

NAPB-53 2nd ISSUE AUGUST, 1978

WITH NORTH AMERICAN ACCESSORIES

4.154 MARINE

PRINTED IN U.S.A.

PARTS BULLETIN _____#253

PerkinsIngines

INSTRUMENT PANELS AND ASSOCIATED PARTS

MARINE ENGINES

PLEASE ADD THE FOLLOWING INFORMATION TO YOUR PARTS BOOKS COVERING MARINE ENGINES:

NA004843	INSTRUMENT PANEL "A" DUAL STATION - LOWER PANEL Includes:	
NA900125	Tachometer C/W H/Meter 1	
NA900124	Temperature Gauge 1	
NA900123	Oil Pressure Gauge 1	
NA900122	Volt Meter 1	
NA900121	Ignition Switch 1	
NA900120	Push Button Switch 1	
NA004844	INSTRUMENT PANEL "B" SINGLE & DUAL STATION - UPPER PANEL Includes:	
NA004844 NA900125	Includes:	
	Includes: Tachometer C/W H/Meter 1	
NA900125	Includes: Tachometer C/W H/Meter 1 Temperature Gauge 1	
NA900125 NA900124	Includes: Tachometer C/W H/Meter 1 Temperature Gauge 1 Oil Pressure Gauge 1	
NA900125 NA900124 NA900123	Includes: Tachometer C/W H/Meter 1 Temperature Gauge 1 Oil Pressure Gauge 1	

THE FOLLOWING PARTS MUST BE USED WITH THE NEW INSTRUMENT PANELS:

4.108(M)

NA004854	HARNESS, engine wiring (Assembly)	1
NA003442	BRACKET, harness plug adaptor retaining	1
NA003443	CLIP, harness plug	ī
21 82 003	SCREW, harness clip to plate retaining	2
NA003765	NUT, harness clip to plate	2
	Nor, namens crip to prate	4
NA000475	NUT, alternator (batt. term.)	1
0748411	SETSCREW, alt. ground terminal	1
0920053	WASHER, spring	1
NA003607	CLIP, w/harness to oil cooler mtg. bracket	1
NA004113	SETSCREW, wiring harness clip retaining	1
0920022	WASHER, plain	1
NA003469	CABLE TIES	3
NA003615	CLIP, w/harness to throttle cable clip screw	1
NA000208	TRANSMITTER, oil pressure	1
NA000474	NUT, oil pressure transmitter	1
NA000209	TRANSMITTER, water temperature	1
NA000474	NUT, water transmitter	1

PAGE 2 OF PARTS BULLETIN NO. 253

4.154 (M) HARNESS, engine wiring (Assembly) NA004855 BRACKET, wiring harness NA003442 CLAMP, wiring harness to bracket NA003443 NUT, alternator (batt. term.) NA000475 TRANSMITTER, oil pressure NA000208 NUT, oil pressure transmitter NA000474 NA000209 TRANSMITTER, water temperature NA000474 NUT, water temp. transmitter 4.236 (M) HARNESS, engine wiring (Assembly) NA004855 BRACKET, wiring harness NA003442 CLAMP, wiring harness to bracket NA003443 2182003 SCREW, clamp to harness NA003765 NUT, clamp to harness NUT, alternator (batt. term.) NA000475 0748411 SETSCREW, alt. ground terminal 0920053 WASHER, spring TRANSMITTER, oil pressure NA000208 NA000474 NUT, oil pressure transmitter NA000209 TRANSMITTER, water temperature NUT, water temp. transmitter NA000474 CABLE TIES (3-9/16" long) NA003469 6.354(M), T6.354(M), T6.354 M.G.T. NA004845 HARNESS, engine wiring (Assembly) NA003704 BRACKET, wiring harness support clip NA003615 CLIP, wiring harness retaining SCREW, wiring harness clip retaining to bracket .. 2182003 NA003765 NUT, harness clip retaining TY-RAP $(7 \div 1/4"$ long) NA003616 NA000475 NUT, alternator (batt. term.) SCREW, alt. ground terminal 0748411 0920053 WASHER, spring NA003499 BRACKET, wiring harness adaptor plug retaining .. NA003443 CLIP, harness plug adaptor to mtg. bracket 2182003 SCREW, adaptor clip retaining to mtg. bracket ... NUT, harness clip retaining screw NA003765 TRANSMITTER, oil pressure NA000208 NA000474 NUT, oil pressure transmitter NA000209 TRANSMITTER, temperature NA000474 NUT, temperature transmitter HT6.354 (M) NA004855 HARNESS, engine wiring (Assembly) NA000475 NUT, alternator (batt. term.) 0748411 SETSCREW, alt. ground terminal 0920053 WASHER, spring

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BRACKET, wiring harness adaptor plug retaining ...

NA003442

PAGE 3 OF PARTS BULLETIN NO. 253

HT6.354 (M) - Continued

NA003443	CLIP, harness plug adaptor to mtg. bracket	1
2182003	SETSCREW, adaptor clip retaining to mtg. bracket .	2
NA003765	NUT, harness clip retaining screw	2
NA000208	TRANSMITTER, oil pressure	1
NA000474	NUT, oil pressure transmitter	1
NA000209	TRANSMITTER, temperature	1
NA000474	NUT, temperature transmitter	1

THE FOLLOWING WIRING HARNESS EXTENSIONS MAY BE USED WITH INSTRUMENT PANELS NA004843 and NA004844:

NA004847	HARNESS	EXTENSION,	10	ft.	long	•••••	1
NA004848	HARNESS	EXTENSION,	20	ft.	long	•••••	1
NA004849	HARNESS	EXTENSION,	30	ft.	long		1

C. F. Haskin Specifications & Alterations Supv. Service Parts Department

CFH/se

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January, 1979

- INTRODUCTION -

The quantity shown in the quantity column is the number of parts used on the engine, except where parts are offset in the description column; in this case, the quantity is the number required for the preceding assembly or sub-assembly. For certain parts, such as kits, washers, etc., an "X" will be shown in the quantity column. This "X" indicates that the quantity is "as required".

INFORMATION REQUIRED

Whenever parts are ordered, it is essential that full information is given to ensure correct identification. Descriptions and part numbers should always be stated, and in the case of parts required for an individual engine, the engine type or serial number should be supplied. For example:

"Please supply for the 4.154 Marine Engine, (1) of 85827 Crankshaft Kit."

Such an order supplies all the information needed to enable your requirements to be identified accurately and your order will receive prompt attention.

SCREW THREADS

All screw threads on this engine, except on certain items of proprietary equipment, are unified series and American pipe series.

The items described in this book are correct at the time of publication. As developments are made, we reserve the right to alter or withdraw items at any time and you would be advised of the changes. This information should be entered in the appropriate pages as soon as it is received to keep your book up-to-date with the latest information.

> NAPB #53 2nd Issue August, 1978

NAP/000271 CFH/se

- SECTIONAL INDEX -

	PAGES
<u>CYLINDER BLOCK</u> Liners, plugs, cylinder head gasket, rear end oil seal housing	1
<u>CYLINDER HEAD</u> Plugs, inserts, guides, rear end cover, inlet and exhaust valves, springs, caps, cotters, front and rear lifting plates, water outlet body and connection, thermostat	2
<u>CRANKSHAFT</u> Main and connecting rod bearing sets, crankshaft gear and pulley, p.t.o. pulley, connecting rod, pistons, ring pack	3
<u>CYLINDER HEAD COVER</u> Lube oil filler cap, rocker shaft, brackets, springs, levers, tappets, push rods	4
AIR INDUCTION SYSTEM Induction manifold, quick start adaptor, air filter cover, breather pipe and hose	5
<u>TIMING GEAR</u> Camshaft and gear, idler gear, timing gear housing and front cover, injection pump adaptor, engine timing pin	6-7
LUBRICATING OIL SYSTEM Lube oil pan, dipstick and tube, support bracket, suction and strainer pipe, lube oil pump and delivery pipe, lube oil filter and bracket, connections, flex pipes	8-9
<u>SEA WATER PUMP</u> Mounting bracket, pulley, belt	10
FRESH WATER PUMP Seals, rear body, pulley, hub, repair kit, water inlet connection, hose	11
<u>HEAT EXCHANGER & HEADER TANK</u> Manifold Assembly, water outlet elbow, flange, hoses, pipes, brackets, oil cooler, adaptor, connections, flex pipe	12-13
<u>FUEL OIL LIFT PUMP</u> Pump, spring, repair kit	14
FUEL OIL FILTER Element kit, bracket, drip tray, delivery and return pipes, non-return valve, connections, leak-off pipe, pre-filter	15
FUEL INJECTION SYSTEM Injection pump and driving gear, injection pipes, lever, vibration damper, injector and holder assembly, leak-off pipe, brackets, springs	16

