



# Parts Manual

Cummins **Onan**

Performance you rely on.™



## Marine Generator Set

MDKAL (Spec A-C)

## MODEL IDENTIFICATION

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.

For handy reference, insert your nameplate information in the spaces below.

MODEL AND SPEC NO.

SERIAL NO.

DIGITAL CONTROL SOFTWARE VERSION  
AND DATE (IF APPLICABLE)

## SAFETY PRECAUTIONS

The following symbols are used in Onan manuals to alert users to the potentially dangerous conditions relating to maintenance of equipment and replacement of parts. Please read and observe.



*This symbol warns of immediate hazards which will result in severe personal injury or death.*



*This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*



*This symbol refers to a hazard or unsafe practice which can result in severe personal injury or product or property damage.*

## PRODUCT SAFETY PRECAUTIONS



***Service and repair of Onan equipment must be performed by trained, experienced personnel only. Improper service or repair may result in property damage, severe personal injury or death. Do not use this catalog as a guide to servicing your equipment. Read and follow the IMPORTANT SAFETY INSTRUCTIONS in the Service Manual appropriate for the equipment you are working on.***



***Contact with USED ENGINE OILS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking or changing engine oils take all necessary precautions not to ingest, breathe the fumes or contact the used oil.***



***Contact with ASBESTOS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When handling engine gaskets take all necessary precautions not to ingest, breathe or contact the dust from the gaskets! Use adequate ventilation and wear protective gloves, masks and clothing!***



***Contact with BENZINE and LEAD, found in gasoline, fuel additives and solvents has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking, draining or adding gasoline and fuel additives or using solvents take all necessary precautions not to ingest, breathe the fumes or contact the liquids. Use adequate ventilation and wear protective gloves, masks and protective clothing!***



***Servicing and replacement of MARINE CRITICAL PARTS must be carried out by persons trained and experienced with marine gasoline engine-generator safety requirements!***

## Introduction

This catalog applies to the standard marine generator sets listed below. Parts are arranged in groups of related items and each illustrated part is identified by a reference number corresponding to the same reference number in the parts list. Parts illustrations are typical. Unless otherwise mentioned in the description or page heading, parts are interchangeable between models. Throughout this catalog left and right sides are determined by facing the engine end (front) of the set.

<b>MODEL**</b>	<b>HERTZ</b>	<b>Wiring Diagram</b>		
		<b>AC 1 Phase</b>	<b>AC 3 Phase</b>	<b>DC Control</b>
MDKAL/*	50	612-6666	612-6673	612-6713
MDKAL/*	60	612-6666	612-6673	612-6713

\* - The diagonal line (/) in the model and specification number separates generator set characteristics from the specification number and letter. The specification number denotes customer requested options or deviations from the standard model. The specification letter advances (A to B, B to C, etc.) with major manufacturing changes.



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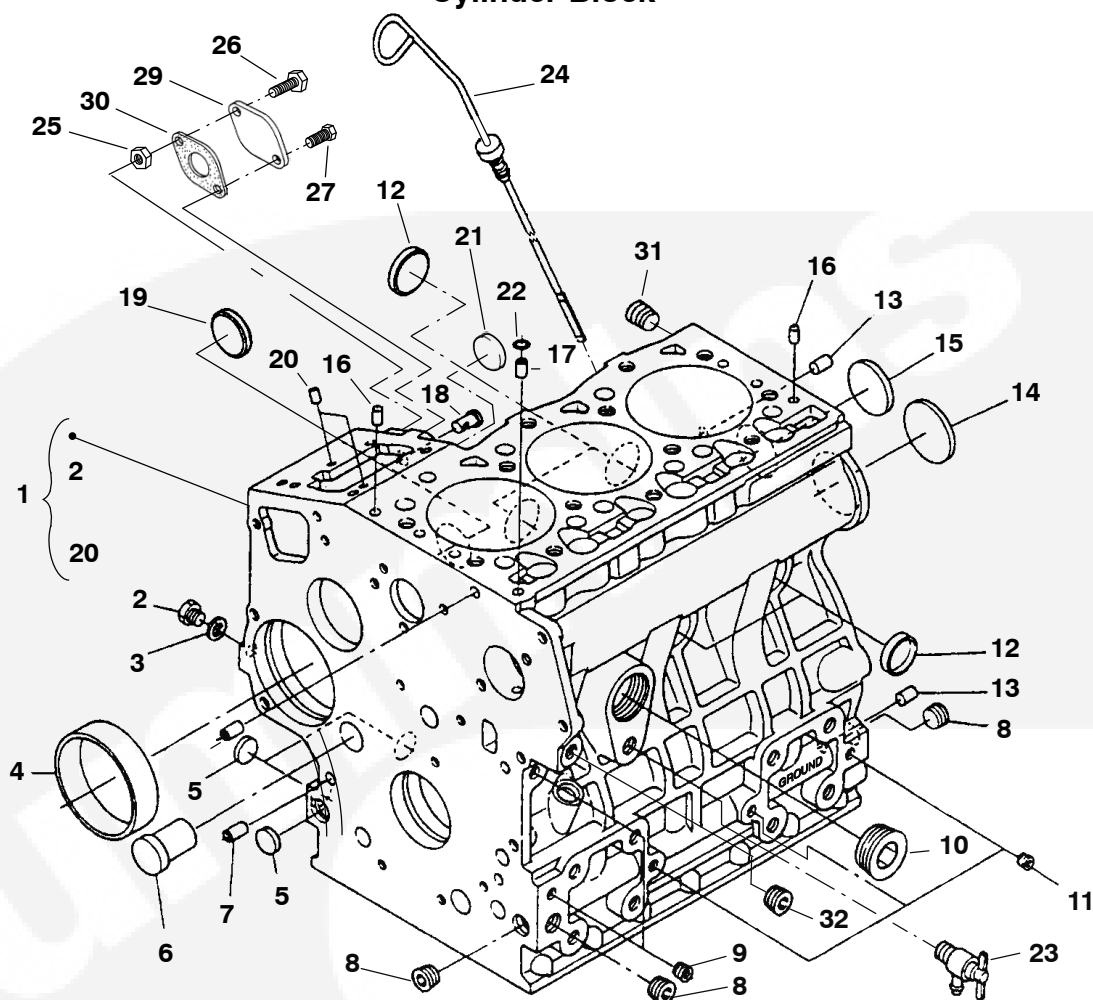
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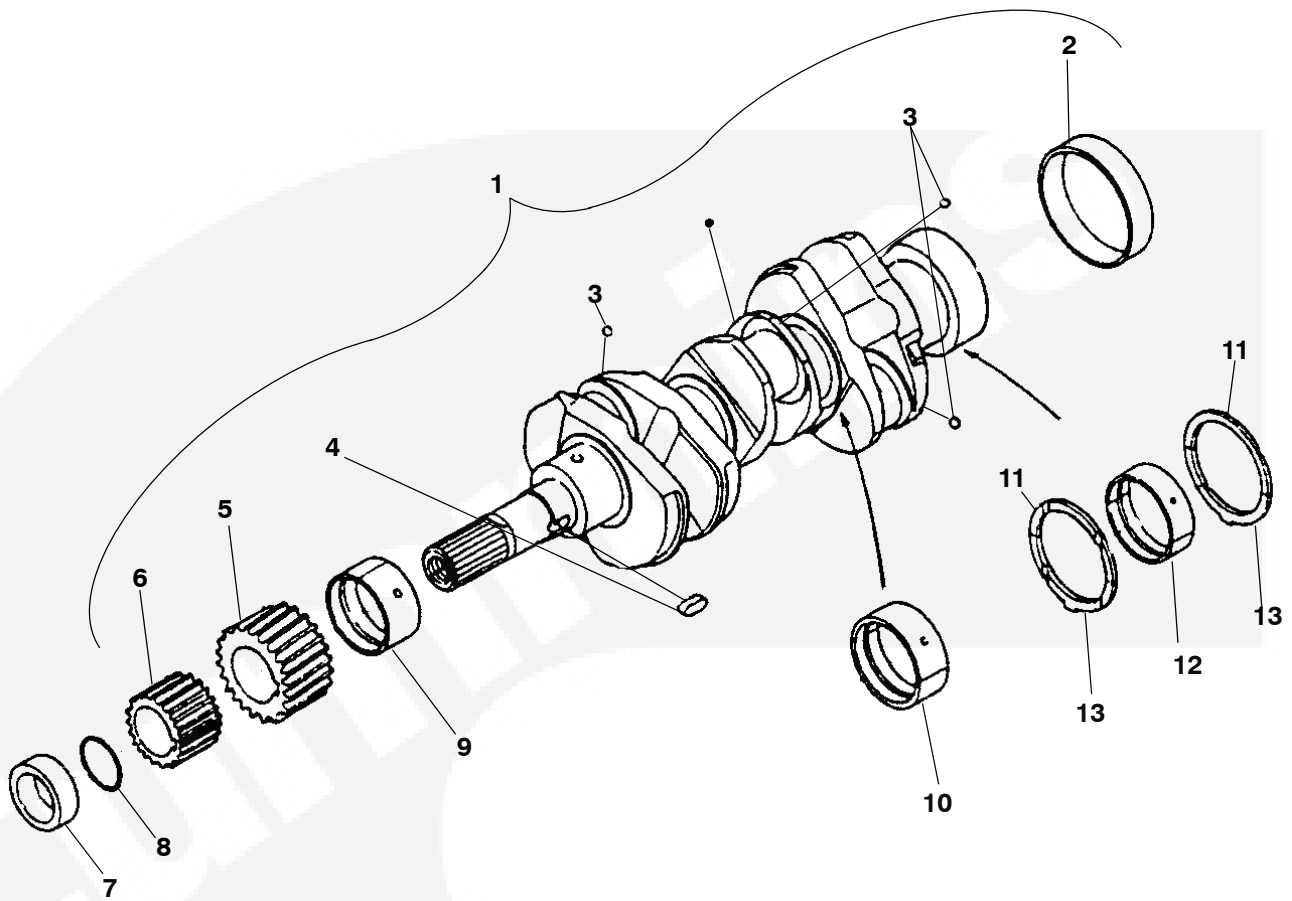
## Cylinder Block



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Engine Assy, Replacement	12	185-5484	4	*Cap, Sealing
			Spec A	13	185-5487	2	*Pin, Straight
			50Hz	14	185-6040	1	*Plug, Expansion
	100-3443-01	1	12V	15	185-2412	1	*Cap, Sealing
	100-3443-02	1	24V	16	185-5843	2	*Pin, Straight
			60Hz	17	185-6469	1	*Pin, Pipe
	100-3442-01	1	12V	18	185-6857	1	*Pin, Start Spring
	100-3442-02	1	24V	19	185-7212	1	*Plug
			Begin Spec B	20	185-5486	2	*Pin, Straight
	100-3616-01	1	12V	21	185-6889	1	Cap, Sealing
	100-3616-02	1	24V	22	185-2095	1	O'Ring
1		1	Block, Cylinder (Includes Parts Marked *)	23	185-5490	1	Cock Assy, Drain
			Spec A	24	185-6866	1	Indicator, Oil Lever
	185-6855	1	Begin Spec B	25	185-2367	1	Nut
	185-7372	1	*Plug	26	185-2565	1	Bolt
2	185-5845	1	*Gasket	27	185-2403	1	Bolt
3	185-2338	1	*Bush, Governor Gear	28	155-3199	1	Kit, Keel Cooling (Includes Cover and Gasket)
4	185-6472	1	*Plug, Expansion	29	185-6578	1	Cover
5	185-6121	3	*Plug	30	185-6579	1	Gasket
6	185-6471	1	*Pin, Pipe	31	185-6039	1	Plug
7	185-2115	2	*Plug	32	185-5502	1	Plug
8	185-6468	3					
9	185-2233	2					
10	185-6856	1					
11	185-2188	3					

\* - Parts Included in Cylinder Block.

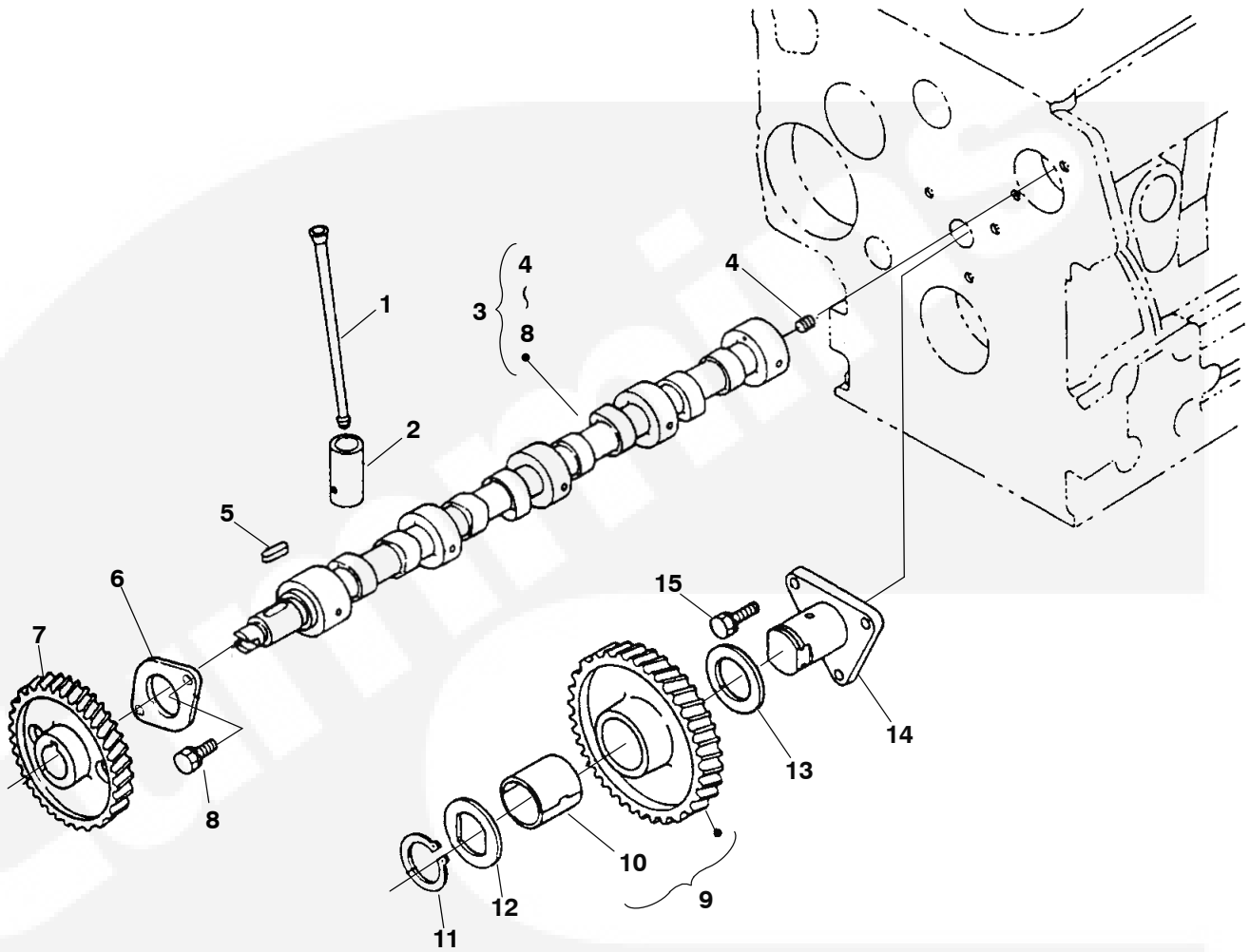
# Crankshaft



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Crankshaft (Includes Parts Marked *)	11			Washer, Thrust
	185-6874	1	Spec A		185-5938	2	Standard
	185-7376	1	Begin Spec B		185-6555	2	.2mm, Oversize
2	185-6543	1	*Sleeve, Crankshaft		185-6556	2	.4mm, Oversize
3	185-5924	3	*Ball	12			Bearing, Crankshaft
4	185-6541	1	*Key		185-6552	1	Standard
5	185-6540	1	*Gear, Crankshaft		185-6553	1	.2mm, Undersize
6	185-6542	1	*Gear, Oil Pump Drive		185-6554	1	.4mm, Undersize
7	185-6544	1	Collar, Crankshaft	13			Washer, Thrust
8	185-6545	1	O'Ring		185-5941	2	Standard
9			Bearing, Crankshaft		185-5942	2	.2mm, Oversize
	185-6546	1	Standard		185-5943	2	.4mm, Oversize
	185-6547	1	.2mm, Undersize				
	185-6548	1	.4mm, Undersize				
10			Bearing, Crankshaft				
	185-6549	2	Standard				
	185-6550	2	.2mm, Undersize				
	185-6551	2	.4mm, Undersize				

\* - Parts Included in Crankshaft.

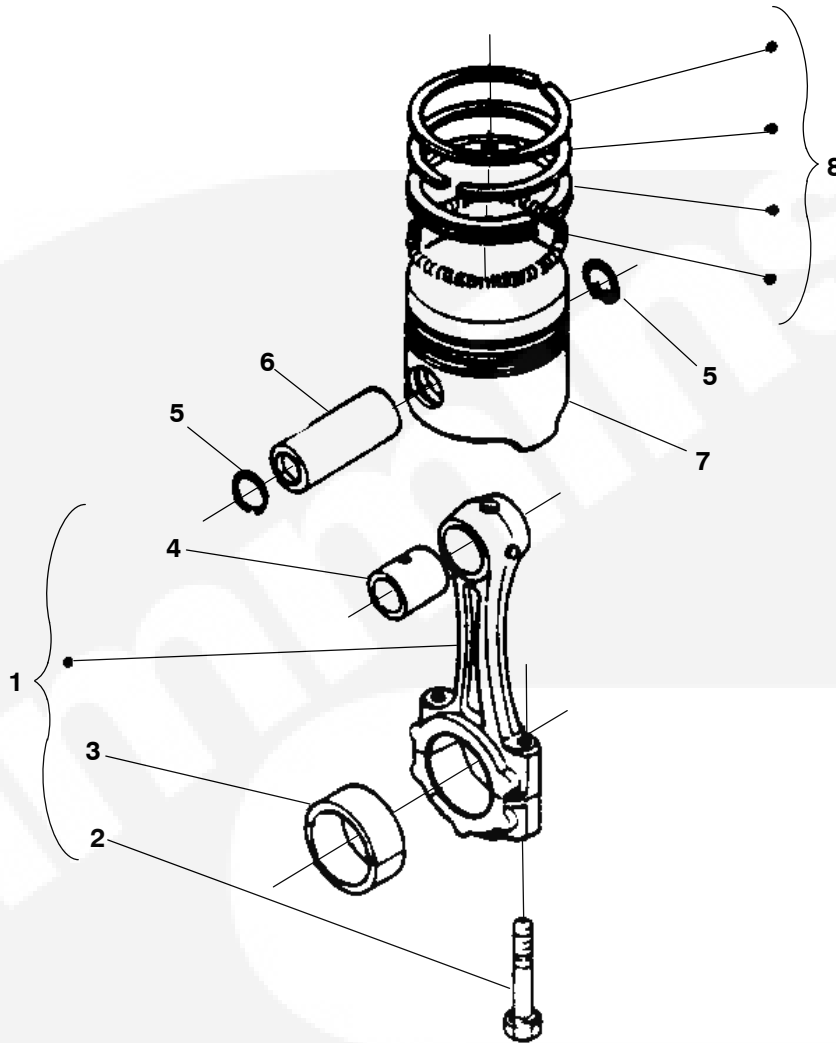
## Camshaft



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6517	6	Rod, Push	10	185-6522	1	Bushing, Idle Gear
2	185-6516	6	Tappet	11	185-6525	1	Circlip, Idle Gear
3	185-6873	1	Camshaft Assy (Includes Parts Marked *)	12	185-6524	1	Collar, Idle Gear
4	185-5558	1	*Screw, Set	13	185-6523	1	Collar, Idle Gear
5	185-5560	1	*Key, Feather	14	185-6526	1	Shaft, Idle Gear
6	185-6520	1	*Stopper, Camshaft	15	185-2388	3	Bolt
7	185-6519	1	*Gear, Cam				
8	185-2387	2	*Bolt				
9	185-6521	1	Gear Assy, Idle (Includes Bushing)				

\* - Parts Included in Camshaft Assy.

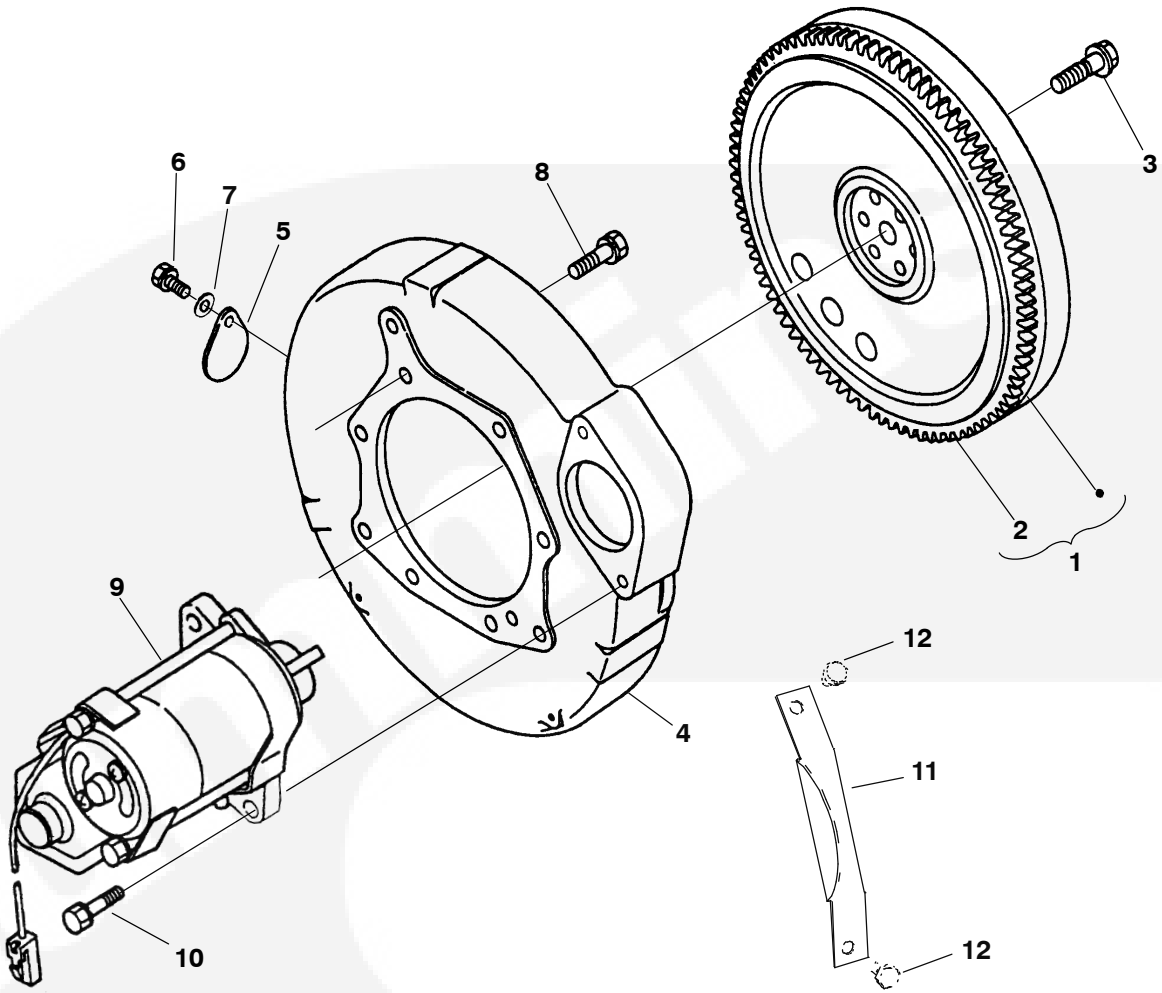
# Piston



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6533	3	Rod Assy, Connecting (Includes Bolt, Bearing and Bushing)	8			Ring Set, Piston Spec A
2	185-6535	6	Bolt, Connecting Rod	185-6529	3		Standard
3			Bearing, Connecting Rod	185-6530	3		.5mm Oversize
	185-6536	3	Standard				Begin Spec B
	185-6537	3	.2mm Undersize	185-7310	3		Standard
	185-6538	3	.4mm Undersize	185-7311	3		.5mm Oversize
4	185-6534	3	Bushing, Connecting Rod				
5	185-6532	6	Circlip, Piston Pin				
6	185-6531	3	Pin, Piston				
7			Piston				
			Spec A				
	185-6745	3	Standard				
	185-6746	3	.5mm Oversize				
			Begin Spec B				
	185-7308	3	Standard				
	185-7309	3	.5mm Oversize				

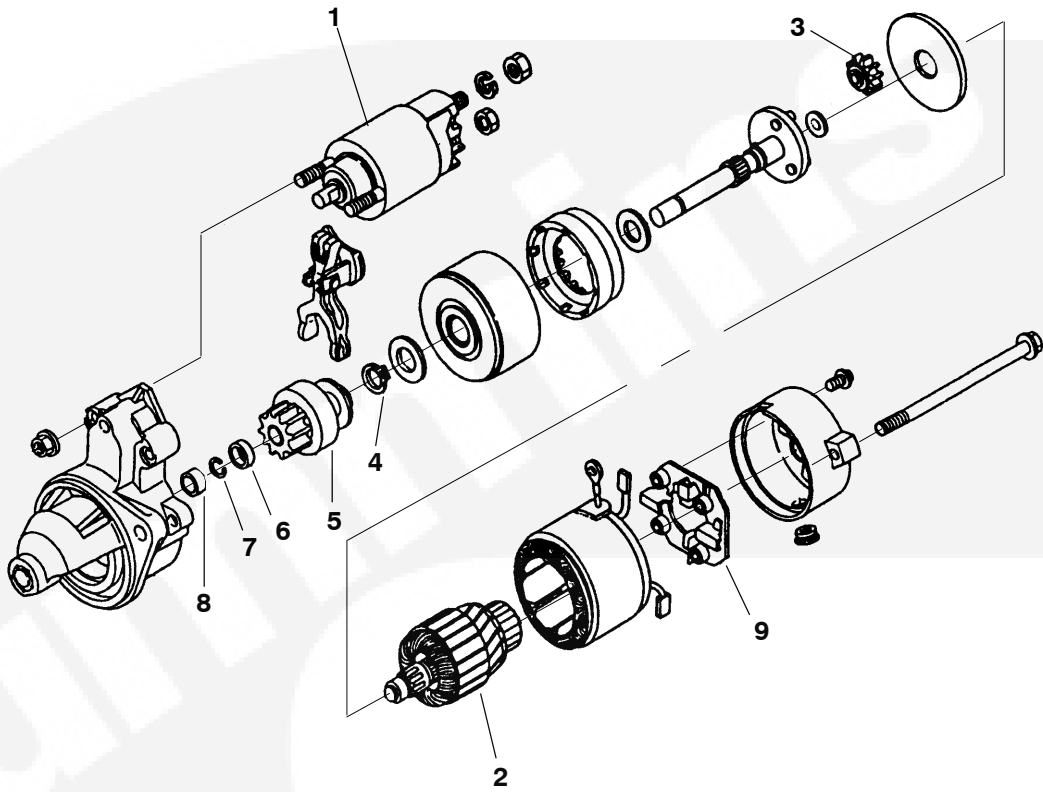


# Flywheel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7217	1	Flywheel (Includes Ring Gear)	9		1	Starter (See Separate Page for Components)
2	185-2170	1	Gear, Ring				
3	185-6409	6	Bolt, Flywheel		185-7104	1	12V
4	185-7218	1	Housing, Flywheel		185-7105	1	24V
5	185-7219	1	Cover	10	185-2564	2	Screw
6	185-7222	1	Bolt	11	191-2275-01	1	Guard, Starter
7	185-7221	1	Washer, Plain	12	815-0194	2	Screw, Hex Head (#10-32 x .38")
8	185-2178	8	Bolt				

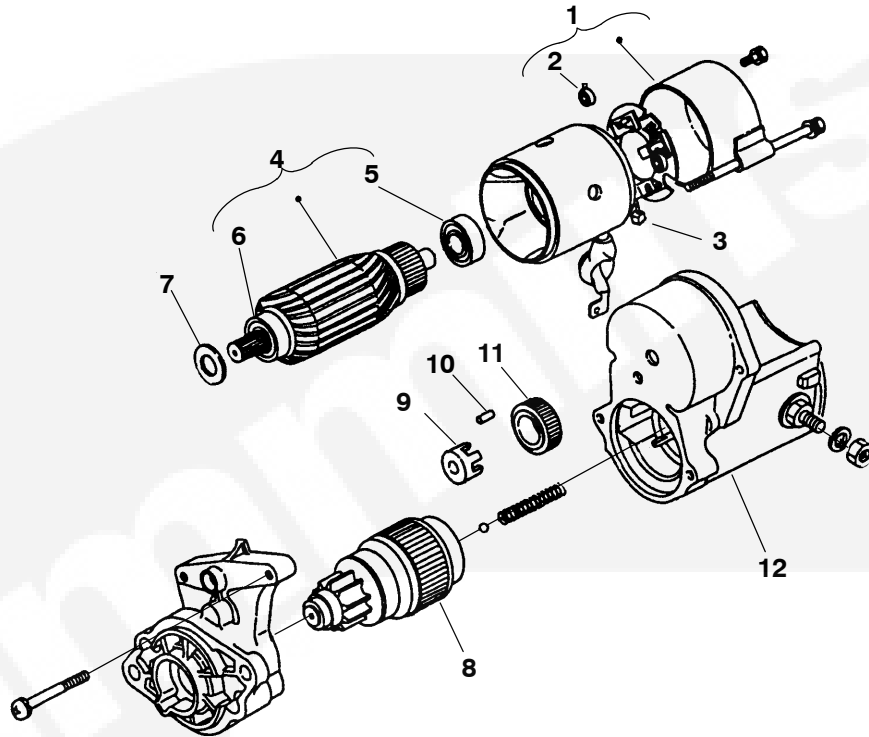
## Starter Components (12V)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-7104	1	Starter	7	185-6386	1	Ring, Snap
1	185-2658	1	Switch, Magnetic	8	185-7233	1	Bearing, Oilless
2	185-7231	1	Armature	9	185-7230	1	Holder, Brush
3	185-7234	3	Gear				
4	185-7235	1	Ring, Snap				
5	185-7232	1	Clutch, Starter				
6	185-7236	1	Collar				

Note: Parts not Identified are Not For Sale.

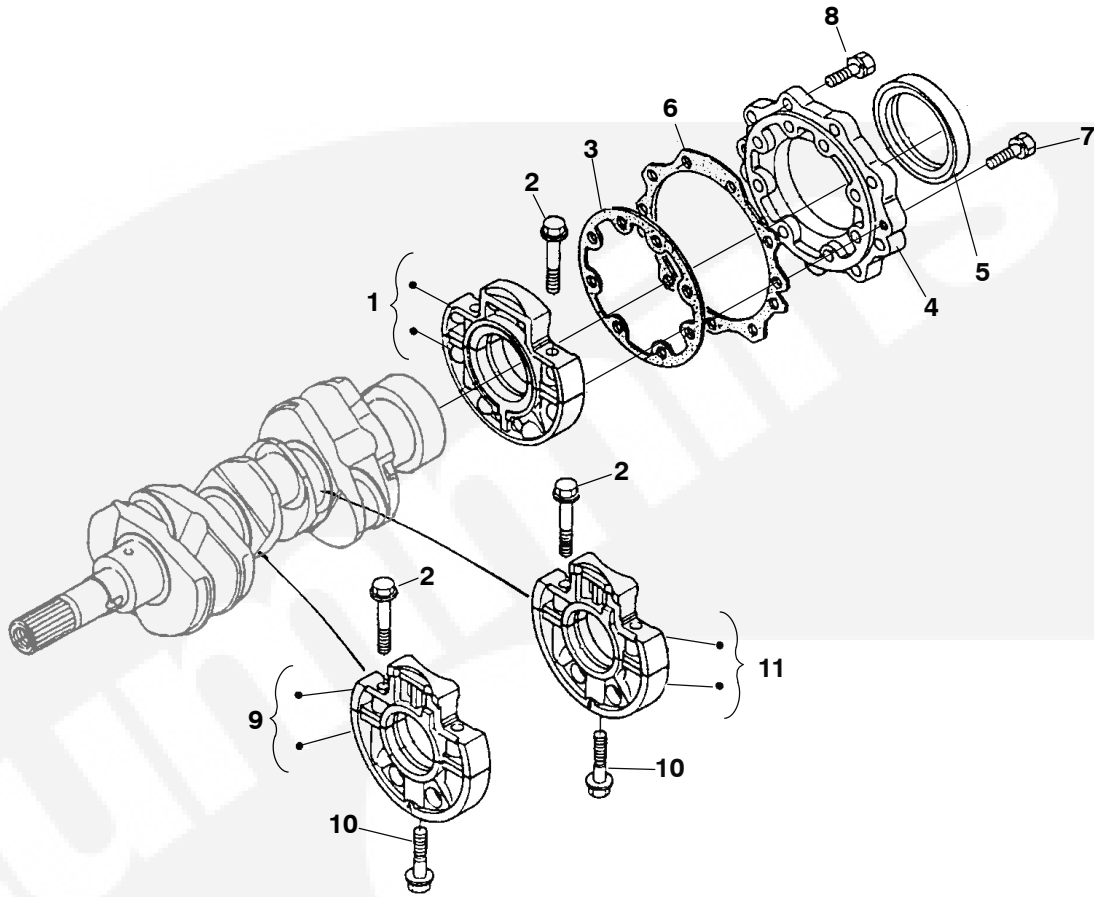
## Starter Components (24V)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-7105	1	Starter	8	185-6354	1	Clutch
1	185-7240	1	Holder Assy, Brush	9	185-6362	1	Retainer
2	185-6358	4	Spring, Brush	10	191-2252	5	Roller
3	185-7237	2	Brush, Yoke	11	185-7296	5	Gear, Pinion
4	185-7238	1	Armature	12	185-7239	1	Switch, Magnetic
5	185-6442	1	Bearing, Ball				
6	185-6441	1	Bearing, Ball				
7	185-6365	1	Washer, Felt				

Note: Parts Not Identified are Not Sold Separately.

