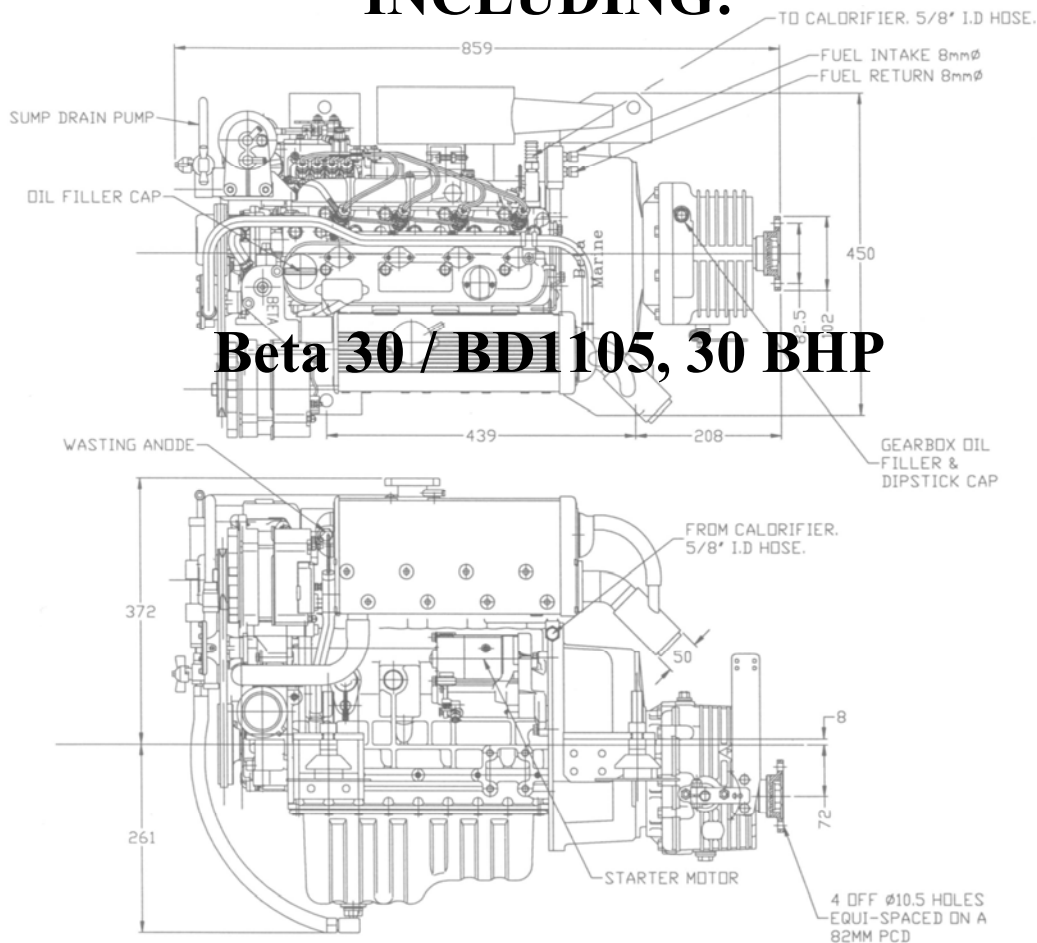


SUPER 5 SERIES 3 CYLINDER ILLUSTRATED PARTS LIST INCLUDING:



HEAT EXCHANGER COOLED MARINE DIESEL ENGINES

CALIFORNIA - Proposition 65 Warning
Diesel engine exhaust and some of its constituents are known to the state
of California to cause cancer, birth defects and other reproductive harm.

Beta30 HE Illustrated parts list Rev 000 September 2011

Prices and specifications are subject to amendment without notice. Information given is subject to our current conditions of tender and sale.

Fast Moving Parts Listing

Heat Exchanger Cooled, Beta 30

In all cases please quote **Beta Marine WOC "K" number** and Engine Type

Description		Part Number	Qty per Engine
Wasting Zinc Anode		209-61840	1
Heat Exchanger “ O ” Ring (HEADER WITH SINGLE BOLT ENDCAP)		209-80110	2
Heat Exchanger “ O ” Ring (2011 HEADER WITH 3 BOLT ENDCAP)		212-07273	2
Pressure Cap 95kPa -15psi		209-80130	1
Thermostat		600-72450	1
Thermostat Gasket		600-80490	1
Fuel Filter		211-60210	1
Air Filter Element - Beta 30 & Mechanical gearbox –FROM MARCH2011		211-08132	1
Air Filter Element - Beta 30 & Mechanical gearbox –TO MARCH 2011		211-62950	
Air Filter Element - Beta 30 & Hydraulic gearbox –FROM 2011		211-08133	
Air Filter Element - Beta 30 & Hydraulic gearbox –TO END 2010		211-61831	
Lubricating Oil Filter		211-60390	1
Sump Pump		210-80061	1
Sump Pump Clamp		212-00793	2
Dip Stick Extended - guide and stick kit		600-96300	1
Sea Water Pump		207-61500/01	1
Sea Water Pump Impeller Kit -Johnson		207-05355	1
Sea Water Pump Cover plate Johnson 6 Screw		207-05478	1
Sea Water Pump cover plate Bolt Johnson 6 Screw		207-05479	6
Fuel Lift Pump		600-67830	1
Fuel Lift Pump Gasket		600-00065	1
Belt – Standard “Vee” – 65 Amp		214-63090/Q	Correctly Select a Belt
Belt – PolyVee 100 Amp & 65Amp		214-04618	
Alternator 65 Amp External Fan		200-01155	1
Alternator 100 Amp Internal Fan		200-03008	1
Alternator 100 Amp External Fan (From June 2011)		200-08183	1
Control Panel standard Key – (Silver)	To June 2008	600-00058	a pair
	From June 2008	600-00058/01	
Control Panel Key Switch	To June 2008	600-00057	1
	From June 2008	600-00057/01	
Control Panel Stop Button (and heat & start on ABVW)		200-00072	1
Tachometer 0-4000rpm with digital hour counter		200-02373	1
Water temperature switch Gauge (B & C panels)		200-96200	1

Description		Part Number	Qty per Engine
Oil pressure switch Gauge (C panels only)		200-96190	1
Voltmeter (C panels only)		200-96210	1
Green power on indicator lamp & retaining clip		200-04656	1
Red warning indicator lamp & retaining clip		200-04657	3 or 4
Alarm board – all panels from June 2005		200-04655	1
Relay 12 Volt 40A (28Ra) fitted to rear of panels		200-87020	1
Stop Solenoid (energised to stop fuel)		600-79660	1
Fuse (Blade) 40 Amp		200-00959	1
Standard Engine Harness		200-60973/05	1
65 Amp Alternator Sub Loom Iskra		200-01196	1
1 Metre control panel extension loom		200-04588/01	1
2 Metre control panel extension loom		200-04588/02	
3 Metre control panel extension loom		200-04588/03	
4 Metre control panel extension loom		200-04588/04	
Water Temperature Switch (Panel A, ABV & ABVW)		600-62820	1
Water Temperature Sender (Panel C & B)		200-94360	1
Water Temperature Sender 1/8NPT (Panel C & B) FROM APRIL 2011		200-08248	1
Oil Pressure Switch (Panel A, ABV & ABVW)		600-62670	1
Oil Pressure Sender (Panel C & B)		200-94350	1
Exhaust Bend Gasket		212-09070	1
Drive Plate 22-B-95 - TMC60		206-91960	1
Drive Plate PRM150 - Hydraulic		206-91885	1
Drive Plate 2-B-95 Kanzaki		206-07706	1
Flexible Mountings (RAB60)		213-93440	4
Rocker Cover Gasket (from Jan 2006) - Beta 30		600-66490	1
Manuals			
Operators Maintenance Manual		221-02888	1
Workshop Manual– base engine only		600-00757	1
Spare Parts Manual – base engine only	Beta 30 / BD1105	600-02439	1 Available as a “pdf”

Note: the above part numbers are suitable for earth return installations only (where the battery negative cable is connected directly to engine earth /ground). For insulated earth (where battery negative cable is isolated from engine earth /ground) different harnesses, alternators, switches for oil pressure and engine temperature will be required.

If your application is wired as insulated earth return and the engine will not operate correctly, always check starter battery negative is connected to the correct terminal on the isolating solenoid. It should be connected to the terminal which is also used for all the small black wires, **NOT the terminal with the single black wire connected directly to engine ground.**

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10	Fresh water system –heat exchanger tubestack, calorifiers
12	Raw water system –raw water pipe, sea water pump, exhaust elbow
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15	Water injection bends –non standard
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20	Flywheel housing & driveplate –mechanical gearboxes
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23	Mechanical gearboxes (PRM 80 / PRM 120)
24	Mechanical gearboxes (TMC 40)
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26	Gearbox –PRM 80 & 120 gear control bracket
27	Gearbox –TMC 60 gear control bracket
28	Flywheel housing & driveplate & hydraulic box
30	Fuel system –pipes, bracketry & filter
32	Fuel system –injection components & lift pump
34	Standard feet & speed control bracketry
36	Alternator (65A), rear mounted air filter & flywheel
38	Alternator (65A), side mounted air filter & flywheel
40	Alternator (40A), air filter & flywheel
42	Alternator (100A), 6K drive & Beta Controller
44	Wiring harness & switches
45	2a Simple panel & components
46	2ab panel & components
47	2ab'V' panel & components
48	2ab'V'W panel & components
49	2b SFIA panel & components
50	2c Deluxe panel & components
51	Panel gauges & senders
52	Various electrical & panel parts and components
53	Expansion water bottle & spare parts list
54	Calorifier connections / hot water take off
55	Installation kits / spares kits
57	Tubestack cleaning and alignment -2011 spec manifold

BD1105 ILLUSTRATED QUICK REFERENCE PARTS LIST 2010 –PORT VIEW

Pressure cap: 209-80130

Thermostat: 600-72450
(Gasket: 600-80490)

Sump drain pump:
210-80061
(Clamp: 212-00793)

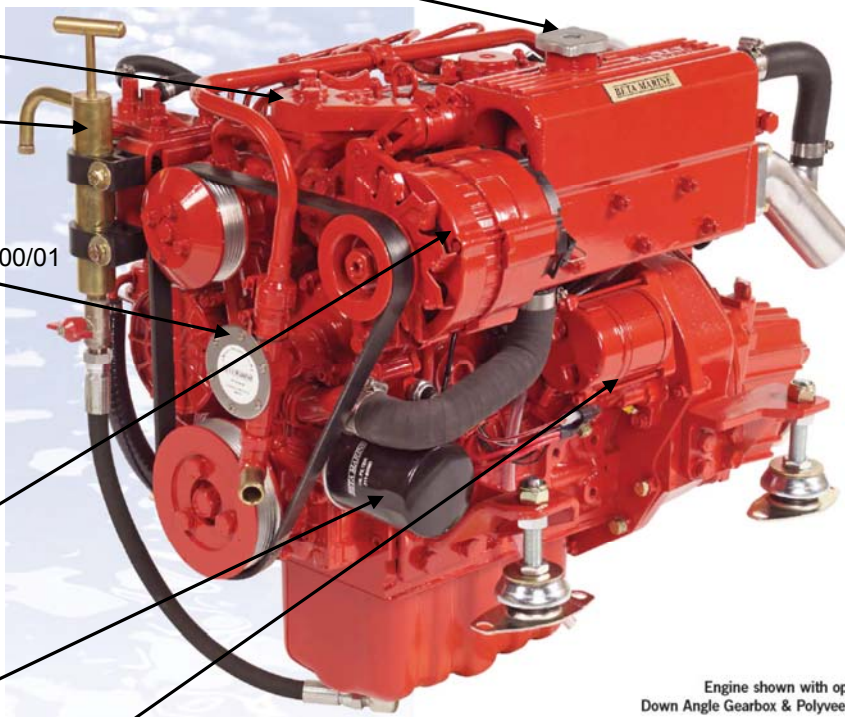
Sea water pump: 207-61500/01
(Impeller: 207-05355)

Alternator:
65Amp: 200-01155
V Belt: 214-63090/Q
Sub loom: 200-01196

100Amp: 200-03008
6K Belt: 214-04618

Oil filter: 211-60390

Starter: 600-00918



Engine shown with optional
Down Angle Gearbox & Polyvee Drive

BD1105 ILLUSTRATED QUICK REFERENCE PARTS LIST 2010 –REAR VIEW

'O' Rings: 212-07273 (3 Bolt)
209-80110 (Single bolt)

Zinc: 209-61840

Exhaust Gasket: 212-09070

Fresh water pipe: 209-08589

Fuse: 200-00959

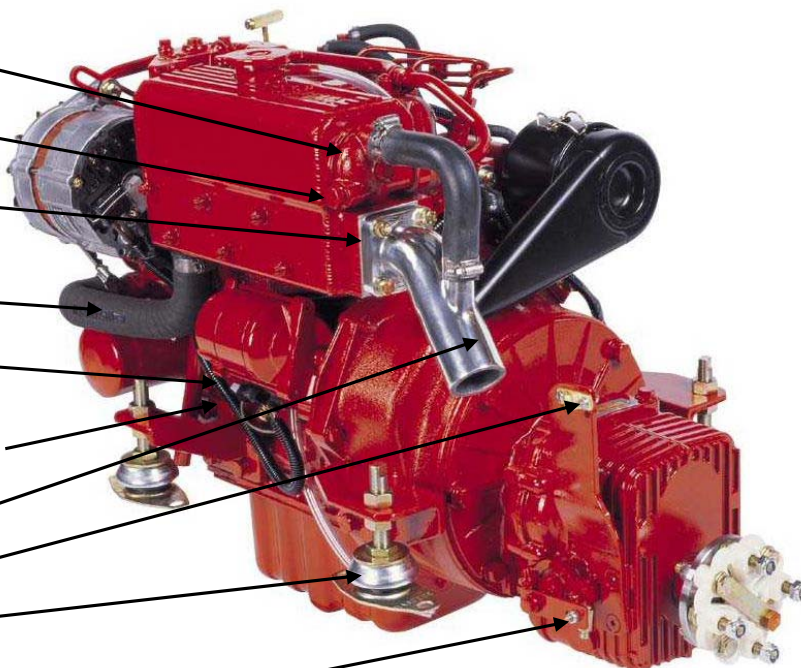
Engine harness: 200-60973/05

Exhaust elbow: 202-02458

Saddle: 212-99241/01

Flexible mounts:
RAB60: 213-93440

Ball joint: 212-99240/01



BD1105 ILLUSTRATED QUICK REFERENCE PARTS LIST 2010 –STARBOARD VIEW



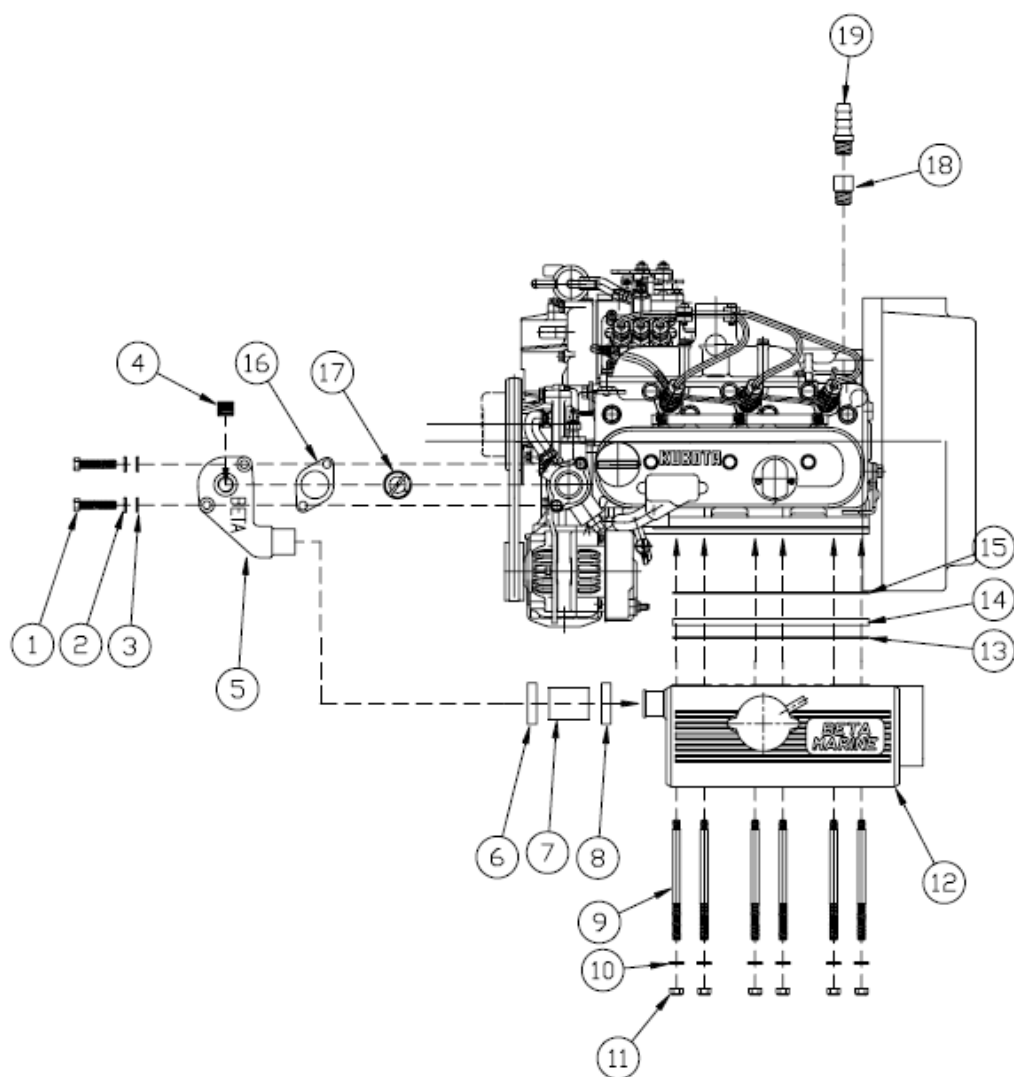
Fuel filter: 211-60210

Air filter element:
211-61831 to March 2011
211-08132 from March 2011

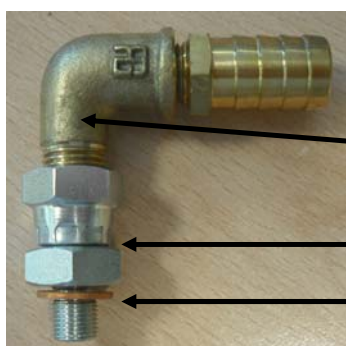
Fuel lift pump: 600-67830
(Gasket: 600-00065)

Stop solenoid 600-79660

GEARBOX OPTIONS	GEARBOX P/No	DAMPER P/No	MORSE GEAR BRACKET P/No	ADAPTOR PLATE P/No	FLEXIBLE COUPLING	
TMC 40 R2	204-91690	206-91960	202-61582/01	205-60990	212-93690	
TMC 60 R2	204-91680		202-05129			
TMC 60 R2.5	204-01627					
TMC 60 R3	204-01192					
TMC 60 A R2	204-07724					
TMC 60 A R2.45	204-07928					
PRM 80 D2	204-00277		205-92480			
PRM 80 D2.5	204-01007					
PRM 120 D2	204-91470					
PRM 120 D2.5	204-94160					
PRM 120 D3	204-94170					
PRM 150 D2	204-91920	206-91885		202-94100		
PRM 150 D3	204-91700					
TTMC35A-2 2.36:1	204-04315	206-07706	N/A	N/A	212-04689	
TTMC35A-2 2.64:1	204-04315/01					



