

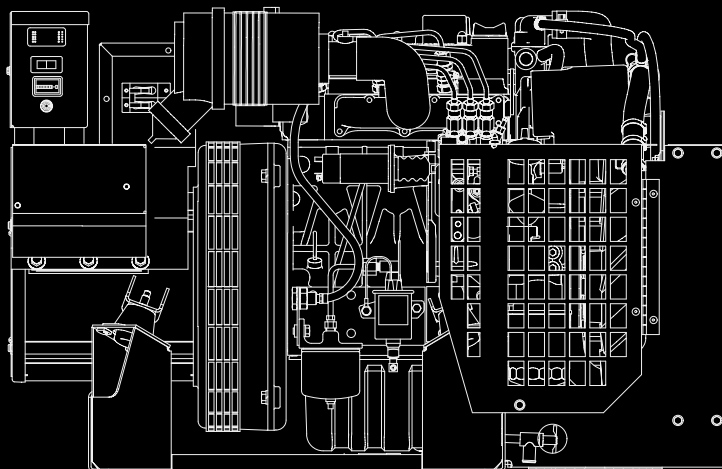
# Onan

## Commercial Mobile Power



## Parts Catalog

### Models HDKAL HDKAQ HDKAR HDKAS



Printed in U.S.A.

6/06 981-0256D  
(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!***

PSP-1

## 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.

<b><u>MODEL</u></b>	<b><u>HERTZ</u></b>
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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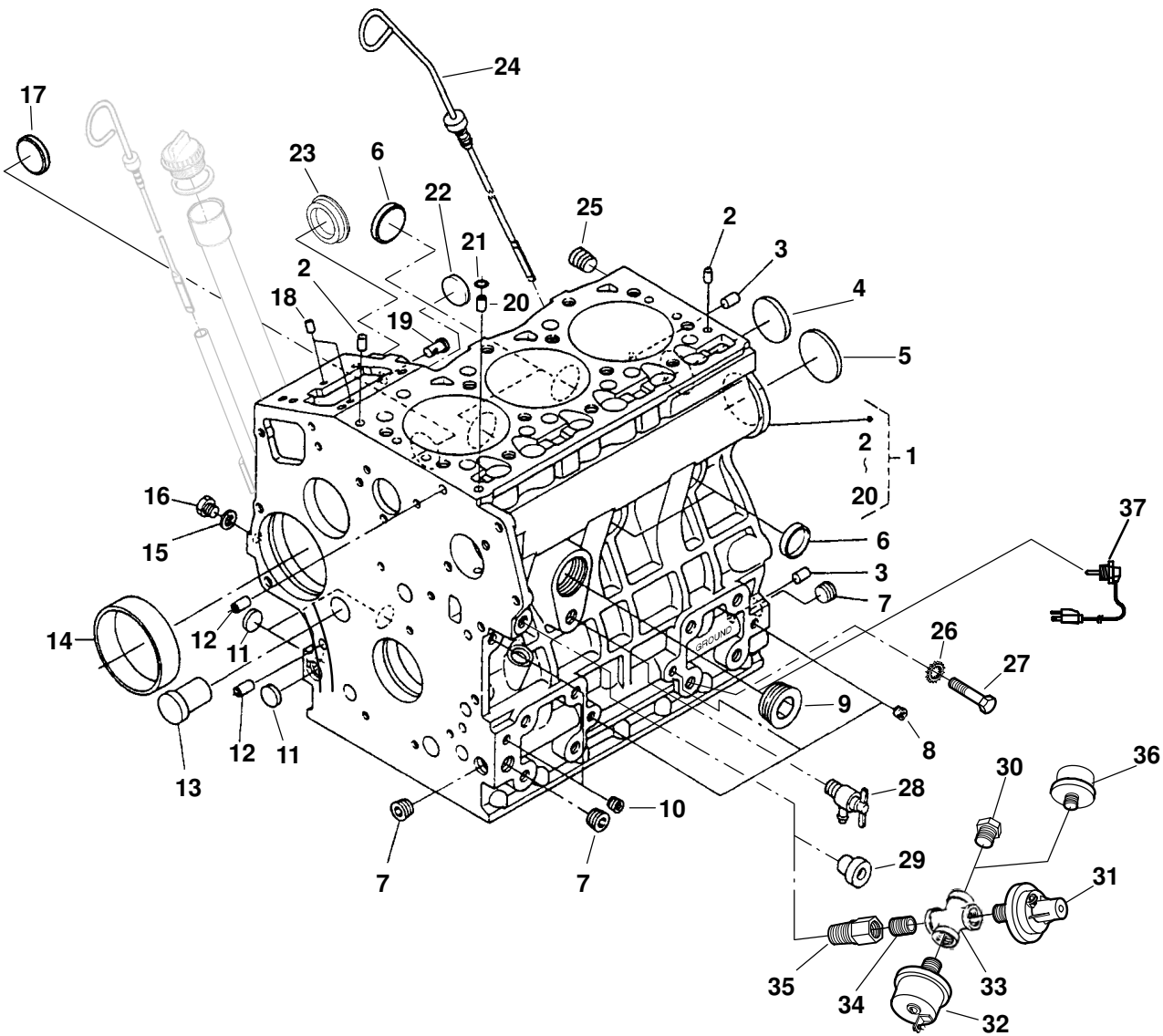
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# Cylinder Block (Spec A-D)

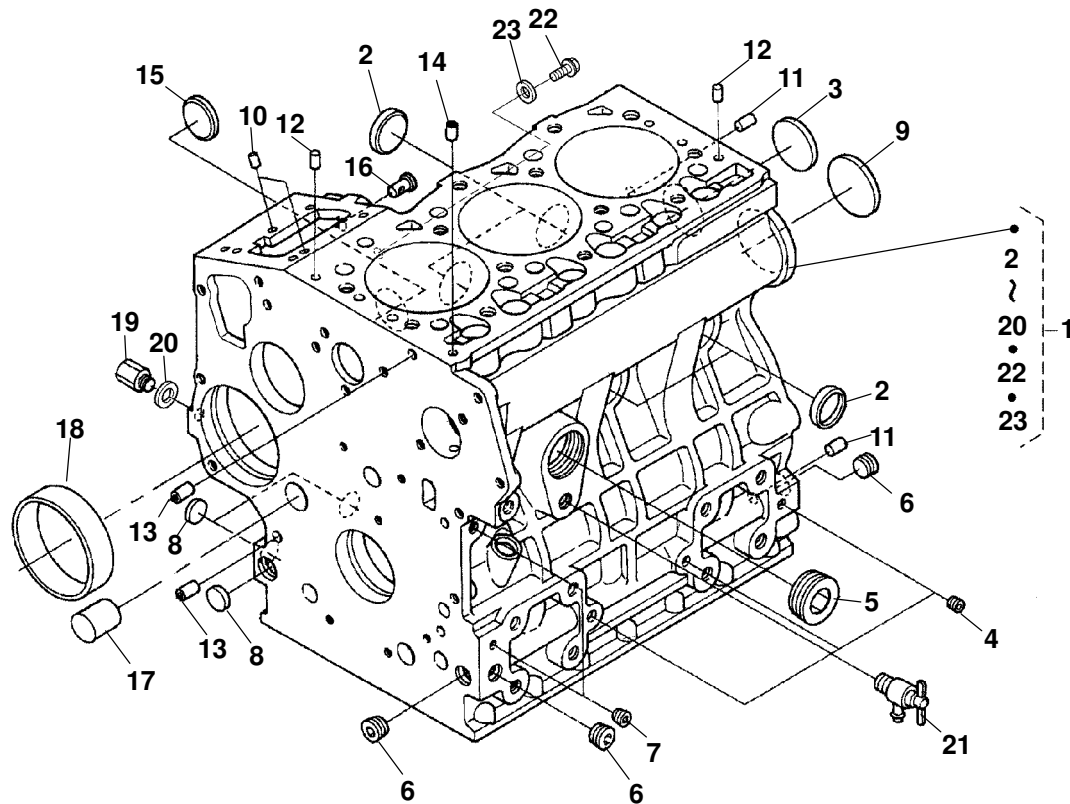


## Cylinder Block (Spec A–D)

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
	185-5843	2	Spec A		185-6866	1	Spec A
			Begin Spec B				Begin Spec B
	185-5843	2	HDKAS		185-7427	1	Exhaust Side
	185-7420	2	HDKAL		185-7428	1	Intake Side
3			*Pin, Straight	25	185-5502	1	Plug
	185-5487	2	Spec A	26	853-2010	1	Washer, EIT Lock (3/8")
			Begin Spec B	27	815-0585	1	Screw, Hex Head Cap (M10 x 1.25 x 18mm)
	185-5487	2	HDKAS	28	185-5490	1	Cock, Drain
	185-7419	2	HDKAL	29	185-6039	1	Plug
4	185-2412	1	*Cap, Sealing	30	502-0028	1	Plug, Hex Head Pipe
5	185-6040	1	*Plug	31	309-0641-18	1	Switch, Pressure (S6)
6	185-5484	4	*Cap, Sealing	32	309-0641-05	1	Switch, Pressure (S1)
7	185-6468	3	*Plug	33	505-0763	1	Cross, Pipe
8	185-2188	3	*Plug	34	505-0098	1	Nipple, Close
9	185-6856	1	*Plug	35	502-0917	1	Adapter, Pipe
10	185-2233	2	*Plug	36	193-0244	1	Sender, Oil Pressure (E1)
11	185-6121	3	*Plug	37	333-0594	1	Heater, Engine
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				

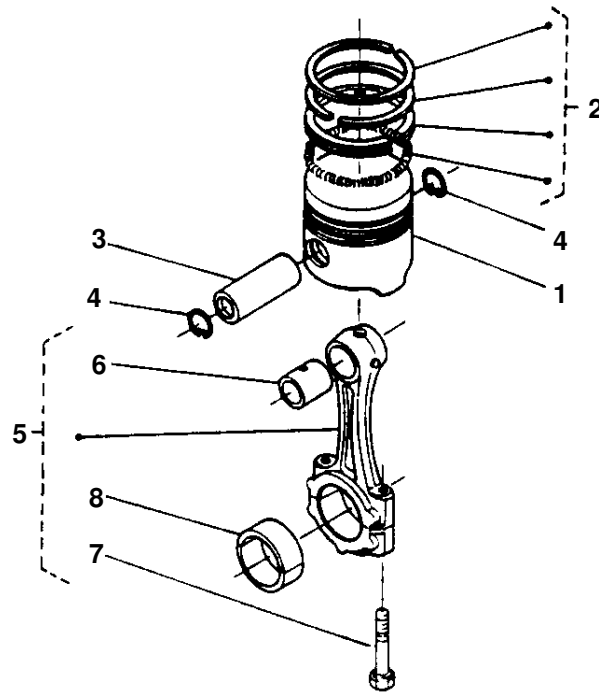
\* – Parts Included in Cylinder Block Assy.

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



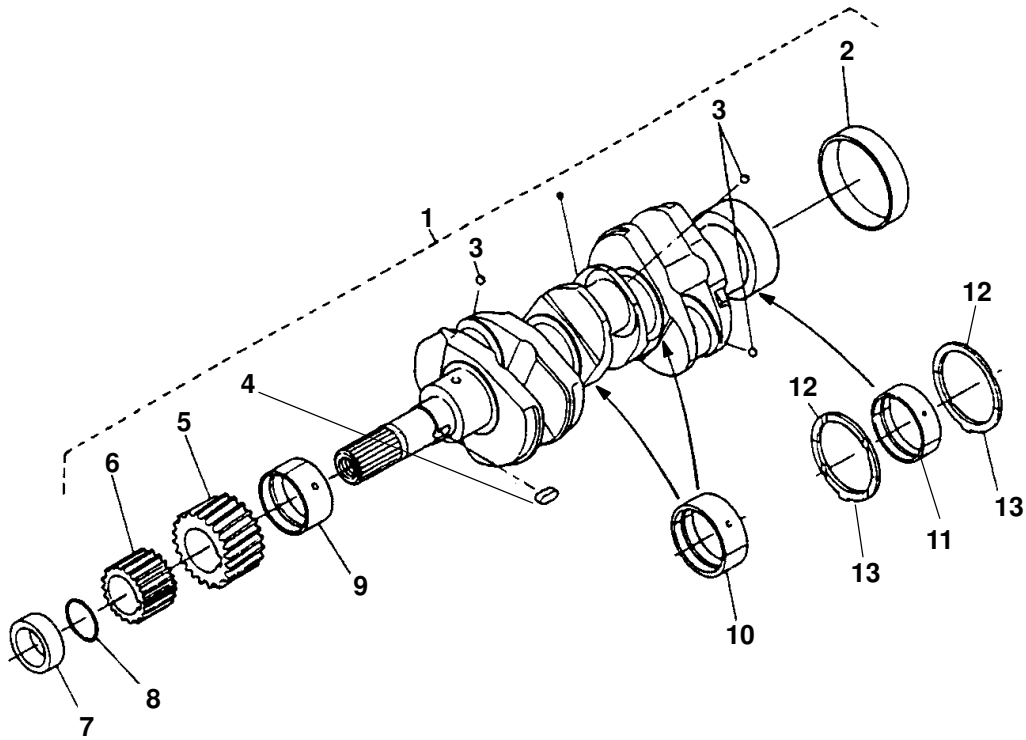
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Comp, Crankcase (Includes Parts Marked *)	14	185-6469	1	*Pin, Pipe
	110-3964	1	HDKAL	15	185-7212	1	*Plug, Fuel Camshaft
	181-9215	1	HDKAS	16	185-6857	1	*Pin, Start Spring
2	185-5484	4	Cap, Seal	17			*Plug
3	185-2412	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	3	185-6531	3	Pin, Piston
			HDKAL	4	185-6532	6	Circlip, Piston Pin
			Spec A	5	185-6533	3	Rod Assy, Connecting (Includes Bushing, Bolt and Bearing)
	185-6745	3	Standard	6	185-6534	3	Bushing, Connecting Rod
	185-6746	3	.5mm Oversize	7	185-6535	6	Bolt, Connecting Rod
			Begin Spec B	8			Bearing, Connecting Rod
	185-7308	3	Standard		185-6536	3	Standard
	185-7309	3	.5mm Oversize		185-6537	3	.2mm Undersize
			HDKAQ		185-6538	3	.4mm Undersize
	185-6745	3	Standard				
	185-6746	3	.5mm Oversize				
			HDKAR, HDKAS				
	185-7096	3	Standard				
	185-7097	3	.5mm Oversize				
2			Ring Assy, Piston				
			HDKAL				
			Spec A				
	185-6529	3	Standard				
	185-6530	3	.5mm Oversize				
			Begin Spec B				
	185-7310	3	Standard				
	185-7311	3	.5mm Oversize				
			HDKAQ				
	185-6529	3	Standard				
	185-6530	3	.5mm Oversize				
			HDKAR, HDKAS				
	185-7098	3	Standard				
	185-7099	3	.5mm Oversize				

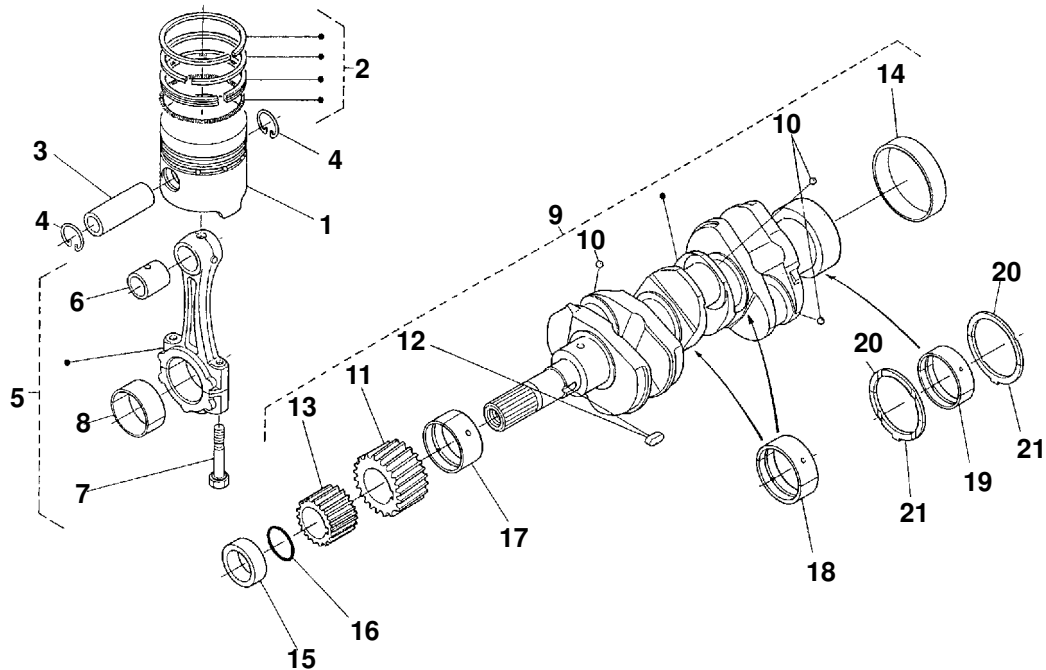
## Crankshaft (Spec A-D)



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 HDKAL		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			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			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				

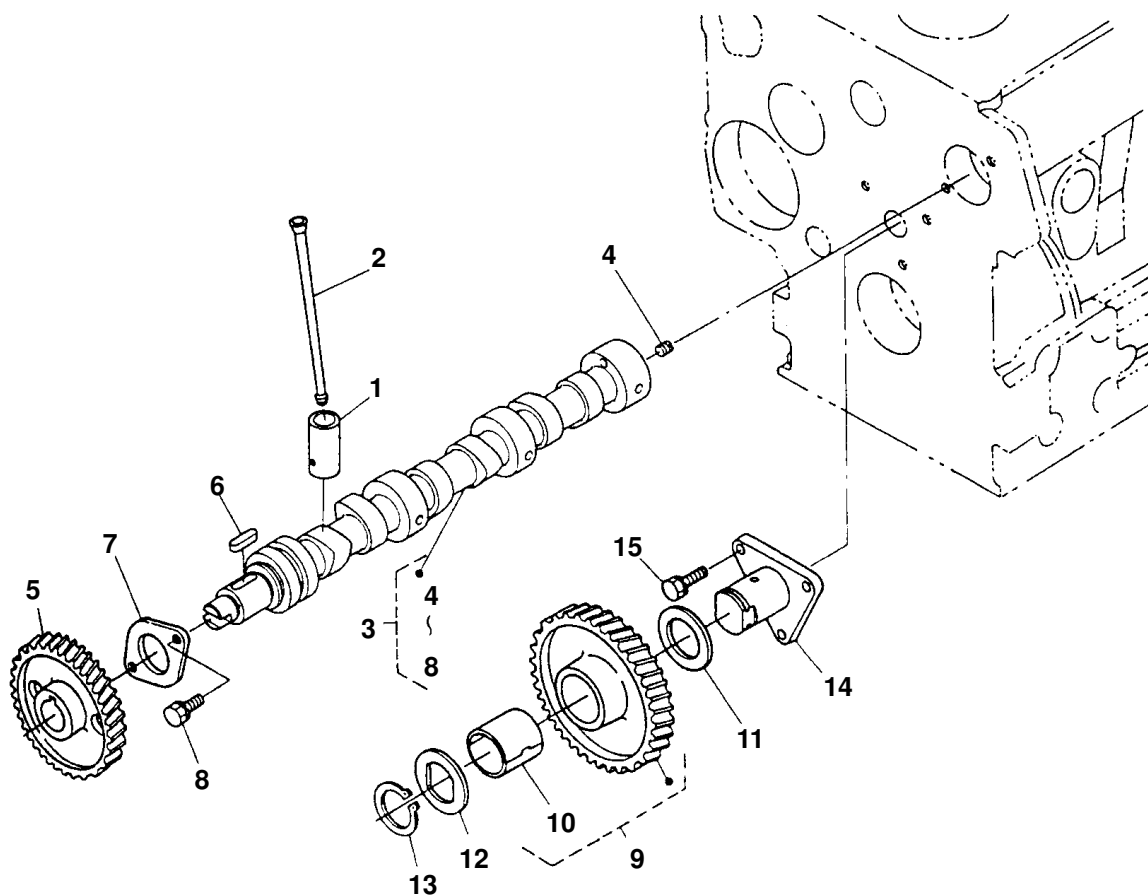
\* – Parts Included in Crankshaft.

## 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
	112-0303	3	Standard	12	185-6541	1	Key
	112-0303	3	Standard	13	185-6542	1	Gear, Oil Pump Drive
			MDKAS	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
			MDKAL		185-6546	1	Standard
	185-7310	3	Standard		185-6547	1	.2mm Undersize
	185-7311	3	Standard		185-6548	1	.4mm Undersize
			MDKAS	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	508-1253	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	MDKAL		185-5941	2	Standard
	185-6874	3	MDKAS		185-5942	2	.2mm Undersize
10	185-5924	3	Ball		185-5943	2	.4mm Undersize

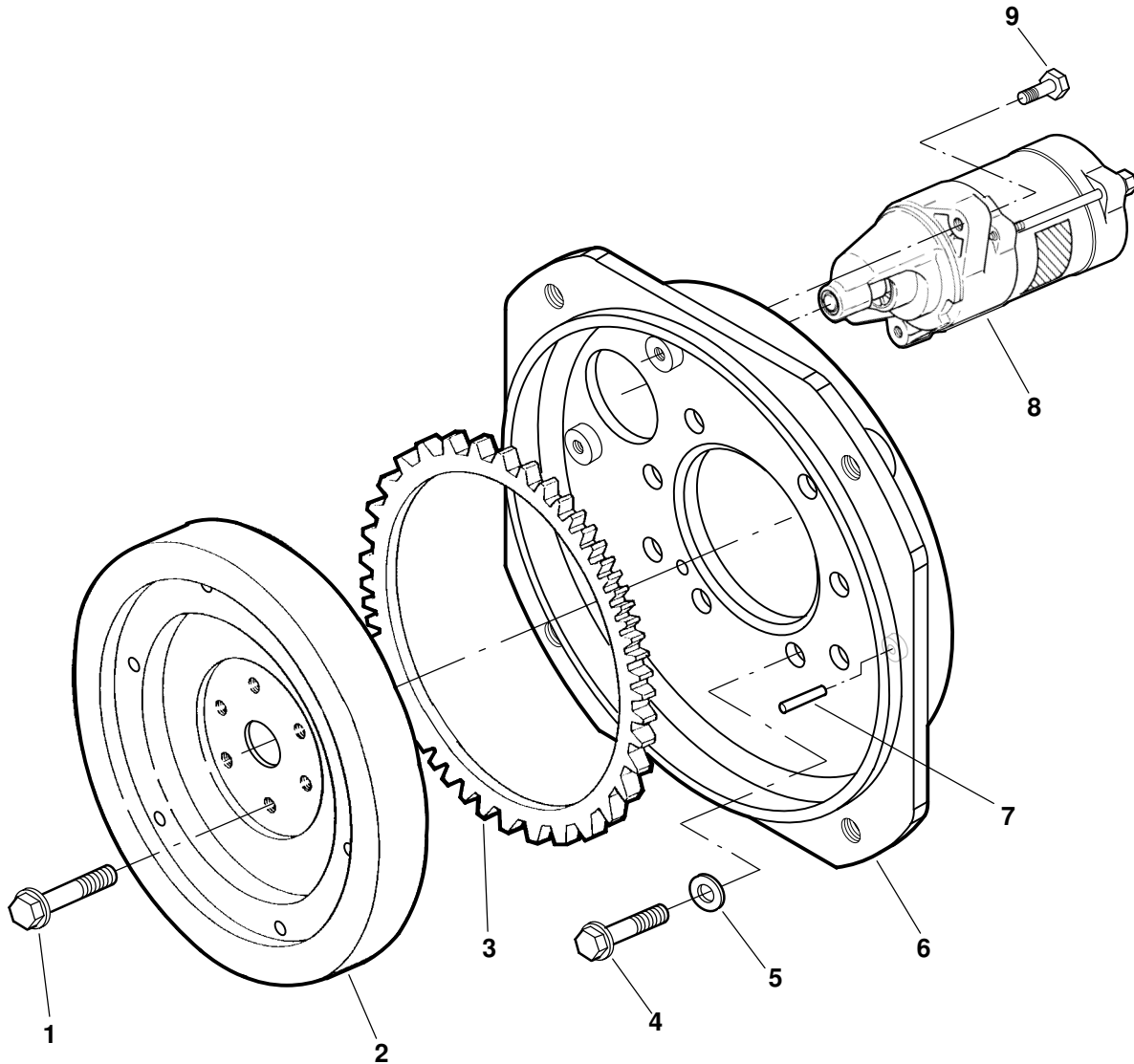
## Camshaft



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

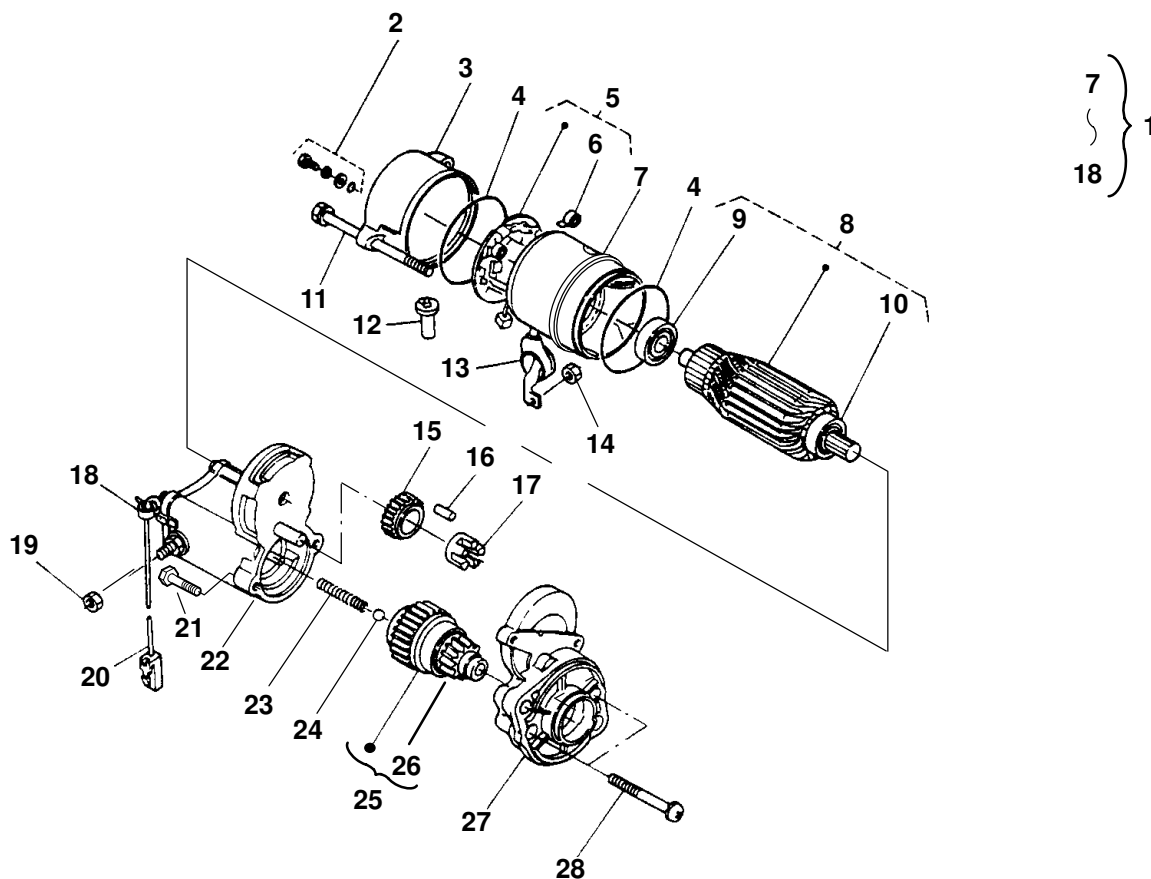


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-5477	6	Bolt, Flywheel (M10 x 1.25 x 30mm)
2	104-1916	1	Flywheel Assy (Includes Ring Gear)
3	104-1861	1	Gear, Ring
4	815-0600	10	Bolt, Flywheel Housing (M10 x 1.25 x 25mm)
5	740-1008	10	Washer, Flat (M10)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	231-0353-SO	1	Adapter Assy, Generator (Includes Dowel Pin)
7	516-0247	1	Pin, Dowel
8	191-2229	1	Starter (See Separate Page for Components)
9	800-2515	2	Screw, Hex Head Cap (M8 x 1.25 x 30mm)



