



# Parts Manual

Cummins **Onan**

Performance you rely on.™



## Generator Set

HDKAL (Spec A–E)

HDKAQ (Spec A)

HDKAR (Spec A)

HDKAS (Spec A–E)

## 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!***

## Introduction

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

<u>MODEL</u>	<u>HERTZ</u>
HDKAL/*	50/60
HDKAQ/*	60
HDKAR/*	60
HDKAS/*	50/60

\* – 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 a standard model. The specification letter advances (A to B, B to C, etc.) with major manufacturing changes.

### WIRING DIAGRAM

612-6637	AC-1 Phase
612-6652	AC-3 Phase
612-6689	DC-1/3 Phase



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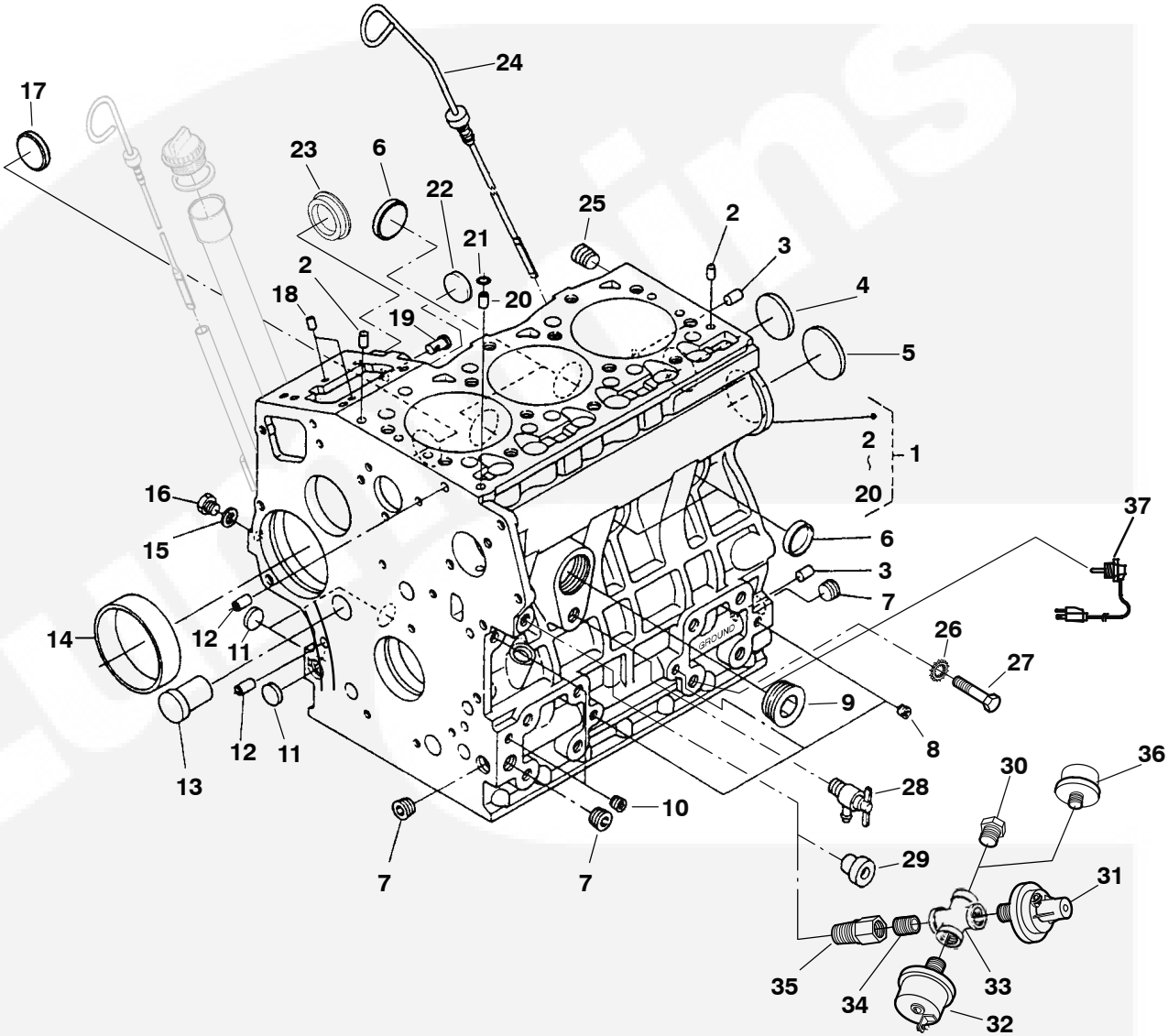




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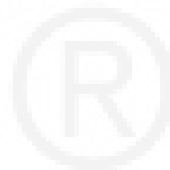
# Cylinder Block (Spec A-D)



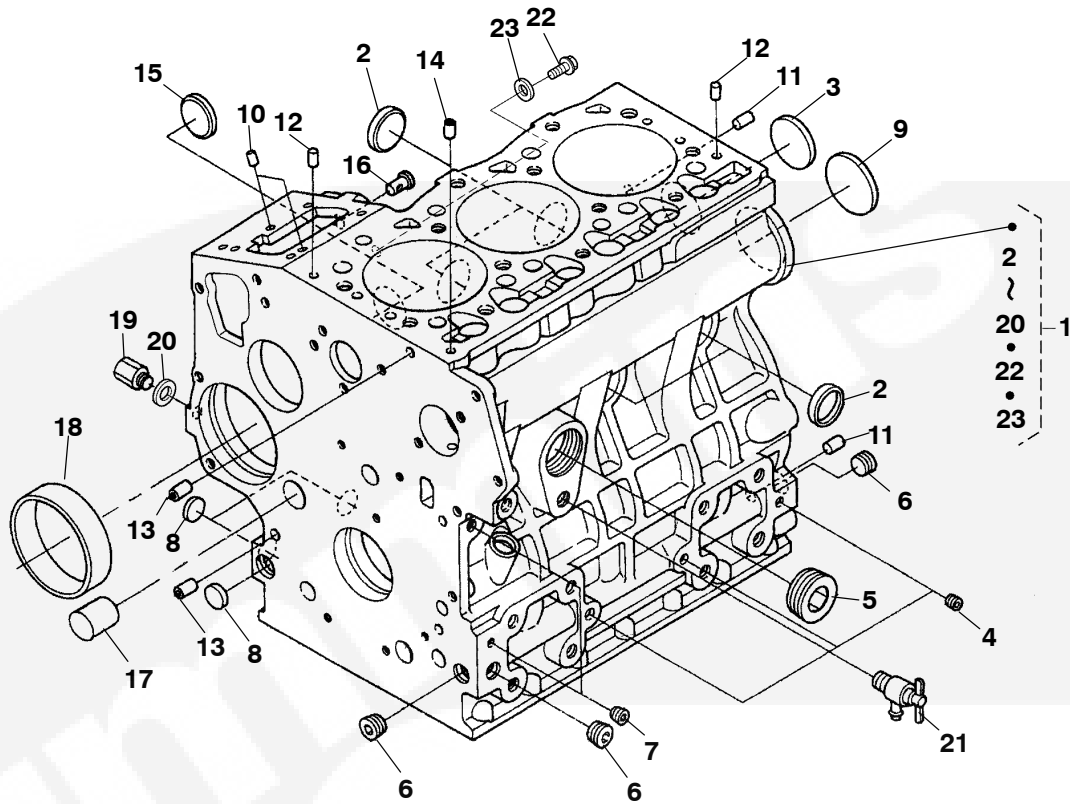
## Cylinder Block (Spec A-D)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Block, Cylinder Assy (Includes Parts Marked *)	19	185-6857	1	*Pin, Start Spring
	185-6855	1	HDKAQ	20	185-6469	1	*Pin, Pipe
	185-7092	1	HDKAR, HDKAS HDKAL	21	185-2095	1	O'Ring
	185-6855	1	Spec A	22	185-6889	1	Plug
	185-7417	1	Begin Spec B	23	185-7223	1	Plug
2			*Pin, Straight	24			Indicator, Oil Level Spec A
	185-5843	2	Spec A	185-6866	1		Begin Spec B
			Begin Spec B	185-7427	1		Exhaust Side
	185-5843	2	HDKAS	185-7428	1		Intake Side
	185-7420	2	HDKAL	25	185-5502	1	Plug
3			*Pin, Straight	26	853-2010	1	Washer, EIT Lock (3/8")
	185-5487	2	Spec A	27	815-0585	1	Screw, Hex Head Cap (M10 x 1.25 x 18mm)
			Begin Spec B	28	185-5490	1	Cock, Drain
	185-5487	2	HDKAS	29	185-6039	1	Plug
	185-7419	2	HDKAL	30	502-0028	1	Plug, Hex Head Pipe
4	185-2412	1	*Cap, Sealing	31	309-0641-18	1	Switch, Pressure (S6)
5	185-6040	1	*Plug	32	309-0641-05	1	Switch, Pressure (S1)
6	185-5484	4	*Cap, Sealing	33	505-0763	1	Cross, Pipe
7	185-6468	3	*Plug	34	505-0098	1	Nipple, Close
8	185-2188	3	*Plug	35	502-0917	1	Adapter, Pipe
9	185-6856	1	*Plug	36	193-0244	1	Sender, Oil Pressure (E1)
10	185-2233	2	*Plug	37	333-0594	1	Heater, Engine
11	185-6121	3	*Plug				
12	185-2115	2	*Pin, Pipe				
13	185-6471	1	*Plug				
14	185-6472	1	*Bushing, Governor Gear				
15	185-2338	1	*Gasket				
16	185-5845	1	*Plug				
17	185-7212	1	*Plug				
18			*Pin, Straight				
	185-5486	2	Spec A				
			Begin Spec B				
	185-5486	2	HDKAS				
	185-7418	2	HDKAL				

\* - Parts Included in Cylinder Block Assy.

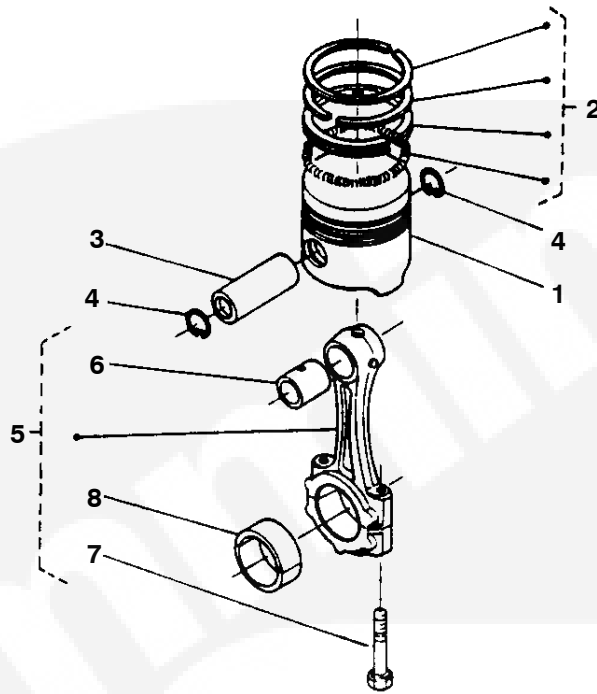


## Cylinder Block HDKAL and HDKAS (Begin Spec E)



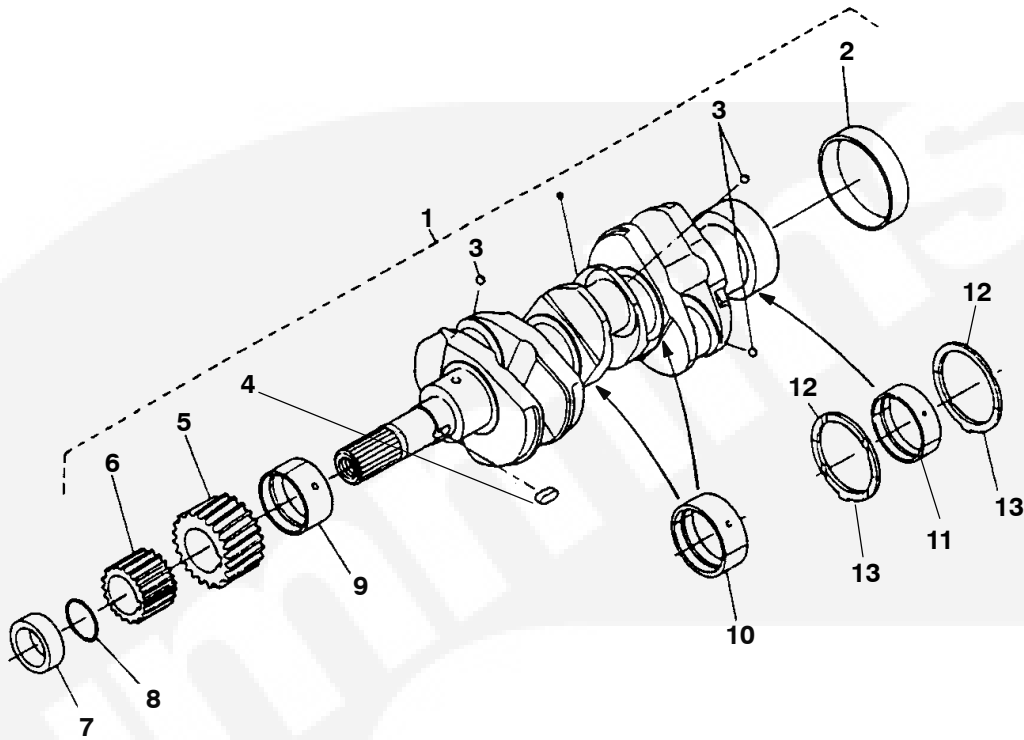
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Comp, Crankcase (Includes Parts Marked *)	14	185-6469	1	*Pin, Pipe
	110-3964	1	HDKAL	15	185-7212	1	*Plug, Fuel Camshaft
	181-9215	1	HDKAS	16	185-6857	1	*Pin, Start Spring
2	185-5484	4	Cap, Seal	17			*Plug
3	185-2412	1	Cap, Sealing		185-6471	1	HDKAL
4	185-2188	1	*Plug		185-6474	1	HDKAS
5	185-6856	1	*Plug	18	185-6472	1	*Bushing, Governor Gear
6	185-6468	3	*Plug	19	185-5845	1	*Plug
7	185-2233	2	*Plug	20	185-2338	1	*Gasket
8	185-6121	3	*Plug	21	185-5490	1	Cock, Drain
9	185-6040	1	*Plug	22	185-2572	1	Bolt, Flange
10	185-5486	2	*Pin, Straight	23	185-2884	1	Gasket
11	185-5487	2	*Pin, Straight				
12	185-7420	2	*Pin, Straight				
13	185-2115	1	*Pin, Pipe				

## Piston (Spec A-D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Piston	185-7310		3	Standard
			HDKAL	185-7311		3	.5mm Oversize
			Spec A				HDKAQ
	185-6745	3	Standard	185-6529		3	Standard
	185-6746	3	.5mm Oversize	185-6530		3	.5mm Oversize
			Begin Spec B				HDKAR, HDKAS
	185-7308	3	Standard	185-7098		3	Standard
	185-7309	3	.5mm Oversize	185-7099		3	.5mm Oversize
			HDKAQ	3	185-6531	3	Pin, Piston
	185-6745	3	Standard	4	185-6532	6	Circlip, Piston Pin
	185-6746	3	.5mm Oversize	5	185-6533	3	Rod Assy, Connecting (Includes Bushing, Bolt and Bearing)
			HDKAR, HDKAS	6	185-6534	3	Bushing, Connecting Rod
	185-7096	3	Standard	7	185-6535	6	Bolt, Connecting Rod
	185-7097	3	.5mm Oversize	8			Bearing, Connecting Rod
2			Ring Assy, Piston				
			HDKAL				
			Spec A				
	185-6529	3	Standard	185-6536		3	Standard
	185-6530	3	.5mm Oversize	185-6537		3	.2mm Undersize
			Begin Spec B	185-6538		3	.4mm Undersize

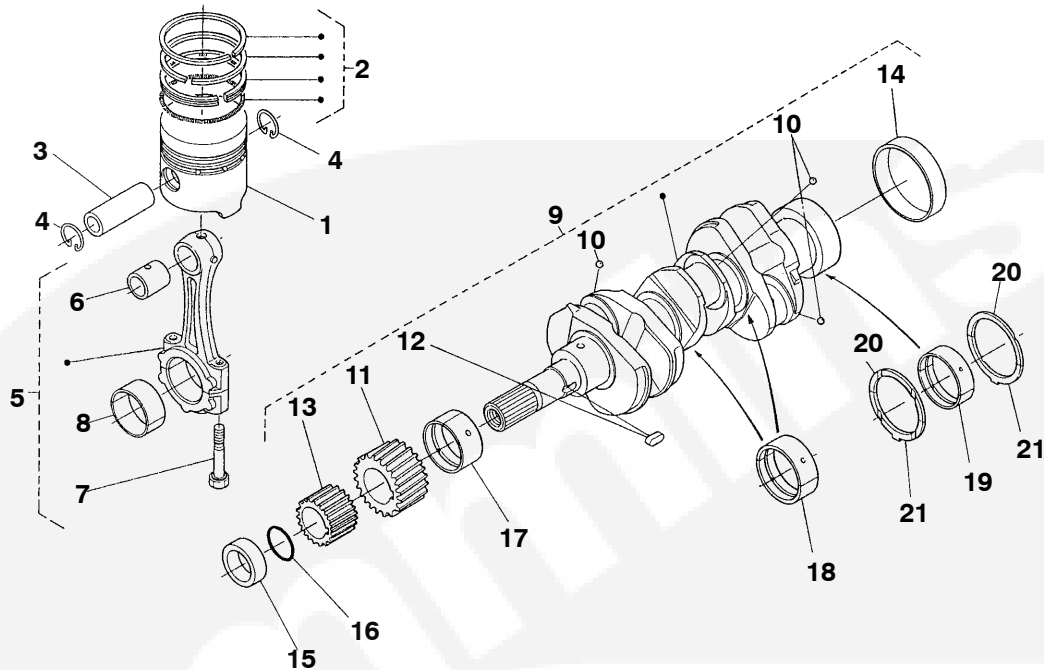
## Crankshaft (Spec A-D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Crankshaft (Includes Parts Marked *)	11			Bearing, Crankshaft Spec A
	185-6874	1	HDKAQ, HDKAR, HDKAS		185-6552	1	Standard
	185-6874	1	Spec A		185-6553	1	.2mm, Undersize
	185-7376	1	Begin Spec B		185-6554	1	.4mm, Undersize
2	185-6543	1	*Sleeve, Crankshaft			1	Begin Spec B
3	185-5924	3	*Ball			1	HDKAS
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			1	HDKAL
8		1	O'Ring		185-7430	1	Standard
	185-6545	1	Spec A		185-6553	1	.2mm, Undersize
			Begin Spec B		185-6554	1	.4mm, Undersize
	185-6545	1	HDKAS	12		2	Washer, Thrust
	185-7429	1	HDKAL		185-5938	2	Standard
9			Bearing, Crankshaft		185-5939	2	.2mm, Oversize
	185-6546	1	Standard		185-6556	2	.4mm, Oversize
	185-6547	1	.2mm, Undersize	13		2	Washer, Thrust
	185-6548	1	.4mm, Undersize		185-5941	2	Standard
10			Bearing, Crankshaft		185-5942	2	.2mm, Oversize
	185-6549	2	Standard		185-5943	2	.4mm, Oversize
	185-6550	2	.2mm, Undersize				
	185-6551	2	.4mm, Undersize				

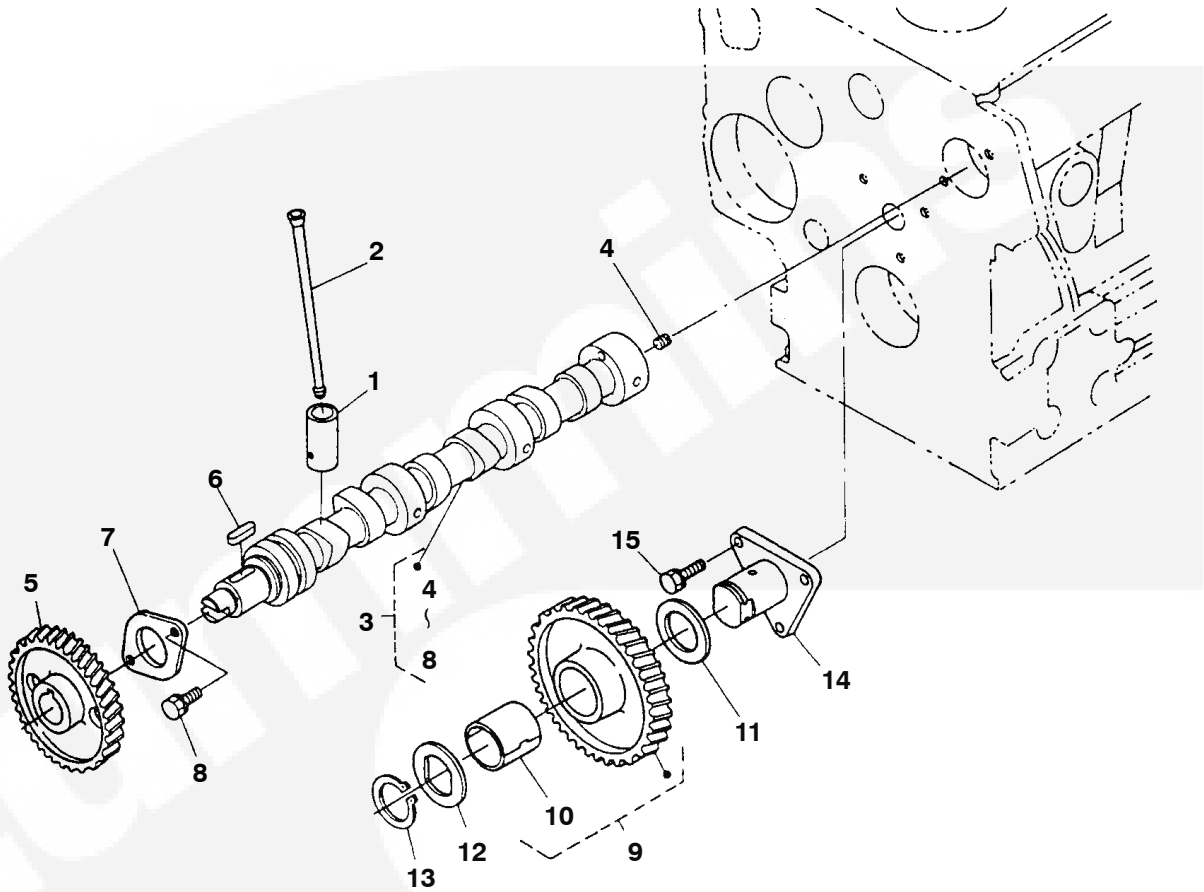
\* - Parts Included in Crankshaft.

## Piston HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Piston	11	185-6540	1	Gear, Crank
	181-9140	3	Standard	12	185-6541	1	Key
	181-9141	3	+ .5mm11	13	185-6542	1	Gear, Oil Pump Drive
			HDKAS	14	185-6543	1	Sleeve, Crankshaft
	181-9140	3	Standard	15	185-6544	1	Collar, Crankshaft
	181-9141	3	Standard	16	185-7429	1	Ring
2			Ring Set, Piston	17			Metal, Crankshaft
			HDKAL		185-6546	1	Standard
	185-7310	3	Standard		185-6547	1	.2mm Undersize
	185-7311	3	Standard		185-6548	1	.4mm Undersize
			HDKAS	18			Metal, Crankshaft
	181-9138	3	Standard		185-6549	2	Standard
	181-9139	3	Standard		185-6550	2	.2mm Undersize
3	185-6531	3	Pin, Piston		185-6552	2	.4mm Undersize
4	185-6532	6	Circlip, Piston Pin	19			Metal, Crankshaft
5	114-0418	3	Rod Assy, Connecting (Includes Bolt, Bearing and Bushing)		185-7430	1	Standard
6	114-0450	3	Bush, Piston Pin		185-6553	1	.2mm Undersize
7	114-0419	6	Bolt, Connecting Rod		185-6554	1	.4mm Undersize
8			Metal, Crankpin	20			Metal, Crankshaft
	185-6536	3	Standard		185-5938	2	Standard
	185-6537	3	.2mm Undersize		185-6555	2	.2mm Undersize
	185-6538	3	.4mm Undersize		185-6556	2	.4mm Undersize
9			Comp., Crankshaft	21			Metal, Crankshaft
	185-7376	3	HDKAL		185-5941	2	Standard
	185-6874	3	HDKAS		185-5942	2	.2mm Undersize
10	185-5924	3	Ball		185-5943	2	.4mm Undersize

## Camshaft

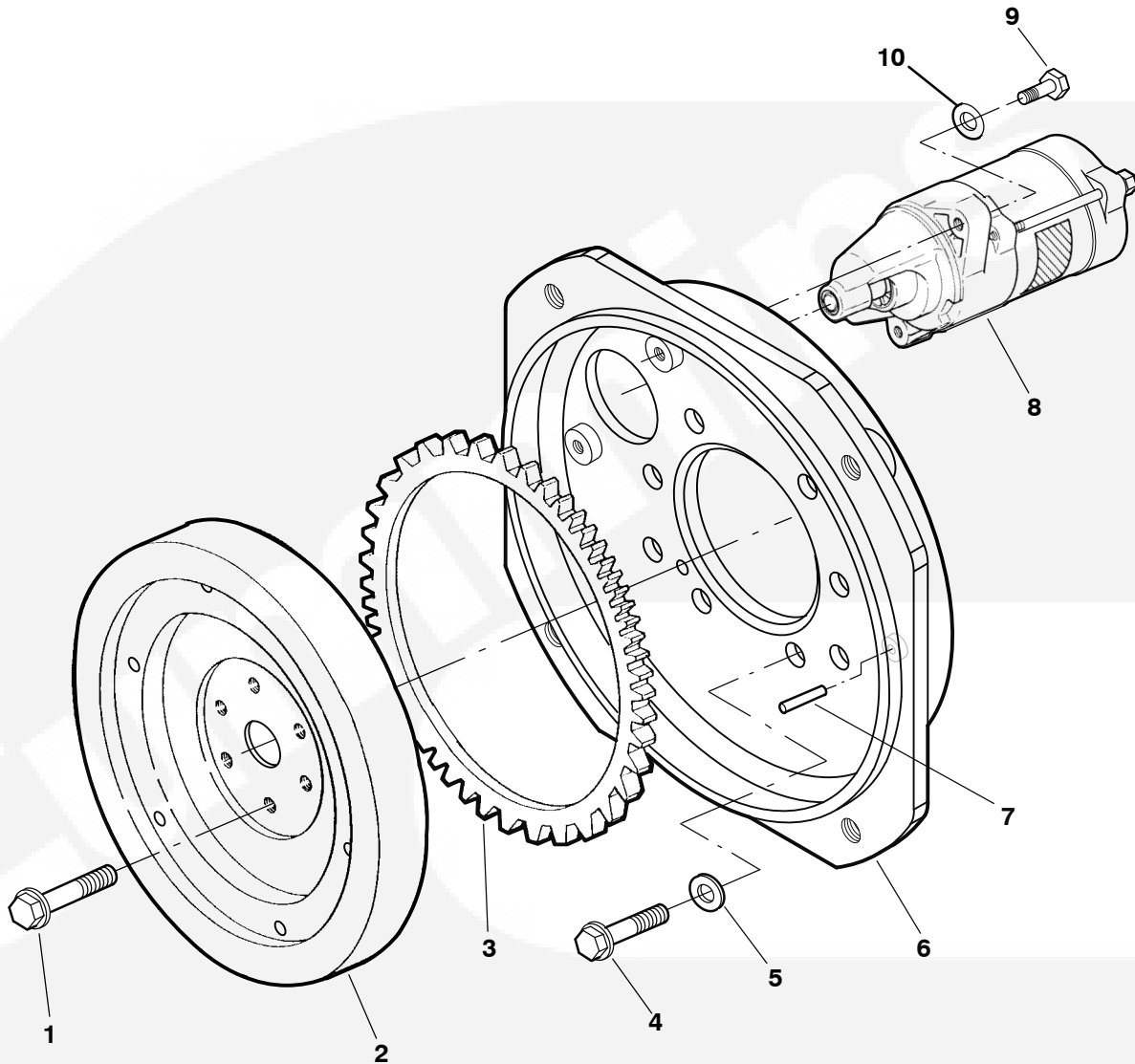


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6516	6	Tappet	9	185-6521	1	Gear Assy, Idle (Includes Bushing)
2	185-6517	6	Rod, Push	10	185-6522	1	Bushing, Idle Gear
3			Camshaft Assy (Includes Parts Marked *)	11	185-6523	1	Collar, Idle Gear
	185-6873	1	Spec A-D	12	185-6524	1	Collar, Idle Gear
	105-0744	1	HDKAL and HDKAS Begin Spec E	13	185-6525	1	Circlip, Idle Gear
4	185-5558	1	*Screw, Set	14	185-6526	1	Shaft, Idle Gear
5	185-6519	1	*Gear, Camshaft	15	185-2388	3	Bolt
6	185-5560	1	*Key, Feather				
7	185-6520	1	*Stopper, Camshaft				
8	185-2387	2	*Bolt				
	185-6873	1	Spec A-D				
	105-0744	1	HDKAL and HDKAS Begin Spec E				

\* - Parts Included in Camshaft Assy.