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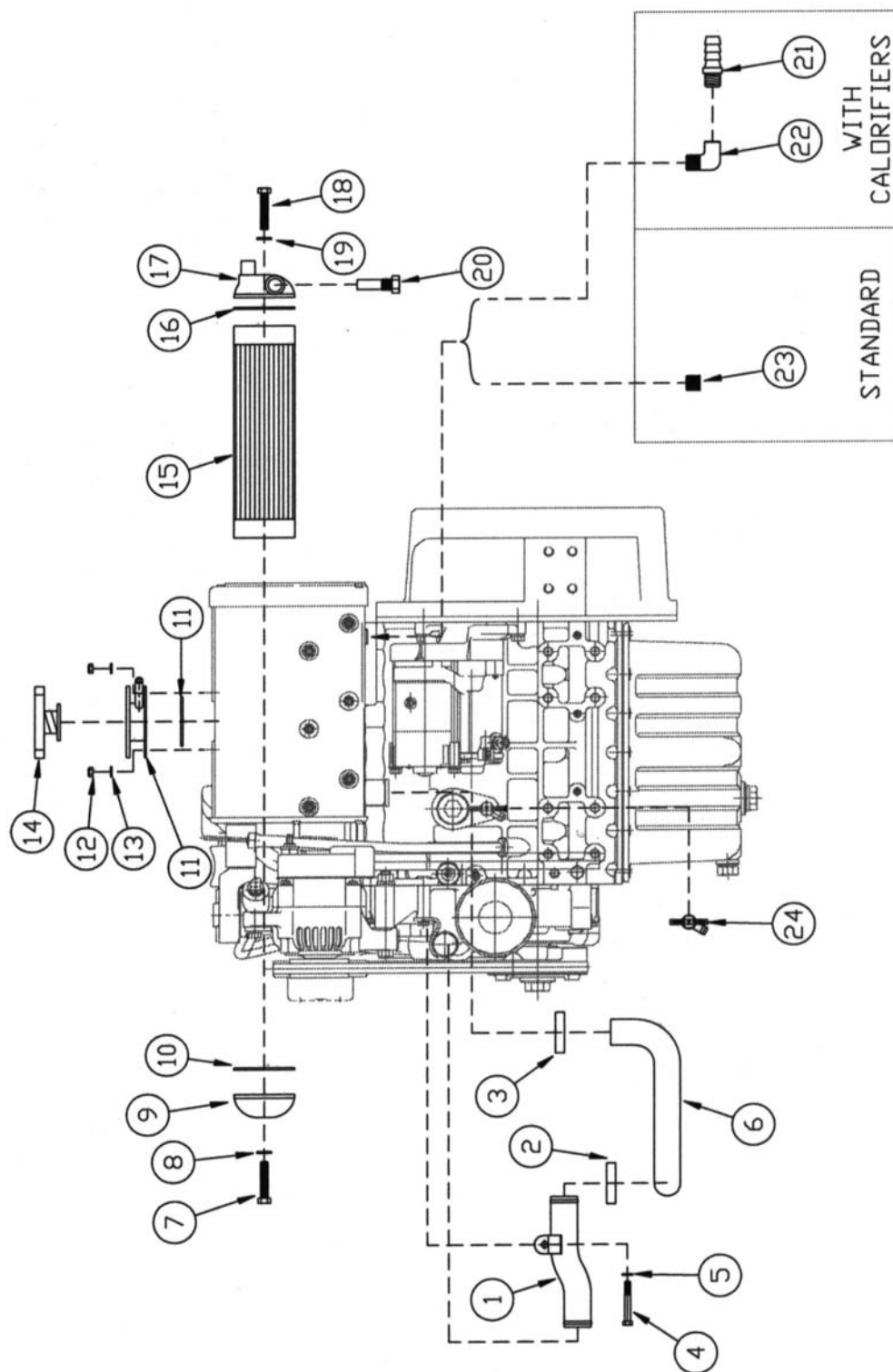
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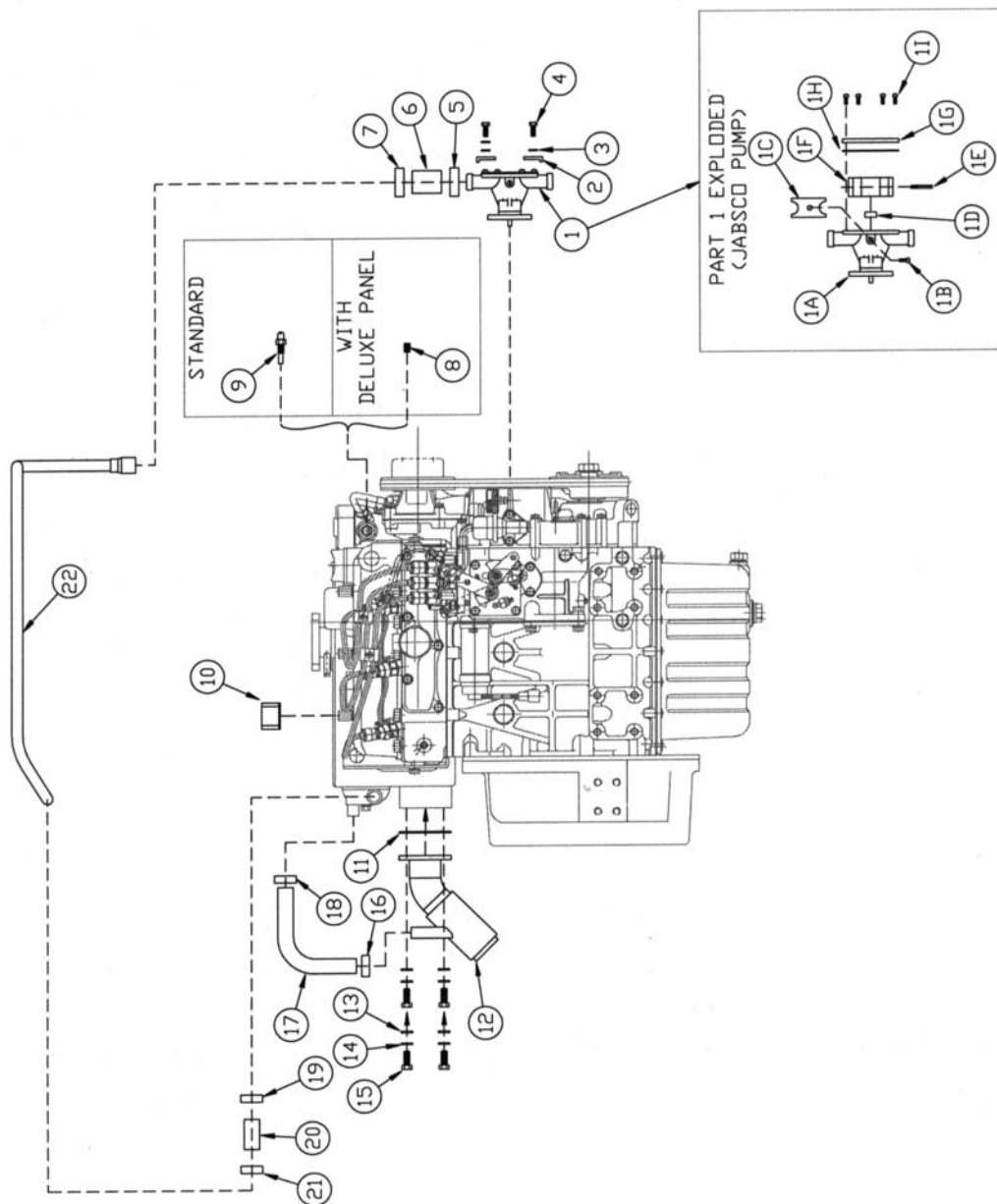
BD1105 WATER SYSTEM**(PAGE 1 of 4)**

Ref No	Part Number	Part Name	Quantity
01	217-99304	M8 x 60 mm SET	2
02	217-99292	M8 SPRING WASHER	2
03	217-99293	M8 FLAT WASHER	2
04	212-99403	3/8"BSP GALVANISED PLUG	1
05	209-01789	SUPER 5 SERIES THERMOSTAT HOUSING	1
06	212-00066	S/S HOSE CLIP 30-40mm	1
07	218-99251	1 1/8" I/D BLACK RADIATOR HOSE	0.7
08	212-00066	S/S HOSE CLIP 30-40mm	1
09	201-62110/01	SUPER 5 MANIFOLD STUD –(SUITS SINGLE BOLT ENDCAP MANIFOLD)	6
	201-62110/02	SUPER 5 MANIFOLD STUD –(SUITS 3 BOLT ENDCAP MANIFOLD)	
10	217-99293	M8 FLAT WASHER	6
11	217-99296	M8 NYLOC	6
12	209-01828/22	Beta30 HEAT EXCHANGE MANIFOLD (SINGLE BOLT ENDCAP, INCLUDES 13 & 14)	1
	209-08525	Beta30 HEAT EXCHANGE MANIFOLD (3 BOLT ENDCAP)	
13	N/A	HEAT EXCHANGER GASKET – SEE 12, SUITS SINGLE BOLT MANIFOLD ONLY	
14	N/A	HEAT EXCHANGER SPACER PLATE – SEE 12, SUITS SINGLE BOLT MANIFOLD ONLY	
15	600-80300	EXHAUST MANIFOLD GASKET	1
16	600-80490	SUPER 5 SERIES THERMOSTAT GASKET	1
17	600-72450	SUPER 5 SERIES THERMOSTAT	1
18	212-03848	1/8BSPT-1/4BSP MxF ADAPTOR – TO SEPT'10	1
19	212-00904	1/4BSP-5/8 HOSE CONNECTOR – TO SEPT'10	1
20	212-00904	1/4BSP-5/8 HOSE CONNECTOR – FROM SEPT'10	1
21	212-04356	1/4BSP MxF 90° ELBOW – FROM SEPT'10	1
22	210-07357	1/8"BSPMx1/4"BSPF SWIVEL – FROM SEPT'10	1
23	212-06565	COPPER WASHER 1/8" BSP BORE – FROM SEPT'10	1



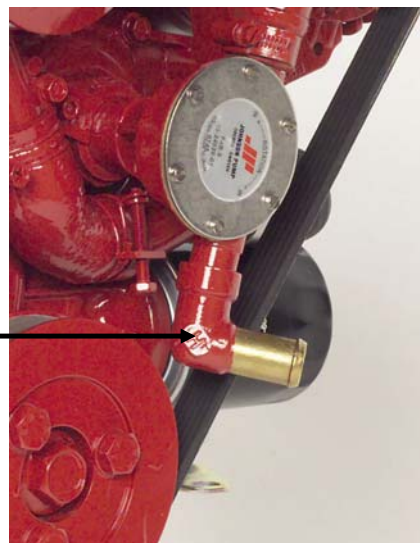
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Ref No	Part Number	Part Name	Quantity
01	600-96340	SUPER 5 SERIES FRESH WATER PIPE	1
02	212-00066	S/S HOSE CLIP 30-40mm	1
03	212-00066	S/S HOSE CLIP 30-40mm	1
04	217-99288	M6 x 60mm SET	1
05	217-99275	M6 SPRING WASHER	1
06	209-08589	SUPER 5 SERIES SILICON FRESH WATER PIPE	1
07	209-00016	M8 PHOSPHUR BRONZE BOLT (SUITS SINGLE BOLT ENDCAP ONLY)	1
	217-00190Z	HEAT EXCHANGE MANIFOLD ENDCAP BOLT (SUITS 3 BOLT ENDCAP ONLY)	3
08	209-00017	M8 BONDED SEAL (SUITS SINGLE BOLT ENDCAP ONLY)	1
09	209-80100/01	HEAT EXCHANGE RETURN ENDCAP (SUITS SINGLE BOLT ENDCAP ONLY)	1
	208-07272	HEAT EXCHANGE MANIFOLD RETURN ENDCAP (SUITS 3 BOLT ENDCAP ONLY)	
10	209-80110	NITRILE 'O' RING -TUBESTACK (SUITS SINGLE BOLT ENDCAP ONLY)	1
	212-07273	NITRILE 'O' RING -TUBESTACK (SUITS 3 BOLT ENDCAP ONLY)	
11	209-02167	FILLER NECK ASSEMBLY & 'O' RING (SUITS SINGLE BOLT ENDCAP ONLY)	1
	209-08532	FILLER NECK ASSEMBLY & 'O' RING (SUITS 3 BOLT ENDCAP ONLY)	
12	217-00052	M6 NUT (SUITS SINGLE BOLT ENDCAP ONLY)	2
13	217-99275	M6 SPRING WASHER (SUITS SINGLE BOLT ENDCAP ONLY)	2
14	209-80130	15PSI/95kPa PRESSURE CAP	1
	209-02323	13PSI TWIN SEAL PRESSURE CAP (USA ONLY)	1
15	209-80210	SUPER 5 SERIES 3 CYLINDER H/E TUBESTACK (SUITS SINGLE BOLT ENDCAP ONLY)	1
	209-07270	SUPER 5 SERIES 3 CYLINDER H/E TUBESTACK (SUITS 3 BOLT ENDCAP ONLY)	
16	209-80110	NITRILE 'O' RING -TUBESTACK (SUITS SINGLE BOLT ENDCAP ONLY)	1
	212-07273	NITRILE 'O' RING -TUBESTACK (SUITS 3 BOLT ENDCAP ONLY)	1
17	209-80440	22mm HEADER & ANODE (SUITS SINGLE BOLT ENDCAP ONLY) (MECHANICAL GEARBOX FROM OCTOBER 2002 & ALL HYDRAULIC GEARBOXES)	1
	208-07271	22mm HEADER, LESS ANODE (SUITS 3 BOLT ENDCAP ONLY)	
18	209-00016	M8 PHOSPHUR BRONZE BOLT (SUITS SINGLE BOLT ENDCAP ONLY)	1
	217-00190Z	HEAT EXCHANGE MANIFOLD ENDCAP BOLT (SUITS 3 BOLT ENDCAP ONLY)	3
19	209-00017	M8 BONDED SEAL (SUITS SINGLE BOLT ENDCAP ONLY)	1
20	209-61840	ZINC ANODE	1
21	212-99233	3/8"BSP x 5/8 HOSE CONNECTOR	1
22	212-99237	3/8"BSPTM x 3/8"BSPF 90° ELBOW	1
23	212-99403	3/8"BSP GALVANISED PLUG	1
24	600-00580	DRAIN TAP, COMPLETE	1



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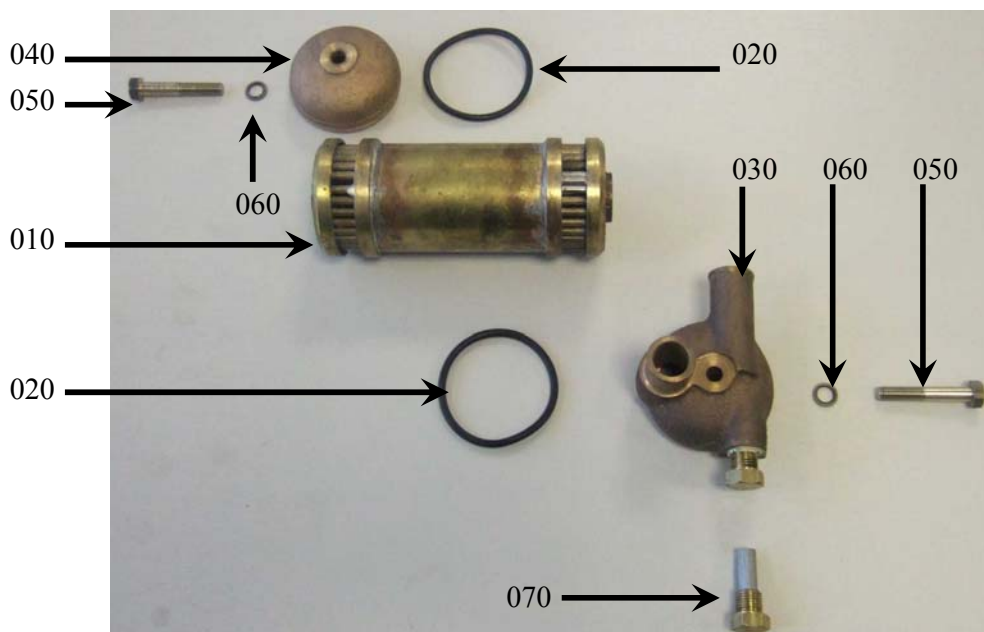
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DRAWING 100-05278**BD1105 WATER SYSTEM****(PAGE 3 of 4)**

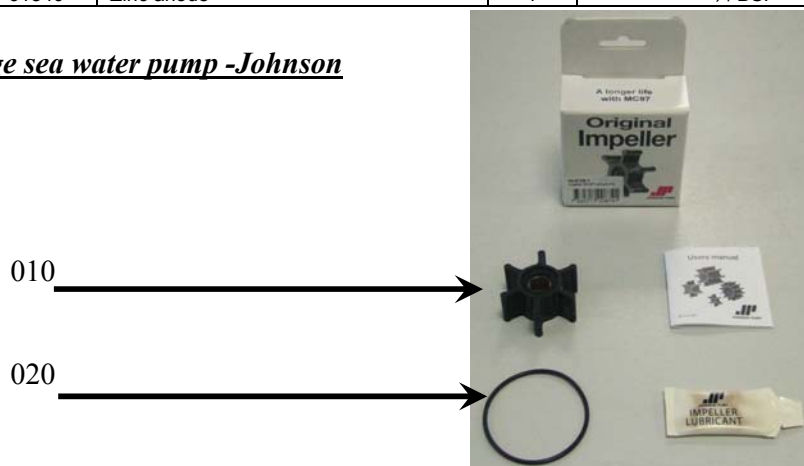
Ref No	Part Number	Part Name	Quantity
01	207-61500/01	SEA WATER PUMP –JOHNSON, FROM JULY 2006	1
02	207-62760	SEA WATER PUMP CLAMP	2
03	217-99275	M6 SPRING WASHER	2
04	217-99282	M6 x 25mm SET	2
05	212-98464	STAINLESS STEEL HOSE CLIP 22-30mm	1
06	218-99249	7/8" I/D BLACK RADIATOR HOSE	0.06m
07	212-98464	STAINLESS STEEL HOSE CLIP 22-30mm	1
08	212-99394	1/8"BSP GALVANISED PLUG	1
09	600-62820	WATER TEMP. SWITCH –FROM MARCH 2007	1
10	212-99264	PIPE FITTING CLIP	1
11	600-62620	GASKET, 2" EXHAUST	1
12	202-02458	2"x22mm ALUMINIUM WATER INJECTION BEND (ALL GEARBOXES FROM OCTOBER 2002)	1
13	217-99293	M8 FLAT WASHER	4
14	217-99292	M8 SPRING WASHER	4
15	217-99299	M8 x 25mm SET	4
16	212-98464	S/S HOSE CLIP 22-30mm (22mm INLET EXHAUST)	1
17	209-91760	22mm DIAMETER 90 ELBOW (22mm INLET EXHAUST)	1
18	212-98464	S/S HOSE CLIP 22-30mm (22mm INLET EXHAUST)	1
19	N/A	N/A	-
20	218-99249	7/8" I/D RADIATOR HOSE (22mm INLET EXHAUST)	0.06m
21	N/A	N/A	-
22	209-80310/22	SUPER 5 SERIES 3 CYL RAW WATER COOLING PIPE (22mm INLET EXHAUST ONLY –FROM OCT 2002)	1
23	212-99238	½"BSPM x ¾" 90 ELBOW HOSE CONNECTOR	1

Heat exchange tubestack (with 22mm header & anode on aft end)



