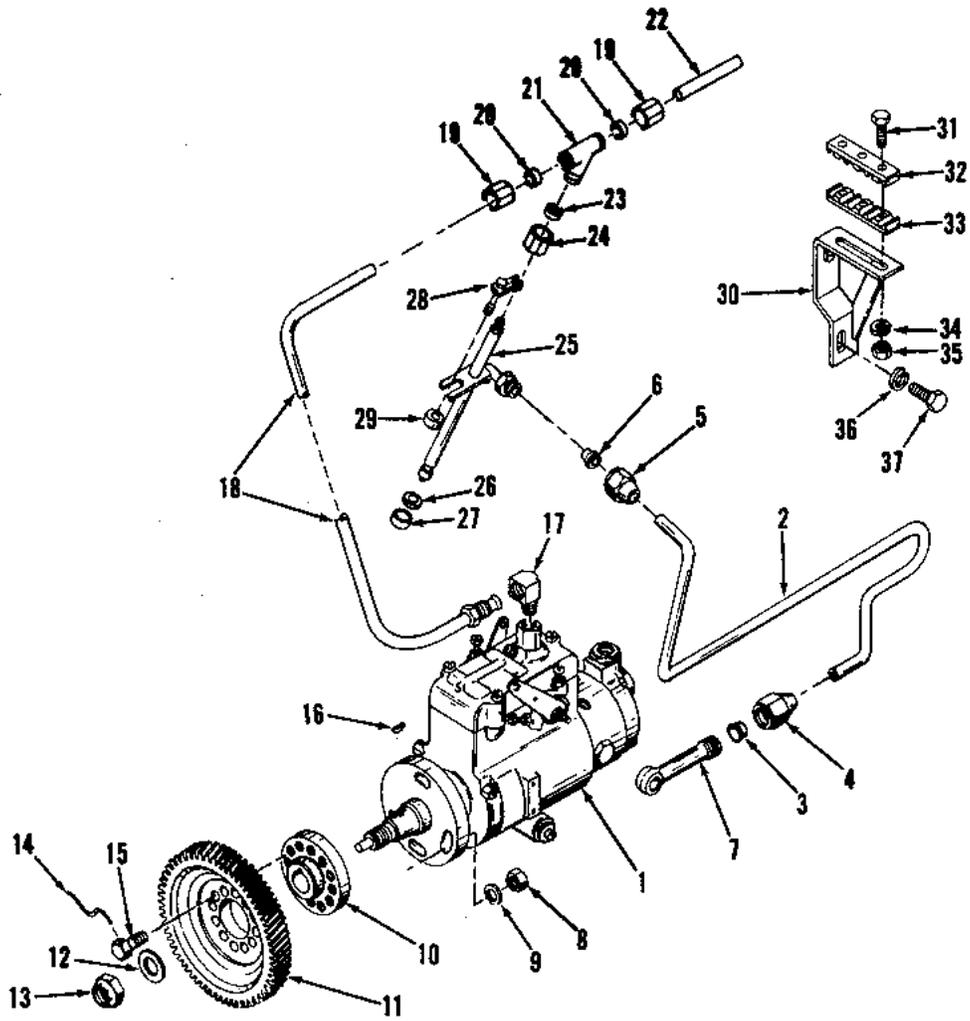
INJECTION PUMP  
Groups 8, 9

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	207634 C207634	Pump, Injection - 1800 RPM, 8-14% Regulation		1								
	. 207634F	. Pump, Injection - With Solenoid Assembly - 1800 RPM, 8-14% Regulation		1								
	. 162564	. Pump, Injection - Used with Solenoid Assembly		1								
	. 208204	. Solenoid Assembly		1								
	69705A	. Connector		1								
	C69705A	Pump, Injection - 1800 RPM, 8-14% Regulation				1						
	. 69705B	Pump, Injection - With Solenoid Assembly - 1800 RPM, 8-14% Regulation				1						
	. 162564	. Pump, Injection - Used with Solenoid Assembly				1						
	. 208204	. Solenoid Assembly				1						
		. Connector				1						
		(Note: Refer to Service Bulletin 9-2055 for Injection Pump Part Numbers and Governor Regulation at Speeds Other Than 1800 RPM, 8-14% Regulation)										
2	AA163143	Lines, Injection - Assembly		1								
	A156685M	Lines, Injection - Assembly				1						
	. C163143	. Tube Assembly #1		1								
	. C156685M	. Tube Assembly #1				1						
	. C163143A	. Tube Assembly #2		1								
	. C156685N	. Tube Assembly #2				1						
	. C163143B	. Tube Assembly #3		1								
	. C156685P	. Tube Assembly #3				1						
	. C163143C	. Tube Assembly #4		1								
	. C156685R	. Tube Assembly #4				1						
	. C156685S	. Tube Assembly #5				1						
	. C156685T	. Tube Assembly #6				1						
3	. . 44005B	. . Ferrule		8		12						
4	. . 41260B	. . Nut, Fuel Injection Tube		8		12						
5	156172	Connector, Fuel Tube		4		6						
6	26780	Nut, Flex Loc, 3/8"-24		3		3						
7	B4827	Washer, Plain, 3/8"		3		3						
8	155434	Hub, Fuel Pump Gear		1		1						
9	155194C	Gear, Fuel Pump		1		1						
10	63700	Washer, Plain, 9/16"		1		1						
11	26801	Nut, Flex Loc, 9/16"-18		1		1						
12	116050K	Wire, Lock		1		1						
13	120944	Screw, Injection Pump Coupling		2		2						
14	21005	Key, Woodruff, No. 6		1		1						
15	73018A	Elbow, Inverted		1		1						
	73018E	Elbow, Inverted		1		1						
	Y7529	Elbow, Half Union				1						
16	26186	Screw, Cap, Hex Head, 1/4"-28 x 1-1/8"		2		6						
17	151760B	Clamp, Injection Tube		2								
	207587B	Clamp, Injection Tube				4						
18	207588B	Insert, Injection Tube Clamp				4						
19	21050	Washer, Lock, 1/4"		2		6						
20	21177	Nut, Hex, 1/4"-28		2		6						
21	A156753	Line, Leak-off, Pump to No. 1 Injector		1		1						
22	152406	Tee, Inverted		4		6						
23	0119600	Line, Leak-off		2		3						
24	0119601	Line, Leak-off		1		2						
25	A60793	Injector, Fuel - Assembly		4		6						
	. 60407D	. Nozzle, Injector		4		6						
	. B10065A	. Washer, Fuel Injector		4		6						
26	118531	Stud		8		12						
28	21193	Nut, Hex, 3/8"-24		8		12						
29	152868	Tee, Inverted		1								



