



SPARE PARTS CATALOGUE

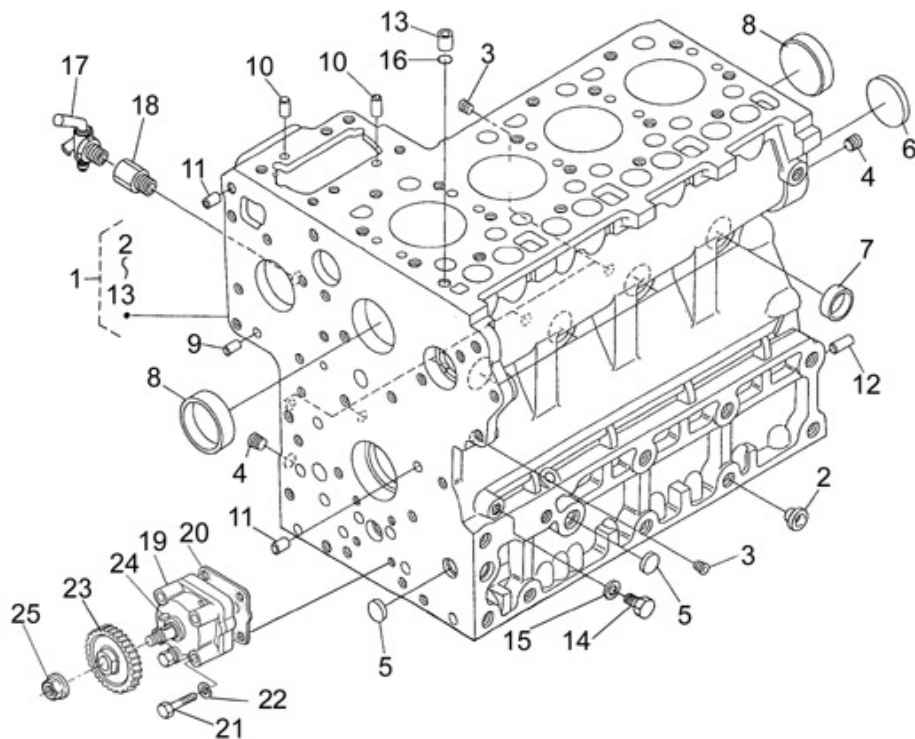
(version du 02-07-2019)

4.220HE STANDARD ENGINE



Model : 4.220HE STANDARD ENGINE

Subassembly : ENGINE BLOCK

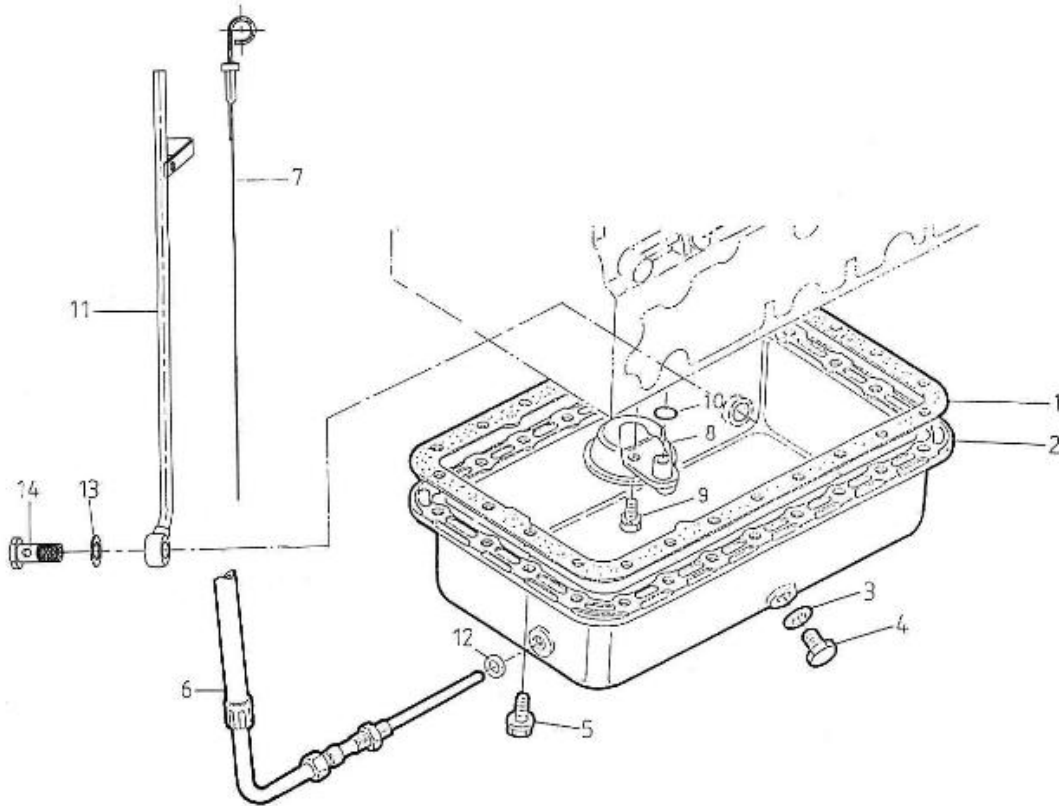


Part number	Item	Description	Quantity
970307294	1	COMP.CRANKCASE	1
970313168	1	COMP.CRANKCASE	1
970301901	2	PLUG	2
970490108	3	PLUG,SOCK	6
970490109	4	PLUG,SOCK	2
970301903	5	PLUG	3
970301904	6	PLUG,EXPANSION	1
970301905	7	CAP,SEALING	6
970301906	8	CAP,FREEZE	2
970301907	9	PIN,CYLINDRICAL	2
970490122	10	PIN,CYLINDRICAL	2
970301908	11	PIN,CYLINDRICAL	2
970301909	12	PIN,CYLINDRICAL	1
970490112	13	PIN,PIPE	1
970301912	14	PLUG	1
970491131	15	WASHER,SEAL	1
970490116	16	O-RING	1
970301918	17	TAP,DRAIN	1
970301911	18	NIPPLE,REDUCTION	1
970301913	19	PUMP,OIL CPL.4.190	1
970301914	20	GASKET,OIL PUMP	1
970300276	21	BOLT,HEX M 6X 50	4
970119149	22	WASHER, SPRING D 6	4
970301915	23	GEAR,OIL PUMP DRIVE	1
970493118	24	KEY,FEATHER H-HE	1
970301916	25	NUT	1
970851700	26	SWITCH,OIL	1



Model : 4.220HE STANDARD ENGINE

Subassembly : OIL SUMP - OIL PUMP

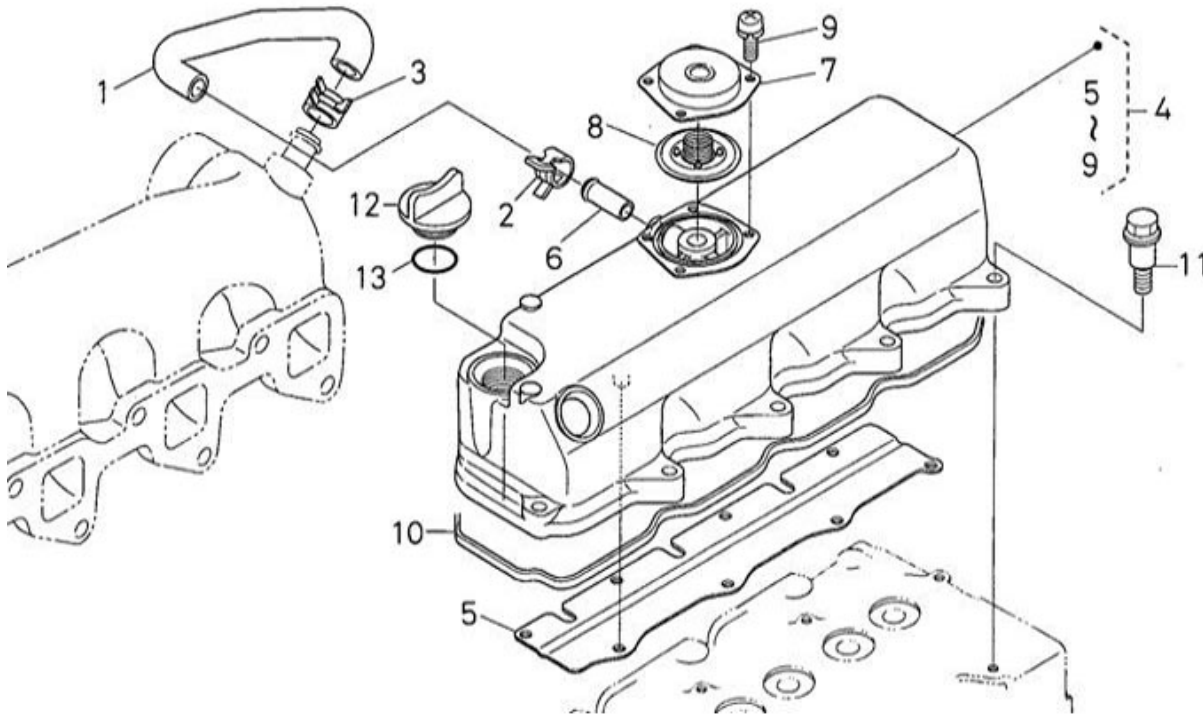


Part number	Item	Description	Quantity
970301948	1	GASKET,OIL PAN 4.190	1
970307425	1	COMP.OIL PAN	1
970301947	2	PAN,OIL 4.190	1
970301948	2	GASKET,OIL PAN 4.190	1
970307731	2	COMP.OIL PAN	1
970301949	3	BOLT	24
970432132	3	GASKET,RING	1
970307907	4	PLUG,DRAIN	2
970490127	4	PLUG, OIL DRAIN	1
970301949	5	BOLT	24
970307489	5	GASKET	2
970304102	6	DRAIN OIL PIPE	1
970302637	7	DIPSTICK	1
970302715	7	DIPSTICK,OIL LEVEL 4.150	1
970301950	8	FILTER,OIL PAN 4.190	1
970307426	8	FILTER,OIL 1	1
970490919	9	BOLT,M 8X 16	1
970301951	10	O-RING	1
970302595	11	GUIDE,TUBE OIL DIPSTICK 6.280H	1
970307295	11	GAUGE,OIL	1
970300199	12	GASKET,RING D16	1
970314755	12	PLUG	1
970300364	13	GASKET,RING D18	1
970307728	14	BOLT,BANJO	1



Model : 4.220HE STANDARD ENGINE

Subassembly : CYLINDER HEAD COVER

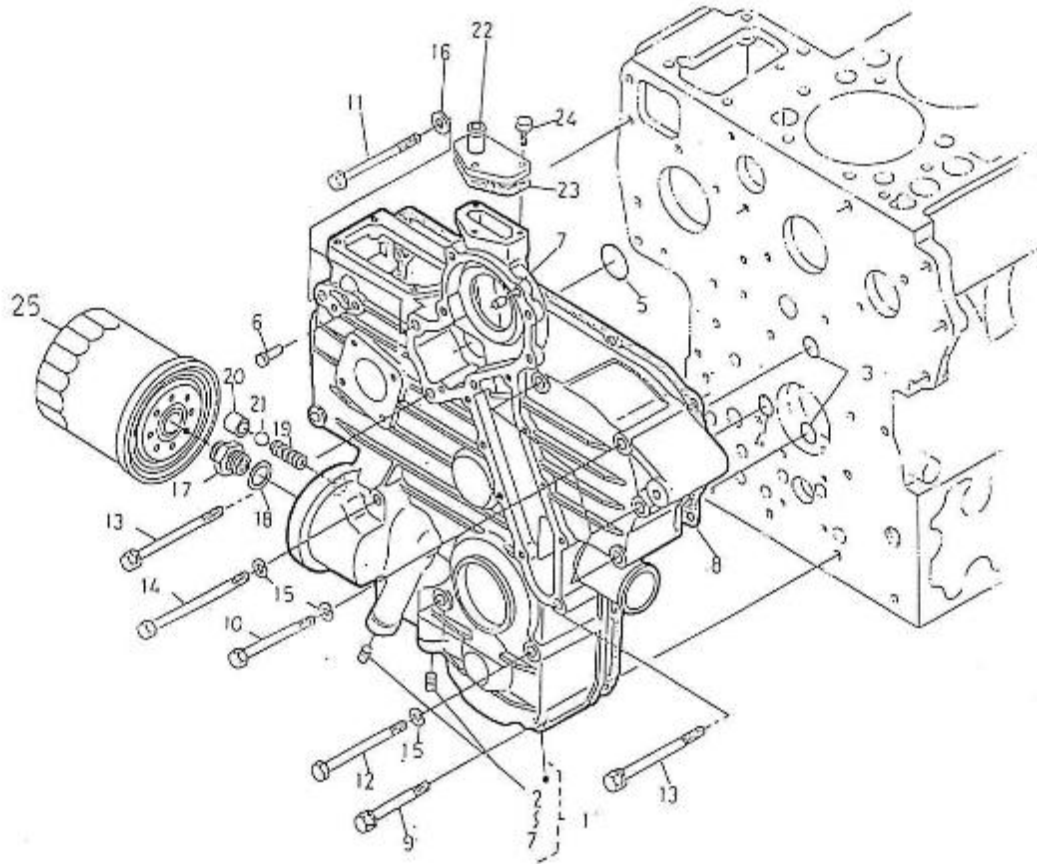


Part number	Item	Description	Quantity
970301990	1	PLATE,BREATHER ELEMENT N01	1
970313184	1	TUBE,BREATHER	1
970313185	2	CLAMP,HOSE	1
970490302	2	HOUSING,BREATHER ELEMENT	1
970310510	3	CLAMP,HOSE	1
970490305	3	FILTER,BREATHER ELEMENT	1
970301991	4	SHIELD,OIL BREATHER	1
970312879	4	COVER,CYL.HEAD	1
970312971	5	SHIELD,BREATHER	1
970490307	5	SCREW,M 5X 10	2
970301993	6	PIPE,BREATHER	1
970307535	6	HOSE	1
970313451	7	COVER,BREATHER	1
970490510	7	CAP,FILLING OIL	1
970313503	8	COMP.VALVE,BREATHER	1
970490511	8	O-RING	1
970307307	9	COVER,CYL.HEAD	1
970490307	9	SCREW,M 5X 10	4
970301995	10	GASKET,COVER CYL:HEAD 4.190	1
970312974	10	GASKET,HEAD COVER	1
970301996	11	NUT,CAP	4
970312975	11	BOLT	10
970490510	12	CAP,FILLING OIL	1
970491131	12	WASHER,SEAL	4
970313560	13	O RING	1



Model : 4.220HE STANDARD ENGINE

Subassembly : TIMING GEAR CASE

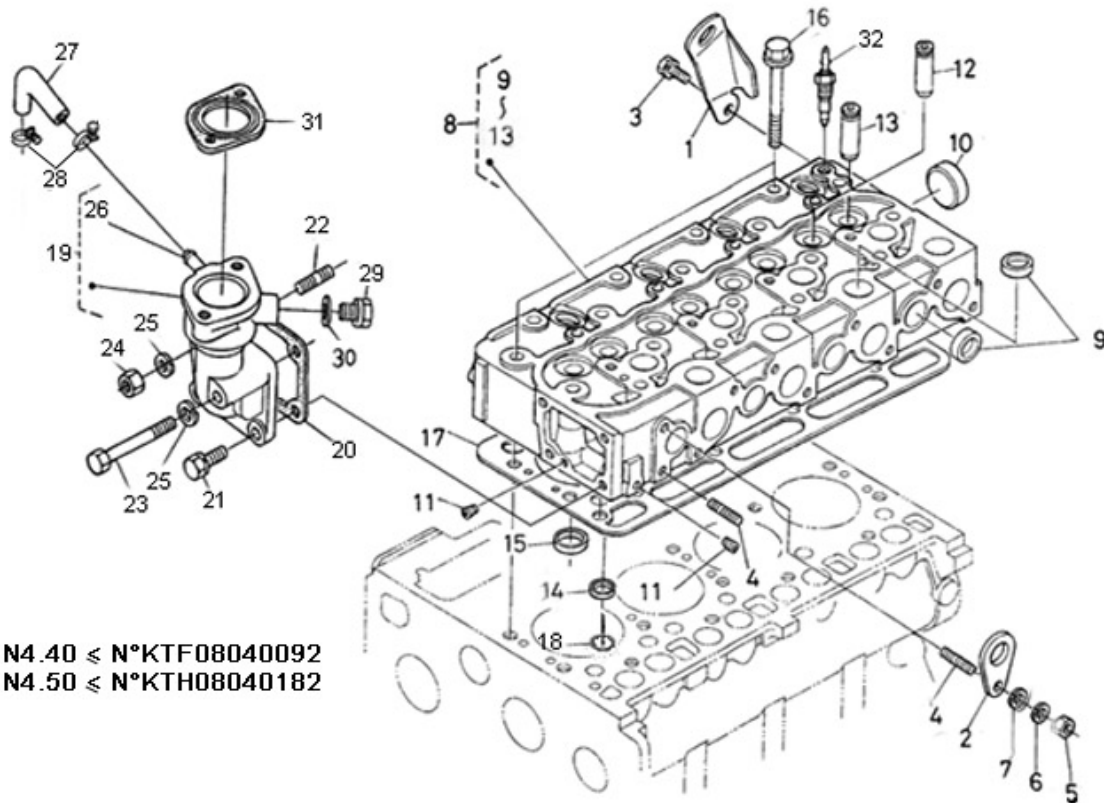


Part number	Item	Description	Quantity
970307304	1	ASSY CASE,GEAR	1
970140202	2	PLUG, SOCK	2
970301922	3	O-RING	2
970302696	4	O-RING	1
970301923	5	O-RING	1
970490204	6	PIN,TIMING COVER	1
970301908	7	PIN,CYLINDRICAL	2
970301925	8	GASKET,TIMING CASE 4.190	1
970301926	9	BOLT,M 8X 60	2
970301927	10	BOLT,M 8X 70	5
970301280	11	BOLT,HEX M 8X 90	2
970301928	12	BOLT,M 8X 80	24
970301929	13	BOLT	2
970301930	14	BOLT,M 8X 95	2
970490904	15	WASHER,SPRING D 8	13
970301933	16	WASHER,PLAIN D 8	1
970302072	17	NIPPLE	1
970302073	18	GASKET,RING	1
970302074	19	SPRING	1
970302075	20	SEAT,VALVE	1
970302076	21	BEARING,BALL	1
970301931	22	FLANGE,WATER RETURN	1
970301932	23	GASKET,FLANGE W/RETURN	1
970491536	24	BOLT,M 6X 20	3
970603003	25	FILTER,ELEMENT OIL 4.180/90	1