# Flywheel

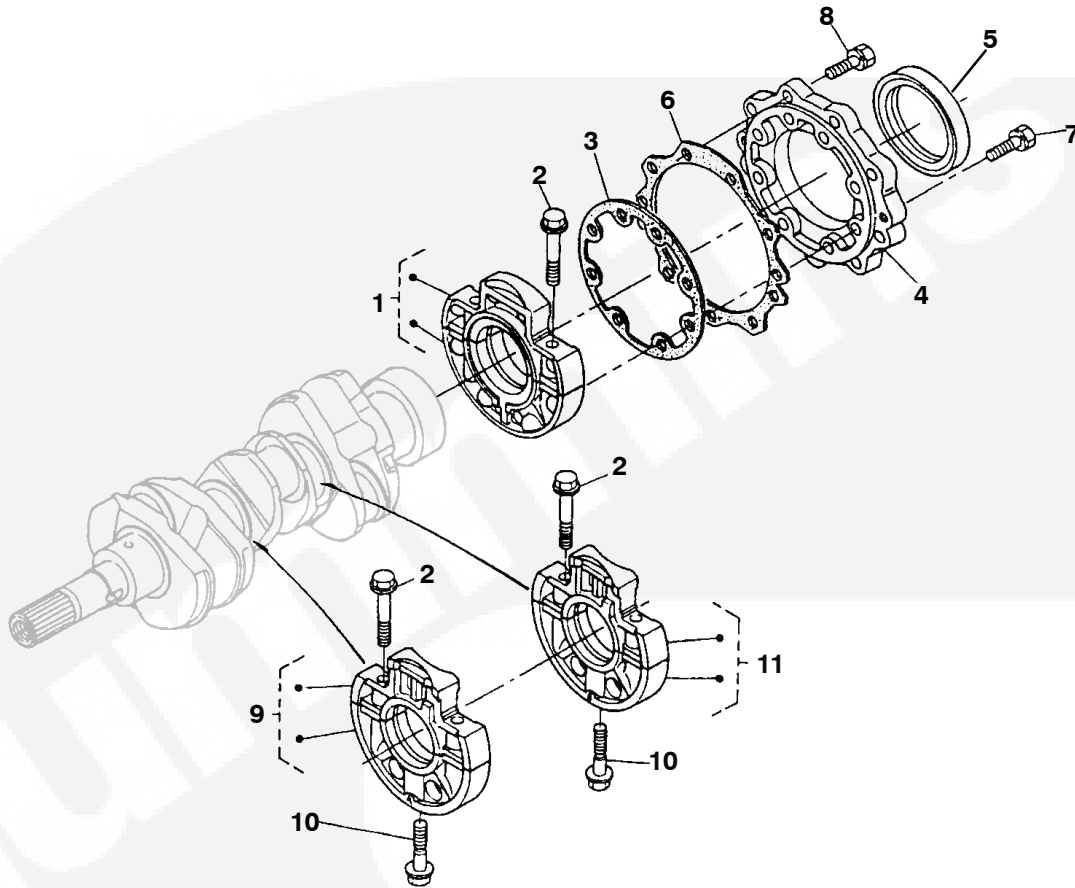


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-5477	6	Bolt, Flywheel (M10 x 1.25 x 30mm)	6	231-0353-SO	1	Adapter Assy, Generator (Includes Dowel Pin)
2	104-1916	1	Flywheel Assy (Includes Ring Gear)	7	516-0247	1	Pin, Dowel
3	104-1861	1	Gear, Ring	8	191-2229	1	Starter
4	815-0600	10	Bolt, Flywheel Housing (M10 x 1.25 x 25mm)	9	800-2515	2	Screw, Hex Head Cap (M8 x 1.25 x 30mm)
5	740-1008	10	Washer, Flat (M10)	10	850-2008	1	Washer, Lock (M8)

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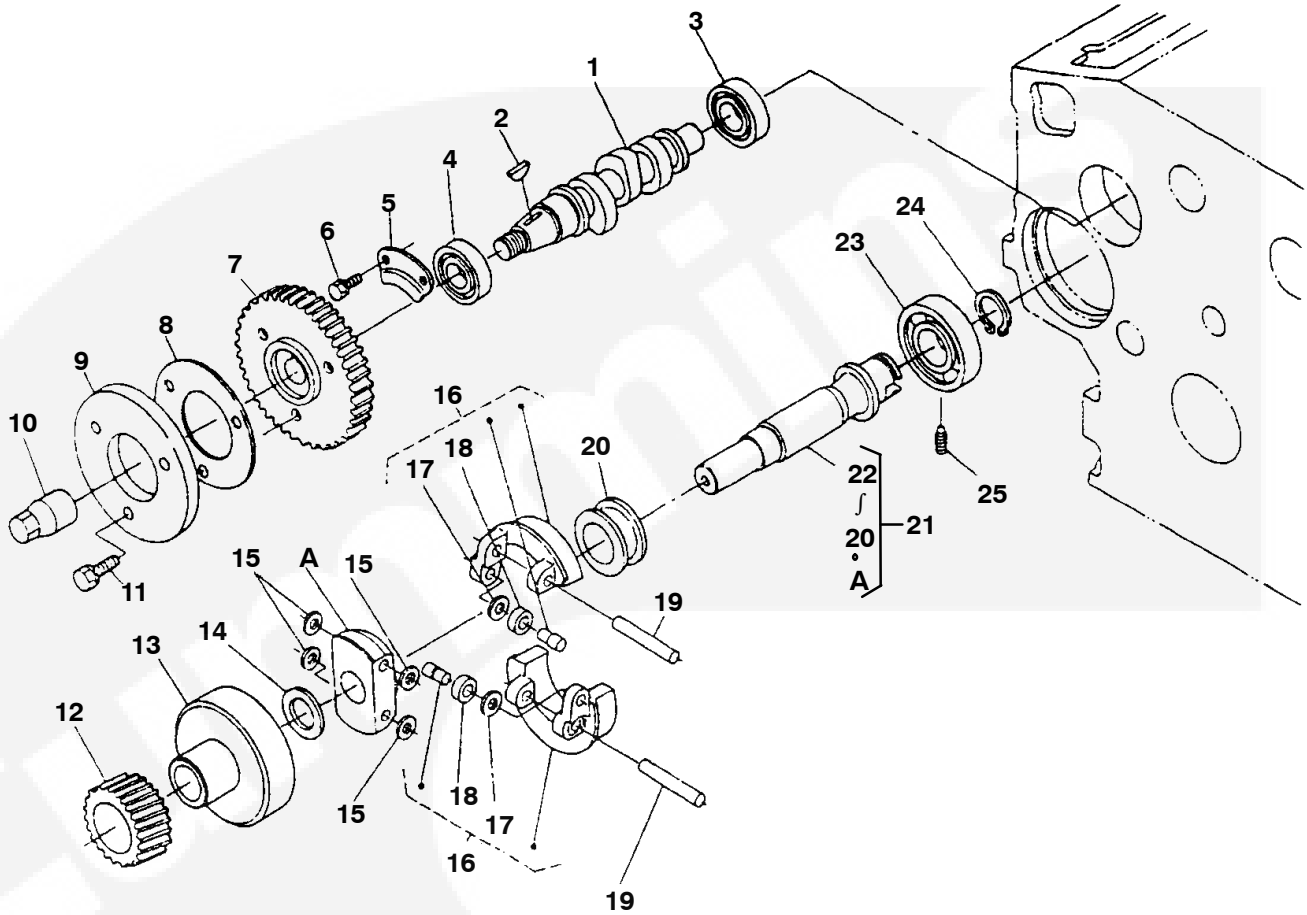


## Main Bearing Case



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6506	1	Case Assy, Main Bearing	185-6512	1	1	HDKAQ, HDKAR, HDKAS HDKAL
2	185-6507	6	Bolt, Bearing Case	185-6512	1	1	Spec A
3			Gasket, Bearing Case	185-7305	1	1	Begin Spec B
	185-6869	1	Spec A-D	10			Bolt, Bearing Case
	185-6805	1	HDKAL Begin Spec E	185-6513	2	2	Spec A-D
4		1	Cover, Bearing Case	185-6507	2	2	HDKAS Begin Spec E
	185-6509	1	Spec A-D	11			Case Assy, Main Bearing
	185-6870	1	HDKAS Begin Spec E	185-6872	1	1	HDKAQ, HDKAR, HDKAS HDKAL
5	185-6510	1	Seal, Oil	185-6872	1	1	Spec A
6	185-6511	1	Gasket, Bearing Case Cover	185-7306	1	1	Begin Spec B
7	185-2391	8	Bolt				
8	185-2390	9	Bolt				
9			Case Assy, Main Bearing				

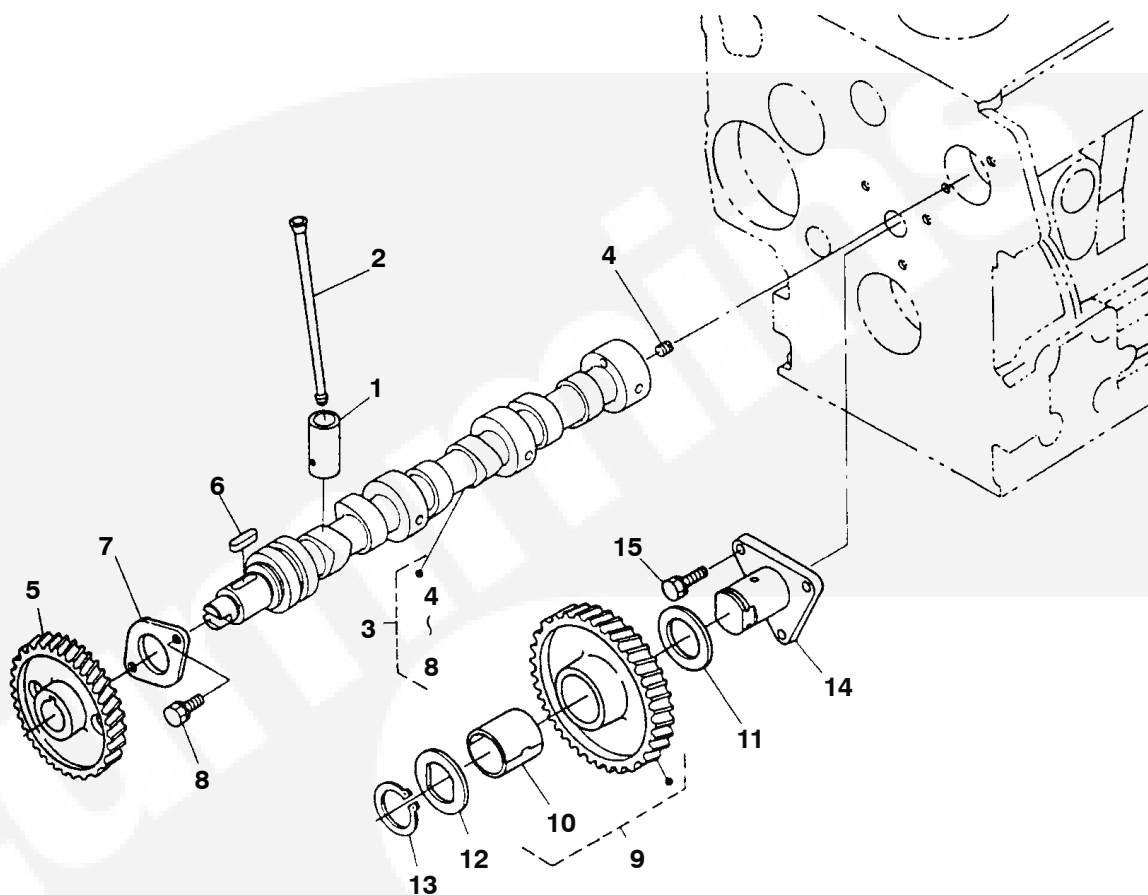
## Fuel Camshaft (Spec A-D)



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

\* - Parts Included in Governor Shaft Assy.

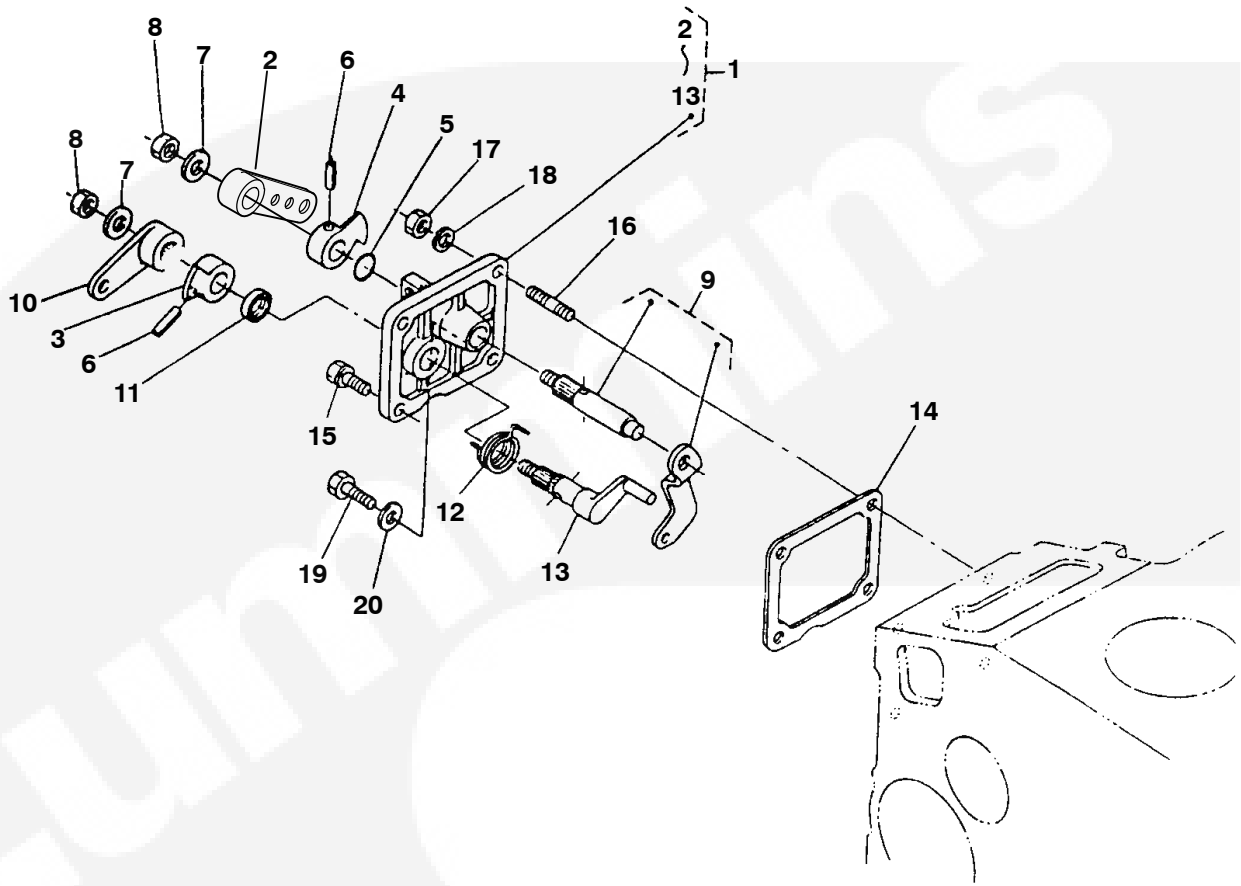
## Camshaft HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6516	6	Tappet	10	185-6522	1	Bushing, Idle Gear
2	185-6517	6	Rod, Push	11	185-6523	1	Collar, Idle Gear
3	105-0744	1	Camshaft Assy (Includes Parts Marked *)	12	185-6524	1	Collar, Idle Gear
4	185-5558	1	*Screw, Set	13	185-6525	1	Circlip, Idle Gear
5	185-6519	1	*Gear, Camshaft	14	185-6526	1	Shaft, Idle Gear
6	185-5560	1	*Key, Feather	15	185-2388	3	Bolt
7	185-6520	1	*Stopper, Camshaft				
8	185-2388	2	*Bolt				
9	185-6521	1	Gear Assy, Idle (Includes Bushing)				

\* - Parts Included in Camshaft Assy.

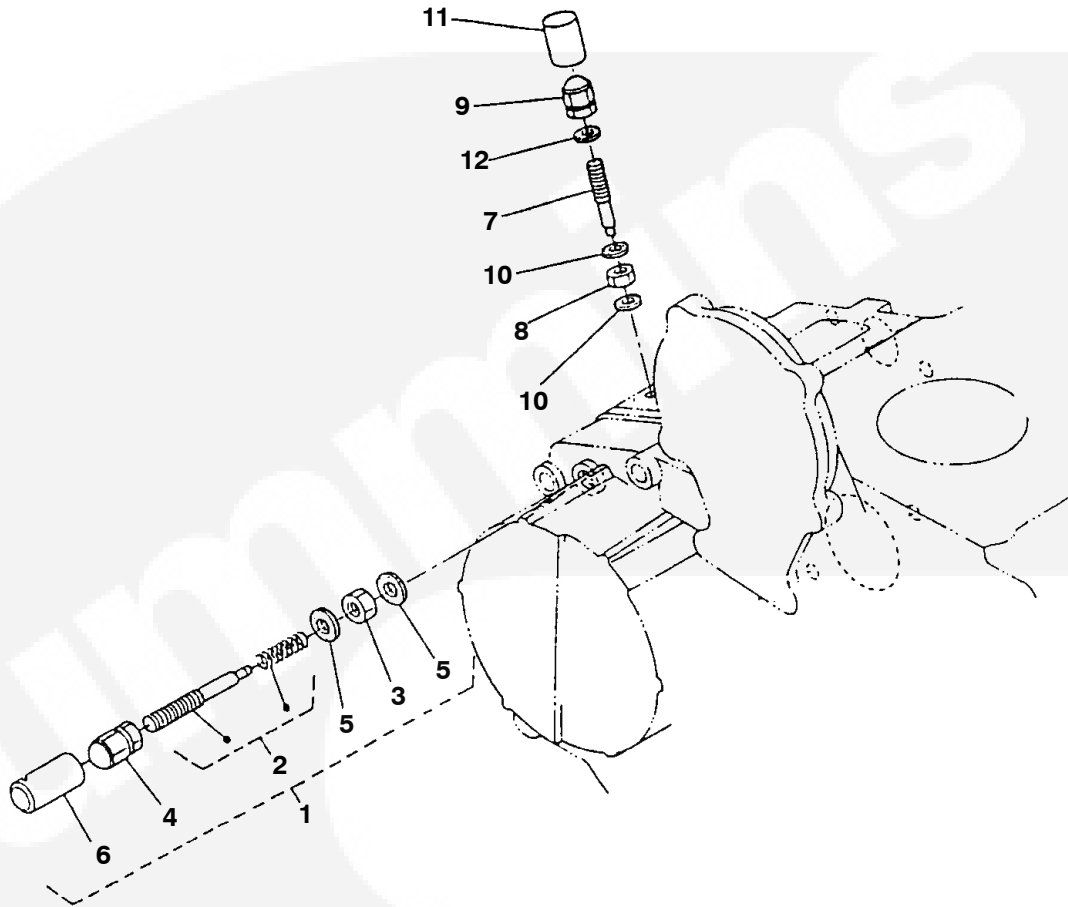
## Speed Control Plate



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Plate Assy, Control (Includes Parts Marked *)	11	185-2461	1	*Seal, Oil
	185-6892	1	HDKAQ, HDKAR, HDKAS HDKAL	12	185-6614	1	*Spring, Return
	185-7224	1	Begin Spec B	13	185-6615	1	*Shaft, Stop Lever
2	185-6607	1	*Lever, Speed Control	14	185-6894	1	Gasket
3	185-6608	1	*Lever, Speed Control	15	185-2388	1	Bolt
4	185-6609	1	*Lever, Speed Control	16			Stud
5		1	*O'Ring		185-2359	2	Spec A
	185-5673	1	Spec A		185-7425	2	Begin Spec B (HDKAL and HDKAS)
	185-7433	1	Begin Spec B	17	185-4255	2	Nut
6	185-2351	2	*Pin, Spring	18	185-6759	2	Washer, Spring
7	185-6610	2	*Washer, Plain	19	185-5688	1	Bolt
8	185-6611	2	*Nut	20	185-2284	1	Gasket
9	185-6612	1	*Lever Assy, Governor				
10	185-6613	1	*Lever, Engine Stop				

\* - Parts Included in Control Plate Assy.

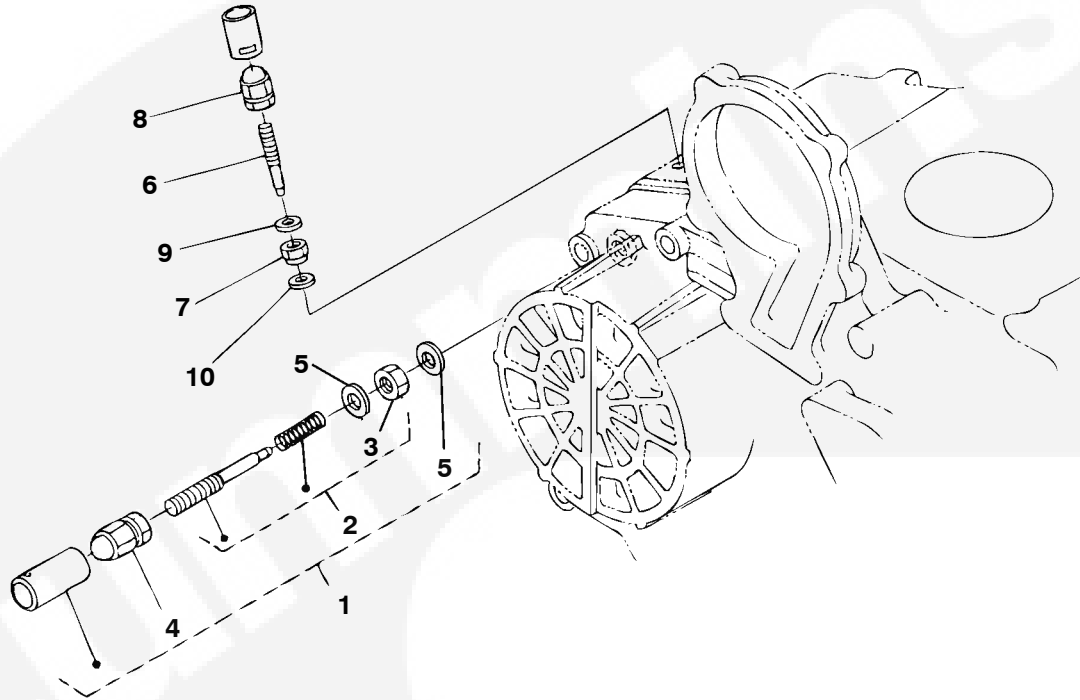
## Governor Lever (Spec A-D)



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
2	185-6575	1	*Bolt Assy, Adjusting	9	185-5685	1	Nut, Cap
3	185-5684	1	*Nut	10	185-2284	2	Gasket
4	185-5685	1	*Nut, Cap	11	185-6932	1	Cap
5	185-2284	2	*Gasket	12	185-7313	1	Gasket
6	185-6930	1	*Cap				
7	185-6577	1	Bolt, Adjusting				

\* - Parts Included in Governor Lever Assy.

## Governor Lever HDKAL and HDKAS (Begin Spec E)



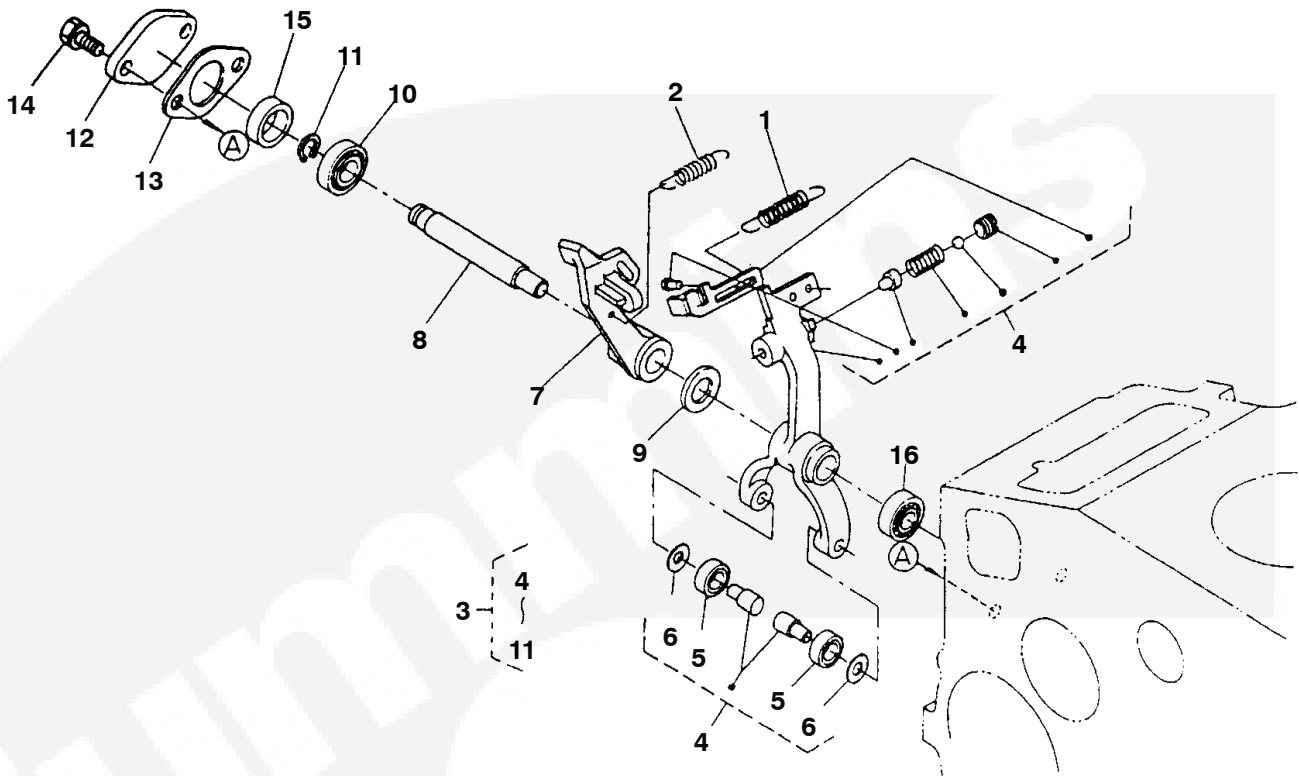
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-2864	1	Governor Idling	8	860-2075	1	Nut
2	150-2865	1	*Bolt Assy, Adjusting	9	185-2284	2	Gasket
3	185-6484	1	*Nut	10	185-7313	1	Gasket
4	860-2075	1	*Nut				
5	185-2284	2	*Gasket				
6	150-2866	1	*Bolt, Adjusting				
7	185-6931	1	Nut, Lock				

\* - Parts Included in Governor Lever Assy.





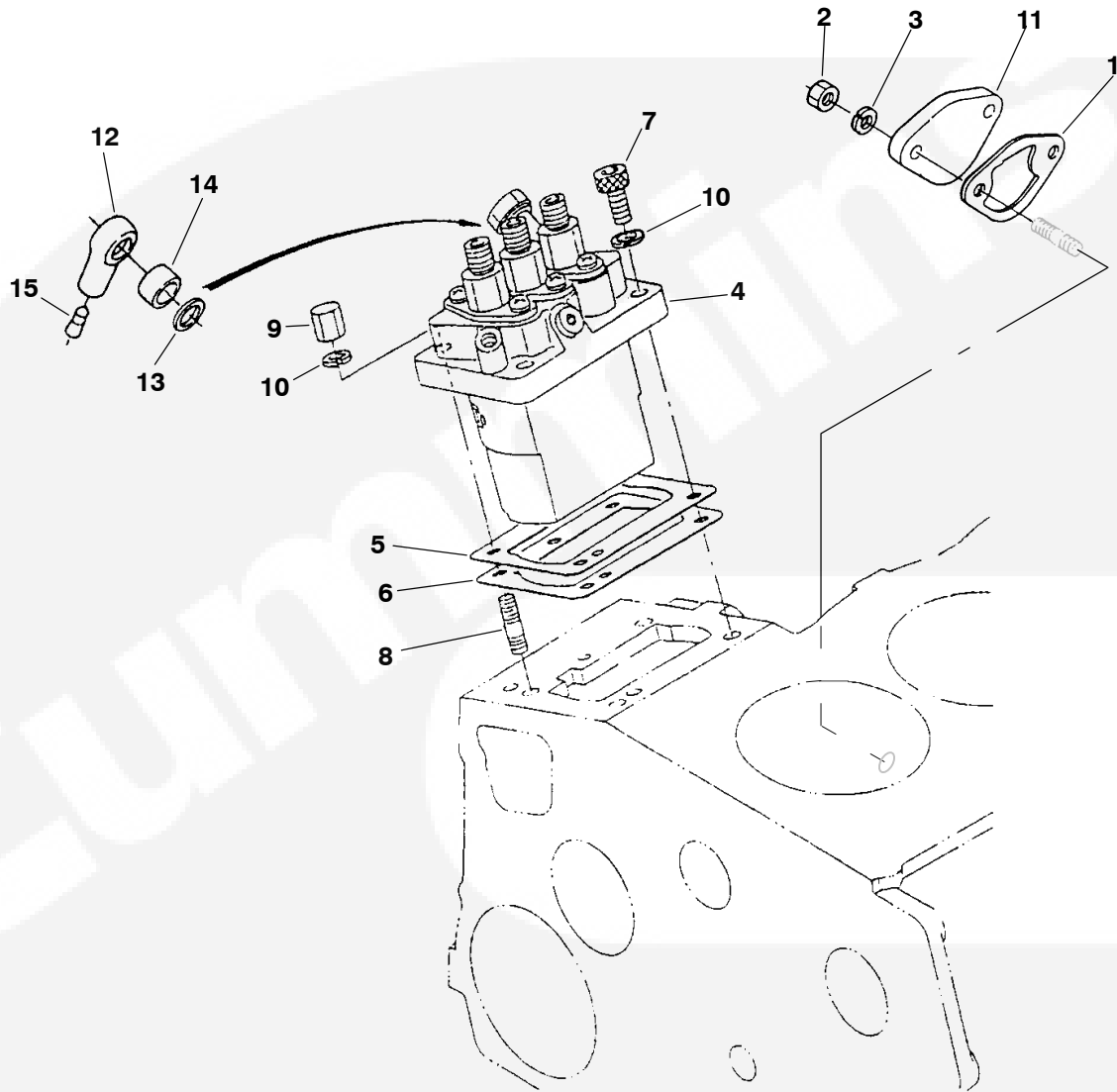
## Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6891	1	Spring, Start		185-6596	1	HDKAS
2			Spring, Governor		185-7432	1	HDKAL
			HDKAQ, HDKAR, HDKAS		150-2868	1	Begin Spec E
	185-6594	1	60 Hz				HDKAL and HDKAS
	185-7101	1	50 Hz	5	185-5959	2	*Bearing
			HDKAL	6	185-5960	2	*Washer
			Spec A	7			*Lever, Fork
	185-6594	1	60 Hz	185-6598	1		Spec A-D
	185-7101	1	50 Hz	150-2868	1		Begin Spec E
	185-7377	1	Spec B				HDKAL and HDKAS
			Begin Spec E	8			*Shaft, Fork Lever
	506-0033	1	HDKAL	185-6599	1		Spec A-D
	506-0034	1	HDKAS	185-6519	1		Begin Spec E
3			Lever Assy, Fork (Includes Parts				HDKAL and HDKAS
			Marked *)	9	185-6163	1	*Washer, Plain
	185-6595	1	Spec A	10	185-6600	1	*Bearing, Miniature
			Begin Spec B	11	185-6601	1	*Circlip, External
	185-6595	1	HDKAS	12	185-6602	1	Cover, Fork Lever Shaft
	185-7431	1	HDKAL	13	185-6603	1	Gasket
	150-2869	1	Begin Spec E	14	185-2387	2	Bolt
			HDKAL and HDKAS	15	185-6604	1	Collar
4			*Lever, Fork (Includes Bearing	16	185-6605	1	Bearing, Miniature
			and Washer)				
	185-6596	1	Spec A				
			Spec B				

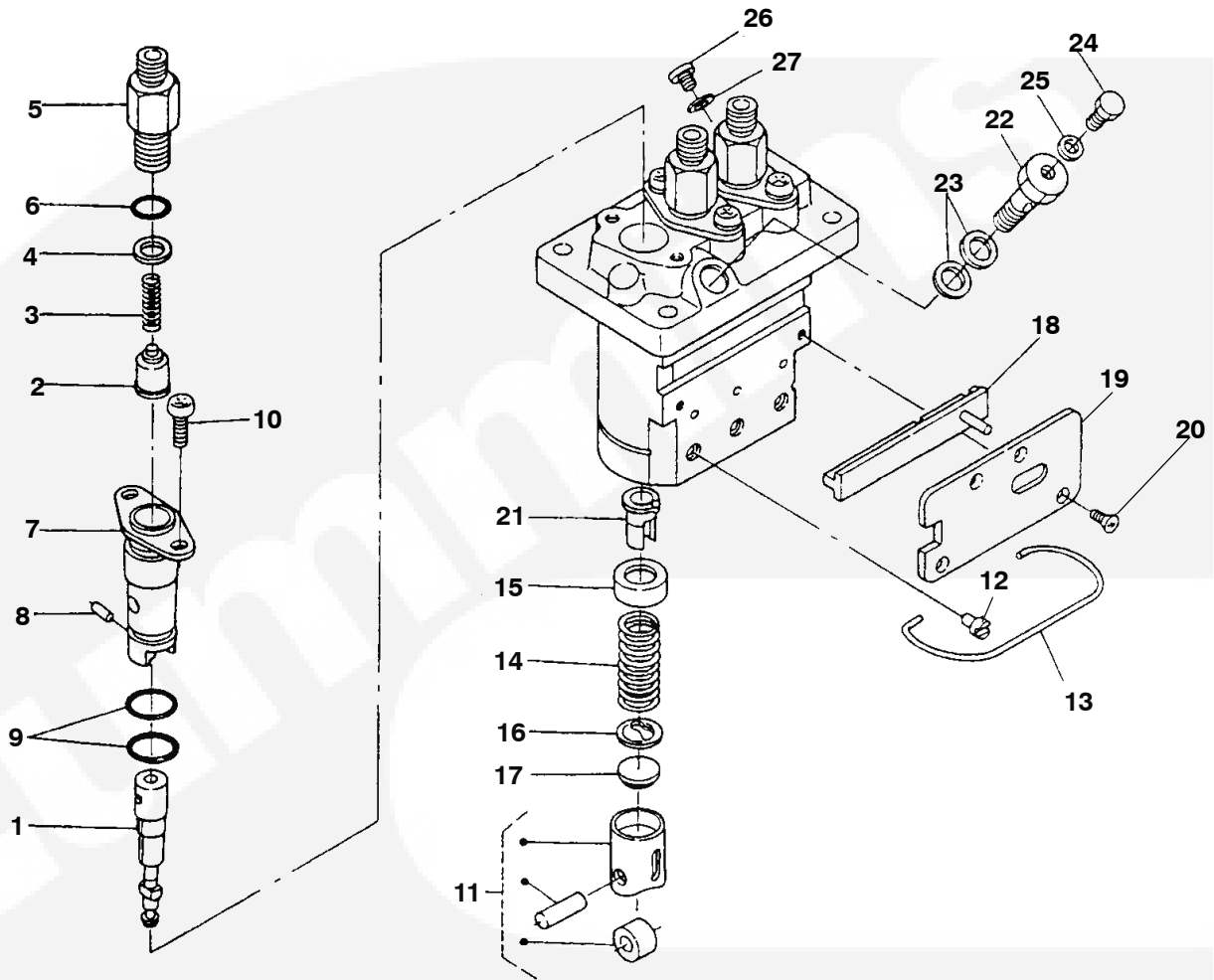
\* - Parts Included in Fork Lever Assy.