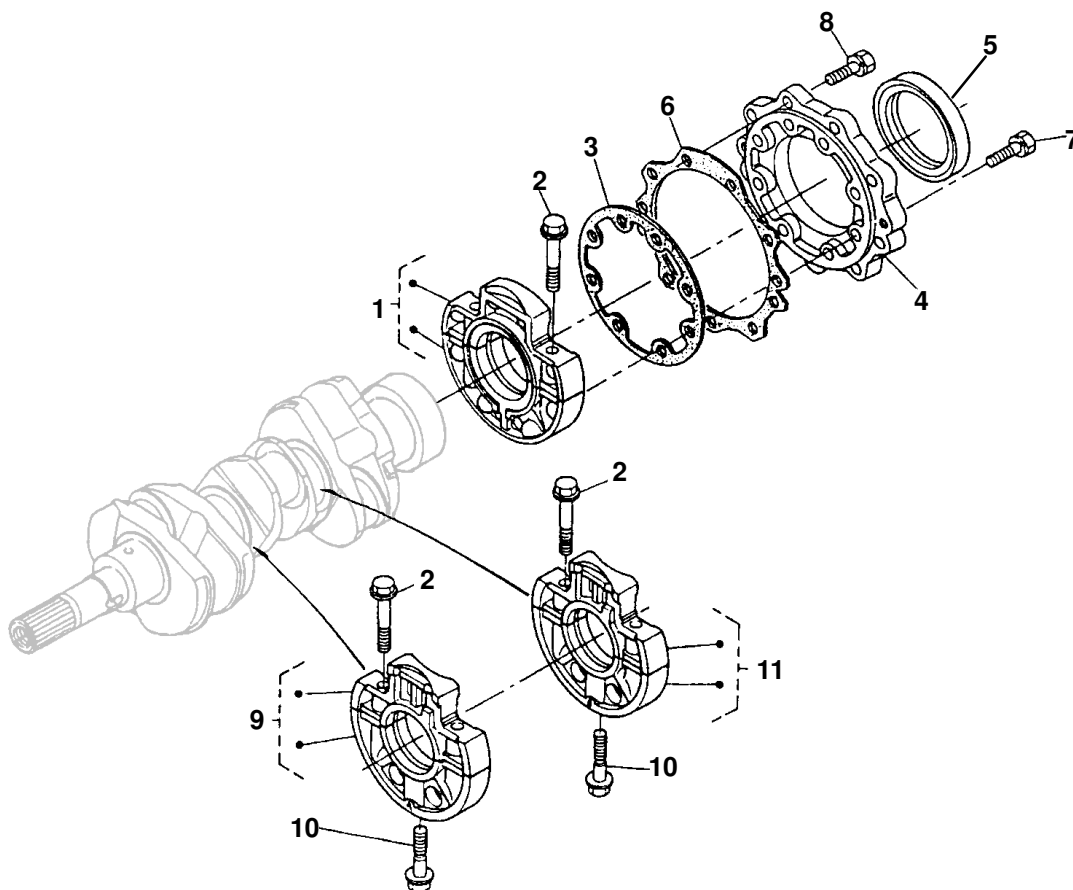
## Starter Components



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-2229	1	Starter (Includes Parts Marked *)	16	191-2252	5	*Roller
2	185-6655	2	*Bolt Assy	17	191-2251	1	*Retainer
3	185-6649	1	*Frame Assy, End	18	185-6662	1	*Band, Cover
4	191-2239	2	*O'Ring	19	750-1006	1	*Nut, Hex
5	191-2247	1	*Holder Assy, Brush (Includes Brush Spring)	20	185-6661	1	*Cord, Stop Solenoid
6	191-2246	4	*Spring, Brush	21	185-2564	2	Bolt, Mounting
7	185-6640	1	*Yoke	22	185-7437	1	*Switch, Magnetic
8	185-6641	1	*Armature (Includes Bearings)	23	191-2240	1	*Spring
9	191-2255	1	*Bearing	24	191-2241	1	*Ball
10	191-2254	1	*Bearing	25	191-2253	1	*Clutch Assy
11	185-6654	2	*Bolt, Thru	26	185-7436	1	Pinion, Bevel
12	185-6660	1	*Pipe, Drain	27	185-6645	1	*Housing
13	185-6657	1	*Cover	28	185-6653	2	*Bolt
14	185-6656	1	*Nut, Hex				
15	191-2250	1	*Gear				

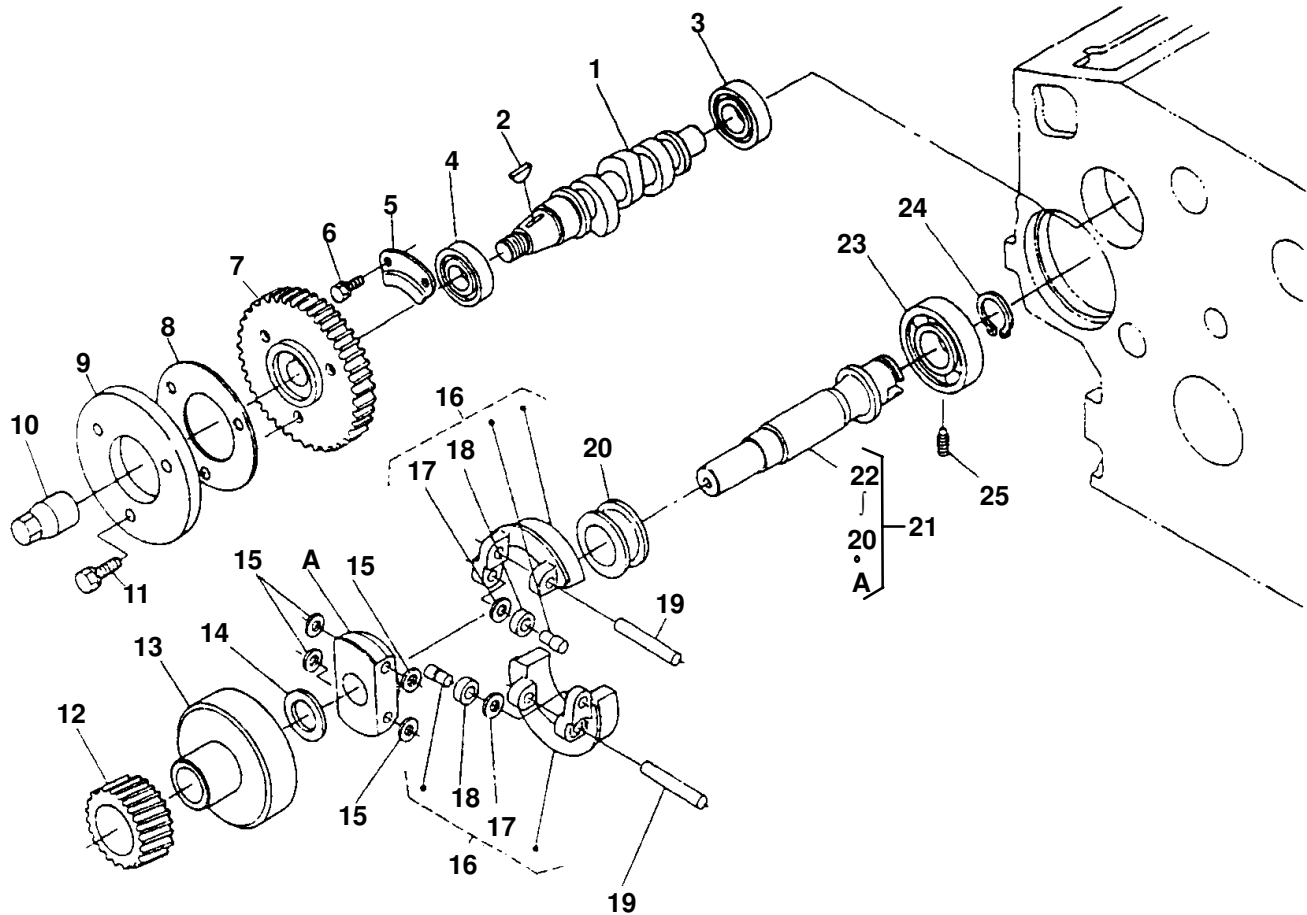
\* – Parts Included in Starter Assy.

## 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		HDKAQ, HDKAR, HDKAS
2	185-6507	6	Bolt, Bearing Case				HDKAL
3			Gasket, Bearing Case	185-6512	1		Spec A
	185-6869	1	Spec A-D	185-7305	1		Begin Spec B
	185-6805	1	HDKAL Begin Spec E	10			Bolt, Bearing Case
4		1	Cover, Bearing Case	185-6513	2		Spec A-D
	185-6509	1	Spec A-D	185-6507	2		HDKAS Begin Spec E
	185-6870	1	HDKAS Begin Spec E	11			Case Assy, Main Bearing
5	185-6510	1	Seal, Oil	185-6872	1		HDKAQ, HDKAR, HDKAS
6	185-6511	1	Gasket, Bearing Case Cover				HDKAL
7	185-2391	8	Bolt	185-6872	1		Spec A
8	185-2390	9	Bolt	185-7306	1		Begin Spec B
9			Case Assy, Main Bearing				

## Fuel Camshaft (Spec A-D)

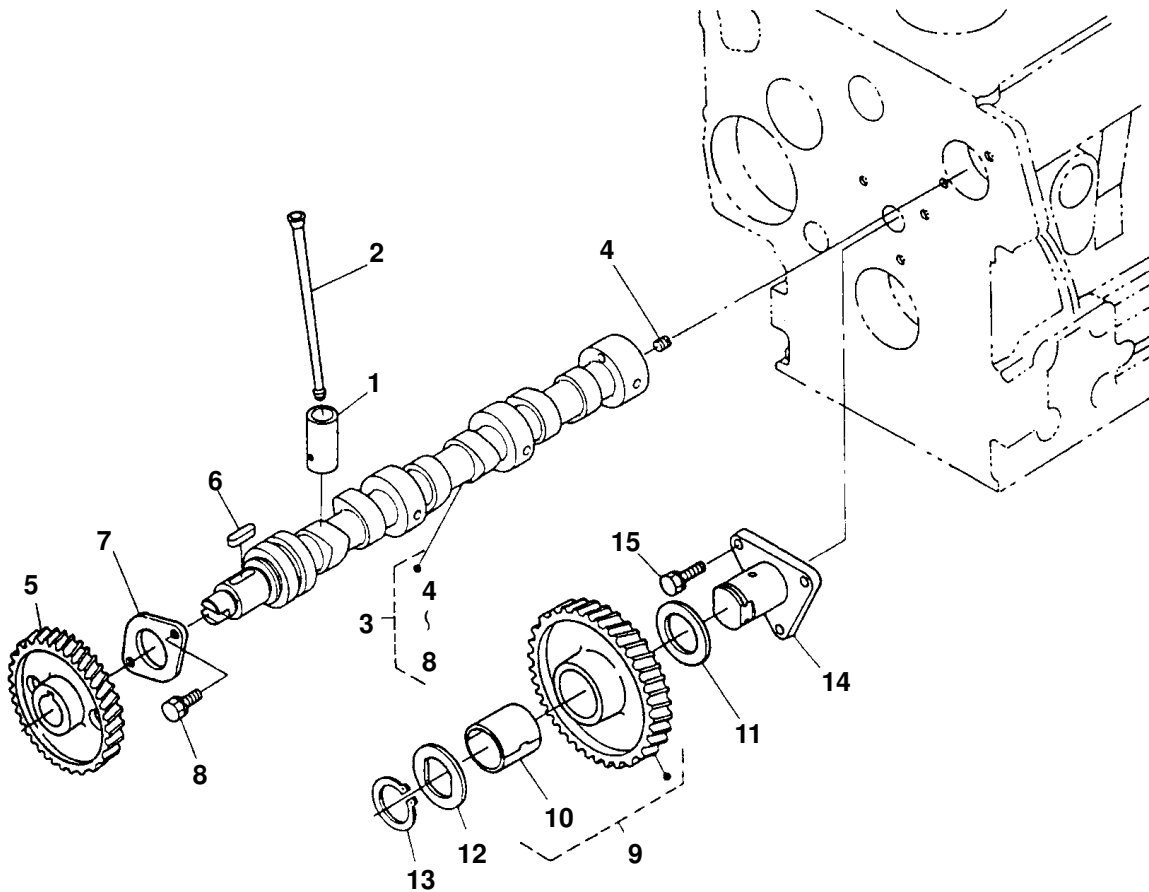


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6875	1	Camshaft, Fuel
2	185-6561	1	Key, Woodruff
3	510-0163	1	Bearing, Ball
4	185-3093	1	Bearing, Ball
5	185-6562	1	Stopper, Fuel Camshaft
6	185-2386	2	Bolt
7	185-6558	1	Gear, Injection Pump
8	185-6879	1	Washer
9	185-6876	1	Cam, Fuel
10	185-6560	1	Nut, Cap
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

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
16	185-6567	2	*Weight, Governor
17	185-5960	2	*Washer
18	185-5959	2	*Bearing
19	185-6569	2	*Shaft, Governor Weight
20	185-6570	1	*Sleeve, Governor
21	185-6877	1	Shaft Assy, Governor (Includes Parts Marked *)
22	185-6878	1	*Shaft, Governor
23	185-6571	1	Bearing, Ball
24	185-6572	1	Circlip, Governor Shaft
25	185-6573	1	Screw, Set

\* - Parts Included in Governor Shaft Assy.

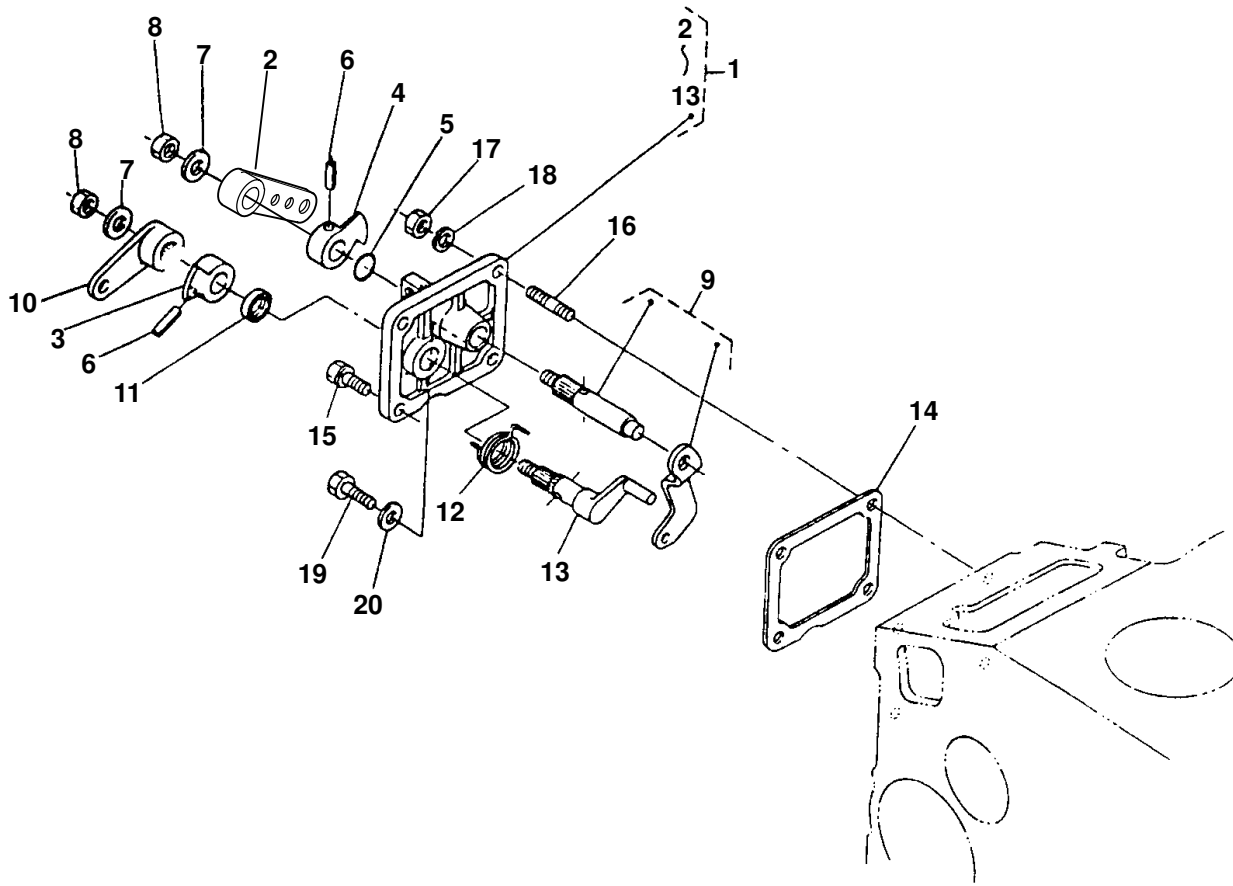
## Camshaft HDKAL and HDKAS (Begin Spec E)



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.

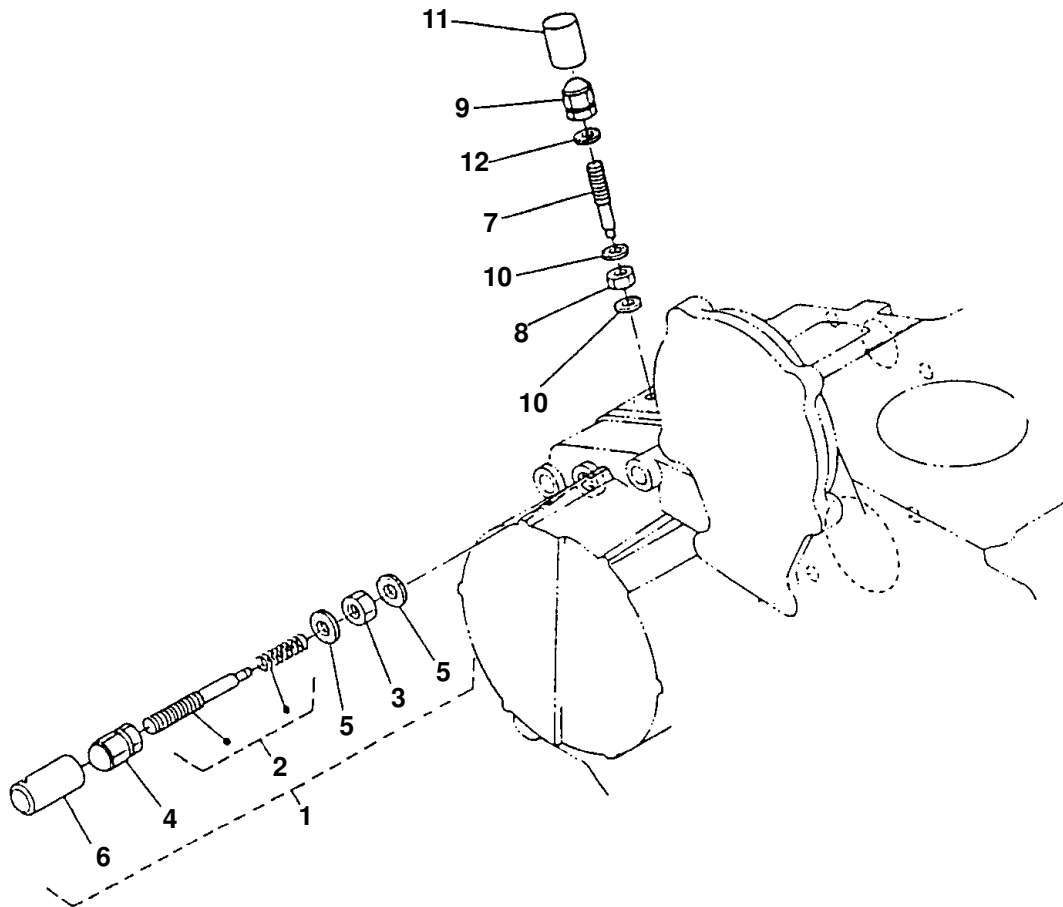
## Speed Control Plate



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

\* - Parts Included in Control Plate Assy.

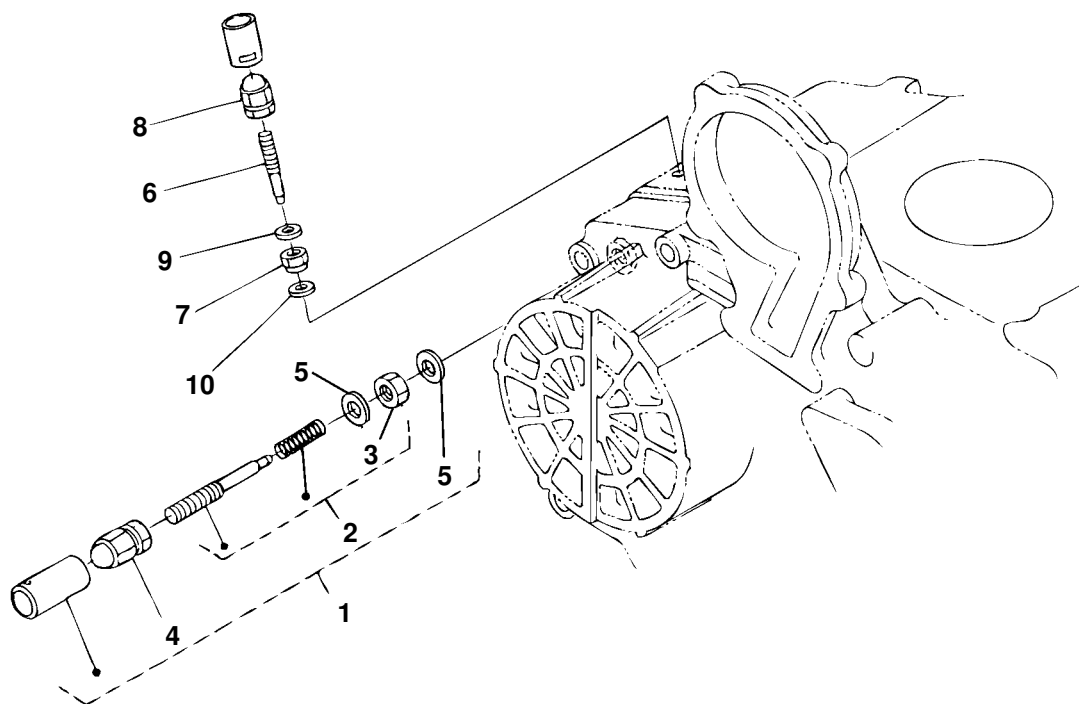
## Governor Lever (Spec A-D)



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)

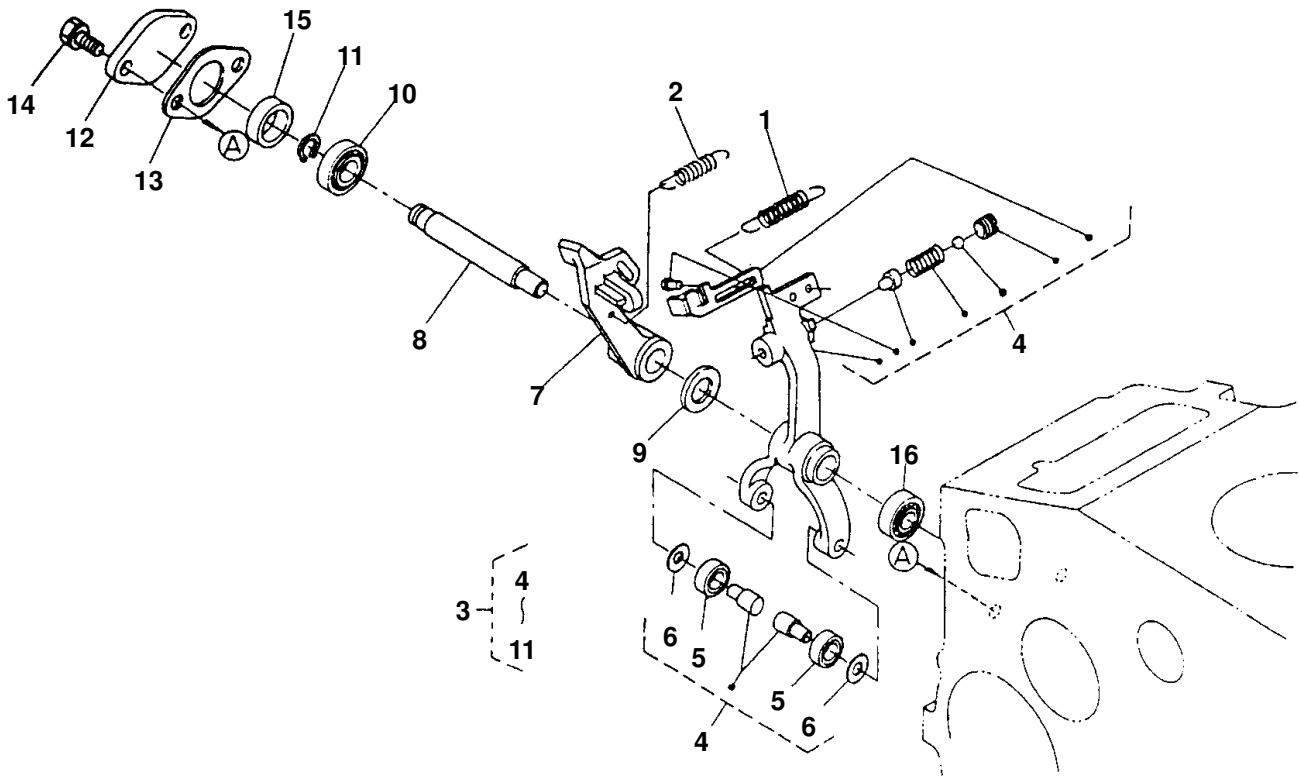


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-2864	1	Governor Idling
2	150-2865	1	*Bolt Assy, Adjusting
3	185-6484	1	*Nut
4	860-2075	1	*Nut
5	185-2284	2	*Gasket
6	150-2866	1	*Bolt, Adjusting
7	185-6931	1	Nut, Lock

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	860-2075	1	Nut
9	185-2284	2	Gasket
10	185-7313	1	Gasket

\* – Parts Included in Governor Lever Assy.

## Governor

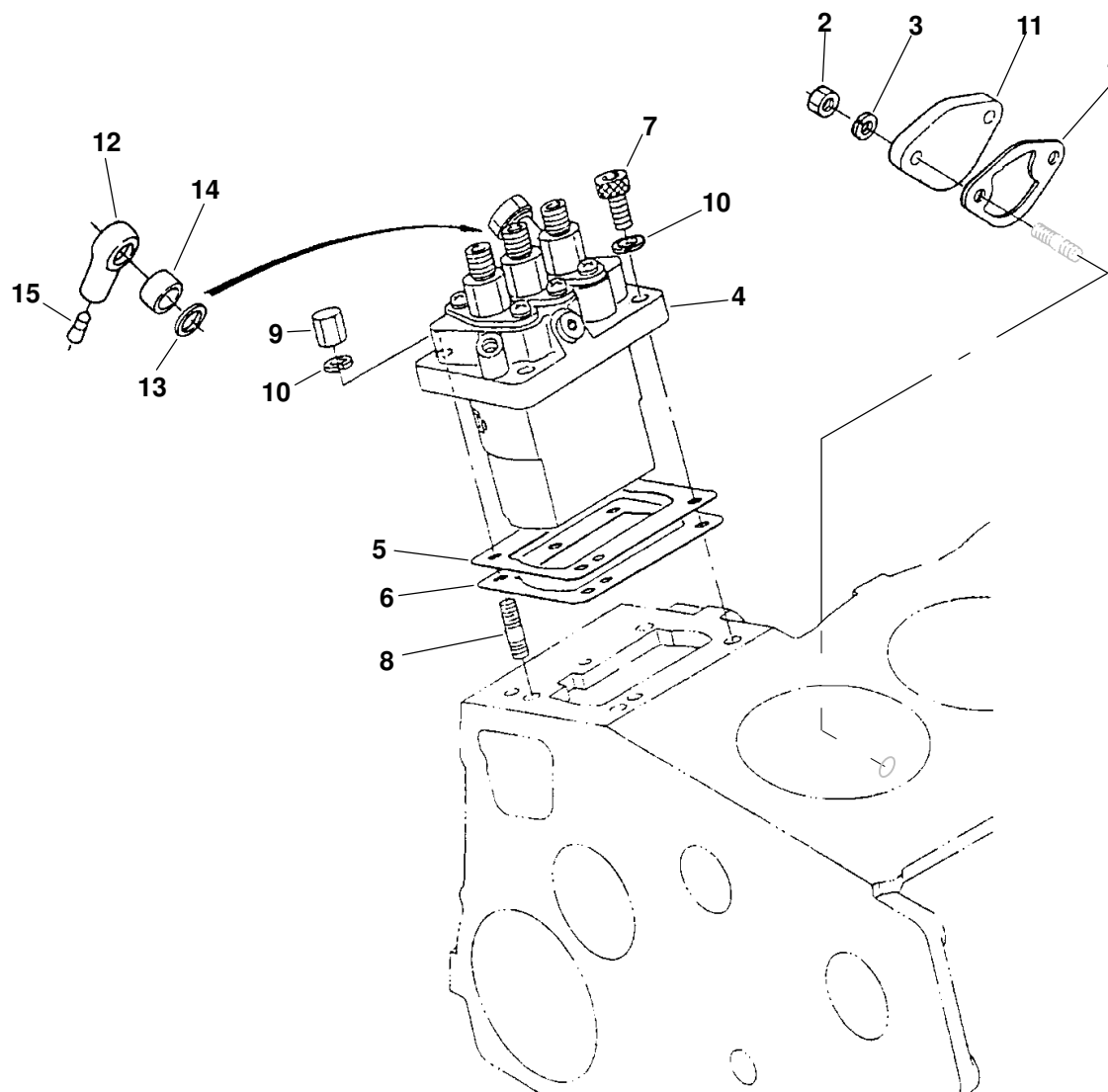


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6891	1	Spring, Start		185-6596	1	HDKAS
2			Spring, Governor		185-7432	1	HDKAL
			HDKAQ, HDKAR, HDKAS		150-2868	1	Begin Spec E
	185-6594	1	60 Hz				HDKAL and HDKAS
	185-7101	1	50 Hz	5	185-5959	2	*Bearing
			HDKAL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

\* - Parts Included in Fork Lever Assy.

