

NAPB-53 2nd ISSUE AUGUST, 1978

WITH NORTH AMERICAN ACCESSORIES

4.154 MARINE

MARINE ENGINES:

PARTS BULLETIN ____ #253

INSTRUMENT PANELS AND ASSOCIATED PARTS

MARINE ENGINES

PLEASE ADD THE FOLLOWING INFORMATION TO YOUR PARTS BOOKS COVERING

NA004843 INSTRUMENT PANEL "A" DUAL STATION - LOWER PANEL Includes: NA900125 Tachometer C/W H/Meter NA900124 Temperature Gauge NA900123 Oil Pressure Gauge NA900122 Volt Meter Ignition Switch NA900121 NA900120 Push Button Switch INSTRUMENT PANEL "B" SINGLE & DUAL STATION - UPPER PANEL NA004844 Includes: NA900125 Tachometer C/W H/Meter NA900124 Temperature Gauge NA900123 Oil Pressure Gauge NA900122 Volt Meter NA900121 Ignition Switch NA900120 Push Button Switch THE FOLLOWING PARTS MUST BE USED WITH THE NEW INSTRUMENT PANELS: 4.108(M)NA004854 HARNESS, engine wiring (Assembly) NA003442 BRACKET, harness plug adaptor retaining NA003443 CLIP, harness plug 21.82003 SCREW, harness clip to plate retaining NA003765 NUT, harness clip to plate NA000475 0748411 0920053 WASHER, spring NA003607 CLIP, w/harness to oil cooler mtg. bracket NA004113 SETSCREW, wiring harness clip retaining 0920022 WASHER, plain NA003469 CABLE TIES NA003615 CLIP, w/harness to throttle cable clip screw NA000208 TRANSMITTER, oil pressure NA000474 NUT, oil pressure transmitter NA000209 TRANSMITTER, water temperature NA000474 NUT, water transmitter

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4.154(M)	
NA004855	HARNESS, engine wiring (Assembly) 1
NA003442	BRACKET, wiring harness
NA003442	CLAMP, wiring harness to bracket 1
NA000475	NUT, alternator (batt. term.)
NA000208	TRANSMITTER, oil pressure
NA000200	NUT, oil pressure transmitter
NA000209	TRANSMITTER, water temperature
NA000474	NUT, water temp. transmitter
4.236 (M)	
NA004855	HARNESS, engine wiring (Assembly)
NA003442	BRACKET, wiring harness
NA003443	CLAMP, wiring harness to bracket
2182003	SCREW, clamp to harness
NA003765	2102, Table 2 and an annual control of the control
NA000475	NUT, alternator (batt. term.)
0748411	SETSCREW, alt. ground terminal
0920053	WASHER, spring
NA000208	TRANSMITTER, oil pressure
NA000474	NUT, oil pressure transmitter
NA000209	TRANSMITTER, water temperature
NA000474	NUT, water temp. transmitter
NA003469	CABLE TIES (3-9/16" long)
6.354 (M), T	6.354 (M), T6.354 M.G.T.
NA004845	HARNESS, engine wiring (Assembly)
NA003704	BRACKET, wiring harness support clip
NA003615	CLIP, wiring harness retaining
2182003	SCREW, wiring harness clip retaining to bracket
NA003765	NUT, harness clip retaining
NA003616	TY-RAP $(7-1/4" long)$
NA000475	NUT, alternator (batt. term.)
0748411	SCREW, alt. ground terminal
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
NA003765	NUT, harness clip retaining screw
NA000208	TRANSMITTER, oil pressure
NA000474 NA000209	NUT, oil pressure transmitter
NA000209 NA000474	TRANSMITTER, temperature
NAUUU4/4	NUT, temperature transmitter
HT6.354 (M)	
NA004855	HARNESS, engine wiring (Assembly)
NA000475	NUT, alternator (batt. term.)
0748411	SETSCREW, alt. ground terminal
0920053	WASHER, spring
NA003442	BRACKET, wiring harness adaptor plug retaining

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HT6.354(M) - Continued

NA003443 2182003 NA003765 NA000208 NA000474 NA000209 NA000474	CLIP, harness plug adaptor to mtg. bracket SETSCREW, adaptor clip retaining to mtg. bracket NUT, harness clip retaining screw TRANSMITTER, oil pressure NUT, oil pressure transmitter TRANSMITTER, temperature NUT, temperature transmitter
	NG WIRING HARNESS EXTENSIONS MAY BE USED WITH INSTRUMENT 4843 and NA004844:
NA004847	HARNESS EXTENSION, 10 ft. long
NA004848	HARNESS EXTENSION, 20 ft. long
NA004849	HARNESS EXTENSION, 30 ft. long

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

CFH/se

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

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CYLINDER BLOCK Liners, plugs, cylinder head gasket, rear end oil seal housing	1
CYLINDER HEAD 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
CRANKSHAFT Main and connecting rod bearing sets, crankshaft gear and pulley, p.t.o. pulley, connecting rod, pistons, ring pack	3
CYLINDER HEAD COVER 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
TIMING GEAR 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
SEA WATER PUMP Mounting bracket, pulley, belt	10
FRESH WATER PUMP Seals, rear body, pulley, hub, repair kit, water inlet connection, hose	11
HEAT EXCHANGER & HEADER TANK Manifold Assembly, water outlet elbow, flange, hoses, pipes, brackets, oil cooler, adaptor, connections, flex pipe	12-13
FUEL OIL LIFT PUMP 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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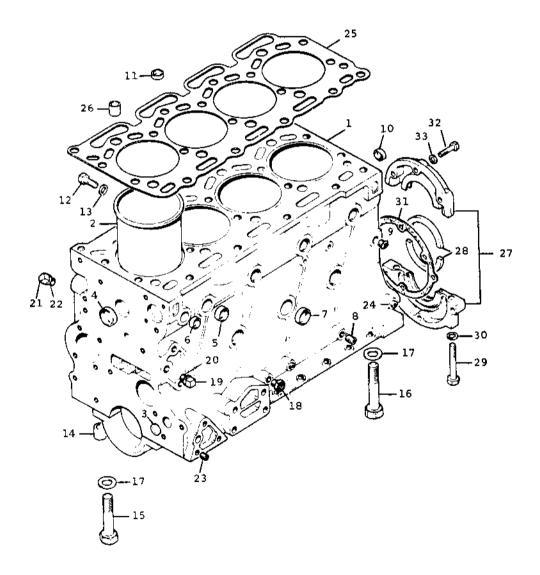
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	24860163	12	32186128	7	34821415	5

