



# Parts Manual

## Onan Generator Set for Commercial Mobile

HDKAL (Spec A–E)

HDKAQ (Spec A)

HDKAR (Spec A)

HDKAS (Spec A–E)



## 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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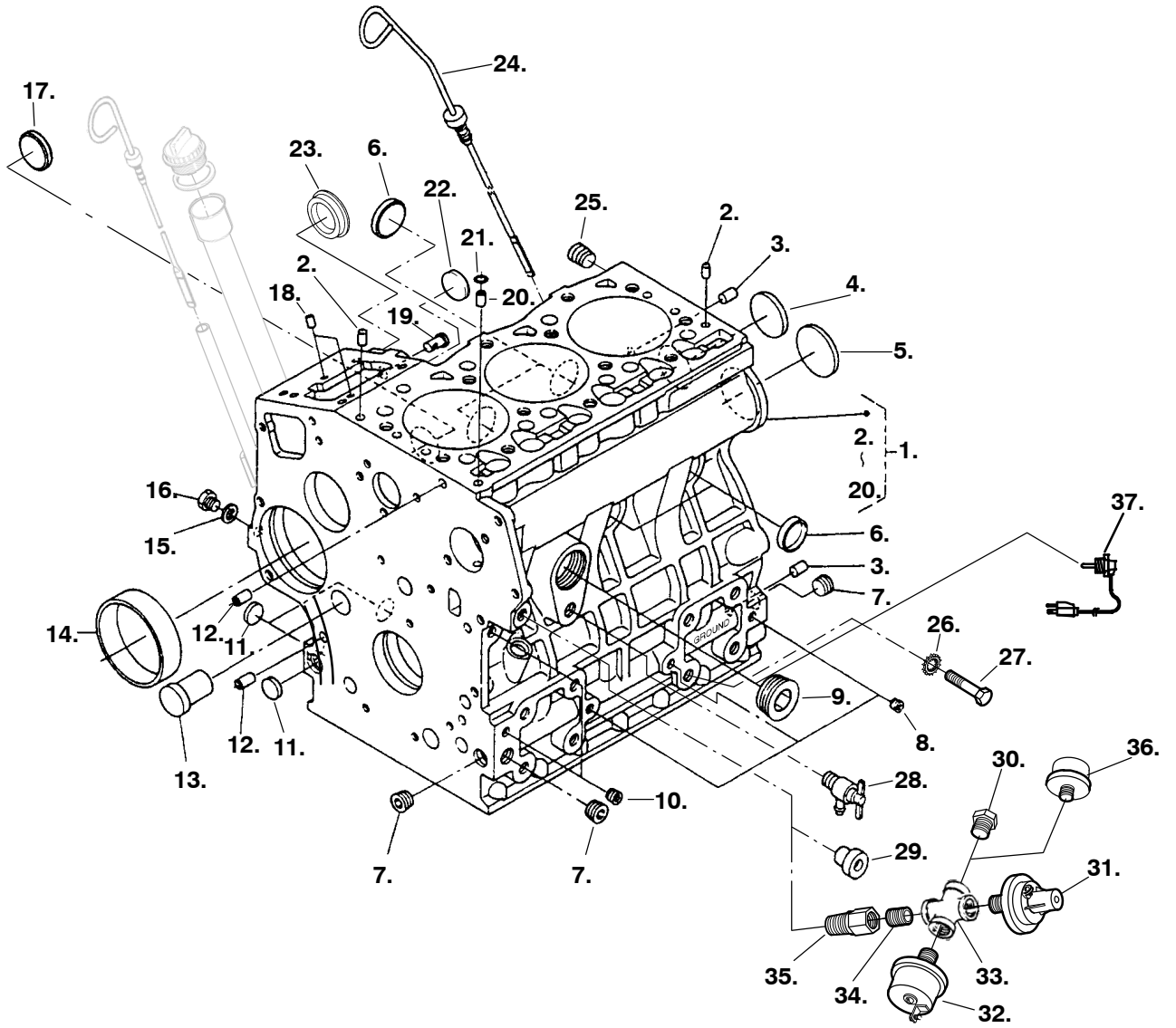
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# Cylinder Block (Spec A-D)

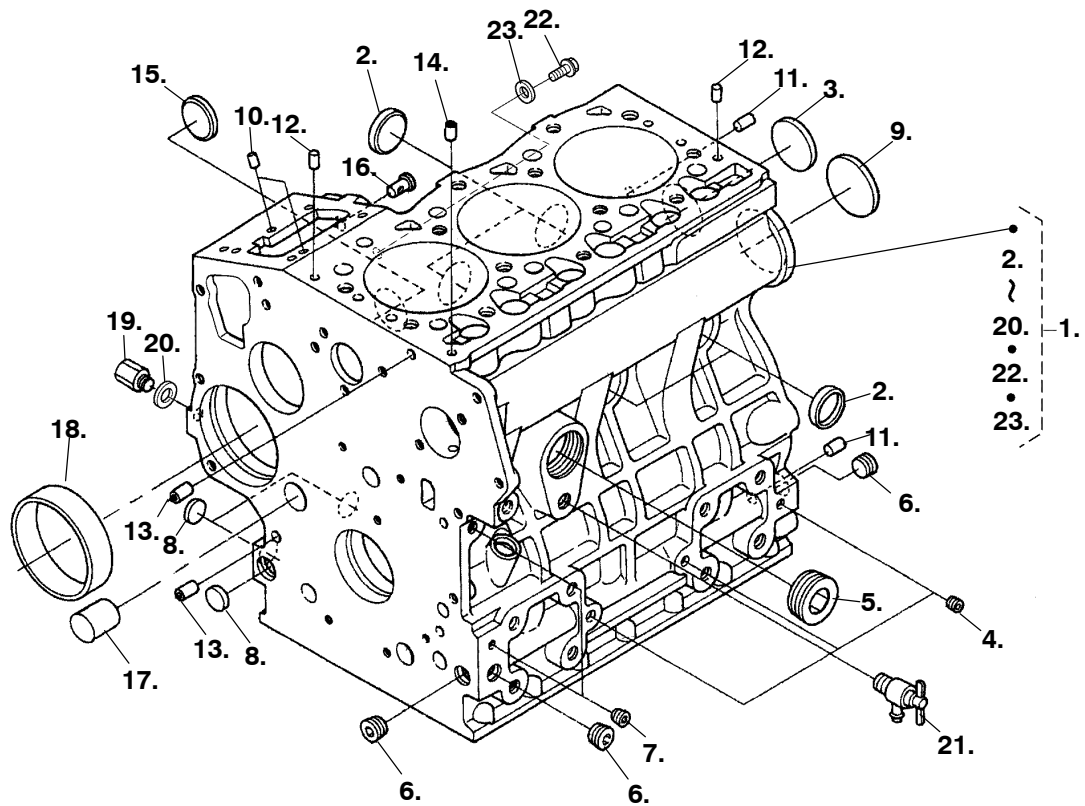


## Cylinder Block (Spec A-D)

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	21.	185-2095	1	O'Ring
			HDKAL	22.	185-6889	1	Plug
	185-6855	1	Spec A	23.	185-7223	1	Plug
	185-7417	1	Begin Spec B	24.			Indicator, Oil Level
2.			*Pin, Straight		185-6866	1	Spec A
	185-5843	2	Spec A				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				

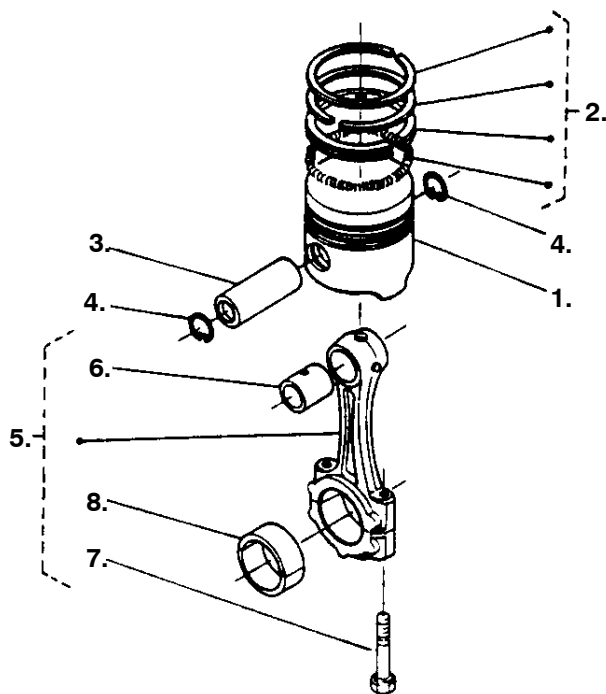
\* - Parts Included in Cylinder Block Assy.

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



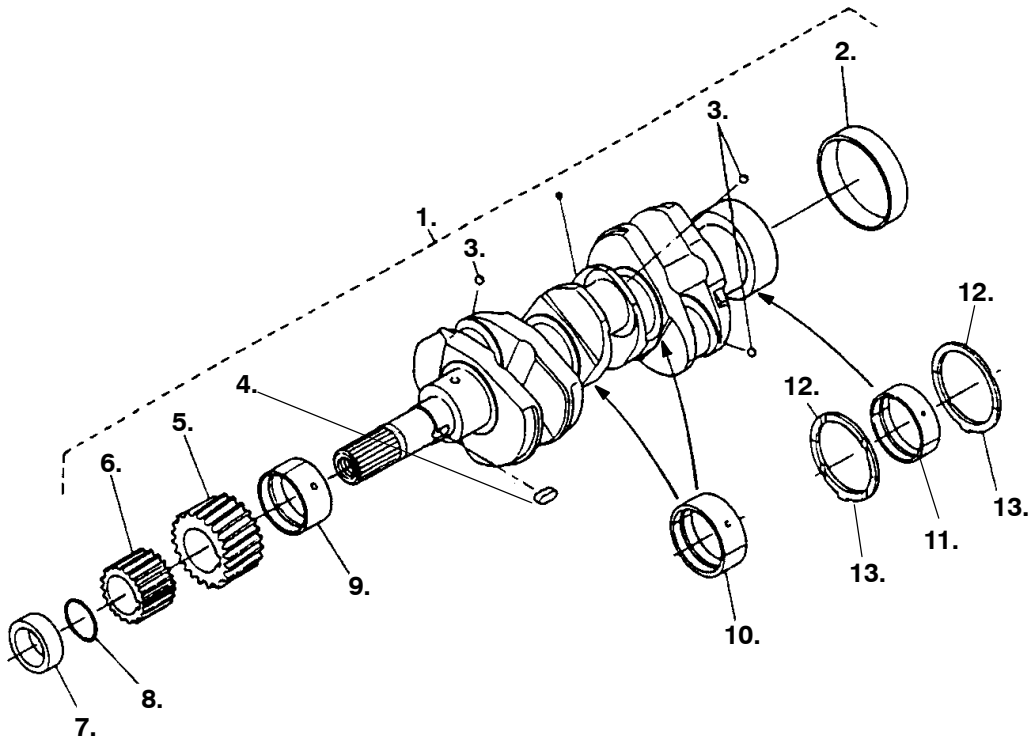
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.			Comp, Crankcase (Includes Parts Marked *)	14.	185-6469	1	*Pin, Pipe
	110-3964	1	HDKAL	15.	185-7212	1	*Plug, Fuel Camshaft
	181-9215	1	HDKAS	16.	185-6857	1	*Pin, Start Spring
2.	185-5484	4	Cap, Seal	17.			*Plug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

## Crankshaft (Spec A-D)

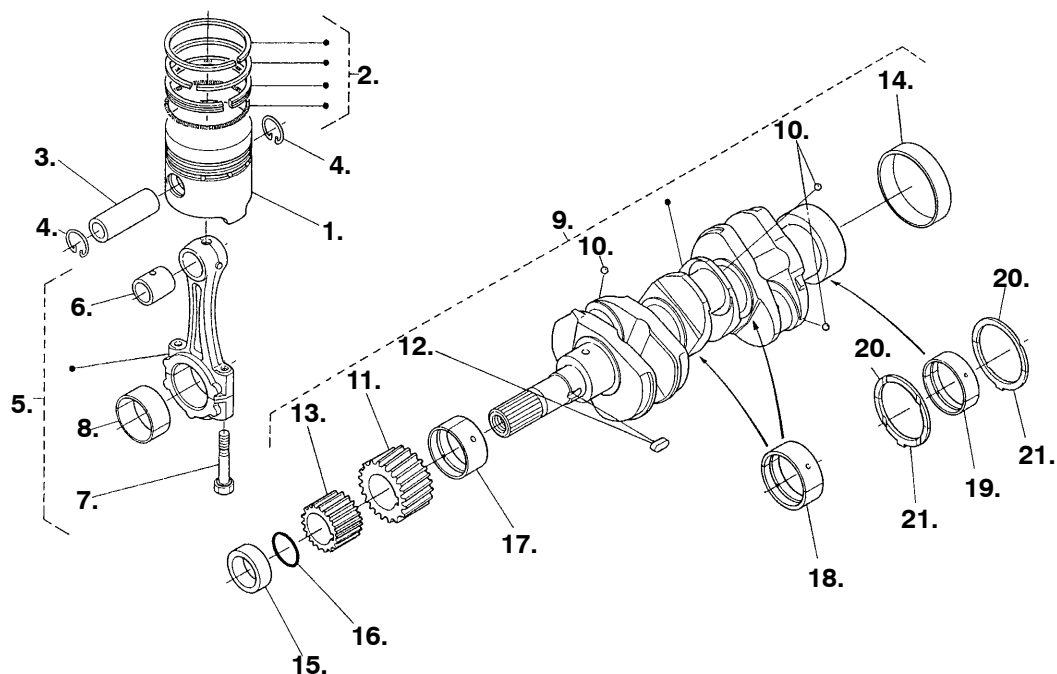


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.			Crankshaft (Includes Parts Marked *)	11.			Bearing, Crankshaft Spec A
	185-6874	1	HDKAQ, HDKAR, HDKAS HDKAL		185-6552	1	Standard
	185-6874	1	Spec A		185-6553	1	.2mm, Undersize
	185-7376	1	Begin Spec B		185-6554	1	.4mm, Undersize
2.	185-6543	1	*Sleeve, Crankshaft			1	Begin Spec B
3.	185-5924	3	*Ball		185-6552	1	HDKAS Standard
4.	185-6541	1	*Key		185-6553	1	.2mm, Undersize
5.	185-6540	1	*Gear, Crankshaft		185-6554	1	.4mm, Undersize
6.	185-6542	1	*Gear, Oil Pump Drive			1	HDKAL
7.	185-6544	1	Collar, Crankshaft		185-7430	1	Standard
8.		1	O'Ring		185-6553	1	.2mm, Undersize
	185-6545	1	Spec A		185-6554	1	.4mm, Undersize
	185-6545	1	Begin Spec B	12.			Washer, Thrust
	185-6545	1	HDKAS		185-5938	2	Standard
	185-7429	1	HDKAL		185-5939	2	.2mm, Oversize
9.			Bearing, Crankshaft		185-6556	2	.4mm, Oversize
	185-6546	1	Standard	13.			Washer, Thrust
	185-6547	1	.2mm, Undersize		185-5941	2	Standard
	185-6548	1	.4mm, Undersize		185-5942	2	.2mm, Oversize
10.			Bearing, Crankshaft		185-5943	2	.4mm, Oversize
	185-6549	2	Standard				
	185-6550	2	.2mm, Undersize				
	185-6551	2	.4mm, Undersize				

\* - Parts Included in Crankshaft.

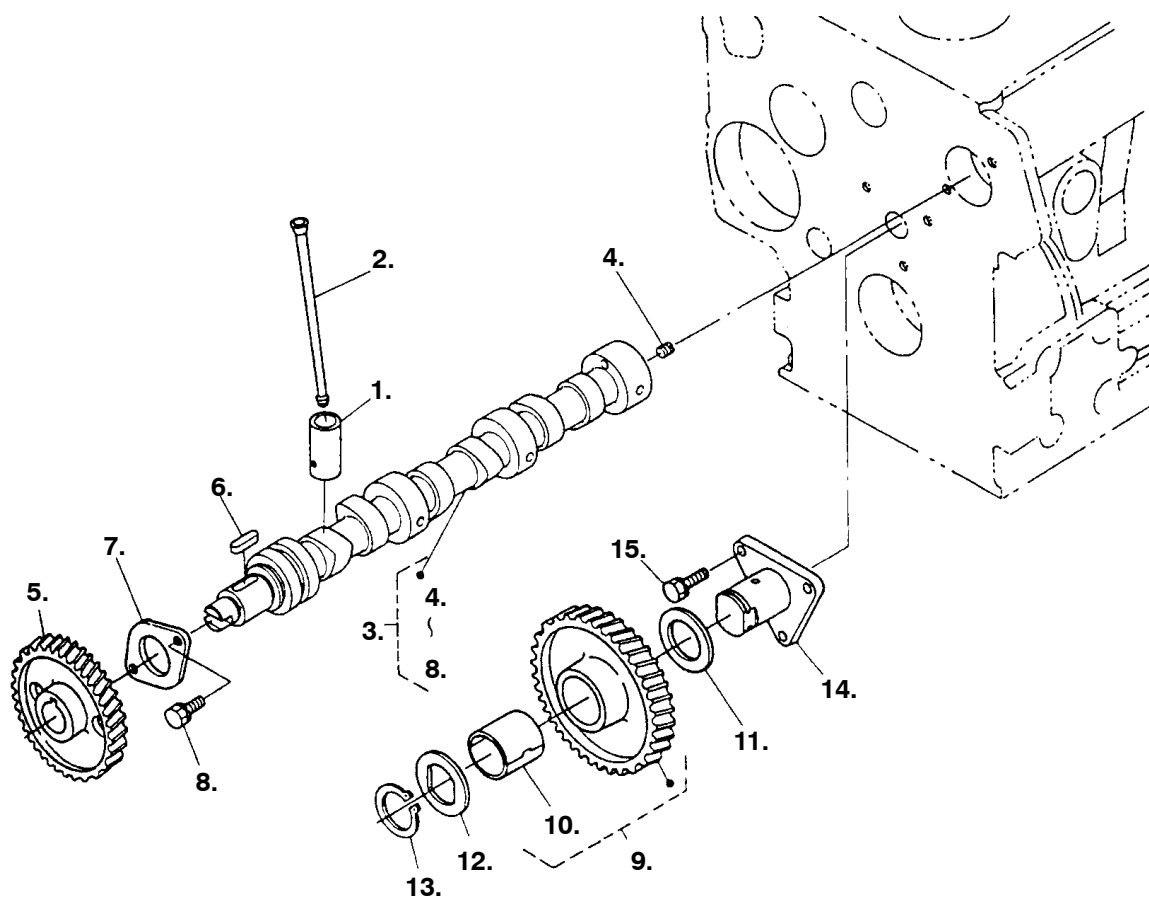


## Piston HDKAL and HDKAS (Begin Spec E)



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

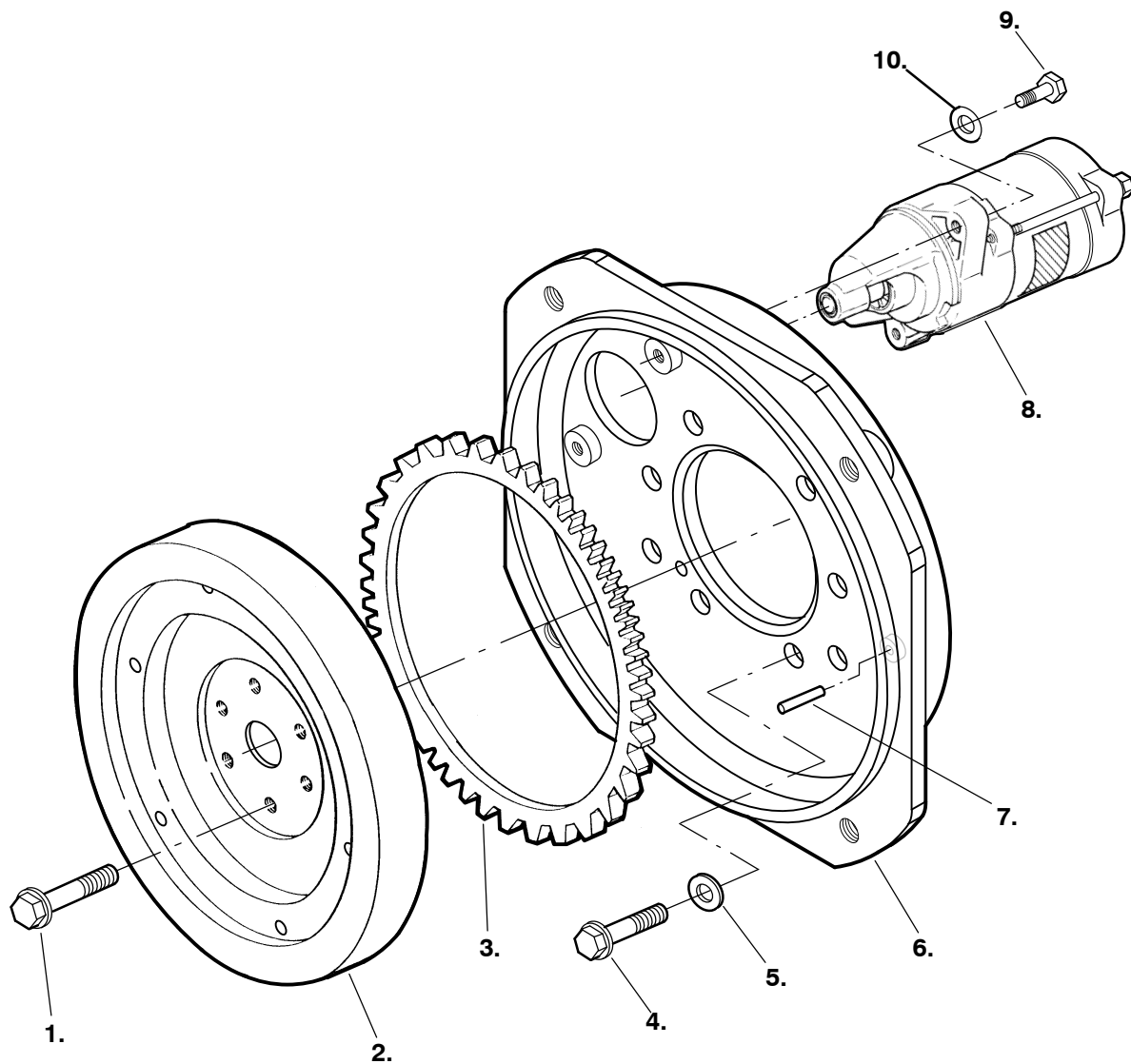
## Camshaft



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				

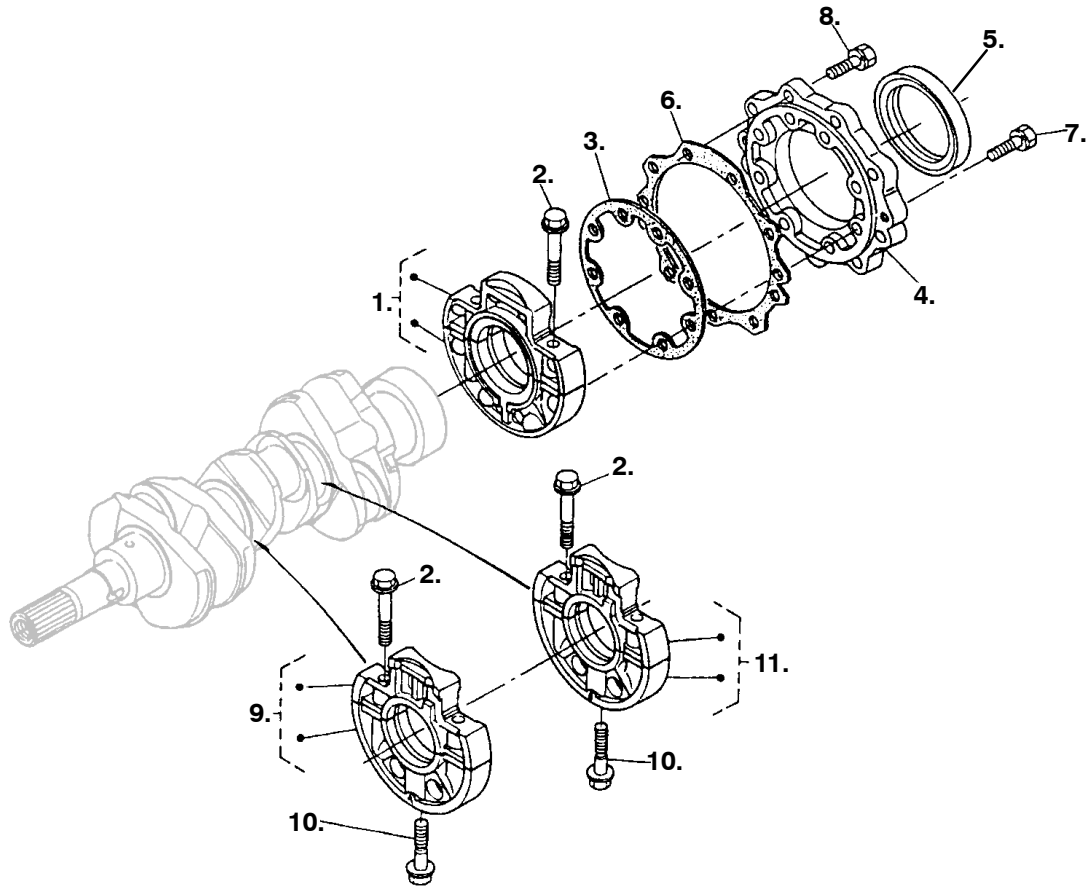
\* - Parts Included in Camshaft Assy.