Model : 4.220HE STANDARD ENGINE

Subassembly : CYLINDER HEAD



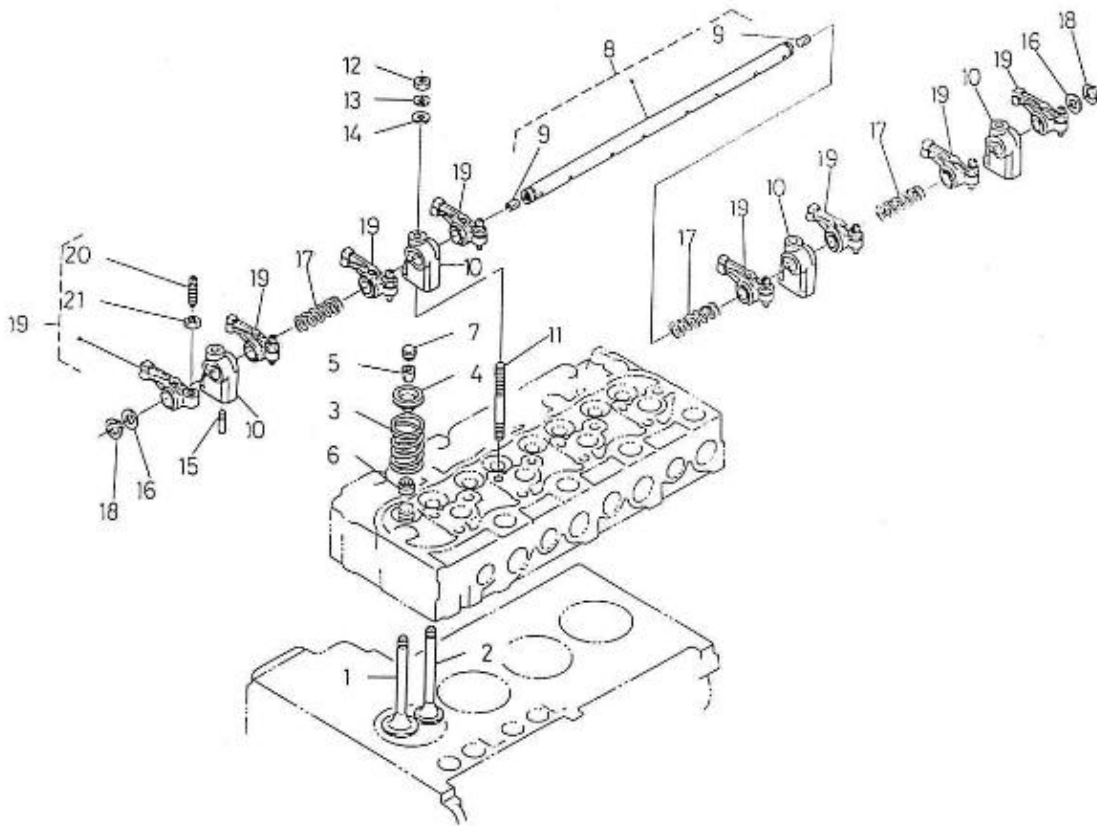
N4.40 ≤ N°KTF08040092
N4.50 ≤ N°KTH08040182

Part number	Item	Description	Quantity
970307296	1	HOOK,ENGINE	1
970302147	2	HOOK,ENGINE 4.190	1
970490919	3	BOLT,M 8X 16	1
970301935	4	STUD	2
970027322	5	NUT,M 8	2
970119138	6	WASHER,SPRING D 8	2
970119138	7	WASHER,SPRING D 8	2
970307302	8	COMP.CYLINDER HEAD	1
970301937	9	CAP,FREEZE	12
970301938	10	CAP,FREEZE	1
970490107	11	PLUG,SOCK	2
970301939	12	GUIDE,VALVE INTAKE 4.190	4
970301940	13	GUIDE,VALVE EXHAUST	4
970313182	14	VALVE SEAT	4
970313183	15	VALVE SEAT	4
970307298	16	BOLT,CYLINDER HEAD	18
970307299	17	GASKET,CYL.HEAD NA	1
970490116	18	O-RING	1
970307511	19	HOUSING, THERMOSTAT	1
970302124	20	GASKET,WATER FLANGE	1
970492138	21	BOLT,M 8X 22	2
970302088	22	STUD,M 8X 22	1
970300193	23	BOLT,HEX M 8X 70	1
970490903	24	NUT,M 8	1
970119138	25	WASHER,SPRING D 8	2
970307535	26	HOSE	1
970302120	27	PIPE,WATER RETURN 2	1
970302121	28	CLAMP,HOSE	2
970307896	29	PLUG	1
970312987	30	WASHER,WITH RUBBER	1
970301711	31	FLANGE,WATER INTAKE 4.190	1
970304054	32	TEMPERATURE SWITCH 1/8 1P 97	1



Model : 4.220HE STANDARD ENGINE

Subassembly : VALVES AND SPRINGS

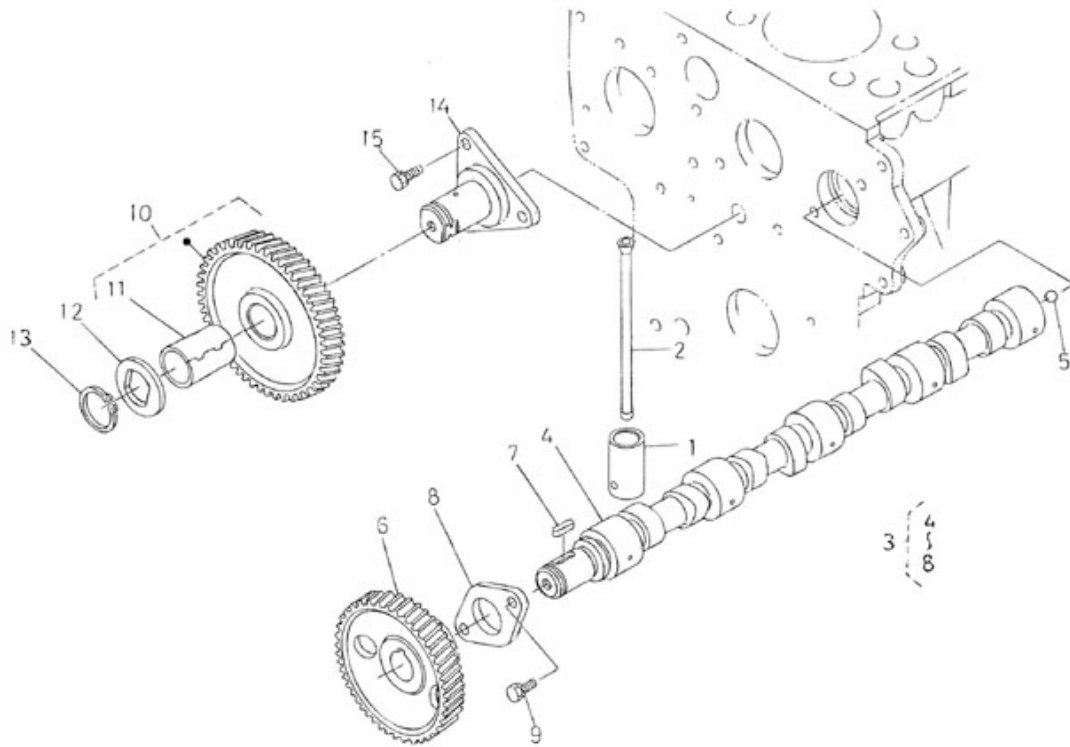


Part number	Item	Description	Quantity
970307772	1	VALVE,INLET	4
970307400	2	VALVE,EXHAUST	4
970302005	3	SPRING,VALVE	8
970302006	4	RETAINER,VALVE SPRING	8
970302007	5	COLLET,VALVE SPRING	8
970302008	6	SEAL,VALVE STEM	8
970302009	7	CAP,VALVE	8
970302010	8	SHAFT,ROCKER ARM 4.190	1
970313711	9	SCREW,SET	2
970302012	10	BRACKET,ROCKER ARM	4
970302013	11	STUD	4
970490903	12	NUT,M 8	4
970490904	13	WASHER,SPRING D 8	4
970301933	14	WASHER,PLAIN D 8	4
970302014	15	SCREW,SET	1
970302015	16	WASHER	2
970302016	17	SPRING,ROCKER ARM	3
970302017	18	CIR-CLIP,EXTERNAL	2
970307402	19	ASSY ROCKER ARM	8
970302019	20	SCREW,ADJUSTING	8
970302021	21	NUT	8



Model : 4.220HE STANDARD ENGINE

Subassembly : CAMSHAFT



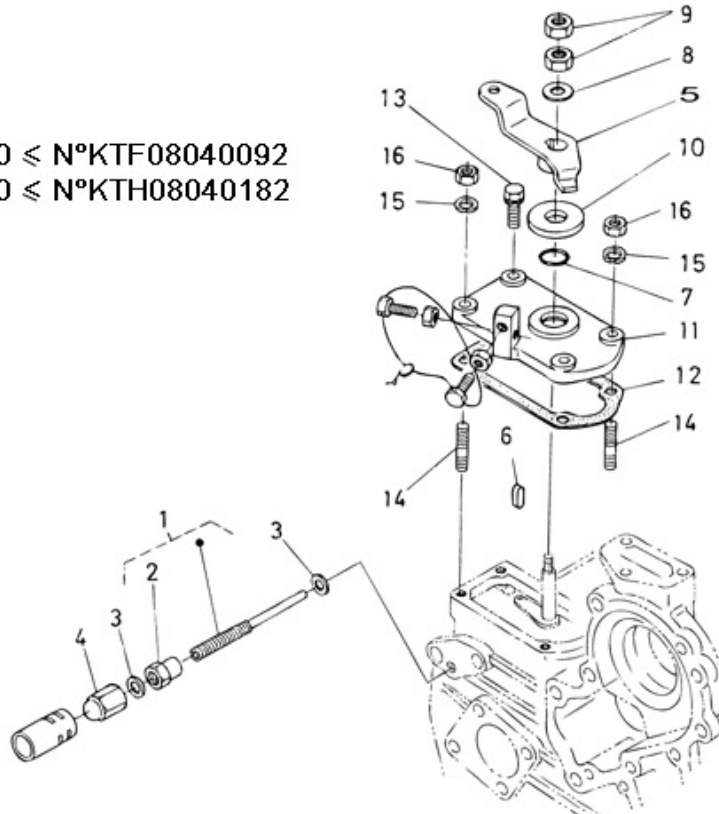
Part number	Item	Description	Quantity
970307317	1	TAPPET	8
970307318	2	ROD,PUSH	8
970307319	3	ASSY CAMSHAFT	1
970302043	5	SCREW,SET	1
970301966	7	KEY,FEATHER	1
970302045	8	STOPPER,CAMSHAFT	1
970491134	9	BOLT,M 8X 18	2
970307321	10	COMP.GEAR,IDLE	1
970307322	11	BUSH,IDLE GEAR	1
970307323	12	COLLAR	1
970307324	13	COLLAR	1
970307325	14	CIR-CLIP,EXTERNAL	1
970307326	15	SHAFT,IDLE GEAR	1
970491134	16	BOLT,M 8X 18	3



Model : 4.220HE STANDARD ENGINE

Subassembly : ACCELERATOR

WN4.40 ≅ N°KTF08040092
WN4.50 ≅ N°KTH08040182

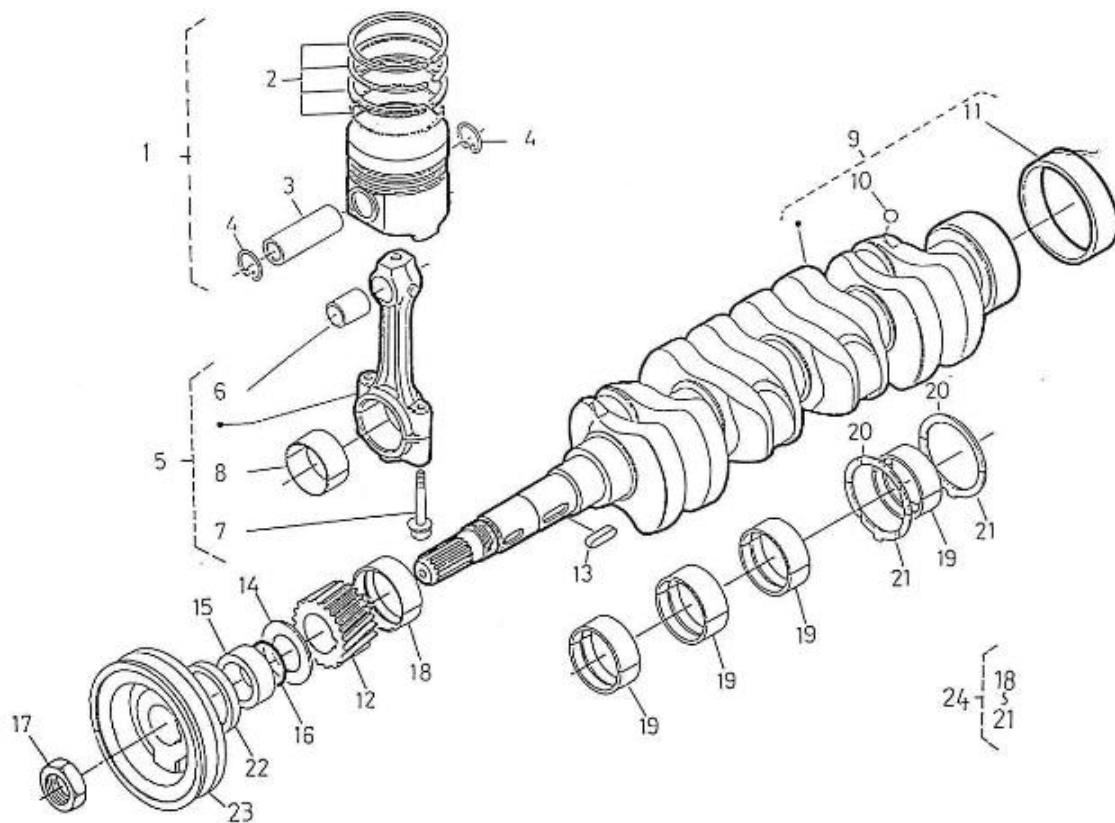


Part number	Item	Description	Quantity
970302022	1	SCREW,ADJUSTING	1
970140402	2	NUT	1
970150403	3	RING,SEAL	2
970140504	4	NUT, CAP M8	1
970302023	5	LEVER,SPEED CONTROL	1
970143118	7	KEY,FEATHER	1
970302024	8	O-RING	1
970302025	9	WASHER,PLAIN D 8	1
970302026	10	NUT,M 8	2
970302027	11	SPACER,GOVERNOR	1
970302028	12	COVER,SPEED CONTROL 4.190	1
970302029	13	GASKET,COVER SPEED CONTROL	1
970491536	14	BOLT,M 6X 20	2
970490224	15	STUD	2
970119149	16	WASHER, SPRING D 6	2
970151133	17	NUT,M 6	2
970307403	18	SUPPORT,THROTTLE	1
970300193	19	BOLT,HEX M 8X 70	2
970119138	20	WASHER,SPRING D 8	2
970300317	21	BOLT,HEX M 5X 16	2
QCC33010TF	22	THREADING COLLAR JACKET 33C	1
QCC33014TF	23	COUNTER PLATE 33/43C	1
970830124	24	JOINT	1
970835020	25	CLAMP	1