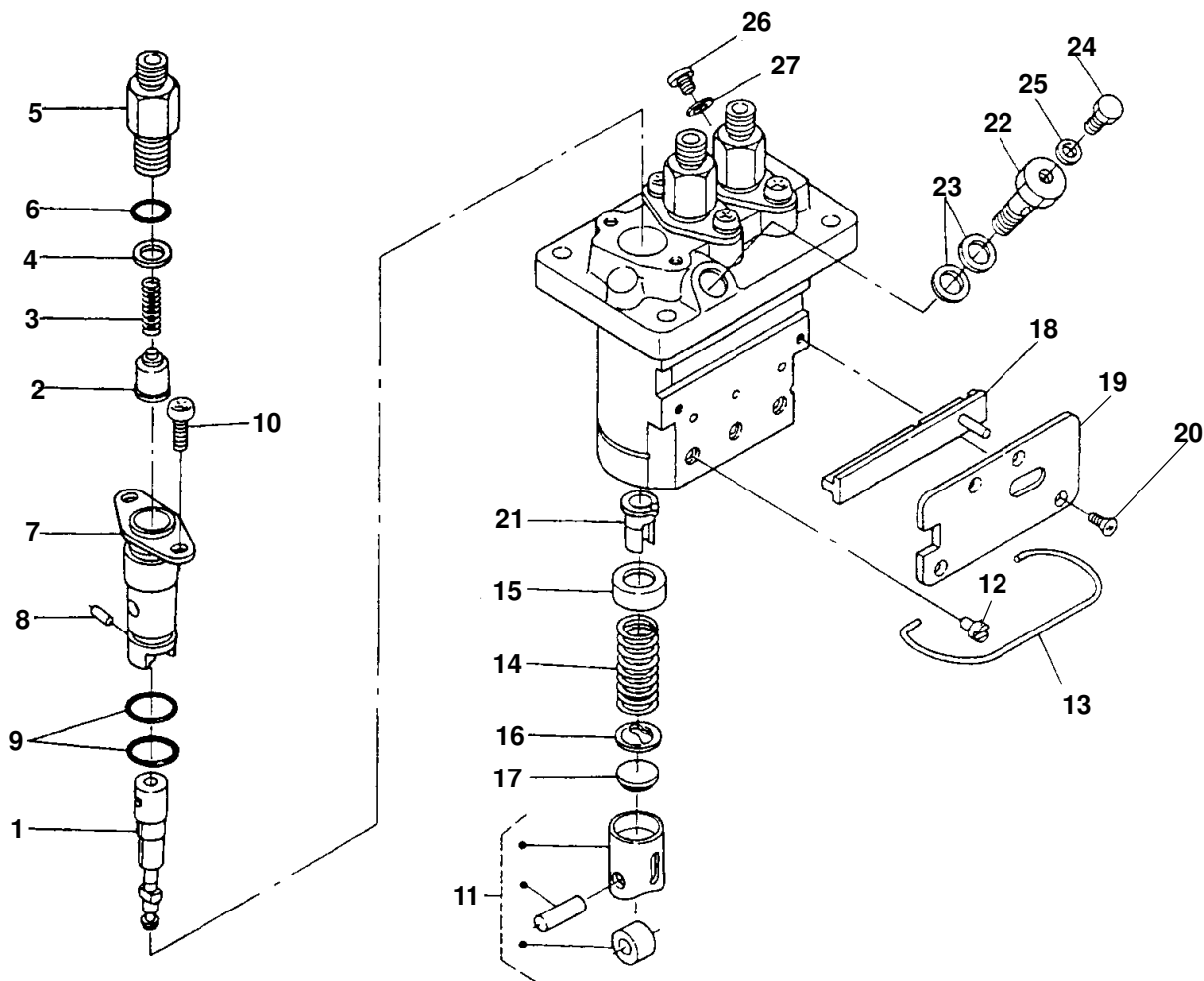


## Injection Pump (Spec A-D)



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

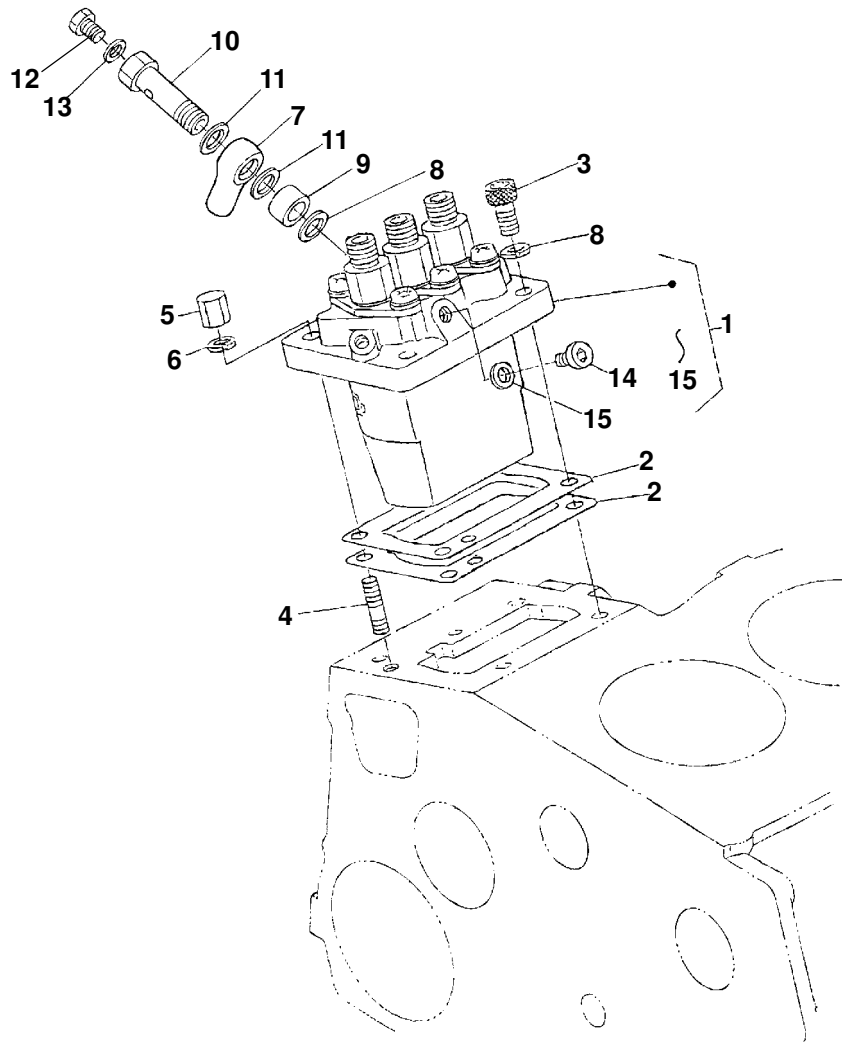
## Injection Pump Components (Spec A-D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-6882	1	Pump Assy, Injection
1	185-6884	3	Plunger, Pump
2	185-5639	3	Valve, Delivery
3	185-5640	3	Spring, Delivery Valve
4	185-5641	3	Gasket, Delivery Valve
5	185-6588	3	Holder, Delivery Valve
6	185-5643	3	O'Ring
7	185-5644	3	Flange, Sleeve
8	185-5645	3	Pin, Joint
9	185-5646	6	O'Ring
10	185-5647	6	Screw
11	185-5649	3	Tappet
12	185-5650	3	Pin, Tappet Guide
13	185-6707	1	Pin, Clamp

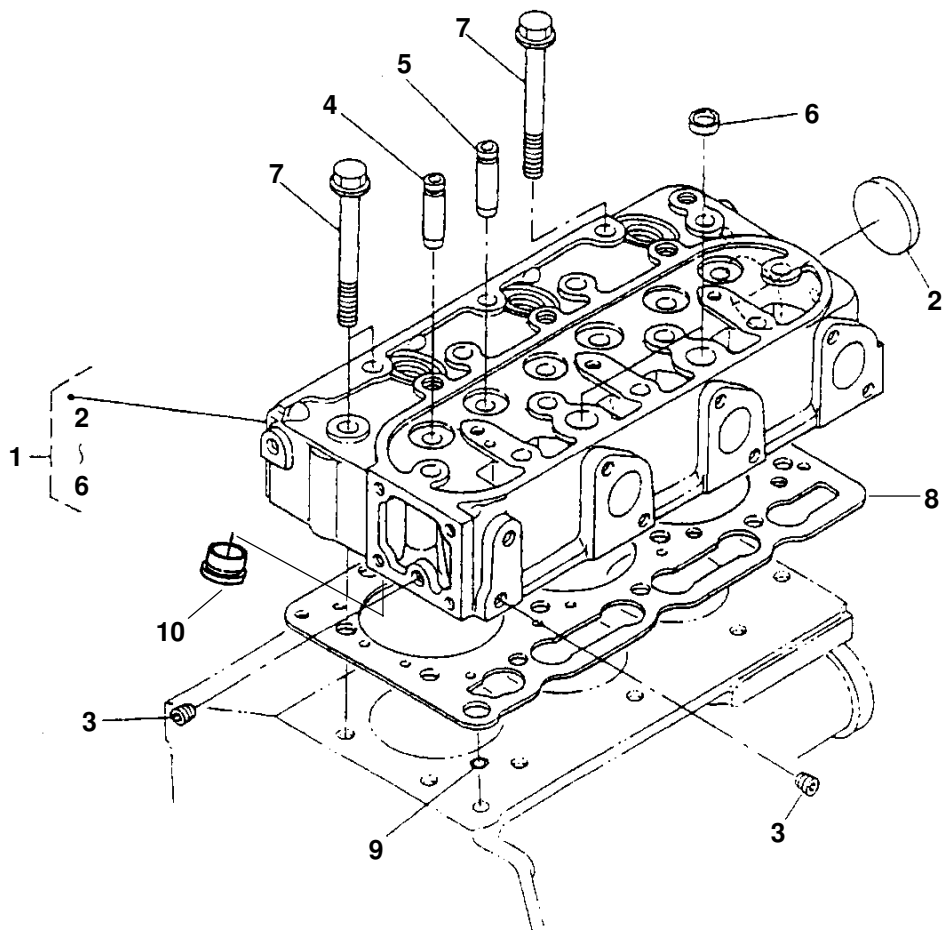
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
14	185-5652	3	Spring, Plunger
15	185-5653	3	Seat, Spring Upper
16	185-5654	3	Seat, Spring Lower
17	185-5655	3	Shim
18	185-6885	1	Rack, Control
19	185-6886	1	Plate
20	185-5658	4	Screw, Countersunk Head
21	185-5659	3	Sleeve, Control
22	185-6887	1	Screw, Follow
23	185-5661	2	Gasket
24	185-5662	1	Screw
25	185-5663	1	Gasket
26	185-6888	1	Plug
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			Shim, Injection Pump	8	185-2578	1	Gasket
	185-6749	1	.20mm	9	185-6585	1	Collar, Joint
	185-6739	1	.25mm	10	185-6887	1	Bolt, Joint
	185-6845	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

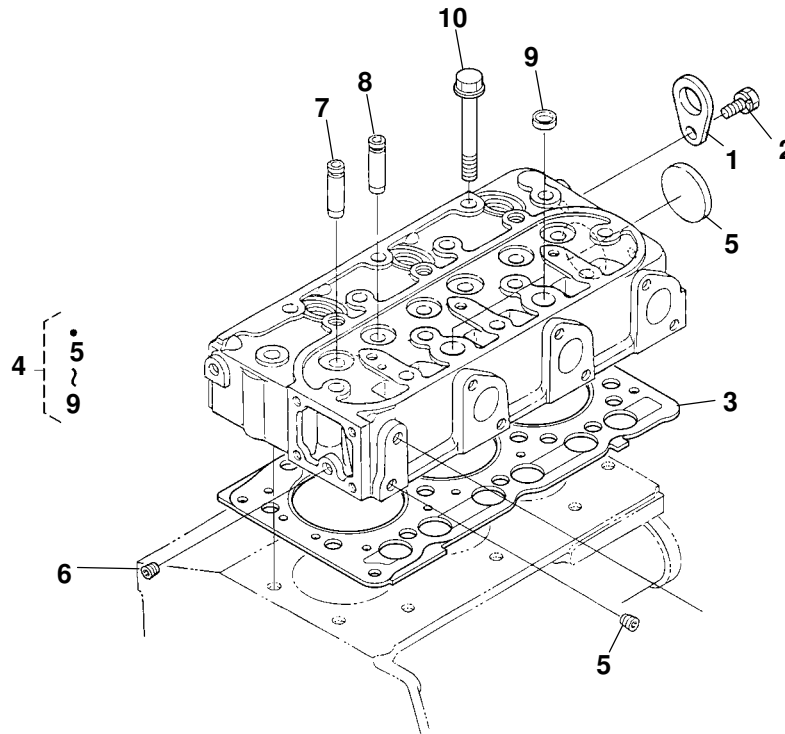
## Cylinder Head (Spec A-D)



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
	185-6861	1	Spec A		185-6862	1	HDKAQ
	185-7374	1	Begin Spec B		185-7094	1	HDKAR, HDKAS
	185-6861	1	HDKAQ		185-6862	1	Spec A
	185-7095	1	HDKAR, HDKAS		185-7422	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				

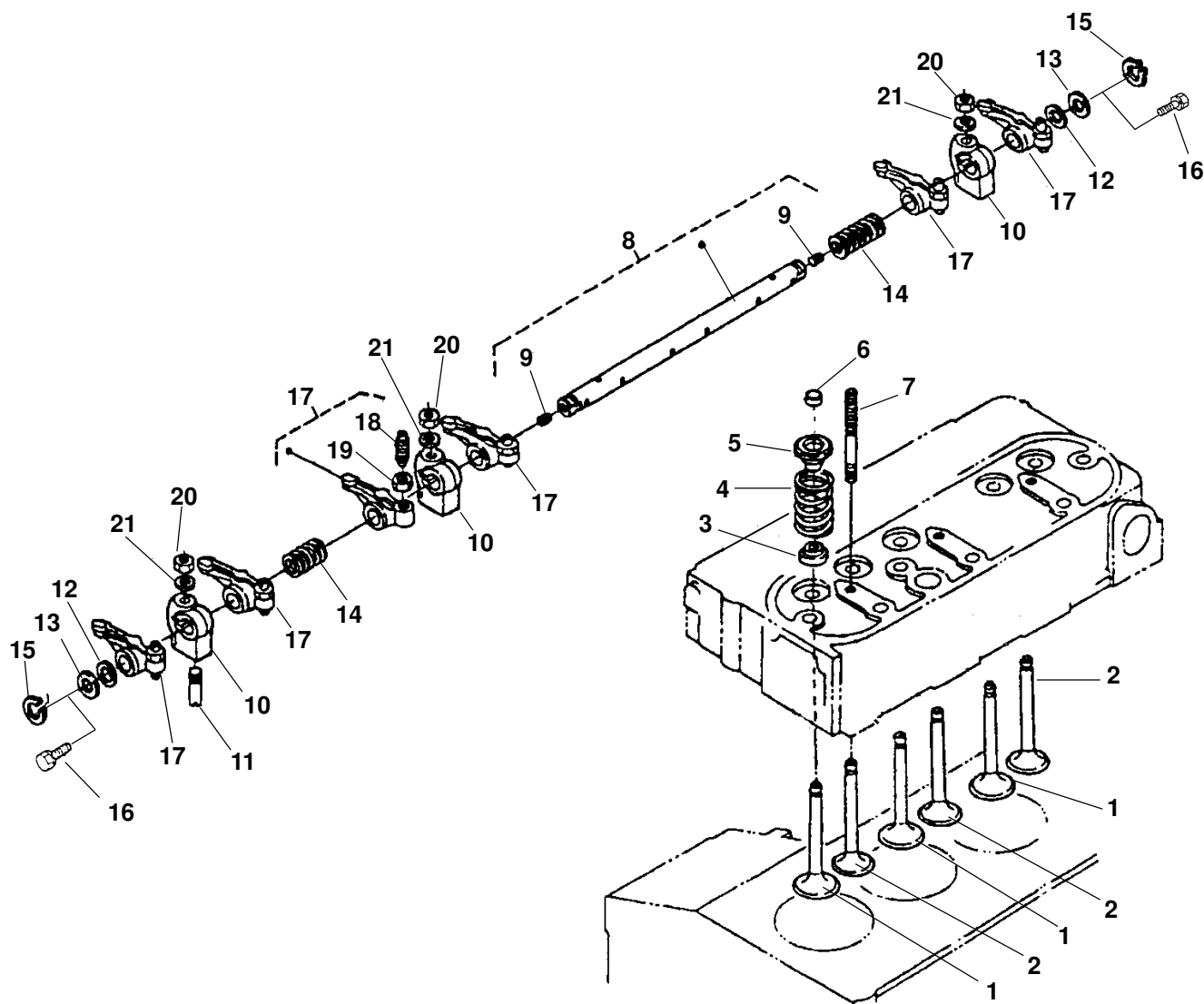
\* - Parts Included in Cylinder Head Assy.

## 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	5	185-2411	1	Cap, Seal
	185-2414	2	HDKAL	6	185-2188	2	Plug
2			Bolt		185-2412	2	HDKAL
	185-3009	2	HDKAL	7	110-3960	3	Guide, Inlet Valve
	185-6956	2	HDKAS	8	110-3961	3	Guide, Exhaust Valve
3			Gasket, Cylinder Head	9	185-2413	2	Cap, Sealing
	110-3966	1	HDKAL	10	185-6477	14	Bolt, Cylinder Head
	181-9218	1	HDKAS				
4			Comp., Cylinder head				
	185-7274	1	HDKAL				
	185-7094	1	HDKAS				

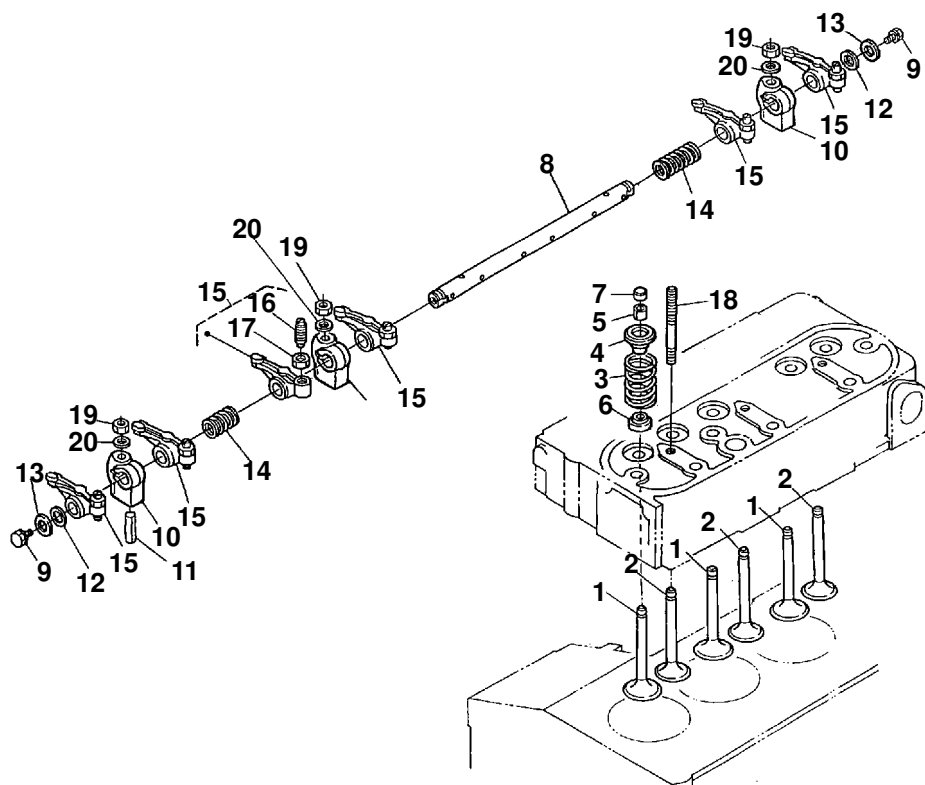
## Valve and Rocker Arm (Spec A–D)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6681	3	Valve, Inlet
2	185-6682	3	Valve, Exhaust
3	185-7300	6	Seal, Valve Stem
4	185-6683	6	Spring, Valve
5	185-2076	6	Retainer, Valve Spring
6	185-2080	6	Cap, Valve
7	185-6688	3	Stud
8	185-6923	1	Shaft Assy, Rocker Arm Spec A (Includes Screw) Begin Spec B
	185-6923	1	HDKAS (Includes Screw)
	185-7439	1	HDKAL
9	185-6686	2	Screw, Set (Spec A and HDKAS Spec B)
10	185-6687	3	Bracket, Rocker Arm
11	185-7441	1	Screw, Rocker Arm Set

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
12	185-6689	2	Washer, Rocker Arm Shaft
13	185-6690	2	Washer, Rocker Arm Shaft Spec A Begin Spec B
	185-6690	2	HDKAS
	185-7395	1	HDKAL
14	185-6691	2	Spring, Rocker Arm
15	185-6692	2	Circlip, External (Spec A and HDKAS Spec B)
16	185-7440	2	Bolt (Spec B HDKAL Only)
17	185-6693	6	Arm Assy, Rocker (Includes Screw and Nut)
18	185-6694	6	Screw, Adjusting
19	185-6695	6	Nut
20	185-2179	3	Nut
21	185-2184	3	Washer, Plain

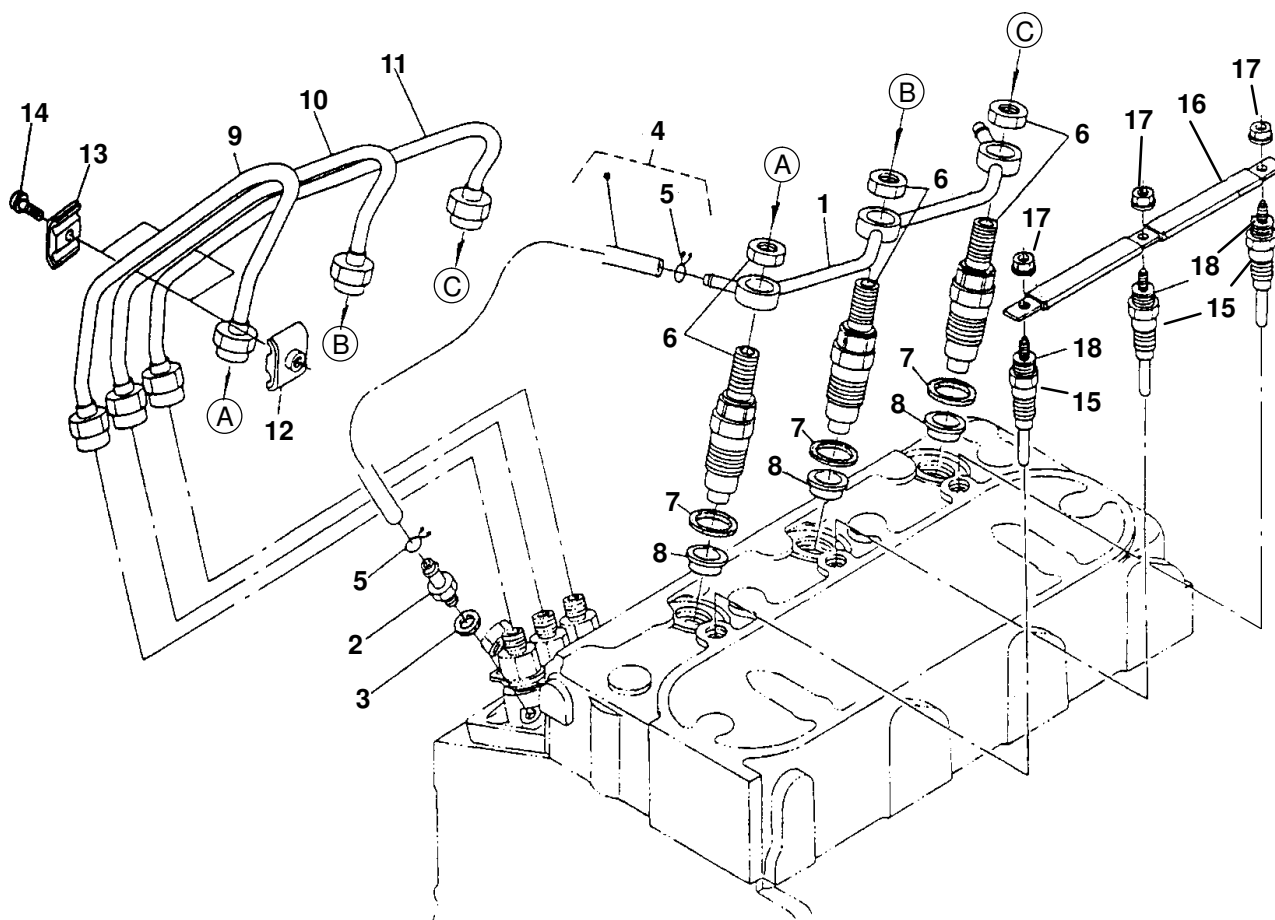
## Valve and Rocker Arm HDKAL and HDKAS (Begin Spec E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6681	3	Valve, Inlet
2	185-6682	3	Valve, Exhaust
3	185-6683	6	Spring, Valve
4	110-3959	6	Retainer, Valve Spring
5	185-2077	6	Collet, Valve Spring
6	185-7300	6	Seal, Valve Stem
7	185-6459	6	Cap, Valve
8	185-7439	1	Shaft Assy, Rocker Arm
9			Bolt
	185-2386	2	HDKAS
	185-7440	2	HDKAL

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
10	185-6687	3	Bracket, Rocker Arm
11	185-7741	1	Pin, Spring
12	185-6689	2	Washer, Arm Shaft
13	185-7395	2	Washer, Plain
14	185-6691	2	Spring, Rocker Arm
15	185-6693	6	Assy, Rocker Arm
16	185-6694	6	Screw, Adjusting
17	185-6695	6	Nut
18	185-6688	3	Stud
19	185-2179	3	Nut
20	185-2184	3	Washer, Plain

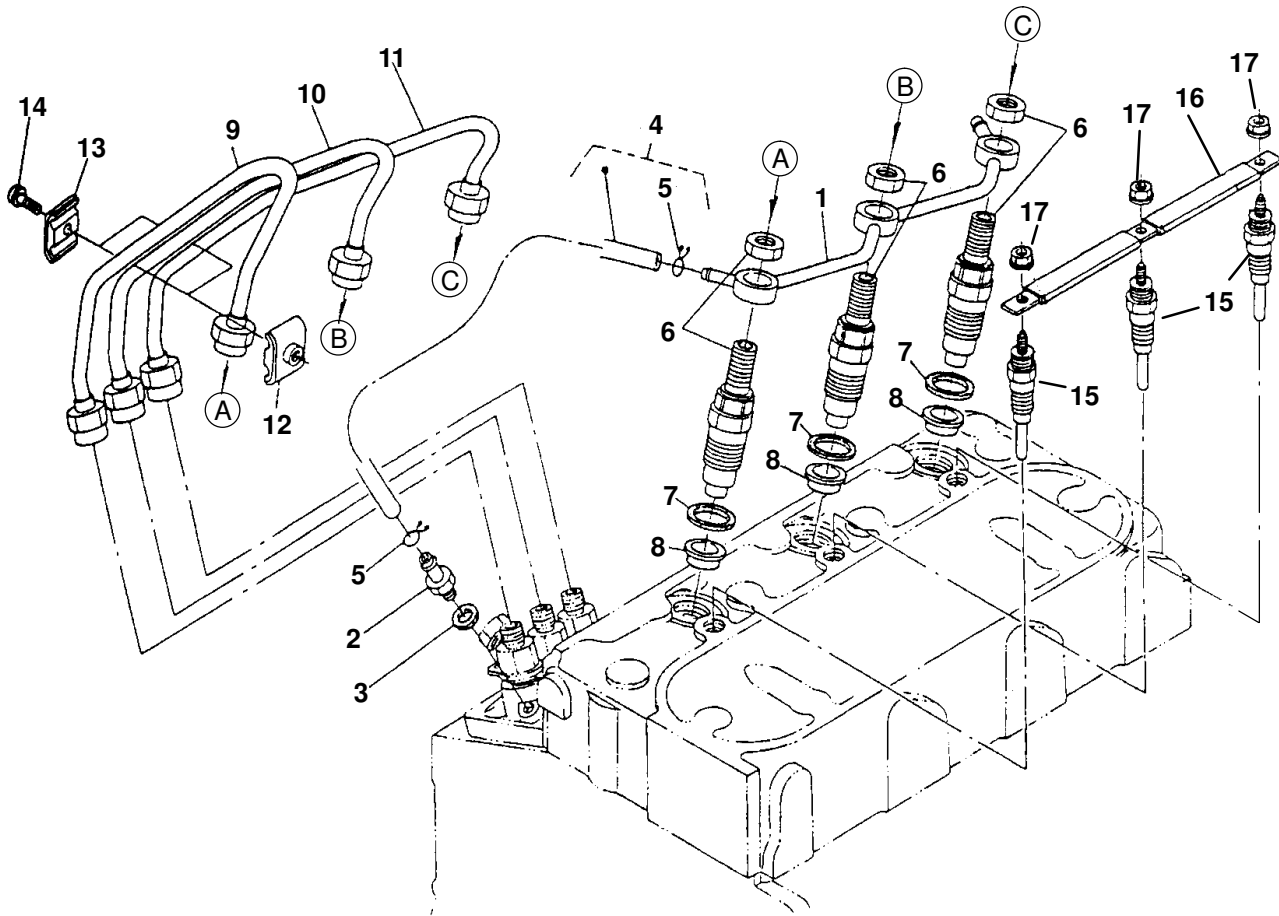
## Nozzle Holder and Glow Plug (Spec A–D)