## Injection Pump (Spec A-D)



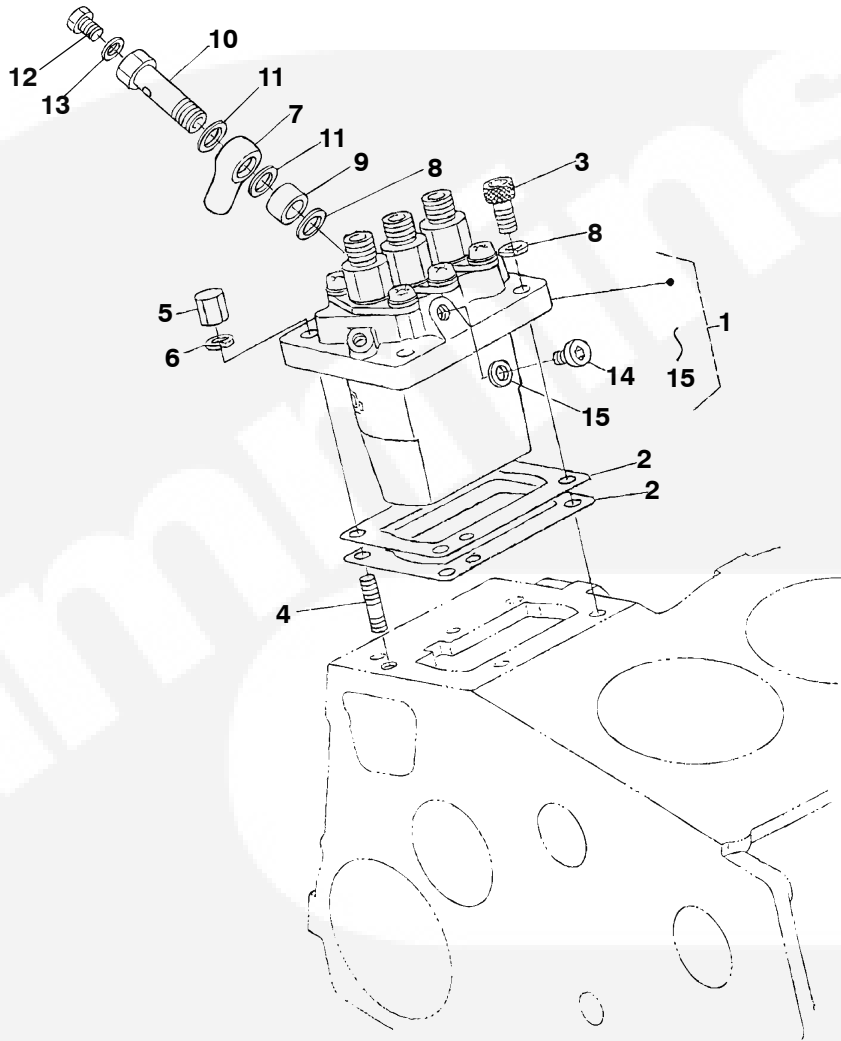
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6580	1	Gasket, Fuel Pump	7	185-5623	2	Bolt, Socket Head Cap
2	185-4255	2	Nut	8	185-5624	2	Stud
3	185-2380	2	Washer, Spring	9	185-5625	2	Nut, Cap
4	185-6882	1	Pump Assy, Injection (See Separate Page for Components)	10	185-6759	4	Washer, Spring
5			Shim, Injection Pump	11	185-5798	1	Cover
	185-6749	1	.20mm	12	185-6584	1	Joint, Eye
	185-6739	1	.25mm	13	185-2578	1	Gasket
6	185-6845	2	Shim, Injection Pump	14	185-6585	1	Collar, Eye Joint
				15	185-6586	1	Cap

## Injection Pump Components (Spec A-D)



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	185-6884	3	Plunger, Pump	15	185-5653	3	Seat, Spring Upper
2	185-5639	3	Valve, Delivery	16	185-5654	3	Seat, Spring Lower
3	185-5640	3	Spring, Delivery Valve	17	185-5655	3	Shim
4	185-5641	3	Gasket, Delivery Valve	18	185-6885	1	Rack, Control
5	185-6588	3	Holder, Delivery Valve	19	185-6886	1	Plate
6	185-5643	3	O'Ring	20	185-5658	4	Screw, Countersunk Head
7	185-5644	3	Flange, Sleeve	21	185-5659	3	Sleeve, Control
8	185-5645	3	Pin, Joint	22	185-6887	1	Screw, Follow
9	185-5646	6	O'Ring	23	185-5661	2	Gasket
10	185-5647	6	Screw	24	185-5662	1	Screw
11	185-5649	3	Tappet	25	185-5663	1	Gasket
12	185-5650	3	Pin, Tappet Guide	26	185-6888	1	Plug
13	185-6707	1	Pin, Clamp	27	185-5820	1	Gasket

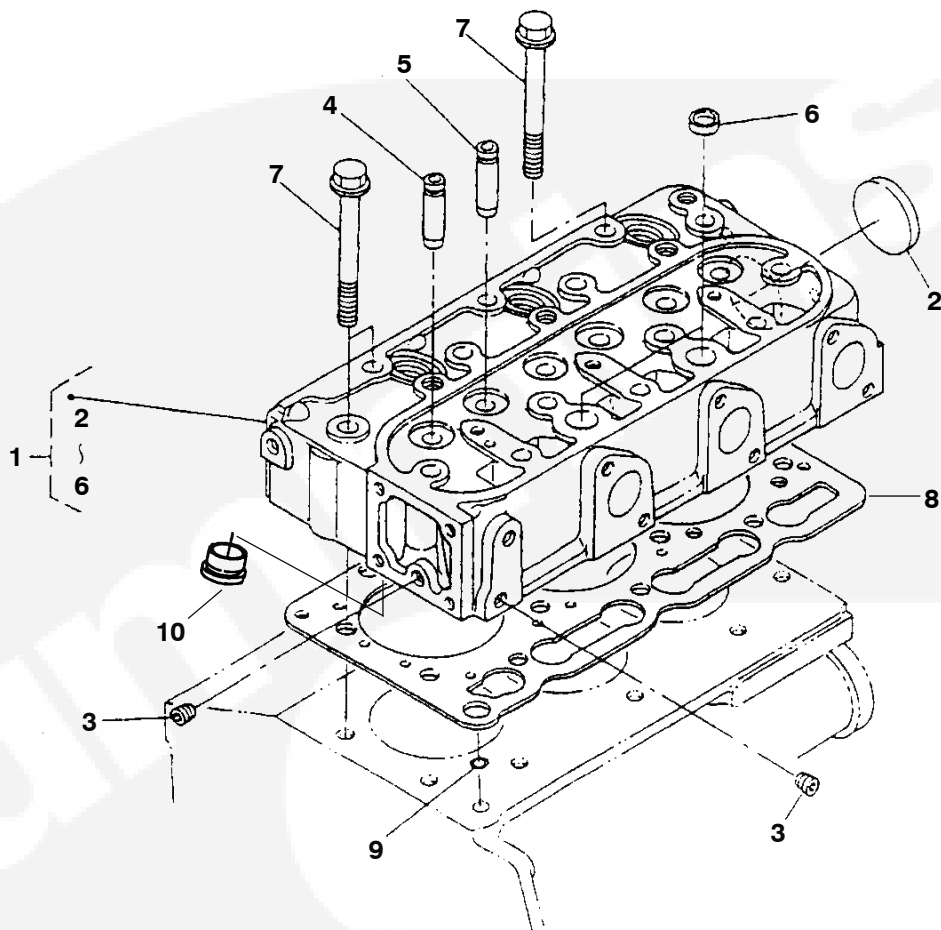
## Injection Pump HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6882	1	Assy Pump, Injection	7	185-6584	2	Joint
2	185-6749	1	Shim, Injection Pump	8	185-2578	1	Gasket
	185-6739	1	.20mm	9	185-6585	1	Collar, Joint
	185-6845	1	.25mm	10	185-6887	1	Bolt, Joint
		1	.30mm	11	185-5661	1	Gasket
3	185-5623	2	Bolt, Hex Socket Head	12	185-5662	1	Screw
4	185-5624	2	Stud	13	185-5663	1	Gasket
5	185-5625	2	Nut	14	185-6888	1	Plug
6	185-6759	4	Washer, Spring	15	185-5820	1	Gasket



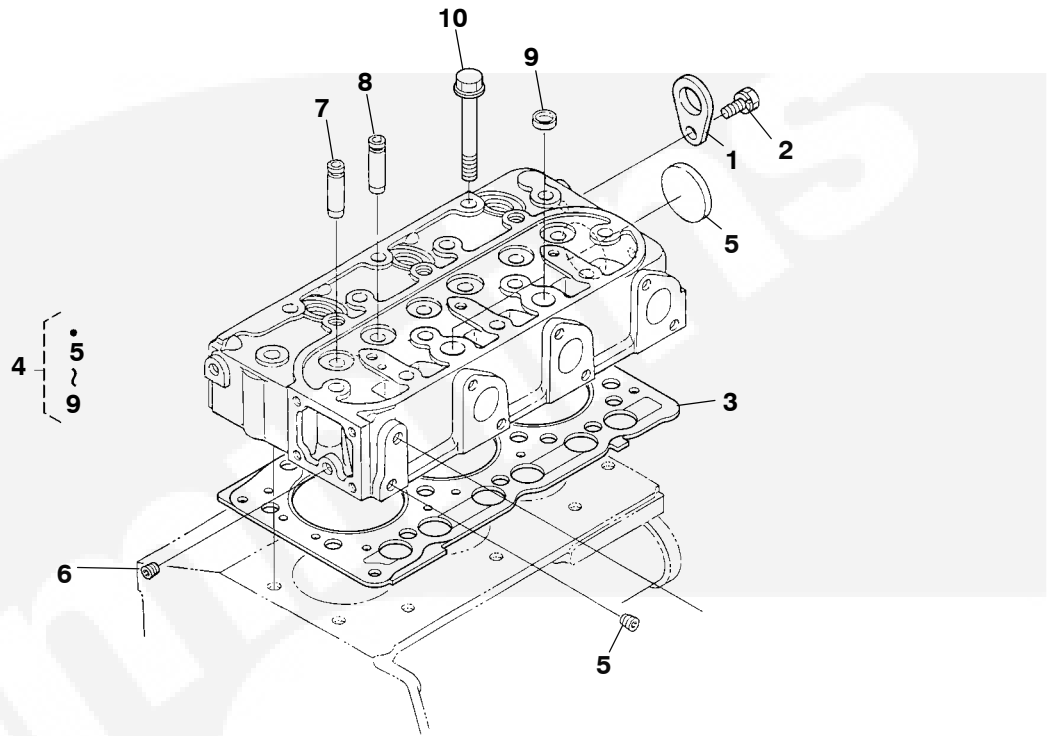
## Cylinder Head (Spec A-D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Head Assy, Cylinder (Includes Parts Marked *)	8			Gasket, Cylinder Head
			HDKAL	185-6862	1	1	HDKAQ
185-6861	1	1	Spec A	185-7094	1	1	HDKAR, HDKAS
185-7374	1	1	Begin Spec B				HDKAL
185-6861	1	1	HDKAQ	185-6862	1	1	Spec A
185-7095	1	1	HDKAR, HDKAS	185-7422	1	1	Begin Spec B
2	185-2411	1	*Cap, Sealing	9	185-2095	1	O'Ring
3	185-2188	2	*Plug	10	185-7375	1	Chamber, Combustion (Spec B HDKAL Only)
4	185-6475	3	*Guide, Inlet Valve				
5	185-6476	3	*Guide, Exhaust Valve				
6	185-2413	2	*Cap, Sealing				
7	185-6477	14	Bolt, Cylinder Head				

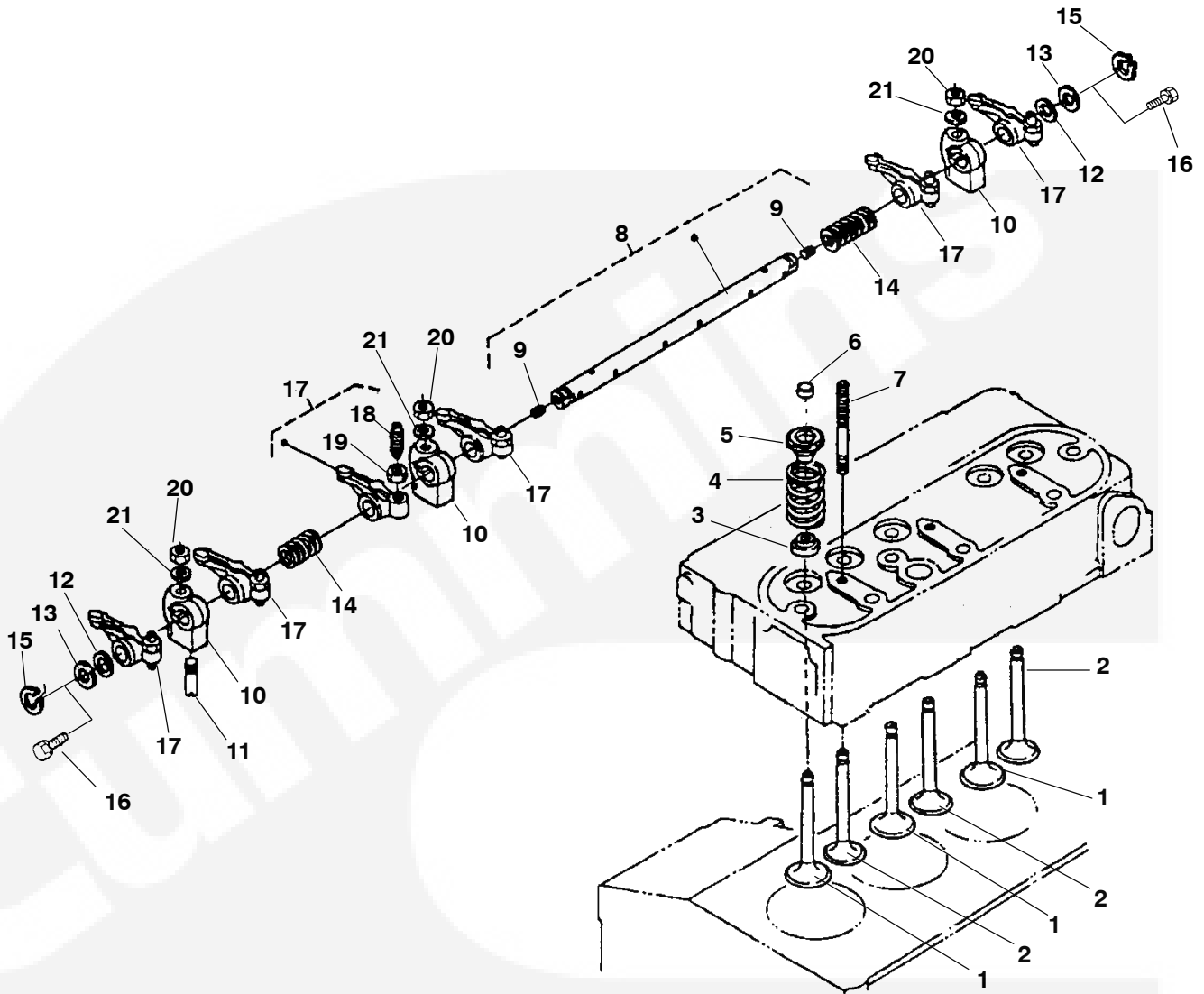
\* - Parts Included in Cylinder Head Assy.

## Cylinder Head HDKAL and HDKAS (Begin Spec E)



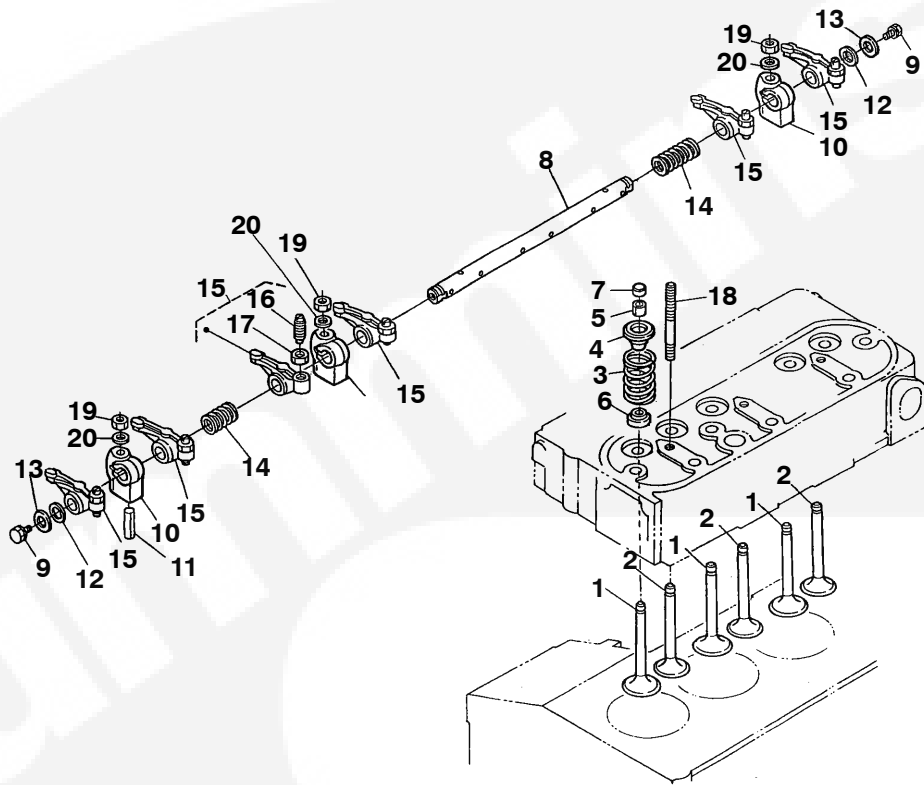
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-2114	2	Hook, Engine HDKAL	5	185-2411	1	Cap, Seal Plug
	185-2414	2	HDKAS	6	185-2188	2	HDKAL
2	185-3009	2	Bolt HDKAL		185-2412	2	HDKAS
	185-6956	2	HDKAS	7	110-3960	3	Guide, Inlet Valve
3	110-3966	1	Gasket, Cylinder Head HDKAL	8	110-3961	3	Guide, Exhaust Valve
	181-9218	1	HDKAS	9	185-2413	2	Cap, Sealing
4	185-7274	1	Comp., Cylinder head HDKAL	10	185-6477	14	Bolt, Cylinder Head
	185-7094	1	HDKAS				

## Valve and Rocker Arm (Spec A-D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6681	3	Valve, Inlet	12	185-6689	2	Washer, Rocker Arm Shaft
2	185-6682	3	Valve, Exhaust	13	185-6690	2	Washer, Rocker Arm Shaft
3	185-7300	6	Seal, Valve Stem				Spec A
4	185-6683	6	Spring, Valve				Begin Spec B
5	185-2076	6	Retainer, Valve Spring		185-6690	2	HDKAS
6	185-2080	6	Cap, Valve		185-7395	1	HDKAL
7	185-6688	3	Stud	14	185-6691	2	Spring, Rocker Arm
8	185-6923	1	Shaft Assy, Rocker Arm	15	185-6692	2	Circlip, External (Spec A and HDKAS Spec B)
			Spec A (Includes Screw)	16	185-7440	2	Bolt (Spec B HDKAL Only)
			Begin Spec B	17	185-6693	6	Arm Assy, Rocker (Includes Screw and Nut)
	185-6923	1	HDKAS (Includes Screw)	18	185-6694	6	Screw, Adjusting
	185-7439	1	HDKAL	19	185-6695	6	Nut
9	185-6686	2	Screw, Set (Spec A and HDKAS Spec B)	20	185-2179	3	Nut
10	185-6687	3	Bracket, Rocker Arm	21	185-2184	3	Washer, Plain
11	185-7441	1	Screw, Rocker Arm Set				

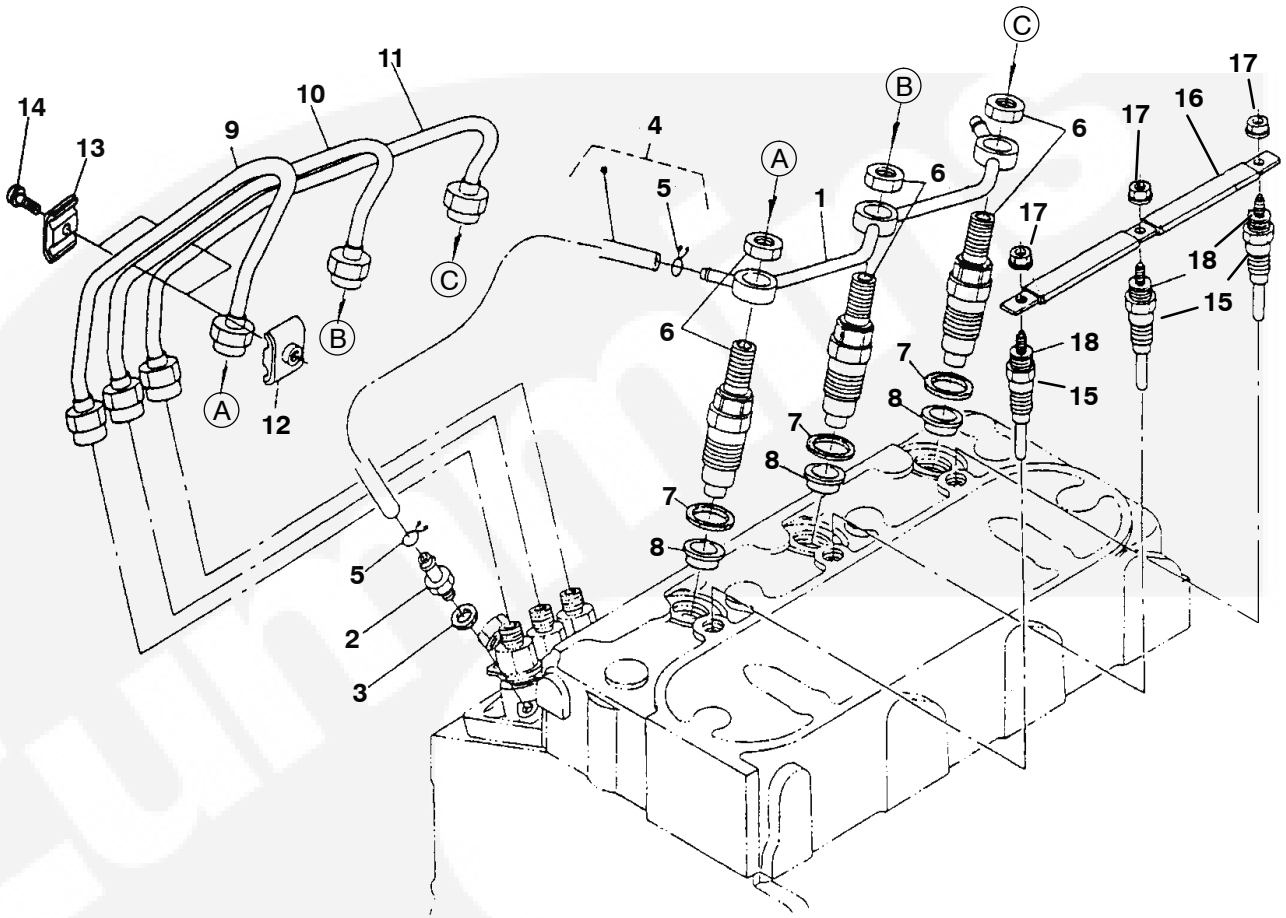
## Valve and Rocker Arm HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6681	3	Valve, Inlet	10	185-6687	3	Bracket, Rocker Arm
2	185-6682	3	Valve, Exhaust	11	185-7741	1	Pin, Spring
3	185-6683	6	Spring, Valve	12	185-6689	2	Washer, Arm Shaft
4	110-3959	6	Retainer, Valve Spring	13	185-7395	2	Washer, Plain
5	185-2077	6	Collet, Valve Spring	14	185-6691	2	Spring, Rocker Arm
6	185-7300	6	Seal, Valve Stem	15	185-6693	6	Assy, Rocker Arm
7	185-6459	6	Cap, Valve	16	185-6694	6	Screw, Adjusting
8	185-7439	1	Shaft Assy, Rocker Arm	17	185-6695	6	Nut
9			Bolt	18	185-6688	3	Stud
	185-2386	2	HDKAS	19	185-2179	3	Nut
	185-7440	2	HDKAL	20	185-2184	3	Washer, Plain

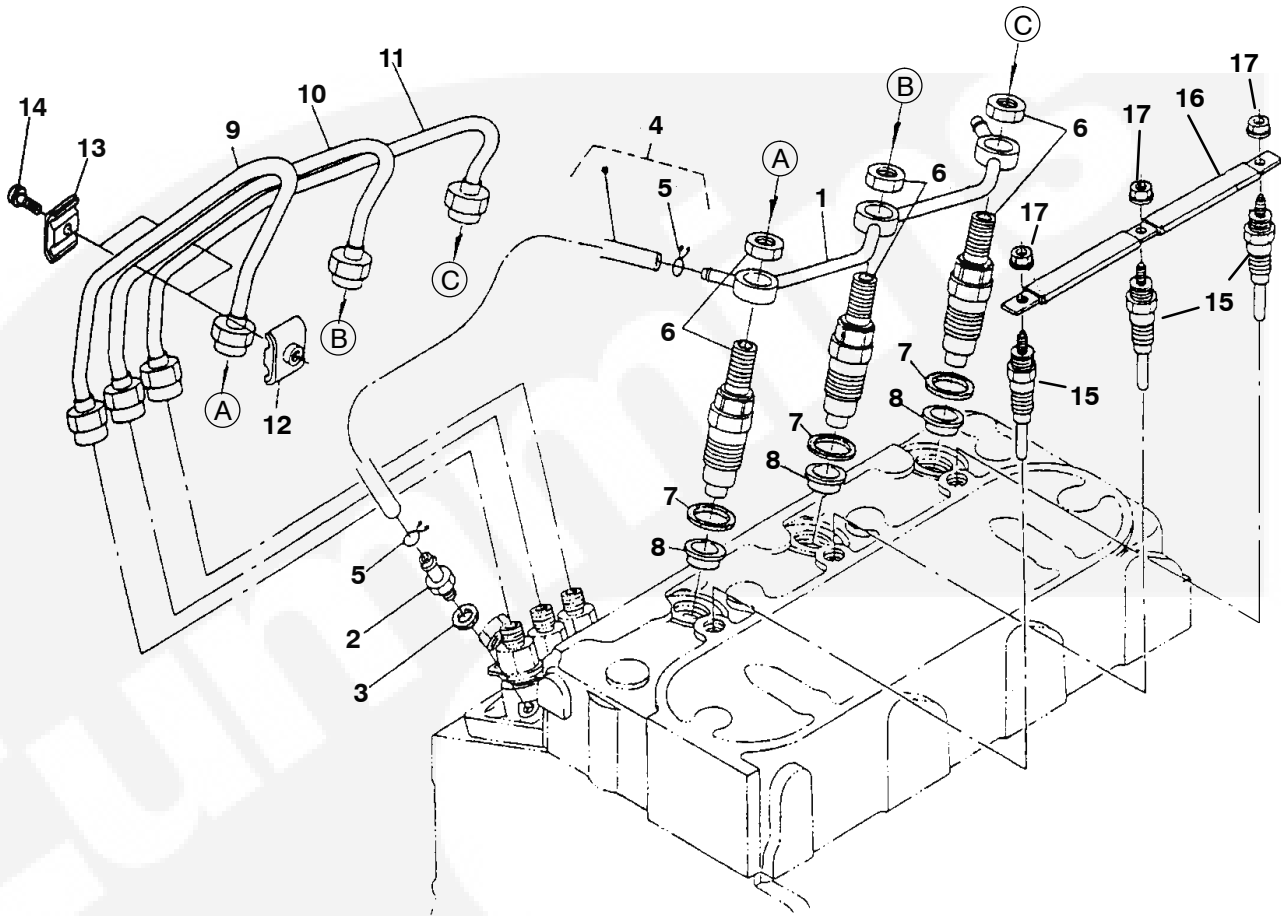


## Nozzle Holder and Glow Plug (Spec A-D)



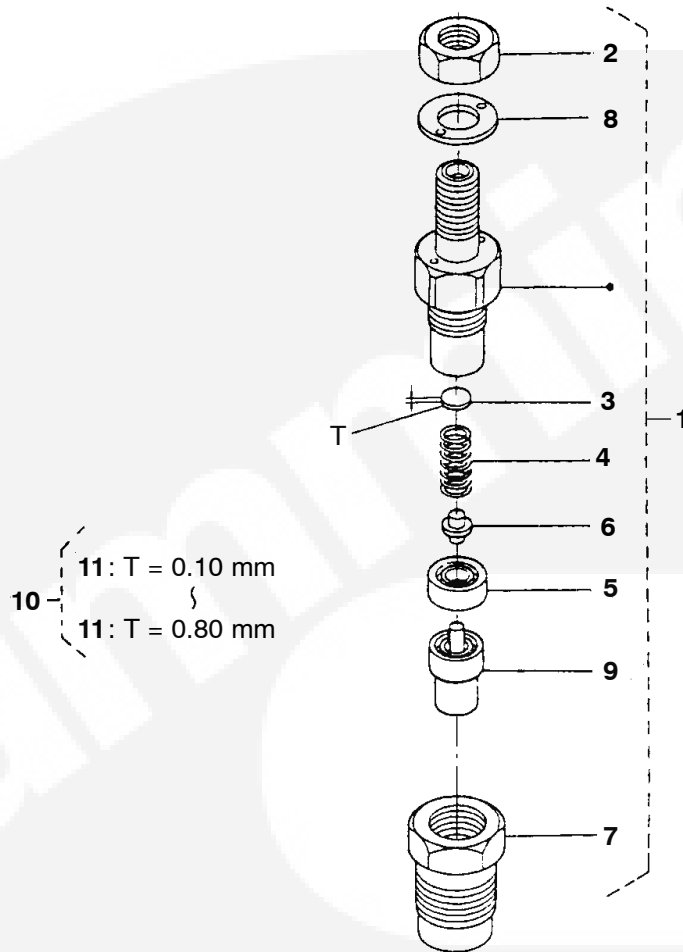
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6896	1	Pipe Assy, Overflow	10	185-6751	1	Pipe, Injection
2	185-5609	1	Screw, Air Bleeder	11	185-6621	1	Pipe, Injection
3	185-2284	1	Gasket	12	185-5612	2	Clamp, Pipe
4	185-5607	1	Pipe Assy, Overflow (Includes Pipe Clip)	13	185-2345	2	Clamp, Pipe
5	185-5608	2	Clip, Pipe	14	185-2385	2	Screw, Washer Head
6	185-6740	3	Holder Assy, Nozzle	15	185-5421	3	Plug, Glow
7	185-5337	3	Gasket	16	185-6899	1	Cord, Glow Plug
8	185-5985	3	Seal, Heat	17	185-5615	3	Nut, Flange
9	185-6750	1	Pipe, Injection	18	185-7004	3	Washer, Plain