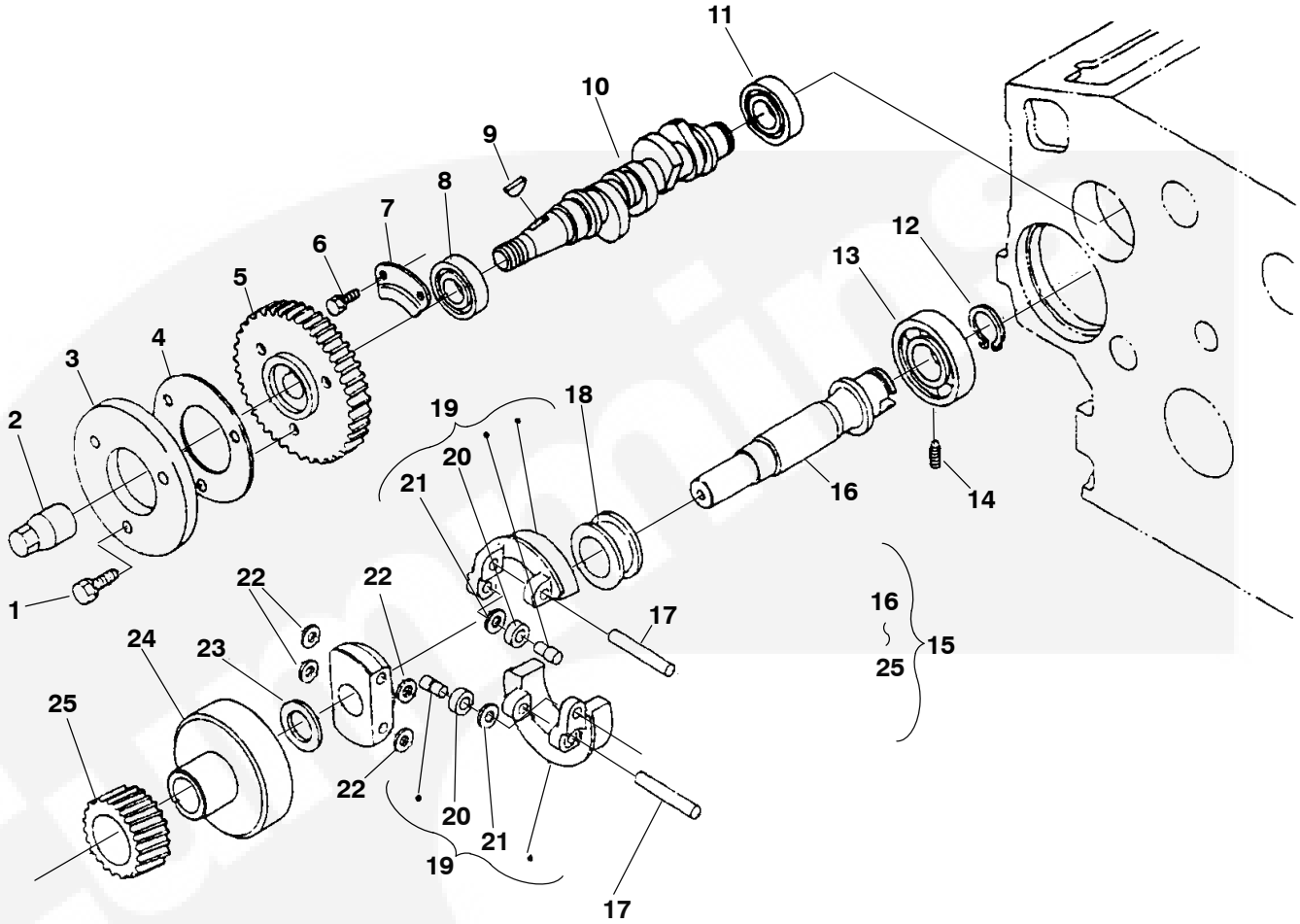
## Main Bearing Case



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6506	1	Case Assy, Main Bearing	8	185-2390	9	Bolt
2	185-6507	6	Bolt, Bearing Case	9	185-6512	1	Case Assy, Main Bearing
3	185-6869	1	Gasket, Bearing Case	10	185-6513	2	Bolt, Bearing Case
4	185-6509	1	Cover, Bearing Case	11			Case Assy, Main Bearing
5	185-6510	1	Seal, Oil		185-6872	1	Spec A
6	185-6871	1	Gasket, Bearing Case Cover		185-7306	1	Begin Spec B
7	185-2391	8	Bolt				



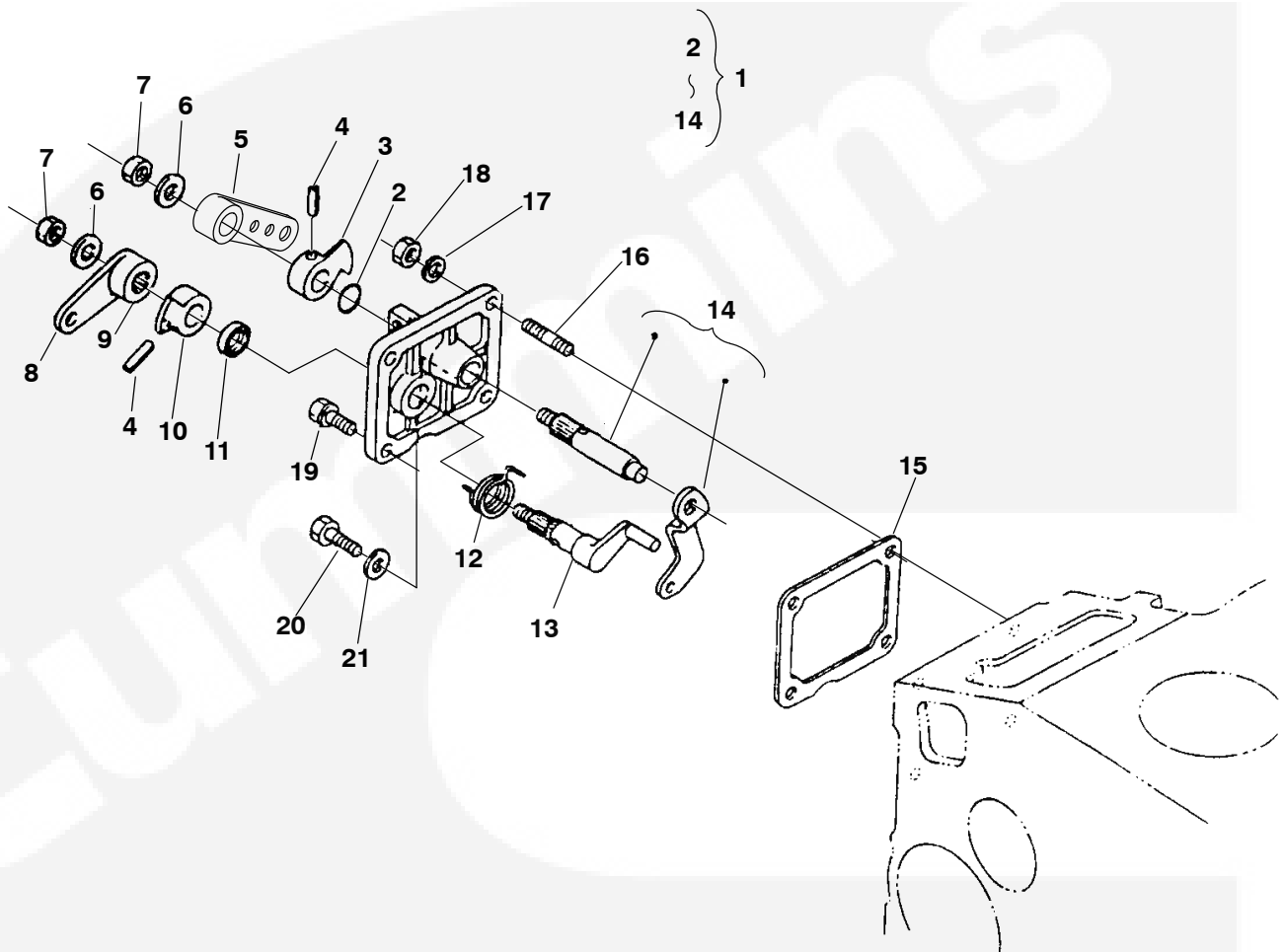
## Fuel Camshaft



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-2389	3	Bolt	16	185-6878	1	*Shaft, Governor
2	185-6560	1	Nut, Cap	17	185-6569	2	*Shaft, Governor Weight
3	185-6876	1	Cam, Fuel	18	185-6570	1	*Sleeve, Governor
4	185-6879	1	Washer	19	185-6567	2	*Weight, Governor (Includes Bearing and Washer)
5	185-6558	1	Gear, Injection Pump	20	185-5959	2	Bearing
6	185-2386	2	Bolt	21	185-5960	2	Washer
7	185-6562	1	Stopper, Fuel Camshaft	22	185-6568	4	*Washer, Governor Weight
8	185-3093	1	Bearing, Ball	23	185-6566	1	*Collar, Governor Shaft
9	185-6561	1	Key, Woodruff	24	185-6880	1	*Holder, Governor Gear
10	185-6875	1	Camshaft, Fuel	25	185-6565	1	*Gear, Governor
11	510-0163	1	Bearing, Ball				
12	185-6572	1	Circlip, Governor Shaft				
13	185-6571	1	Bearing, Ball				
14	185-6573	1	Screw, Set				
15	185-6877	1	Shaft Assy, Governor (Includes Parts Marked *)				

\* - Parts Included in Governor Shaft Assy.

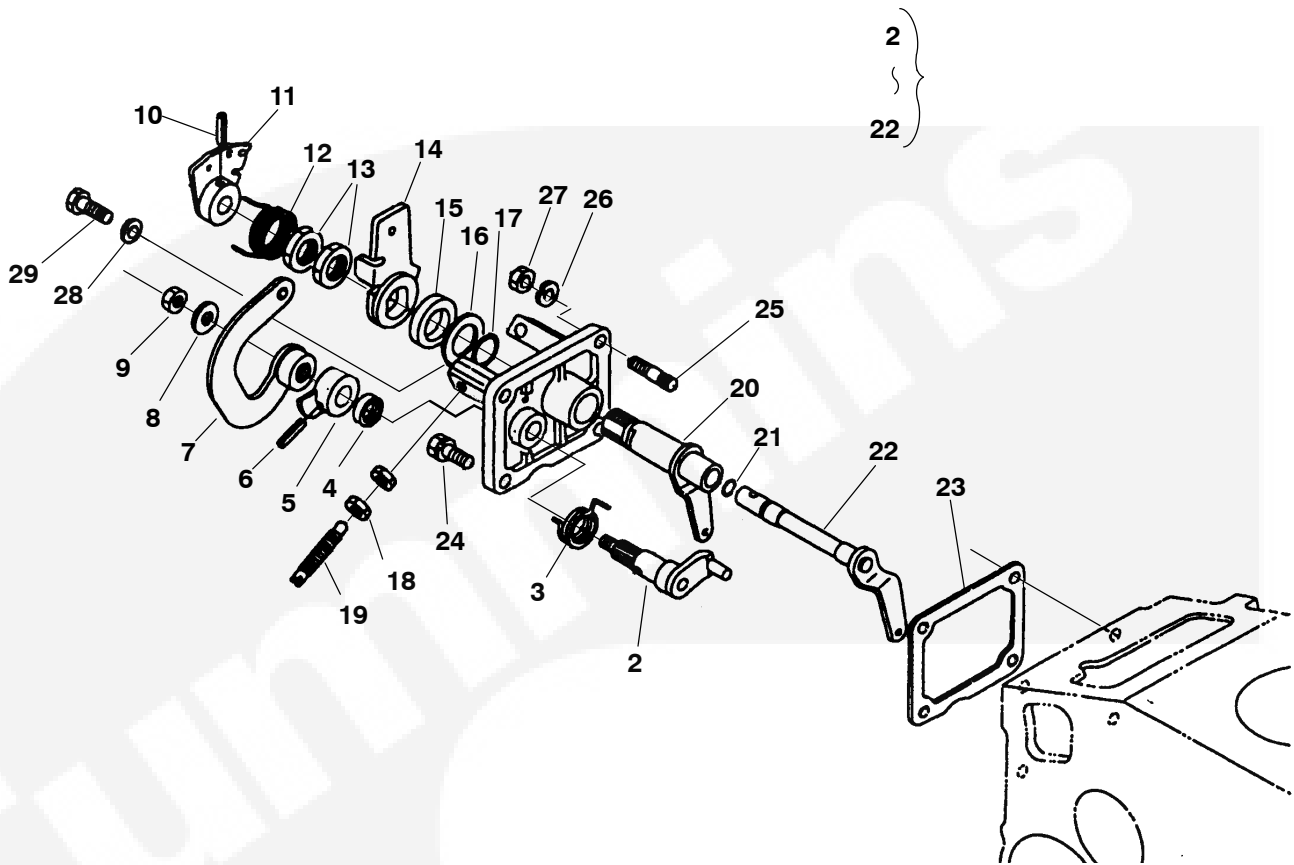
## Speed Control Plate (Spec A)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7224	1	Plate Assy, Control (Includes Parts Marked *)	13	185-6615	1	*Shaft, Stop Lever
2	185-5673	1	*O'Ring	14	185-6612	1	*Lever Assy, Governor
3	185-6609	1	*Lever, Speed Control	15	185-6894	1	Gasket
4	185-2351	2	*Pin, Spring	16	185-2359	2	Stud
5	185-6607	1	*Lever, Speed Control	17	185-2380	2	Washer, Spring
6	185-6610	2	*Washer, Plain	18	185-4255	2	Nut
7	185-6611	2	*Nut	19	185-2388	1	Bolt
8	185-6613	1	*Lever, Engine Stop	20	185-5688	1	Bolt
9	526-0174	1	Washer, Flat (13/32")	21	185-2284	1	Gasket
10	185-6608	1	*Lever, Speed Control				
11	185-2461	1	*Seal, Oil				
12	185-6893	1	*Spring, Return				

\* - Parts Included in Control Plate Assy.

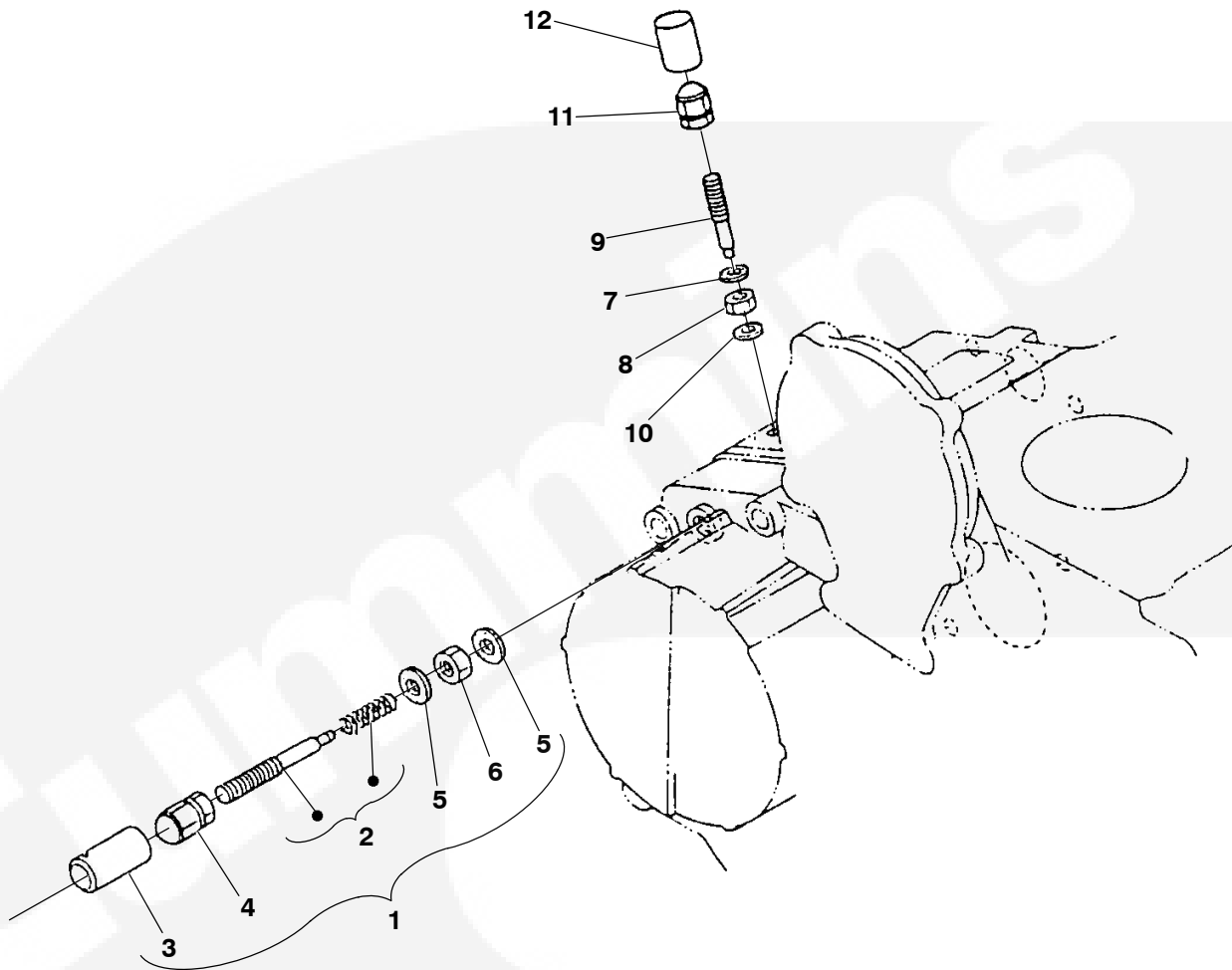
## Speed Control Plate (Begin Spec B)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7256	1	Plate Assy, Control (Includes Parts Marked *)	16	185-7261	1	*Shim
2	185-6615	1	*Shaft, Stop Lever	17	185-5691	1	*O'Ring
3	185-6614	1	*Spring, Return	18	185-7380	1	*Nut, Lock
4	185-2461	1	*Seal, Oil	19	185-7381	1	*Bolt, Adjusting
5	185-7262	1	*Lever, Speed Control	20	185-7260	1	*Shaft, Governor
6	185-2351	1	*Pin, Spring	21	185-2347	1	*O'Ring
7	185-7257	1	*Lever, Engine Stop	22	185-7259	1	*Shaft, Governor
8	185-6610	1	*Washer, Plain	23	185-6894	1	Gasket
9	185-6611	1	*Nut	24	185-2388	1	Bolt
10	185-5696	1	*Pin, Spring	25	185-2359	2	Stud
11	185-7263	1	*Lever, Change	26	185-6759	2	Washer, Spring
12	185-7264	1	*Spring, Return	27	185-4255	2	Nut
13	185-5693	2	*Nut, Speed Control	28	185-2284	1	Gasket
14	185-7379	1	*Lever, Speed Control	29	185-5688	1	Bolt
15	185-5690	1	*Collar				

\* - Parts Included in Control Plate Assy.

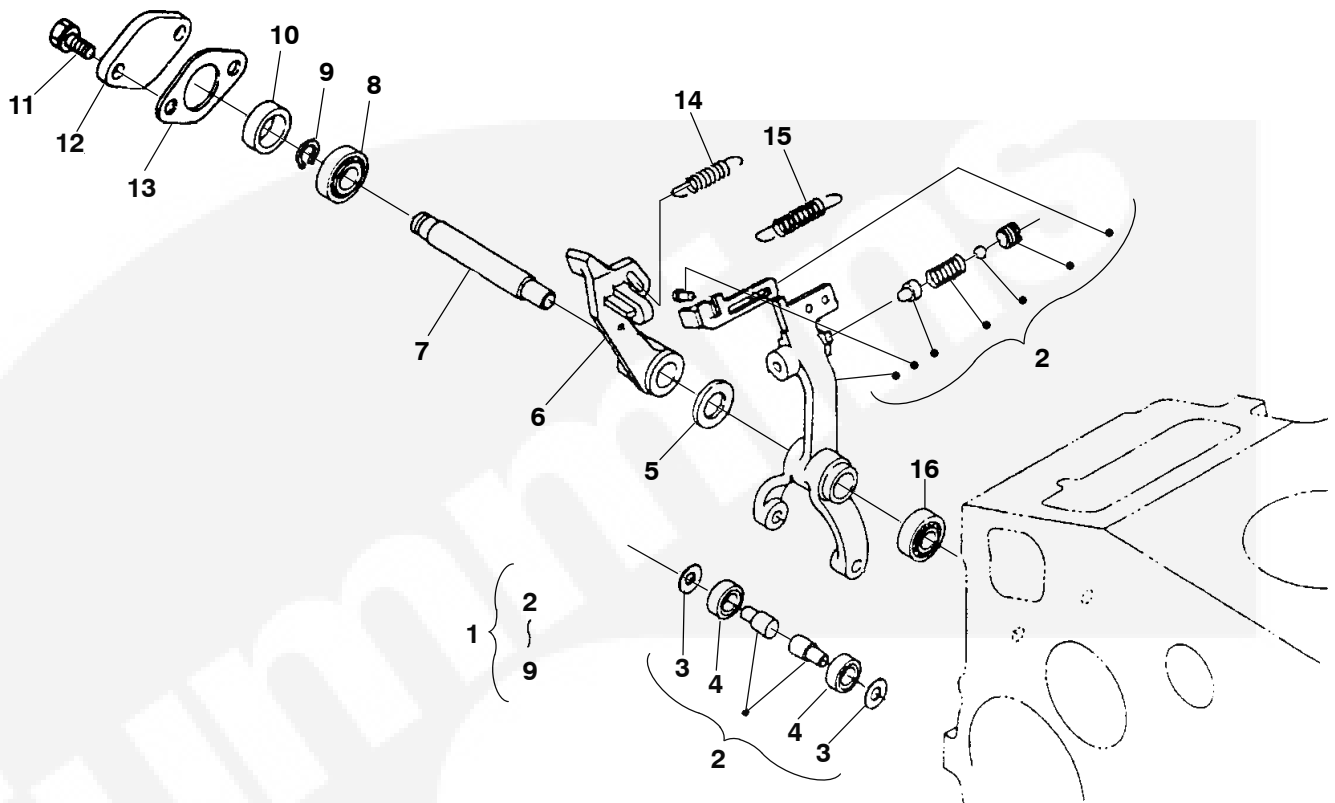
## Governor Lever



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6574	1	Lever Assy, Governor (Includes Parts Marked *)	8	185-6931	1	Nut, Lock
2	185-6575	1	*Bolt Assy, Adjusting	9	185-6577	1	Bolt, Adjusting
3	185-6930	1	*Cap	10	185-6881	1	Gasket
4	185-5685	1	*Nut, Cap	11	185-5685	1	Nut, Cap
5	185-2284	2	*Gasket	12	185-6932	1	Cap
6	185-5684	1	*Nut				
7	185-2284	1	Gasket				

\* - Parts Included in Governor Lever Assy.

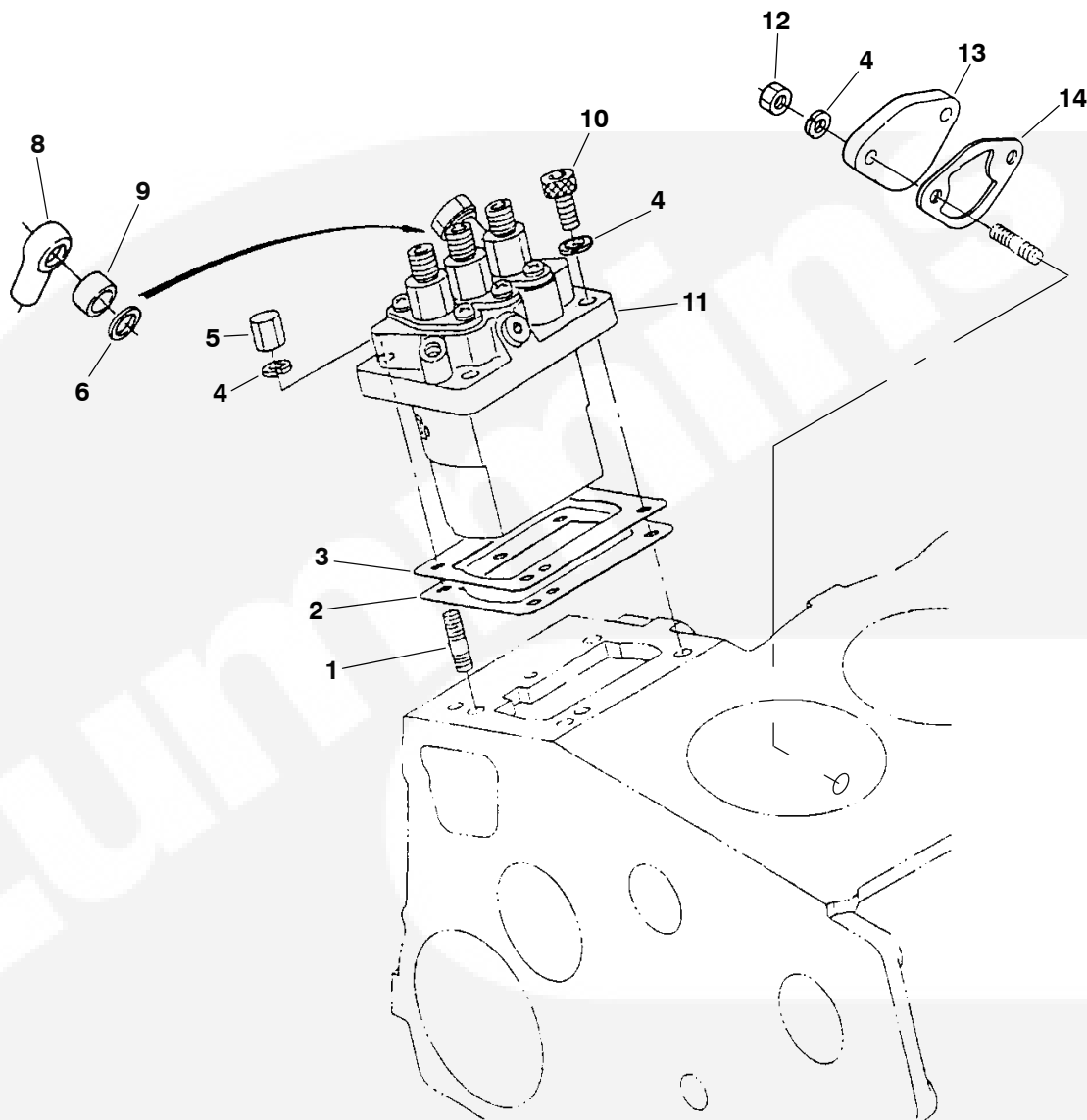
## Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Lever Assy, Fork (Includes Parts Marked *)	11	185-2387	2	Bolt
	185-6595	1	Spec A	12	185-6602	1	Cover, Fork Lever Shaft
	185-7254	1	Begin Spec B	13	185-6603	1	Gasket
2			*Lever, Fork (Includes Washer and Bearing)	14			Spring, Governor Spec A
	185-6596	1	Spec A		185-6594	1	60 Hz
	185-7255	1	Begin Spec B		185-7101	1	50 Hz
3	185-5960	2	Washer		185-7377	1	60 Hz
4	185-5959	2	Bearing		185-7378	1	50 Hz
5	185-6163	1	*Washer, Plain	15	185-6891	1	Spring, Start
6	185-6598	1	*Lever, Fork	16	185-6605	1	Bearing, Miniature
7	185-6599	1	*Shaft, Fork Lever				
8	185-6600	1	*Bearing, Miniature				
9	185-6601	1	*Circlip, External				
10	185-6604	1	Collar				

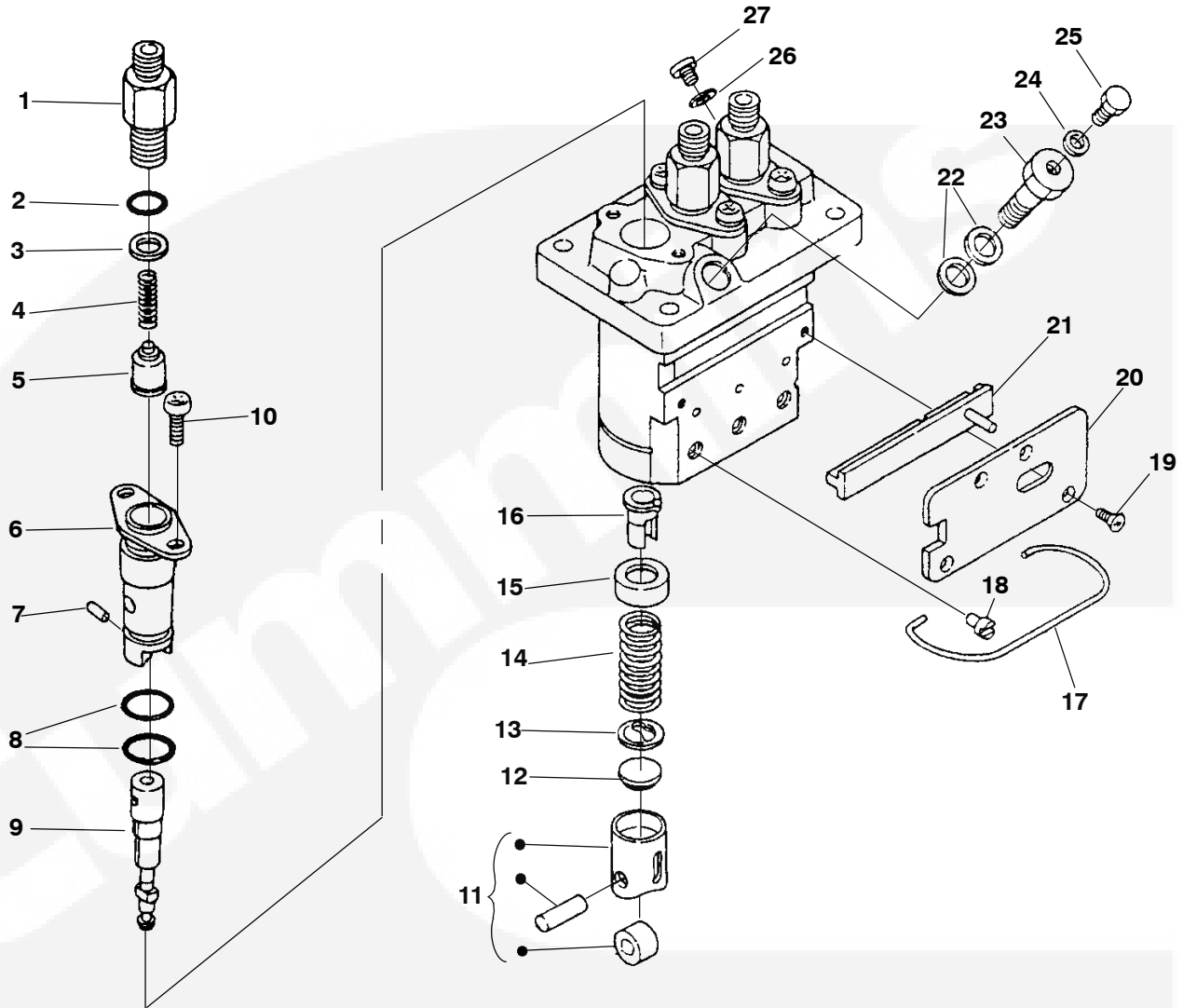
\* - Parts Included in Fork Lever Assy.

## Injection Pump



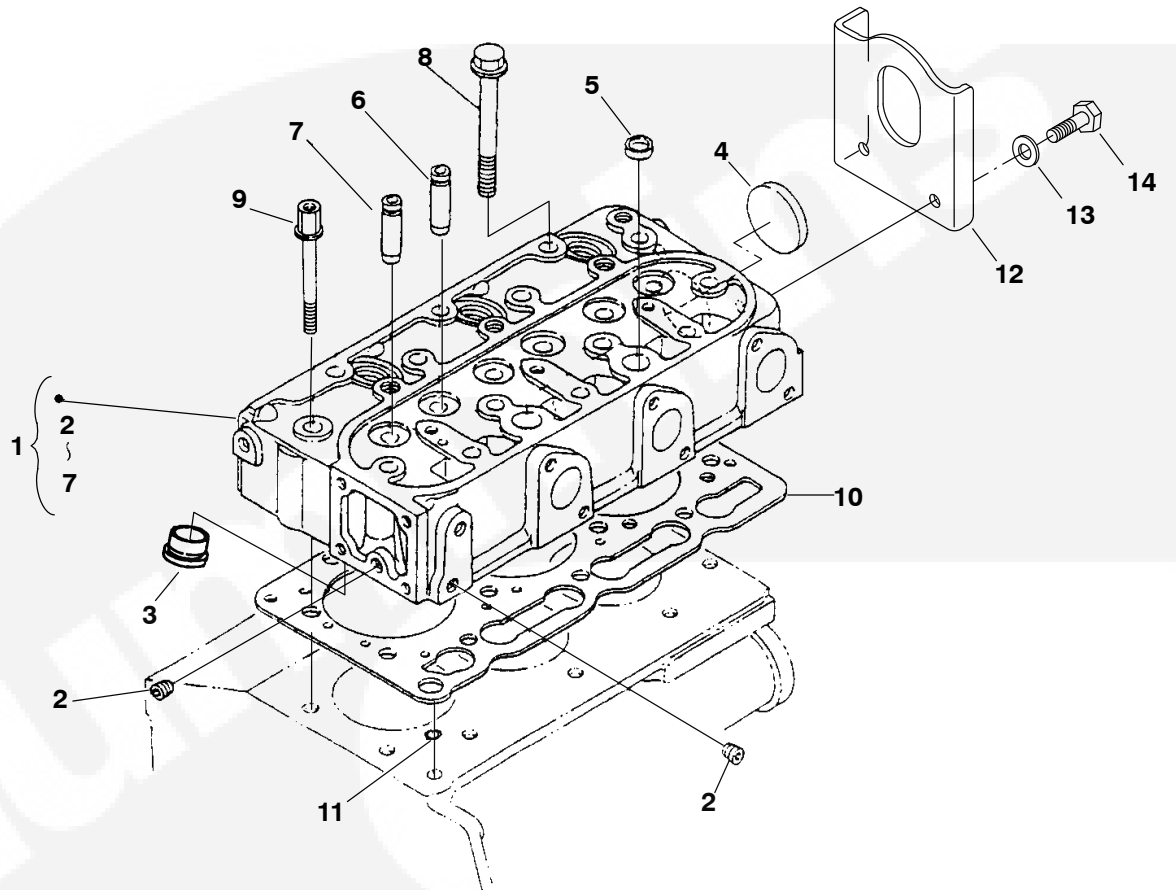
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-5624	3	Stud	8	185-6584	1	Joint, Eye
2	185-6845	1	Shim, Injection Pump (.30mm)	9	185-6585	1	Collar, Eye Joint
3	185-6749	AR	Shim, Injection Pump .20mm	10	185-5623	2	Bolt, Hex Socket Head
	185-6739	AR	.25mm	11	185-6882	1	Pump Assy, Injection (See Separate Page for Components)
4	185-6759	6	Washer, Spring	12	185-4255	2	Nut
5	185-5625	2	Nut, Cap	13	185-5798	1	Cover
6	185-2578	1	Gasket	14	185-6580	1	Gasket
7	185-6586	1	Cap				

## Injection Pump Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-6882	1	Pump Assy, Injection	14	185-5652	3	Spring, Plunger
1	185-6588	3	Holder, Delivery Valve	15	185-5653	3	Seat, Spring Upper
2	185-5643	3	O'Ring	16	185-5659	3	Sleeve, Control
3	185-5641	3	Gasket, Delivery Valve	17	185-6707	1	Pin, Clamp
4	185-5640	3	Spring, Delivery Valve	18	185-5650	3	Pin, Tappet Guide
5	185-5639	3	Valve, Delivery	19	185-5658	4	Screw, Countersunk Head
6	185-5644	3	Flange, Sleeve	20	185-6886	1	Plate
7	185-5645	3	Pin, Joint	21	185-6885	1	Rack, Control
8	185-5646	6	O'Ring	22	185-5661	2	Gasket
9	185-6884	3	Plunger, Pump	23	185-6887	1	Bolt, Joint
10	185-5647	6	Screw	24	185-5663	1	Gasket
11	185-5649	3	Tappet	25	185-5662	1	Screw, Air Bleed
12	185-5655	3	Shim	26	185-5820	1	Gasket
13	185-5654	3	Seat, Spring Lower	27	185-6888	1	Plug

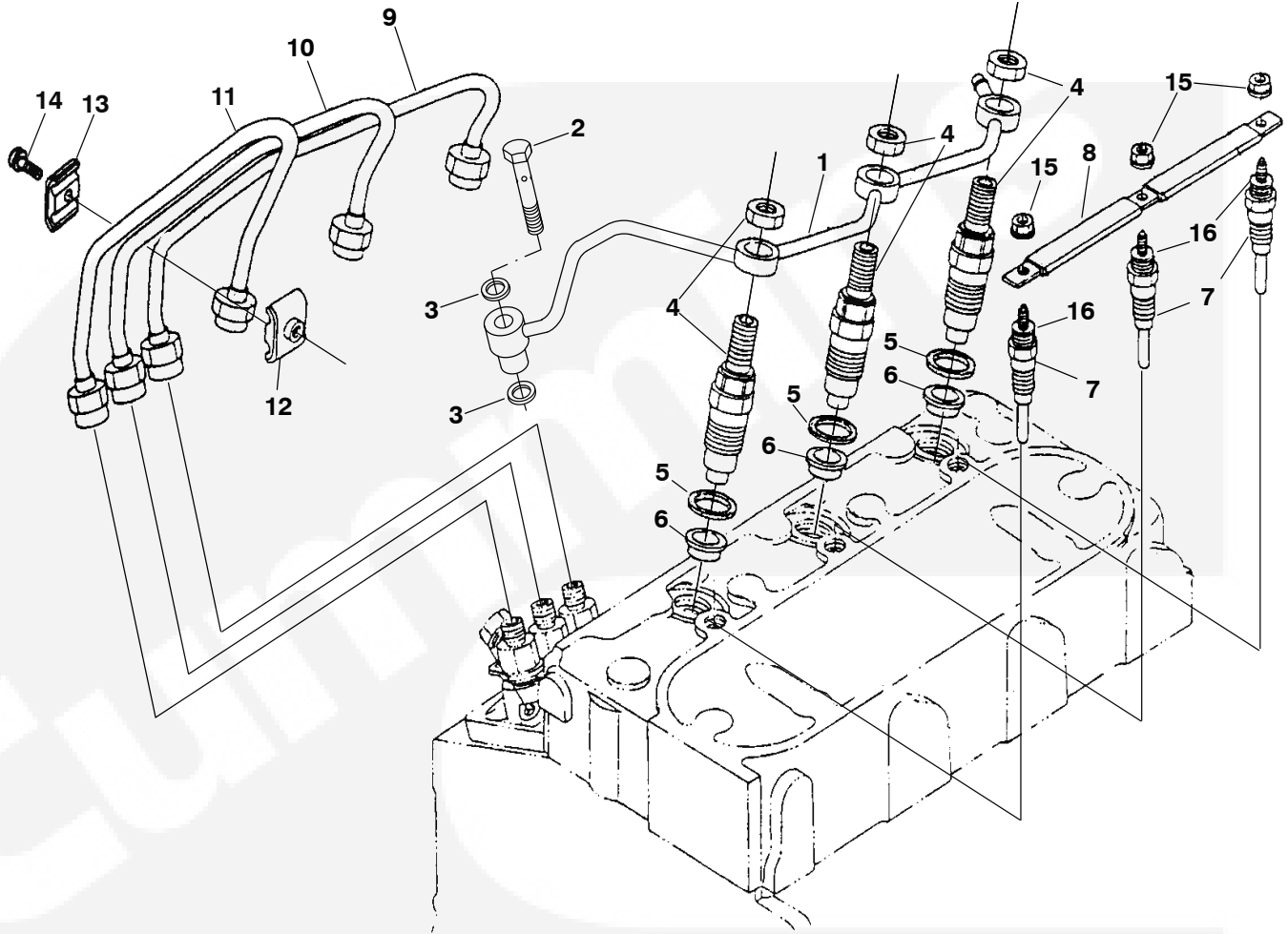
## Cylinder Head



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Head Assy, Cylinder (Includes Parts Marked *)	11	185-2095	1	O'Ring
	185-6861	1	Spec A	12	403-4126-04	1	Bracket, Lifting
	185-7374	1	Begin Spec B		403-4284-04	1	Spec A
2	185-2188	2	*Plug		526-0399-60	2	Begin Spec B
3	185-7375	3	*Chamber, Combustion (Begin Spec B)	13		2	Washer, Flat (M8)
4	185-2411	1	*Cap, Sealing	14		2	Screw, Hex Head Cap
5	185-2413	2	*Cap, Sealing		800-3017-19	2	Spec A (M8 x 1.25 x 20mm)
6	185-6476	3	*Guide, Exhaust Valve		800-3017-18	2	Begin Spec B
7	185-6475	3	*Guide, Inlet Valve				(M8 x 1.25 x 16mm)
8	185-6477	12	Bolt, Cylinder Head	* - Parts Included in Cylinder Head Assy.			
9	185-6479	2	Bolt, Cylinder Head				
10			Gasket, Cylinder Head				
	185-6862	1	Spec A				
	185-7373	1	Begin Spec B				

