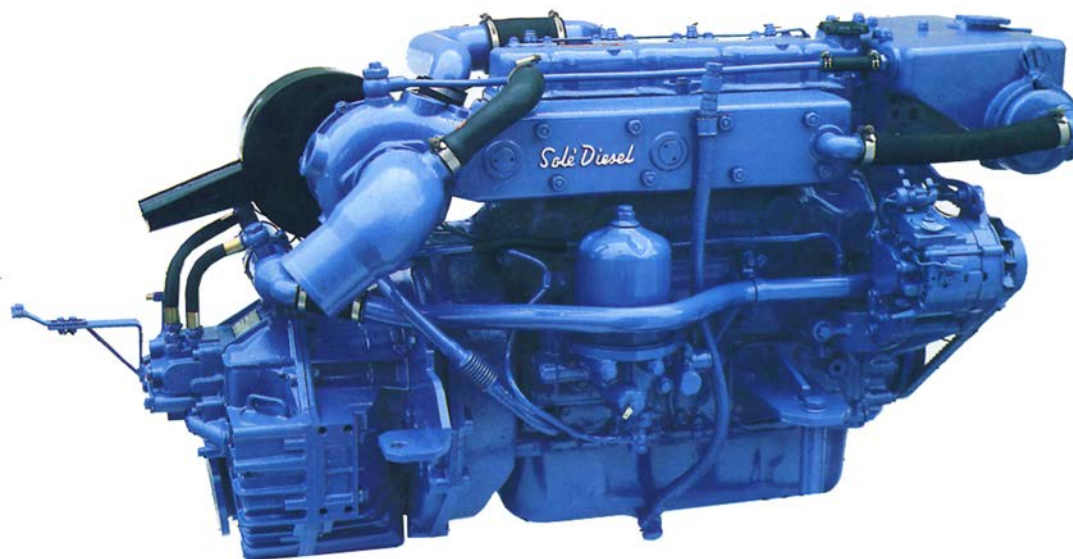




Engine HINO-150

VERSION 2015-10

SPARE PARTS MANUAL



PARTS LIST CATALOGUE

NORMS TO PLACE AN ORDER:

For fast and more efficient service, please specify the following information on spare parts orders that must be preferably done by FAX or e-mail as specified below:

- 1- Engine model: As shown in identification plate
- 2- Engine serial number: As shown in identification plate and stamped on crankcase
- 3- Item description + part number + quantity required

Spare parts requests must be addressed to:

recambios@solediesel.com

Telf.: +34 93 775 44 05

Fax: +34 93 775 30 13

The components shown in the catalog have:

- Figure: Number by which they are represented in scheme
 - Description: Trade name of the component
 - Quantity: Total number of parts used in the assembly of the part represented (may differ from the total minimum quantities)
- Hoses, indicates the total length in meters

The diagrams shown in this catalog of spare parts, have only the purpose to identify the piece in question, its representation is not meaningful and may differ from the actual piece.

In case of doubt, contact Solé Diesel, or your authorized dealer.

The parts i / or references in this catalog are subject to change without notice.

[SOLÉ, S.A.](#)

C-243b, Km, 2 - P.O. BOX 15
08760 Martorell (Barcelona) Spain

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Engine Body

Cylinder Head
Rocker Cover & Breather
Valve Drive
Timing Parts
Gear Case
Crankcase
Piston & Connecting Rod
Crankshaft & Flywheel
Oil System 1
Oil System 2
Oil System 3
Oil Pan
Engine Brackets
Bracket, Engine Control
Oil Cooler
Autres Pièces

Inlet & Exhaust

Inlet
Air Filter
Spare Parts, Turbocharger

Cooling System

Water Pump
Cooler Pipes

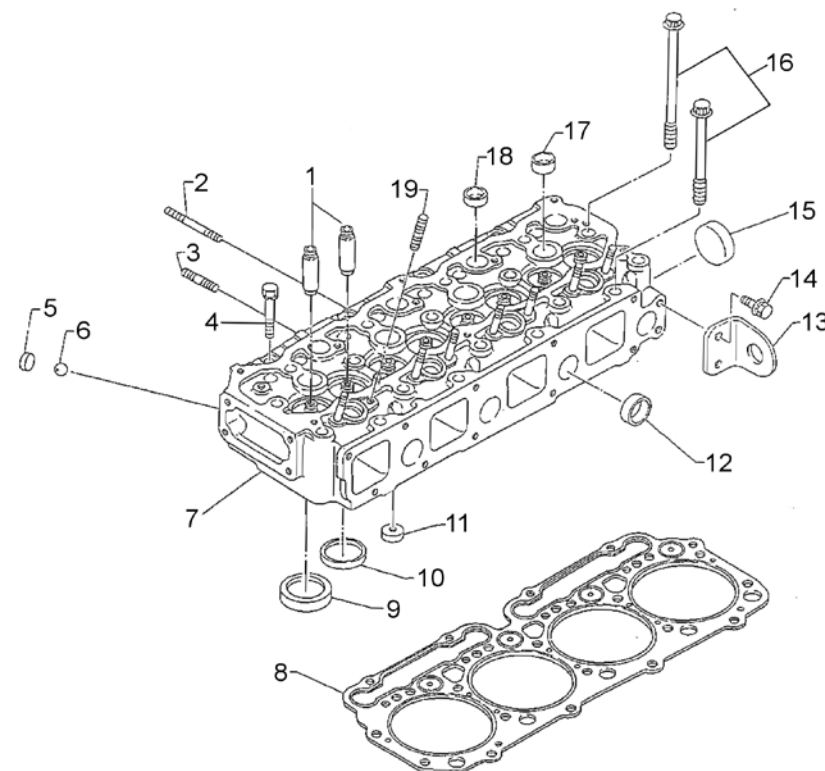
Fuel System

Fuel Pipe
Injection Nozzle 1
Injection Nozzle 2
Fuel Injection Pump
Fuel Filter
Fuel Filter Water Separator

Electrical System

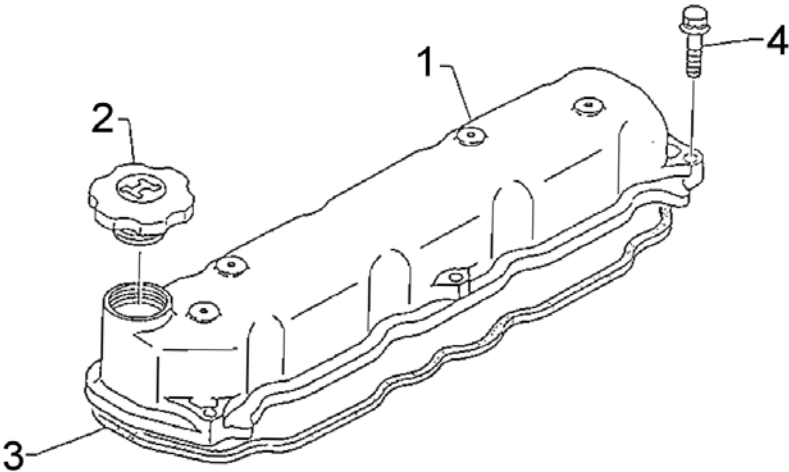
Alternator
Alternator Spare Parts
Starter Assy
Starter Assy Spare Parts
Electrical Wiring
Other Parts

D_HS12_1_1			Cylinder Head
FIG.	REF.	QTY	DESCR.
1	16521002	2	Bushing,Valve Guide INTAK
2	*	2	Descrip cion
3	*	8	Descrip cion
4	16520121	4	Bolt
5	16720013	1	Plug,Expansion
6	*	4	Descrip cion
7	16621001	1	Head Assy, CYL,
8	16621004	1	GKT, CYL Head
9	16521019	1	Seat, INL Valve
10	16521102	1	Seat, EXH Valve
11	16521010	4	GKT, Cover CYL Head
12	16521133	1	Plug,Expansion
13	*	1	Descrip cion
14	16520120	2	Bolt
15	16520082	1	Plug,Expansion
16	16521013	2	Bolt,cylinder head
17	16521026	1	Plug,Expansion
18	16520085	1	Plug,Expansion
19	16621023	8	Stud

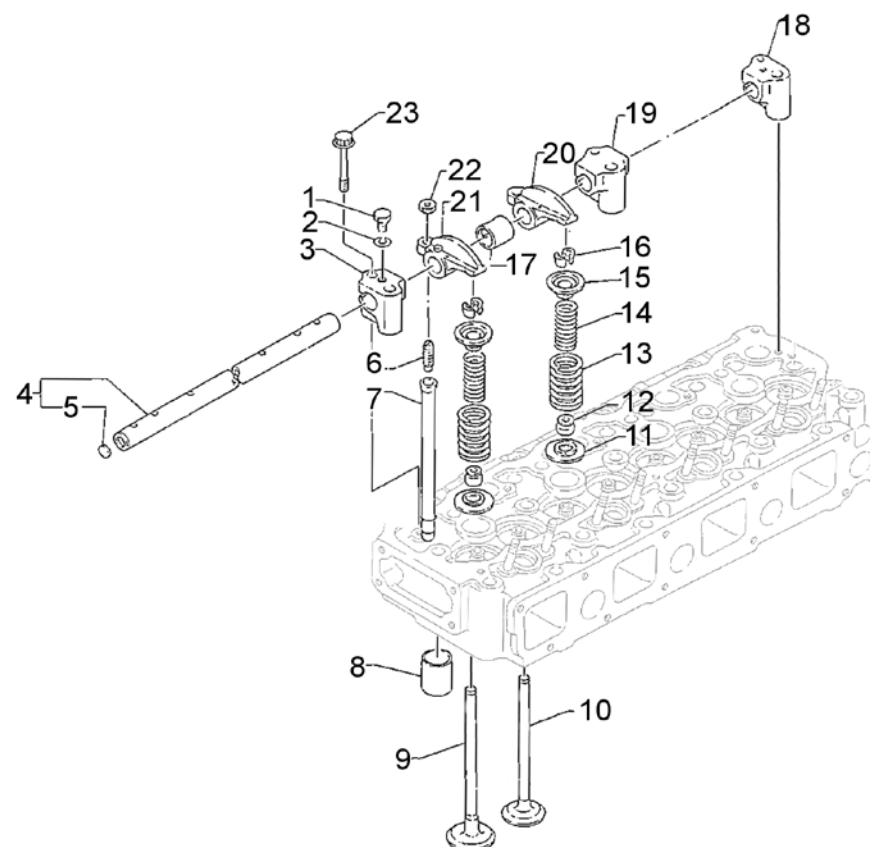




D_HS12_1_2			
Rocker Cover & Breather			
FIG.	REF.	QTY	DESCR.
1	16521009	1	Cover Assy,Rocker
2	16521003	1	Cap Oil FILLER
3	16521010	1	GKT, Cover CYL Head
4	52101260	6	Bolt DIN 931 M8-35 8.8

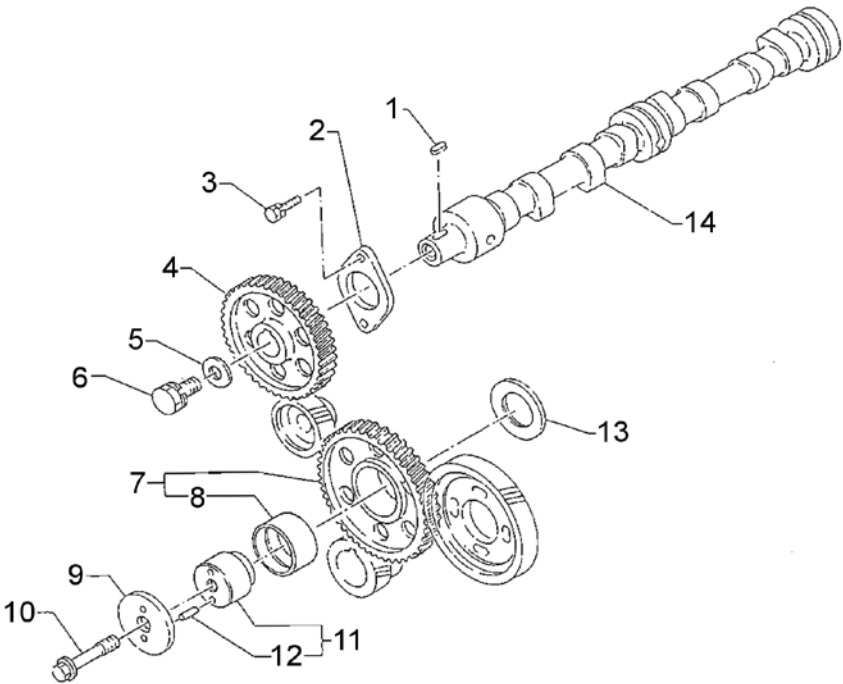


D_HS12_1_3			Valve Drive
FIG.	REF.	QTY	DESCR.
1	16522070	2	Screw,Set
2	16522049	2	LOCKWasher
3	16522048	3	Support,Valve Rocker
4	16522046	1	Shaft SUB Assy,Valve ROCK
5	16522069	2	Plug,Expansion
6	16522044	8	Screw Adjusting
7	16522041	8	ROD, Valve PUSH
8	16522173	4	LIFTER,Valve
9	16622055	4	Intake Valve STD
10	16622056	4	Exhaust Valve STD
11	16522063	8	Seat LWR, Valve Spring
12	16522054	8	Seal,Valve Exhaust Stem Oil
13	16522057	8	Spring OutER, Valve
14	16522058	8	Spring INNER, Valve
15	16522062	8	Seat UPR, Valve Spring
16	16522052	16	Support,Valve Rocker
17	16522072	4	COLLAR
18	16522052	1	Support,Valve Rocker
19	16522050	3	Support,Valve Rocker
20	16522074	4	ARM,Valve Rocker
21	16522042	4	ARM,Valve Rocker
22	16522045	8	Nut
23	16522071	5	Bolt

