

Service Parts

Engine

Engine Models:

John Deere 3029DF

3029TF

3029TF270

Generator Models:

20ROZJB

20-40REOZJB

20DSJB

20-40DSEJB

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Introduction

This manual contains a list of service replacement parts for John Deere diesel-fueled 3029 series engines. Refer to the Specification Number Index for generator models and specifications covered.

This manual includes the following main sections:

- *Table of Contents*: Lists the sections of this catalog.
- *Introduction (and other information sections)*: Contains introductory material followed by sections on specification numbers, part numbers, and hardware.
- *Index*: Indexes generator set specifications and their groups.
- *Group Parts Lists*: List part numbers of parts in the groups.

Number Significance

This catalog uses a variety of numbering systems. A description of these follows.

- *Group Number*: A group consists of parts needed to perform one or more related functions. For example, Group 1 is the Engine Air Intake group.

- *Variation Number*: A group might have several variations. Parts comprising each variation perform the same function, but parts lists vary. For example, a 50 Hz fuel injection pump and a 60 Hz fuel injection pump perform the same function. However, they are constructed of different parts. Each of these differences necessitates the assignment of a group variation number.

- *Part Number*: The part number identifies an individual assembly, subassembly, component, or accessory kit.

How to Find Part Numbers

Follow these steps to identify a part:

STEP 1: Turn to the Specification Number Index. The first column lists engine models grouped by generator set model. The headings across the top identify the groups of parts that make up the engine. The intersection of the engine model and the group numbers is the variation number corresponding to the components of that engine. Note the variation number.

STEP 2: Find the page number of the group in the Table of Contents and turn to that page or page forward until you find the group. Use the drawings and itemized text to locate the part and its part number.

Specification Number Index

Group Title	<i>Air Intake</i>	<i>Water Pump</i>	<i>Thermostat</i>	<i>Fan Belt</i>	<i>Vent Tube</i>	<i>Camshaft</i>	<i>Valve Train</i>	<i>Rocker Arm Cover</i>	<i>Fuel Injection Pump</i>	<i>Fuel Injection Nozzle</i>	<i>Cylinder Block</i>	<i>Crankshaft</i>	<i>Crankshaft Pulley</i>
Group No.	1	2a	2b	2c	3	4a	4b	4c	5a	5b	7	8a	8b
	Variation Number												

Engine Model													
3029DF, 60 Hz	1712	2020	2110	2401	2902	9914	9901	1105	1603	1603	9906	9919	1330
3029DF, 50 Hz	1712	2020	2110	2401	2902	9914	9901	1105	1641	1641	9906	9919	1330
3029TF, 60 Hz	1710A	2020	2110	2401	2902	9914	9901	1105	16TR	16TR	9906	9919	1330
3029TF, 50 Hz	1710A	2020	2110	2401	2902	9914	9901	1105	16TT	16TT	9906	9919	1330
3029TF270	1710B	2020	2110	2401	2902	4607	4903	1105	164H	164H	4607	4702	1330

Group Title	<i>Cylinder Head</i>	<i>Valves</i>	<i>Oil Filter & Dipstick</i>	<i>Starter Motor</i>	<i>Starter Motor Components</i>	<i>Exhaust Manifold</i>	<i>Flywheel</i>	<i>Flywheel Housing</i>	<i>Fuel Pump</i>	<i>Fuel Filter</i>	<i>Timing Gear Cover</i>	<i>Oil Pan</i>
Group No.	9a	9b	10	11a	11b	12a	13a	13b	14	15	18	21a
	Variation Number											

Engine Model													
3029DF, 60 Hz	9902	9903	4004	3008	3008	2802D	1501	1418	3710	1	4499	1901	
3029DF, 50 Hz	9902	9903	4004	3008	3008	2802D	1501	1418	3710	1	4499	1901	
3029TF, 60 Hz	9902	9903	4006	3008	3008	2802T	1501	1418	3710	1	4499	1901	
3029TF, 50 Hz	9902	9903	4006	3008	3008	2802T	1501	1418	3710	1	4499	1901	
3029TF270	5105	5105	5939	3008	3008	2802T	1501	1453	3710	35DD	4499	1901	

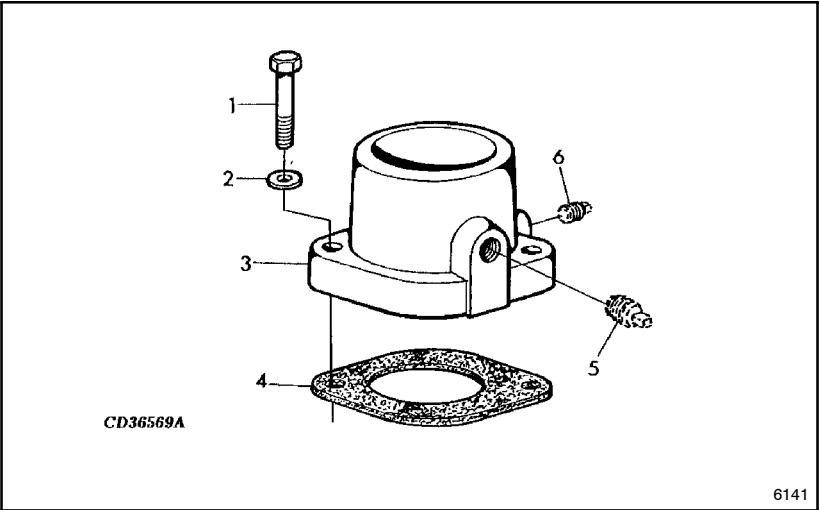
Specification Number Index

Group Title	<i>Oil Fill Tube</i>	<i>Oil Cooler</i>	<i>Piston</i>	<i>Connecting Rod</i>	<i>Oil Pump</i>	<i>Front Plate</i>	<i>Cylinder Head Gasket Set</i>	<i>Overhaul Gasket Set</i>	<i>Short Block</i>	<i>Turbocharger & Oil Lines</i>	<i>Alternator</i>	<i>Alternator Brackets</i>	<i>Alternator Components</i>
Group No.	21b	21c	22a	22b	25	26	39a	39b	42	50	51a	51b	51c
	Variation Number												

Engine Model													
3029DF, 60 Hz	1299	5906	9915	9916	9928	-	1	9932	9910	-	3123	6218	3123
3029DF, 50 Hz	1299	5906	9915	9916	9928	-	1	9932	9910	-	3123	6218	3123
3029TF, 60 Hz	1299	5906	9917	9918	9928	1	1	9932	9910	6547	3123	6218	3123
3029TF, 50 Hz	1299	5906	9917	9918	9928	-	1	9932	9910	65BS	3123	6218	3123
3029TF270	1299	5939	4814	4814	5001	3622	9706	9706	9702	6547	3123	6218	3123

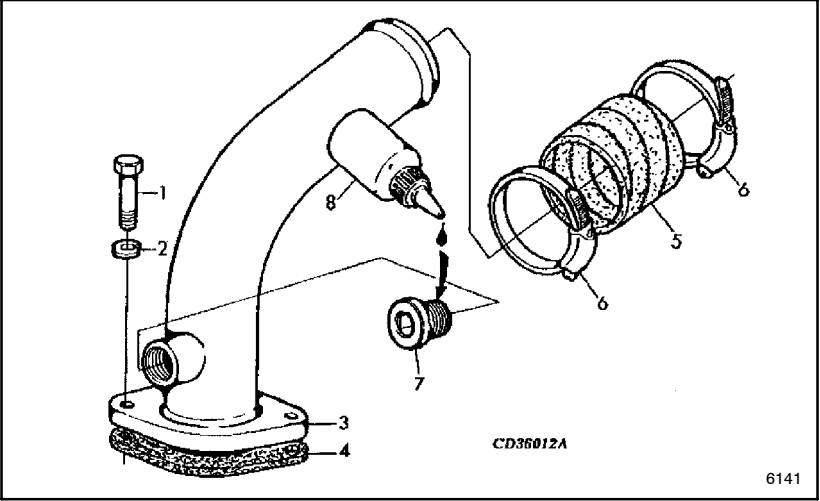
Notes

Group 1: Air Intake



Item	Part No.	Description	Qty.	
			Var.	1712
1	222765	Screw, cap		2
2	#	Washer, 10.500 x 18 x 1.600 mm		2
3	GM21398	Intake, air		1
4	223532	Gasket		1
5	Not used			1
6	Not used			1

Common hardware; procure locally.



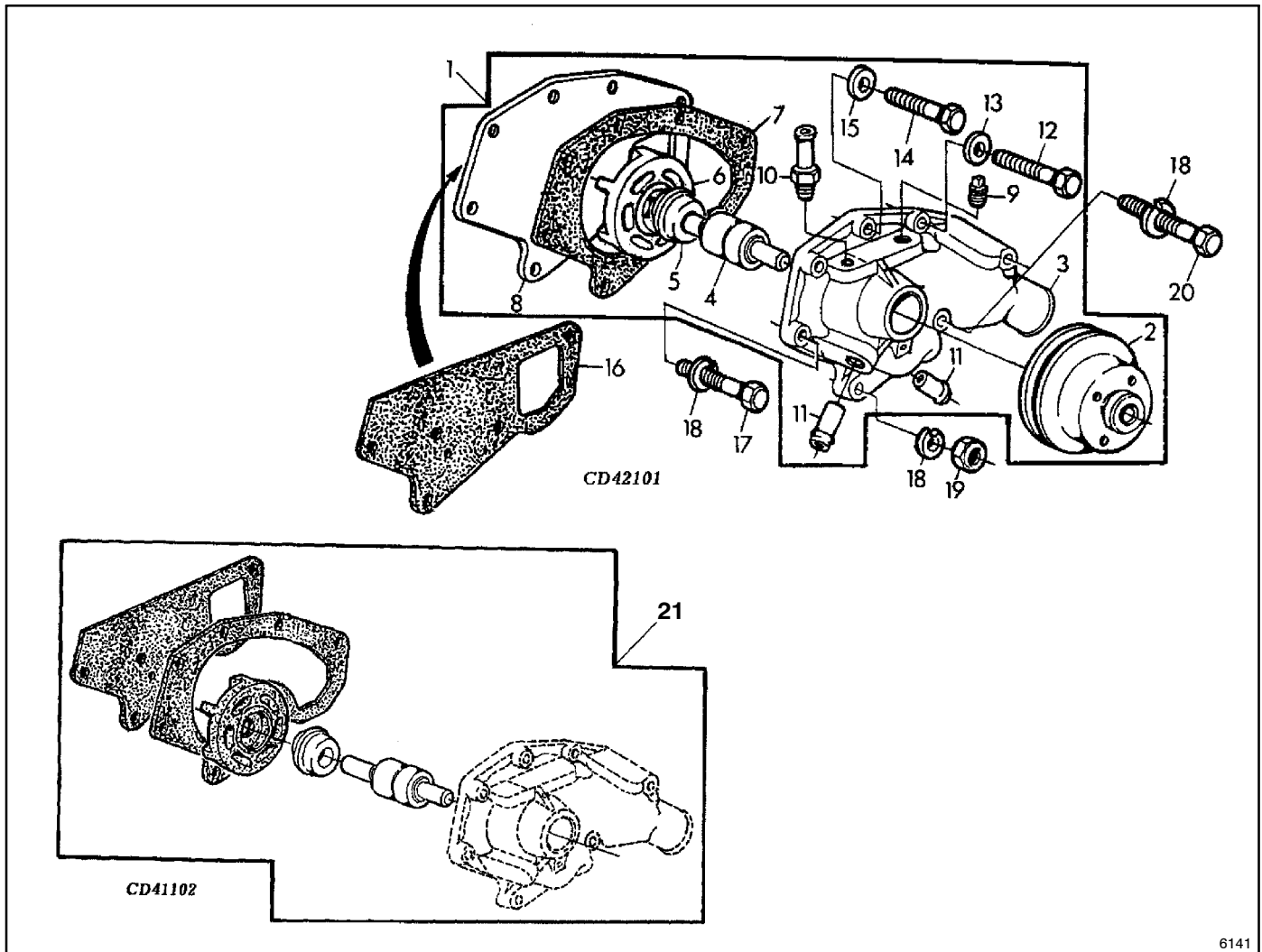
Item	Part No.	Description	Qty.	
			1710A	1710B
1	#	Screw, cap, 3/8 x 1 1/8 in. (SAE grade 8)	2	2
2	#	Washer, lock, 3/8 in.	2	2
3	GM21399	Tube (also order items 7 and 8)	1	
3	GM32721	Duct, air		1
4	223532	Gasket	1	1
5	GM21400	Hose	1	1
6	336706	Clamp, hose	2	2
7	360174	Fitting	1	1
8	#	Sealant, Loctite® 592	AR	

Common hardware; procure locally.

AR As Required

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Group 2a: Water Pump



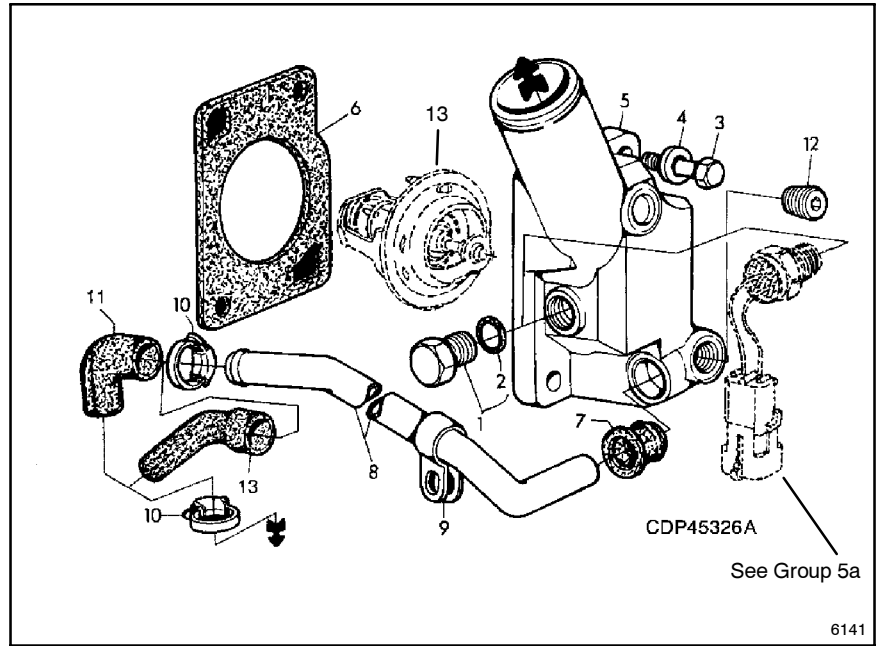
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Item	Part No.	Description	Qty.
			Var.
			2020
1	GM21401	Pump, water	1
2	223659	Pulley	1
3	X	Housing (order item 1)	1
4	X	Bearing, ball (order item 21)	1
5	X	Seal (order item 21)	1
6	223553	Impeller	1
7	223560	Gasket	1
8	GM21402	Cover	1
9	#	Plug, pipe, 1/2 in.-14 NPT	1
10	GM21403	Fitting, union, 1/4 in.-18 NPT x 54 mm	1
11	352067	Tube	2
12	#	Screw, cap, 3/8 in. x 1 1/2 in. (SAE grade 8)	1
13	#	Washer, 10 x 18 x 2.500 mm	1
14	#	Screw, cap, 3/8 in. x 1 3/8 in. (SAE grade 8)	1
15	#	Washer, 10.500 x 18 x 1.600 mm	1
16	223628	Gasket	1
17	#	Screw, cap, 3/8 in. x 2 in. (SAE grade 8)	1
18	#	Washer, locker, 3/8 in.	3
19	#	Nut, 3/8 in.	1
20	#	Screw, cap, 3/8 in. x 3 1/2 in.	2
21	GM21404	Kit, pump repair	1

Common hardware; procure locally.

X Not sold separately.

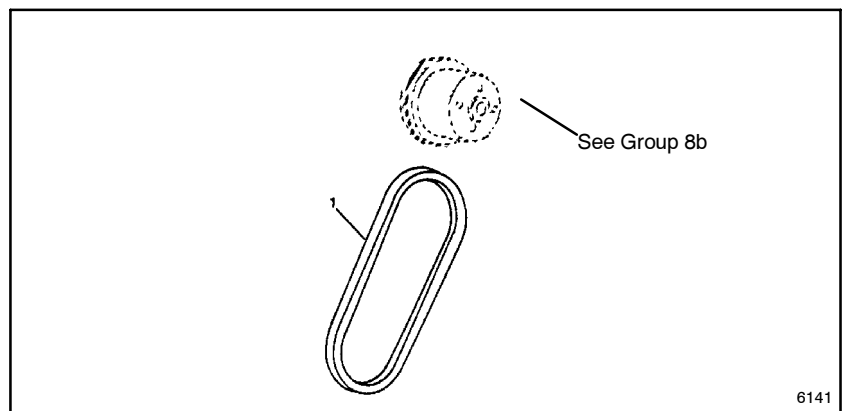
Group 2b: Thermostat



Item	Part No.	Description	Qty.
			Var. 2110
1	360013	Plug	1
2	GM21508	O-ring	1
3	#	Screw, cap, 3/8 in. x 1 1/8 in.	2
4	#	Washer, 10 x 18 x 2.500 mm	2
5	GM32722	Cover (also order items 1, 7, and 12)	1
6	GM21406	Gasket	1
7	360116	Gasket, water bypass tube	1
8	GM21407	Gasket	1
9	GM21408	Clamp	2
10	GM21409	Clamp	1
11	336463	Hose	1
12	GM15403	Plug, pipe	1
13	223595	Thermostat, 82 deg. C	1

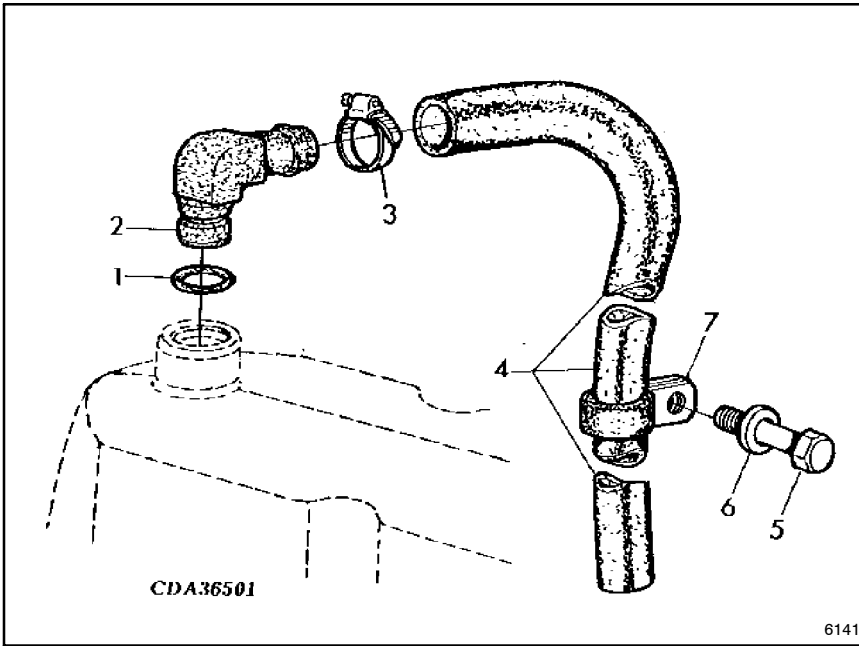
Common hardware; procure locally.