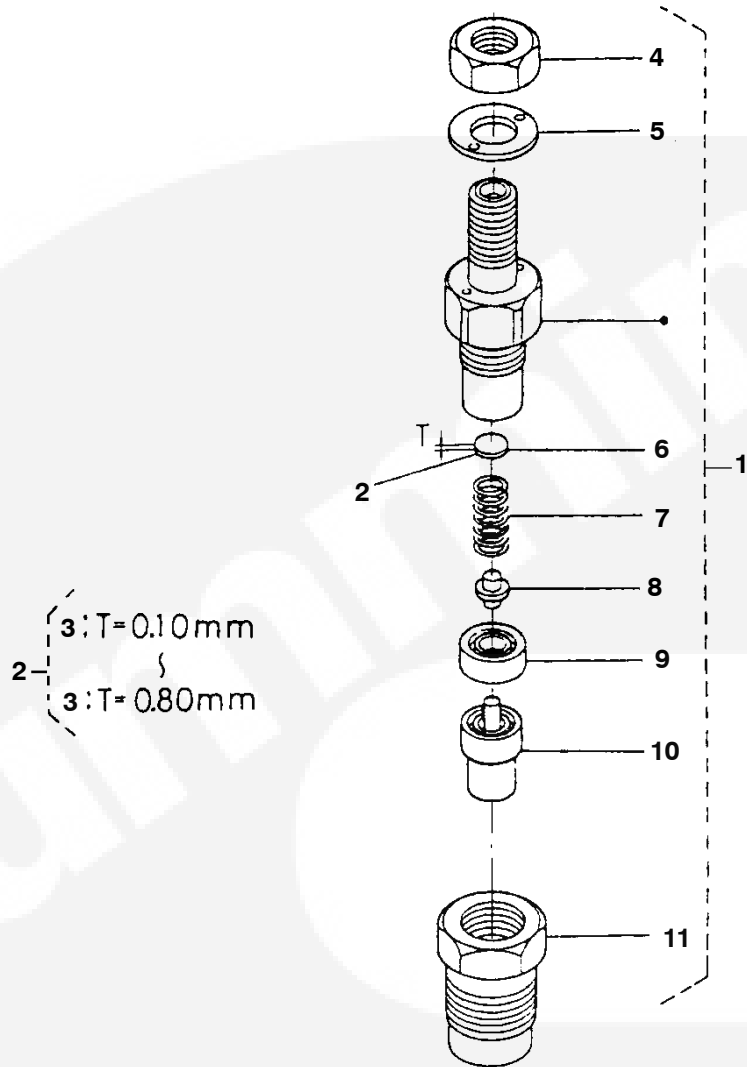


## Nozzle Holder and Glow Plug



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7106	1	Pipe, Overflow	8	185-6899	1	Cord, Glow Plug
2	185-7082	1	Screw, Air Bleeder	9	185-6621	1	Pipe, Injection
3	185-2284	2	Gasket	10	185-6751	1	Pipe, Injection
4	185-6740	3	Holder Assy, Nozzle (See Separate Page for Components)	11	185-6750	1	Pipe, Injection
5	185-5337	3	Gasket	12	185-5612	2	Clamp, Pipe
6	185-5985	3	Seal, Heat	13	185-2345	2	Clamp, Pipe
7	185-5421	3	Plug, Glow 12V	14	185-2385	2	Screw, Washer Head
	185-7107	3	24V	15	185-5615	3	Nut, Flange
				16	185-7004	3	Washer, Plain

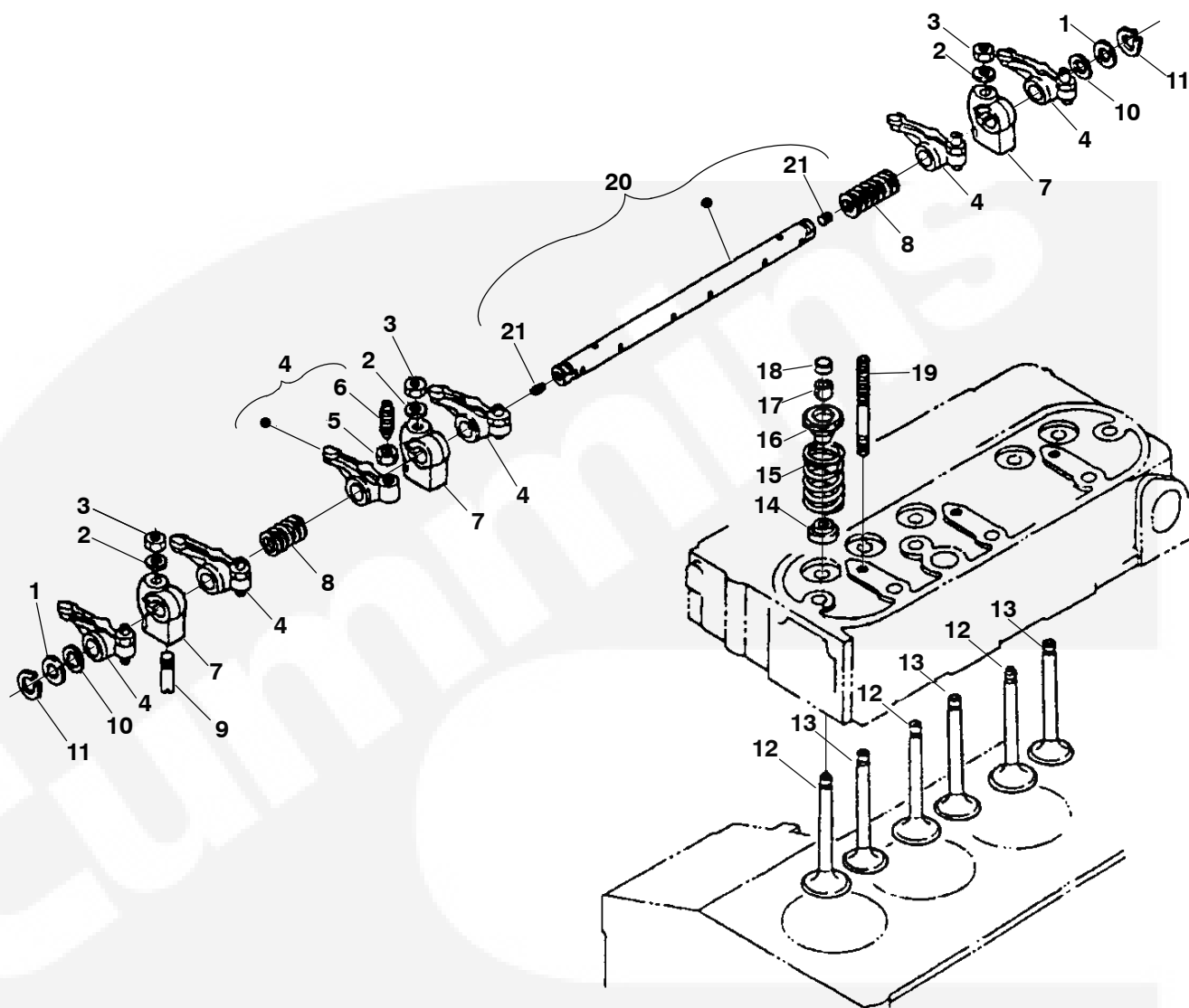
## Nozzle Holder Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6740	3	Holder Assy, Nozzle (Includes Parts Marked *)	4	185-6900	3	*Nut
2	185-6908	3	*Washer Assy, Adjust (Includes Adjusting Washers)	5	185-6906	3	*Washer, Plain
3			Washer, Adjusting	6	185-6901	3	*Washer, Adjusting
	185-6909	3	.10mm	7	185-6902	3	*Spring, Nozzle
	185-6910	3	.20mm	8	185-6904	3	*Rod, Push
	185-6911	3	.30mm	9	185-6903	3	*Piece, Distance
	185-6912	3	.40mm	10	185-6907	3	*Piece, Nozzle
	185-6913	3	.50mm	11	185-6905	3	*Nut, Nozzle
	185-6914	3	.52mm				
	185-6915	3	.54mm				
	185-6916	3	.56mm				
	185-6917	3	.58mm				
	185-6918	3	.80mm				

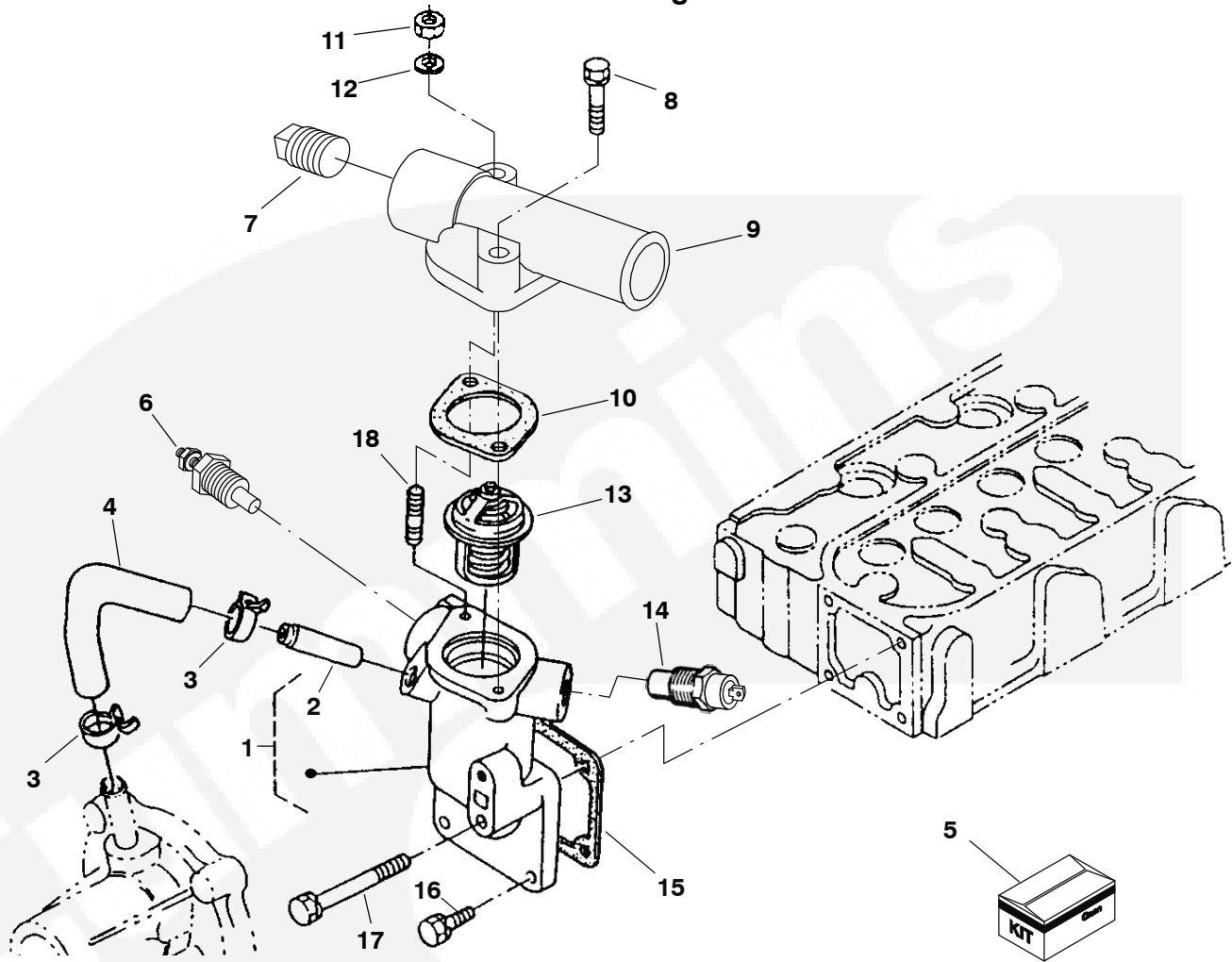
\* - Parts Included in Nozzle Holder Assy.

## Valve and Rocker Arm



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6690	2	Washer, Rocker Arm Shaft	13	185-6682	3	Valve, Exhaust
2	185-2184	3	Washer, Plain	14			Seal, Valve Stem
3	185-2179	3	Nut		185-6684	6	Spec A
4	185-6693	6	Arm Assy, Rocker (Includes Screw and Nut)		185-7300	6	Begin Spec B
5	185-6695	6	Nut	15	185-6683	6	Spring, Valve
6	185-6694	6	Screw, Adjusting	16	185-2076	6	Retainer, Valve Spring
7	185-6687	3	Bracket, Rocker Arm	17	110-3827	6	Collet, Valve Spring
8	185-6691	2	Spring, Rocker Arm	18	185-2080	6	Cap, Valve
9	185-2072	1	Screw, Rocker Arm Set	19	185-6688	3	Stud
10	185-6689	2	Washer, Rocker Arm Shaft	20	185-6923	1	Shaft Assy, Rocker Arm (Includes Screws)
11	185-6692	2	Circlip, External	21	185-6686	2	Screw, Set
12	185-6681	3	Valve, Inlet				

## Water Flange

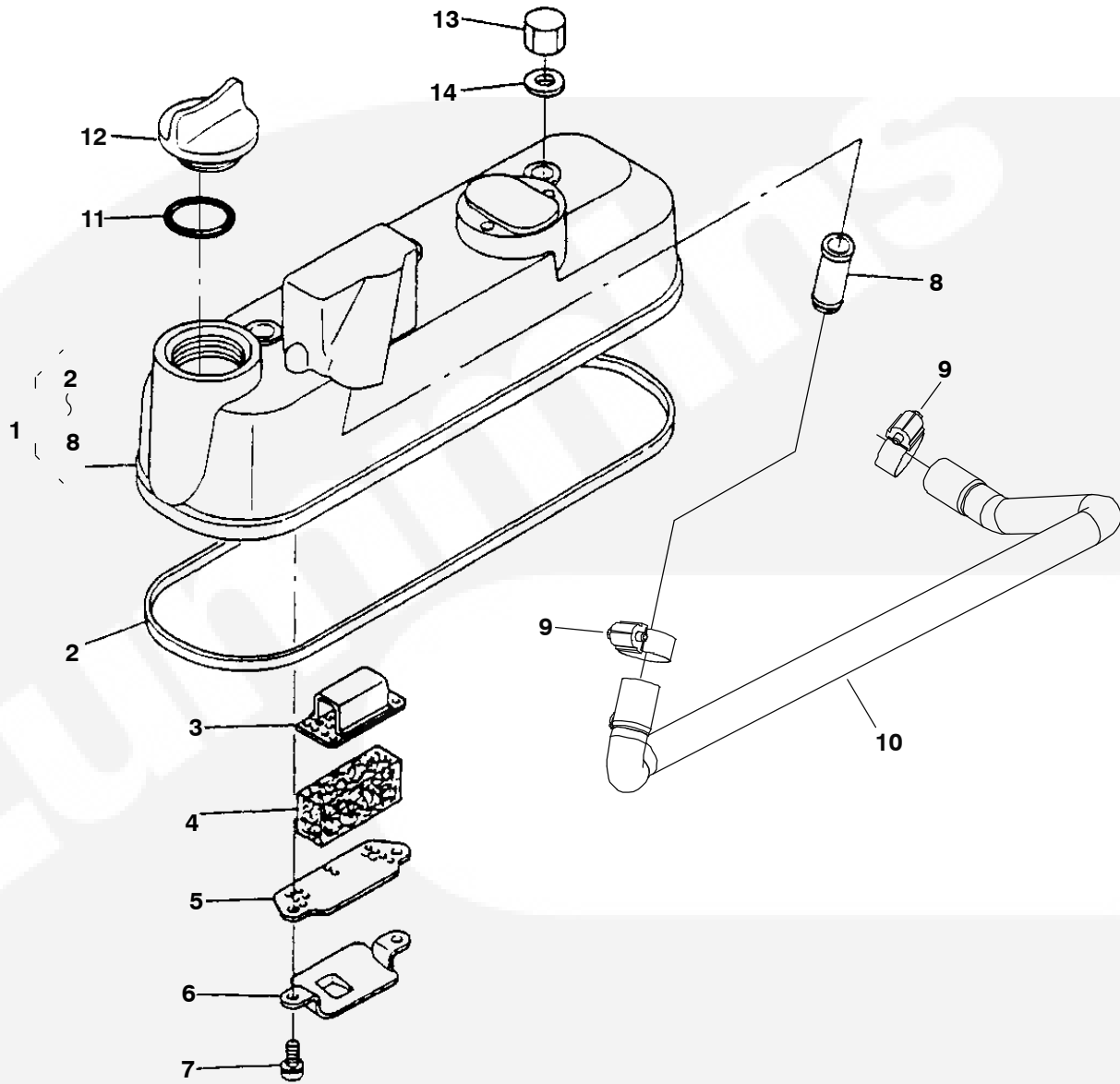


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Flange, Water (Includes Water Return Pipe)	11	185-4255	1	Nut (Spec A)
	185-6663	1	Spec A	12	185-2380	1	Washer, Spring (Spec A)
	185-7297	1	Begin Spec B	13			Thermostat
2	185-6445	1	Pipe, Water Return		185-5458	1	Spec A
3	185-6667	2	Band, Pipe		185-6005	1	Begin Spec B
4	185-6666	1	Pipe, Water Return	14			Switch, Water Temperature Shutoff (S2)
5			*Kit, Sender (Includes Water Temperature Sender)		309-0601	1	Negative Ground (B200, B201)
	300-5040	1	Negative Ground		309-0576	1	+ Isolated Ground (B380)
	300-5041	1	Isolated Ground	15	185-6922	1	Gasket, Water Flange
6			Sender, Water Temperature(E2)	16	185-2388	3	Bolt
	193-0318	1	Negative Ground (B200, B201)	17	185-6665	1	Bolt
	193-0457-01	1	Isolated Ground (B380)	18	185-6670	1	Stud (Spec A)
7	185-5826	1	Plug				
8			Bolt				
	185-6677	1	Spec A				
	185-6781	2	Begin Spec B				
9			Cover, Thermostat				
	185-7108	1	Spec A				
	185-7298	1	Begin Spec B				
10			Gasket, Thermostat				
	185-7242	1	Spec A				
	185-6004	1	Begin Spec B				

\* - Kit Also Includes Oil Pressure Sender Listed on Oil System Page.

+ - Switch Included in Isolated Ground Kit Listed on Isolated Ground Page.

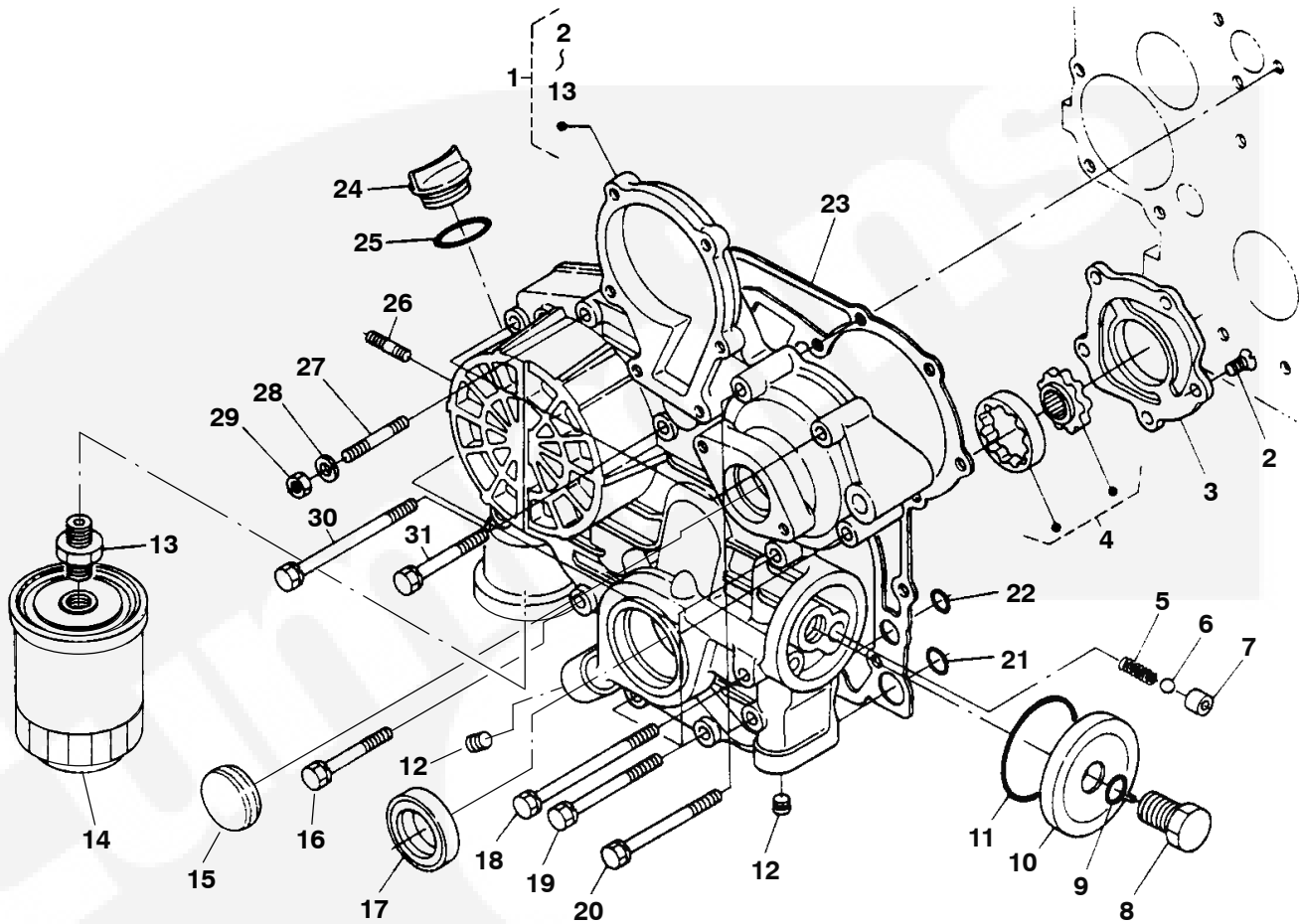
## Cylinder Head Cover



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6867	1	Cover Assy, Cylinder Head (Includes Parts Marked *)	9	503-0976	2	Clamp, Hose
2	185-6868	1	*Gasket, Cylinder Head Cover	10	503-2070	1	Hose, Breather
3	185-6501	1	*Plate, Upper Breather Element	11	185-2349	1	O'Ring
4	185-6721	1	*Element, Breather	12	185-5407	1	Cover, Oil Fill
5	185-6500	1	*Plate, Lower Breather Element	13	185-6394	3	Nut, Cap
6	185-6503	1	*Shield, Breather Oil	14	185-2291	3	Gasket
7	185-2384	2	*Screw, Washer Head				
8	185-6499	1	*Joint, Breather Pipe				

\* - Parts Included in Cylinder Head Cover Assy.

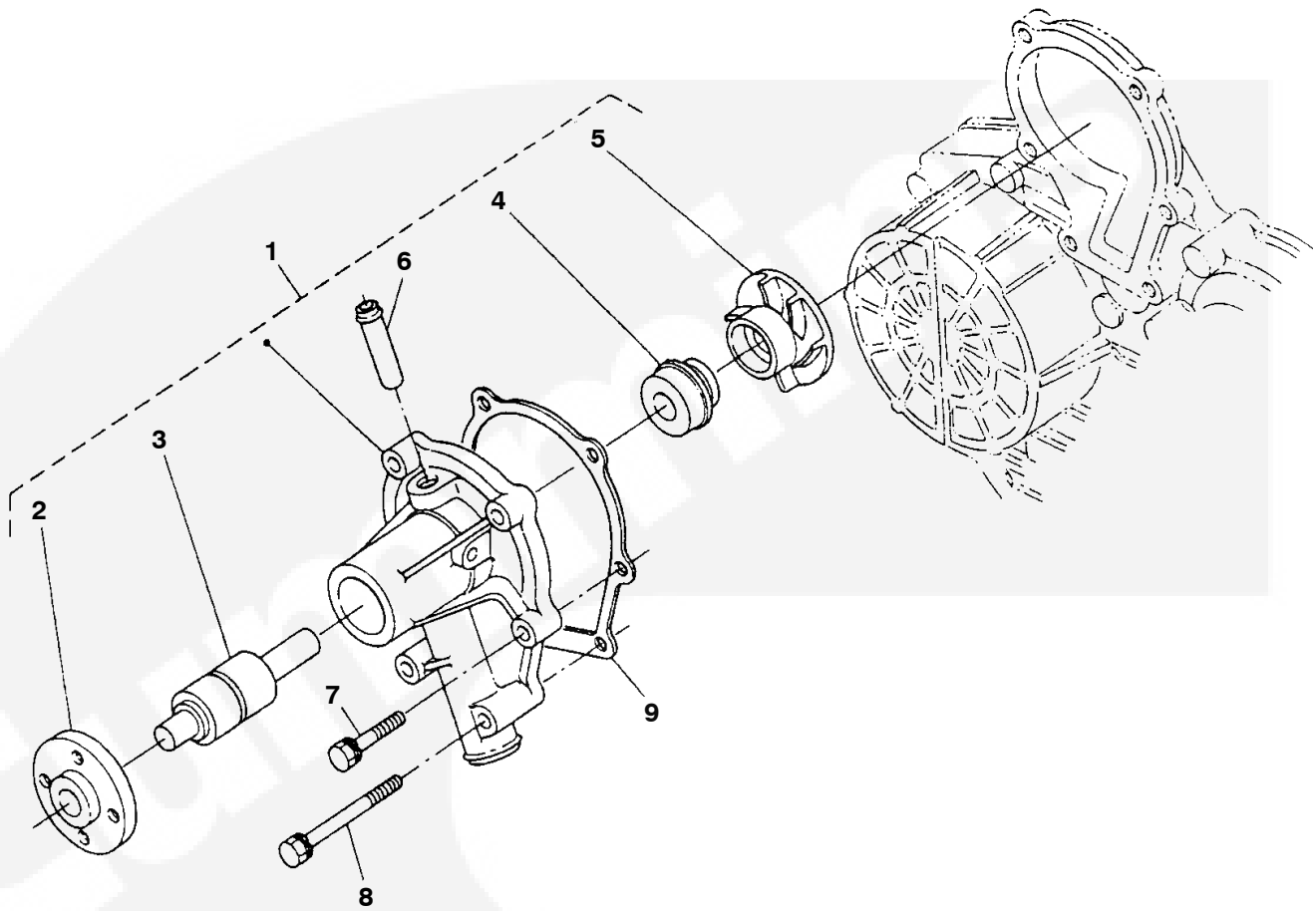
## Gearcase



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6480	1	Gearcase Assy (Includes Parts Marked *)	18	185-6491	2	Bolt
2	185-6487	5	*Screw, Countersunk Head	19	185-7069	4	Bolt
3	185-6486	1	*Cover, Oil Pump	20	185-6665	2	Bolt
4	185-6485	1	*Rotor, Oil Pump	21	185-5869	2	O'Ring
5	185-6482	1	*Spring	22	185-3080	2	O'Ring
6	185-6484	1	*Ball	23	185-6863	1	Gasket, Gearcase
7	185-6483	1	*Seat, Valve	24	185-5407	1	Cover, Oil Fill
8	185-5742	1	*Bolt	25	185-2349	1	O'Ring
9	185-5869	1	*O'Ring	26	185-2359	2	Stud
10	185-5741	1	*Cover	27	185-6493	1	Stud
11	185-5743	1	*O'Ring	28	185-6759	1	Washer, Spring
12	185-6481	5	*Plug	29	185-4255	1	Nut
13	185-2124	1	*Fitting, Connector	30	185-6492	1	Bolt
14	185-5835	1	Filter, Oil	31	185-5833	3	Bolt
15	185-7216	1	Plug				
16	185-6490	1	Bolt				
17	185-6864	1	Seal, Oil				

\* - Parts Included in Gearcase Assy.

## Captive Water Pump Components

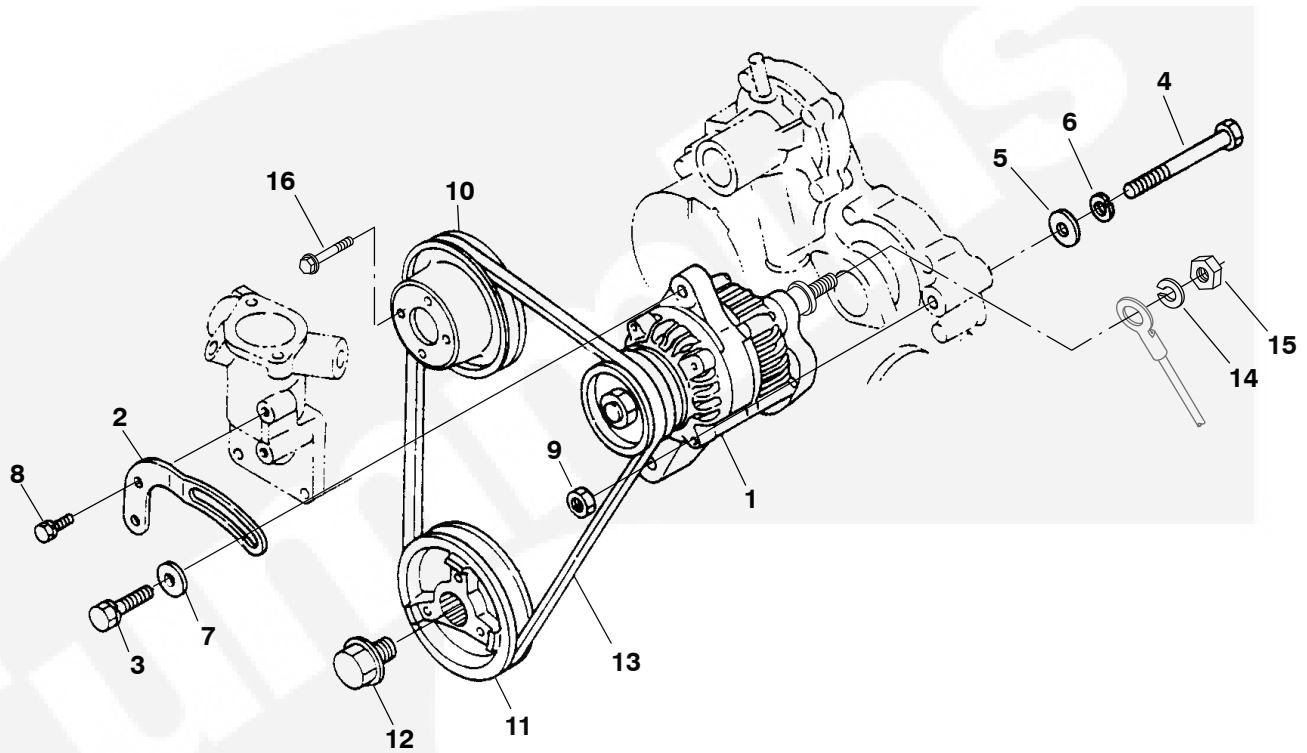


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6671	1	Pump Assy, Water (Includes Parts Marked *)	7	185-6677	4	Bolt
2	185-6672	1	*Flange, Pump Water	8	185-5745	2	Bolt
3	185-6673	1	*Bearing	9	185-6676	1	Gasket, Water Pump Spec A
4	185-5714	1	*Seal Assy, Mechanical	185-7299	1	Begin Spec B	
5	185-6674	1	*Impeller, Water Pump				
6	185-5719	1	*Pipe, Water Return				

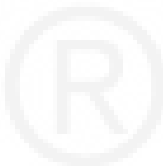
\* - Parts Included in Water Pump Assy.