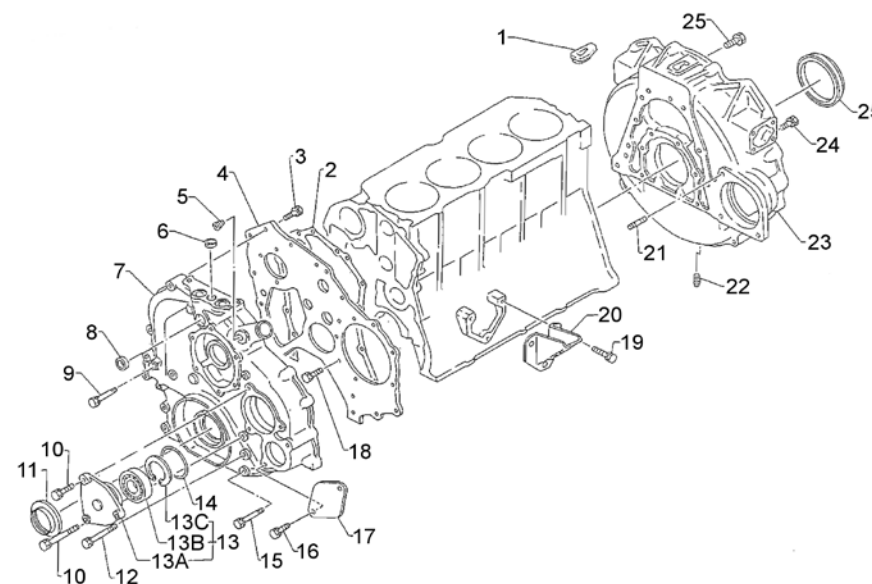




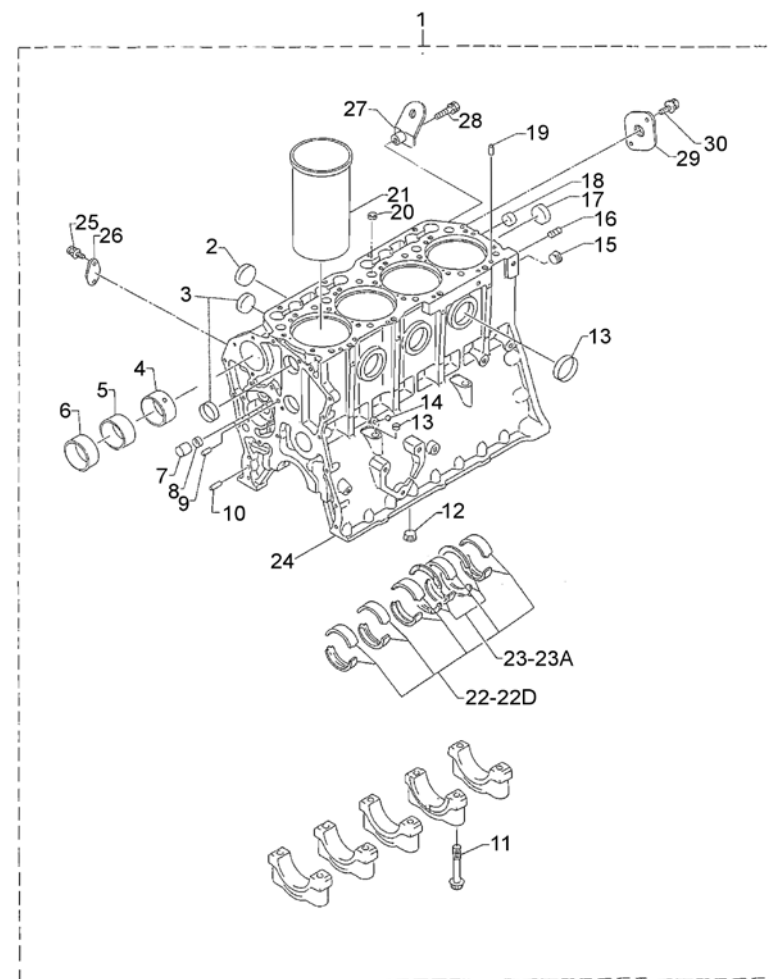
D_HS12_1_4			Timing Parts
FIG.	REF.	QTY	DESCR.
1	16522060	1	KEY
2	16522085	1	Plate,CamShaft THRUST
3	16522090	2	BOLT,W/Washer
4	*	1	Description
5	16522033	1	Washer,Plain
6	16522091	1	Bolt
7	16522038	1	Gear SUB Assy,IDLE
8	16522093	1	Bush
9	16522086	1	Plate,IDLE Gear THRUST
10	16522089	1	Bolt
11	*	1	Description
12	16522092	2	Pin,Straight
13	16522087	1	Plate,IDLE Gear THRUST
14	16522035	1	CamShaft SUB Assy,



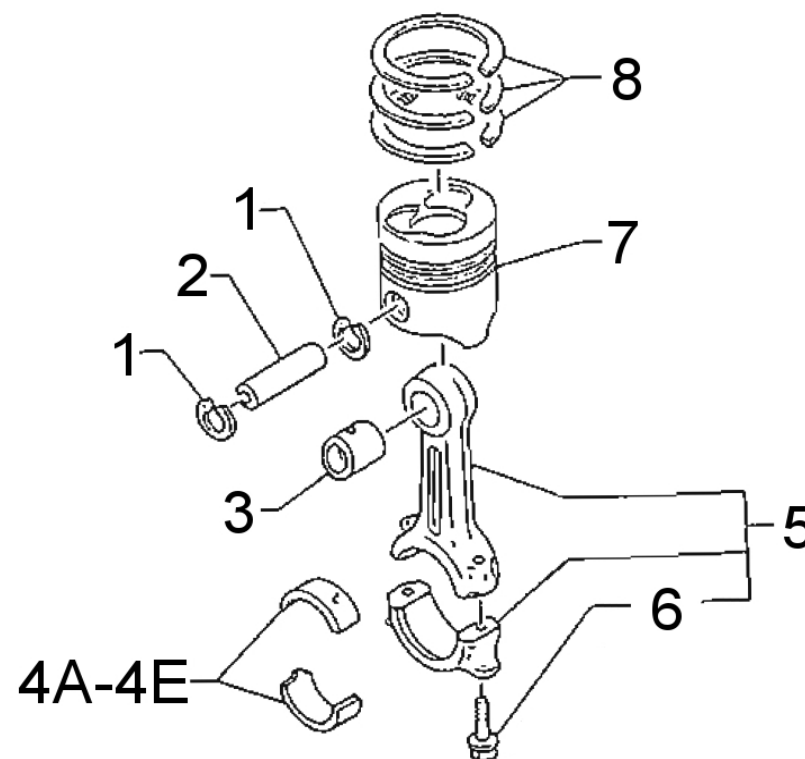
D_HS12_1_5			Gear Case
FIG.	REF.	QTY	DESCR.
1	16520092	1	Cover,F/H DUST
2	*	1	Descripcion
3	16520067	4	Bolt
4	16520017	1	Plate, Front
5	16520126	1	Plug
6	16520125	1	Plug,Expansion
7	16520035	1	Case Gear
8	16520127	1	Plug,Expansion
9	16520110	1	Bolt
10	16520111	2	Bolt
11	16520130	1	Seal, Oil
12	16520112	1	Bolt
13	*	1	Descripcion
13A	*	1	Descripcion
13B	*	1	Descripcion
13C	16520128	1	Ring,Retainer
14	*	1	Descripcion
15	16520109	5	Bolt
16	16520120	2	Bolt
17	16520093	1	Seal,Plate
18	*	3	Descripcion
19	16620120	6	Bolt,W/Washer
20	*	2	Descripcion
21	16520119	1	Stud
22	16720080	1	Plug
23	16720002	1	FLYWEEL Housing
24	52101260	6	Bolt DIN 931 M8-35 8.8
25	16520129	1	Seal, Oil
26	16520122	8	Bolt



D_HS12_1_6			Cranckcase
FIG.	REF.	QTY	DESCR.
1	*	1	Description
2	16521012	3	Plug,Expansion
3	16520085	2	Plug,Expansion
4	16520056	1	BRG CamShaft, N.3
5	16520055	1	BRG CamShaft, N.2
6	16520054	1	BRG CamShaft, N.1
7	16520060	1	Bushing,Body Oil Pump
8	16521133	5	Plug,Expansion
9	16520078	1	Pin,Straight
10	16520076	1	Pin,Straight
11	16520009	10	Bolt Bearing Cap
12	16520080	2	Plug
13	16720013	1	Plug,Expansion
14	16520012	2	Ball,STEEL
15	16520080	2	Plug
16	16520079	2	Pin
17	16520085	5	Plug,Expansion
18	16521026	1	Plug,Expansion
19	16520007	2	BRG Set C/S, 1.00
20	16521133	3	Plug,Expansion
21	16520050	4	LINER, Cylinder
22	16620003	1	BRG Set C/S, STD
22A	16620004	1	BRG Set C/S, 0.25
22B	16620005	1	BRG Set C/S, 0.50
22C	16620006	1	BRG Set C/S, 0.75
22D	16620007	1	BRG Set C/S, 1.00
23	16522075	1	Washer THRUST, STD
23A	16522076	1	Washer THRUST, 0.25
24	16620001	1	Block Assy,CYL
25	*	2	Description
26	16620135	1	Flange
27	16520057	1	Plate SUB Assy
28	16520075	1	Bolt
29	16520094	1	Seal,Plate
30	16520069	2	Bolt

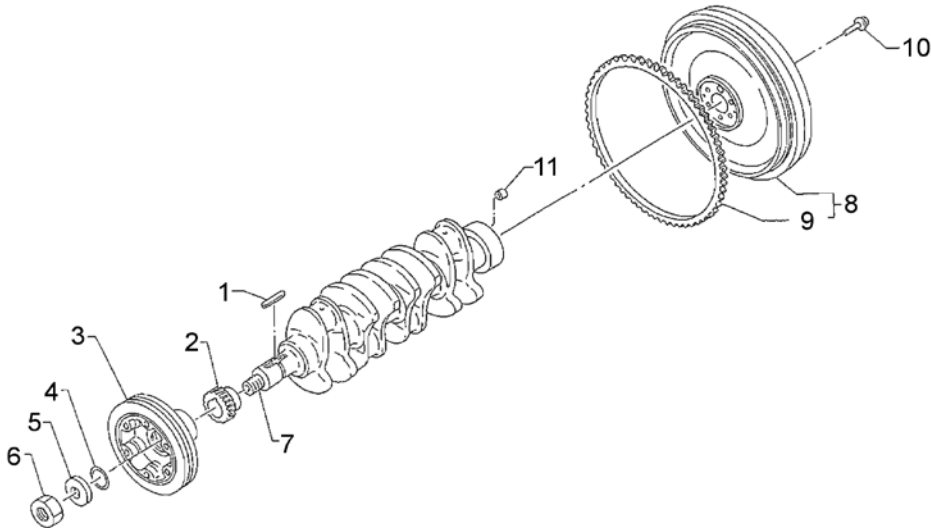


D_HS12_1_8			Piston & Connectiong Rod
FIG.	REF.	QTY	DESCR.
1	53041035	8	CIRClip DIN 472 I-35
2	16622002	4	Pin Kit, Piston
3	16622009	4	Bushing,CONROD,REPAir STD
5	16622005	4	CONROD Assy
6	16522012	8	Bolt,connecting rod
7	16622001	4	Piston, STD
8	16622006	1	Ring Set Piston, STD
4A	16622014	1	BRG Set CONROD, STD
4B	16622015	1	BRG Set CONROD, 0.25
4C	16622016	1	BRG Set CONROD, 0.50
4D	16622017	1	BRG Set CONROD, 0.75
4E	16622018	1	BRG Set CONROD, 1.00