Model : 4.220HE STANDARD ENGINE

Subassembly : CRANKSHAFT-PISTONS

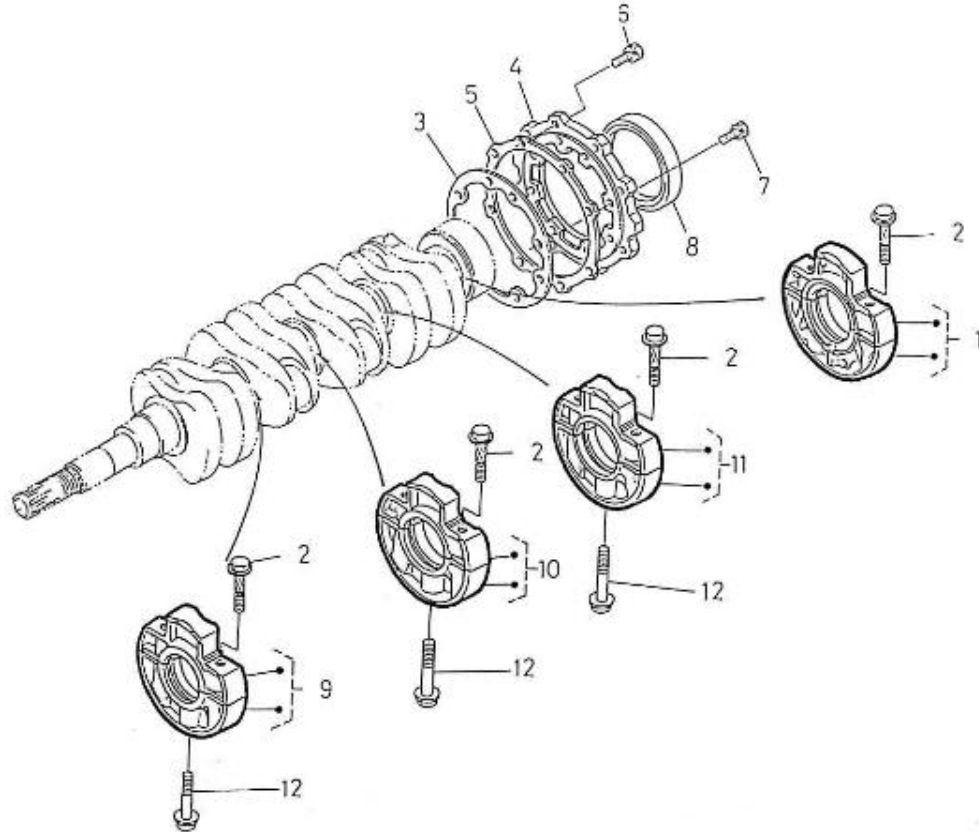


Part number	Item	Description	Quantity
970307328	1	PISTON 05	4
970307528	1	PISTON	4
970307329	2	ASSY RING,PISTON	4
970307330	2	ASSY RING,PISTON 05	4
970307331	3	PIN,PISTON	4
970307332	4	CLIP,PISTON PIN	8
970307333	5	ASSY ROD,CONNECTING	4
970307334	6	BUSH,PISTON PIN	4
970307934	7	GEAR,OIL PUMP DRIVE	8
970307335	8	METAL,CRANK PIN	4
970307336	8	METAL,CRANK PIN 02	4
970307337	8	METAL,CRANK PIN 04	4
970307338	9	COMP.SHAFT,CRANK	1
970302897	10	BEARING,BALL	4
970301962	11	SLEEVE,CRANKSHAFT	1
970301965	12	GEAR,CRANKSHAFT	1
970301966	13	KEY,FEATHER	1
970301967	14	SLINGER,OIL	1
970301968	15	COLLAR,CRANKSHAFT	1
970301969	16	O-RING	1
970301970	17	NUT,CRANKSHAFT	1
970301973	19	METAL,CRANKSHAFT 2	4
970307343	19	METAL,C/SHAFT 2 02	4
970307344	19	METAL,C/SHAFT 2 04	4
970301974	20	METAL,SIDE 1	2
970307345	20	METAL,SIDE 1-02	2
970301975	21	METAL,SIDE 2	2
970302409	21	METAL,SIDE 2 +0,2	2
970302913	21	METAL,SIDE 2 +0,4	2
970301976	22	SEAL,OIL	1
970302409	22	METAL,SIDE 2 +0,2	2
970302077	23	PULLEY,CRANKSHAFT 4.190 STD.	1



Model : 4.220HE STANDARD ENGINE

Subassembly : CRANKSHAFT-BEARINGS

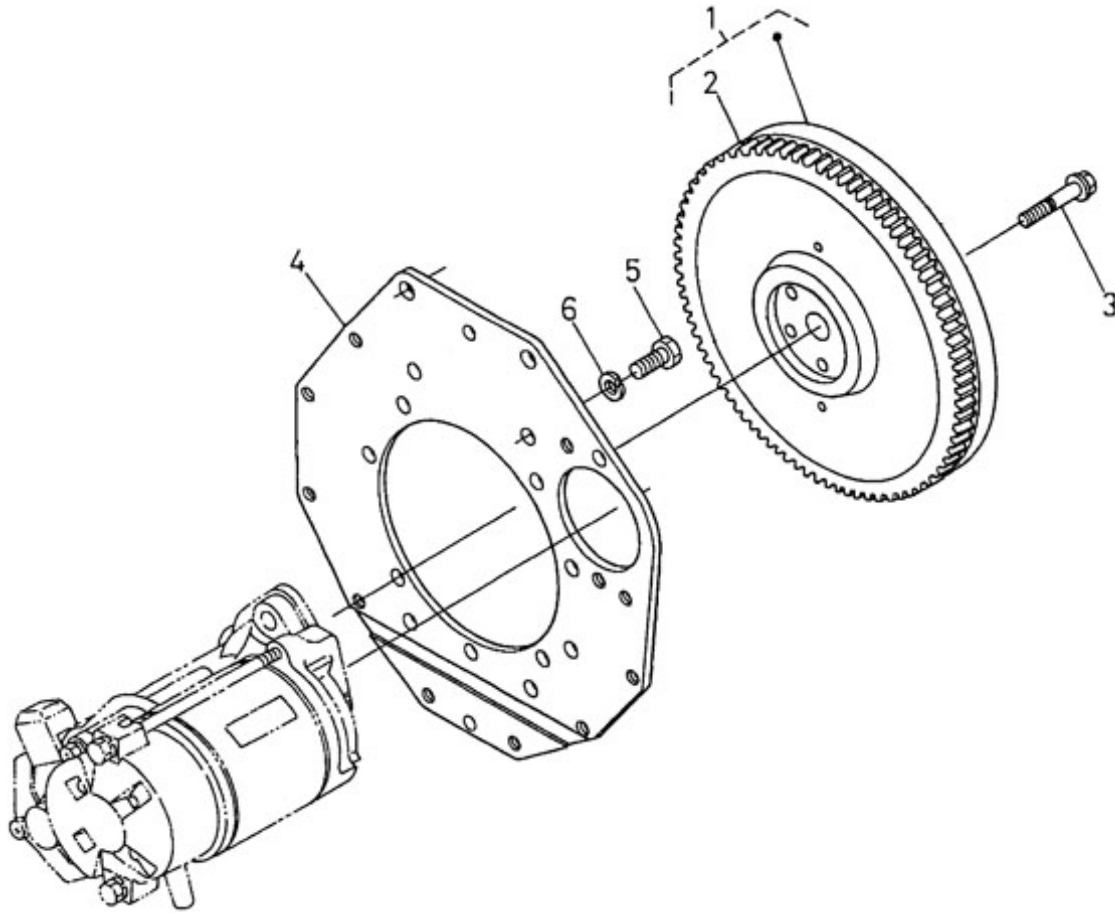


Part number	Item	Description	Quantity
970307308	1	CASE, MAIN BEARING	1
970307309	2	BOLT, BEARING CASE	8
970307310	3	GASKET, BRG. CASE NA	1
970314277	4	COVER, BEARING CASE	1
970310427	5	GASKET NA	1
970147402	6	BOLT, M 8X 25	8
970301986	7	BOLT, M 8X 28	8
970301987	8	SEAL, OIL	1
970307313	9	CASE, MAIN BEARING	1
970307314	10	CASE, MAIN BEARING	1
970307315	11	CASE, MAIN BEARING	1
970307316	12	BOLT, BEARING CASE	3



Model : 4.220HE STANDARD ENGINE

Subassembly : FLYWHEEL

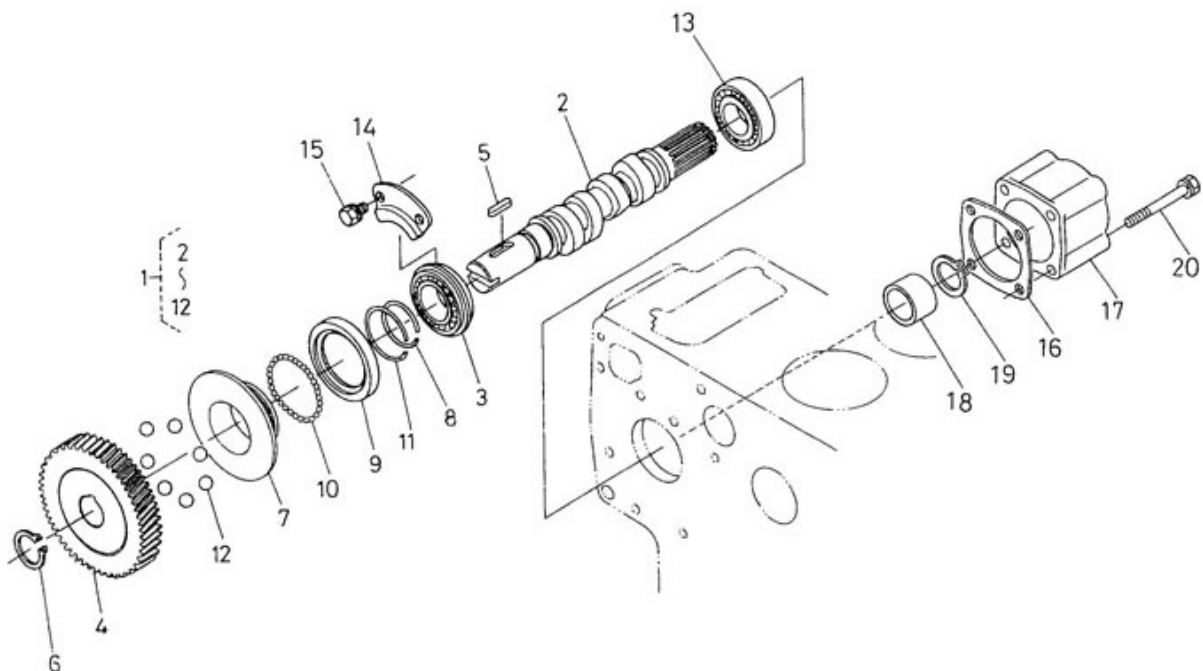


Part number	Item	Description	Quantity
970302070	1	STARTER,MOTOR 12V 0,8KW	1
970300044	2	BOLT,HEX M10X1,25X 25	12
970119136	3	WASHER,SPRING D10	13
970119135	4	WASHER,PLAIN D10	2
970302643	5	PLATE,REAR END 6.280	1
970301627	6	FLYWHEEL,CPL.4.190	1
970302397	7	WASHER,FLYWHEEL 3PCS.	1
970302396	8	BOLT,FLYWHEEL	6
970307436	9	NUT	1
970119140	10	BOLT,SOCK M10X 50	1
970119135	11	WASHER,PLAIN D10	1
970119136	12	WASHER,SPRING D10	1



Model : 4.220HE STANDARD ENGINE

Subassembly : CAMSHAFT INJECTION PUMP

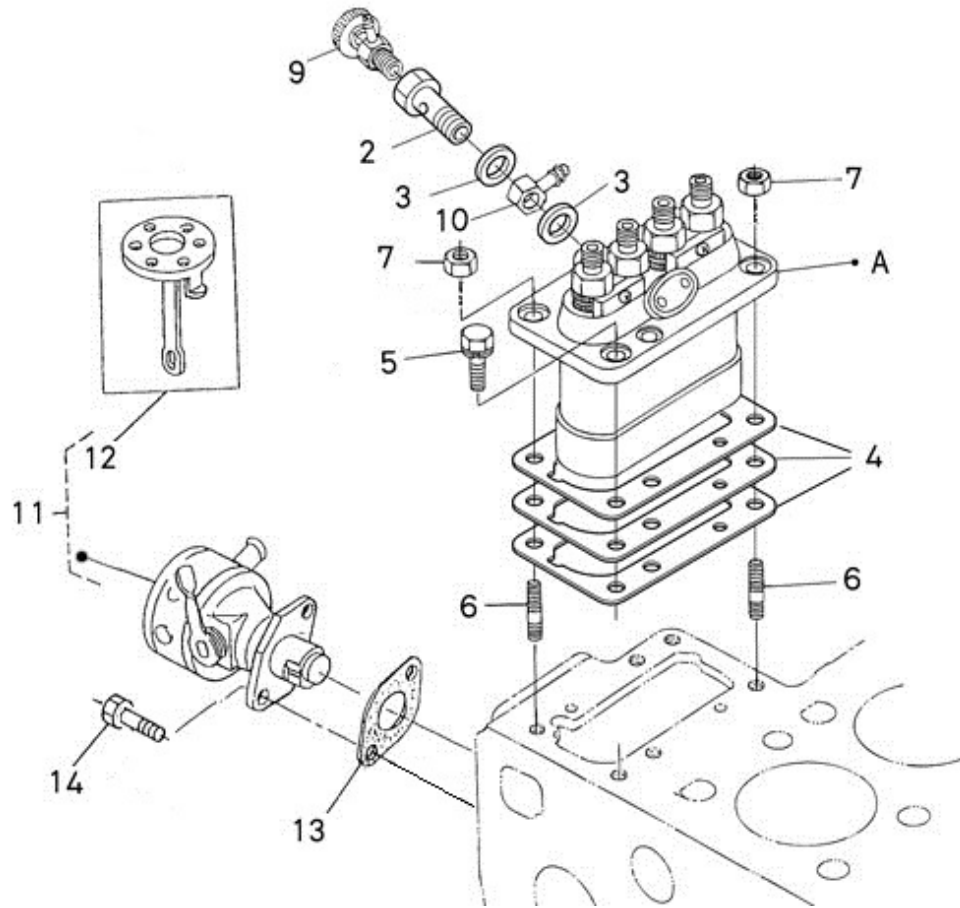


Part number	Item	Description	Quantity
970307349	1	ASSY FUEL CAMSHAFT	1
970312500	3	BEARING, BALL	1
970307351	4	GEAR,INJECTION PUMP	1
970312501	5	KEY, FEATHER	1
970302097	6	CIR-CLIP,EXTERNAL	1
970307352	7	SLEEVE,GOVERNOR	1
970302099	8	CIR-CLIP,GOVERNOR SLEEVE	1
970303929	9	CASE,GOVERNOR BALL	1
970492130	10	BEARING,BALL FUEL CAMSHAFT	39
970302100	11	CIR-CLIP,GOVERNOR BALL CASE	1
970303930	12	BEARING,BALL	7
970302105	13	BEARING,CASE	1
970302106	14	STOPPER,FUEL CAMSHAFT	1
970313311	15	BOLT	2
970303931	16	COVER,FUEL CAMSHAFT	1
970302064	17	BUSHING,COVER CAMSHAFT	1
970310513	18	GASKET	1
970302066	19	CIR-CLIP,EXTERNAL	1
970307353	20	BOLT	2



Model : 4.220HE STANDARD ENGINE

Subassembly : INJECTION AND FEED PUMP

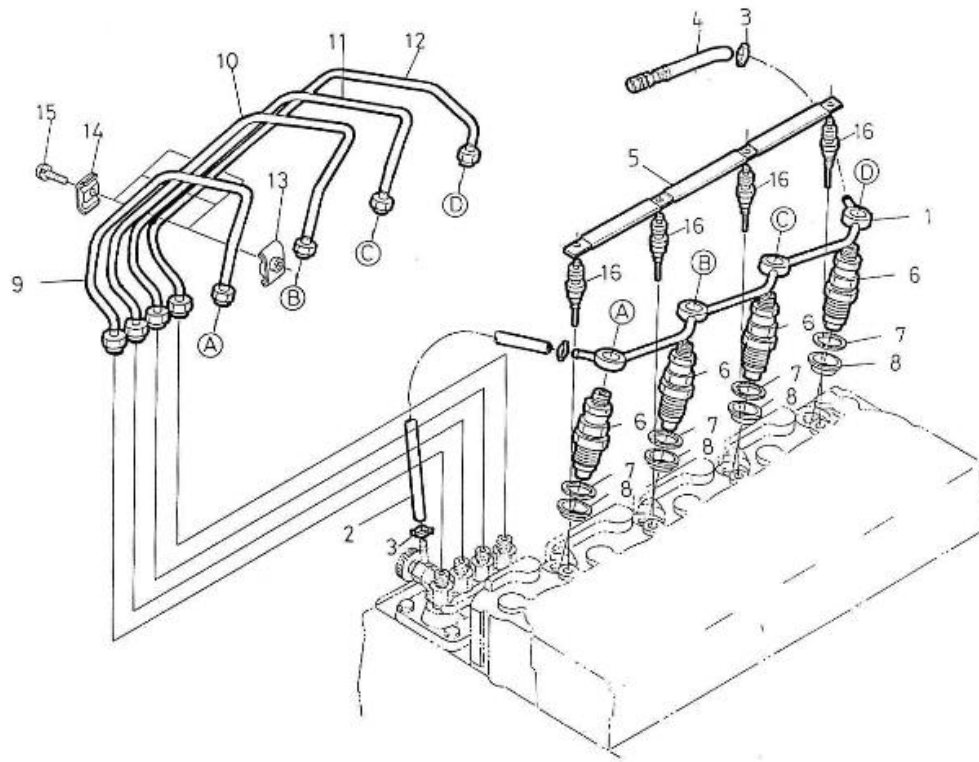


Part number	Item	Description	Quantity
970307367	1	ASSY PUMP,INJECTION	1
970302107	2	SCREW,INJ.PUMP	1
970307379	3	WASHER,NIPPLE	1
970302086	4	SHIM,INJECTION PUMP 4.190	1
970302412	4	SHIM,INJECTION PUMP 0.45	1
970492138	5	BOLT,M 8X 22	2
970300103	6	STUD,M 8X 20	2
970490903	7	NUT,M 8	2
970307368	9	ASSY COCK,JET START	1
970307110	10	COMP.DIAPHRAGM NA	1
970307396	11	PUMP,FUEL FEED	1
970307110	12	COMP.DIAPHRAGM NA	1
970492512	13	GASKET,FUEL PUMP	1
970491117	14	BOLT,M 6X 16	2