- NUMERICAL INDEX -

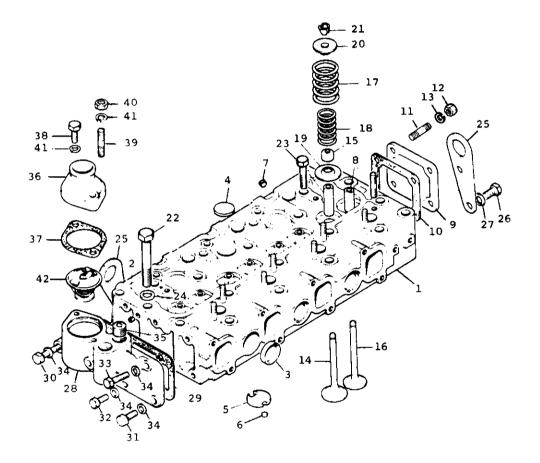
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3535534916	NA00342613
35587366	041 NA 00342810
3583353520 411514	466 4 NA 003432
3583359415 411529	
3584505215 412222	
412428	
36177424 413124	
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36812328 414229	
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3686714911 NA001	
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NA001	47320 NA00447320
3713484417 NA 001	
37161432 NA001	69920
3742647212 NA001	
37443751 NA 001	
37461105 6 NA001	9058 NA9000888
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375213614 NA003	
375213714 NA003	
375213814 NA003	
375375117 NA003	
375511152 NA003- 3758117215 NA003-	
3758117215 NA003 375862419 NA003	
3771241211 NAOO3	
377277188 NA003	
3773132112,13 NA003	
377641819 NA003	
	4228



- CYLINDER BLOCK -

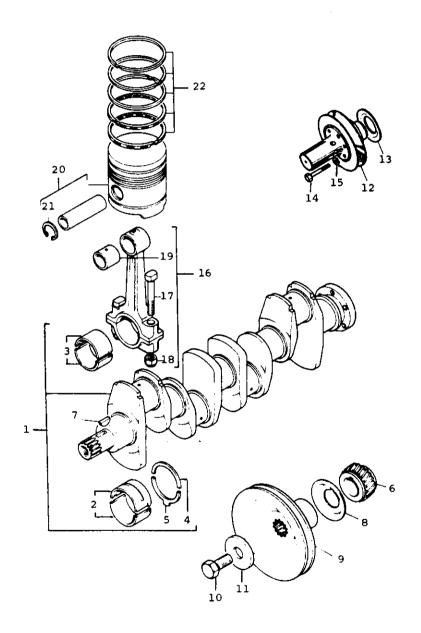
NOTE	REF.	PART NO.	DESCRIPTION
	1	68452	CYLINDER BLOCK (ASSEMBLY)
	2	31358119	LINER, cylinder block
	3	32417139	PLUG, block - water jacket
	4	32416108	PLUG, block - tappet chamber
	5	32417142	PLUG, block - tappet chamber PLUG, block - water rail - LHS
	6	32417142	PLUG, block - water rail - LHS front.
	7	32418119	
	8	32116004	PLUG, block - water jacket
	9	32417148	PLUG, block - lube oil pressure rail.
	9	3241/140	PLUG, block - pressure rail - front
	10	2405740	and rear
	10	2485740	PLUG, block - camshaft chamber -
	11	22417121	rear face
	11	32417131	PLUG, block - lube oil pump chamber .
	12	2182110	SCREW, block - lube oil pump housing
	3.0	0000155	top hole
	13	0920155	WASHER, sealing
	14	33138104	THIMBLE, main bearing cap
	15 16	32166212	SETSCREW, front & middle bearing cap.
	16	32166211	SETSCREW, rear bearing cap
	17	33117119	WASHER, main bearing cap setscrew
	18	0650593	PLUG, water drain - LHS
	19	0650205	PLUG, block - fuel pump drive oil feed .
	20	0920155	WASHER, cyl. block plug
	21	0746252	PLUG, block - lube oil filler facing
	22	2411152	WASHER, cyl. block plug
	23	32114481	PLUG, block - bearer facings
	24	32161114	PLUG, block - water drain tapping
	25	36812328	GASKET, cyl. head to cyl. block
	26	33138104	THIMBLE, cyl. head gasket locating
	20	30130104	intimum, cyr. head gasket rocating
	27	41422031	HOUSING, REAR END OIL SEAL (ASSEMBLY)
			Includes:
	28	36883107	SEAL, oil
	29	0096238	SETSCREW, oil seal housing
	30	0920053	WASHER, spring
	31	36826118	GASKET, oil seal housing to cyl. block .
	32	0096231	SETSCREW, housing to block & brg. cap
	33	0920053	WASHER, spring