Group 2c: Fan Belt



Item	Part No.	Description	Qty.
			Var. 2401
1	GM11846	Belt, fan	1

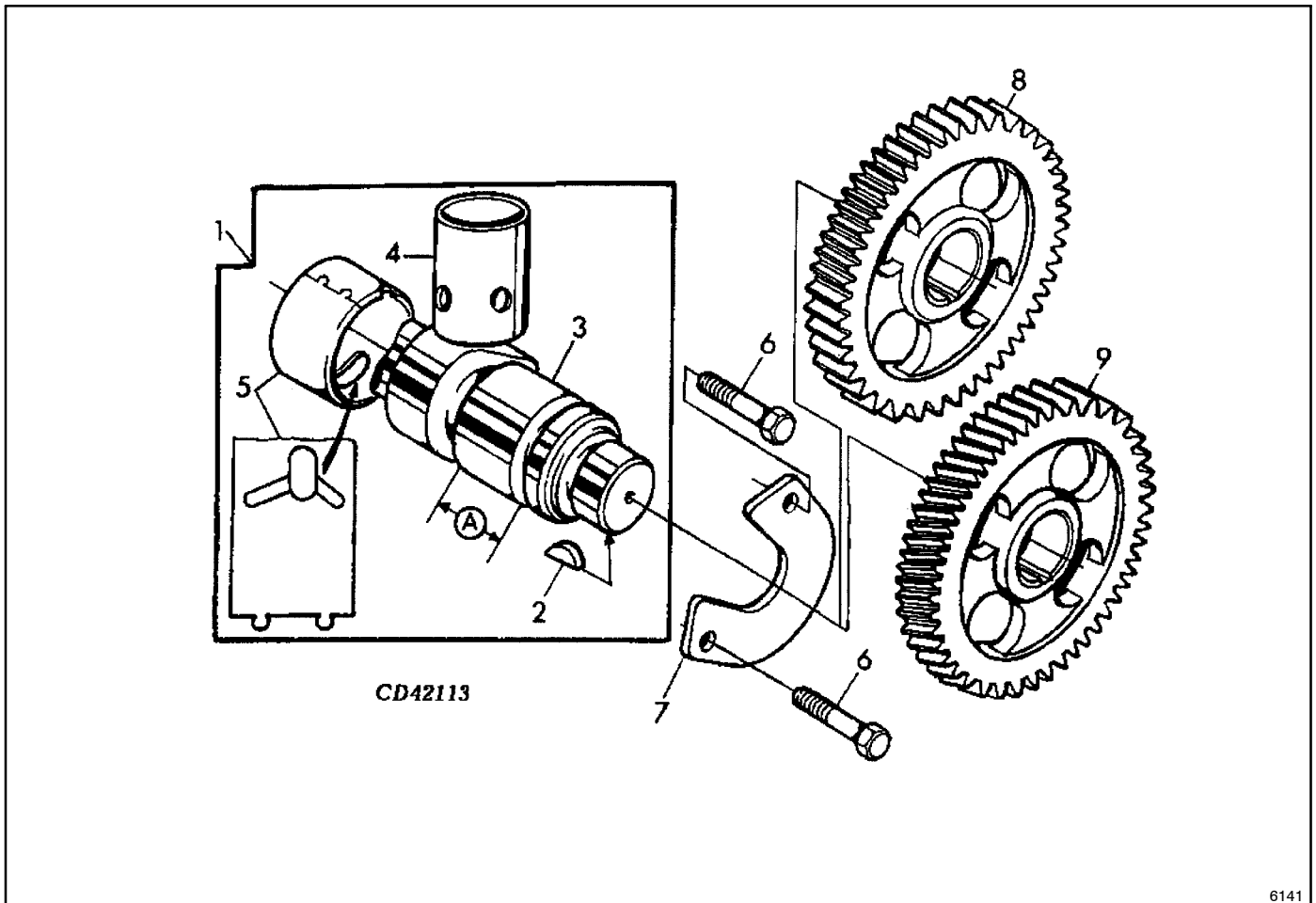
Group 3: Vent Tube



Item	Part No.	Description	Qty.
			Var. 2902
1	223491	O-ring	1
2	223551	Fitting, elbow	1
3	336475	Clamp	1
4	GM32723	Tube	1
5	#	Screw, 5/16 x 1/2 in.	1
6	#	Washer, 8.4 x 16 x 1.6 mm	1
7	GM32724	Clamp	1

Common hardware; procure locally.

Group 4a: Camshaft



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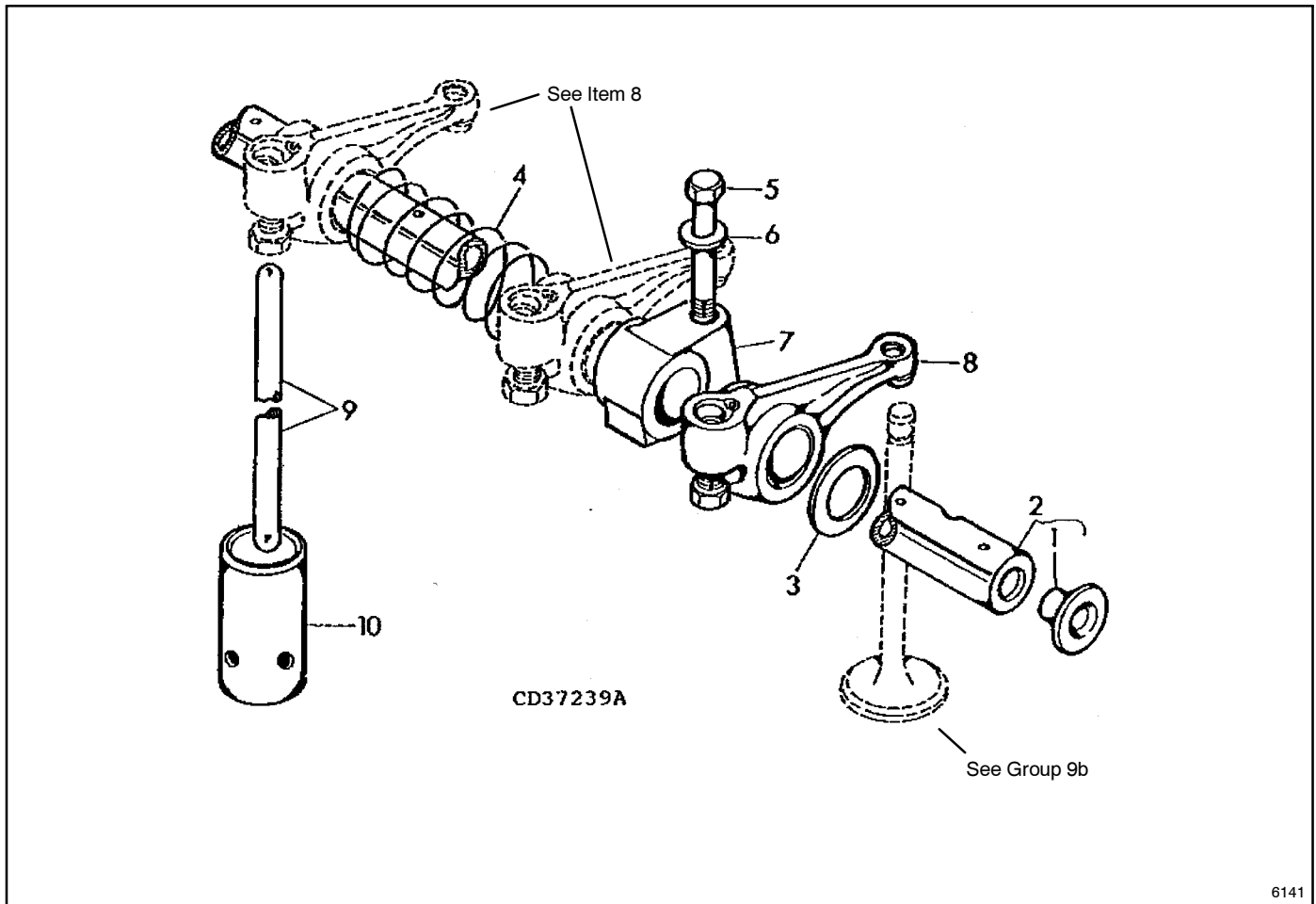
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Item	Part No.	Description	Qty.	
			9914	4607
1	GM21411	Camshaft kit	1	1
2	223407	Key, woodruff	1	1
3	X	Camshaft	1	1
4	223611	Tappet	8	8
5	352246	Bushing	1	1
6	#	Screw, cap, 3/8 in. x 1 in. (SAE grade 8)	2	2
7	223610	Plate	1	1
8	Not used	Gear, spur	1	1
9	223609	Gear	1	1

Common hardware; procure locally.

X Not sold separately.

Group 4b: Valve Train

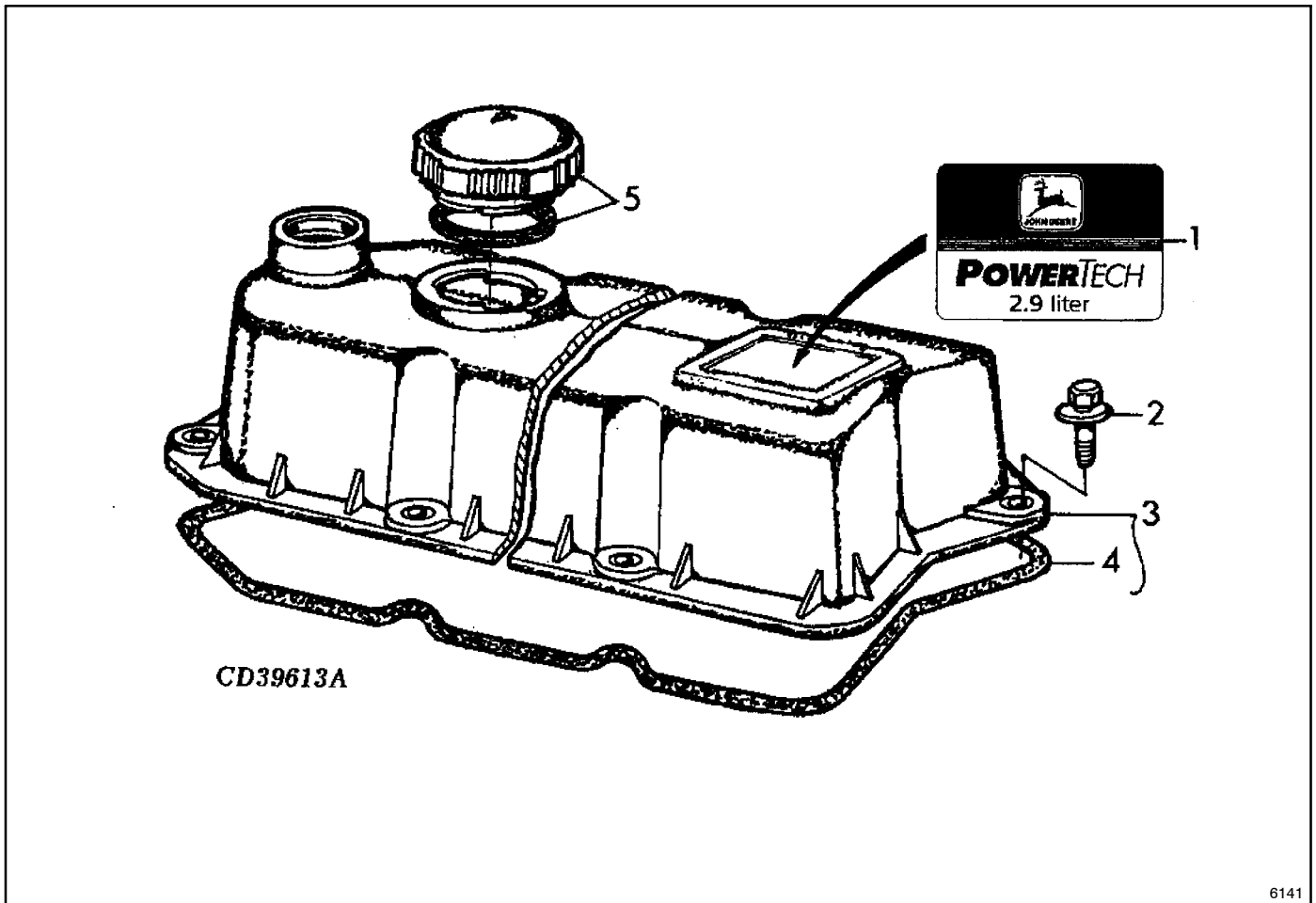


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Item	Part No.	Description	Qty.	
			4903	9901
1	223480	Plug	2	2
2	GM32725	Shaft, rocker arm	1	
2	GM21412	Shaft, rocker arm		1
3	223634	Washer	2	2
4	223632	Spring	2	2
5	GM32726	Screw, self locking	3	
5	#	Screw, cap, 3/8 in. x 2 1/2 in. (SAE grade 8)		3
6	223756	Washer		3
7	223633	Support		3
7	360112	Support	3	
8	223592	Arm, rocker	6	6
9	GM21413	Rod, push	6	6
10	223611	Tappet	6	6

Common hardware; procure locally.

Group 4c: Rocker Arm Cover



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Item	Part No.	Description	Qty.
			Var. 1105
1	X	Label	1
2	GM21414	Screw with washer	6
3	GM21415	Cover, valve	1
4	GM21416	Gasket	1
5	336435	Cap, filler	1

X Not sold separately.

Group 5a: Fuel Injection System

Item	Part No.	Description	Qty.				
			1603	1641	Var.		
			16TR	16TT	164H		
1	GM21495	Pump, fuel injection	1				
1	GM21496	Pump, fuel injection		1			
1	GM21497	Pump, fuel injection			1		
1	GM21498	Pump, fuel injection				1	
1	GM32727	Pump, fuel injection					1
2	GM21499	Key, shaft	1	1	1	1	1
3	224172	O-ring	1	1	1	1	
3	GM17487	O-ring					1
4	223471	Washer, lock	1	1			
4	GM21501	Washer			1	1	
4	GM17456	Washer					1
5	224161	Nut	1	1			1
5	GM21500	Nut			1	1	
6	#	Nut	4	4	3	3	3
7	GM21503	Fuel line, no. 1	1	1	1	1	1
8	GM21504	Fuel line, no. 2	1	1	1	1	1
9	GM21505	Fuel line, no. 3	1	1	1	1	1
10	223572	Clamp	1	1			1
11	224071	Clamp	1	1			1
12	#	Screw, cap, M6 x 12	1	1	1	1	1
13	—	Not used					
14	GM21502	Pinion	1	1			
14	224238	Gear			1	1	1
15	223460	Fitting	1	1			
15	223820	Fitting			1	1	1
16	GM21506	Fuel line	1	1			
16	See table below	Fuel line (includes items 17, 18)			1	1	1
16	See table below	Fuel line (includes items 17, 18)			1	1	1
17	360141	Nut			2	2	2
18	223476	Packing			2	2	2
19	223504	Tube (includes items 17, 18)	2	2	2	2	2
20	223710	Plug					1
21	223476	Packing					1
22	GM21455	Line, fuel (includes nut and sealing washer)	1	1	1	1	
22	GM21453	Nut (not shown)	2	2	2	2	
22	GM17494	Washer, sealing (not shown)	2	2	2	2	
22	GM32728	Line, fuel					1
23	222764	Fitting	1	1			
23	360037	Fitting (includes item 24)			1	1	1
24	222760	O-ring	1	1			
24	360178	O-ring			1	1	1
25	GM21508	O-ring			1	1	1
26	GM21509	Switch, temperature			1	1	1
27	GM21510	Harness, wiring			1	1	1
28	GM32784	Solenoid valve coil			1	1	

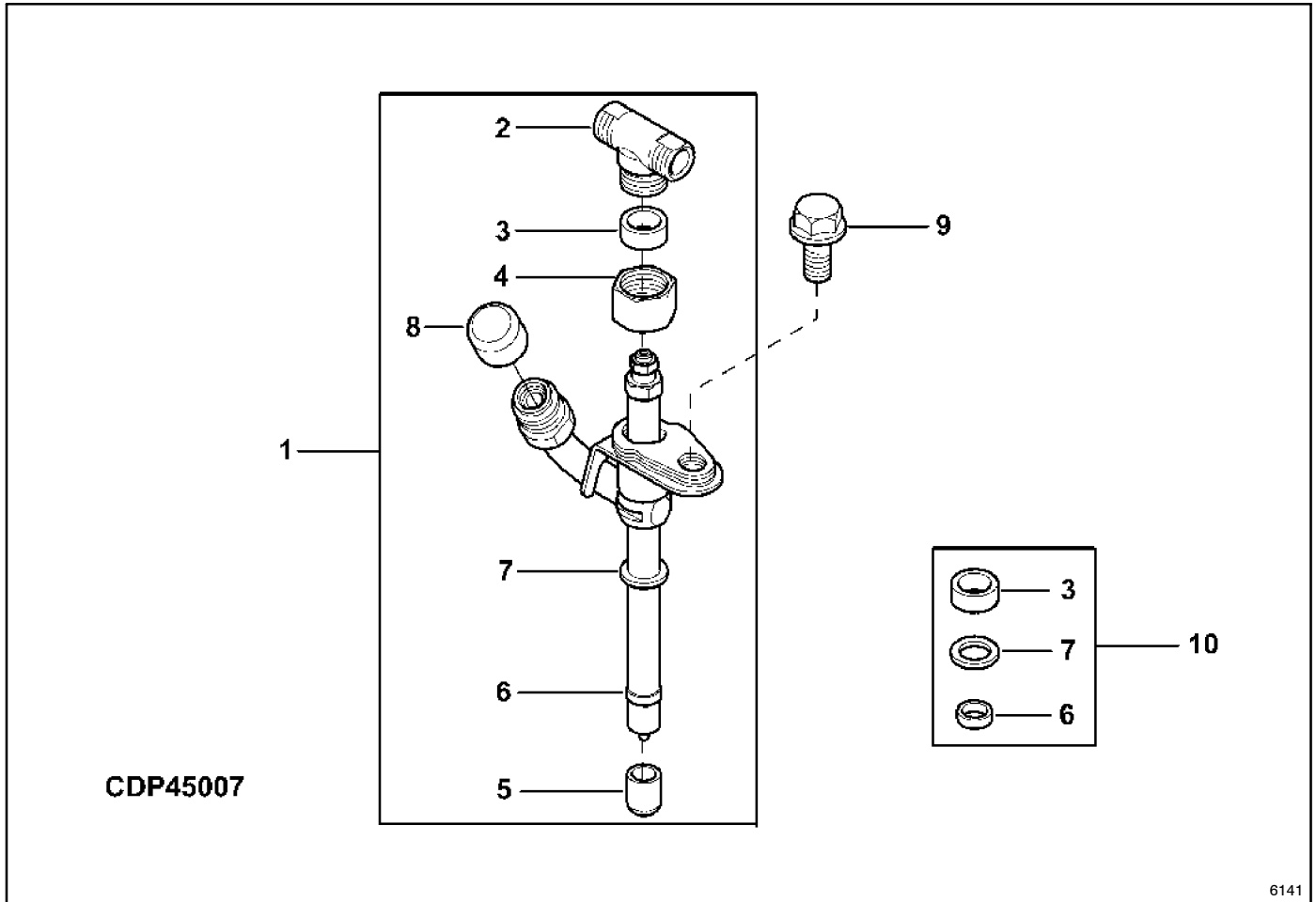
Common hardware; procure locally.