## Nozzle Holder and Glow Plug HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	147-0897	1	Kit Holder, Nozzle	9	185-6750	1	Pipe, Injection
1	185-6896	1	Pipe Assy, Overflow	10	185-6751	1	Pipe, Injection
2	185-5609	1	Screw, Air Bleeder	11	185-6897	1	Pipe, Injection
3	185-2284	1	Gasket	12	185-5612	2	Clamp, Pipe
4	185-5607	1	Pipe Assy, Overflow (Includes Pipe Clip)	13	185-5613	2	Clamp, Pipe
5	185-5608	2	Clip, Pipe	14	185-2385	2	Screw, Washer Head
6	185-6740	3	Holder Assy, Nozzle	15	337-3782	3	Plug, Glow
7	185-5337	3	Gasket	16	185-6899	1	Cord, Glow Plug
8	185-5985	3	Seal, Heat	17	185-5615	3	Nut, Flange

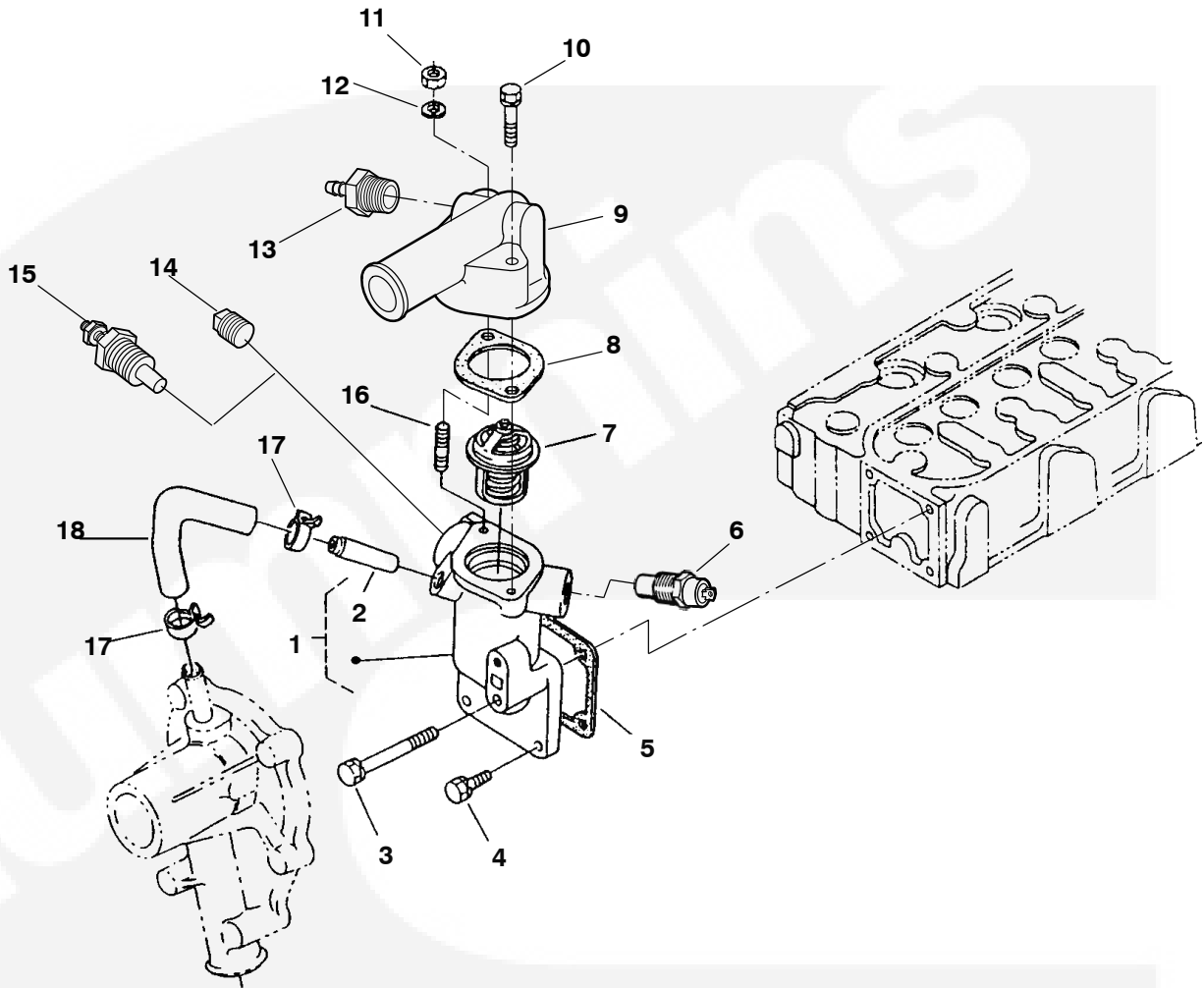
## Nozzle Holder Components



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)	11			Washer, Adjusting
2	185-6900	3	*Nut	185-6909	3		.10mm
3	185-6901	3	*Washer, Adjusting	185-6910	3		.20mm
4	185-6902	3	*Spring, Nozzle	185-6911	3		.30mm
5	185-6903	3	*Piece, Distance	185-6912	3		.40mm
6	185-6904	3	*Rod, Push	185-6913	3		.50mm
7	185-6905	3	*Nut, Nozzle	185-6914	3		.52mm
8	185-6906	3	*Washer	185-6915	3		.54mm
9	185-6907	3	*Piece, Nozzle	185-6916	3		.56mm
10	185-6908	3	*Washer Assy, Adjust (Includes Adjusting Washers)	185-6917	3		.58mm
				185-6918	3		.80mm

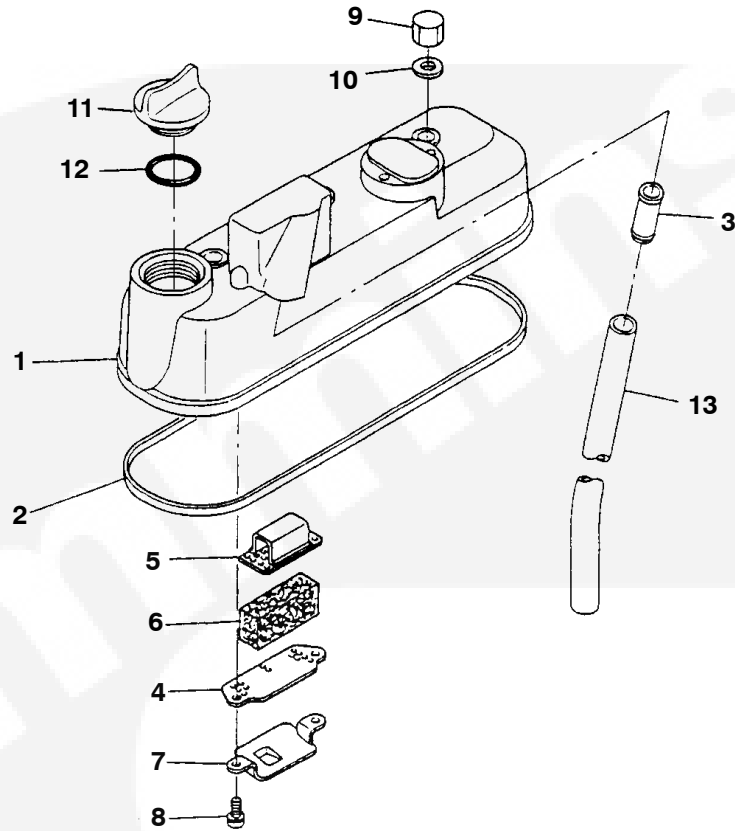
\* - Parts Included in Nozzle Holder Assy.

## Water Flange



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6663	1	Flange, Water (Includes Water Return Pipe)	12	185-2380	1	Washer, Spring
2	185-6445	1	Pipe, Water Return	13	502-0395	1	Connector, Hose 1/8 NPT (Side Mounted)
3	185-6665	1	Bolt		502-1284	1	3/8 NPT (Rear Mounted)
4	185-2388	3	Bolt	14	502-0028	1	Plug, Hex Head
5	185-6922	1	Gasket, Water Flange	15	193-0318	1	Sender, Water Temperature (E2)
6	309-0552	1	Switch, Temperature (S2)	16	185-6670	1	Stud
7	185-5458	1	Thermostat	17	185-6667	2	Band, Pipe
8	185-7242	1	Gasket Thermostat	18	185-6666	1	Pipe, Water Return
9	185-6935	1	Cover, Thermostat				
10	185-7084	1	Bolt				
11	185-4255	1	Nut				

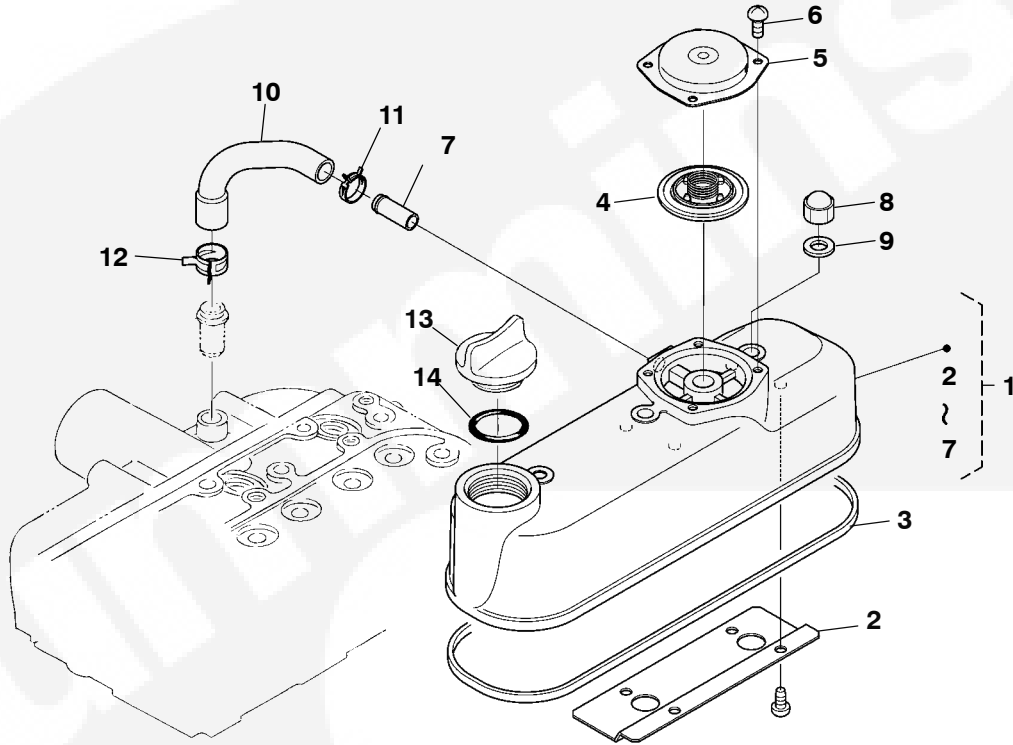
## Cylinder Head Cover (Spec A-D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6867	1	Cover, Cylinder Head	8	185-2384	2	Screw, Washer Head
2	185-6868	1	Gasket, Cylinder Head Cover	9	185-6394	3	Nut, Cap
3	185-6499	1	Joint, Breather Pipe	10	185-2291	3	Gasket
4	185-6500	1	Plate, Lower Breather Element	11	185-5407	1	Cover, Oil Fill
5	185-6501	1	Plate, Upper Breather Element	12	185-7426	1	O'Ring
6	185-6721	1	Element, Breather	13	185-6504	1	Pipe, Breather
7	185-6503	1	Shield, Breather Oil				



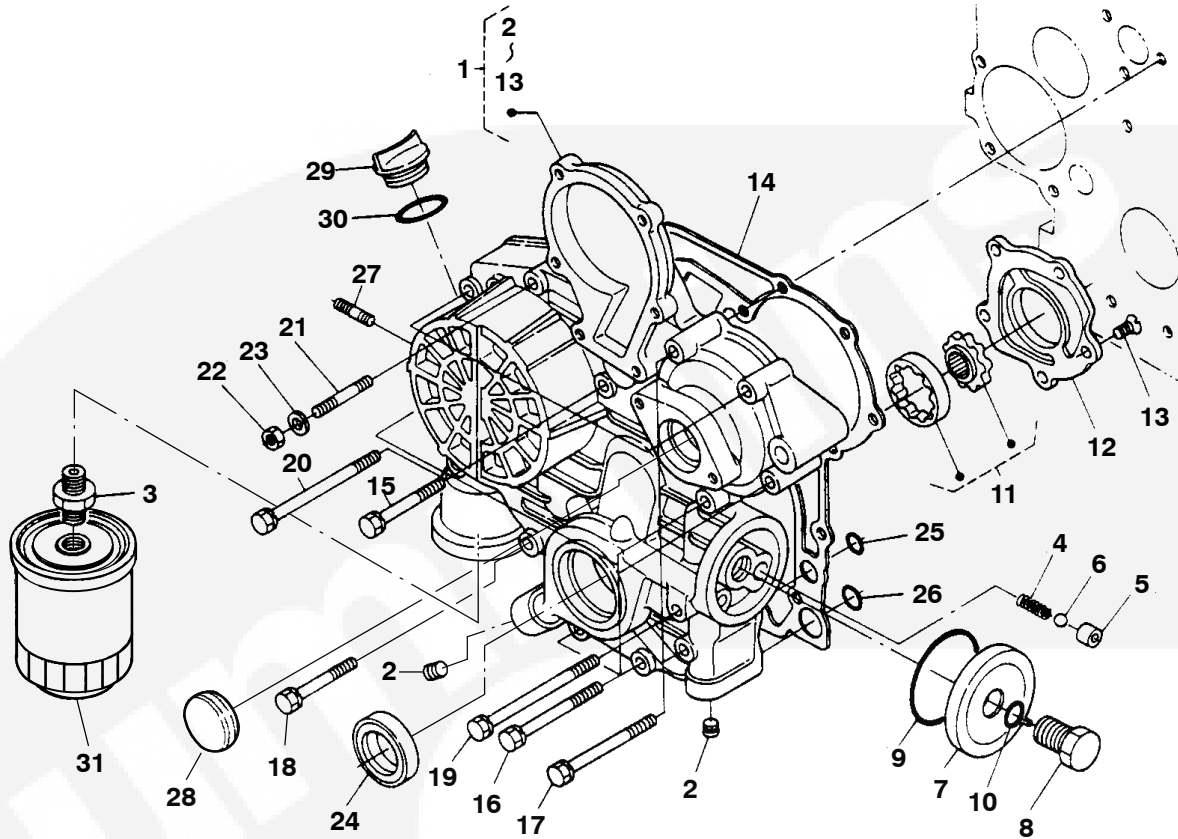
## Cylinder Head Cover HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	115-0512	1	Assy Cover, Cylinder Head	8	185-6394	3	Nut
2	123-2298	1	Shield, Breather	9	185-2291	3	Gasket
3	185-6868	1	Gasket, Head Cover	10	123-2297	1	Tube, Breather
4	123-2296	1	Comp Valve, Breather	11	503-2709	1	Clamp, Hose
5	123-2295	1	Cover, Breather	12	503-2708	1	Clamp, Hose
6	185-3055	4	Screw, Pan Head	13	123-2299	1	Plug, Oil Filler
7	185-6103	1	Pipe, Water Return	14	185-7426	1	O'Ring



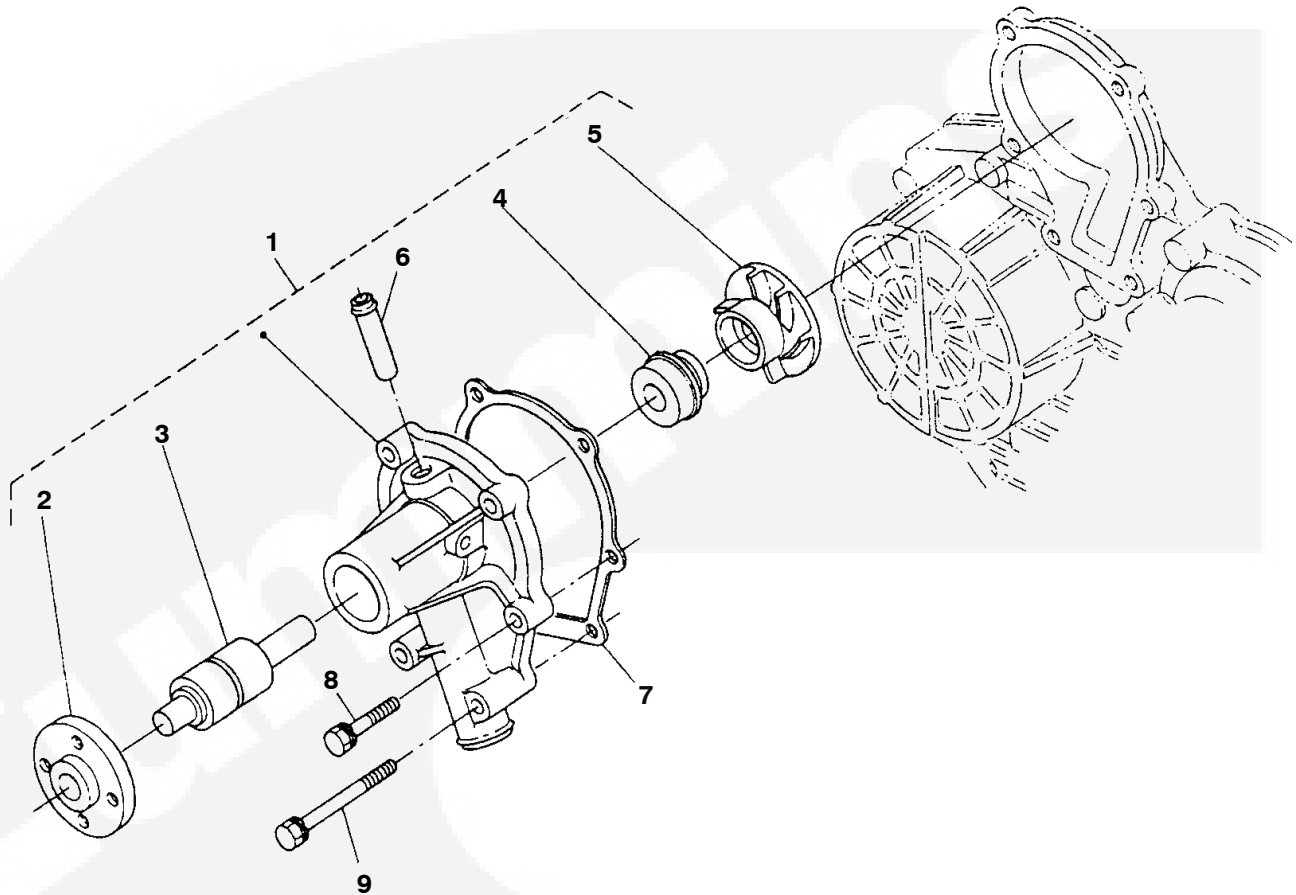
## Gearcase



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Gearcase Assy (Includes Parts Marked *)	20	185-6492	1	Bolt
	185-6480	1	Spec A-D	21	185-7423	1	Stud
	103-0834	1	Begin Spec E		185-7425	1	Spec A-D
2	185-6481	4	*Plug			1	Begin Spec E
3	185-2124	1	*Fitting, Connector	22	185-4255	1	Nut
4	185-6482	1	*Spring	23		1	Washer, Spring
5	185-6483	1	*Seat, Valve		185-2380	1	Spec A-D
6	185-6484	1	*Ball		185-6759	1	Begin Spec E
7	185-5741	1	*Cover	24	185-6864	1	Seal, Oil
8	185-5742	1	*Bolt	25	185-7424	2	O'Ring (Spec A-D)
9	185-5743	1	*O'Ring	26	185-5744	2	O'Ring (Spec A-D)
10	185-5744	1	*O'Ring	27	185-7434	2	Stud
11	185-6485	1	*Rotor, Oil Pump	28	185-7216	1	Plug
12	185-6486	1	*Cover, Oil Pump	29		1	Cover, Oil Fill
13	185-6487	5	*Screw, Countersunk Head		185-5407	1	Spec A-D
14	185-6863	1	Gasket, Gearcase		123-2299	1	Begin Spec E
15	185-5833	3	Bolt	30		1	O'Ring
16	185-7069	4	Bolt		185-7426	1	Spec A-D
17			Bolt		185-2349	1	Begin Spec E
	185-6665	2	Spec A-D	31	185-5835	1	Filter, Oil
	185-6489	2	Begin Spec E				
18	185-6490	1	Bolt				
19	185-6491	2	Bolt				

\* - Parts Included in Gearcase Assy.

## Water Pump Components (Spec A-D)

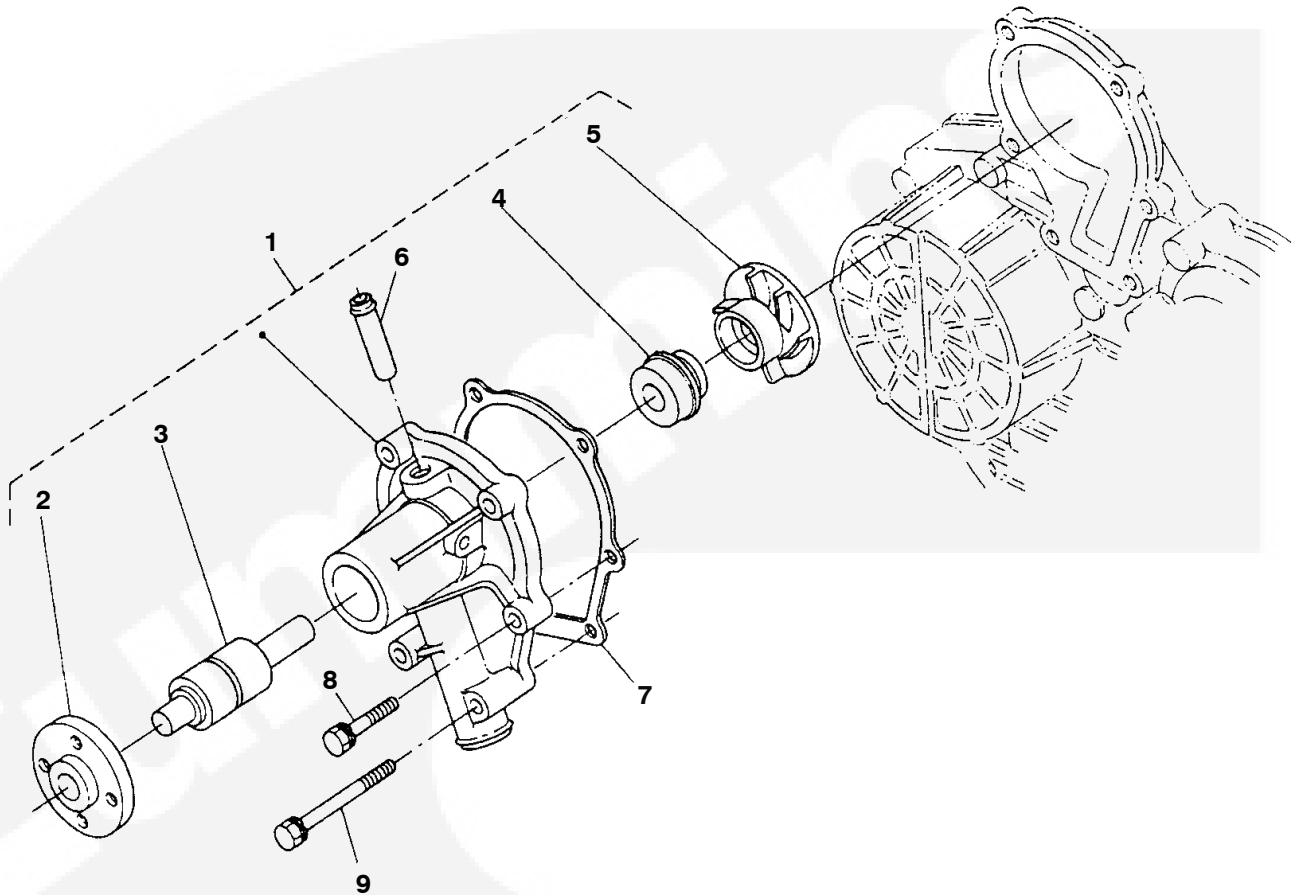


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6671	1	Pump Assy, Water (Includes Parts Marked *)	7	185-7299	1	Gasket, Water Pump
2	185-6672	1	*Flange, Pump Water	8	185-6677	4	Bolt
3	185-6673	1	*Bearing	9	185-5745	2	Bolt
4	185-5714	1	*Seal Assy, Mechanical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

\* - Parts Included in Water Pump Assy.



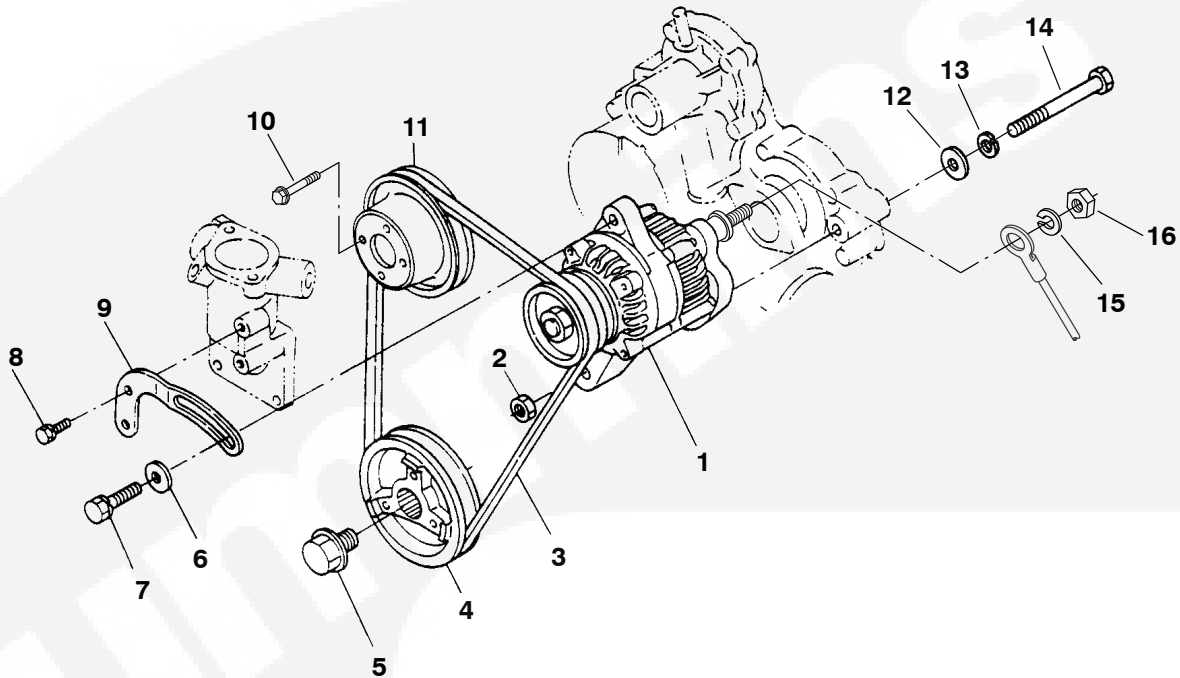
## Water Pump Components HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	132-0462	1	Pump Assy, Water (Includes Parts Marked *)	7	185-7299	1	Gasket, Water Pump
2	185-6672	1	*Flange, Pump Water	8	185-6677	4	Bolt
3	510-0225	1	*Bearing	9	800-6368	2	Bolt
4	509-0440	1	*Seal Assy, Mechanical				
5	132-0463	1	*Impeller, Pump Water				
6	185-6675	1	*Pipe, Water Return				

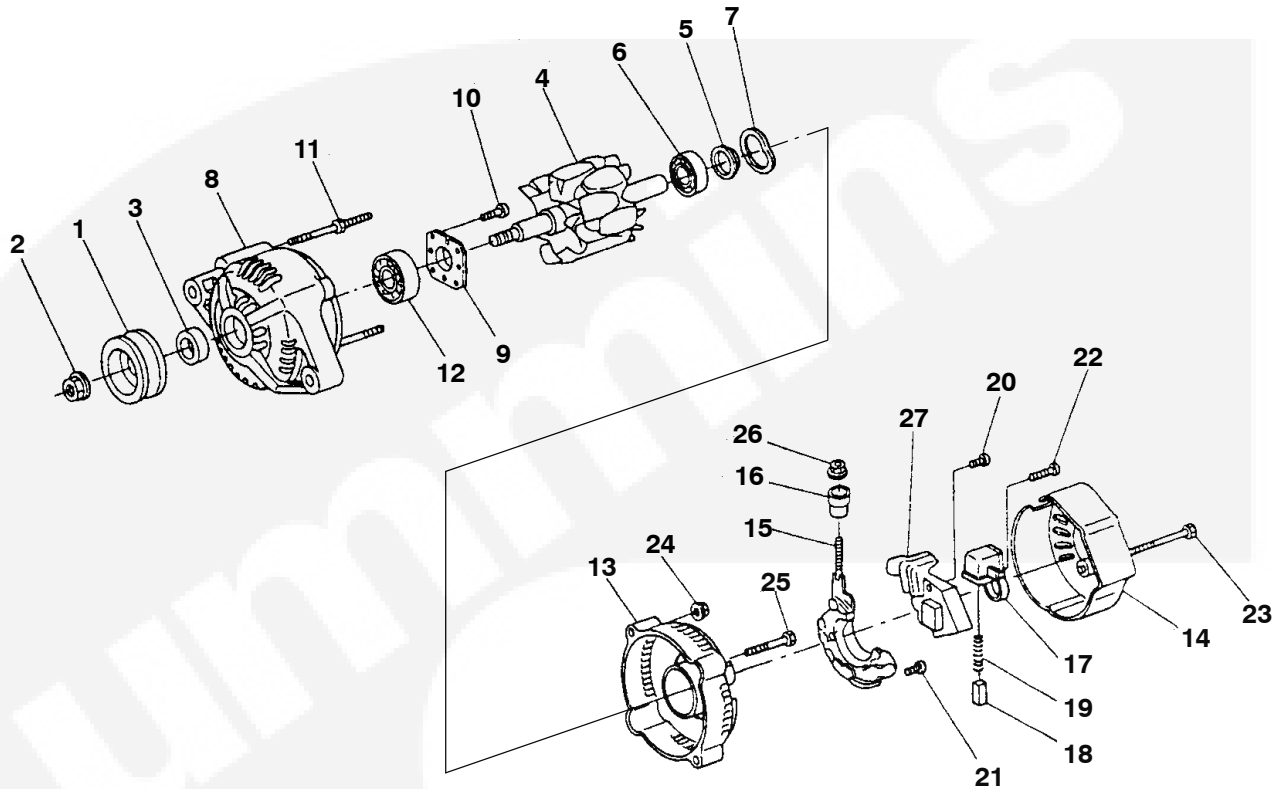
\* - Parts Included in Water Pump Assy.