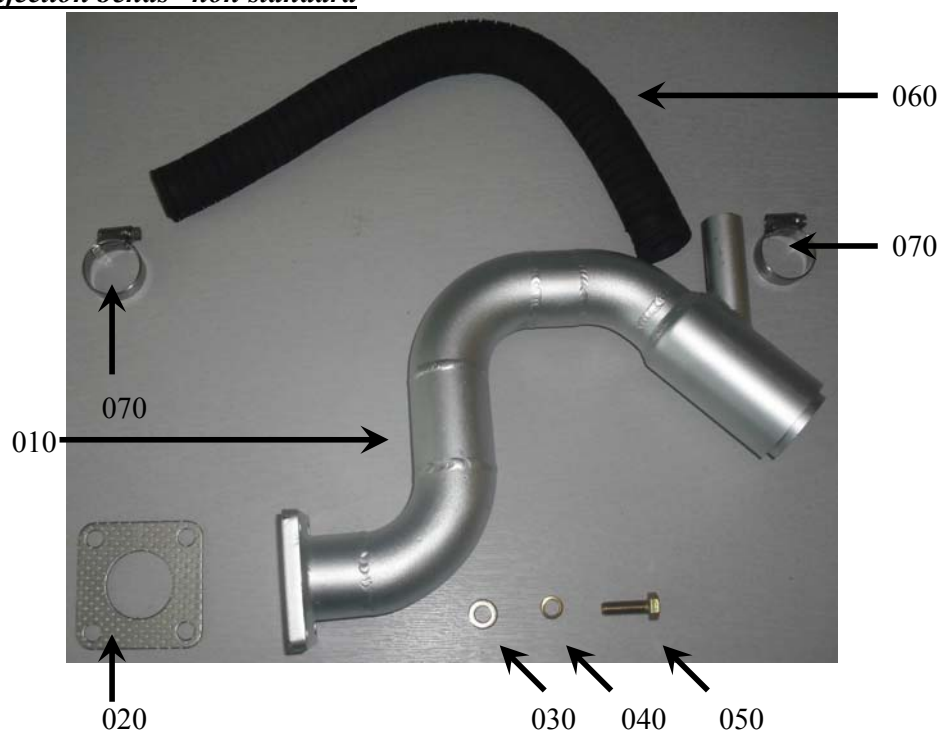
Ref. No.	Part No.	Part Name	Qty	Remarks
010	209-80210	Beta30 Tubestack	1	(SINGLE BOLT ENDCAP ONLY)
	209-07270	Beta30 Tubestack 2011 SPEC	1	(3 BOLT ENDCAP ONLY)
020	209-80110	Nitrile 'O' ring for tubestack	2	(SINGLE BOLT ENDCAP ONLY)
	212-07273	Nitrile 'O' ring for tubestack 2011 SPEC	2	(3 BOLT ENDCAP ONLY)
030	209-80440	22mm Gunmetal header & anode	1	(SINGLE BOLT ENDCAP ONLY)
	208-07271	22mm Gunmetal header less anode 2011 SPEC	1	(3 BOLT ENDCAP ONLY)
040	209-80100/01	Heat exchange endcap	1	(SINGLE BOLT ENDCAP ONLY)
	208-07272	Heat exchange endcap 2011 SPEC	1	(3 BOLT ENDCAP ONLY)
050	209-00016	M8 Phosphur bronze bolt	2	(SINGLE BOLT ENDCAP ONLY)
	209-00190Z	Heat exchange endcap bolt 2011 SPEC	6	(3 BOLT ENDCAP ONLY)
060	209-00017	M8 Bonded seal	2	(SINGLE BOLT ENDCAP ONLY)
070	209-61840	Zinc anode	1	1/4" BSP

Heat exchange sea water pump -Johnson

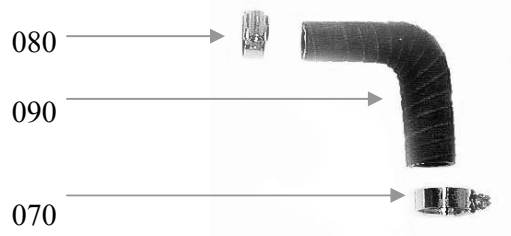


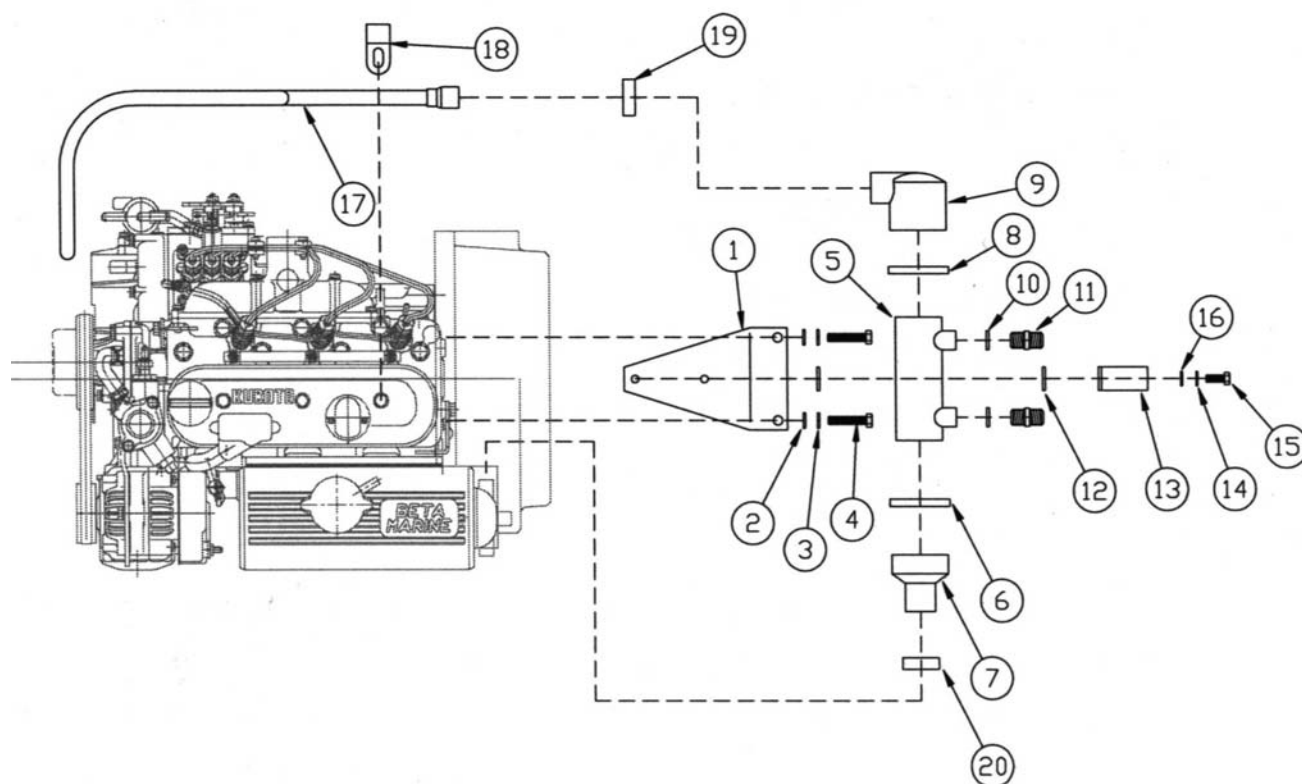
Ref. No.	Part No.	Part Name	Qty	Remarks	
010	207-05355	Johnson pump impeller	1	Johnson from July 2006 (Note: O ring & lubricant)	
020	209-07291	O ring for Johnson -Part of 010	1	Johnson from July 2006	
030	207-06494	Johnson pump lip seal	1	Johnson from July 2006	
040	207-05479	Johnson pump screws	6	Johnson from July 2006	
050	207-05478	Johnson pump cover plate	1	Johnson from July 2006	
060	207-06520	Johnson pump shaft	1	Johnson from July 2006	

Water injection bends –non standard



Ref. No.	Part No.	Part Name		Remarks
010	202-59050/01	1 1/2" O/D x 22mm Stainless steel water injection bend (double skin)	1	Not standard
	202-04828	1 5/8" O/D Stainless steel water injection bend x 16mm	1	Not standard
	202-90610	2" O/D Stainless steel water injection bend x 22mm	1	Not standard
	202-92400/22	5" Stainless steel high rise water injection bend 2" O/D x22mm	1	(Shown) Optional
	202-01597/22	5" Stainless steel high rise water injection bend 1 5/8" O/D x22mm	1	Not standard
	202-06504	Volvo replacement stainless steel crossover high rise water injection bend 2" O/D x 22mm (Fits Beta30 Pre March 2011 only)	1	From June 2006
	202-94330/22	8" Stainless steel high rise water injection bend 2" O/D x22mm	1	Not standard
020	212-09070	Exhaust gasket 2" (Orange type from May 2011)	1	
030	217-99293	M8 Flat washer	4	
040	217-99292	M8 Spring washer	4	
050	217-99299	M8 x 25mm set	4	
060	218-06368	Corrugated radiator hose 22mm I/D -FROM SEPT'09 (430mm OAL)	0.43m	To suit 22mm exhaust
070	212-98464	Stainless steel hose clip 22-30mm (2 required for standard high rise system)	2	Only 1 required for 16mm exhaust
080	212-98462	Stainless steel hose clip 17-25mm	1	Only required for 16mm exhaust
090	209-98232	16 x 22mm I/D Reducing elbow	1	To suit 16mm exhaust
100	212-00234/01	Glass fibre exhaust lagging 3x50mm	5m	Not shown





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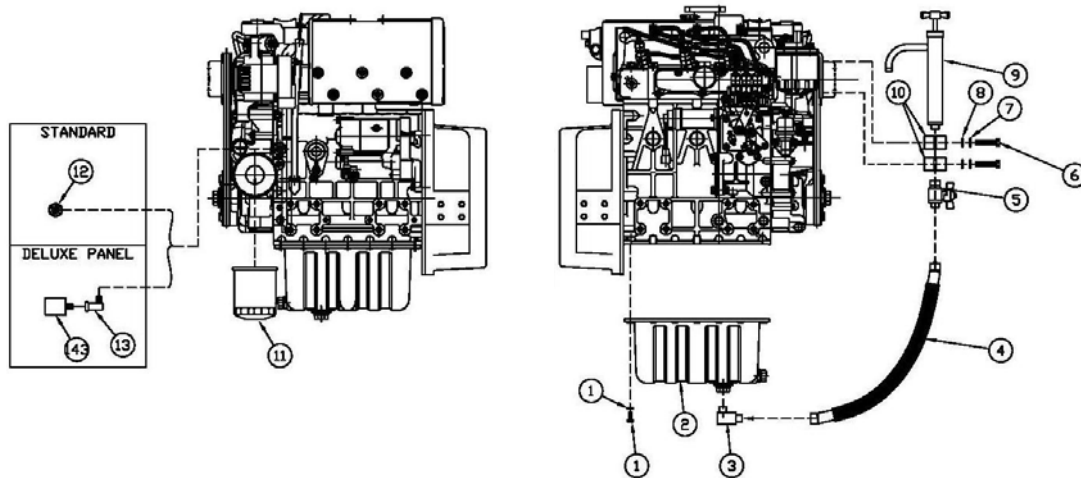
BD1105 WATER SYSTEM FOR HYDRAULIC GEARBOXES

(PAGE 4 of 4)

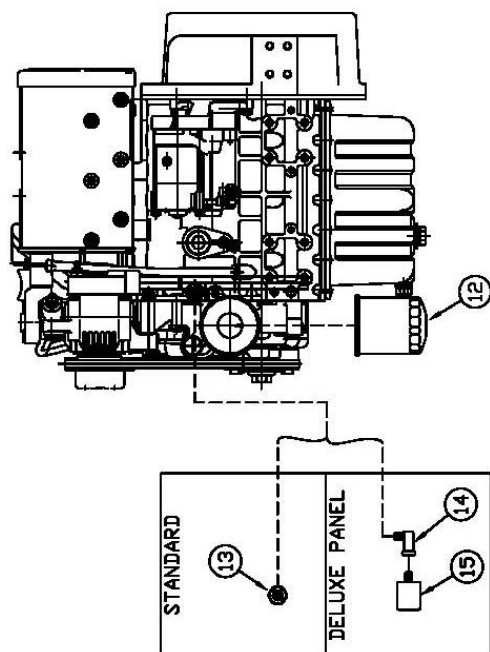
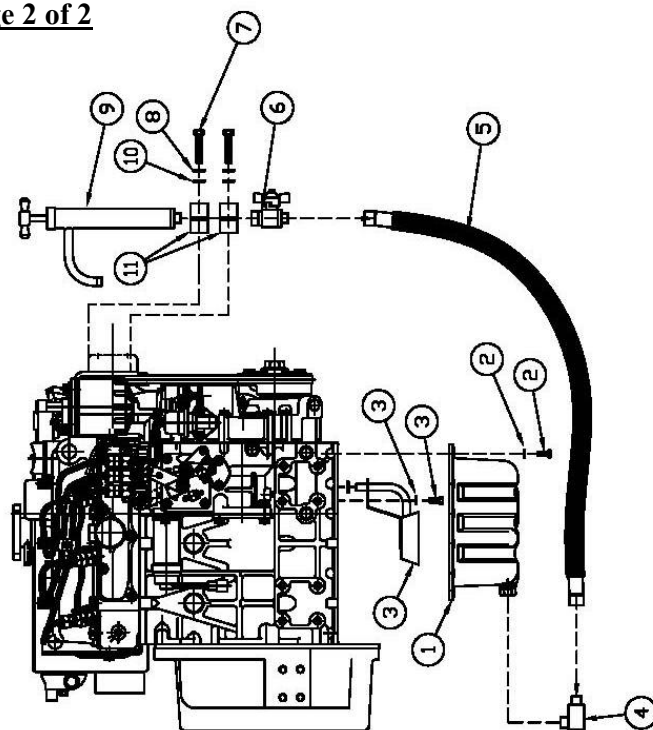
Ref No	Part Number	Part Name	Quantity
01	202-00173	SUPER 5 H/E DC60 OIL COOLER BRACKET	1
02	217-99321	M10 FLAT WASHER	2
03	217-99320	M10 SPRING WASHER	2
04	217-99331	M10 x 50 x 1.25mm SET	2
05	210-91630	OIL COOLER DC60-YDA (INC 06, 07, 08, 09)	1
06	212-00117	STAINLESS STEEL HOSE CLIP 45-60mm	1
07	210-00171	ENDCAP 22mm STRAIGHT OUTLET	1
08	212-00117	STAINLESS STEEL HOSE CLIP 45-60mm	1
09	210-00172	ENDCAP 22mm 90° INLET	1
10	212-99379	1/2"BSP COPPER WASHER	2
11	212-99383	1/2"BSP x 3/8"BSP M-M ADAPTOR	2
12	212-01544	RUBBER STRIP 3mm T x 25mm W x 80mm L	2
13	210-92260	OIL COOLER CLAMP	1
14	217-99292	M8 SPRING WASHER	2
15	217-99301	M8 x 35mm SET	2
16	217-99293	M8 FLAT WASHER	2
17	209-00175	SUPER 5 SERIES 3 CYLINDER RAW WATER COOLING PIPE (HYDRAULIC GEARBOX ONLY)	1
18	212-99264	PIPE FITTING CLIP	1
19	212-98464	STAINLESS STEEL HOSE CLIP 22-30mm	1
20	212-98464	STAINLESS STEEL HOSE CLIP 22-30mm	1

BD1105 OIL SYSTEM WITH STANDARD SUMP

(PAGE 1 of 2)

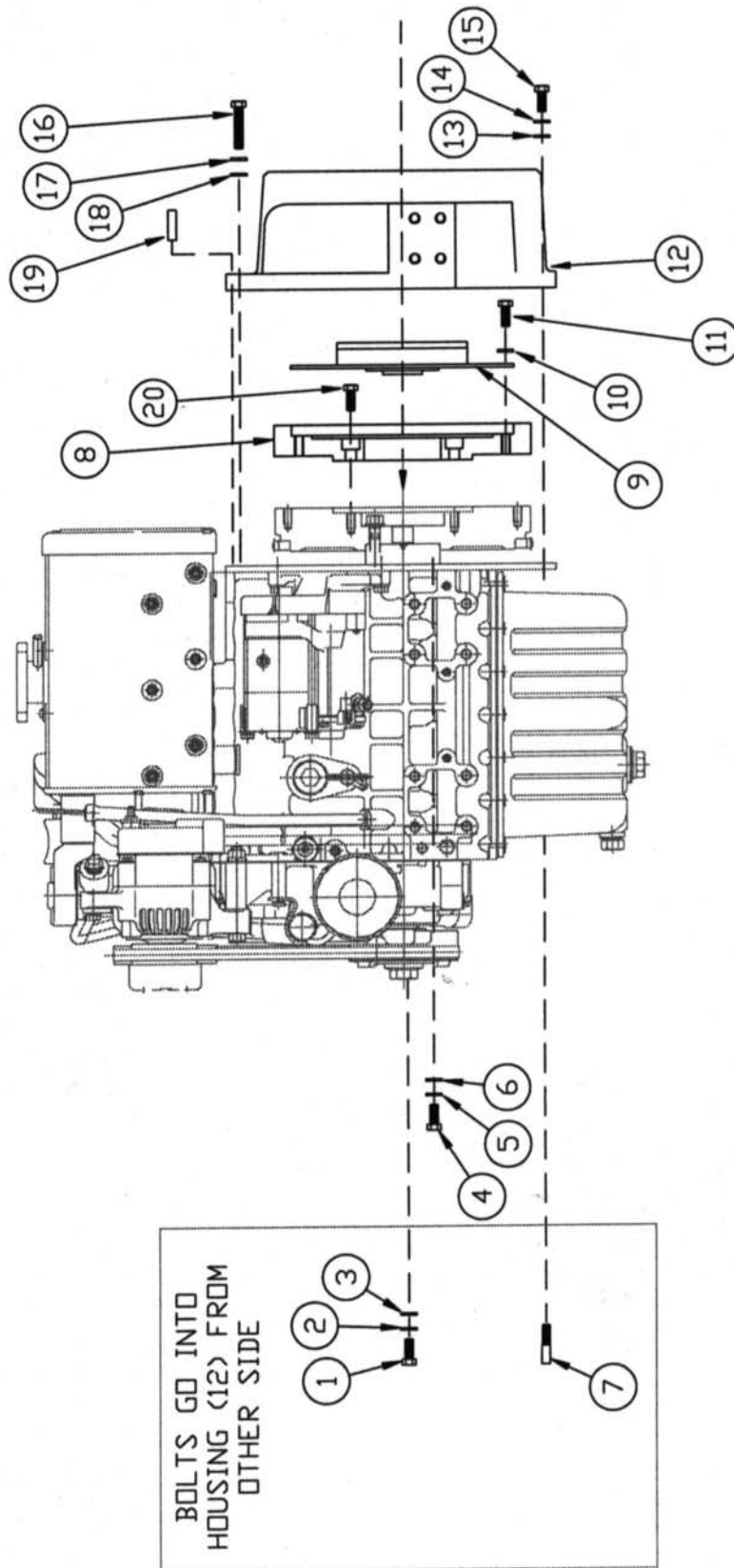


Ref No	Part Number	Part Name	Quantity
01	600-02675	SUMP BOLT & WASHER	26
02	600-02761	SUPER 5 SERIES, 3 CYLINDER STANDARD SUMP	1
03	210-91940	1/4x3/8"BSP M-M BLOCK ELBOW	1
04	210-94220	SUMP PUMP PIPE 3/8BSP 450mm 90°-STR	1
05	210-94530	3/8"BSP SUMP DRAIN PUMP TAP	1
06	217-99303	M8 x 50mm SET	2
07	217-99292	M8 SPRING WASHER	2
08	217-99294	M8 PENNY WASHER	2
09	210-80061	SUMP DRAIN PUMP	1
10	212-00793	PUMP CLAMP	2
11	211-60390	SUPER 5 SERIES OIL FILTER	1
12	600-62670	OIL PRESSURE SWITCH	1
13	212-99395	1/8"BSPTM x 1/8"BSPF GALV ELBOW	1
14	200-94350	DELUXE OIL PRESSURE SENDER	1