Serial Number-Contingent Fuel Line

Use the engine serial number to verify item 16. Find your serial number on the engine nameplate and choose the fuel filter line from the chart below.

Model	Variation	Serial Number	Part Number
3029TF, 60 Hz	16TR	PE3029T266666 and before	GM21507
		After PE3029T266666	GM32738
3029TF, 50 Hz	16TT	PE3029T028590 and before	GM21507
		After PE3029T028590	GM32738

Group 5b: Fuel Injection Nozzle



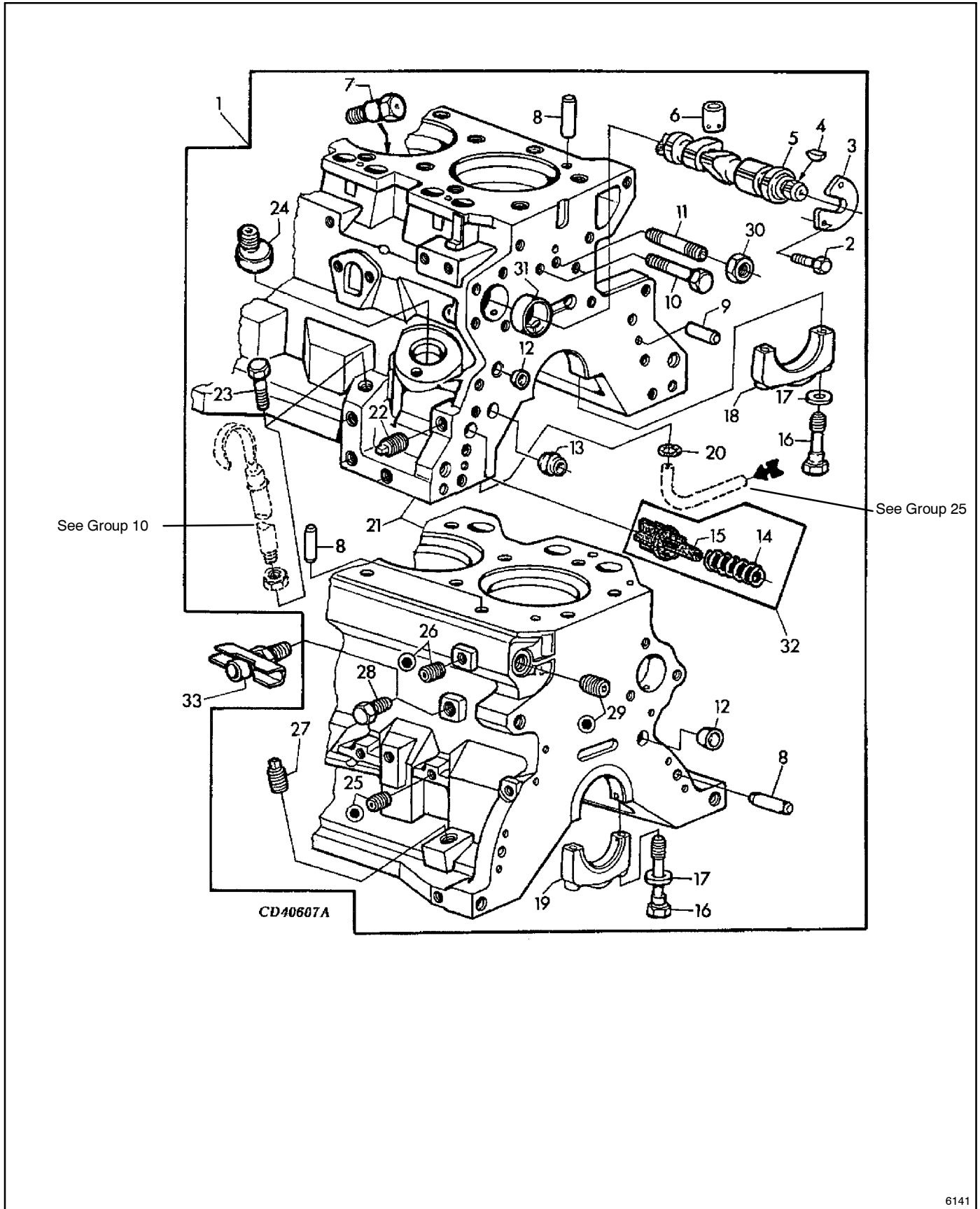
Group 5b: Fuel Injection Nozzle

Item	Part No.	Description	Qty.				
			1603	1641	Var.		
			16TR	16TT	164H		
1	GM21511	Nozzle, injection	3	3			
1	GM21512	Nozzle, injection			3	3	
1	360017	Nozzle, injection					3
2	GM21513	Fitting, tee	1	1	1	1	1
3	X	Washer (order item 10)	1	1	1	1	1
4	223517	Nut, tube	1	1	1	1	1
5	224257	Plug	AR	AR	AR	AR	AR
6	X	Washer (order item 10)	1	1	1	1	1
7	X	Packing (order item 10)	1	1	1	1	1
8	223660	Plug	AR	AR	AR	AR	AR
9	224188	Screw, cap	3	3	3	3	3
10	GM21515	O-ring kit	AR	AR			
10	GM21516	O-ring kit			AR	AR	AR

AR As Required

X Not sold separately.

Group 7: Cylinder Block



Group 7: Cylinder Block

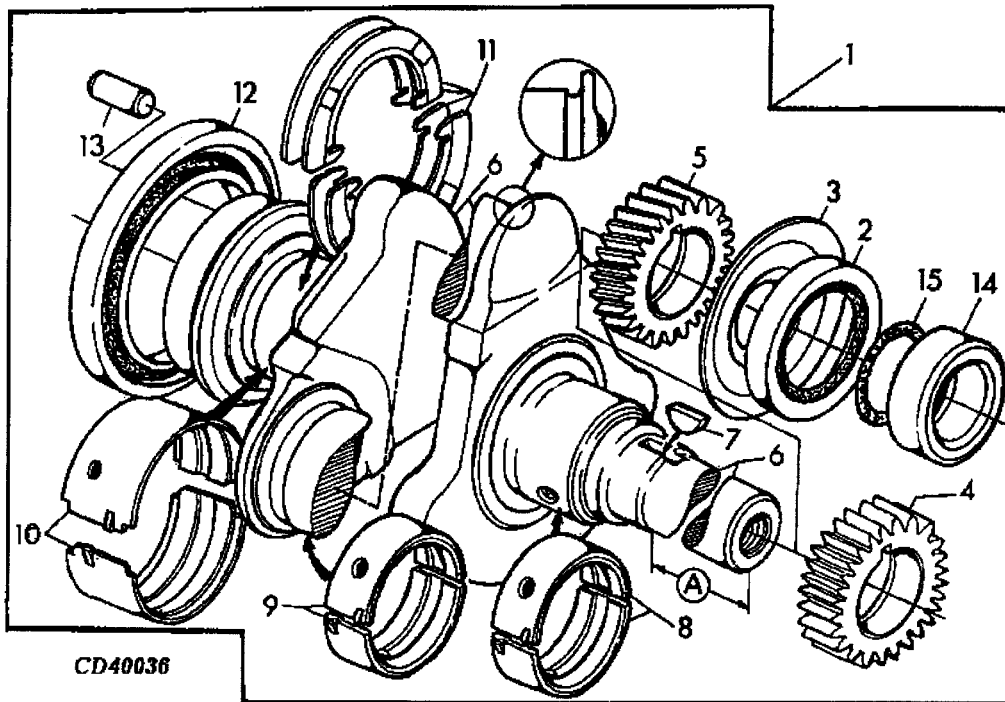
Item	Part No.	Description	Qty.	
			4607	9906
1	GM21417	Block, cylinder	1	1
2	#	Screw, cap, 3/8 in. x 1 in. (SAE grade 8)	2	2
3	223610	Plate	1	1
4	223407	Key, woodruff	1	1
5	X	Camshaft (order kit part number GM21411)	1	1
6	223611	Tappet	1	6
7	GM21418	Orifice	3	3
8	223472	Pin, dowel	4	4
9	352064	Pin, dowel	2	2
10	#	Screw, cap, 3/8 in. x 2 1/4 in.	2	2
11	#	Stud, 3/8 in. x 47 mm	1	1
12	360517	Cap	AR	AR
13	360518	Bushing	1	1
14	X	Spring (order item 32)	1	1
15	X	Valve (order item 32)	1	1
16	223639	Screw, cap	8	8
17	GM21419	Washer		8
17	224089	Washer	8	
18	223503	Cap, bearing		3
19	223516	Cap		1
20	336458	O-ring	1	1
21	X	Block, cylinder	1	1
22	#	Plug, pipe, 3/8 in.	1	1
23	#	Screw, cap, 1/2 in. x 1/2 in.	1	1
24	223638	Nipple, threaded	1	1
25	224268	Plug, pipe	4	4
26	#	Plug, pipe, 1/4 in.-18 NPT	1	1
27	#	Plug, pipe, 1/2 in.-14 NPT	1	1
28	223802	Plug, pipe		1
28	#	Plug, pipe, 1/4 in.	1	
29	#	Plug, pipe, 1 in.-11.5 NPT	1	1
30	#	Nut, 3/8 in.-16UNC	1	1
31	352246	Bushing	1	1
32	GM21420	Valve kit	AR	AR
33	223435	Valve, drain	AR	AR

Common hardware; procure locally.

AR As Required

X Not sold separately.

Group 8a: Crankshaft



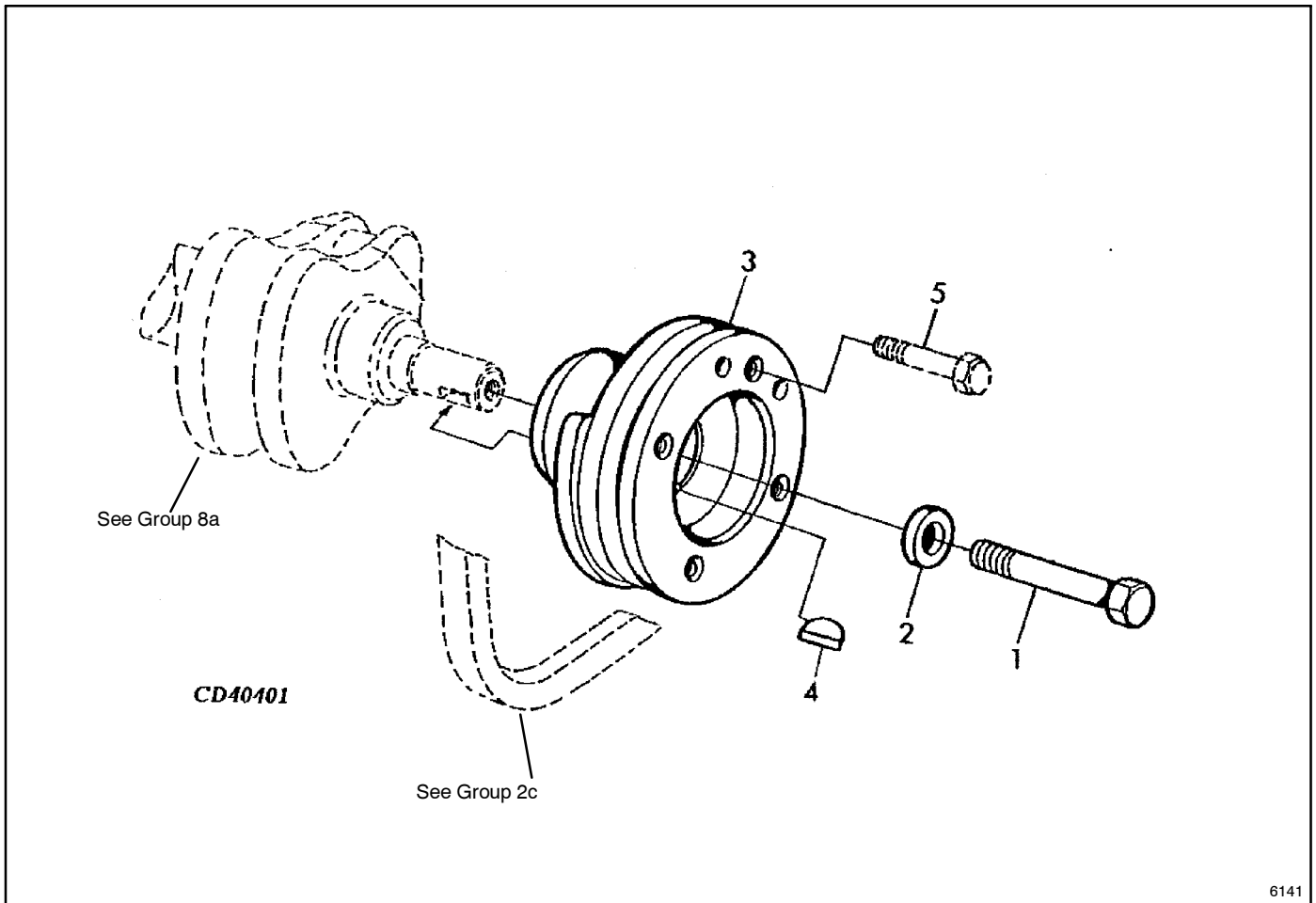
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Item	Part No.	Description	Qty.	
			4702	9919
1	GM21421	Crankshaft	1	1
2	223422	Seal	1	1
3	223607	Slinger, oil	1	1
4	Not used		1	1
5	223615	Gear	1	1
6	X	Crankshaft	1	1
7	223407	Key, woodruff	1	1
8	GM21422	Bearing kit, standard	3	3
8	GM21423	Bearing kit, 0.25 mm US	AR	AR
9	GM21424	Bearing kit, standard	3	3
10	GM21425	Bearing kit, thrust standard	1	1
10	GM21426	Bearing kit, thrust 0.25 mm US	AR	AR
11	GM21427	Washer, thrust standard	1	1
11	GM21428	Washer, thrust 0.1 mm OS	AR	AR
12	223583	Seal, rear	1	1
13	223472	Pin, dowel	1	1
14	224056	Sleeve	AR	AR
15	224007	Ring	AR	AR

X Not sold separately.
AR As Required

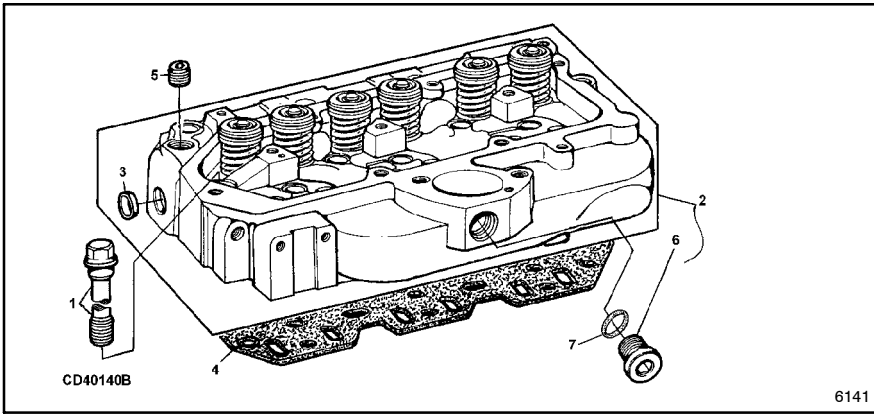
Group 8b: Crankshaft Pulley



Item	Part No.	Description	Qty.
1	#	Screw, cap, 1/2 in. x 1 3/4 in. (SAE grade 8)	14
2	352035	Spacer	1
3	GM21429	Sheave (pulley)	1
4	GM21430	Key, shaft, 5/16 in. x 1 1/8 in.	1
5	#	Screw, cap, 3/8 in.-16UNC	AR

Common hardware; procure locally.
AR As Required

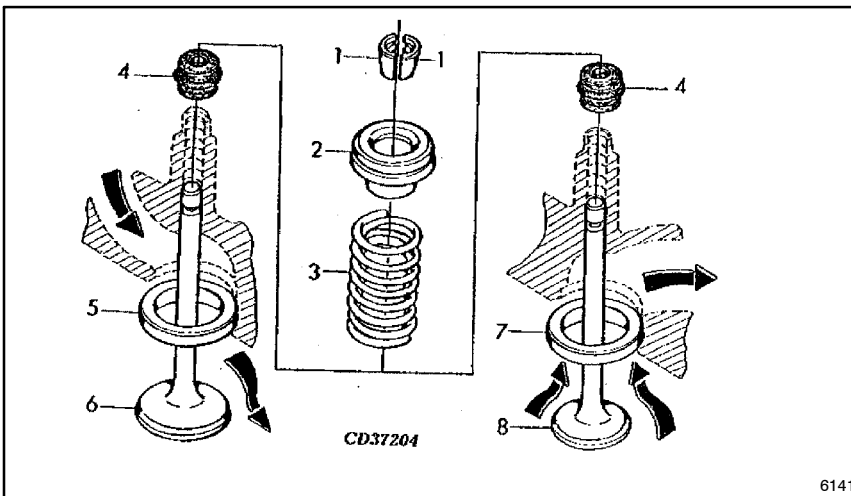
Group 9a: Cylinder Head and Valves



Item	Part No.	Description	Qty.	
			5105	9902
1	224164	Screw, cap	14	14
2	GM21431	Head, cylinder	1	1
3	223448	Cap	2	2
4	GM32729	Gasket, cylinder head	1	
4	GM21432	Gasket, cylinder head		1
5	#	Plug, pipe, 1/2 in.-14 NPTF	AR	AR
6	360174	Fitting (also order item 7)	1	
7	223746	O-ring	1	