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

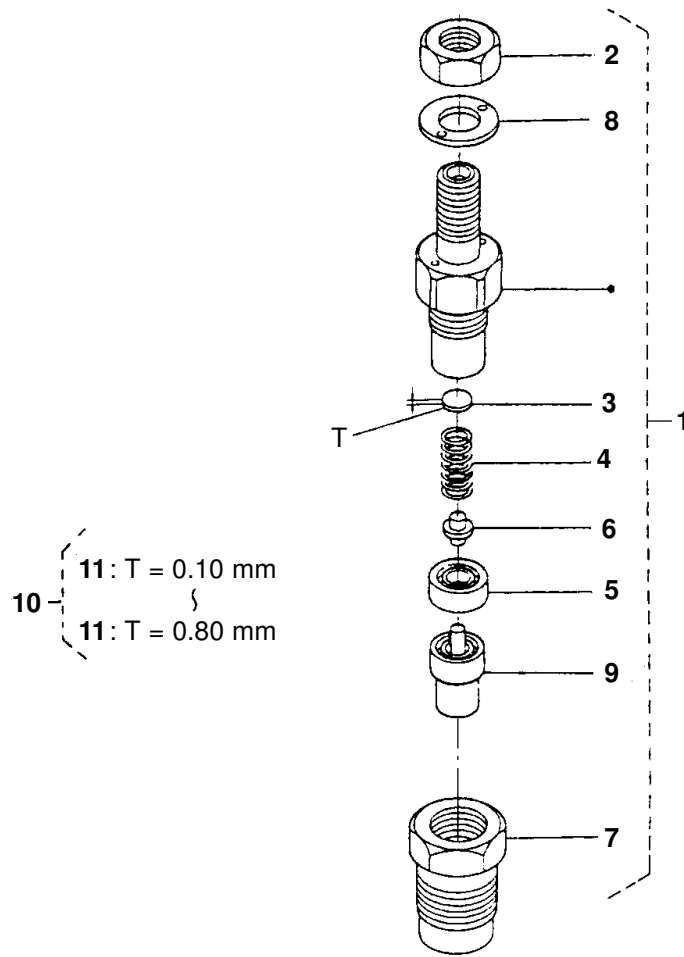


## Nozzle Holder and Glow Plug HDKAL and HDKAS (Begin Spec E)



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

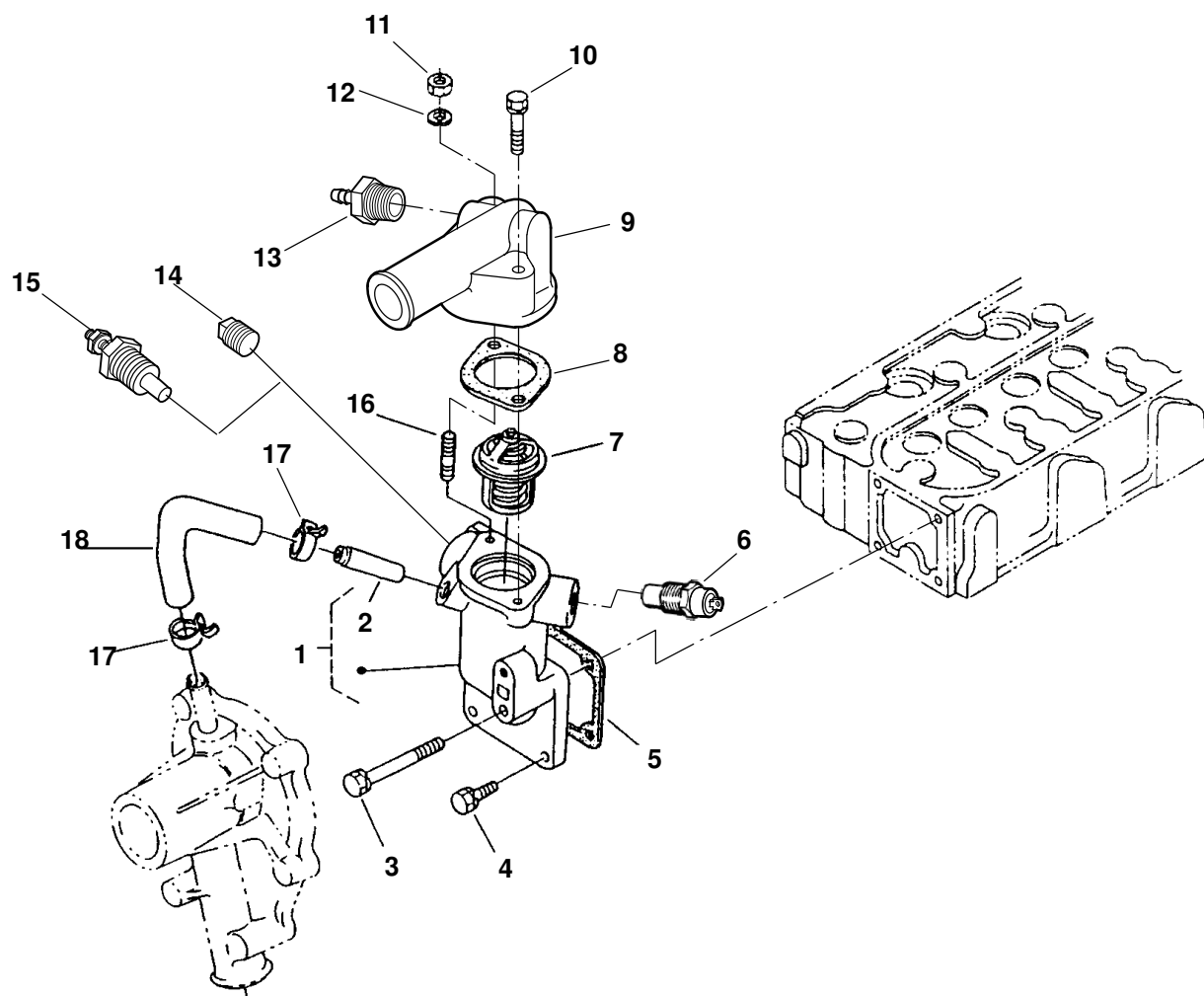
## Nozzle Holder Components



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

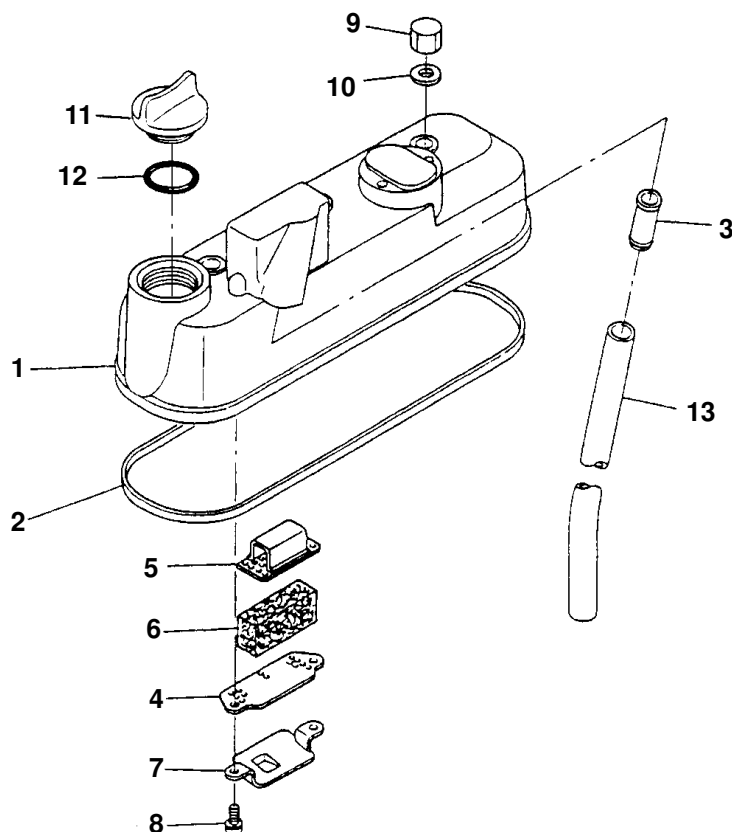
\* – Parts Included in Nozzle Holder Assy.

## Water Flange



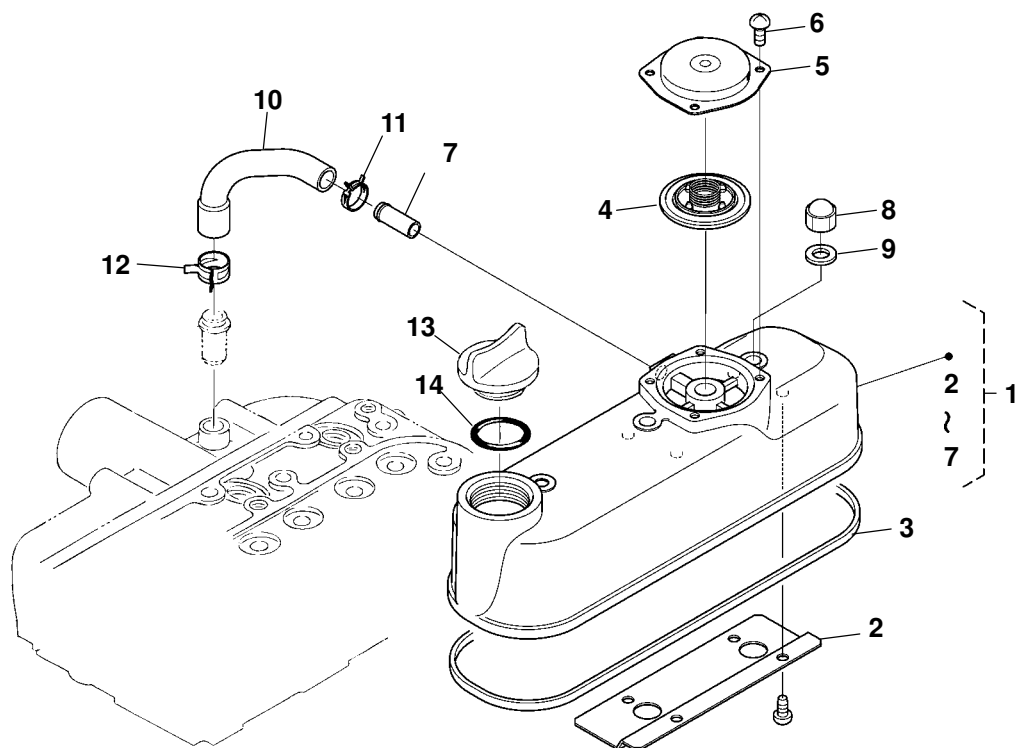
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6663	1	Flange, Water (Includes Water Return Pipe)	12	185-2380	1	Washer, Spring
2	185-6445	1	Pipe, Water Return	13	502-0395	1	Connector, Hose 1/8 NPT (Side Mounted)
3	185-6665	1	Bolt		502-1284	1	3/8 NPT (Rear Mounted)
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)



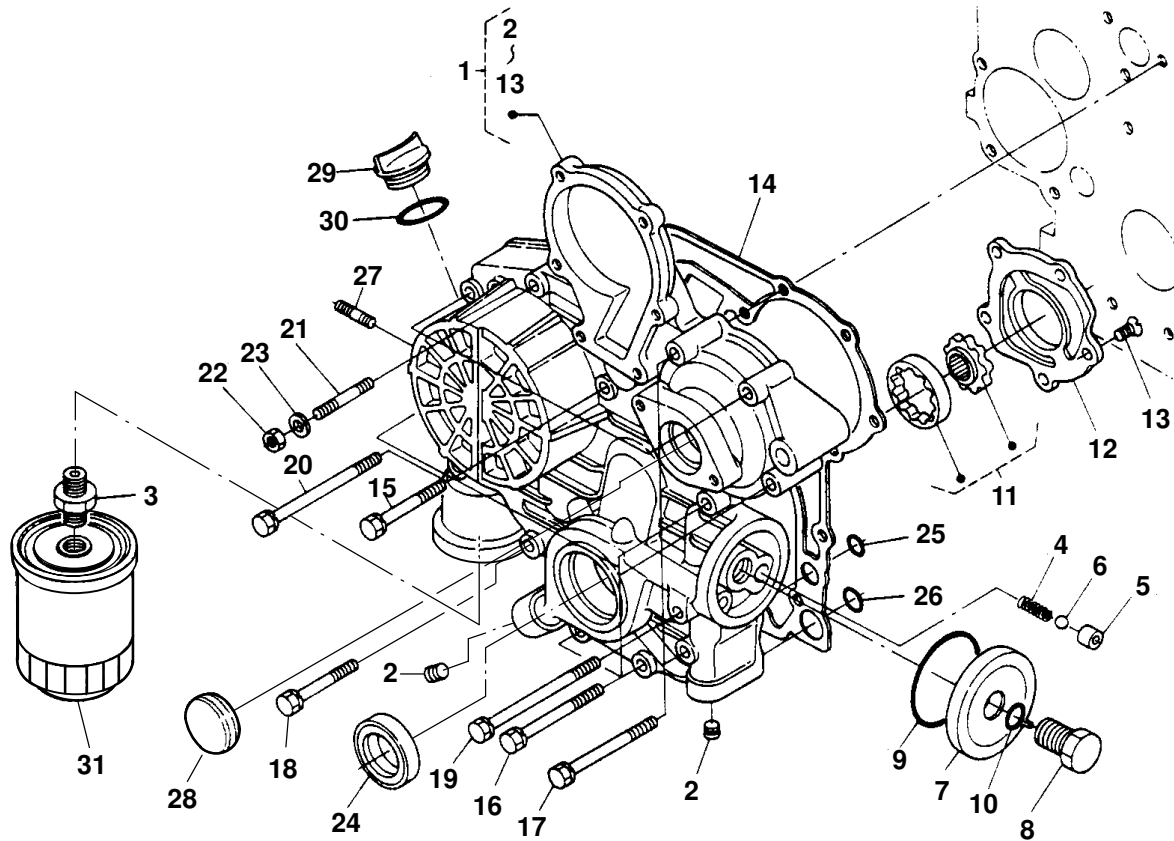
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6867	1	Cover, Cylinder Head	8	185-2384	2	Screw, Washer Head
2	185-6868	1	Gasket, Cylinder Head Cover	9	185-6394	3	Nut, Cap
3	185-6499	1	Joint, Breather Pipe	10	185-2291	3	Gasket
4	185-6500	1	Plate, Lower Breather 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

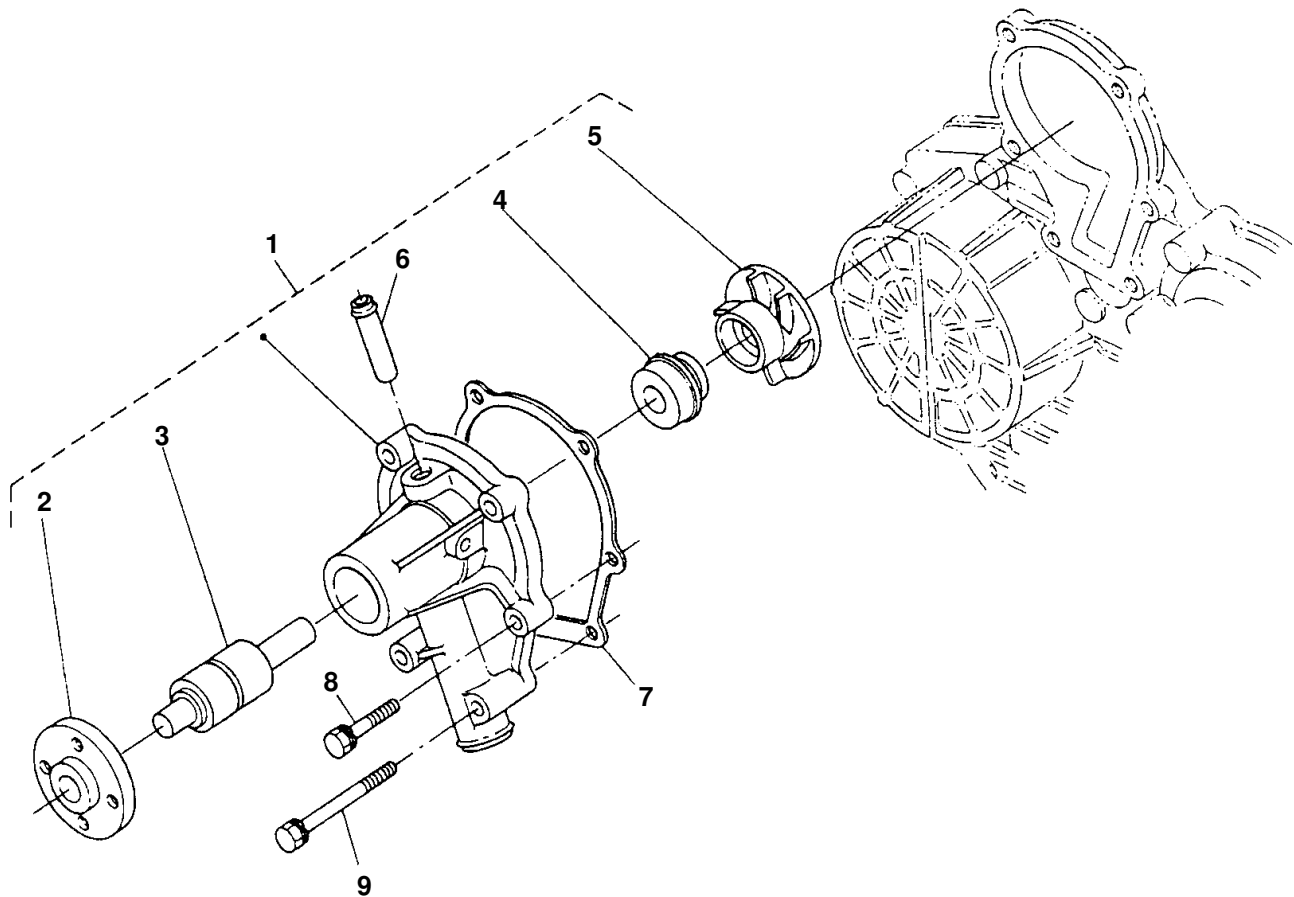
## Gearcase



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			Stud
	103-0834	1	Begin Spec E		185-7423	1	Spec A-D
2	185-6481	4	*Plug		185-7425	1	Begin Spec E
3	185-2124	1	*Fitting, Connector	22	185-4255	1	Nut
4	185-6482	1	*Spring	23			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			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			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)

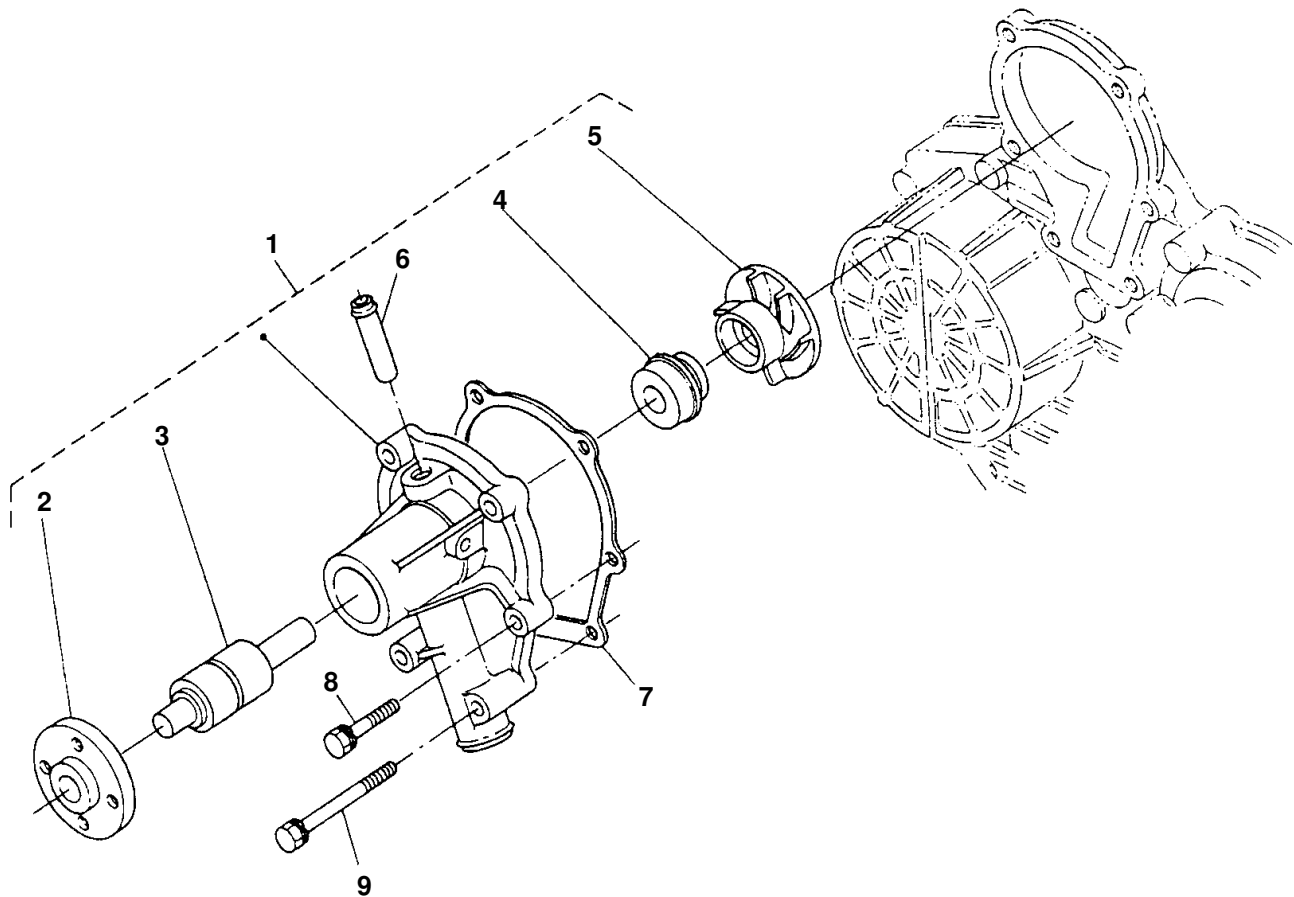


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6671	1	Pump Assy, Water (Includes Parts Marked *)
2	185-6672	1	*Flange, Pump Water
3	185-6673	1	*Bearing
4	185-5714	1	*Seal Assy, Mechanical
5	185-6674	1	*Impeller, Pump Water
6	185-5719	1	*Pipe, Water Return

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	185-7299	1	Gasket, Water Pump
8	185-6677	4	Bolt
9	185-5745	2	Bolt

\* – Parts Included in Water Pump Assy.

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



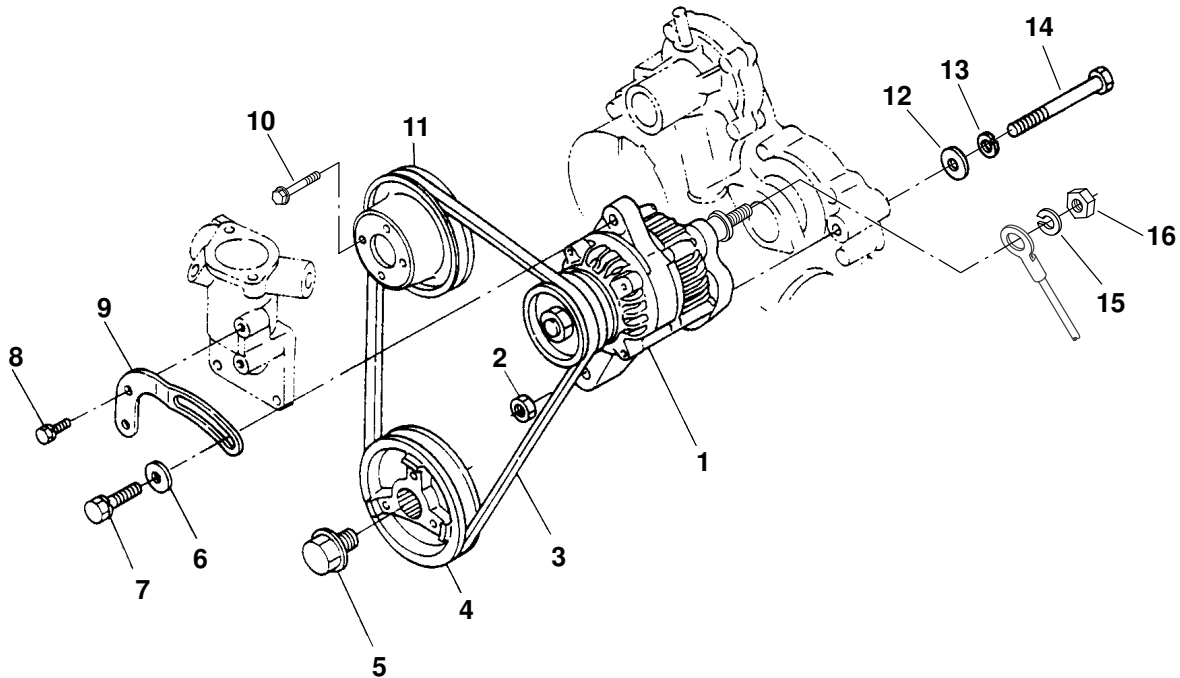
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	132-0462	1	Pump Assy, Water (Includes Parts Marked *)
2	185-6672	1	*Flange, Pump Water
3	510-0225	1	*Bearing
4	509-0440	1	*Seal Assy, Mechanical
5	132-0463	1	*Impeller, Pump Water
6	185-6675	1	*Pipe, Water Return

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	185-7299	1	Gasket, Water Pump
8	185-6677	4	Bolt
9	800-6368	2	Bolt

\* – Parts Included in Water Pump Assy.