INJECTION PUMP



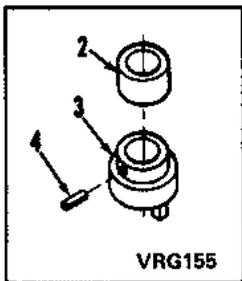
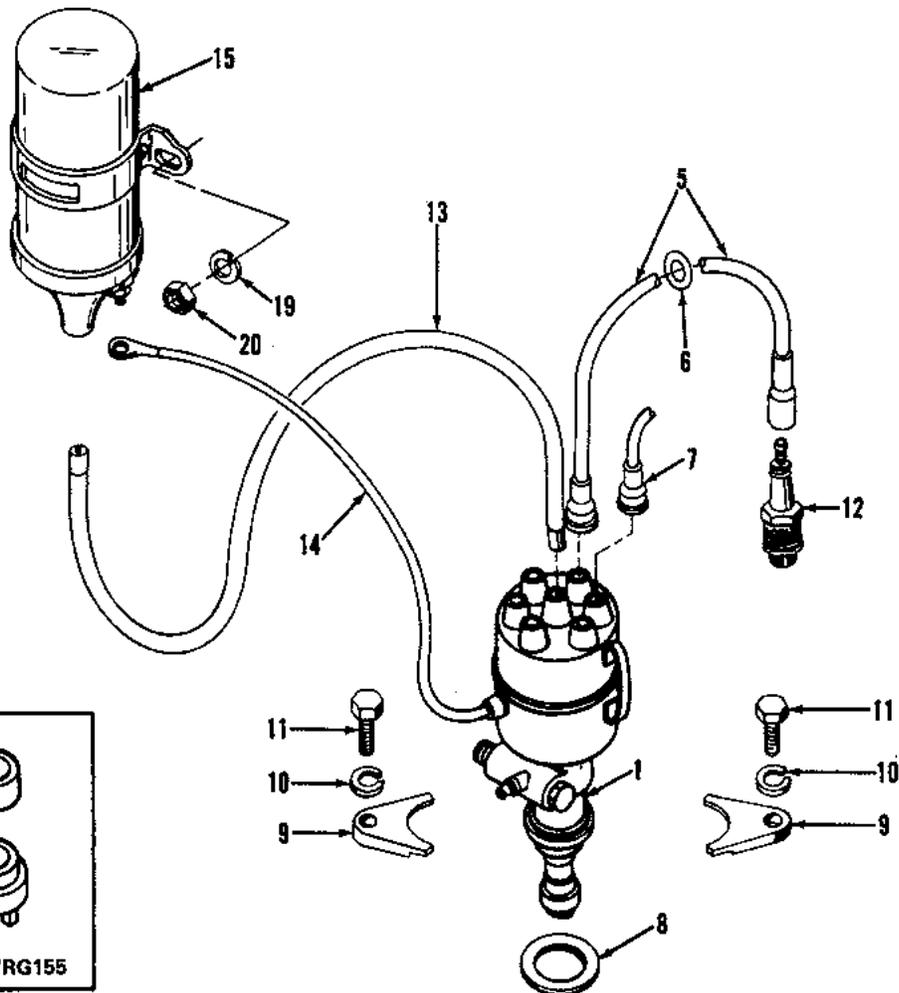
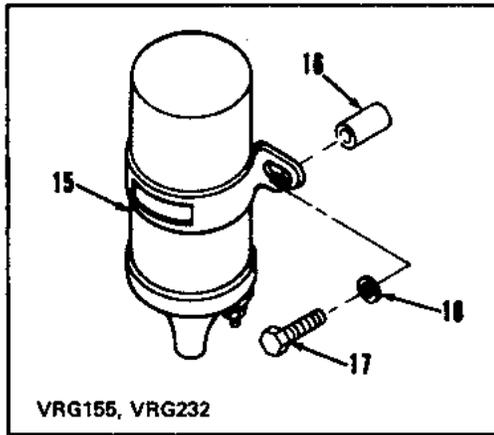


INJECTION PUMP



INJECTION PUMP  
Groups 8, 9

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	69589G C69589G	Pump, Injection - 2500 RPM, 8-14% Regulation Pump, Injection - With Solenoid Assembly - 2500 RPM, 8-14% Regulation, Energized to Run										1
	. 69589F	. Pump, Injection - Used with Solenoid Assembly										1
	. 162564	. Solenoid Assembly										1
	. 208204	. Connector										1
	69589G	Pump, Injection - 2500 RPM, 8-14% Regulation										1
	D69589G	Pump, Injection - With Solenoid Assembly - 2500 RPM, 8-14% Regulation, Energized to Stop										1
	. 69589F	. Pump, Injection - Used with Solenoid Assembly										1
	. 162564B	. Solenoid Assembly										1
	. 208204	. Connector										1
2	AA168823	Lines, Injection - Assembly										1
	. A168823	. Tube Assembly #1										1
	. A168823A	. Tube Assembly #2										1
	. A168823B	. Tube Assembly #3										1
	. A168823C	. Tube Assembly #4										1
	. A168823D	. Tube Assembly #5										1
	. A168823E	. Tube Assembly #6										1
3	. . 44005B	. . Ferrule										6
4	. . 41260B	. . Nut, Fuel Injection Tube										6
5	. . 167353	. . Nut, Injector										6
6	. . 167354	. . Ferrule										6
7	156172	Connector, Fuel Tube										6
8	26780	Nut, Flex Loc, 3/8"-24										3
9	B4827	Washer, Plain, 3/8"										3
10	155434	Hub, Fuel Pump Gear										1
11	155194J	Gear, Fuel Pump										1
12	63700	Washer, Plain, 9/16"										1
13	26801	Nut, Flex Loc, 9/16"-18										1
14	116050K	Wire, Lock										1
15	120944	Screw, Injection Pump Coupling										2
16	21005	Key, Woodruff, No. 6										2
17	73018B	Elbow, Inverted										1
18	A168672	Line, Leak-off, Pump to No. 1 Injector										1
19	120920B	Nut, Tubing										6
20	120918B	Sleeve, Rubber										12
21	176462	Tee, Nozzle Leak-off										6
22	B6605	Line, Leak-off										5
23	176460	Grommet, Nozzle Leak-off										6
24	176461	Nut, Leak-off										6
25	69603F	Injector, Fuel										6
26	. 499210	. Washer, Fuel Injector										6
27	. 169319	. Seal, Carbon Dam										6
28	167357	Clamp, Injector										6
29	166038A	Spacer, Fuel Injector										6
30	A168860	Bracket, Injection Pump										1
31	21302	Screw, Cap, Hex Head, 1/4"-28 x 1-1/4"										3
	26186	Screw, Cap, Hex Head, 1/4"-28 x 1-1/8"										3
32	207587B	Clamp, Injection Tube										4
33	207588B	Insert, Injection Tube Clamp										4
34	21050	Washer, Lock, 1/4"										6
35	21177	Nut, Hex, 1/4"-28										6
36	21052	Washer, Lock, 3/8"										1
37	21346	Screw, Cap, Hex Head, 3/8"-16 x 7/8"										1