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- SECTIONAL INDEX -

FLYWHEEL & HOUSING Flywheel housing, flywheel and ring gear, adaptor plate, starter motor and spacer	17
ELECTRICAL EQUIPMENT Alternator brackets, alternator, cooling fan, connections, lever, pulley, belt, oil pressure and water temperature transmitters	18
ENGINE WIRING HARNESS Wiring harness and bracket	19
ACCESSORIES Throttle and stop control kit, front and rear mounting brackets, trunnions, mounts, labels, tachometer drive shaft.	20
GASKET SETS Top and bottom overhaul gasket sets	21

PAGES

12

--- --

- NUMERICAL INDEX -

PART N	IO. PAGE	PART NO.	PAGE	PART NO.	PAGE
33435		0180069	12,13	0746424	
38360		0180070		0746452	
		0180107		0746454	
68452		0180173		0746807	6
00402		0180182		0746851	
85827		0180831		0748411	
85833		0100001		0748413	
86769		0200007		0748414	
867690		0200080		0748524	
86820		0201091		0748525	
86820A		0201397		0748611	
86820E		0240568		0770101	
868200			• • • • • • • • • • • • •	0780224	
86825		0350009		0780268	
86825A		0350016			
86825E				0826004	8
868250		0490184		0826201	
86956		0490685		0826203	6
86999		0490775		0826218	
88994		0490786		0826232	10,12
89180				0826243	12
89213		0500009	6	0826244	
892130		0520463	16	0826248	
		0566003	14,15	0826249	
005035		0571415	8,12	0826256	
007010		0576001	8,20	0826438	
009531		0576002	.6,10,14,16	0826444	2
009533		0576051	.2,15,17,18	0826463	
009534		0576053		0826612	
009603		0576054			0
009620		0576064	2,9,12	0920002	
009623		0576102	••••••	0920003	6,7,10,
009623		0576112		0000004	12,16.
009623		0576151	4,11	0920004	2,10,18
009623		0576153	8	0920051 0920052	17
009624		0650004	1 6	0920052	1,2,5,6,7,8,
009624		0650204	15	0920055	9,10,11,12,
009624		0650205	l 4		14,16,17,18.
009643	-	0650507	•••••• •••••	0920054	2,3,10,12,
009643		0650593 0650594		0920054	15,17,18.
009643		0650722		0920055	9,13,20
009644		0050722	•••••••••••	0920056	
009663		0726505	16	0920113	
009663	•	0746015		0920127	
009663		0746053		0920146	
		0746211	2,5,6	0920154	
017000	01	0746213		0920155	
017009		0746252		0920296	
018006		0746253	6,20	0920299	
018006		0746254		09204 97	
018006	6612	0746255	6,8,11	0921167	8

1

- NUMERICAL INDEX -

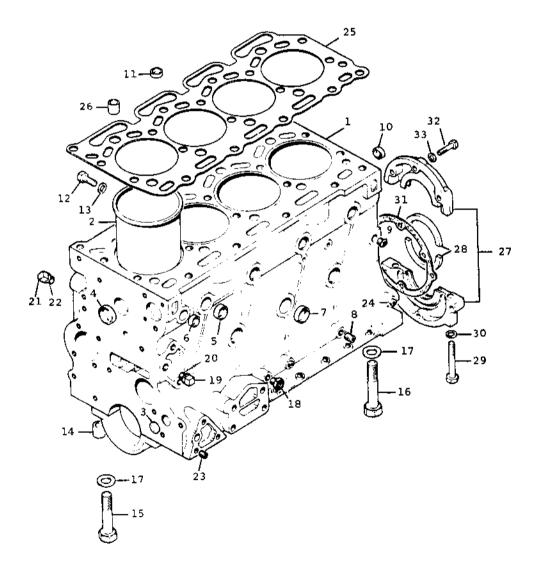
PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
0921176	16	24870001 .	4		2
2116070		26410063 .	1.4		
2116078 2134177					
2137435		-			1
2173706				32417139	1
2182003			•••••		· · · · · · · · · · · · · · · · · · ·
2182110	••••••1			32417142	1
2182122			•••••4 •••••3	32417148 32418118	·····1
2184435 2184463				32418118	1
210440)	* * * * * * * * * * ± /			32514309	
2211224				32514311	
2211291				32712715	8
2211401			18	32717109	
2224933				32722511	2
2238151				32754421	4
2238153	10,12			32762119 32811104	
2411141				52611104	
2411152	1,6,7			33115129	
2411160			1	33117119	
2411162			6	33117121	
2415217	11		2	33117418	•••••4
2415340			2	33124119	
2417204			•••••4	33138104	1
2431154 2481889	····2,11 ····12			33172117 33173112	•••••6 •••••2
2481890				33221323	
2485613				33225412	
2485731				33225413	
2485740	1		4	33261742	2
2487004	•••••		2	33413121	11
2487805	•••••4			33415134	2
2577533				33423132 33427119	
2377333				33473107	
2641327	14			33474004	
2644951		32114131 .	4	33531123	4
2645580	•••••16			33532128	15
2654407	•••••9			33533103	8
2656084	15		1	33533112	14,15
2656613 2658201	•••••15 •••••15			33536459 33811112	
2018201	***********			33811113	
2871954				33811115	
				33812108	
24860155			2	33817122	
24860160		* = = + = + = •	2	33817409	2
24860161			••••••	33855118	13
24860162 24860163			····1	34821415	
2400VI03	•••••	J2100120 .	/	24051413	••••••••••

- NUMERICAL INDEX -

PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
35355346	16	37766712		NA003423	15
35355347	16	37787692		NA003424	
35355348	16	37814129		NA003425	
	16			NA003426	
	16	41115041	6	NA003428	
35833535	20	41151466	4	NA003432	
35833594	15	41152908		NA003433	
35845052	15	41222235		NA003434	9
		41242806		NA003437	
36177424	2	41312418	11	NA003439	
36511123	16	41326025	12	NA003440	
36811121	4	41422031		NA003441	
36812328	1	41422923		NA003442	
36813149	6	41424135		NA003443	
36822522	11	41424208		NA003446	
36826118	1			NA003448	
36831121	8	NA000208		NA003449	
36832125	8	NA000209		NA003450	
36834132	11	NA000227		NA003451	
36835108	6	NA000468		NA003452	12
36841135	12	NA000474		NA003453	
36844116	16	NA000475		NA003454	
36846126	2	NA000571		NA003460	12
36847128	2	NA000594		NA003474	
36862165	14	NA000623		NA003476	
36862517	9	NA000631		NA003477	
	13	NA000721		NA003478	
	7	NA000904		NA003480	12
	5		_	NA003482	
	12	NA001253	9	NA003484	
	11	NA001309	20	NA003670	
	6	NA001458	20	NA003671	17
36883107	1	NA001471	20	NA004146	
		NA001473	20	NA004473	
	17		9	NA004800	18
37161432			20		
37426472				NA900085	17
	2			NA900087	
-	6	NA001905		NA900088	8
37467761			10		
	4	NA003347			
	4	NA003348			
	4	NA003406			
	•••••7	NA003407	20		
····	2	NA003410	2		
	15 9	NA003412	9		
		NA003413 NA003414			
37727718		NA003414 NA003416	•••••		
37731321		NA003416 NA003419			
		NA003419 NA003421			
37766051		NA003421			
J//00051	•••••	MAUU3422	• • • • • • • • • • • • • •		