## Flywheel



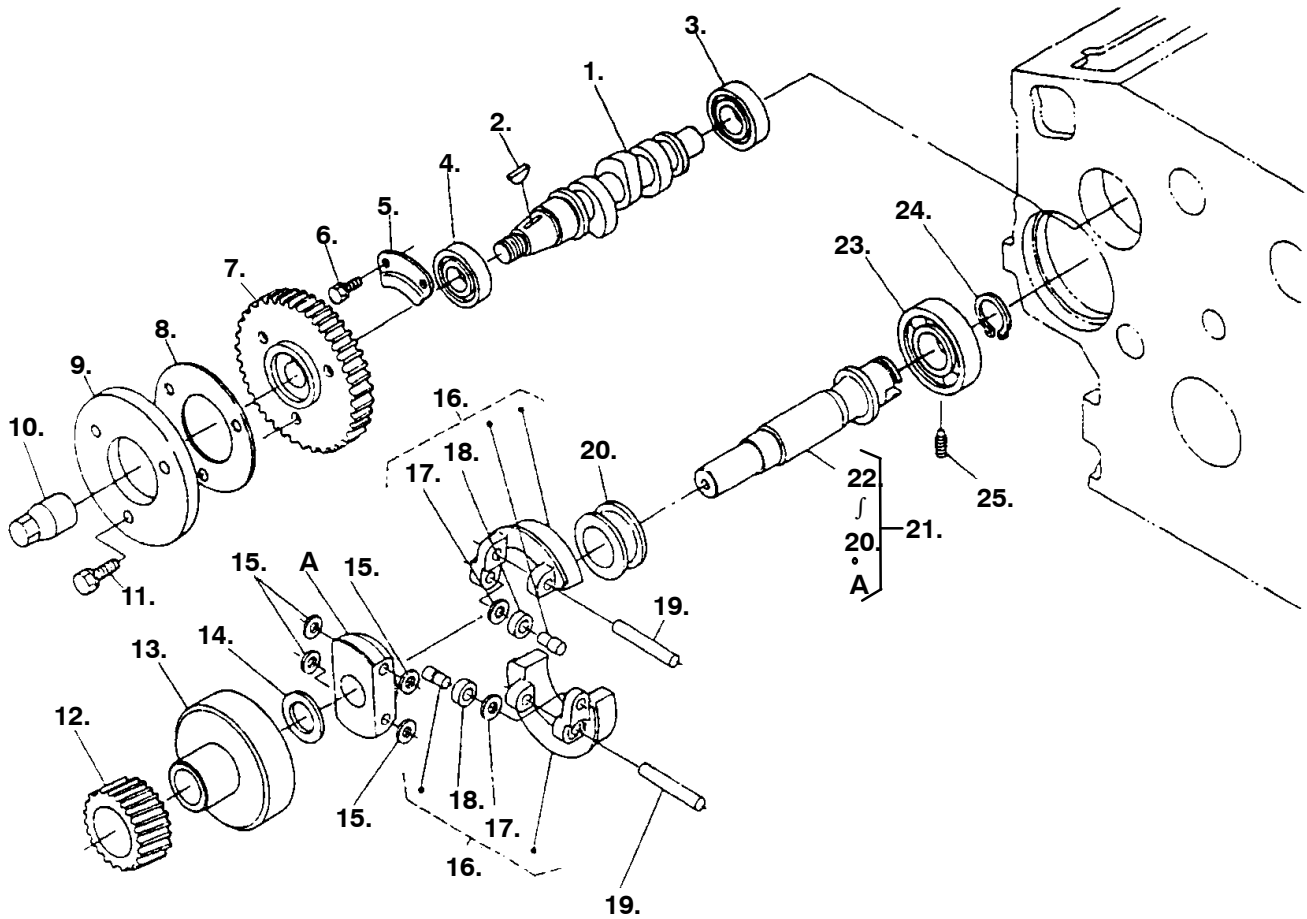
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-5477	6	Bolt, Flywheel (M10 x 1.25 x 30mm)	6.	231-0353-SO	1	Adapter Assy, Generator (Includes Dowel Pin)
2.	104-1916	1	Flywheel Assy (Includes Ring Gear)	7.	516-0247	1	Pin, Dowel
3.	104-1861	1	Gear, Ring	8.	191-2229	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)

## 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				
2.	185-6507	6	Bolt, Bearing Case		185-6512	1	HDKAQ, HDKAR, HDKAS 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 HDKAL
6.	185-6511	1	Gasket, Bearing Case Cover		185-6872	1	Spec A
7.	185-2391	8	Bolt		185-7306	1	Begin Spec B
8.	185-2390	9	Bolt				
9.			Case Assy, Main Bearing				

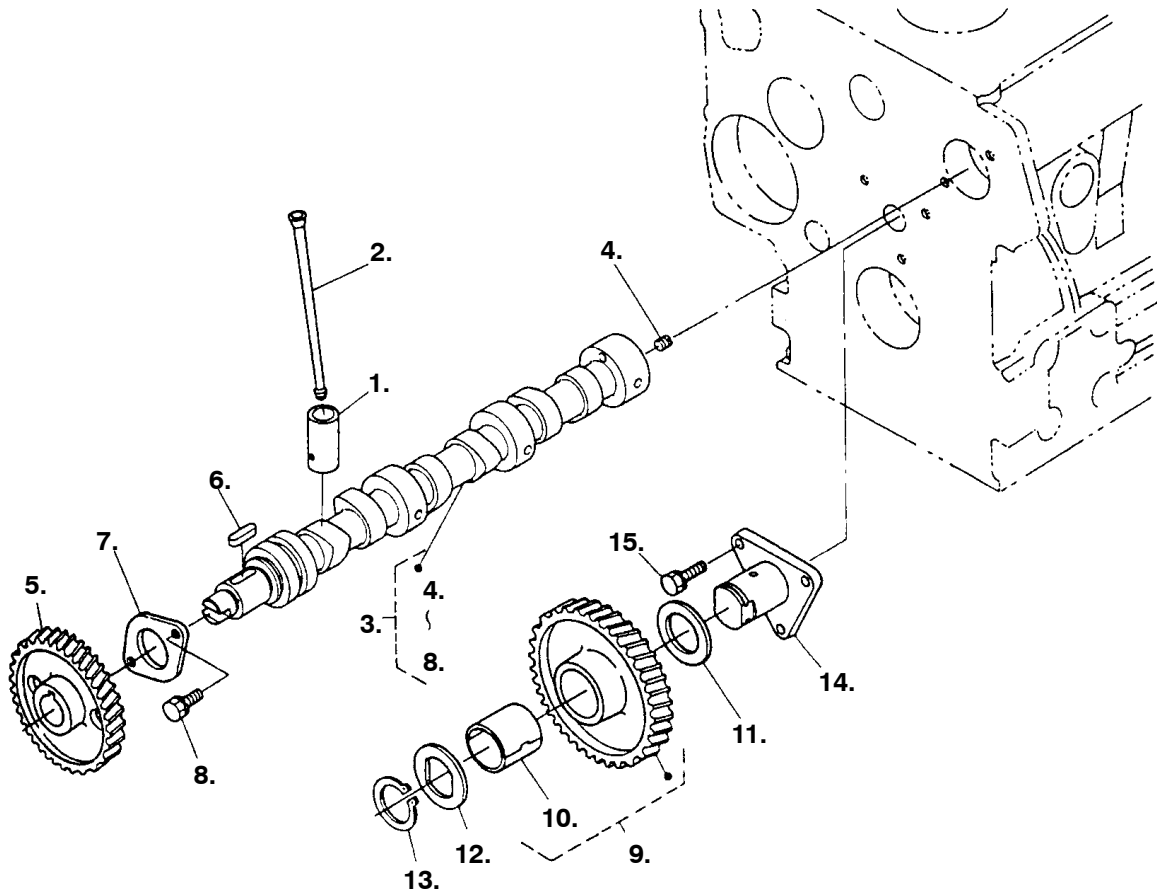
## Fuel Camshaft (Spec A-D)



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.

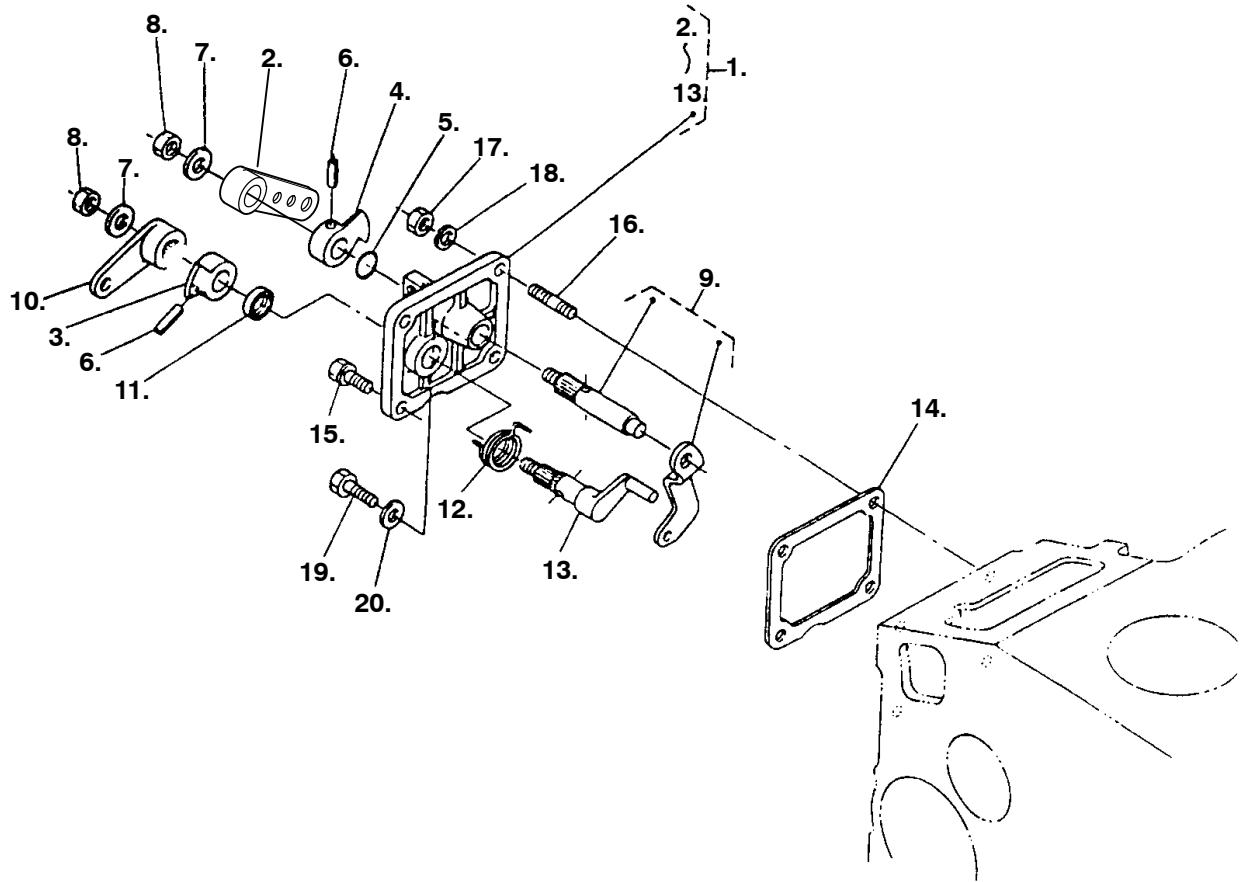
## Camshaft HDKAL and HDKAS (Begin Spec E)



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.

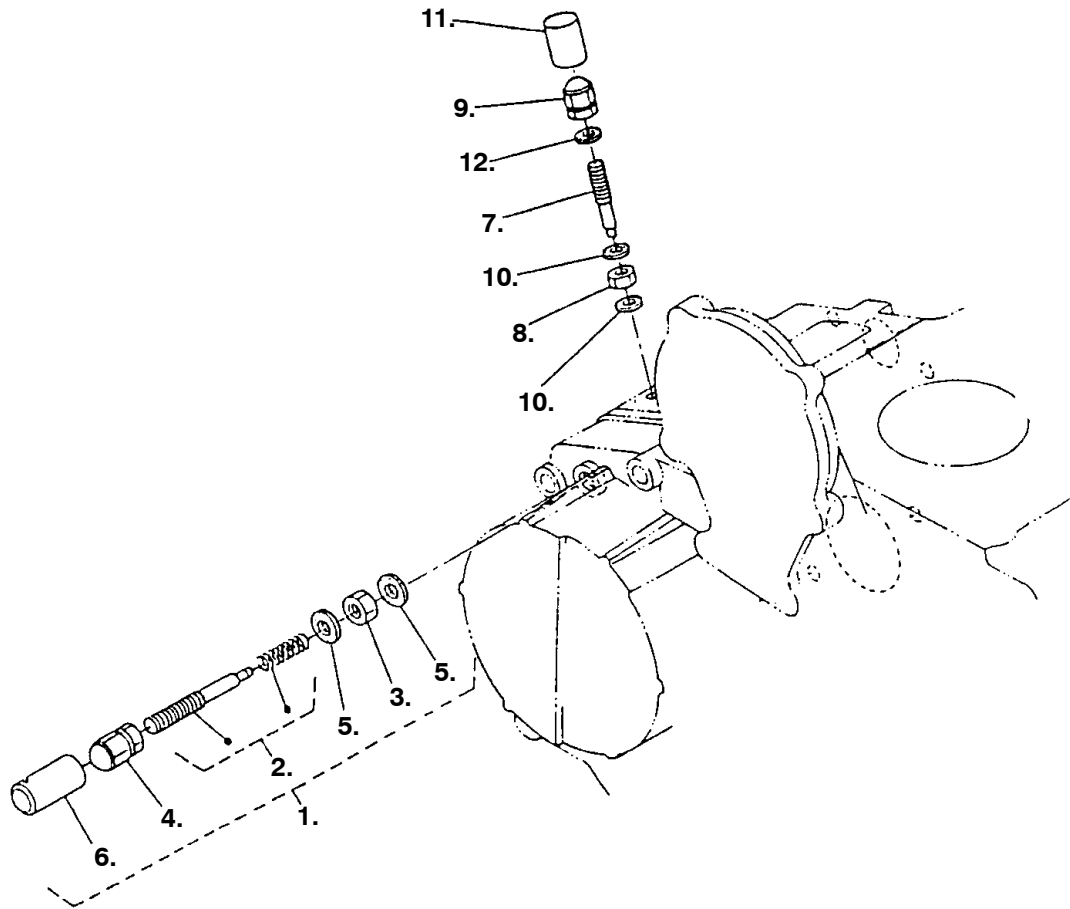
## Speed Control Plate



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)

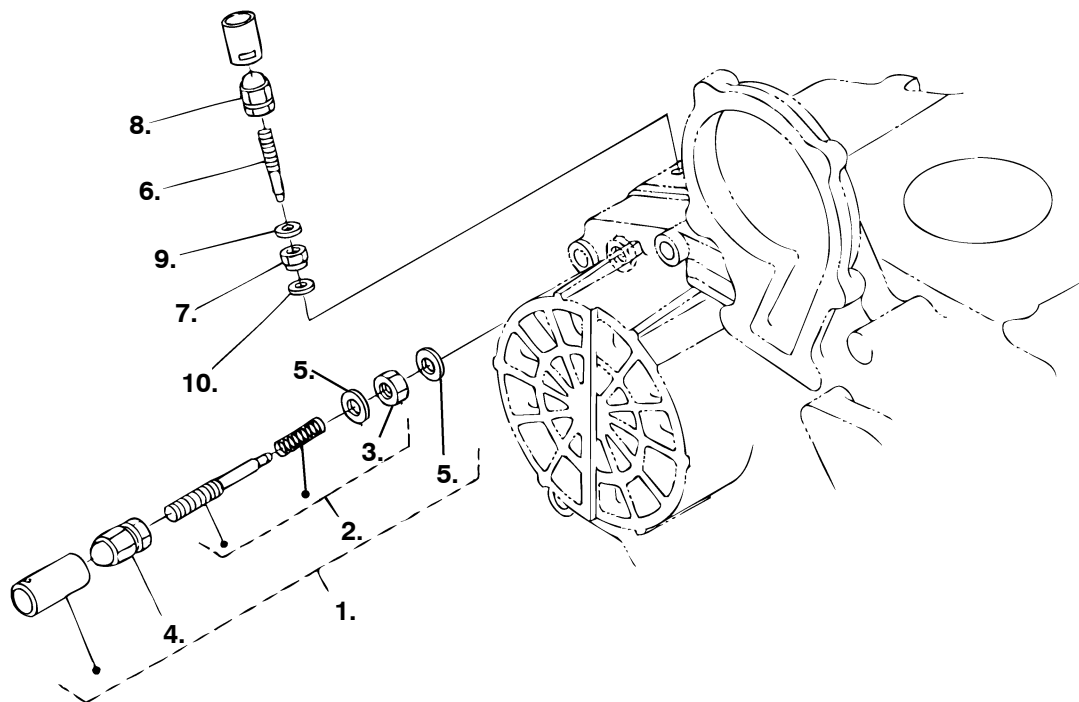


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6574	1	Lever Assy, Governor (Includes Parts Marked *)	8.	185-6931	1	Nut
2.	185-6575	1	*Bolt Assy, Adjusting	9.	185-5685	1	Nut, Cap
3.	185-5684	1	*Nut	10.	185-2284	2	Gasket
4.	185-5685	1	*Nut, Cap	11.	185-6932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



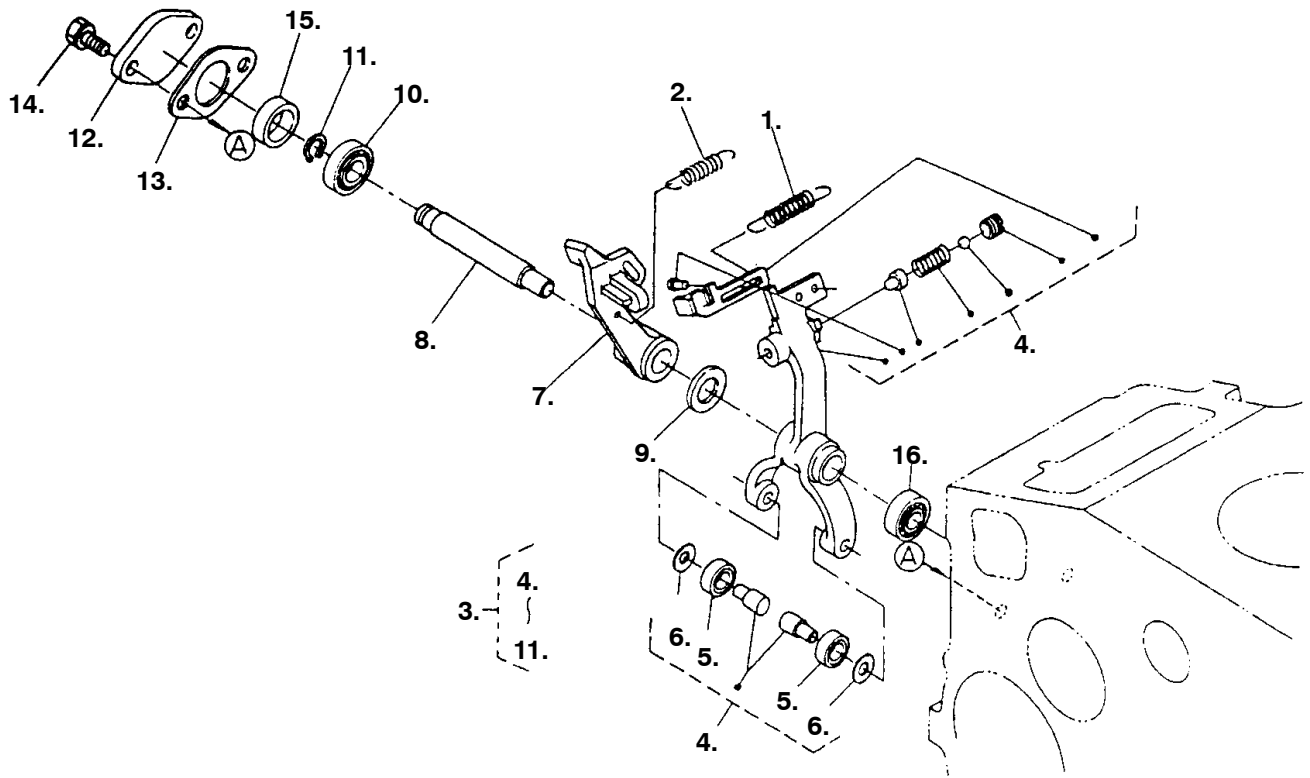
## Governor Lever HDKAL and HDKAS (Begin Spec E)



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.