## Alternator 12V Negative Ground (Spec A)

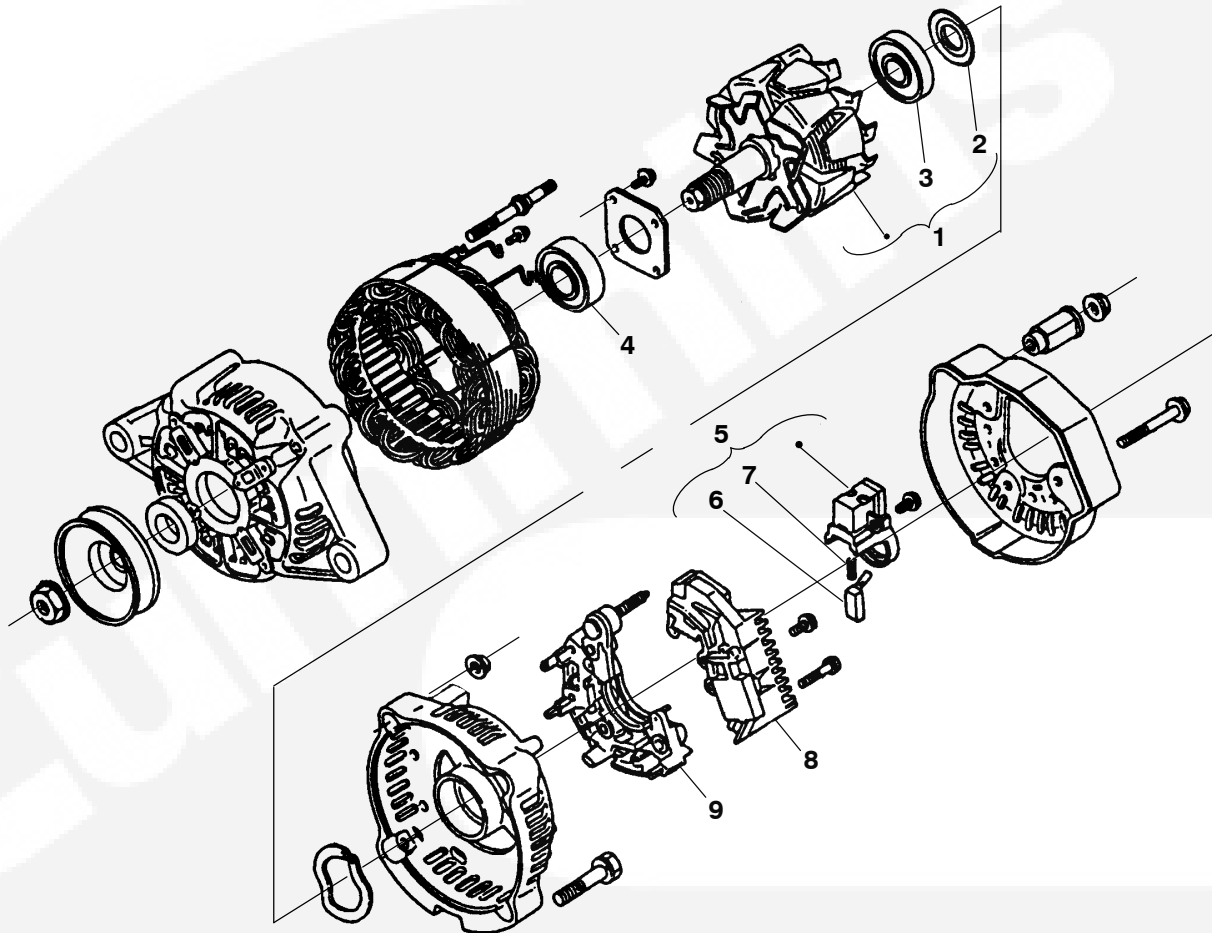


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6920	1	Alternator (12V, 30A) (See Separate Page for Components)	8	185-2388	1	Bolt
2	185-6628	1	Stay, Alternator	9	185-5445	1	Nut
3	185-2403	1	Bolt	10	185-6631	1	Pulley, Fan
4	185-6629	1	Bolt	11	185-6933	1	Pulley, Fan Drive
5	185-6630	1	Washer, Plain	12	185-6633	1	Bolt
6	185-3071	1	Washer, Spring	13	185-6934	1	Belt, Fan
7	185-6786	1	Washer, Plain	14	850-2006	1	Washer, Lock (M6)
				15	750-1004	1	Nut, Hex (6-32)
				16	185-2572	4	Bolt

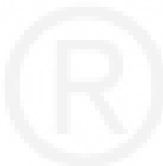




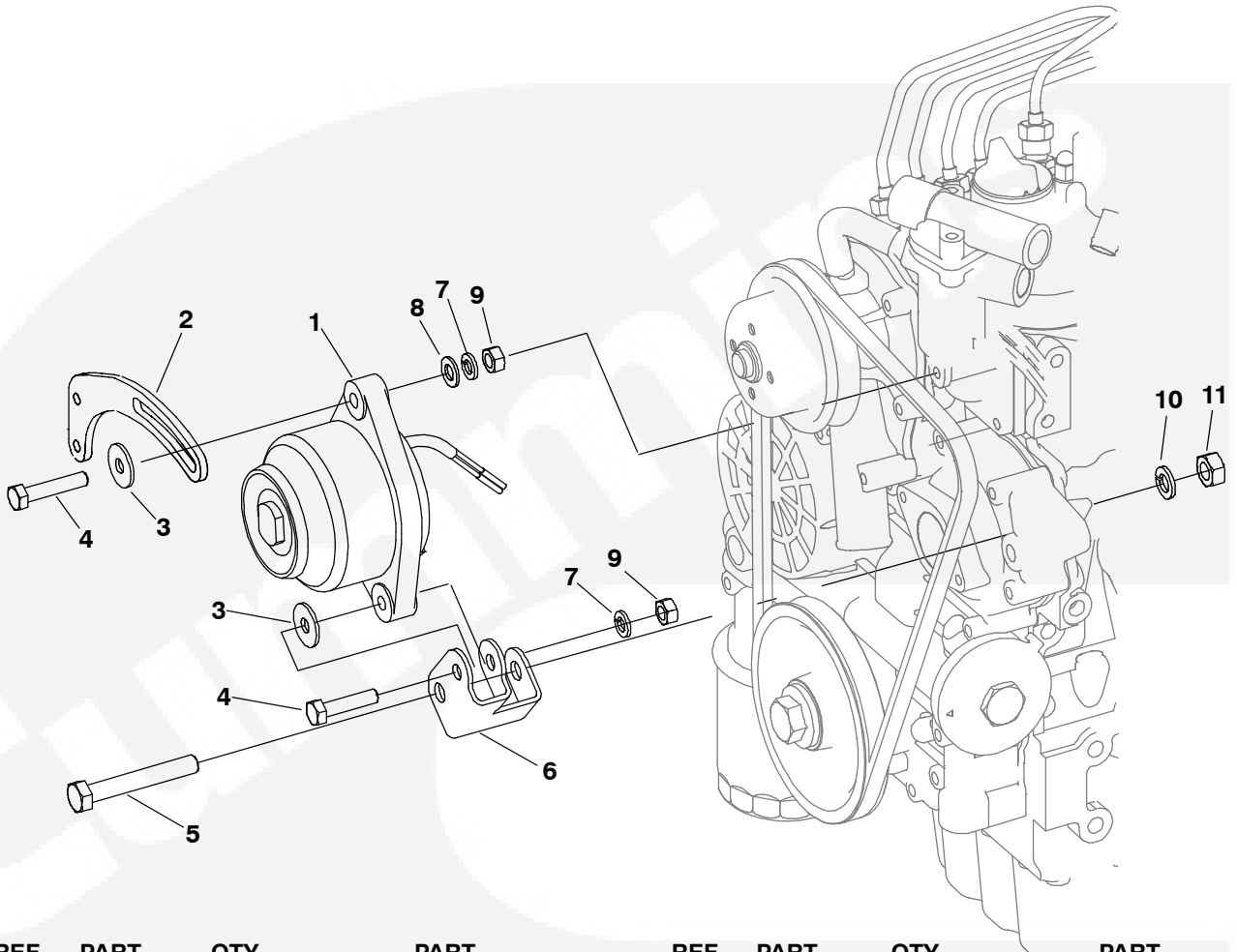
## Alternator Components 12V Negative Ground (Spec A)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-6920	1	Alternator	5	185-5782	1	Holder, Brush
1	185-5770	1	Rotor	6	185-5783	2	Brush
2	185-5771	1	Cover, Bearing	7	185-5784	2	Spring, Brush
3	185-5772	1	Bearing, Ball	8	185-5791	1	Regulator
4	185-5777	1	Bearing, Ball	9	185-6638	1	Rectifier Assy



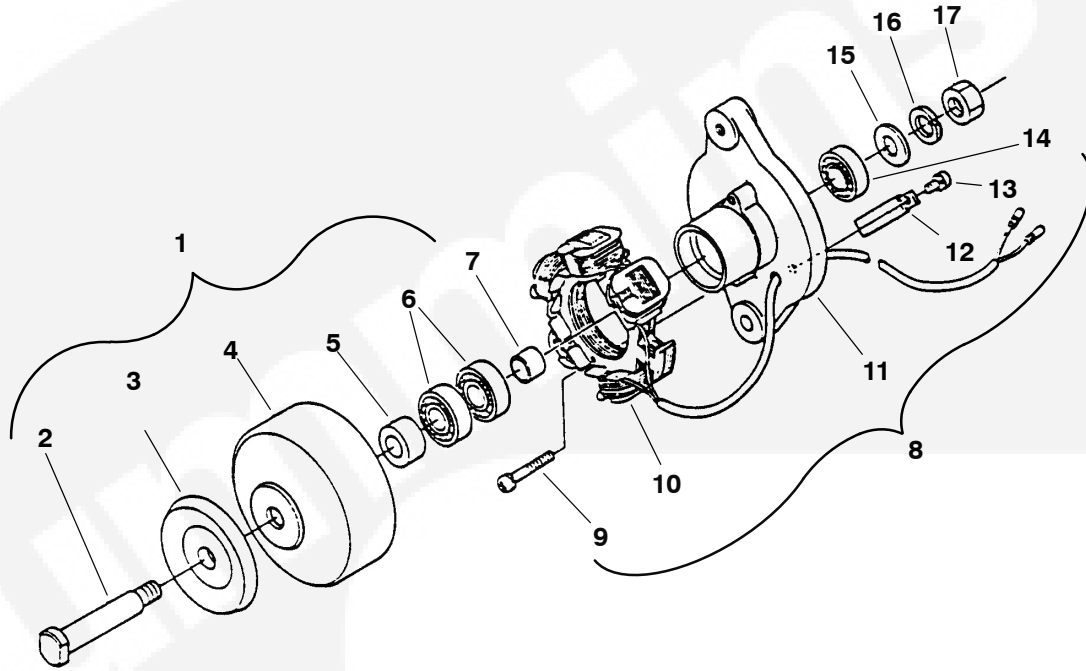
## Alternator 12V Isolated Ground (Spec A)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-5431	1	Alternator	6	191-2266-02	1	Bracket
2	185-6628	1	Stay, Alternator	7	850-0114-54	2	Washer, Lock (M8)
3	526-0399-61	2	Washer, Flat (M8)	8	526-0399-60	1	Washer, Flat (M8)
4	800-3017-22	2	Screw, Hex Head Cap (M8 x 1.25 x 35mm)	9	862-0026-55	2	Nut, Hex (M8 x 1.25mm)
5	800-3017-46	1	Screw, Hex Head Cap (M10 x 1.5 x 70mm)	10	850-0114-55	1	Washer, Lock (M10)
				11	862-0026-56	1	Nut, Hex (M10 x 1.5mm)



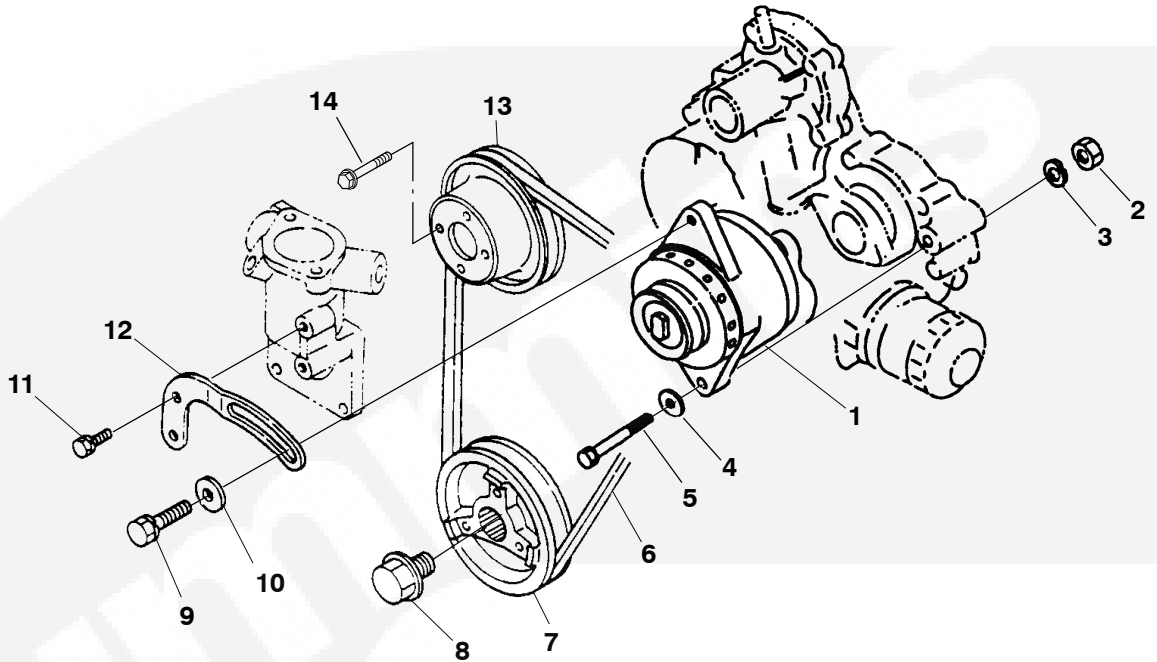
## Alternator Components 12V Isolated Ground (Spec A)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-5431	1	Alternator	10	185-2272	1	@ Stator
1	185-5710	1	Rotor Assy (Includes Parts Marked #)	11	185-2268	1	@ Plate, Back – Alternator
2	185-2245	1	# Shaft, Rotor	12	185-2271	1	@ Clamp, Wire
3	185-2269	1	# Pulley	13	185-2249	1	@ Screw, Machine – Round Head W/Lock Washer
4	185-2267	1	# Rotor	14	185-2246	1	@ Bearing, Ball
5	185-2270	1	# Spacer	15	185-2185	1	Washer, Flat
6	185-2246	2	# Bearing, Ball	16	185-2186	1	Washer, Lock – Spring
7	185-2171	1	Spacer	17	185-2181	1	Nut, Hex
8	185-5711	1	Stator Assy (Includes Parts Marked @)				
9	185-2183	2	@ Screw, Machine – Round Head W/Lock Washer				

# – Parts Included in Rotor Assy.  
@ – Parts Included in Stator Assy.

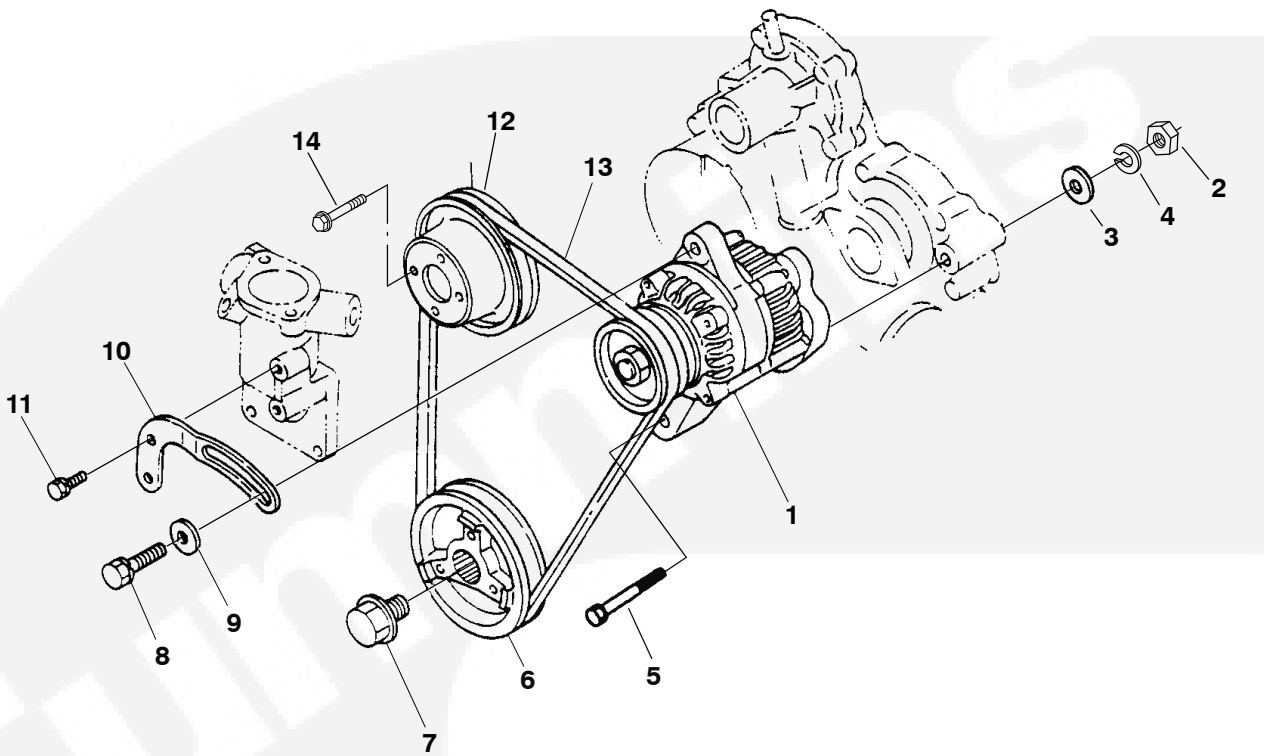
**Alternator  
12V Negative/Isolated Ground  
(Begin Spec B)**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7269	1	Alternator (No Components Available)	8	185-6633	1	Bolt
2	185-5445	1	Nut	9	185-2564	1	Bolt
3	185-6785	1	Washer, Spring	10	185-6786	2	Washer, Plain
4	185-7272	1	Washer, Plain	11	185-2388	1	Bolt
5	185-7271	1	Bolt	12	185-7270	1	Stay, Alternator
6	185-6934	1	Belt, Fan (37.5")	13	185-6631	1	Pulley, Fan
7	185-6933	1	Pulley, Fan Drive	14	185-2572	4	Bolt

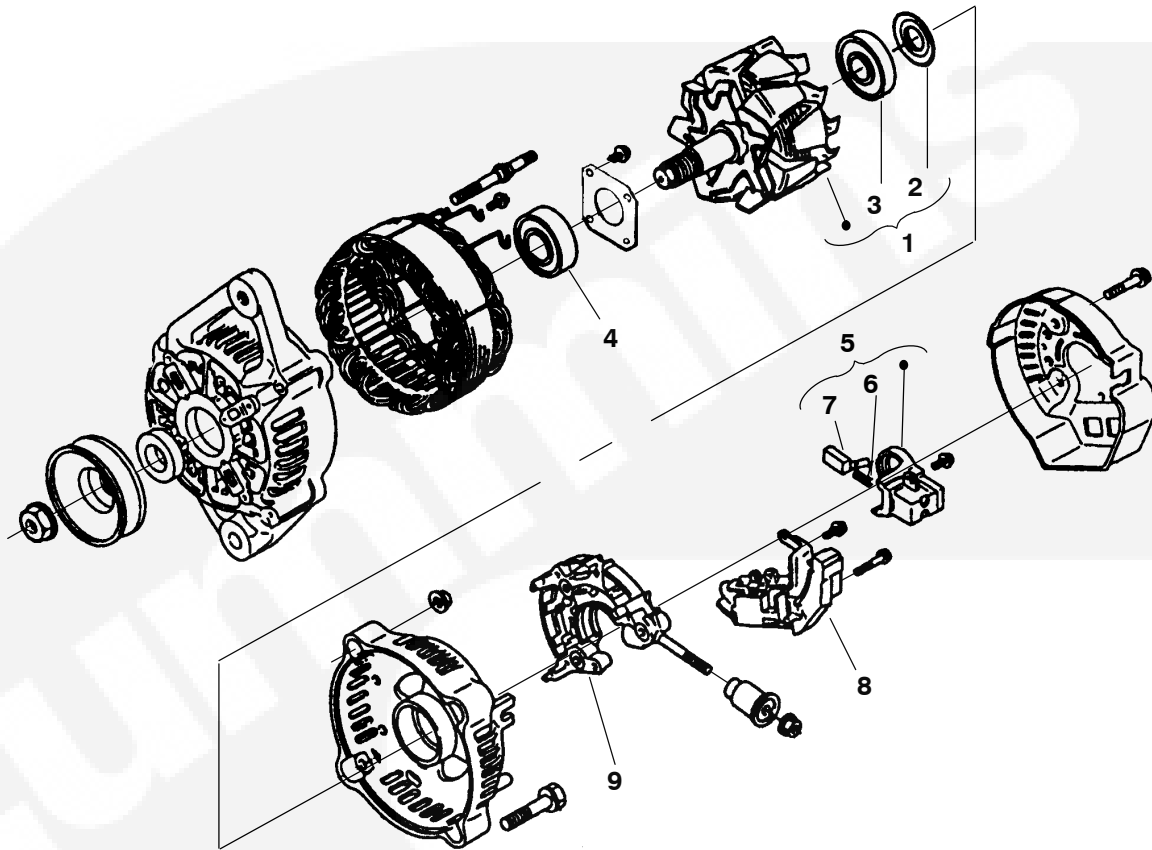


## Alternator 24V Negative Ground (Spec B)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7225	1	Alternator (See Separate Page for Components)	8	185-2564	1	Bolt
2	185-5445	1	Nut	9	185-6786	1	Washer, Plain
3	185-6630	1	Washer, Plain	10	185-7226	1	Stay, Alternator
4	185-6785	1	Washer, Spring	11	185-2388	1	Bolt
5	185-7227	1	Bolt	12	185-6631	1	Pulley, Fan
6	185-6933	1	Pulley, Fan Drive	13	185-6934	1	Belt, Fan (37.5")
7	185-6633	1	Bolt	14	185-2572	4	Bolt

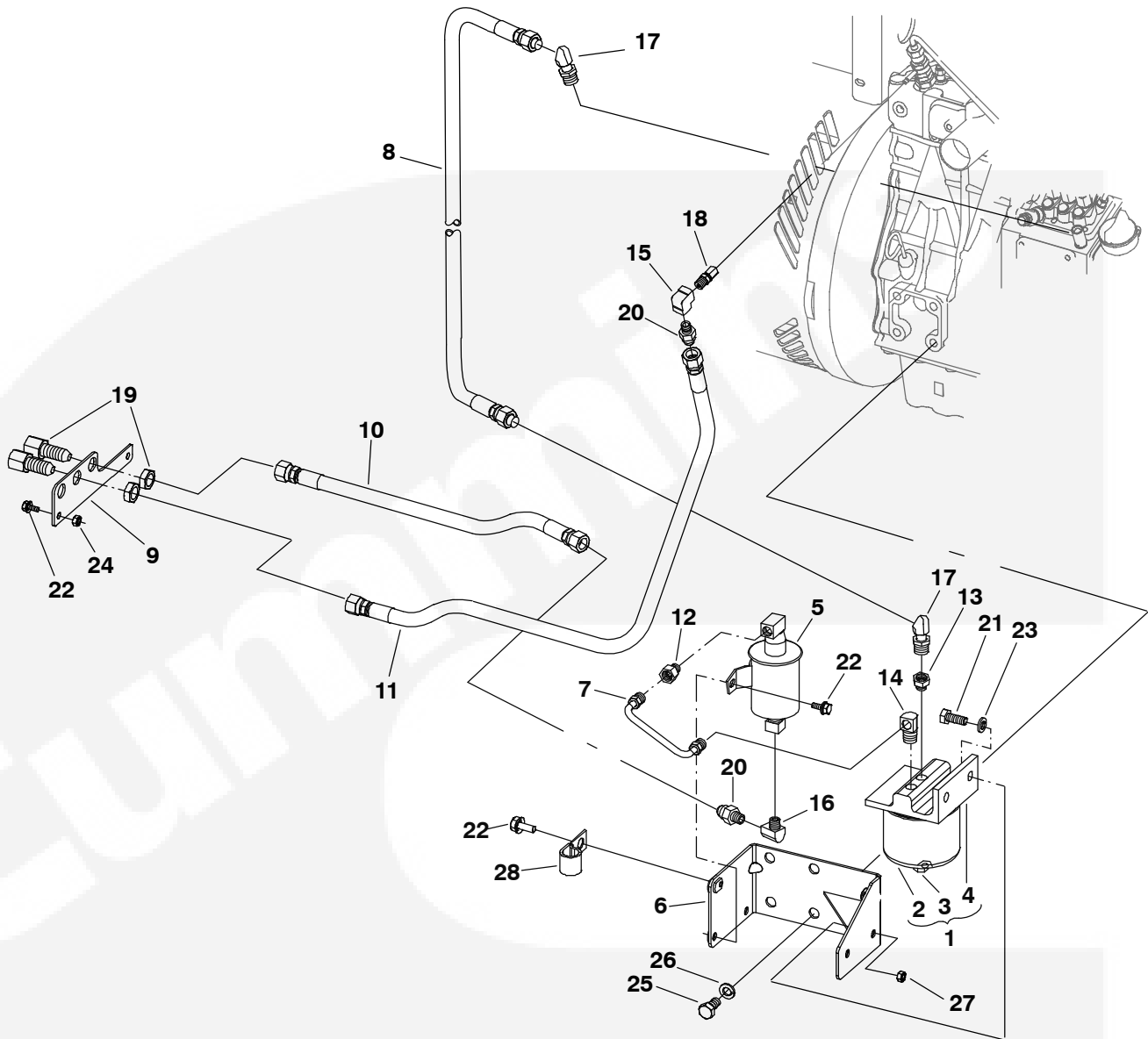
## Alternator Components 24V Negative Ground (Spec B)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-7225	1	Alternator	6	185-5784	2	Spring, Brush
1	185-7228	1	Rotor (Includes Cover and Bearing)	7	185-5783	2	Brush
2	185-5771	1	Cover, Bearing	8	185-6820	1	Regulator
3	185-7229	1	Bearing, Ball	9	185-6816	1	Rectifier Assy
4	185-5777	1	Bearing, Ball				
5	185-5782	1	Holder, Brush (Includes Brush and Spring)				

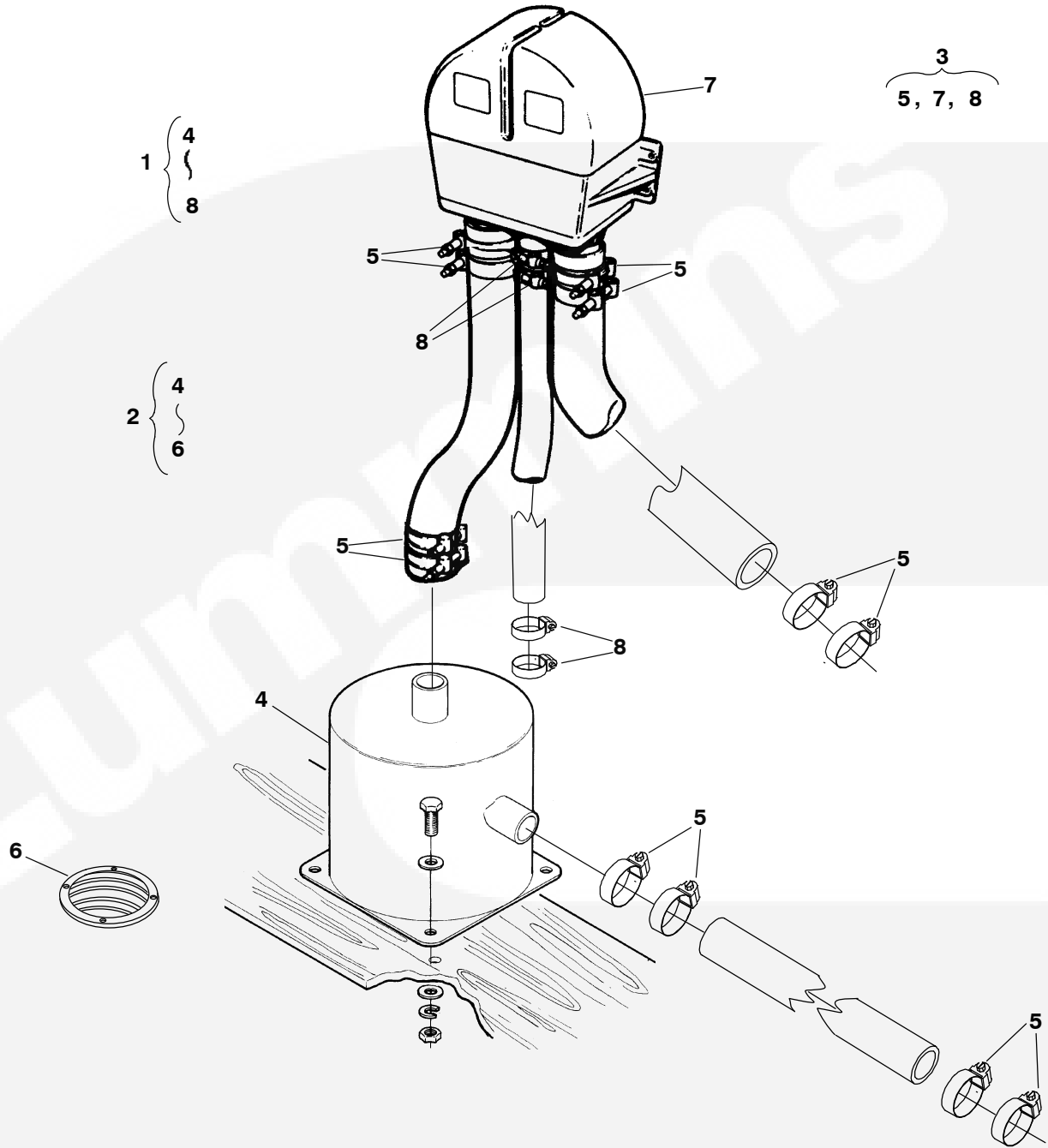
Note: Parts not Identified are Not For Sale.

## Fuel Pump



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-2100	1	Filter Assy, Fuel (E5) (Includes Element, Plug, and Base)	15	502-0055	1	Elbow, Pipe
2	149-2106	1	Element	16	502-0020-01	1	Elbow, Pipe
3	502-0028	1	Plug, Drain	17	502-0065	2	Elbow, Inverted Male
4	149-2235	1	Base, Aluminum	18	502-1245	1	Adapter, Pipe
5	149-2331-01	1	Pump, Fuel (E5)	19	505-1489	2	Connector, Female Bulkhead
6	149-2600-05	1	Bracket, Mounting Spec A (W/Weldnuts)	20	505-1490	2	Connector, Male
	149-2618-04	1	Begin Spec B (W/O Weldnuts W/Gusset)	21	800-3017-19	2	Screw, Hex Head Cap (M8 x 1.25 x 20mm)
7	149-2601	1	Line, Fuel	22	821-6002-02	5	Screw, Hex Head Sems (M6 x 1 x 12mm)
8	149-2602	1	Line, Fuel	23	850-0114-54	2	Washer, Lock (M8)
9	149-2609-02	1	Bulkhead	24	862-0026-54	2	Nut, Hex (M6 x 1mm)
10	501-0672-01	1	Line, Fuel (28.5")	25	800-3030	3	Screw, Hex Head Cap (M10 x 1.25 x 20mm)
11	501-0672-02	1	Line, Fuel (38.5")	26	850-0114-55	3	Washer (M10)
12	502-0003	1	Connector, Inverted Male	27	862-0026-55	2	Nut, Hex (M8)
13	502-0029	1	Bushing, Pipe	28	518-0515	1	Clip, Hose
14	502-0041	1	Elbow, Male				

## Water Separator/Muffler

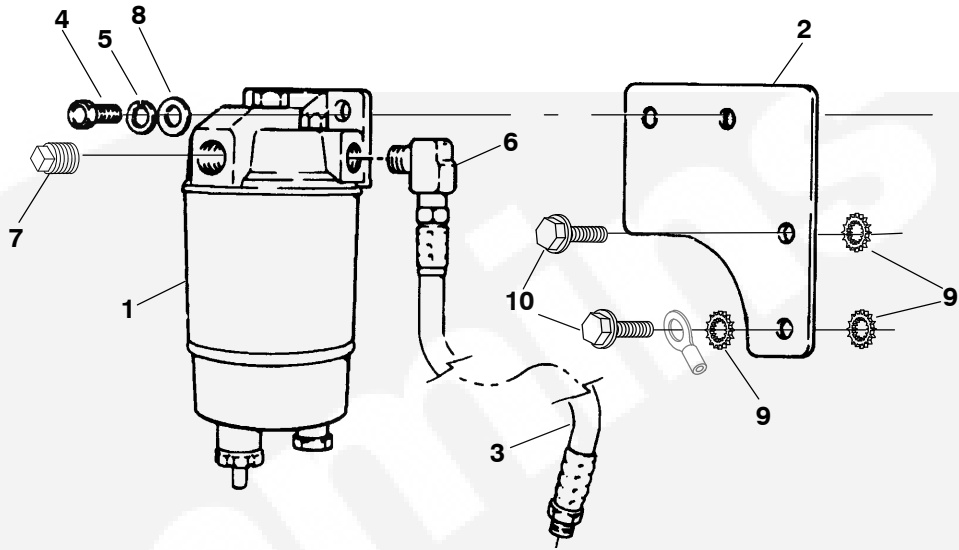


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	155-3217	1	Kit, Muffler/Separator (Includes Parts Marked *)	6	155-1002	1	*+ Strainer, Water Pickup
2	155-2030	1	Kit, Muffler (Includes Parts Marked +)	7	155-3218	1	*• Separator, Water (2")
3	155-3216	1	Kit, Water Separator (Includes Parts Marked •)	8	503-1139	4	*• Clamp, Hose (1-1/2")
4	155-2029	1	*+ Muffler, Marine				
5			Clamp, Hose (2")				
	503-1142	8	+ Muffler Kit				
	503-1142	4	• Separator Kit				
	503-1142	10	* Muffler/Separator Kit				

\* - Parts Included in Muffler/Separator Kit.  
 + - Parts Included in Muffler Kit.  
 • - Parts Included in Water Separator Kit.

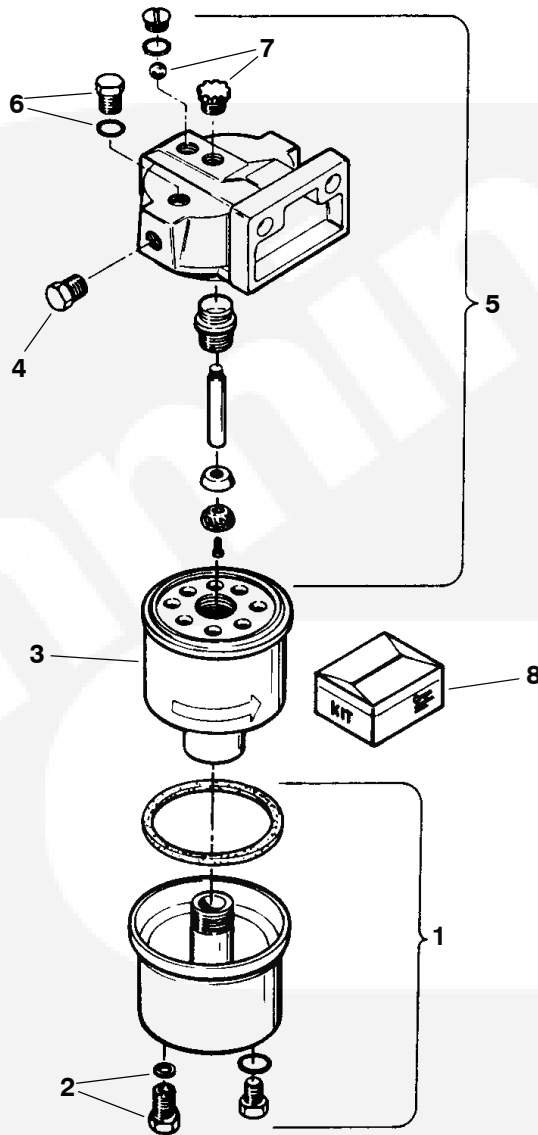


## Remote Water Separator



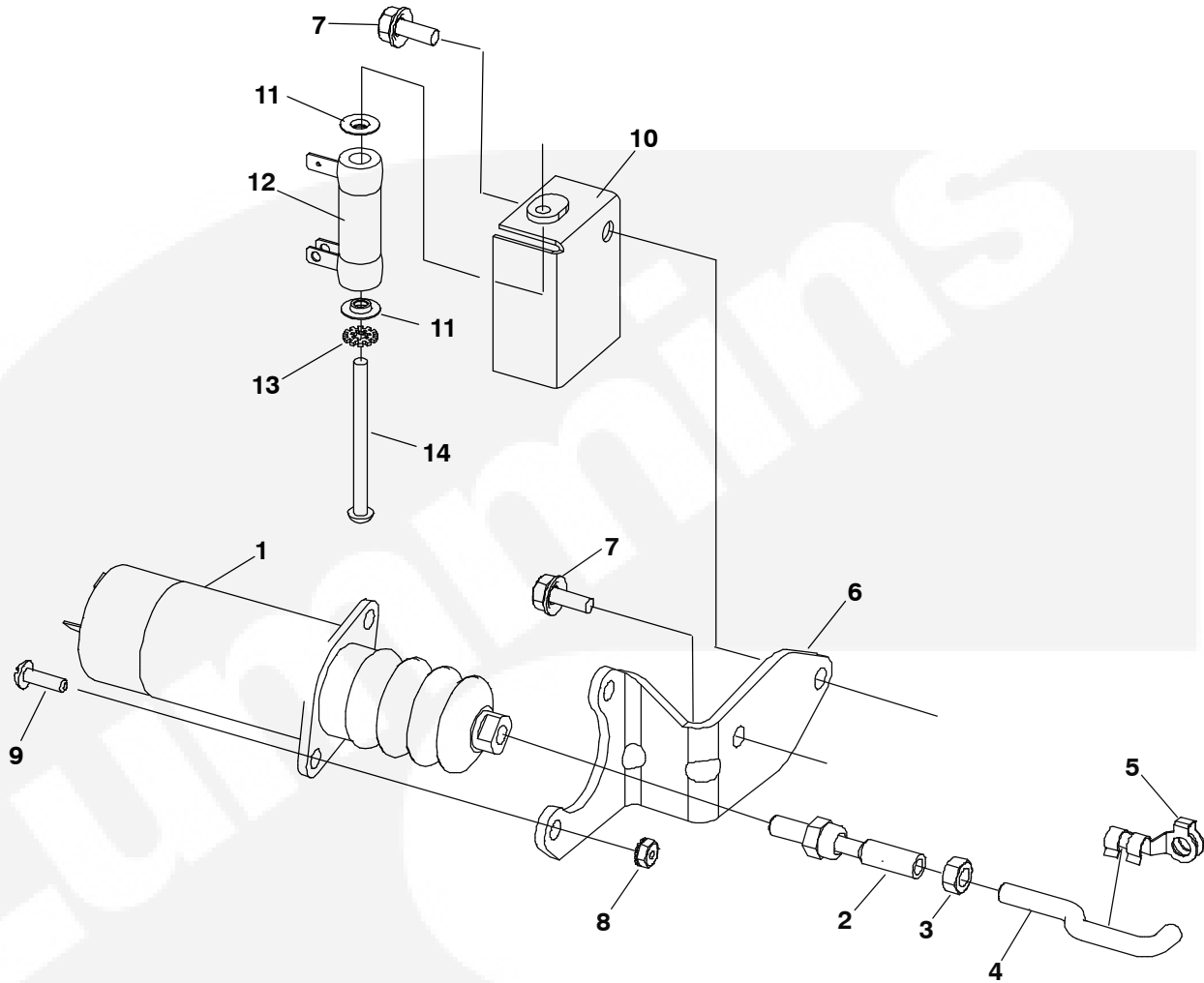
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	149-2313	1	Kit, Remote Fuel/Water Separator	5	850-2008	2	Washer, Lock (M8)
1	149-1908-05	1	Separator, Fuel/Water (See Separate Page for Components)	6	502-0054	1	Elbow, Street 90° (1/4 NPT)
2	149-2312	1	Bracket, Separator Mounting	7	502-0153	1	Plug, Hex Pipe (1/4 NPT)
3	501-0578	1	Line, Flex Fuel	8	526-2100	2	Washer, Flat (M8)
4	718-1038	2	Screw, Hex Head Cap (M8 x 1.25 x 30mm)	9	856-0012	3	Washer, EIT (7/16")
				10	718-1055	2	Screw, Hex Head Cap (M10 x 1.5 x 30mm)