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- CYLINDER BLOCK -

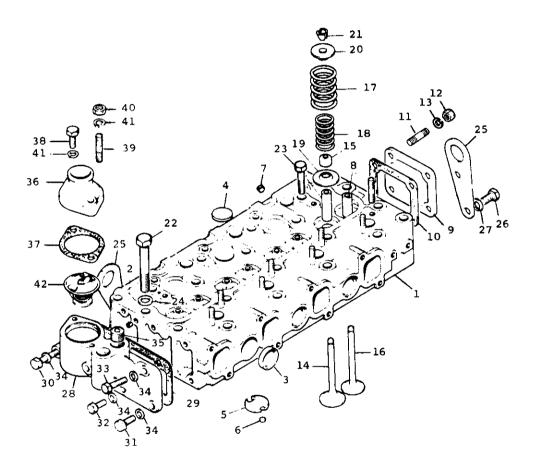


- CYLINDER BLOCK -

I NO DESCRIPTION		REF. <u>NO.</u>	NOTE
52 CYLINDER BLOCK (ASSEMBLY) Includes:	68452	1	
	31358119	2	
		3	
		3 4	
	32417142	5	
	32417141		
	32418119		1
16004 PLUG, block - lube oil pressure rail.	32116004		
17148 PLUG, block - pressure rail - front and rear	32417148	9	
	2485740	10	
	32417131	11	
		12	
top hole			
0155 WASHER, sealing		13	
38104 THIMBLE, main bearing cap	33138104	14	
	32166212	15	
	32166211	16	
	33117119	17	
D593 PLUG, water drain - LHS	0650593	18	
D205 PLUG, block - fuel pump drive oil feed .	0650205	19	
	0920155	20	
	0746252	21	
	2411152	22	
	32114481		
		24	
12328 GASKET, cyl. head to cyl. block	36812328	25	
38104 THIMBLE, cyl. head gasket locating	33138104	26	
22031 HOUSING, REAR END OIL SEAL (ASSEMBLY) Includes:	41422031	27	
	36883107	28	
		29	
		30	
0053 WASHER, spring	0920053	30	
26118 GASKET, oil seal housing to cyl. block .	36826118	31	
5231 SETSCREW, housing to block & brg. cap	0096231	32	
	0920053	33	

NOTE: See Accessories Section for tachometer drive shaft, etc.

- CYLINDER HEAD -

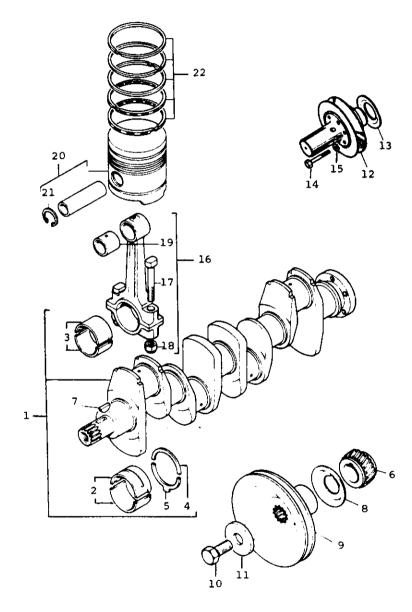


- CYLINDER HEAD -

NOTE	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	89180	CYLINDER HEAD (ASSEMBLY)	1
			Includes:	
	2	32116005	PLUG, cylinder head	1
	3	32418118	PLUG, cylinder head	7
	4	32412111	PLUG, cylinder head	3
	5	37443751	INSERT, combustion chamber	4
	6	2485731	WASHER, insert locating	4
	7 8	32722511	INSERT, water jet	4
	9	33261742 37551115	GUIDE, inlet & exhaust valve	8 1
	10	36847128	COVER, cyl. head rear end	1
	11	0826244	GASKET, rear end cover	1
	12	0576064	STUD, rear end cover	4
	13	0920053	WASHER, spring	4 4
	14	31431491	VALVE, inlet	4 4
	15	33817409	DEFLECTOR, inlet valve	4 4
	16	31431501	VALVE, exhaust	4 4
	17	31745124	SPRING, Outer	8
	18	31744139	SPRING, inner	8
	19	33415134	WASHER, spring seating	8
		33423132	CAP, valve spring	8
	21	33173112	COTTER, cap retaining	8 Pr.
	22	32166208	SETSCREW, cyl. head to cyl. block	13
	23	32166209	SETSCREW, cyl. head to cyl. block	
	24	33117119	WASHER, plain	20
	25	36177424	PLATE, engine lifting - front	1
	26	0746452	SETSCREW, lifting plate to cyl. head	2
	27	0920054	WASHER, spring	2
	25	36177424	PLATE, engine lifting - rear	1
	26	0746452	SETSCREW, lifting plate to cyl. head	2
	27	0920054	WASHER, spring	2
	28	37766051	BODY, water outlet - cylinder head	1
	29	36846126	GASKET, water outlet body to cyl. head .	ĩ
	30	0096241	SETSCREW, outlet body to cylinder head .	ī
	31	0746211	SETSCREW, outlet body to cylinder head .	3
	32	0746254	SETSCREW, outlet body to cylinder head .	1
	33	0096242	SETSCREW, outlet body to cylinder head	1
	34 35	0920053	WASHER, spring	6
		2431154	PLUG, water outlet body	1
	36	NA003410	CONNECTION, cyl. head water outlet	1
	37	0490184	GASKET, water outlet connection	1
	38	0096432	SETSCREW, outlet conn. to outlet body	1
	39	0826444	STUD, body to connection	1
	40	0576051	NUT, outlet connection retaining	1
	41	0920004	WASHER, plain	2
	42	2485613	THERMOSTAT	1



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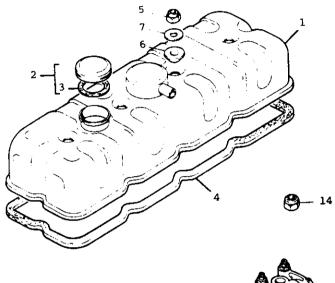


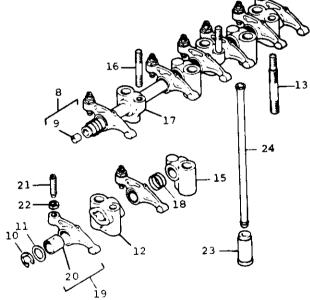
- CRANKSHAFT -

NOTE	REF. NO.	PART NO.	DESCRIPTION	QTY.
	l	85827	CRANKSHAFT KIT (ASSEMBLY)	1
	2 3 4 5	86820 86825 31137421 31137431	BEARING SET, crankshaft main - std. BEARING SET, conn. rod - big end THRUSTWASHER, top THRUSTWASHER, bottom	1 1 2 2
	2 2 2	86820A 86820B 86820C	BEARING SET, crankshaft main (010") BEARING SET, crankshaft main (020") BEARING SET, crankshaft main (030")	X X X
	3 3 3	86825A 86825B 86825C	BEARING SET, connecting rod (010") BEARING SET, connecting rod (020") BEARING SET, connecting rod (030")	x x x
	4 5	31137422 31137432	THRUSTWASHER, top (+.007") THRUSTWASHER, bottom (+.007")	x x
	6 7 8 9 10 11	31171091 2577533 33474004 31147301 32162316 33124119	GEAR, crankshaft KEY, crankshaft gear FLANGE, crankshaft oil thrower PULLEY, crankshaft SCREW, pulley retaining WASHER, retaining screw	1 1 1 1 1
	12 13 14	31146741 NA003416 0096436	PULLEY, power take-off SPACER, p.t.o. pulley SETSCREW, p.t.o. pulley to crankshaft	1 1
	15	0920054	pulley	3 3
	16	41152908	CONNECTING ROD (ASSEMBLY)	4
	17 18 19	32762119 33221323 31134138	BOLT, conn. rod NUT, conn. rod cap retaining BUSHING, conn. rod - small end	2 2 1
	20	89213	PISTON, STD. (ASSEMBLY)(c/w wrist pin) . Includes:	4
	21	0170001	SNAP RING, wrist pin retaining	2
(A)	22	86769	RING PACK, std	4
	20	89213C	PISTON, (+.030") c/w wrist pin Includes:	х
<i>,</i> .	21	0170001	SNAP RING, wrist pin retaining	2
(A)	22	86769C	RING PACK, (+.030")	x

Note: (A) Contains rings for one piston.