DRAWING 100-05280**BD1105 OIL SYSTEM WITH SHALLOW SUMP****(PAGE 2 of 2)**

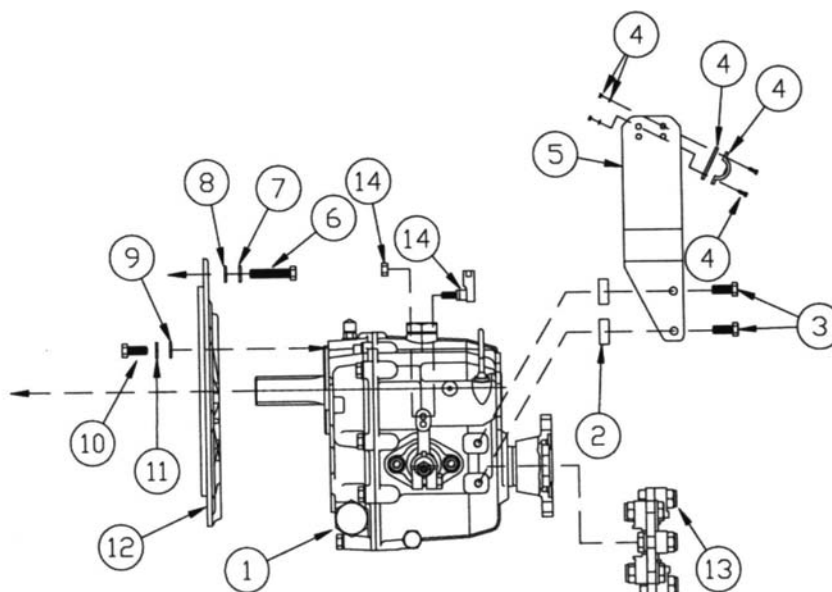
Ref No	Part Number	Part Name	Quantity
01	600-01554	SUPER 5 SERIES 3 CYLINDER SHALLOW SUMP KIT (INCLUDING 03)	1
02	600-02675	SUMP BOLT & WASHER	26
03	N/A	PART OF 05 SERIES 3 CYL SUMP KIT -SEE 01	
04	210-91940	1/4x3/8"BSP M-M BLOCK ELBOW	1
05	210-04674	HYD PIPE 3/8BSP 720mm STR-STR	1
06	210-94530	3/8"BSP SUMP DRAIN PUMP TAP	1
07	217-99303	M8 x 50mm SET	2
08	217-99292	M8 SPRING WASHER	2
09	210-80061	SUMP DRAIN PUMP	1
10	217-99294	M8 PENNY WASHER	2
11	212-00793	PUMP CLAMP	2
12	211-60390	SUPER 5 SERIES OIL FILTER	1
13	600-62670	OIL PRESSURE SWITCH	1
14	212-99395	1/8"BSPTM x 1/8"BSPF GALV ELBOW	1
15	200-94350	DELUXE OIL PRESSURE SENDER	1
16	600-66170	Beta30 SHALLOW SUMP GASKET	1
17	AK/S5/5B3/PS1	SUPER 5 SERIES 3 CYLINDER SHALLOW SUMP KIT (INCLUDING GASKET & SUMP DRAIN PUMP)	1



BD1105 FLYWHEEL HOUSING & DRIVEPLATE MECHANICAL GEARBOXES**(PAGE 1 of 3)**

Ref No	Part Number	Part Name	Quantity
01	217-99301	M8 x 35mm SET	4
02	217-99292	M8 SPRING WASHER	4
03	217-99293	M8 FLAT WASHER	4
04	217-99299	M8 x 25mm SET	2
05	217-99292	M8 SPRING WASHER	2
06	217-99293	M8 FLAT WASHER	2
07	217-00744	LOCATION BOLT, SUPER 5 FLYWHEEL HOUSING	1
08	N/A	N/A	-
09	206-91960	22-B-95 DRIVEPLATE, SAE 6.5 – HURTH / TMC	1
10	217-99293	M8 FLAT WASHER	6
11	217-99310	M8 x 20mm SOCKET CAPHEAD	6
12	208-85780/04	SUPER 5 SERIES FLYWHEEL HOUSING	1
13	217-99293	M8 FLAT WASHER	2
14	217-99292	M8 SPRING WASHER	2
15	217-99300	M8 x 30mm SET	2
16	217-99330	M10 x 40 x 1.25mm SET	2
17	217-99320	M10 SPRING WASHER	2
18	217-99321	M10 FLAT WASHER	2
19	217-99317	M8 x 24mm DOWELL	2
20	217-99335	M10 x 25mm x 1.25mm SOCKET CAP SCREW	6

TMC 60



100-05282 Page 2 of 3 (TMC60)

DRAWING 100-05282

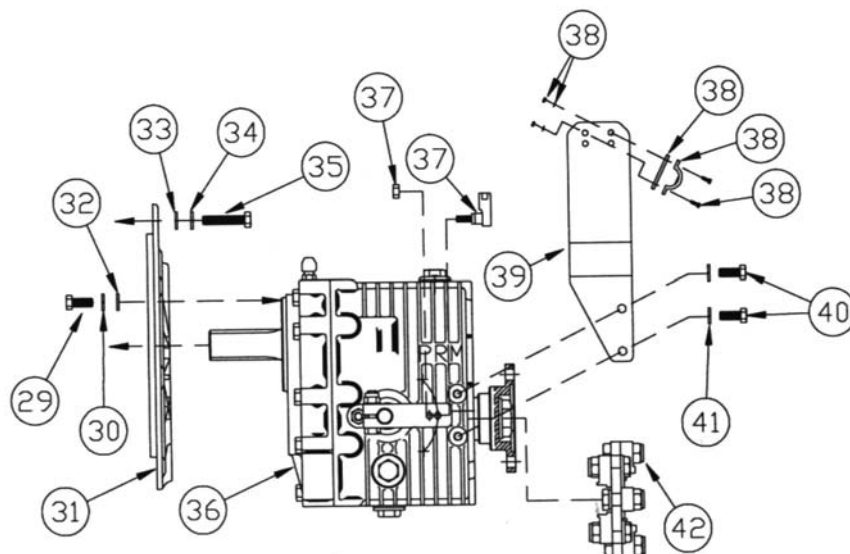
BD1105 MECHANICAL GEARBOXES

(PAGE 2 of 3)

TMC 60 GEARBOXES

Ref No	Part Number	Part Name	Quantity
01	204-02479	TECHNODRIVE TMC 60 R1.5	1
	204-91680	TECHNODRIVE TMC 60 R2	
	204-07724	TECHNODRIVE TMC 60A R2 DOWNANGLE	
	204-01627	TECHNODRIVE TMC 60 R2.45	
	204-07928	TECHNODRIVE TMC 60A R2.45 DOWNANGLE	
	204-01192	TECHNODRIVE TMC 60 R2.94	
02	201-01204	SPACER 7mm	2
03	217-02585	M8 x 25 COUNTERSUNK SET SCREW	2
04	212-99241/01	GEARBOX MORSE CABLE CLAMP	1
05	202-05129	TECHNODRIVE TMC60 MORSE BRACKET	1
06	217-99325	M10 x 25mm Set	6
07	217-99320	M10 SPRING WASHER	6
08	217-99321	M10 FLAT WASHER	6
09	217-99293	M8 FLAT WASHER	6
10	217-99298	M8 x 20mm SET	2
	217-99299	M8 x 25mm SET	4
11	217-99292	M8 SPRING WASHER	4
12	205-60990	HURTH – BORG WARNER ADAPTOR	1
13	212-93690	FLEXIBLE COUPLING	1
14	212-99240/01	GEARBOX MORSE CABLE BALL JOINT	1

PRM 80/120



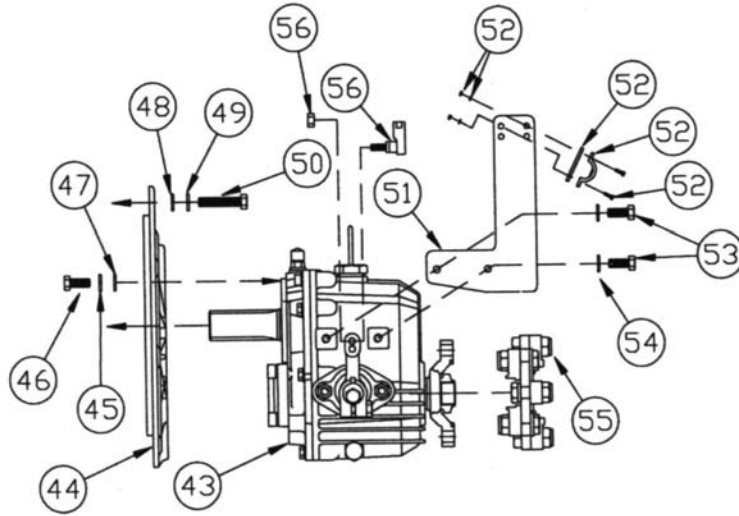
DRAWING 100-05282

BD1005 MECHANICAL GEARBOXES

(PAGE 2 of 3)

NEWAGE PRM 80 / PRM 120 GEARBOXES

Ref No	Part Number	Part Name	Quantity
29	217-99298	M8 x 20mm SET	2
	217-99299	M8 x 25mm SET	4
30	217-99292	M8 SPRING WASHER	4
31	205-92480	PRM80 / PRM120 –BORG WARNER ADAPTOR	1
32	217-99293	M8 FLAT WASHER	6
33	217-99321	M10 FLAT WASHER	6
34	217-99320	M10 SPRING WASHER	6
35	217-99325	M10 x 25mm SET	6
36	204-00277	NEWAGE PRM 80 D2	1
	204-01007	NEWAGE PRM 80 D2.5	
	204-92470	NEWAGE PRM 120 D2	
	204-94160	NEWAGE PRM 120 D2.5	
	204-94170	NEWAGE PRM 120 D3	
37	212-99240/01	GEARBOX MORSE CABLE BALL JOINT	1
38	212-99241/01	GEARBOX MORSE CABLE CLAMP	1
39	202-05129	PRM80/120 MORSE CONTROL BRACKET	1
40	217-99298	M8 x 20mm SET	2
41	217-99292	M8 SPRING WASHER	2
42	212-93690	FLEXIBLE COUPLING	1



DRAWING 100-05282

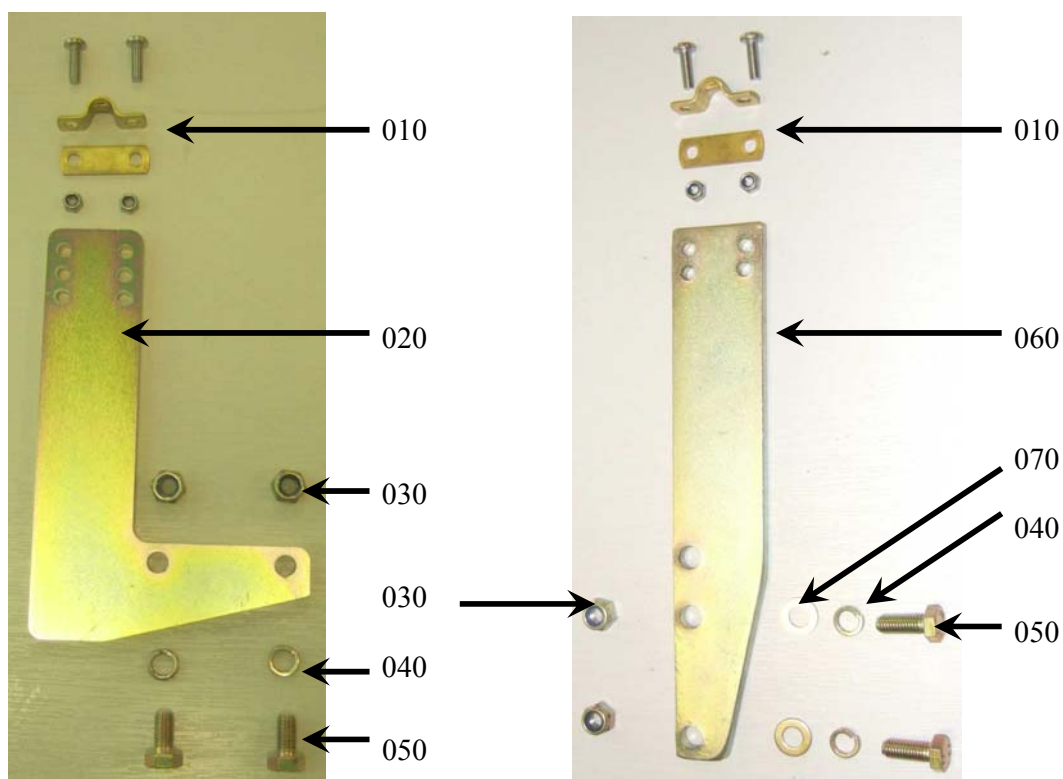
BD1005 MECHANICAL GEARBOXES

(PAGE 2 of 3)

TMC 40 GEARBOX

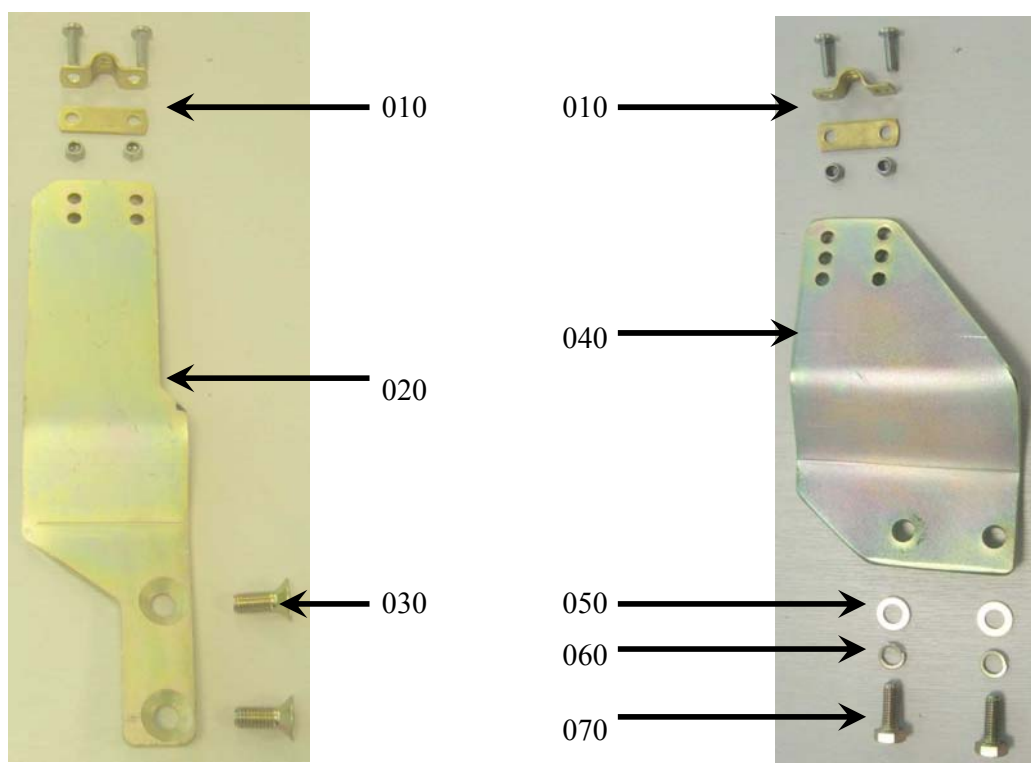
Ref No	Part Number	Part Name	Quantity
43	204-91690 204-91671	TECHNODRIVE TMC 40 R2 TECHNODRIVE TMC 40 R2.6	1
44	205-60990	HURTH – BORG WARNER ADAPTOR	1
45	217-99292	M8 SPRING WASHER	4
46	217-99298 217-99299	M8 x 20mm SET M8 x 25mm SET	2 4
47	217-99293	M8 FLAT WASHER	6
48	217-99321	M10 FLAT WASHER	6
49	217-99320	M10 SPRING WASHER	6
50	217-99325	M10 x 25mm Set	6
51	202-61582/01	TMC40 VERTICAL MORSE CONTROL BRACKET	1
52	212-99241/01	GEARBOX MORSE CABLE CLAMP	1
53	217-99297	M8 x 16mm SET	2
54	217-99292	M8 SPRING WASHER	2
55	212-93690	FLEXIBLE COUPLING	1
56	212-99240/01	GEARBOX MORSE CABLE BALL JOINT	1

Gearbox –TMC 40 Gear control brackets



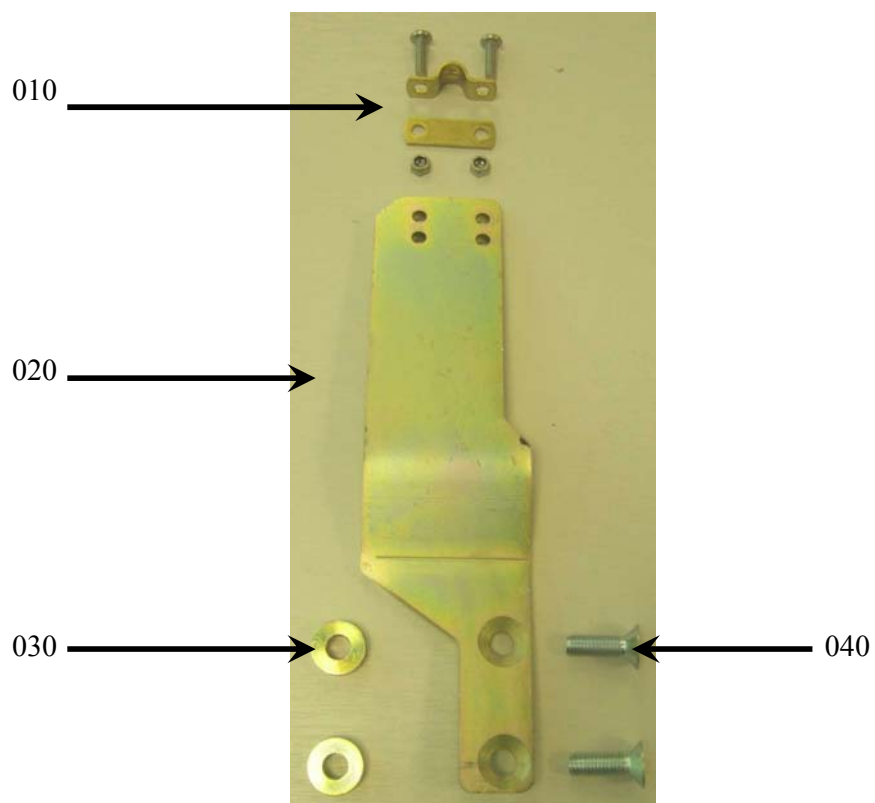
Ref. No.	Part No.	Part Name		Remarks	
010	212-99241/01	Saddle clamp fitting kit	1		
020	202-61582/01	TMC vertical Morse control bracket	1		
030	217-06472	M8 Nyloc halfnut	2	TMC40'P' from April 2007	
040	217-99292	M8 Spring washer	2	TMC40'M' to April 2007	
050	217-99297	M8 x 16mm set	2	TMC40'M' to April 2007	
060	202-61582	TMC 40 Horizontal Morse control bracket	1		
070	217-99293	M8 Flat washer	2		