Model : 4.220HE STANDARD ENGINE

Subassembly : INJECTION NOZZLES AND PIPES

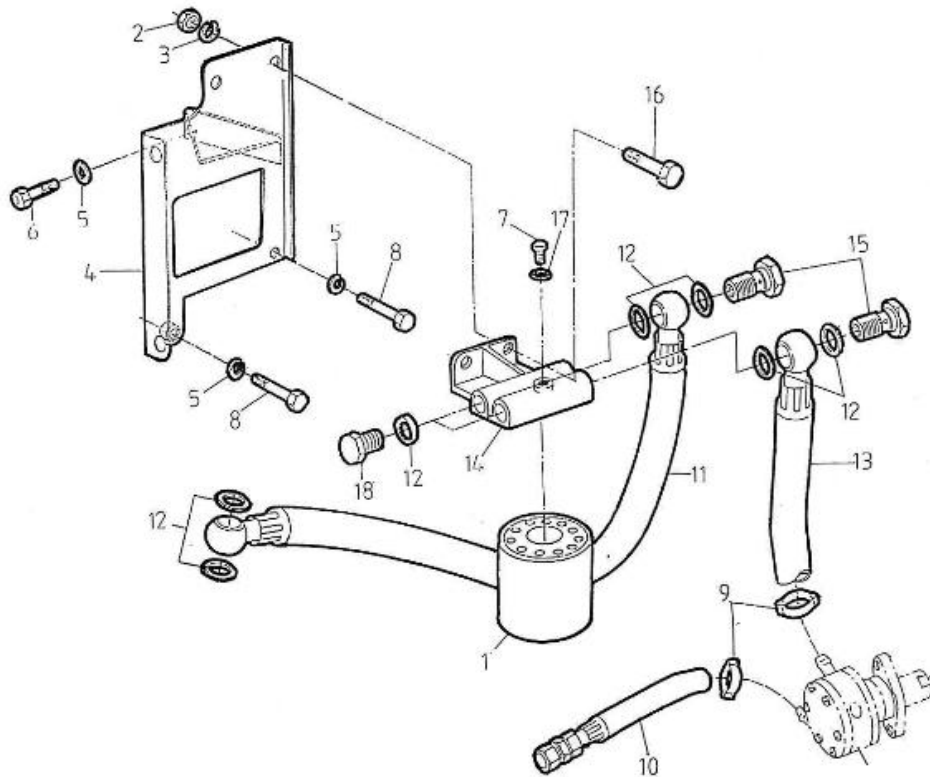


Part number	Item	Description	Quantity
970307386	1	FUEL RETURN PIPE	1
970307278	2	HOSE	1
970310171	3	CLAMP	3
970307279	4	HOSE	1
970307394	5	CORD,GLOW PLUG	1
970307760	6	KIT,NOZZLE HOLDER	4
970142109	7	GHASKET, RING INJECTORS	4
970307388	8	SEAL,HEAT	4
970307389	9	INJECTION PIPE	1
970307390	10	INJECTION PIPE	1
970307391	11	INJECTION PIPE	1
970307392	12	INJECTION PIPE	1
970142114	13	CLAMP,FUEL LINES 1+2	3
970142115	14	CLAMP,FUEL-LINES 1+2	3
970492118	15	SCREW,M 5X 20 ROUND HEAD	3
970307393	16	GLOW PLUG	4



Model : 4.220HE STANDARD ENGINE

Subassembly : FUEL FILTER

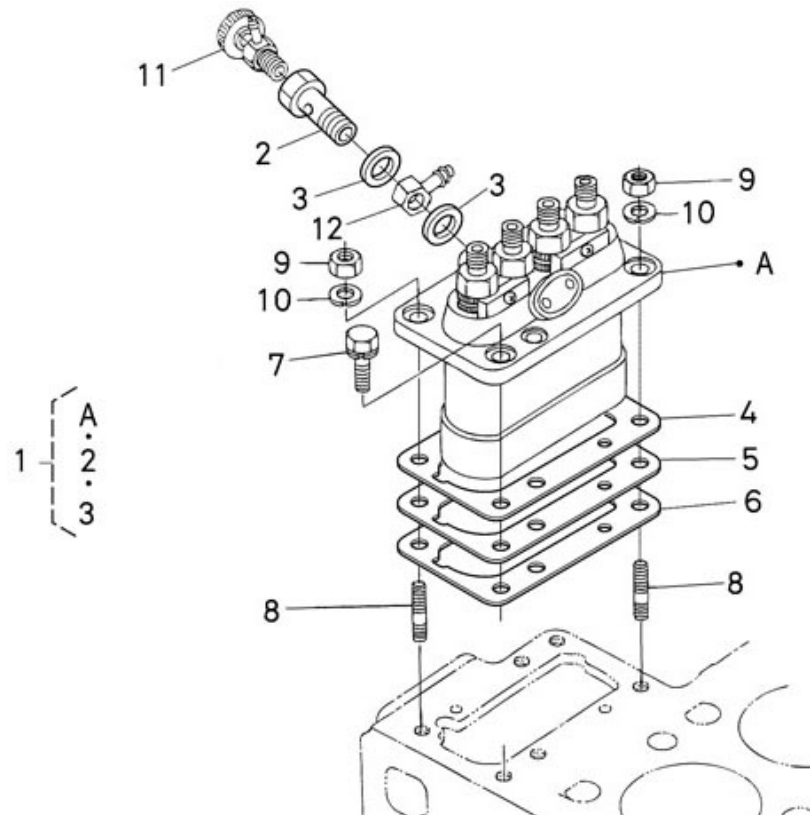


Part number	Item	Description	Quantity
970622350	1	FILTER,FUEL	1
970119143	2	NUT, M10	2
970119136	3	WASHER,SPRING D10	2
970302677	4	SUPP,FUELFILTER-OILEXTR.4.190,	1
970119138	5	WASHER,SPRING D 8	3
970498003	6	BOLT,SOCK M 8X 25	1
970832061	7	BOLT	1
970301280	8	BOLT,HEX M 8X 90	2
970439306	9	CLAMP	2
970302330	10	HOSE,FUEL SUPPLY CPL.	1
970301850	11	HOSE,FUEL INJ.PUMP CPL.	1
970300306	12	GASKET,RING D14	8
970301849	13	HOSE,FUEL SUPPLY CPL.	1
970302494	14	SUPPORT,FUEL FILTER ELEMENT H-	1
970432515	15	BOLT,BANJO M14X1,5	2
970635508	16	BOLT,HEX M10X 25	2
970300288	17	GASKET,M8	1
970875506	18	PLUG	2
970307396	19	PUMP,FUEL FEED	1



Model : 4.220HE STANDARD ENGINE

Subassembly : INJECTION AND FEED PUMPS

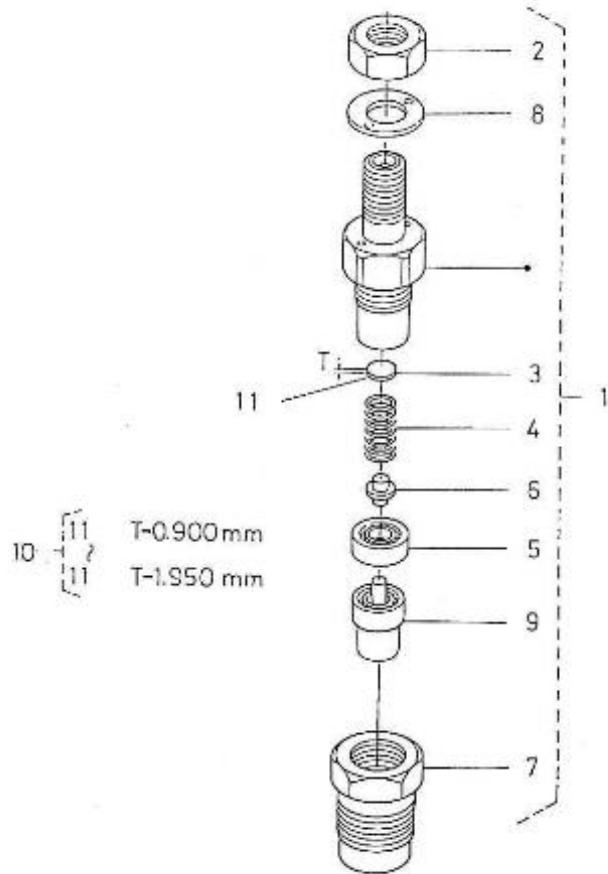


Part number	Item	Description	Quantity
970307367	1	ASSY PUMP,INJECTION	1
970307369	2	ASSY PLUNGER	4
970307370	3	VALVE,DELIVERY	4
970307371	4	SPRING,DELIV.VALVE	4
970303971	5	GASKET,RING	4
970307372	6	HOLDER,DELIV.VALVE	4
970307373	7	ASSY LOCK PLATE	2
970303985	8	TAPPET,INJ.PUMP CPL.	4
970307374	9	PIN,TAPPET GUIDE	4
970307375	10	PLATE	2
970303982	11	SPRING,PLUNGER	4
970303981	12	SEAT,SPRING -UPPER-	4
970307752	13	SEAT,SPRING	4
970303984	14	SHIM	4
970307376	15	RACK,CONTROL	1
970303968	16	PLATE,ADJUSTING	3
970303969	17	BOLT	3
970303980	18	SLEEVE,CONTROL	4
970302107	19	SCREW,INJ.PUMP	1
970307379	20	WASHER,NIPPLE	2
970307822	21	O RING	4



Model : 4.220HE STANDARD ENGINE

Subassembly : INJECTION NOZZLE

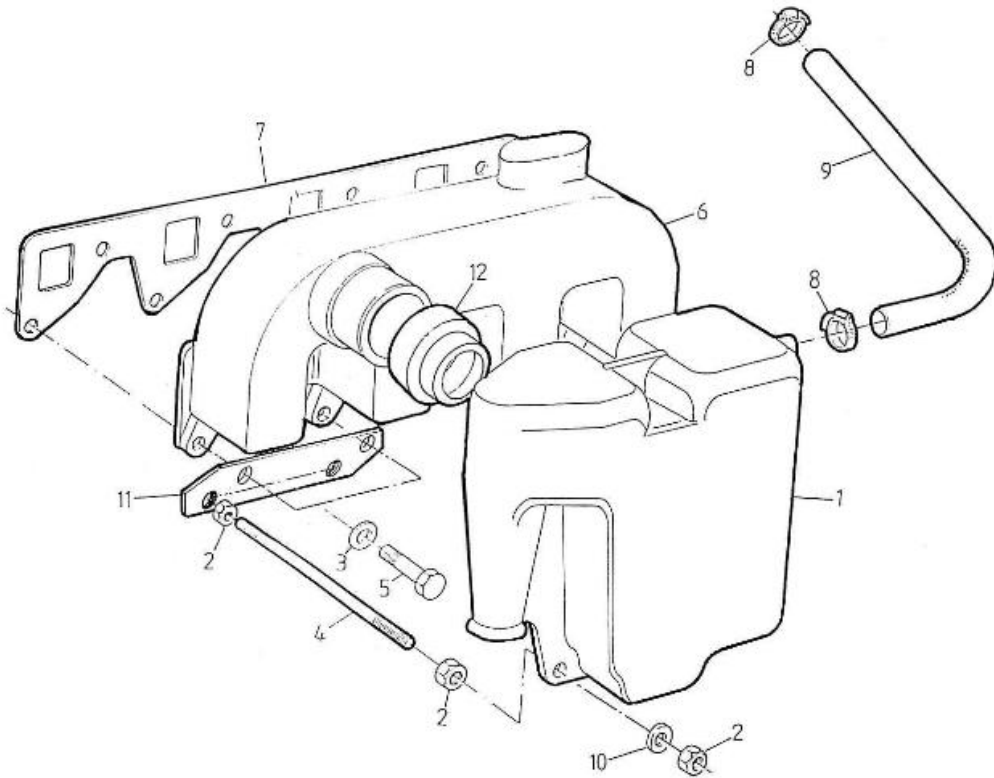


Part number	Item	Description	Quantity
970307760	1	KIT,NOZZLE HOLDER	4
970142175	2	NUT,NOZZLE INJ.	4
970302825	3	SPACER,ADJ.NOZZLE STD. 0.900	4
970142171	4	SPRING,NOZZLE FUEL	4
970142173	5	PIECE,DISTANCE NOZZLE INJ.	4
970142170	6	ROD,PUSH NOZZLE FUEL	4
970307595	7	NUT	4
970302826	8	WASHER,NOZZLE INJ.	4
970307766	9	PIECE,NOZZLE	4
970142200	10	SET,SPACER NOZZLE	4
970302825	11	SPACER,ADJ.NOZZLE STD. 0.900	4



Model : 4.220HE STANDARD ENGINE

Subassembly : AIR FILTER



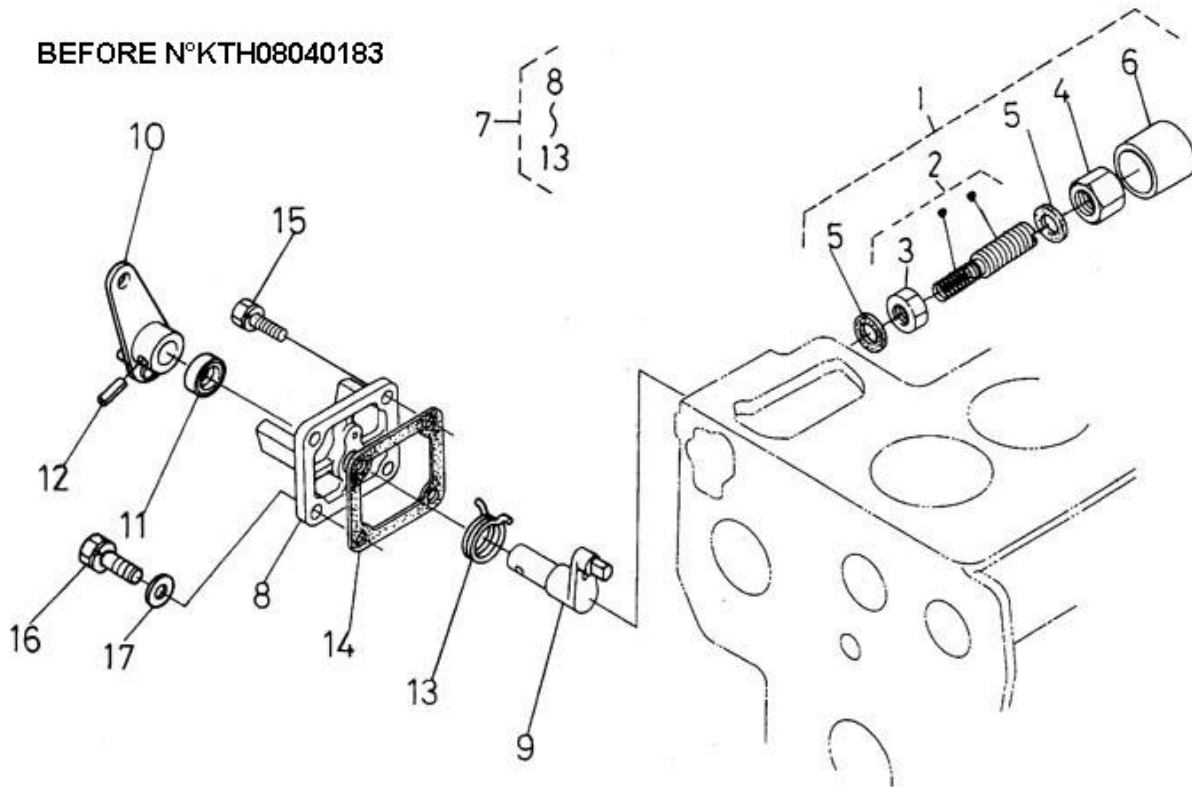
Part number	Item	Description	Quantity
970301715	1	FILTER,AIR 4.190 6.280	1
970027322	2	NUT,M 8	6
970307415	2	HOSE	1
970119139	3	WASHER,CORRUGATED D8	4
970301581	4	STUD,M 8X110	2
970409603	5	BOLT,HEX M 8X 25	2
970307412	6	MANIFOLD,INLET	1
970302137	7	GASKET,INTAKE MANIFOLD 4.190	1
970439306	8	CLAMP	2
970496045	9	HOSE,CARTER DEAIR	1
970119138	10	WASHER,SPRING D 8	2
970307414	11	SUPPORT AIR FILTER	1
970307415	12	HOSE	1