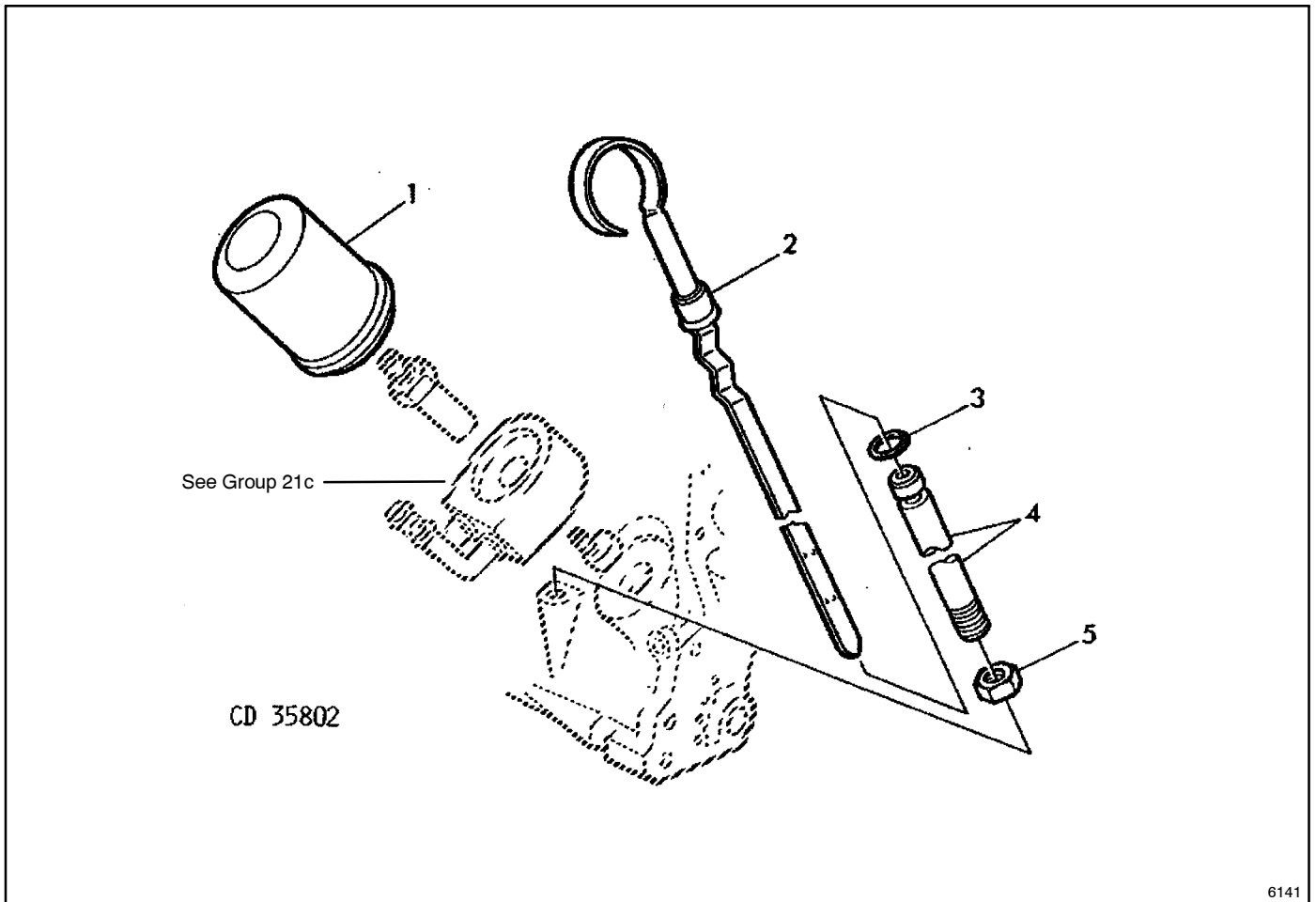
Common hardware; procure locally.
AR As Required

Group 9b: Valves



Item	Part No.	Description	Qty.	
			5105	9903
1	224184	Lock	12	12
2	224176	Rotator	6	6
3	223455	Spring	6	6
4	224243	Seal	6	6
5	GM21433	Insert, valve	6	6
6	224168	Valve, intake, standard	3	3
6	224193	Valve, intake, OS, 0.381 mm	AR	AR
6	224197	Valve, intake, OS, 0.762 mm	AR	AR
7	GM21434	Insert, valve	6	6
8	224156	Valve, exhaust	3	3
8	224153	Valve, exhaust, OS, 0.381 mm	AR	AR
8	224151	Valve, exhaust, OS, 0.762 mm	AR	AR

Group 10: Oil Filter & Dipstick

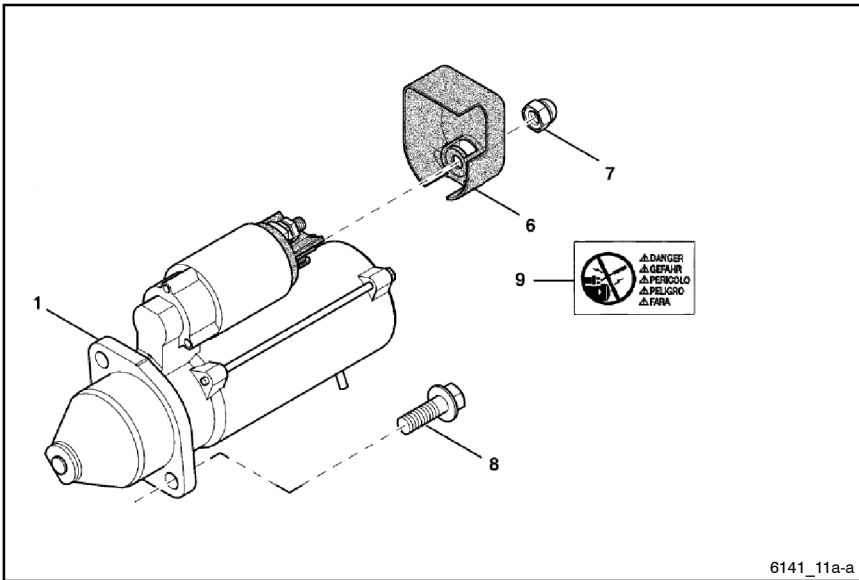


6141

Item	Part No.	Description	Qty.		
			4004	4006	5939
1	223604	Filter, oil	1	1	
1	GM34935	Filter, oil			1
2	223443	Dipstick	1	1	1
3	223454	O-ring	1	1	1
4	223502	Nipple, threaded	1		
4	GM21435	Guide, dipstick		1	1
5	#	Nut, 1/2 in.	1	1	1

Common hardware; procure locally.

Group 11a: Starter Motor



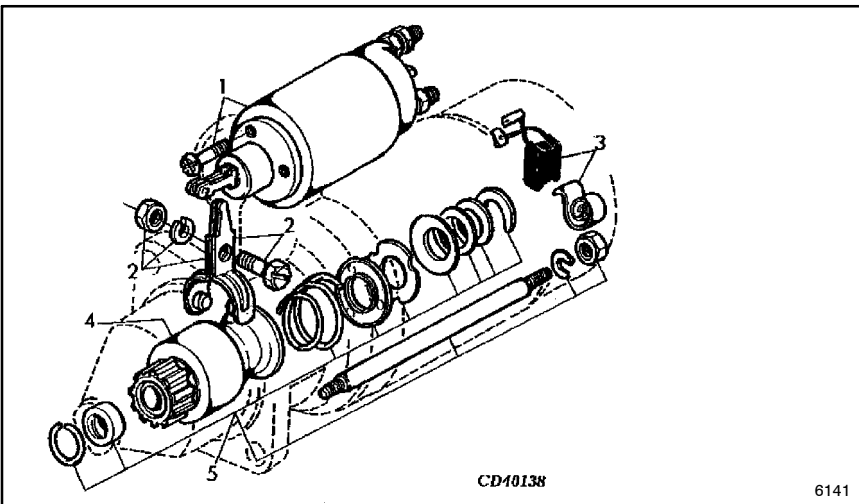
6141_11a-a

Item	Part No.	Description	Qty.
			3008
1	GM21436	Starter	1
6	GM40186	Cover	1
7	#	Nut, M10	1
8	#	Screw, 3/8 in. x 1 1/8 in.	2
9	X	Label	1

Common hardware; procure locally.

X Not sold separately.

Group 11b: Starter Motor Components

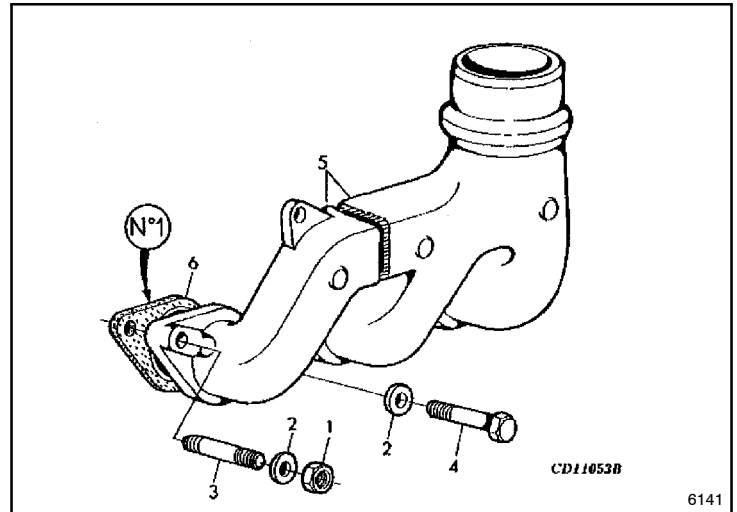


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Item	Part No.	Description	Qty.
			3008
1	GM40185	Solenoid	1
2	*	Shifter	1
3	*	Brush kit	1
4	GM40184	Starter motor drive	1
5	*	Seal kit	1

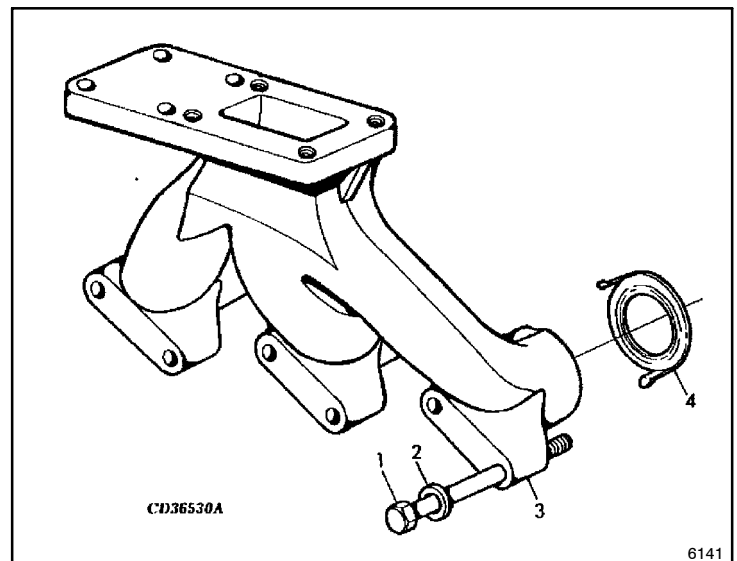
* Contact factory for part number.

Group 12a: Exhaust Manifold



Item	Part No.	Description	Qty.
			Var. 2802D
1	336726	Nut, hex	2
2	#	Washer, 10 x 18 x 2.500 mm	6
3	#	Stud, 9.525 x 48.500 mm	2
4	#	Screw, 3/8 in. x 1 1/4 in. (SAE grade 8)	4
5	GM21443	Manifold, exhaust	1
6	GM21444	Gasket	3

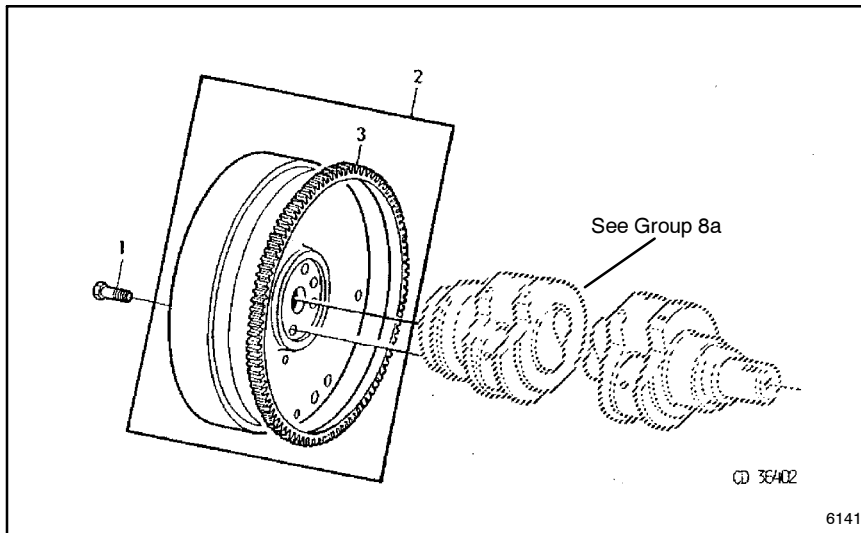
Common hardware; procure locally.



Item	Part No.	Description	Qty.
			Var. 2802T
1	336724	Screw, hex head	6
2	#	Washer, 10 x 18 x 2.500 mm	6
3	GM21445	Manifold, exhaust	1
4	GM21446	Gasket	3

Common hardware; procure locally.

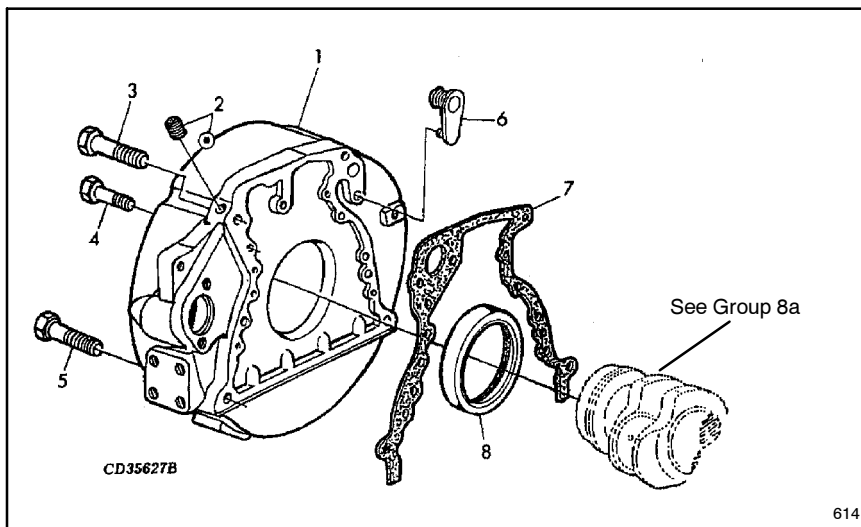
Group 13a: Flywheel



Item	Part No.	Description	Qty.	
			Var.	1501
1	#	Screw, cap, 1/2 in. x 1 1/2 in.		4
2	GM21447	Flywheel		1
3	223613	Gear, flywheel ring		1

Common hardware; procure locally.

Group 13b: Flywheel Housing

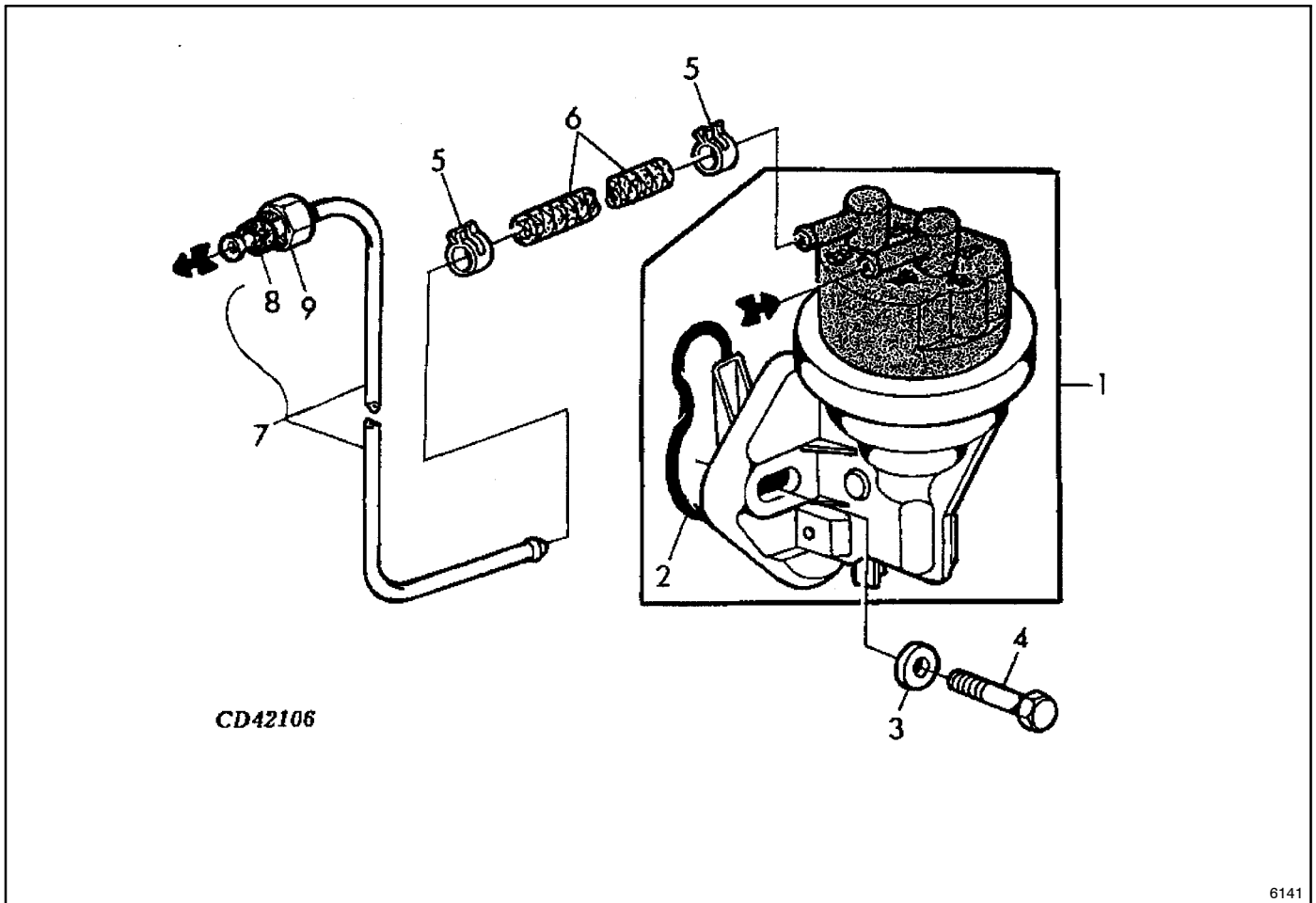


Item	Part No.	Description	Qty.	
			1418	1453
1	GM21448	Housing	1	
1	GM32730	Housing		1
2	224268	Plug, pipe	AR	1
3	#	Screw, cap, 5/8 in. x 3 in. (SAE grade 8)	2	
3	#	Screw, cap, 5/8 in. x 2 1/2 in.		2
4	#	Screw, cap, 3/8 in. x 1 3/8 in. (SAE grade 8)	8	8
5	#	Screw, cap, 5/8 in. x 5 1/2 in. (SAE grade 8)	2	2
6	360582	Plug	1	1
7	223558	Gasket	1	1
8	223583	Seal	1	1

Common hardware; procure locally.