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



- CYLINDER HEAD -

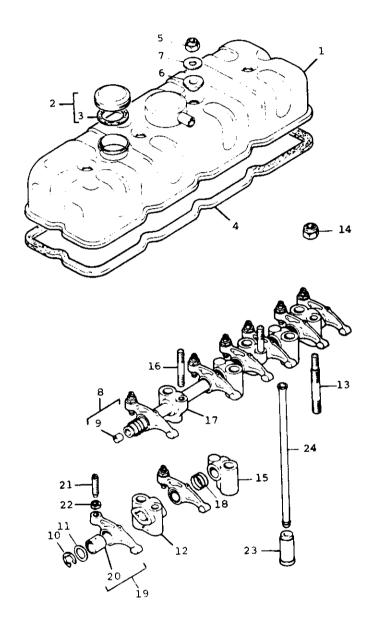
<u>NOTE</u>	REF.	PART NO.	DESCRIPTION	QTY.
	1	89180	CYLINDER HEAD (ASSEMBLY)	1
	2	32116005	PLUG, cylinder head	1
	3	32418118	PLUG, cylinder head	7
	4	32412111		
	5	37443751		3
	6		INSERT, combustion chamber	4
		2485731	WASHER, insert locating	4
	7	32722511	INSERT, water jet	4
	8	33261742	GUIDE, inlet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



- CRANKSHAFT -

NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	1	85827	CRANKSHAFT KIT (ASSEMBLY)	1
	2 3 4 5	86820 86825	Includes: 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	33474004 31147301 32162316	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 15	31146741 NA003416 0096436	PULLEY, power take-off SPACER, p.t.o. pulley SETSCREW, p.t.o. pulley to crankshaft pulley WASHER, spring	1 1 3 3
	16	41152908	CONNECTING ROD (ASSEMBLY)	4
	17 18 19	32762119 33221323 31134138	BOLT, conn. rod	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:	x
	21	0170001	SNAP RING, wrist pin retaining	2
(A)	22	86769C	RING PACK, (+.030")	x
Note:				

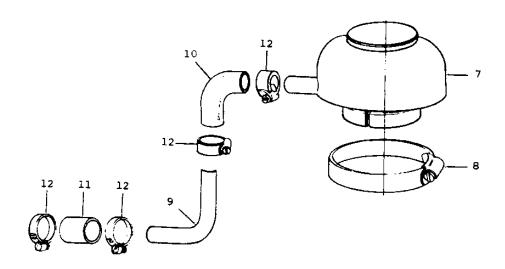
⁽A) Contains rings for one piston.

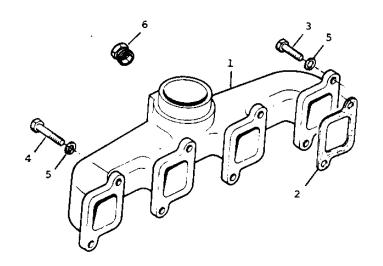


- CYLINDER HEAD COVER -

NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	1	37814129	COVER, cylinder head (Assembly)	1
	2	2487805	CAP, lube oil filler	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	37521371 32754421 2211224 37521381 32514309 37521361	BRACKET, rocker shaft STUD, long - bracket to cyl. head NUT, No. 1 & No. 7 bracket retaining BRACKET, rocker shaft STUD, bracket to cyl. head cover BRACKET, rocker shaft	2 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	TAPPET	8

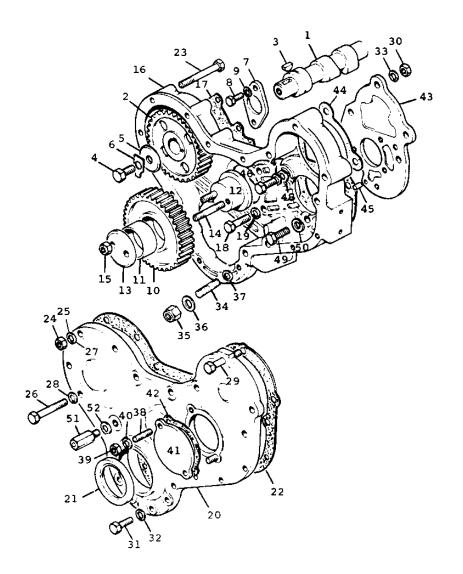
- AIR INDUCTION SYSTEM -





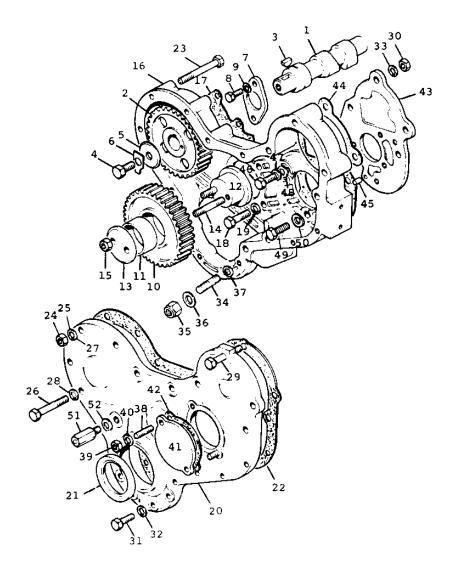
- AIR INDUCTION SYSTEM -

NOTE	REF.	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	7
	4	0096231	SETSCREW, manifold to cyl. head	1
	5	0920053	WASHER, spring	4 7 1 8
	6	33536459	ADAPTOR, quick start	1
	-	0650594	PLUG, adaptor	1
	7	0240568	COVER, air filter	1
	8	0180070	CLAMP, air filter cover	1 1
	9	NA003446	PIPE, breather - air filter to cyl. head rocker cover	1
	10	34821415	HOSE, breather pipe	1
	11	0200007	CONNECTION, hose	1 1 1 4
	12	0180063	CLAMP, hose	4