Model : 4.220HE STANDARD ENGINE

Subassembly : REGULATOR ADJUSTMENT

BEFORE N°KTH08040183

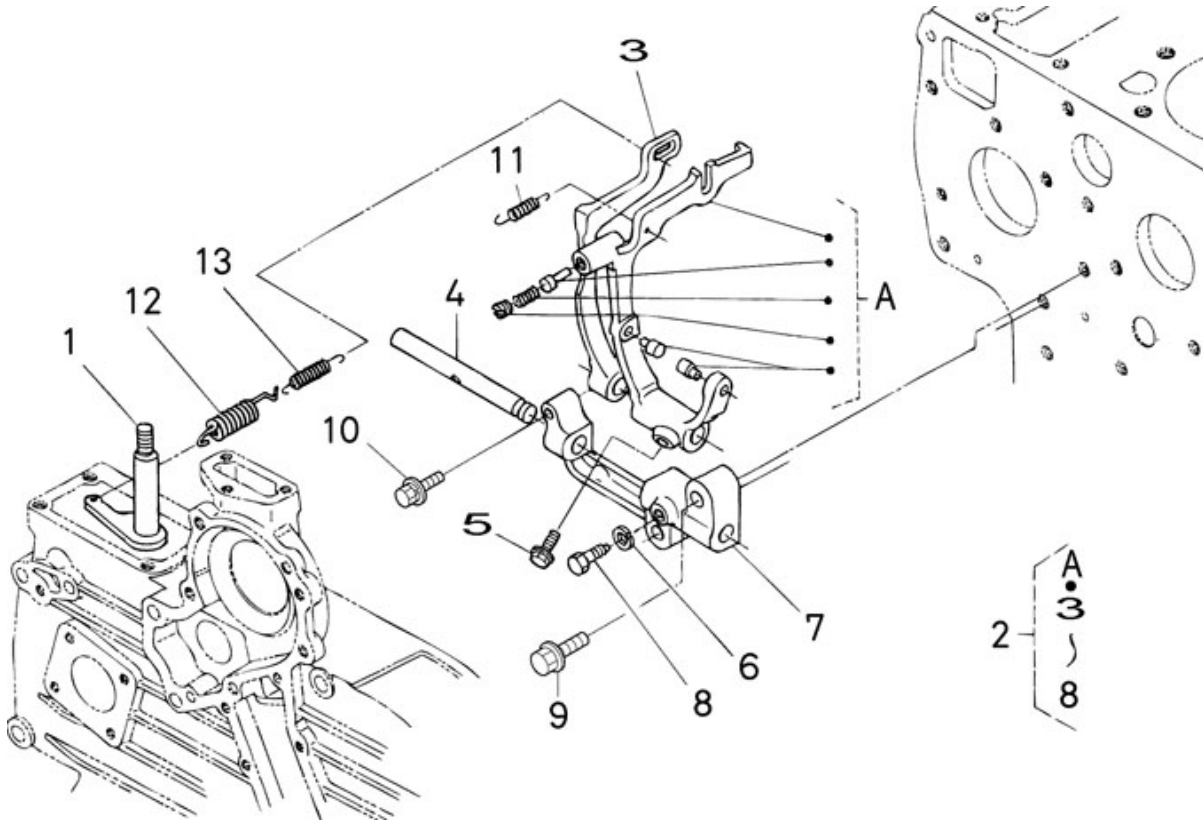


Part number	Item	Description	Quantity
970307354	1	APPARATUS,IDLING	1
970307356	2	ASSY BOLT,ADJUSTING	1
970303906	3	NUT	1
970307355	4	NUT,CAP	1
970491131	5	WASHER,SEAL	2
970302069	6	CAP	1
970307357	7	ASSY LEVER,ENG.STOP	1
970307358	8	COVER,INJECTION PUMP	1
970307359	9	SHAFT,LEVER	1
970307360	10	LEVER,ENGINE STOP	1
970302861	11	SEAL,OIL	1
970151130	12	PIN,SPRING RETAINER	1
970307361	13	SPRING,RETURN	1
970310448	14	GASKET,PUMP COVER NA	1
970490143	15	BOLT,M 6X 18	2
970141537	16	BOLT, M6X22	2
970141326	17	WASHER, PLAIN D6	2



Model : 4.220HE STANDARD ENGINE

Subassembly : SPEED REGULATOR

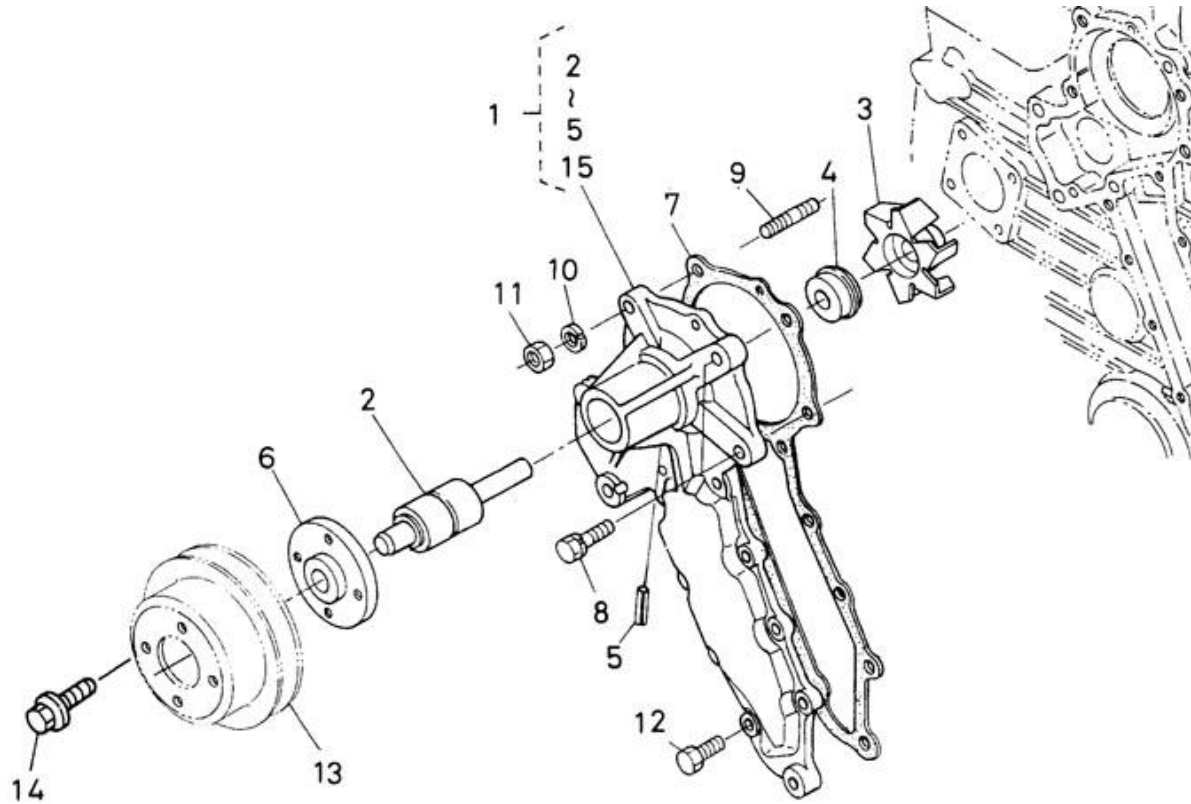


Part number	Item	Description	Quantity
970302030	1	LEVER,GOVERNOR	1
970307380	2	ASSY LEVER,FORK	1
970307382	4	LEVER,FORK	1
970302035	6	BOLT	1
970119149	7	WASHER, SPRING D 6	2
970302036	8	SUPPORT,FORK LEVER	1
970490520	9	BOLT	1
970302037	10	BOLT,M 8X 32	2
970491323	11	BOLT,M 6X 28	1
970301933	12	WASHER,PLAIN D 8	2
970141326	13	WASHER, PLAIN D6	1
970303921	14	SPRING,START	1
970307383	15	SPRING	1
970307384	16	SPRING.GOVERNOR 2	1



Model : 4.220HE STANDARD ENGINE

Subassembly : FRESH WATER PUMP

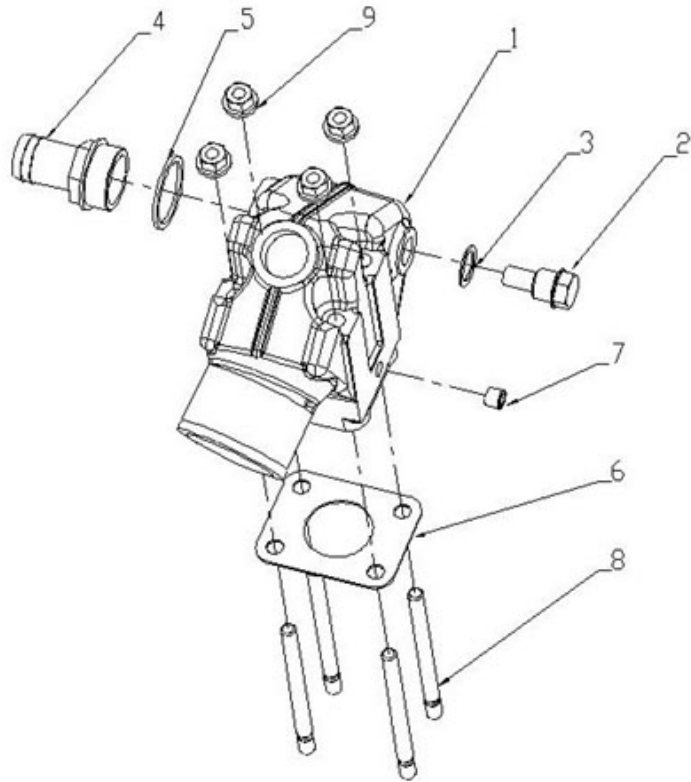


Part number	Item	Description	Quantity
970302110	1	PUMP,F/WATER CPL.4.190	1
970302109	2	BEARING,SHAFT W/PUMP	1
970313081	3	IMPELLER,WATER PUMP	1
970302112	4	SEAL,MECHANICAL F/W.PUMP	1
970314272	5	PIN,SPRING	1
970313082	6	FLANGE,W/PUMP SHAFT	1
970302117	7	GASKET,WATER PUMP 4.190	1
970301986	8	BOLT,M 8X 28	2
970302118	9	STUD	2
970490904	10	WASHER,SPRING D 8	2
970490903	11	NUT,M 8	2
970490119	12	BOLT,M 6X 18	8
970307398	13	PULLEY	1
39160735	14	BOLT	4



Model : 4.220HE STANDARD ENGINE

Subassembly : EXHAUST ELBOW

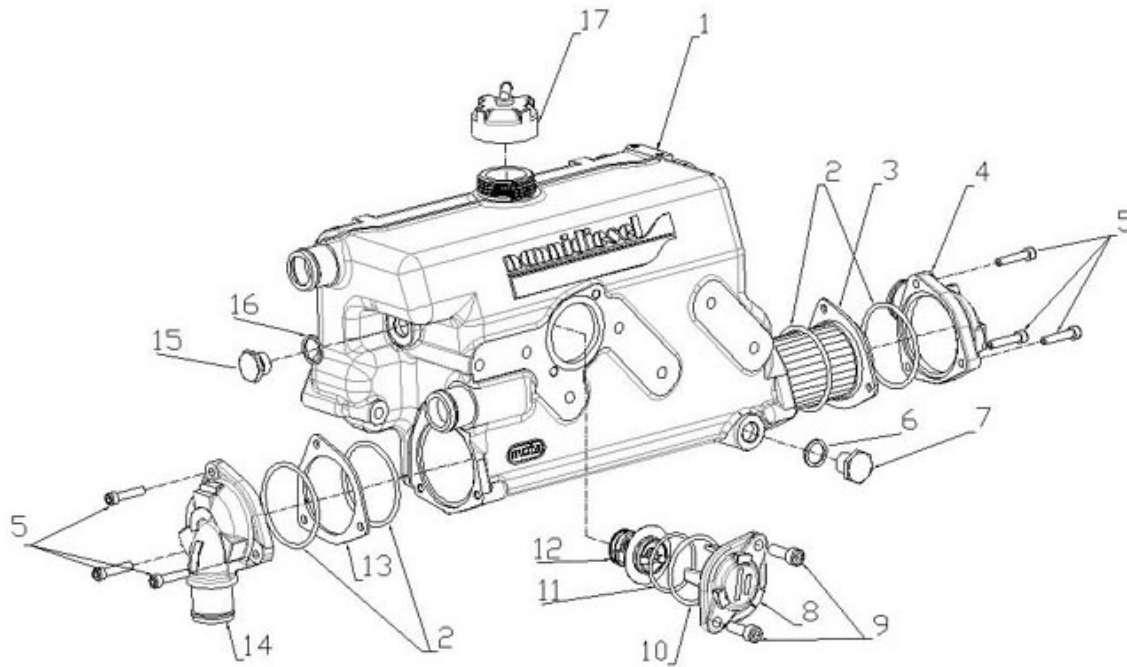


Part number	Item	Description	Quantity
970301706APR	1	MIXER	1
970307265	2	PLUG,HEX 1/8	1
970494635	2	ANODE,ZINC CPL M16X1,5	1
970300199	3	GASKET,RING D16	1
970494635	3	ANODE,ZINC CPL M16X1,5	1
655402075	4	BARBED END BRASS FITTING 1-25	1
970300199	4	GASKET,RING D16	1
48410090	5	GASKET	1
970301710	5	GASKET,MIXER 4.190	1
970300374	6	STUD,M 8X 30	3
970310501	6	GASKET NA	1
970119139	7	WASHER,CORRUGATED D8	4
970307265	7	PLUG,HEX 1/8	1
39020445	8	STUD M8X95,J16,8.8,ZN	4
970027322	8	NUT,M 8	4
39460916	9	NUT	4



Model : 4.220HE STANDARD ENGINE

Subassembly : HEAT EXCHANGER - DETAILS

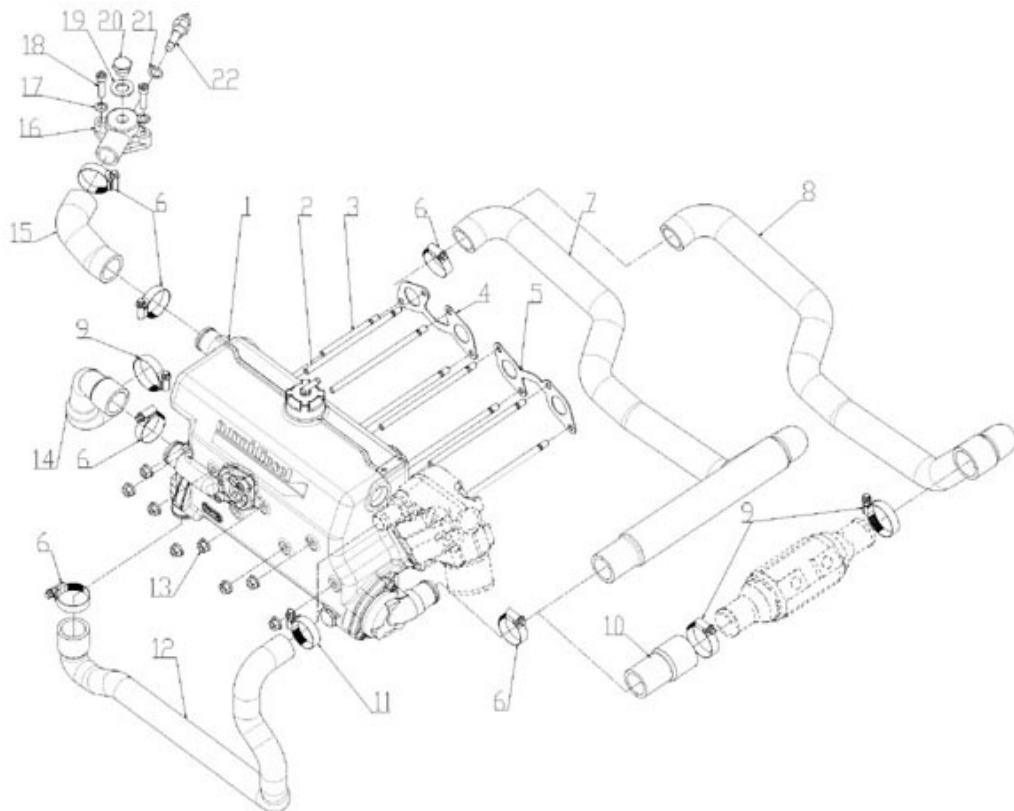


Part number	Item	Description	Quantity
48418183	2	O RING	4
48300416	3	TUBE STACK	1
48300415	4	COVER, WATER INLET	1
970634037	5	BOLT, SOCK M 6X 30	6
970300289	6	GASKET, RING D17	1
970639853	7	""PLUG, HEX 3/8""G""	1
970313178	8	COVER	1
970498003	9	BOLT, SOCK M 8X 25	2
48418185	10	O RING	1
48418184	11	O RING	1
970313177	12	THERMOSTAT	1
95312333	13	SPACER	1
48300414	14	COVER, WATER OUTLET	1
41169801	15	PLUG	1
970300364	16	GASKET, RING D18	1
970313176	17	FILLING PRESSURE CAP	1



Model : 4.220HE STANDARD ENGINE

Subassembly : HEAT EXCHANGER

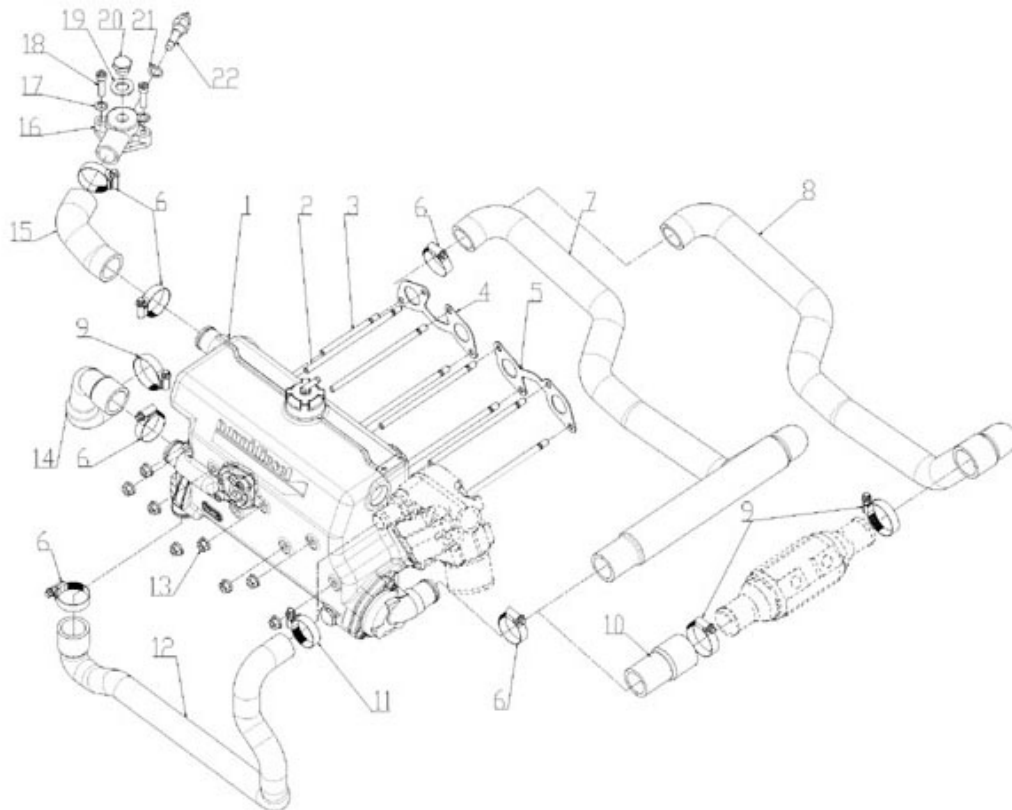


Part number	Item	Description	Quantity
48300398	1	HEAT EXCHANGER	1
39020339	2	STUD BOLT	7
970307713	2	TUB STACK	1
39020336	3	STUD	1
970301719	3	O-RING,68,00X4,00	2
KSAV02	3	HEAT EXCHANGER GASKET KIT	1
970307714	4	COVER	2
970310495	4	GASKET,E-MANIFOLD NA	1
970300288	5	GASKET,M8	2
970313111	5	GASKET,EX-MANIFOLD	1
970300922	6	CLAMP,HOSE 26-38	6
970301263	6	BOLT,M 8X 45 -A2-	2
48328143	7	HOSE	1
970604526	7	CLAMP,HOSE 22-32	4
48328142	8	HOSE	1
970301713	8	HOSE,ELBOW COVER HEATEX.4.190	1
970301710	9	GASKET,MIXER 4.190	1
970604533	9	CLAMP,HOSE 32-44	3
48328132	10	HOSE	1
970301706APR	10	MIXER	1
970119138	11	WASHER,SPRING D 8	12
970604526	11	CLAMP,HOSE 22-32	1
48328141	12	HOSE	1
970300080	12	STUD,M 8X 25	4
39460916	13	NUT	8
970027322	13	NUT,M 8	4
48328134	14	HOSE	1
970300306	14	GASKET,RING D14	1
970301714	15	HOSE,D32 COVER THERMO.4.190	1
970875506	15	PLUG	1
970301703	16	BOLT,HEX M 8X160	4
970301711	16	FLANGE,WATER INTAKE 4.190	1
970027323	17	WASHER,PLAIN D 8	8
970119138	17	WASHER,SPRING D 8	8