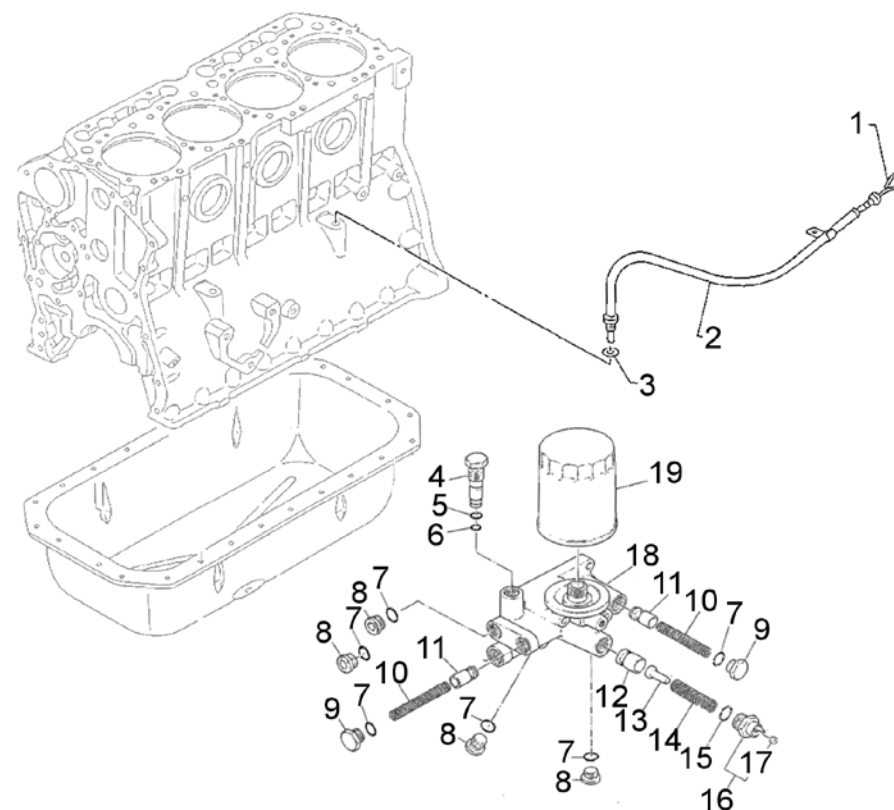




D_HS12_1_9			Crankshaft & Flywheel
FIG.	REF.	QTY	DESCR.
1	16522036	1	KEY
2	16522021	1	Gear,CrankShaft
3	16522024	1	Pulley CrankShaft
4	16522025	1	O-Ring D. 65X4
5	16522022	1	Spacer
6	*	1	Description
7	16622019	1	CrankShaft
8	16522028	1	Gear,Flywheel Ring
9	16522027	1	Flywheel Assy
10	16522031	6	Bolt,Flywheel
11	16522011	1	COLLAR

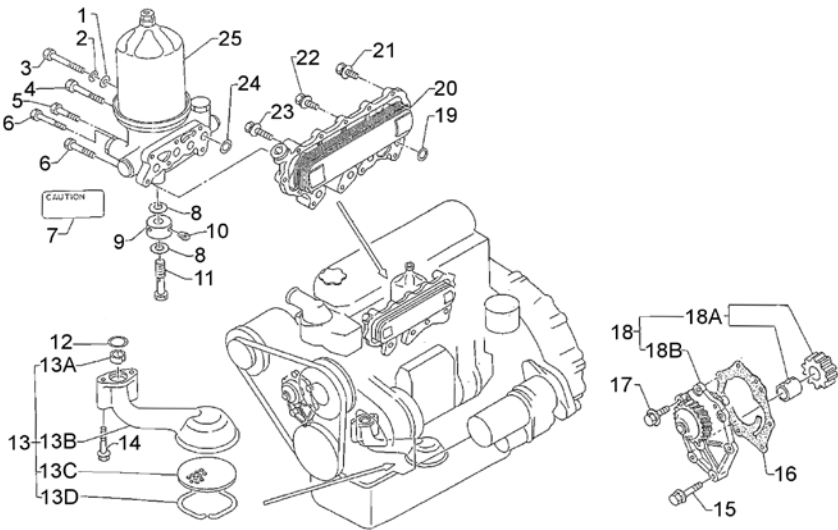


D_HS12_1_10A			Oil Sysem 1
FIG.	REF.	QTY	DESCR.
1	16520029.1	1	GAGE SUB Assy,Oil LEVEL
2	16520140	1	Guide,Oil LEVEL GAGE
3	*	1	Descrip cion
4	16524042	1	Plug,Oil Filter DRAIN
5	*	2	Descrip cion
6	*	1	Descrip cion
7	*	6	Descrip cion
8	*	4	Descrip cion
9	16524037	2	Valve Plug
10	16524038	2	Spring,Oil Valve
11	*	2	Descrip cion
12	16524046	1	Valve,Filter SAFETY
13	16524049	1	Valve SUB Assy,Oil SAFETY
14	16524041	1	Spring,Oil Valve
15	*	1	Descrip cion
16	16524047	1	Plug Assy,Oil
17	16524062	1	Nut
18	*	1	Descrip cion
19	13124051	1	Filter Assy,Oil



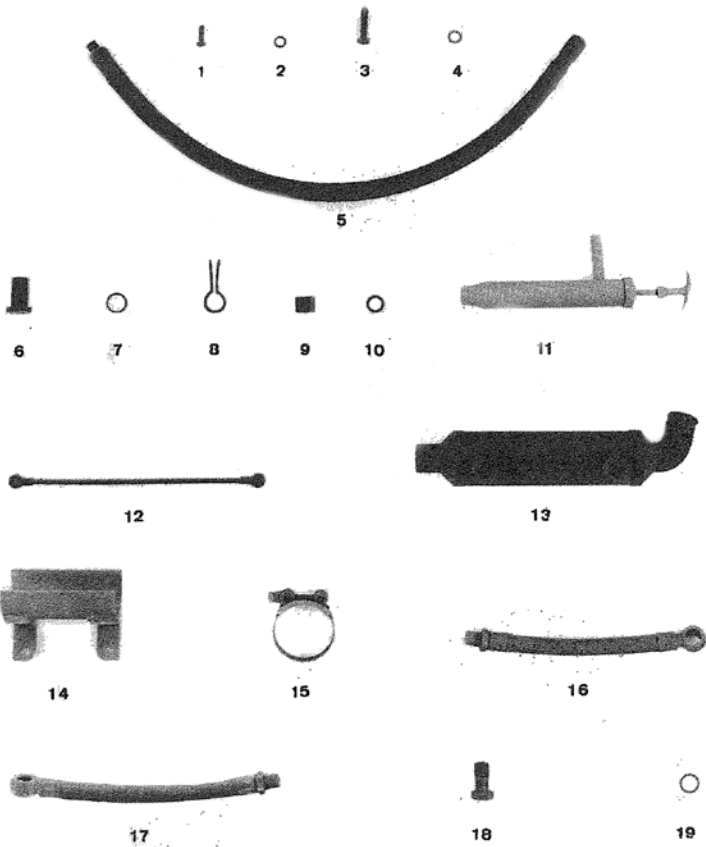


D_HS15_1_10B			Oil Sysem 2
FIG.	REF.	QTY	DESCR.
1	16724057	2	Washer,Plain
2	16520074	3	LOCKWasher
3	*	2	Descripcion
4	16522123	1	Bolt
5	*	1	Descripcion
6	16522121	3	Bolt
7	16622150	1	Plate,CAUTION CompletE
8	*	2	Descripcion
9	*	1	Descripcion
10	16720080	3	Plug
11	16622116	1	Bolt
12	*	1	Descripcion
13	16522106	1	STrainer Assy,Oil Pump
13A	16524103	1	GUIA O-Ring
13B	16522107	1	STrainer,Oil
13C	16524104	1	SCREEN,Oil STNR
13D	16522114	1	Ring,SNAP
14	16522122	2	Bolt
15	16522117	2	Bolt
16	*	1	Descripcion
17	16520067	5	Bolt
18	*	1	Descripcion
18A	*	1	Descripcion
18B	*	1	Descripcion
19	*	2	Descripcion
20	16622110	1	Cooler Assy,Oil
21	16522119	8	Bolt
22	*	3	Descripcion
23	16522120	2	Bolt
24	*	4	Descripcion
25	*	1	Descripcion



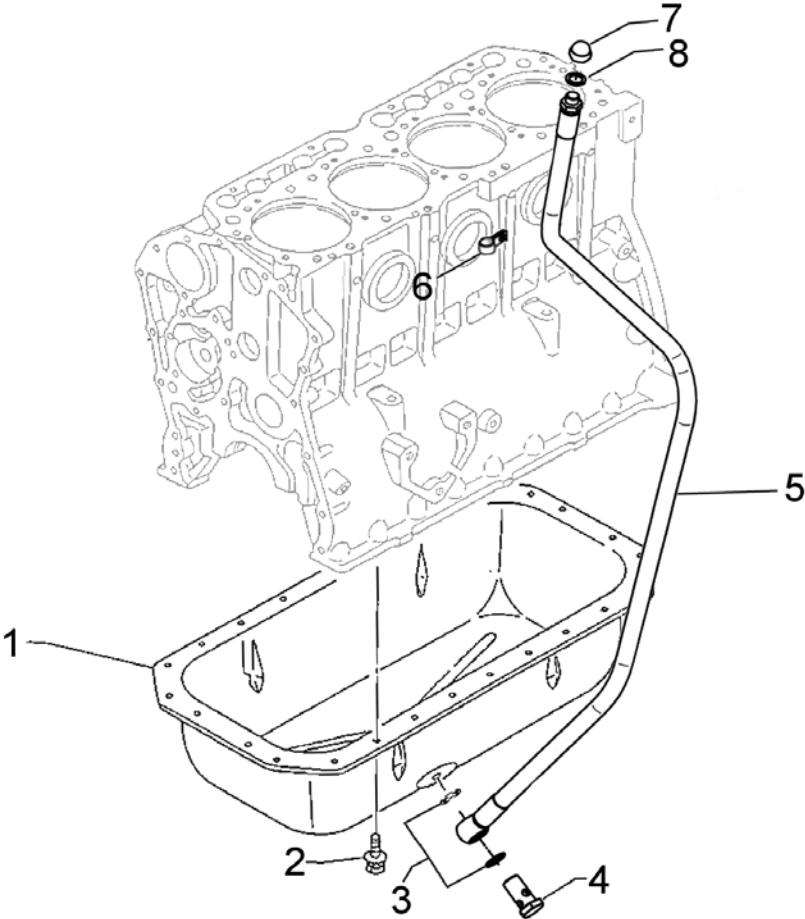


D_HS15_1_10C			Oil Sysem 3
FIG.	REF.	QTY	DESCR.
1	52102157	2	Bolt DIN 933 M6-20 8.8
2	53033006	2	Washer GROWER DIN 127-6
3	52101260	1	Bolt DIN 931 M8-35 8.8
4	53033008	1	Washer GROWER DIN 127-8
5	16514021	1	ExtraCTION Hose
6	16514022	1	Coupling,screw
7	56000077	2	Washer 18-23-1,5
8	16514010	1	Bracket Clamp
9	16514023	1	Plug 1/2" SAE
10	56000067	1	Washer 13-20-1,5
11	14714001	1	Pump,oil Suction
12	16512015	1	Pipe,lubrication
13	16512004	1	Cooler,Oil GearBox
14	16512010	1	Bracket,oil cooler
15	54083060	1	GBS 59-63 W4 STC Clamp
16	16512017	1	Pipe,oil l=200
17	16512018	1	Pipe,oil l=240
18	14712015	2	Bolt,Coupling pipe oil
19	57000375	4	Washer 17-22-1,5



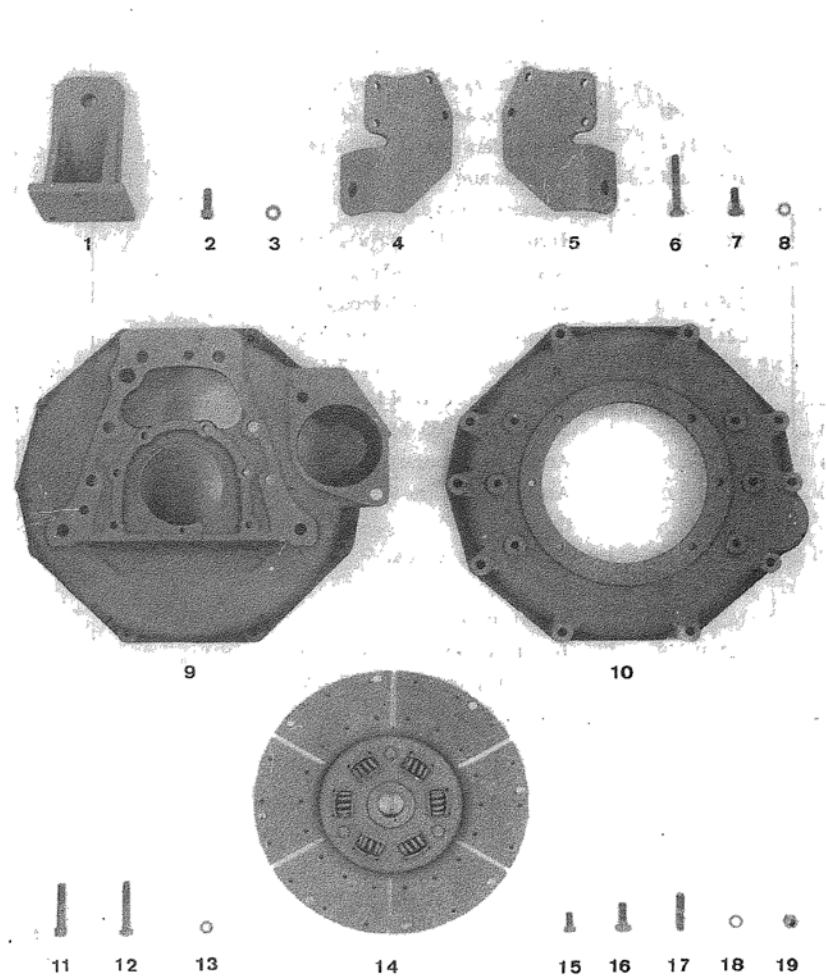


D_HS15_1_11			Oil Pan
FIG.	REF.	QTY	DESCR.
1	16520030	1	PAN,Oil
2	16520067	25	Bolt
3	57000375	4	Washer 17-22-1,5
4	16514022	1	Coupling,screw
5	16514021	1	ExtraCTION Hose
6	16514010	1	Bracket Clamp
7	16514023	1	Plug 1/2" SAE
8	56000077	2	Washer 18-23-1,5