- CYLINDER HEAD COVER -

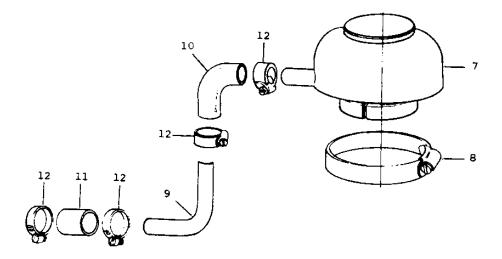


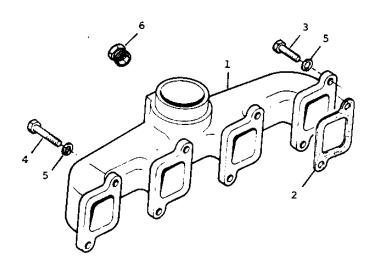


- CYLINDER HEAD COVER -

NOTE	REF. <u>NO.</u>	PART NO.	DESCRIPTION	QTY.
	1	37814129	COVER, cylinder head (Assembly)	1
	2	2487805	CAP, lube oil filler Includes:	1
	3	24870001	GASKET, cap	1
	4 5 6	36811121 33531123 33817122	GASKET, cyl. head cover to cyl. head NUT, cyl. head cover retaining SEAL, retaining nut	1 4 4
	7	33427119	WASHER, seal retaining	4
	8	85833	ROCKER SHAFT (ASSEMBLY)	1
	9	0650507	PLUG, rocker shaft end	2
	10 11	0180831 33117418	SNAP RING, rocker shaft retaining WASHER, rocker shaft end	2 2
	12 13 14 15 16 17		BRACKET, rocker shaft STUD, long - bracket to cyl. head NUT, No. l & No. 7 bracket retaining BRACKET, rocker shaft STUD, bracket to cyl. head cover BRACKET, rocker shaft	2 2 2 2 2 3
	18	31743113	SPRING, rocker shaft	6
	19	41151466	LEVER, rocker shaft (Assembly) Includes:	8
	20 21 22	31134158 32114131 0576151	BUSHING, lever SCREW, tappet adjusting LOCKNUT, adjusting screw	1 1 1
	23 24	31434181 31434311	TAPPET PUSH ROD	8 8

- AIR INDUCTION SYSTEM -

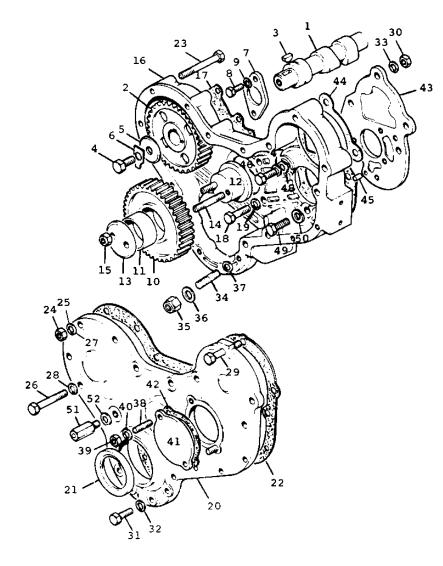




- AIR INDUCTION SYSTEM -

<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	37787692	MANIFOLD, induction	1
	2	36866201	GASKET, cyl. head to induction manifold.	4
	3	0746211	SETSCREW, manifold to cyl. head	4 7
		0096231	SETSCREW, manifold to cyl. head	1
	5	0920053	WASHER, spring	8
	6	33536459	ADAPTOR, quick start	1
	-	0650594	PLUG, adaptor	1
	7	0240568	COVER, air filter	1
	8	0180070	CLAMP, air filter cover	1
	9	NA003446	PIPE, breather - air filter to cyl. head rocker cover	1
	10	34821415	HOSE, breather pipe	1 1
	11	0200007		1
	12	0180063	CLAMP, hose	4



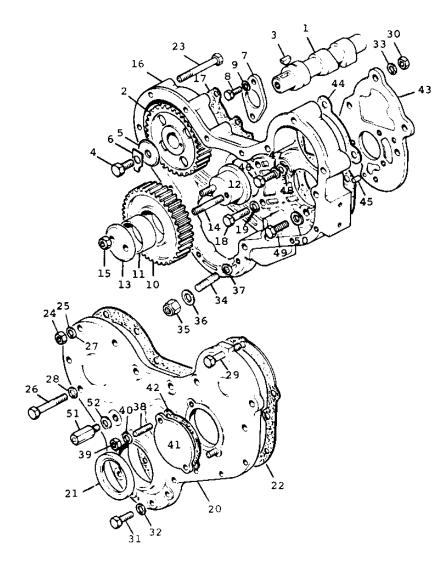


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- TIMING GEAR -

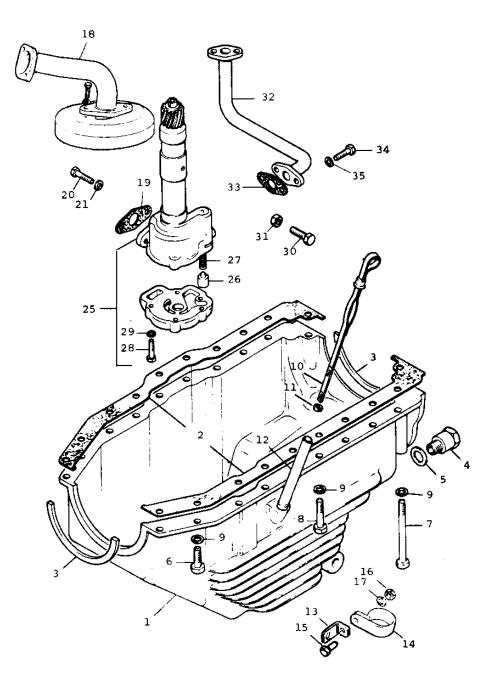
<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	21415212	03 MC113 1101	•
	1 2	31415312	CAMSHAFT	1
		31171191	GEAR, camshaft	1
		0500009	KEY, camshaft gear	
		0746807	SETSCREW, camshaft gear to camshaft	1
		33172117	WASHER, gear retaining	1
	6	31733125	TABWASHER, retaining screw	1
	7	37467761	PLATE, camshaft thrust	1
	8	0746253	SETSCREW, plate to cylinder block	2
	9	0920053	WASHER, spring	2
	10	41115041	GEAR, idler (Assembly) Includes:	1
	11	31134139	BUSHING, idler gear	1
	12	32717109	HUB, idler gear	1
	13	32413121	PLATE, idler gear retaining	1
	14	0826256	STUD, cyl. block to idler gear hub	2
	15	0576102	NUT, hub retaining	2
	16	37161432	HOUSING, timing gear	1
	17	3687T001	GASKET, housing to cylinder block	1
	18	0746255	SETSCREW, housing to block	7
	19	0920053	WASHER, spring	7
	20	41422923	COVER, front - timing gear housing Includes:	1
	21	2415340	SEAL, front cover	1
	22	36813149	GASKET, front cover to timing gear hsg	1
	23	0096239	BOLT, front cover to housing	2
	24	0576002	NUT, front cover retaining	2
	25	0920053	WASHER, spring	2
	26	0746213	SETSCREW, front cover to timing gear housing and cyl. block	7
	27	0920053	WASHER, spring	7 5
	28	2411152	WASHER, hsg. & cover to block screw	2
	29	0096240	BOLT, front cover to housing	2
	29	0096241	BOLT, front cover to housing	2 1
	30	0576002	NUT, front cover to housing	2
	31	0746211	SETSCREW, front cover to housing	3 6
	32	0920053	WASHER, spring	9
	33	0920003	WASHER, plain	3
	34	0826201	STUD, housing to front cover	1
	35	0576002	NUT, front cover retaining	1
	36	0920053	WASHER, spring	1
	37	0920003	WASHER, plain	i
	38	0826203	STUD, front cover to f/pump gear cover.	2
	39	0576002	NUT, f/pump gear cover retaining	2
	40	0920053	WASHER, spring	2
	41	37461105	COVER, fuel pump drive gear	
	42	36835108	GASKET, f/cover to f/pump gear cover	ī



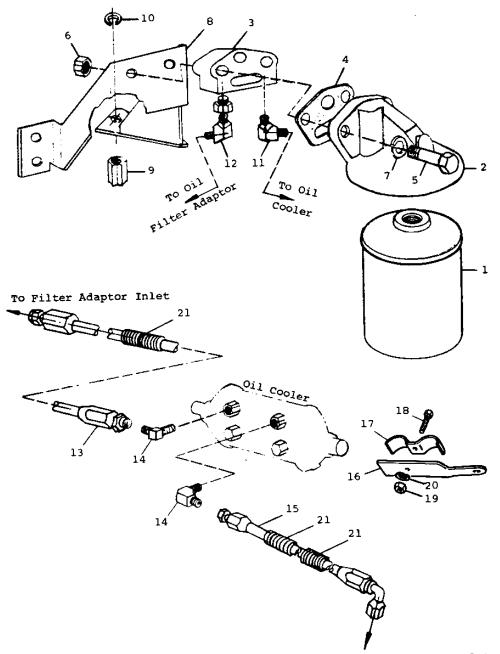


- TIMING GEAR -

<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	43 44	37537511 36863117	ADAPTOR, fuel injection pump GASKET, timing gear housing to fuel pump adaptor	1 1
	45 46 47 48	0350009 0746254 0920053 0920003	DOWEL, housing to adaptor SETSCREW, housing to adaptor WASHER, spring WASHER, plain	1 3 3 3
	49 50	0096201 0920053	SETSCREW, adaptor to timing gear hsg WASHER, spring	1 1
	51 52	32186128 2411152	PIN, engine timing WASHER, timing pin	1 1