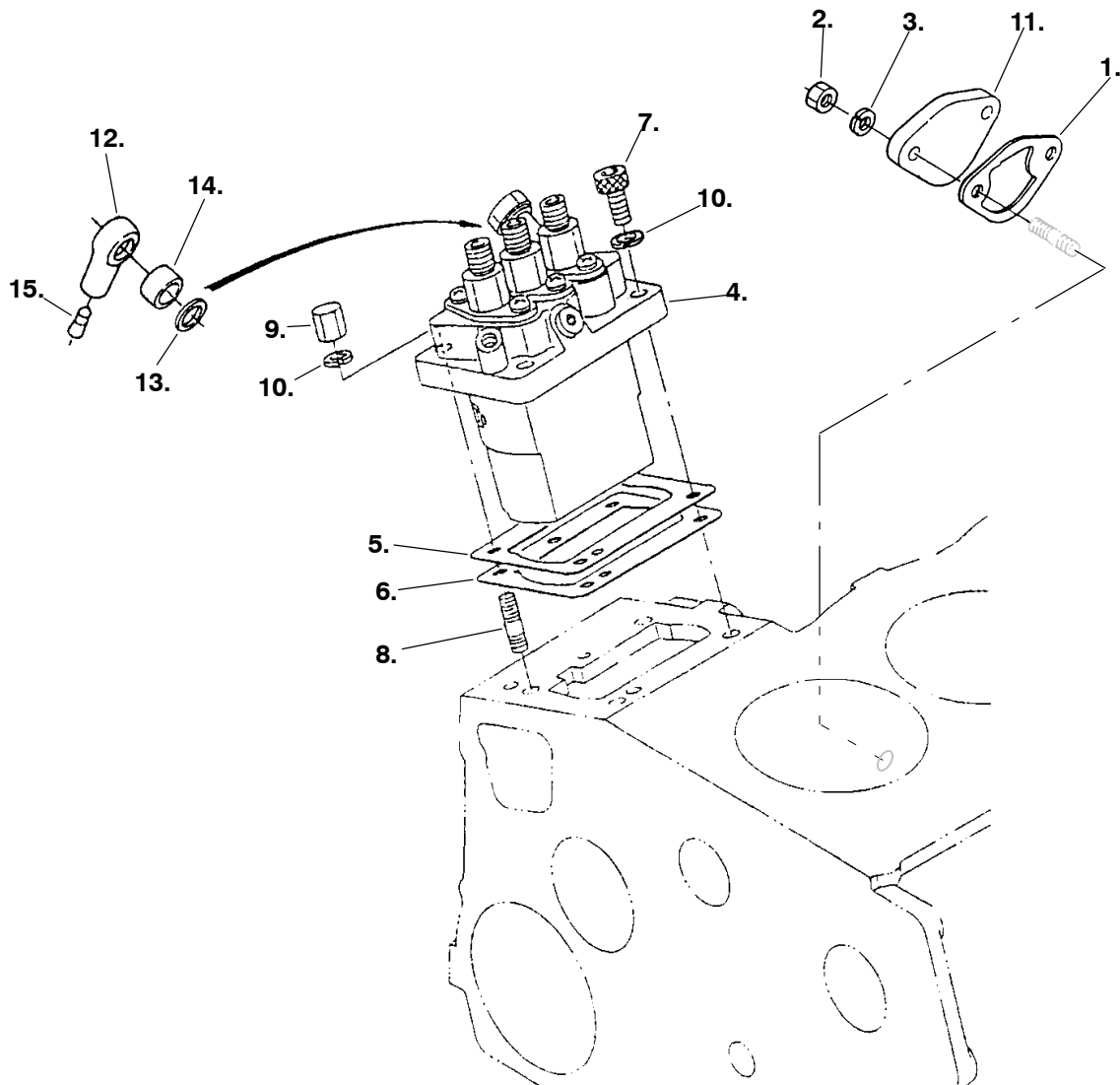
# Governor



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				

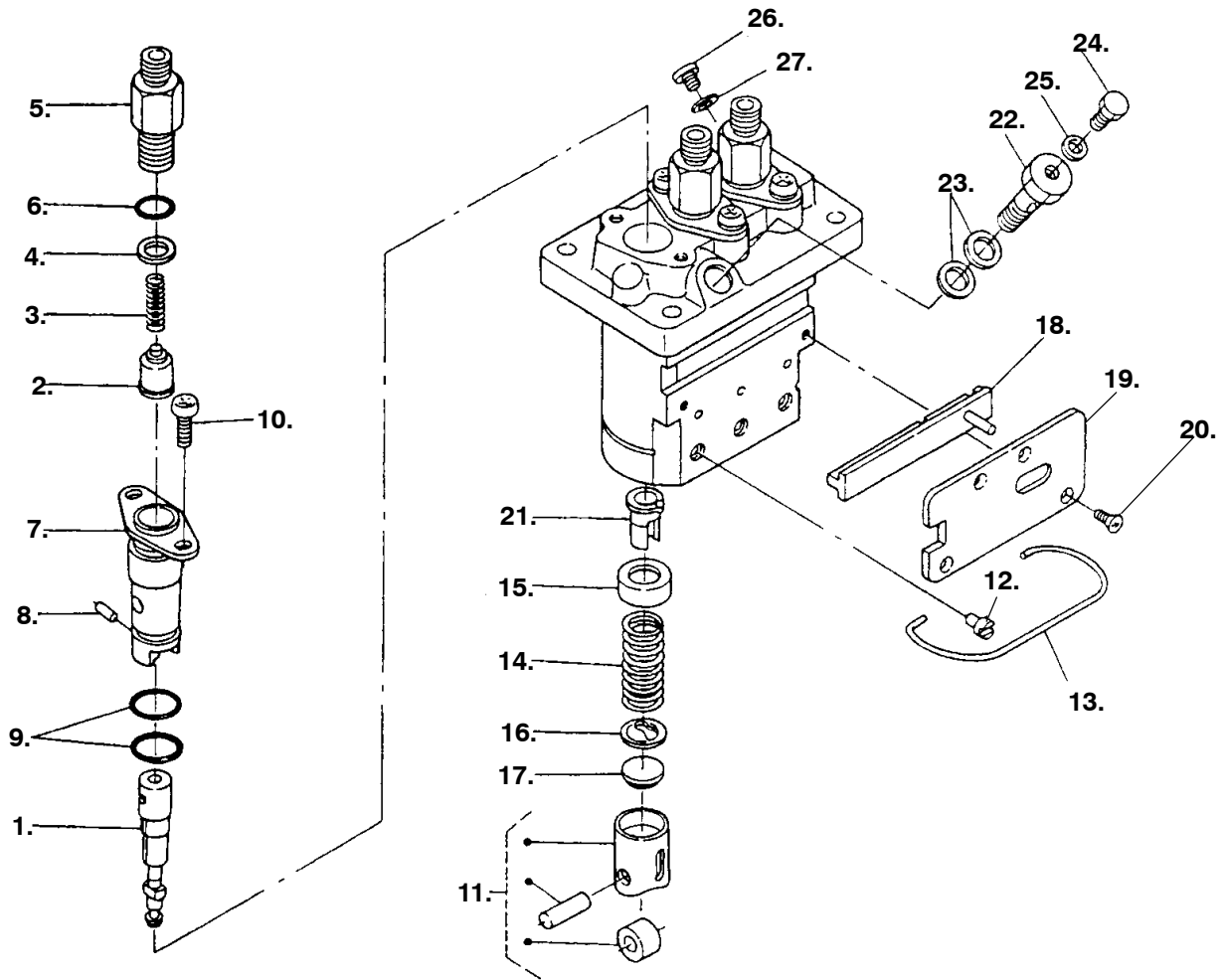
\* - Parts Included in Fork Lever Assy.

## Injection Pump (Spec A-D)



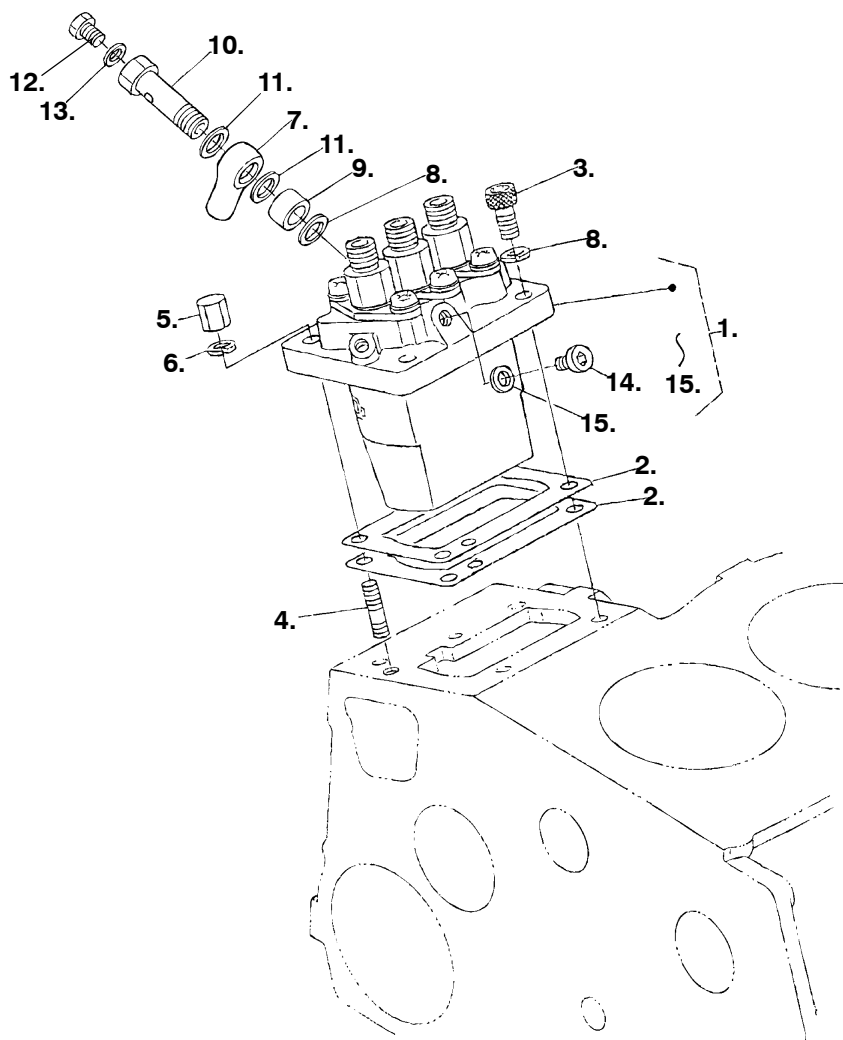
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6580	1	Gasket, Fuel Pump	7.	185-5623	2	Bolt, Socket Head Cap
2.	185-4255	2	Nut	8.	185-5624	2	Stud
3.	185-2380	2	Washer, Spring	9.	185-5625	2	Nut, Cap
4.	185-6882	1	Pump Assy, Injection (See Separate Page for 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)



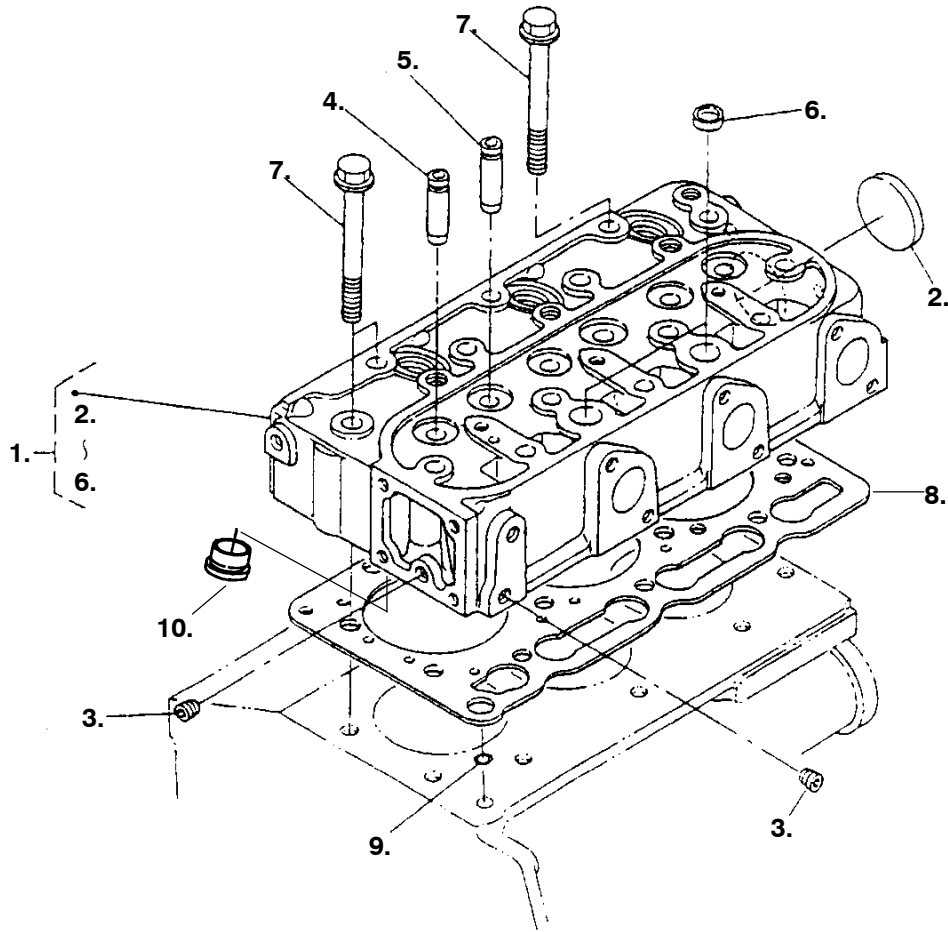
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-6882	1	Pump Assy, Injection	14.	185-5652	3	Spring, Plunger
1.	185-6884	3	Plunger, Pump	15.	185-5653	3	Seat, Spring Upper
2.	185-5639	3	Valve, Delivery	16.	185-5654	3	Seat, Spring Lower
3.	185-5640	3	Spring, Delivery 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.			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

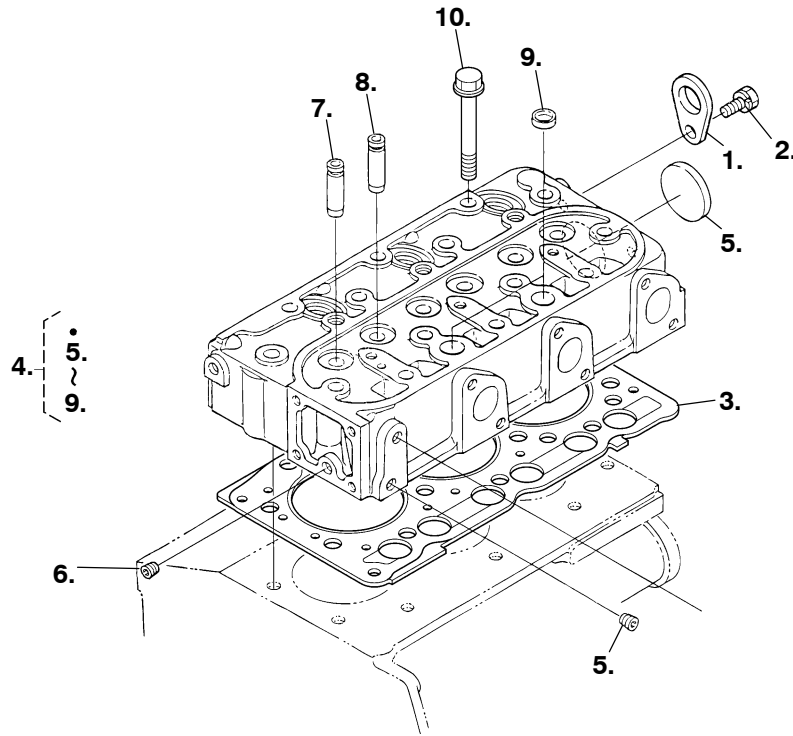
## Cylinder Head (Spec A-D)



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

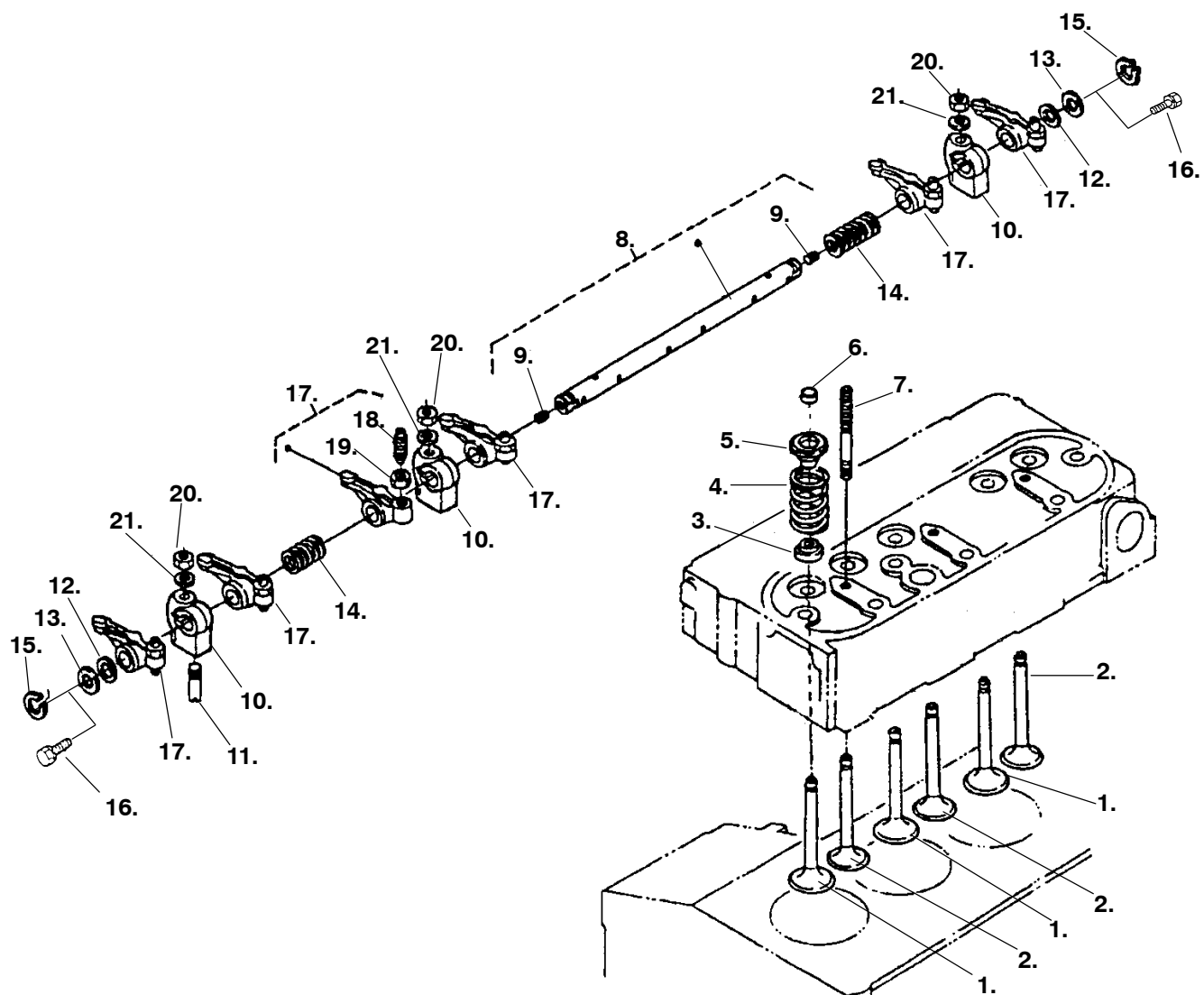
\* - Parts Included in Cylinder Head Assy.