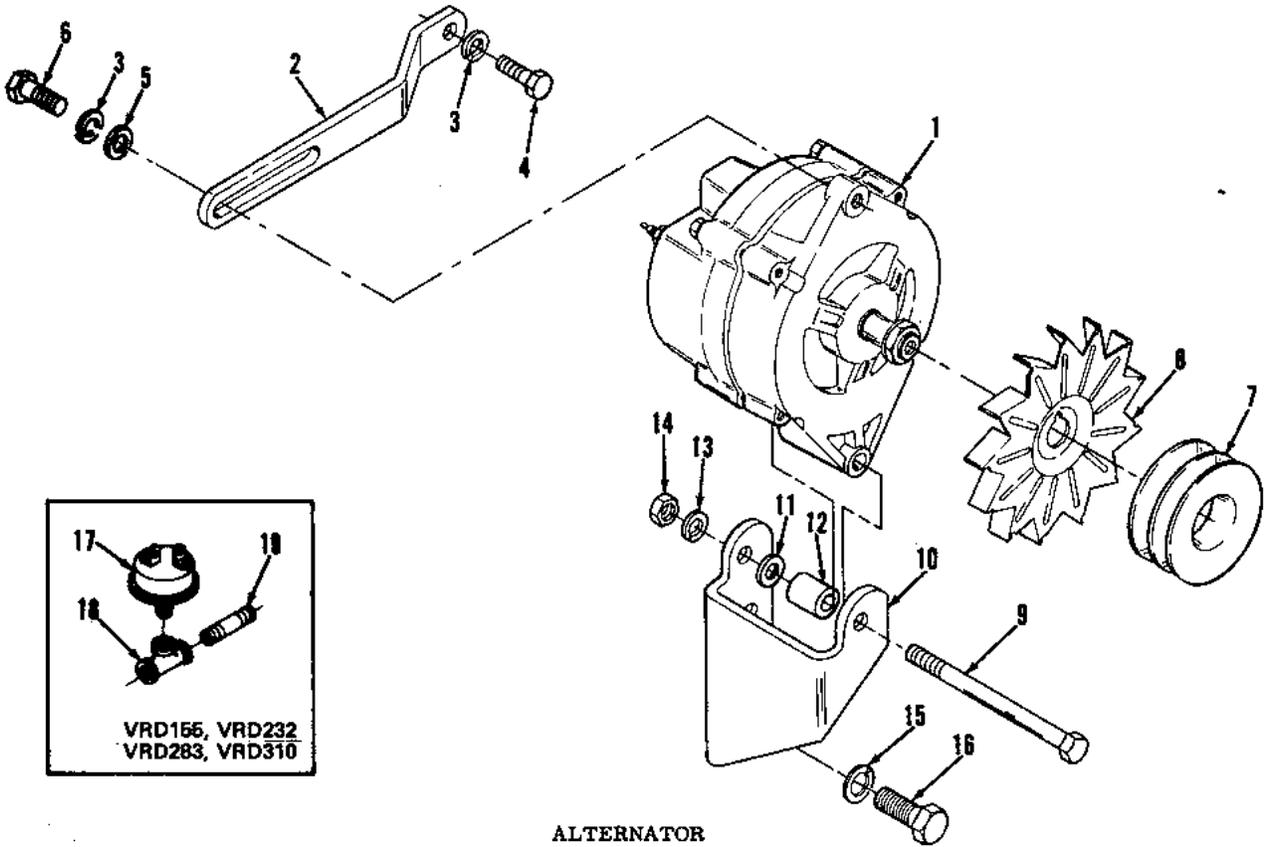
IGNITION DISTRIBUTOR, COIL



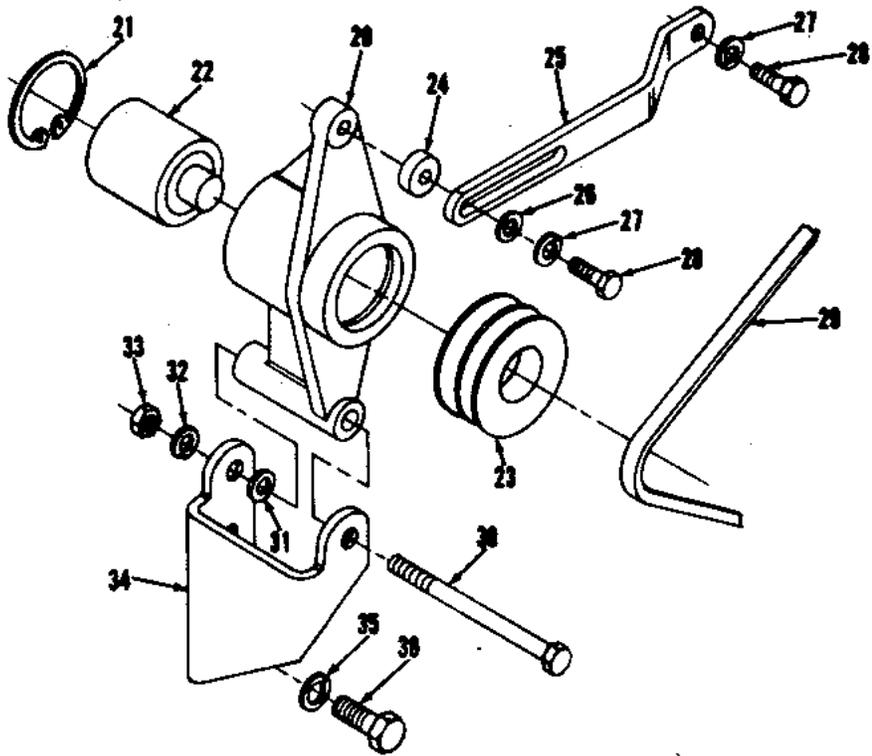
IGNITION DISTRIBUTOR, COIL  
Group 22

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	69498	Distributor (Previous Configuration)			1		1	1		1		
	. 491963	. Point Set			1		1	1		1		
	. 491962	. Condenser			1		1	1		1		
	. 491966	. Rotor			1		1	1		1		
	. 491967	. Cap			1		1	1		1		
	A69498A	Distributor Assembly			1		1	1		1		
	D69498A	Distributor Assembly			1		1	1		1		
	A60262L	Distributor Assembly	1									
1	. 60262L	. Distributor	1									
	. . 491871	. . Point Set	1									
	. . 490752	. . Condenser	1									
	. . 491968	. . Rotor	1									
	. . 491872	. . Cap	1									
	. 69498A	. Distributor			1		1	1		1		
	. . 491960	. . Point Set			1		1	1		1		
	. . 491961	. . Condenser			1		1	1		1		
	. . 491964	. . Rotor			1		1	1		1		
	. . 491965	. . Cap			1		1	1		1		
2	. 167059	. Spacer	1									
3	. 161514	. Gear, Tachometer Drive	1									
4	. 26950	. Pin, Roll, 5/32" x 3/4"	1									
5	. 163504B	. Cable, Ignition (Cylinders No. 1 and 6)			1		2	2		2		
	. 163504D	. Cable, Ignition (Cylinder No. 6)			1							
	. 163505B	. Cable, Ignition (Cylinders No. 3 and 4)			2		2	2		2		
	. 163506B	. Cable, Ignition (Cylinders No. 2 and 5)			2		2	2		2		
6	. B7610	. Ring, Rubber			2		2	2		2		
7	163504C	Cable, Ignition (Cylinder No. 1)	1									
	163505B	Cable, Ignition (Cylinders No. 3 and 4)	2									
	163506C	Cable, Ignition (Cylinder No. 2)	1									
8	116292	Gasket, Distributor	1		1		1	1		1		
9	116294	Clamp, Distributor	2		2		2	2		2		
10	21052	Washer, Lock, 3/8"	2		2		2	2		2		
11	21350	Screw, Cap, Hex Head, 3/8"-16 x 1-1/8"	2		2		2	2		2		
12	50432B	Plug, Spark - Gasoline			6							
	69532A	Plug, Spark - Natural Gas	4		6							
	69514	Plug, Spark - Gasoline					6	6		6		
	69462	Plug, Spark - Natural Gas					6	6		6		
	69532A	Plug, Spark - Gasoline	4									
13	0154390	Cable, Coil to Distributor (Primary)	1		1		1	1		1		
14	0116635	Wire, Secondary			1		1	1		1		
15	50192	Coil	1		1		1	1		1		
16	116514S	Spacer	1		1							
17	21293	Screw, Cap, Hex Head, 1/4"-20 x 2-1/4"	1		1							
18	Y18813G	Washer, Plain, 1/4"			2							
19	21051	Washer, Lock, 5/16"					2	2		2		
20	21185	Nut, Hex, 5/16"-24					2	2		2		