AR As Required

Group 14: Fuel Pump



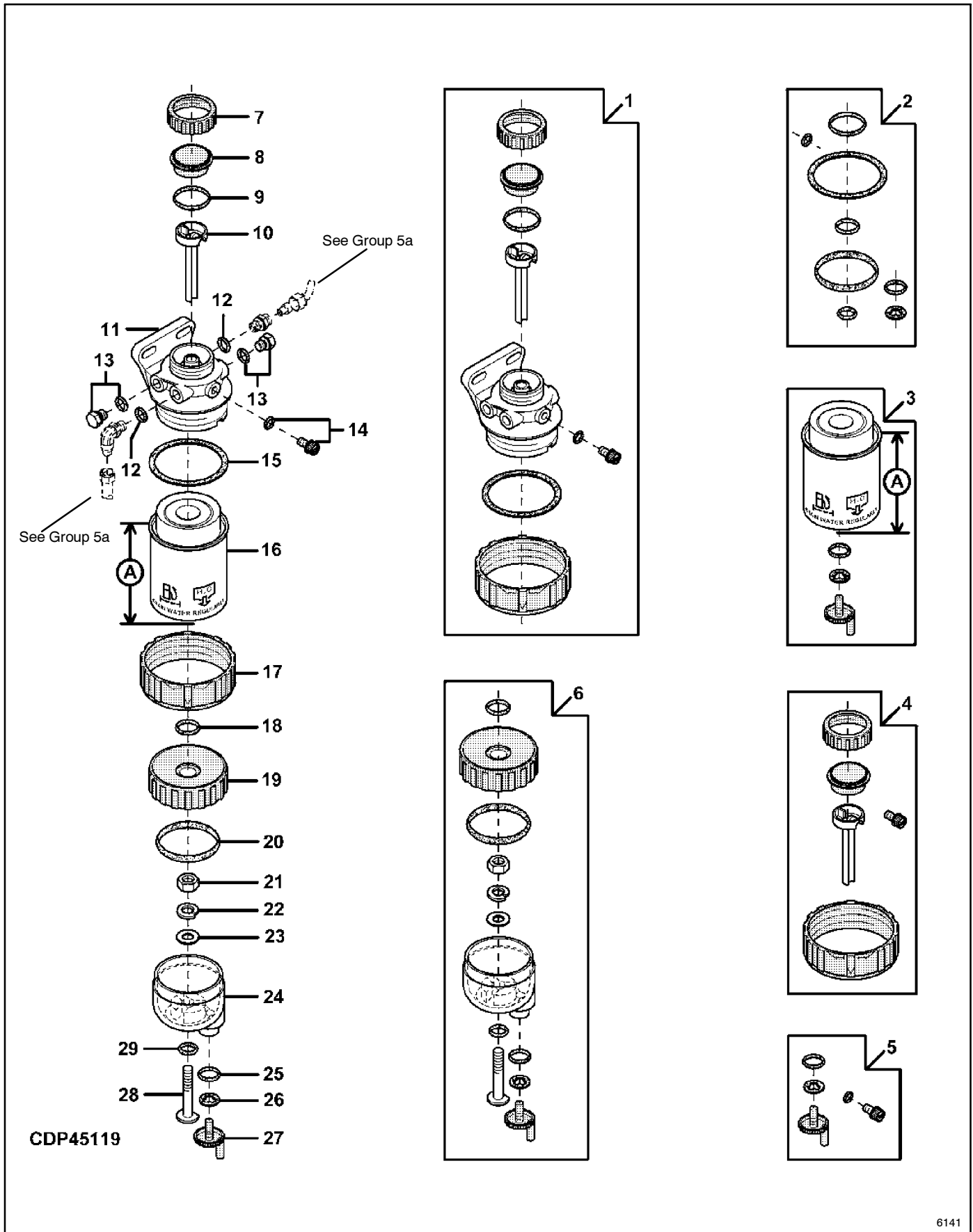
CD42106

6141

Item	Part No.	Description	Qty.
			Var. 3710
1	GM21449	Pump, fuel	1
2	GM17555	O-ring, 44.12 x 2.616	1
3	#	Washer, 11/32 in. x 11/16 in. x 0.065 in.	2
4	#	Screw, cap, 5/16 in. x 7/8 in.	2
5	GM21450	Clip	2
6	GM21451	Hose	1
7	GM21452	Line, fuel	1
8	GM17494	Washer, sealing	1
9	GM21453	Nut	1

Common hardware; procure locally.

Group 15: Fuel Filter



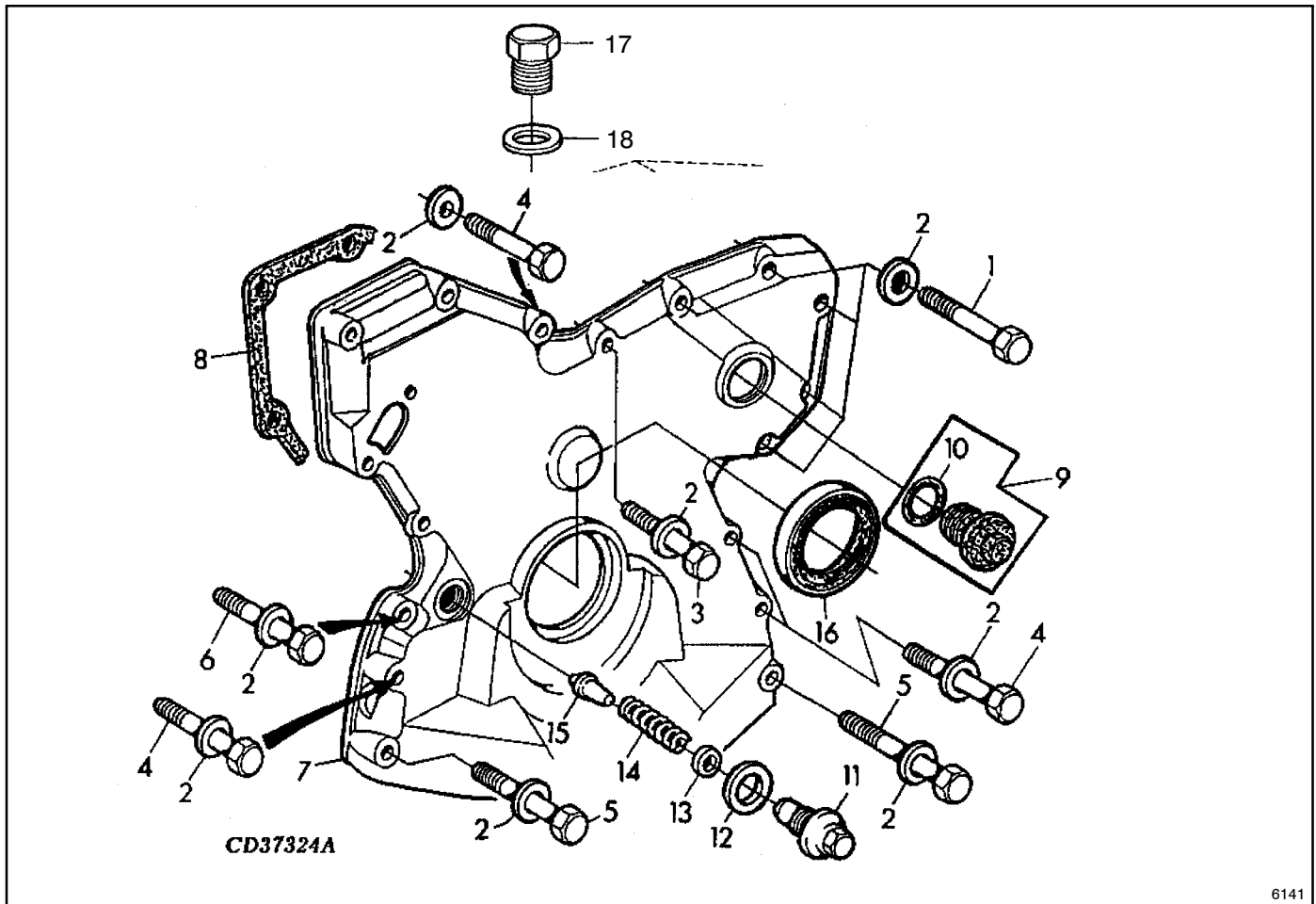
6141

Group 15: Fuel Filter

Item	Part No.	Description	Qty.	
			1	35DD
1	GM17543	Kit	1	1
2	222772	Kit	1	1
3	275501	Filter, fuel	1	
3	336545	Filter, fuel (also order item 15)		1
4	222773	Seal kit	1	1
5	360048	Kit	1	1
6	GM32731	Kit, sediment bowl		1
7	—	Retainer	1	1
8	—	Retainer (order item 1 or 4)	1	1
9	—	Seal (order item 2)	1	1
10	—	Retainer (order item 1 or 4)	1	1
11	—	Filter head (order item 1)	1	1
12	360178	O-ring	2	2
13	#	Plug, pipe, M12 x 1.5	2	
13	360015	Plug		2
14	—	Drain plug (order item 1 or 4 or 5)	1	1
15	GM17445	Seal	1	1
16	—	Filter element (order item 3)	1	1
17	—	Retainer (order item 1 or 4)		1
18	—	O-ring (order item 2 or 6)		1
19	—	Wing nut (order item 6)		1
20	—	O-ring (order item 2 or 6)		1
21	—	Nut (order item 6)		1
22	—	Lock Washer (order item 6)		1
23	—	Washer (order item 6)		1
24	—	Bowl, sediment (order item 6)		1
25	—	O-ring (order item 6 or 2 or 5)		1
26	—	Gasket (order item 6 or 2 or 5)		1
27	—	Drain plug (order item 6 or 5)		1
28	—	Screw (order item 6)		1
29	—	O-ring (order item 6 or 2 or 5)		1

Common hardware; procure locally.

Group 18: Timing Gear Cover



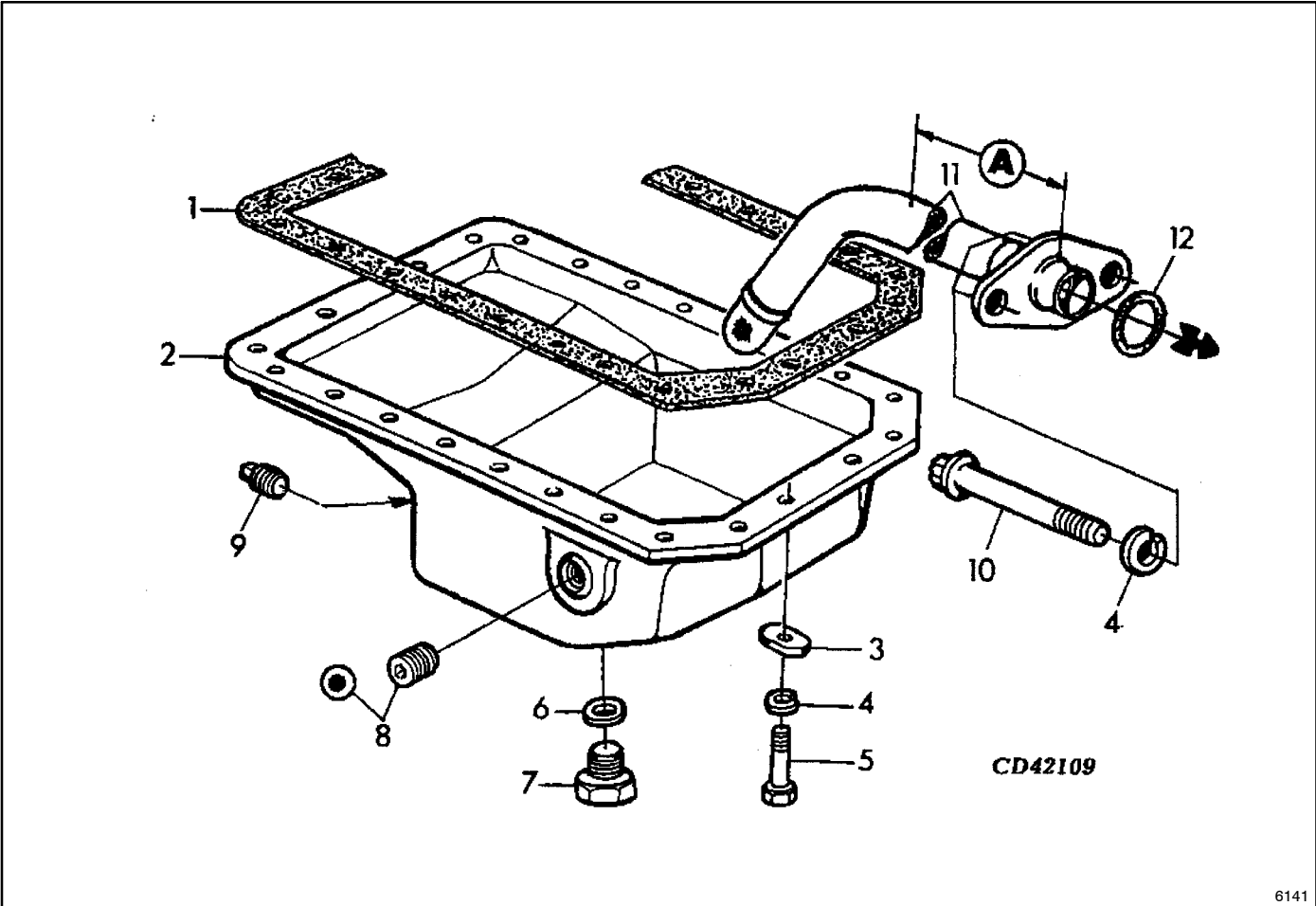
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Item	Part No.	Description	Qty.
1	#	Screw, cap, 3/8 in. x 2 in. (SAE grade 8)	5
2	#	Washer, 10 x 18 x 2.500 mm	13
3	#	Screw, cap, 3/8 in. x 2 1/4 in.	1
4	#	Screw, cap, 3/8 in. x 2 3/8 in. (SAE grade 8)	4
5	#	Screw, cap, 3/8 in. x 2 1/2 in. (SAE grade 8)	2
6	#	Screw, cap, 3/8 in. x 1 7/8 in.	1
7	336451	Cover kit	1
8	223620	Gasket	1
9	GM32732	Fitting	1
10	GM21456	O-ring	1
11	336454	Plug, fitting	1
12	223410	Washer	1
13	#	Washer, 21/64 in. x 3/4 in. x 0.035 in.	AR
14	224095	Spring	1
15	224058	Valve	1
16	223422	Seal	1
17	223451	Plug, drain	1
18	GM21460	Washer	1

Common hardware; procure locally.

AR As Required

Group 21a: Oil Pan

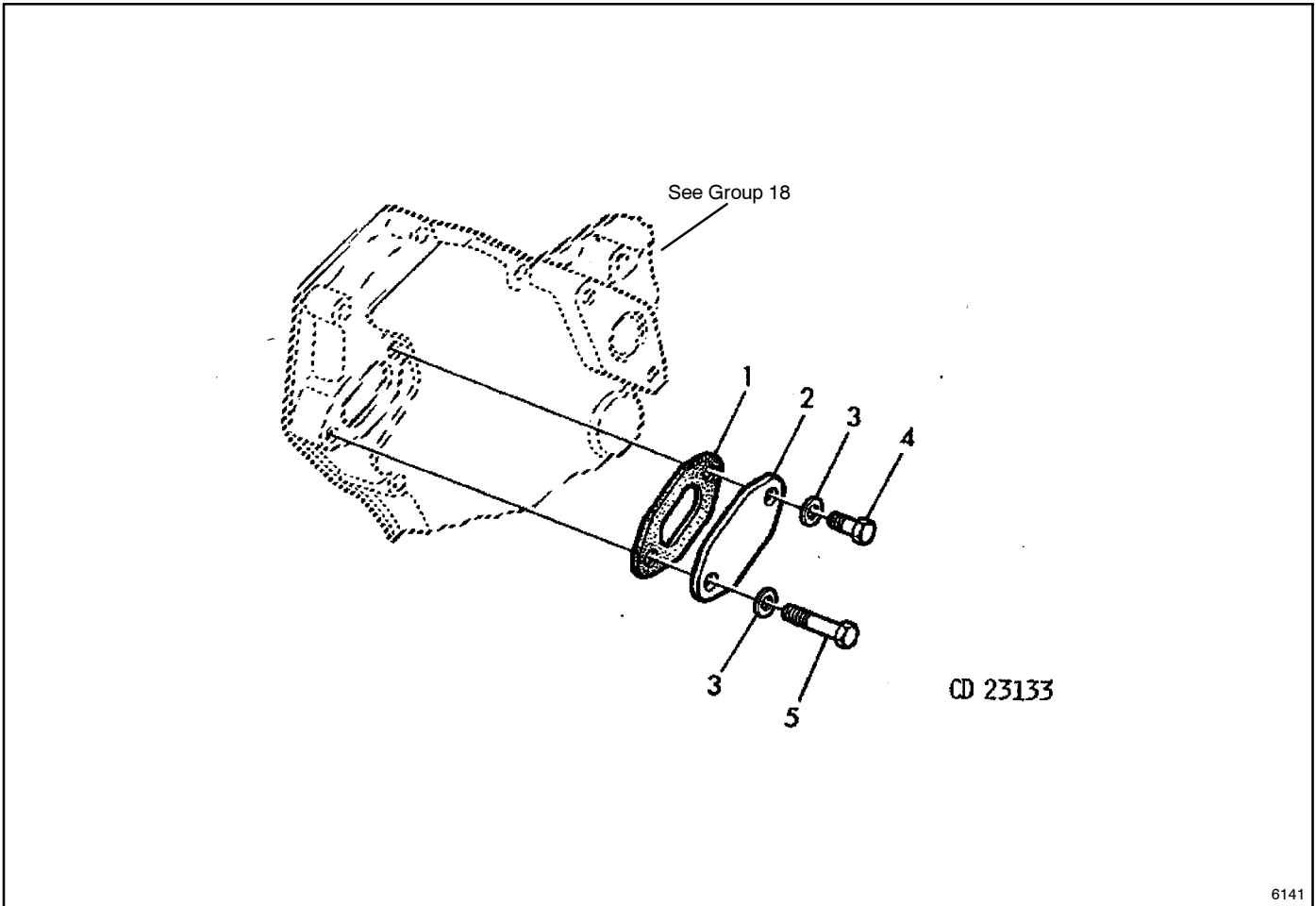


6141

Item	Part No.	Description	Qty.
			Var. 1901
1	GM21457	Gasket	1
2	GM21458	Pan, oil	1
3	GM21459	Strap	24
4	#	Washer, lock, 3/8 in.	26
5	#	Screw, cap, 3/8 in. x 1 in. (SAE grade 8)	24
6	GM21460	Ring, copper	1
7	223616	Plug, drain	1
8	#	Plug, 1/2 in.-14 NPT	1
9	#	Plug, 3/4 in.-14 NPT	1
10	#	Screw, cap, 120 mm	2
11	GM21461	Intake, oil pump	1
12	224035	O-ring	1

Common hardware; procure locally.