## Remote Water Separator Components



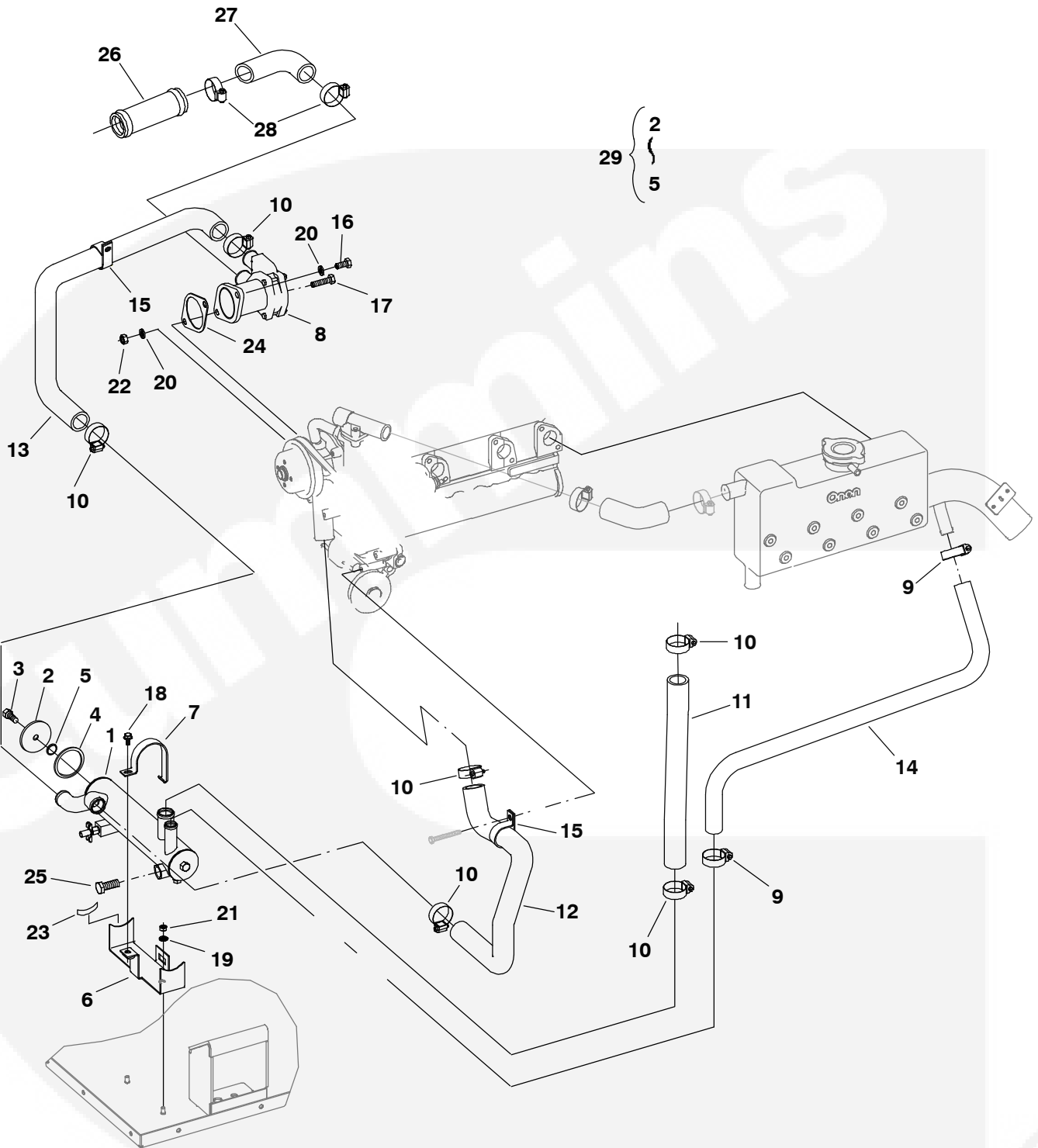
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	149-1908-05	1	Separator, Water	6	149-1952	1	Plug, Vent (Includes O-Ring)
1	149-2046	1	Kit, Metal Bowl Replacement (Includes Plug, O-Rings and Drain Assy)	7	149-2047	1	Pump Assy (Includes Plunger, Retainer, Shaft, Check Ball, Knob and Screw)
2	149-1953	1	Drain Assy (Includes Knob and Seal)	8	149-2045	1	O-Ring Kit (Includes Seal and Plunger)
3	149-1914-01	1	Element (Includes Seals)				
4	502-0153	1	Plug, Hex (1/4")				
5	149-1949	1	Head Assy, Replacement (Includes Vent Plug, O-Rings, Seal, Cap, Tube and Pump Assy)				

## Stop Solenoid



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-2546	1	Solenoid, Stop (K7)	7	821-6002-02	2	Screw, Hex Head Sems (M6 x 1 x 12mm)
	307-2546-01	1	12V	8	870-0131	2	Nut, ET Hex (#10-32)
2	150-1733	1	Joint, Ball	9	813-0100	2	Screw, Round Head Machine (#10-32 x 1/2")
3	115-0025	1	Nut, Tappet (1/4-28UNF)	10	304-0831-03	1	Bracket (24V)
4	150-2555	1	Link, Solenoid Spec A	11	304-0796	2	Washer, Centering (24V)
	150-2706	1	Begin Spec B	12	350-1238	1	Resistor (24V)
5	306-4081	1	Clip, Rod End	13	856-0003	1	Washer, EIT (#10) (24V)
6	150-2668-02	1	Bracket, Solenoid Spec A	14	813-0112	1	Screw, Round Head Machine (#10-32 x 2.5") (24V)
	150-2699-02	1	Begin Spec B				

# Cooling System



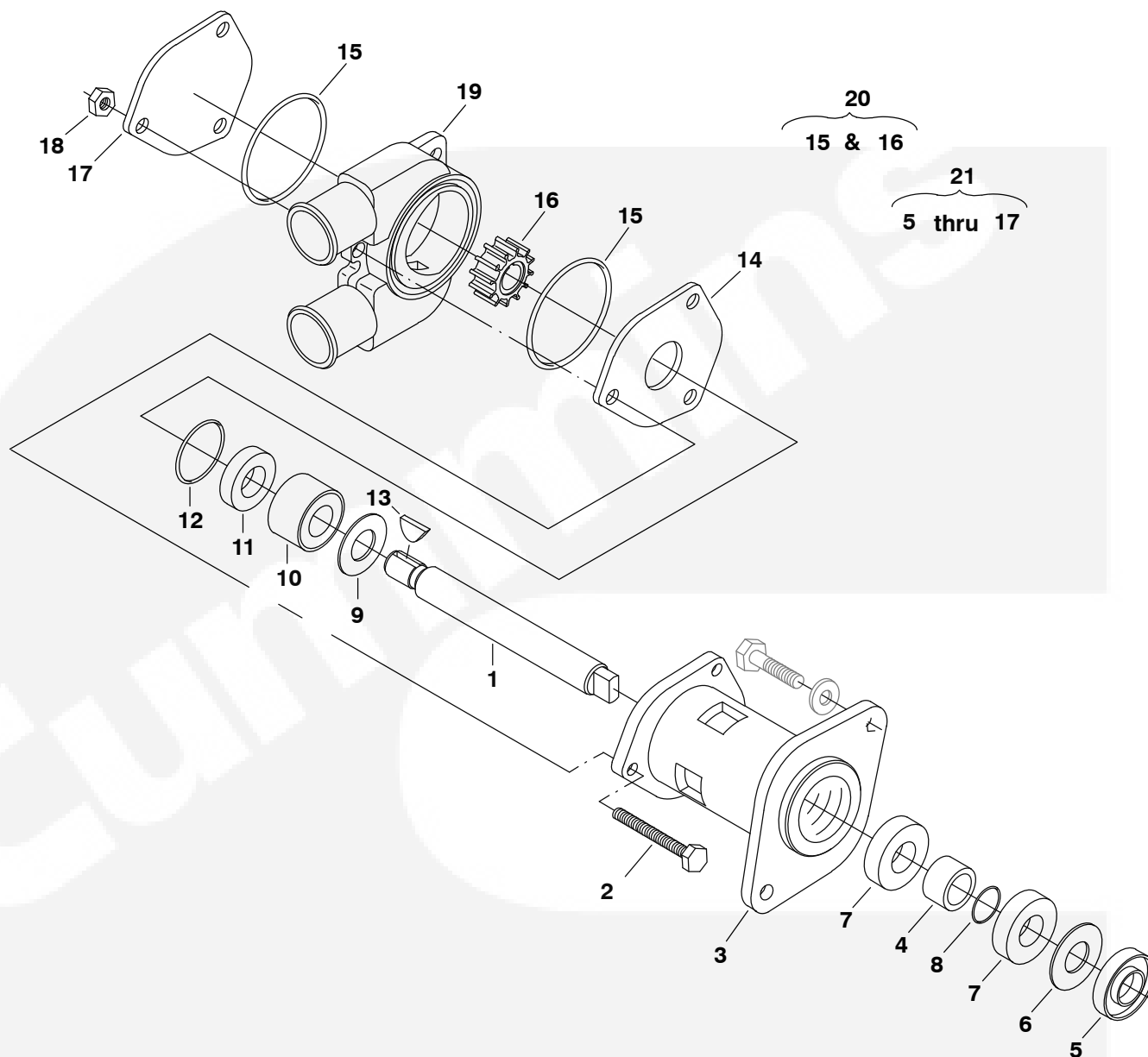
## Cooling System

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-4985-03	1	Exchanger, Heat	17	800-3017-22	1	Screw, Hex Head Cap (M8 x 1.25 x 35mm)
2	130-5169	1	*Cover, End	18	821-6002-02	1	Screw, Hex Head Sems (M6 x 1 x 12mm)
3	800-0317	1	*Screw, Hex Head (5/16-18)	19	850-0114-53	2	Washer, Lock (M6)
4	130-5170	1	*Gasket, End Cover	20	850-0114-54	2	Washer, Lock (M8)
5	509-0351	1	*O'Ring	21	862-0026-54	2	Nut, Hex (M6 x 1mm)
6	130-4739-03	1	Bracket, Heat Exchanger	22	862-0026-55	1	Nut, Hex (M8 x 1.25)
7	130-4740-03	1	Strap, Mounting	23	508-0210	2	Edging, Heat Exchanger Bracket (2" x 45mm)
8	132-0358	1	Pump, Water (See Separate Page for Components)	24	185-6579	1	Gasket, Water Pump
9	503-1136	2	Clamp, Hose	25	130-4434	1	Pencil, Zinc
10			Clamp, Hose	26	130-4803-02	1	+Tube, Water
	503-1137	2	Code E092	27	503-2086	1	+Hose, Coolant
	503-1137	6	Code E079	28	503-1137	2	+Clamp, Hose
11	503-2047	1	Hose, Coolant	29	130-5176	1	Kit, Cap (Includes Parts Marked *)
12	503-2096	1	Hose, Coolant				
13	503-2049	1	Hose, Coolant				
14	503-2050	1	Hose, Coolant				
15			Clamp, Hose				
	518-0548-05	2	Code E079				
	518-0548-05	1	Code E092				
16	800-3017-19	1	Screw, Hex Head Cap (M8 x 1.25 x 20mm)				

\* - Parts Included in Heat Exchanger Cap Kit.  
+ - Parts Included in Sound Shield Kit Listed on Sound Shield Page.



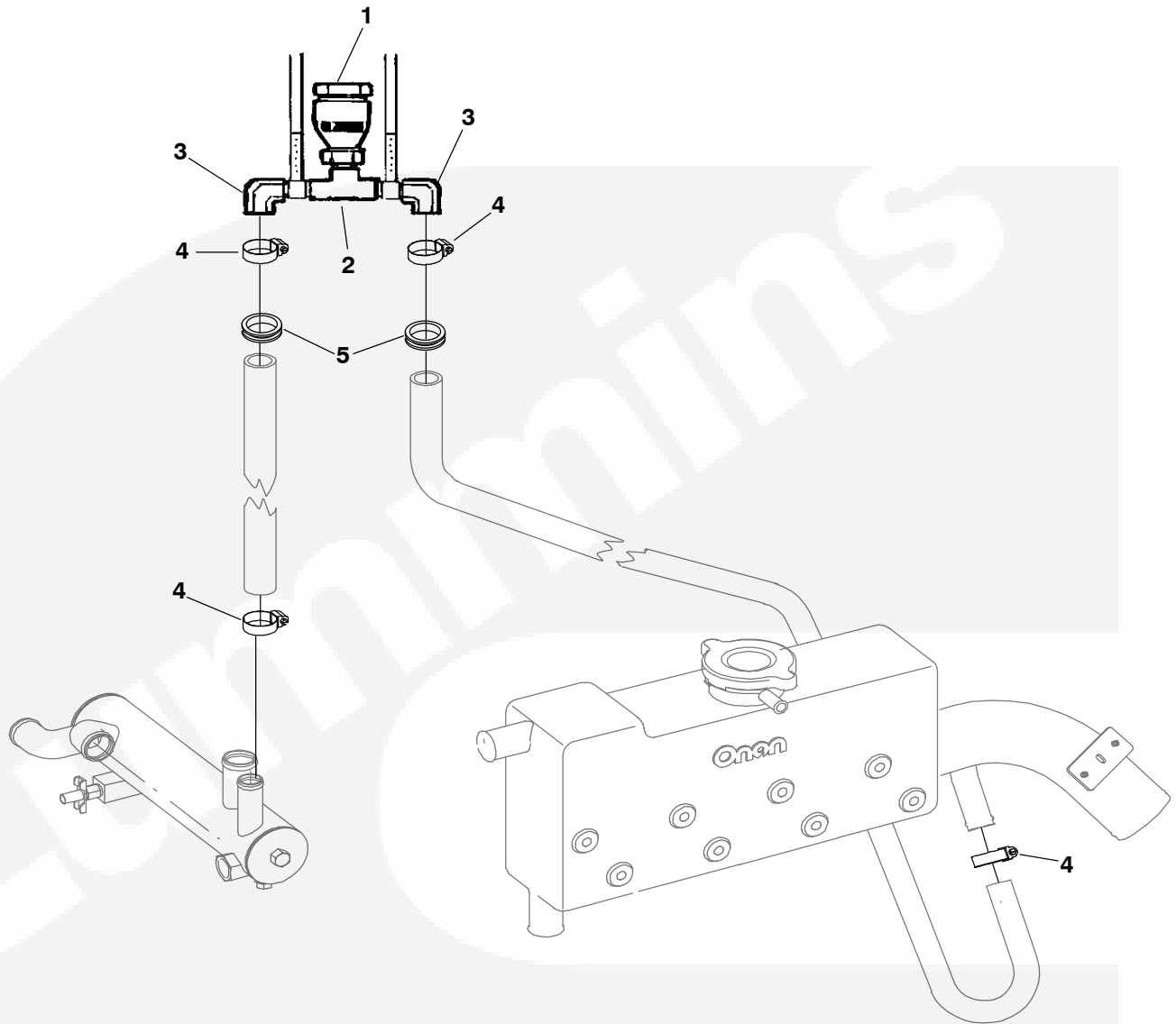
## Raw Water Pump Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	132-0358	1	Pump, Water	14	132-0371	1	+Plate, Wear
1	132-0360	1	Shaft	15	132-0372	2	*+O'Ring
2	132-0376	3	Bolt	16	132-0375	1	*+Impeller
3	132-0362	1	Body	17	132-0373	1	+Plate, Cover
4	132-0367	1	Spacer	18	132-0377	3	Nut
5	132-0361	1	+Seal, Lip	19	132-0378	1	Housing
6	132-0363	1	+Ring, Internal Retaining	20	132-0379	1	Kit, Minor Service (Includes Parts Marked *)
7	132-0364	2	+Bearing, Ball	21	132-0380	1	Kit, Major Service (Includes Parts Marked +)
8	132-0365	1	+Ring, External Retaining				
9	132-0368	1	+Washer,				
10	132-0366	1	+Seal, Mechanical				
11	132-0369	1	+Seat, Seal				
12	132-0370	1	+O'Ring				
13	132-0374	1	+Key				

\* - Parts Included in Minor Service Kit.  
 + - Parts Included in Major Service Kit.

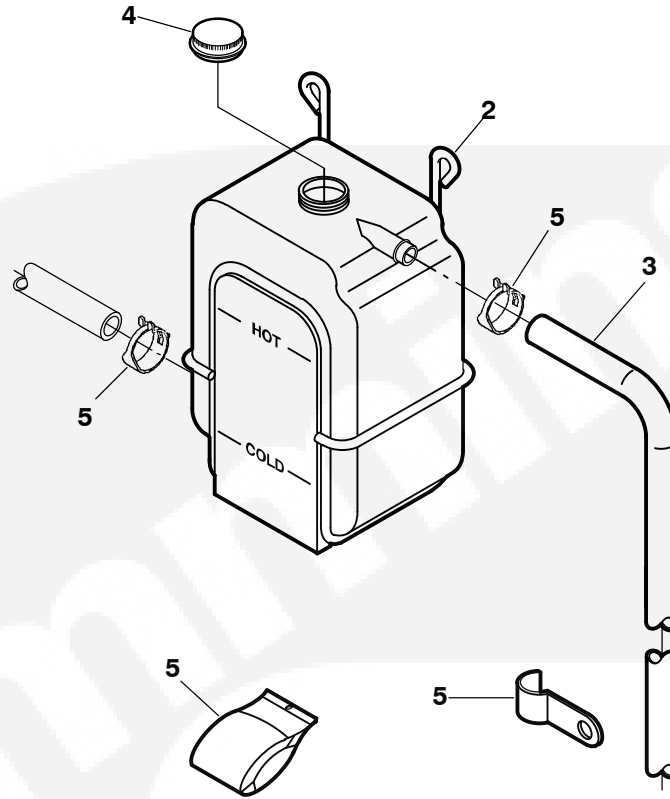
## Vacuum Relief Valve



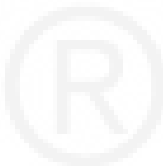
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	541-0876-01	1	Kit, Siphon Break	3	502-0915	2	Elbow, 90 Hose (1/2 Npt X 3/4")
1	504-0062	1	Valve, Vacuum Relief	4	503-0977	4	Clamp, Hose (#10)
2	502-0161	1	Tee (1/2")	5	508-1102	2	Grommet (Housed Units)



## Coolant Recovery Tank

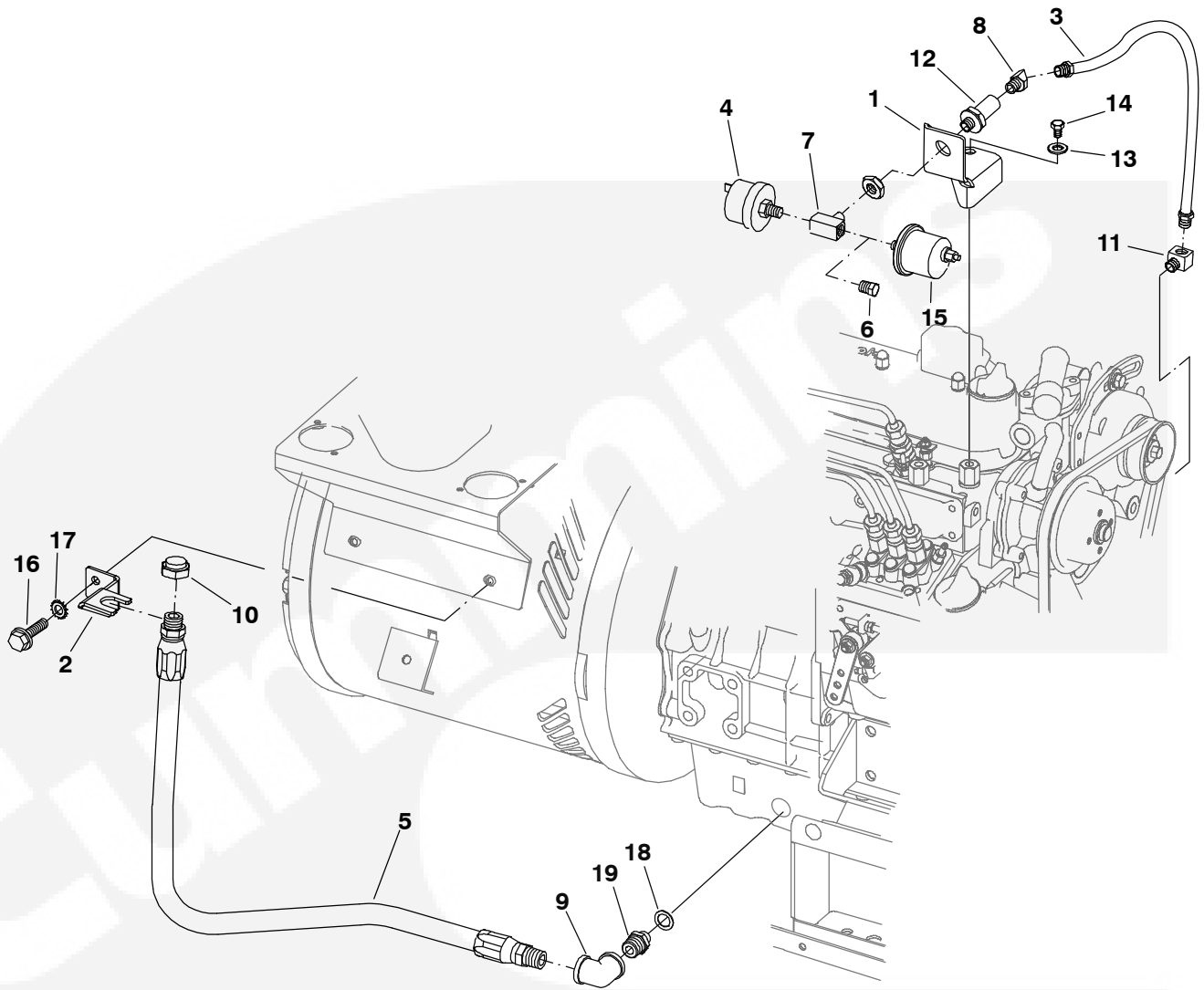


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	130-3574	1	Kit, Coolant Recovery	4	130-3572	1	Cap, Tank
1	130-3570	1	Tank, Recovery	5	130-3573	1	Hardware Package (Includes Mounting Hardware)
2	130-3571	1	Hanger, Tank				
3	503-1692	1	Hose (5/16 I.D. x 120" Lg.)				





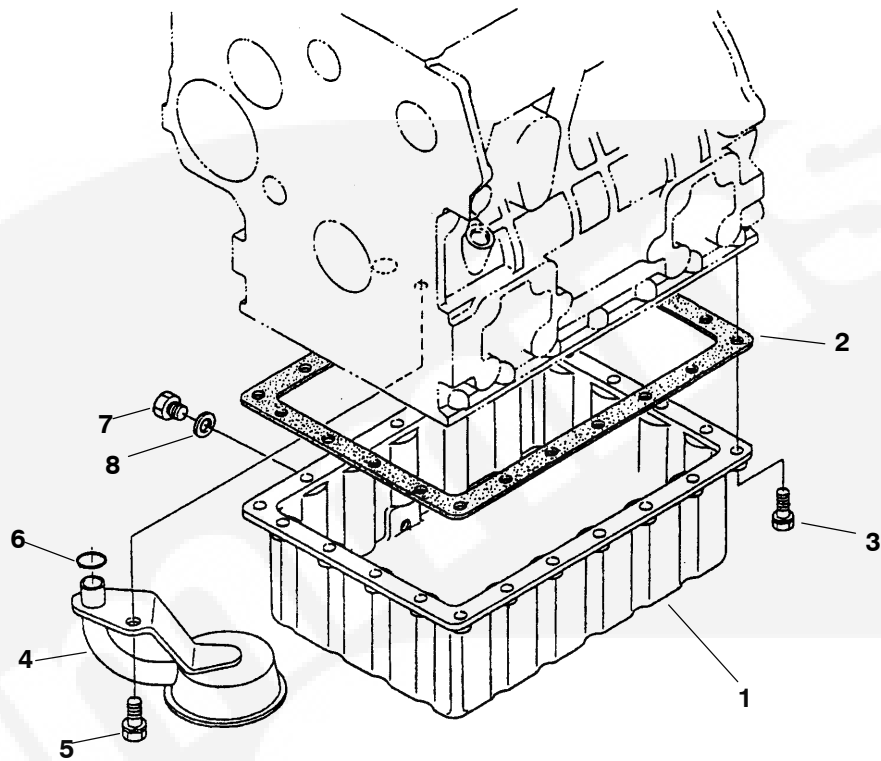
## Oil System



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	120-1330-03	1	Bracket, Oil Pressure Switch	15			*Sender, Oil Pressure (E1)
2	120-1331-03	1	Bracket, Oil Drain	193-0244		1	Negative Ground (B200, B201)
3	122-0832	1	Line, Oil	193-0430-01		1	Isolated Ground (B380)
4	309-0641-05	1	Switch, Pressure (S4) Negative Ground (B200, B201)	16	815-0236	1	Screw, Hex Head Cap (5/16-18 x .62")
	309-0641-03	1	+ Isolated Ground (B380)	17	853-0040-55	1	Washer, ET (M8)
5	501-0624	1	Hose, Oil Drain	18	185-5495	1	Washer
6	502-0028	1	Plug, Hex Head Pipe	19	102-1485	1	Adapter, Oil Drain
7	502-0057	1	Tee, Special Pipe				
8	502-0065	1	Elbow, Inverted Male				
9	502-0263	1	Elbow, Pipe				
10	502-1123	1	Cap, Pipe				
11	502-1309	1	Elbow, 90° Male				
12	502-1244	1	Coupling, Anchor				
13	526-0399-60	2	Washer, Flat (M8)				
14	800-3017-17	2	Screw, Hex Head Cap (M8 x 1.25 x 12mm)				

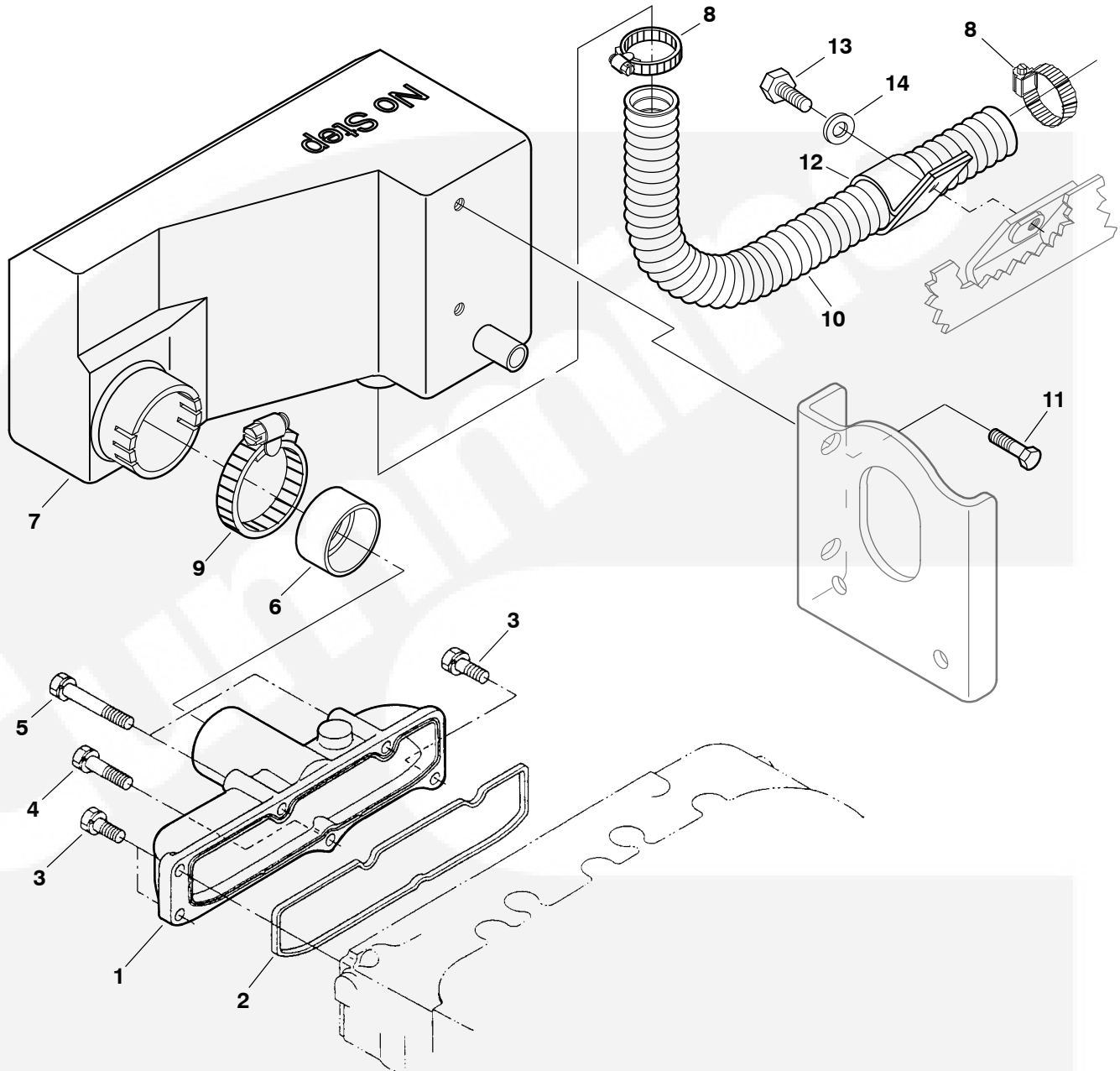
\* - Sender Included in Sender Kit Listed on Water Flange Page.  
+ - Switch Included in Isolated Ground Kit Listed on Isolated Ground Page

## Oil Pan



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7213	1	Pan, Oil	5	185-6762	1	Bolt
2	185-7214	1	Gasket, Oil Pan	6	185-3078	1	O'Ring
3	185-2389	22	Bolt	7	185-2096	1	Plug
4	185-7215	1	Tube, Oil Pickup	8	185-2343	1	Gasket

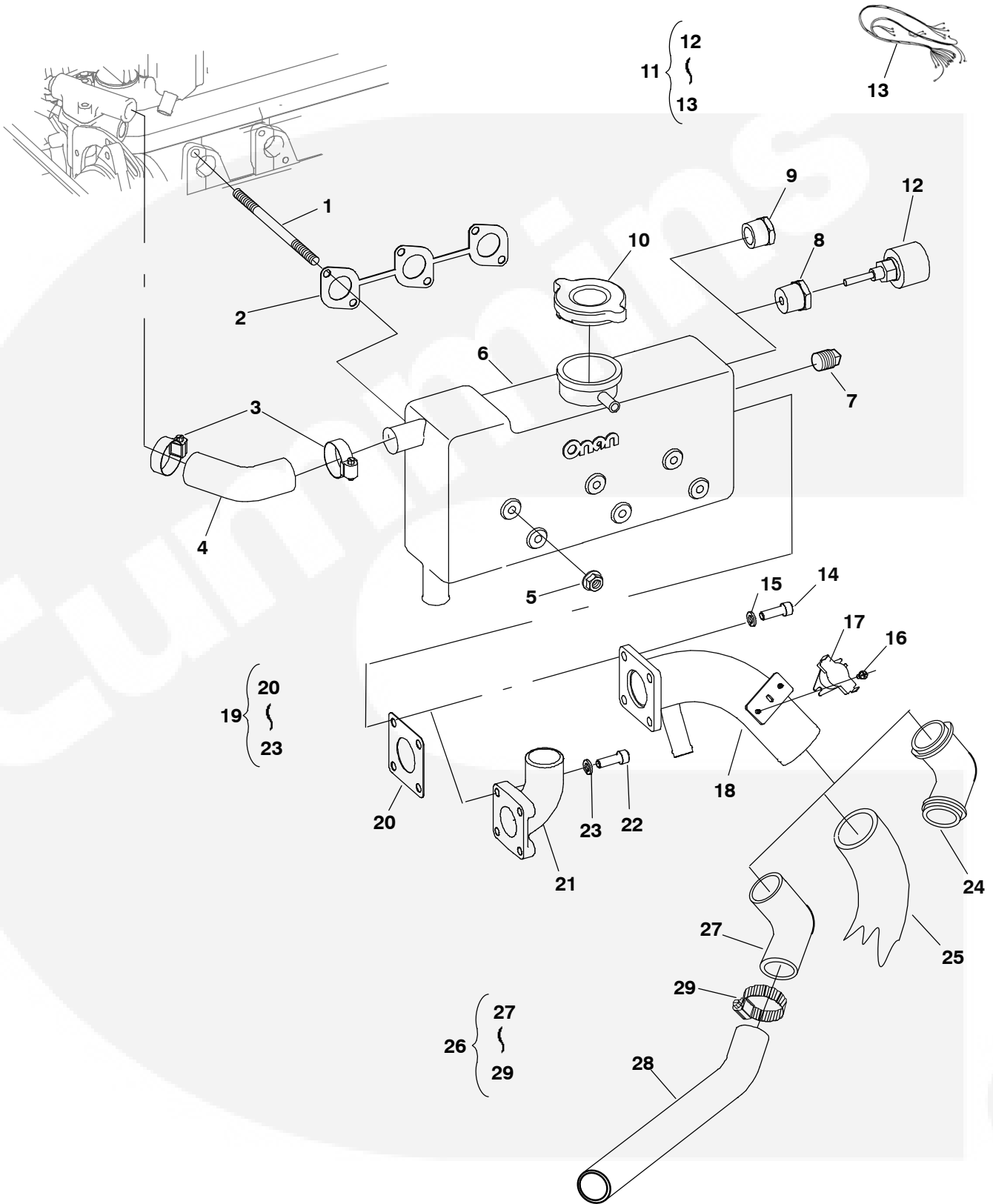
## Resonator



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6927	1	Manifold, Intake (Includes Gasket)	11	821-6002-02	2	Screw, Hex Head Sems (M6 x 1 x 12mm)
2	185-6926	1	Gasket	12	503-1950	1	Clamp
3	185-2389	3	Screw, Hex Head (M6 x 18mm)	13			Screw, Hex Head Sems (M8 x 16mm)
4	185-6677	1	Screw		800-3017-17	1	Spec A (M8 x 1.25 x 12mm)
5	185-7069	2	Screw, Hex Head (M6 x 50mm)		821-6003-01	1	Begin Spec B (M8 x 16mm)
6	140-2898	1	Sleeve, Air Intake	14	526-0399-60	1	Washer (M8) (Spec A)
7	140-3078	1	Resonator, Intake				
8	503-1138	2	+Clamp, Hose				
9	503-1141	1	Clamp, Hose				
10	503-2072-01	1	Hose, Air Intake				

+ - Clamp (qty1) Included in Sound Shield Kit Listed on Sound Shield Page.