Gearbox –PRM 80 & 120 Gear control brackets

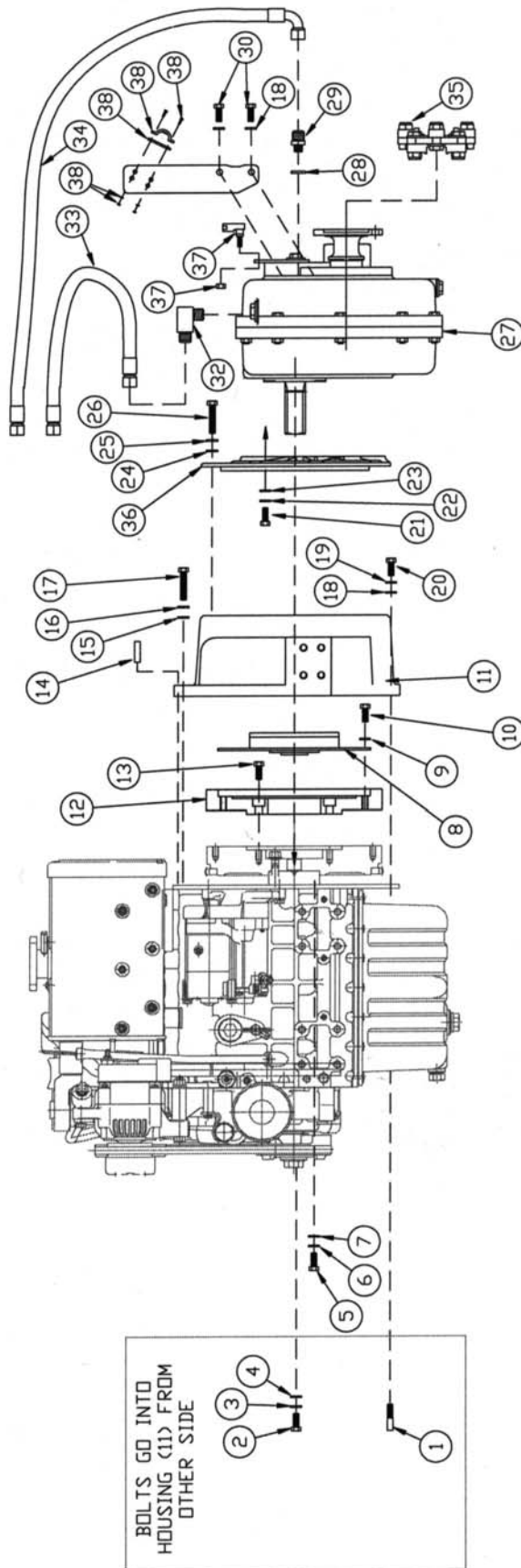


Ref. No.	Part No.	Part Name	Qty	Remarks	
010	212-99241/01	Saddle clamp fitting kit	1		
020	202-05129	PRM Morse control bracket	1		
030	217-99315	M8 x 20mm Countersunk set screw	2		
040	202-05208	PRM horizontal Morse control bracket	1		
050	217-99293	M8 Flat washer	2		
060	217-99292	M8 Spring washer	2		
070	217-99297	M8 x 16mm set	2		

Gearbox –TMC 60 Gear control bracket

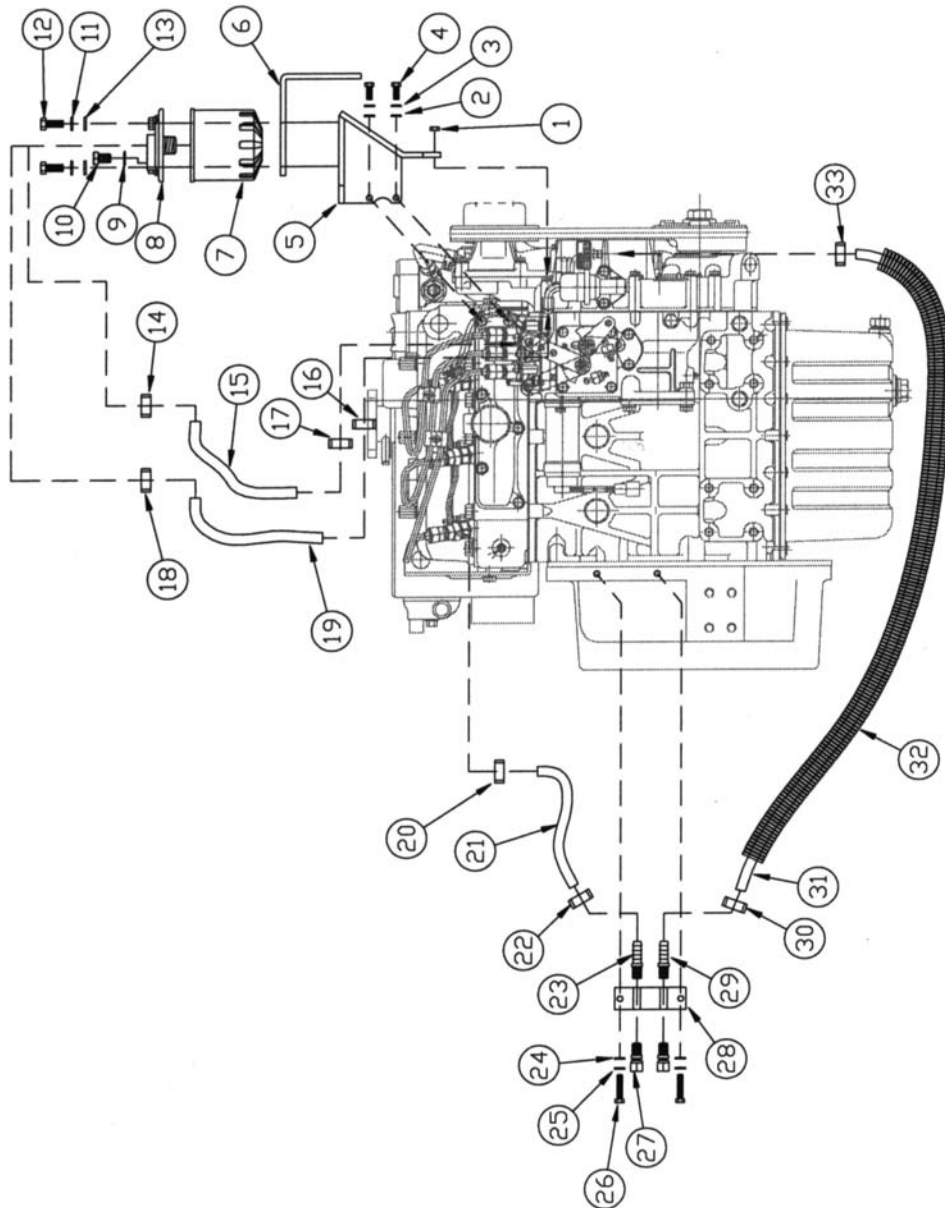


Ref. No.	Part No.	Part Name	Qty	Remarks	
010	212-99241/01	Saddle clamp fitting kit	1		
020	202-05129	TMC60 Vertical Morse control bracket	1		
030	201-01204	Spacer 7mm	2		
040	217-02482	M8 x 25mm Countersunk set scew	2		



BD1105 FLYWHEEL HOUSING & DRIVEPLATE PRM150 GEARBOXES**(PAGE 3 of 3)**

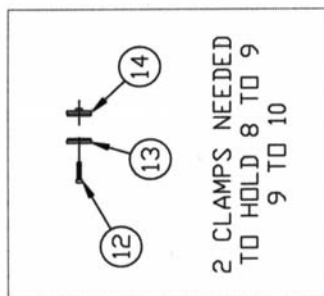
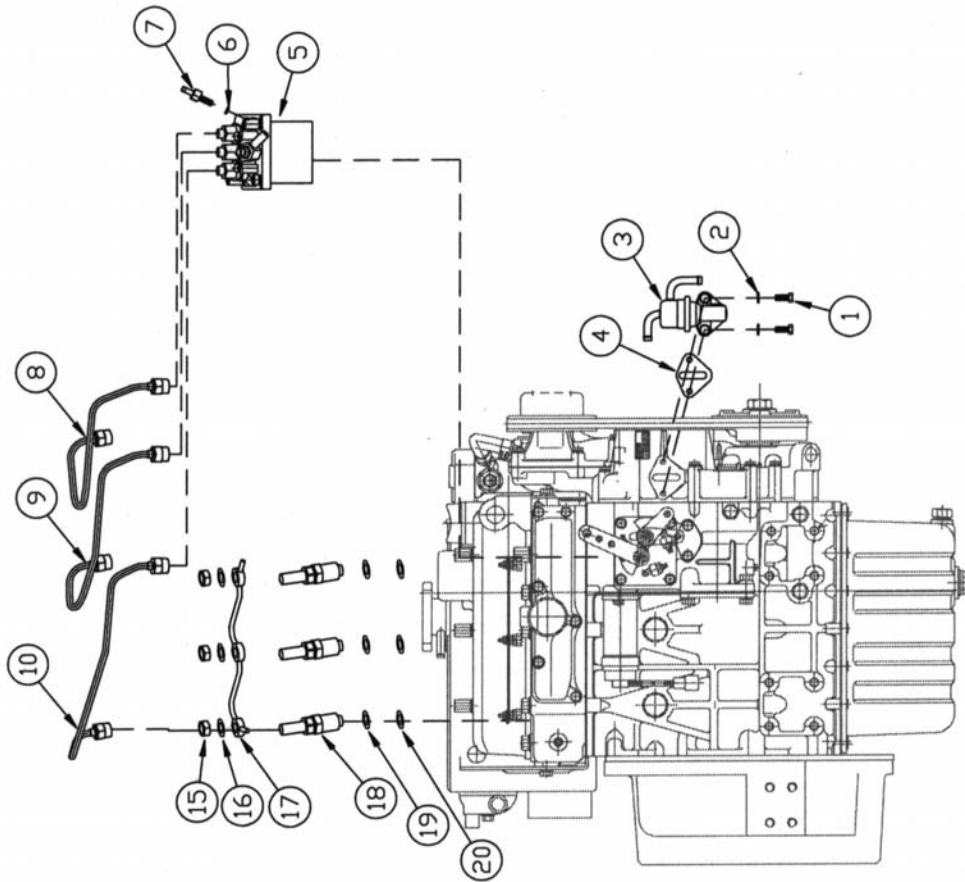
Ref No	Part Number	Part Name	Quantity
01	217-00744	LOCATION BOLT, SUPER 5 FLYWHEEL HOUSING	1
02	217-99301	M8 x 35mm SET	4
03	217-99292	M8 SPRING WASHER	4
04	217-99293	M8 FLAT WASHER	4
05	217-99299	M8 x 25mm SET	2
06	217-99292	M8 SPRING WASHER	2
07	217-99293	M8 FLAT WASHER	2
08	206-91885	PRM150 DS15 DRIVEPLATE SAE6.5	1
09	217-99293	M8 FLAT WASHER	6
10	217-99310	M8 x 20mm SOCKET CAPHEAD	6
11	208-85780/04	SUPER 5 SERIES FLYWHEEL HOUSING	1
12	N/A	N/A	-
13	217-99335	M10 x 25mm x 1.25mm SOCKET CAP SCREW	6
14	217-99317	M8 x 24mm DOWELL	2
15	217-99321	M10 FLAT WASHER	2
16	217-99320	M10 SPRING WASHER	2
17	217-99330	M10 x 40 x 1.25mm SET	2
18	217-99293	M8 FLAT WASHER	2
19	217-99292	M8 SPRING WASHER	2
20	217-99300	M8 x 30mm SET	2
21	217-99298	M8 x 20mm SET	2
	217-99299	M8 x 25mm SET	4
22	217-99292	M8 SPRING WASHER	4
23	217-99293	M8 FLAT WASHER	6
24	217-99321	M10 FLAT WASHER	6
25	217-99320	M10 SPRING WASHER	6
26	217-99325	M10 x 25mm SET	6
27	204-00911	NEWAGE PRM 150 D1.5	1
	204-91920	NEWAGE PRM 150 D2	1
	204-91700	NEWAGE PRM 150 D3	1
28	212-99386	1/4"BSP COPPER WASHER	1
29	212-99385	1/4"BSP x 3/8"BSP M-M ADAPTOR	1
30	217-99301	M8 x 35mm SET	2
31	217-99292	M8 SPRING WASHER	2
32	210-91940	1/4"BSP x 3/8"BSP M-M 90° BLOCK ELBOW	1
33	210-94190	HYDRAULIC PIPE 3/8"BSP 450mm ST-ST	1
34	210-94220	HYDRAULIC PIPE 3/8"BSP 450mm 90-ST	1
35	212-93690	FLEXIBLE COUPLING	1
36	205-92480	PRM80 / PRM120 –BORG WARNER ADAPTOR	1
37	212-99240/01	GEARBOX MORSE CABLE BALL JOINT	1
38	212-99241/01	GEARBOX MORSE CABLE CLAMP	1
39	202-94100	PRM 150 MORSE CONTROL BRACKET	1



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DRAWING 100-05283**BD1105 FUEL SYSTEM****(PAGE 1 of 2)**

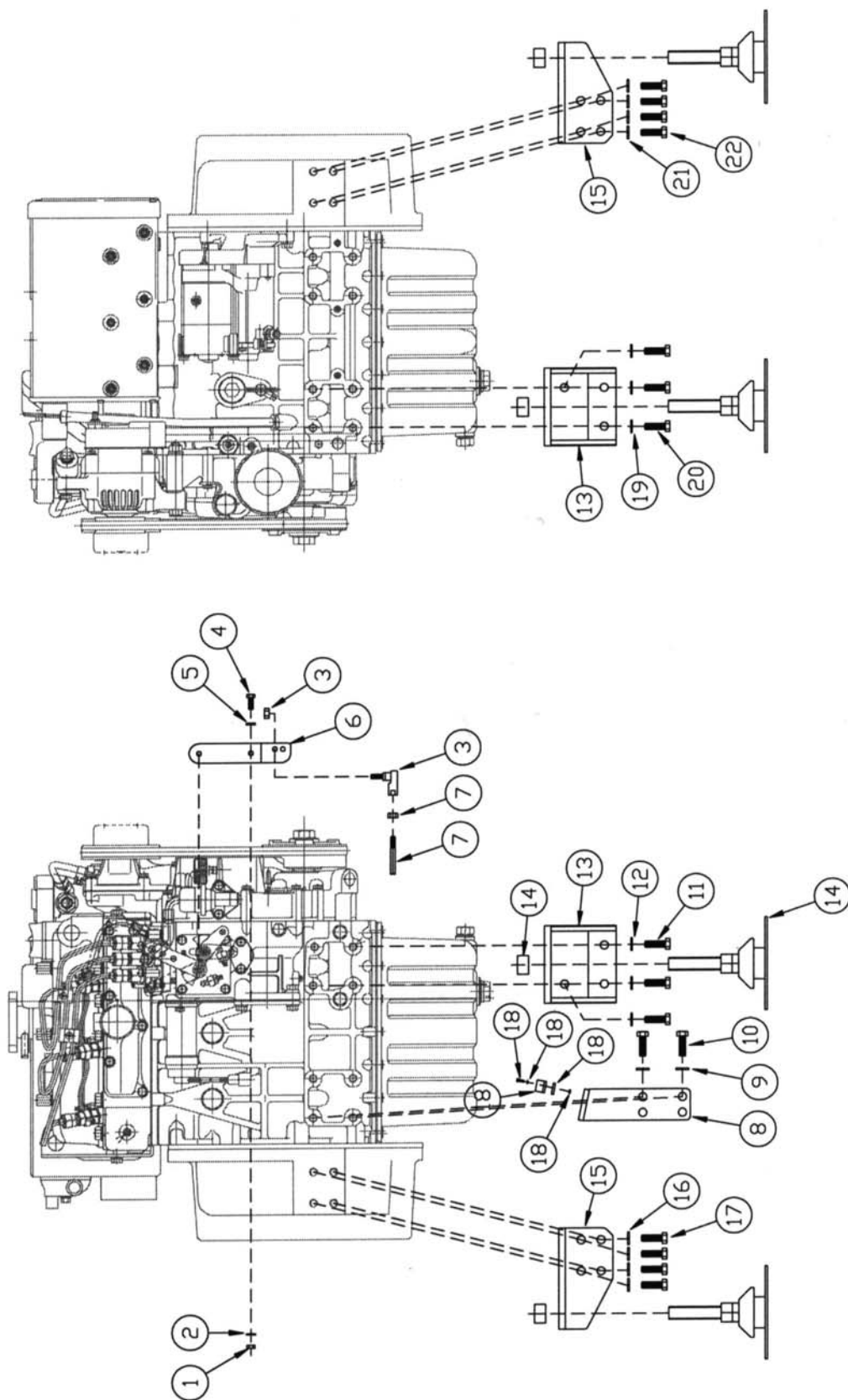
Ref No	Part Number	Part Name	Quantity
01	217-00052	M6 NUT	1
02	217-99276	M6 FLAT WASHER	2
03	217-99275	M6 SPRING WASHER	2
04	217-99282	M6 x 25mm SET	2
05	202-62160	SUPER 5 FUEL FILTER BRACKET	1
06	202-90320	MINI & SUPER 5 SUMP PUMP BRACKET	1
07	211-60210	FUEL FILTER	1
08	600-80290	FUEL FILTER ASSEMBLY (COMPLETE WITH HEAD) INCLUDING 09 & 10	1
09	N/A	PART OF FUEL FILTER ASSEMBLY – SEE 08	
10	N/A	PART OF FUEL FILTER ASSEMBLY – SEE 08	
11	217-99292	M8 SPRING WASHER	2
12	217-99298	M8 x 20mm SET	2
13	217-99293	M8 FLAT WASHER	2
14	212-02826	N°15 STAINLESS HOSE CLIP	1
15	212-02423	FUEL HOSE 8mm BORE ISO7840 A1	0.27m
16	212-02826	N°15 STAINLESS HOSE CLIP	1
17	212-02826	N°15 STAINLESS HOSE CLIP	1
18	212-02826	N°15 STAINLESS HOSE CLIP	1
19	212-02423	FUEL HOSE 8mm BORE ISO7840 A1	0.30m
20	212-02750	N°12 STAINLESS HOSE CLIP	1
21	218-02827	FUEL HOSE 5mm BORE ISO7840 A1	0.23
22	212-02750	N°12 STAINLESS HOSE CLIP	1
23	212-03125	1/4"BSPT MALE x 3/16" HOSE TAIL	1
24	217-99276	M6 FLAT WASHER	2
25	217-99275	M6 SPRING WASHER	2
26	217-99283	M6 x 30mm SET	2
27	212-97112	8mm x1/4"BSPT MALE STUD COUPLING (NOT USA)	2
	212-99253	1/4"BSPT MALE x 5/16" HOSE TAIL (USA ONLY)	2
28	202-01460	FUEL CONNECTION BLOCK	1
29	212-99253	1/4"BSPT MALE x 5/16" HOSE TAIL	2
30	212-02826	N°15 STAINLESS HOSE CLIP	1
31	212-02423	FUEL HOSE 8mm BORE ISO7840 A1	0.30m
32	200-00709	CONDUIT	0.30m
33	212-02826	N°15 STAINLESS HOSE CLIP	1



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DRAWING 100-05283**BD1105 FUEL SYSTEM****(PAGE 2 of 2)**