Model : 4.220HE STANDARD ENGINE

Subassembly : HEAT EXCHANGER

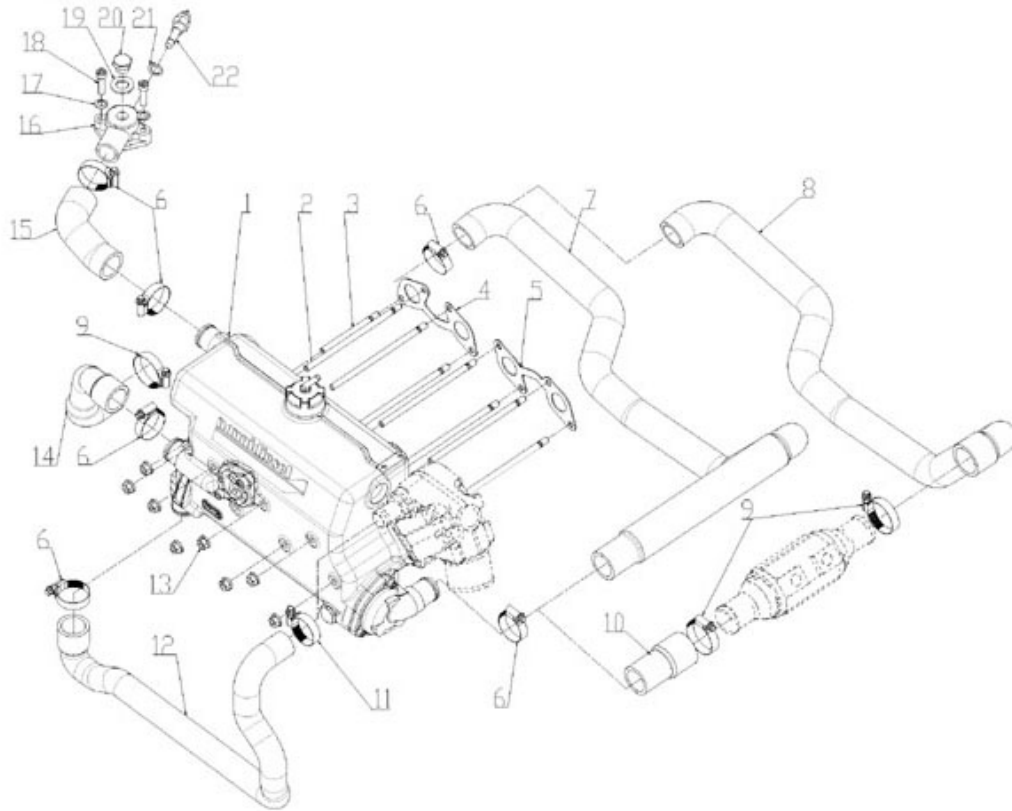


Part number	Item	Description	Quantity
970119139	17	WASHER,CORRUGATED D8	2
970027322	18	NUT,M 8	4
970635916	18	BOLT,SOCK M 8X 35	2
970300289	19	GASKET,RING D17	1
970300374	19	STUD,M 8X 30	4
48325012	20	HOSE	1
970300306	20	GASKET,RING D14	1
970307424	20	HOSE	1
970604533	21	CLAMP,HOSE 32-44	1
970851602	21	WATER TEMPERATURE SENDER	1
970301718	22	HOSE,WATER RETURN D32-34	1
970639853	22	""PLUG,HEX 3/8""G""	1
970300289	23	GASKET,RING D17	1
970300922	23	CLAMP,HOSE 26-38	3
970307282	24	THERMOSTAT	1
970301408	25	GASKET,THERMOSTAT COVER	1
970300077	26	HOSE,D 8 L= 450	1
970307265	27	PLUG,HEX 1/8	1
970300151	28	FILLING,NECK WATER	1
970300834	28	FILLING,NECK WATER	1
970604614	29	CAP,FILLING 0, 7 DOUBLE SEAL	1
970494517	30	CAP,FREEZE	2
970302169	31	GASKET,EXHAUST MANIFOLD 4.190-	4
970301403	32	COVER,THERMOSTAT	1
970300409	33	BOLT,HEX M 8X 55	2
970300261	34	BOLT,HEX M 8X 80	2
970301714	35	HOSE,D32 COVER THERMO.4.190	1
970635916	36	BOLT,SOCK M 8X 35	2
970300289	37	GASKET,RING D17	1
970604614	37	CAP,FILLING 0, 7 DOUBLE SEAL	1
970639853	37	""PLUG,HEX 3/8""G""	1
970301734	38	FILLING,NECK CPL.4.190	1
970851602	39	WATER TEMPERATURE SENDER	1
970301711	40	FLANGE,WATER INTAKE 4.190	1



Model : 4.220HE STANDARD ENGINE

Subassembly : HEAT EXCHANGER

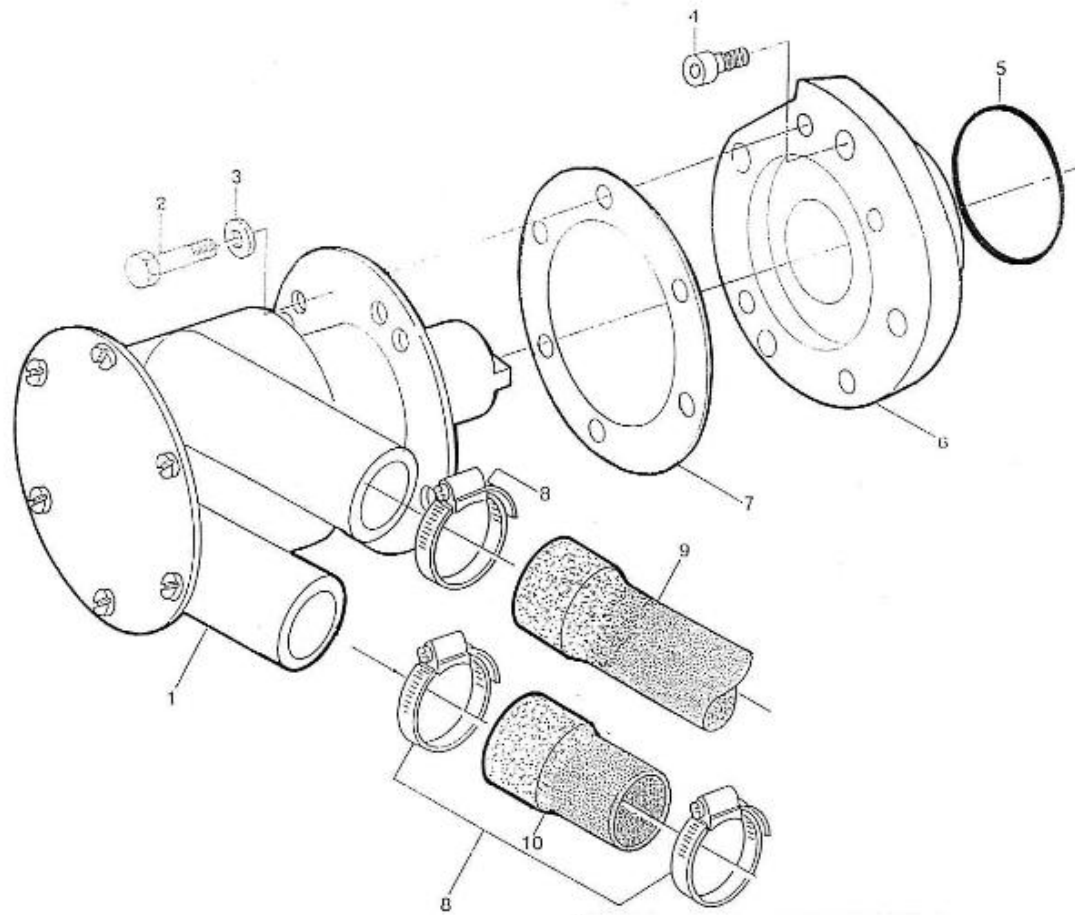


Part number	Item	Description	Quantity
970301730	41	GASKET,FLANGE	1
970300306	42	GASKET,RING D14	1
970119139	43	WASHER,CORRUGATED D8	6
970439910	44	BOLT,HEX M 6X 16	1
970302233	45	SUPPORT,PIPE CLAMP	1
970304072	46	CLAMP	1
970119149	47	WASHER, SPRING D 6	1
970635460	48	NUT,M 6	1
970307799PR	50	ENS.ECHANG COMP 4.220 HE MOT	1



Model : 4.220HE STANDARD ENGINE

Subassembly : SEA WATER PUMP

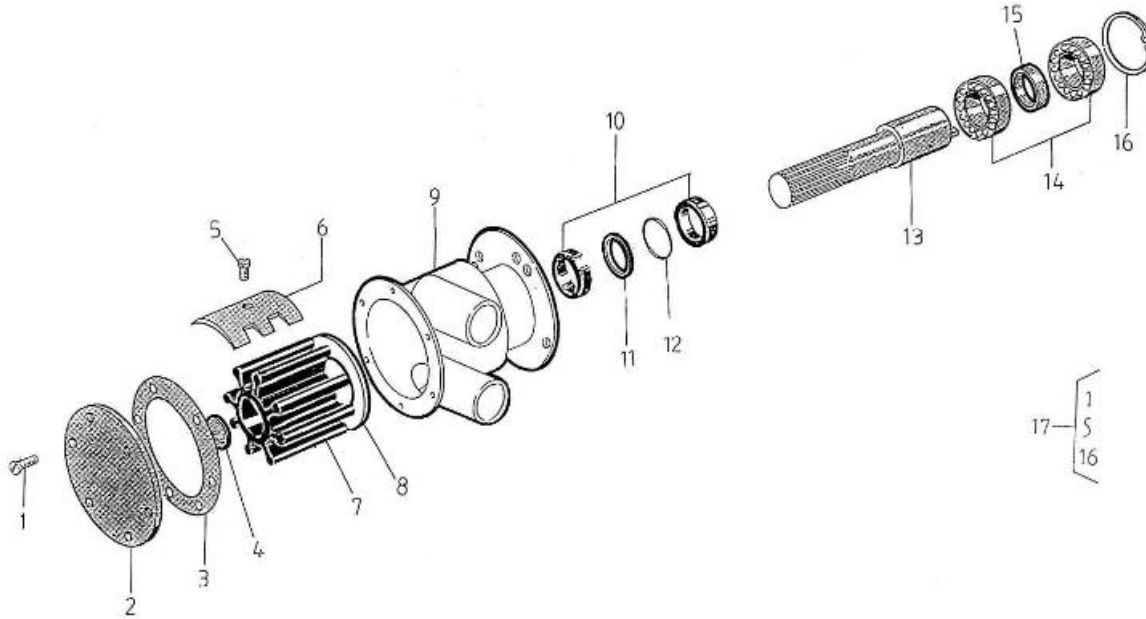


Part number	Item	Description	Quantity
970307474	1	PUMP,WATER	1
970644006	2	BOLT,HEX M 6X 20	4
970609602	3	WASHER,CORRUGATED D 6	4
970164026	4	BOLT,SOCK M 6X 16	4
970154025	5	O-RING,28,17X3,53	1
970302649	6	FLANGE,WATER PUMP 6.280HE	1
970302683	7	GASKET,WATER PUMP	1
970300922	8	CLAMP,HOSE 26-38	3
970307424	9	HOSE	1
970307423	10	HOSE	1



Model : 4.220HE STANDARD ENGINE

Subassembly : SEA WATER PUMP - DETAILS

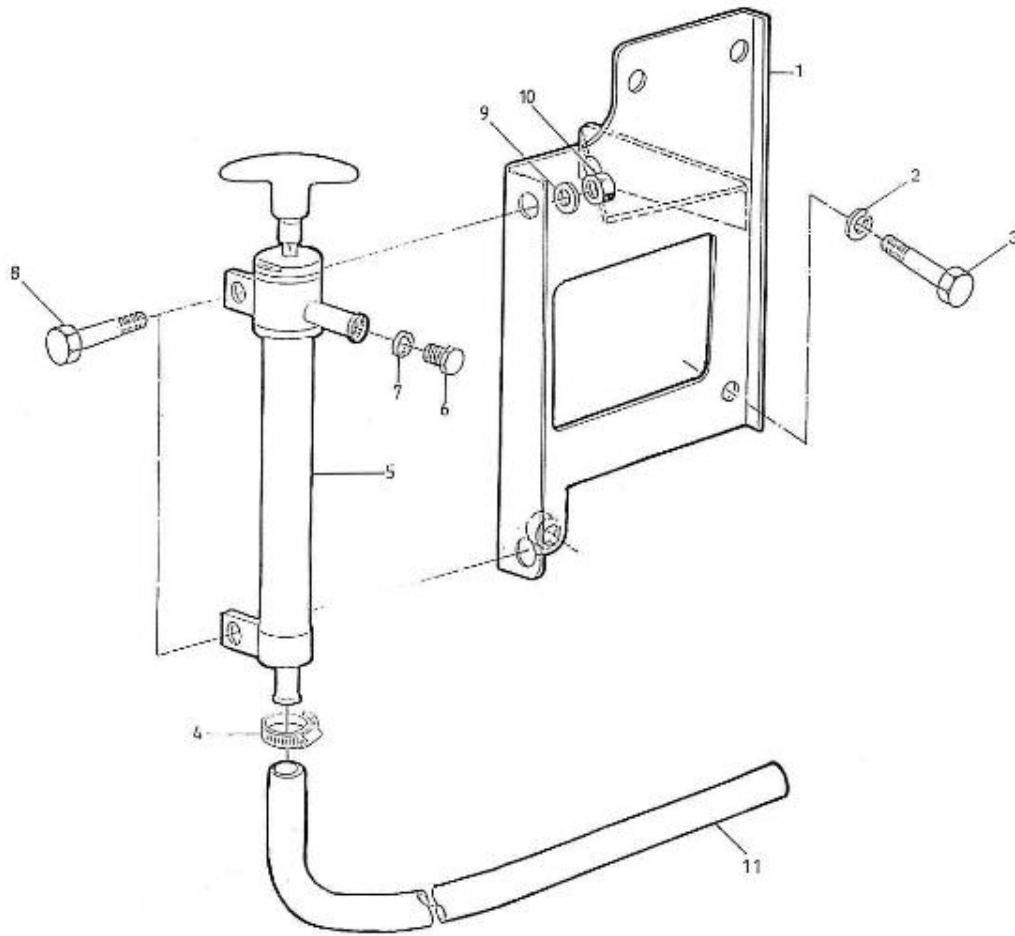


Part number	Item	Description	Quantity
970307476	1	BOLT	6
970301673	2	COVER	1
970301670	3	GASKET	1
970301671	4	GASKET	1
970301676	5	SCREW,CAM WATER PUMP	1
970307485	6	CAM,WATER PUMP	1
970544310	7	IMPELLER,WATER PUMP F 7B-803	1
970301677	8	WEAR PLATE	1
970307474	9	PUMP,WATER	1
970614516	10	O-RING SEAL	2
970307478	11	SPACER	1
970307479	12	SHIELD,OIL BREATHER	1
970307484	13	PUMP SHAFT	1
970307481	14	BEARING	2
970307482	15	SPACER	1
970307483	16	CIR-CLIP	1
970307474	17	PUMP,WATER	1
970307475	18	REPAIR KIT	1