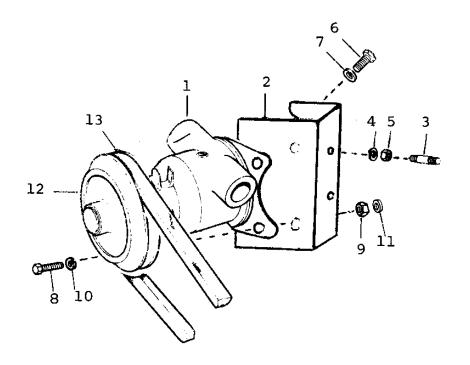
<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	41424135	LUBE OIL PAN (ASSEMBLY)	1
		2137435	Includes:	~
	2	41424208	INSERT, helicoil GASKET, oil pan to cyl. block	2 1
	3	0490775	GASKET, oil pan - front and rear	
	4	2487004	PLUG, oil pan drain	2
	5	2411160	WASHER, drain plug	2 2 2
	4	0650722	PLUG, oil pan drain	ĩ
	5	2411162	WASHER, oil pan plug	
	4	32161317	PLUG, oil pan - alt. dipstick hole	1
	5	0921167	WASHER, oil pan plug	1 1 2 2
	6	0746255	SETSCREW, oil pan to timing gear hsg	2
	7	2184435	SETSCREW, long - oil pan to block	
	8	0746255	SETSCREW, oil pan to block	13
	8	0096237	SETSCREW, oil pan to block	3
	9	0920053	WASHER, spring	20
	10	31785434	DIPSTICK, lube oil (Assembly) Includes:	1
	11	33812108	WASHER, dipstick	1
	12	41242806	TUBE, lube oil dipstick (Assembly) Includes:	1
		33533103	NUT, dipstick tube	1
	13	NA003422	BRACKET, dipstick tube support	1
	14	0180182	CLIP, support bracket	1
	15	0748413	SETSCREW, clip to bracket	1
	16	0571415	NUT, clip retaining	1
	17	0920053	WASHER, spring	1
	18	37727718	PIPE, lube oil suction & strainer (Assy)	1
	19	36832125	GASKET, suction pipe to lube oil pump	1
	-	0826004	STUD, suction pipe to pump	2
	-	0576001	NUT, suction pipe retaining	2
	_	0920052	WASHER, spring	2
	20	0746015	SETSCREW, suction pipe bracket to lube oil pump body	1
	21	0920002	WASHER, plain	ī
	25	NA900087	LUBE OIL PUMP (ASSEMBLY)	1
	26	32712715	PLUNGER, relief valve	1
	27	31742128	SPRING, relief valve	
	28	0096032	SETSCREW, cover to body	1 5 5
	29	0920052	WASHER, spring	5
	30	32114134	SCREW, pump body locating	1
	31	0576153	NUT, screw locking	1
	32	NA900088	PIPE, lube oil delivery (Assembly)	1 1
	33	36831121	GASKET, delivery pipe	1
	34 35	0746053 0920052	SETSCREW, delivery pipe	4 4



To Lube Oil Adaptor Outlet

NOTE	REF. <u>NO.</u>	PART NO.	DESCRIPTION	QTY.
	1	2654407	FILTER, lube oil	1
	2	37764181	HEAD, lube oil filter	1
	3 4 5 6 7	37586241 36862517 0096638 0576054 0920055	ADAPTOR, lube oil filter GASKET, filter adaptor BOLT, filter & adaptor to support brkt NUT, filter & adaptor retaining WASHER, spring	1 2 2 2
	8 9 10	NA 003412 0576064 0920053	BRACKET, support - lube oil filter NUT, support bracket retaining - to cyl. head rear cover studs WASHER, spring	1 4 4
	11 12	NA001253 NA000631	CONNECTION, 45 ⁰ lube oil filter adaptor - in CONNECTION, 45 ⁰ lube oil filter adaptor - out	1
	13 14 15	NA003433 NA003474 NA003434	<pre>PIPE, flex - filter adaptor to oil</pre>	1 2 1
	16 17 18 19 20	NA003437 NA003476 2224933 2238151 0920052	BRACKET, support - flex pipes to starter motor retaining studs CLAMP, flex pipes retaining SCREW, pipe clamp retaining NUT, clamp retaining screw WASHER, spring	1 3 2 2 2
	21 -	NA001489 0650594	GUARD, flex hose	1 2

- SEA WATER PUMP -



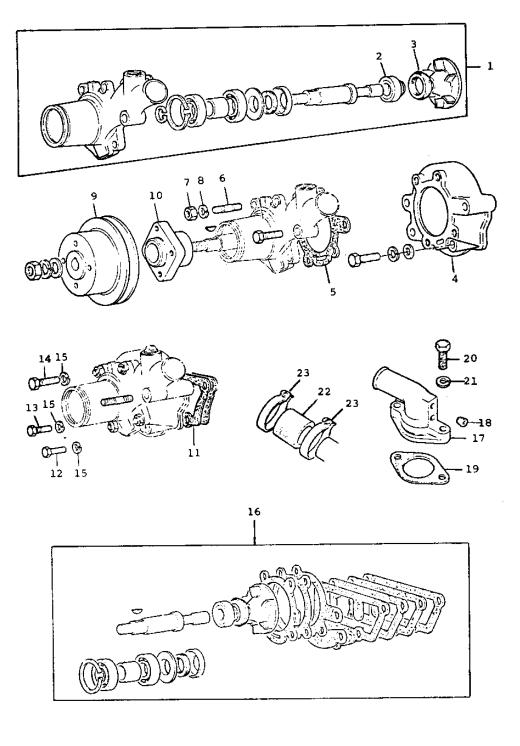
- SEA WATER PUMP -

NOTE	REF. NO.	PART NO.	DESCRIPTION	QTY.
(A)	1	NA003428	SEA WATER PUMP (ASSEMBLY)	1
	2	NA003421	BRACKET, sea water pump mounting	1
	3	0826232	STUD, pump mounting bracket to timing gear housing	2
	4	0576002	NUT, bracket retaining	2 2 2
	5	0920053	WASHER, spring	2
	5	0920095	WADHER, Spring	-
	6	0096241	SETSCREW, front cover to timing case - to sea water pump mtg. bracket	1
	7	0920003	WASHER, plain	1
	•			
	8	0748524	SETSCREW, sea water pump to support	
	-		bracket	2
	9	2238153	NUT, sea water pump retaining	2 2 2
		0920054	WASHER, spring	2
	11	0920004	WASHER, plain	2
		0920004	Andinin, plazi	-
	12	NA003419	PULLEY, sea water pump	1
	13	0070101	BELT, sea water pump driving	1

Note:

 ⁽A) Component parts for Sea Water Pump #NA003428, ITT - Jabsco Part No. 11850-0101, will be supplied by the ITT - Jabsco Service Organization.