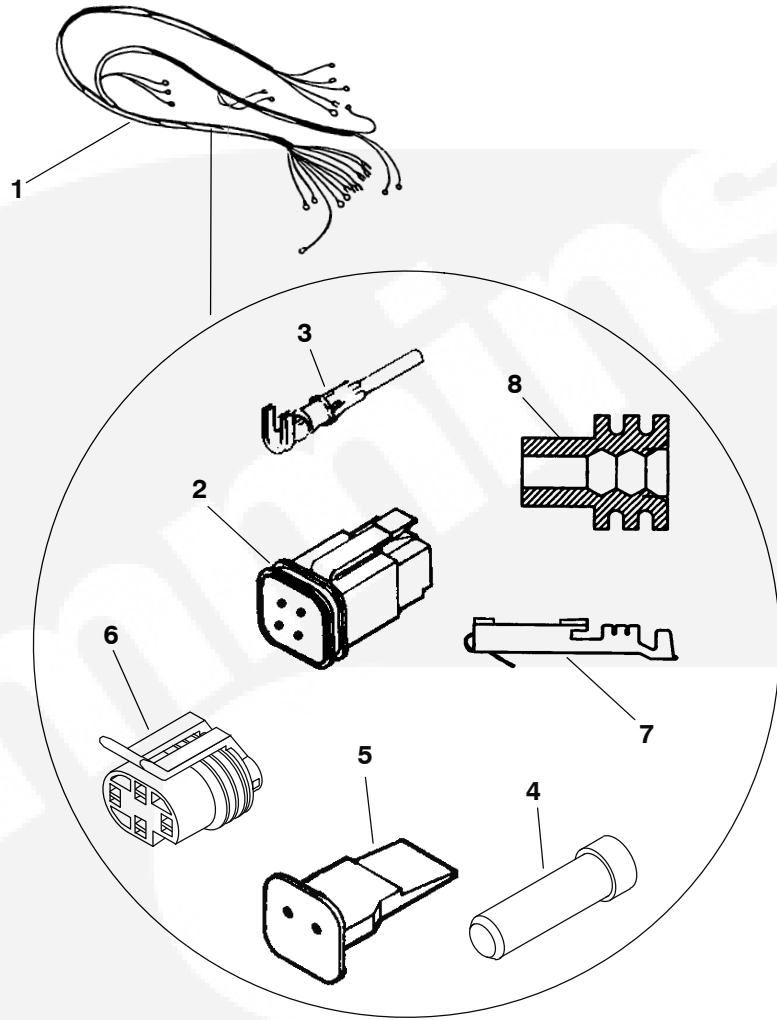
# Exhaust Manifold



## Exhaust Manifold

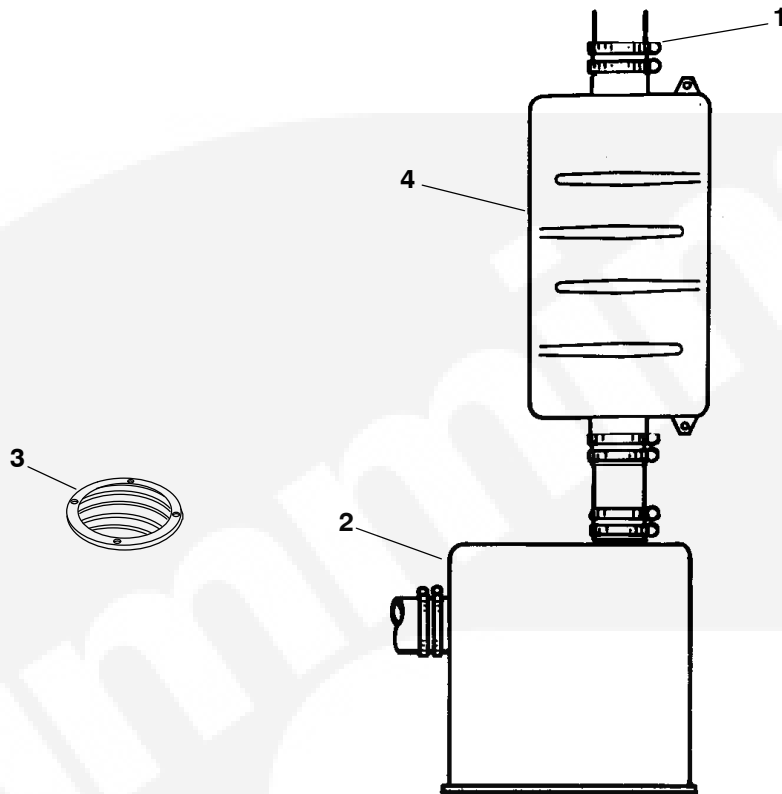
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-7110	6	Stud, Exhaust Manifold	17	309-0295	1	Switch, Temperature (E086) (S5)
2	185-6925	1	Gasket	18	155-3261-02	1	Mixer (E086)
3	503-1137	2	Clamp, Hose	19	155-3146	1	Kit, Dry Exhaust (Includes Elbow, Gasket, Screws and Washers)
4	503-2046	1	Hose, Coolant	20	185-6853	1	Gasket
5	185-6699	6	Nut (M7 x 1mm)	21	155-2666-01	1	Elbow, Exhaust (A148)
6	154-3020	1	Manifold	22	800-3017-21	4	Screw, Hex Head Cap (M8 x 1.25 x 30 ) (A148)
7	502-0153	1	Plug, Hex Pipe (1/4)	23	850-0114-54	4	Washer, Lock (M8)
8	502-0029-06	1	Bushing, Reducer (3/4-1/4") (H549)	24	155-2033	1	Elbow, 90° Exhaust Elbow (2")
9	502-0820	1	Plug, Pipe (3/4 NPT) (W/O H549)	25	503-1963-04	1	Hose, Exhaust 2" x 3'
10	130-3721	1	Cap, Manifold		503-1963-05	1	2" x 5'
11	300-5197	1	Kit, Low Coolant Sender (Includes Sender and Harness)		503-1353	1	2" x 10'
12	193-0468	1	Sender, Low Coolant (S3) (H549)		503-1320	1	2" (Bulk Hose)
13	338-3711	1	Harness, Low Coolant (H549) (See Separate Page for Components)	26	155-3240	1	Kit, Exhaust (Includes Elbow, Tube, Clamps and Grommet Listed on Sound Shield Front Panel Page)
14	815-0916	4	Screw, Socket Head Cap (E086) (M8 x 1.25 x 25mm)	27	503-1527	1	Elbow, Molded Exhaust
15	850-0114-54	4	Washer, Lock (M8)	28	155-3233	1	Tube, Exhaust
16	815-0862	2	Screw, Pan Head Cross (E086) Recessed (M4 x 0.7 x 10mm)	29	503-1142	4	Clamp, Hose

## Low Coolant Harness



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-3711	1	Harness, Low Coolant (H549)	5	323-1548	1	Wedge, Plug (4 Pin)
2	323-1546	1	Plug, Connector (4 Pin)	6	323-1765	1	Housing, Connector (4 Pin)
3	323-1492	AR	Terminal, Socket	7	323-1709	AR	Socket, Terminal
4	323-1591	AR	Plug, Connector	8	323-1708	AR	Seal, Cable

## Resonator/Muffler



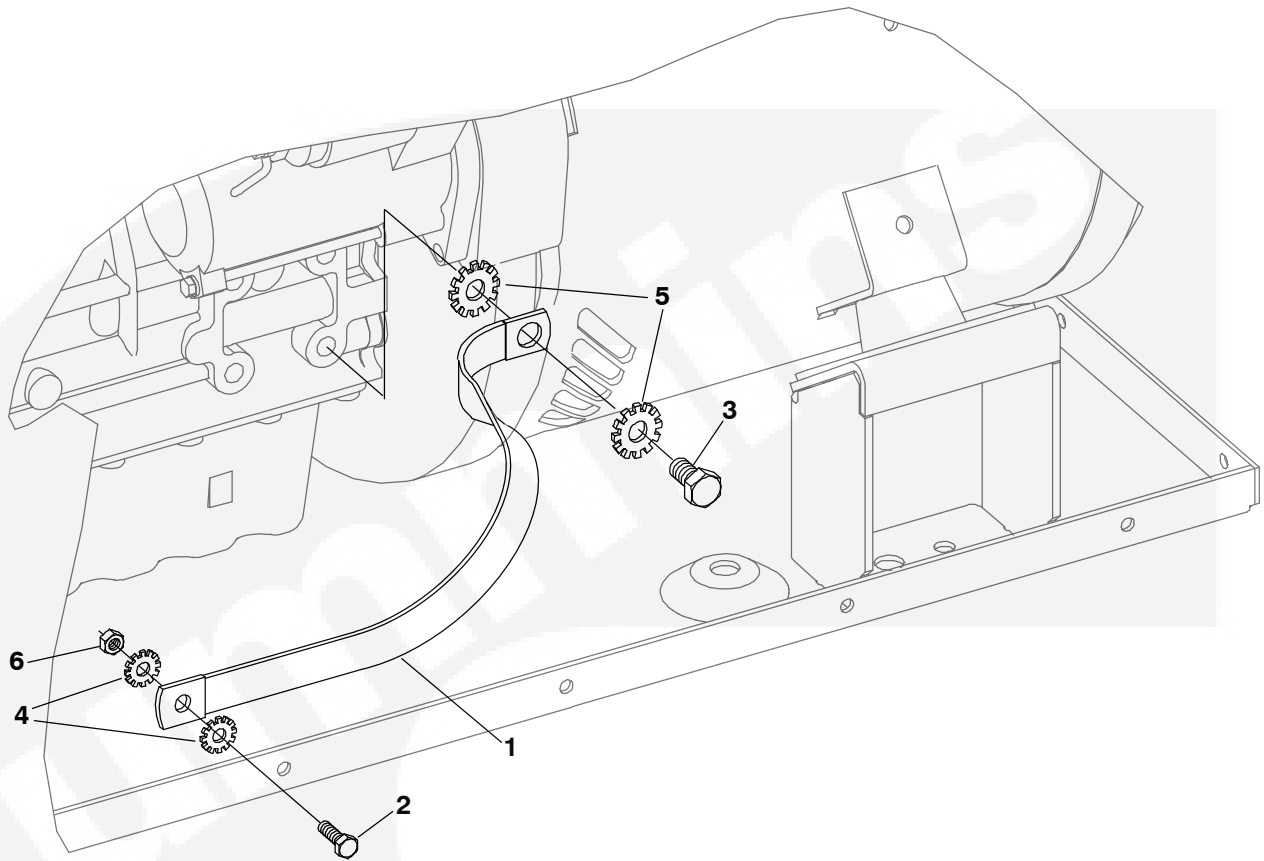
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	155-3147	1	Kit, Marine Muffler	3	155-1002	1	Strainer, Slotted
1	503-1142	12	Clamp, Hose	4	155-3149	1	Resonator, Marine (2")
2	155-2029	1	Muffler, Marine				



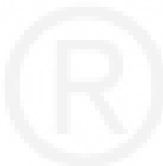




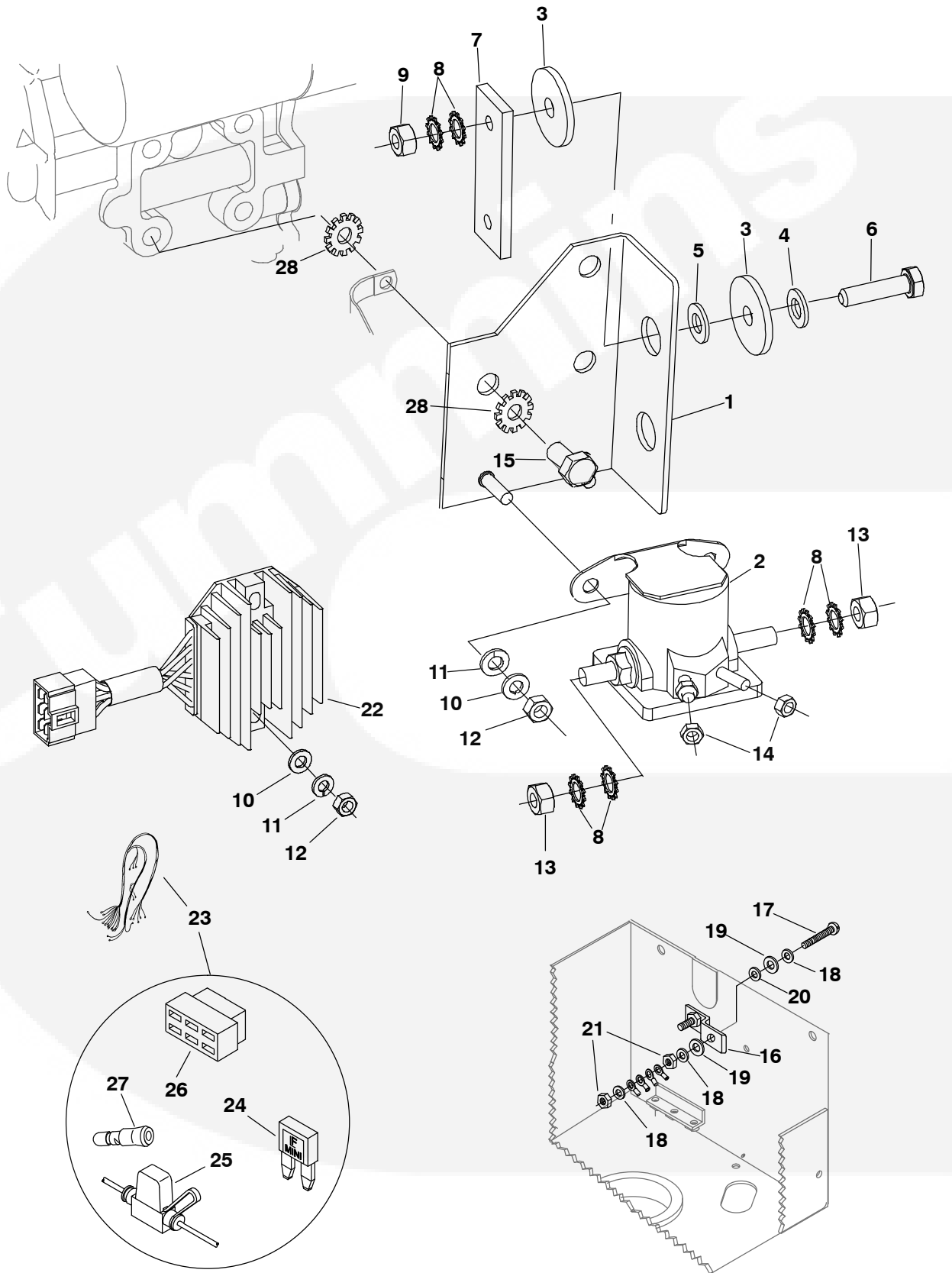
## Negative Ground



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	337-2785	1	Strap, Bond	4	856-0006	2	Washer, ET (1/4")
2	800-3017-04	1	Screw, Hex Head Cap (M6 x 1 x 20mm)	5	853-2010	8	Washer, ET Lock (M10)
3	800-3030	4	Screw, Hex Head Cap (M10 x 1.25 x 20mm)	6	862-0026-54	1	Nut, Hex (M6 x 1mm)



# Isolated Ground



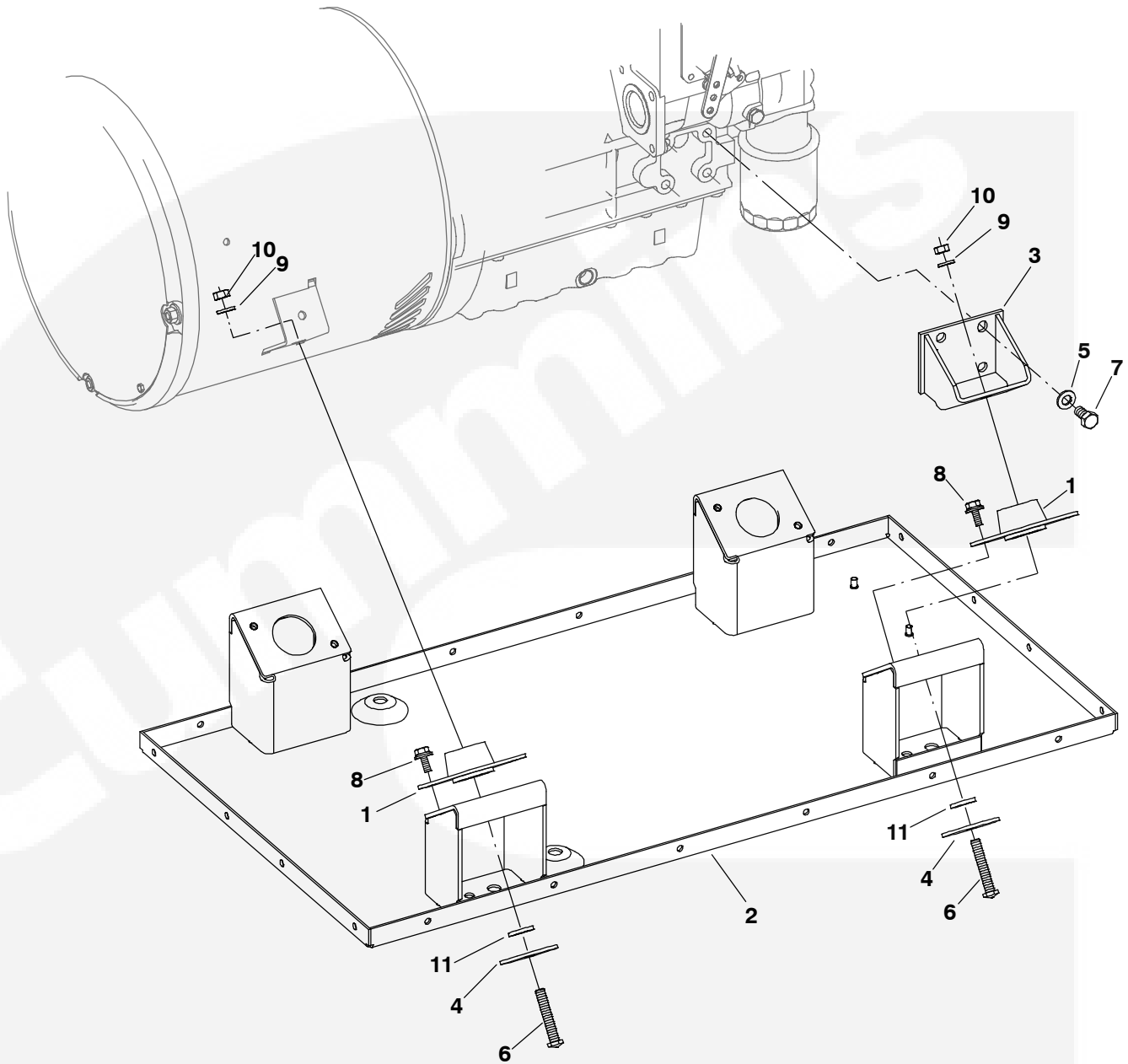
## Isolated Ground

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			*Kit, Isolated Ground	15	800-3030	4	Screw, Hex Head Cap (M10 x 1.25 x 20mm)
	300-5122	1	Spec A				
	300-5170	1	Begin Spec B	16	337-3034-02	1	Strip, Isolated Ground
1			Bracket, Solenoid	17	811-0105	1	Screw, Round Head Brass Machine (#10-32 x 1")
	191-2262-03	1	Spec A				
	191-2273-03	1	Begin Spec B	18	526-0049	3	Washer, Flat Brass(#10)
2	307-1617	1	Relay, Solenoid	19	508-0017	2	Washer
3	508-0328	4	Washer, Insulation	20	508-0016	1	Washer
4	526-0399-60	2	Washer, Flat (M8)	21	871-0010	2	Nut, Hex Brass Machine (#10-32)
5	508-0334	2	Washer, Insulation				
6	815-0920	2	Screw, Brass Hex Head Cap	22	191-2095	1	Regulator, Voltage (Spec A)
7	337-3031	1	Strip, Ground	23	338-3675	1	Harness, Isolated Ground (Includes Fuse, Holder and Connectors) (Spec A)
8	853-0016	8	Washer, ET Lock (5/16")				
9	871-0025	2	Nut, Hex Brass (5/16-18)				
10			Washer, Flat (M6)	24	321-0307-06	1	Fuse (15A, Lt Blue)
	526-0399-58	4	Spec A	25	321-0325	1	Holder, Fuse
	526-0399-58	2	Begin Spec B	26	323-1573	1	Connector, Plug
11			Washer, Lock (M6)	27	332-3279	AR	Connector, Bullet
	850-0114-53	4	Spec A	28	853-2010	2	Washer, ET Lock (M10)
	850-0114-53	2	Begin Spec B				
12			Nut, Hex (M6)				
	862-0026-54	4	Spec A				
	862-0026-54	2	Begin Spec B				
13	862-0026-30	2	Nut, Hex (5/16-24)				
14	870-0131-01	2	Nut, ET Hex (#10-32)				

\* - Kit also includes Oil Pressure and Water Temperature Switches found on Oil System and Water Flange Pages.

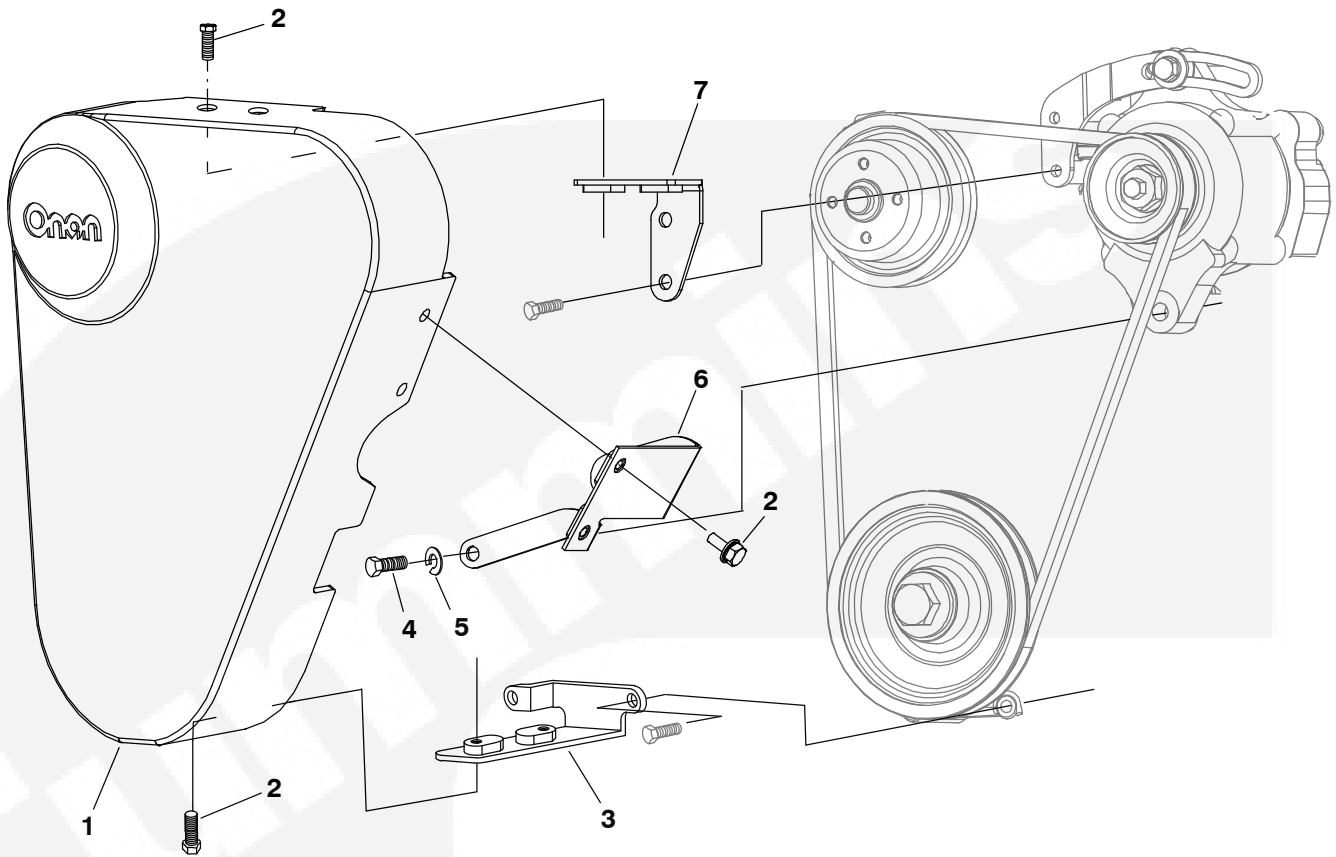


## Mounting Base



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	402-0728	4	Isolator, Vibration (Blue Dot, 150lbs)	7	800-3030	8	Screw, Hex Head Cap (M10 x 1.25 x 20mm)
2	403-4127-02	1	Pan, Drip	8	821-6003-01	8	Screw, Hex Head Sems ((M8 x 1.25 x 16mm)
3	403-4168-03	2	Mount, Engine Spec A (Black)	9	850-0114-07	4	Washer, Lock (3/8")
	403-4168-04	2	Begin Spec B (White)	10	862-0026-07	4	Nut, Hex (3/8-16)
4	526-0325	4	Washer, Flat	11	526-0030	4	Washer, Flat
5	526-0399-62	8	Washer, Flat (M10)				
6	800-0573	4	Screw, Hex Head Cap (3/8-16 x 2.25")				

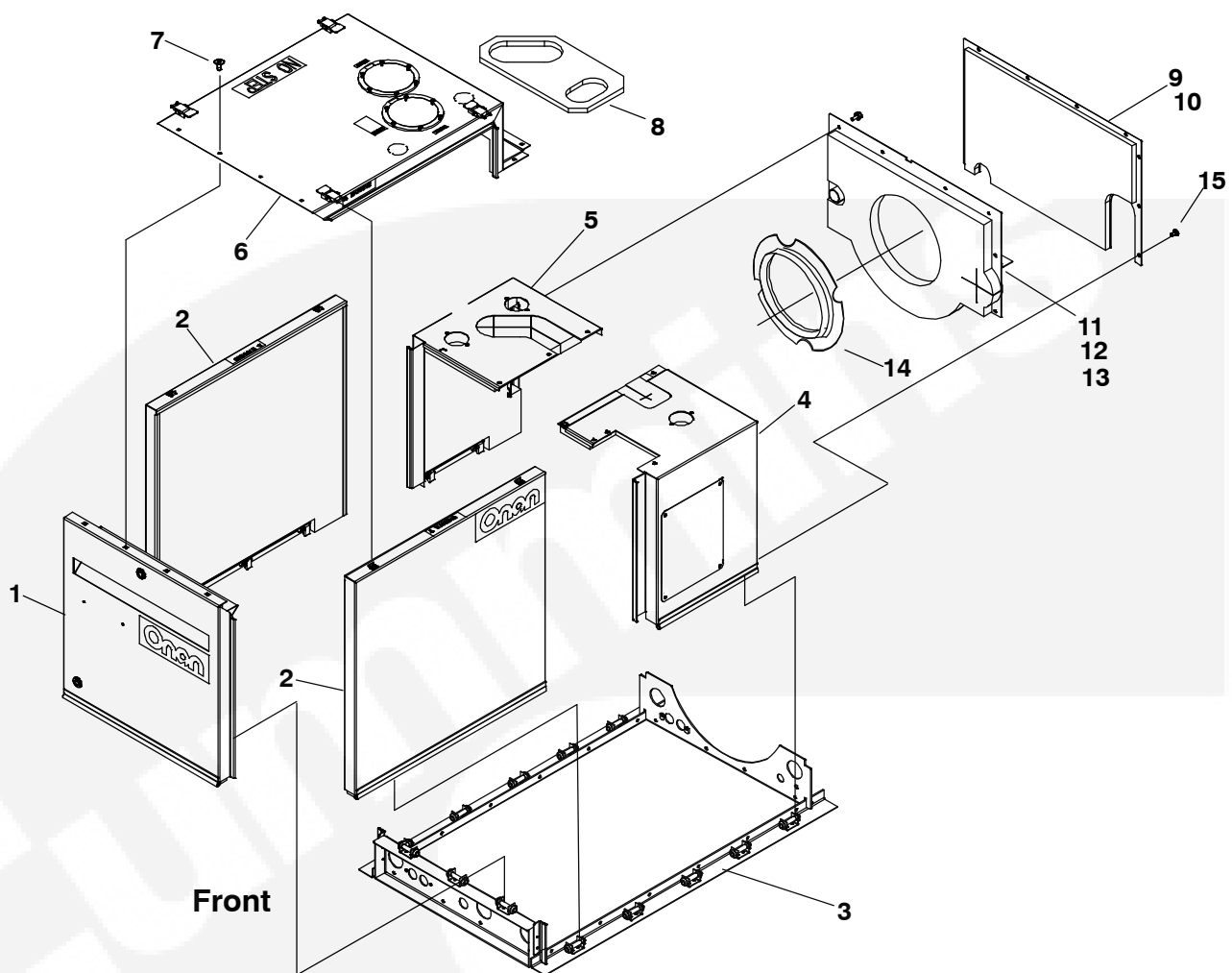
## Belt Guard



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-4703	1	Guard, Belt Spec A	4	800-3017-02	1	Screw, Hex Head Cap (M6 x 12mm)
	130-4870	1	Begin Spec B	5	850-0114-53	1	Washer, Lock (M6)
2			Screw, Hex Head Sems (M6 x 1 x 12mm)	6	130-4945-03	1	Bracket, Belt Guard
	821-6002-02	4	Spec A	7			Bracket, Belt Guard
	821-6002-02	6	Begin Spec B	130-4752-04	1	Spec A	
3			Bracket, Belt Guard	130-4847-03	1	Begin Spec B	
	130-4753-04	1	Spec A				
	130-4869-03	1	Begin Spec B				



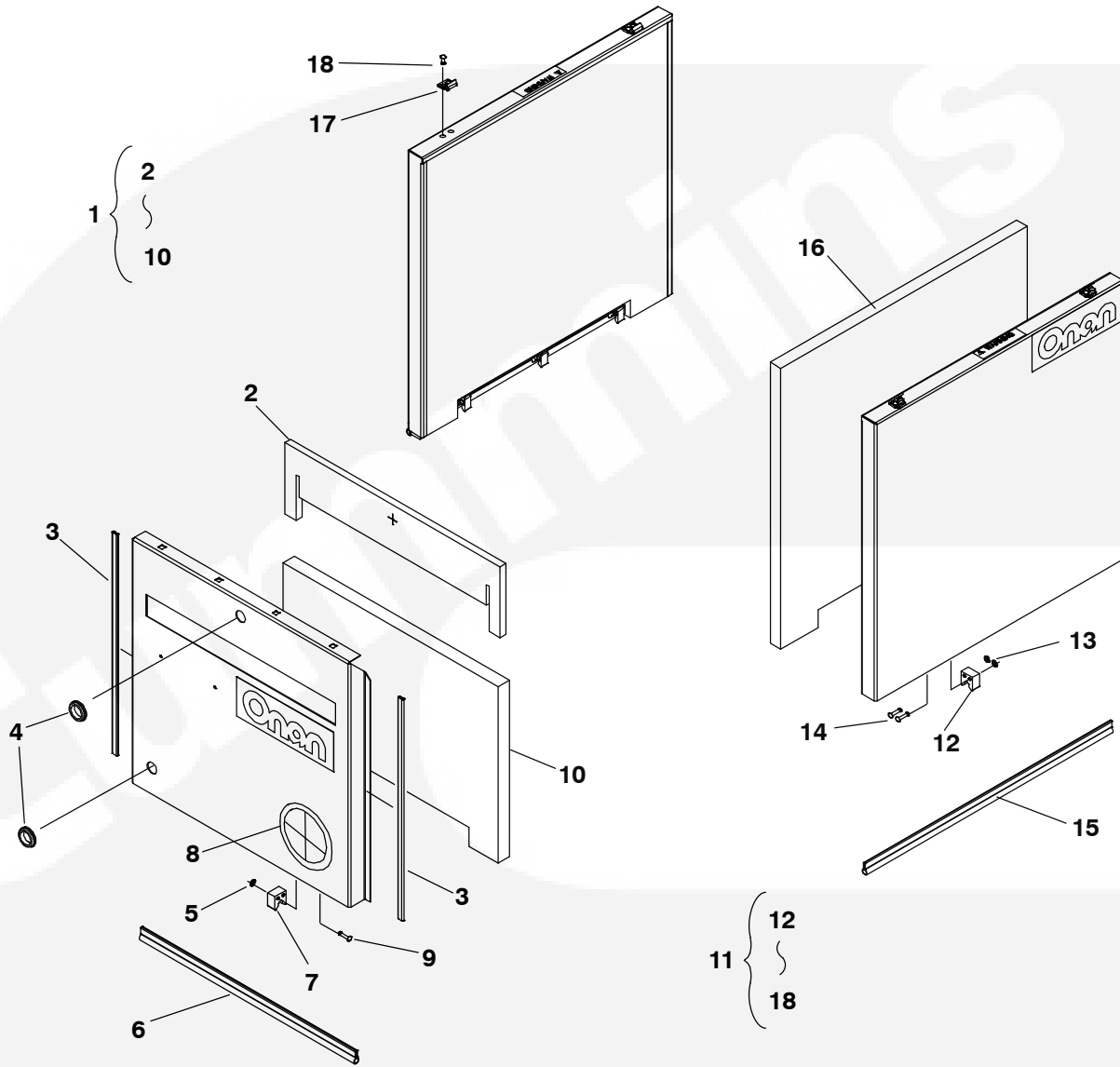
## Sound Shield



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	405-6081	1	+Kit, Sound Shield (Includes all Parts on Following Sound Shield Pages)	12	405-6085	1	@ Insulation, Baffle
1	405-5967-02	1	*Panel Assy, Front	13	508-1095	1	Grommet, Rubber
2	405-5971-02	2	*Door Assy	14			Inlet Assy, Generator (Includes Insulation)
3			*Rail Assy		405-6102	1	Inlet, Generator
	405-6040	1	Left		815-0181	3	Screw, ET Hex Head Thread Cutting (#10-32 x 1/2")
	405-6096-03	1	Rear		405-6100	1	@ Insulation, Inlet Baffle
	405-6063	1	Right		405-6042-03		Spec B
	405-6048	1	Front	15	821-6002-02	8	Screw, Hex Head Sems (M6 x 1 x 12mm)
4	405-6078	1	*Housing Assy, Generator	16	405-6220-02	1	Kit, Insulation (Includes Parts Marked @)
5	405-5977	1	*Housing Assy, Generator				
6	405-5974-02	1	*Roof Assy				
7	815-0765	27	Screw, Truss Head (1/4-20 x 1/2")				
8			@ Insulation, Control Box				
	405-6101	1	Spec A				
	405-6297	1	Begin Spec B				
9	405-5980-02	1	Cover Assy, Generator (Includes Insulation)				
10	405-6086	1	@ Insulation, Cover				
11	405-6082-01	1	Baffle Assy, Generator (Includes Insulation and Grommet)				

+ - Kit Also Includes Water Tube, Coolant Hose and Clamps listed on Heat Exchanger Page and Hose Clamp on Resonator Page.  
 \* - See Separate Page for Components.  
 @- Parts Included in Insulation Kit (Also Includes Parts Marked on Following Housing Component Pages).

## Sound Shield Front Panel and Door Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	405-5967-02	1	Panel Assy, Front (Includes Parts Marked *)
2	405-6104	1	@*Insulation, Front Panel
3	508-0210	2	*Edging (426mm)
4	508-0021	2	*Grommet, Rubber
5	526-0003	6	*Washer, Flat (#8)
6	508-1011	1	*Seal, Edge (478mm)
7	405-1872	3	*Clip, Door
8	508-0115	1	#*Grommet
9	818-0150	6	*Rivet, Drive
10	405-6057	1	@*Insulation, Front Panel
11	405-5971-02	2	Door Assy (Includes Parts Marked +)
12	405-1872	3	+Clip, Door

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
13	526-0003	6	+Washer, Flat (#8)
14	818-0150	6	+Rivet, Drive
15	508-1011	1	+Seal, Edge (708mm)
16	405-6054	1	@+Insulation, Door
17	406-0528-01	2	+Strike, Spring
18	818-0194	4	+Rivet

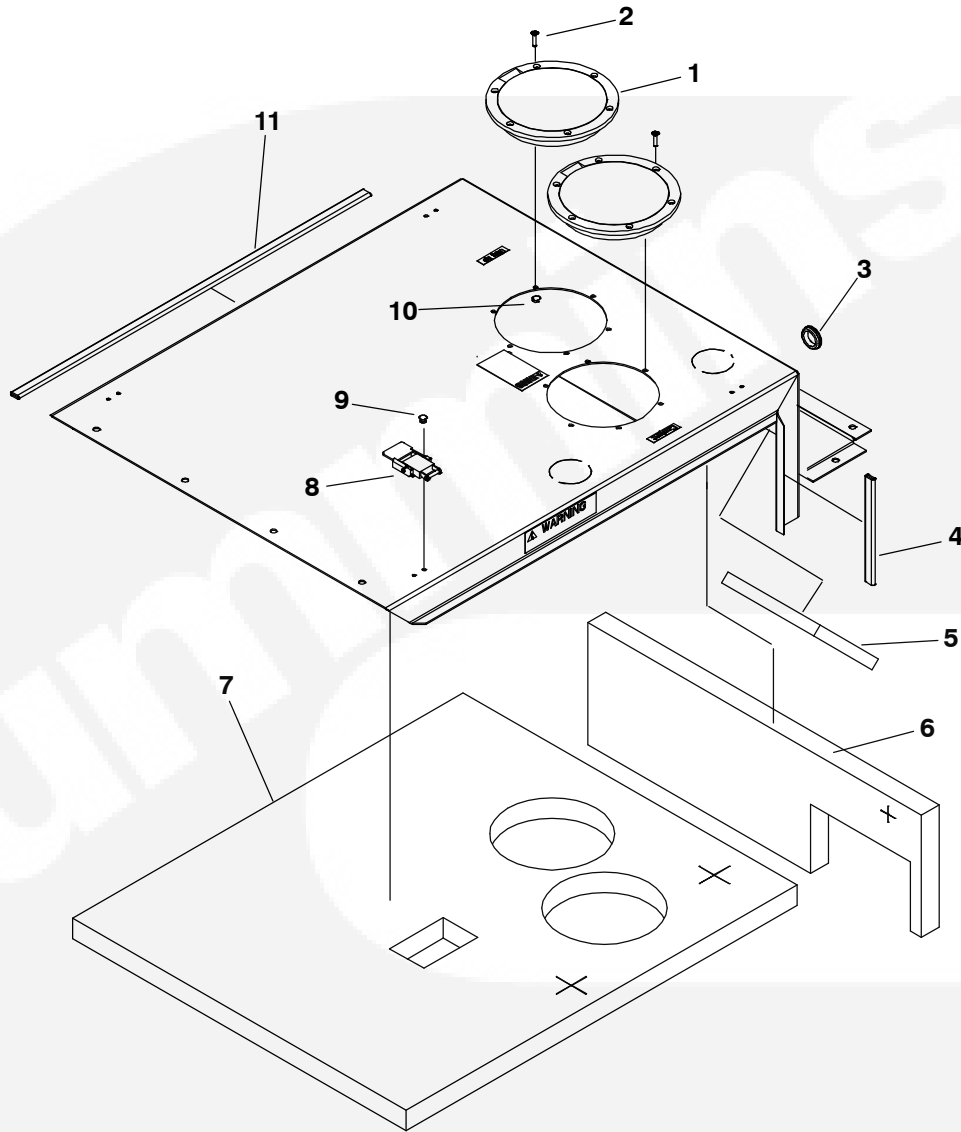
\* - Parts Included in Panel Assy.

+ - Parts Included in Door Assy.

@- Parts Included in Insulation Kit Listed on Sound Shield Page.