Model : 4.220HE STANDARD ENGINE

Subassembly : OIL DRAIN PUMP

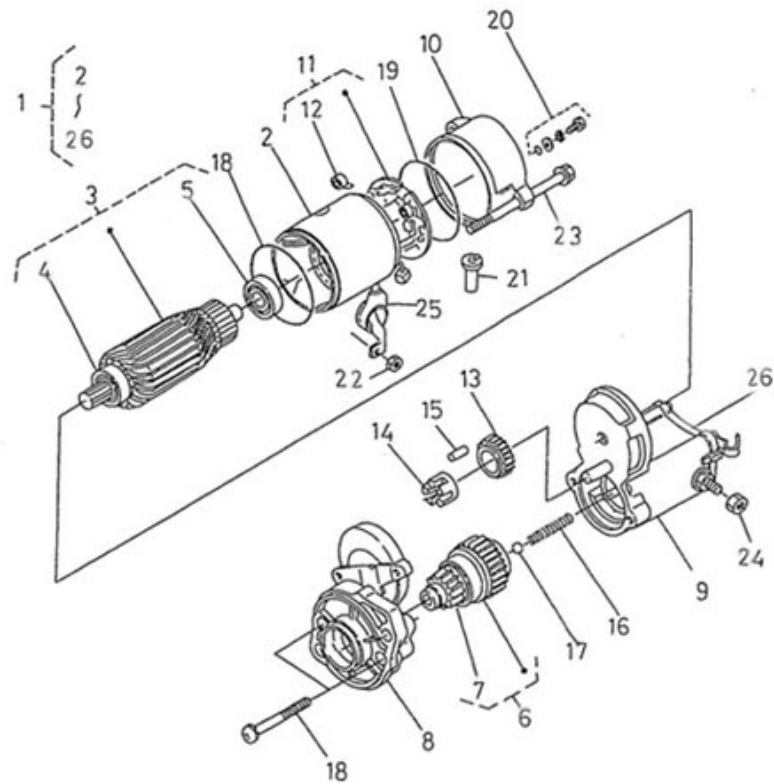


Part number	Item	Description	Quantity
970302677	1	SUPP,FUELFILTER-OILEXTR.4.190,	1
970119138	2	WASHER,SPRING D 8	3
970301280	3	BOLT,HEX M 8X 90	2
970439306	4	CLAMP	2
970439302	5	PUMP,OIL EXTRACTION	1
970832061	6	BOLT	1
970300288	7	GASKET,M8	1
970439910	8	BOLT,HEX M 6X 16	2
970119149	9	WASHER, SPRING D 6	2
970635460	10	NUT,M 6	2
970304102	11	DRAIN OIL PIPE	1



Model : 4.220HE STANDARD ENGINE

Subassembly : STATER - DETAILS

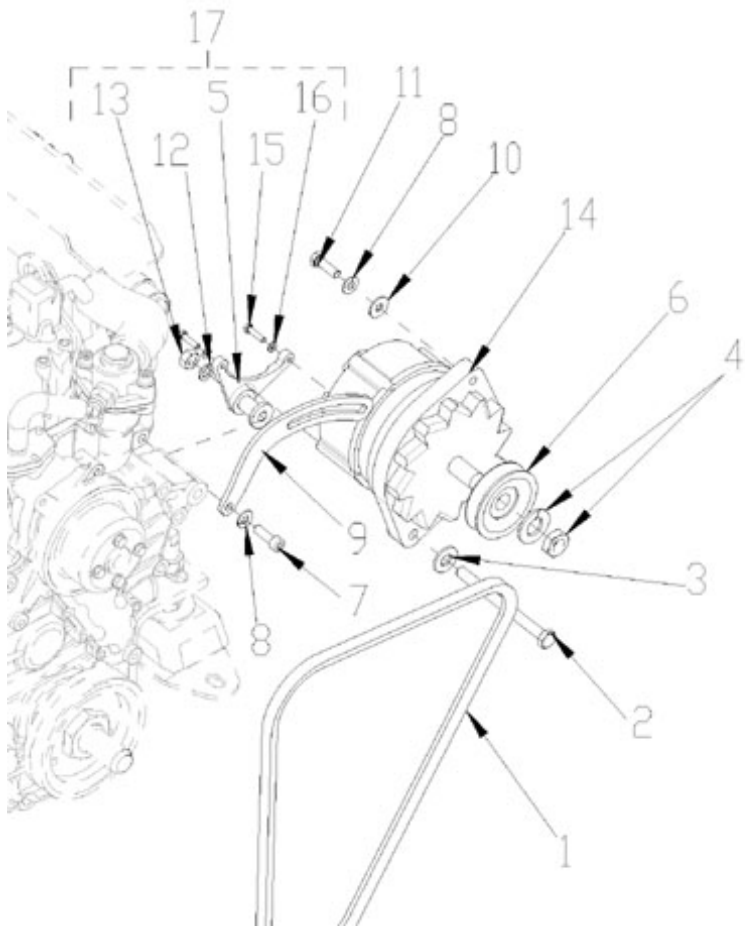


Part number	Item	Description	Quantity
970302070	1	STARTER,MOTOR 12V 0,8KW	1
970303987	3	ROTOR,STARTER 6.280	1
970303988	4	GASKET,RING	1
970313091	5	BEARING	1
970303994	6	PINION,SWITCH	1
970303990	7	GASKET	1
970303991	8	HOLDER,MAGNETIC SWITCH	1
970303992	9	GEAR,1	1
970517313	10	GEAR,2 STARTER MOTOR 4.110	1
970517316	11	BHEARING,BALL STARTER MOTOR	1
970303994	12	PINION,SWITCH	1
970303996	14	BOLT	2
970303997	15	SCREW	2



Model : 4.220HE STANDARD ENGINE

Subassembly : ALTERNATOR

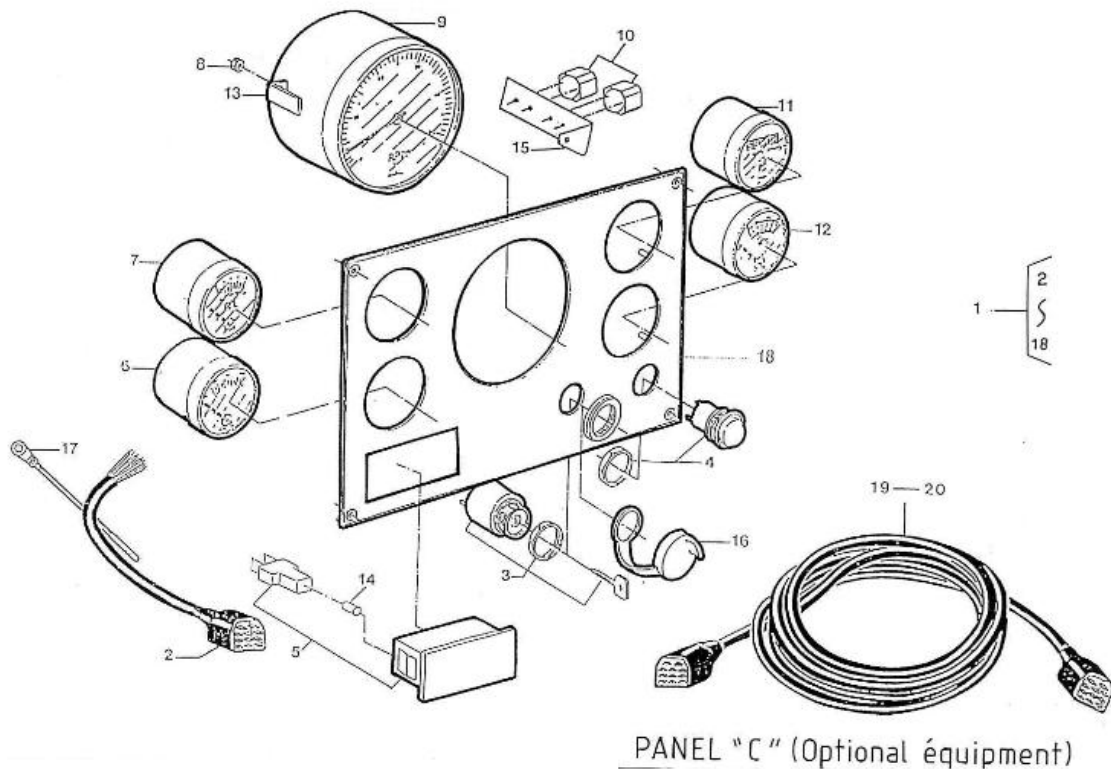


Part number	Item	Description	Quantity
48108133	1	V-BELT	1
970307438	1	SUPPORT,ALTERNATOR	1
39160668	2	BOLT	1
970307531	2	BOLT	1
970039794	3	WASHER	1
970119135	3	WASHER,PLAIN D10	1
970307532	4	NUT	1
48201173	5	ALTERNATOR BRACKET	1
970307522	5	ALTERNATOR,14V-60A	1
95312305	6	PULLEY	1
970307521	6	PULLEY	1
970300193	7	BOLT,HEX M 8X 70	1
970307533	7	REGULATOR,ALTERNATOR	1
970119138	8	WASHER,SPRING D 8	2
970307404	8	V-BELT	1
95203077	9	TIGHTENER	1
970307437	9	TIGHTENER,V-BELT	1
970304050	10	WASHER	1
970024016	11	BOLT,HEX M 8X 40	1
970409603	11	BOLT,HEX M 8X 25	1
970119136	12	WASHER,SPRING D10	1
970119138	12	WASHER,SPRING D 8	2
970027322	13	NUT,M 8	2
970119143	13	NUT, M10	1
48201303	14	ALTERNATOR 12V-120A	0
970607384	14	BOLT,HEX M 8X 110	1
39160109	15	BOLT	2
970300318	16	WASHER,SPRING D 5	2



Model : 4.220HE STANDARD ENGINE

Subassembly : INSTRUMENT PANELS



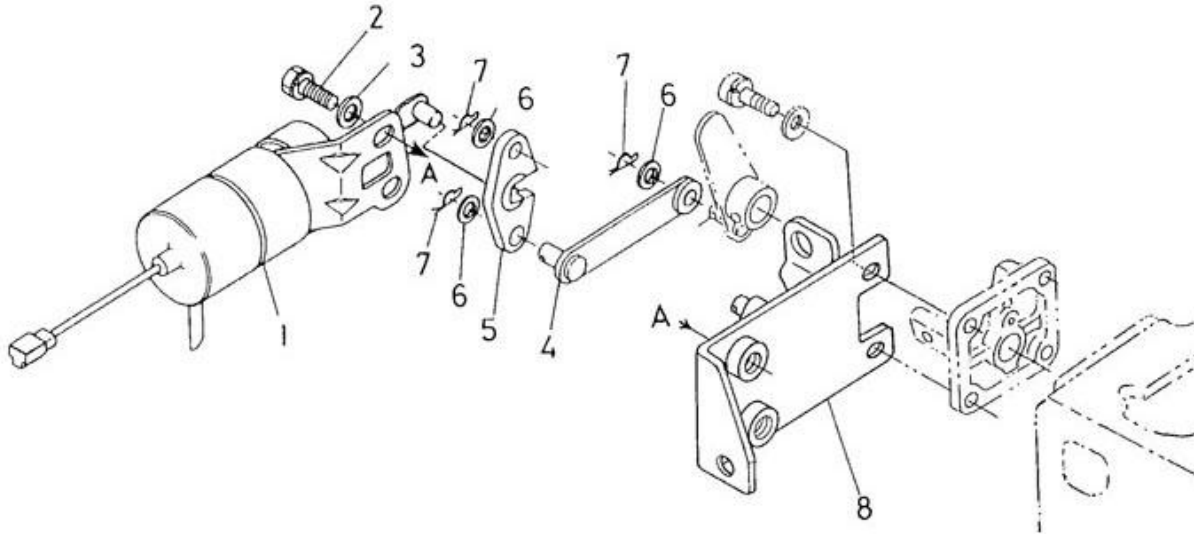
Part number	Item	Description	Quantity
970301662	2	GAUGE,VDO,TEMP/VOLT 40-120,8-1	1
970304004	2	ENS. CABLAGE TABLEAU 5 INSTR	1
970302667	3	SWITCH,BOSCH STARTER + GLOWING	1
970300920	4	CLAMP,INSTRUMENTS	8
970300967	4	BUTTON,PUSH	1
970301191	5	NUT,M 4 A2	8
970856005	5	INDICATORI OTTICI A 4 SPIE	1
970302684	6	BUZZER,SONITRON SMA 24A P17.05	2
970850603	6	THERM.V. 120C 12V D52	1
970850705	7	OIL PRESSURE GAUGE 5B	1
970301191	8	NUT,M 4 A2	12
970856011	8	BULB 12V-2W	2
970302667	9	SWITCH,BOSCH STARTER + GLOWING	1
970300967	10	BUTTON,PUSH	1
970302684	10	BUZZER,SONITRON SMA 24A P17.05	2
970856005	11	INDICATORI OTTICI A 4 SPIE	1
970850801	12	VOLTMETER	1
970856011	12	BULB 12V-2W	4
970300920	13	CLAMP,INSTRUMENTS	12
970302663	13	WIRING,PANEL 2INSTR. ADDITION	1
970304021	14	COVER	1
970856011	14	BULB 12V-2W	9
970304019	15	CABLEBINDER,PLASTIC 4.8X195	1
970302669	16	PLATE,PANEL 2 INSTR W/SW GLOW/	1
970304021	16	COVER	1
970302665	17	WIRING,INTERMEDIATE 4MTR 11POS	1
970304019	17	CABLEBINDER,PLASTIC 4.8X195	1
970302666	18	WIRING,INTERMEDIATE 8MTR 11POS	1
970302665	19	WIRING,INTERMEDIATE 4MTR 11POS	1
970302666	20	WIRING,INTERMEDIATE 8MTR 11POS	1



Model : 4.220HE STANDARD ENGINE

Subassembly : ELECTRICAL STOP

BEFORE N°KTH08040183

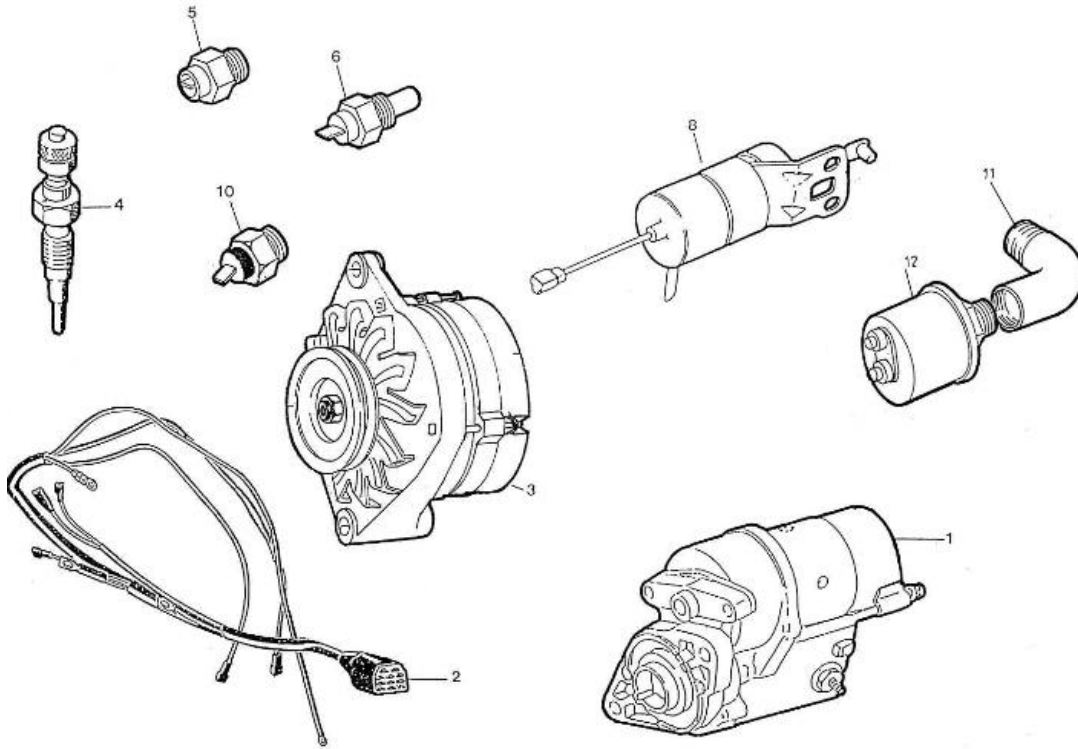


Part number	Item	Description	Quantity
970307362	1	SOLENOID,STOP	1
970490919	2	BOLT,M 8X 16	2
970301933	3	WASHER,PLAIN D 8	2
970307363	4	LEVER,STOP(1)	1
970307364	5	LEVER,STOP(2)	1
970141326	6	WASHER, PLAIN D6	3
970307365	7	PIN,SNAP	3
970307366	8	SUPPORT,SOLENOID	1