Group 21b: Oil Fill Tube

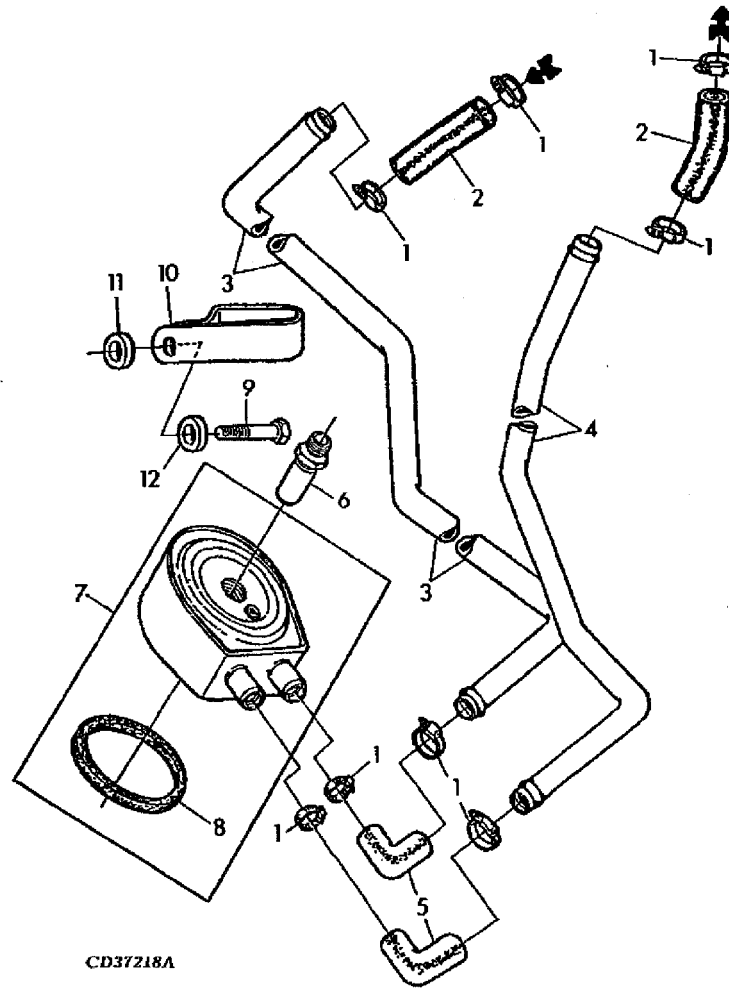


6141

Item	Part No.	Description	Qty.
1	223559	Gasket	1
2	GM21462	Cover	1
3	#	Washer, 10 x 18 x 2.500 mm	2
4	#	Screw, cap, 3/8 in. x 7/8 in.	1
5	#	Screw, cap, 3/8 in. x 2 1/4 in.	1

Common hardware; procure locally.

Group 21c: Oil Cooler



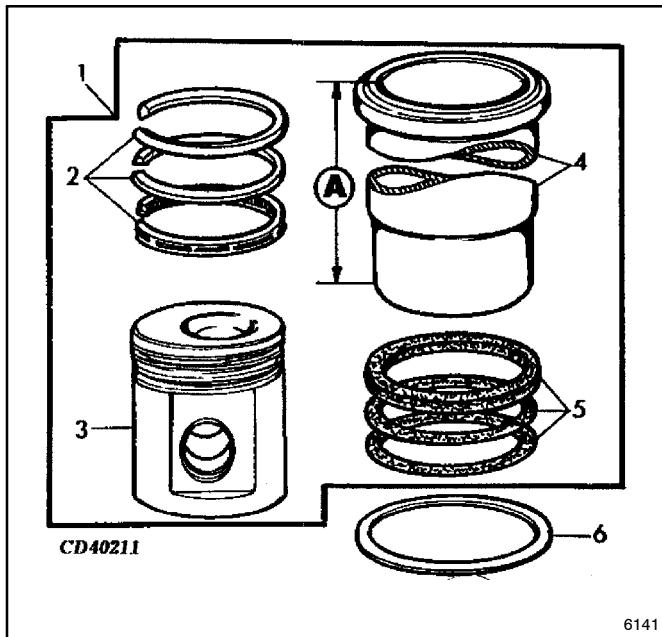
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6141

Item	Part No.	Description	Qty.	
			5906	5939
1	GM21409	Clamp	8	8
2	GM21463	Hose	2	2
3	336462	Line	1	1
4	336461	Line	1	1
5	336463	Hose	2	2
6	GM21464	Nipple, threaded	1	1
6	GM32733	Adapter		1
7	GM21465	Cooler, oil	1	1
8	GM21466	Packing	1	1
9	#	Screw, cap, 3/8 in. x 2 3/8 in. (SAE grade 8)	1	1
10	336466	Clamp	1	1
11	336467	Washer	1	1
12	#	Washer, 10 x 18 x 2.5 mm	1	1

Common hardware; procure locally.

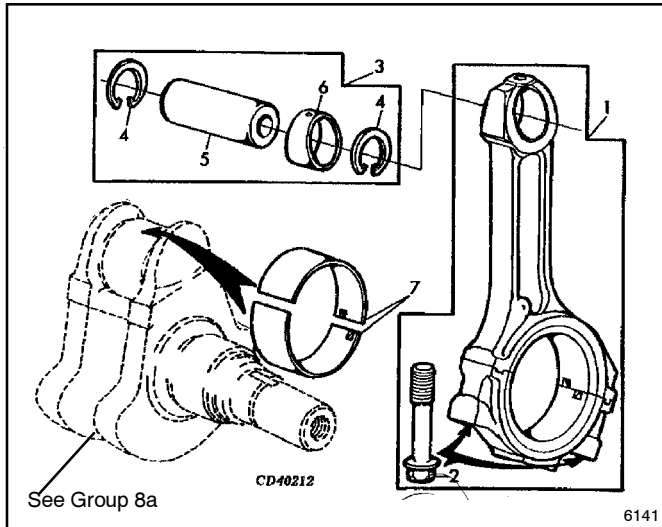
Group 22a: Piston



Item	Part No.	Description	Qty.		
			Var.		
			9915	9917	4814
1	GM21472	Piston-liner kit	3		
1	GM21476	Piston-liner kit		3	3
2	360066	Ring kit	1	1	1
3	X	Piston	1	1	1
4	GM21473	Liner, cylinder	1	1	
4	X	Liner, cylinder			1
5	223419	O-ring kit	1	1	1
6	GM21474	Shim, 0.05 mm	AR	AR	AR
6	GM21475	Shim, 0.1 mm	AR	AR	AR

AR As Required
X Not sold separately.

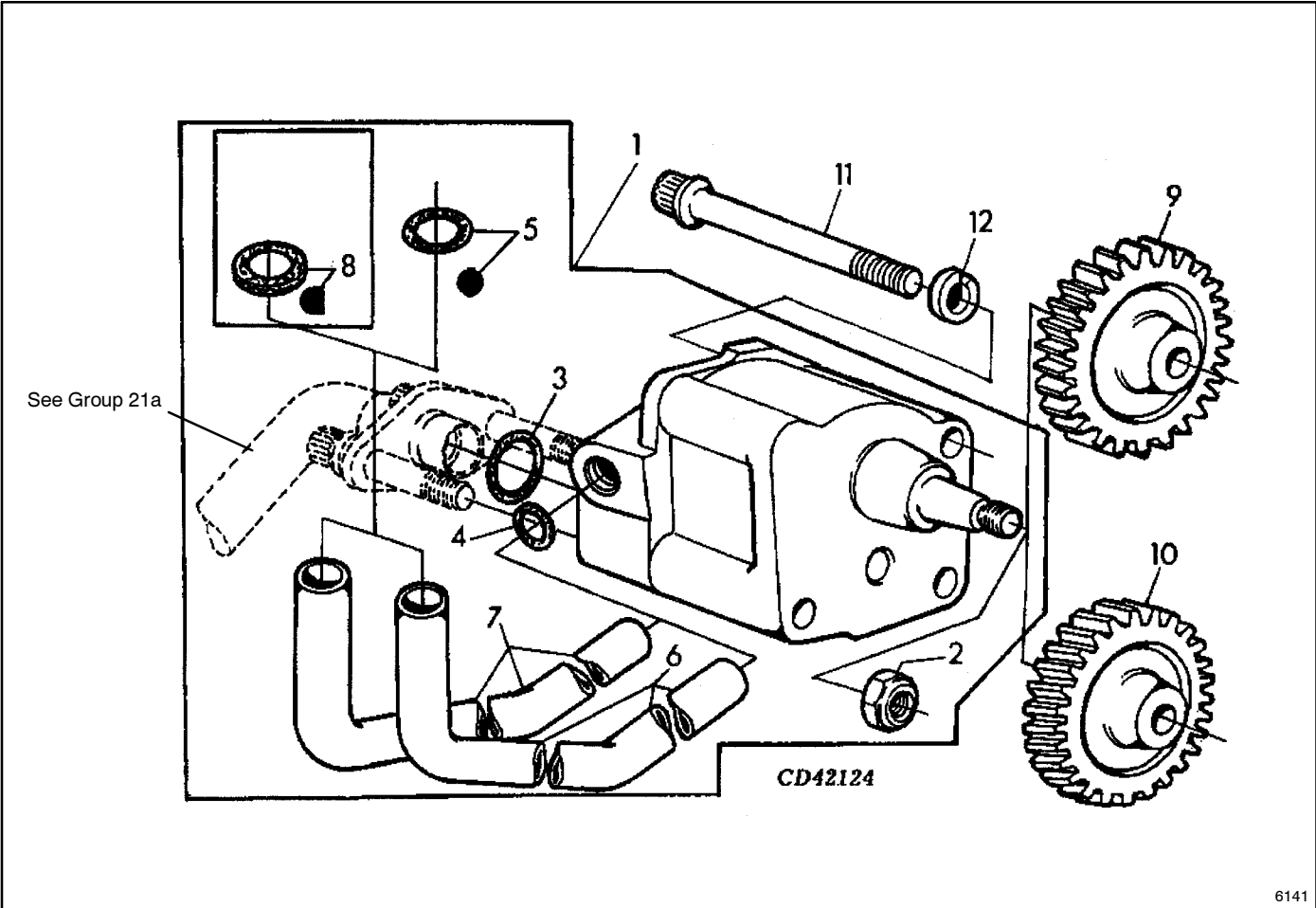
Group 22b: Connecting Rod



Item	Part No.	Description	Qty.		
			Var.		
			9916	9918	4814
1	GM21470	Connecting rod kit (includes items 2-4, 5)	3		
1	GM21467	Rod, connecting (includes item 2)		3	
1	GM32734	Rod, connecting (includes items 2, 3)			3
2	223528	Screw	2	2	
2	GM17477	Screw			2
3	GM21468	Piston pin kit (includes items 4-6)		3	3
4	GM21471	Ring, snap	2		
4	223479	Ring, snap		2	2
5	X	Pin, piston (order item 1)	1		
5	X	Pin, piston (order item 3)		1	1
6	X	Bushing		1	1
7	GM21424	Bearing kit, standard	3	3	3
7	GM21469	Bearing kit, 0.25 mm US	AR	AR	

AR As Required
X Not sold separately.

Group 25: Oil Pump

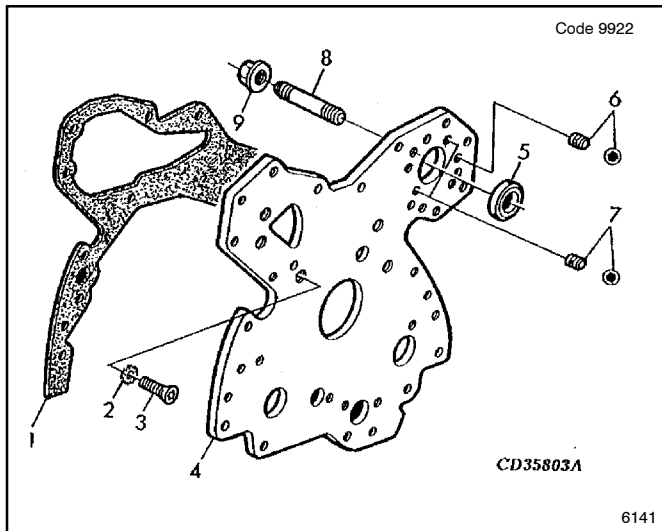


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Item	Part No.	Description	Qty.	
			5001	9928
1	GM21477	Oil pump kit	1	1
2	#	Nut, 1/2 in.-13UNC	1	1
3	224035	O-ring	1	1
4	223511	O-ring	1	1
5	336458	O-ring	AR	AR
7	GM21478	Tube, oil	1	1
8	223512	O-ring	AR	AR
9	Not used		1	1
10	223631	Gear	1	1
11	224274	Screw, cap	1	1
12	#	Washer, lock, 3/8 in.	1	1

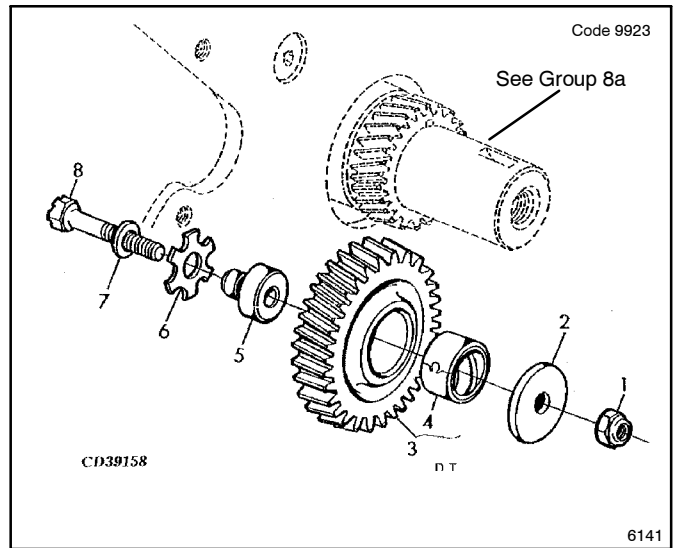
Common hardware; procure locally.
AR As Required

Group 26: Front Plate



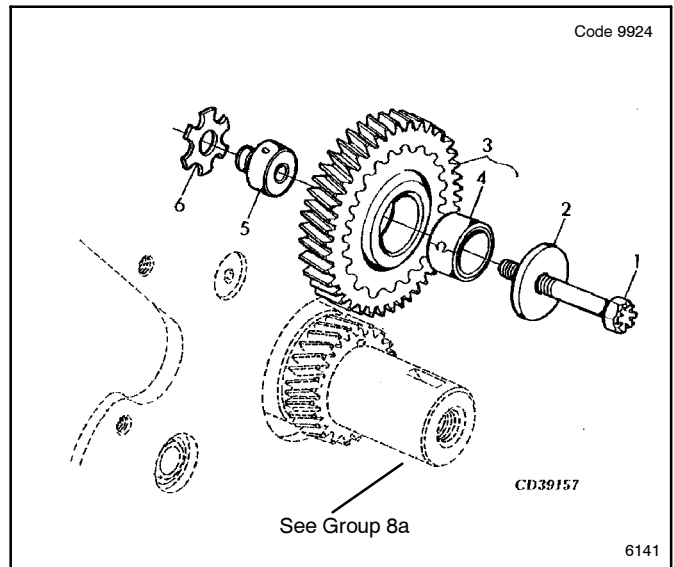
Item	Part No.	Description	Qty.	
			1	3622
1	GM21479	Gasket	1	1
2	#	Washer, 3/8 in.	5	5
3	224333	Screw	5	
3	GM32735	Bolt		5
4	GM21480	Plate (also order items 6 and 7)	1	1
5	GM21481	Washer	AR	AR
6	223442	Screw, set	8	8
7	223445	Screw, set	2	2
8	224335	Stud	3	3
9	#	Nut, 5/16 in.-18UNC	3	3

Common hardware; procure locally.
AR As Required



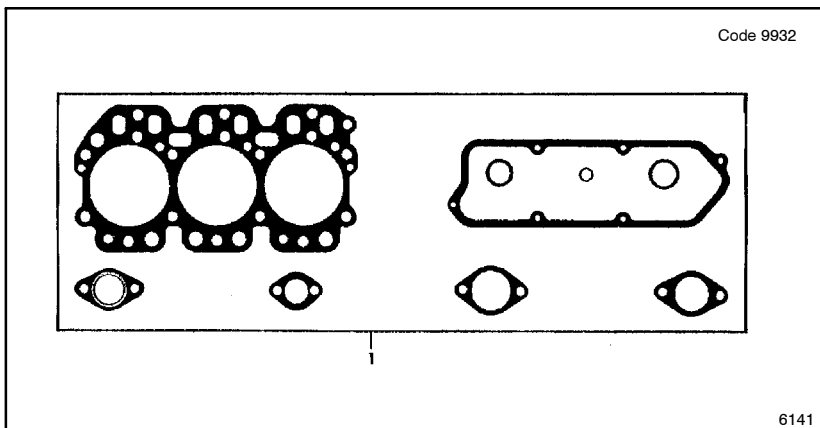
Item	Part No.	Description	Qty.	
			1	3622
1	#	Nut, 1/2 in.-20UNF	1	1
2	336447	Washer, thrust	1	1
3	223729	Gear	1	1
4	223984	Bushing	1	1
5	224186	Pin	1	1
6	336446	Washer, thrust	1	1
7	224267	Washer	1	1
8	224260	Screw, hex head	1	1

Common hardware; procure locally.