## Alternator



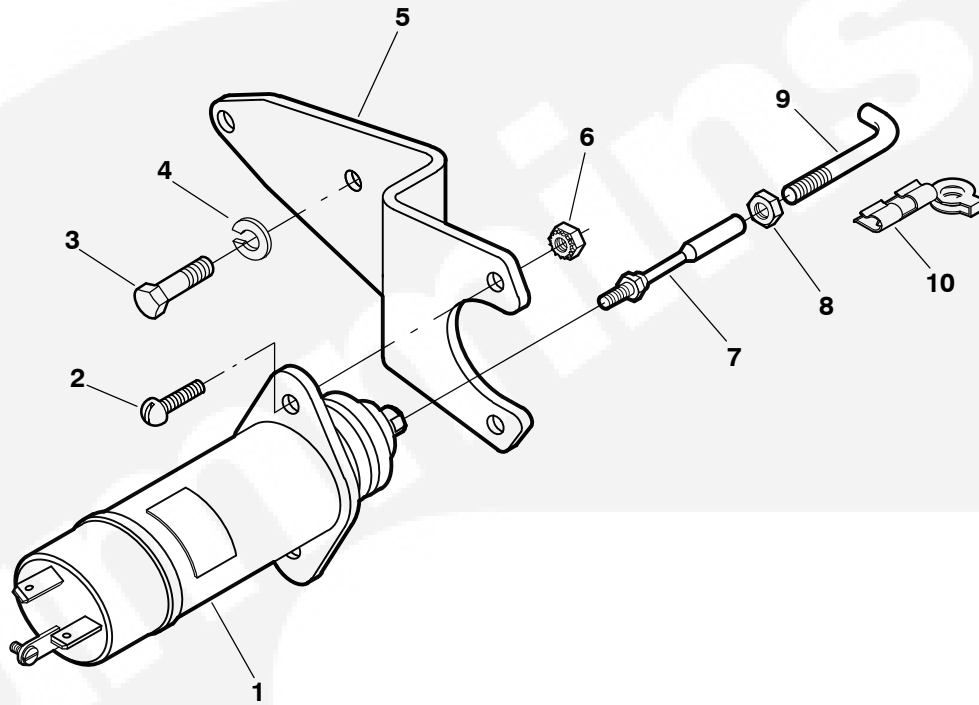
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6920	1	Alternator (12V, 30A) (See Separate Page for Components)	8	185-2388	1	Bolt
2	185-5445	1	Nut	9	185-6628	1	Stay, Alternator
3	185-6934	1	Belt, Fan Spec A Begin Spec B	10	185-2572	4	Bolt
	185-6934	1	HDKAS	11	185-6631	1	Pulley, Fan Spec A Begin Spec B
	185-7435	1	HDKAL		185-6631	1	HDKAS
4	185-6933	1	Pulley, Fan Drive		185-7438	1	HDKAL
5	185-6633	1	Bolt	12	185-6630	1	Washer, Plain
6	185-2777	1	Washer, Plain	13	185-6785	1	Washer, Spring
7	185-2564	1	Bolt	14	185-6629	1	Bolt
	185-2565	1	HDKAL, HDKQA HDKAR, HDKAS	15	850-2006	1	Washer, Lock (M6)
				16	750-1004	1	Nut, Hex

## Alternator Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-6920	1	Alternator	14	185-6189	1	Cover, End
1	185-5767	1	Pulley, Alternator	15	185-6638	1	Rectifier Assy
2	185-5768	1	Nut	16	185-6191	1	Bushing, Insulation
3	185-5769	1	Collar	17	185-5782	1	Holder, Brush
4	185-5770	1	Rotor	18	185-5783	2	Brush
5	185-5771	1	Cover, Bearing	19	185-5784	2	Spring, Brush
6	185-5772	1	Bearing, Ball	20	185-5785	2	Screw, Round Head
7	185-6187	1	Washer, Thrust	21	185-5786	6	Screw, Round Head
8	185-6635	1	Frame, Drive End	22	185-5787	1	Screw, Round Head
9	185-5774	1	Plate, Retainer	23	185-5788	3	Bolt
10	185-5775	4	Screw, Round Head	24	185-5789	2	Nut
11	185-7056	2	Bolt, Thru	25	185-5790	2	Bolt
12	185-5777	1	Bearing, Ball	26	185-2961	1	Nut
13	185-6188	1	Frame, End	27	185-5791	1	Regulator

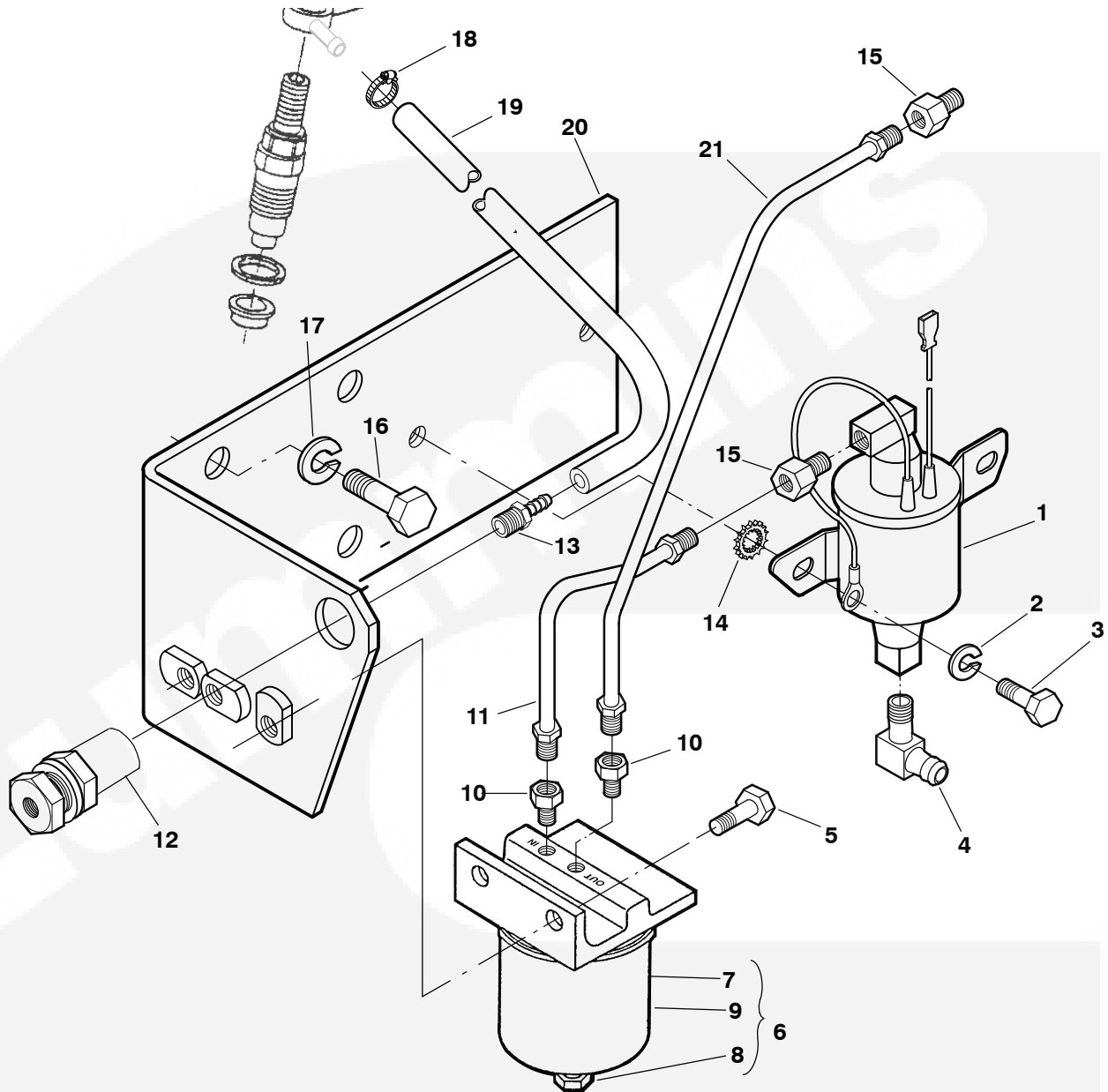
## Stop Solenoid



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-2546	1	Solenoid, Stop (K1)	5	150-2668-02	1	Bracket, Solenoid
2	813-0100	2	Screw, Round Head Machine (#10-32 x 1/2")	6	870-0131	2	Nut, ET Hex (#10-32)
3	800-2029	2	Screw, Hex Head Cap (M6 x 1 x 12mm)	7	150-1733	1	Joint, Ball
4	850-2006	2	Washer, Lock (M6)	8	115-0025	2	Nut, Hex (1/4-28UNF)
				9	150-2555	1	Link, Solenoid
				10	306-4081	1	Clip, Rod End

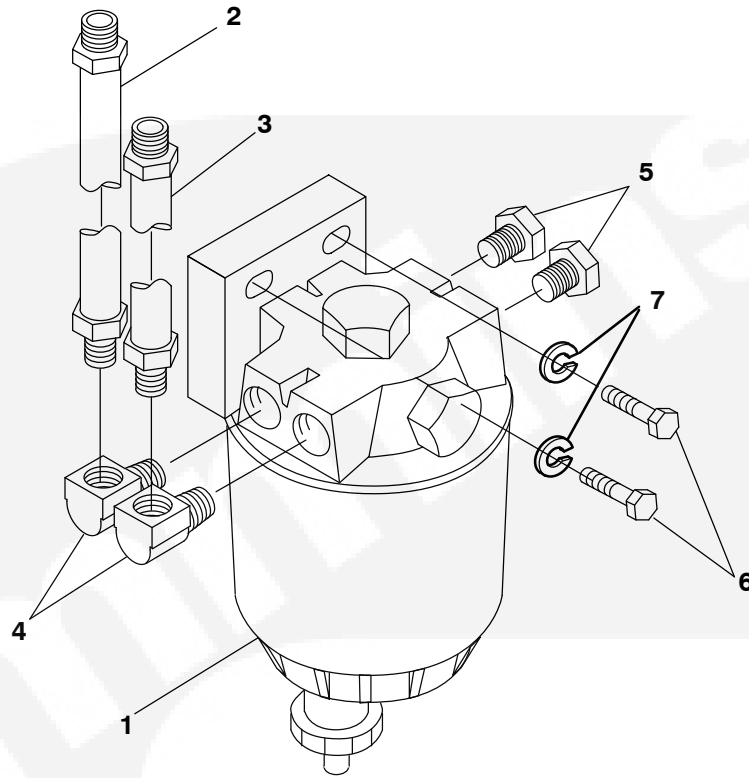


## Fuel Pump



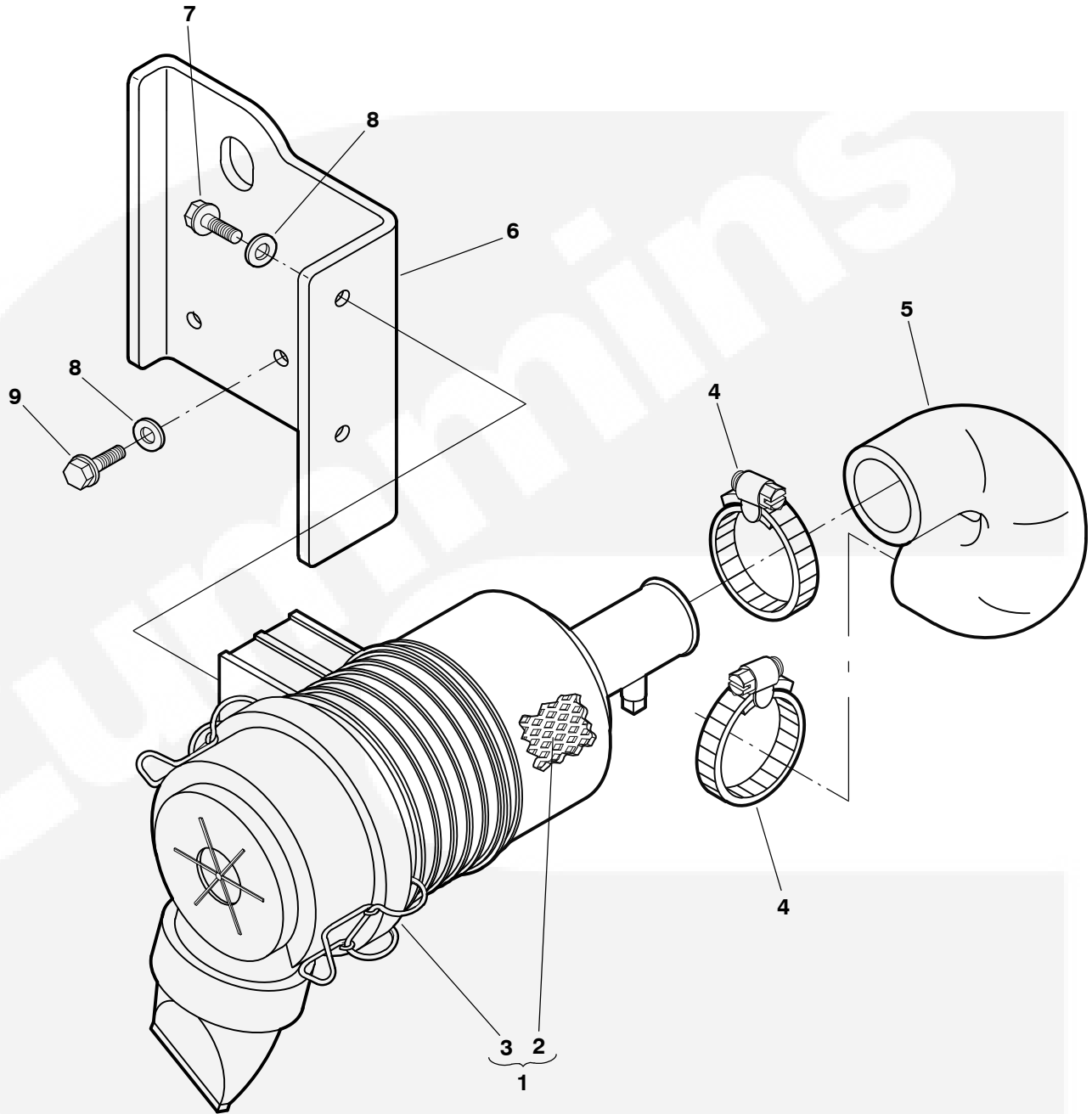
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-2331-02	1	Pump, Electric Fuel (E5)	12	502-1244	1	Coupling, Anchor
2	850-2006	2	Washer, Lock (M6)	13	502-1219	1	Connector, Hose
3	800-2029	2	Screw, Hex Head Cap (M6 x 1 x 12mm)	14	856-0006	1	Washer, EIT (1/4")
4	502-0313	1	Elbow, 90° Hose (1/8 NPT x 1/4 I.D.)	15	502-0003	2	Adapter, Reducing (1/4 x 1/8)
5	800-2056	2	Screw, Hex Head Cap (M8 x 1.25 x 16mm)	16	800-3004	3	Screw, Hex Head Cap (M10 x 1.25 x 16mm)
6	149-2100	1	Filter, Fuel (Includes Element, Drain Plug, and Base)	17	850-2010	3	Washer, Lock (M10)
7	149-2106	1	Element, Fuel Filter	18	503-1952-06	1	Clamp, Hose
8	502-0028	1	Plug, Drain	19	503-2028	1	Hose, Fuel Return
9	149-2235	1	Base, Aluminum	20	149-2570-02	1	Bracket, Fuel Pump
10	502-0033	2	Connector, Inverted Male	21	149-2530	1	Line, Fuel Filter
11	149-2429	1	Line, Fuel Pump	22	541-0564	1	Kit, Fuel Pump (Includes, Terminal Connectors and Pump)

## Fuel/Water Separator



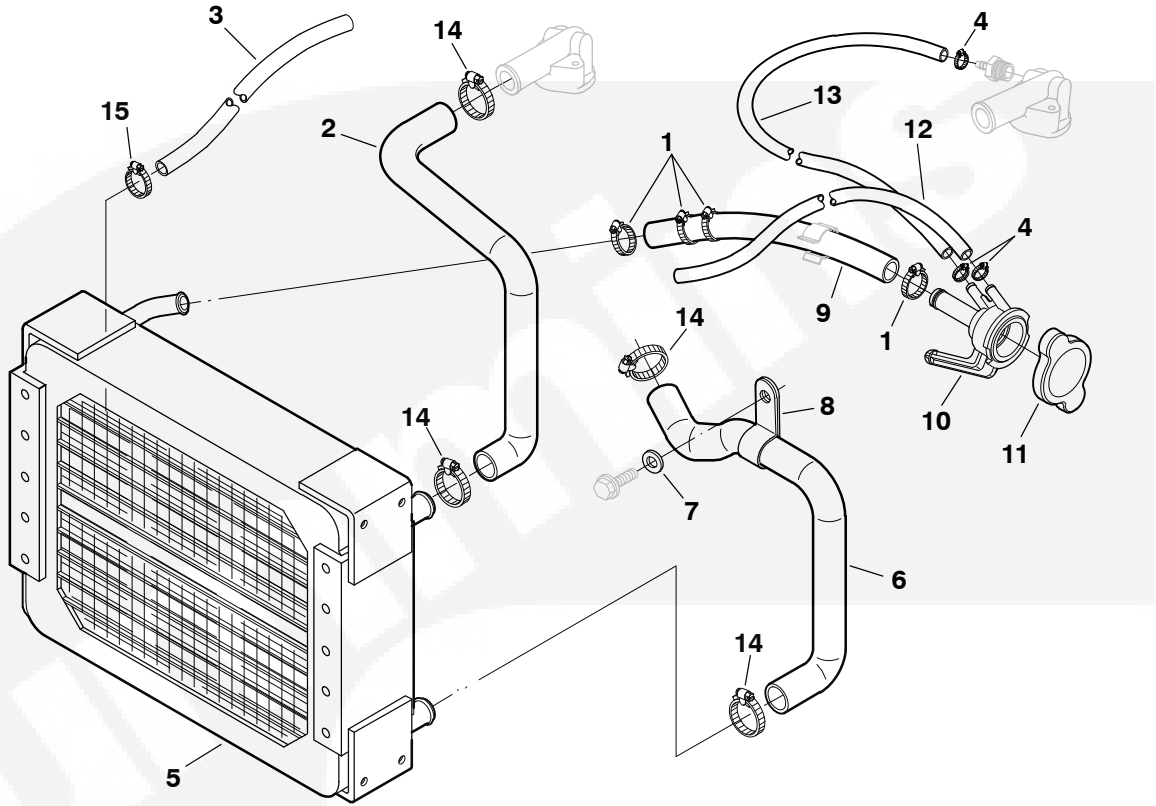
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	149-2573	1	Kit, Fuel/Water Separator	5	502-0153	2	Plug, Hex Pipe (1/4)
1	149-2574	1	Separator, Fuel/Water	6	800-2057	2	Screw, Hex Head Cap (M8 x 1.25 x 20mm)
2	149-2572	1	Line, Fuel (Fuel Out)	7	850-2008	2	Washer, Lock (M8)
3	149-2571	1	Line, Fuel (Fuel In)				
4	502-0041	2	Elbow, Male (1/4 x 7/16-24)				

## Air Cleaner



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-3050	1	Cleaner Assy, Air (Includes Element and Cover)	7	800-2057	2	Screw, Flange Locking (M8 x 1.25 x 16mm)
2	140-3071	1	Element, Air Cleaner	8	526-2100	4	Washer, Flat (M8)
3	140-3072	1	Cover, Air Cleaner	9	800-2056	2	Screw, Hex Head (M8 x 1.25 x 16mm)
4	503-0365	2	Clamp, Hose				
5	503-1994	1	Hose, Air Cleaner				
6	140-3017-02	1	Bracket, Lifting				

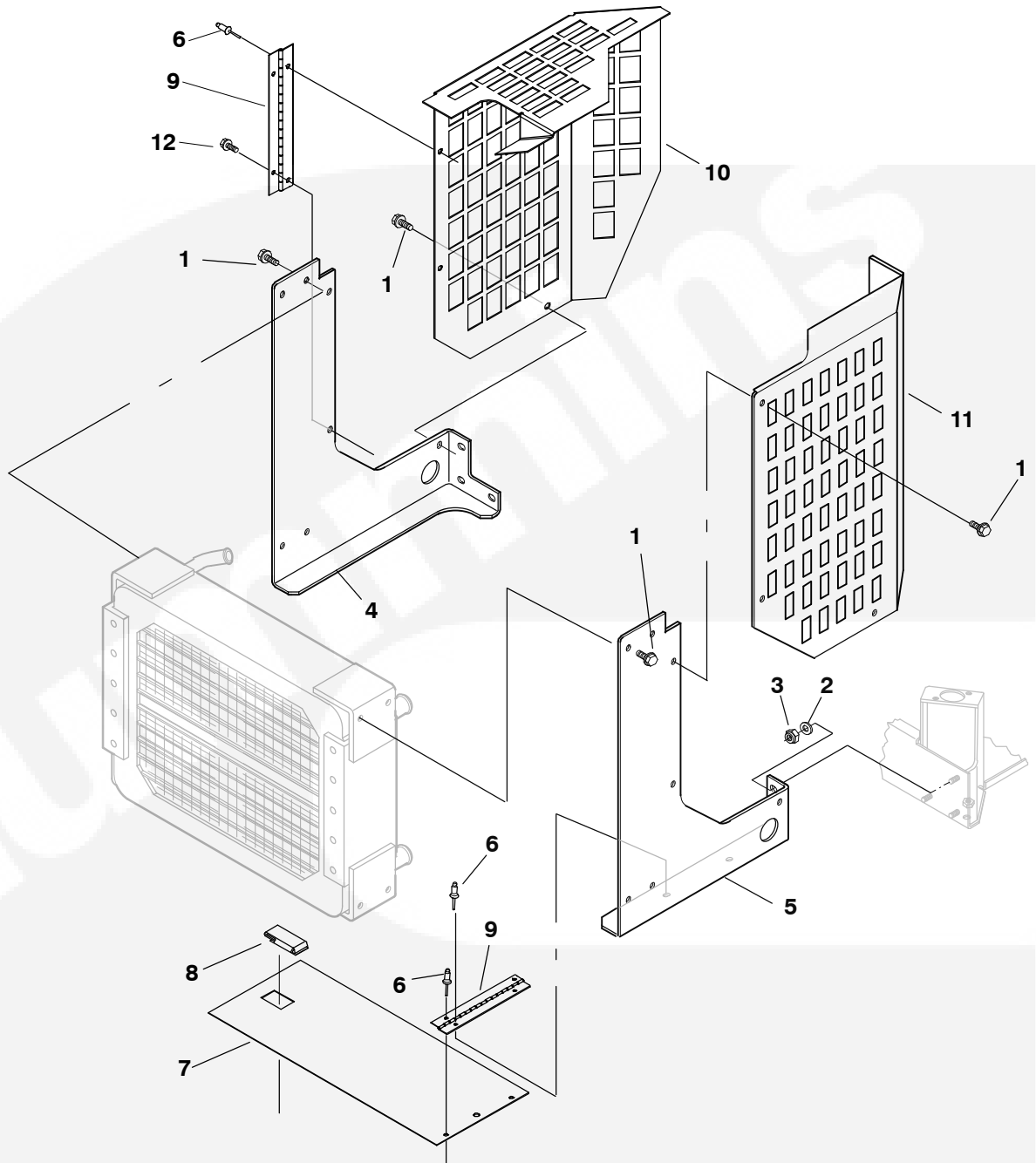
## Cooling System



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Clamp, Hose	7	526-2080	1	Washer, Flat
	503-1137	8	Spec A	8	518-0548-05	1	Clamp, Hose
	503-1137	4	Spec B	9	503-1993	1	Hose, Coolant Fill (335mm)
	503-1951	4	Begin Spec C	10	130-4321	1	Neck, Fill
2	503-1996	1	Hose, Upper Radiator	11	130-4320	1	Cap, Fill
3	503-1275	1	Hose, Drain (26.5")	12	503-1923	1	Hose, Overflow (490mm)
4	503-1951-12	3	Clamp, Hose	13	503-2042	1	Hose, Air Bleed (420mm)
5	130-4683	1	Radiator	14	503-0189	4	Clamp, Hose
6	503-1995	1	Hose, Lower Radiator	15	503-1951-35	1	Clamp, Hose

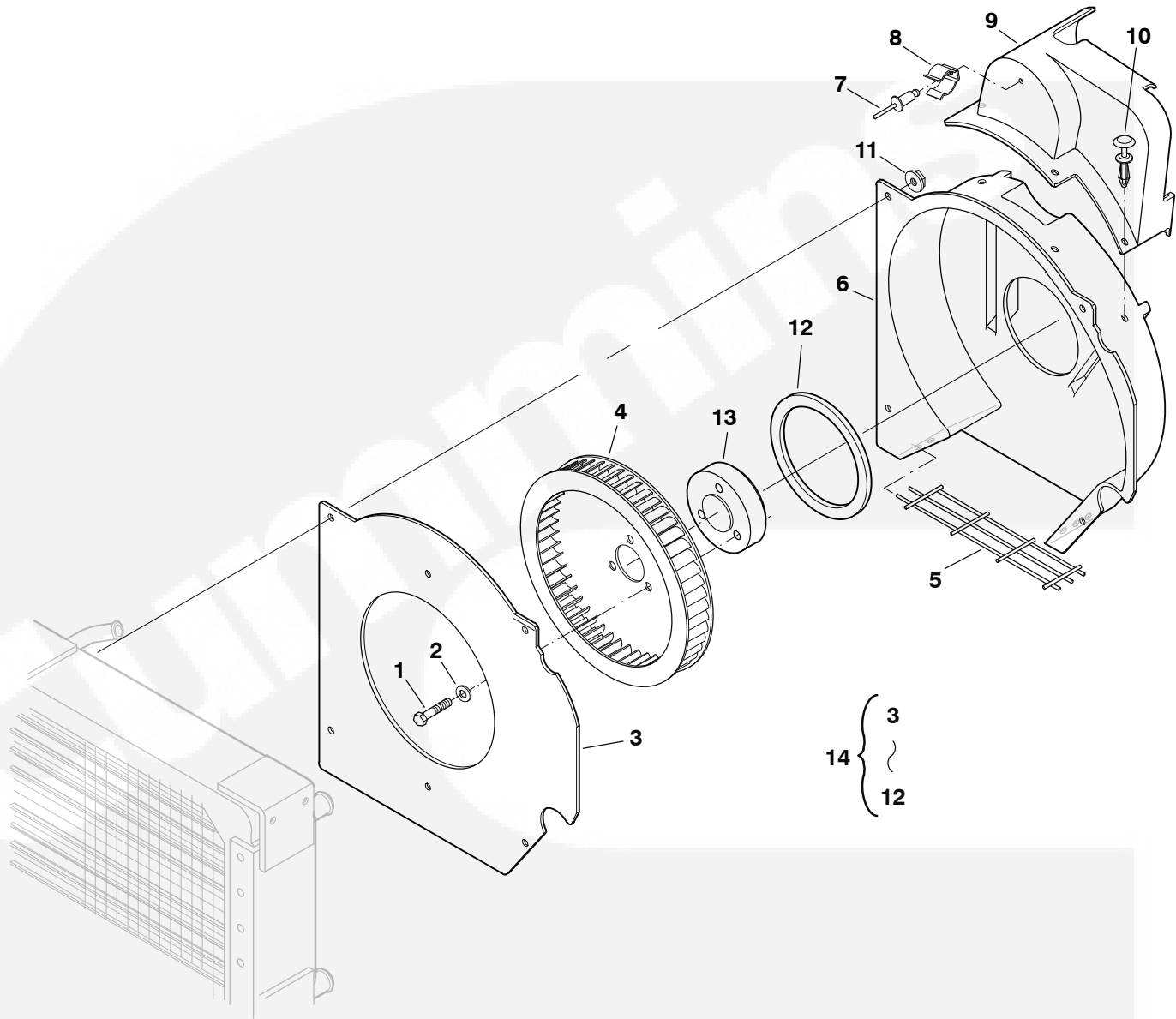


## Radiator Mount



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Screw, Lock Flange (M6 x 1 x 12mm)	10	130-5029-02	1	Guard, Fan (LH) (Begin Spec B)
	821-2032	8	Spec A	11	130-5030-02	1	Guard, Fan (RH) (Begin Spec B)
	821-2032	12	Begin Spec B	12	821-6001-02	4	Screw, Sems (M5)
2	526-2100	6	Washer, Flat				
3	870-2199	6	Nut, Self Lock (M8 x 1.25mm)				
4	130-4681-02	1	Support, Left Side Radiator Spec A				
	130-5026-02	1	Begin Spec B				
5	130-4682-02	1	Support, Right Side Radiator Spec A				
				6	818-0231-02	6	Rivet, Pop (Begin Spec B)
				7	130-5063-02	1	Panel, Bottom (Begin Spec B)
				8	406-0612	1	Latch, Service Panel (Spec B)
				9	406-0922	2	Hinge, Continuous (Begin Spec C)

## Fixed Fan Scroll (Spec A)



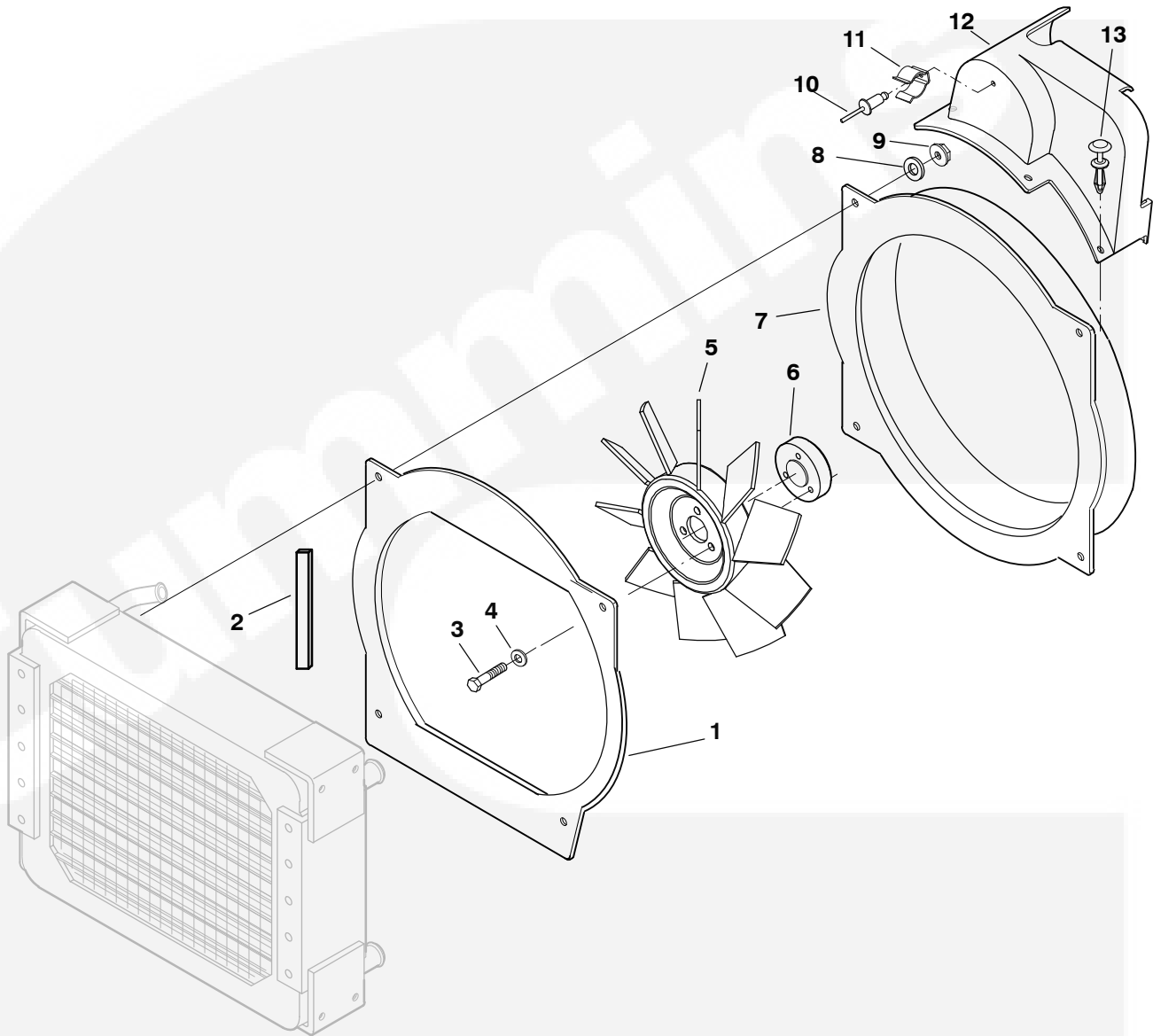
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-3006	3	Screw, Hex Head Cap (M10 x 1.25 x 40mm)	11	870-2054	4	Nut, Lock Flange (M6 x 1)
2	526-0030	3	Washer, Flat (M10)	12	130-4686	1	+*Seal, Fan
3	130-4510-02	1	*Baffle, Fixed Scroll	13	130-4688	1	Adapter, Fan
4	130-4506	1	*Fan, Cooling	14	130-5000	1	Kit, Fan Conversion (Includes Parts Marked *)
5	130-4511	1	*Guard, Scroll				
6	130-4507	1	*Duct, Scroll				
7	818-0238	1	*Rivet				
8	518-0676	1	*Clip, Spring				
9	130-4509	1	*Guard, Belt				
10	818-0236	3	*Rivet, Reinstallable				

\* - Parts Included in Fan Conversion Kit.