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



ALTERNATOR

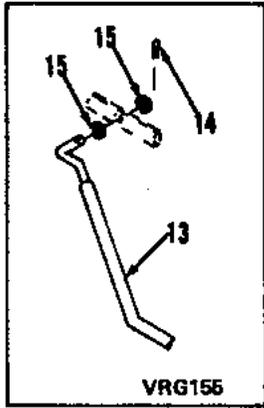


BELT TIGHTENER

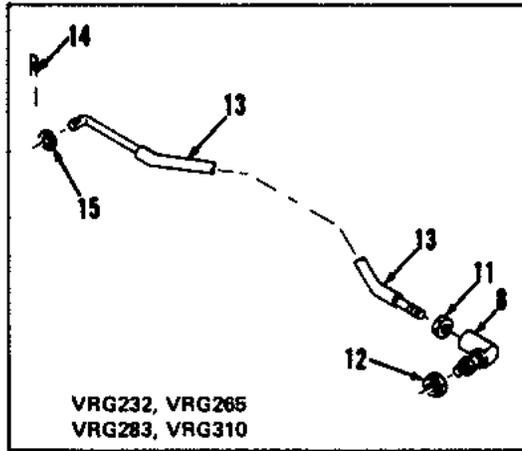


ALTERNATOR  
Group 28

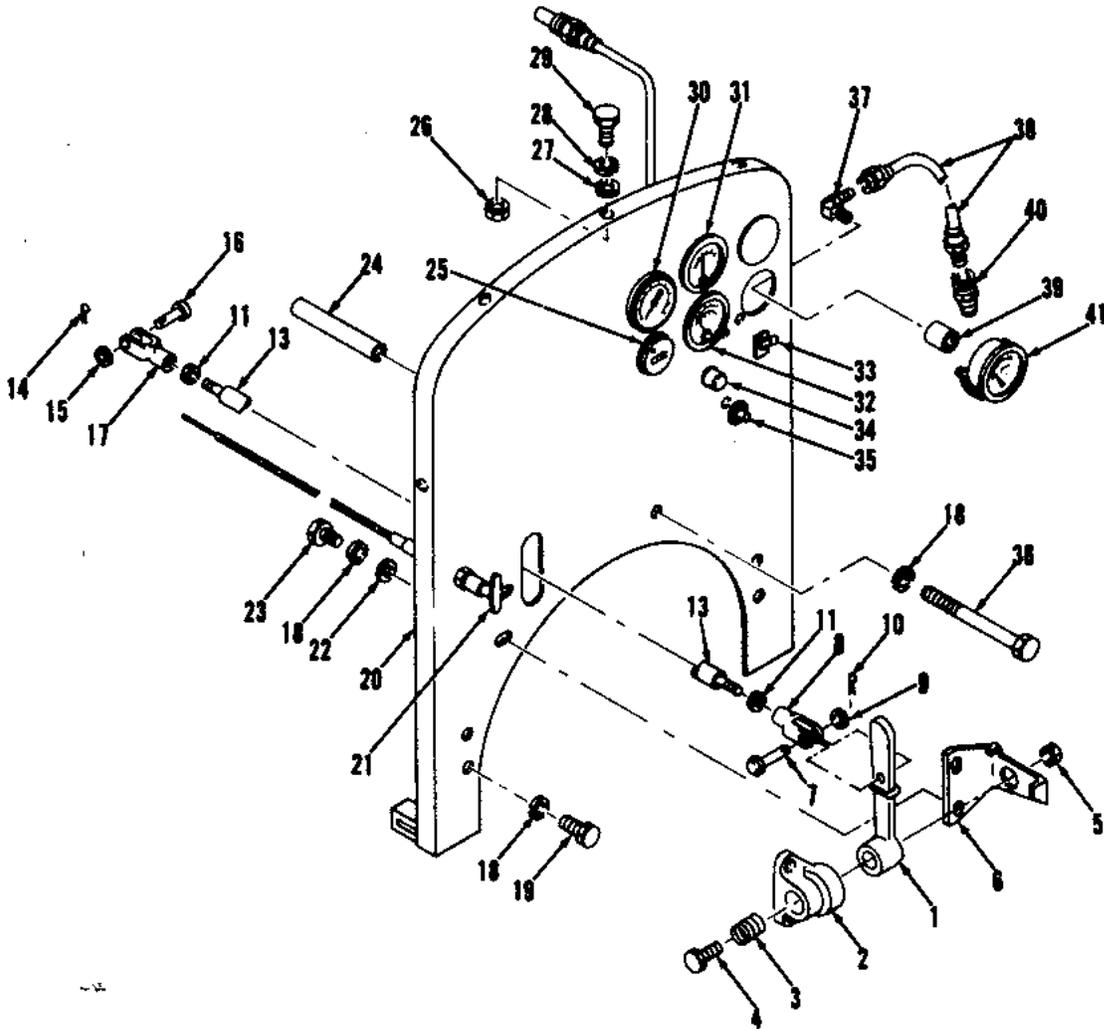
ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	69738	Alternator	1	1	1	1	1	1	1	1	1	
	. 490976	. Regulator, Voltage	1	1	1	1	1	1	1	1	1	
	. 490979	. Brush and Holder - Assembly	1	1	1	1	1	1	1	1	1	
	. 490980	. Spring, Brush	1	1	1	1	1	1	1	1	1	
2	119947B	Strap, Adjusting	1	1	1	1						
	199094B	Strap, Adjusting	1	1	1	1	1	1	1	1	1	1
3	21051	Washer, Lock, 5/16"	2	2	2	2	2	2	2	2	2	2
4	21309	Screw, Cap, Hex Head, 5/16"-18 x 3/4"	1	1	1	1	1	1	1	1	1	
	21307	Screw, Cap, Hex Head, 5/16"-18 x 5/8"										1
5	B277	Washer, Plain, 5/16"	1	1	1	1	1	1	1	1	1	1
6	21313	Screw, Cap, Hex Head, 5/16"-18 x 1"	1	1	1	1	1	1	1	1	1	1
7	199096	Pulley, Alternator	1	1	1	1	1	1	1	1	1	
8	69451	Fan, Alternator	1	1	1	1	1	1	1	1	1	
9	21374	Screw, Cap, Hex Head, 3/8"-16 x 4-1/4"	1	1	1	1	1	1	1	1	1	1
10	199095	Bracket, Alternator Mounting	1	1	1	1	1	1	1	1	1	1
11	B3718	Washer, Plain, 3/8"	4	4	4	4	4	4	4	4	4	4
12	63809D	Spacer	1	1	1	1	1	1	1	1	1	1
13	21052	Washer, Lock, 3/8"	1	1	1	1	1	1	1	1	1	1
14	21189	Nut, Hex, 3/8"-16	1	1	1	1	1	1	1	1	1	1
15	21054	Washer, Lock, 1/2"	2	2	2	2	2	2	2	2	2	2
16	21425	Screw, Cap, Hex Head, 1/2"-13 x 1"	2	2	2	2	2	2	2	2	2	2
17	60356	Switch, Oil Pressure		1		1			1		1	
18	B8679	Tee, Pipe, 1/8"		1							1	
19	65110B	Nipple, Pipe, 1/8" x 1-1/2"		1								
<b>BELT TIGHTENER</b> Group 32												
20	A199582	Tightener, Belt - Assembly	1	1	1	1	1	1	1	1	1	1
	. 199582	. Tightener, Belt	1	1	1	1	1	1	1	1	1	1
21	. 44999R	. Ring, Retaining	2	2	2	2	2	2	2	2	2	2
22	. 199583	. Shaft and Bearing	1	1	1	1	1	1	1	1	1	1
23	. 199096B	. Pulley	1	1	1	1	1	1	1	1	1	1
24	117428A	Spacer	1	1	1	1						
25	163725Y	Strap, Adjusting	1	1	1	1						
	199094	Strap, Adjusting					1	1	1	1	1	1
26	B277	Washer, Plain, 5/16"	1	1	1	1	1	1	1	1	1	1
27	21051	Washer, Lock, 5/16"	2	2	2	2	2	2	2	2	2	2
28	21313	Screw, Cap, Hex Head, 5/16"-18 x 1"	2	2	2	2	2	2	2	2	2	2
29	A166226	Belt, Water Pump (Set of 2)	1	1	1	1						
	A810496	Belt, Water Pump (Set of 2)					1	1	1	1	1	1
	A154337	Belt, Water Pump (Set of 2)										
30	21374	Screw, Cap, Hex Head, 3/8"-16 x 4-1/4"	1	1	1	1	1	1	1	1	1	1
31	B3718	Washer, Plain, 3/8"	4	4	4	4	4	4	4	4	4	4
32	21052	Washer, Lock, 3/8"	1	1	1	1	1	1	1	1	1	1
33	21189	Nut, Hex, 3/8"-16	1	1	1	1	1	1	1	1	1	1
34	199095	Bracket	1	1	1	1	1	1	1	1	1	1
35	21054	Washer, Lock, 1/2"	2	2	2	2	2	2	2	2	2	2
36	21425	Screw, Cap, Hex Head, 1/2"-13 x 1"	2	2	2	2	2	2	2	2	2	2