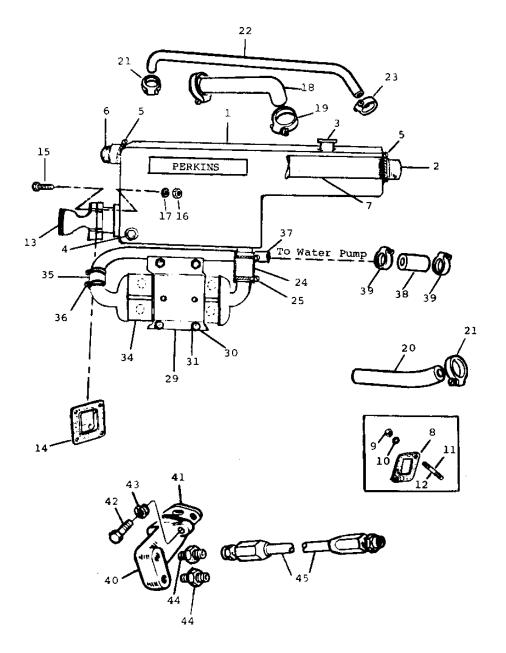
- FRESH WATER PUMP -



- FRESH WATER PUMP -

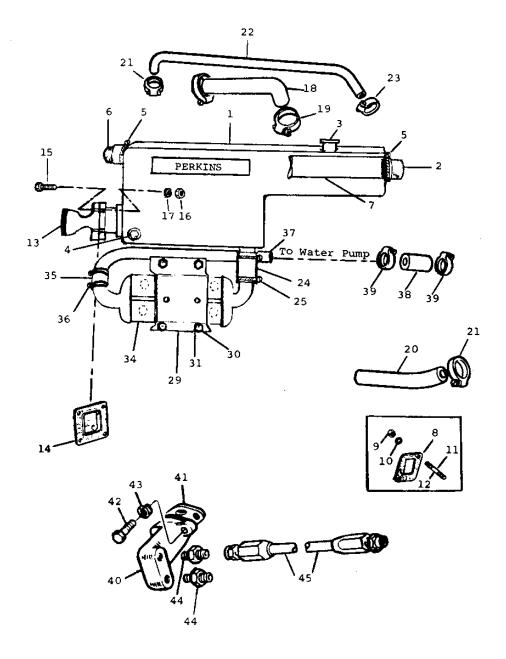
NOTE	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1 U	41312418 5 NW 0053 2415217	FRESH WATER PUMP (ASSEMBLY)	
	4 5 6 7	37712412 36822522 0826249 0576151 0920053 3113M002	BODY, rear - water pump GASKET, front to rear body STUD, front to rear body NUT, body securing WASHER, spring PULLEY, water pump HUB, pulley	1 1 6 6
	11 12 13 14 15	36867149 0096241 0096238 0746255	GASKET, water pump to cylinder block SETSCREW, pump to block SETSCREW, pump to block SETSCREW, pump to block WASHER, spring	1 3 1 1
	16 17 18 19 20 21	NA003454 2431154 36834132	REPAIR KIT, WATER PUMP (ASSEMBLY) CONNECTION, water inlet PLUG, water inlet connection GASKET, water inlet connection SETSCREW, water inlet connection WASHER, spring	X 1 1 2 2
	22 23	0200080 0180107	HOSE, outlet body to pump CLIP, hose	1 2

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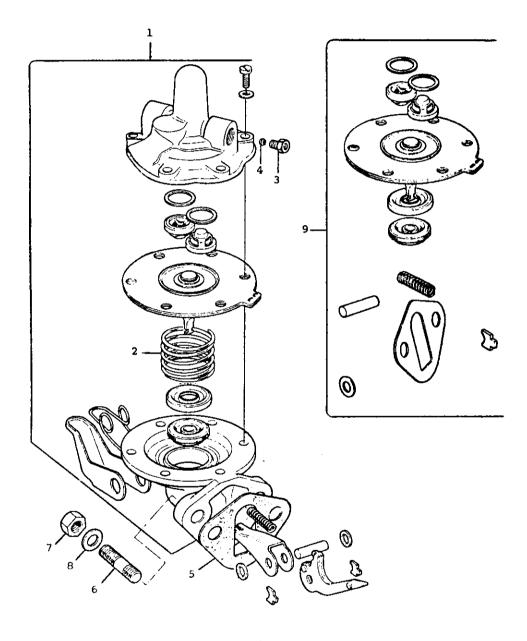
NOTE	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1		MANIFOLD, HEAT EXCHANGER & HEADER TANK .	1
			Includes:	
	2	24860162	END COVER, water inlet	1
	3	24860155	CAP, filler	1
	4	24860161	PLUG, drain	1
	5	2481889	CLIP, end cover hose	2
	5	2481890	CLIP, hose	2
	6		END COVER, water outlet	1
	7	24860163	STACK, tube	1
	-	37731321	ELBOW, heat exch. water outlet	1
	8	36866442	GASKET, cyl. head to exhaust manifold - heat exchanger	4
	9	0576064	NUT, exhaust manifold retaining	8
	10	0920003	WASHER, plain	8
		0920003	STUD, cyl. head to manifold - heat exch.	4
	11		STUD, cyl. head to manifold - heat exch.	4
	12	0826243		
	13		ELBOW, exhaust manifold water outlet	1
	13		FLANGE, exhaust manifold outlet	1 1 1 4
	14		GASKET, outlet flange	1
	15		BOLT, flange to manifold	
	16		NUT, flange retaining	4 4
	17	0920054	WASHER, spring	4
	18	NA003460	HOSE, header tank to cyl. head water outlet connection	1
	19	0180069	CLIP, hose	2
	20	NA003451	HOSE, flex - sea water pump to heat exchanger	1
	21	0180066	CLAMP, hose	2
	22	NA003452	PIPE, sea water pump to heat exhanger .	1
	23	0180065	CLAMP, pipe	1
	24	NA003480	HOSE, heat exchanger manifold to oil cooler	1
	25	0180069	CLAMP, hose	2
	_	NA003413	BRACKET, oil cooler support	1
		0746851	SETSCREW, support bracket to block	2
	-	0920056	WASHER, spring	2
	29	NA000227	CLAMP, oil cooler retaining and sump pump support	1
	30	0748413	SETSCREW, clamp to support bracket	4
	31	0571415	NUT, cooler clamp retaining	4
		0920053	WASHER, spring	4
	-	0920003	WASHER, plain	4



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NOTE	REF. <u>NO.</u>	PART NO.	DESCRIPTION	QTY.
	34	NA003426	COOLER, oil - engine & gearbox	1 13 ⁴
	35	33855118	HOSE, cooler outlet to water pump return pipe	1
	36	0180069	CLAMP, hose	2
	37	NA003453	PIPE, oil cooler to water pump	1
	38	33855118	HOSE, pipe to water pump connection	1
	39	0180069	CLAMP, hose	2
	40	NA003414	ADAPTOR, cyl. block lube oil pipes	1
	41	36862525	GASKET, adaptor to cylinder block	1 1 2 2
	42	0096631	SETSCREW, adaptor to block	2
	43	0920055	WASHER, spring	2
	44	NA000571	CONNECTION, cyl. block adaptor - in and out	2
	45	NA003432	PIPE, flex - lube oil adaptor to filter adaptor	1
	-	37731321	ELBOW, sea water - heat exchanger to exhaust manifold	1
	-	2481890	CLIP, sea water elbow	1
	-	NA001860	HOSE, header tank leak-off	1

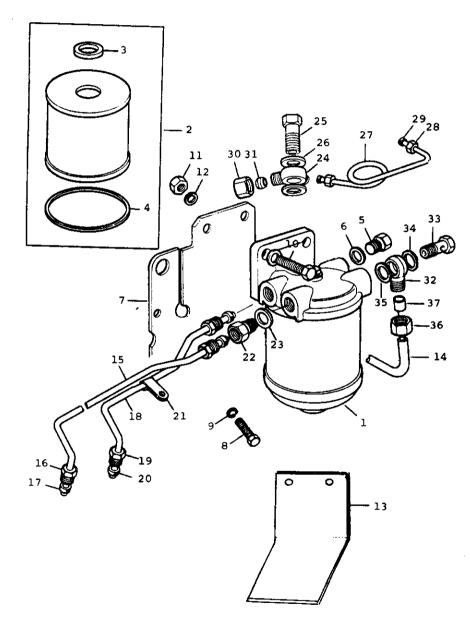
- FUEL OIL LIFT PUMP -



- FUEL OIL LIFT PUMP -

NOTE	REF. <u>NO.</u>	PART NO.	DESCRIPTION	QTY.
(A)	1	2641327	FUEL OIL LIFT PUMP (ASSEMBLY) Includes:	1
	2	0780224	SPRING, diaphragm	1
	3	33533112	NUT, lift pump inlet	1
	4	0566003	FERRULE, lift pump inlet	ī
	5	36862165	GASKET, lift pump to cylinder block	1
	6	0826248	STUD, lift pump to cylinder block	2
	7	0576002	NUT, lift pump retaining	2 2
	8	0920053	WASHER, spring	2
	9	26410063	REPAIR KIT, LIFT PUMP (ASSEMBLY)	х

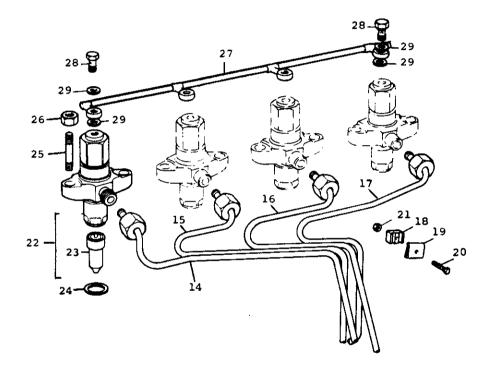
Note: (A) Rotate 180⁰ - FUEL OIL FILTER -