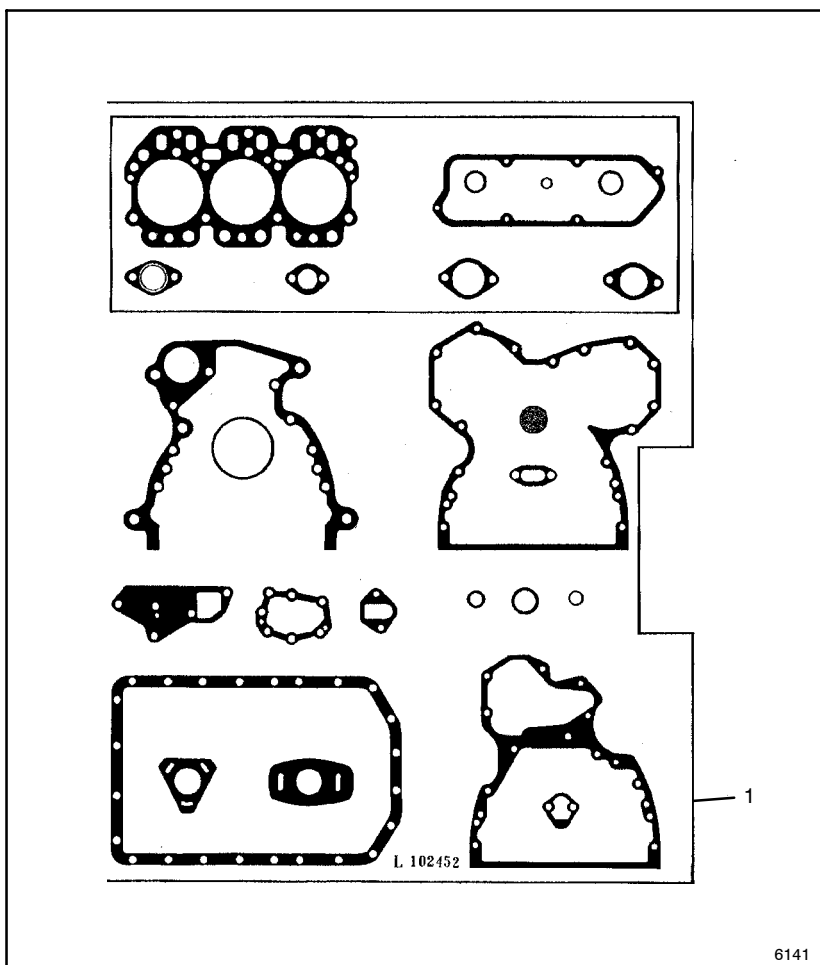
Item	Part No.	Description	Qty.	
			1	3622
1	223652	Screw	1	
2	336447	Washer, thrust	1	1
3	223432	Gear	1	1
4	223606	Bushing	1	1
5	224186	Pin	1	1
6	336446	Washer, thrust	1	1

Group 39a: Cylinder Head Gasket Set



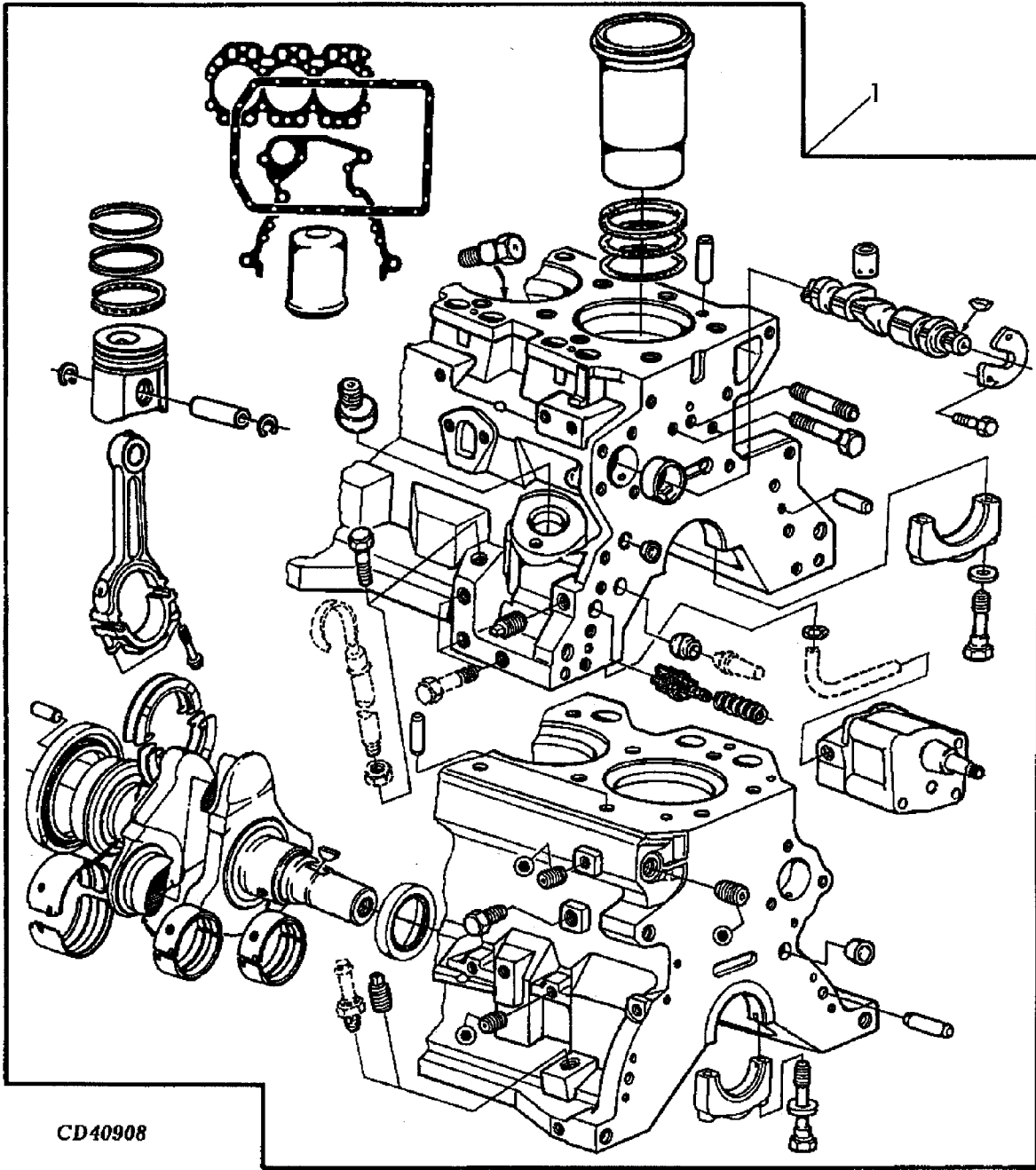
Item	Part No.	Description	Qty.	
			9932	9706
1	GM21482	Gasket kit	1	1

Group 39b: Overhaul Gasket Set



Item	Part No.	Description	Qty.	
			9932	9706
1	GM21483	Gasket kit	1	1

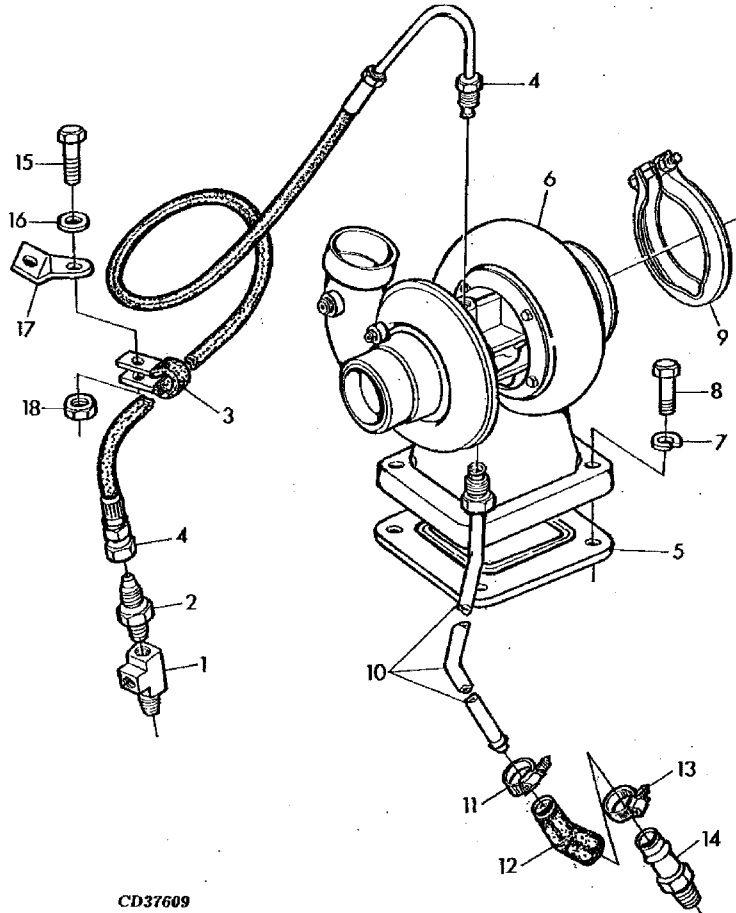
Group 42: Short Block



6141

Item	Part No.	Description	Qty.	
			9702	9910
1	GM32736	Short block assembly	1	
1	GM21484	Short block assembly		1

Group 50: Turbocharger & Oil Lines



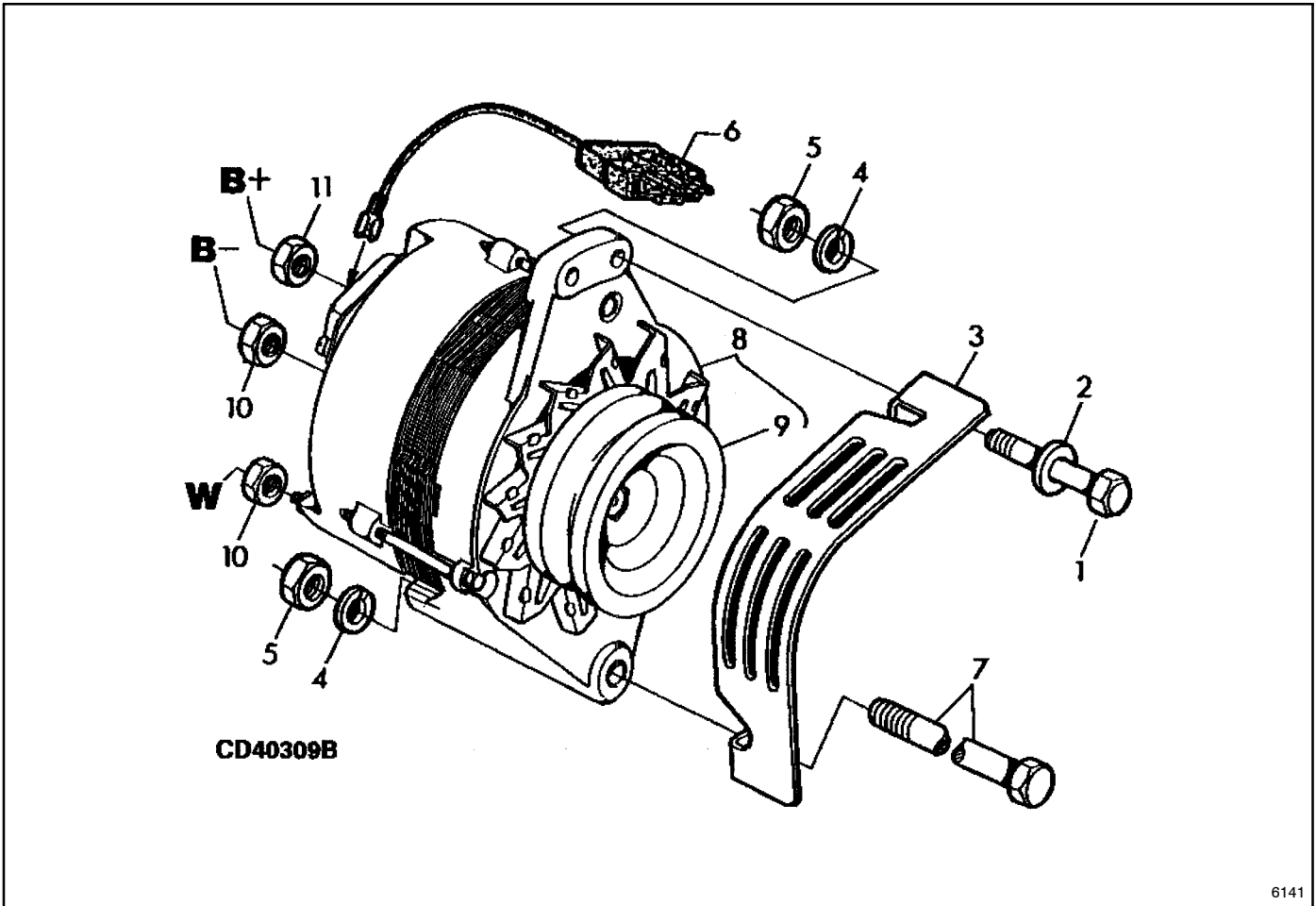
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6141

Item	Part No.	Description	Qty.	
			6547	65BS
1	336477	Fitting, tee	1	1
2	223457	Fitting	1	1
3	336721	Clamp	1	1
4	GM21485	Hose, hydraulic	1	1
5	GM21486	Gasket	1	1
6	GM21487	Turbocharger	1	
6	GM21488	Turbocharger		1
7	#	Washer, lock, 8.100 mm	4	4
8	#	Screw, cap, 5/16 in. x 7/8 in.	4	4
9	GM21489	Clamp	1	1
10	GM21490	Line, oil	1	1
11	GM21409	Clamp	1	1
12	GM21491	Hose	1	1
13	336475	Clamp	1	1
14	GM21492	Fitting, hose	1	1
15	#	Screw, cap, 3/8 in x 7/8 in.	1	
16	#	Washer, 10.5 x 18 x 1.6 mm	1	
17	GM32737	Bracket	1	
18	#	Nut, 5/16 in.	1	
19	#	Screw, cap, 5/16 in. x 3/4 in.	1	

Common hardware; procure locally.

Group 51a: Alternator

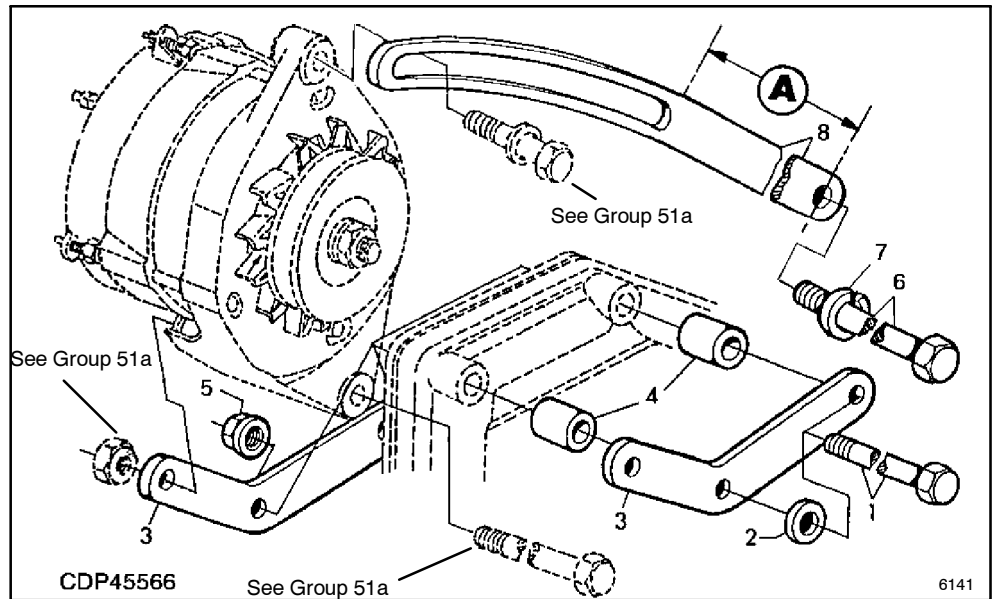


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Item	Part No.	Description	Qty.
			Var. 3123
1	#	Screw, cap, 5/16 in. x 1 3/8 in.	1
2	#	Washer, 11/32 in. x 3/4 in. x 0.120 in.	1
3	GM21517	Shield	1
4	#	Washer, lock, 8.100 mm	2
5	#	Nut, 5/16 in.	1
6	GM21518	Harness, wiring	1
7	#	Screw, cap, 5/16 in. x 3 3/4 in.	1
8	GM21519	Alternator	1
9	GM21520	Sheave	1
10	#	Nut, lock, M5	2
11	#	Nut, lock, M6	1

Common hardware; procure locally.

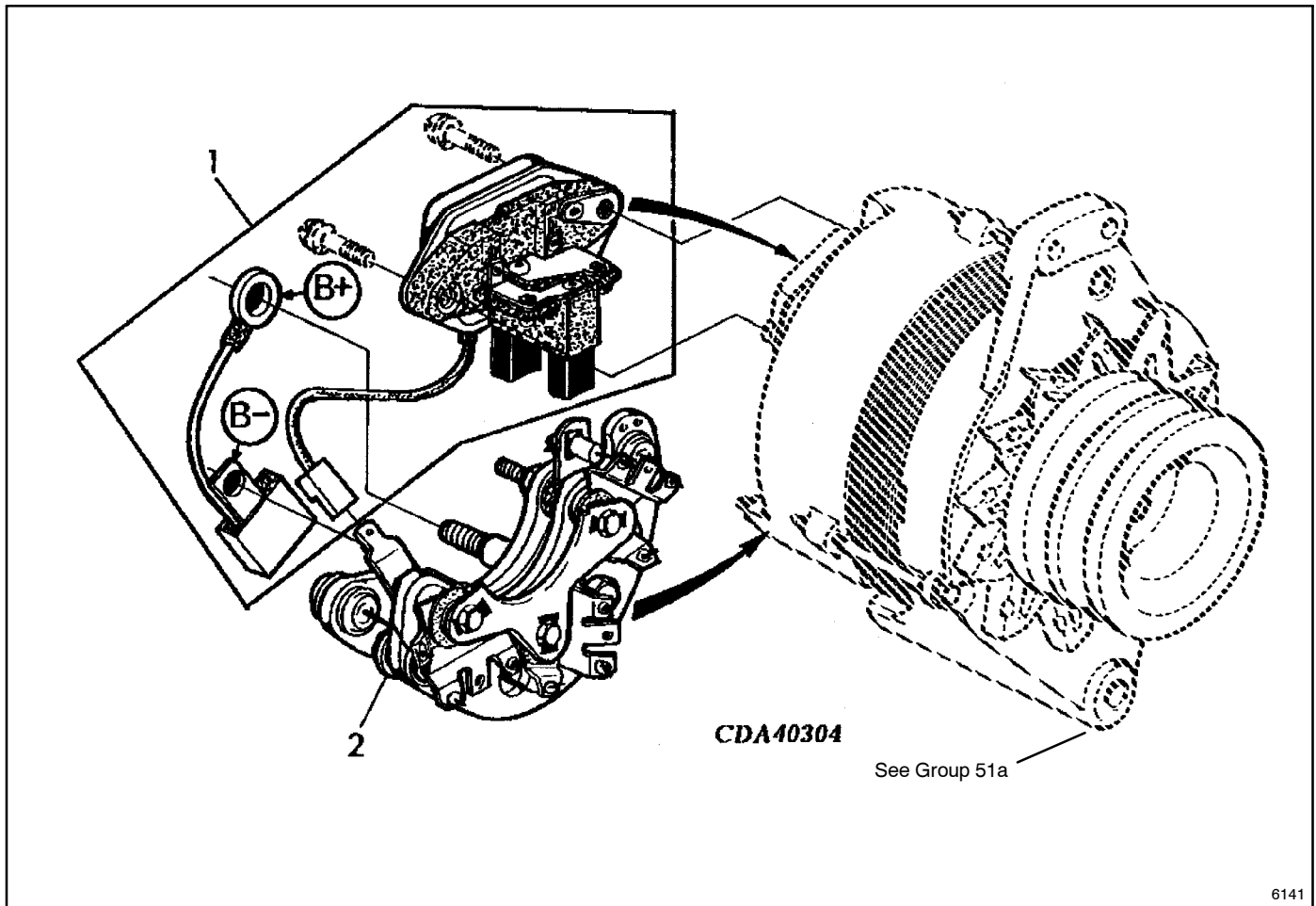
Group 51b: Alternator Brackets



Item	Part No.	Description	Qty.
			Var.
1	#	Screw, cap, 3/8 in. x 3 1/2 in.	2
2	#	Washer, 10.5 x 18 x 1.6 mm	2
3	GM21493	Bracket	2
4	GM21494	Spacer	2
5	#	Nut, lock, 3/8 in.	2
6	#	Screw, cap, 3/8 in. x 2 in. (SAE grade 8)	1
7	#	Washer, lock, 3/8 in.	1
8	224099	Strap	1

Common hardware; procure locally.