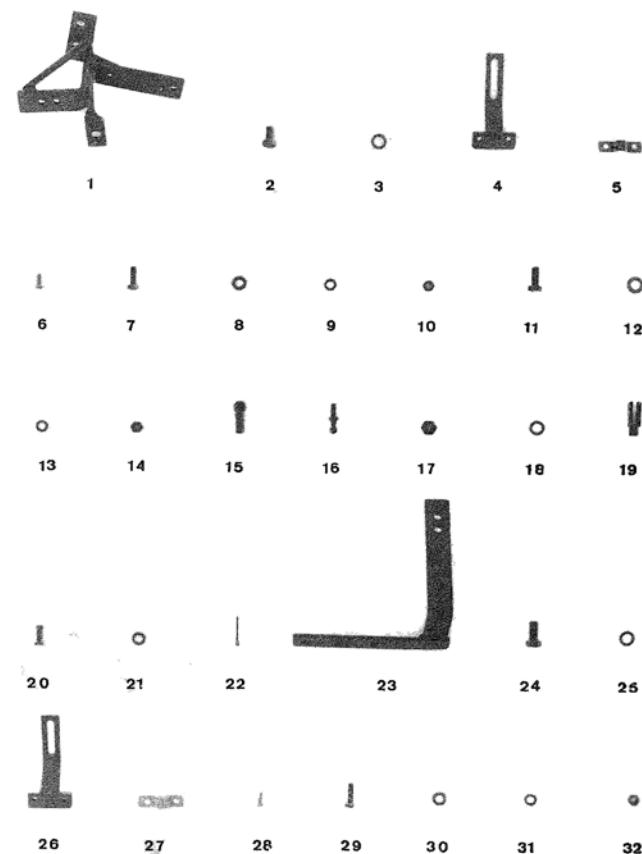
D_HS15_1_12			Engine Brackets
FIG.	REF.	QTY	DESCR.
1	16510005	2	Bracket, front
2	53103309	6	Bolt DIN 912 M10-30 12.9
3	51030010	6	Washer DIN 125-10
4	16510006	1	Bracket RIGHT, rear
5	16510007	1	Bracket LEFT, rear
6	52101318	4	Bolt DIN 931 M10-75 8.8
7	52102309	4	Bolt DIN 933 M10-30 8.8
8	53033010	8	Washer GROWER DIN 127-10
9	16510001	1	FLYWEEL Housing
10	16510012	1	Bell Housing, Gear box
11	52103315	2	Bolt DIN 912 M10-60 8.8
12	52101316	4	Bolt DIN 931 M10-65 8.8
13	53033010	4	Washer GROWER DIN 127-10
14	16510040	1	Damper,plate [NP]
15	53104307	8	Bolt DIN 7984 M10-20 12.9
16	52302309	4	Bolt DIN 933 W7/16-30 8.8
17	13310009	2	Stud
18	53033011	6	Washer GROWER DIN 127-11
19	52520716	2	Nut DIN 934 SAE 7/16 8.8



[NP] Not provided

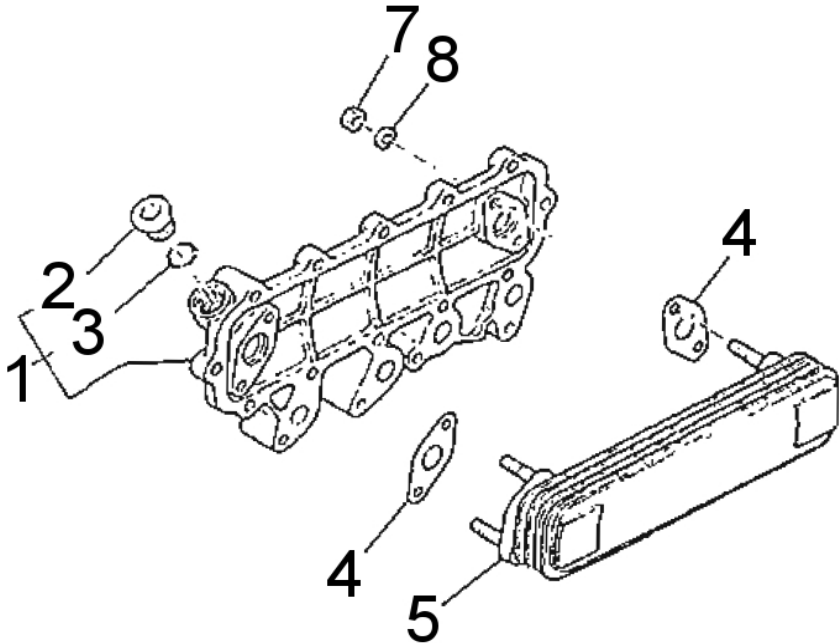


D_HS15_1_13			Bracket, Engine Control
FIG.	REF.	QTY	DESCR.
1	16519001	1	Bracket,solenoid
2	52102256	2	Bolt DIN 933 M8-15 8.8
3	53033008	2	Washer GROWER DIN 127-8
4	12119021	1	SUPPORT Clamp
5	14719013	1	Clamp,cable
6	55307104	2	Bolt DIN 86 W3/16-10
7	52102157	2	Bolt DIN 933 M6-20 8.8
8	51030006	2	Washer DIN 125-6
9	53033006	2	Washer GROWER DIN 127-6
10	52120006	2	Nut DIN 934 M6 8.8
11	52102257	1	Bolt DIN 933 M8-20 8.8
12	51030008	1	Washer DIN 125-8
13	53033008	1	Washer GROWER DIN 127-8
14	52120008	1	Nut DIN 934 M8 8.8
15	13319002	1	Ball JOINT, control speed
16	13319003	1	Ball JOINT, throttle
17	54120006	1	Nut DIN 934 M6 INOX
18	53033006	1	Washer GROWER DIN 127-6
19	14719032	1	SPLIT,piece
20	14719034	1	Pin
21	51030006	1	Washer DIN 125-6
22	51051107	1	Pin DIN-94 1,6-16
23	16519020	1	Bracket, Gear box control
24	52302257	2	Bolt DIN 933 W3/8-20 8.8
25	53033008	2	Washer GROWER DIN 127-8
26	12119021	1	SUPPORT Clamp
27	14719013	1	Clamp,cable
28	55307104	2	Bolt DIN 86 W3/16-10
29	52102157	2	Bolt DIN 933 M6-20 8.8
30	51030006	2	Washer DIN 125-6
31	53033006	2	Washer GROWER DIN 127-6
32	52120006	2	Nut DIN 934 M6 8.8



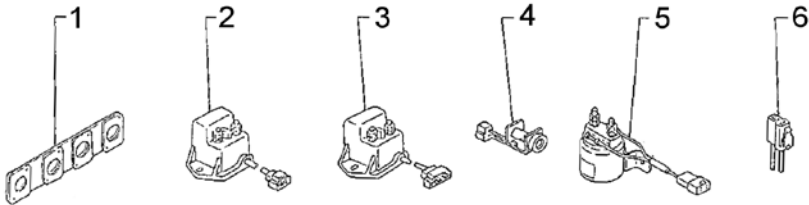


D_HS12_1_14			Oil Cooler
FIG.	REF.	QTY	DESCR.
1	16522109	1	Case SUB Assy,Oil Cooler
2	*	2	Descrip cion
3	*	2	Descrip cion
4	16522112	2	GKT, Oil Cooler ELMNT
5	16622111	1	Element,Oil Cooler
7	16522126	4	Nut
8	16520074	4	LOCKWasher



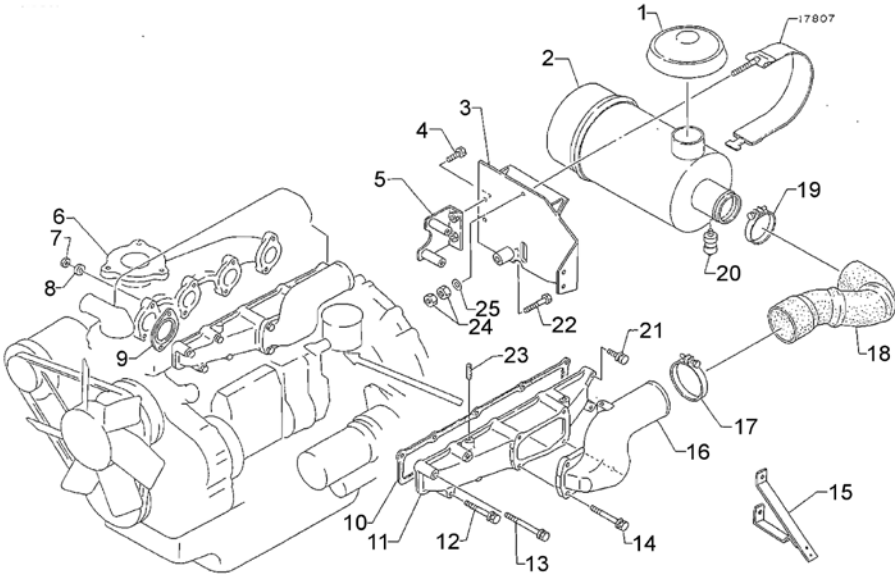


D_HS12_1_15			Autres Pièces
FIG.	REF.	QTY	DESCR.
1	16521111	1	Gasket,Sub Assy,Exhaust Manifold
2	16527161	1	Relay Assy,START Block
3	*	1	Description
4	*	1	Description
5	16727042	1	Relay Assy,Intake Air HEA
6	16727218	2	Connector Assy

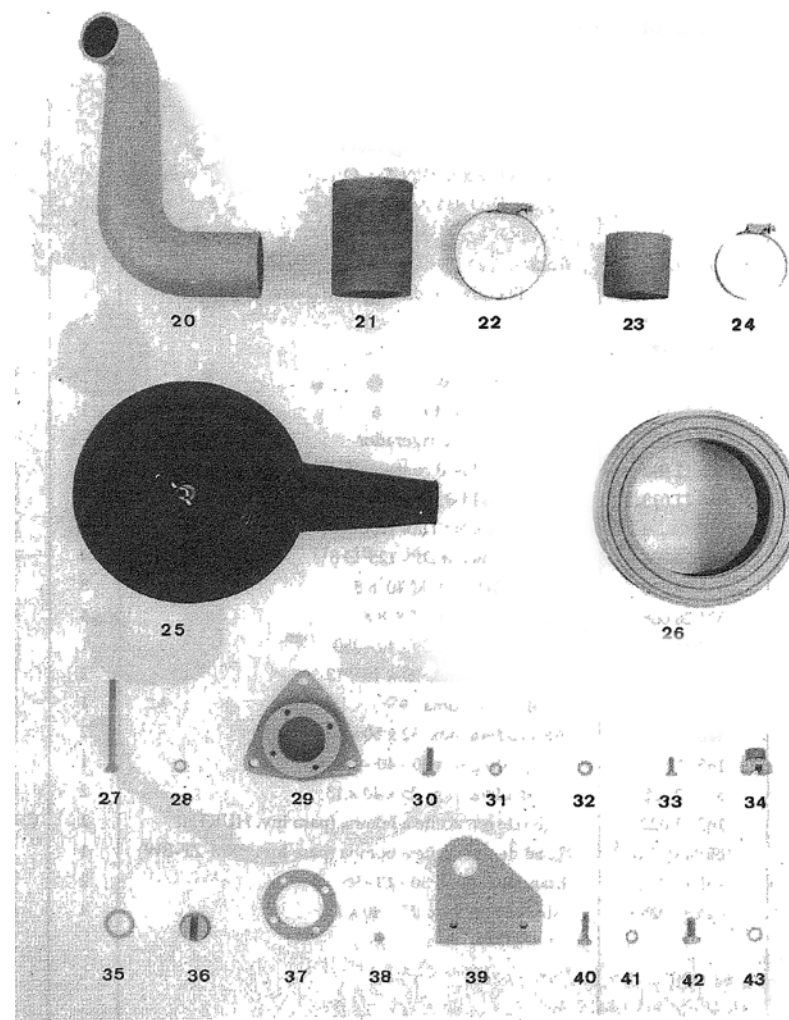




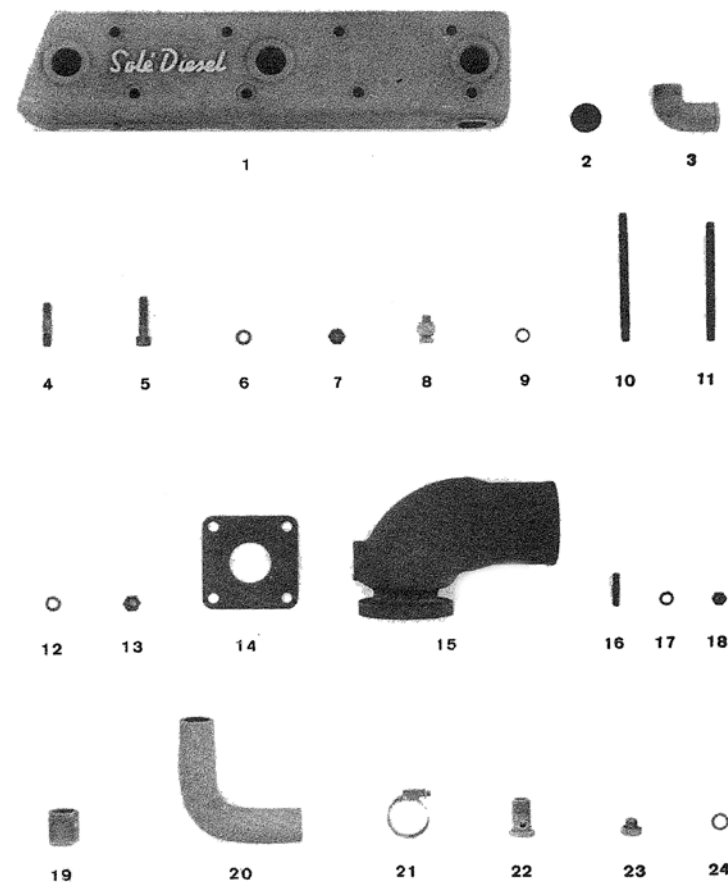
D_HS12_2_1			Inlet
FIG.	REF.	QTY	DESCR.
1	*	1	Descripción
2	*	1	Descripción
3	*	1	Descripción
4	*	2	Descripción
5	*	1	Descripción
6	*	1	Descripción
7	*	2	Descripción
8	*	8	Descripción
9	*	4	Descripción
10	*	1	Descripción
11	*	1	Descripción
12	16521114	4	Bolt
13	*	1	Descripción
14	16521118	4	Bolt
15	*	1	Descripción
16	*	1	Descripción
17	*	1	Descripción
18	*	1	Descripción
19	*	1	Descripción
20	*	1	Descripción
21	52101260	2	Bolt DIN 931 M8-35 8.8
22	16520120	2	Bolt
23	16521115	3	Stud
24	*	2	Descripción
25	16626034	8	Washer, Plain