## 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.			Hook, Engine	5.	185-2411	1	Cap, Seal
	185-2114	2	HDKAL	6.			Plug
	185-2414	2	HDKAS		185-2188	2	HDKAL
2.			Bolt		185-2412	2	HDKAS
	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				

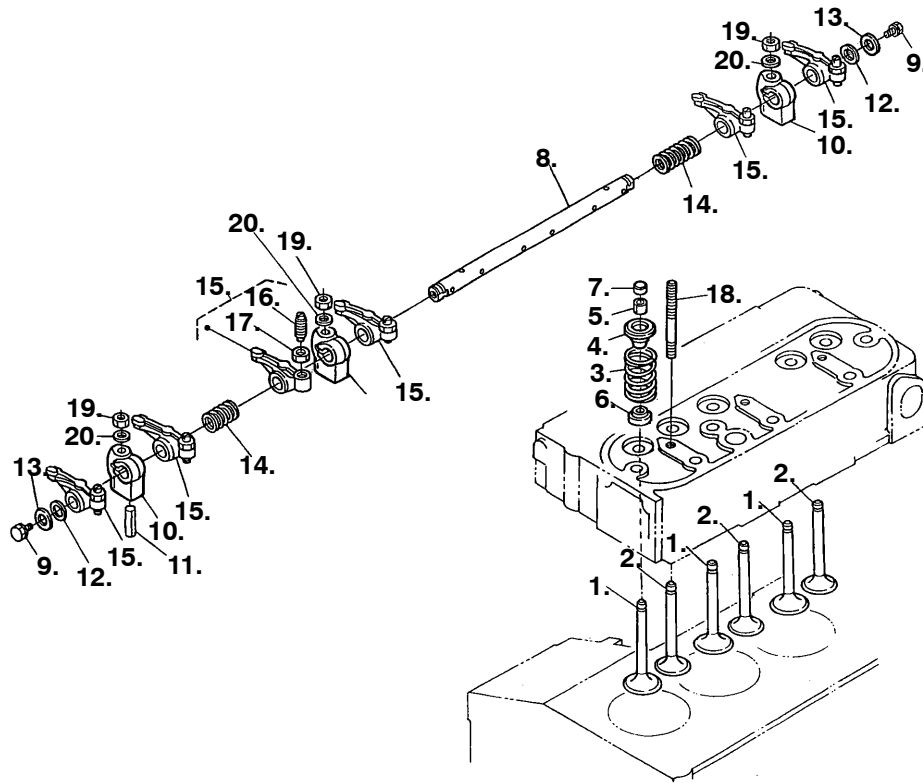
## Valve and Rocker Arm (Spec A-D)



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

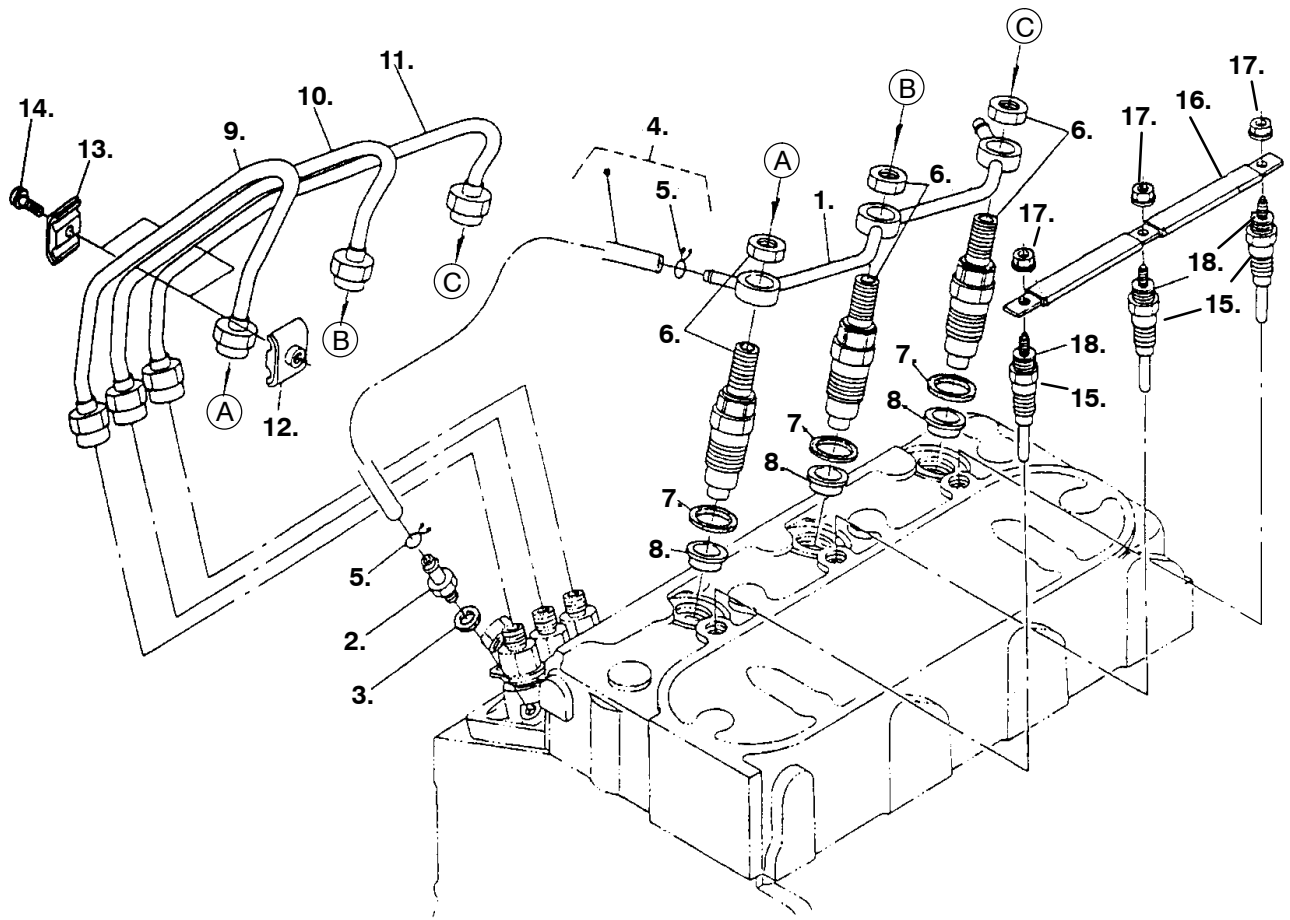


## Valve and Rocker Arm HDKAL and HDKAS (Begin Spec E)



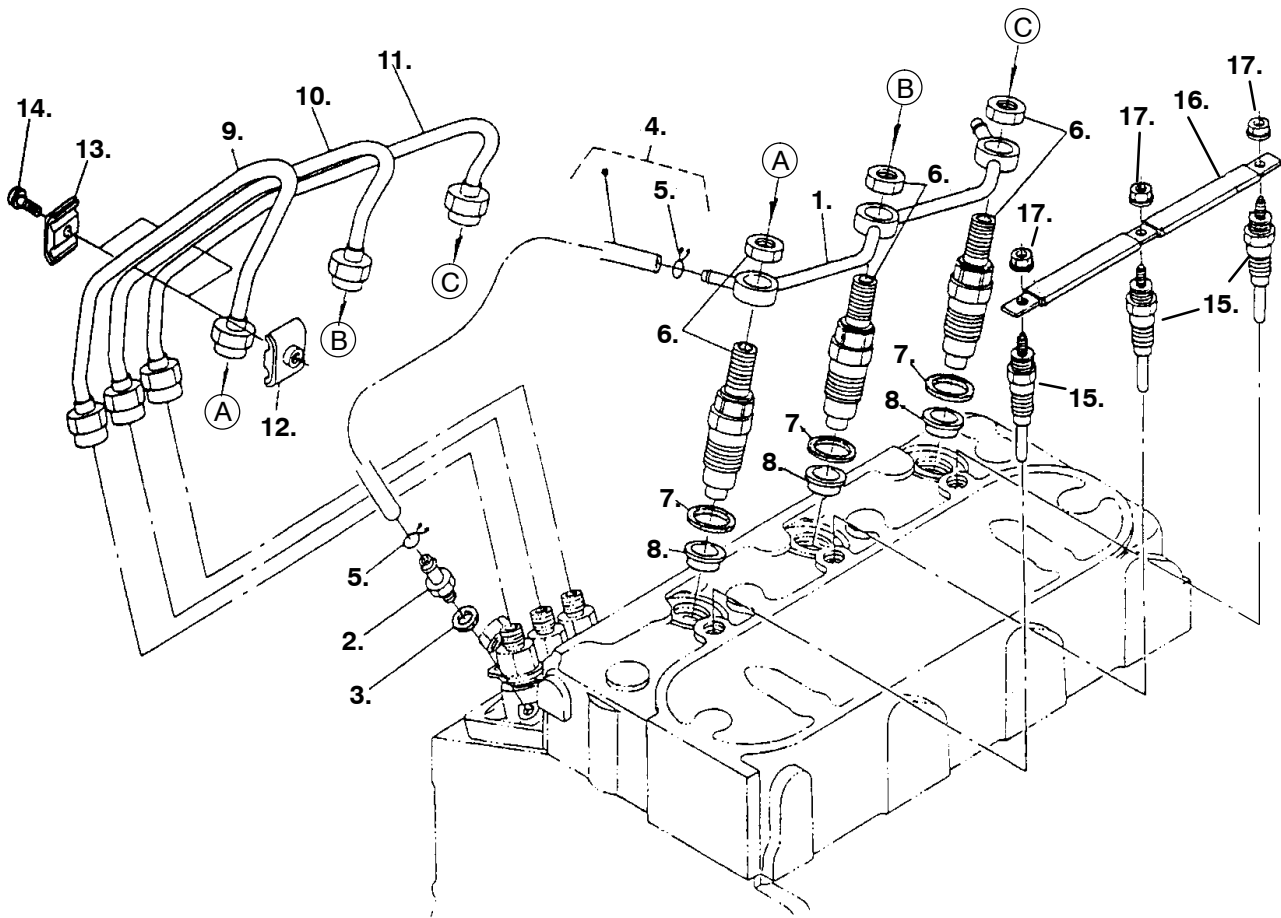
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6681	3	Valve, Inlet	10.	185-6687	3	Bracket, Rocker Arm
2.	185-6682	3	Valve, Exhaust	11.	185-7741	1	Pin, Spring
3.	185-6683	6	Spring, Valve	12.	185-6689	2	Washer, Arm Shaft
4.	110-3959	6	Retainer, Valve Spring	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)



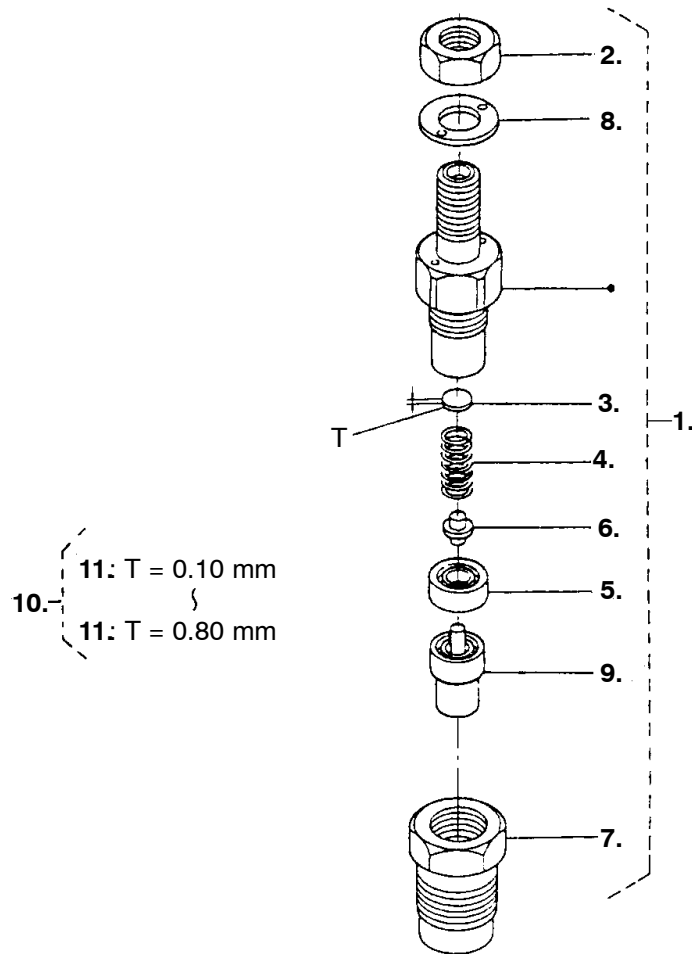
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6896	1	Pipe Assy, Overflow	10.	185-6751	1	Pipe, Injection
2.	185-5609	1	Screw, Air Bleeder	11.	185-6621	1	Pipe, Injection
3.	185-2284	1	Gasket	12.	185-5612	2	Clamp, Pipe
4.	185-5607	1	Pipe Assy, Overflow (Includes 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

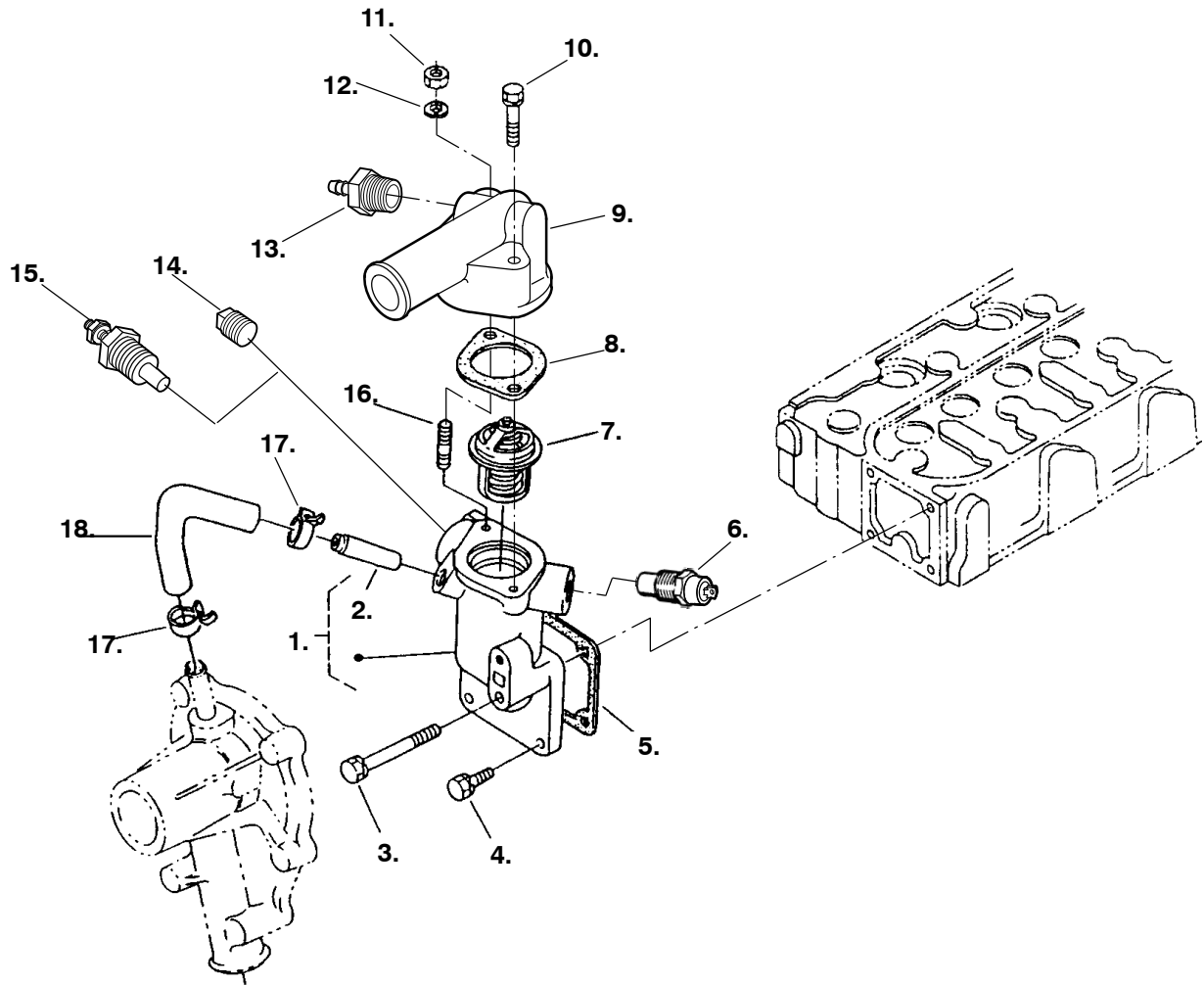
## Nozzle Holder Components



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

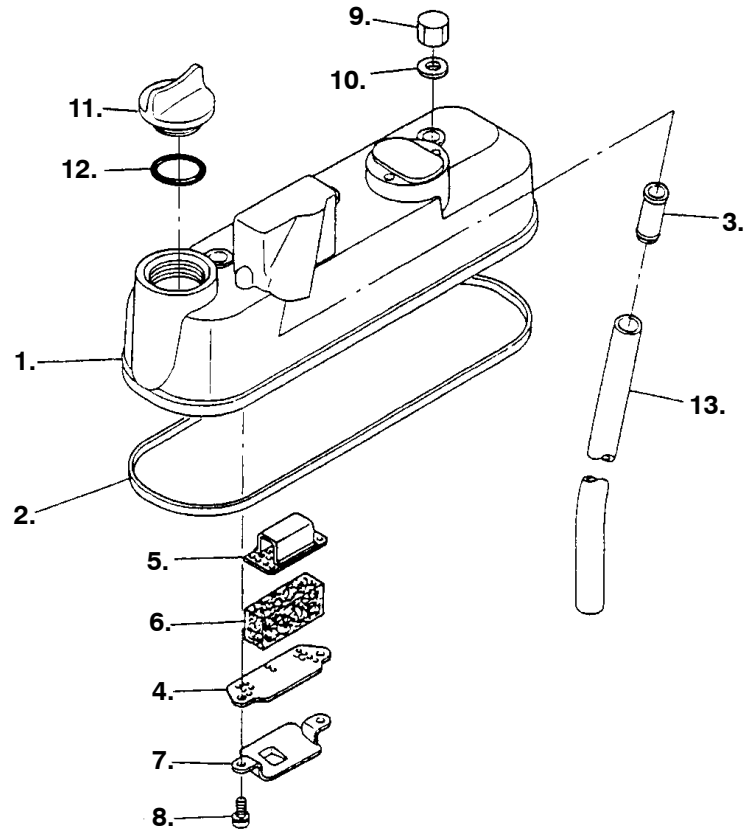
\* - Parts Included in Nozzle Holder Assy.

## Water Flange



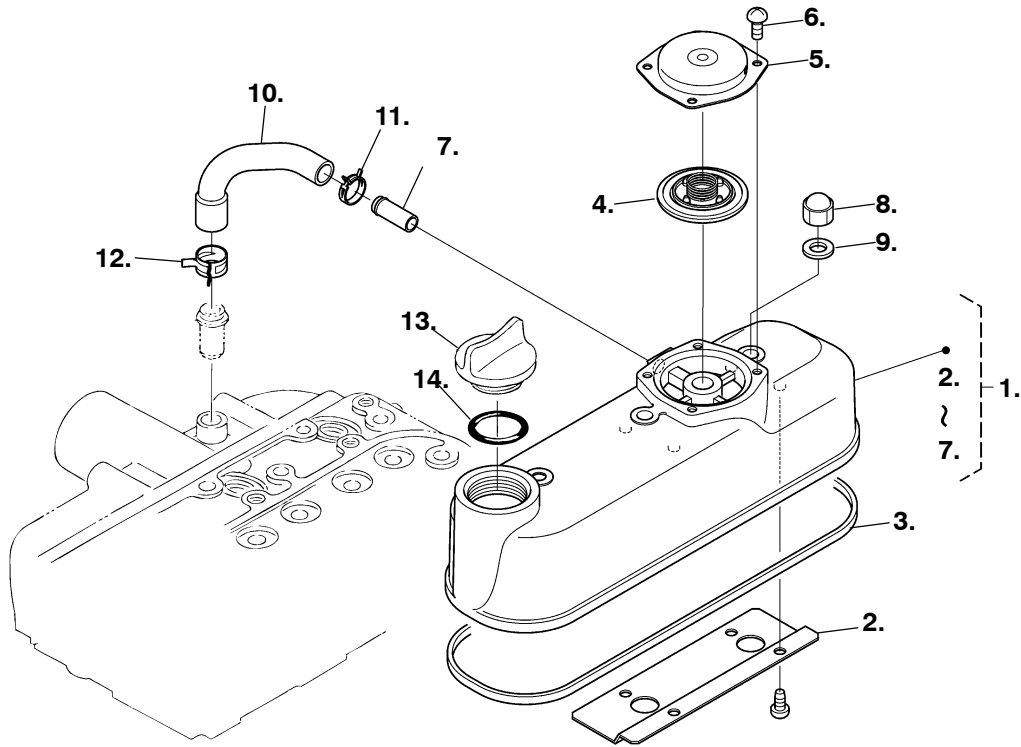
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6663	1	Flange, Water (Includes Water Return Pipe)	12.	185-2380	1	Washer, Spring
2.	185-6445	1	Pipe, Water Return	13.	502-0395	1	Connector, Hose 1/8 NPT (Side Mounted)
3.	185-6665	1	Bolt		502-1284	1	3/8 NPT (Rear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



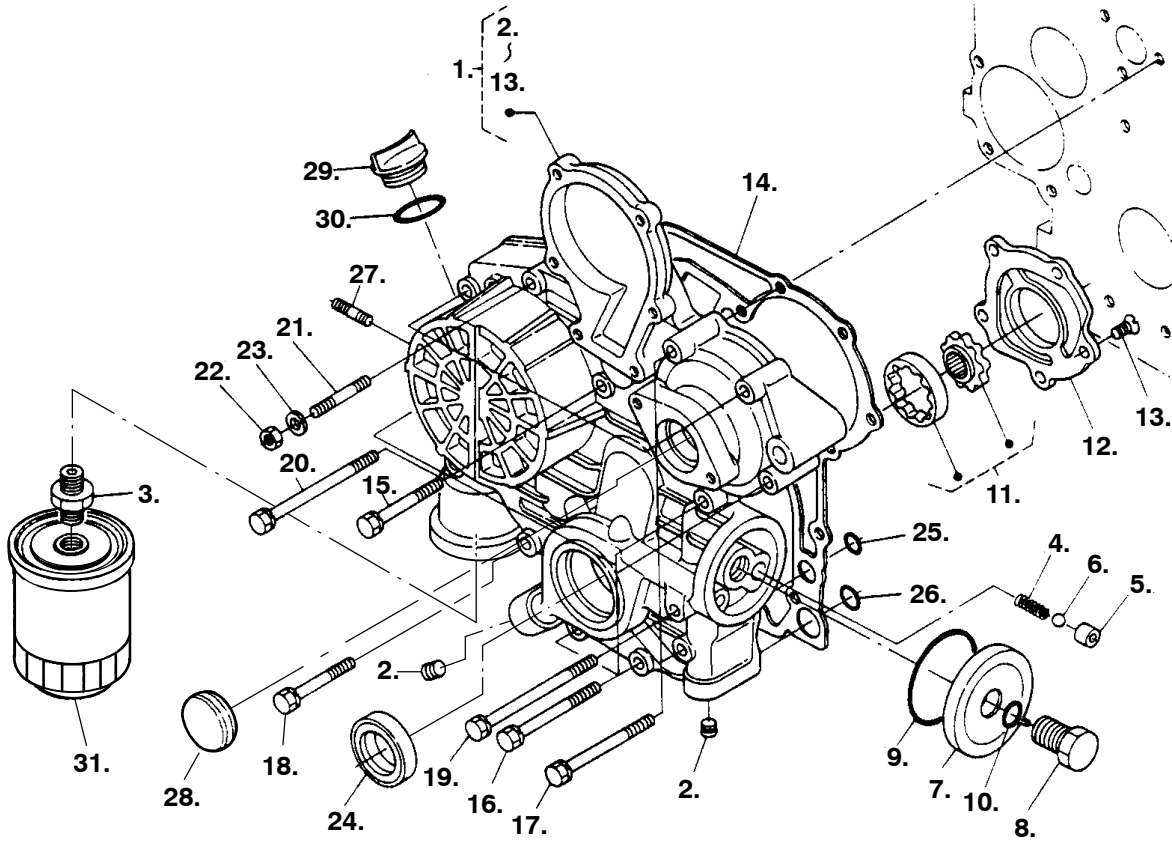
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6867	1	Cover, Cylinder Head	8.	185-2384	2	Screw, Washer Head
2.	185-6868	1	Gasket, Cylinder Head Cover	9.	185-6394	3	Nut, Cap
3.	185-6499	1	Joint, Breather Pipe	10.	185-2291	3	Gasket
4.	185-6500	1	Plate, Lower 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.	0181-9220	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

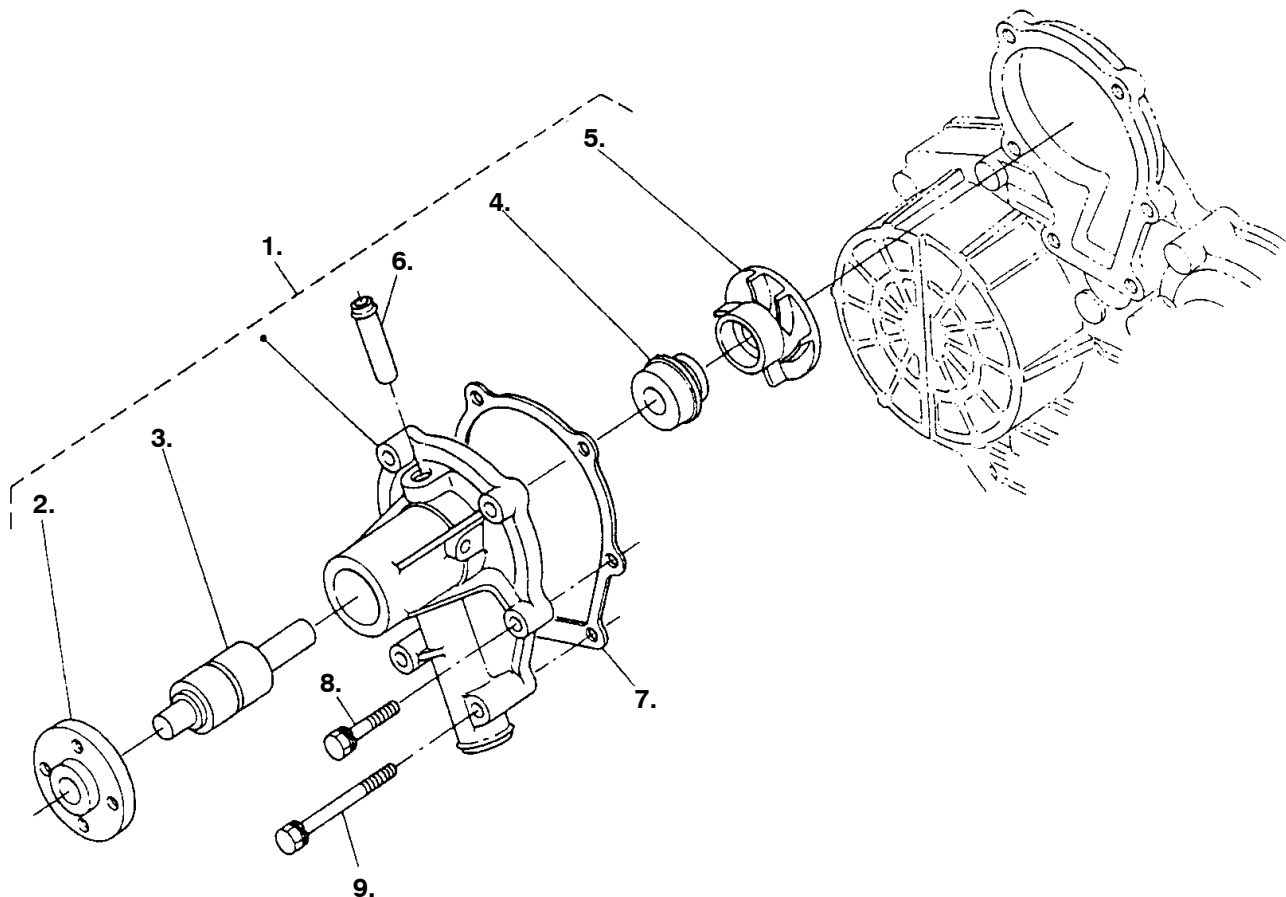


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.			Gearcase Assy (Includes Parts Marked *)	20.	185-6492	1	Bolt
	185-6480	1	Spec A-D	21.	185-7423	1	Stud
	103-0834	1	Begin Spec E		185-7425	1	Begin Spec E
2.	185-6481	4	*Plug	22.	185-4255	1	Nut
3.	185-2124	1	*Fitting,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

\* - Parts Included in Gearcase Assy.