+ - Seal is Used in Kit Only, Not used in Production of Fixed Scroll.

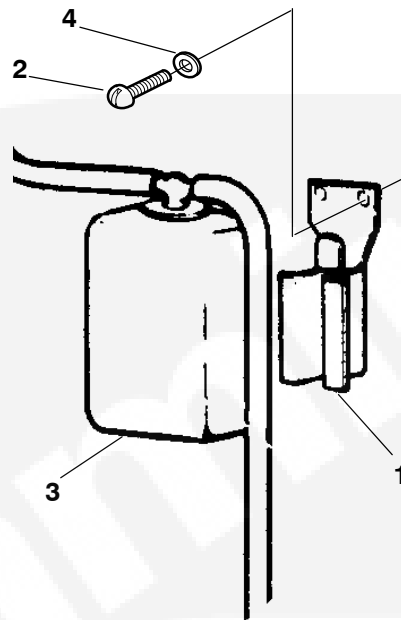


## Fan Scroll (Begin Spec B)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-5031-02	1	Baffle, Scroll	6	130-5040	1	Adapter, Fan
2	895-0305-06	2	Foam	7	130-5028	1	Shroud, Fan
3	800-3044	3	Screw, Hex Head Cap (M10 x 1.25 x 70mm)	8	526-2083	4	Washer, Flat
4	526-0030	3	Washer, Flat (M10)	9	870-2054	4	Nut, Lock Flange (M6 x 1)
5			Fan, Cooling	10	818-0238	1	Rivet
	130-5041	1	Pusher (E093)	11	518-0676	1	Clip, Spring
	130-5042	1	Sucker (E006)	12	130-5043	1	Guard, Belt
				13	818-0236	3	Rivet, Reinstallable

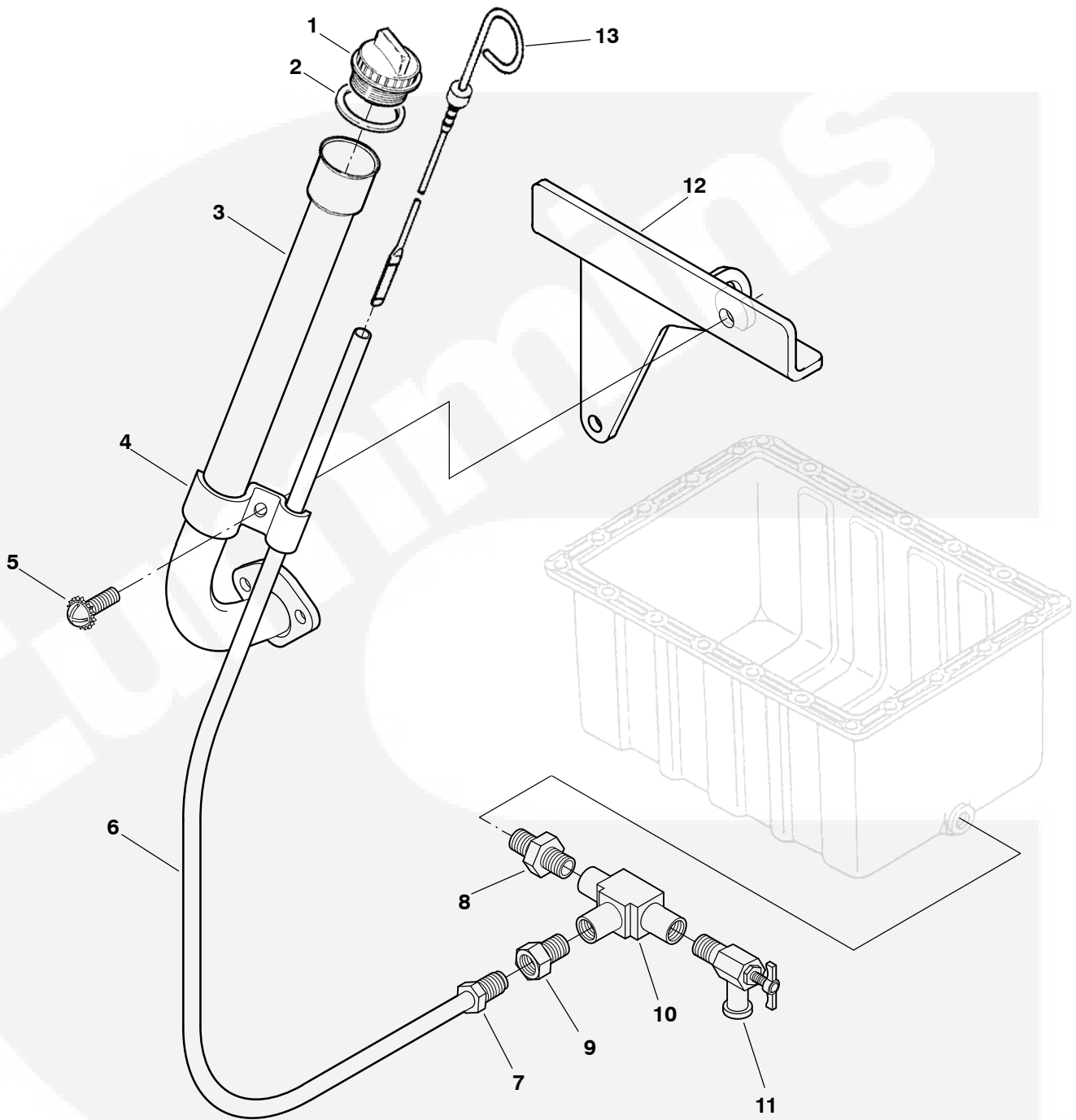
## Coolant Recovery Tank



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	130-2781	1	Kit, Recovery Tank	3	130-2779	1	Tank, Radiator Water Recovery
1	130-2780	1	Bracket, Tank	4	526-0020	2	Washer, Flat
2	808-0054	2	Screw, Round Head Sheet Metal (14 x 7/8")				

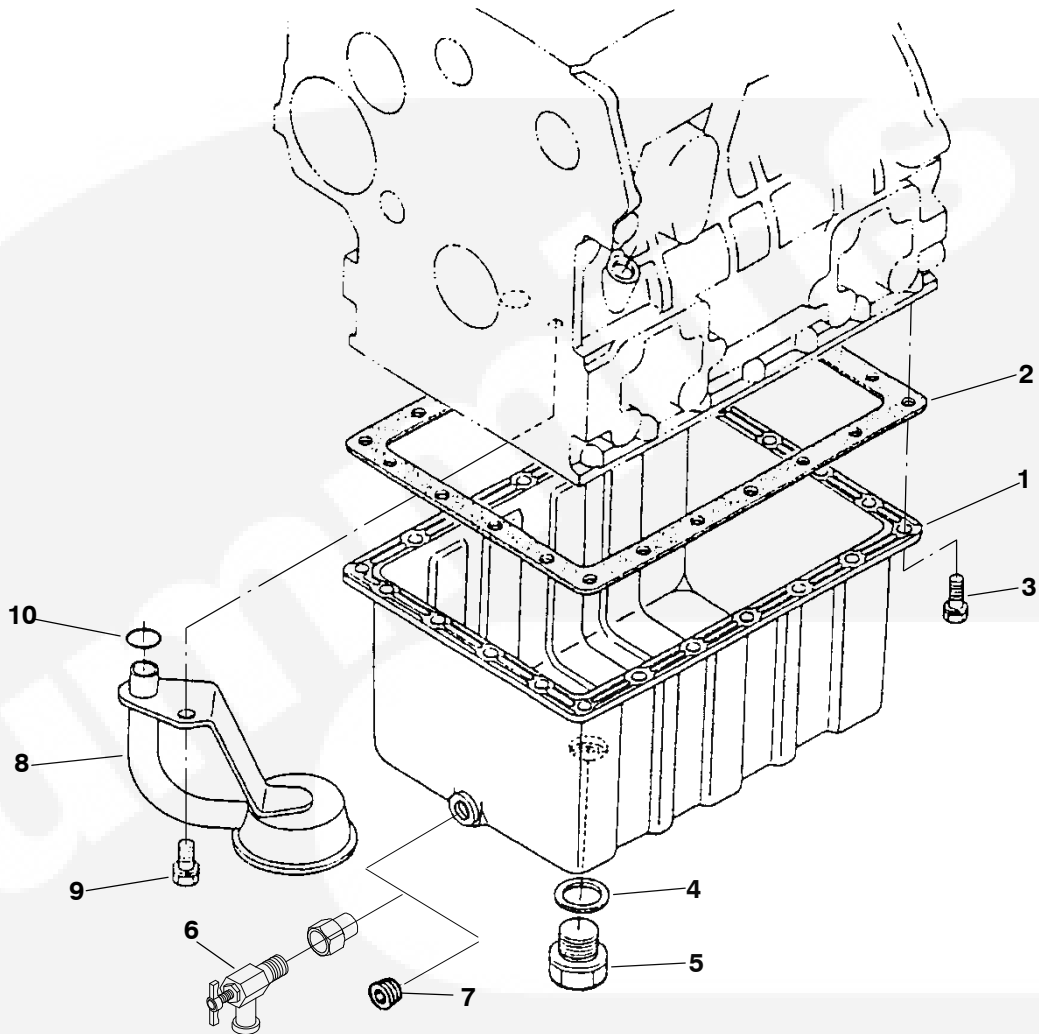


## Oil Fill (Spec A)



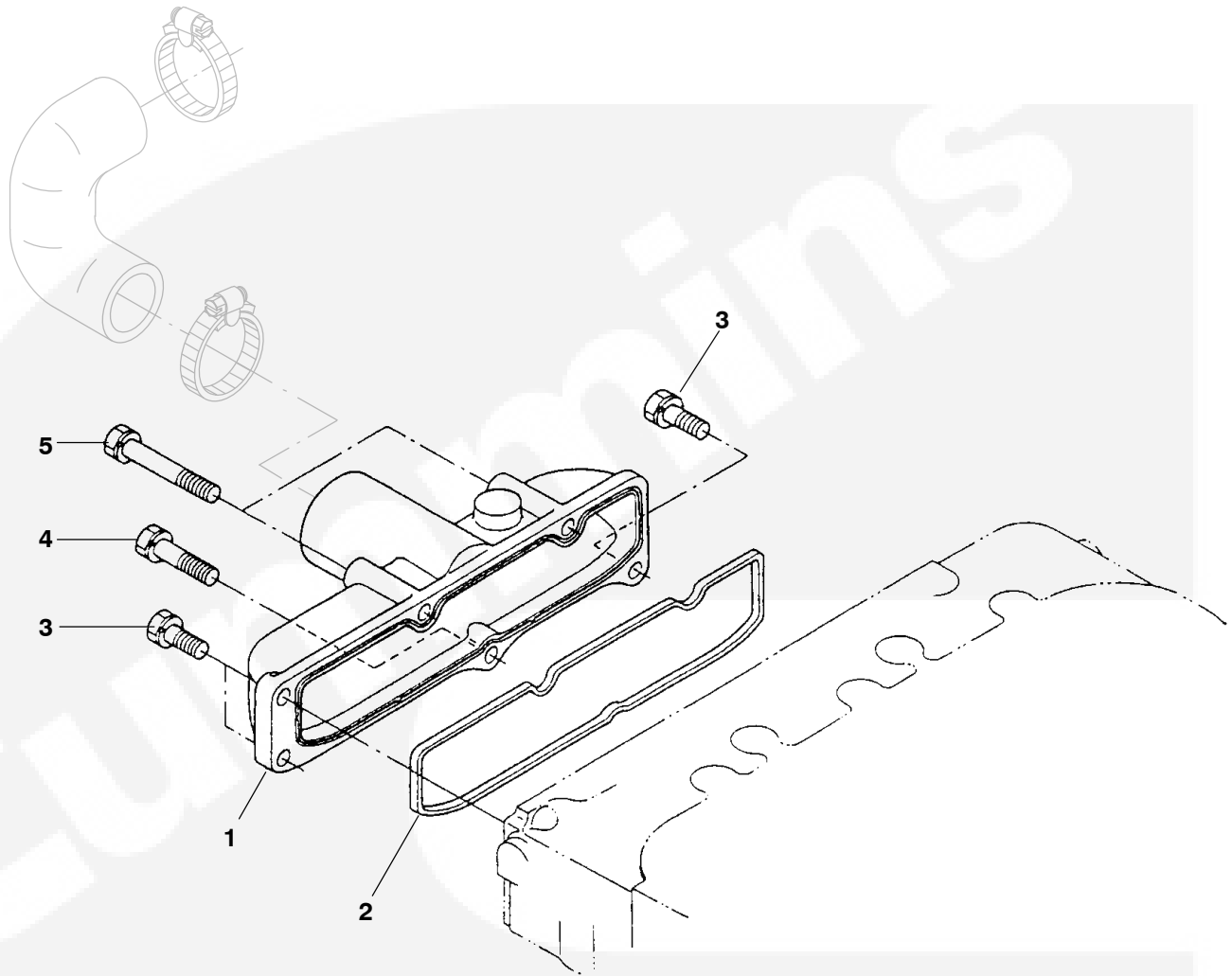
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	123-1647-01	1	Cover, Oil Fill	8	502-0158	1	Nipple, Hex (3/8 x 3/8")
2	509-0142	1	O'Ring	9	502-0036	1	Connector, Inverted Male
3	123-2086-02	1	Tube, Oil Fill	10	502-0090	1	Tee, Pipe (3/8")
4	123-2089-02	1	Clamp, Oil Fill	11	504-0092	1	Valve, Drain
5	815-0364	1	Screw, Round Head ET Cross	12	123-2104-03	1	Bracket, Oil Fill
6	123-2087-02	1	Tube, Oil Level (Includes Nut)	13	123-2077	1	Indicator, Oil Level Recessed (10-32 x 1/2")
7	502-0015	1	Nut, Inverted Flare (3/8")				

## Oil Pan



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6858	1	Pan, Oil	8			Tube, Oil Pickup
2	185-6859	1	Gasket, Oil Pan				Spec A-D
3			Bolt	185-6860	1		HDKAL, HDKAQ
	185-2386	22	Spec A-D	185-7093	1		HDKAR, HDKAS
	800-6369	22	HDKAL and HDKAS (Begin Spec E)	181-9095	1		Begin Spec E HDKAL and HDKAS
4	185-5495	1	Gasket, Oil Drain	9			Bolt
5			Plug, Drain	185-2563	1		Spec A-D
	185-6929	1	Spec A-D	185-6762	1		HDKAL and HDKAS (Begin Spec E)
	185-6046	1	HDKAL and HDKAS (Begin Spec E)	10	185-7421	1	O'Ring
6	504-0176	1	Valve, Shutoff (Begin Spec B)	11	502-0426	1	Adapter, Pipe (Begin Spec B)
7	185-5826	1	Plug, Pipe				

## Inlet Manifold (Spec A-D)

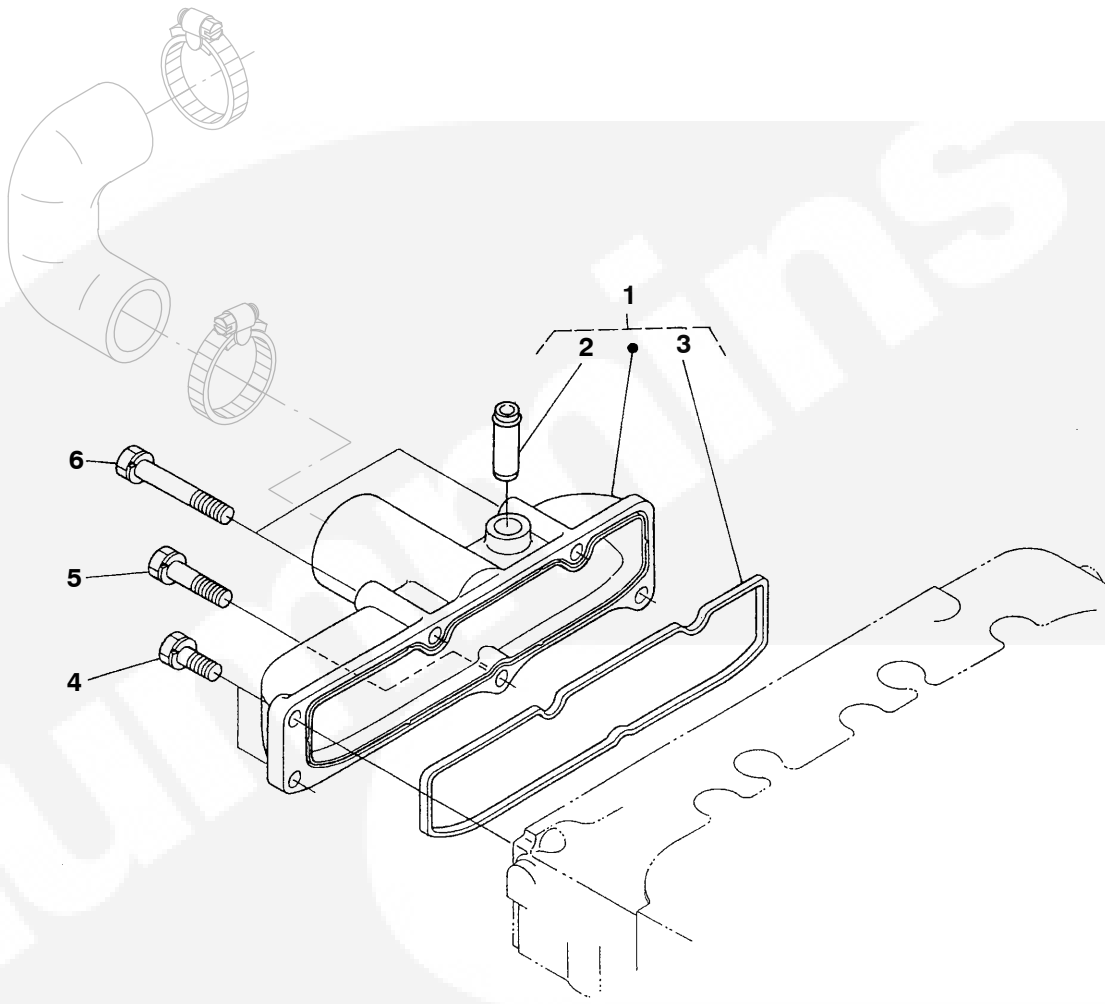


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6927	1	Manifold, Inlet	4	185-6677	1	Screw
2	185-6926	1	Gasket, Inlet Manifold	5	185-2394	2	Screw, Hex Head (M6 x 50mm)
3	185-2389	3	Screw, Hex Head (M6 x 18mm)				





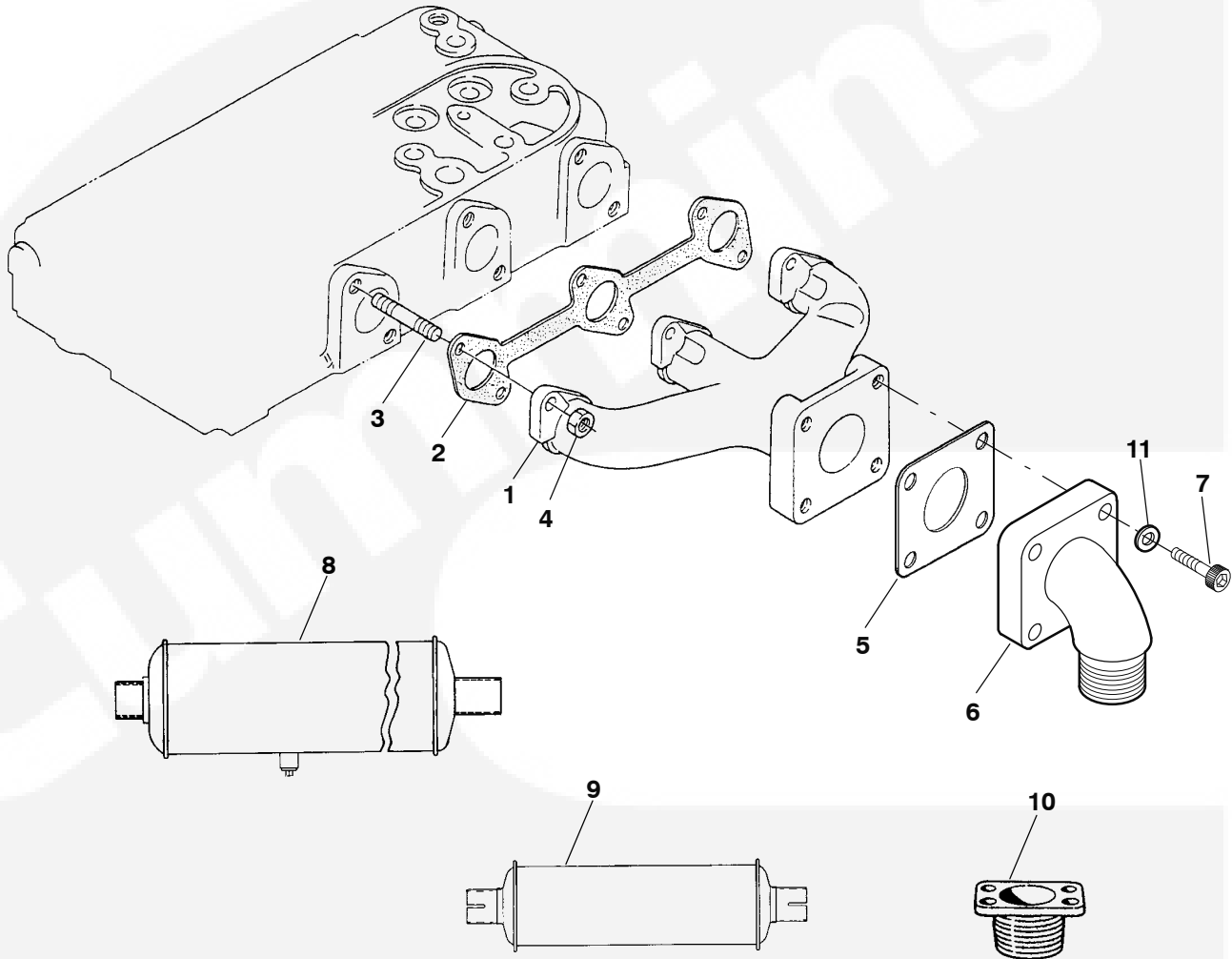
## Inlet Manifold HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-3204	1	Manifold, Inlet	4	185-2389	3	Bolt
2	185-6499	1	Gasket, Inlet Manifold	5	185-6677	1	Bolt
3	185-6926	1	Screw, Hex Head (M6 x 18mm)	6	185-7069	2	Bolt

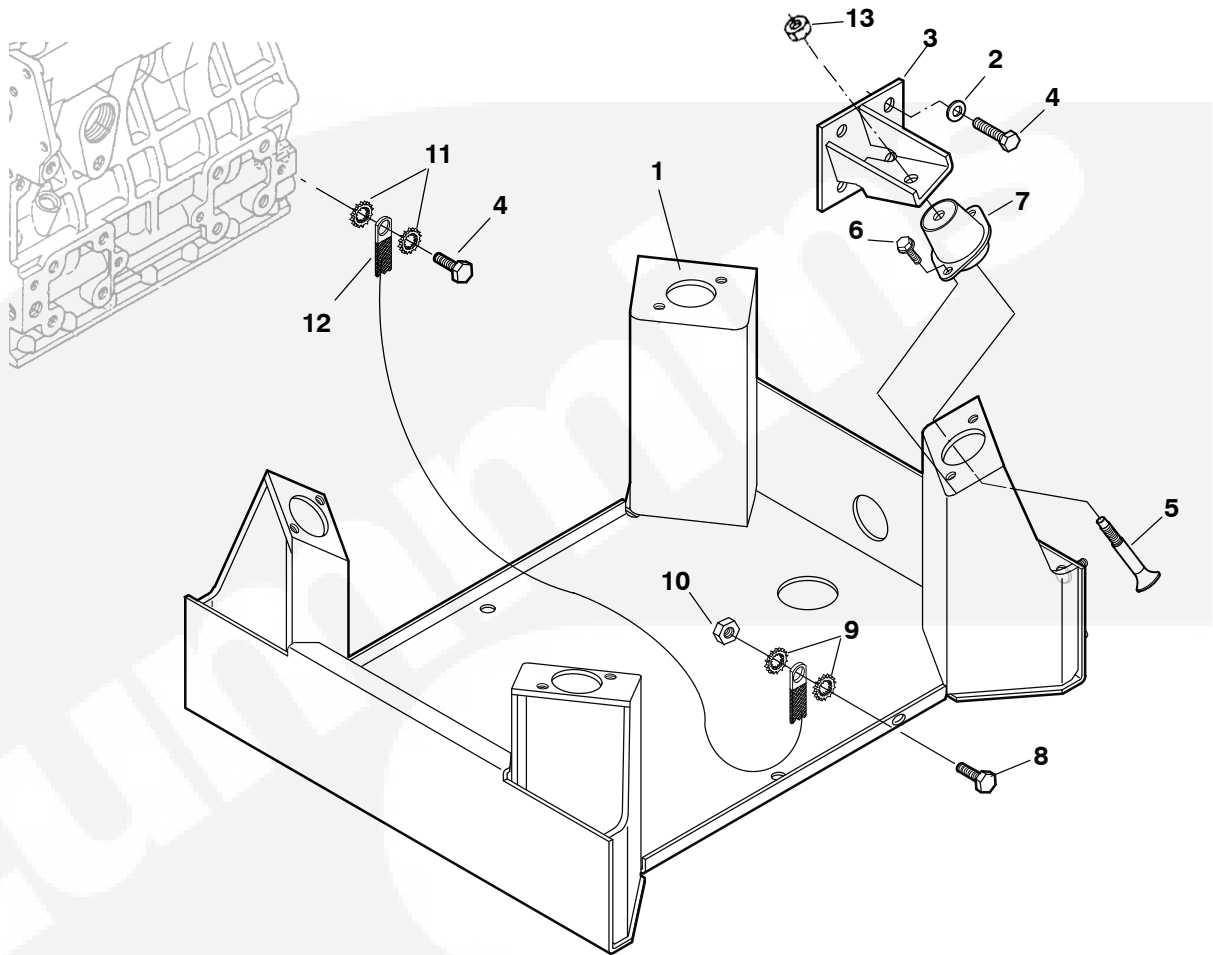


## Exhaust Manifold



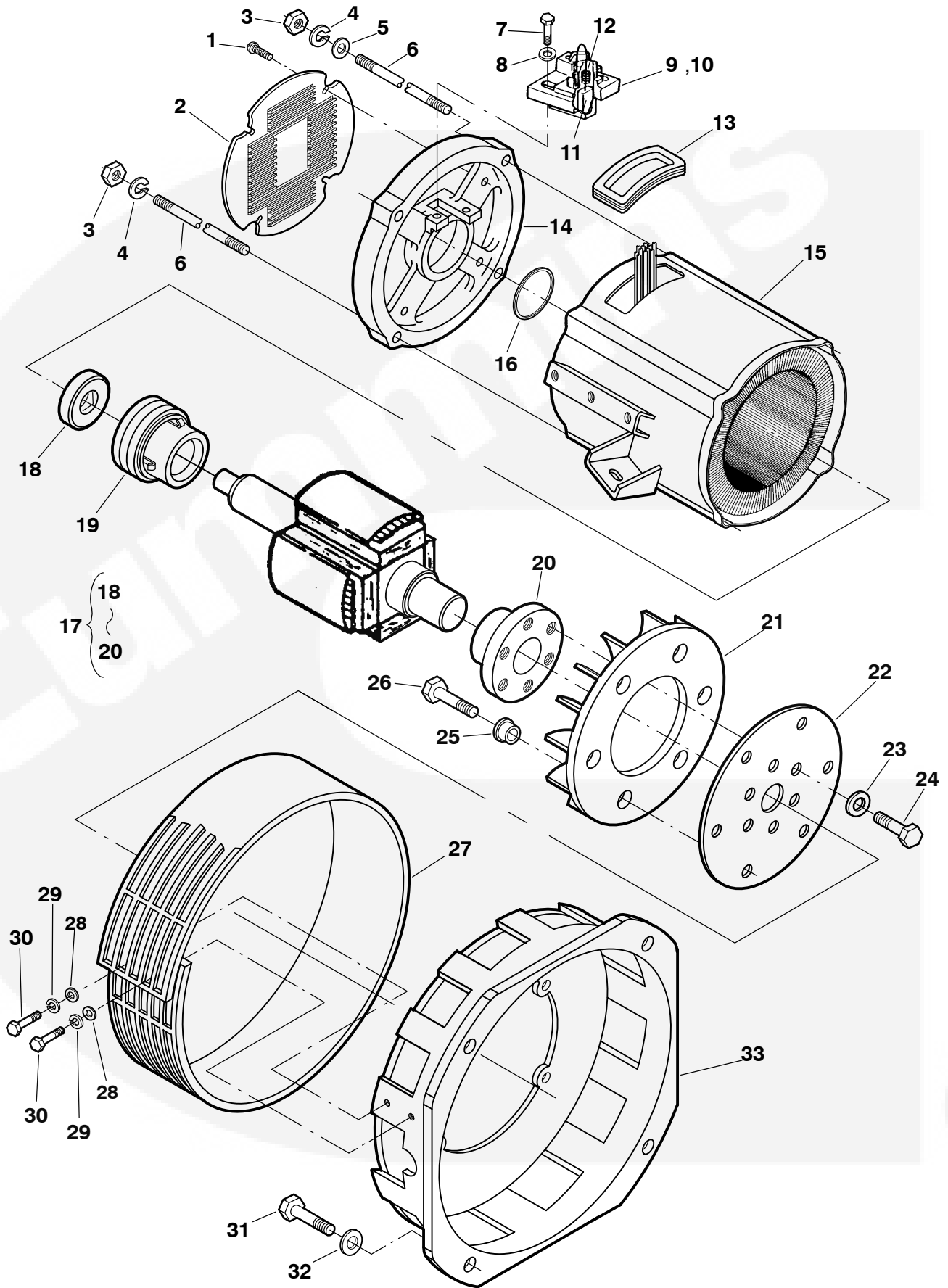
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6924	1	Manifold, Exhaust Spec A-D	6	155-2666-01	1	Elbow, Exhaust
	181-9190	1	HDKAL and HDKAS (Begin Spec E)	7	725-1052	4	Screw, Hex Head Cap (M8 x 30mm)
2	185-6925	1	Gasket, Exhaust Manifold	8	155-2068	1	Muffler (Option)
3	185-6698	6	Stud	9	155-2653	1	Resonator, Exhaust (Option)
4	185-6699	6	Nut	10	154-2852	1	Adapter, Exhaust (Option)
5	185-6853	1	Gasket, Exhaust	11	850-2008	4	Washer, Locking (M8)

## Mounting Frame



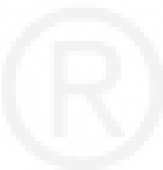
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-3956-02	1	Pan, Drip	7	402-0680-03	4	Isolator, Vibration
2	740-1008	8	Washer, Flat (M10)	8	800-2057	1	Screw, Hex Head Cap (M8 x 1.25 x 16mm)
3	403-3961-02	1	Mount, Engine Left Side (Illustrated)	9	856-0008	1	Washer, EIT Lock (5/16")
	403-3962-02	1	Right Side	10	860-2008	1	Nut, Hex (M8 x .25)
4	800-3004	9	Screw, Hex Head Cap (M10 x 1.25 x 20mm)	11	856-0010	2	Washer, EIT Lock (3/8")
5	815-0861	4	Screw, Isolator Mount (M10 x 1.5)	12	337-2785	1	Strap, Bond
6	821-2032	8	Screw, Locking Flange (M6 x 1 x 12mm)	13	870-2056	1	Nut, Hex (M10 x 1.5mm)