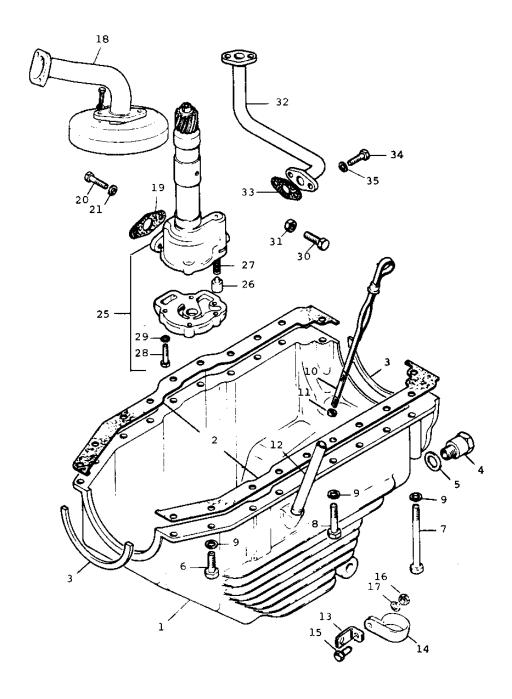
- TIMING GEAR -

NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	1	31415312	CAMSHAFT	1
	2	31171191	GEAR, camshaft	i
	3	0500009		1
	4	0746807	KEY, camshaft gear	
			SETSCREW, camshaft gear to camshaft	1
	5	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)	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	3687т001	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 2 2
	25	0920053	WASHER, spring	2
	26	0746213	SETSCREW, front cover to timing gear	
	27	0000050	housing and cyl. block	
	27	0920053	WASHER, spring	7 5 2 2
	28	2411152	WASHER, hsg. & cover to block screw	2
	29	0096240	BOLT, front cover to housing	2
	29	0096241	BOLT, front cover to housing	
	30	0576002	NUT, front cover to housing	3 6 9 3 1
	31	0746211	SETSCREW, front cover to housing	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	1
	38	0826203	STUD, front cover to f/pump gear cover .	
	39	0576002	NUT, f/pump gear cover retaining	2
	40	0920053	WASHER, spring	2 2 2
	41	37461105	COVER, fuel pump drive gear	ī
	42	36835108	GASKET, f/cover to f/pump gear cover	ī



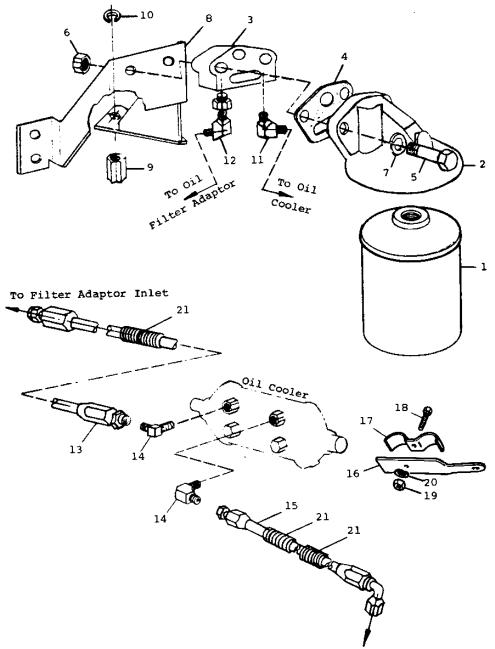
- TIMING GEAR -

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



- LUBRICATING OIL SYSTEM -

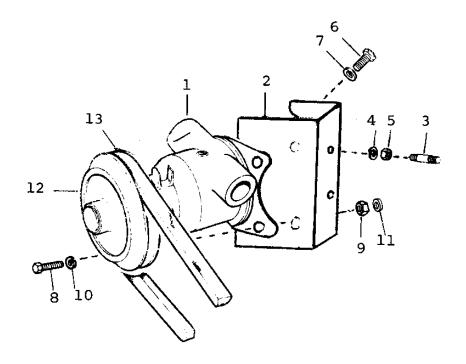
	REF.			
NOTE	NO.	PART NO.	DESCRIPTION	OTY.
	1	41424135	LUBE OIL PAN (ASSEMBLY)	1
		2137435	INSERT, helicoil	2
	2	41424208	GASKET, oil pan to cyl. block	2 1
	3	0490775	GASKET, oil pan - front and rear	2
	4	2487004	PLUG, oil pan drain	2 2 1
	5	2411160	WASHER, drain plug	2
	4	0650722	PLUG, oil pan drain	1
	5	2411162	WASHER, oil pan plug	1
	4	32161317	PLUG, oil pan - alt. dipstick hole	1 1 2 2
	5	0921167	WASHER, oil pan plug	1
	6	0746255	SETSCREW, oil pan to timing gear hsg	2
	7	2184435	SETSCREW, long - oil pan to block	2
	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)	1
	11	33812108	Includes: 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		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	
	20	0746015	SETSCREW, suction pipe bracket to lube oil pump body	1
	21	0920002	WASHER, plain	i
	25	NA900087	LUBE OIL PUMP (ASSEMBLY)	1
	26	32712715	PLUNGER, relief valve	1
	27	31742128	SPRING, relief valve	î
	28	0096032	SETSCREW, cover to body	5
	29	0920052	WASHER, spring	5
	30	32114134	SCREW, pump body locating	1
	31	0576153	NUT, screw locking	1
	32	NA 900088	PIPE, lube oil delivery (Assembly)	1
	33	36831121	GASKET, delivery pipe	1
	34	0746053	SETSCREW, delivery pipe	4
	35	0920052	WASHER, spring	4



To Lube Oil Adaptor Outlet

- LUBRICATING OIL SYSTEM -

NOTE	NO.	PART NO.	DESCRIPTION	Q¹
	1	2654407	FILTER, lube oil	
	2	37764181	HEAD, lube oil filter	
	3	37586241	ADAPTOR, lube oil filter	
	4	36862517	GASKET, filter adaptor	
	5	0096638	BOLT, filter & adaptor to support brkt	
	6	0576054	NUT, filter & adaptor retaining	
	7	0920055	WASHER, spring	
	8	NA 003412	BRACKET, support - lube oil filter	
	9	0576064	NUT, support bracket retaining - to	
	10	0000053	cyl. head rear cover studs	
	10	0920053	WASHER, spring	
	11	NA001253	CONNECTION, 450 lube oil filter	
			adaptor - in	
	12	NA000631	CONNECTION, 45° lube oil filter	
			adaptor - out	
	13	NA003433	PIPE, flex - filter adaptor to oil	
			cooler	
	14	NA 003474	CONNECTION, elbow - cooler in and out	
	15	NA003434	PIPE, flex - oil cooler to cyl. block	
			lube oil adaptor	
	16	NA003437	BRACKET, support - flex pipes to starter	
			motor retaining studs	
	17	NA003476	CLAMP, flex pipes retaining	
	18	2224933	SCREW, pipe clamp retaining	
	19	2238151	NUT, clamp retaining screw	
	20	0920052	WASHER, spring	
	21	NA001489	GUARD, flex hose	
	_	0650594	PLUG, fitted in lube oil adaptor	