D_HS15_2_2			Air Filter
FIG.	REF.	QTY	DESCR.
20	16510009	1	Inlet Pipe
21	16510015	1	Pipe 65-81-115
22	54082070	2	Clamp DIN 3017 70-90/12 W4
23	16510016	1	Pipe 50-65-60
24	54082050	2	Clamp DIN 3017 50-70/12 W4
25	16510030	1	Air Filter
26	16510031	1	Filter,element
27	52101272	4	Bolt DIN 931 M8-95 8.8
28	53033008	4	Washer GROWER DIN 127-8
29	16510010	1	Block, water pump
30	52102258	3	Bolt DIN 933 M8-25 8.8
31	53033008	3	Washer GROWER DIN 127-8
32	51030008	3	Washer DIN 125-8
33	52102156	4	Bolt DIN 933 M6-16 8.8
34	16510020	1	Coupling Drive, sea water pump
35	16510021	1	Plate, 0,5
36	16510026	1	CROSSHead
37	13310013	1	Gasket,water pump
38	11114056	1	TOP
39	16510013	1	Bracket, transport rear
40	52101259	2	Bolt DIN 931 M8-30 8.8
41	53033008	2	Washer GROWER DIN 127-8
42	52102307	2	Bolt DIN 933 M10-20 8.8
43	53033010	2	Washer GROWER DIN 127-10



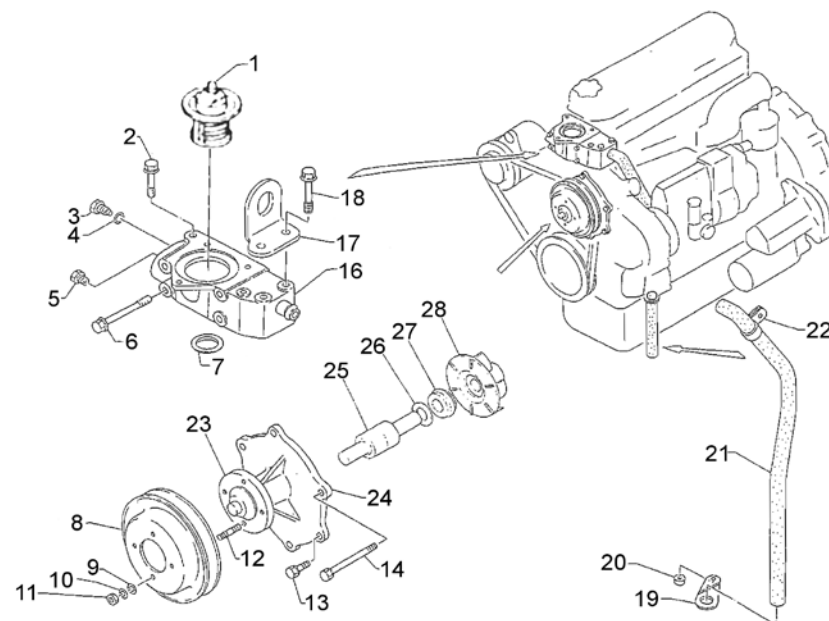
D_HS15_2_3			Spare Parts, Turbocharger
FIG.	REF.	QTY	DESCR.
1	16513000	1	MANIFOLD, Assy
2	16513004	5	Plug 1"
3	14711021	2	Hose N° 1
4	15211002	3	Stud
5	52103312	1	Bolt DIN 912 M10-45 8.8
6	53033010	4	Washer GROWER DIN 127-10
7	52120010	3	Nut DIN 934 M10 8.8
8	52102306	1	Bolt DIN 933 M10-15 8.8
9	56000061	1	Washer 10-16-1,5
1-9	16513000	1	MANIFOLD, Assy
10	16513012	1	MANIFOLD MOUNTING Stud
11	16513013	7	MANIFOLD MOUNTING Stud
12	53033010	8	Washer GROWER DIN 127-10
13	52120010	9	Nut DIN 934 M10 8.8
15	16513015	1	Elbow, wet exhaust
16	13311006	4	Stud,cover
17	53033008	4	Washer GROWER DIN 127-8
18	54120008	4	Nut DIN 934 M8
19	60180007	1	Outlet Coupling
20	14711027	1	Hose,rubber
21	54082025	2	Clamp DIN 3017 25-40/12 W4
22	16511017	1	Screw, Racord
23	11111135	2	Plug,oil drain [NP]
24	56000067	2	Washer 13-20-1,5



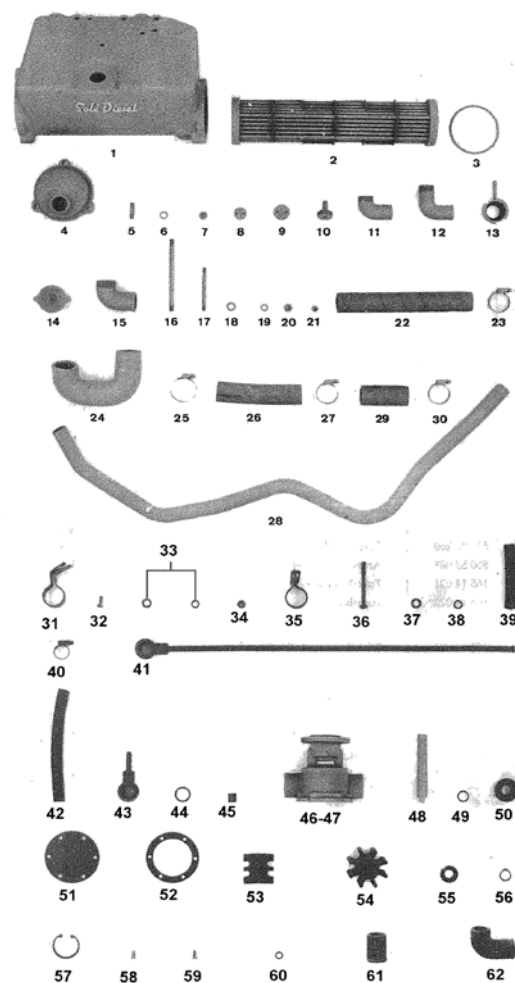
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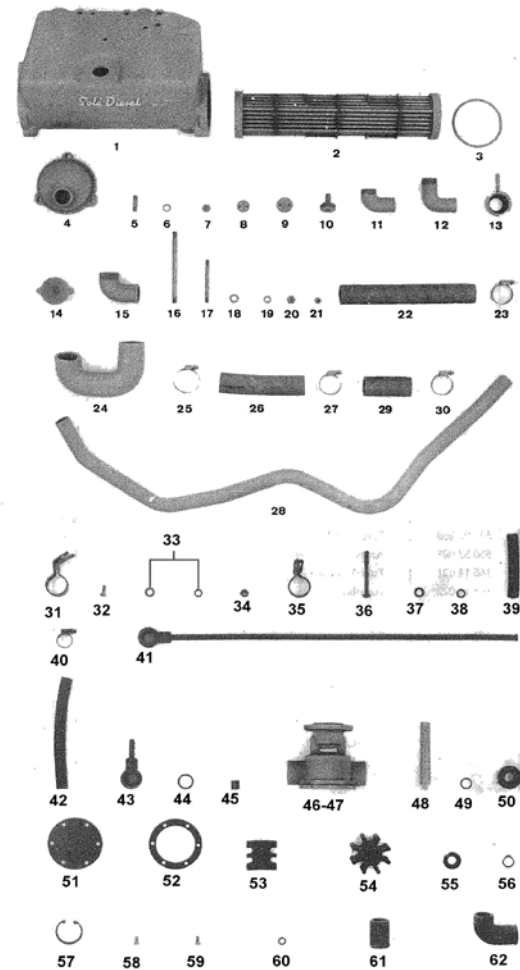
D_HS15_3_1			Water Pump
FIG.	REF.	QTY	DESCR.
*	16520116	2	Bolt
1	16521027	1	Thermostat
2	16521120	1	Bolt
3	16520065	1	Bolt
4	16721007	1	Washer,soft
5	16521024	1	Screw, Racord
6	16520110	4	Bolt
7	16521125	2	O-Ring D. 35X3,2
8	16521021	1	Pulley,Water Pump
9	16521127	4	Washer,Plain
10	16521126	4	LOCKWasher
11	16524147	4	Nut
12	16521119	4	Stud
13	16520067	4	Bolt
14	16521129	2	Bolt
15	16521020	1	Water Pump Assy
16	16521139	1	Case SUB Assy,Thermostat
17	16521101	1	HANGER,ENG
18	16521121	2	Bolt
19	16521100	1	Flange,VENT
20	16521134	1	Spacer
21	16521131	1	Hose,VENT
22	16521124	1	Clamp
23	16521304	1	CENTER,Coolant Pump PULLE
24	16521020	1	Water Pump Assy
25	16521301	1	Shaft SUB Assy,Coolant PU
26	16521305	1	SLINGER
27	16521302	1	Seal, Water Pump
28	16521303	1	VANE,Coolant Pump



D_HS15_3_2			Cooler Pipes
FIG.	REF.	QTY	DESCR.
1	16511001	1	Water Cooler, body
2	16511004	1	Element, water cooler
3	14711007	2	O-Ring D. 97,80x5,34
4	16511002	2	Cover, water cooler
5	16511007	6	Stud
6	51035010	6	Washer DIN 433 10
7	52120010	6	Nut DIN 934 M10 8.8
8	16511014	2	Plug 3/4
9	16513004	2	Plug 1"
1-15	16511000	1	Water Cooler, Assy
10	16511015	1	Pipe
11	14711021	1	Hose N° 1
12	14711022	1	Hose N° 2
13	15111002	1	Cap Mouth
14	14711003	1	Cap
15	16511009	1	Elbow
16	16511012	3	Stud M-10
17	16511013	4	Stud M-8
18	51030010	3	Washer DIN 125-10
19	51030008	4	Washer DIN 125-8
20	52120010	3	Nut DIN 934 M10 8.8
21	52120008	4	Nut DIN 934 M8 8.8
22	16511019	1	Pipe 30-40-280
23	54082025	2	Clamp DIN 3017 25-40/12 W4
24	16511011	1	Rubber Elbow
25	54082032	2	Clamp DIN 3017 32-50/12 W4
26	16511020	1	Pipe 30-40-175
27	54082025	2	Clamp DIN 3017 25-40/12 W4
28A	16511022	1	Pipe
28B	16511022B	1	Pipe
29	16511021	2	Pipe 30-40-95
30	54082025	4	Clamp DIN 3017 25-40/12 W4
31	16511016	1	Bracket Clamp
32	52102156	1	Bolt DIN 933 M6-16 8.8
33	51030006	1	Washer DIN 125-6