VRG155



VRG232, VRG265  
VRG283, VRG310



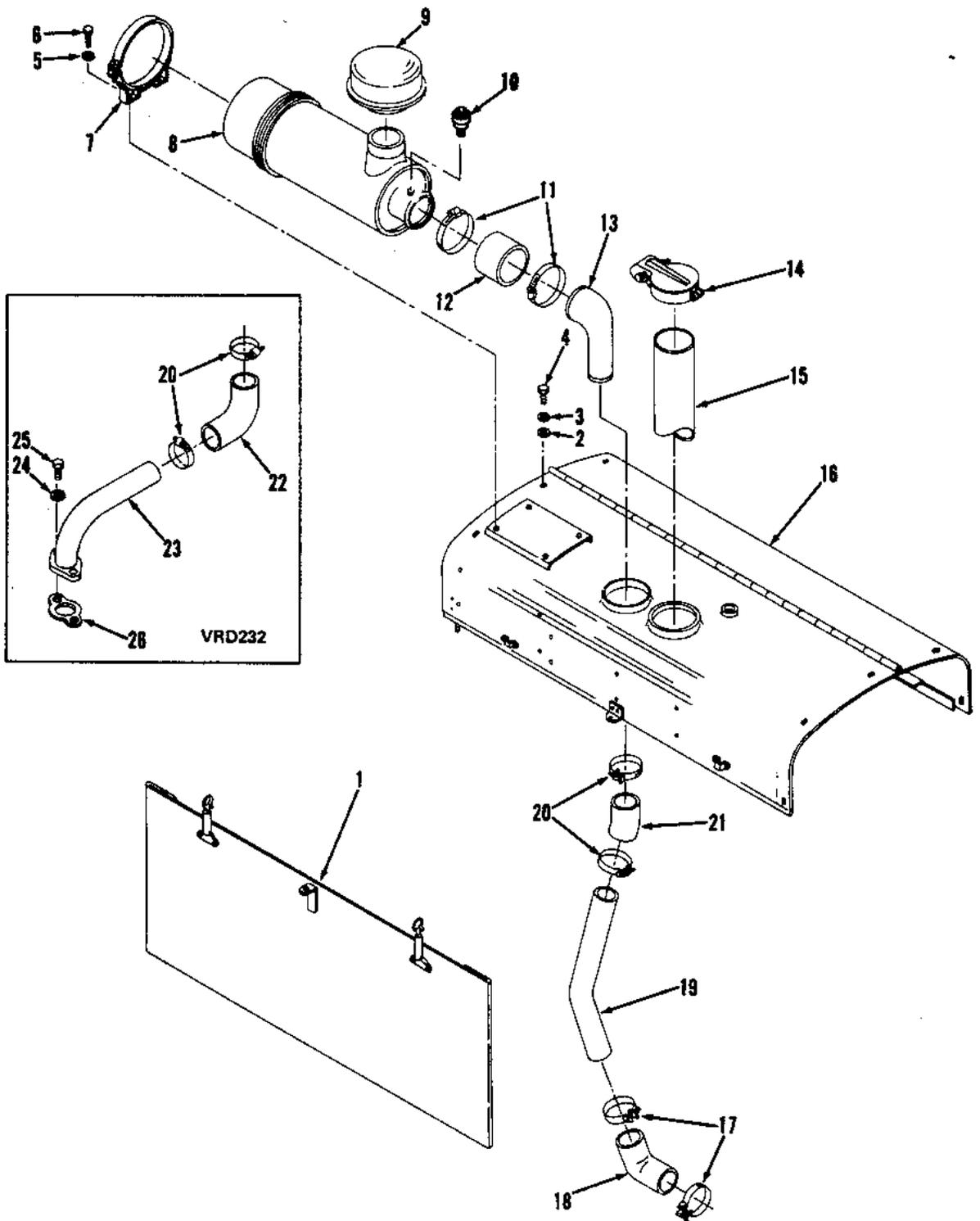
INSTRUMENT PANEL



INSTRUMENT PANEL  
Groups 203, 204, 213, 215

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
	AB9267	Lever, Throttle - Assembly	1	1		1			1		1	
	AB9267Z	Lever, Throttle - Assembly			1					1		
1	. B9267	. Lever, Throttle	1	1	1	1	1	1	1	1	1	1
	. B9267Z	. Lever, Throttle			1	1	1	1	1	1	1	1
2	. B9266	. Bracket	1	1	1	1	1	1	1	1	1	1
3	. B9269	. Spring	1	1	1	1	1	1	1	1	1	1
4	. 21365	. Screw, Cap, Hex Head, 3/8"-16 x 2-1/2"	1	1	1	1	1	1	1	1	1	1
5	. 21189	. Nut, Hex, 3/8"-16	1	1	1	1	1	1	1	1	1	1
6	207915	Stop, Throttle Lever	1	1	1	1	1	1	1	1	1	1
7	B6667B	Pin, Clevis	1	1	1	1	1	1	1	1	1	1
8	B6649A	Clevis	1	1	1	1	1	1	1	1	1	1
	199358	Joint, Ball	1	1	1	1	1	1	1	1	1	1
9	Y18813G	Washer, Plain, 1/4"			1	1	1	1	1	1	1	1
10	21058	Pin, Cotter - Plated, 1/16" x 1/2"	1	1	1	1	1	1	1	1	1	1
	21064	Pin, Cotter, 1/8" x 3/4"			1	1	1	1	1	1	1	1
11	21179	Nut, Thin Hex, 1/4"-28	1	2	1	2	1	1	2	1	2	1
12	26906	Nut, Flex Loc, 1/4"-28			1	1	1	1	1	1	1	1
13	199114E	Rod, Control			1	1	1	1	1	1	1	1
	199114F	Rod, Control					1	1	1	1	1	1
	199471B	Rod, Control						1	1	1	1	1
	199471C	Rod, Control				1						
	207476B	Rod, Control		1								
	207476D	Rod, Control	1	1								
14	21058	Pin, Cotter - Plated, 1/16" x 1/2"	1	1	1	1	1	1	1	1	1	1
	21060	Pin, Cotter, 1/16" x 3/4"			1	1	1	1	1	1	1	1
15	B141	Washer, Plain, 1/4"			2	2	2	2	2	2	2	2
	74005	Washer, Plain, 3/16"	2	2								
	Y18813G	Washer, Plain, 1/4"				1			1		1	
16	B3743	Pin, Clevis		1		1			1		1	
17	B3671	Clevis		1		1			1		1	
18	21052	Washer, Lock, 3/8"	7	7	7	7	7	7	7	7	7	7
19	21343	Screw, Cap, Hex Head, 3/8"-16 x 1"	4	4	4	4	4	4	4	4	4	4
20	E199113	Panel, Instrument	1	1	1	1	1	1	1	1	1	1
	F199113	Panel, Instrument			1	1	1	1	1	1	1	1
21	194683	Control, Locking	1	1	1	1	1	1	1	1	1	1
	194683F	Control, Locking										
	194683K	Control, Locking			1	1	1	1	1	1	1	1
22	Y18813H	Washer, Plain, 3/8"	2	2	2	2	2	2	2	2	2	2
23	21343	Screw, Cap, Hex Head, 3/8"-16 x 1"	2	2	2	2	2	2	2	2	2	2
	21348	Screw, Cap, Hex Head, 3/8"-16 x 5/8"	2	2								
24	207155	Pipe, 3/8" x 5-1/16"	1	1	1	1	1	1	1	1	1	1
	207155A	Pipe, 3/8" x 4"	1	1								
25	60662E	Meter, Hour	1	1	1	1	1	1	1	1	1	1
26	21181	Nut, Hex, 5/16"-18	7	7	7	7	7	7	7	7	7	7
27	B277	Washer, Plain, 5/16"	7	7	7	7	7	7	7	7	7	7
28	21051	Washer, Lock, 5/16"	7	7	7	7	7	7	7	7	7	7
29	21309	Screw, Cap, Hex Head, 5/16"-18 x 3/4"	7	7	7	7	7	7	7	7	7	7
30	162870B	Tachometer (Up to 2400 rpm)	1	1	1	1	1	1	1	1	1	1
	162870D	Tachometer (Over 2400 rpm)	1	1	1	1	1	1	1	1	1	1
31	60903	Ammeter, Clamp Type	1	1	1	1	1	1	1	1	1	1
32	199472	Gauge, Water Temperature (Standard)	1	1	1	1	1			1	1	
	199472B	Gauge, Water Temperature (Standard)						1	1	1	1	
	A120843A	Gauge, Water Temperature and Safety Switch (Optional)			1	1	1	1	1	1	1	1
	C120843	Gauge, Water Temperature and Safety Switch (Optional)	1	1	1	1	1	1	1	1	1	1
33	954162	Switch, Ignition	1	1	1	1	1	1	1	1	1	1
34	60869A	Switch, Starter	1	1	1	1	1	1	1	1	1	1
35	152934	Switch, Magnetic Ignition (Used with Safety Switches for Distributor Ignition or Diesels)	1	1	1	1	1	1	1	1	1	1
36	21512	Screw, Cap, Hex Head, 3/8"-16 x 5"	1	1	1	1	1	1	1	1	1	1
	28121	Screw, Cap, Hex Head, 3/8"-16 x 6"			1	1	1	1	1	1	1	1
37	B1686	Elbow, Union	1	2	1	2	1	1	2	1	2	1
38	50864H	Hose, Flexible	1	1	1	1	1	1	1	1	1	1
39	78209W	Coupling, Pipe, 1/8"		1		1			1		1	
40	B7106C	Adapter	1	1	1	1	1	1	1	1	1	1
41	199473	Gauge, Oil Pressure (Standard)	1	1	1	1	1	1	1	1	1	1
	A120844B	Gauge, Oil Pressure and Safety Switch (Optional)			1	1	1	1	1	1	1	1
	C120844	Gauge, Oil Pressure and Safety Switch (Optional)	1	1	1	1	1	1	1	1	1	1