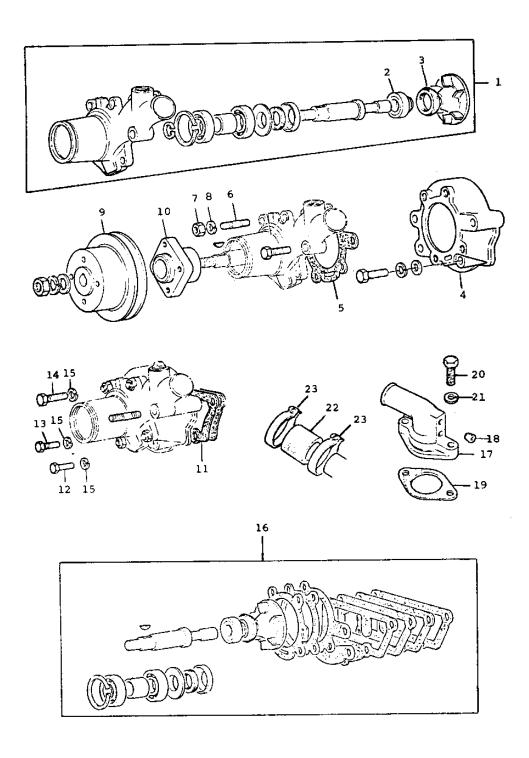


- SEA WATER PUMP -

NOTE	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
	5	0920053	WASHER, spring	2 2
	5	0920033	WASHER, SPITING	
	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
	10	0920054	WASHER, spring	2
	11	0920004	WASHER, plain	2
	12	NA003419	PULLEY, sea water pump	1
	12	0070101	PEIM son water numb driving	1

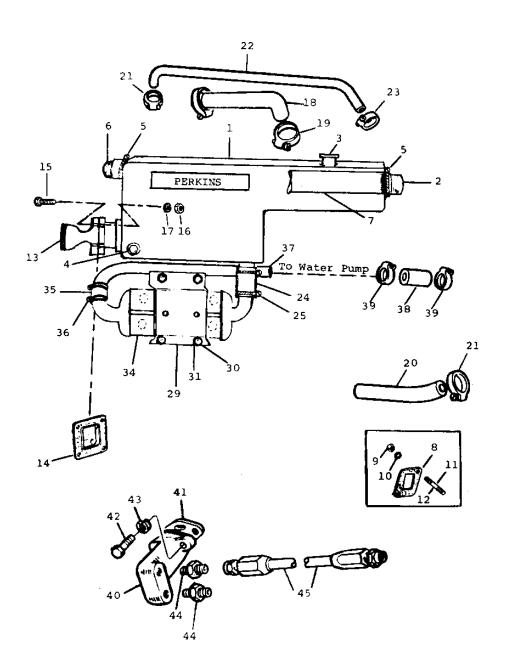
Note:

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



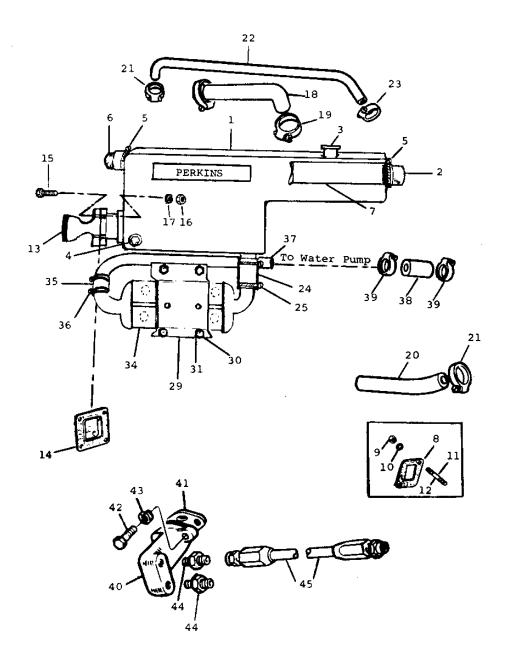
- FRESH WATER PUMP -

NOTE	REF.	PART NO.	DESCRIPTION	∩mv
MOLE	MO.	PART NO.		QTY.
	1 <i>U</i>	41312418 5 NW 0053	FRESH WATER PUMP (ASSEMBLY)	F1121
•	2	2415217	SEAL	1
	3		SEAL	ĩ
		37712412	BODY, rear - water pump	1
		36822522	GASKET, front to rear body	1
		0826249	STUD, front to rear body	1 6 6 6
	7	0576151	NUT, body securing	6
	_	0920053	WASHER, spring	6
	9	3113M002		
	10	33413121	HUB, pulley	
	11	36867149	GASKET, water pump to cylinder block	1
	12	0096241	SETSCREW, pump to block	1 3 1 1 5
	13	0096238	SETSCREW, pump to block	1
	14	0746255	SETSCREW, pump to block	1
	15	0920053	WASHER, spring	5
	16	86956	REPAIR KIT, WATER PUMP (ASSEMBLY)	х
	17	NA003454	CONNECTION, water inlet	1
	18	2431154	PLUG, water inlet connection	1
	19	36834132	GASKET, water inlet connection	· 1
	20	0746255	SETSCREW, water inlet connection	1 1 2 2
	21	0920053	WASHER, spring	2
	22	0200080	HOSE, outlet body to pump	1 2
	23	0180107	CLIP, hose	2