# Generator HDKAL, HDKAQ, HDKAR and HDKAS (Specs A-C)

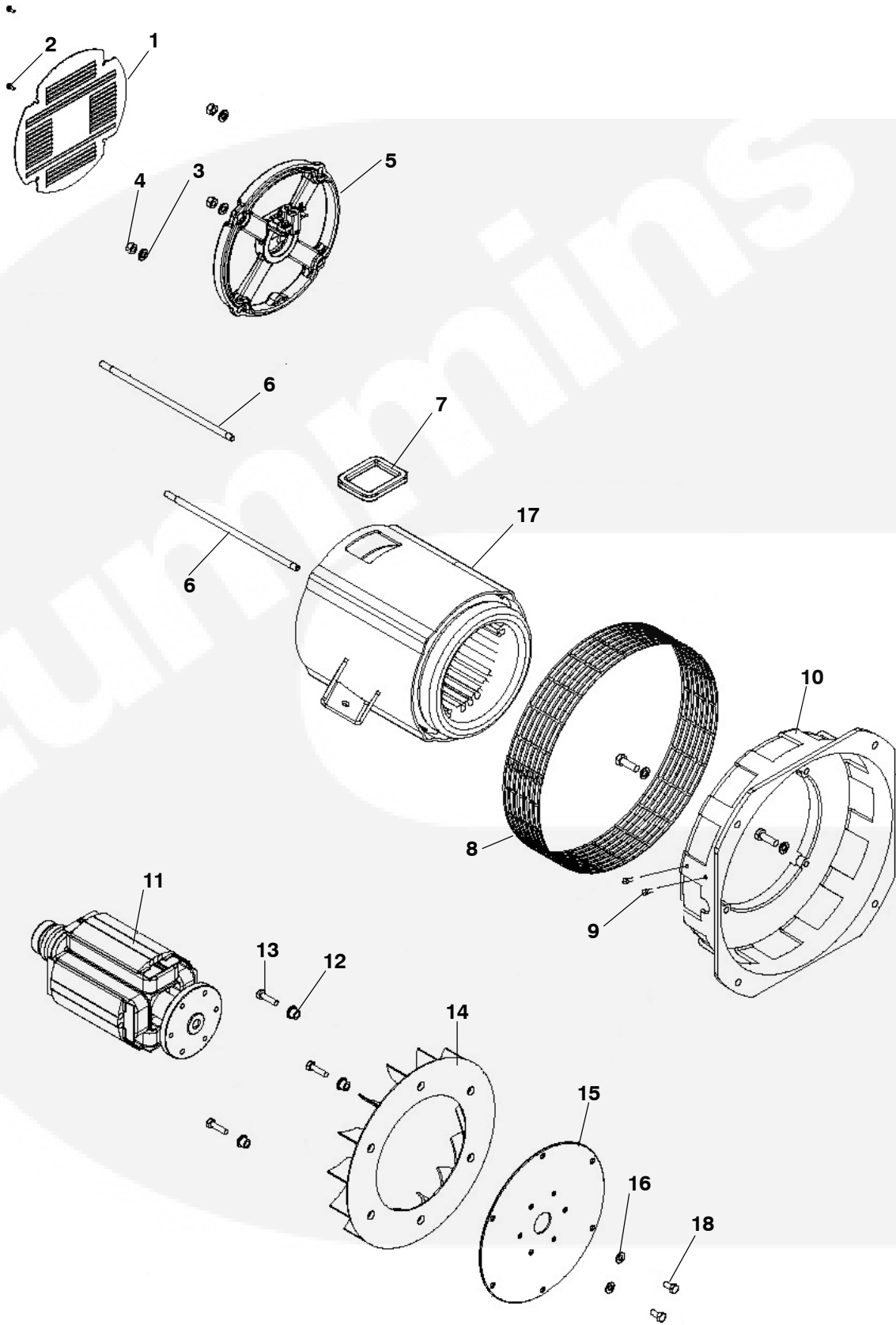


## Generator HDKAL, HDKAQ, HDKAR and HDKAS (Specs A-C)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0810	4	Screw, Round Head Machine (M4 x .7 x 10mm)	16	509-0196	1	O'Ring
2	211-0448-02	1	Cover, Endbell	17			Rotor Assy, Generator (Includes Collector Ring, Ball Bearing and Drive Hub)
3			Nut, Hex (3/8-16)				Spec A
	862-0026-07	4	Spec A-B				Spec 61730
	862-0003	4	Begin Spec C	201-3549-02	1		Spec 11475, 11477, 11575, 11585
4	850-0114-07	4	Washer, Lock (3/8")	201-3558-02	1		Spec 11476, 11478, 11567
5			Washer, Flat (3/8")				Spec B-C
	526-0029	2	Spec A-B	201-3558-03	1		60 Hz
	526-0029	4	Begin Spec C	201-3558-02	1		50 Hz
6			Stud	201-3558-03	1		Bearing, Ball
	520-1000-02	4	60Hz (3/8-16 x 259mm)	18	510-0099	1	Ring, Collector
	520-1000-03	4	50Hz (3/8-16 x 284mm)	19	204-0134	1	Hub, Drive
7	800-0309-89	2	Screw, Hex Head Machine (M5 x .8 x 16mm)	20	232-3753	1	Fan, Generator
8	526-0399-56	2	Washer, Flat (M5)	21	205-0220	1	Disc, Generator Drive
9	212-1285	1	Block Assy, Generator Brush (Includes Block Assy, Brushes, and Spring)	22	232-4145	1	Washer, Flat (M8)
				23	526-2100	6	Screw, Hex Head Cap (M8 x 1.25 x 16mm)
				24			Spec A-B
10	212-1286	1	Block Assy, (With Terminal)				Begin Spec C
11	214-0103	2	Brush, Generator	718-1035	6		Spacer, Fan
12	212-1276-03	2	Spring, Generator Brush	800-2056	6		Screw, Hex Head Cap (M8 x 1.25 x 30mm)
13	508-1049-02	1	Edging	25	232-3296	6	Guard, Fan
14	211-0447	1	Endbell	26	800-2515	6	Washer, Flat
15			Stator, Generator				Spec A-B
			Spec A	27	232-3755-02	1	Begin Spec C
	220-4503-02	1	Spec 61730	28			Washer, Flat
	220-4503-03	1	Spec 11475, 11585		526-2080	2	Spec A-B
	220-4503-05	1	Spec 11477		526-2080	3	Begin Spec C
	220-4503-11	1	Spec 11575	29			Washer, Lock (M5)
	220-4503-07	1	Spec 11476		850-2005	2	Spec A-B
	220-4503-09	1	Spec 11478		850-2005	3	Begin Spec C
	220-4503-12	1	Spec 11567	30			Screw, Hex Head Cap (M5 x .8 x 14mm)
			Spec B-C				Spec A-B
			50Hz		800-2006	2	Begin Spec C
	220-4503-07	1	(120/240)		800-2006	3	Screw, Hex Head Cap (M10 x 1.5 x 30mm)
	220-4503-09	1	(277/480)	31	800-2087	4	Washer, Flat (M10)
			60Hz				Adapter, Generator
	220-4503-11	1	(100/200)	32	850-2010	4	
	220-4503-03	1	(120/240)	33	231-0347	1	
	220-4503-05	1	(277/480)				



# Generator HDKAL and HDKAS (Spec D-E)

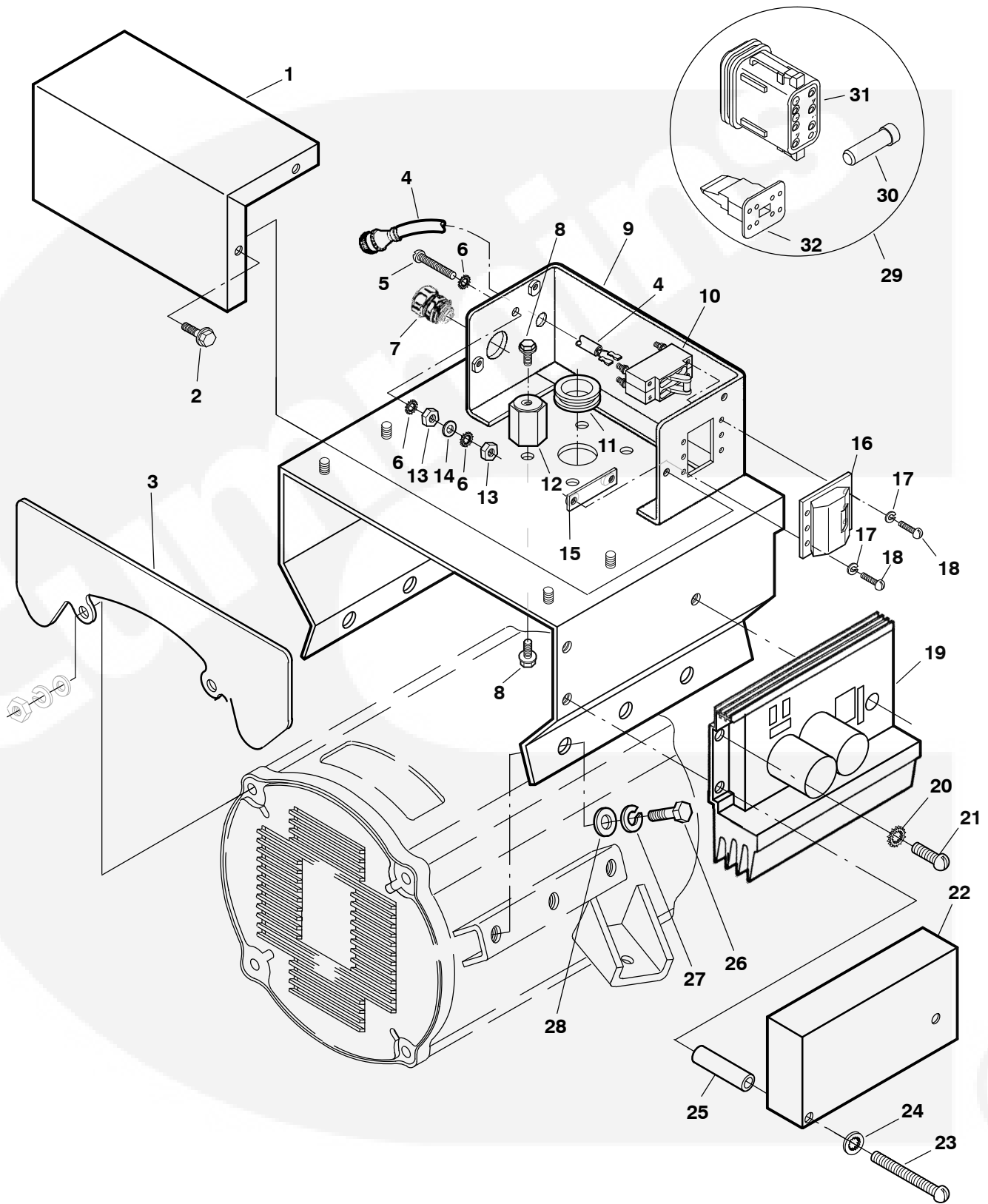


## Generator HDKAL and HDKAS (Spec D-E)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	211-0448-02	1	Intake, Endbell	14	205-0220	1	Fan
2	815-0910	4	Screw, Round Head	15	232-4145	1	Disc, Drive
3	850-0114-07	4	Washer, Lock	16	526-2100	6	Washer, Flat
4	862-0003	4	Nut, Hex Head	17			Stator, Generator
5	211-0462	1	Endbell, Generator				60Hz, Single Phase
6			Stud		220-4503-02	1	120 / 240V
	520-1000-02	4	60Hz		220-4503-15	1	100 / 200V
	520-1000-03	4	50Hz				60Hz, Three Phase
7	508-1049-02	1	Edging		220-4503-13	1	277 / 480V
8	232-3755-02	1	Guard, Fan				50Hz, Single Phase
9	821-0004	3	Screw, Locking		220-4503-12	1	120 / 240V
10	231-0347	1	Adapter, Alternator				50Hz, Three Phase
11			Rotor		220-4503-14	1	277 / 480V
	201-3558-02	1	60Hz	18	800-2056	6	Screw, Hex Head
	201-3558-03	1	50Hz				
12	232-3296	6	Spacer				
13	800-2515	6	Screw, Hex Head				



# AC Control

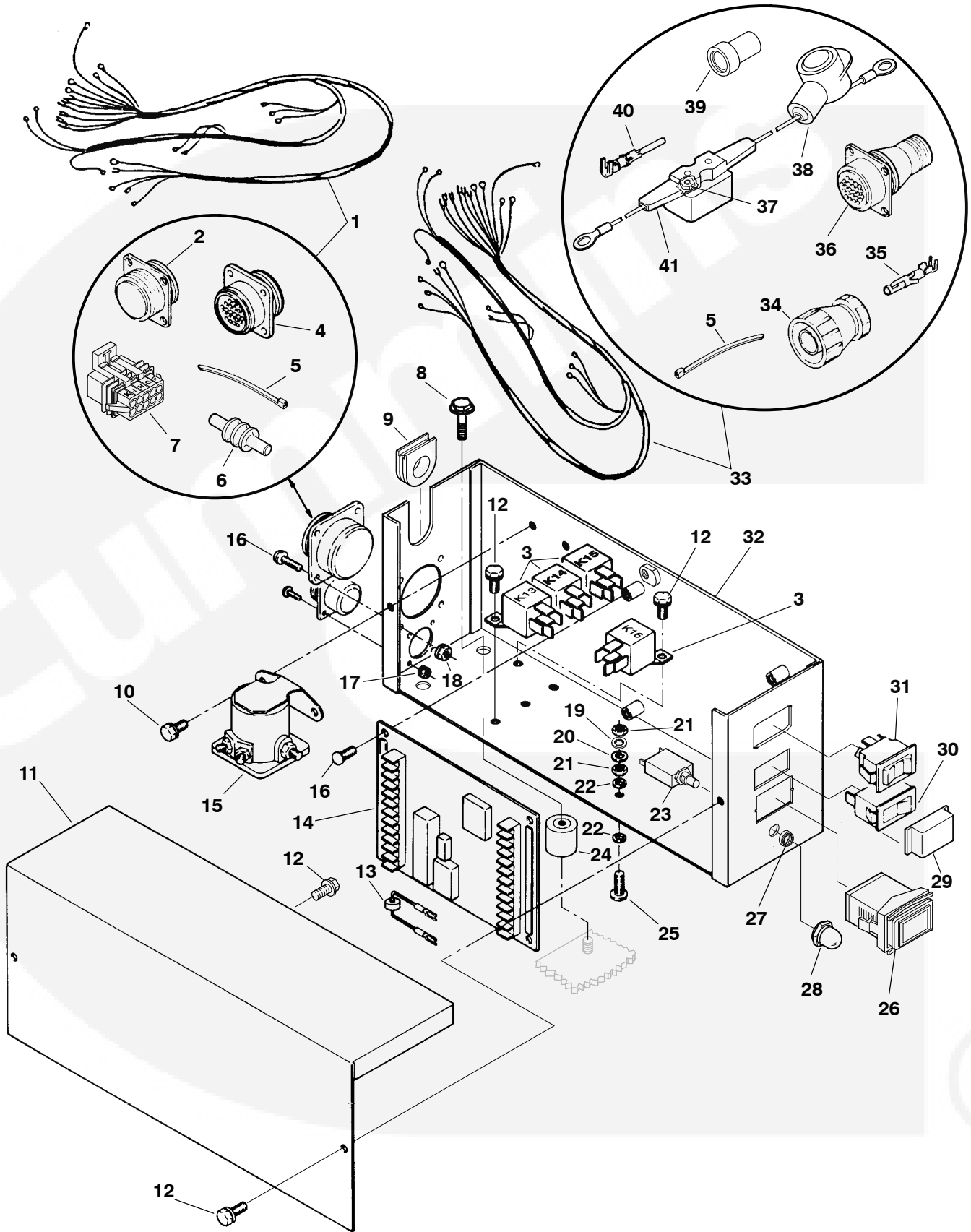




## AC Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-2829-02	1	Cover, Control	15			Plate, Circuit Breaker
2	821-0004	4	Screw, Lock Head (#10-32 x 5/16")	319-0834	1		Spec, 11475, 11476, 11585 (1 Pole)
3	234-0952-02	1	Guard	319-3023-02	1		Spec 11477, 11478 (3 Pole)
4			Harness, AC (Reaches From AC Control Box to DC Control Box) (Includes Plug, Socket, Clamp and Boot)	319-3121-02	1		Spec 61730, 11567 (CB Adapter)
	338-3339	1	Spec 61730	16	320-1951-02	1	Boot, Circuit Breaker (Spec 11475, 11476)
	338-3483	1	Spec 11475, 11476, 11477, 11478	17			Washer, Lock (#6)
	323-1383	1	Plug, Circular (J1)	850-0020	6		Spec 61730, 11475, 11476
	323-1229	1	Socket, Female	850-0020	2		Spec 11477, 11478
	323-1751	1	Boot, Rubber (Spec 11475, 11476, 11477, 11478)	18			Screw, Round Head Machine (#6-32 x 3/8")
5	810-0155	1	Screw, Round Head Brass Machine (1/4-20 x 1.25")	812-0061	6		Spec 61730, 11475, 11476
6	856-0006	3	Washer, EIT (1/4")	812-0061	2		Spec 11477, 11478
7	331-0116	1	Connector, Straight	19	305-0875-04	1	Regulator, Automatic Voltage (VR21)
8			Screw, Lock Head (1/4-20 x 5/16")	20	856-0003	1	Washer, EIT (#10)
	821-0008	1	Spec 61730	21	813-0100	1	Screw, Round Head Machine (#10-32 x 1/2")
	821-0008	2	Spec 11475, 11476	22	319-3187-02	1	Cover, Regulator
	821-0008	6	Spec 11477, 11478	23	813-0114	2	Screw, Round Head Machine (#10-32 x 3")
9	319-2830-04	1	Box, Control	24	854-0010	2	Washer, IT Lock (#10)
10			Breaker, Circuit 2 Pole	25	370-4083-01	2	Standoff, Cover
	320-1676-06	1	25A	26	800-2033	6	Screw, Hex Head Cap (M6 x 1 x 16mm)
	320-1676-03	1	30A	27	850-2006	6	Washer, Lock (M6)
	320-1676-04	1	35A	28	526-0018	6	Washer, Flat (1/4")
	320-1676-01	1	40A	* - Following Parts Shipped Loose in Plastic Bag:			
	320-1676-05	1	45A	323-1582	1		Plug (12 Pin)
	320-1880-02	1	3 Pole (25A)	323-1583	1		Wedge, Plug (12 Pin)
11	508-0278	1	Grommet	323-1591	4		Plug, Seal
12			Standoff, Insulator	29	338-2905	1	Harness, Serge Volt Regulator
	332-2370	1	Spec 11475, 11476, 61730	30	323-1591	5	Plug, Connector
	332-2370	3	Spec 11477, 11478	31	323-1580	1	Housing, Receptacle (12 Pin)
13	871-0016	2	Nut, Hex (1/4-20)	32	323-1581	1	Wedge, Receptacle (12 Pin)
14	526-0052	1	Washer, Flat (1/4")				

# DC Control



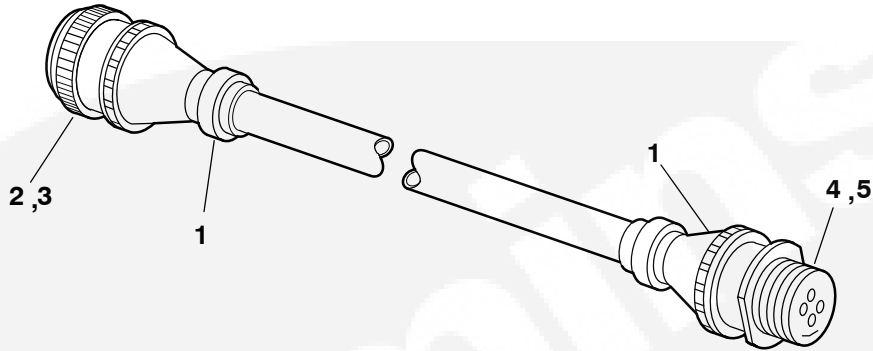
## DC Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-3434	1	Harness, DC Control (Usage is Internal to DC Control Box) (Includes Parts Marked #)	26	302-2002	1	Meter, Hour (M11) (Spec 11475, 11476, 11477, 11478)
2	323-1384	1	#Receptacle, Circular (J1)	27	320-1954	1	Adapter, Threaded (Spec 11475, 11476, 11477, 11478)
3	307-1886	4	#Relay (K13-Heater, K14-Fuel Solenoid, K15-Fuel Flashing K16-Remote Start)	28	320-1953	1	Boot, Push Button (Spec 11475, 11476, 11477, 11478)
4	323-1206	1	#Receptacle, Circular (J2)	29	320-1952	1	Boot, Rocker Switch (Spec 11475, 11476, 11477, 11478)
5	332-3388	1	#Tie, Cable (Use As Required)	30	320-1140	1	Breaker, Circuit (CB11)
6	323-1712	2	#Plug, Cavity	31			Switch, Start/Stop (S11)
7	323-1711	1	#Connector, Plug (10 Pin)		308-0852	1	Spec 61730
8	821-0014	4	Screw, Lock Head (5/16-18 x 1/2")		308-1027	1	Spec 11475, 11476, 11477, 11478
9	508-1105	1	#Grommet	32	319-4505	1	Box, Control
10	821-0008	2	Screw, Lock Head (1/4-20 x 5/16")	33			Harness, Engine (Reaches from Engine to DC Control Box) (Includes Parts Marked ◊)
11	301-9883-03	1	Cover, Control				
12	821-0004	7	Screw, Lock Head (#10-32 x 5/16")		338-3338	1	Spec 11567, 61730
13	357-0088	1	Rectifier Assy (CR2)		338-3484	1	Spec 11475, 11476, 11477, 11478, 11575, 11585, 13B
14	300-2604	1	PCB Assy, Engine Monitor (A11)	34	332-2304	1	◊Clamp, Cable
15	307-1617	1	Relay, Start Solenoid (12V)(K11)	35	323-1195	16	◊Socket, Female
16	815-0388	8	Screw, Round Head Machine (#6-32 x 1/2")	36	323-1207	1	◊Plug, Circular (J2)
17	870-1220	4	Nut, ET Hex (#4-40)	37	870-0131	2	◊Nut, ET Hex (10-32)
18	870-0183	4	Nut, ET Hex (#6-32)	38	416-1021-03	1	◊Boot
19	854-0014	1	Washer, IT (1/4")	39	323-1790	1	◊Boot, Rubber
20	526-0052	1	Washer, Flat (1/4")	40	323-1492	AR	◊Socket, Contact
21	871-0016	2	Nut, Hex (1/4-20)	41	320-1928-01	1	◊Breaker, Circuit (CB3) (12V, 40A)
22	856-0006	3	Washer, EIT (1/4")	42	98-7310	1	Label, Schematic (DC)
23	320-1141	1	Breaker and Terminal Assy (Fault) (CB12)				
24	402-0070	4	Isolator, Vibration				
25	810-0155	1	Screw, Round Head Brass Machine (1/4-20 x 1.25")				

# - Parts Included in Control Wiring Harness.

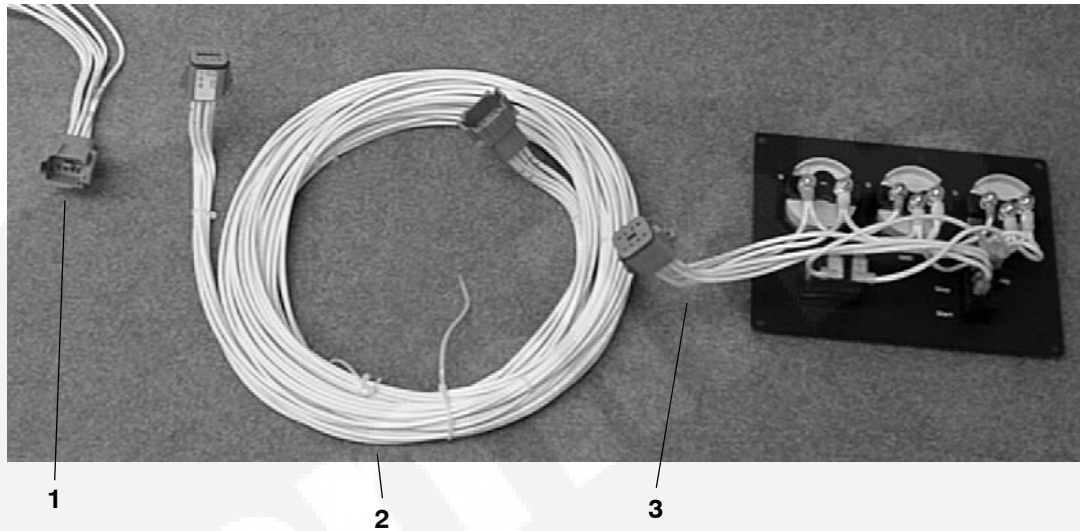
◊ - Parts Included in Engine Wiring Harness.

## Remote Mount DC Control Box Harness



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Harness, Remote (Used When DC Control Box is Remote Mounted)	2			Plug, Circular (P2)
			DC		323-1383	1	AC Harness (4 Pin)
					323-1207	1	DC Harness (24 Pin)
				3			Socket, Terminal (P2) (Female)
	338-2912-01	1	24"		323-1229	2	AC Harness (22-18 AWG)
	338-2912-02	1	42"		323-1195	17	DC Harness (18-14 AWG)
	338-2912-03	1	90"	4			Plug, Free Hanging Receptacle (J2)
	338-2912-04	1	126"				
	338-2912-05	1	162'		323-1620	1	AC Harness (4 Contacts)
			AC		323-1613	1	DC Harness (24 Contacts)
	338-2914-01	1	18"	5			Pin, Terminal (J2) (Male)
	338-2914-02	1	36"		323-1228	2	AC Harness (22-18 AWG)
	338-2914-03	1	84"		323-1194	17	DC Harness (18-14 AWG)
	338-2914-04	1	120"				
	338-2914-05	1	156"				
1	332-2304	2	Clamp, Cable DC Harness				

## Remote Panel Harness Location

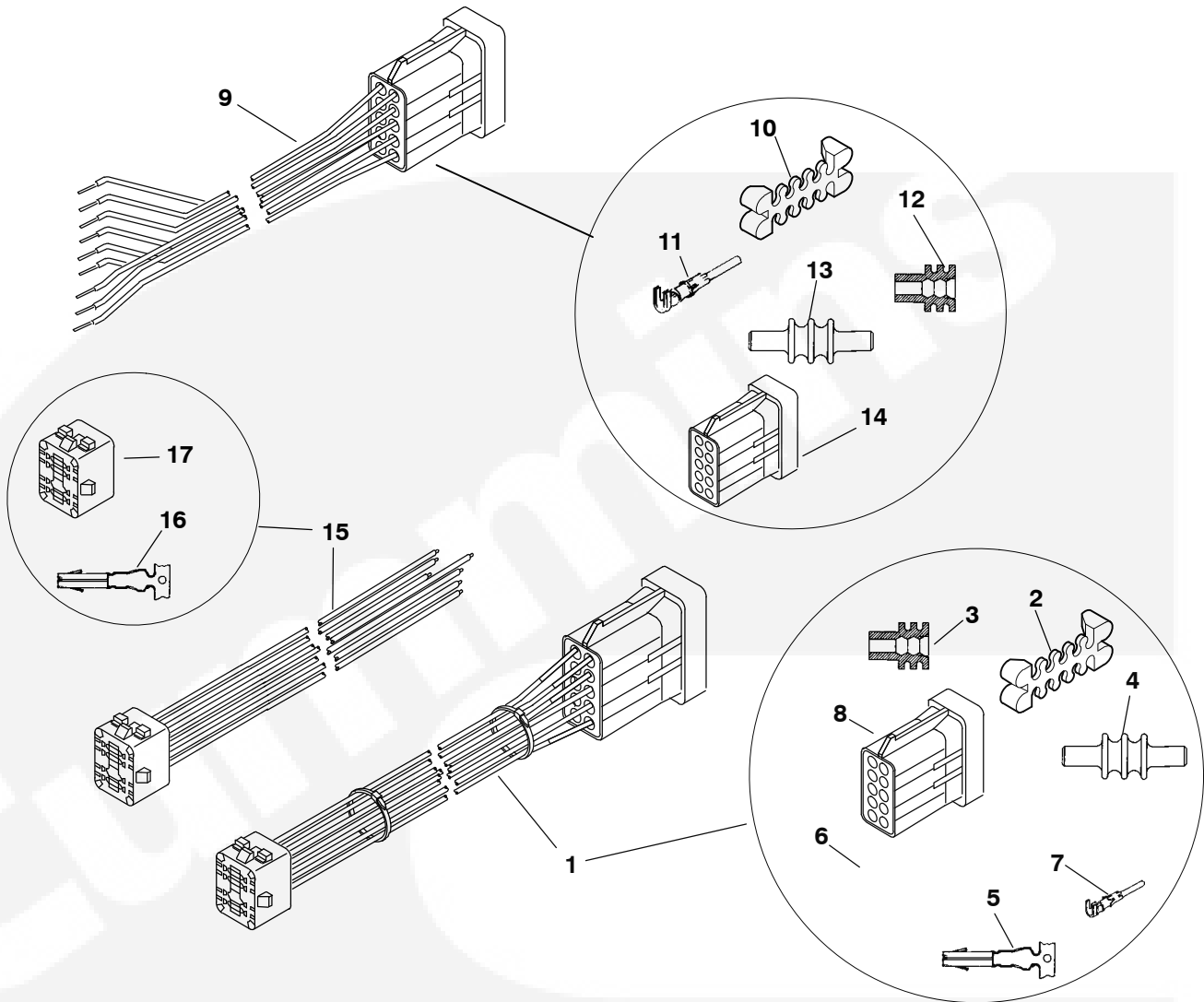


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	*	-	Harness, DC Control (Reaches From DC Control Box to Extension or Customer Interface Pigtail Harness)
2	*	-	Harness, Extension (Or Customer Interface Pigtail) (Reaches From DC Control Harness to Remote Panel Harness or Customer Hookup)
3	*	-	Harness, Remote Panel (Reaches From Remote Panel to Extension Harness) (Included in Panel Kits)

\* - See Index for Page Numbers of Detailed Descriptions and Part Numbers.