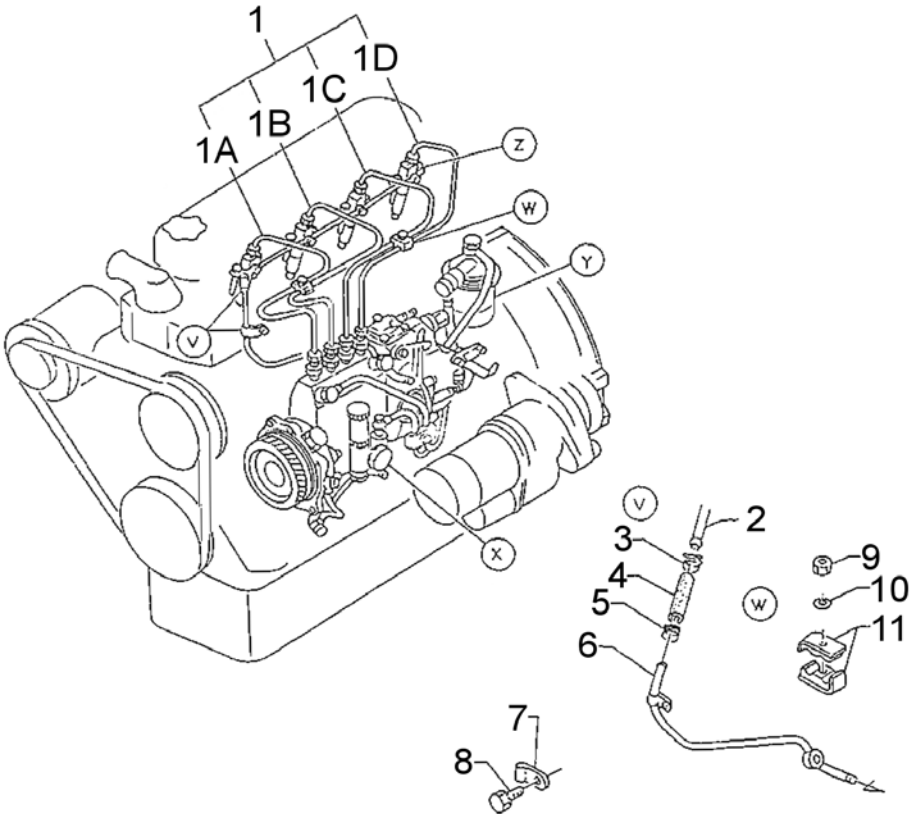


D_HS15_3_2			Cooler Pipes
FIG.	REF.	QTY	DESCR.
34	52120006	1	Nut DIN 934 M6 8.8
35	16511029	1	Bracket Clamp
36	52101267	1	Bolt DIN 931 M8-70 8.8
37	51030008	1	Washer DIN 125-8
38	53033008	1	Washer GROWER DIN 127-8
39	16511023	1	Pipe 10-20-105
40	54081012	1	Clamp DIN 3017 12-22/9 W4
41	16511024	4	Tube,turbocharger cooler
42	16511026	1	Pipe 10-20-190
43	18012013	1	COLLAR,union
44	56000081	1	Washer 20-26-1,5
45	16511027	4	Bushing
46	36511000	1	1" Water Pump, Set
47	33311001	1	Body Water Pump
48	33311010	1	Shaft Pump
49	33311013	1	O-Ring D. 15X2
50	33311014	1	Ball Bearing 6203
51	34711002	2	Cover Pump
52	34711003	1	Gasket Cover
53	34711005	1	Cam
54	34711008	1	1" Impeller
55	35111020	2	Seal 15,87-28,57-7,93
56	53040017	1	CIRClip DIN 471 E-17
57	53041040	1	CIRClip DIN 472 I-40
58	54108154	1	Bolt DIN 84 M6-10
59	54108154	6	Bolt DIN 84 M6-10
60	56000053	1	Washer 6-10-1,5
61	60180007	1	Outlet Coupling
62	14711021	1	Hose N° 1



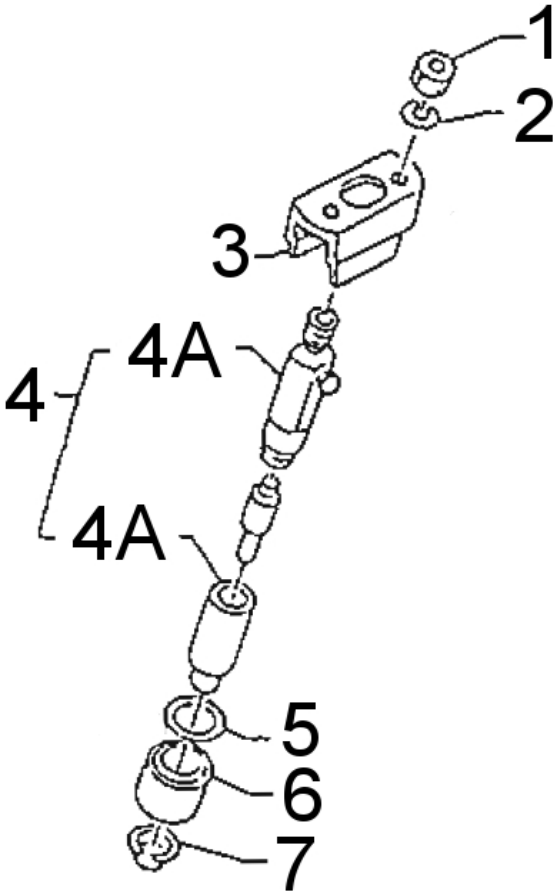


D_HS12_4_1			Fuel Pipe
FIG.	REF.	QTY	DESCR.
1	16624112	1	Pipe SUB Assy, Nozzle Leak
2	*	1	Description
3	16524157	2	Washer, SOFT
4	16524137	1	Hose, Fuel
5	16524159	2	Clip
6	16624113	1	Pipe SUB Assy, THROUGH FEE
7	16624135	1	Clip SUB Assy
8	16521128	1	Bolt
9	16524147	2	Nut
1A	16624122	1	Pipe Injection N.1
1B	16624123	1	Pipe Injection N.2
1C	16624124	1	Pipe Injection N.3
1D	16624125	1	Pipe Injection N.4
10	16521126	2	LOCKWasher
11	16524134	4	Clip SUB Assy

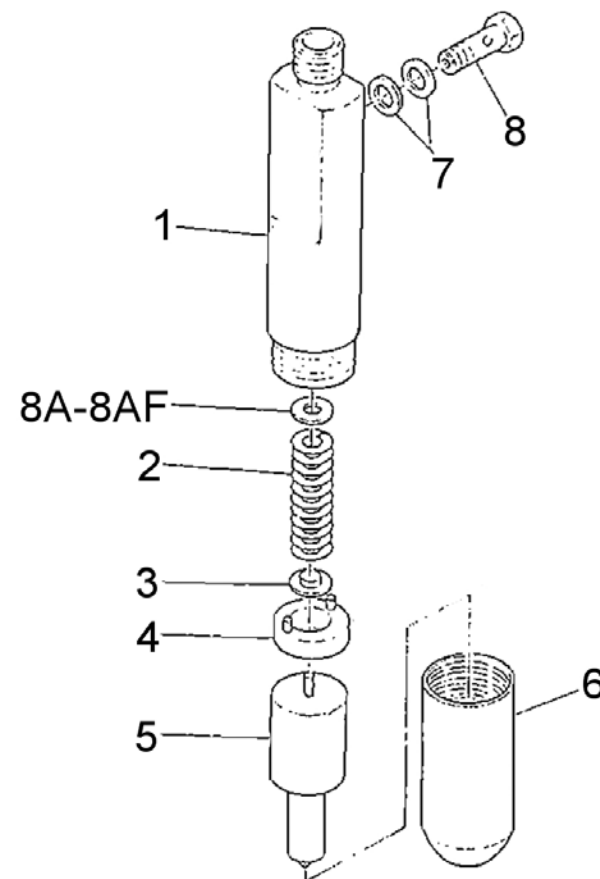




D_HS15_4_2A			Injection Nozzle 1
FIG.	REF.	QTY	DESCR.
1	16520070	8	Nut
2	16520074	8	LOCKWasher
3	16526022	4	Adapter, Nozzle Holder
4	16626001	4	Nozzle and Holder Set
5	16524136	4	Shim
6	16526021	4	Ring, Packing
7	16526023	4	Gasket, Nozzle Holder
4A	16626002	2	Holder Assy, nozzle



D_HS12_4_2B			Injection Nozzle 2
FIG.	REF.	QTY	DESCR.
1	16526003	1	Pin, Nozzle Dowel
2	16626026	1	Spring, Nozzle
3	16626030	1	Pin, Nozzle Holder PRESS
4	16626027	1	DISTANCE PIECE
5	16626018	1	Nozzle Assy
6	16626028	2	Nut, Nozzle RETAINING
7	16626029	1	Washer, Plain
8	16626025	0	Bolt, JOINT [VAR]
8A	*	0	Description [VAR]
8AA	16626072	0	Washer 1,175 [VAR]
8AB	16626073	0	Washer 1,225 [VAR]
8AC	16626074	0	Washer 1,275 [VAR]
8AD	16626075	0	Washer 1,325 [VAR]
8AE	16626077	0	Washer 1,425 [VAR]
8AE	16626076	0	Washer 1,375 [VAR]
8AF	16626078	0	Washer 1,475 [VAR]
8B	16626047	0	Washer 0,75 [VAR]
8C	16626048	0	Washer 0,80 [VAR]
8D	16626049	0	Washer 0,85 [VAR]
8E	16626050	0	Washer 0,90 [VAR]
8F	16626051	0	Washer 0,95 [VAR]
8G	16626052	0	Washer 1,00 [VAR]
8H	16626053	0	Washer 1,05 [VAR]
8I	16626054	0	Washer 1,10 [VAR]
8J	16626055	0	Washer 1,15 [VAR]
8K	16626056	0	Washer 1,20 [VAR]
8L	16626057	0	Washer 1,25 [VAR]
8M	16626058	0	Washer 1,30 [VAR]
8N	16626059	0	Washer 1,35 [VAR]
8O	16626060	0	Washer 1,40 [VAR]
8P	16626061	0	Washer 1,45 [VAR]
8Q	16626062	0	Washer 1,50 [VAR]
8R	16626063	0	Washer 0,725 [VAR]
8S	16626064	0	Washer 0,775 [VAR]
8T	16626065	0	Washer 0,825 [VAR]

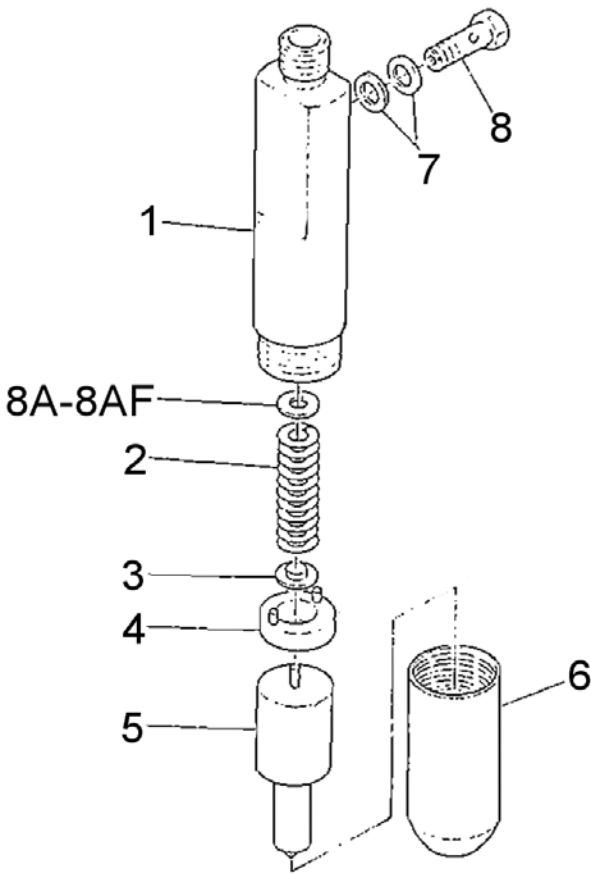


[VAR] Variable according to repair

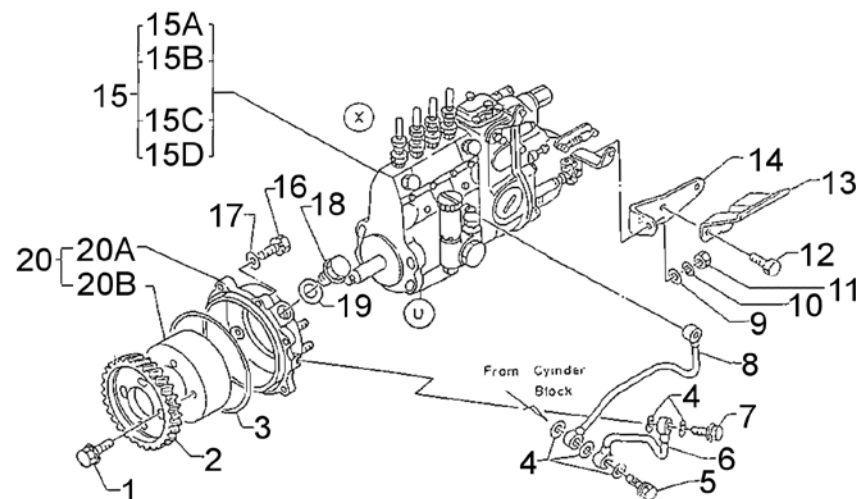




D_HS12_4_2B			Injection Nozzle 2
FIG.	REF.	QTY	DESCR.
8U	16626066	0	Washer 0,875 [VAR]
8V	16626067	0	Washer 0,925 [VAR]
8W	16626068	0	Washer 0,975 [VAR]
8X	16626069	0	Washer 1,025 [VAR]
8Y	16626070	0	Washer 1,075 [VAR]
8Z	16626071	0	Washer 1,125 [VAR]