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



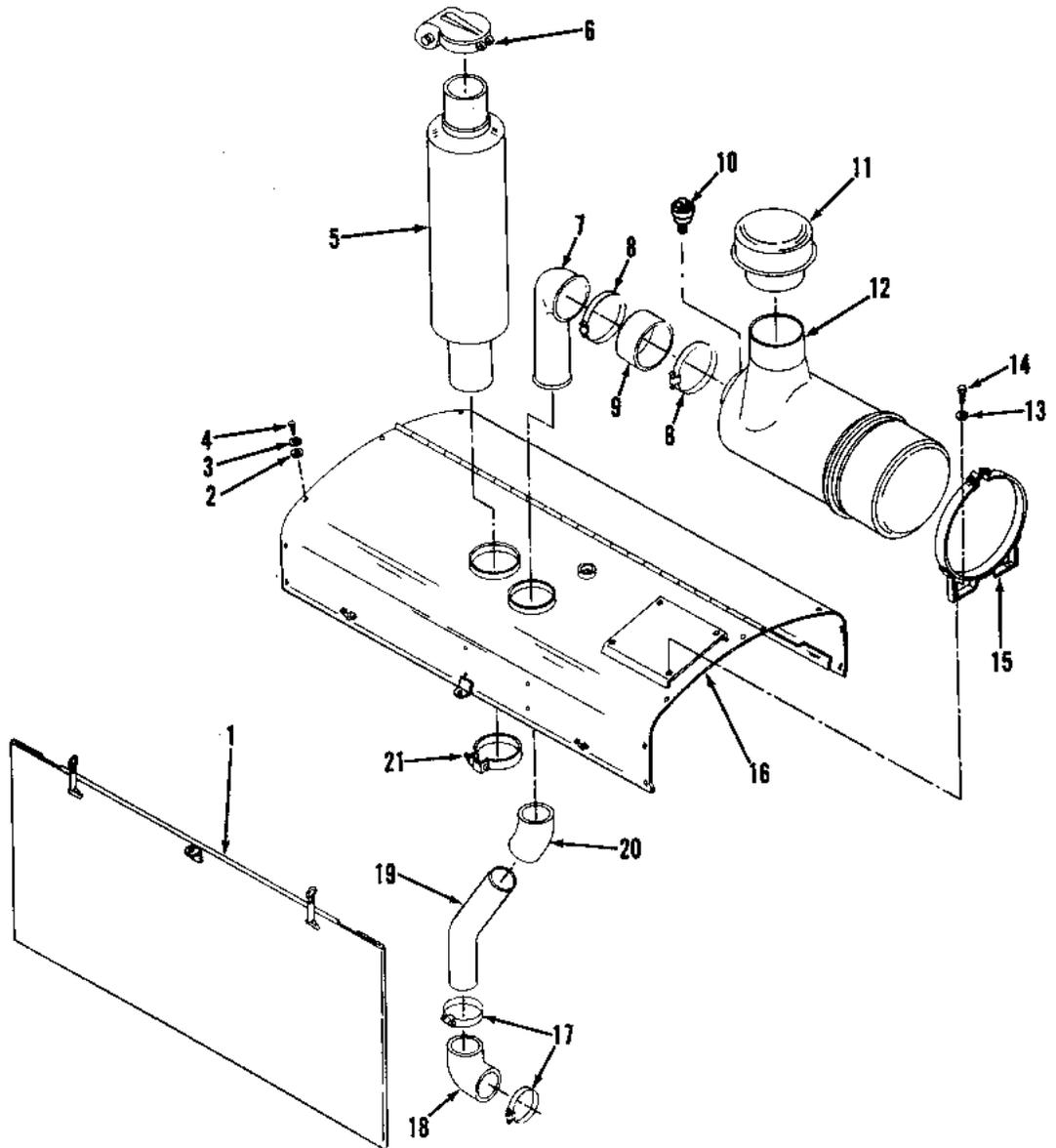
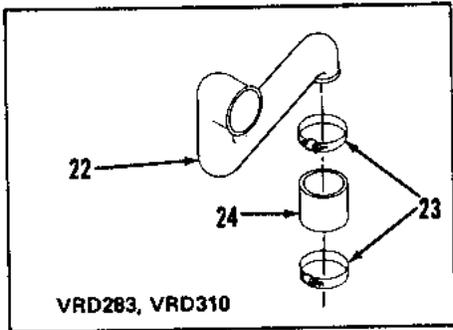
AIR CLEANER, SHEET METAL, MUFFLER



AIR CLEANER, SHEET METAL, MUFFLER  
Groups 201, 208, 217

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	0120802	Door, Side			2	2	2					
	A120802J	Door, Side	2	2								
2	Y18813G	Washer, Plain, 1/4" (Use with 199072B Radiator)	7	7	7	7	7					
	B277	Washer, Plain, 5/16" (Use with 207913 Radiator)	7	7	7	7	7					
3	21050	Washer, Lock, 1/4" (Use with 199072B Radiator)	7	7	7	7	7					
	21051	Washer, Lock, 5/16" (Use with 207913 Radiator)	7	7	7	7	7					
4	21275	Screw, Cap, Hex Head, 1/4"-20 x 3/4" (Use with 199072B Radiator)	7	7	7	7	7					
	21307	Screw, Cap, Hex Head, 5/16"-18 x 5/8" (Use with 207913 Radiator)	7	7	7	7	7					
5	21052	Washer, Lock, 3/8"	4	4	4	4	4					
6	21343	Screw, Cap, Hex Head, 3/8"-16 x 3/4"	4	4	4	4	4					
7	167989	Band, Mounting	2	2	2	2						
	118974	Band, Mounting					2					
8	199421	Cleaner, Air - Assembly					1					
	199434	Cleaner, Air - Assembly	1	1	1	1						
	. 208227	. Element, Air Cleaner					1					
	. 207965	. Element, Air Cleaner	1	1	1	1						
9	169373	Cap, Air Inlet	1	1	1	1						
	199432	Cap, Air Inlet					1					
10	153789	Indicator, Air Restriction	1	1	1		1					
	153789A	Indicator, Air Restriction				1						
11	41236	Clamp, Hose					2					
	41236A	Clamp, Hose	2	2	2	2						
12	B2602D	Connection, Hose, 3" I.D. x 2-1/2"	1	1	1	1						
	78927A	Connection, Hose, 4" I.D. x 2-1/4"					1					
13	199530	Elbow, Air Cleaner					1					
	199542	Elbow, Air Cleaner	1	1	1	1						
14	155938	Cap, Rain (Without Muffler)	1	1	1	1	1					
	155938T	Cap, Rain (With Muffler)	1	1	1	1	1					
15	167907C	Pipe, Exhaust (Without Muffler)					1					
	100834G	Pipe, Exhaust (With Muffler)					1					
	100834U	Pipe, Exhaust (Without Muffler)	1	1	1	1						
	100834H	Pipe, Exhaust (With Muffler)	1	1	1	1						
16	199127D	Hood, Hinged					1					
	199127E	Hood, Hinged				1						
	199127F	Hood, Hinged	1	1								
17	65737	Clamp, Hose	2	2	2	2						
	41236D	Clamp, Hose					2					
18	199535	Elbow, Hose	1	1	1	1						
	199536	Elbow, Hose	1	1			1					
19	199169A	Pipe, Air - Gasoline					1					
	207190	Pipe, Air - Natural Gas					1					
	199203A	Pipe, Air			1							
	207466	Pipe, Air	1									
	207466A	Pipe, Air		2								
20	65737	Clamp, Hose	2	2	2	2						
	810117E	Clamp, Hose					2					
21	117234C	Connection, Hose, 1-7/8" I.D. x 3"			1							
	199538	Hose, Reducer					1					
22	199535	Elbow, Hose			1	1						
23	A199201A	Pipe, Air					1					
24	21051	Washer, Lock, 5/16"					1					
25	21313	Screw, Cap, Hex Head, 5/16"-18 x 1"					2					
26	810232	Gasket					1					
		NOT ILLUSTRATED										
	159469B	Clamp, Muffler			1	1						
	168094	Clamp, Muffler	1	1			1					
	199446	Connection, Muffler	1	1	1	1	1					
	199454	Muffler	1	1	1	1	1					