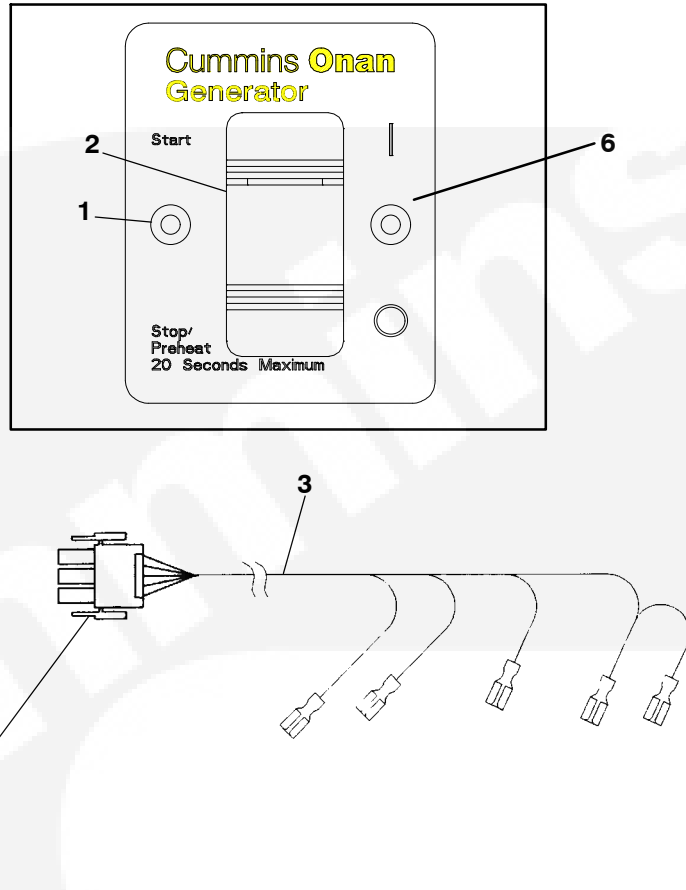


## Harnesses



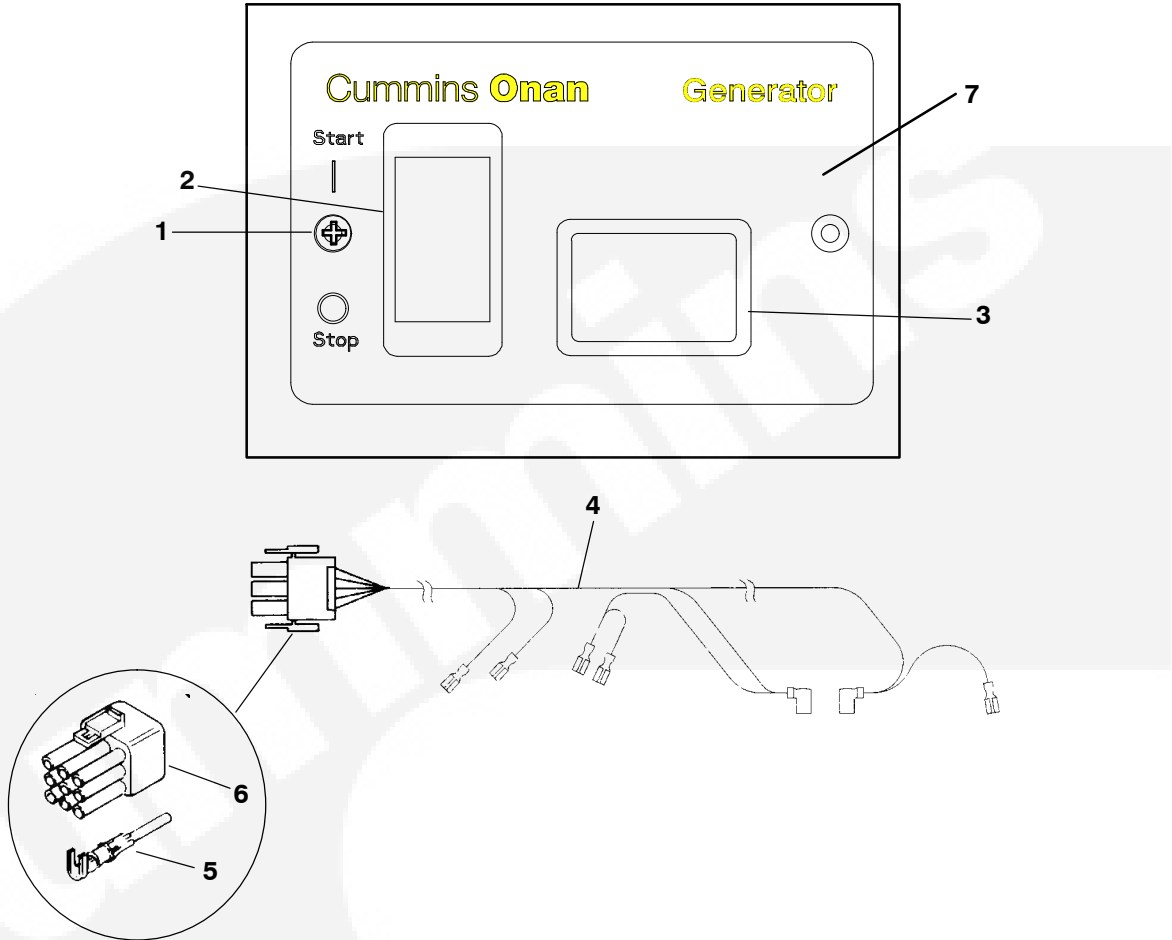
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Extension (Reaches From DC Control Harness to Remote Panel) (Includes Parts Marked +)	10	323-1719	1	°Housing, Lock
	338-3490-01	1	10 Feet	11	323-1707	8	°Pin, Contact
	338-3490-02	1	30 Feet	12	323-1708	8	°Seal, Cable
2	323-1719	1	+Housing, Lock	13	323-1712	2	°Plug, Cavity
3	323-1708	8	+Seal, Cable	14	323-1710	1	°Connector, Receptacle (10 Pin)
4	323-1712	2	+Plug, Cavity	15	338-3573	1	Harness, Customer Interface Pigtail 6" (Reaches From Remote Panel to Customer Interface) (Includes Sockets and Cap)
5	323-1200	8	+Socket, Contact				
6	323-1325	1	+Cap, Connector	16	323-1200	8	Socket, Contact
7	323-1707	8	+Pin, Contact	17	323-1325	1	Cap, Connector
8	323-1710	1	+Connector, Receptacle (10 Pin)				
9	300-4947	1	Harness, Remote Connector (Customer Interface Pigtail 6") (Reaches From DC Control Harness to Customer Interface) (Includes Parts Marked °)				

## Remote Switch Panel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4939	1	Kit, Switch Only Remote Panel	4	323-1199	4	Pin, Contact
1	815-0910	2	Screw, Wood Mounting (#6 x 1)	5	323-1291	1	Plug (9 Pin)
2	308-1062	1	Switch, Rocker	6	319-6987-02	1	Panel Assy, Printed
3	338-3511	1	Harness, Remote Panel (Includes Pins and Plug)				

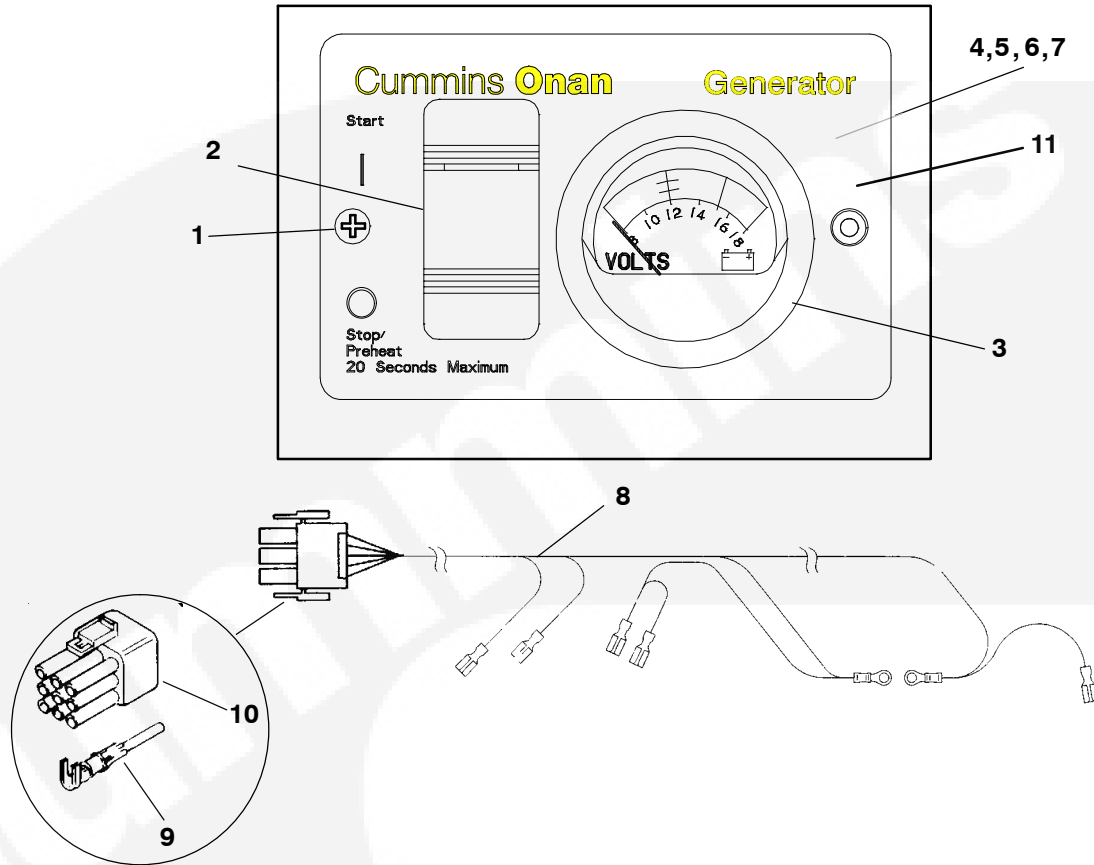
## Remote Switch/Hourmeter Panel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4940	1	Kit, Switch/Hourmeter Remote Panel	4	338-3467	1	Obsolete Harness, Remote Panel (Includes Pins and Plug)
1	815-0910	2	Screw, Wood Mounting (#6 x 1)	5	323-1199	5	Pin, Contact
2	308-1062	1	Switch, Rocker	6	323-1291	1	Plug (9 Pin)
3	302-2002	1	Meter, Hour	7	319-6988-04	1	Panel, Printed

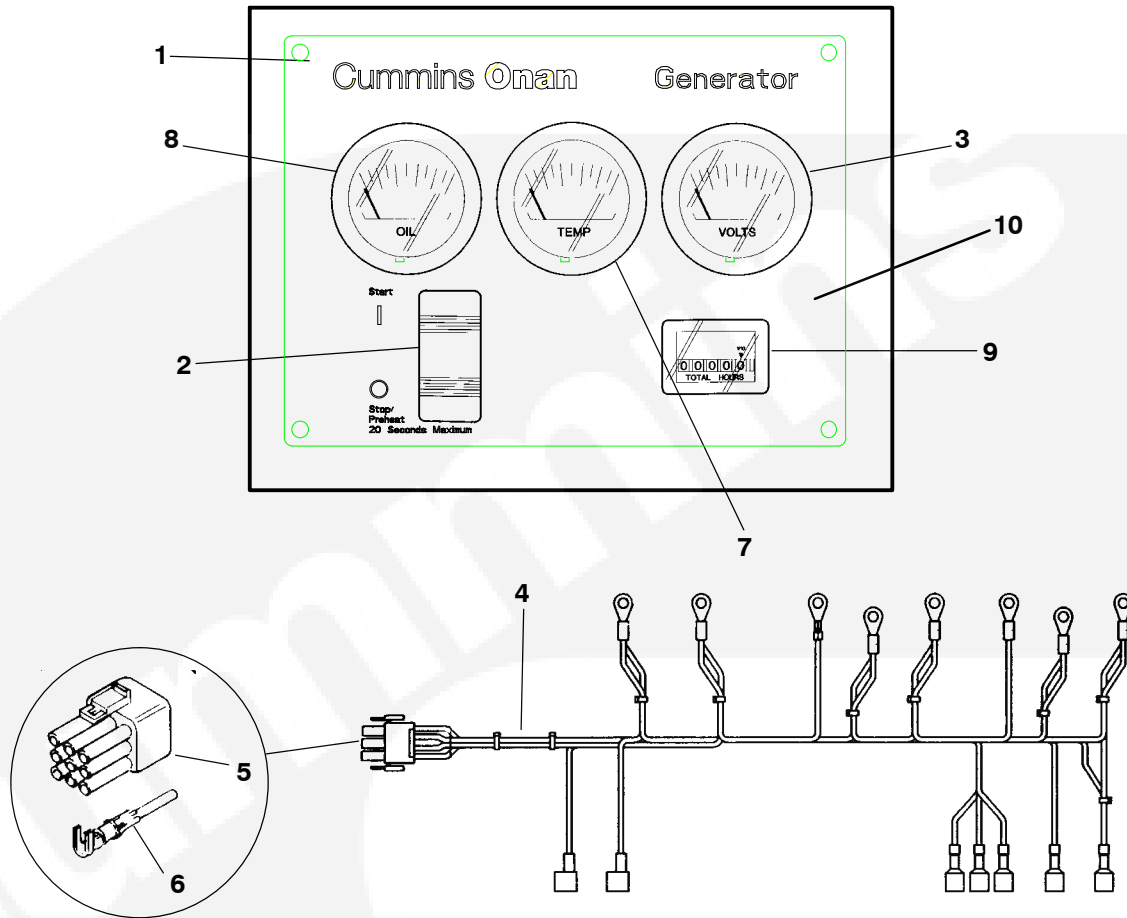


## Remote Switch/Voltmeter Panel



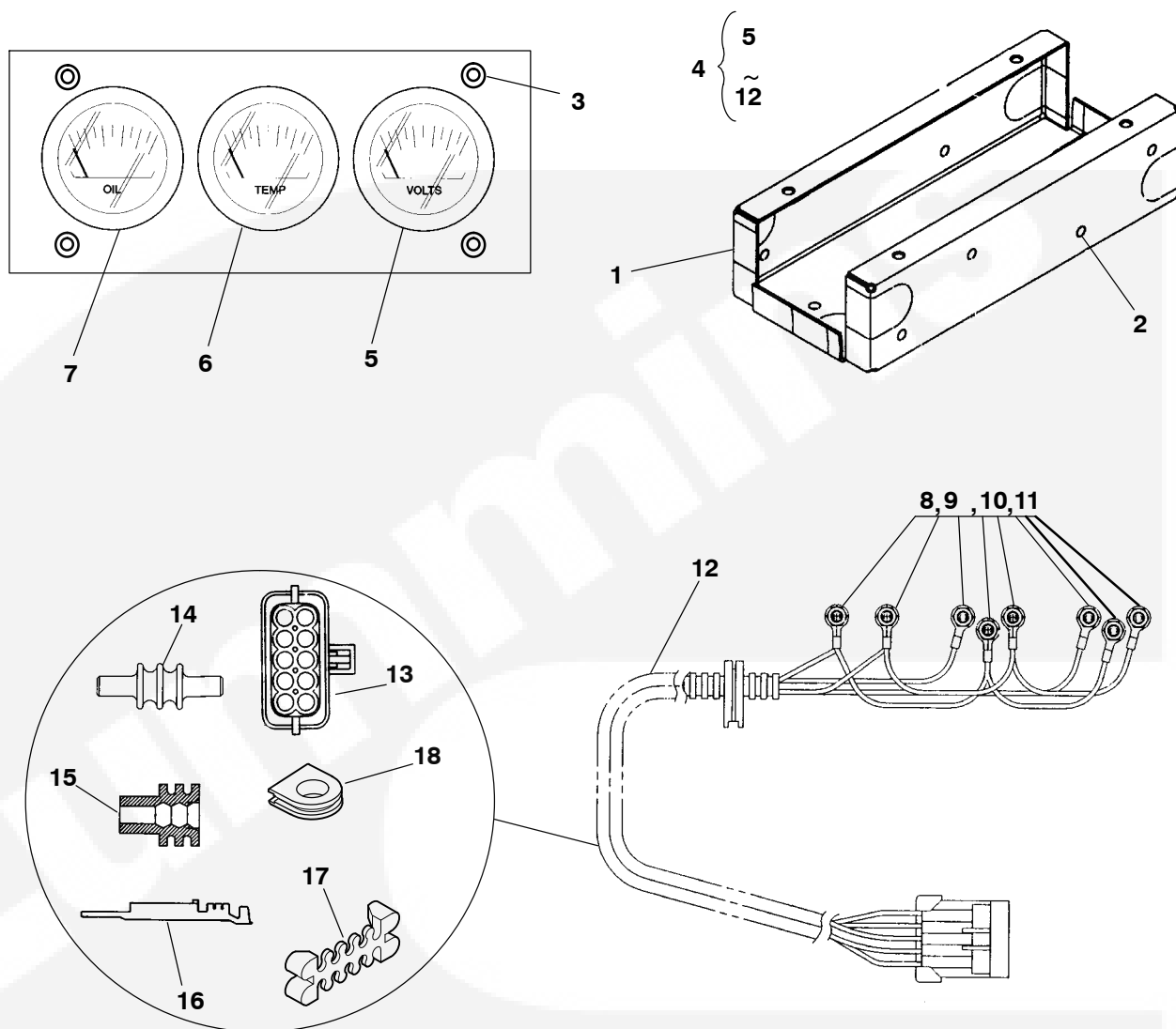
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4941	1	Kit, Switch/Voltmeter	7	850-0030	2	Washer, Lock
1	815-0910	2	Screw, Wood Mounting (#6 x 1)	8	338-3508	1	Harness, Remote Panel (Includes Pins and Plug)
2	308-1062	1	Switch, Rocker	9	323-1199	5	Pin, Contact
3	302-1641	1	Meter, Voltage	10	323-1291	1	Plug (9 Pin)
4	526-0409	2	Washer, Nylon	11	319-6989-01	1	Panel, Printed
5	526-0049	4	Washer, Flat				
6	871-0010	4	Nut, Hex Brass Machine (10-32)				

## Remote Gauge Panel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-5026	1	Kit, Remote Gauge Panel	5	323-1291	1	Plug (9 Pin)
1	808-0023	4	Screw, Pan Head Sheet Metal Mounting (#8 x .50)	6	323-1199	7	Pin, Contact
2	308-1062	1	Switch, Rocker (SPDT)	7	193-0351	1	Gauge, Water Temperature
3	302-1641	1	Meter, Voltage	8	193-0352	1	Gauge, Oil Pressure
4	338-3636	1	Harness, Remote Panel (Includes Plug and Pins)	9	302-2002	1	Meter, Hour
				10	319-7035	1	Panel, Printed

## Remote DC Gauge Panel

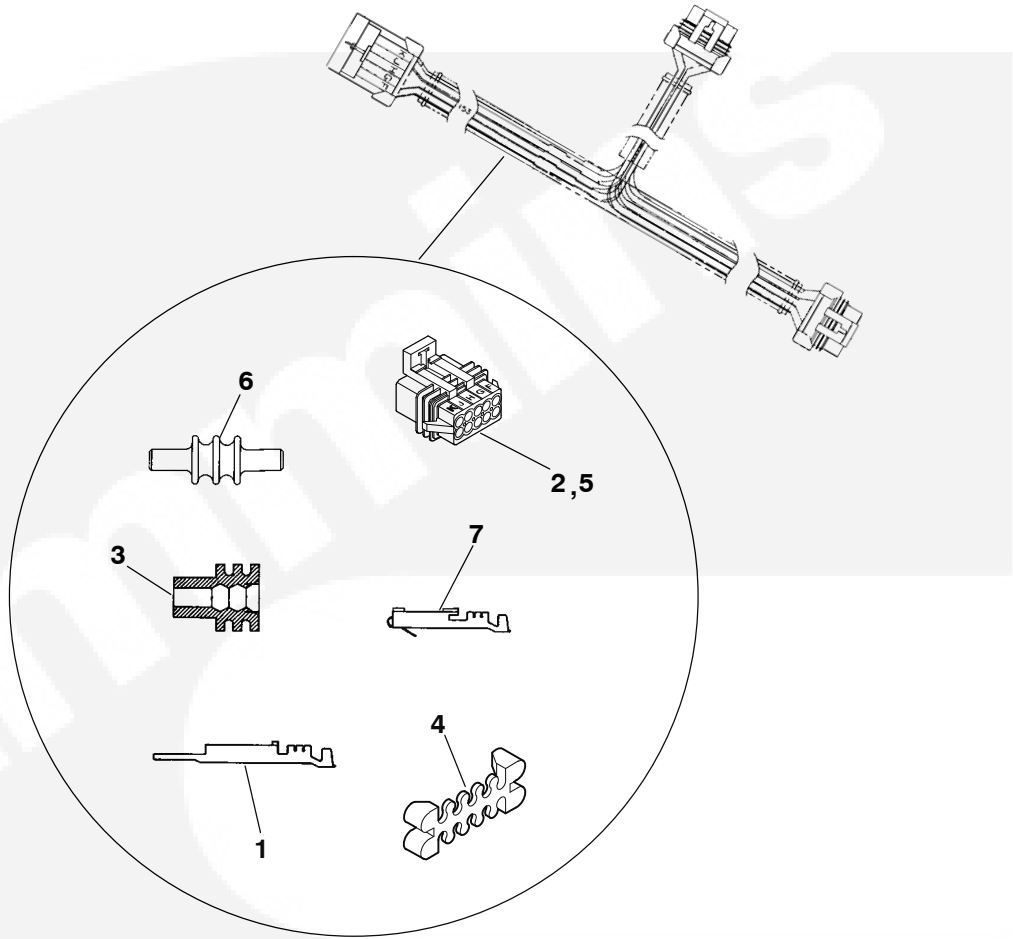


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4966	1	**Kit, DC Gauge Panel				Harness) (Includes Parts Marked *)
1	319-3110-03	1	Box, Gauge	13	323-1710	1	*Connector, Receptacle (8 Pin)
2	821-0005	2	Screw, Lock Head (10-32 x .50)	14	323-1712	6	*Plug, Cavity
3	821-0004	4	Screw, Lock Head (10-32 x .31)	15	323-1708	4	*Seal, Cable
4	300-4954	1	Panel Assy, Remote (Includes the following)	16	323-1707	5	*Pin, Contact
5	302-1641	1	Meter, Voltage	17	323-1719	1	*Housing, Lock
6	193-0351	1	Gauge, Water Temperature	18	508-1105	1	Grommet
7	193-0352	1	Gauge, Oil Pressure				
8	526-0409	8	Washer, Nylon				
9	526-0049	16	Washer Brass				
10	850-0030	8	Washer, Split Lock (#10)				
11	871-0010	16	Nut, Hex (#10-32)				
12	338-3515	1	Harness, Remote Panel (Reaches from Remote Panel to DC Gauge Panel Junction)				

\*\* - Kit Also Includes Oil Pressure Sender and Water Temperature Sender Illustrated with Cylinder Block and Water Flange Respectively.

\* - Parts Included in Remote Panel Harness.

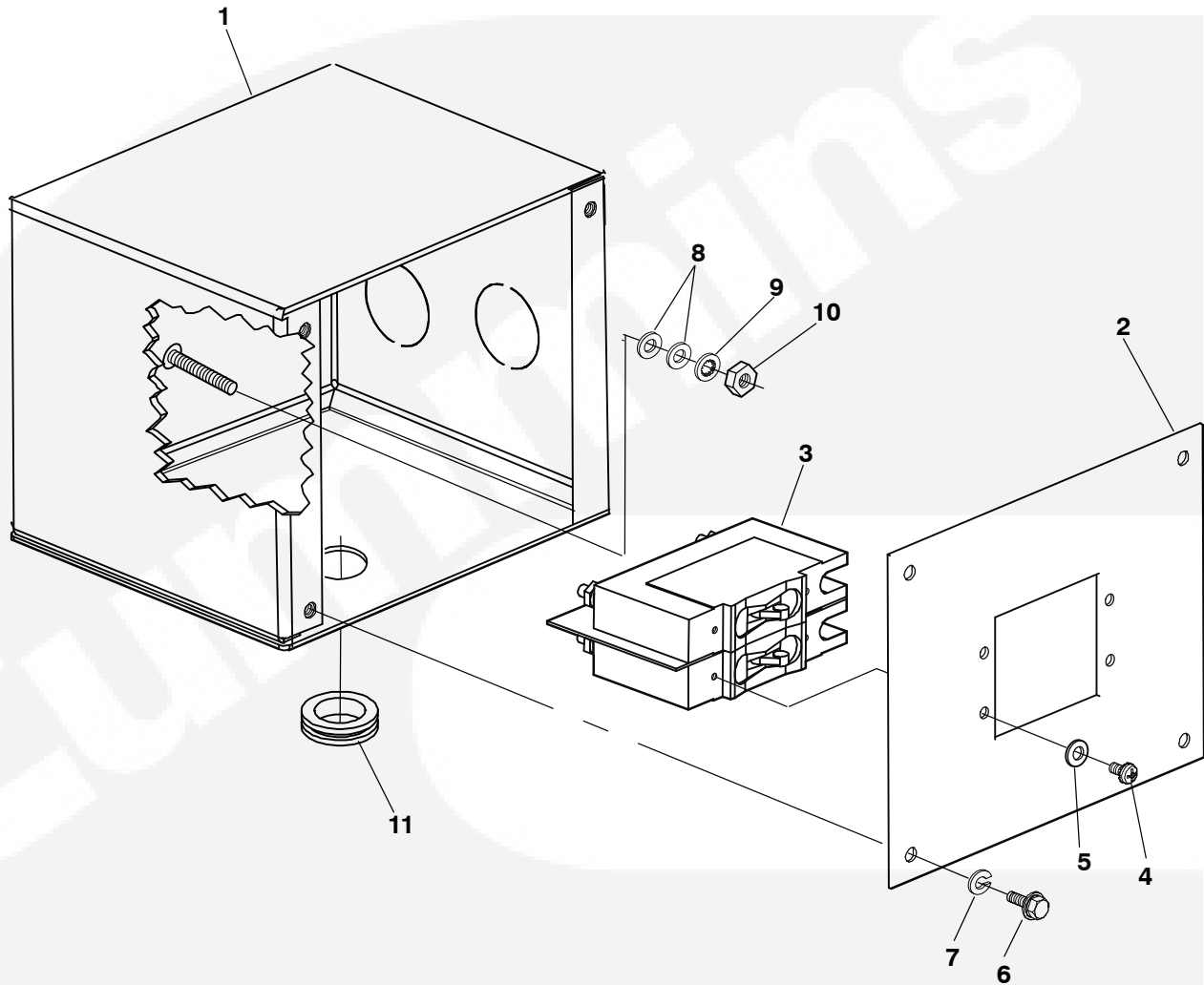
## Remote DC Gauge Panel Harness



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	338-3526	1	Harness, Remote DC Gauge Panel Junction (Reaches from Remote DC Gauge Panel to DC Control Box and Extension Harness)	3	323-1708	24	Seal, Cable (P3)
1	323-1707	AR	Pin, Contact	4	323-1719	3	Housing, Lock
2	323-1710	1	Connector, Receptacle (10 Pin)	5	323-1711	2	Connector, Plug (10 Pin) (J4, J5)
				6	323-1712	6	Plug, Cavity
				7	323-1709	AR	Socket, Terminal

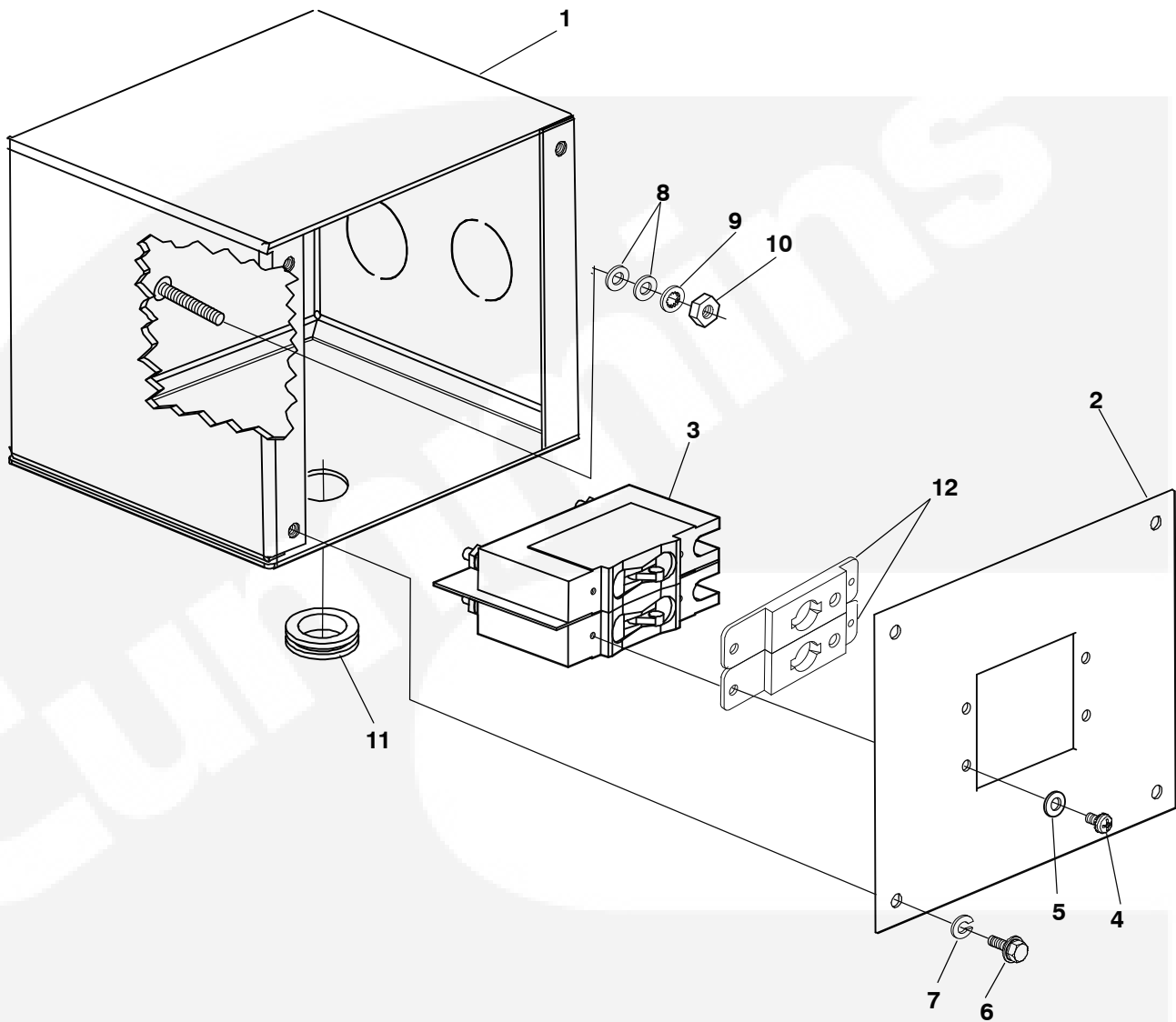


## Remote Circuit Breaker Box 30A or 35A



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Kit, Remote Mount Circuit Breaker	5	850-0020	4	Washer, Lock (#6)
	320-1950	1	30A, 2 Pole	6	813-0100	4	Screw, Round Head Machine (#10-32 x .50)
	320-1949	1	35A, 2 Pole	7	850-0030	4	Washer, Lock (#10)
1	319-1054	1	Box, Junction	8	526-0052	2	Washer, Flat (1/4")
2	319-3116-02	1	Cover, Junction Box	9	854-0014	1	Washer, Lock IT (1/4")
3			Breaker, Circuit	10	871-0015	1	Nut, Hex Brass (1/4-20)
	320-1676-03	1	30A	11	331-0538	8	Bushing, Reducer (1" to 3/4")
	320-1676-04	1	35A				
4	812-0061	4	Screw, Round Head Machine (#6-32 x .38)				

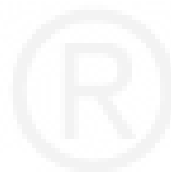
## Remote Circuit Breaker Box 30 or 20A



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	320-1948	1	Kit, Remote Mount Circuit Breaker (30/20A)	6	813-0100	4	Screw, Round Head Machine (#10-32 x .50)
1	319-1054	1	Box, Junction	7	850-0030	4	Washer, Lock (#10)
2	319-3116-02	1	Cover, Junction Box	8	526-0052	2	Washer, Flat (1/4")
3	320-1323	1	Breaker, Circuit (30A)	9	854-0014	1	Washer, Lock IT (1/4")
	320-1321	1	Breaker, Circuit (20A)	10	871-0015	1	Nut, Hex Brass (1/4-20)
4	812-0061	6	Screw, Round Head Machine (#6-32 x .38)	11	331-0538	6	Bushing, Reducer (1" to 3/4")
5	850-0020	6	Washer, Lock (#6)	12	319-3121-01	2	Adapter, Circuit Breaker

## Labels

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Label, Circuit Breaker				Label, Reconnection
98-6303-03		1	35A	98-7142		1	Three Phase
98-6303-06		1	30A				Single Phase
98-6639		1	30/20A	98-7288-01		1	Schematic
98-7244		1	Label, QD Package	98-7288-02		1	Generator Chart
98-2235-02		1	Label, Ground	98-7310		1	Label, Schematic - DC
98-7034-01		1	Label, Listed	98-5755		1	Label, Warning - Hazardous
			Label, Model Ident				Voltage/Feedback
98-7478-02		1	5.0kW	98-7551		1	Label, Package
98-7478-04		1	6.0kW	98-4798-01		2	Label, Warning - Rotating Parts
98-7287-03		1	7.0kW, 7.5kW	98-7480-01		1	Label, Warning - Install
98-7349-03		1	Commercial	98-6074-02		1	Label, Wiring (Operator)
98-7287-02		1	GenSet	98-5347		1	Label, Danger
98-7139		1	8.0kW				(Hazardous Voltage)
98-5338		1	Label, No Step	98-7960-02		1	Label, Identification (6.0)
98-6505-02		1	Label, Oil Recommendations	98-7960-03		1	Label, Identification (7.5)
98-6388-02		1	Label, Phone Info Service/Parts				



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