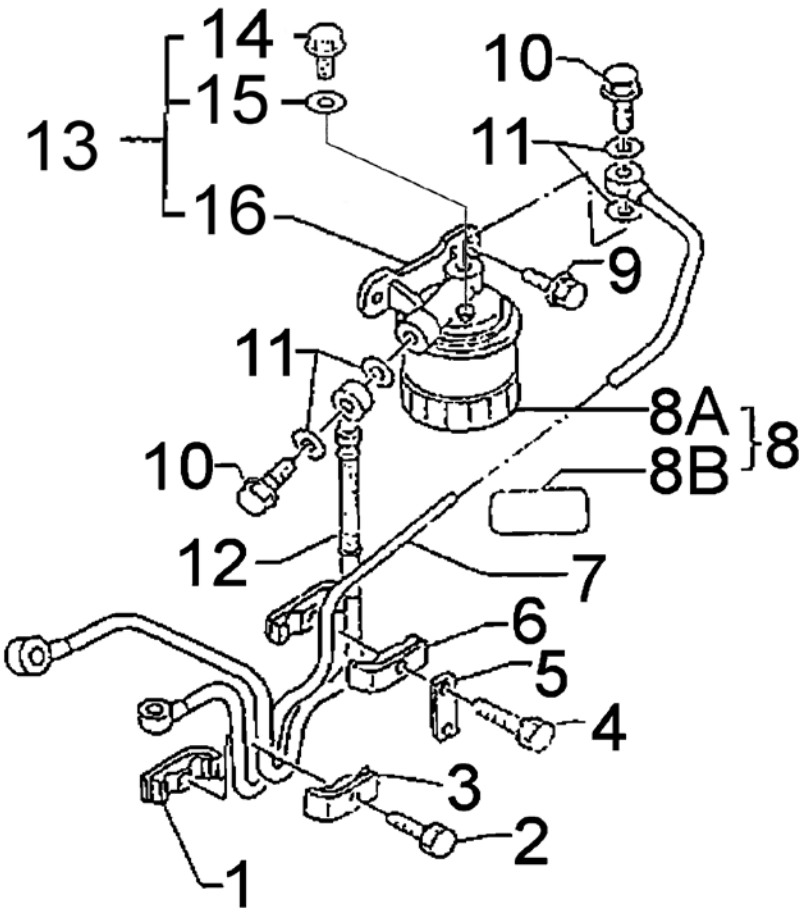


D_HS15_4_3			Fuel Injection Pump
FIG.	REF.	QTY	DESCR.
1	16524146	2	Bolt
2	16524171	1	Gear, INJ Pump Drive
3	*	1	Description
4	16524155	3	Washer, SOFT
5	16524141	1	Screw, Racord
6	16624169	1	Pipe, Oil
7	16522081	1	Screw, Racord
8	16524170	1	Pipe, Oil
9	16626034	2	Washer, Plain
10	*	1	Description
11	16524149	1	Nut
12	16520120	2	Bolt
13	*	1	Description
14	*	1	Description
15	16625001	1	Pump Assy, Fuel Feed
15A	16625000	1	Pump Assy, INJ
15B	16625005	1	Body Assy, inj. pump
15C	16625100	1	GOverNOR Assy
15D	*	1	Description
16	52101260	3	Bolt DIN 931 M8-35 8.8
17	16524150	1	Washer
18	16524153	1	Plug
19	56000086	1	Washer 22,3-29-1,5
20	16625001	1	Pump Assy, Fuel Feed
20A	16625070	1	Cover SUB Assy, TIMER
20B	16625100	1	GOverNOR Assy



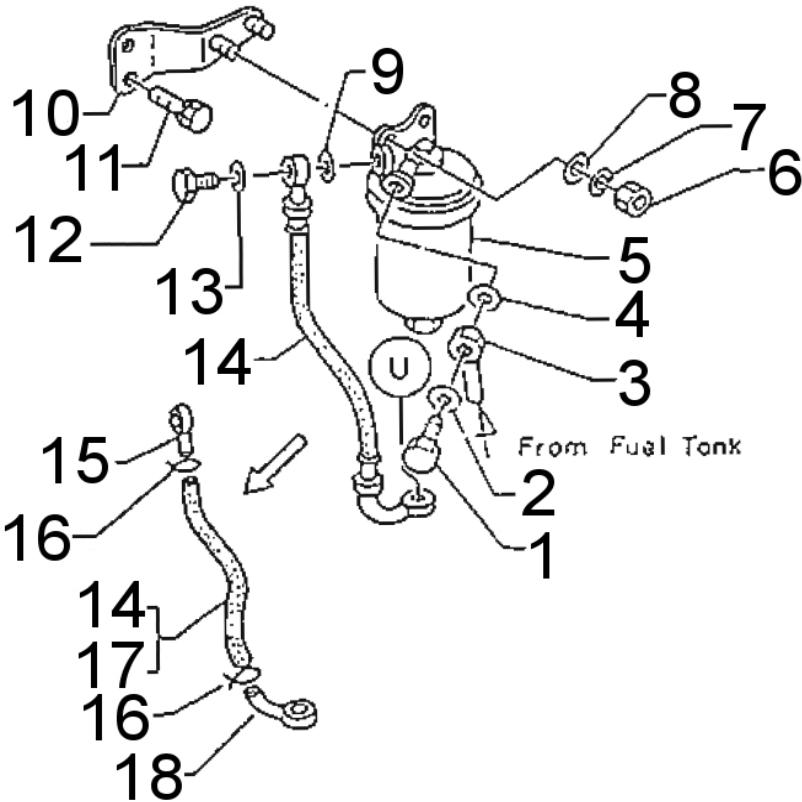


D_HS12_4_5A			Fule Filter
FIG.	REF.	QTY	DESCR.
1	16624134	1	Clip SUB Assy
2	16624145	1	Bolt
3	16624165	3	Clip SUB Assy
4	16624144	1	Bolt
5	*	1	Descrip cion
6	16624165	3	Clip SUB Assy
7	*	1	Descrip cion
8	*	1	Descrip cion
9	16626032	2	Bolt
10	16524142	2	Bolt
11	16524157	2	Washer,SOFT
12	16524128	1	Hose, Fuel
13	16524200	1	Cover Assy,Fuel Filter
14	16524202	1	Plug,Air
15	16524203	1	Gasket,Air Plug
16	16524201	1	Cover,Fuel Filter,
8A	16524131	1	Plate,CAUTION CompletE
8B	13114022	1	Filter,element

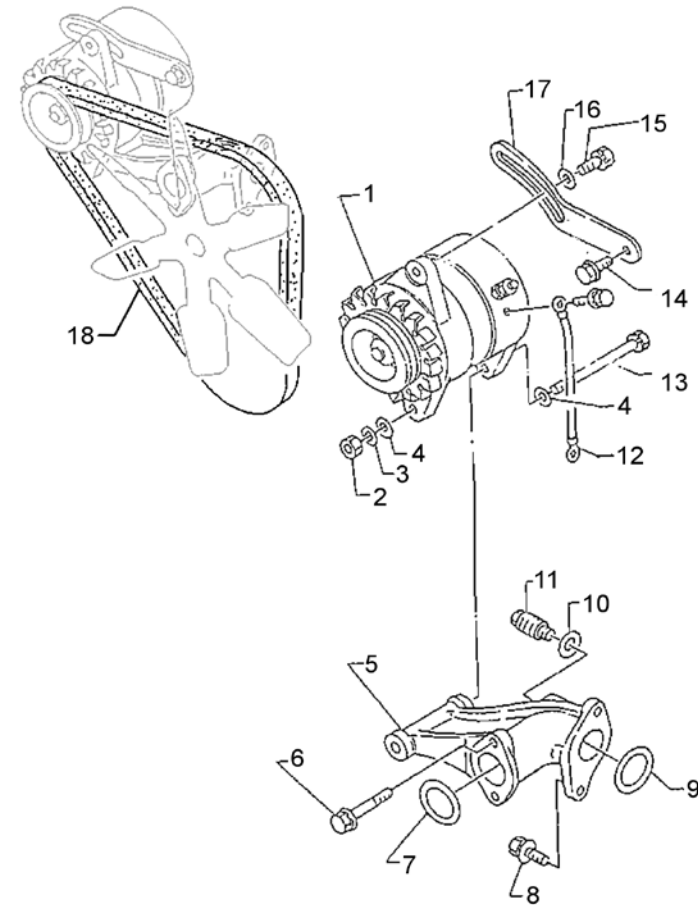




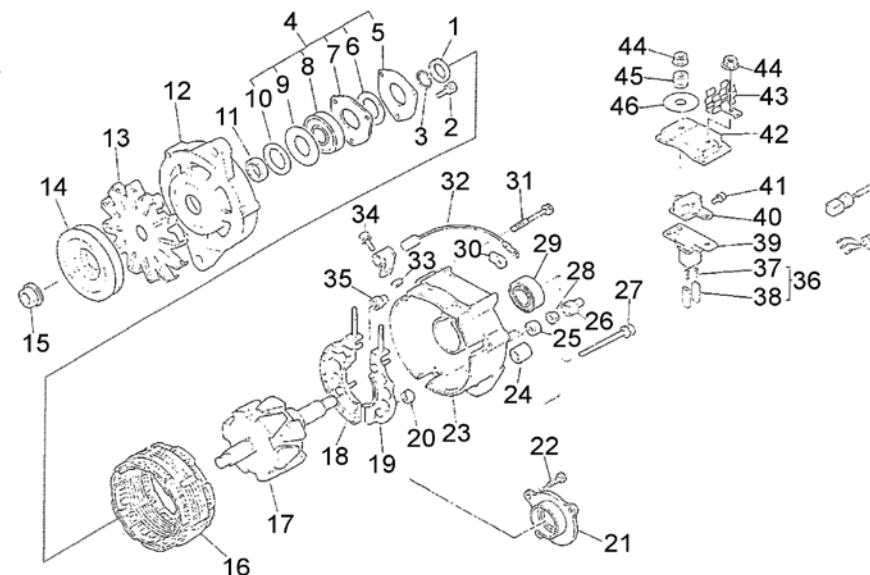
D_HS15_4_5B Fuel Filter Water Separator			
FIG.	REF.	QTY	DESCR.
1	16724049	2	Bolt
2	16724055	6	Washer,SOFT
3	16724027	2	Pipe,Fuel
4	16724055	2	Washer,SOFT
5	*	1	Descrip cion
6	16520070	10	Nut
7	*	10	Descrip cion
8	*	2	Descrip cion
9	16724055	2	Washer,SOFT
10	16724018	1	Bracket SUB Assy,Fuel FIL
11	*	2	Descrip cion
12	16724049	2	Bolt
13	16524157	6	Washer,SOFT
14	*	2	Descrip cion
15	16724027	1	Pipe,Fuel
16	16724056	2	Clip
17	*	1	Descrip cion
18	16524127	1	Pipe,Fuel



D_HS12_5_1			Alternator
FIG.	REF.	QTY	DESCR.
1	16527010	1	Alternator Assy,W/REG
2	16524149	1	Nut
3	*	1	Descrip cion
4	16522082	2	Washer,Plain
5	16627151	1	Bracket SUB Assy,GEN
6	*	2	Descrip cion
7	*	1	Descrip cion
8	*	2	Descrip cion
9	*	1	Descrip cion
10	*	1	Descrip cion
11	*	1	Descrip cion
12	*	1	Descrip cion
13	16527165	1	Bolt
14	*	1	Descrip cion
15	16527166	1	Bolt
16	16527171	1	Washer
17	16527007	1	BRACE,GEN
18	*	1	Descrip cion

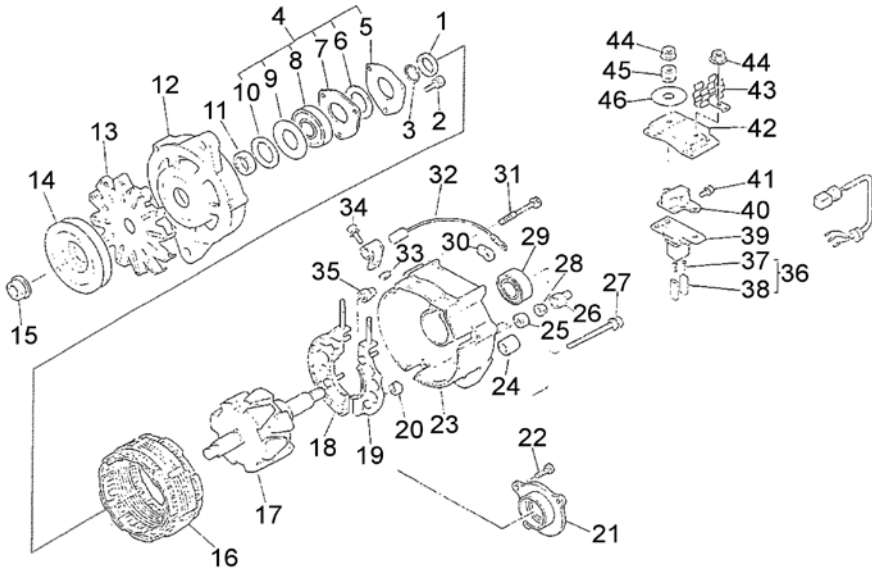


D_16527010		Alternator Spare Parts	
FIG.	REF.	QTY	DESCR.
1	*	1	Description
2	16527060	3	Bolt,THROUGH
3	16527064	1	Ring,SPACE
4	16527155	1	FRAME Assy,Alternator DRI
5	16527061	1	FELT
6	*	2	Description
7	16527059	1	Plate,Retainer
8	16527058	1	Ball Bearing 2701
10	*	1	Description
11	16527053	1	COLLAR,SPACE
12	16527055	1	FRAME,Drive END
13	16527054	1	FAN,Alternator
14	16527052	1	Pulley,Alternator
15	*	1	Description
16	16527067	1	STATOR Assy
17	16527062	1	Rotor Assy,Alternator
18	16527069	1	Holder
19	16527068	1	Holder,W/RECTIFIER
20	16527070	2	INSULATOR,TERMINAL B
21	16527090	1	Cover,FRAME Brush
22	16527091	4	Screw,tapping
23	16527065	1	Housing Assy,Alternator E
24	16527066	1	Bush,FRAME
25	16527070	2	INSULATOR,TERMINAL B
26	16527075	2	INSULATOR,TERMINAL B
27	16527080	1	Bolt,THROUGH
28	16527074	4	Nut
29	16527081	1	Ball Bearing 6302-Z
30	16527073	1	INSULATOR,TERMINAL B
31	16527079	2	Bolt,THROUGH
32	16527070	1	INSULATOR,TERMINAL B
33	16527078	1	Nut
34	16527077	1	Bolt
35	*	2	Description
36	*	1	Description