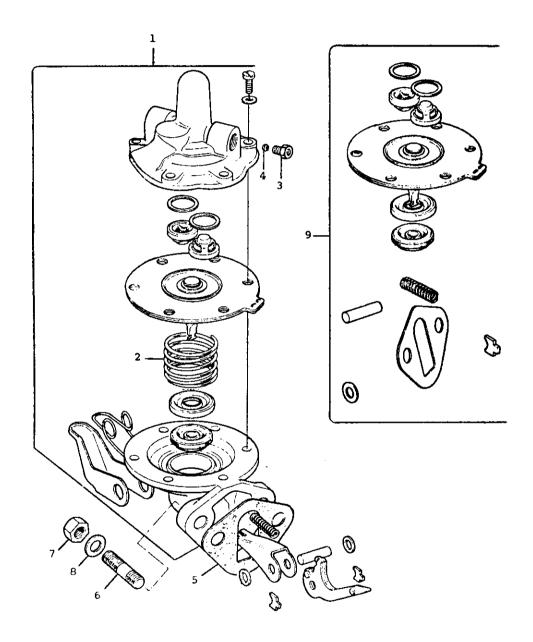
- HEAT EXCHANGER & HEADER TANK -

NOTE	REF.	PART NO.	DESCRIPTION
	1	41326025	MANIFOLD, HEAT EXCHANGER & HEADER TANK . Includes:
	2	24860162	END COVER, water inlet
	3	24860155	CAP, filler
	4	24860161	PLUG, drain
	5	2481889	CLIP, end cover hose
	5	2481890	CLIP, hose
	6	24860160	END COVER, water outlet
	7		STACK, tube
	,	24860163	STACK, tube
	_	37731321	ELBOW, heat exch. water outlet
	8	36866442	GASKET, cyl. head to exhaust manifold -
	_	0556064	heat exchanger
	9	0576064	NUT, exhaust manifold retaining
	10	0920003	WASHER, plain
	11	0826232	STUD, cyl. head to manifold - heat exch.
	12	0826243	STUD, cyl. head to manifold - heat exch.
	13	37766712	ELBOW, exhaust manifold water outlet
	13	37426472	FLANGE, exhaust manifold outlet
	14	36841135	GASKET, outlet flange
	15	0748525	BOLT, flange to manifold
	16	2238153	NUT, flange retaining
	17	0920054	WASHER, spring
	18	NA003460	HOSE, header tank to cyl. head water outlet connection
	19	0180069	CLIP, hose
	20	NA 003451	HOSE, flex - sea water pump to heat exchanger
	21	0180066	CLAMP, hose
	22	NA003452	PIPE, sea water pump to heat exhanger .
	23	0180065	
	24	NA003480	HOSE, heat exchanger manifold to oil cooler
	25	0180069	CLAMP, hose
	_	NA003413	BRACKET, oil cooler support
	-	0746851	SETSCREW, support bracket to block
	-	0920056	WASHER, spring
	29	NA000227	CLAMP, oil cooler retaining and sump pump support
	30	0748413	SETSCREW, clamp to support bracket
	31	0571415	NUT, cooler clamp retaining
	_	0920053	WASHER, spring
	_	0920003	WASHER, plain
		032000	comments. Improved a consideration of the contract of the cont



- HEAT EXCHANGER & HEADER TANK -

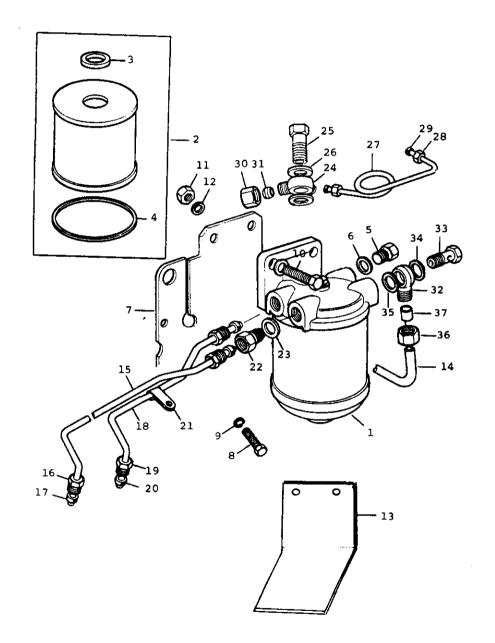
NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	34	NA003426	COOLER, oil - engine & gearbox	D1239
	35	33855118	HOSE, cooler outlet to water pump return pipe	1
	36	0180069	CLAMP, hose	2
	37	NA003453	PIPE, oil cooler to water pump	1
	38 39	33855118 0180069	HOSE, pipe to water pump connection CLAMP, hose	1 2
	40 41 42 43	NA003414 36862525 0096631 0920055	ADAPTOR, cyl. block lube oil pipes GASKET, adaptor to cylinder block SETSCREW, adaptor to block WASHER, spring	1 1 2 2
	44	NA 000571	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	ī
	_	NA001860	HOSE, header tank leak-off	1



- FUEL OIL LIFT PUMP -

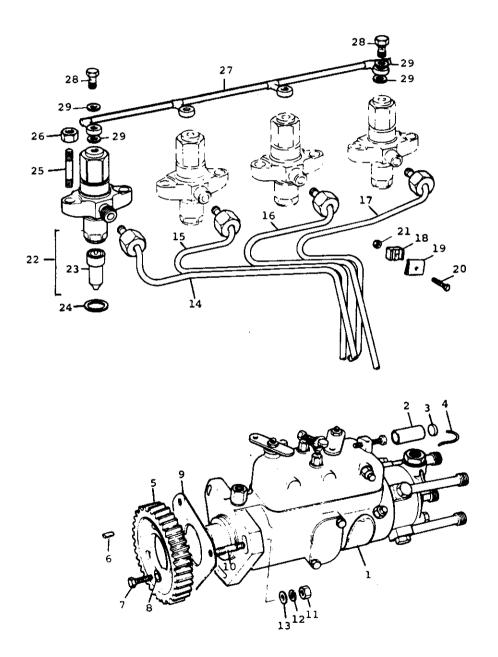
NOTE	REF.	PART NO.	DESCRIPTION	QTY.
(A)	1	2641327	FUEL OIL LIFT PUMP (ASSEMBLY)	1
	2	0780224	SPRING, diaphragm	1
	3 4	33533112 0566003	NUT, lift pump inlet	1 1
	5 6 7 8	36862165 0826248 0576002 0920053	GASKET, lift pump to cylinder block STUD, lift pump to cylinder block NUT, lift pump retaining WASHER,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