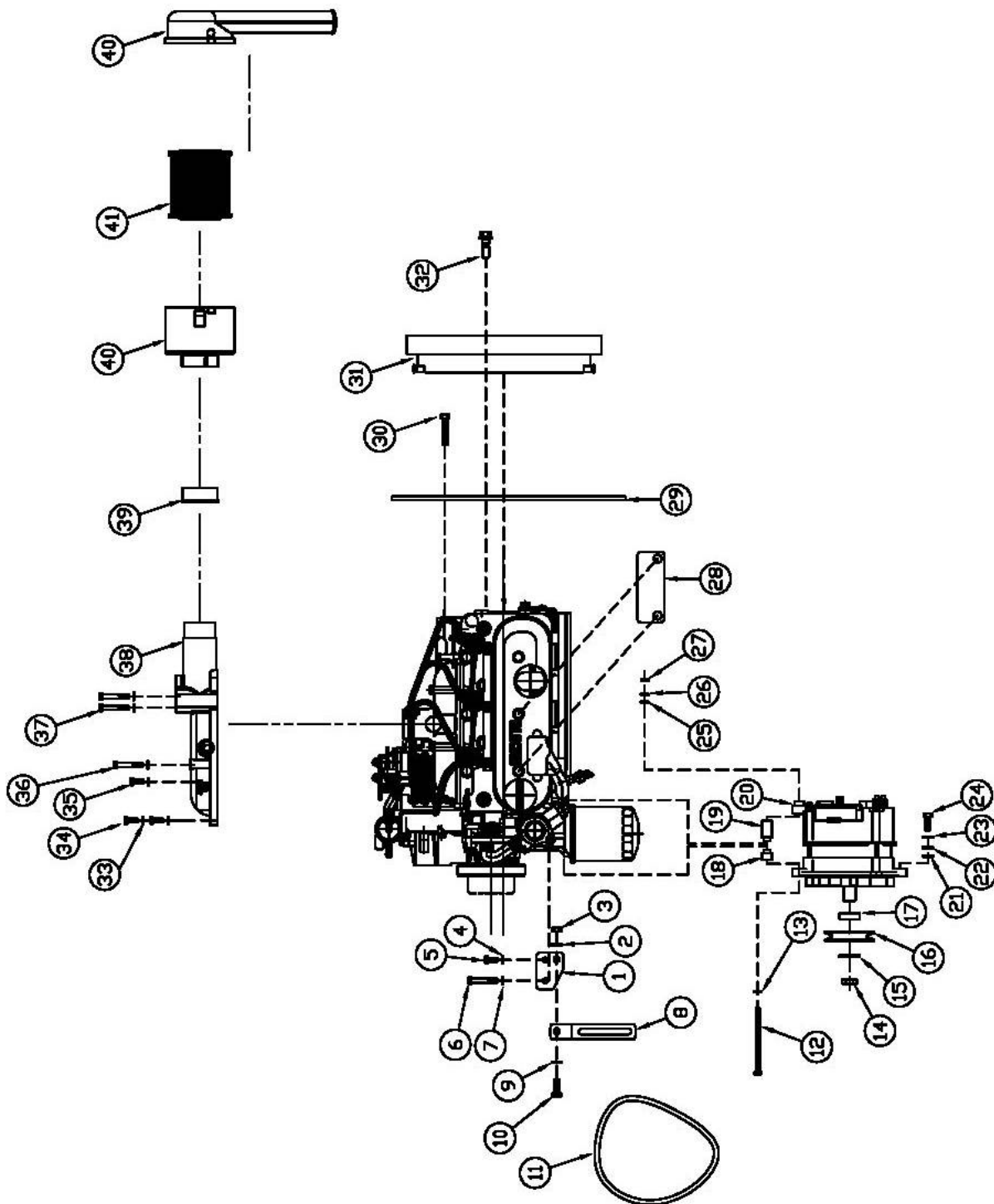
Ref No	Part Number	Part Name	Quantity
01	217-00052	M6 NUT	2
02	217-99275	M6 SPRING WASHER	2
03	600-67830	SUPER 5 SERIES FUEL LIFT PUMP WITH PRIMER	1
04	600-00065	GASKET, FUEL LIFT PUMP	1
05	600-00245	SUPER 5 FUEL INJECTION PUMP, 3 CYLINDER	1
06	600-00625	M6 COPPER WASHER	1
07	600-00536	FUEL RETURN SCREW	1
08	600-08075	INJECTOR PIPE A, BD1105 (1)	1
09	600-08076	INJECTOR PIPE B, BD1105 (2)	1
10	600-08077	INJECTOR PIPE C, BD1105 (3)	1
12	600-91803	FUEL CLAMP SCREW, WITH WASHER	3
13	600-91802	FUEL CLAMP –NO THREAD	3
14	600-91801	FUEL CLAMP –WITH THREAD	3
15	600-01914	NUT, INJECTOR SUPER 5 SERIES	4
16	600-00598	COPPER GASKET, FUEL LEAK OFF RAIL	4
17	600-00547	FUEL LEAK OFF RAIL, SUPER 5 SERIES 3 CYL	1
18	600-67740	INJECTOR SUPER 5, COMPLETE (INC 15, 16)	4
19	600-00242	GASKET, INJECTOR SUPER 5 SERIES	4
20	600-01042	SEAL, HEAT	4



100-05284

DRAWING 100-05284**BD1105 FEET & SPEED CONTROL BRACKETRY**

Ref No	Part Number	Part Name	Quantity
01	217-99278	M6 NYLOC	1
02	217-99275	M6 SPRING WASHER	1
03	212-99240/01	GEARBOX MORSE CABLE BALL JOINT	1
04	217-99280	M6 x 16mm SET	1
05	217-99276	M6 FLAT WASHER	1
06	202-01722/01	SUPER 5 EXTENDED SPEED CONTROL LEVER	1
07	212-99990/02	SINGLE LEVER CONTROL CABLE 2m	2
	212-96070/01	SINGLE LEVER CONTROL CABLE 3m	2
	212-99990	SINGLE LEVER CONTROL CABLE 4m	2
08	202-01769	SUPER 5 SPEED CONTROL BRACKET	1
09	217-99320	M10 SPRING WASHER	2
10	217-99329	M10 x 25 x 1.25mm SET	2
11	217-99329	M10 x 25 x 1.25mm SET	3
12	217-99320	M10 SPRING WASHER	3
13	202-88590S/05	SUPER 5 FRONT FOOT (STARBOARD)	1
	202-88590P/05	SUPER 5 FRONT FOOT (PORT)	1
14	213-93440	FLEXIBLE MOUNT –TRELLEBORG TYPE	4
15	202-88600P	SUPER 5 REAR FOOT (PORT)	1
	202-88600S	SUPER 5 REAR FOOT (STARBOARD)	1
16	217-99320	M10 SPRING WASHER	4
17	217-99326	M10 x 30mm SET	4
18	212-99241/01	GEARBOX MORSE CABLE CLAMP	1
19	217-99320	M10 SPRING WASHER	3
20	217-99329	M10 x 25 x 1.25mm SET	3
21	217-99320	M10 SPRING WASHER	4
22	217-99326	M10 x 30 SET	4

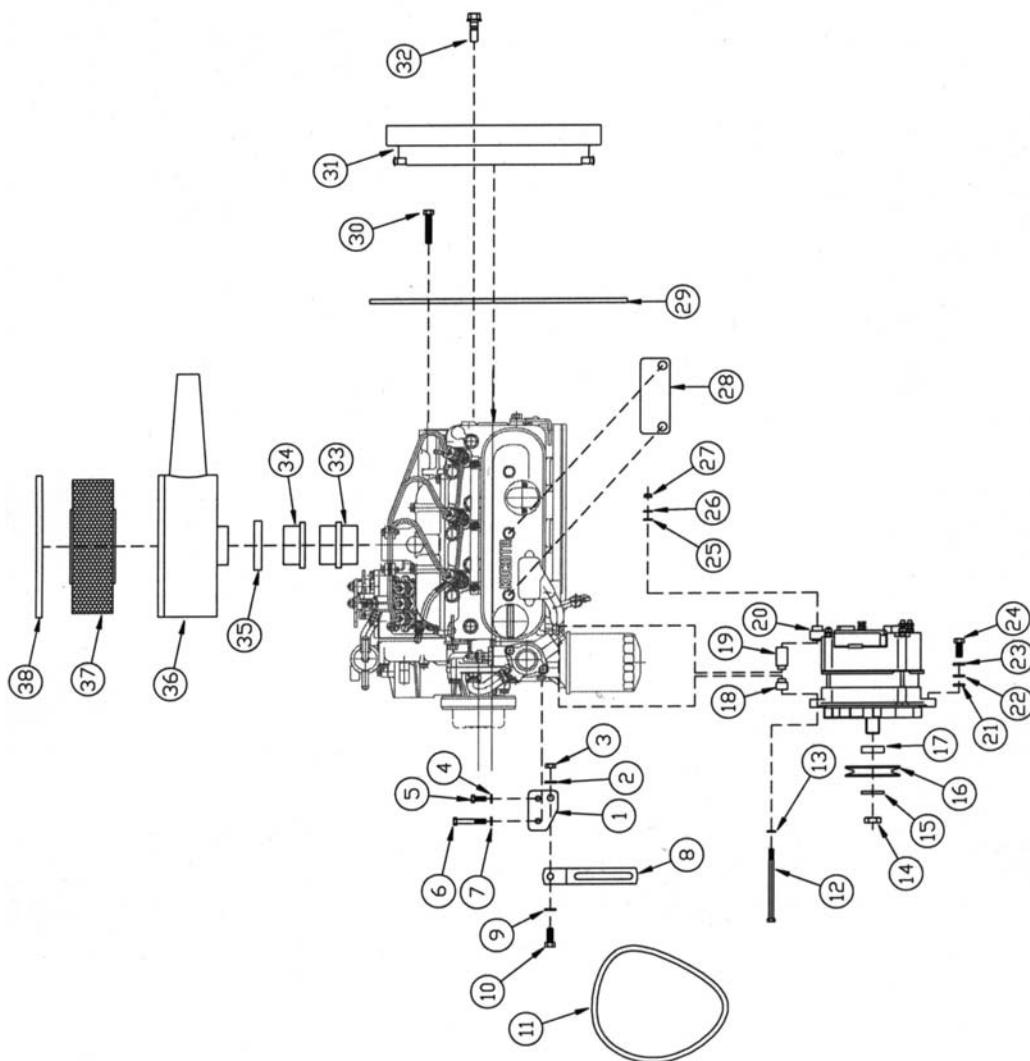


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FROM JUNE 2003 ONLY

BD1105 ALTERNATOR, FLYWHEEL & AIR INTAKE SYSTEM –MECHANICAL GEARBOXES**FROM JUNE 2003 ONLY (PAGE 1 of 3)**

Ref No	Part Number	Part Name	Quantity
01	202-61400	SUPER 5 SERIES ALTERNATOR ARM PLATE	1
02	217-99293	M8 FLAT WASHER	1
03	217-99296	M8 NYLOC	1
04	217-99275	M6 SPRING WASHER	1
05	217-99280	M6 x 16 mm SET	1
06	217-99287	M6 x 55 mm BOLT	1
07	217-99275	M6 SPRING WASHER	1
08	212-96260	SUPER 5 SERIES ALTERNATOR ARM	1
09	217-99293	M8 FLAT WASHER	1
10	217-99298	M8 x 20mm SET	1
11	214-63090/Q	XPZ1000CRE DRIVEBELT (65 AMP ALT H/E ONLY)	1
12	217-99308	M8 x 130mm BOLT	1
13	217-99293	M8 FLAT WASHER	1
14	N/A	PART OF 65 AMP ALTERNATOR – SEE 20	
15	N/A	PART OF 65 AMP ALTERNATOR – SEE 20	
16	200-91720/01	PULLEY, Z SECTION	1
17	200-91745	SPACER	1
18	201-58920	SUPER 5 -65 AMP SHORT ALTERNATOR SPACER	1
19	201-58910	SUPER 5 -65 AMP LONG ALTERNATOR SPACER	1
20	200-01155	12VOLT 65AMP ALTERNATOR	1
21	217-99294	M8 PENNY WASHER	1
22	217-99294	M8 PENNY WASHER	1
23	217-99292	M8 SPRING WASHER	1
24	217-99299	M8 x 25mm SET	1
25	217-99293	M8 FLAT WASHER	1
26	217-99292	M8 SPRING WASHER	1
27	217-99295	M8 NUT	1
28	202-97570	SUPER 5 SERIES LABEL PLATE	1
29	600-00630/4	SUPER 5 SERIES FLYWHEEL BACKPLATE	1
30	600-02680	BOLT, FLYWHEEL BACKPLATE	8
31	600-00630/3	SUPER 5 SERIES, 3 CYLINDER FLYWHEEL	1
32	600-02100	BOLT, FLYWHEEL SUPER 5 SERIES	6
33	217-99275	M6 SPRING WASHER	6
	217-99276	M6 FLAT WASHER	6
34	217-99283	M6 x 30mm SET	2
35	217-99283	M6 x 30mm SET	1
36	217-99286	M6 x 50mm SET	1
37	217-03470	M6 x 70mm SET	2
38	201-05635	BD1105 INLET MANIFOLD (REAR MOUNT FILTER)	1
39	212-00117	HOSE CLIP 45-60	1
40	211-60320	AIR FILTER ASSEMBLY (INC 39 & 41)	N/A
	211-08130	AIR FILTER ASSY (PLASTIC, FROM MARCH 2011)	1
41	211-62950	AIR FILTER ELEMENT (TO MARCH 2011)	1
	211-08132	AIR FILTER ELEMENT (FOR PLASTIC FILTER FROM MARCH 2011)	

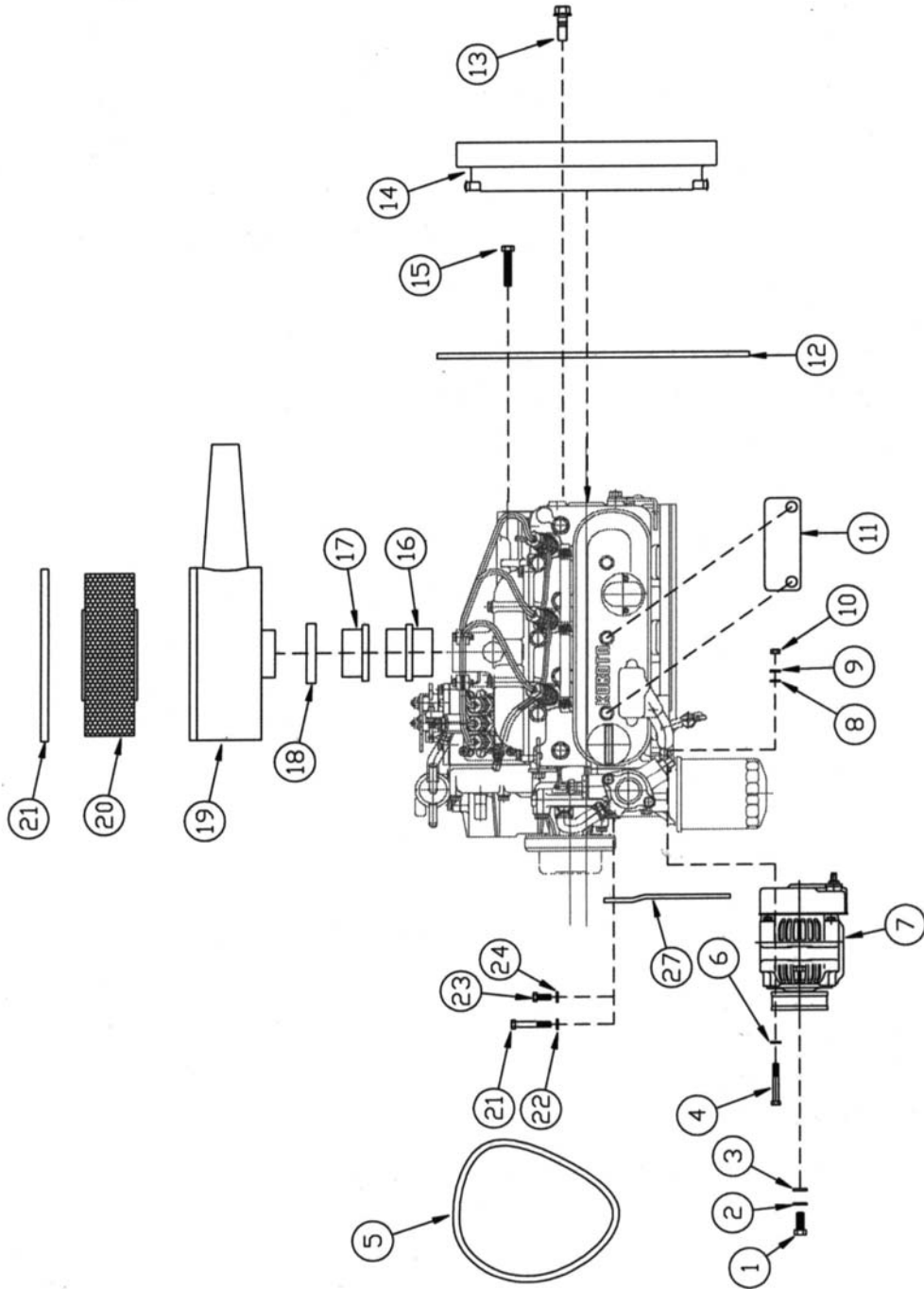


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TO JUNE 2003 ONLY FOR MECHANICAL GEARBOXES

BD1105 ALTERNATOR, FLYWHEEL & AIR INTAKE SYSTEM –HYDRAULIC GEARBOXES**ALSO SUITS MECHANICAL GEARBOXES TO JUNE 2003 (PAGE 2 of 3)**

Ref No	Part Number	Part Name	Quantity
01	202-61400	SUPER 5 SERIES ALTERNATOR ARM PLATE	1
02	217-99293	M8 FLAT WASHER	1
03	217-99296	M8 NYLOC	1
04	217-99275	M6 SPRING WASHER	1
05	217-99280	M6 x 16 mm SET	1
06	217-99287	M6 x 55 mm BOLT	1
07	217-99275	M6 SPRING WASHER	1
08	212-96260	SUPER 5 SERIES ALTERNATOR ARM	1
09	217-99293	M8 FLAT WASHER	1
10	217-99298	M8 x 20mm SET	1
11	214-63090/Q	XPZ1000CRE DRIVEBELT (65 AMP ALT H/E ONLY)	1
12	217-99308	M8 x 130mm BOLT	1
13	217-99293	M8 FLAT WASHER	1
14	N/A	PART OF 65 AMP ALTERNATOR – SEE 20	
15	N/A	PART OF 65 AMP ALTERNATOR – SEE 20	
16	200-91720/01	PULLEY, Z SECTION	1
17	200-91745	SPACER	1
18	201-58920	SUPER 5 -65 AMP SHORT ALTERNATOR SPACER	1
19	201-58910	SUPER 5 -65 AMP LONG ALTERNATOR SPACER	1
20	200-01155	12VOLT 65AMP ALTERNATOR	1
21	217-99294	M8 PENNY WASHER	1
22	217-99294	M8 PENNY WASHER	1
23	217-99292	M8 SPRING WASHER	1
24	217-99299	M8 x 25mm SET	1
25	217-99293	M8 FLAT WASHER	1
26	217-99292	M8 SPRING WASHER	1
27	217-99295	M8 NUT	1
28	202-97570	SUPER 5 SERIES LABEL PLATE	1
29	600-00630/4	SUPER 5 SERIES FLYWHEEL BACKPLATE	1
30	600-02680	BOLT, FLYWHEEL BACKPLATE	8
31	600-00630/3	SUPER 5 SERIES, 3 CYLINDER FLYWHEEL	1
32	600-02100	BOLT, FLYWHEEL SUPER 5 SERIES	6
33	201-98370	SUPER 5 AIR INTAKE ADAPTOR (TO DEC2010 ONLY)	1
34	212-99391	AIR FILTER RUBBER GROMMET	1
35	212-00118	HOSE CLIP 44-64	1
36	211-93700	AIR FILTER ASSEMBLY (INC 34, 35, 37 & 38) (TO DEC2010)	N/A
	211-08131	AIR FILTER ASSEMBLY (INC 34, 35, 37 & 38) (FROM DEC2010)	1
37	211-61831	AIR FILTER ELEMENT (TO DEC2010)	1
	211-08133	AIR FILTER ELEMENT (FROM DEC2010)	
38	N/A	AIR FILTER ASSEMBLY COVER – SEE 36	N/A