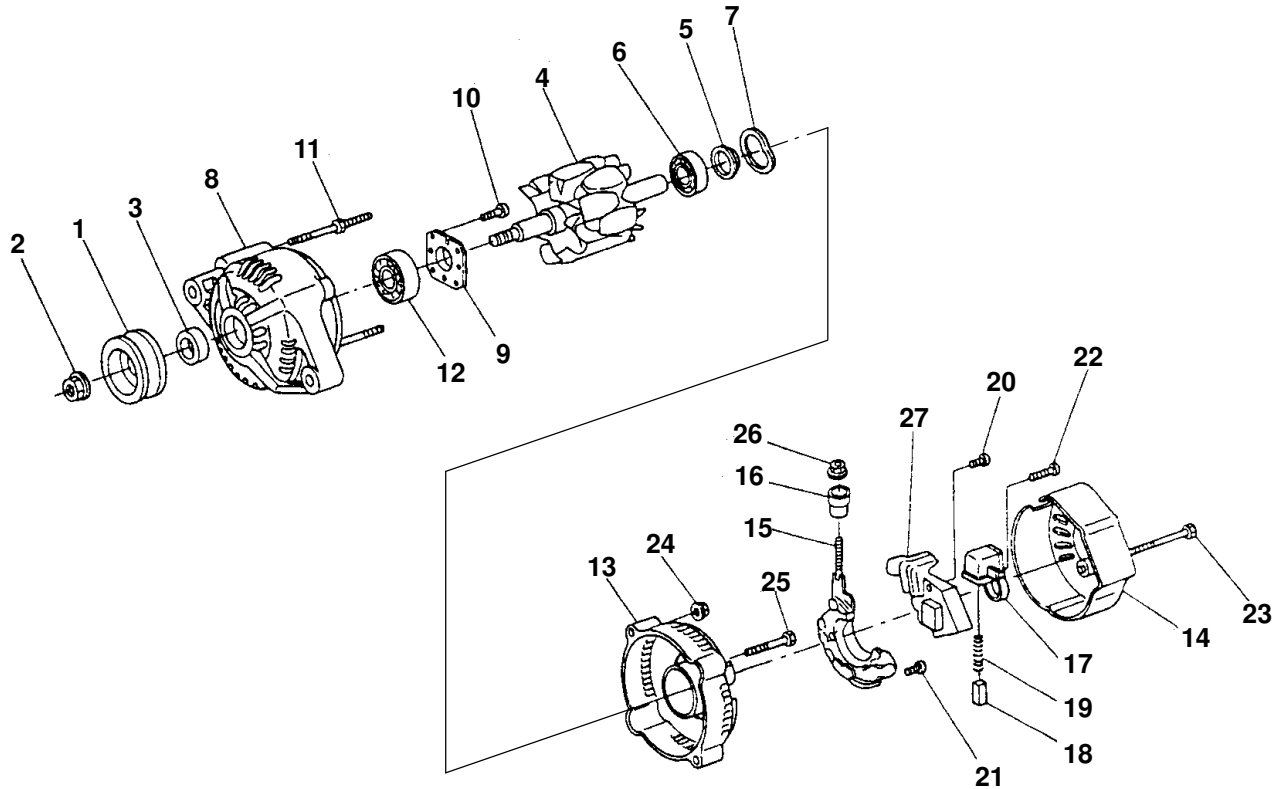


## Alternator



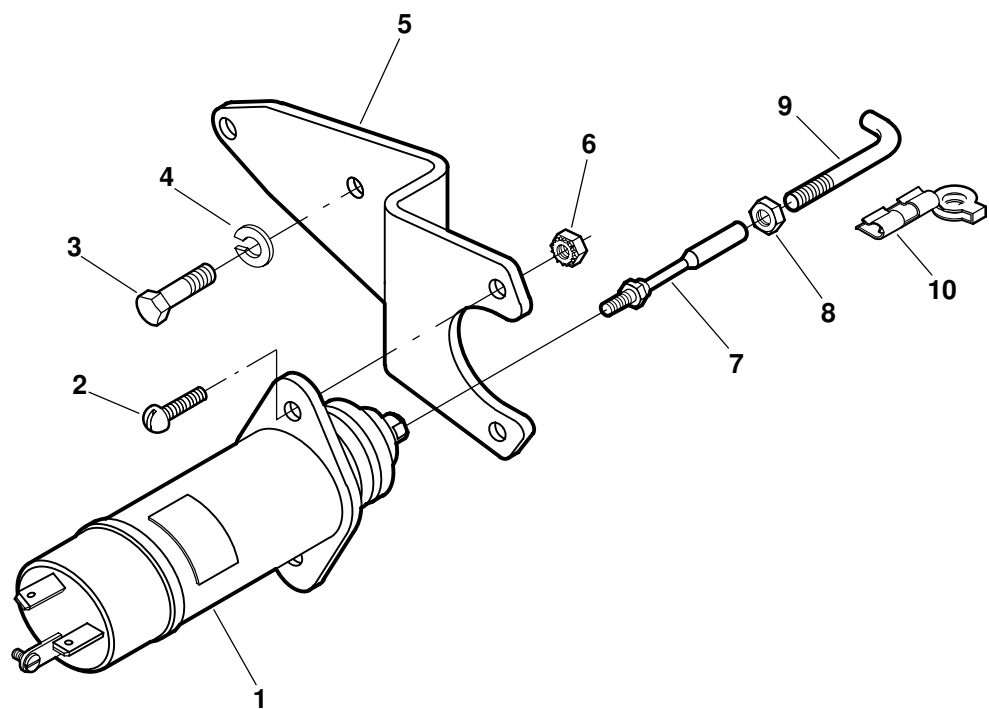
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	185-6920	1	Alternator (12V, 30A) (See Separate Page for Components)	8	185-2388	1	Bolt
2	185-5445	1	Nut	9	185-6628	1	Stay, Alternator
3	185-6934	1	Belt, Fan Spec A Begin Spec B	10	185-2572	4	Bolt
	185-6934	1	HDKAS	11	185-6631	1	Pulley, Fan Spec A
	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	185-6585	1	Washer, Spring
7		1	Bolt	14	185-6629	1	Bolt
	185-2564	1	HDKAL, HDKALQ	15	850-2006	1	Washer, Lock (M6)
	185-2565	1	HDKAR, HDKAS	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

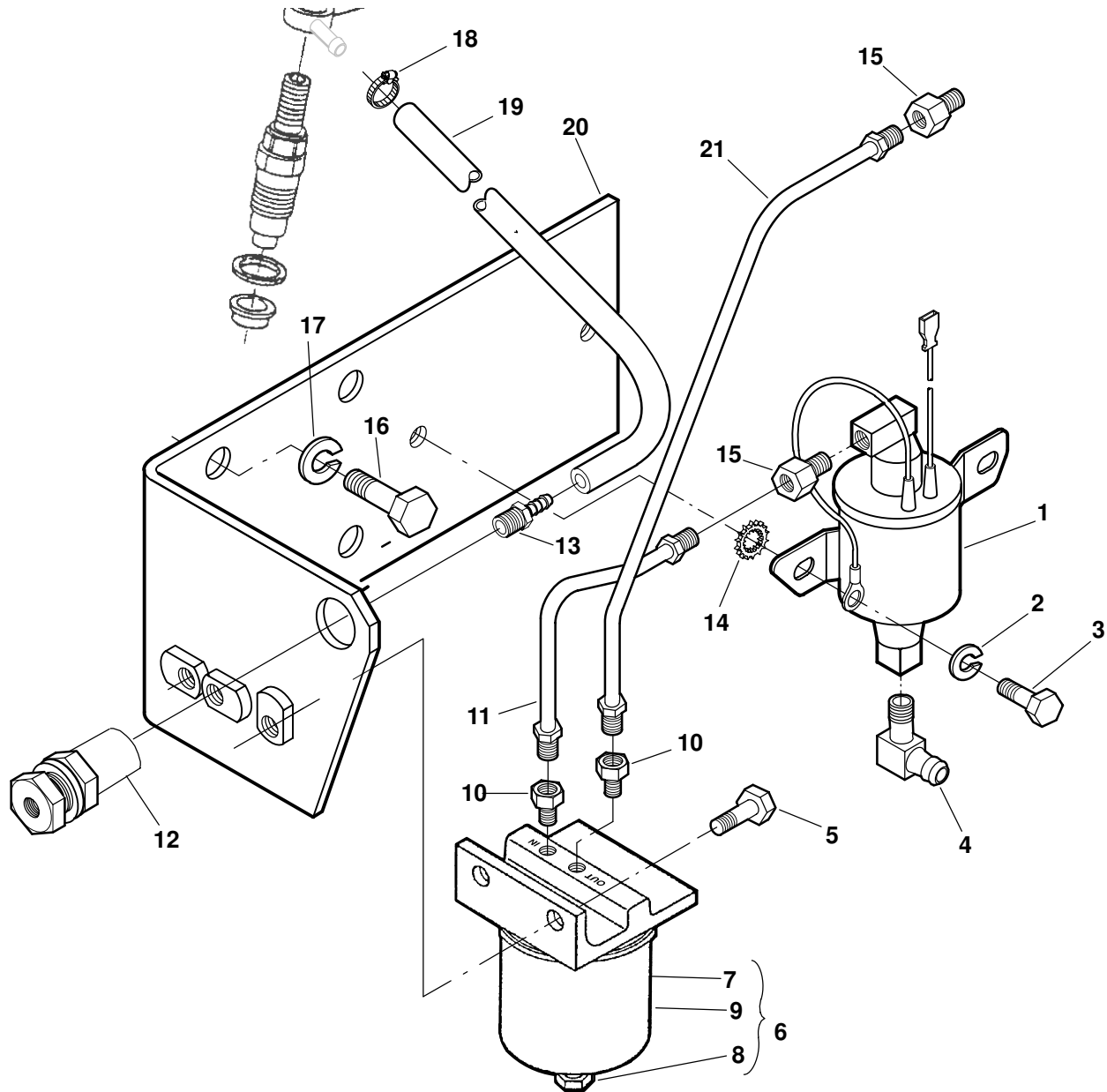
Stop Solenoid



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-2546	1	Solenoid, Stop (K1)
2	813-0100	2	Screw, Round Head Machine (#10-32 x 1/2")
3	800-2029	2	Screw, Hex Head Cap (M6 x 1 x 12mm)
4	850-2006	2	Washer, Lock (M6)

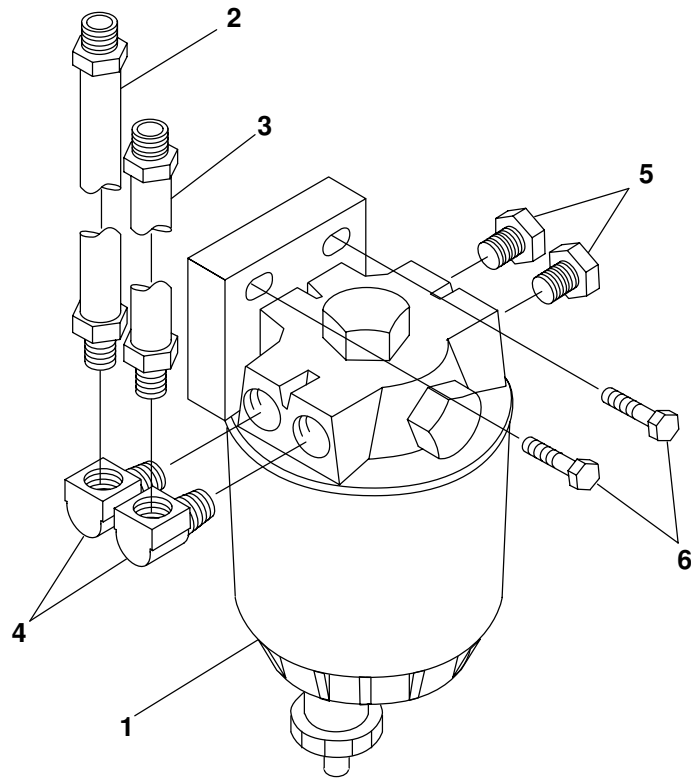
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	150-2668-02	1	Bracket, Solenoid
6	870-0131	2	Nut, ET Hex (#10-32)
7	150-1733	1	Joint, Ball
8	115-0025	2	Nut, Hex (1/4-28UNF)
9	150-2555	1	Link, Solenoid
10	306-4081	1	Clip, Rod End

## Fuel Pump



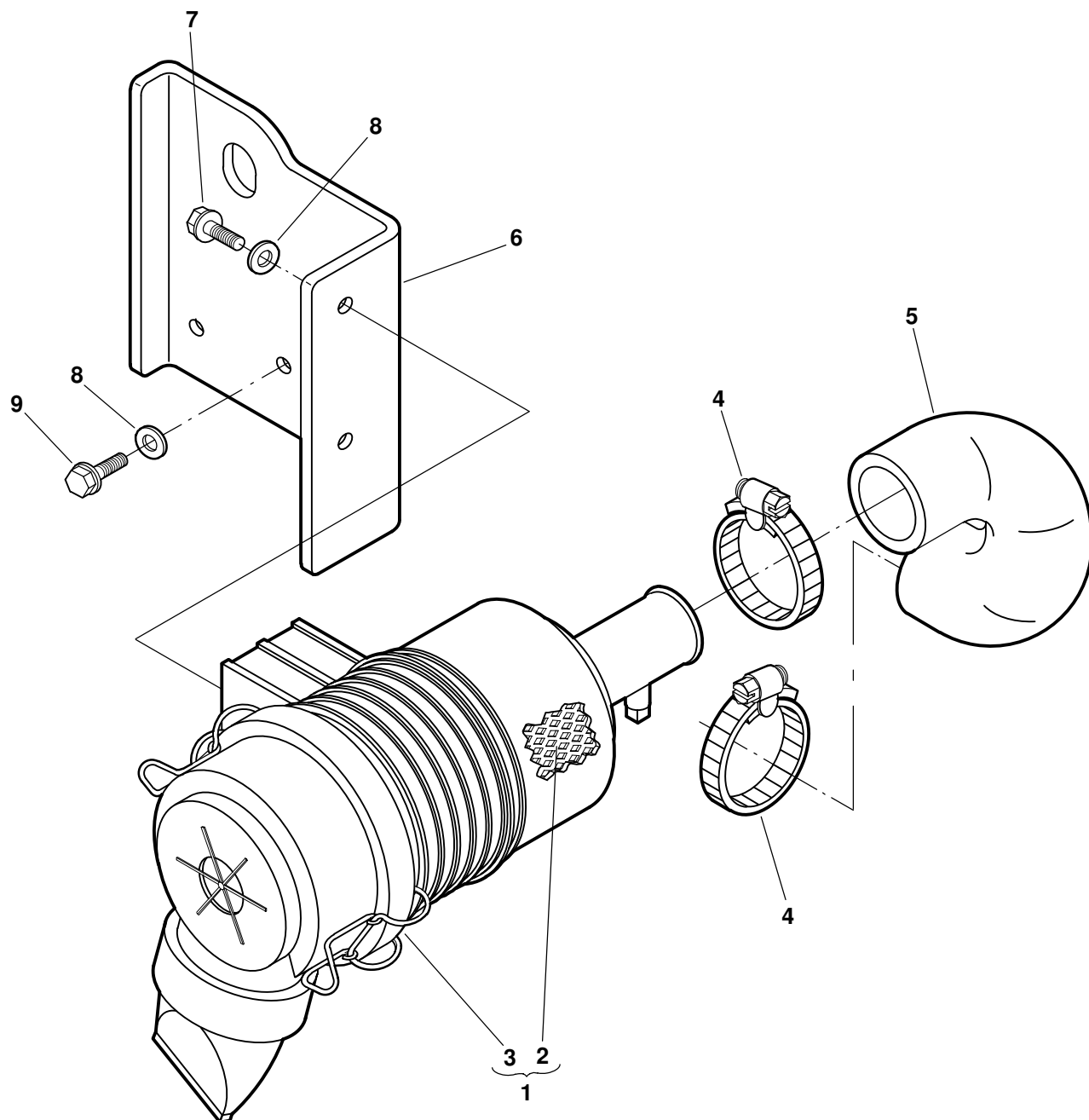
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-2331-02	1	Pump, Electric Fuel (E5)	12	502-1244	1	Coupling, Anchor
2	850-2006	2	Washer, Lock (M6)	13	502-1219	1	Connector, Hose
3	800-2029	2	Screw, Hex Head Cap (M6 x 1 x 12mm)	14	856-0006	1	Washer, EIT (1/4")
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	4	502-0041	2	Elbow, Male (1/4 x 7/16-24)
1	149-2574	1	Separator, Fuel/Water	5	502-0153	2	Plug, Hex Pipe (1/4)
2	149-2572	1	Line, Fuel (Fuel Out)	6	800-2057	2	Screw, Hex Head Cap (M8 x 1.25 x 20mm)
3	149-2571	1	Line, Fuel (Fuel In)				

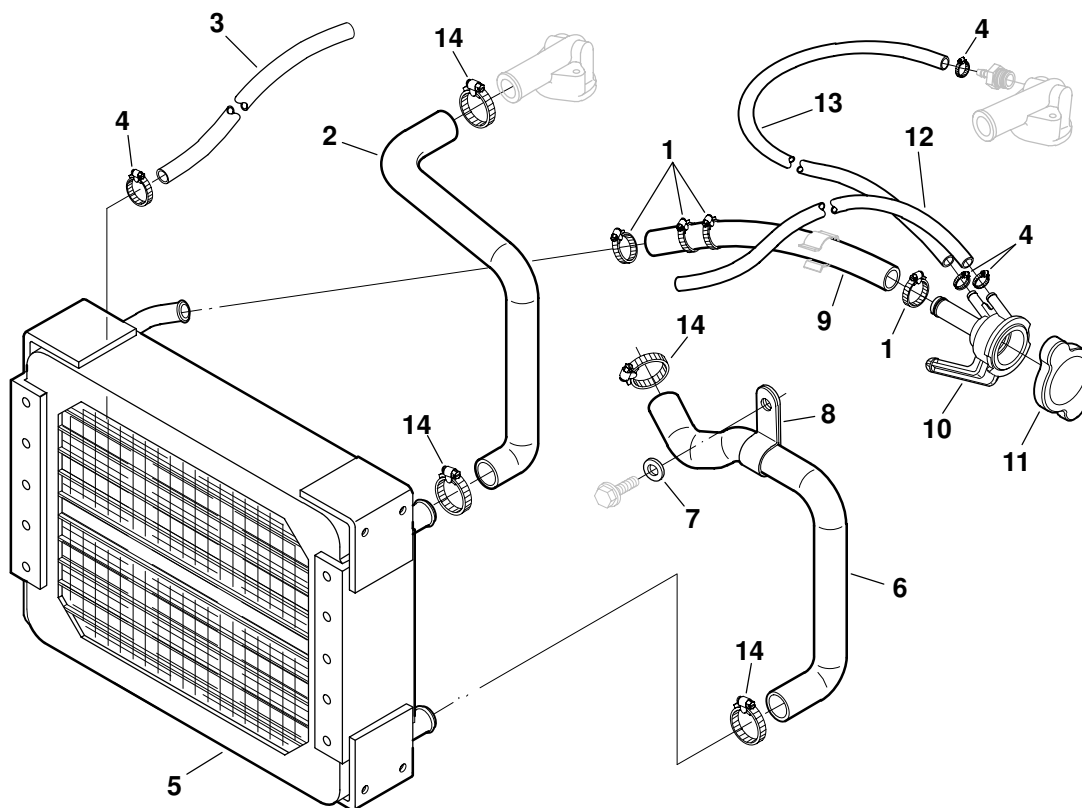
## Air Cleaner



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-3050	1	Cleaner Assy, Air (Includes Element and Cover)
2	140-3071	1	Element, Air Cleaner
3	140-3072	1	Cover, Air Cleaner
4	503-0365	2	Clamp, Hose
5	503-1994	1	Hose, Air Cleaner
6	140-3017-02	1	Bracket, Lifting

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	800-2057	2	Screw, Flange Locking (M8 x 1.25 x 16mm)
8	526-2100	4	Washer, Flat (M8)
9	800-2056	2	Screw, Hex Head (M8 x 1.25 x 16mm)

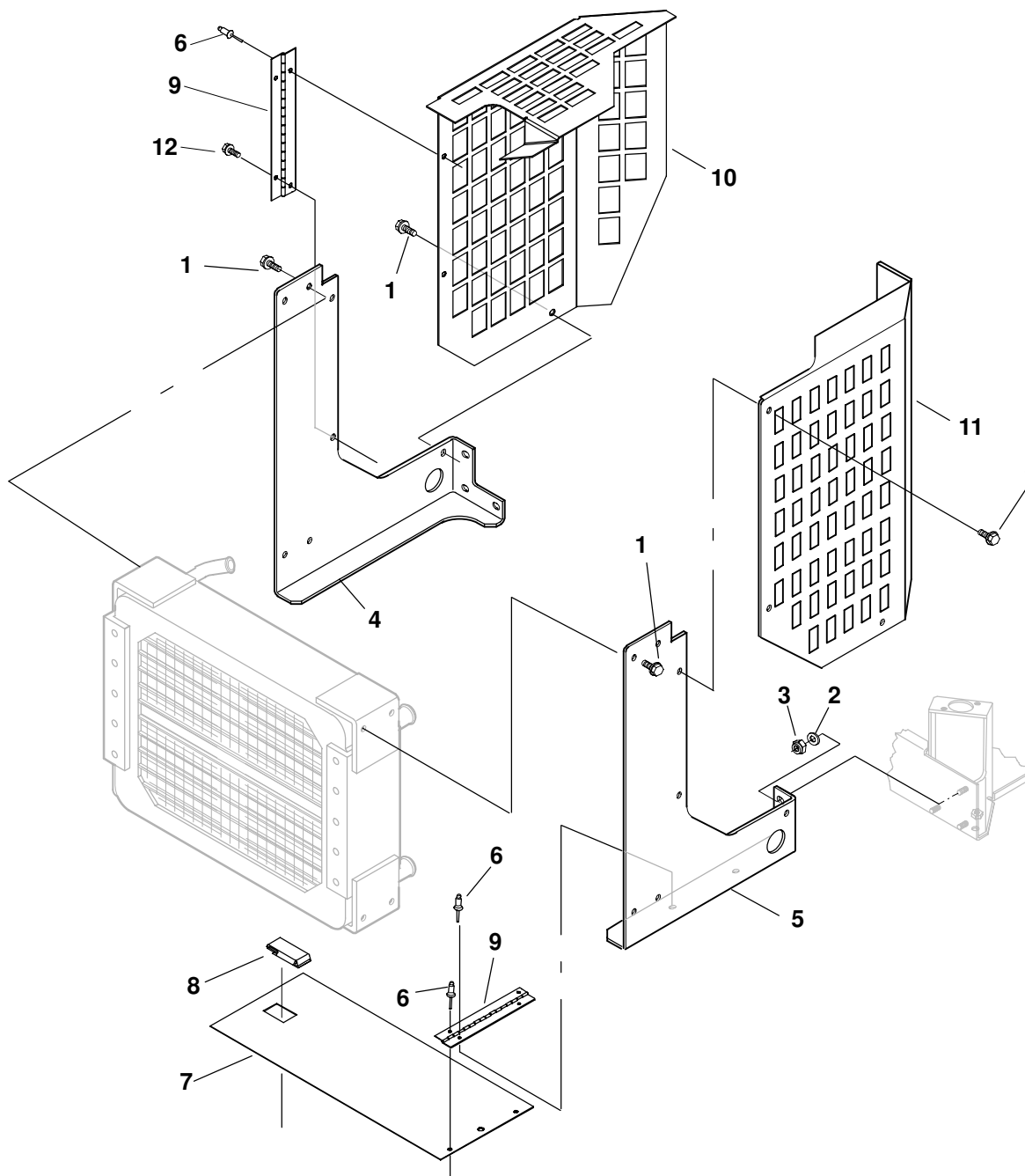
## Cooling System



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Clamp, Hose
	503-1137	8	Spec A
	503-1137	4	Spec B
	503-1951	4	Begin Spec C
2	503-1996	1	Hose, Upper Radiator
3	503-1275	1	Hose, Drain (26.5")
4	503-1951-12	4	Clamp, Hose
5	130-4683	1	Radiator
6	503-1995	1	Hose, Lower Radiator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	526-2080	1	Washer, Flat
8	518-0548-05	1	Clamp, Hose
9	503-1993	1	Hose, Coolant Fill (335mm)
10	130-4321	1	Neck, Fill
11	130-4320	1	Cap, Fill
12	503-1923	1	Hose, Overflow (490mm)
13	503-2042	1	Hose, Air Bleed (420mm)
14	503-0189	4	Clamp, Hose

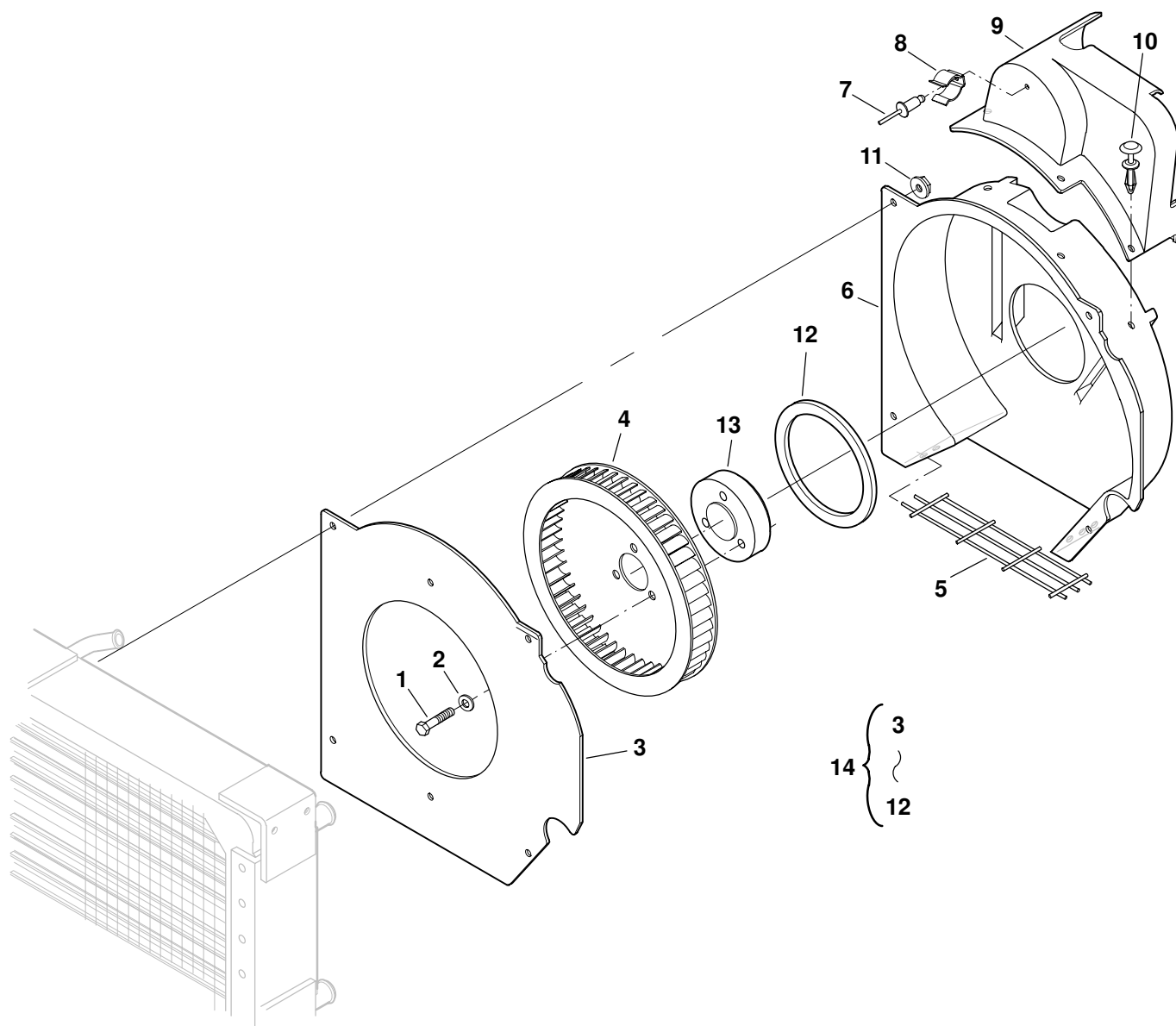
## Radiator Mount



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)	6	818-0231-02	6	Rivet, Pop (Begin Spec B)
	821-2032	8	Spec A	7	130-5063-02	1	Panel, Bottom (Begin Spec B)
	821-2032	12	Begin Spec B	8	406-0612	1	Latch, Service Panel (Spec B)
2	526-2100	6	Washer, Flat	9	406-0922	2	Hinge, Continuous (Begin Spec C)
3	870-2199	6	Nut, Self Lock (M8 x 1.25mm)	10	130-5029-02		Guard, Fan (LH) (Begin Spec B)
4			Support, Left Side Radiator	11	130-5030-02	1	Guard, Fan (RH) (Begin Spec B)
	130-4681-02	1	Spec A	12	821-6001-02	4	Screw, Sems (M5)
	130-5026-02	1	Begin Spec B				
5			Support, Right Side Radiator				
	130-4682-02	1	Spec A				
	130-5027-02	1	Begin Spec B				



## Fixed Fan Scroll (Spec A)



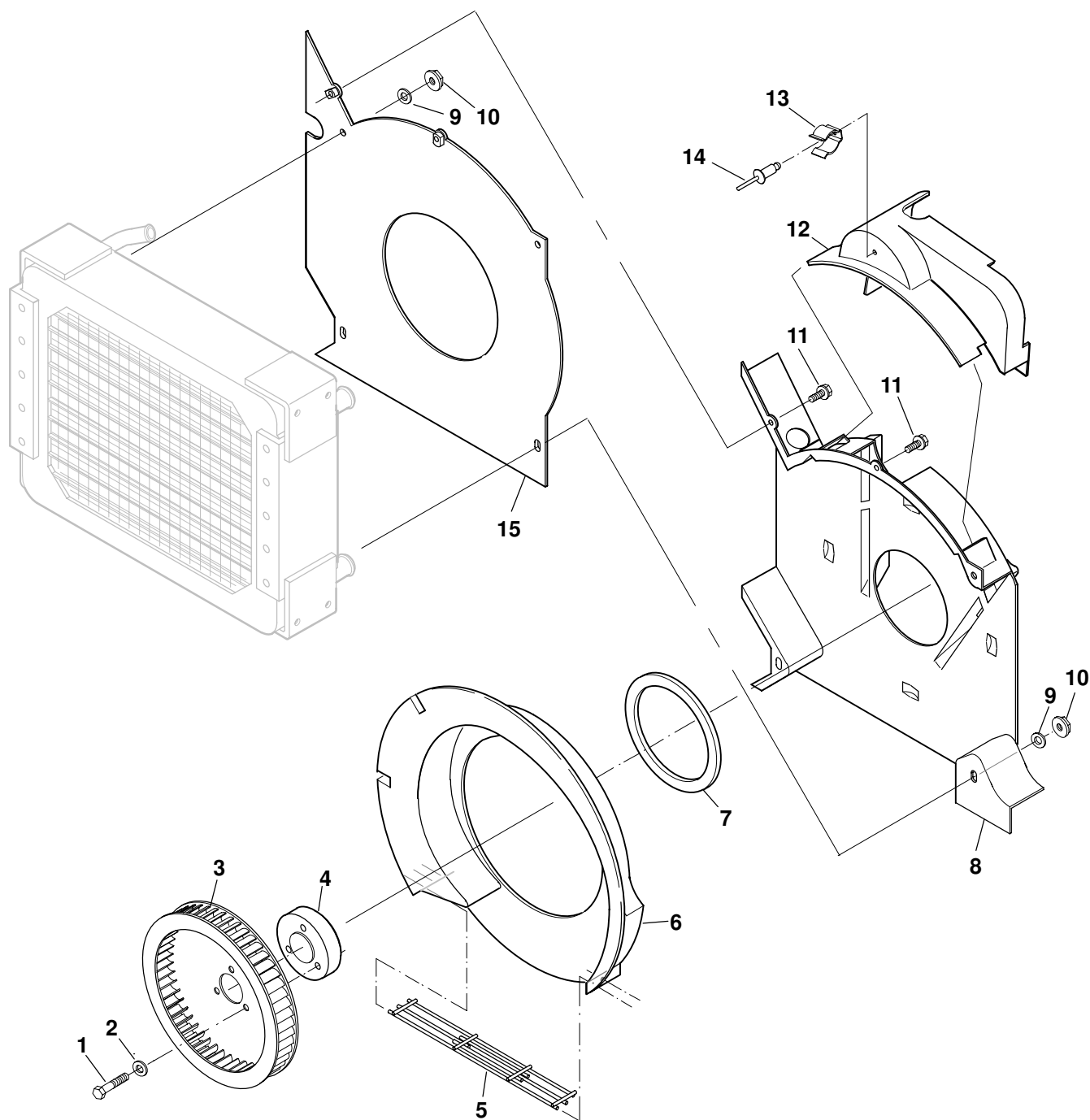
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-3006	3	Screw, Hex Head Cap (M10 x 1.25 x 40mm)
2	526-0030	3	Washer, Flat (M10)
3	130-4510-02	1	*Baffle, Fixed Scroll
4	130-4506	1	*Fan, Cooling
5	130-4511	1	*Guard, Scroll
6	130-4507	1	*Duct, Scroll
7	818-0238	1	*Rivet
8	518-0676	1	*Clip, Spring
9	130-4509	1	*Guard, Belt
10	818-0236	3	*Rivet, Reinstallable

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
11	870-2054	4	Nut, Lock Flange (M6 x 1)
12	130-4686	1	+* Seal, Fan
13	130-4688	1	Adapter, Fan
14	130-5000	1	Kit, Fan Conversion (Includes Parts Marked *)

\* - Parts Included in Fan Conversion Kit.