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



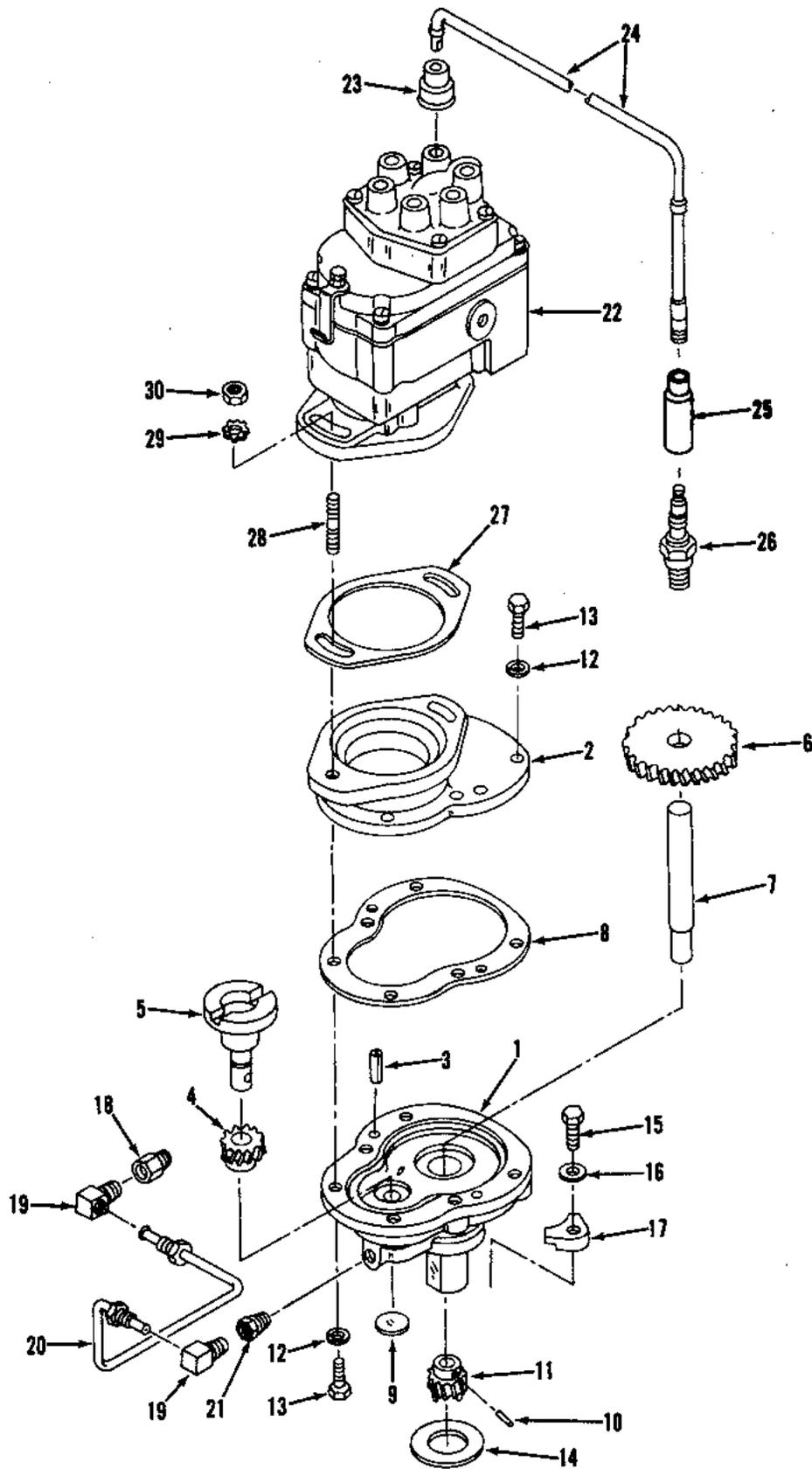
AIR CLEANER, SHEET METAL, MUFFLER



AIR CLEANER, SHEET METAL, MUFFLER  
Groups 201, 208, 217

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	0120802	Door, Side							2	2	2	2
2	Y18813G	Washer, Plain, 1/4" (Use with 199072B Radiator)						7	7	7	7	
	B277	Washer, Plain, 5/16" (Use with 207913 Radiator)						7	7	7	7	
3	21050	Washer, Lock, 1/4" (Use with 199072B Radiator)						7	7	7	7	
	21051	Washer, Lock, 5/16" (Use with 207913 Radiator)						7	7	7	7	
4	21275	Screw, Cap, Hex Head, 1/4"-20 x 3/4" (Use with 199072B Radiator)						7	7	7	7	
	21307	Screw, Cap, Hex Head, 5/16"-18 x 5/8" (Use with 207913 Radiator)						7	7	7	7	
5	199454	Muffler						1	1	1	1	
6	155938T	Cap, Rain						1	1	1	1	
7	199530	Elbow, Air Cleaner						1	1	1	1	
8	41236	Clamp, Hose						2	2	2	2	
9	78927A	Connection, Hose, 4" I. D. x 2-1/4"						1	1	1	1	
10	153789	Indicator, Air Restriction						1	1	1	1	
	153789A	Indicator, Air Restriction							1		1	
11	199432	Cap, Air Inlet						1	1	1	1	
12	199421	Cleaner, Air - Assembly						1	1	1	1	
	. 208227	. Element, Air Cleaner						1	1	1	1	
13	21052	Washer, Lock, 3/8"						4	4	4	4	
14	21343	Screw, Cap, Hex Head, 3/8"-16 x 3/4"						4	4	4	4	
15	118974	Band, Mounting						2	2	2	2	
16	199127C	Hood, Hinged						1	1	1	1	
17	41236D	Clamp, Hose						4	4	4	4	
18	199537	Elbow, Hose - Gasoline						1	1	1	1	
	158043F	Connection, Hose - Natural Gas, 2-1/4" I. D. x 2"						1	1	1	1	
19	199104A	Pipe, Air - Gasoline						1	1	1	1	
	199102A	Pipe, Air - Natural Gas						1	1	1	1	
20	199532	Elbow, Hose - Gasoline						1	1	1	1	
	158043	Connection, Hose - Natural Gas, 2-1/4" I. D. x 3"						1	1	1	1	
21	168094	Clamp, Muffler						1	1	1	1	
22	A199103B	Pipe, Air							1		1	
23	41236K	Clamp, Hose							2		2	
24	B2602C	Connection, Hose, 3" I. D. x 3"							1		1	
NOT ILLUSTRATED												
	199121A	Adapter, Exhaust							1		1	
	169257	Gasket, Manifold							1		1	
	207426	Pipe, Exhaust (Without Muffler)							1		1	
	7447T	Pipe, Exhaust (Without Muffler)							1		1	
	155938H	Cap, Rain (Without Muffler)						1	1	1	1	
	199437	Connection, Muffler						1	1	1	1	