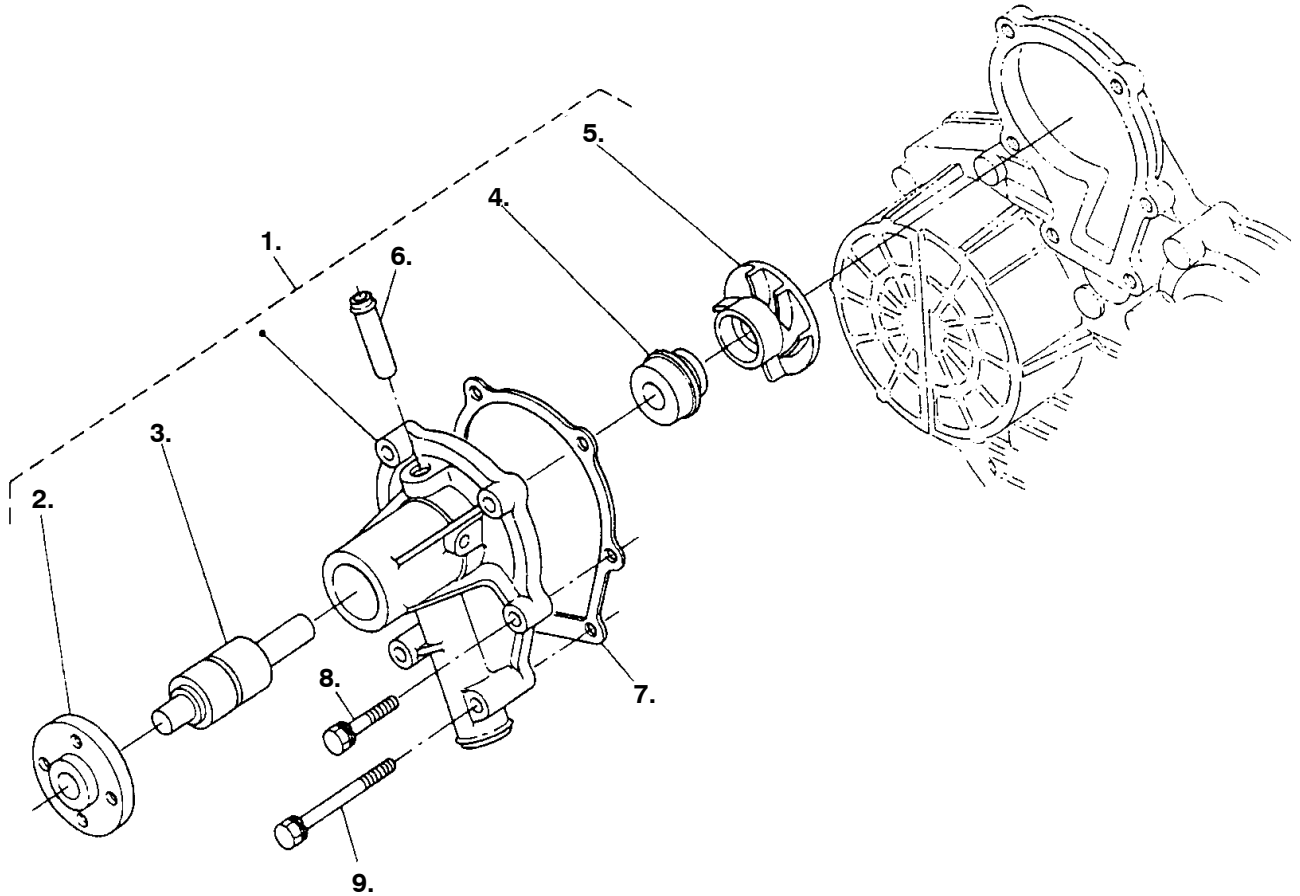
## Water Pump Components (Spec A-D)



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.

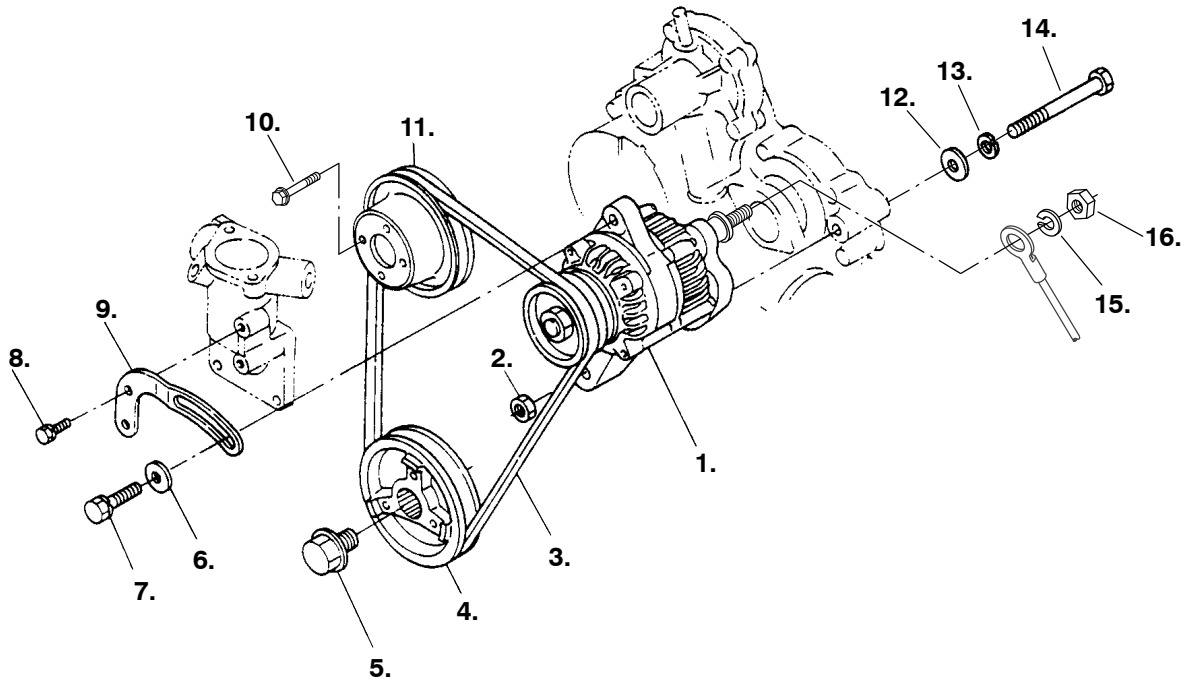
## Water Pump Components HDKAL and HDKAS (Begin Spec E)



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				

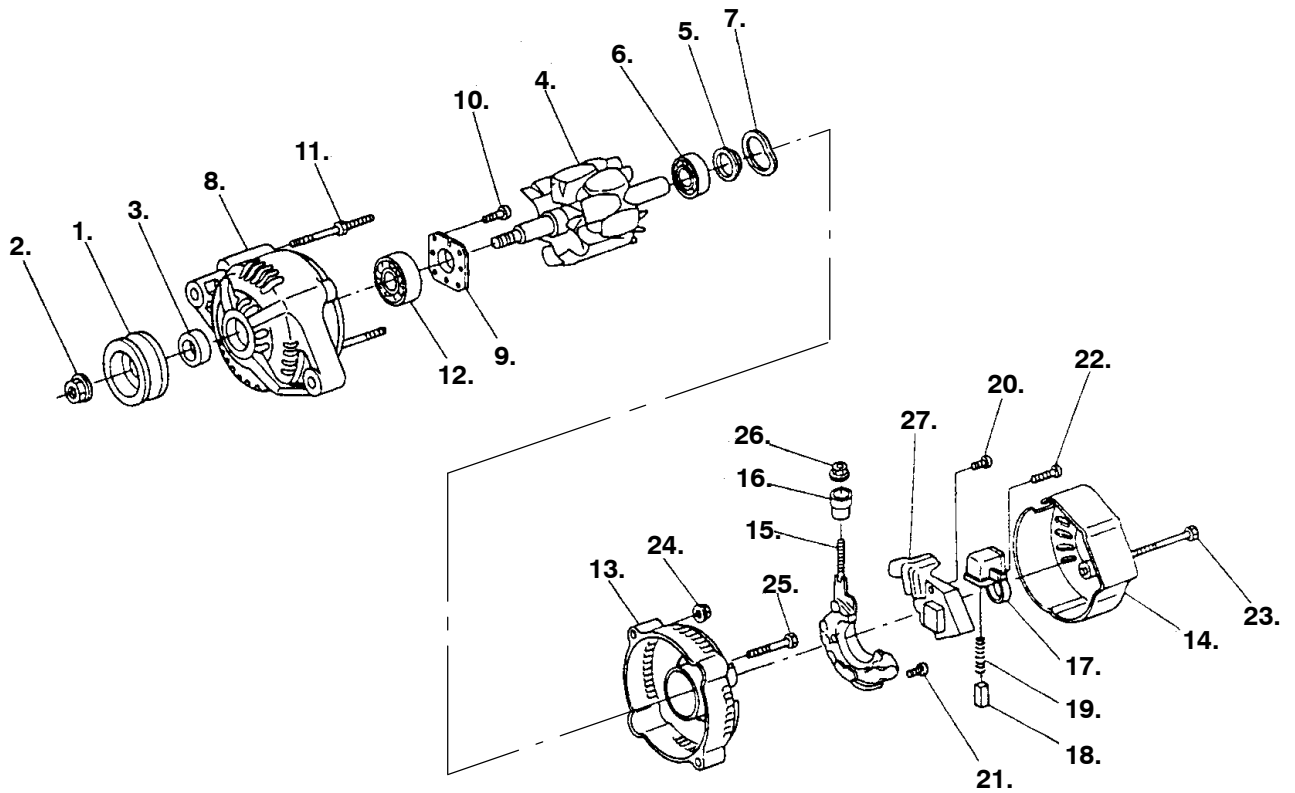
\* - Parts Included in Water Pump Assy.

# Alternator



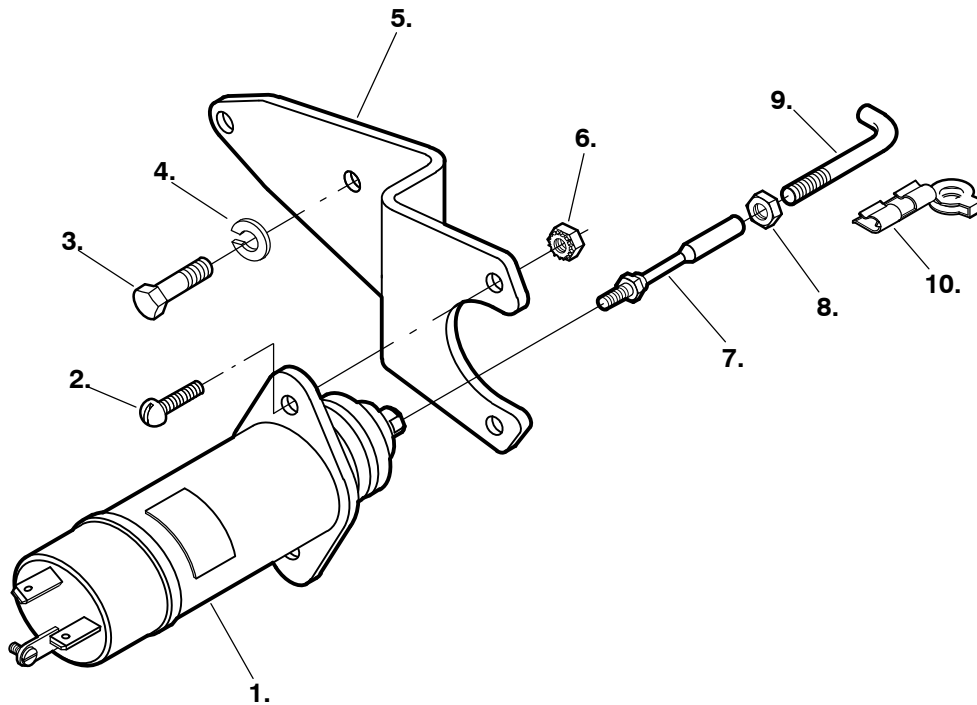
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6920	1	Alternator (12V, 30A) (See Separate Page for Components)	8.	185-2388	1	Bolt
2.	185-5445	1	Nut	9.	185-6628	1	Stay, Alternator
3.	185-6934	1	Belt, Fan Spec A Begin Spec B	10.	185-2572	4	Bolt
	185-6934	1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

## Alternator Components



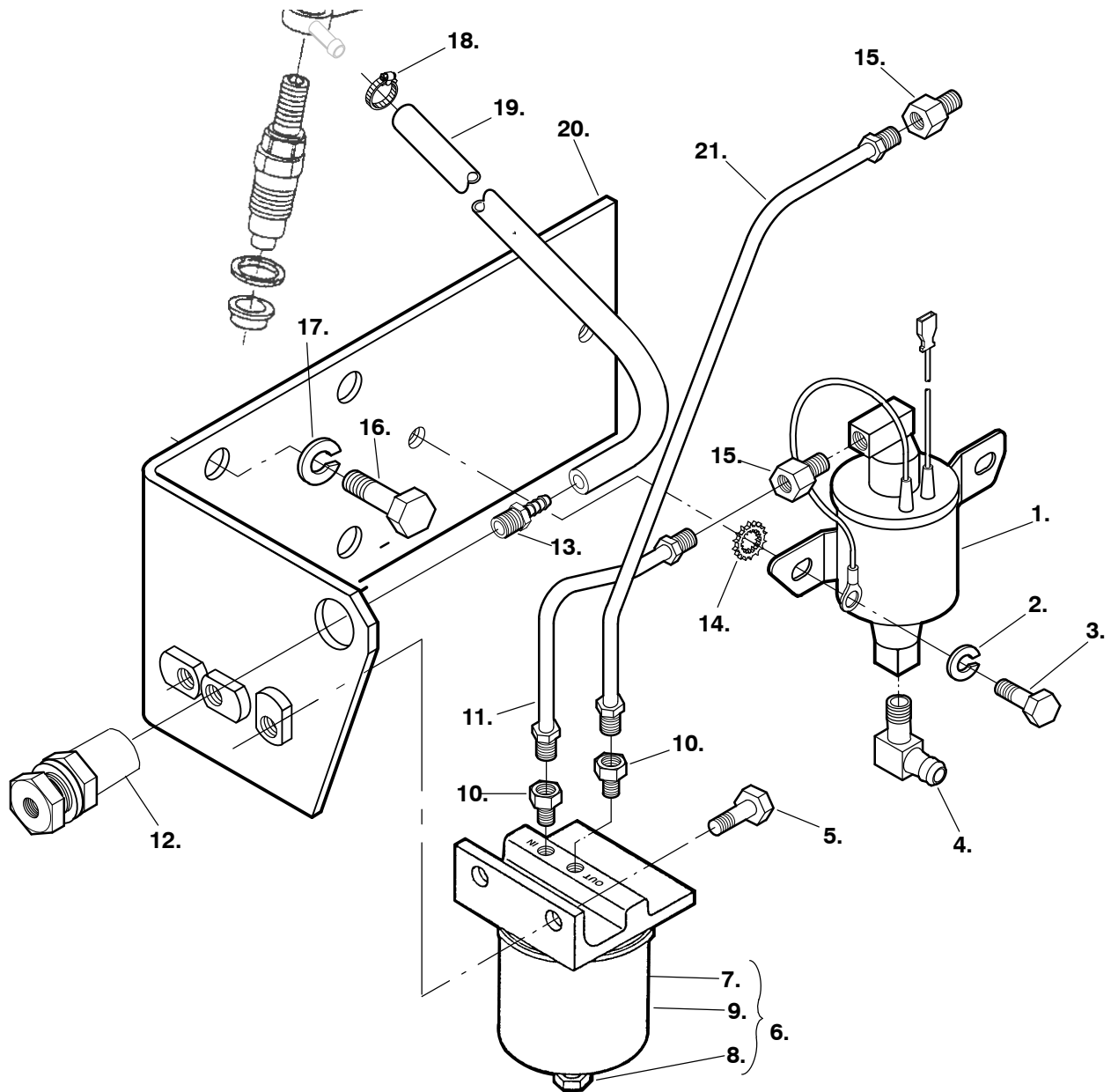
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	185-6920	1	Alternator	14.	185-6189	1	Cover, End
1.	185-5767	1	Pulley, Alternator	15.	185-6638	1	Rectifier Assy
2.	185-5768	1	Nut	16.	185-6191	1	Bushing, Insulation
3.	185-5769	1	Collar	17.	185-5782	1	Holder, Brush
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



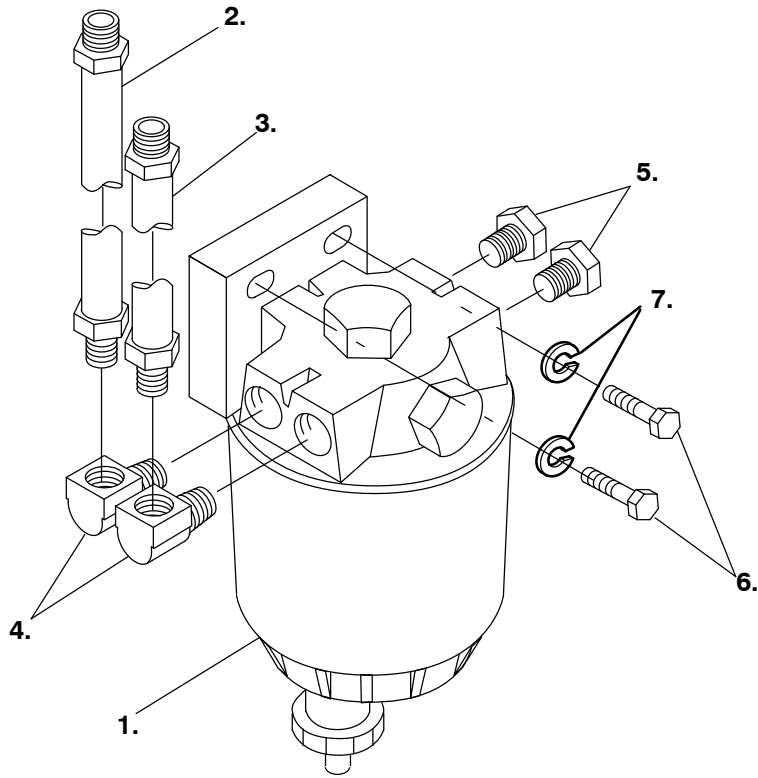
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	307-2546	1	Solenoid, Stop (K1)	5.	150-2668-02	1	Bracket, Solenoid
2.	813-0100	2	Screw, Round Head Machine (#10-32 x 1/2")	6.	870-0131	2	Nut, ET Hex (#10-32)
3.	800-2029	2	Screw, Hex Head Cap (M6 x 1 x 12mm)	7.	150-1733	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