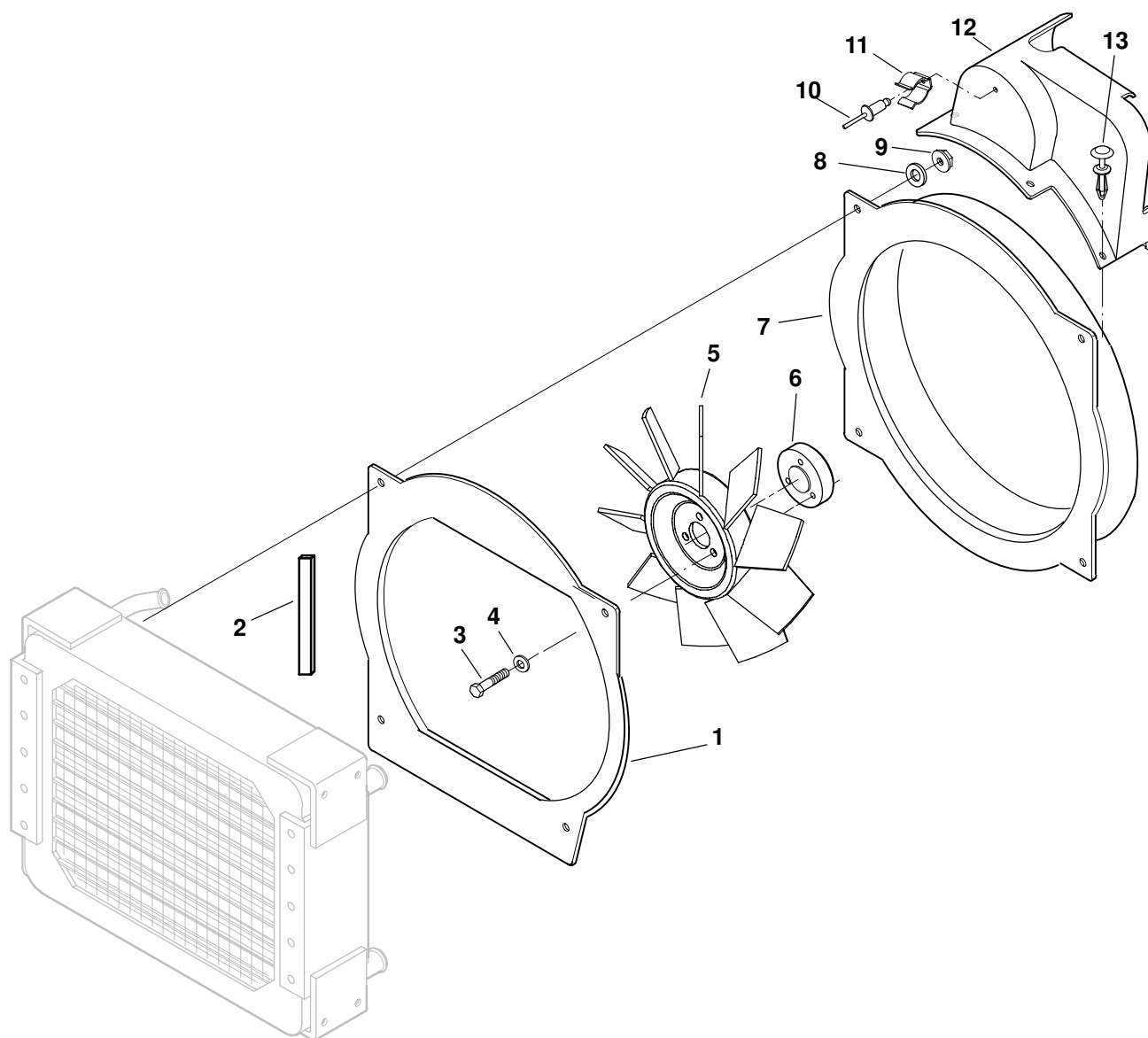
+ - Seal is Used in Kit Only, Not used in Production of Fixed Scroll.

## Rotating 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)	9	526-2083	4	Washer (M6)
2	526-0030	3	Washer, Flat (M10)	10	870-2054	4	Nut, Lock Flange (M6 x 1)
3	130-4680	1	Fan, Cooling	11	821-2096-02	2	Screw, Lock Flange (M6 x 1 x 12mm)
4	130-4688	1	Adapter, Fan	12	130-4678	1	Guard, Belt
5	130-4684	1	Guard, Scroll	13	518-0676	1	Clip, Spring
6	130-4676	1	Scroll, Fan	14	818-0238	1	Rivet
7	130-4686	1	Seal, Fan	15	130-4679-02	1	Baffle, Scroll
8	130-4677	1	Duct, Scroll				

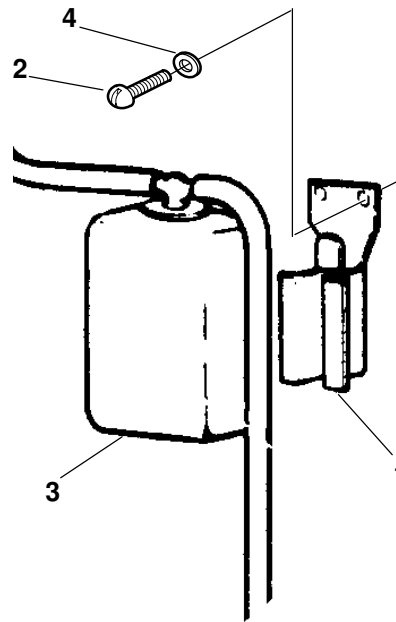
## Fan Scroll (Begin Spec B)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-5031-02	1	Baffle, Scroll
2	895-0305-06	2	Foam
3	800-3044	3	Screw, Hex Head Cap (M10 x 1.25 x 70mm)
4	526-0030	3	Washer, Flat (M10)
5			Fan, Cooling
	130-5041	1	Pusher (E093)
	130-5042	1	Sucker (E006)

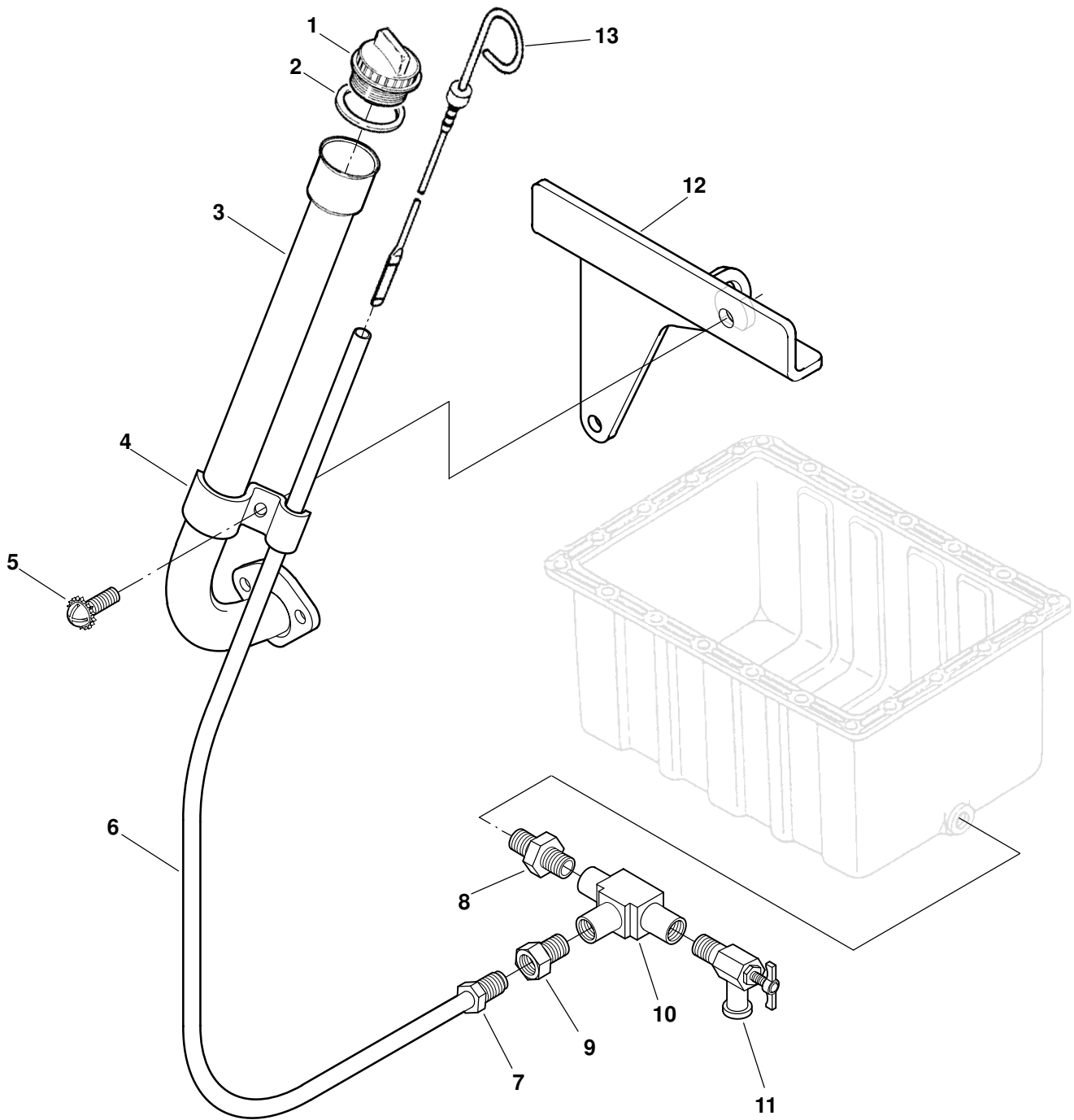
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	130-5040	1	Adapter, Fan
7	130-5028	1	Shroud, Fan
8	526-2083	4	Washer, Flat
9	870-2054	4	Nut, Lock Flange (M6 x 1)
10	818-0238	1	Rivet
11	518-0676	1	Clip, Spring
12	130-5043	1	Guard, Belt
13	818-0236	3	Rivet, Reinstallable

## 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")				

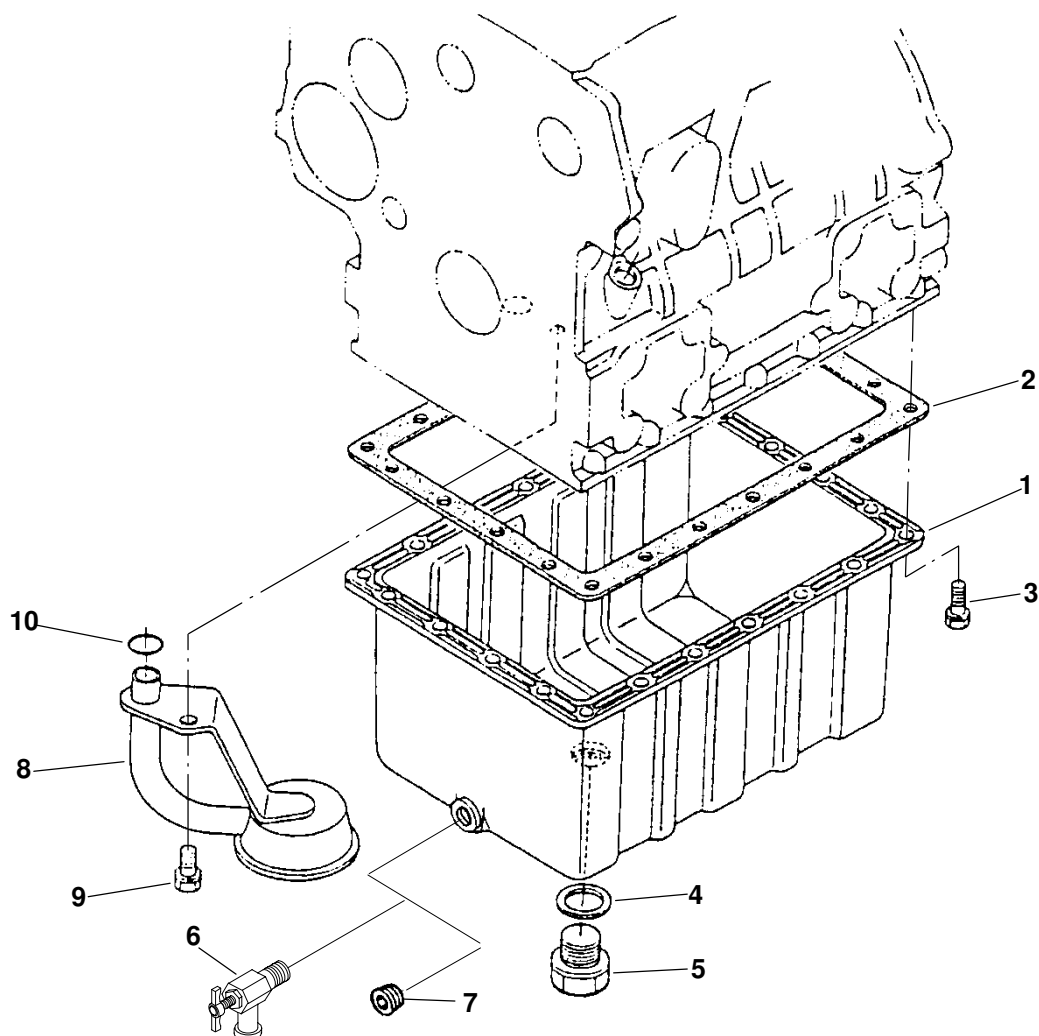
## Oil Fill (Spec A)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	123-1647-01	1	Cover, Oil Fill
2	509-0142	1	O'Ring
3	123-2086-02	1	Tube, Oil Fill
4	123-2089-02	1	Clamp, Oil Fill
5	815-0364	1	Screw, Round Head ET Cross
6	123-2087-02	1	Tube, Oil Level (Includes Nut)
7	502-0015	1	Nut, Inverted Flare (3/8")

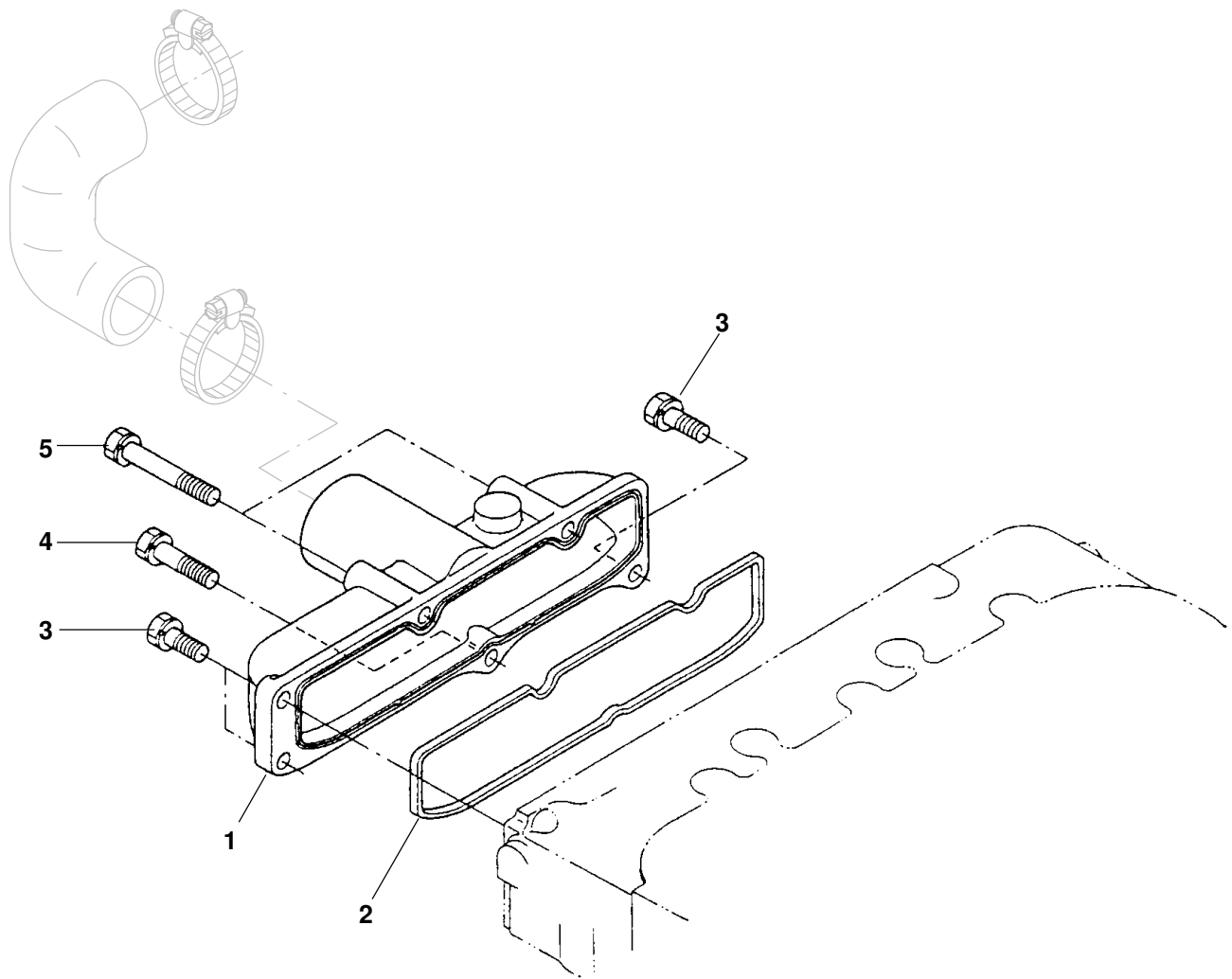
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	502-0158	1	Nipple, Hex (3/8 x 3/8")
9	502-0036	1	Connector, Inverted Male
10	502-0090	1	Tee, Pipe (3/8")
11	504-0092	1	Valve, Drain
12	123-2104-03	1	Bracket, Oil Fill
13	123-2077	1	Indicator, Oil Level Recessed (10-32 x 1/2")

## Oil Pan



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

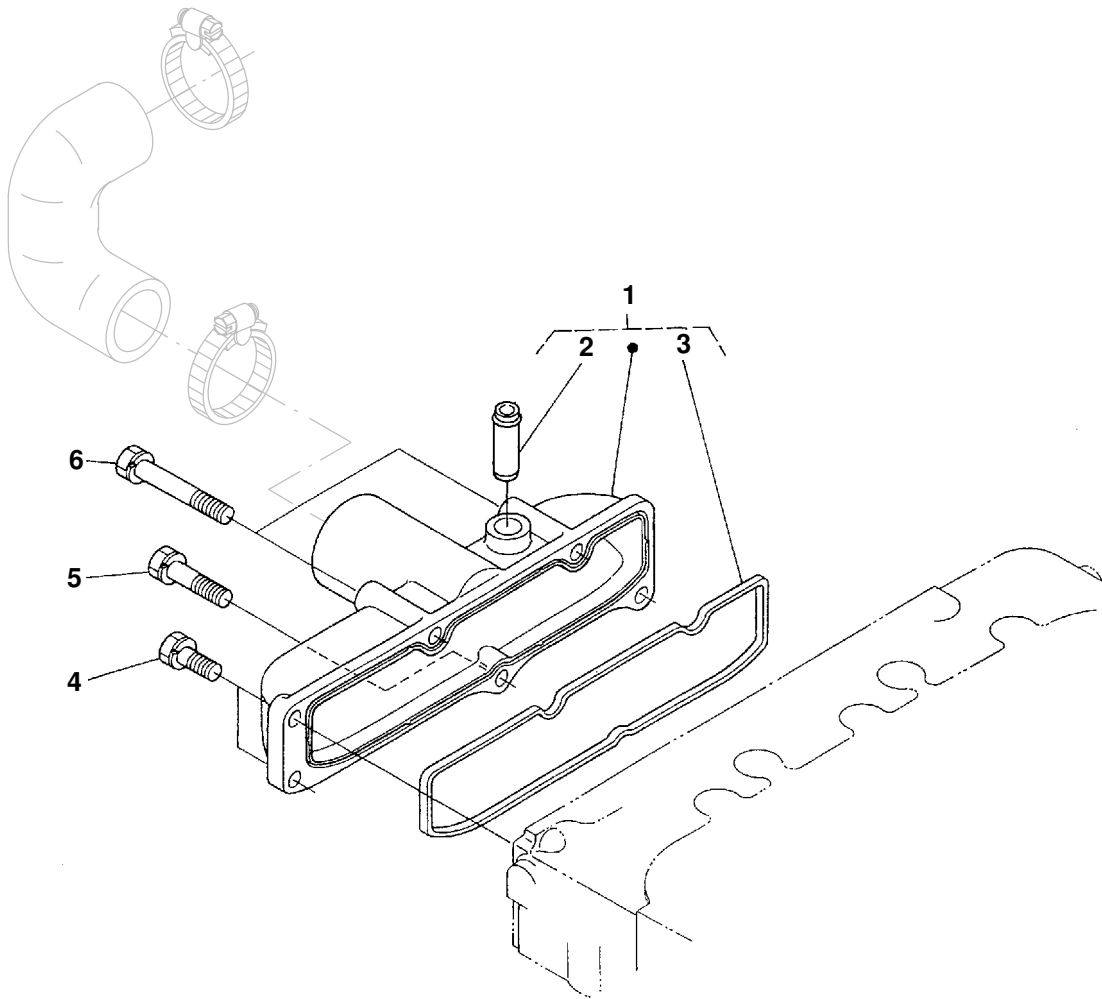
## Inlet Manifold (Spec A-D)



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

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
4	185-6677	1	Screw
5	185-2394	2	Screw, Hex Head (M6 x 50mm)

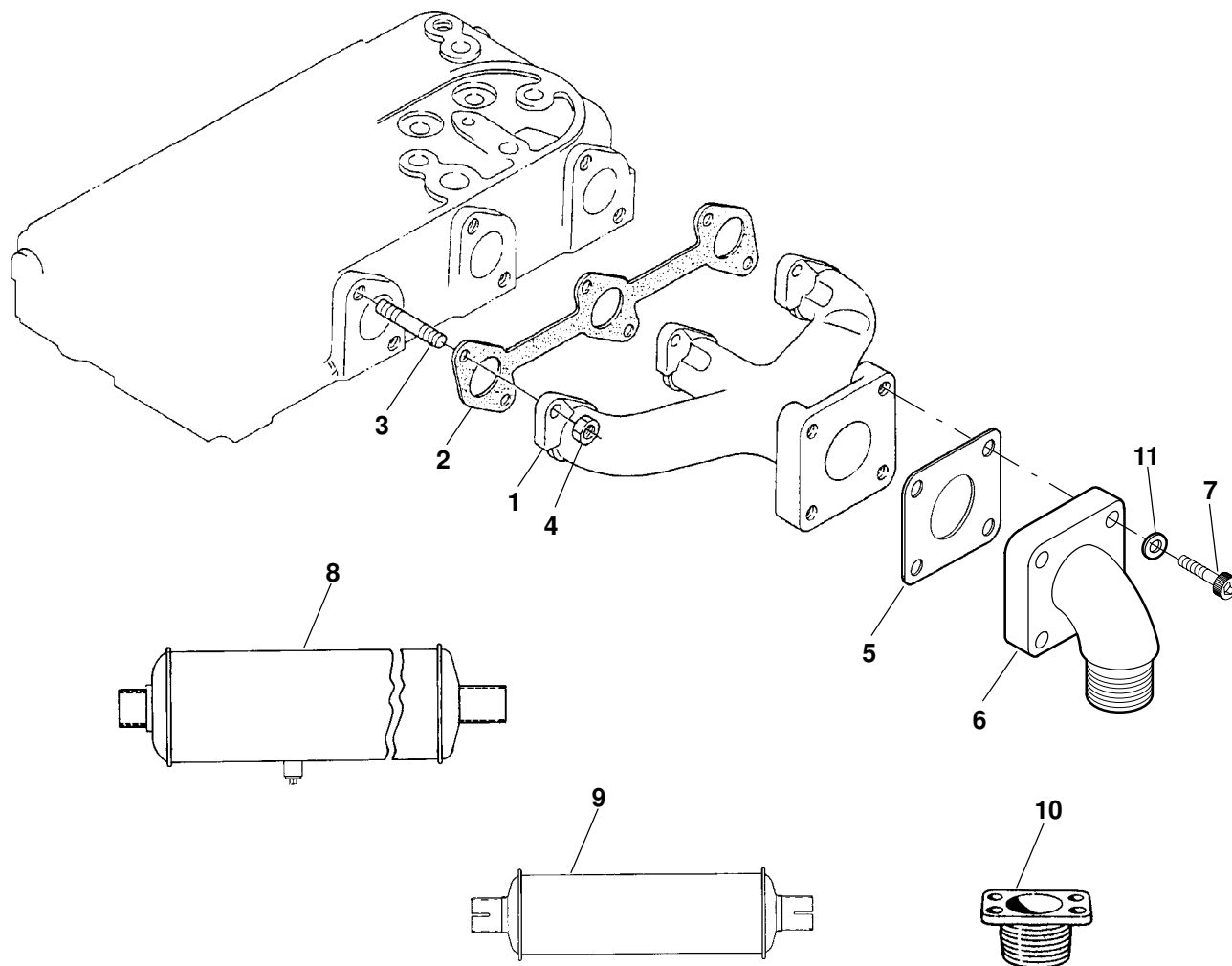
## Inlet Manifold HDKAL and HDKAS (Begin Spec E)