Note: (A) Rotate 180°



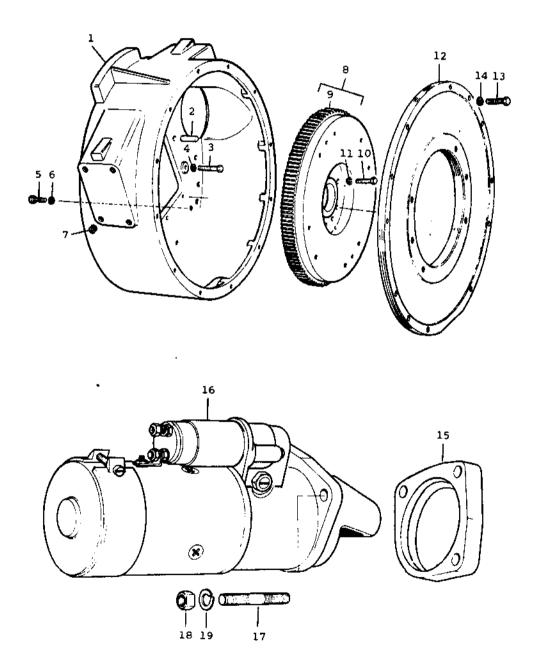
- FUEL OIL FILTER -

NOTE	REF.	PART NO.	DESCRIPTION
	1	2656613	FUEL OIL FILTER (ASSEMBLY)
	2	26560017	ELEMENT KIT, fuel oil filter Includes:
	3	26560014	SEAL, element seating
	4	0490786	SEAL, element sealing
	5	0650204	PLUG, filter - No. 4 Port
	6	0920154	WASHER, filter plug
	7	37581172	BRACKET, support - fuel filter
	8	0746452	SETSCREW, bracket to cyl. head
	9	0920054	WASHER, spring
	10	0096431	BOLT, filter to bracket
	11	0576051	NUT, filter retaining
	12	0920054	WASHER, spring
	13	NA003423	DRIP TRAY, fuel oil filter
	14	NA 003448	PIPE, lift pump to fuel filter
	15	35845052	PIPE, fuel oil filter to fuel pump Includes:
	16	33532128	NUT, fuel oil pipe
	17	33811113	FERRULE, fuel oil pipe
	18	41222235	PIPE, fuel inj. pump return to filter Includes:
	19	33532128	NUT, fuel oil pipe
	20	33811113	FERRULE, fuel oil pipe
	21	0180173	CLIP, fuel oil pipe
	22	2658201	VALVE, non-return - fuel oil filter
	23	2411141	WASHER, non-return valve
	24	0201397	CONNECTION, banjo - filter overflow
	25	0095344	BOLT, banjo connection
	26	0920146	WASHER, banjo bolt
	27	NA003440	PIPE, injector leak-off to filter
	28	33225412	NUT, leak-off pipe
	29	33811112	FERRULE, leak-off pipe
	30	0576112	NUT, leak-off connection
	31	0566003	FERRULE, leak-off pipe
	32	0201091	CONNECTION, banjo - filter to pipe
	33	0095332	BOLT, banjo
	34	0920127	WASHER, banjo bolt
	35		WASHER, banjo bolt
		33225413	
	37		FERRULE, fuel pipe
	-	35833594	PIPE, flexible - filter to tank
	-	2656084	PRE-FILTER, fuel oil (supplied loose)
	-	33533112	· · · · · · · · · · · · · · · · · · ·
	-	0566003	FERRULE, pre-filter (supplied loose)



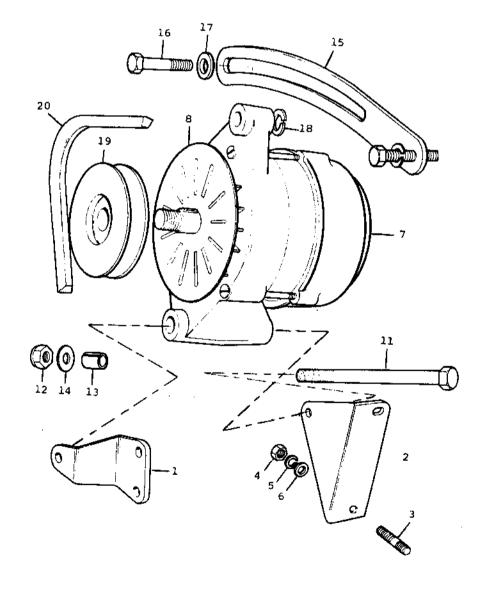
- FUEL INJECTION SYSTEM -

NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	1	38360	PUMP, fuel injection - c/w control levers	1
	2	2644951	SLEEVE, throttle lever adj. screw	ī
	3	31718104	SEAL, adj. screw sleeve	່ຳ
	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	1 1 1 3 3 1 3 3
	9	0490685	GASKET, inj. pump to adaptor	ĭ
	10		STUD, pump adaptor to inj. pump	3
	11	0576002	NUT, pump retaining	3
	12	0920053	WASHER, spring	3
	13	0920003	WASHER, plain	3
	14		PIPE, fuel injection - No. 1 Cylinder	1
		35355347	PIPE, fuel injection - No. 2 Cylinder	1
		35355348	PIPE, fuel injection - No. 3 Cylinder	1
	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	2211291	NUT, damper bolt	2
	22	2645580	INJECTOR & HOLDER (ASSEMBLY) Includes:	4
	23	33435	NOZZLE, fuel oil	1
		0920113	WASHER, injector seating	4
	25	32514311	STUD, cyl. head to injector	8
	26	0576002	NUT, injector retaining	8
	27	35587366	PIPE, injector leak-off (Assembly)	1
	28	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