Model : 4.220HE STANDARD ENGINE

Subassembly : ELECTRICAL EQUIPMENTS

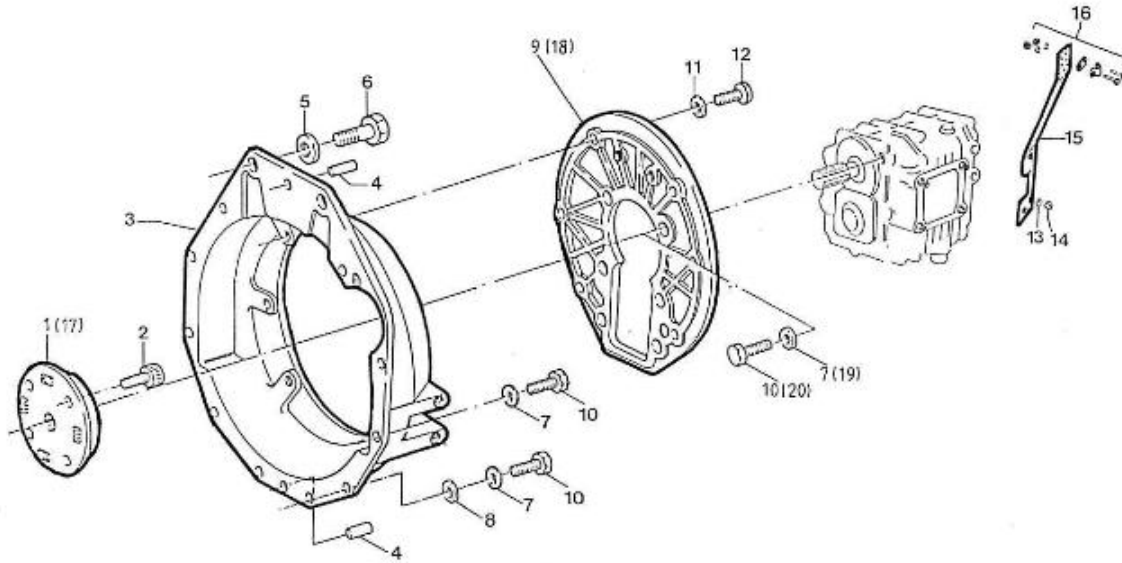


Part number	Item	Description	Quantity
970302070	1	STARTER,MOTOR 12V 0,8KW	1
970302661D	2	WIRING	1
970307522	3	ALTERNATOR,14V-60A	1
970307393	4	GLOW PLUG	1
970304054	5	TEMPERATURE SWITCH 1/8 1P 97	1
970851602	6	WATER TEMPERATURE SENDER	1
970307362	8	SOLENOID,STOP	1
970851700	10	SWITCH,OIL	1
970493207	11	ELBOW,1/8X10X1,5MF	1
48201143	12	OIL PRESSURE SENDER	1



Model : 4.220HE STANDARD ENGINE

Subassembly : GEAR BOX FLANGE

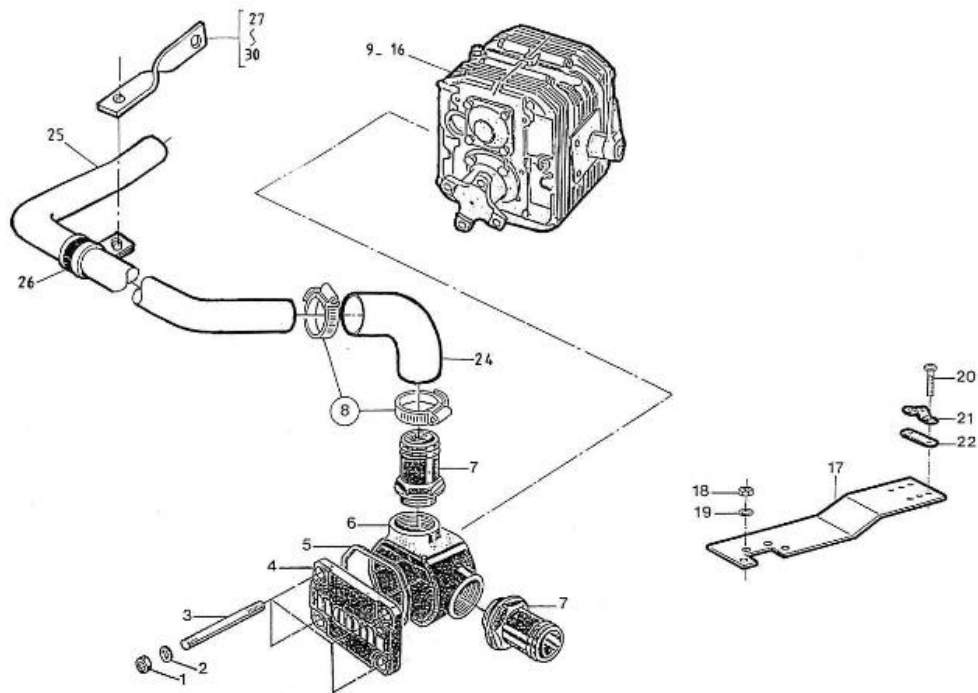


Part number	Item	Description	Quantity
970776350	1	DAMPERPLATE	1
970119147	2	BOLT, SOCK M 6X12	8
970301628H	3	CARTER VOLANT 4.220-5.280	0
970302149	4	PIN,CYLINDRICAL D10X 20	2
970647606	5	WASHER,CORRUGATED D12	2
970301736	6	BOLT,HEX M12X1,25X 30	2
970119139	7	WASHER,CORRUGATED D8	16
970119138	8	WASHER,SPRING D 8	2
970301709	9	PLATE,ADAPTOR HBW50-100-150	1
970119141	10	BOLT,HEX M8X 20	16
970119137	11	WASHER,CORRUGATED D10	6
970635508	12	BOLT,HEX M10X 25	6
970119139	13	WASHER,CORRUGATED D8	2
970027322	14	NUT,M 8	2
970300373	15	SUPPORT,CONTROL HBW	1
970835020	16	CLAMP	1
970776650	17	DAMPERPLATE	1
970302342	18	PLATE,ADAPTOR -HBW250-	1
970119137	19	WASHER,CORRUGATED D10	6
970635508	20	BOLT,HEX M10X 25	6



Model : 4.220HE STANDARD ENGINE

Subassembly : GEAR BOX

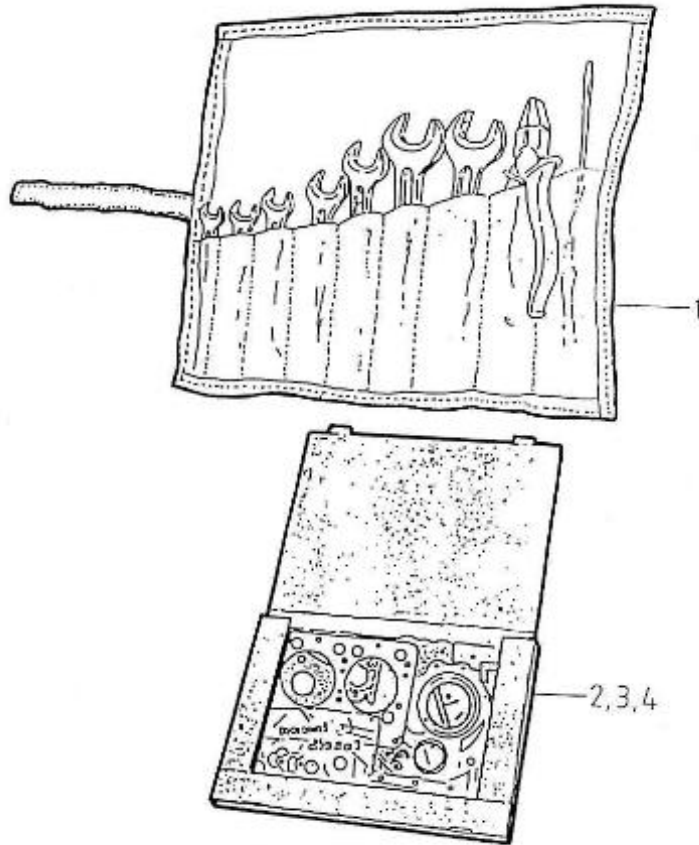


Part number	Item	Description	Quantity
970027322	1	NUT,M 8	4
970119139	2	WASHER,CORRUGATED D8	4
970304053	3	STUD	4
970632006	4	COVER,OIL COOLER HBW250	1
970632002	5	GASKET,OIL COOLER HBW250	1
970574550	6	HOUSING,OIL COOLER 4.240-5.300	1
970892303	7	SOCKET,HOSE	2
970300922	8	CLAMP,HOSE 26-38	2
970776330	9	GEARBOX ZF15 M 1.88 S.FL.	1
970307530	10	GEARBOX ZF12 M 2.63	1
970777110	11	GEARBOX ZF25 M 1.88R	1
970777115	12	GEARBOX ZF25 M 2.74	1
970776343	13	ZF15 MA 1.88R	1
970776342	14	GEAR BOX ZF15 MA 2.63	1
970776340	15	GEARBOX ZF 15 MIV 2.13R	1
970776335	16	GEARBOX	1
970300373	17	SUPPORT,CONTROL HBW	1
970027322	18	NUT,M 8	2
970119139	19	WASHER,CORRUGATED D8	2
970300317	20	BOLT,HEX M 5X 16	2
QCC33010TF	21	THREADING COLLAR JACKET 33C	1
QCC33014TF	22	COUNTER PLATE 33/43C	1
970835020	23	CLAMP	1
970302630	24	HOSE	1
970307225	25	PIPE	1
970304071	26	CLAMP	1
970439910	27	BOLT,HEX M 6X 16	1
970635460	28	NUT,M 6	1
970302233	29	SUPPORT,PIPE CLAMP	1
970119149	30	WASHER, SPRING D 6	1
970830123	31	STRAP	1



Model : 4.220HE STANDARD ENGINE

Subassembly : TOOLS - GASKETS KIT

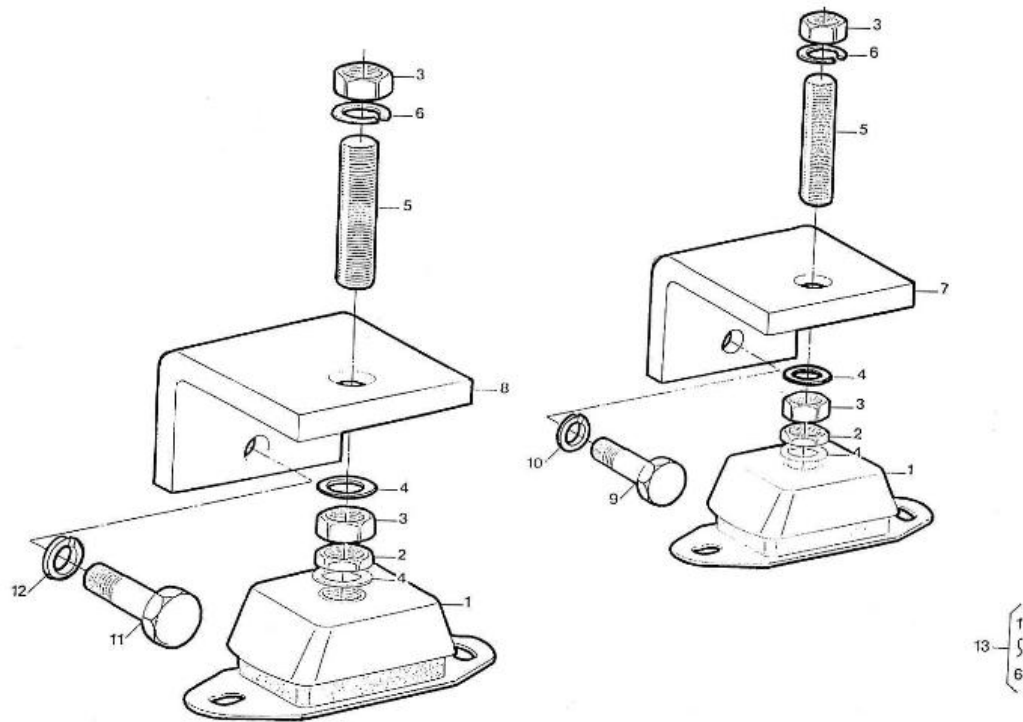


Part number	Item	Description	Quantity
970609901	1	KIT,TOOLS	1
970307410	2	GASKET SET	1
970307411	3	GASKET SET	1
970302130	4	SET,GASKET MARINE 4.190	1



Model : 4.220HE STANDARD ENGINE

Subassembly : SUPPORT AND MOUNTING

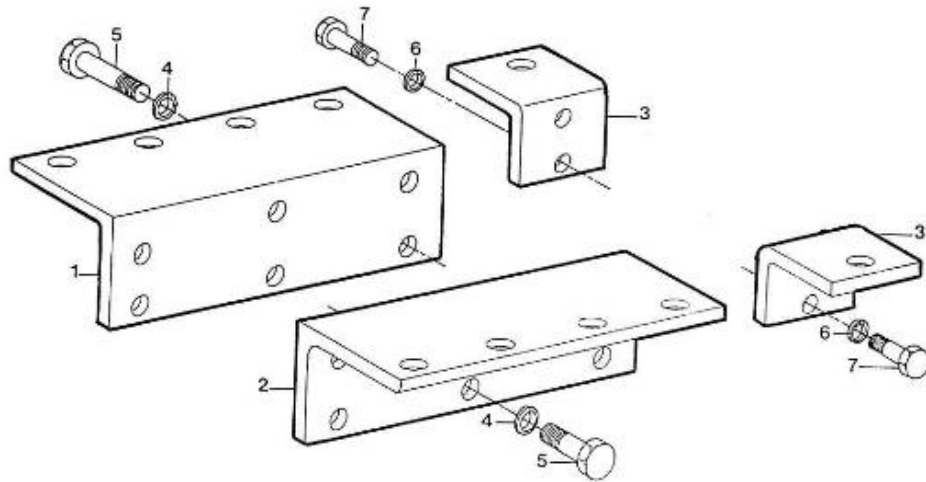


Part number	Item	Description	Quantity
48190023	1	ELASTICAL MOUNT	4
970639203	2	NUT,M16 LOW	4
970896520	3	NUT	8
970649108	4	WASHER,PLAIN D16	8
970609116	5	STUD,M16X100	4
970649109	6	WASHER,SPRING D16	4
970301704	7	SUPPORT,MOUNT FRONT 4.190	2
970301419	8	SUPPORT,MOUNT REAR	2
970304013	9	BOLT,HEX M10X1.25X 35	4
970119136	10	WASHER,SPRING D10	4
970301736	11	BOLT,HEX M12X1,25X 30	4
970409154	12	WASHER,SPRING D12	4
48190023	13	ELASTICAL MOUNT	4



Model : 4.220HE STANDARD ENGINE

Subassembly : FIXE SUPPORTS

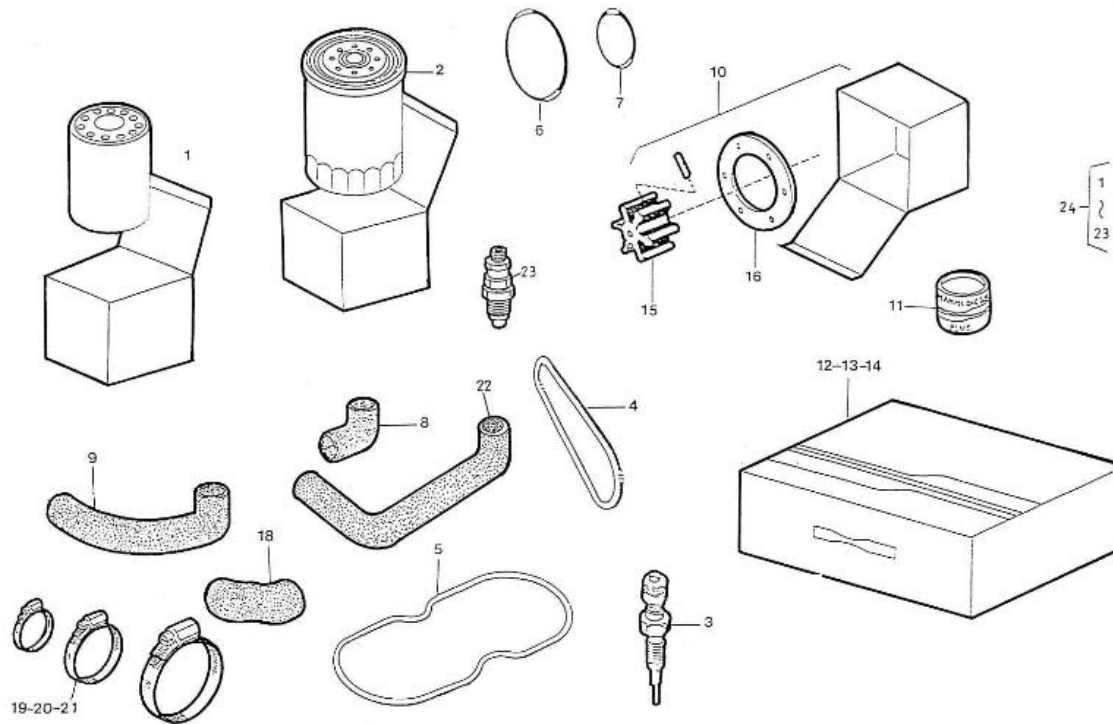


Part number	Item	Description	Quantity
970301419	3	SUPPORT,MOUNT REAR	2
970409154	4	WASHER,SPRING D12	12
970301736	5	BOLT,HEX M12X1,25X 30	12
970119136	6	WASHER,SPRING D10	4
970499051	7	BOLT,HEX M10X1,25X 30	4



Model : 4.220HE STANDARD ENGINE

Subassembly : MAINTENANCE KIT



Part number	Item	Description	Quantity
970622350	1	FILTER,FUEL	1
970603003	2	FILTER,ELEMENT OIL 4.180/90	1
970307393	3	GLOW PLUG	1
970307404	4	V-BELT	1
970301995	5	GASKET,COVER CYL:HEAD 4.190	1
970301719	6	O-RING,68,00X4,00	2
970154025	7	O-RING,28,17X3,53	1
970301713	8	HOSE,ELBOW COVER HEATEX.4.190	1
970301718	9	HOSE,WATER RETURN D32-34	1
970307475	10	REPAIR KIT	1
970301521	11	PAINT,NANNI BLUE 125CC	1
970310008	12	CASE	1
970301347	13	INSERT,CASE	1
970301348	14	INSERT,CASE BOTTOM	1
970544310	15	IMPELLER,WATER PUMP F 7B-803	1
970301670	16	GASKET	1
970856011	17	BULB 12V-2W	1
970301714	18	HOSE,D32 COVER THERMO.4.190	1
970604526	19	CLAMP,HOSE 22-32	2
970300922	20	CLAMP,HOSE 26-38	2
970604533	21	CLAMP,HOSE 32-44	1
970307424	22	HOSE	1
970307760	23	KIT,NOZZLE HOLDER	1
970307488	24	MAINTENANCE KIT	1