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



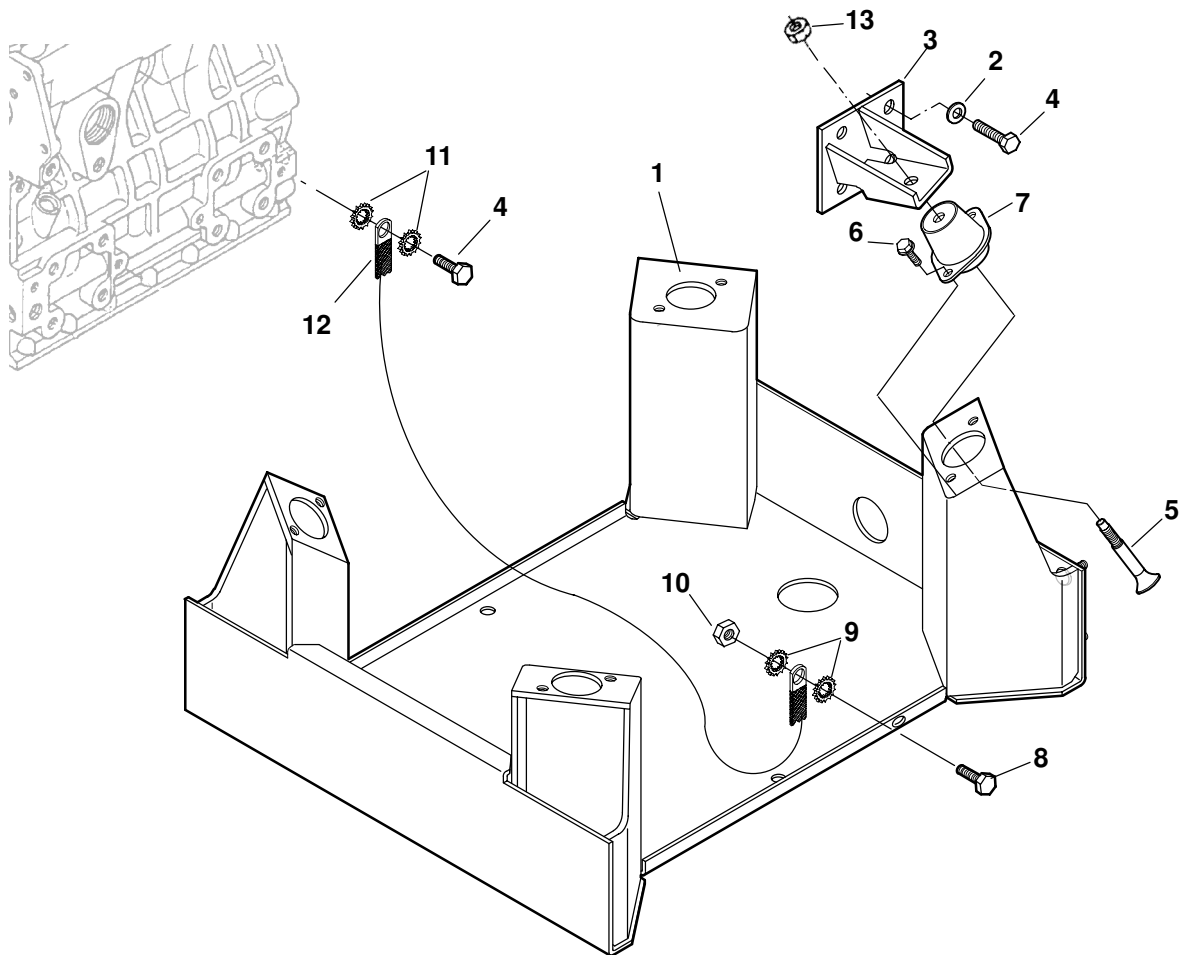
## Exhaust Manifold



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	7	725-1052	4	Screw, Hex Head Cap (M8 x 30mm)
	181-9190	1	HDKAL and HDKAS (Begin Spec E)	8	150-2068	1	Muffler (Option)
2	185-6925	1	Gasket, Exhaust Manifold	9	155-2653	1	Resonator, Exhaust (Option)
3	185-6698	6	Stud	10	154-2852	1	Adapter, Exhaust (Option)
4	185-6699	6	Nut	11	850-2008	4	Washer, Locking (M8)
5	185-6853	1	Gasket, Exhaust				
6	155-2666-01	1	Elbow, Exhaust				

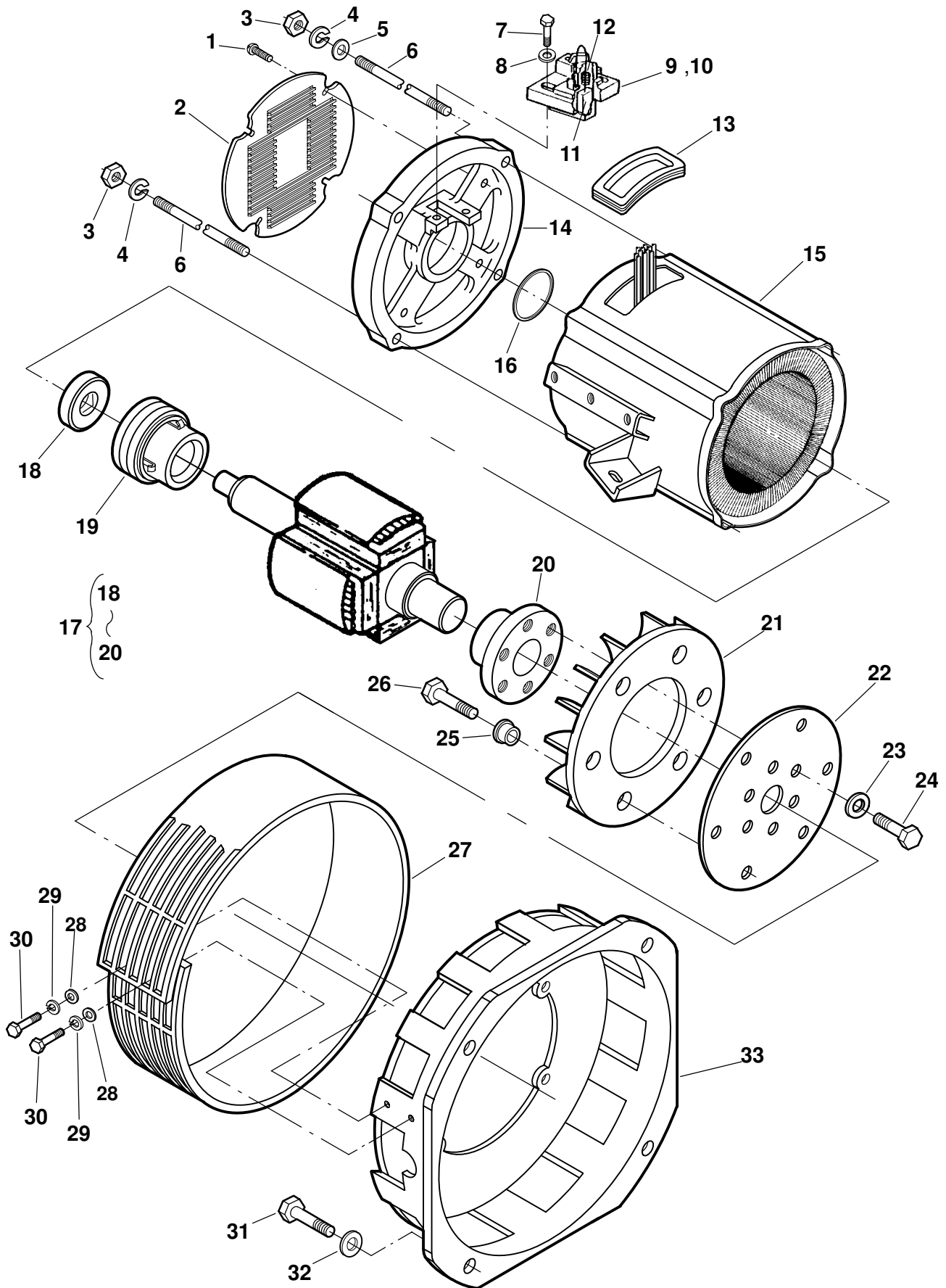


## Mounting Frame



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	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)

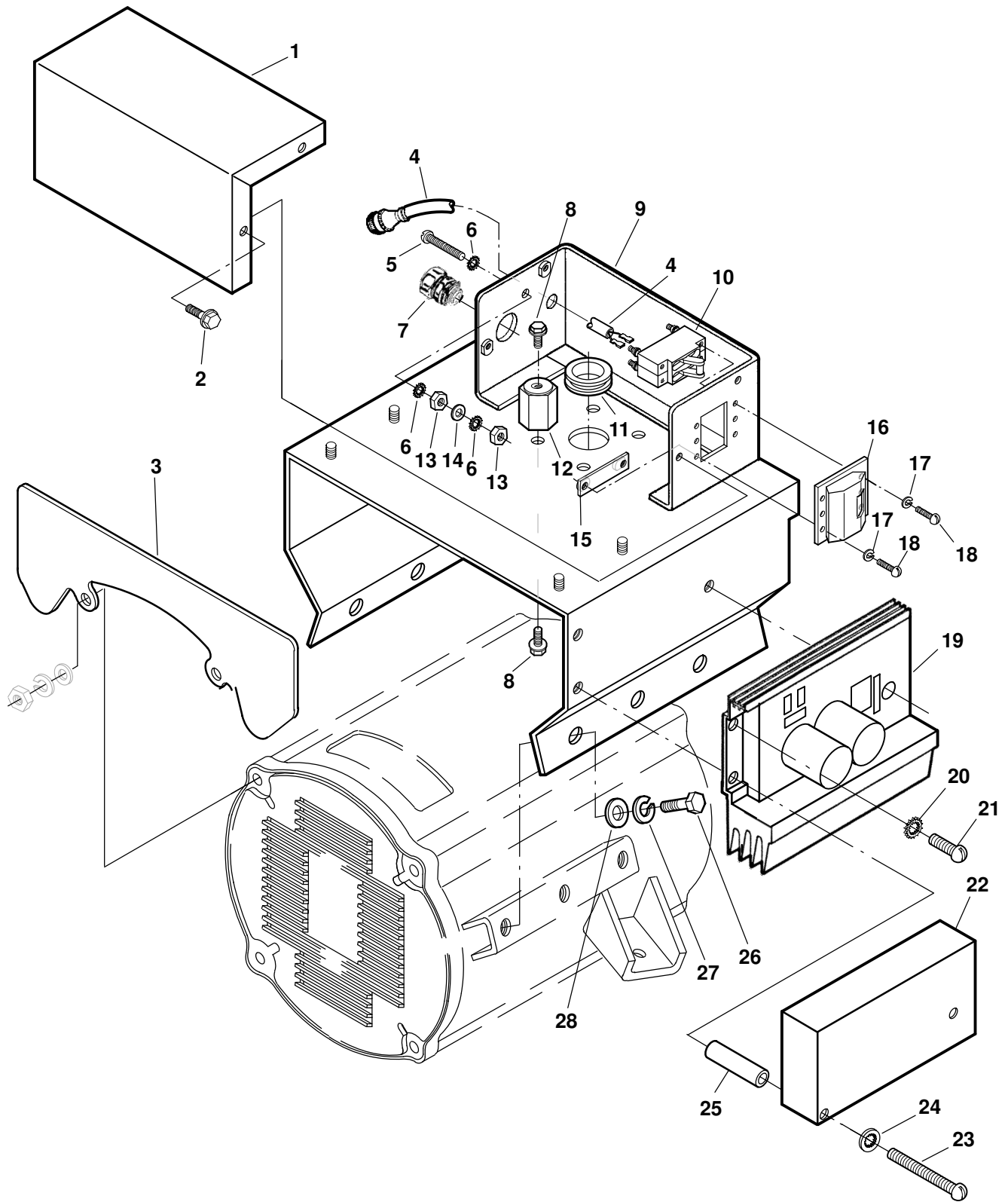
# Generator



## Generator

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)
10	212-1286	1	Block Assy, (With Terminal)	23	526-2100	6	Screw, Hex Head Cap (M8 x 1.25 x 16mm)
11	214-0103	2	Brush, Generator	24			Spec A-B
12	212-1276-03	2	Spring, Generator Brush		718-1035	6	Begin Spec C
13	508-1049-02	1	Edging		800-2056	6	Spacer, Fan
14	211-0462	1	Endbell	25	232-3296	6	Screw, Hex Head Cap (M8 x 1.25 x 30mm)
15			Stator, Generator	26	800-2515	6	Guard, Fan
			Spec A	27	232-3755-02	1	Washer, Flat
	220-4503-02	1	Spec 61730	28			Spec A-B
	220-4503-03	1	Spec 11475, 11585		526-2080	2	Begin Spec C
	220-4503-05	1	Spec 11477		526-2080	3	Washer, Lock (M5)
	220-4503-11	1	Spec 11575	29			Spec A-B
	220-4503-07	1	Spec 11476		850-2005	2	Begin Spec C
	220-4503-09	1	Spec 11478		850-2005	3	Screw, Hex Head Cap (M5 x .8 x 14mm)
	220-4503-12	1	Spec 11567	30			Spec A-B
			Spec B-C		800-2006	2	Begin Spec C
			50Hz		800-2006	3	Screw, Hex Head Cap (M10 x 1.5 x 30mm)
	220-4503-07	1	(120/240)	31	800-2087	4	Washer, Flat (M10)
	220-4503-09	1	(277/480)	32	850-2010	4	Adapter, Generator
			60Hz	33	231-0347	1	
	220-4503-11	1	(100/200)				
	220-4503-03	1	(120/240)				
	220-4503-05	1	(277/480)				

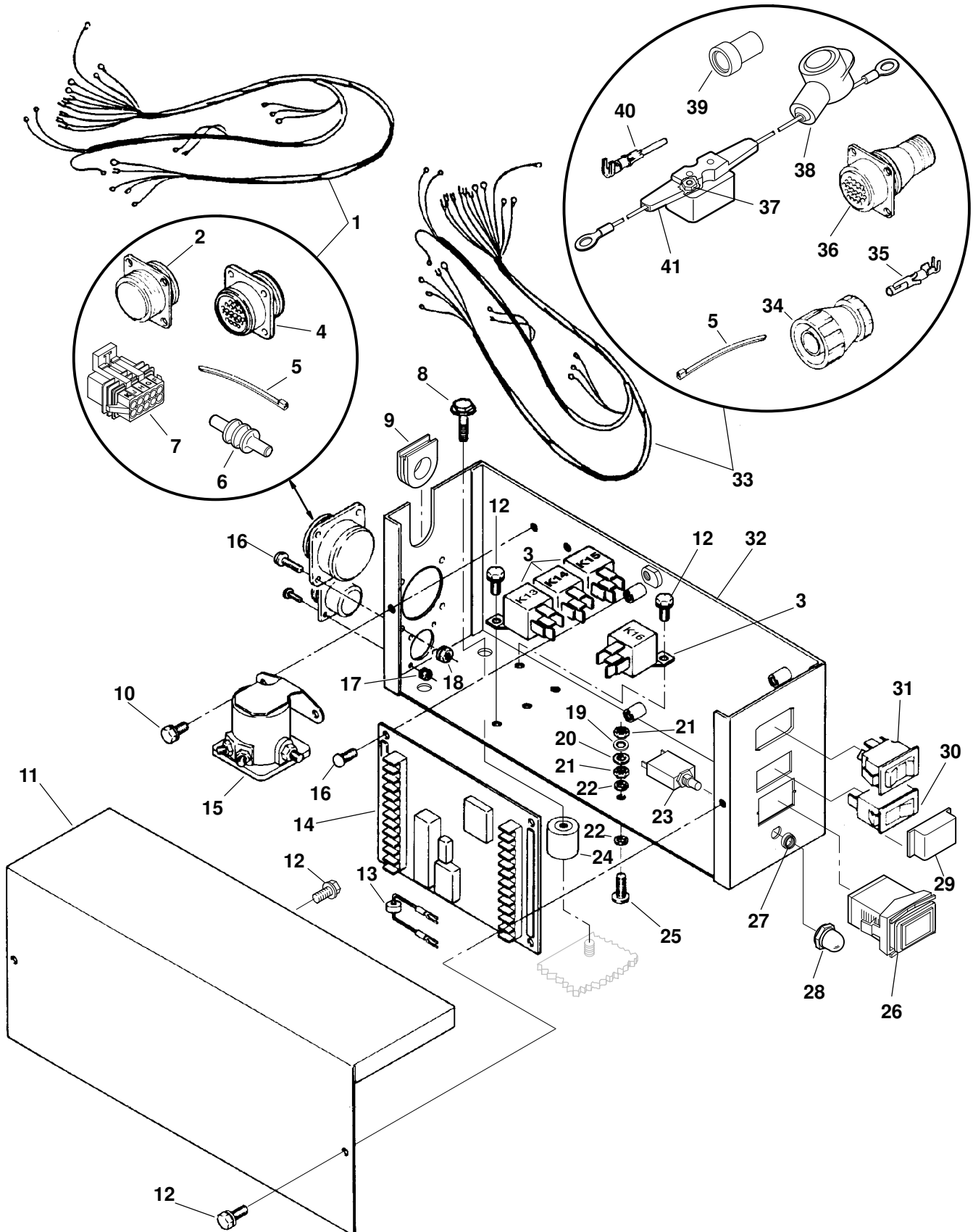
## AC Control



## 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	13	871-0016	2	Nut, Hex (1/4-20)
2	821-0004	4	Screw, Lock Head (#10-32 x 5/16")	14	526-0052	1	Washer, Flat (1/4")
3	234-0952-02	1	Guard	15	319-0834	1	Plate, Circuit Breaker Spec, 11475, 11476, 11585 (1 Pole)
4			Harness, AC (Reaches From AC Control Box to DC Control Box) (Includes Plug, Socket, Clamp and Boot)		319-3023-02	1	Spec 11477, 11478 (3 Pole)
	338-3339	1	Spec 61730		319-3121-02	1	Spec 61730, 11567 (CB Adapter)
	338-3483	1	Spec 11475, 11476, 11477, 11478	16	320-1951-02	1	Boot, Circuit Breaker (Spec 11475, 11476)
	323-1383	1	Plug, Circular (J1)	17			Washer, Lock (#6)
	323-1229	1	Socket, Female		850-0020	6	Spec 61730, 11475, 11476
	323-1751	1	Boot, Rubber (Spec 11475, 11476, 11477, 11478)		850-0020	2	Spec 11477, 11478
5	810-0155	1	Screw, Round Head Brass Machine (1/4-20 x 1.25")	18			Screw, Round Head Machine (#6-32 x 3/8")
6	856-0006	3	Washer, EIT (1/4")		812-0061	6	Spec 61730, 11475, 11476
7	331-0116	1	Connector, Straight		812-0061	2	Spec 11477, 11478
8			Screw, Lock Head (1/4-20 x 5/16")	19	305-0875-04	1	Regulator, Automatic Voltage (VR21)
	821-0008	1	Spec 61730	20	856-0003	1	Washer, EIT (#10)
	821-0008	2	Spec 11475, 11476	21	813-0100	1	Screw, Round Head Machine (#10-32 x 1/2")
	821-0008	6	Spec 11477, 11478	22	319-3187-02	1	Cover, Regulator
9	319-2830-04	1	Box, Control	23	813-0114	2	Screw, Round Head Machine (#10-32 x 3")
10			Breaker, Circuit 2 Pole	24	854-0010	2	Washer, IT Lock (#10)
	320-1676-06	1	25A	25	370-4083-01	2	Standoff, Cover
	320-1676-03	1	30A	26	800-2033	6	Screw, Hex Head Cap (M6 x 1 x 16mm)
	320-1676-04	1	35A	27	850-2006	6	Washer, Lock (M6)
	320-1676-01	1	40A	28	526-0018	6	Washer, Flat (1/4")
	320-1676-05	1	45A				
	320-1880-02	1	3 Pole (25A)	* -	Following Parts Shipped Loose in Plastic Bag:		
11	508-0278	1	Grommet		323-1582	1	Plug (12 Pin)
12			Standoff, Insulator		323-1583	1	Wedge, Plug (12 Pin)
	332-2370	1	Spec 11475, 11476, 61730		323-1591	4	Plug, Seal
	332-2370	3	Spec 11477, 11478				

## DC Control





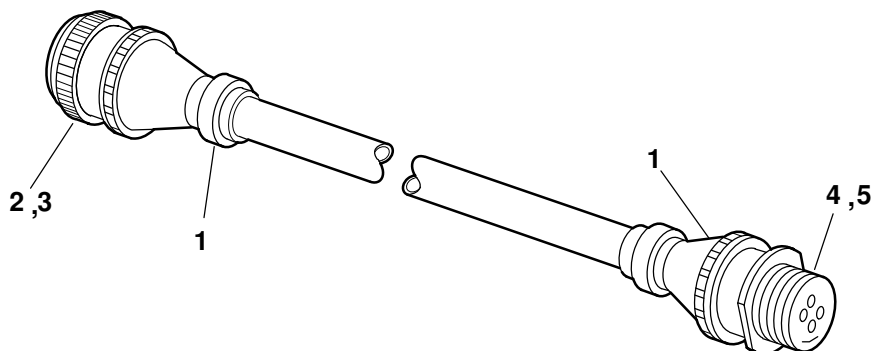
## DC Control

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		338-3338	1	Spec 11567, 61730
12	821-0004	7	Screw, Lock Head (#10-32 x 5/16")		338-3484	1	Spec 11475, 11476, 11477, 11478, 11575, 11585
13	357-0088	1	Rectifier Assy (CR2)	34	332-2304	1	◇Clamp, Cable
14	300-2604	1	PCB Assy, Engine Monitor (A11)	35	323-1195	16	◇Socket, Female
15	307-1617	1	Relay, Start Solenoid (12V)(K11)	36	323-1207	1	◇Plug, Circular (J2)
16	815-0388	8	Screw, Round Head Machine (#6-32 x 1/2")	37	870-0131	2	◇Nut, ET Hex (10-32)
17	870-1220	4	Nut, ET Hex (#4-40)	38	416-1021-03	1	◇Boot
18	870-0183	4	Nut, ET Hex (#6-32)	39	323-1790	1	◇Boot, Rubber
19	854-0014	1	Washer, IT (1/4")	40	323-1492	AR	◇Socket, Contact
20	526-0052	1	Washer, Flat (1/4")	41	320-1928-01	1	◇Breaker, Circuit (CB3) (12V, 40A)
21	871-0016	2	Nut, Hex (1/4-20)	42	98-7310	1	Label, Schematic (DC)
22	856-0006	3	Washer, EIT (1/4")				
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.

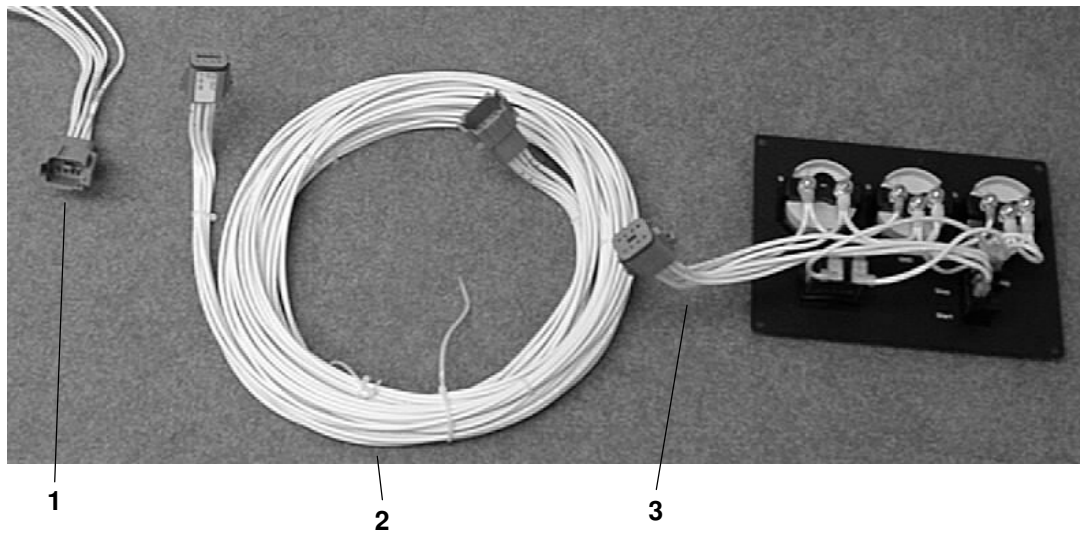
◇ - Parts Included in Engine Wiring Harness.

## 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)
338-2912-01	1		24"	3			Socket, Terminal (P2) (Female)
338-2912-02	1		42"	323-1229	2		AC Harness (22-18 AWG)
338-2912-03	1		90"	323-1195	17		DC Harness (18-14 AWG)
338-2912-04	1		126"	4			Plug, Free Hanging Receptacle (J2)
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				

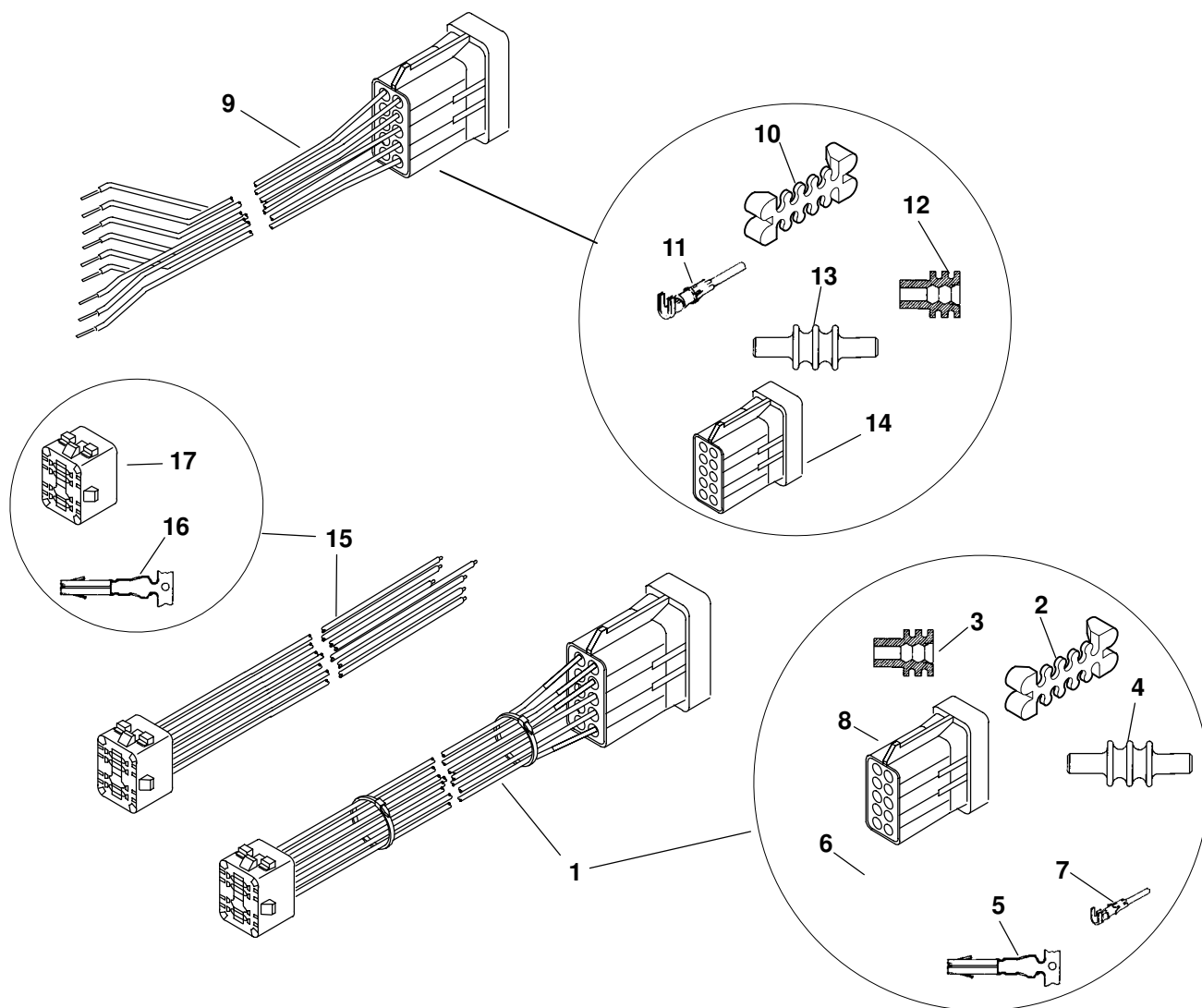
## Remote Panel Harness Location



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)

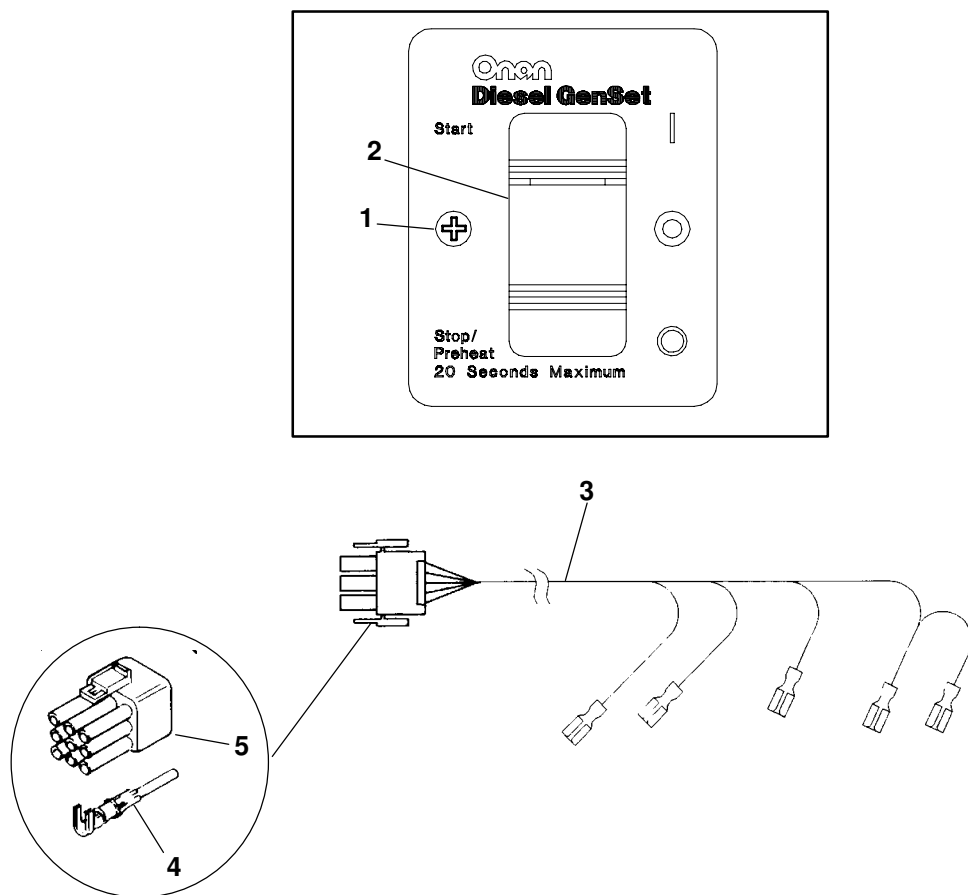
\* – See Index for Page Numbers of Detailed Descriptions and Part Numbers.