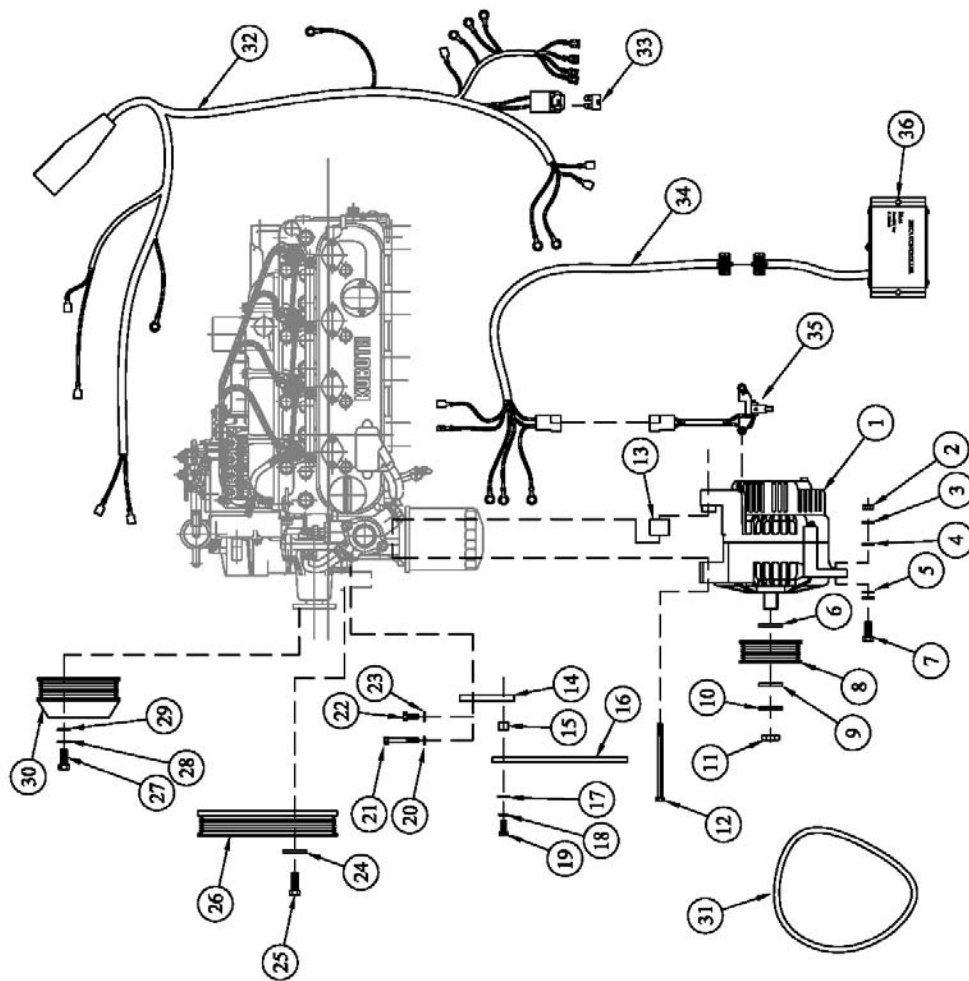


100-05285 Page 3 of 3

BD1105 ALTERNATOR, FLYWHEEL & AIR INTAKE SYSTEM 40 AMP**BEFORE SEPTEMBER 2001 (PAGE 3 of 3)**

Ref No	Part Number	Part Name	Quantity
01	217-99299	M8 x 25mm SET	1
02	217-99292	M8 SPRING WASHER	1
03	217-99294	M8 PENNY WASHER	1
04	217-02760	M10 x 1.25 x 100mm BOLT	1
05	600-94280/01	DRIVEBELT, SUPER 5 –40 AMP ALTERNATOR	1
06	217-99321	M10 FLAT WASHER	1
07	600-00631	SUPER 5 SERIES 40 AMP ALTERNATOR	1
08	217-99321	M10 FLAT WASHER	1
09	217-99320	M10 SPRING WASHER	1
10	217-99322	M10 NUT	1
11	202-97570	SUPER 5 SERIES LABEL PLATE	1
12	600-00630/4	SUPER 5 SERIES FLYWHEEL BACKPLATE	1
13	600-02100	BOLT, FLYWHEEL SUPER 5 SERIES	6
14	600-00630/3	SUPER 5 SERIES, 3 CYLINDER FLYWHEEL	1
15	600-02680	BOLT, FLYWHEEL BACKPLATE	8
16	201-98370	SUPER 5 AIR INTAKE ADAPTOR (TO DEC2010 ONLY)	1
17	212-99391	AIR FILTER RUBBER GROMMET	1
18	212-00118	HOSE CLIP 44-64	1
19	211-93700	AIR FILTER ASSEMBLY (INC 34, 35, 37 & 38) (TO DEC2010)	N/A
	211-08131	AIR FILTER ASSEMBLY (INC 34, 35, 37 & 38) (FROM DEC2010)	1
20	211-61831	AIR FILTER ELEMENT (TO DEC2010)	1
	211-08133	AIR FILTER ELEMENT (FROM DEC2010)	
21	217-99287	M6 x 55mm BOLT	1
22	217-99275	M6 SPRING WASHER	1
23	217-99280	M6 x 16mm SET	1
24	217-99275	M6 SPRING WASHER	1

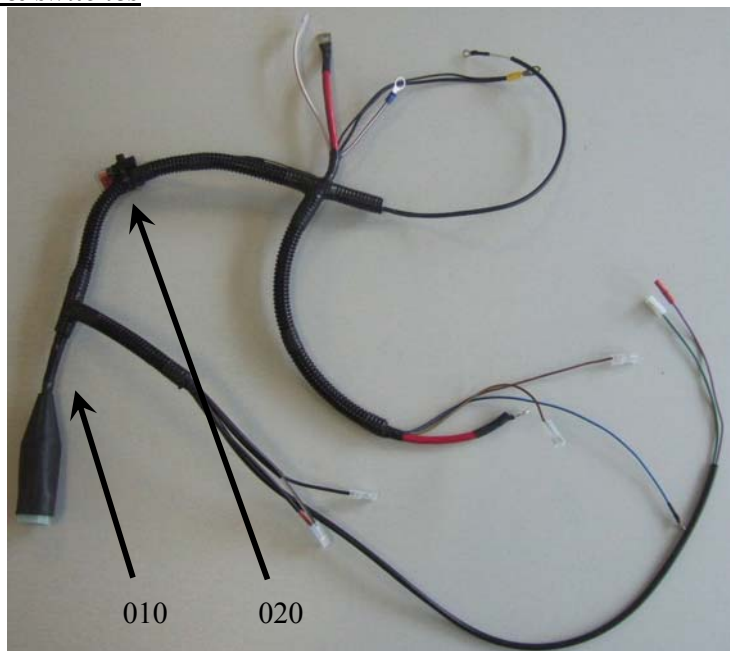
Drawing 100-05471 01



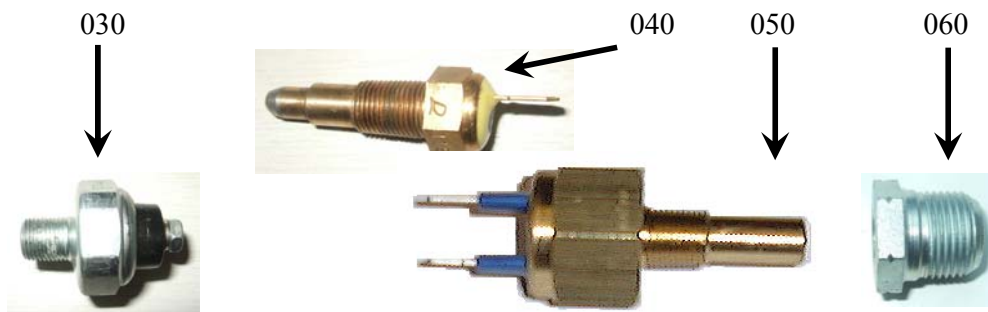
BD1105 100 AMP ALTERNATOR, 6K DRIVE SYSTEM & BETA CONTROLLER

Ref No	Part Number	Part Name	Quantity
01	200-03008	100AMP 12 VOLT ALTERNATOR INTERNAL FAN (SINGLE BOLT MANIFOLD ONLY)	1
	200-08183	120AMP 12 VOLT ALTERNATOR EXTERNAL FAN (3 BOLT MANIFOLD ONLY) *DOES NOT SUIT BETA CONTROLLER*	
02	217-99295	M8 Nut	1
03	217-99292	M8 SPRING WASHER	1
04	217-99293	M8 Flat washer	1
05	217-99294	M8 PENNY WASHER	2
06	N/A	PART OF 200-03008	1
07	217-99301	M8 x 35 SET	1
08	201-02251	PULLEY –ISKRA 80mm Dia	1
09	N/A	PART OF 200-03008	1
10	N/A	PART OF 200-03008	1
11	N/A	PART OF 200-03008	1
12	217-03178	3/8 UNC x 4 1/2" SOCKET CAP SCREW	1
13	201-61801	ELECTROLUX SPACER (WITH 10.5 DIA HOLE)	1
14	202-05437	S5 H/E 100A ALT ARM BRACKET	1
15	201-58920/01	SPACER BUTTON	1
16	202-01086	ISKRA ADJUSTING ARM (CURVED)	1
17	217-99293	M8 Flat washer	1
18	217-99292	M8 SPRING WASHER	1
19	217-99299	M8 x 25mm SET	1
20	217-99275	M6 SPRING WASHER	1
21	217-99287	M6 x 55 mm BOLT	1
22	217-99280	M6 x 16 mm SET	1
23	217-99275	M6 SPRING WASHER	1
24	217-99321	M10 FLAT WASHER	3
25	217-99329	M10 x 25 x 1.25mm SET	3
26	201-05434	S5 H/E 100A ALT DRIVE PULLEY 6K 130DIA	1
27	217-99281	M6 x 20 SET	4
28	217-99275	M6 SPRING WASHER	4
29	217-99276	M6 FLAT WASHER	4
30	201-05433	S5 H/E 100A ALT WATER PUMP PULLEY 6K 98DIA	1
31	214-04618	DRIVEBELT SUPER 5 -100 AMP ALTERNATOR	1
32	200-60973/05	SUPER 5 SERIES ENGINE WIRING HARNESS	1
33	200-00959	BLADE FUSE	1
34	200-02737	BETA CONTROLLER HARNESS	1
35	200-02684	100A BRUSH BOX (FOR 200-03008 ONLY)	1
36	200-02580	BETA CONTROLLER (FOR 200-03008 ONLY)	1
37	AK/S5H/100A/001	100A INTERNAL FAN ALTERNATOR KIT (MAY REQUIRE ITEM 22 PAGE13 209-80310/22 IF ENGINE HAS JABSCO SEA WATER PUMP) (SUITS SINGLE BOLT MANIFOLD ONLY)	1
	AK/S5H/100A/E01	120A EXTERNAL FAN ALTERNATOR KIT (SUITS 3 BOLT 2011 SPEC MANIFOLD ONLY)	

Wiring harness & switches



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	200-60973/05	Super5 Series engine harness	1	Includes fuse	
020	200-00959	Engine harness fuse (blade type)	1		
030	600-62670	Oil pressure switch (not 2C panel)	1		
040	600-62820	Water temperature switch (not 2C panel)	1	Std from March 2007	
050	200-01133	Water temperature switch / sender 95°C (Not 2C panel) 1/8BSP	1	Std before March 2007	
060	212-01480	3/8BSPT Male x1/8BSP Female galvanised adaptor for 200-01133	1	Required if temp sender being fitted into 3/8BSP thread	
070	200-04588/01	1 metre extension harness	1	Not shown	
080	200-04588/02	2 metre extension harness	1	Not shown	
090	200-04588/03	3 metre extension harness	1	Not shown	
100	200-04588/04	4 metre extension harness	1	Not shown	
110	200-04588/05	5 metre extension harness	1	Not shown	
120	200-04588/06	6 metre extension harness	1	Not shown	
130	200-04588/08	8 metre extension harness	1	Not shown	
140	200-04588/10	10 metre extension harness	1	Not shown	
150	200-04588/15	15 metre extension harness	1	Not shown	
160	200-57640	Relay (for extension harnesses)	1	Not shown	

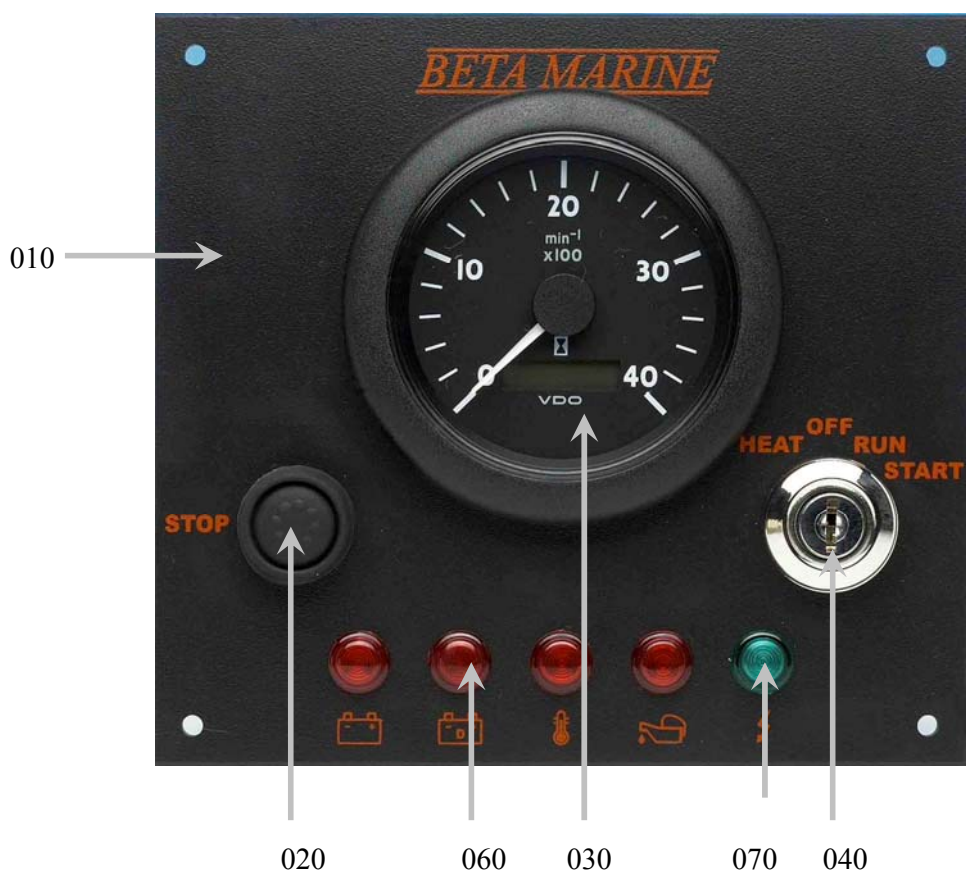


Simple 2A panel –LAMP type from May 2005



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/2AS/KS01	Simple panel with 3m loom (complete)	1		
020	600-00057	Kubota keyswitch –suits small key	1	To August 2008	
	600-00057/01	Kubota keyswitch –suit large key	1	From August 2008	
030	600-00058	Kubota keys –PAIR (SMALL)	1	To August 2008	
	600-00058/01	Kubota keys –PAIR (LARGE)	1	From August 2008	
040	200-00072	Panel stop button	1		
050	200-04657	Red 12V warning lamp & retaining clip	3		
060	200-04656	Green 12V power on lamp & retaining clip	1		
070	N/A	Panel blank 2A –LAMP TYPE	1	Check availability	
080	200-00639	11 Way plug to suit male type spade	1	Not shown	
090	200-00048	Large shroud for 11 way plug	1	Not shown	
100	200-00047	Male spade for 11 way plug	11	Not shown	
110	200-04655	Alarm board with buzzer	1	Not shown	
120					

2AB panel –LAMP type from May 2005



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/2ABD/KS02	2AB panel with 3m loom (Complete)	1		
020	200-00072	Panel stop button	1		
030	200-02373	0-4000 RPM tachometer & hourmeter (VDO)	1	From March 2002, Viewline Jan2010	
040	600-00057	Kubota keyswitch –suits small key	1	To August 2008	
	600-00057/01	Kubota keyswitch –suit large key	1	From August 2008	
050	600-00058	Kubota keys –PAIR (SMALL)	1	To August 2008	
	600-00058/01	Kubota keys –PAIR (LARGE)	1	From August 2008	
060	200-04657	Red 12V warning lamp & retaining clip	4		
070	200-04656	Green 12V power on lamp & retaining clip	1		
080	N/A	Panel blank 2AB (DOMESTIC)	1	Check availability	
090	200-00639	11 Way plug to suit male type spade	1	Not shown	
100	200-00048	Large shroud for 11 way plug	1	Not shown	
110	200-00047	Male spade for 11 way plug	11	Not shown	
120	200-04655	Alarm board with buzzer	1	Not shown	
130	200-87020	12V 28Ra 40Amp relay	1	Not shown	
140					

2AB'V' panel –LAMP type from May 2005



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/2ABV/KS01	2AB'V' panel with 3m loom (complete)	1		
020	600-00057	Kubota keyswitch –suits small key	1	To July 2008	
	600-00057/01	Kubota keyswitch –suit large key	1	From July 2008	
030	600-00058	Kubota keys –PAIR (SMALL)	1	To July 2008	
	600-00058/01	Kubota keys –PAIR (LARGE)	1	From July 2008	
040	200-04657	Red 12V warning lamp & retaining clip	3		
050	200-04656	Green 12V power on lamp & retaining clip	1		
060	200-00072	Panel stop button	1		
070	200-02373	0-4000 RPM tachometer & hourmeter (VDO)	1	From March 2002, Viewline Jan2010	
080	N/A	Panel blank 2ABV	1	Check availability	
090	200-00639	11 Way plug to suit male type spade	1	Not shown	
100	200-00048	Large shroud for 11 way plug	1	Not shown	
110	200-00047	Male spade for 11 way plug	11	Not shown	
120	200-04655	Alarm board with buzzer	1	Not shown	
130					

2AB'V'W pushbutton control panel –LAMP type from May 2005



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/2ABVW/KS01	2AB'V'W panel with 3m loom (complete)	1		
020	200-00072	Panel stop / start / heat button	3		
030	200-04657	Red 12V warning lamp & retaining clip	3		
040	200-04656	Green 12V power on lamp & retaining clip	1		
050	200-02373	0-4000 RPM tachometer & hourmeter (VDO)	1	From March 2002, Viewline Jan2010	
060	N/A	Panel blank 2ABVW	1	Check availability	
070	200-00639	11 Way plug to suit male type spade	1	Not shown	
080	200-00048	Large shroud for 11 way plug	1	Not shown	
090	200-00047	Male spade for 11 way plug	11	Not shown	
100	200-04655	Alarm board with buzzer	1	Not shown	
110	200-87020	12V 28Ra 40Amp relay	2	Not shown	
120	200-03466	Pektron diode	1	Not shown	
130	200-02618	Diode bridge	1	Not shown	

SFIA 2B panel –LAMP type from May 2005



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/2BT/KS02	SFIA 2B Panel –with temperature gauge From May 2005 (complete)	1	With Murphy temp gauge	
020	600-00057	Kubota keyswitch –suits small key	1	To July 2008	
	600-00057/01	Kubota keyswitch –suit large key	1	From July 2008	
030	600-00058	Kubota keys –PAIR (SMALL)	1	To July 2008	
	600-00058/01	Kubota keys –PAIR (LARGE)	1	From July 2008	
040	200-04657	Red 12V warning lamp & retaining clip	3		
050	200-04656	Green 12V power on lamp & retaining clip	1		
060	200-00072	Panel stop button	1		
070	200-02373	0-4000 RPM tachometer (VDO)	1	From March 2002, Viewline Jan2010	
080	200-96200	Murphy water temperature gauge	1	(Murphy not shown)	
090	N/A	Panel blank 2B	1	Check availability	
100	200-04655	Alarm board with buzzer	1	Not shown	
110	200-00639	11 Way plug to suit male type spade	1	Not shown	
120	200-00048	Large shroud for 11 way plug	1	Not shown	
130	200-00047	Male spade for 11 way plug	11	Not shown	
140					