Group 51c: Alternator Components



















6141

Item	Part No.	Description	Qty.
			Var. 3123
1	GM21521	Regulator	1
2	GM21522	Diode	1

Appendix A Common Hardware Identification

Screw/Bolts/Studs	
Head Styles	
Hex Head or Machine Head	
Hex Head or Machine Head with Washer	
Flat Head (FHM)	
Round Head (RHM)	
Pan Head	
Hex Socket Head Cap or Allen™ Head Cap	
Hex Socket Head or Allen™ Head Shoulder Bolt	
Sheet Metal Screw	
Stud	
Drive Styles	
Hex	
Hex and Slotted	
Phillips®	
Slotted	
Hex Socket	

Nuts	
Nut Styles	
Hex Head	
Lock or Elastic	
Square	
Cap or Acorn	
Wing	
Washers	
Washer Styles	
Plain	
Split Lock or Spring	
Spring or Wave	
External Tooth Lock	
Internal Tooth Lock	
Internal-External Tooth Lock	

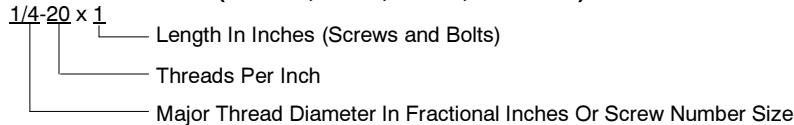
Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	

Allen™ head screw is a trademark of Holo-Krome Co.

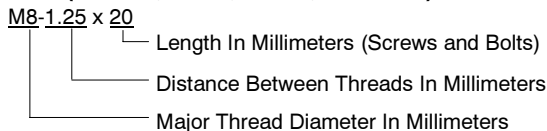
Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

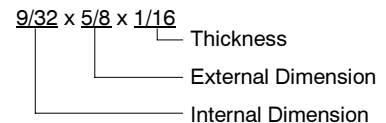
American Standard (Screws, Bolts, Studs, and Nuts)



Metric (Screws, Bolts, Studs, and Nuts)



Plain Washers



Lock Washers



Appendix B Common Hardware List

The Common Hardware List lists part numbers and dimensions for common hardware items.

American Standard

Part No. Dimensions Hex Head Bolts (Grade 5)

X-465-17	1/4-20 x .38
X-465-6	1/4-20 x .50
X-465-2	1/4-20 x .62
X-465-16	1/4-20 x .75
X-465-18	1/4-20 x .88
X-465-7	1/4-20 x 1.00
X-465-8	1/4-20 x 1.25
X-465-9	1/4-20 x 1.50
X-465-10	1/4-20 x 1.75
X-465-11	1/4-20 x 2.00
X-465-12	1/4-20 x 2.25
X-465-14	1/4-20 x 2.75
X-465-21	1/4-20 x 5.00
X-465-25	1/4-28 x .38
X-465-20	1/4-28 x 1.00
X-125-33	5/16-18 x .50
X-125-23	5/16-18 x .62
X-125-3	5/16-18 x .75
X-125-31	5/16-18 x .88
X-125-5	5/16-18 x 1.00
X-125-24	5/16-18 x 1.25
X-125-34	5/16-18 x 1.50
X-125-25	5/16-18 x 1.75
X-125-26	5/16-18 x 2.00
230578	5/16-18 x 2.25
X-125-29	5/16-18 x 2.50
X-125-27	5/16-18 x 2.75
X-125-28	5/16-18 x 3.00
X-125-22	5/16-18 x 4.50
X-125-32	5/16-18 x 5.00
X-125-35	5/16-18 x 5.50
X-125-36	5/16-18 x 6.00
X-125-40	5/16-18 x 6.50
X-125-43	5/16-24 x 1.75
X-125-44	5/16-24 x 2.50
X-125-30	5/16-24 x .75
X-125-39	5/16-24 x 2.00
X-125-38	5/16-24 x 2.75
X-6238-2	3/8-16 x .62
X-6238-10	3/8-16 x .75
X-6238-3	3/8-16 x .88
X-6238-11	3/8-16 x 1.00
X-6238-4	3/8-16 x 1.25
X-6238-5	3/8-16 x 1.50
X-6238-1	3/8-16 x 1.75
X-6238-6	3/8-16 x 2.00
X-6238-17	3/8-16 x 2.25
X-6238-7	3/8-16 x 2.50
X-6238-8	3/8-16 x 2.75
X-6238-9	3/8-16 x 3.00
X-6238-19	3/8-16 x 3.25
X-6238-12	3/8-16 x 3.50
X-6238-20	3/8-16 x 3.75
X-6238-13	3/8-16 x 4.50
X-6238-18	3/8-16 x 5.50
X-6238-25	3/8-16 x 6.50

Part No. Dimensions Hex Head Bolts, cont.

X-6238-14	3/8-24 x .75
X-6238-16	3/8-24 x 1.25
X-6238-21	3/8-24 x 4.00
X-6238-22	3/8-24 x 4.50
X-6024-5	7/16-14 x .75
X-6024-2	7/16-14 x 1.00
X-6024-8	7/16-14 x 1.25
X-6024-3	7/16-14 x 1.50
X-6024-4	7/16-14 x 2.00
X-6024-11	7/16-14 x 2.75
X-6024-12	7/16-14 x 6.50
X-129-15	1/2-13 x .75
X-129-17	1/2-13 x 1.00
X-129-18	1/2-13 x 1.25
X-129-19	1/2-13 x 1.50
X-129-20	1/2-13 x 1.75
X-129-21	1/2-13 x 2.00
X-129-22	1/2-13 x 2.25
X-129-23	1/2-13 x 2.50
X-129-24	1/2-13 x 2.75
X-129-25	1/2-13 x 3.00
X-129-27	1/2-13 x 3.50
X-129-29	1/2-13 x 4.00
X-129-30	1/2-13 x 4.50
X-463-9	1/2-13 x 5.50
X-129-44	1/2-13 x 6.00
X-129-51	1/2-20 x .75
X-129-45	1/2-20 x 1.25
X-129-52	1/2-20 x 1.50
X-6021-3	5/8-11 x 1.00
X-6021-4	5/8-11 x 1.25
X-6021-2	5/8-11 x 1.50
X-6021-1	5/8-11 x 1.75
273049	5/8-11 x 2.00
X-6021-5	5/8-11 x 2.25
X-6021-6	5/8-11 x 2.50
X-6021-7	5/8-11 x 2.75
X-6021-12	5/8-11 x 3.75
X-6021-11	5/8-11 x 4.50
X-6021-10	5/8-11 x 6.00
X-6021-9	5/8-18 x 2.50
X-6239-1	3/4-10 x 1.00
X-6239-8	3/4-10 x 1.25
X-6239-2	3/4-10 x 1.50
X-6239-3	3/4-10 x 2.00
X-6239-4	3/4-10 x 2.50
X-6239-5	3/4-10 x 3.00
X-6239-6	3/4-10 x 3.50
X-792-1	1-8 x 2.25
X-792-5	1-8 x 3.00
X-792-8	1-8 x 5.00

Part No. Dimensions Type

Hex Nuts

X-6009-1	1-8	Standard
X-6210-3	6-32	Whiz
X-6210-4	8-32	Whiz
X-6210-5	10-24	Whiz
X-6210-1	10-32	Whiz
X-6210-2	1/4-20	Spiralock
X-6210-6	1/4-28	Spiralock
X-6210-7	5/16-18	Spiralock
X-6210-8	5/16-24	Spiralock
X-6210-9	3/8-16	Spiralock
X-6210-10	3/8-24	Spiralock
X-6210-11	7/16-14	Spiralock
X-6210-12	1/2-13	Spiralock
X-6210-15	7/16-20	Spiralock
X-6210-14	1/2-20	Spiralock
X-85-3	5/8-11	Standard
X-88-12	3/4-10	Standard
X-89-2	1/2-20	Standard

Washers

Part No.	ID	OD	Thick.	Bolt/ Screw
X-25-46	.125	.250	.022	#4
X-25-9	.156	.375	.049	#6
X-25-48	.188	.438	.049	#8
X-25-36	.219	.500	.049	#10
X-25-40	.281	.625	.065	1/4
X-25-85	.344	.687	.065	5/16
X-25-37	.406	.812	.065	3/8
X-25-34	.469	.922	.065	7/16
X-25-26	.531	1.062	.095	1/2
X-25-15	.656	1.312	.095	5/8
X-25-29	.812	1.469	.134	3/4
X-25-127	1.062	2.000	.134	1

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No. Dimensions Hex Head Bolts (Partial Thread)

M931-05055-60	M5-0.80 x 55
M931-06040-60	M6-1.00 x 40
M931-06055-60	M6-1.00 x 55
M931-06060-60	M6-1.00 x 60
M931-06060-SS	M6-1.00 x 60
M931-06070-60	M6-1.00 x 70
M931-06070-SS	M6-1.00 x 70
M931-06075-60	M6-1.00 x 75
M931-06090-60	M6-1.00 x 90
M931-06145-60	M6-1.00 x 145
M931-06150-60	M6-1.00 x 150
M931-08035-60	M8-1.25 x 35
M931-08040-60	M8-1.25 x 40
M931-08045-60	M8-1.25 x 45
M931-08050-60	M8-1.25 x 50
M931-08055-60	M8-1.25 x 55
M931-08055-82	M8-1.25 x 55*
M931-08060-60	M8-1.25 x 60
M931-08070-60	M8-1.25 x 70
M931-08070-82	M8-1.25 x 70*
M931-08075-60	M8-1.25 x 75
M931-08080-60	M8-1.25 x 80
M931-08090-60	M8-1.25 x 90
M931-08095-60	M8-1.25 x 95
M931-08100-60	M8-1.25 x 100
M931-08110-60	M8-1.25 x 110
M931-08120-60	M8-1.25 x 120
M931-08130-60	M8-1.25 x 130
M931-08140-60	M8-1.25 x 140
M931-08150-60	M8-1.25 x 150
M931-08200-60	M8-1.25 x 200
M931-10040-82	M10-1.25 x 40*
M931-10040-60	M10-1.50 x 40
M931-10045-60	M10-1.50 x 45
M931-10050-60	M10-1.50 x 50
M931-10050-82	M10-1.25 x 50*
M931-10055-60	M10-1.50 x 55
M931-10060-60	M10-1.50 x 60
M931-10065-60	M10-1.50 x 65
M931-10070-60	M10-1.50 x 70
M931-10080-60	M10-1.50 x 80
M931-10080-82	M10-1.25 x 80*
M931-10090-60	M10-1.50 x 90
M931-10090-82	M10-1.50 x 90*
M931-10100-60	M10-1.50 x 100
M931-10110-60	M10-1.50 x 110
M931-10120-60	M10-1.50 x 120
M931-10130-60	M10-1.50 x 130
M931-10140-60	M10-1.50 x 140
M931-10180-60	M10-1.50 x 180
M931-10235-60	M10-1.50 x 235
M931-10260-60	M10-1.50 x 260
M960-10330-60	M10-1.25 x 330
M931-12045-60	M12-1.75 x 45
M960-12050-60	M12-1.25 x 50
M960-12050-82	M12-1.25 x 50*
M931-12050-60	M12-1.75 x 50
M931-12050-82	M12-1.75 x 50*
M931-12055-60	M12-1.75 x 55
M931-12060-60	M12-1.75 x 60
M931-12060-82	M12-1.75 x 60*
M931-12065-60	M12-1.75 x 65
M931-12075-60	M12-1.75 x 75
M931-12080-60	M12-1.75 x 80
M931-12090-60	M12-1.75 x 90
M931-12100-60	M12-1.75 x 100
M931-12110-60	M12-1.75 x 110

Part No. Dimensions Hex Head Bolts (Partial Thread), continued

M960-16090-60	M16-1.50 x 90
M931-16090-60	M16-2.00 x 90
M931-16100-60	M16-2.00 x 100
M931-16100-82	M16-2.00 x 100*
M931-16120-60	M16-2.00 x 120
M931-16150-60	M16-2.00 x 150
M931-20065-60	M20-2.50 x 65
M931-20090-60	M20-2.50 x 90
M931-20100-60	M20-2.50 x 100
M931-20120-60	M20-2.50 x 120
M931-20140-60	M20-2.50 x 140
M931-20160-60	M20-2.50 x 160
M931-22090-60	M22-2.50 x 90
M931-22120-60	M22-2.50 x 120
M931-22160-60	M22-2.50 x 160
M931-24090-60	M24-3.00 x 90
M931-24120-60	M24-3.00 x 120
M931-24160-60	M24-3.00 x 160
M931-24200-60	M24-3.00 x 200

Hex Head Bolts (Full Thread)

M933-04006-60	M4-0.70 x 6
M933-05030-60	M5-0.80 x 30
M933-05035-60	M5-0.80 x 35
M933-05050-60	M5-0.80 x 50
M933-06010-60	M6-1.00 x 10
M933-06012-60	M6-1.00 x 12
M933-06014-60	M6-1.00 x 14
M933-06016-60	M6-1.00 x 16
M933-06020-60	M6-1.00 x 20
M933-06025-60	M6-1.00 x 25
M933-06030-60	M6-1.00 x 30
M933-06040-60	M6-1.00 x 40
M933-06050-60	M6-1.00 x 50
M933-07025-60	M7-1.00 x 25
M933-08010-60	M8-1.25 x 10
M933-08012-60	M8-1.25 x 12
M933-08016-60	M8-1.25 x 16
M933-08020-60	M8-1.25 x 20
M933-08025-60	M8-1.25 x 25
M933-08030-60	M8-1.25 x 30
M933-08030-82	M8-1.25 x 30*
M933-10012-60	M10-1.50 x 12
M961-10020-60	M10-1.25 x 20
M933-10020-60	M10-1.50 x 20
M933-10025-60	M10-1.50 x 25
M961-10025-60	M10-1.25 x 25
M933-10025-82	M10-1.50 x 25*
M961-10030-60	M10-1.25 x 30
M933-10030-60	M10-1.50 x 30
M933-10030-82	M10-1.50 x 30*
M961-10035-60	M10-1.25 x 35
M933-10035-60	M10-1.50 x 35
M933-10035-82	M10-1.50 x 35*
M961-10040-60	M10-1.25 x 40

Part No. Dimensions Hex Head Bolts (Full Thread), continued

M933-12016-60	M12-1.75 x 16
M933-12020-60	M12-1.75 x 20
M961-12020-60F	M12-1.50 x 20
M933-12025-60	M12-1.75 x 25
M933-12025-82	M12-1.75 x 25*
M961-12030-60	M12-1.25 x 30
M933-12030-82	M12-1.75 x 30*
M961-12030-82F	M12-1.50 x 30*
M933-12030-60	M12-1.75 x 30
M933-12035-60	M12-1.75 x 35
M961-12040-82	M12-1.25 x 40*
M933-12040-60	M12-1.75 x 40
M933-12040-82	M12-1.75 x 40*
M961-14025-60	M14-1.50 x 25
M933-14025-60	M14-2.00 x 25
M961-14050-82	M14-1.50 x 50*
M961-16025-60	M16-1.50 x 25
M933-16025-60	M16-2.00 x 25
M961-16030-82	M16-1.50 x 30*
M933-16030-82	M16-2.00 x 30*
M933-16035-60	M16-2.00 x 35
M961-16040-60	M16-1.50 x 40
M933-16040-60	M16-2.00 x 40
M961-16045-82	M16-1.50 x 45*
M933-16045-82	M16-2.00 x 45*
M933-16050-60	M16-2.00 x 50
M933-16050-82	M16-2.00 x 50*
M933-16060-60	M16-2.00 x 60
M933-16070-60	M16-2.00 x 70
M933-18035-60	M18-2.50 x 35
M933-18050-60	M18-2.50 x 50
M933-18060-60	M18-2.50 x 60
M933-20050-60	M20-2.50 x 50
M933-20055-60	M20-2.50 x 55
M933-24060-60	M24-3.00 x 60
M933-24065-60	M24-3.00 x 65
M933-24070-60	M24-3.00 x 70

Pan Head Machine Screws

M7985A-03010-20	M3-0.50 x 10
M7985A-03012-20	M3-0.50 x 12
M7985A-04010-20	M4-0.70 x 10
M7985A-04016-20	M4-0.70 x 16
M7985A-04020-20	M4-0.70 x 20
M7985A-04050-20	M4-0.70 x 50
M7985A-04100-20	M4-0.70 x 100
M7985A-05010-20	M5-0.80 x 10
M7985A-05012-20	M5-0.80 x 12
M7985A-05016-20	M5-0.80 x 16
M7985A-05020-20	M5-0.80 x 20
M7985A-05025-20	M5-0.80 x 25
M7985A-05030-20	M5-0.80 x 30
M7985A-05080-20	M5-0.80 x 80
M7985A-05100-20	M5-0.80 x 100
M7985A-06100-20	M6-1.00 x 100

Flat Head Machine Screws

M965A-04012-SS	M4-0.70 x 12
M965A-05012-SS	M5-0.80 x 12
M965A-05016-20	M5-0.80 x 16
M965A-06012-20	M6-1.00 x 12

* This metric hex bolt's hardness is grade 10.9.

Metric, continued

Part No.	Dimensions	Type
Hex Nuts		
M934-03-50	M3-0.50	Standard
M934-04-50	M4-0.70	Standard
M934-04-B	M4-0.70	Brass
M934-05-50	M5-0.80	Standard
M934-06-60	M6-1.00	Standard
M934-06-64	M6-1.00	Std. (green)
M6923-06-80	M6-1.00	Spirallock
M982-06-80	M6-1.00	Elastic Stop
M934-08-60	M8-1.25	Standard
M6923-08-80	M8-1.25	Spirallock
M982-08-80	M8-1.25	Elastic Stop
M934-10-60	M10-1.50	Standard
M934-10-60F	M10-1.25	Standard
M6923-10-80	M10-1.50	Spirallock
M6923-10-62	M10-1.50	Spirallock†
M982-10-80	M10-1.50	Elastic Stop
M934-12-60	M12-1.75	Standard
M934-12-60F	M12-1.25	Standard
M6923-12-80	M12-1.75	Spirallock
M982-12-80	M12-1.75	Elastic Stop
M982-14-60	M14-2.00	Elastic Stop
M6923-16-80	M16-2.00	Spirallock
M982-16-80	M16-2.00	Elastic Stop
M934-18-80	M18-2.5	Standard
M982-18-60	M18-2.50	Elastic Stop
M934-20-80	M20-2.50	Standard
M982-20-80	M20-2.50	Elastic Stop
M934-22-60	M22-2.50	Standard
M934-24-80	M24-3.00	Standard
M982-24-60	M24-3.00	Elastic Stop
M934-30-80	M30-3.50	Standard

Washers

Part No.	ID	OD	Thick.	Bolt/ Screw
M125A-03-80	3.2	7.0	0.5	M3
M125A-04-80	4.3	9.0	0.8	M4
M125A-05-80	5.3	10.0	1.0	M5
M125A-06-80	6.4	12.0	1.6	M6
M125A-08-80	8.4	16.0	1.6	M8
M125A-10-80	10.5	20.0	2.0	M10
M125A-12-80	13.0	24.0	2.5	M12
M125A-14-80	15.0	28.0	2.5	M14
M125A-16-80	17.0	30.0	3.0	M16
M125A-18-80	19.0	34.0	3.0	M18
M125A-20-80	21.0	37.0	3.0	M20
M125A-24-80	25.0	44.0	4.0	M24

† This metric hex nut's hardness is grade 8.