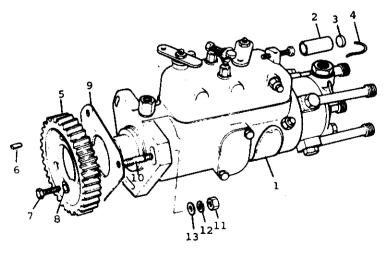


- FUEL OIL FILTER -

<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	2656613	FUEL OIL FILTER (ASSEMBLY)	1
	2	26560017	Includes: ELEMENT KIT, fuel oil filter Includes:	l
	3	26560014	SEAL, element seating	2
	4	0490786	SEAL, element sealing	2
	5	0650204	PLUG, filter - No. 4 Port	ī
	6	0920154	WASHER, filter plug	ī
	7	37581172	BRACKET, support - fuel filter	1
	8	0746452	SETSCREW, bracket to cyl. head	2
	9	0920054	WASHER, spring	2
	10	0096431	BOLT, filter to bracket	2
	11	0576051	NUT, filter retaining	2
		0920054	WASHER, spring	2
	13	NA003423	DRIP TRAY, fuel oil filter	1
	14	NA003448	PIPE, lift pump to fuel filter	1
	15	35845052	PIPE, fuel oil filter to fuel pump Includes:	1
	16	33532128	NUT, fuel oil pipe	2
	17	33811113	FERRULE, fuel oil pipe	2
	18	41222235	PIPE, fuel inj. pump return to filter Includes:	1
	19	33532128	NUT, fuel oil pipe	2
	20	33811113	FERRULE, fuel oil pipe	2
	21	0180173	CLIP, fuel oil pipe	1
	22 23	2658201 2411141	VALVE, non-return - fuel oil filter WASHER, non-return valve	1 1
	23	0201397		
	24 25	0095344	CONNECTION, banjo - filter overflow BOLT, banjo connection	1
	25	0920146		2
		0920140	WROLER, Sanjo Dort	2
	27	NA003440	PIPE, injector leak-off to filter	1
	28	33225412	NUT, leak-off pipe	2
	29	33811112	FERRULE, leak-off pipe	2 2 1
	30	0576112	NUT, leak-off connection	1
	31	0566003	FERRULE, leak-off pipe	1
	32	0201091	CONNECTION, banjo - filter to pipe	1
	33	0095332	BOLT, banjo	1
	34		WASHER, banjo bolt	
		0920154	WASHER, banjo bolt	1
		33225413	NUT, fuel pipe	
	37	33811115	FERRULE, fuel pipe	1
	-	35833594	PIPE, flexible - filter to tank	
	-		PRE-FILTER, fuel oil (supplied loose)	
	-	00000220	NUT, pre-filter (supplied loose)	1
	-	0566003	FERRULE, pre-filter (supplied loose)	1

- FUEL INJECTION SYSTEM -





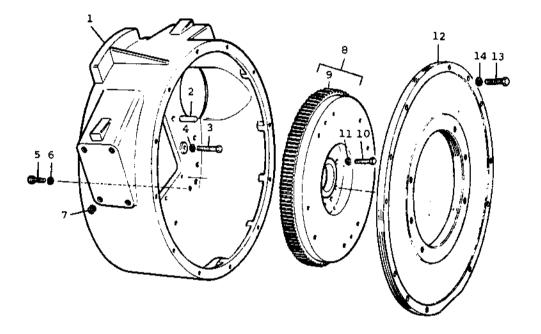
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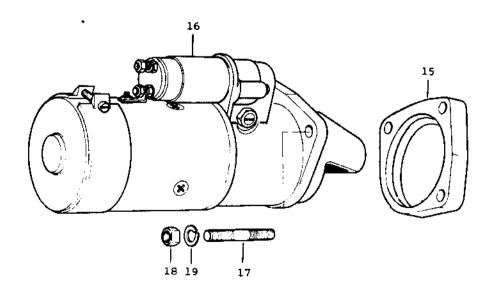
- FUEL INJECTION SYSTEM -

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<u>NOTE</u>	REF.	PART NO.	DESCRIPTION	0.001
NOLE	NO.	FARI NO.	DESCRIPTION	QTY.
	1	38360	PUMP, fuel injection - c/w control levers	1
	2	2644951	SLEEVE, throttle lever adj. screw	ì
	3	31718104	SEAL, adj. screw sleeve	i
	$\overline{4}$	31718105	WIRE, sleeve seal	ī
	5	31171982	GEAR, inj. pump driving	ī
	6	2116078	DOWEL, driving gear	ī
	7	0096201	SETSCREW, gear to pump	3
	8	0920053	WASHER, spring	3
	9	0490685	GASKET, inj. pump to adaptor	3 3 1 3 3 3
	10	0826218	STUD, pump adaptor to inj. pump	3
	11	0576002	NUT, pump retaining	3
	12	0920053	WASHER, spring	3
	13	0920003	WASHER, plain	3
	14	35355346	PIPE, fuel injection - No. 1 Cylinder	1
	15	35355347	PIPE, fuel injection - No. 2 Cylinder	ì
	16		PIPE, fuel injection - No. 3 Cylinder	
	17	35355349	PIPE, fuel injection - No. 4 Cylinder	1
			· · ·	_
		NA003449	LEVER, stop - fuel inj. pump	1
	-	NA003450	STOP, inj. pump stop lever	1
	18	36844116	DAMPER, vibration - fuel inj. pipe	4
	19	36511123	PLATE, vibration damper	4
	20		BOLT, vibration damper	2
	21	221129 1	NUT, damper bolt	2
	22	2645580	INJECTOR & HOLDER (ASSEMBLY) Includes:	4
	23	33435	NOZZLE, fuel oil	1
		0920113	WASHER, injector seating	4 8
	25		STUD, cyl. head to injector	
	26	0576002	NUT, injector retaining	8
	27	35587366	PIPE, injector leak-off (Assembly)	1
		0095315	BOLT, banjo	4
	29	0921176	WASHER, banjo bolt	8
	-	0520463	BRACKET, stop control spring - fitted to timing case blockside bolt	1
	-	31751107	SPRING, stop control return	1
	-	0520463	BRACKET, throttle control spring - bend slightly to fit spring - fitted	
	-	0780268	to top bolt of timing case SPRING, throttle control return	1 1

- FLYWHEEL & HOUSING -



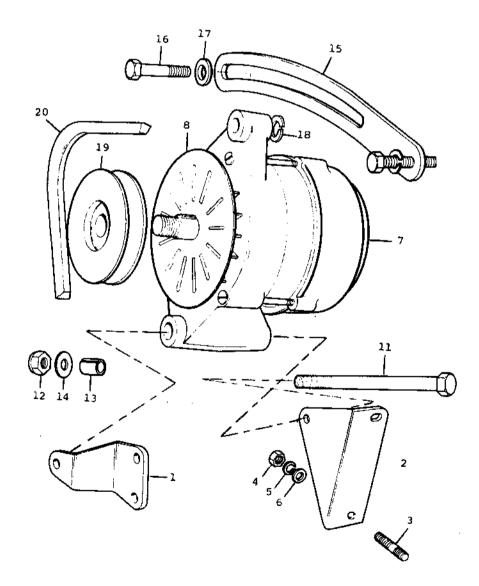


- FLYWHEEL & HOUSING -

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<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1 2 3 3 4	37134844 0350016 0096433 0746424 33115129	HOUSING, flywheel DOWEL, cyl. block to flywheel housing SETSCREW, housing to cyl. block SETSCREW, housing to cyl. block WASHER, housing to block setscrew	1 2 6 8
	5 6	0746454 0920053	SETSCREW, oil pan to flywheel housing WASHER, spring	4 4
	7	32114441	PLUG, flywheel housing blanking	8
	8	NA900085	FLYWHEEL & RING GEAR (ASSEMBLY) Includes:	1
	9	31161147	RING, starter	1
	10 11	2182122 33117121	SETSCREW, flywheel to crankshaft WASHER, flywheel to crankshaft	6 6
	12 13 14	NA003406 0096431 0920054	ADAPTOR PLATE, gear box to flywheel hsg. SETSCREW, plate to housing WASHER, spring	1 12 12
	-	2184463 0826612	SCREW, adaptor plate to gearbox STUD, gearbox to adaptor plate	2 4
	15	NA003425	SPACER, starter motor	1
	16	NA000623	STARTER MOTOR (Delco-Remy)	1
	17 18 19	0826438 0576051 0920054	STUD, starter motor to flywheel housing. NUT, starter motor retaining WASHER, spring	3 3 3
	. 	NA003670 2134177	NUT, battery terminal WASHER, spring	1 1
	-	NA003671 0920051	NUT, switch & resistor terminal WASHER, spring	2 2