# - Grommet Included in Exhaust Kit Listed on Exhaust Manifold Page.

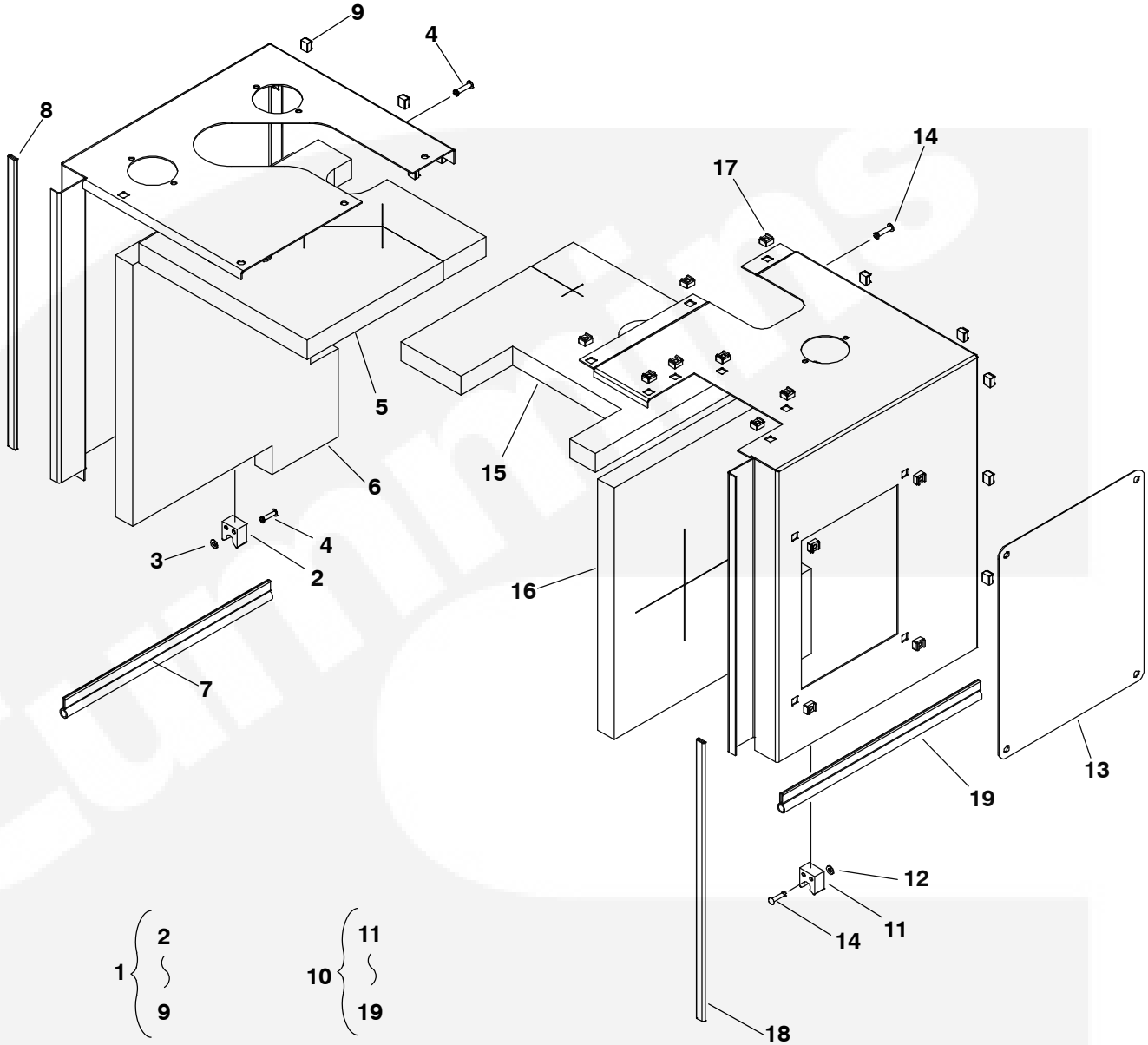
## Sound Shield Roof Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	405-5974-02	1	Roof Assy	7	405-6055	1	@Insulation, Roof
1	405-4714	2	Cover, Access	8	406-0528-02	4	Catch, Spring
2	815-0918	12	Screw, Fillister Head Machine Cross Recessed (#6-32 x .62")	9	818-0194	8	Rivet
3	508-0021	1	Grommet, Rubber	10	860-0007	12	Nut, Hex (#6-32)
4	508-0210	2	Edging (135mm)	11	508-0210	2	Edging (505mm)
5	405-6058	1	@ Insulation, Generator Housing				@- Parts Included in Insulation Kit Listed on Sound Shield Page.
6	405-6056	1	@ Insulation, Roof				



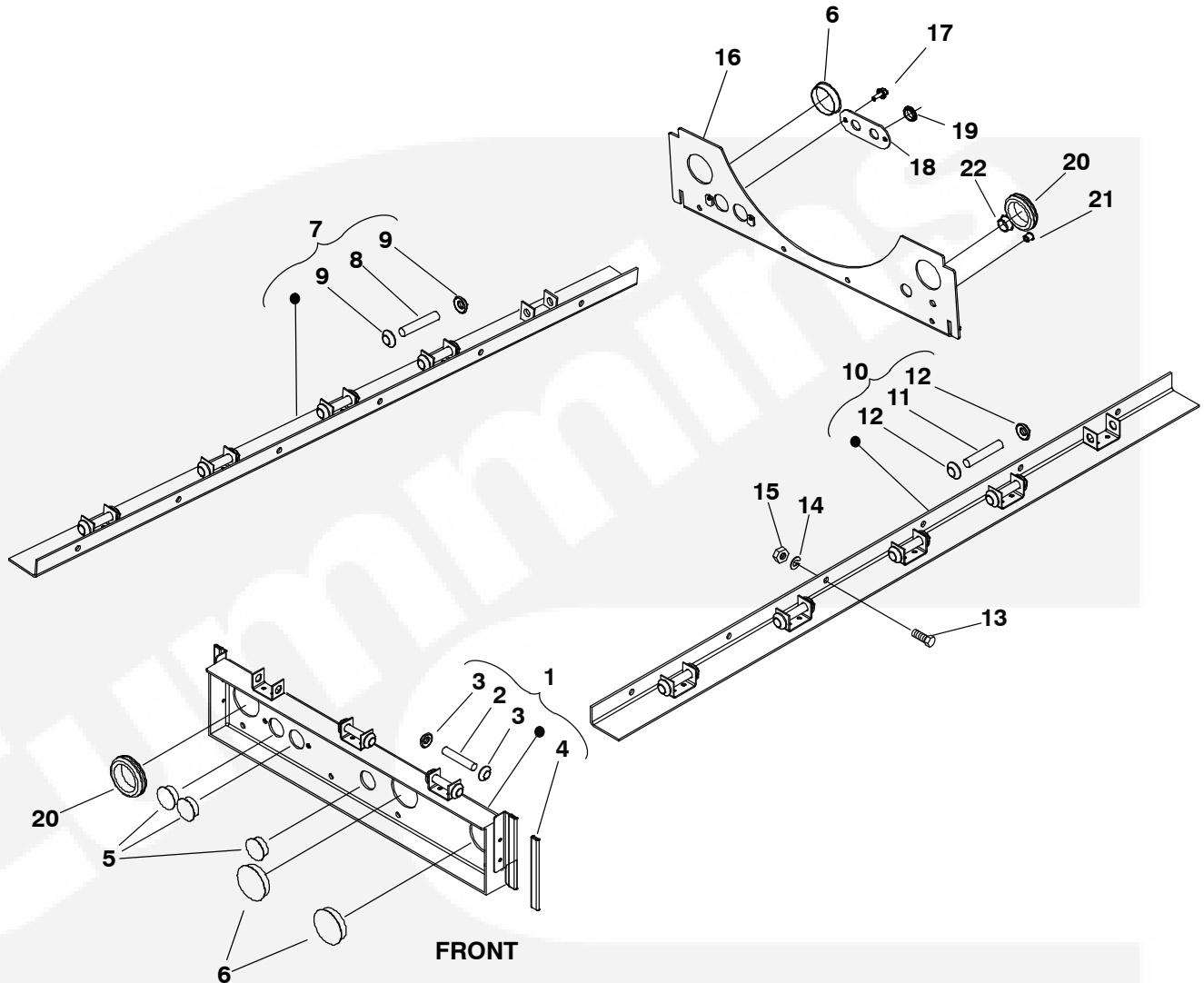
## Sound Shield Generator Housing



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	405-5977	1	Housing Assy, Left Generator (Includes Parts Marked *)	13	405-6043-03	1	Cover, Exhaust Access
2	405-1872	2	*Clip, Door	14	818-0150	4	+Rivet, Drive
3	526-0003	4	*Washer, Flat (#8)	15	405-6060	1	@+Insulation, Generator Housing
4	818-0150	4	*Rivet, Drive	16	405-6059	1	@+Insulation, Generator Housing
5	405-6084	1	@*Insulation Generator Housing	17	870-0110	17	+Nut, Retainer (1/4-20)
6	405-6083	1	@*Insulation, Generator Housing	18	508-0210	1	+Edging (373mm)
7	508-1011	1	*Seal, Edge (306mm)	19	508-1011	1	+Seal, Edge (306mm)
8	508-0210	1	*Edging (373mm)				
9	870-0110	6	*Nut, Retainer (1/4-20)				
10	405-6078	1	Housing Assy, Right Generator (Includes Parts Marked +)				
11	405-1872	2	+Clip, Door				
12	526-0003	4	+Washer, Flat (#8)				

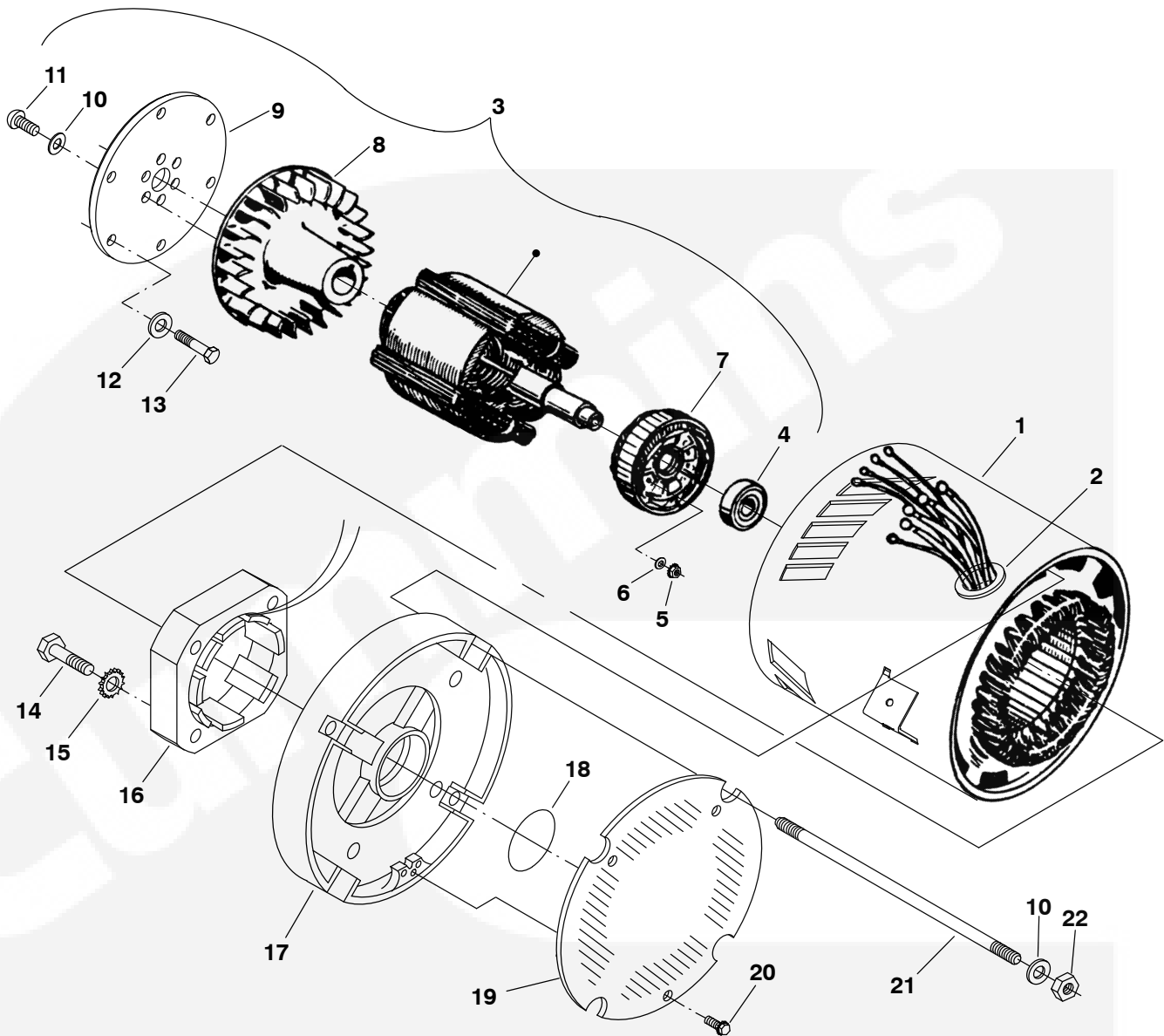
\* - Parts Included in Left Side Generator Housing Assy.  
 + - Parts Included in Right Side Generator Housing Assy.  
 @- Parts Included in Insulation Kit Listed on Sound Shield Page.

## Sound Shield Rail Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	405-6048	1	Rail Assy, Front (Includes, Pins Nuts and Edging)	12	870-0400	10	Nut, Push Cap
2	405-3111	3	Pin, Clip	13	800-3017-02	19	Screw, Hex Head Cap (M6 x 1 x 12mm)
3	870-0400	6	Nut, Push Cap	14	850-0114-53	19	Washer, Lock (M6)
4	508-0210	2	Edging (105mm)	15	862-0026-54	19	Nut, Hex (M6 x 1mm)
5	517-0138	3	Plug (1")	16	405-6096-03	1	Rail, Rear
6	517-0138-07	3	Plug, Hole (1.75")	17	821-6001-02	2	Screw, Hex Head Sems (M5 x 0.8 x 12mm)
7	405-6040	1	Rail Assy, Left (Includes Pins and Nuts)	18	405-6095-03	1	Flange, Bulkhead
8	405-3111	5	Pin, Clip	19	508-1125	2	Grommet
9	870-0400	10	Nut, Push Cap	20	508-1126	2	Grommet
10	405-6063	1	Rail Assy, Right (Includes Pins and Nuts)	21	517-0131	1	Plug, Hole (.38")
11	405-3111	5	Pin, Clip	22	517-0136	1	Plug, Hole (.75")

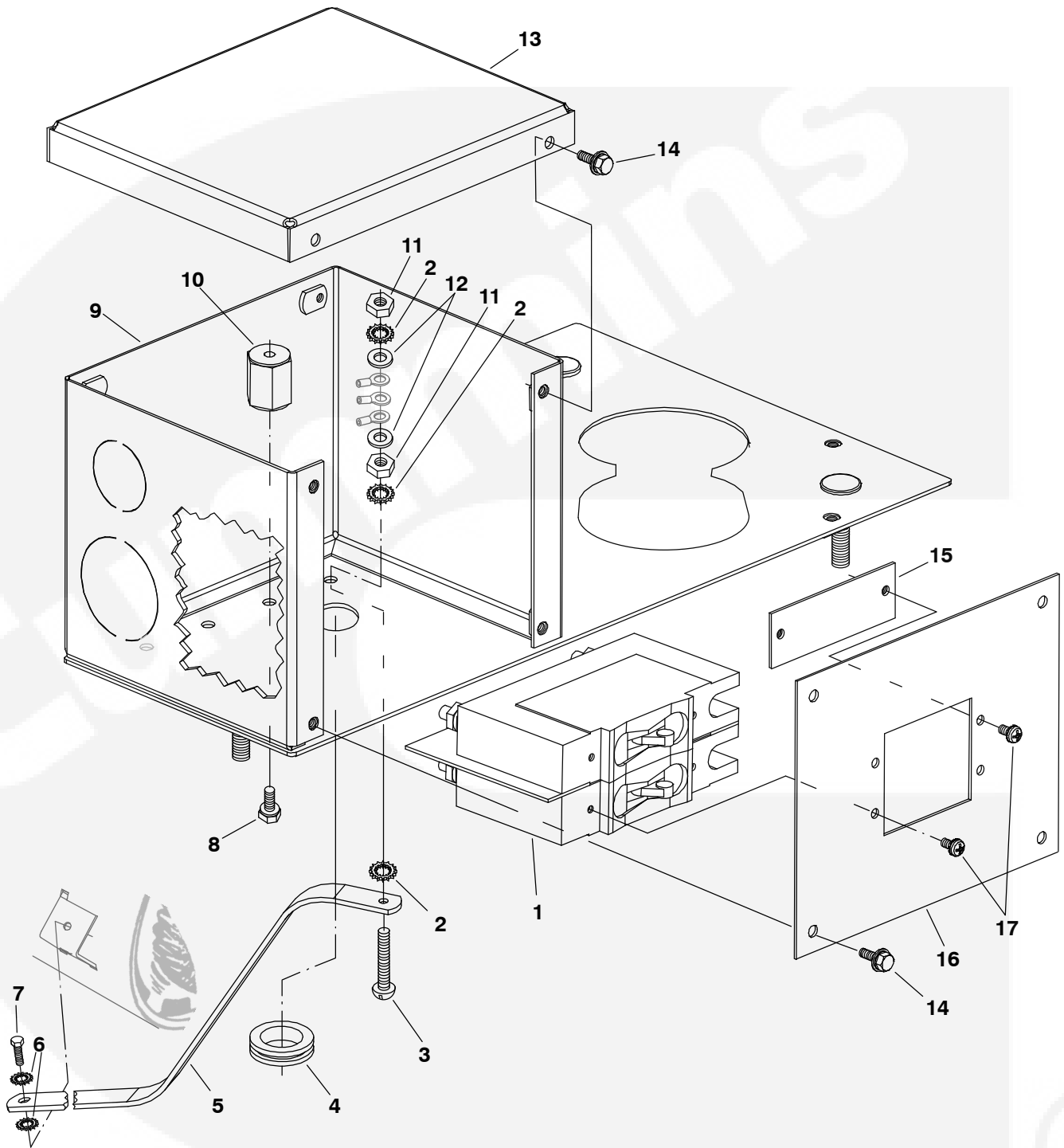
# Generator



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Stator, Generator (Includes Grommet) Spec A	11	815-0917-04	6	°Screw, Button Head Torx (3/8-16 x 1")
	220-4541-01	1	Single Phase	12	526-0399-41	6	Washer, Flat (M8)
	220-4560-01	1	Three Phase	13	800-2054	6	Screw, Hex Head Cap (M8 x 1.25 x 14mm)
			Begin Spec B	14	815-0935	4	Screw, Hex Head Thread Form (1/4")
	220-4541-05	1	Single Phase	15	853-0013	4	Washer, Lock ET (1/4")
	220-4560-05	1	Three Phase	16	220-4413-02	1	Stator, Exciter
2	508-0183	1	Grommet	17	211-0435-01	1	Endbell
3	201-3565-01	1	Rotor Assy, Generator (Includes Parts Marked °)	18	509-0094	1	Seal, O'Ring
4	510-0112	1	°Bearing, Ball	19	234-0989	1	Cover, Endbell
5	870-0131-01	2	°Nut, ET Hex (#10-32)	20	815-0181	3	Screw, ET Hex Head Thread Cutting (#10-32 x 1/2")
6	526-0399-11	2	°Washer, Flat (#10)	21	520-1002-06	4	Stud
7	201-3515-02	1	°Rotor, Exciter	22	862-0026-07	4	Nut, Hex (3/8-16)
8	205-0255	1	°Fan, Generator				
9	232-2826	1	°Disk, Rotor Drive				
10	526-0399-42	10	°Washer, Flat (3/8")				

° - Parts Included in Rotor Assy.

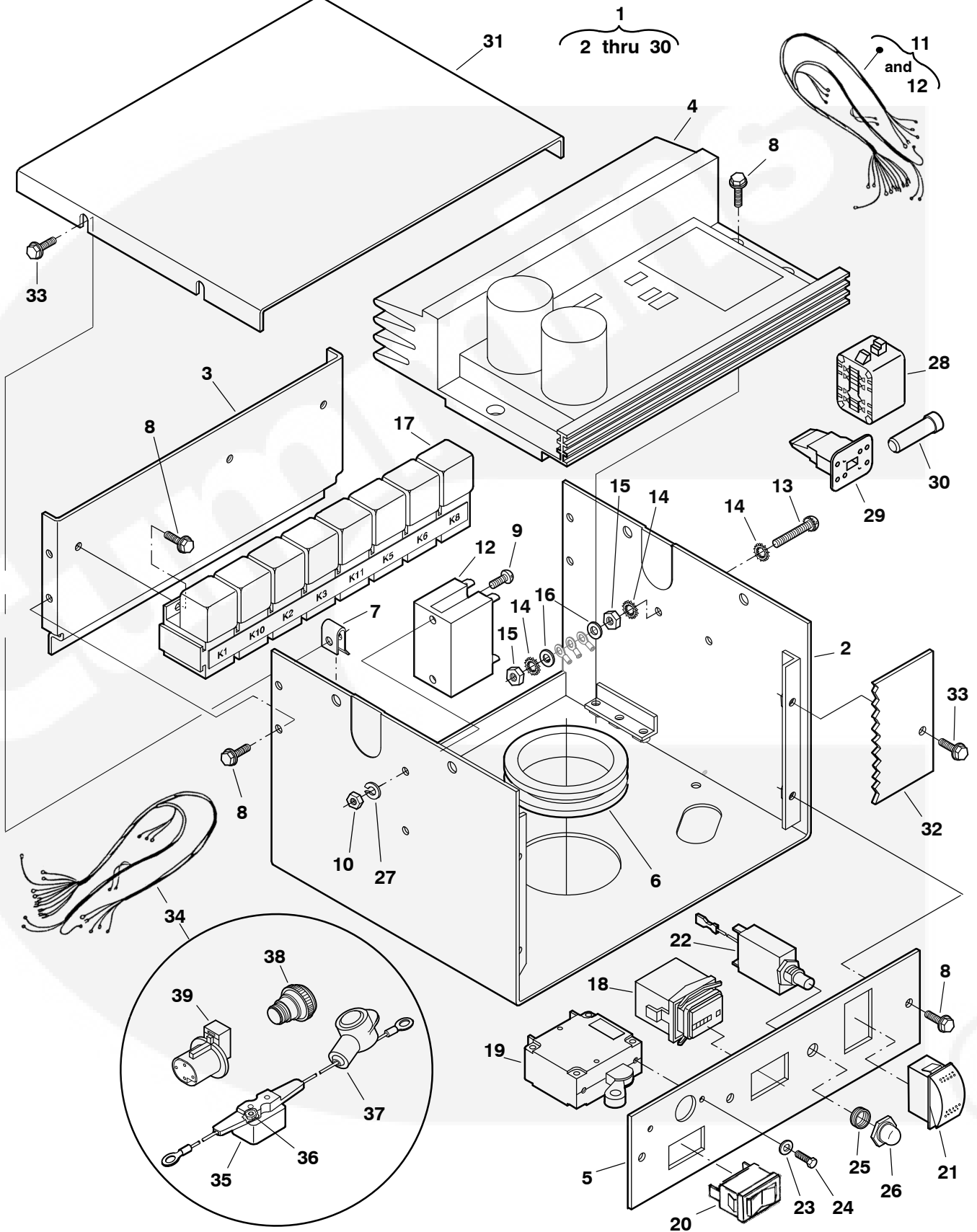
# AC Control



## AC Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Breaker, Circuit (CB4)	9			Box, Control
			1 Pole		319-3203-03	1	Spec A
	320-1690-04	1	70A		319-3359-03	1	Begin Spec B
	320-1690-15	1	30A	10			Standoff, Insulator
			2 Pole		332-2370	1	Single Phase
	320-1689-04	1	30A		332-2370	3	Three Phase
	320-1689-05	1	35A	11	871-0016	2	Nut, Hex Brass (1/4-20)
	320-1689-06	1	40A	12	526-0052	2	Washer, Flat Brass (1/4)
			3 Pole	13	319-3201-03	1	Cover, AC
	320-1891-05	1	15A	14	821-6001-02	6	Screw, Hex Head Sems (M5 x 0.8 x 12mm)
	320-1891-09	1	13A				
	320-1836-02	1	20A	15	320-1813-02	1	Plate, CB Cover (Used with Single Pole Circuit Breaker)
	320-1836-03	1	25A				
	320-1836-04	1	30A	16			Cover, Circuit Breaker
2	856-0006	3	Washer, EIT Lock (1/4")		319-3199-03	1	1 or 2 Pole CB
3	810-0155	1	Screw, Brass Round Head Machine (1/4-20 x 1.25")		319-3227-03	1	3 Pole CB
4	508-0278	1	Grommet	17			Screw, Pan Head Cross Recessed (#6-32 x 5/16")
5	337-2795	1	Strap, Bond		815-0550-01	4	1 or 2 Pole CB
6	853-0016	2	Washer, ET Lock (5/16")		815-0550-01	6	3 Pole CB
7			Screw, Hex Head Cap				
	800-3017-17	1	Spec A (M8 x 1.25 x 12mm)				
	800-3017-18	1	Begin Spec B (M8 x 1.25 x 16mm)				
8	821-0008	1	Screw, Lock Head Flange (Plated) (1/4-20 x 5/16")				

# DC Control (Spec A)



## DC Control (Spec A)

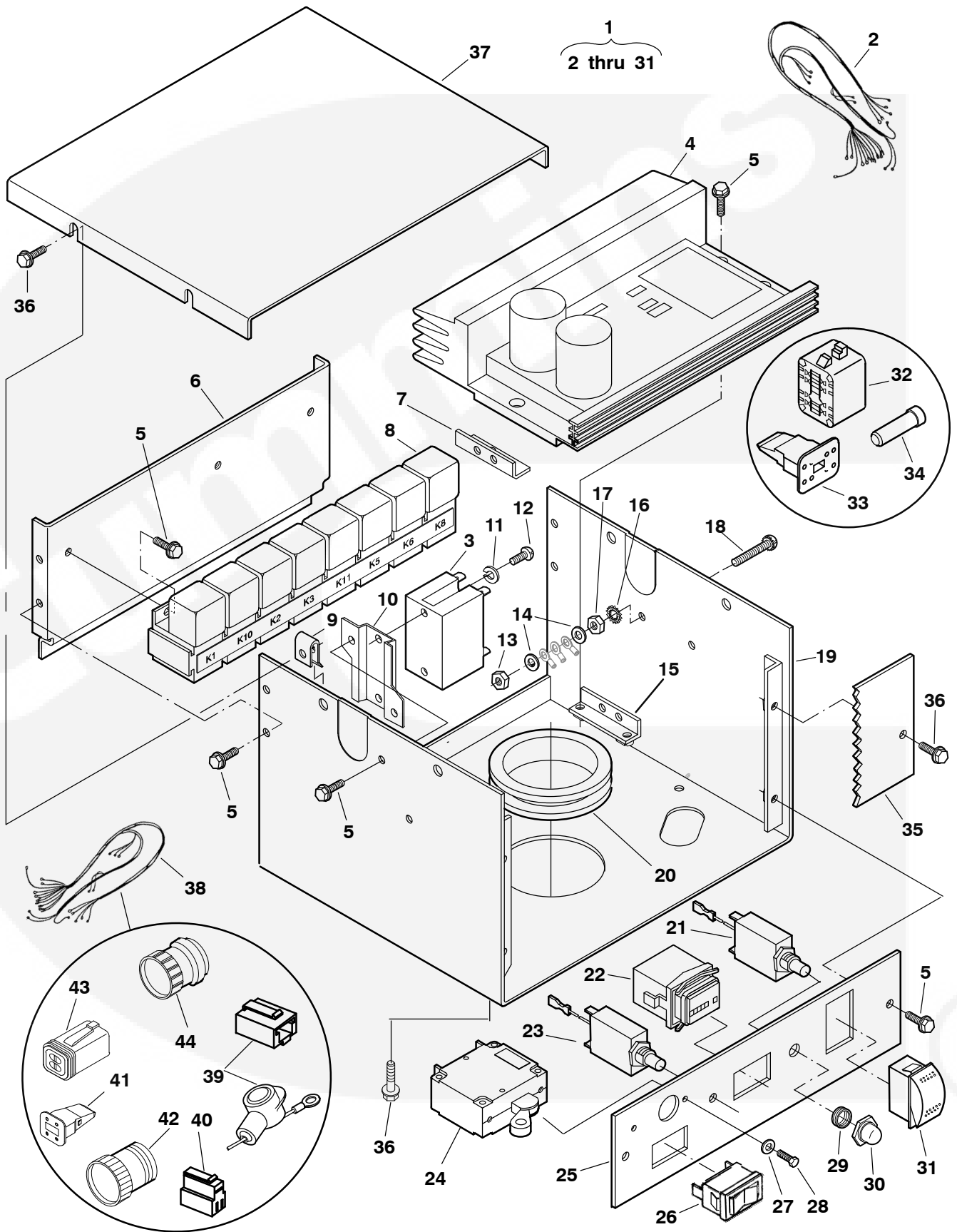
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	300-4981-01	1	Box Assy, Control (Includes Parts Marked *)	17	307-2767	7	*Relay, SPDT (12V) (K1, K2, K3, K5, K6, K8, K10, K11)
2	319-3202-03	1	Box, Control	18	302-2002	1	*Hourmeter
3	319-3213-04	1	*Panel, Rear Control	19	320-1862-01	1	*Breaker, Circuit (50A)
4	305-0896		*Regulator, Voltage SRA	20	320-1140	1	*Breaker, Circuit (15A)
5	319-3212-02	1	*Panel, Control (Lower Portion)	21	308-1027	1	*Switch, Rocker
6	508-0116	1	*Grommet	22	320-1863	1	*Breaker & Terminal Assy
7	870-0398	4	*Clip, Nut	23	526-0399-05	2	*Washer, Flat (#6)
8	821-6001-02	12	*Screw, Hex Head Sems (M5 x 0.8 x 12mm)	24	800-0309-10	2	*Screw, Hex Head Machine (#6-32 x .25")
9	815-0862	2	*Screw, Cross Recessed (M4 x 0.7 x 10mm)	25	320-1954	1	*Adapter, Threaded
10	862-0026-52	2	*Nut, Hex (M4 x 0.7)	26	320-1953	1	*Boot, Pushbutton
11	338-3605-01	1	*Harness, DC (Includes All of the Following Not Illustrated Parts and K4 Relay)	27	850-0114-51	2	*Washer, Lock (M4)
	323-1549	1	Connector, Receptacle (J4)	28	323-1541	1	*Plug (8 Pin)
	323-1547	1	Wedge, Receptacle (J4)	29	323-1543	1	*Wedge, Plug
	323-1542	1	Connector, Receptacle (J3)	30	323-1591	2	*Plug, Seal
	323-1544	1	Wedge, Receptacle (J3)	31	319-3198-03	1	Cover, Control Box Panel, Control
	323-1546	1	Connector, Plug (P2)	32			Without Gauges
	323-1548	1	Wedge, Plug (P2)		319-3219-02	1	With Gauges (See Separate Page for Components)
	353-0053	1	Resistor (R1) (10 Ohm, 10W)		300-4983-01	1	Screw, Hex Head Sems (M5 x 0.8 x 12mm)
	352-0194	1	Resistor (R2) (10 Ohm, 5W)	33	821-6001-02	6	Harness, Engine (Includes Parts Marked +)
	352-0195	1	Resistor (R3) (8.5 Ohm, 5W)	34	338-3606	1	+Breaker, Circuit (CB3)
	357-0030	3	Rectifier (CR1, CR2, CR3)	35	320-1928-01	1	+Nut, ET Hex (#10-32)
	323-1563	8	Socket, Relay	36	870-0131	2	+Boot, Engine Harness
	323-1767	1	Connector, Receptacle (J5)	37	416-1021-03	1	+Plug, Circular (P5) (16 Pin)
	508-1105	1	Grommet	38	323-1134	AR	+Housing, Connector (S3) (4 Pin)
	332-3556-04	1	Connector, Closed End	39	323-1765	AR	
12	307-2828-01	1	Relay (K4)				
13	815-0203	1	*Screw, ET Round Head Brass Machine (#10-32 x .88")				
14	856-0003	2	*Washer, EIT Lock (#10)				
15	871-0010	2	*Nut, Hex Brass (#10-32)				
16	526-0049	2	*Washer, Flat Brass (#10)				

\* - Parts Included in Control Box Assy.

+ - Parts Included in Engine Harness.

° - Shipped Loose in Plastic Bag.

# DC Control (Begin Spec B)





## DC Control (Begin Spec B)

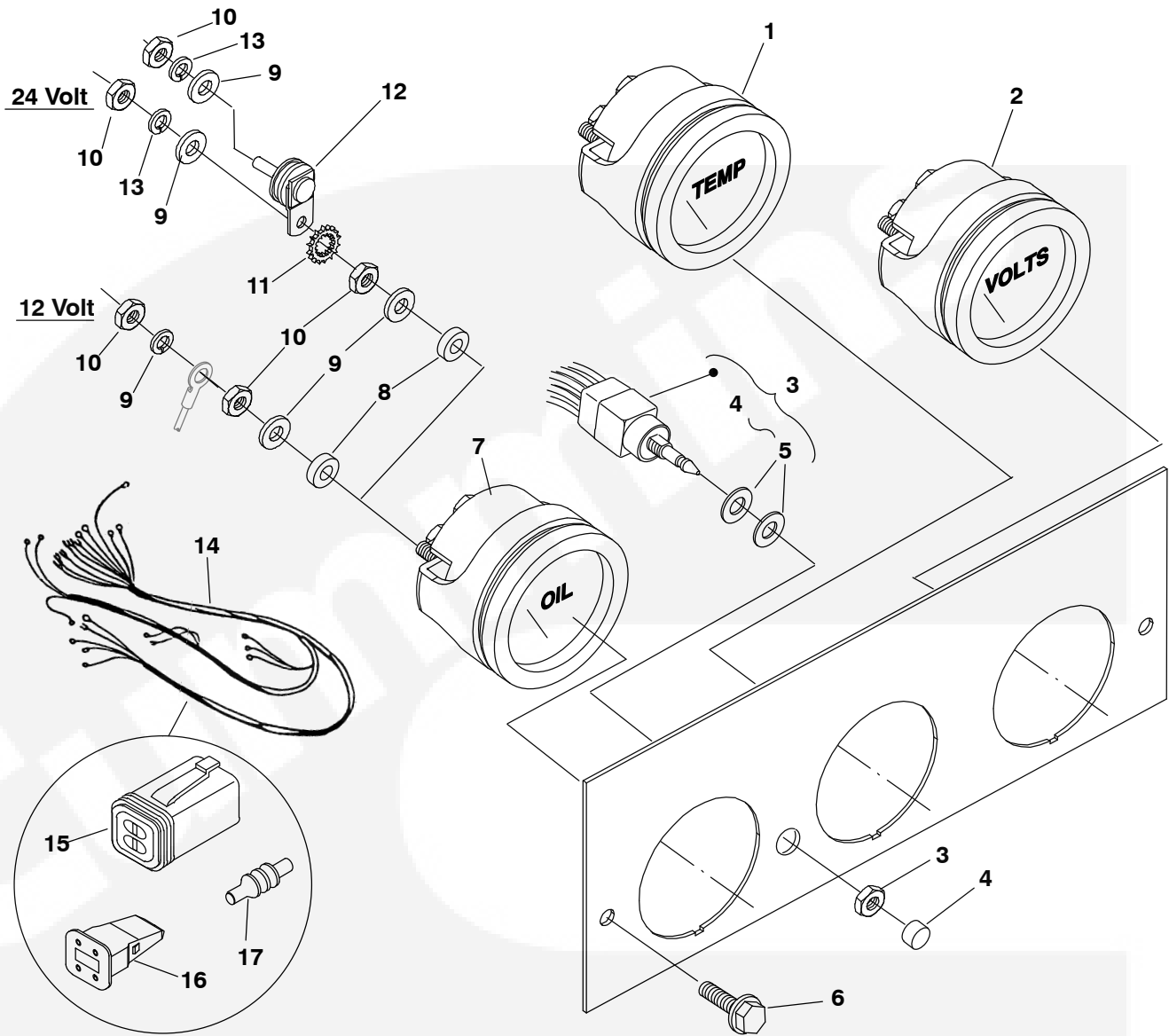
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Box Assy, Control (Includes Parts Marked *)	18	815-0203	1	*Screw, ET Round Head Brass Machine (#10-32 x .88")
	300-5141-01	1	12V	19	319-3356-03	1	*Box, Control
	300-5141-02	1	24V	20	508-1095	1	*Grommet
2			*Harness, DC (Includes All of the Following Not Illustrated Parts and the K4 Relay)	21	320-1863	1	*Breaker & Terminal Assy (0.5A)
	338-3691-01	1	12V	22	302-2002	1	*Hourmeter
	338-3691-02	1	24V	23	320-1769-01	1	*Breaker, Field (2A)
	323-1549	1	Connector, Receptacle (J4)	24	320-1862-01	1	*Breaker, Circuit (50A)
	323-1547	1	Wedge, Receptacle (J4)	25	319-3430-02	1	*Panel, Control (Lower Portion)
	323-1542	1	Connector, Receptacle (J3)	26	320-1140	1	*Breaker, Circuit (15A)
	323-1544	1	Wedge, Receptacle (J3)	27	526-0399-05	2	*Washer, Flat (#6)
	323-1546	1	Connector, Plug (P2)	28	800-0309-10	2	*Screw, Hex Head Machine (#6-32 x .25")
	323-1548	1	Wedge, Plug (P2)	29	320-1954	1	*Adapter, Threaded
			Resistor (R1) (10 Ohm, 10W)	30	320-1953	1	*Boot, Pushbutton
	353-0053	1	12V	31	308-1027	1	*Switch, Rocker (S1)
	352-0197	1	24V	32	323-1541	1	*Plug (8 Pin)
	357-0030	3	Rectifier (CR1, CR2, CR3)	33	323-1543	1	*Wedge, Plug
	323-1563	8	Socket, Relay (K1, K2, K3, K5, K6, K8, K10, K11)	34	323-1591	2	*Plug, Seal
	323-1799	1	Connector, Receptacle (J5)	35			Panel, Control
	508-1105	1	Grommet		319-3381	1	Without Gauges
	323-1801	1	Connector, Strain Relief				With Gauges (Kit) (See Separate Page for Components)
3			Relay (K4) (Part of DC Harness)		300-5038	1	12V
	307-2828-01	1	12V		300-5039	1	24V
	307-2828-02	1	24V	36	821-6001-02	6	Screw, Hex Head Sems (M5 x 0.8 x 12mm)
4	305-0896	1	*Regulator, Voltage (AVR)	37	319-3355-03	1	Cover, Control Box
5	821-6001-02	18	*Screw, Hex Head Sems (M5 x 0.8 x 12mm)	38	338-3692	1	Harness, Engine (Includes Parts Marked +)
6	319-3357-03	1	*Panel, Rear Control	39			Connector/Boot
7	319-3401-03	1	*Support, Voltage Regulator		416-1021-03	1	Boot (24V)
8			*Relay (K1, K2, K3, K5, K6, K8, K10, K11)		323-1791	1	+ Connector, Plug (12V) (1 Position)
	307-2767	7	12V SPDT	40	323-1792	1	+ Connector, Plug (3 Position)
	307-2819	7	24V	41	323-1548	AR	+ Wedge, Plug (4 Pin)
9	870-0398	4	*Clip, Nut	42	323-1798	AR	+ Connector, Plug (16 Pin) (P5)
10	319-3399-03	1	*Bracket, Relay	43	323-1546	AR	+ Plug (4 Pin)
11	850-0114-51	1	*Washer, Lock (M4)	44	323-1801	AR	+ Connector, Strain Relief
12	815-0862	2	*Screw, Cross Recessed (M4 x 0.7 x 10mm)				
13	870-0131	1	*Nut, ET Hex (#10-32)				
14	526-0049	2	*Washer, Flat Brass (#10)				
15	319-3296-03	1	*Support, Voltage Regulator				
16	856-0003	1	*Washer, EIT Lock (#10)				
17	871-0010	1	*Nut, Hex Brass (#10-32)				

\* - Parts Included in Control Box Assy.