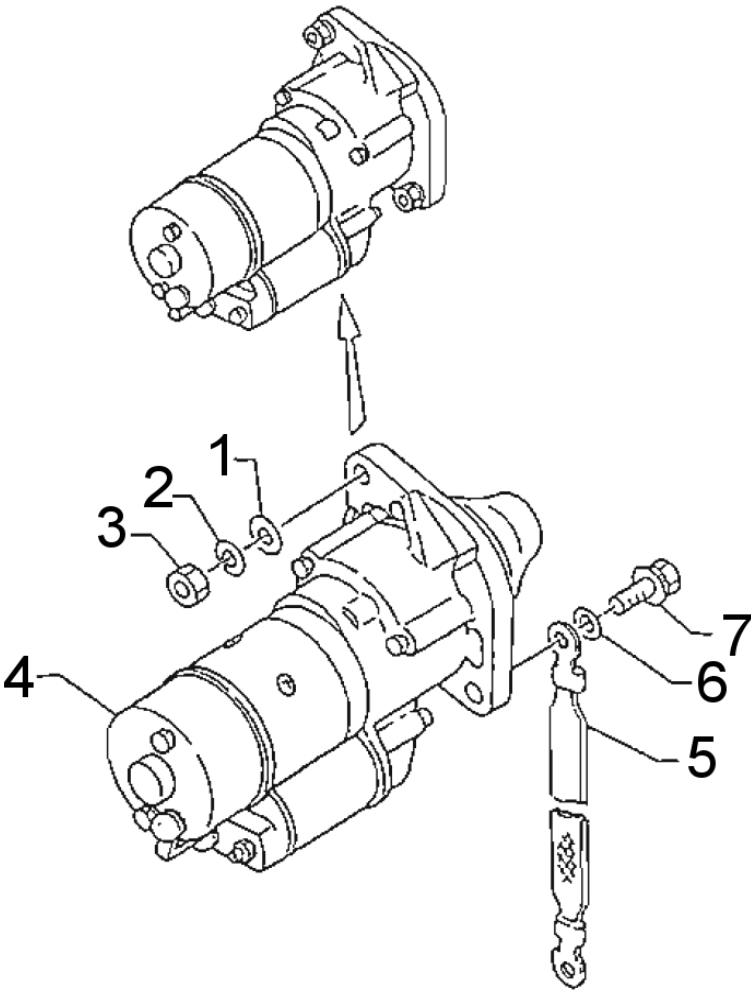


D_16527010 Alternator Spare Parts			
FIG.	REF.	QTY	DESCR.
37	16527089	2	Spring,Brush
38	*	2	Descripcion
39	*	1	Descripcion
40	*	1	Descripcion
41	16527082	4	Bolt
42	16527083	1	Cover
43	*	1	Descripcion
44	16527074	2	Nut
45	16527086	1	INSULATOR,TERMINAL B
46	16527084	1	INSULATOR,TERMINAL B

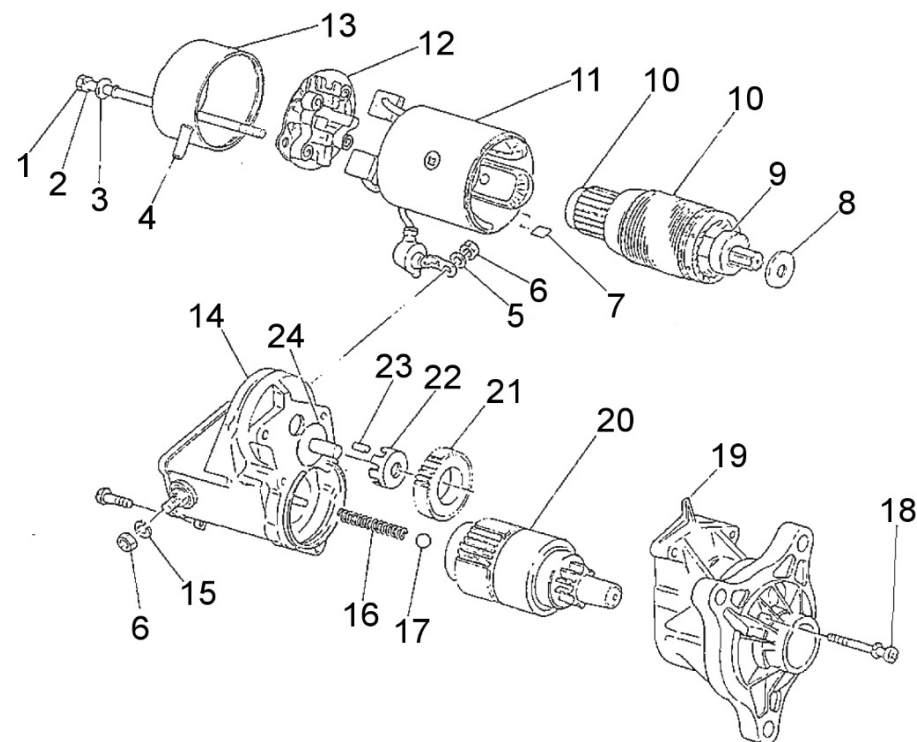




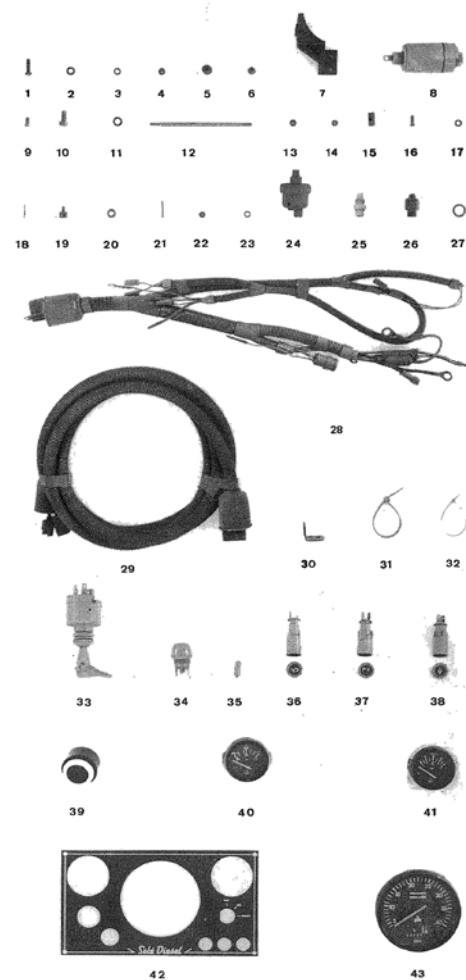
D_HS12_5_3				Starter Assy			
FIG.	REF.	QTY	DESCR.	FIG.	REF.	QTY	DESCR.
1	16527173	1	Washer,Plain				
2	16527175	1	LOCKWasher				
3	16527169	1	Nut				
4	16527001	1	Starter Assy				
5	*	1	Descrip cion				
6	16527174	11	Washer,Plain				
7	*	1	Descrip cion				



D_16527001 Starter Assy Spare Parts			
FIG.	REF.	QTY	DESCR.
1	16527107	1	Bolt,Housing Set
2	*	5	Description
3	16527129	2	Washer,START
4	16527136	1	BOOT,START MAGNET
5	16527141	1	Washer,START
6	16527133	2	Nut,LOCK
7	16527140	1	Plate
8	16527134	1	FELT,Oil
9	16527110	1	Ball Bearing B200-Z
10	16527109	2	Ball Bearing 6200-Z
11	16527119	1	Yoke Assy, START
12	16527120	1	Holder Assy,START Brush
13	16527127	1	FRAME Assy,START COMMUTAT
14	16527106	1	SWITCH MAGNETIC, STARTER
15	*	1	Description
16	16527135	1	Spring,MAGNET SWITCH
17	16527128	1	Holder
18	16527132	3	Bolt,Housing Set
19	16527126	1	Housing,START Drive
20	16527125	1	Clutch, STARTER
21	16527113	1	PinION Assy,START
22	16527138	1	Ring Retainer
23	16527139	5	Roller,STARTER Clutch
24	16527137	1	Ring Retainer

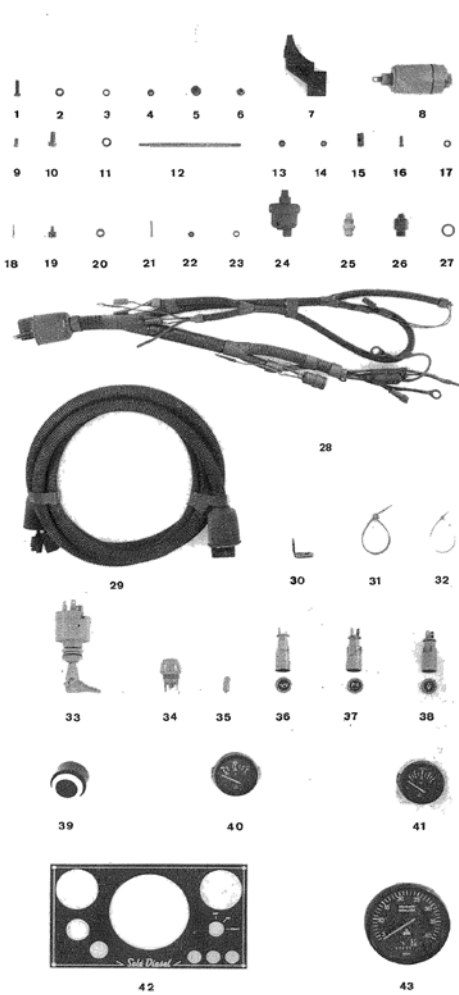


D_HS15_5_5			Electrical Wiring
FIG.	REF.	QTY	DESCR.
1	52102158	2	Bolt DIN 933 M6-25 8.8
2	51030006	2	Washer DIN 125-6
3	53033006	2	Washer GROWER DIN 127-6
4	52120006	2	Nut DIN 934 M6 8.8
5	13227007	2	Brace Generator
6	13217008	2	SILENTBlock Bush
7	13317007	1	Bracket,solenoid
8	15317006	1	Relay,stop
9	51106156	2	Bolt DIN 63 M6-15 5.6
10	52102257	2	Bolt DIN 933 M8-20 8.8
11	53033008	2	Washer GROWER DIN 127-8
12	16517003	1	ROD,stop electrical
13	52120006	1	Nut DIN 934 M6 8.8
14	52520316	1	Nut DIN 934 SAE 3/16 8.8
15	16517007	1	SPLIT,piece
16	11114049	1	Pin,control
17	51030005	2	Washer DIN 125-5
18	51051107	1	Pin DIN-94 1,6-16
19	14719115	1	Coupling,cable
20	51030006	1	Washer DIN 125-6
21	51051107	1	Pin DIN-94 1,6-16
22	52120005	1	Nut DIN 934 M5 8.8
23	53033005	1	Washer GROWER DIN 127-5
24	60900785	1	Oil Pressure Sender 12-24 V
25	60900780	1	Temperature SENDER 12 V
26	60900070	1	Thermo-Switch 97°C
27	56000073	1	Washer 16-23-1,5
28	60965200	1	Wire, electrical HS-121 and150
29	60965210	1	Engine Wiring Ext. 4 M.
30	16517010	2	Bracket,wirings
31	58088284	4	Clamp
32	58088283	1	Clamp
33	60900031	1	Key-Locking Switch
33-43	60965000	1	Panel HS-121/150
34	60900040	1	SWITCH, stop





D_HS15_5_5			Electrical Wiring
FIG.	REF.	QTY	DESCR.
35	60900045	3	Bulb 12V 3W
36	60900050	1	LAMP, oil press.
37	60900051	1	LAMP, charge
38	60900052	1	LAMP, water temp.
39	60900060	1	Alarm, SWITCH
40	60900715	1	Water Gauge 12 V
41	60900720	1	Oil PRESURE Gauge 12 V
42	60965001	1	Panel
43	60965710	1	TACHOMETER HS-121/150



D_HS12_5_6			Other Parts
FIG.	REF.	QTY	DESCR.
1	*	1	Descripcion
2	*	1	Descripcion
3	16727095	1	PRESURE SENDER
4	*	1	Descripcion
5	*	1	Descripcion
6	*	1	Descripcion
7	*	1	Descripcion
8	16527093	1	SWITCH Assy,Oil PRESS
9	*	4	Descripcion
10	*	4	Descripcion
11	16727018	3	Wire,Glow Plug GROUND
12	*	4	Descripcion