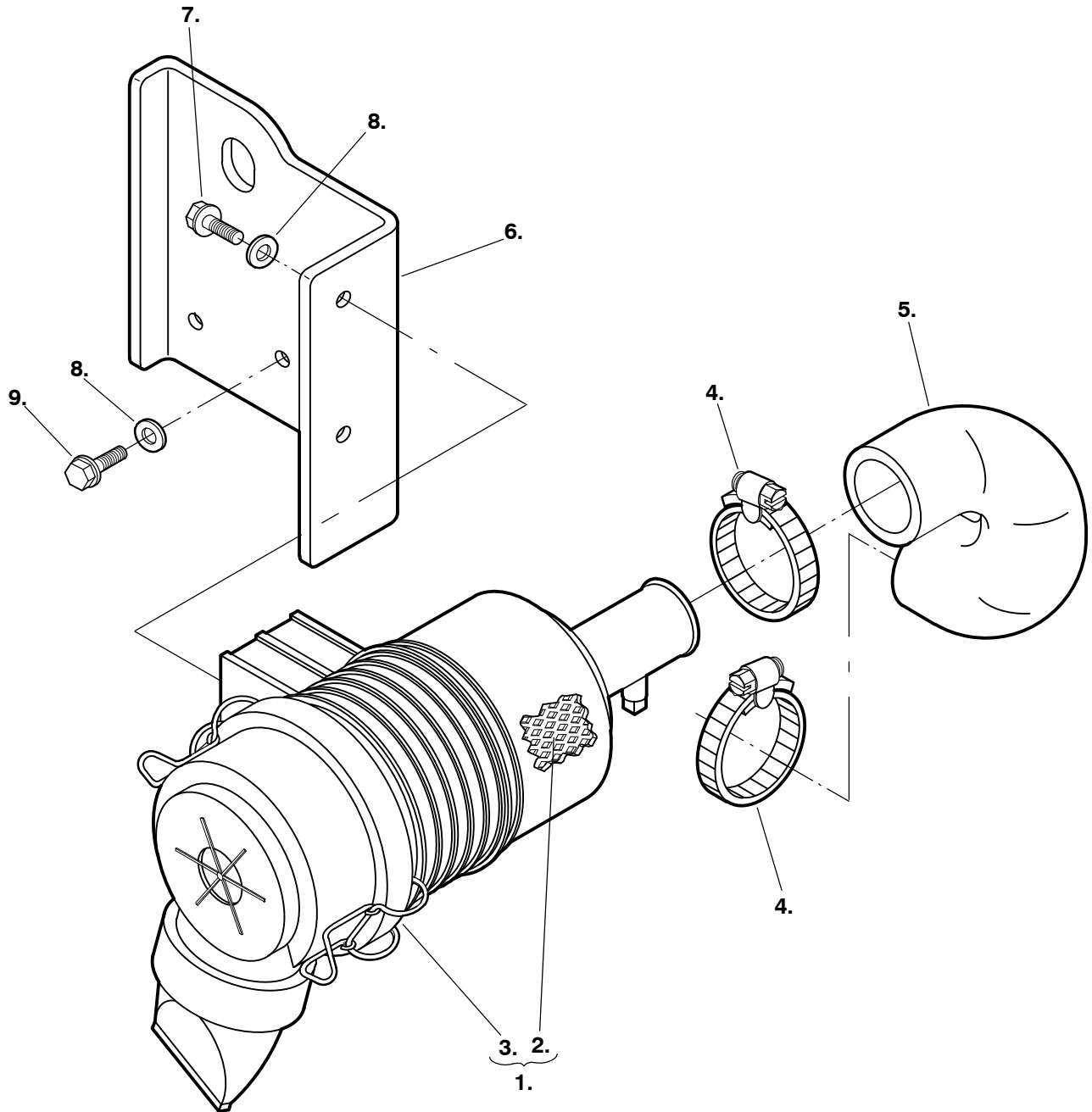
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	149-2331-02	1	Pump, Electric Fuel (E5)	12.	502-1244	1	Coupling, Anchor
2.	850-2006	2	Washer, Lock (M6)	13.	502-1219	1	Connector, Hose
3.	800-2029	2	Screw, Hex Head Cap (M6 x 1 x 12mm)	14.	856-0006	1	Washer, EIT (1/4")
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)				

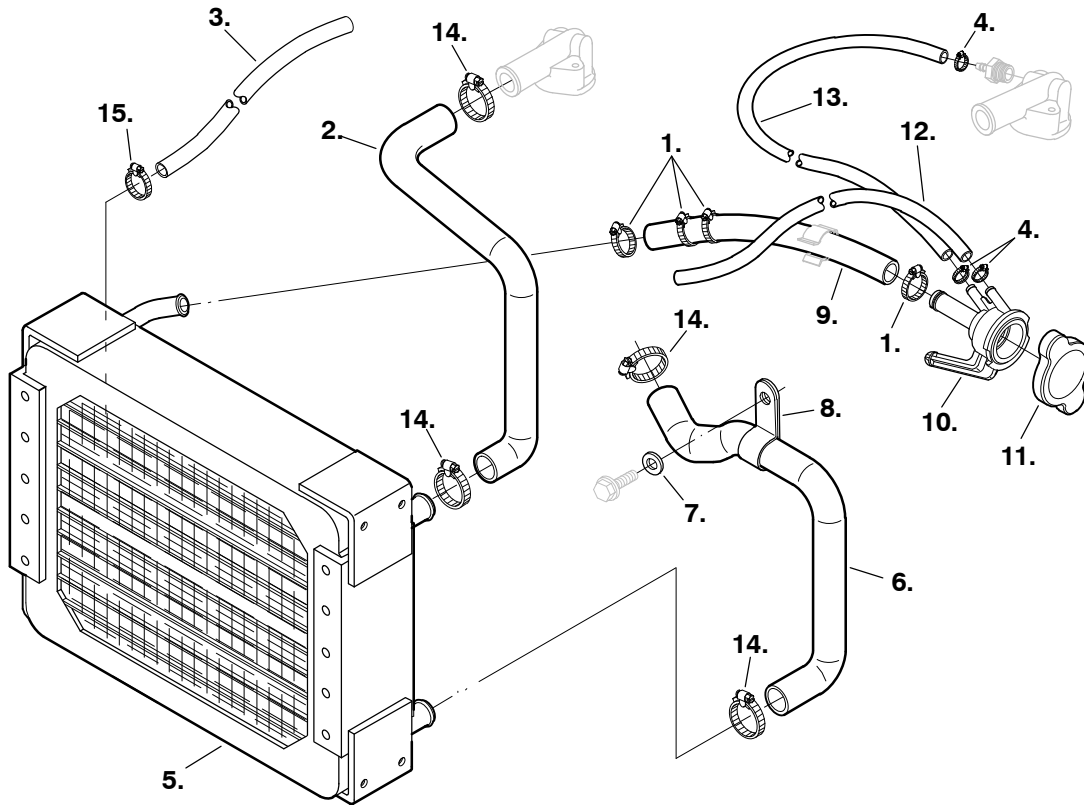
## Air Cleaner



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				

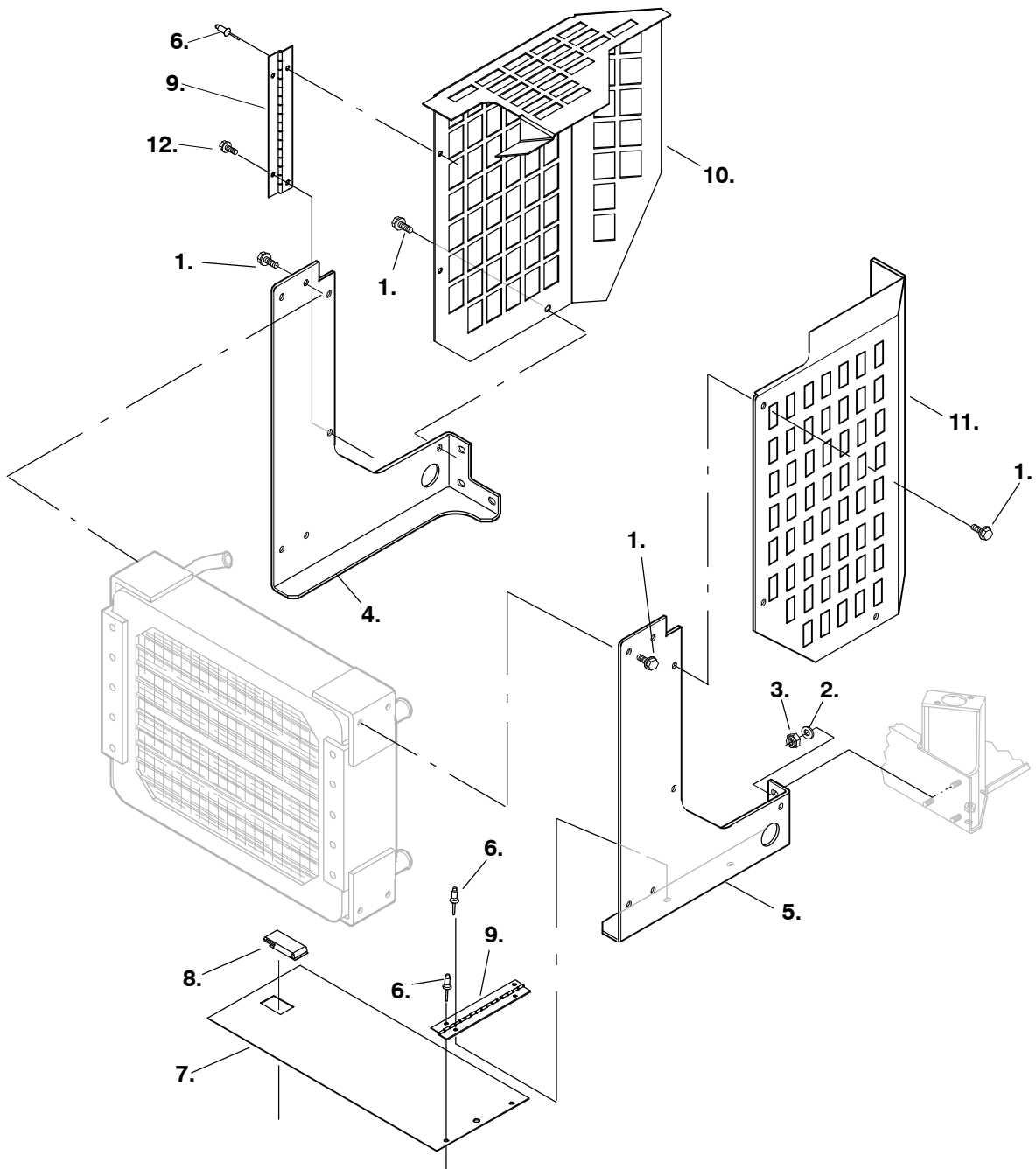


## Cooling System



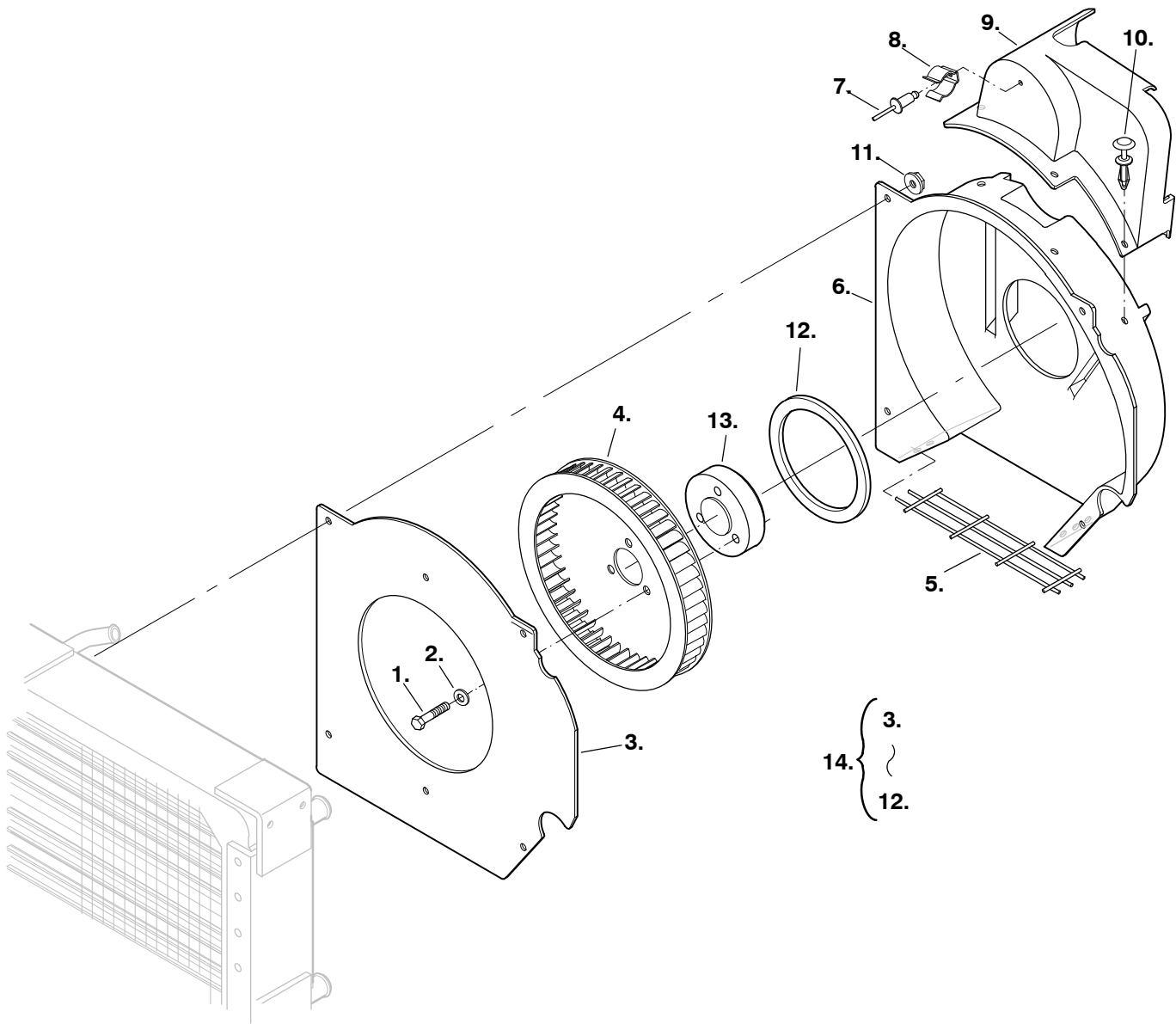
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.			Clamp, Hose	7.	526-2080	1	Washer, Flat
	503-1137	8	Spec A	8.	518-0548-05	1	Clamp, Hose
	503-1137	4	Spec B	9.	503-1993	1	Hose, Coolant Fill (335mm)
	503-1951-35	4	Begin Spec C	10.	130-4321	1	Neck, Fill
2.	503-1996	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)				Begin Spec B
	821-2032	8	Spec A	6.	818-0231-02	6	Rivet, Pop (Begin Spec B)
	821-2032	12	Begin Spec B	7.	130-5063-02	1	Panel, Bottom (Begin Spec B)
2.	526-2100	6	Washer, Flat	8.	406-0612	1	Latch, Service Panel (Spec B)
3.	870-2199	6	Nut, Self Lock (M8 x 1.25mm)	9.	406-0922	2	Hinge, Continuous (Begin Spec C)
4.			Support, Left Side Radiator Spec A	10.	130-5029-02		Guard, Fan (LH) (Begin Spec B)
	130-4681-02	1	Spec A	11.	130-5030-02	1	Guard, Fan (RH) (Begin Spec B)
	130-5026-02	1	Begin Spec B	12.	821-6001-02	4	Screw, Sems (M5)
5.			Support, Right Side Radiator Spec A				
	130-4682-02	1	Spec A				

## Fixed Fan Scroll (Spec A)

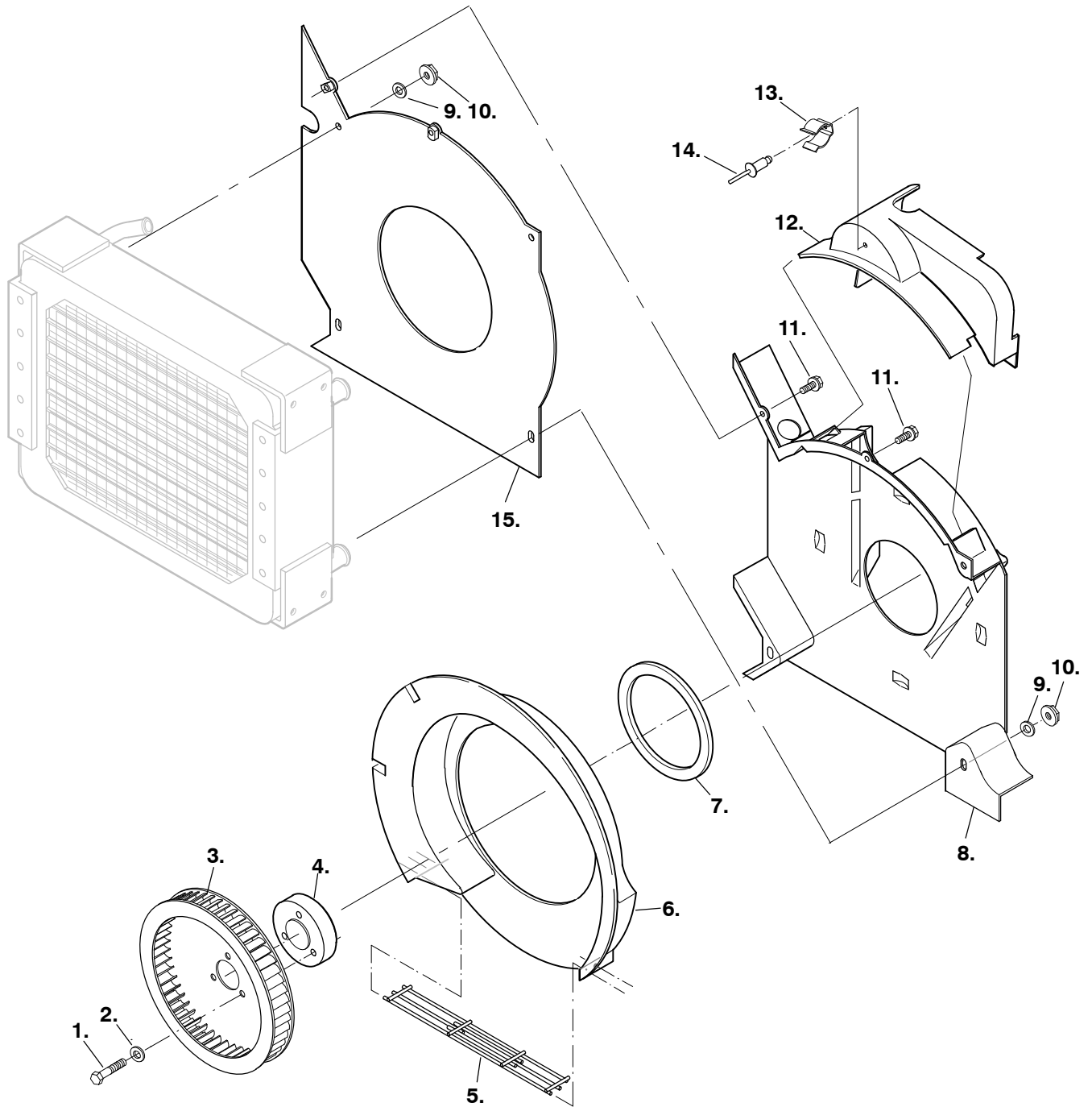


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	800-3006	3	Screw, Hex Head Cap (M10 x 1.25 x 40mm)	11.	870-2054	4	Nut, Lock Flange (M6 x 1)
2.	526-0030	3	Washer, Flat (M10)	12.	130-4686	1	+*Seal, Fan
3.	130-4510-02	1	*Baffle, Fixed Scroll	13.	130-4688	1	Adapter, 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.

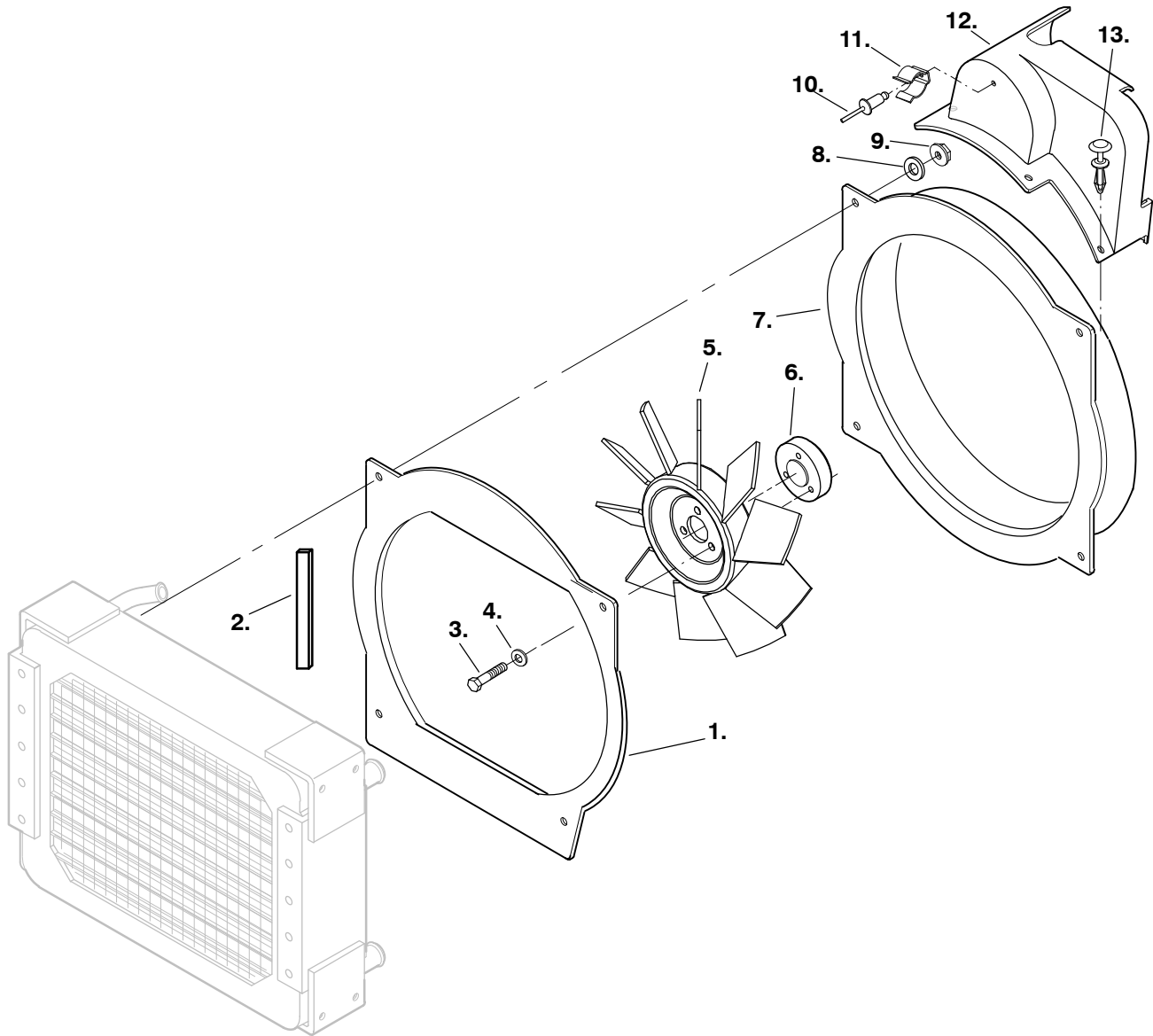
+ - Seal is Used in Kit Only, Not used in Production of Fixed Scroll.