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



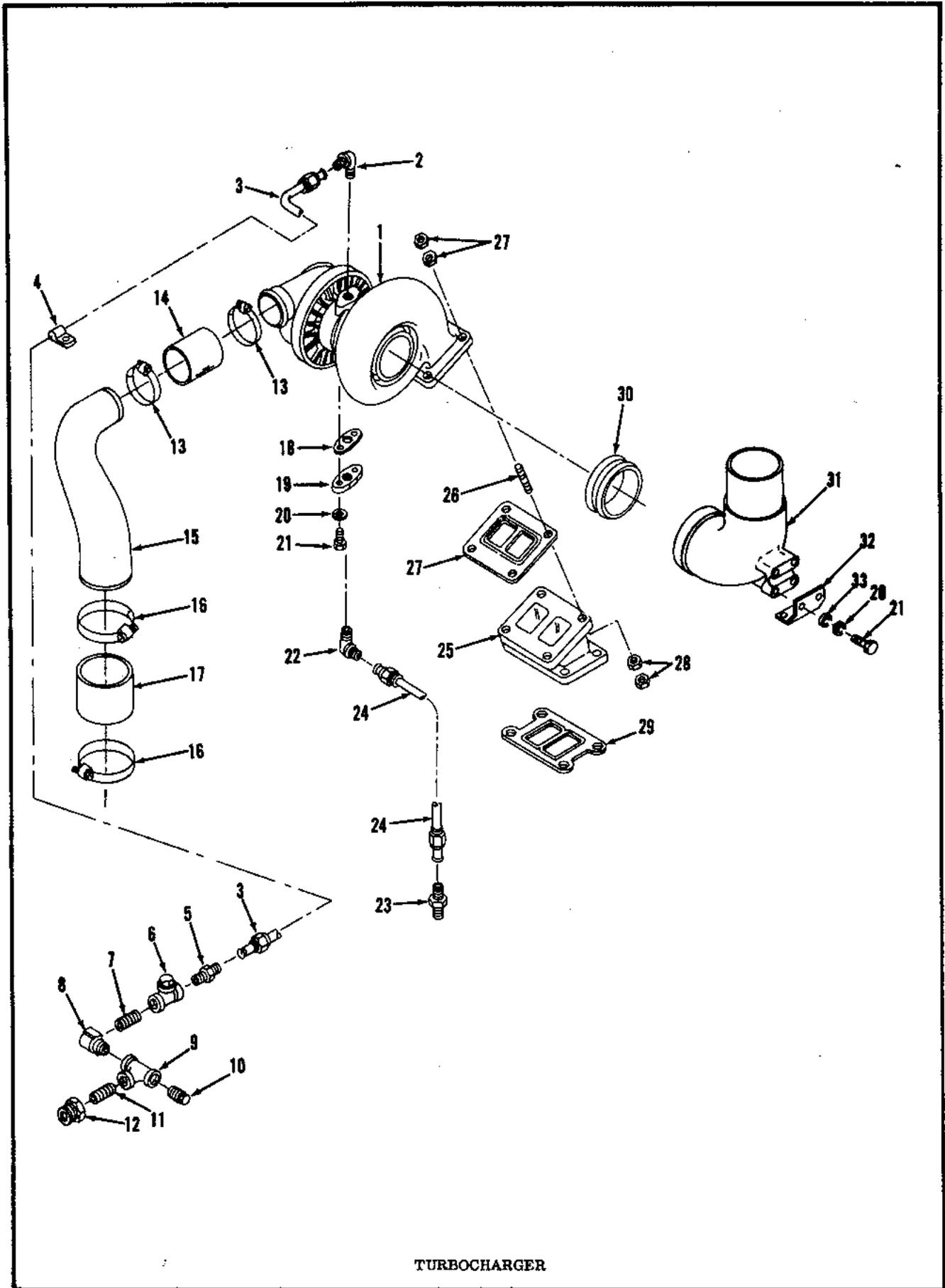
MAGNETO, MAGNETO DRIVE



MAGNETO, MAGNETO DRIVE  
Groups 22, 67

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRD265	VRG283	VRD283	VRG310	VRD310	VRD310S
	AA199686	Drive, Magneto - Assembly			1		1	1			1		
	. A199686	. Case, Magneto Gear - Assembly			1		1	1			1		
1	. . 199686	. . Case, Magneto Gear			1		1	1			1		
2	. . 199687	. . Cover, Magneto Gear Case			1		1	1			1		
3	. . 26662	. . Pin, Roll, 1/4" x 1/2"			1		1	1			1		
	. A199690	. Gear, Drive - Assembly			1		1	1			1		
4	. . 199690	. . Gear, Driven			1		1	1			1		
5	. . 199689	. . Shaft, Magneto Stub			1		1	1			1		
	. A199691	. Gear, Drive - Assembly			1		1	1			1		
6	. . 199691	. . Gear, Drive			1		1	1			1		
7	. . 199688	. . Shaft, Magneto Drive			1		1	1			1		
8	. 151859	. Gasket, Cover			1		1	1			1		
9	. B295	. Plug, Expansion			1		1	1			1		
10	. B997	. Pin			1		1	1			1		
11	. 161514	. Gear, Tachometer Drive			1		1	1			1		
12	. 21819	. Washer, External Shakeproof - Plated, 5/16"			6		6	6			6		
13	. 21310	. Screw, Cap, Hex Head, 5/16"-18 x 3/4"			6		6	6			6		
14	116292	Gasket			1		1	1			1		
15	21350	Screw, Cap, Hex Head, 3/8"-16 x 1-1/8"			2		2	2			2		
16	21052	Washer, Lock, 3/8"			2		2	2			2		
17	116294	Clamp, Distributor			2		2	2			2		
18	85323	Fitting, Restriction			1		1	1			1		
19	73018A	Elbow, Inverted			2		2	2			2		
20	0155209	Line, Oil			1								
	A155209A	Line, Oil					1	1			1		
21	73017A	Connector, Inverted			1		1	1			1		
22	199725	Magneto - Assembly			1		1	1			1		
	. 491507	. Point Set			1		1	1			1		
	. 491655	. Condenser			1		1	1			1		
	. 491503	. Cap, End			1		1	1			1		
	. 491515	. Rotor, Distributor			1		1	1			1		
	. 491657	. Brush and Spring			1		1	1			1		
23	60333	Nipple, Rubber			6		6	6			6		
24	A120765	Cable, Ignition - Assembly (Set of 6)			1		1	1			1		
25	. 161900	. Nipple, Rubber			6		6	6			6		
26	50432B	Plug, Spark - Gasoline			6								
	69532A	Plug, Spark - Natural Gas			6								
	69514	Plug, Spark - Gasoline					6	6			6		
	69462	Plug, Spark - Natural Gas					6	6			6		
27	73904	Gasket, Magneto			1		1	1			1		
28	B291D	Stud			2		2	2			2		
29	21650	Washer, Shakeproof - Plated, 3/8"			2		2	2			2		
30	21194	Nut, Hex, 3/8"-24			2		2	2			2		

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



TURBOCHARGER



TURBOCHARGER  
Group 27

ITEM NO.	PART NUMBER	NOMENCLATURE	VRG155	VRD155	VRG232	VRD232	VRG265	VRG283	VRD283	VRG310	VRD310	VRD310S
1	169057B	Turbocharger										1
2	164724C	Elbow, Flex										1
3	D169327	Line, Oil Supply										1
4	169013	Clip, Oil Line										1
5	164717C	Connector, Flex										1
6	156361A	Valve, Check										1
7	154981F	Nipple, Pipe, 1/4" x 1-1/2"										1
8	B10168B	Elbow, Street, 1/4" x 90°										1
9	78208L	Tee, Pipe, 1/4"										1
10	78282C	Plug, Pipe, Square Head, 1/4"										1
11	154981B	Nipple, Pipe, 1/4" x 7/8"										1
12	78212A	Bushing, Reducing, 3/8" to 1/4"										1
13	41236J	Clamp, Hose										2
14	169058	Connection, Hose, 2" I.D. x 2-3/16"										1
15	199282	Pipe, Turbocharger Air										1
16	41236K	Clamp, Hose										2
17	161700E	Connection, Hose, 3" I.D. x 2-1/2"										1
18	169329	Gasket, Oil Drain Line Flange										1
19	168478	Flange, Oil Drain Line										1
20	21052	Washer, Lock, 3/8"										6
21	21348	Screw, Cap, Hex Head, 3/8"-16 x 1"										6
22	164724F	Elbow, Body										1
23	164717E	Connector, Flex										1
24	A199940	Line, Turbocharger Drain										1
	A169046A	Adapter, Turbocharger - Assembly										1
25	. 169046A	. Adapter, Turbocharger										1
26	. 159364B	. Stud										4
27	166618C	Gasket, Turbocharger										1
28	26881	Nut, Thin Hex, 3/8"-24										16
29	169257	Gasket, Turbocharger Adapter										1
30	199460	Sleeve, Exhaust										1
31	221099A	Elbow, Exhaust										1
32	208082	Bracket, Exhaust										1
33	Y18813H	Washer, Plain, 3/8"										4

ALWAYS GIVE ENGINE MODEL AND NUMBER WHEN ORDERING PARTS



# Quality Products Engineered to Last





<b>C-SERIES</b>	C-46	C-66	C-96	C-101	C-106	C-255
<b>A-SERIES</b>	A-32	A-42	A-54	A-62 A-62 Turbo A-62 Genset	A-90 A-90 Turbo A-90 Genset	A-160 A-160 Turbo A-160 Genset
<b>K-SERIES</b>	K6					
<b>L-SERIES</b>	L-795					



<b>GAS PRODUCTS</b>	Meter Runs Meter Skids	Volume Tanks Coalescers Structural Skids	2 & 3-Phase Separators Fuel Gas Cond. Skid	Heater Treater Indirect Heater H2S Scavenger Unit	Dehydration Unit Liquid Stabilizer
<b>CHEMICAL PUMPS</b>	10 Series (beam operated)	430 Series (electric)	12, 500, & 510 Series (pneumatic)	Solar Chemical Pumps	OEM & Aftermarket Spare Parts



<b>COMPRESSION PRODUCTS</b>	Compressor Frames VRC-2 VRS-2 VRS-4 (Coming Soon)	CNG Compressor Frames & Packages VRC-CNG	Vapor Recovery Units VRU-1 VRU-2	Gas Lift Packages Electric HP Gas Engine (VR, A-Series, Cat)	Custom Compression Packages
-----------------------------	--	--	--	---	-----------------------------------

Arrow Engine Company  
2301 East Independence • Tulsa, Oklahoma 74110  
fax (918) 699-2202  
local (918) 583-5711



**(800) 331-3662**

[www.ArrowEngine.com](http://www.ArrowEngine.com)



<b>CATERPILLAR®</b>	G379	G398	G399	G3304	G3306
<b>WAUKESHA®</b>	F2895 F3521 F5108	L5790 L7042	P9390	145G/F817 140G/F554	F18 H24 WAK/1197
<b>FAIRBANKS®</b>	ZC-118	ZC-208	ZC-503	ZC-739	ZC-346
<b>AJAX®</b>	5x 6½	EA-22, 6½ x 8 CMA EA30, 7½ x 10 CMA EA-30, 7¼ x 8 CMA E-42, 8½ x 10 CMA		DP-60, 9½ x 10 CMA DP-115/230, 13½ x 16 DP-70/80/160, 11 x 14 CMA	

Waukesha®, VHP®, and VGF® are registered trademarks of GE®, Caterpillar®, is a registered trademark of Caterpillar, Inc., Fairbanks Morse® is a registered trademark of Coltec Industries, Inc., and Ajax® is a registered trademark of Cameron International Corporation.