+ - Parts Included in Engine Harness.

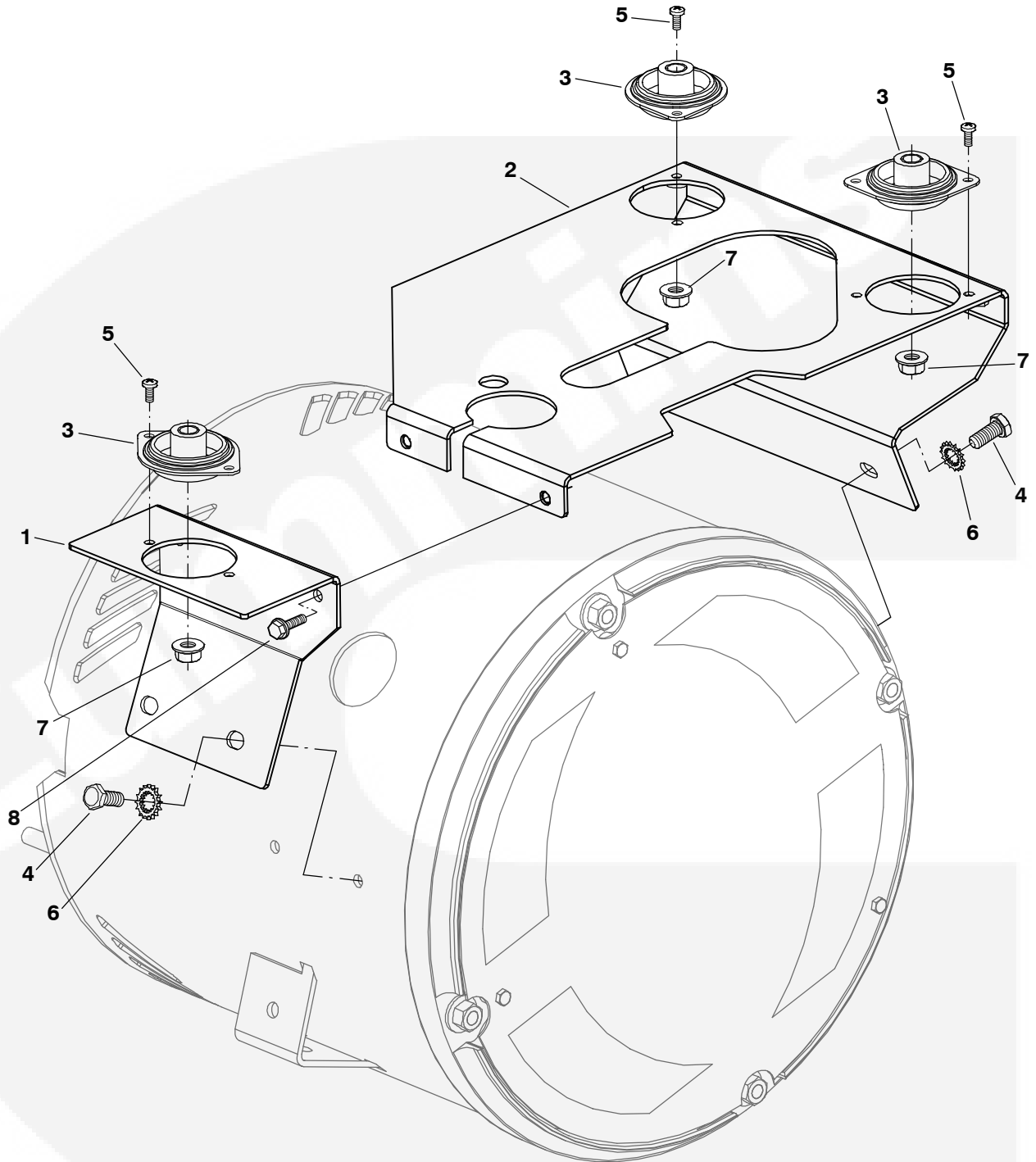
° - Shipped Loose in Plastic Bag.

## Control Panel Components



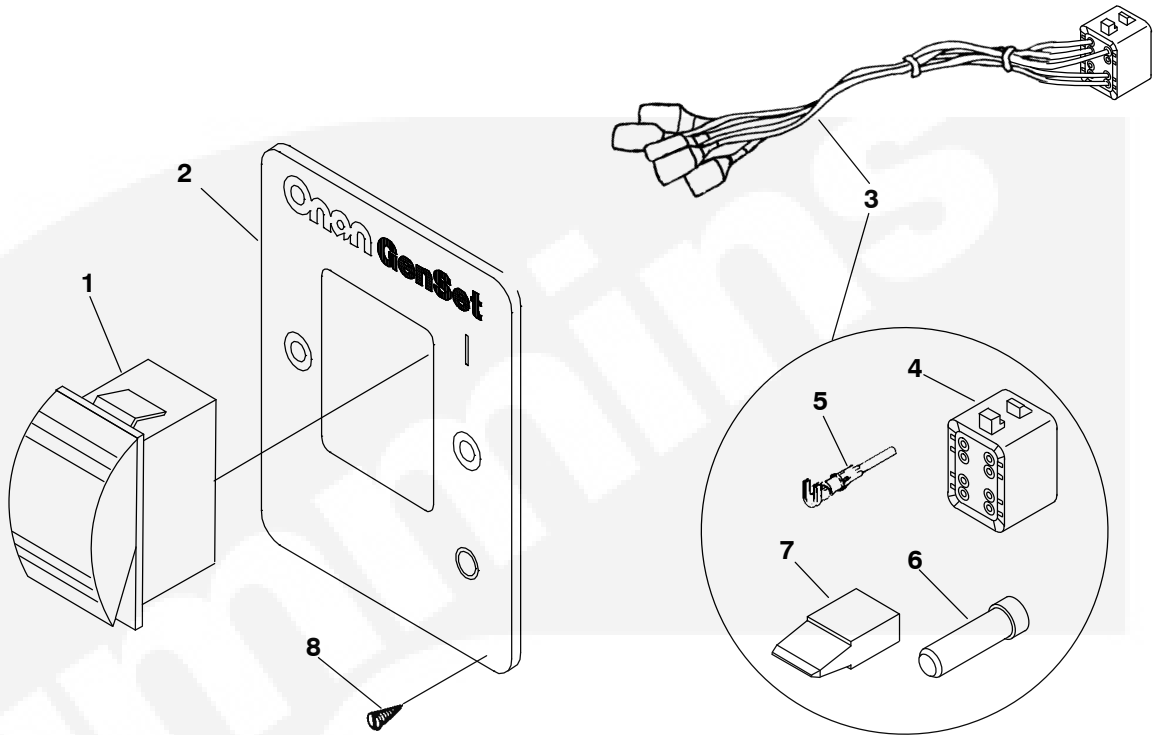
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
				9			Washer, Brass Flat (#10)
			Kit, Gauge Panel	526-0049	16		12V
	300-5038	1	12V	526-0049	18		24V
	300-5039	1	24V	10			Nut, Brass Hex (#10-32)
1	193-0351	1	Gauge, Coolant Temperature (M3)	871-0010	16		12V
				871-0010	18		24V
2			Voltmeter (M4)	11	853-0008	1	Washer, ET Lock (#10)
	302-1641	1	12V (8-18V)	12	193-0250	1	Resistor (24V)
	302-1642	1	24V (16-36V)	13			Washer, Lock (#10)
3	300-4835-01	1	Kit, Dual Gauge Switch (Includes Switch, Cap, Nut and Washers)		850-0030	8	12V
					850-0030	10	24V
4	308-1072	1	Cap, Switch	14	338-3619	1	Harness, Gauge Panel (Includes Connector, Wedge and Plug)
5	850-0038	2	Washer, Flat (1/4)				
6	821-6001-02	2	Screw, Hex Head Sems (M5 x 12)	15	323-1546	1	Connector, Plug (P4)
7	193-0352	1	Gauge, Oil Pressure (M2)	16	323-1548	1	Wedge, Plug
8	526-0409	8	Washer, Nylon (.194")	17	323-1712	6	Plug, Cavity

# Control Mount



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-3204-05	1	Panel, Rear Saddle Spec A (White)	5	815-0862	6	Screw (M4 x 0.7 x 10mm)
	319-3204-05	1	Begin Spec B (Black)	6	856-0008	4	Washer, EIT Lock (5/16")
2	319-3211-05	1	Saddle, Control Spec A	7	870-0257	3	Nut (5/16-18)
	319-3360-05	1	Begin Spec B	8	821-6002-02	2	Screw, Hex Head Sems (M6 x 1 x 12mm)
3	402-0681	3	Isolator, Vibration				
4	815-0236	4	Screw, Hex Head Thread Cutting (5/6-18 x 5/8")				

## Basic Remote Control Panel

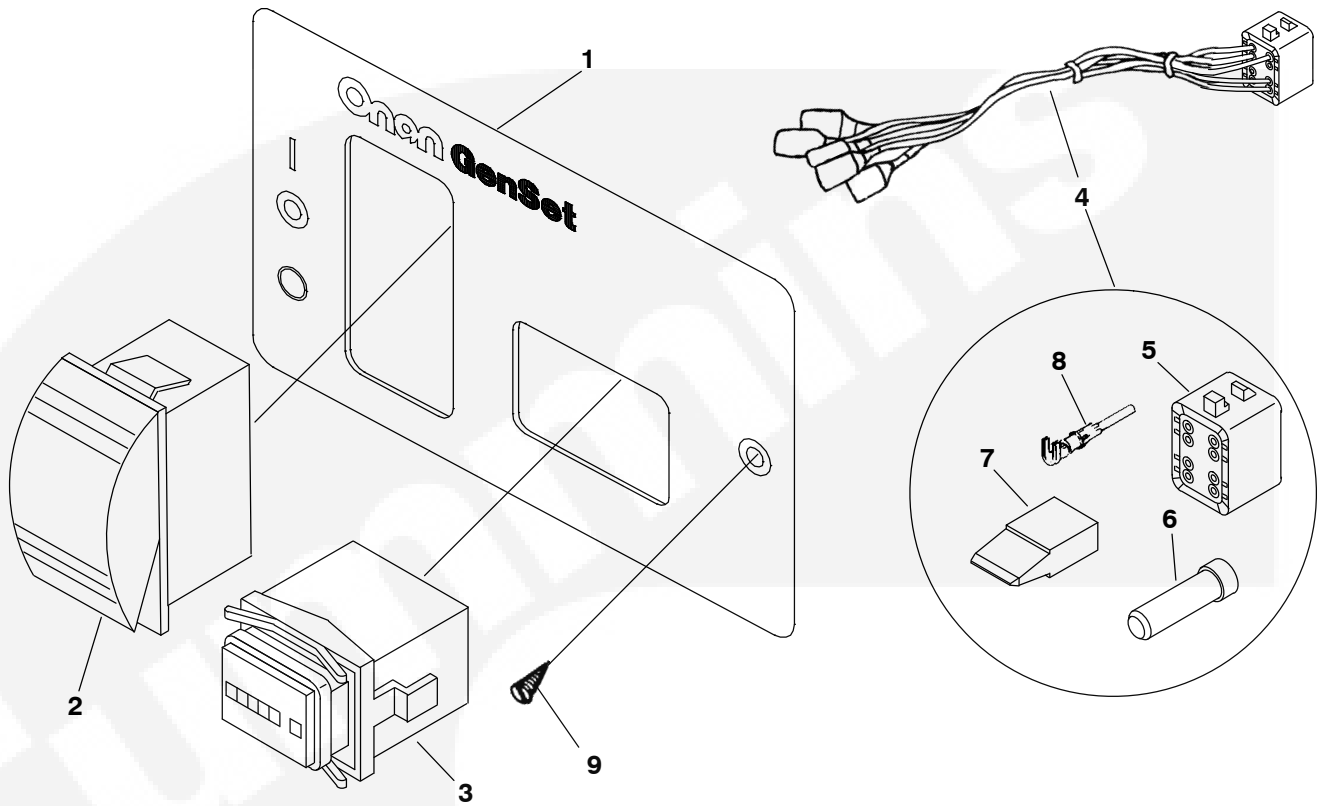


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Kit, Basic Panel
	300-4990-01	1	12V
	300-4990-02	1	24V
1			Switch, Rocker (S11)
	308-1062	1	12V
	308-1062-01	1	24V
2	319-2339-02	1	Panel, Remote Includes Printing)
3	338-3598	1	Harness, Remote Panel (Includes Parts Marked *)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
4	323-1541	1	*Plug (8 Pin) (J4)
5	323-1492	5	*Pin, Contact
6	323-1591	3	*Plug, Seal
7	323-1543	1	*Wedge, Plug (8 Pin)
8	815-0910	2	Screw, Wood (#6 x 1)

\* - Parts Included in Remote Panel Harness.

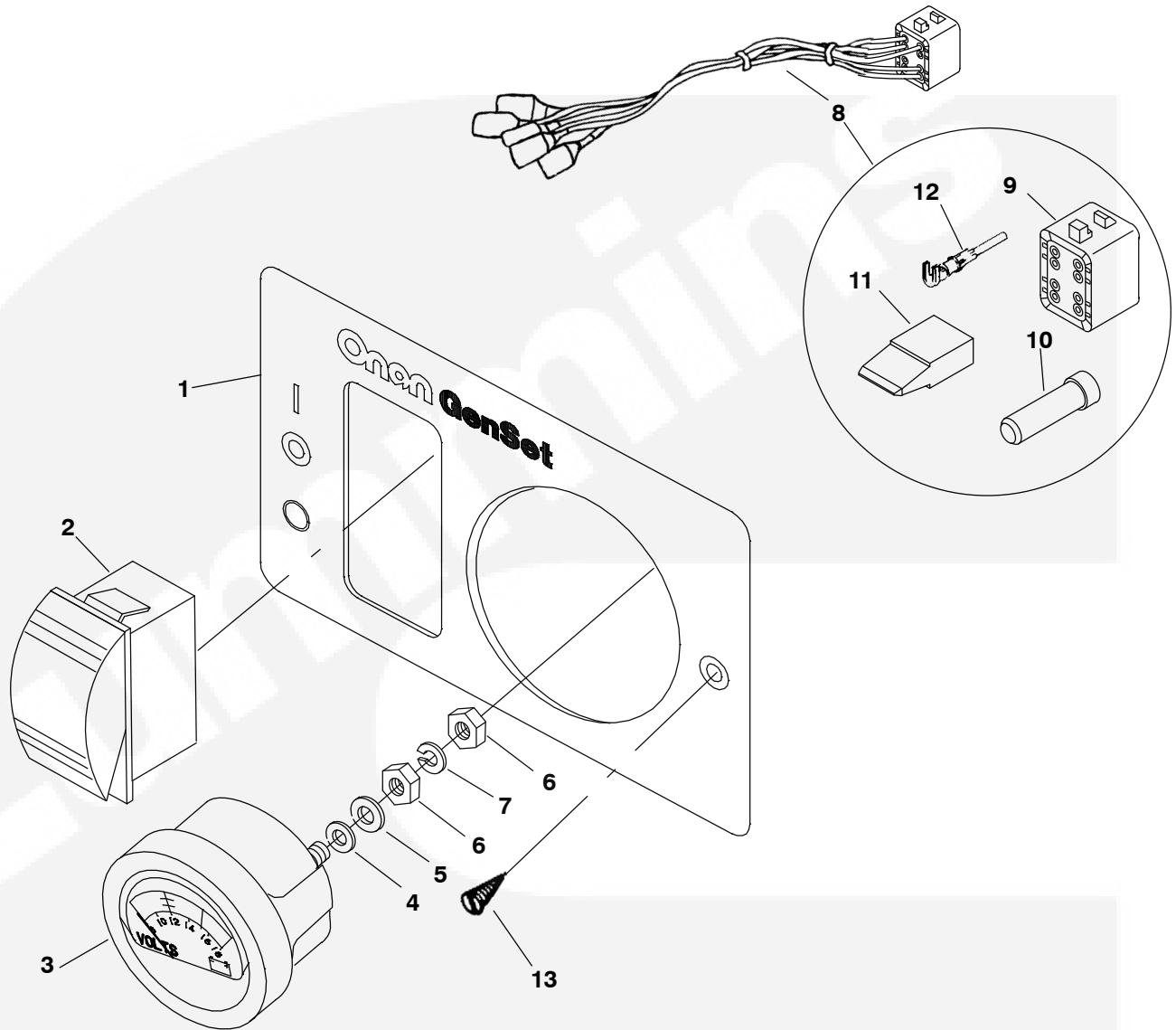
## Deluxe Remote Control Panel W/Hour Meter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4991-01	1	Kit, Deluxe Panel	5	323-1541	1	*Plug (8 Pin) (J4)
	300-4991-02	1	12V	6	323-1591	3	*Plug, Connector
1	319-2340-04	1	Panel, Remote Printed	7	323-1543	1	*Wedge, Plug (8 Pin)
2	308-1062	1	Switch, Rocker (S11)	8	323-1492	5	*Pin, Contact
	308-1062-01	1	12V	9	815-0910	2	Screw, Wood (#6 x 1)
	308-1062-01	1	24V				
3	302-2002	1	Meter, Hour (M11)				* - Parts Included in Remote Panel Wiring Harness.
4	338-3599	1	Harness, Remote Panel (Includes Parts Marked *)				



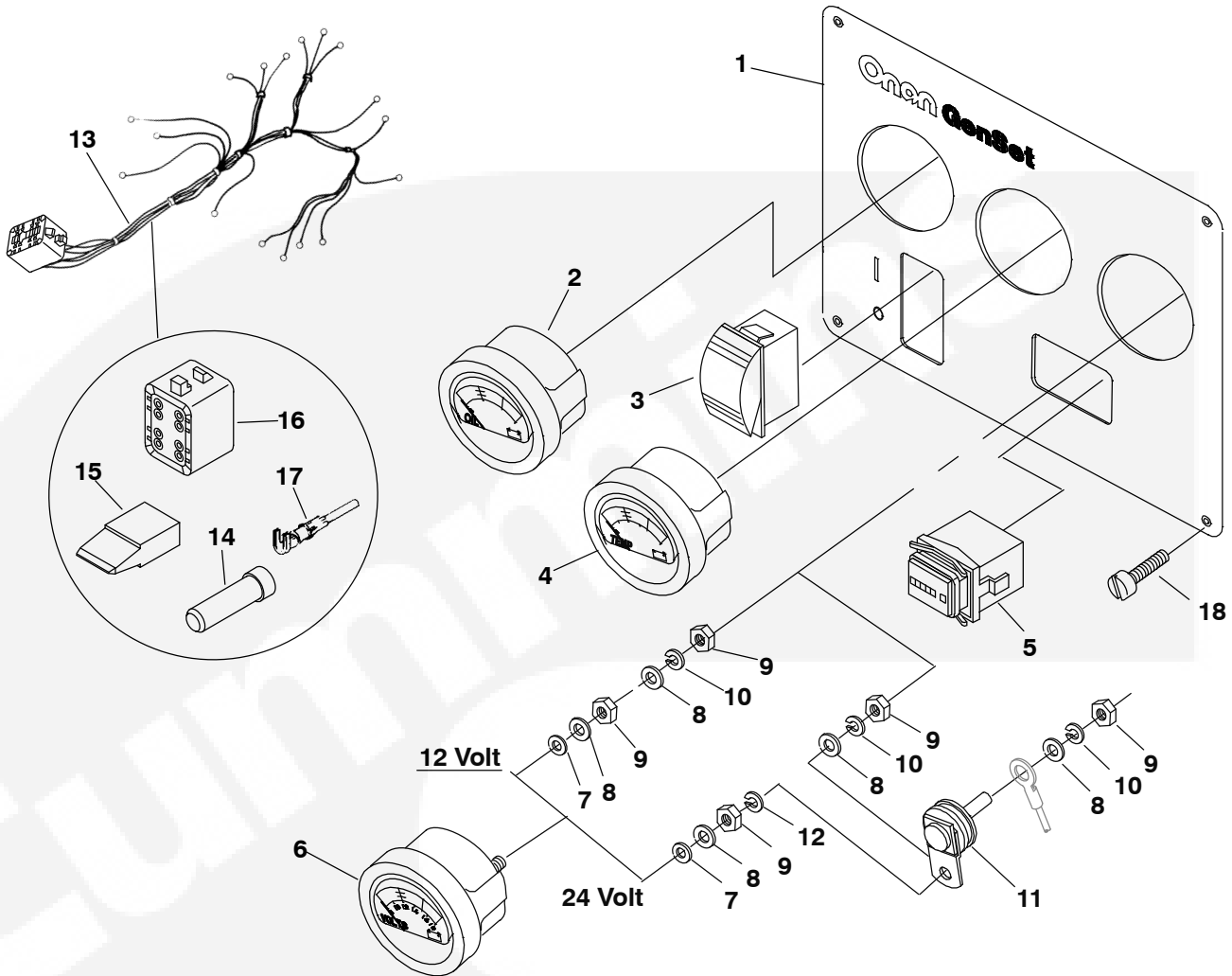
## Deluxe Remote Control Panel W/Volt Meter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Kit, Remote Panel	6	871-0010	4	Nut, Hex Brass (10-32)
	300-4989-01	1	12V	7	850-0030	2	Washer, Lock
	300-4989-02	1	24V	8	338-3597	1	Harness, Remote Panel (Includes Parts Marked *)
1	319-3132-01	1	Panel, Remote Printed	9	323-1541	1	*Plug (8 Pin) (J4)
2			Switch, Rocker (S11)	10	323-1591	3	*Plug, Connector
	308-1062	1	12V	11	323-1543	1	*Wedge, Plug (8 Pin)
	308-1062-01	1	24V	12	323-1492	5	*Pin, Contact
3			Meter, Volt (M14)	13	815-0910	2	Screw, Wood (#6 x 1)
	302-1641	1	12V (8-18V)				
	302-1642	1	24V (16-36V)				
4	526-0409	2	Washer, Nylon				
5	526-0049	4	Washer, Flat				

\* - Parts Included in Remote Panel Wiring Harness.

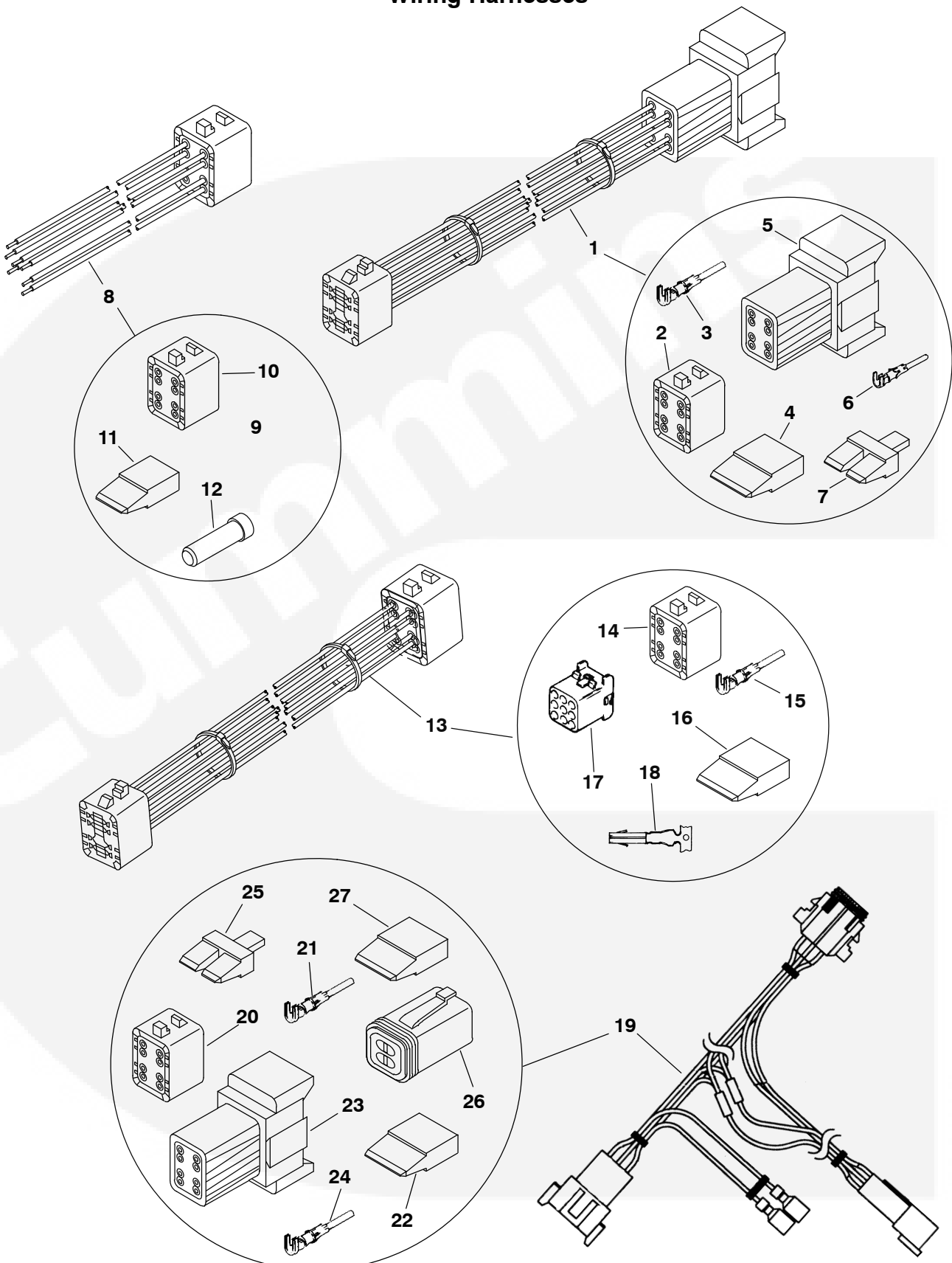
## Remote Gauge Control Panel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Kit, Remote Gauge Panel	10			Washer, Lock (#10)
	300-5018-01	1	12V		850-0030	8	12V
	300-5018-02	1	24V		850-0030	10	24V
1	319-3254-02	1	Panel, Remote	11	193-0250	2	Resistor (24V Only)
2	193-0352	1	Gauge, Oil Pressure (M12)	12	853-0008	2	Washer, ET Lock (#10) (24V Only)
3			Switch, Rocker (SPDT) (S11)				(24V Sets Only)
	308-1062	1	12V Sets	13	338-3625	1	Harness, Remote Panel (Includes Parts Marked +)
	308-1062-01	1	24V Sets	14	323-1591	1	+ Plug, Seal
4	193-0351	1	Gauge, Water Temperature (M13)	15	323-1543	1	+ Wedge, Plug (8 Pin)
5	302-2002	1	Meter, Running Time (M11)	16	323-1541	1	+ Plug (8 Pin) (P4)
6			Meter, Volt (M14)	17	323-1492	7	+ Contact, Socket
	302-1641	1	12V Sets (8-18V)	18	808-0023	4	Screw, Pan Head Sheet Metal (#8 x .50)
	302-1642	1	24V Sets (18-34V)				
7	526-0409	8	Washer, Nylon (.194")				
8			Washer, Brass Flat (#10-32)				
	526-0049	16	12V				
	526-0049	18	24V				
9			Nut, Brass Hex (#10-32)				
	871-0010	16	12V				
	871-0010	18	24V				

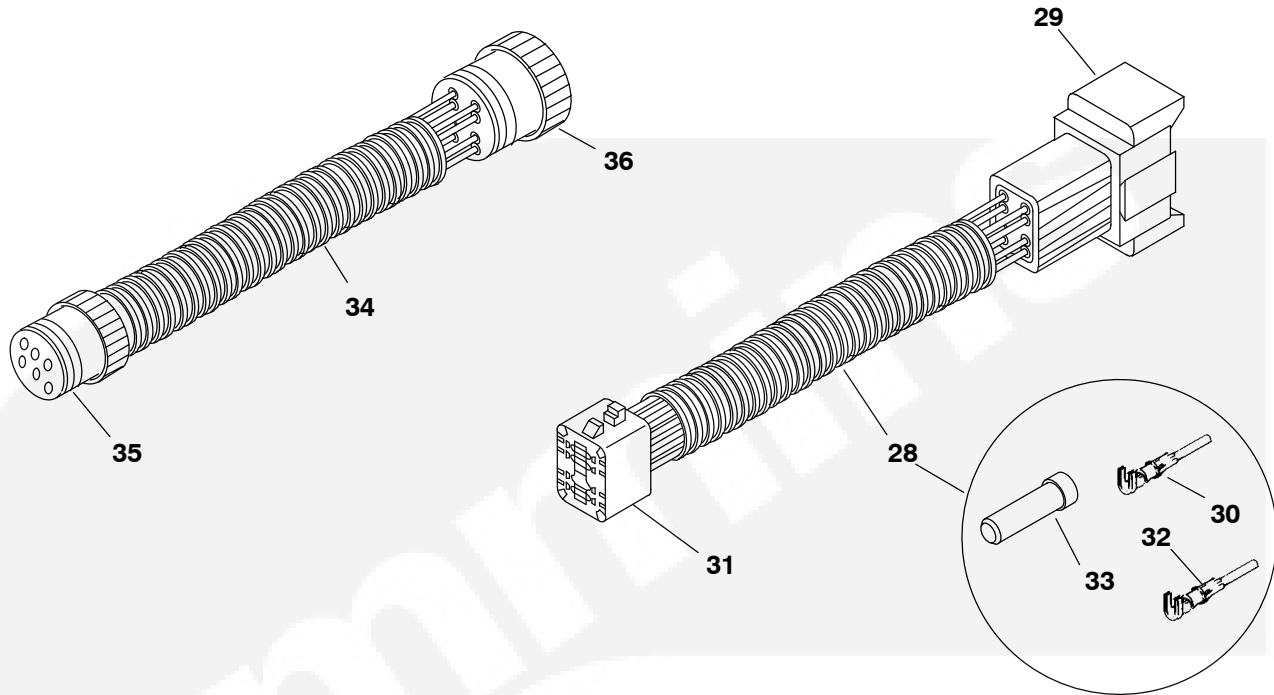
+ - Parts Included in Remote Panel Harness

# Wiring Harnesses





## Wiring Harnesses



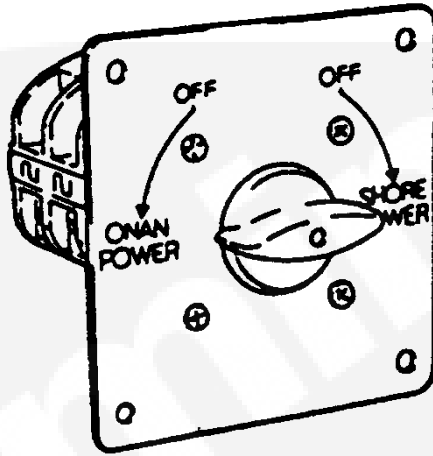
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Remote Extension (Includes Parts Marked #)	19	338-3697	1	Harness, Junction
	338-3167	1	15 feet	20	323-1541	1	° Plug (9 Pin)
	338-3168	1	25 feet	21	323-1492	AR	° Terminal, Socket
	338-3169-00	1	45 feet	22	323-1543	1	° Wedge, Plug (8 Pin)
	338-3169-01	1	75 feet	23	323-1542	1	# Receptacle (8 Pin)
	338-3169-02	1	100 feet	24	323-1491	8	# Terminal, Pin
	338-3169-03	1	150 feet	25	323-1544	1	# Wedge, Receptacle (8 Pin)
2	323-1541	1	# Plug (8 Pin)	26	323-1549	1	Socket, Receptacle (4 Pin)
3	323-1492	8	# Terminal, Socket	27	323-1547	1	Wedge, Lock Receptacle (4 Pin)
4	323-1543	1	# Wedge, Plug (8 Pin)	28	338-3643	1	Harness, Remote Control Box AVR Extension (Includes Connectors, Terminals and Plugs)
5	323-1542	1	# Receptacle (8 Pin)	29	323-1542	1	Connector, Receptacle
6	323-1491	8	# Terminal, Pin	30	323-1491	AR	Terminal, Pin
7	323-1544	1	# Wedge, Receptacle (8 Pin)	31	323-1541	1	Connector, Plug
8	338-3098	1	Harness, Pigtail (12") (Includes Parts Marked *)	32	323-1492	AR	Terminal, Socket
9	323-1492	7	* Terminal, Socket	33	323-1591	3	Plug
10	323-1541	1	* Plug (8 Pin)	34			Harness, Remote Control Box Engine Extension (Includes Connector and Plug)
11	323-1543	1	* Wedge, Plug (8 Pin)		338-3644	1	Spec A
12	323-1591	1	* Plug, Connector		338-3730	1	Begin Spec B
13			Harness, Adapter (Includes Parts Marked °)	35	323-1767	1	Connector, Receptacle
	338-3695	1	Single Circuit for On/Off /Preheat	36	323-1134	1	Plug, Circular
	338-3696	1	Two Circuits for On/Off and Preheat				
14	323-1541	1	° Plug (9 Pin)				
15	323-1492	AR	° Terminal, Socket				
16	323-1543	1	° Wedge, Plug (8 Pin)				
17	323-1325	1	° Cap, Connector				
18	323-1200	AR	° Socket, Contact				

# - Parts Included in Remote Extension Harness.

\* - Parts Included in Custom Pigtail Harness

° - Parts Included in Adapter Harness.

## Manual Transfer Switch



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Switch, On Shore/Off Shore Rotary
	308-0269	1	120V (2 Wire)
	308-0270	1	120/240V (3 Wire)



## Labels

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
98-7525		1	Label, Bat B+	98-6996		1	Label, No Step (Housed Sets Only)
98-7473		1	Label, Control (K-Relay)				
98-7458		1	Label, Control Panel (w/Gauges)	98-5338		1	Label, No Step
98-7523		1	Label, Control (M1, CB)	98-6388-01		1	Label, Phone Info
98-7468		1	Label, Control (M2, M3, M4)	98-1714		1	Label, Onan (Housed Sets Only)
98-7524		1	Label, Control (Fault Breaker, Emergency Stop)	98-7493		1	Label, Reconnection
98-7459		1	Label, Control Panel (w/o Gauges)	98-7521		1	Label, Schematic (DC)
98-7474		1	Label, Control Panel (Inside)	98-7513		1	Label, Service Parts (Spec B)
98-7460		1	Label, Control (Outside)	98-7471		1	Label, Service Parts (Spec A)
98-5161		1	Label, Coolant (Housed Sets Only)	98-6995		4	Label, Warning (Exposed Belts (Housed Sets Only)
98-7159		1	Label, Coolant	98-5755		1	Label, Warning (Hazardous Voltage)
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