## Rotating Fan Scroll (Spec A)



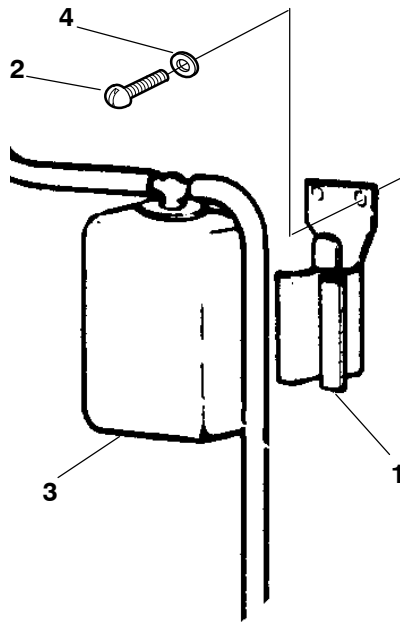
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	800-3006	3	Screw, Hex Head Cap (M10 x 1.25 x 40mm)	9.	526-2083	4	Washer (M6)
2.	526-0030	3	Washer, Flat (M10)	10.	870-2054	4	Nut, Lock Flange (M6 x 1)
3.	130-4680	1	Fan, Cooling	11.	821-2096-02	2	Screw, Lock Flange (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)



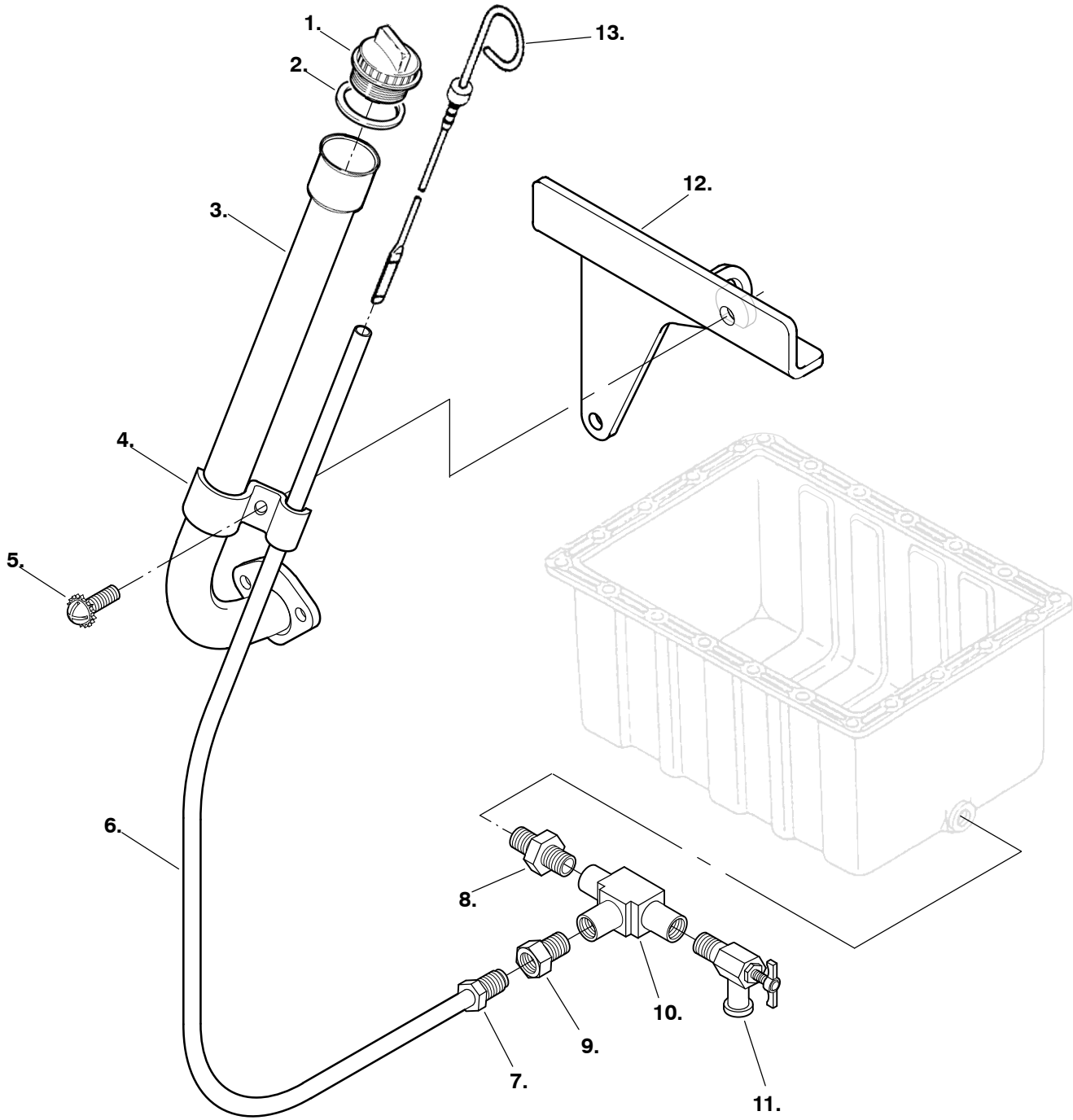
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	130-5031-02	1	Baffle, Scroll	6.	130-5040	1	Adapter, Fan
2.	895-0305-06	2	Foam	7.	130-5028	1	Shroud, Fan
3.	800-3044	3	Screw, Hex Head Cap (M10 x 1.25 x 70mm)	8.	526-2083	4	Washer, Flat
4.	526-0030	3	Washer, Flat (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



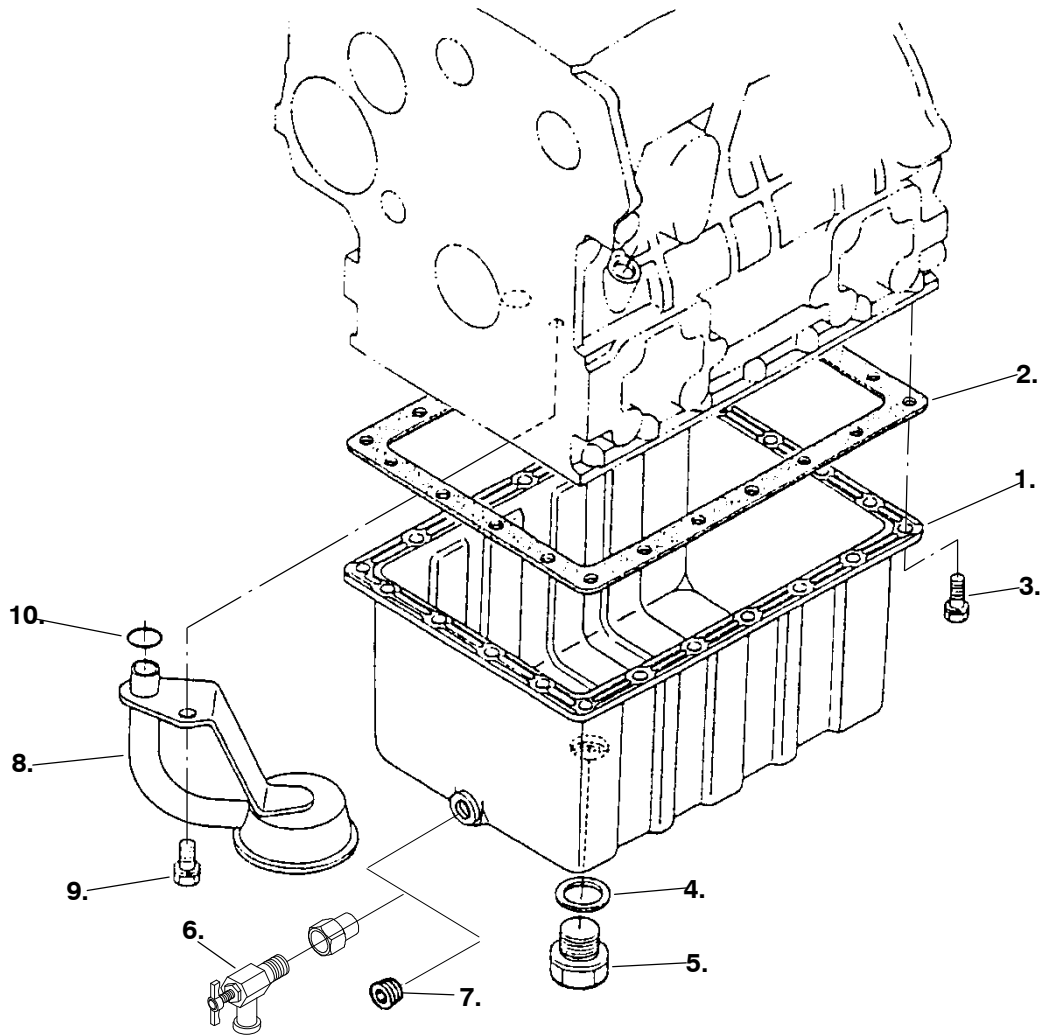
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	130-2781	1	Kit, Recovery Tank	3	130-2779	1	Tank, Radiator Water Recovery
1	130-2780	1	Bracket, Tank	4	526-0020	2	Washer, Flat
2	808-0054	2	Screw, Round Head Sheet Metal (14 x 7/8")				

## 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")				

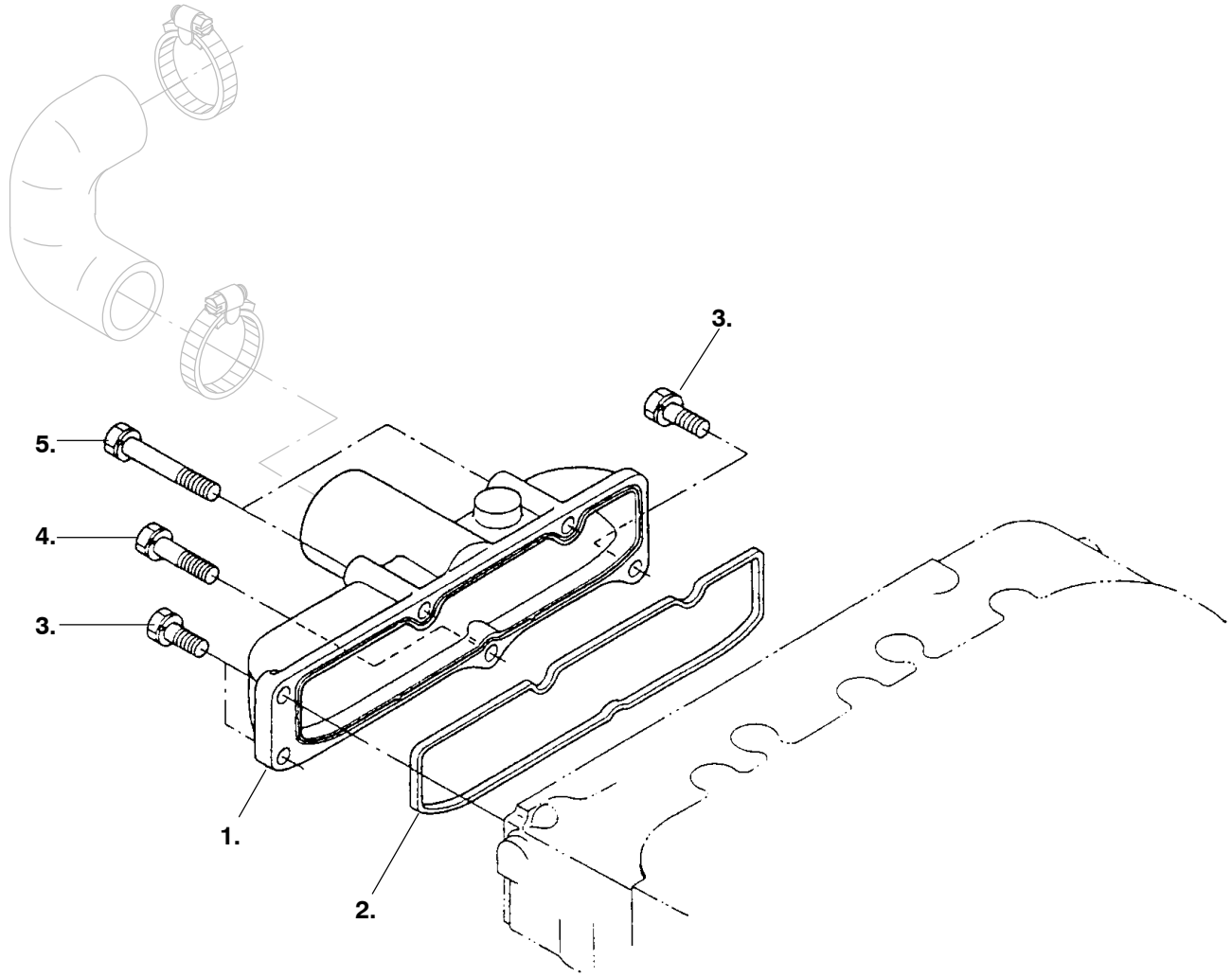
## Oil Pan



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 Spec A-D
2.	185-6859	1	Gasket, Oil Pan		185-6860	1	HDKAL, HDKAQ
3.			Bolt		185-7093	1	HDKAR, HDKAS
	185-2386	22	Spec A-D		181-9095	1	Begin Spec E HDKAL and HDKAS
	800-6369	22	HDKAL and HDKAS (Begin Spec E)	9.			Bolt
4.	185-5495	1	Gasket, Oil Drain		185-2563	1	Spec A-D
5.			Plug, Drain		185-6762	1	HDKAL and HDKAS (Begin Spec E)
	185-6929	1	Spec A-D	10.	185-7421	1	O'Ring
	185-6046	1	HDKAL and HDKAS (Begin Spec E)	11.	502-0426	1	Adapter, Pipe (Begin Spec B)
6.	504-0176	1	Valve, Shutoff (Begin Spec B)				
7.	185-5826	1	Plug, Pipe				

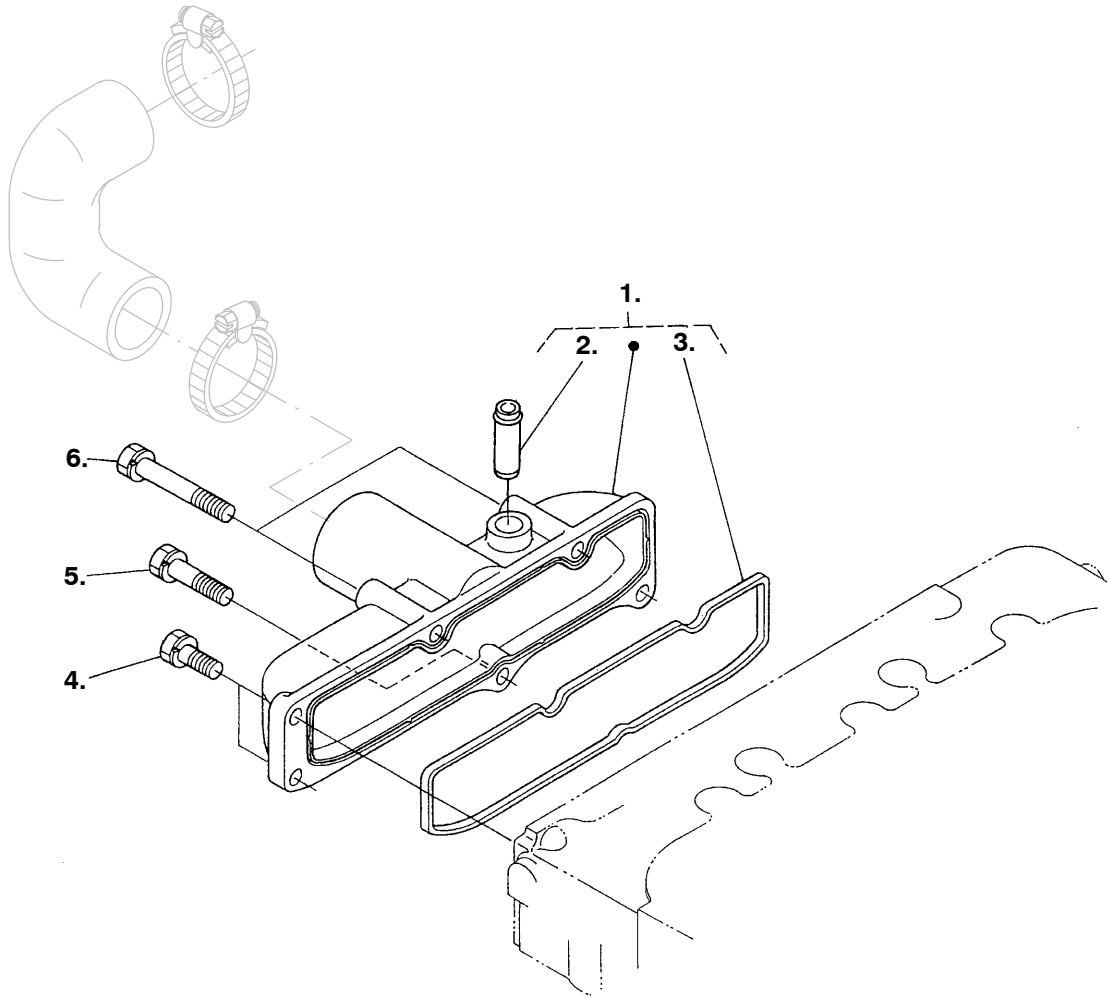


## Inlet Manifold (Spec A-D)



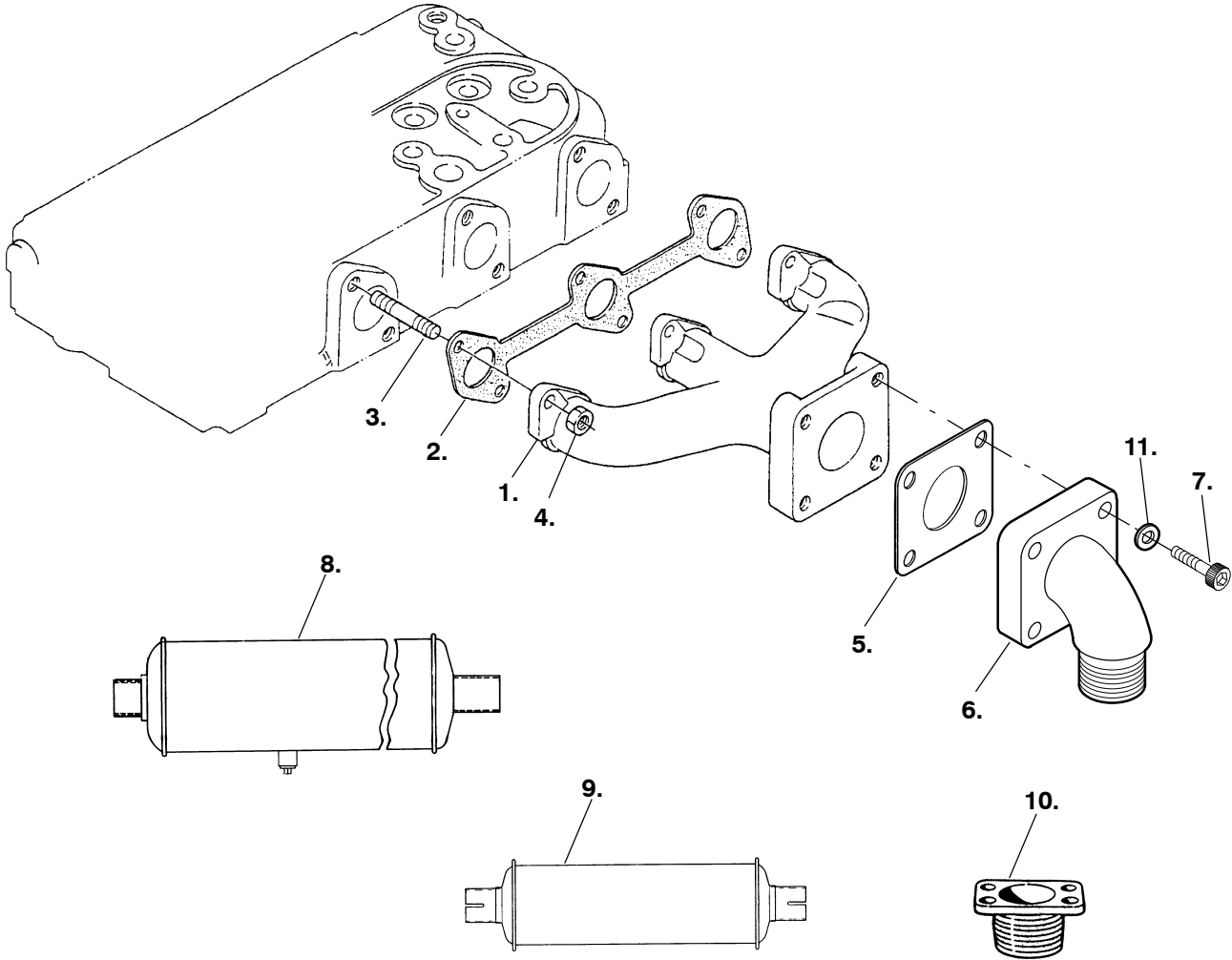
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	185-6927	1	Manifold, Inlet	4.	185-6677	1	Screw
2.	185-6926	1	Gasket, Inlet Manifold	5.	185-2394	2	Screw, Hex Head (M6 x 50mm)
3.	185-2389	3	Screw, Hex Head (M6 x 18mm)				

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



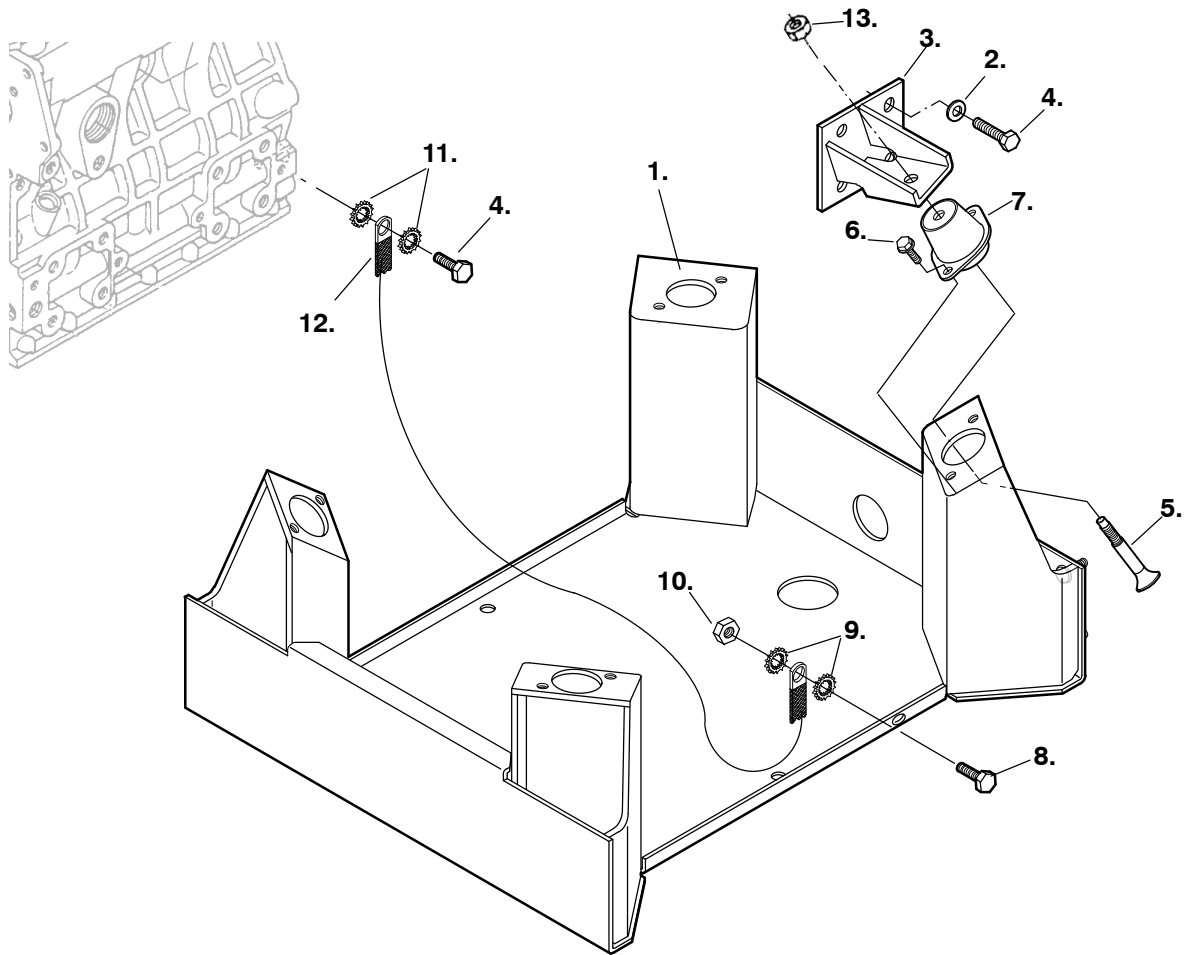
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	154-3204	1	Manifold, Inlet	4.	185-2389	3	Bolt
2.	185-6499	1	Gasket, Inlet Manifold	5.	185-6677	1	Bolt
3.	185-6926	1	Screw, Hex Head (M6 x 18mm)	6.	185-7069	2	Bolt