## Harnesses



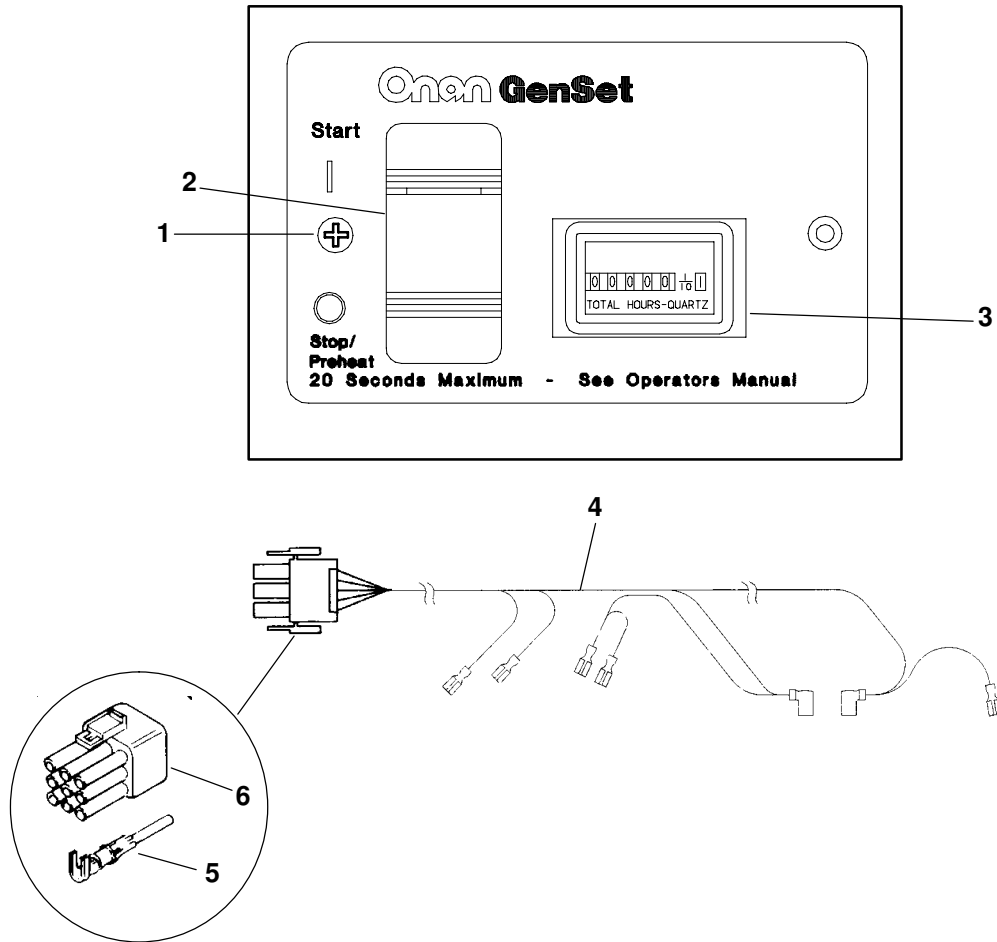
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Extension (Reaches From DC Control Harness to Remote Panel) (Includes Parts Marked +)	10	323-1719	1	°Housing, Lock
	338-3490-01	1	10 Feet	11	323-1707	8	°Pin, Contact
	338-3490-02	1	30 Feet	12	323-1708	8	°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



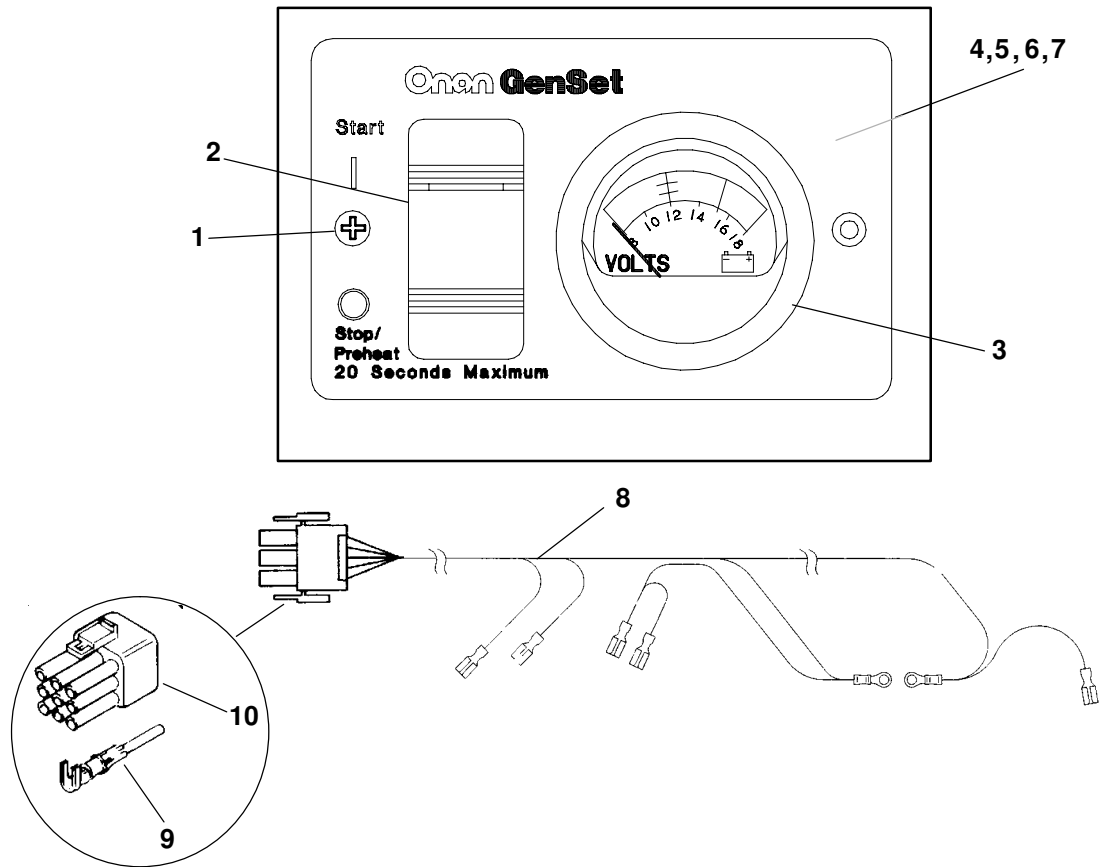
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4939	1	Kit, Switch Only Remote Panel	4	323-1199	4	Pin, Contact
1	815-0910	2	Screw, Wood Mounting (#6 x 1)	5	323-1291	1	Plug (9 Pin)
2	308-1062	1	Switch, Rocker				
3	338-3511	1	Harness, Remote Panel (Includes Pins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

## Remote Switch/Hourmeter Panel



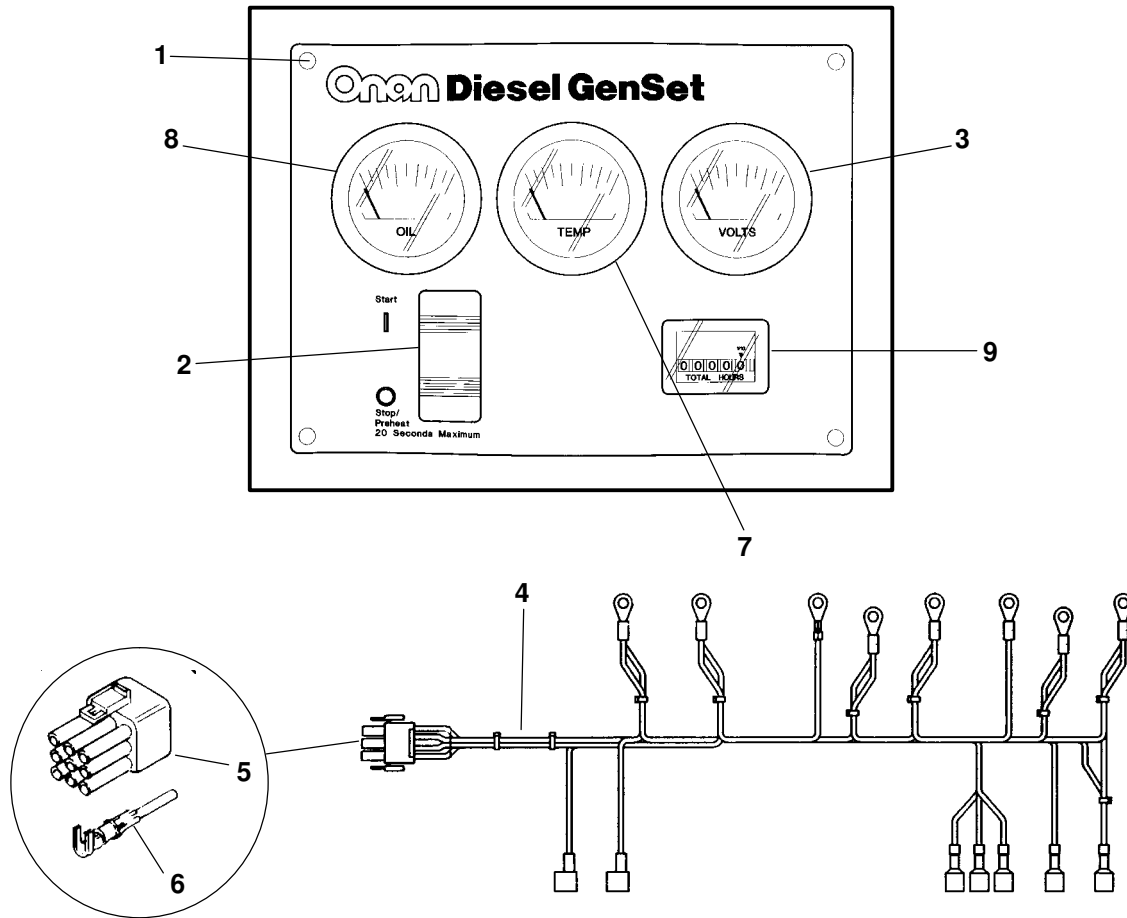
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4940	1	Kit, Switch/Hourmeter Remote Panel	4	338-3467	1	Obsolete Harness, Remote Panel (Includes Pins and Plug)
1	815-0910	2	Screw, Wood Mounting (#6 x 1)	5	323-1199	5	Pin, Contact
2	308-1062	1	Switch, Rocker	6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

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				
5	526-0049	4	Washer, Flat				
6	871-0010	4	Nut, Hex Brass Machine (10-32)				

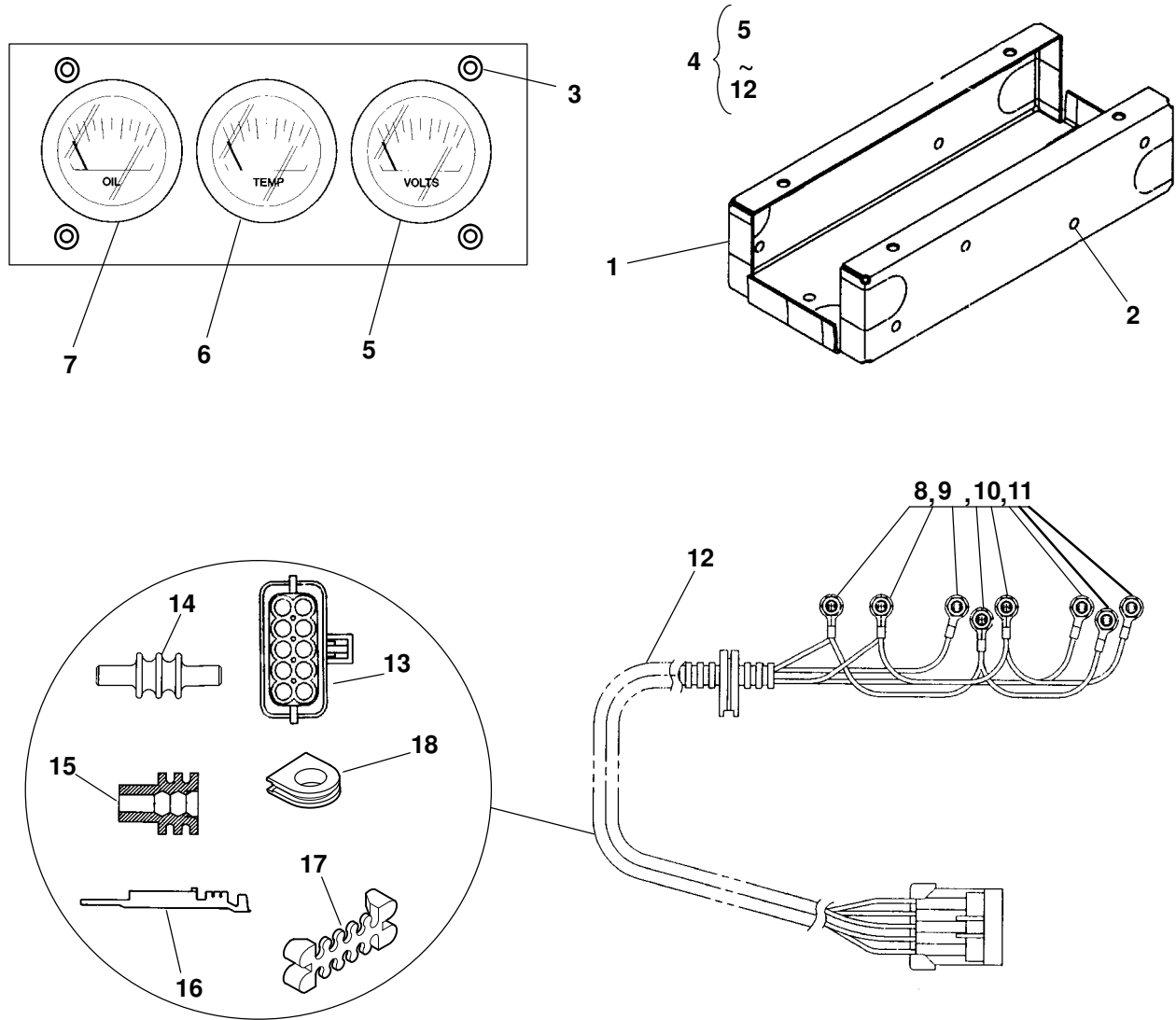
## Remote Gauge Panel



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



## Remote DC Gauge Panel



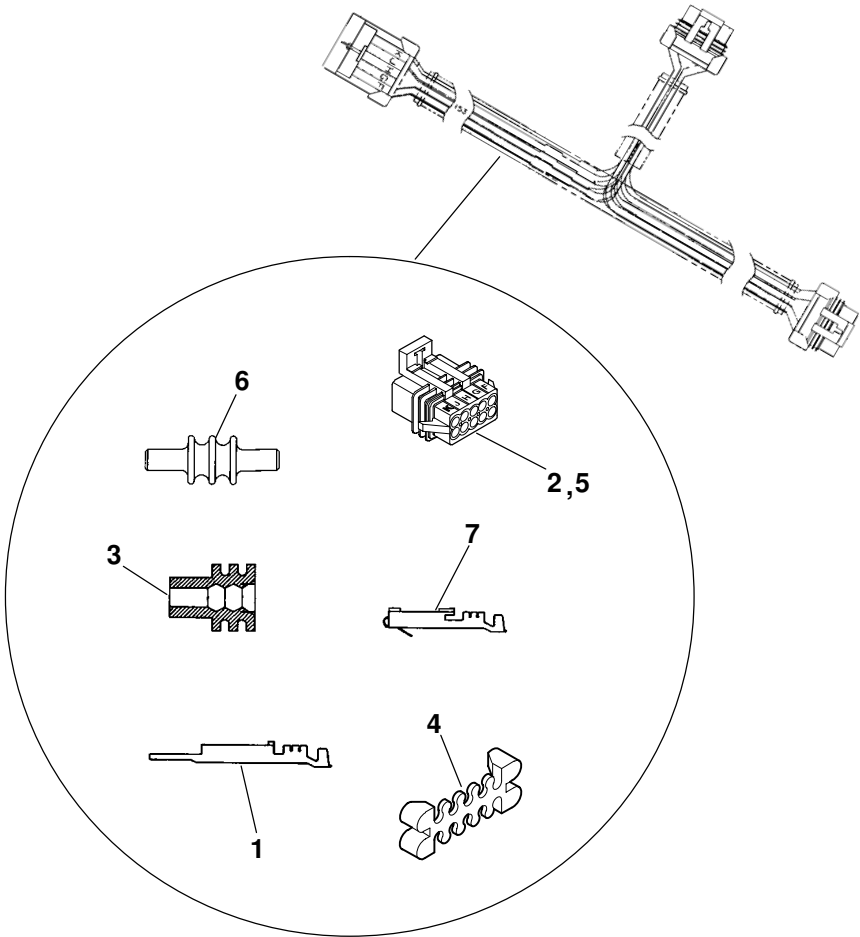
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4966	1	**Kit, DC Gauge Panel
1	319-3110-03	1	Box, Gauge
2	821-0005	2	Screw, Lock Head (10-32 x .50)
3	821-0004	4	Screw, Lock Head (10-32 x .31)
4	300-4954	1	Panel Assy, Remote (Includes the following)
5	302-1641	1	Meter, Voltage
6	193-0351	1	Gauge, Water Temperature
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 Harness) (Includes Parts Marked *)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
13	323-1710	1	*Connector, Receptacle (8 Pin)
14	323-1712	6	*Plug, Cavity
15	323-1708	4	*Seal, Cable
16	323-1707	5	*Pin, Contact
17	323-1719	1	*Housing, Lock
18	508-1105	1	Grommet

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

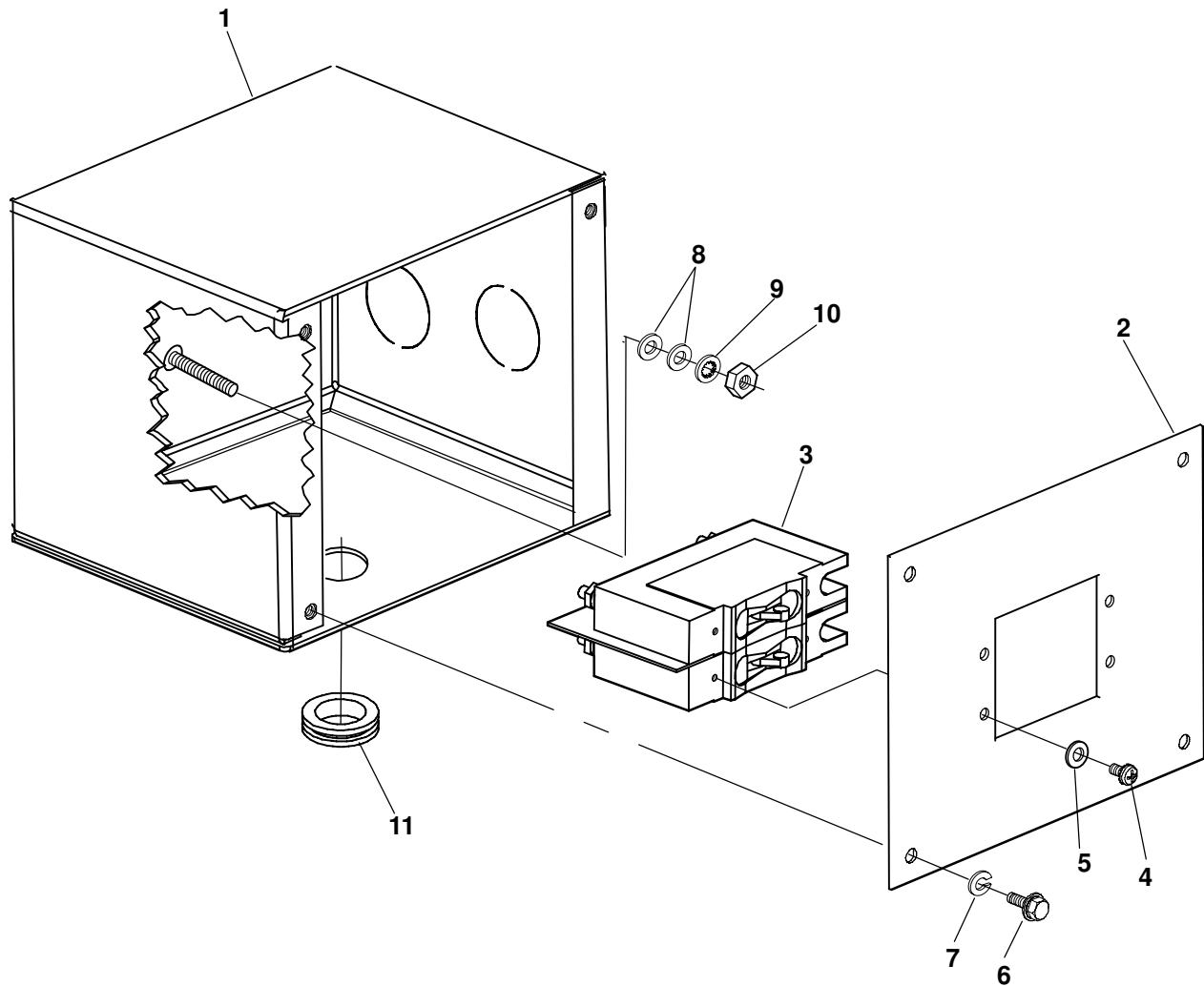
\* - Parts Included in Remote Panel Harness.

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
1	323-1707	AR	Pin, Contact	4	323-1719	3	Housing, Lock
2	323-1710	1	Connector, Receptacle (10 Pin) (P3)	5	323-1711	2	Connector, Plug (10 Pin) (J4, J5)
				6	323-1712	6	Plug, Cavity
				7	323-1709	AR	Socket, Terminal

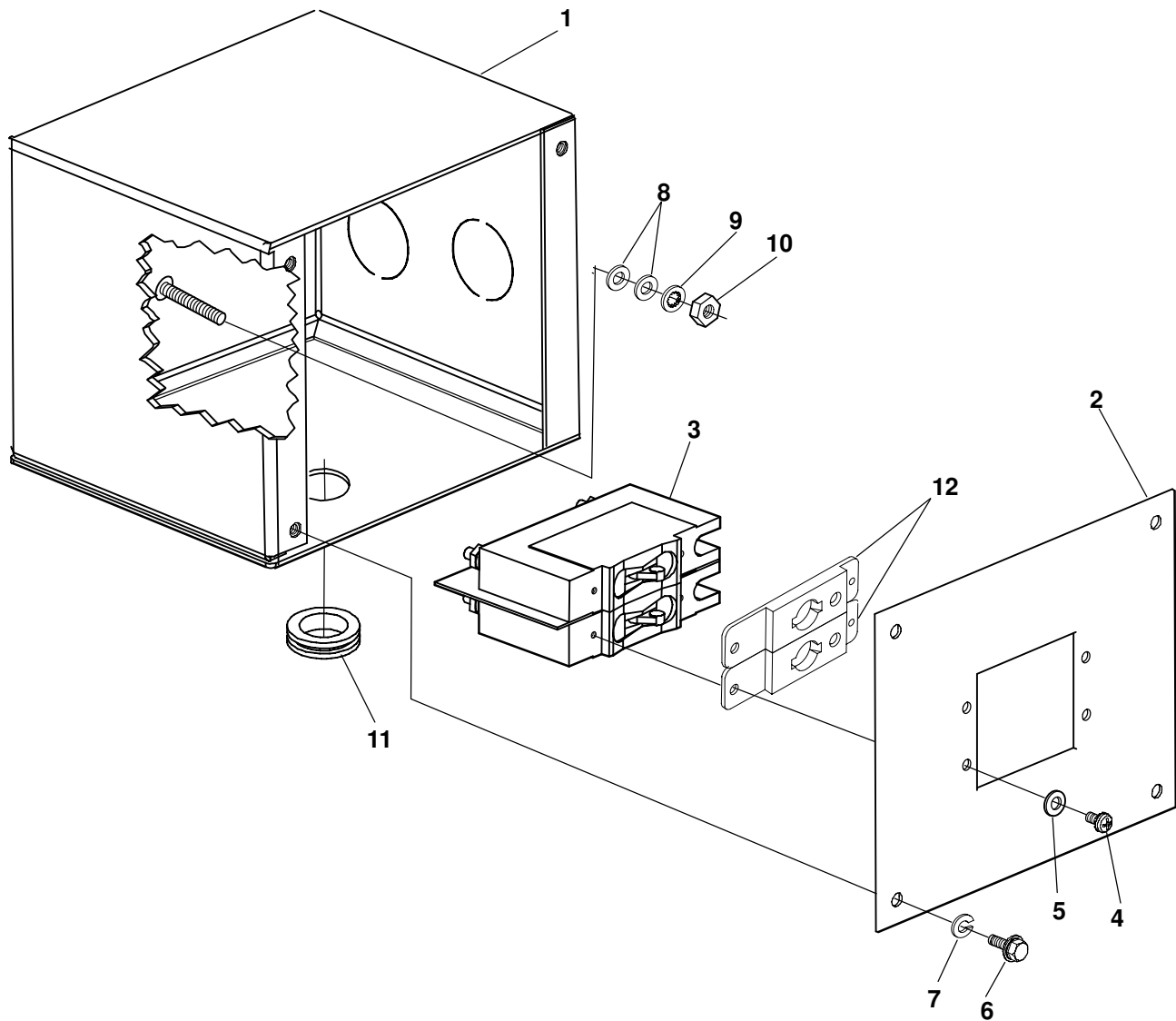
## Remote Circuit Breaker Box 30A or 35A



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Kit, Remote Mount Circuit Breaker
	320-1950	1	30A, 2 Pole
	320-1949	1	35A, 2 Pole
1	319-1054	1	Box, Junction
2	319-3116-02	1	Cover, Junction Box
3			Breaker, Circuit
	320-1676-03	1	30A
	320-1676-04	1	35A
4	812-0061	4	Screw, Round Head Machine (#6-32 x .38)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	850-0020	4	Washer, Lock (#6)
6	813-0100	4	Screw, Round Head Machine (#10-32 x .50)
7	850-0030	4	Washer, Lock (#10)
8	526-0052	2	Washer, Flat (1/4")
9	854-0014	1	Washer, Lock IT (1/4")
10	871-0015	1	Nut, Hex Brass (1/4-20)
11	331-0538	8	Bushing, Reducer (1" to 3/4")

## 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")
4	812-0061	6	Screw, Round Head Machine (#6-32 x .38)	10	871-0015	1	Nut, Hex Brass (1/4-20)
5	850-0020	6	Washer, Lock (#6)	11	331-0538	6	Bushing, Reducer (1" to 3/4")
				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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