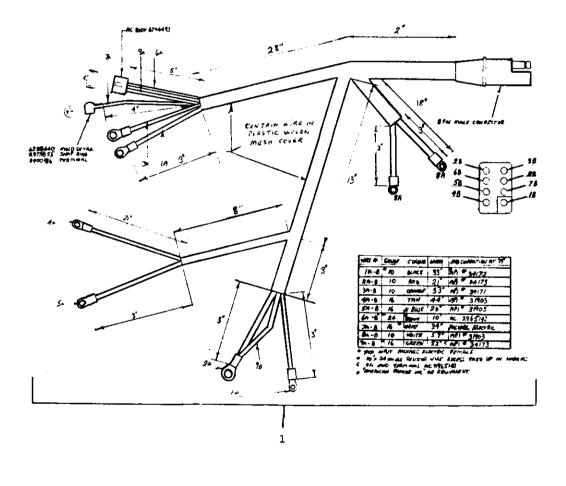
- ELECTRICAL EQUIPMENT -

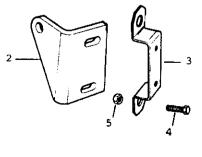


- ELECTRICAL EQUIPMENT -

	REF.			
<u>NOTE</u>	<u>NO.</u>	PART NO.	DESCRIPTION	QTY.
	1	NA003347	BRACKET, alternator - front	1
	2	NA003348	BRACKET, alternator - rear	1
	3	0826463	STUD, cyl. block to alt. bracket	2
	4	0576051	NUT, alternator bracket retaining	2
	5	0920054	WASHER, spring	2
	6	0920004	WASHER, plain	2
	7	NA001905	ALTERNATOR, 61 Amp. c/w regulator - (Delco #1102921)	1
	8	2871954	FAN, alternator cooling	1
	-	NA004800	CONNECTION, alternator terminal	ī
	-	NA000904	CONNECTION, alternator terminal	3
	11	0096444	BOLT, alternator to bracket	1
	12	2211224	NUT, alternator retaining	ī
	13	NA000721	BUSHING, alt. clamping bolt	ī
	14	0920004	WASHER, plain	ī
	15	NA003424	LEVER, alternator adjusting	1
	16	0748414	SETSCREW, lever to alternator	1
	17	0920497	WASHER, plain	1
	18	0920053	WASHER, spring	1
	19	31141645	PULLEY, alternator (2-3/4" dia 3/8" groove)	1
	20	NA003439	BELT, alternator & water pump driving	1
	_	NA000475	NUT, alternator - bat. term	1
		0748411	SETSCREW, alternator - ground term	ī
	-	0920053	WASHER, spring	ī
	_	NA000208	TRANSMITTER, oil pressure	1
		NA000474	NUT, oil pressure transmitter	ī
	_	NA000209	TRANSMITTER, water temp.	1
	-	NA000474	NUT, water temp. transmitter	ĩ

- ENGINE WIRING HARNESS -





- ENGINE WIRING HARNESS -

NOTE	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	NA003441	ENGINE WIRING HARNESS (ASSEMBLY)	1
	2	NA003442	BRACKET, wiring harness - to rear lift- ing eye setscrew	1
	3	NA003443	CLAMP, wiring harness to bracket	1
	4 5	2182003 2211401	SCREW, clamp to harness support bracket. NUT, clamp to bracket retaining	2 2

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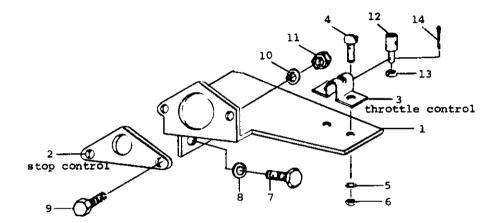
- ACCESSORIES -

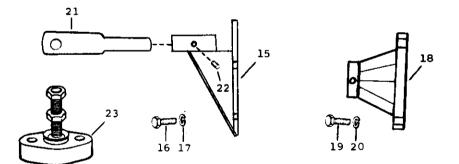
<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QT
		NA003482	THROTTLE & STOP CONTROL KIT (ASSEMBLY) .	
		MA001402	Includes:	
	1	NA003477	BRACKET, solenoid mounting	
	2	NA003478	BRACKET, stop control support	
	3	NA001309	CLAMP, throttle cable	
	4	2173706	SCREW, clamp to solenoid bracket	
	5	0920296	WASHER, tooth lock	
	6	0576053	NUT, cable clamp screw	
	7	0746253	SCREW, bracket to plug	
	8	0920299	WASHER, spring	
	9	NA003484	SCREW, stop brkt. to solenoid brkt	
	10	0920052	WASHER, spring	
	11	0576001	NUT, bracket retaining	
	12	NA001471	PIN, pivot	
	13	NA001473	WASHER, plain	
	14	NA001458	PIN, cotter	
	•		, ,	
	15	NA001699	BRACKET, engine rear mounting	
	16	0748611	SETSCREW, mtg. bracket to gearbox	
	17	0920055	WASHER, spring	
	18	NA003407	BRACKET, engine front mounting	
	19	0096634	SETSCREW, mtg. brkt. to block	
	19	0096631	SETSCREW, mtg. brkt. to block	
	20	0920055	WASHER, spring	
(A)	21	NA000594	TRUNNION, engine rear mounting	
	22	NA000468	SCREW, trunnion to support bracket	
(A)	21	NA 000594	TRUNNION, engine front mounting	
	22	NA000468	SCREW, trunnion to support bracket	
	23	NA004146	MOUNTS, flexible	
	.	NA004473	LABEL, caution hot water (locate adja-	
			cent to w/filler cap)	
	-	NA001706	PLAQUE, rotation identification	
	-	31815577	LABEL, engine name	
	-	35833535	PIPE, flexible - fuel tank to lift pump (supplied loose)	
			(aubbited tooge)	
	24	33473107	SHAFT, tachometer drive	
	25	0170052	SNAP RING, shaft retaining	
	26		BEARING, tachometer drive	
		0770101	SLEEVE, tachometer drive	
		32417114		
	29		WASHER, capnut	
	23	52011104		

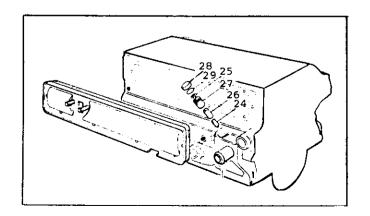
Note:

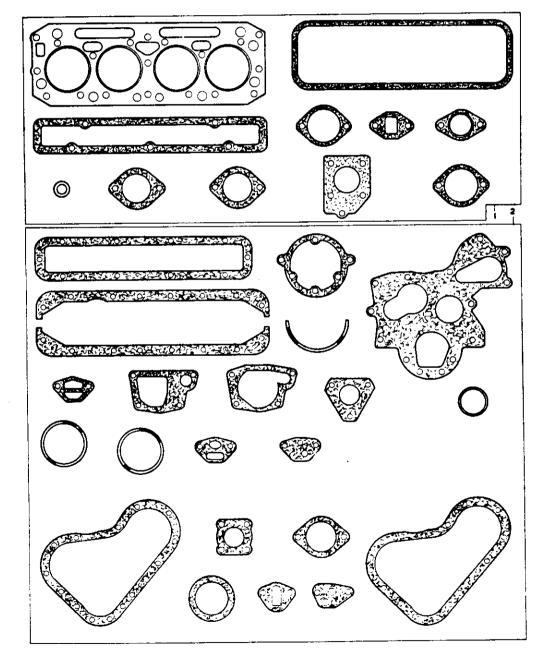
(A) Order Qty. (4) each of Part Numbers NA003786 Mounting Pad and NA003787 Bushing.











- GASKET SETS -

- GASKET SETS -

<u>NOTE</u>	REF. NO.	PART NO.	DESCRIPTION	QTY.
	1	88994	GASKET SET, TOP OVERHAUL (ASSEMBLY)	х
	2	86999	GASKET SET, BOTTOM OVERHAUL (ASSEMBLY) .	x

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