Murphy deluxe 2C panel & senders –Domestic 5 Lamp –from May 2005



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/2CD/KS01	Murphy 2C deluxe panel –Domestic 5 Lamp (Complete, less 3m interconnection cable 160)	1		
020	200-00072	Panel stop button	1		
030	600-00057	Kubota keyswitch –suits small key	1	To July 2008	
	600-00057/01	Kubota keyswitch –suit large key	1	From July 2008	
040	600-00058	Kubota keys –PAIR (SMALL)	1	To July 2008	
	600-00058/01	Kubota keys –PAIR (LARGE)	1	From July 2008	
050	200-04657	Red 12V warning lamp & retaining clip	4		
060	200-04656	Green 12V power on lamp & retaining clip	1		
070	N/A	Murphy deluxe panel blank (Domestic 5 Lamp)	1	Check availability	
080	200-02373	0-4000 RPM tach & hourmeter (VDO)	1	From March 2002, Viewline Jan2010	
090	200-96190	Murphy oil pressure gauge	1		
100	200-96200	Murphy water temperature gauge	1		
110	200-96210	Murphy voltmeter gauge	1		
120	212-04355	1/8"BSP MxF elbow	1		
130	200-94350	Murphy pressure sender	1		
140	200-91980	Water temperature sender adaptor	1		
150	200-94360	Murphy temperature sender	1		
160	200-04588/03	3m extension harness	1	Not shown	
170	200-00639	11 Way plug to suit male type spade	1	Not shown	
180	200-00047	Male spade for 11 way plug	11	Not shown	



120



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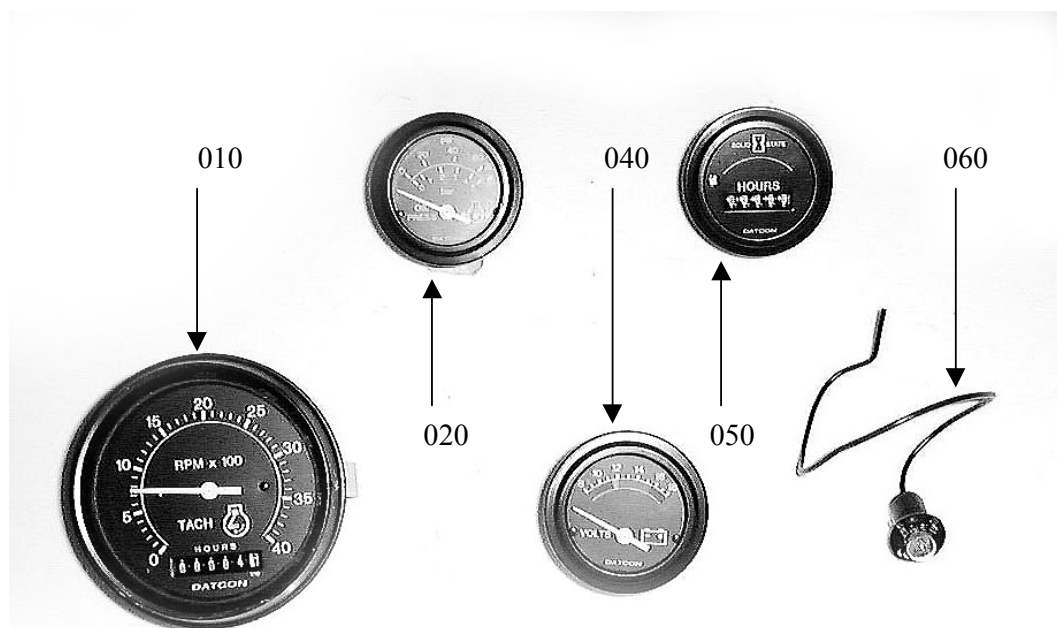


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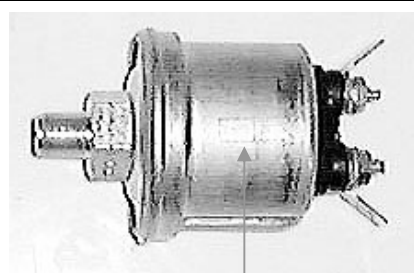
Panel gauges & senders



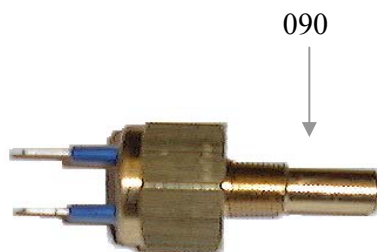
Ref. No.	Part No.	Part Name	Qty	Remarks	
010	200-00054	0-4000 RPM tachometer	1	To March 2002	
	200-02373	0-4000 RPM tachometer (VDO)		From March 2002, Viewline Jan2010	
020	200-08011	Oil pressure gauge –VDO Viewline	1	Not shown	
	200-91380	Oil pressure gauge -Datcon			
030	200-07981	Water temperature gauge –VDO Viewline	1	Not shown	
	200-91390	Water temperature gauge –Datcon		Not shown	
040	200-07980	Voltmeter gauge –VDO Viewline	1	Not shown	
	200-91400	Voltmeter gauge –Datcon			
050	200-90000	Hourmeter gauge	1		
060	200-96220	Datcon gauge bulb 12V	1		
070	212-04355	1/8"BSP MxF elbow	1		
080	200-62680	0-5 Bar switch / sender	1		
090	200-01133	Water temperature switch / sender 95C	1		
100	212-01480	3/8BSPTM x1/8BSPF adaptor	1		
110	200-04805	Bulb, red for 12V VDO Oceanline tachometer	1	Not shown	
120	200-96220	Datcon tachometer bulb 12V	1	Not shown	
130	200-07664	8 Pin connector –for Viewline gauges	1	Not shown –comes with gauge	



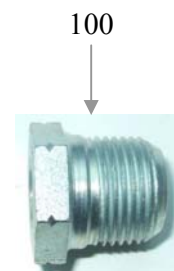
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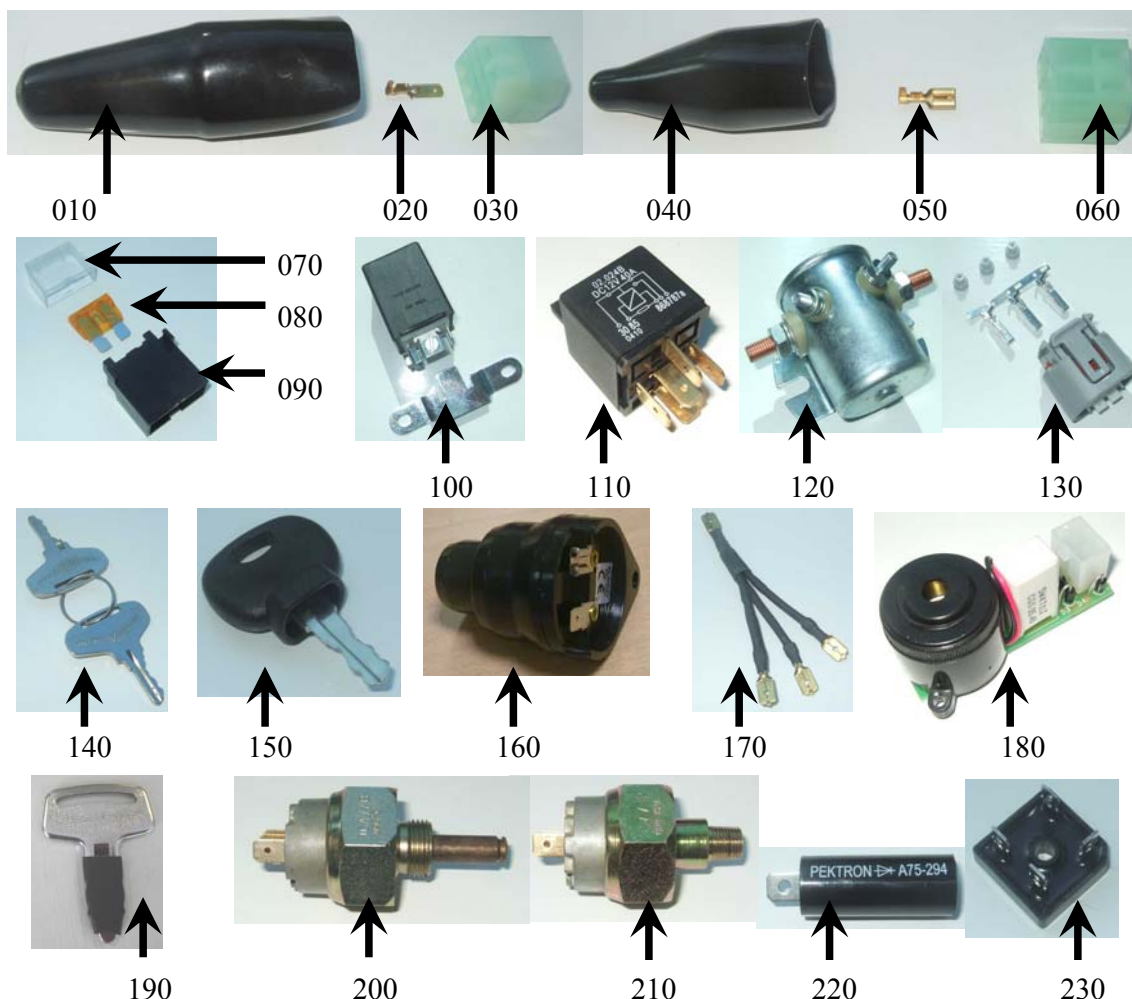


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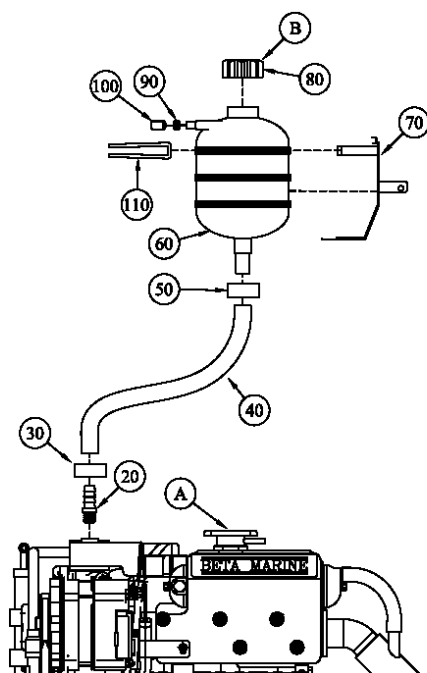
100

Various electrical & panel parts and components



Ref. No.	Part No.	Part Name	Qty	Remarks	
010	200-00048	Large shroud for 11 way plug	1	On panel connection	
020	200-00047	Male spade for 11 way plug	11	On panel connection	
030	200-00639	11 Way plug to suit male type spade	1	On panel connection	
040	200-00638	Small shroud for 11 way socket	1	On engine harness	
050	200-00181	Female spade for 11 way socket	11	On engine harness	
060	200-00046	11 Way socket to suit female type spade	1	On engine harness	
070	200-01426	Plastic clear fuse cover	1	On engine harness	
080	200-00959	Fuse, blade type 40 Amp	1	On engine harness	
090	200-00640	Fuse holder, blade type for 40 Amp	1	On engine harness	
100	200-57640	12V 33Ra 70Amp relay	1	For extended looms	
110	200-87020	12V 28Ra 40Amp relay	1	On rear of panel	
120	200-89950/01	12V heavy duty relay	1	For insulated earth	
130	600-02405	Kubota alternator 3 pin coupler	1	For 3 pin Denso alt	
140	600-00058	Kubota keys –PAIR, SMALL	1	Standard to Mid 2008	
150	200-98965	Murphy deluxe panel single key	2	Deluxe to May 2005	
160	200-99433	12V buzzer	1	2B to May 2005	
170	200-98980	Panel diode pack	1	2ABV to May 2005	
180	200-04655	Alarm board with buzzer	1	Std from May 2005	
190	600-00058/01	Kubota keys –PAIR, LARGE	1	From Mid 2008	
200	200-02069	Water temperature switch 096C 3/8BSP	1	Genset standard	
210	200-61190	Oil pressure switch 98kPa 1/8BSP	1	Genset standard	
220	200-03466	Pektron diode	1	Push button panels	
230	200-02618	Diode bridge	1	Push button panels	
240	200-04623	14 Core panel cable	/m	Not shown	

Expansion water bottle & spare parts list –all engines



10	EXPANSION TANK KIT COMPLETE	AK/SML/EXP/001
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REF	PART NAME	PART NO
20	3/8 BSPT - 3/4 HOSE TAIL	210-03297
30	30mm S/S HOSE CLIP	212-98464
40	3/4 BORE HEATER HOSE	212-00471
50	30mm S/S HOSE CLIP	212-98464
60	EXPANSION TANK	209-03065
70	MOUNTING BRACKET	209-03067
80	EXPANSION TANK CAP	209-03066
90	LARGE FUEL CLIP (NO:17)	212-03393
100	HOSE CAP (10mm ID)	212-03303
110	EXPANSION TANK HOLDING BAND	209-03068

WHEN FILLING, FILL POINT A AND REPLACE WATER CAP THEN FILL POINT B.

POINT A MUST BE STANDARD FILLER CAP P/N 209-80130 (PRESSURE 13 PSI)

Ref. No.	Part No.	Part Name	Qty	Remarks	
010	AK/SML/EXP/001	Expansion tank kit, complete	1		
(This kit consists of all items listed individually below)					
020	210-03297	3/8BSPT-3/4" Hose connector	1		
030	212-98464	Stainless steel hose clip 22-30mm	1		
040	218-99247	3/4" Bore water hose	1.5m		
050	212-98464	Stainless steel hose clip 22-30mm	1		
060	209-03065	Expansion tank	1		
070	209-03067	Expansion tank mounting bracket	1		
080	209-03066	Expansion tank lid	1		
090	212-07009	No 22 Stainless steel hose clip	1		
100	212-07011	Hose cap blanking bung	1		
110	209-03068	Expansion tank holding band	1		



Standard fitting of calorifier connections / hot water take off

Super Mini Series-Heat exchanger cooled engine from December 2010

Hot water to calorifier tank



1. Remove 1/8" BSP bung from cylinder head, behind last injector at rear starboard side of engine.

2. Fit 1/8" BSP Male swivel adaptor with the supplied copper washer. Into this, fit the elbow and 5/8" hose connector.

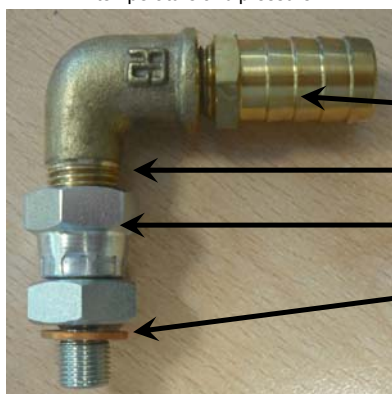
Cool water from calorifier tank

3. Remove bung from underside of heat exchanger tank with 8mm hex key.

4. Fit 3/8" BSP Male x Female elbow

5. Fit 3/8" BSP x 5/8 hose connector

Note: All fittings to be sealed with PTFE tape or pipe sealant to prevent water leaks when engine is at operating temperature and pressure.



Part Numbers: 212-99233 212-99237

212-00904

212-04356

212-07357

212-06565

COMPLETE KIT: AK/HE/CAL/003

Installation Kits



010 ↑



020 ↑



030 ↑



040 ↑



050 ↑



060 ↑



070 ↑



080 ↑



090 ↑



100 ↑



110 ↑



120 ↑

Ref. No.	Part No.	Part Name	Qty	Remarks
010	AK/SML/HE/6e/001	WATER INLET KIT -BALL VALVE FROM MAR04 3/4" ID	1	NOT SHOWN
	AK/SML/HE/6e/0S1	WATER INLET KIT -SPECIAL CLEAR PLASTIC TYPE 3/4"		
020	AK/SML/HE/6b/001	2" WATER COOLED EXHAUST KIT	1	
030	AK/SML/HE/6c/001	2" PLASTIC WATERLOCK (& 4 OFF HOSE CLIPS)	1	
040	212-00466	ANTI-SYPHON WITH VENT	1	
050	AK/SML/6g/001	FLEXIBLE FUEL PIPES 24" OAL ISO7840	1	
060	AK/SML/6k/001	FUEL DELIVERY KIT	1	
	AK/SML/6k/001	FUEL LEAK OFF KIT		
070	AK/SML/6l/H01	FUEL / WATER SEPARATOR HEAT EXCHANGER COOLED (8mm HOSE TAILS)	1	NOT SHOWN
	AK/SML/6l/001	FUEL / WATER SEPARATOR KEEL COOLED (8mm COMPRESSION)		
080	AK/6H/HE/001	ELECTRIC FUEL LIFT PUMP (HEAT EXCHANGER COOLED 8mm HOSE TAILS)	1	
	AK/6H/KC/001	ELECTRIC FUEL LIFT PUMP (KEEL COOLED 8mm COMPRESSION)		
090	AK/SML/3h/001	REMOTE OIL FILTER BULKHEAD MOUNT -MINI & 05 SERIES	1	
100	AK/SML/5a/002	SINGLE LEVER CONTROL	1	
110	212-96070/01	SINGLE LEVER CONTROL CABLE 3m	1	
120	200-96160	BATTERY LEADS 1m, 25mm 1 BLACK & 1 RED -UP TO Beta60 ONLY	1	

Short Voyage Spares Kits



Ref. No.	Part No.	Part Name	Qty	Remarks
010	AK/S5H/18/J651	SHORT VOYAGE SPARES -S5 H/E 65A STD -JOHNSON 6 VANE	1	

PLEASE NOTE: THERE ARE TOO MANY COMBINATIONS OF SPARES KIT TO LIST, PLEASE ADVISE BETA MARINE OF YOUR ENGINES WOC (K) NUMBER OR SERIAL NUMBER AND WE SHALL ADVISE. PRICE OF THIS KIT WILL BE THE SAME AS ILLUSTRATED ABOVE.

Cleaning the heat exchanger tube stack and replacing wasting zinc anode on 2011 Super Mini & Super5 Series engines

1. The wasting zinc anode should be replaced every year. This can be more frequent depending on the environment the vessel is in. The anode is attached to the bolt inserted in the rear end cap of the heat exchanger. See fig. 1.
2. Using a 9/16" spanner, unscrew the bolt and replace the complete unit with a new one.
3. Check for leaks.
4. It is possible for fine sea weed and other debris to get past the inlet filter and into the tube stack. This requires removal of the tube stack for cleaning.
5. Drain off coolant into a bucket.
6. Unscrew the 6 end cap retaining bolts using a 5mm Hex Key (three each end of the tube stack). Remove the 'O' rings and slide out the tube stack. Clean tube stack and end caps.
7. Re-assemble using new 'O' rings, Beta Marine part number 212-07273. Do not over tighten end cap bolts and make sure the tube stack is the right way round -see aligning marks Fig 2. This is to ensure sea water flows correctly through the tubes out of the exhaust, allowing sea water to flow from the lower twenty tubes to the front endcap where it then returns through the upper twenty tubes, past the wasting anode and into the exhaust system.
8. Re-fill engine with water/anti-freeze solution and run engine up to temperature to check for leaks.



Fig 1 Wasting anode



Fig 2 Aligning marks

Part numbers:

2 OFF 212-07273 O RING HEAT EXCHANGER TUBESTACK

1 OFF 209-61840 ZINC WASTING ANODE

6 OFF 217-00190Z M6 x 16mm SOCKET CAP SCREW

SPARES & REPLACEMENT PARTS

These items are available from

BETA MARINE

Beta Marine Limited
Davy Way
Waterwells
Quedgeley
Gloucester
GL2 2AD, UK

Telephone: 01452 723492 Int. Tel: 44 1452 723492
Fax: 01452 729916
Internet: www.betamarine.co.uk
Spares email: spares@betamarine.co.uk