- FLYWHEEL & HOUSING -

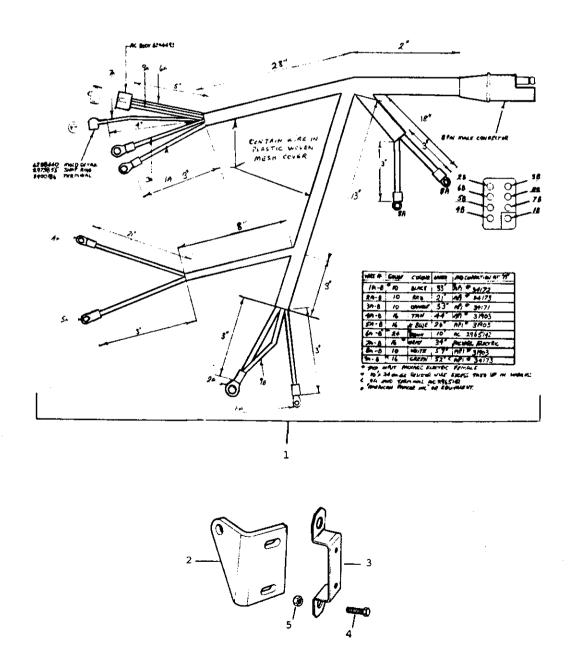
NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	1 2 3 3 4	37134844 0350016 0096433 0746424 33115129	HOUSING, flywheel DOWEL, cyl. block to flywheel housing SETSCREW, housing to cyl. block SETSCREW, housing to cyl. block WASHER, housing to block setscrew	1 2 2 6 8
	5 6	0746454 0920053	SETSCREW, oil pan to flywheel 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	1 12 12
	<u>-</u>	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	1
	<u>-</u>	NA003671 0920051	NUT, switch & resistor terminal WASHER, spring	2 2



- ELECTRICAL EQUIPMENT -

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

- ENGINE WIRING HARNESS -



- ENGINE WIRING HARNESS -

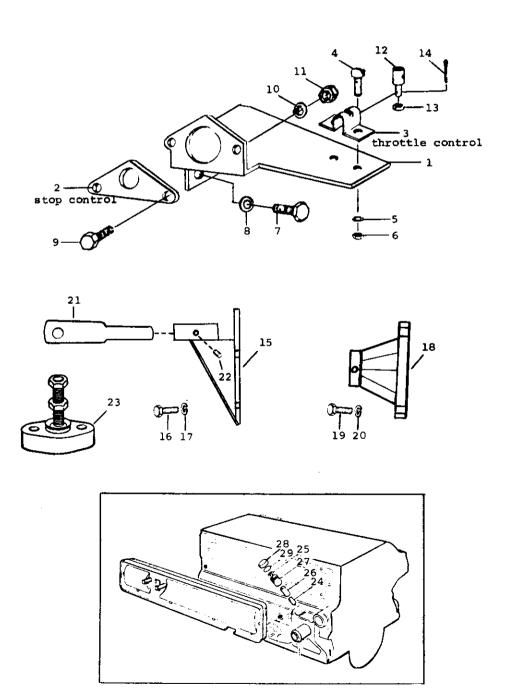
NOTE	REF.	PART NO.	DESCRIPTION	QTY.
	1	NA003441	ENGINE WIRING HARNESS (ASSEMBLY)	1
	2	NA003442	BRACKET, wiring harness - to rear lift- ing eye setscrew	1
	3	NA003443	CLAMP, wiring harness to bracket	1
	4 5	2182003 2211401	SCREW, clamp to harness support bracket. NUT, clamp to bracket retaining	2 2

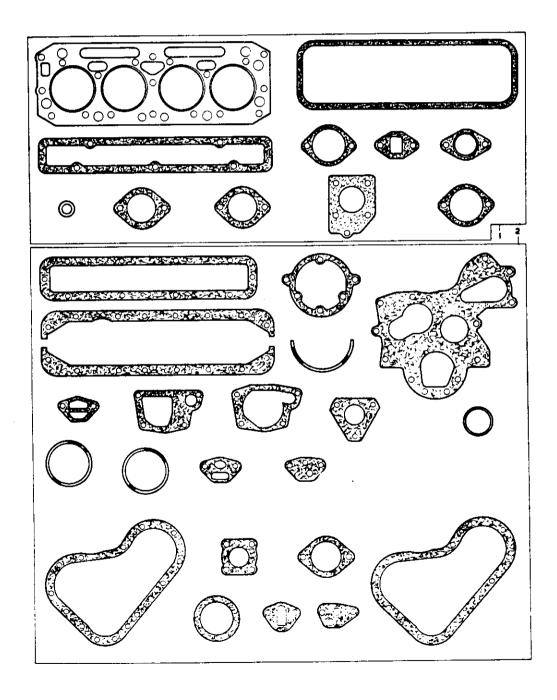
- ACCESSORIES -

NOTE	REF.	PART NO.	DESCRIPTION Q
			<u> </u>
		NA003482	THROTTLE & STOP CONTROL KIT (ASSEMBLY) . 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	NA 000594	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
	7	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)
	24	33473107	SHAFT, tachometer drive
	25	0170052	SNAP RING, shaft retaining
	26		BEARING, tachometer drive
		0770101	SLEEVE, tachometer drive
		32417114	CAPNUT, tachometer drive sleeve
	29		WASHER, capnut
			and the second of the second o

Note:

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





- GASKET SETS -

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