## Exhaust Manifold



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

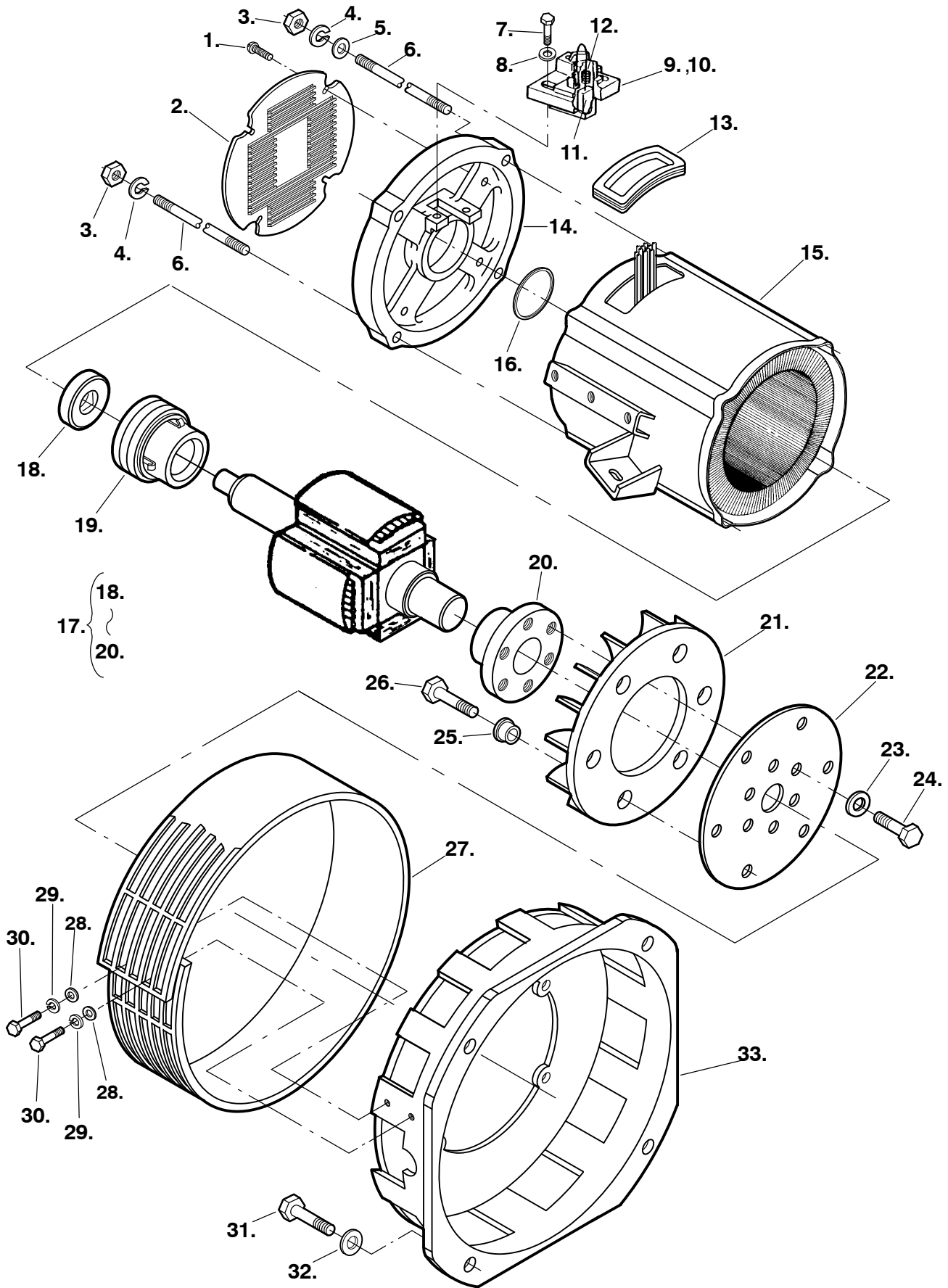
## Mounting Frame



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)

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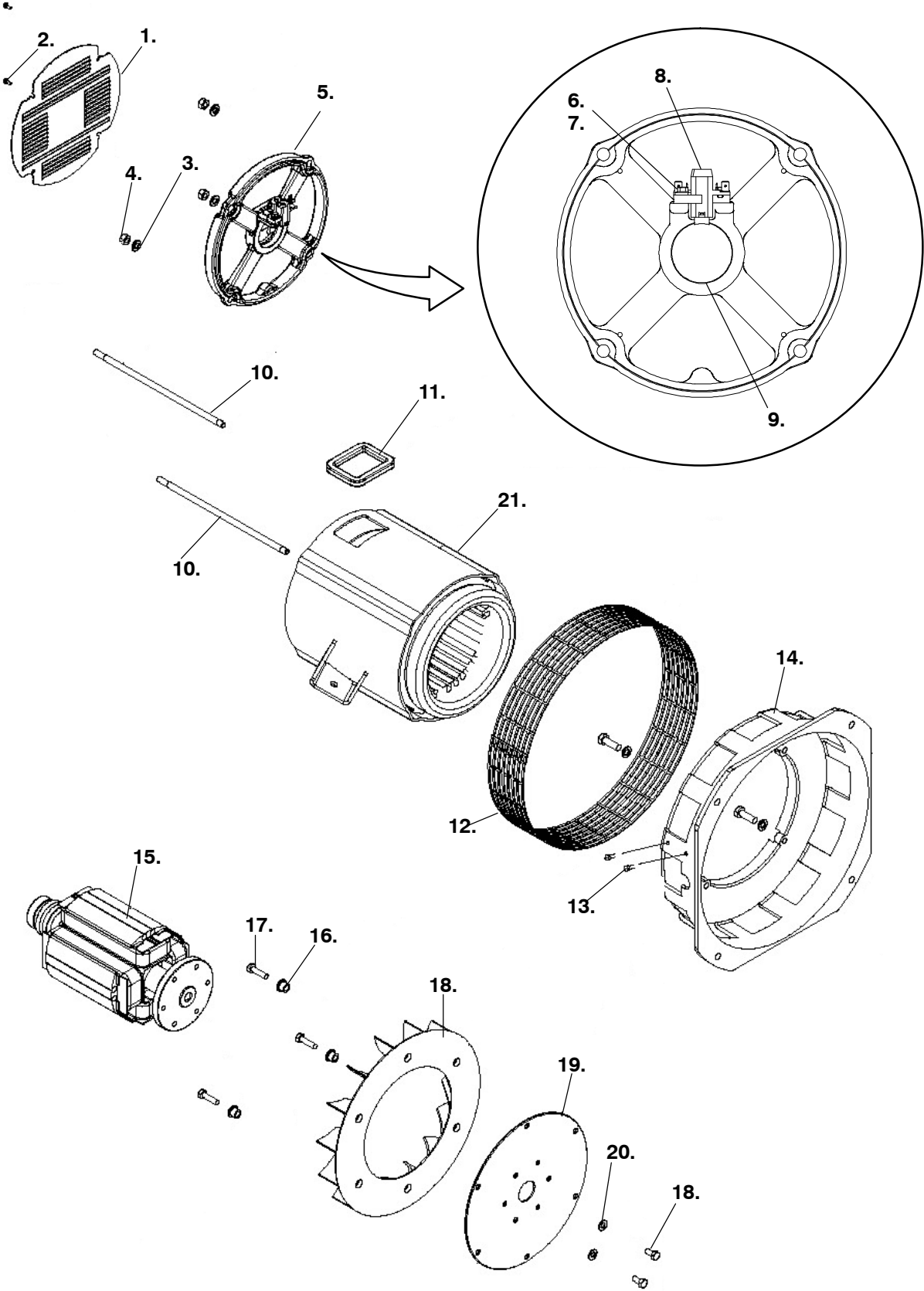
# Generator HDKAL, HDKAQ, HDKAR and HDKAS (Specs A-C)



## 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				50 Hz
6.			Stud	201-3558-02	1		Bearing, Ball
	520-1000-02	4	60Hz (3/8-16 x 259mm)	201-3558-03	1		Ring, Collector
	520-1000-03	4	50Hz (3/8-16 x 284mm)	18.	510-0099	1	Hub, Drive
7.	800-0309-89	2	Screw, Hex Head Machine (M5 x .8 x 16mm)	19.	204-0134	1	Fan, Generator
8.	526-0399-56	2	Washer, Flat (M5)	20.	232-3753	1	Disc, Generator Drive
9.	212-1285	1	Block Assy, Generator Brush (Includes Block Assy, Brushes, and Spring)	21.	205-0220	1	Washer, Flat (M8)
10.	212-1286	1	Block Assy, (With Terminal)	22.	232-4145	1	Screw, Hex Head Cap (M8 x 1.25 x 16mm)
11.	214-0103	2	Brush, Generator	23.	526-2100	6	Spec A-B
12.	212-1276-03	2	Spring, Generator Brush				Begin Spec C
13.	508-1049-02	1	Edging	25.	232-3296	6	Spacer, Fan
14.	211-0447	1	Endbell	26.	800-2515	6	Screw, Hex Head Cap (M8 x 1.25 x 30mm)
15.			Stator, Generator	27.	232-3755-02	1	Guard, Fan
			Spec A	28.			Washer, Flat
	220-4503-02	1	Spec 61730				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				Begin Spec C
			50Hz		800-2006	2	Screw, Hex Head Cap (M10 x 1.5 x 30mm)
	220-4503-07	1	(120/240)(1 phase)		800-2006	3	Washer, Flat (M10)
	220-4503-09	1	(277/480)(3 phase)	31.	800-2087	4	Adapter, Generator
			60Hz				
	220-4503-11	1	(100/200)(1 phase)	32.	850-2010	4	
	220-4503-03	1	(120/240)(1 phase)	33.	231-0347	1	
	220-4503-05	1	(277/480)(3 phase)				

Generator HDKAL and HDKAS (Spec D-E)

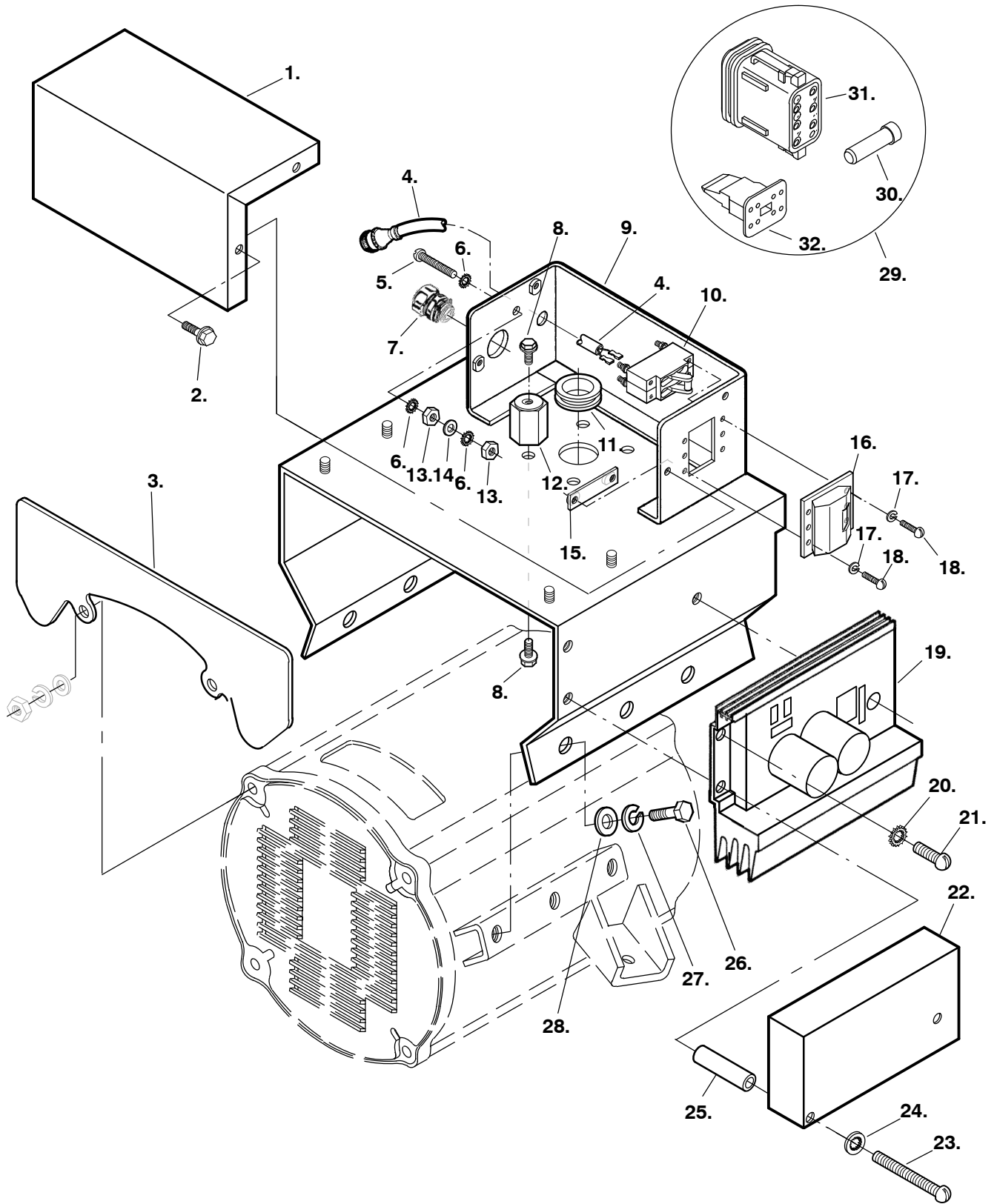




## Generator HDKAL and HDKAS (Spec D-E)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1.	211-0448-02	1	Intake, Endbell		201-3558-03	1	50Hz
2.	815-0910	4	Screw, Round Head	16.	232-3296	6	Spacer
3.	850-0114-07	4	Washer, Lock	17.	800-2515	6	Screw, Hex Head
4.	862-0003	4	Nut, Hex Head	18.	205-0220	1	Fan
5.			Endbell, Generator	19.	232-4145	1	Disc, Drive
6.	800-0309-89	2	Screw-HHM (M5 x 0.8 x 16)	20.	526-2100	6	Washer, Flat
7.	526-0399-56	2	Washer, Flat (M5)	21.			Stator, Generator
8.	212-1285	1	Block Assy, Generator Brush				60Hz, Single Phase
9.	509-0420	1	O-Ring		220-4503-02	1	120 / 240V
10.			Stud		220-4503-15	1	100 / 200V
	520-1000-02	4	60Hz				60Hz, Three Phase
	520-1000-03	4	50Hz		220-4503-13	1	277 / 480V
11.	508-1049-02	1	Edging				50Hz, Single Phase
12.	232-3755-02	1	Guard, Fan		220-4503-12	1	120 / 240V
13.	821-0004	3	Screw, Locking				50Hz, Three Phase
14.	231-0347	1	Adapter, Alternator		220-4503-14	1	277 / 480V
15.			Rotor	22.	800-2056	6	Screw, Hex Head
	201-3558-02	1	60Hz				

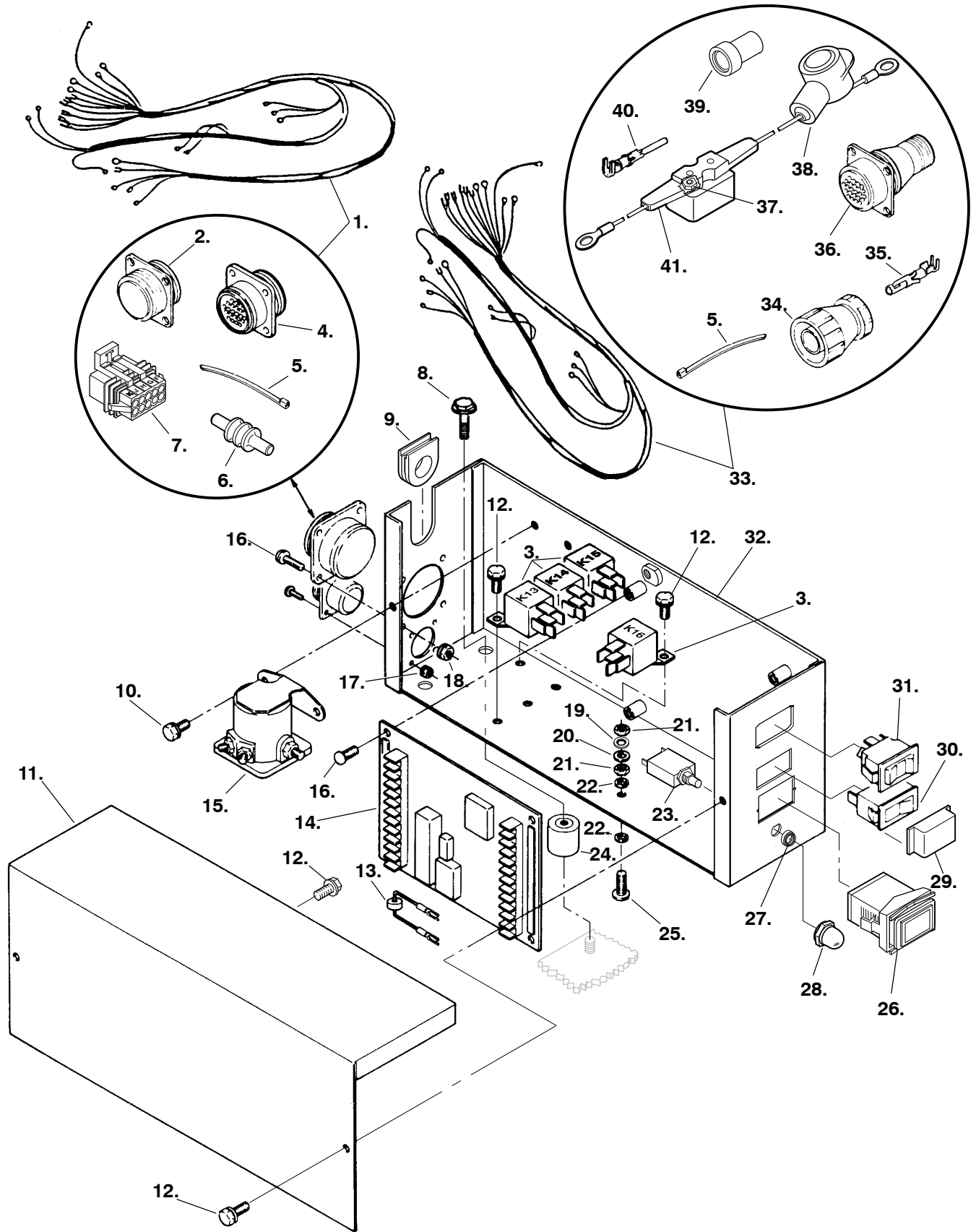
# AC Control



## 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



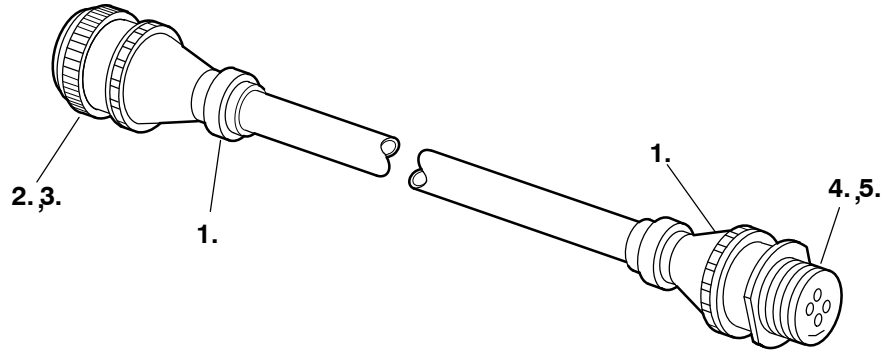
## DC Control

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				Spec 11567, 61730
12.	821-0004	7	Screw, Lock Head (#10-32 x 5/16")		338-3338	1	Spec 11475, 11476, 11477, 11478, 11575, 11585, 13B
13.	357-0088	1	Rectifier Assy (CR2)		338-3484	1	
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.

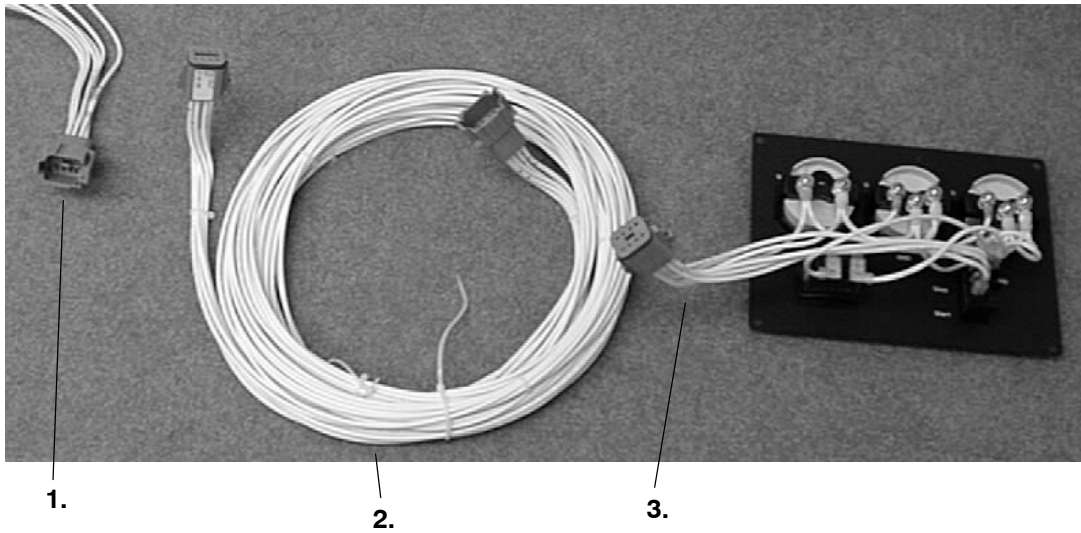
◇ - Parts Included in Engine Wiring Harness.

## 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"				Plug, Free Hanging Receptacle (J2)
	338-2912-04	1	126"	4.			
	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				

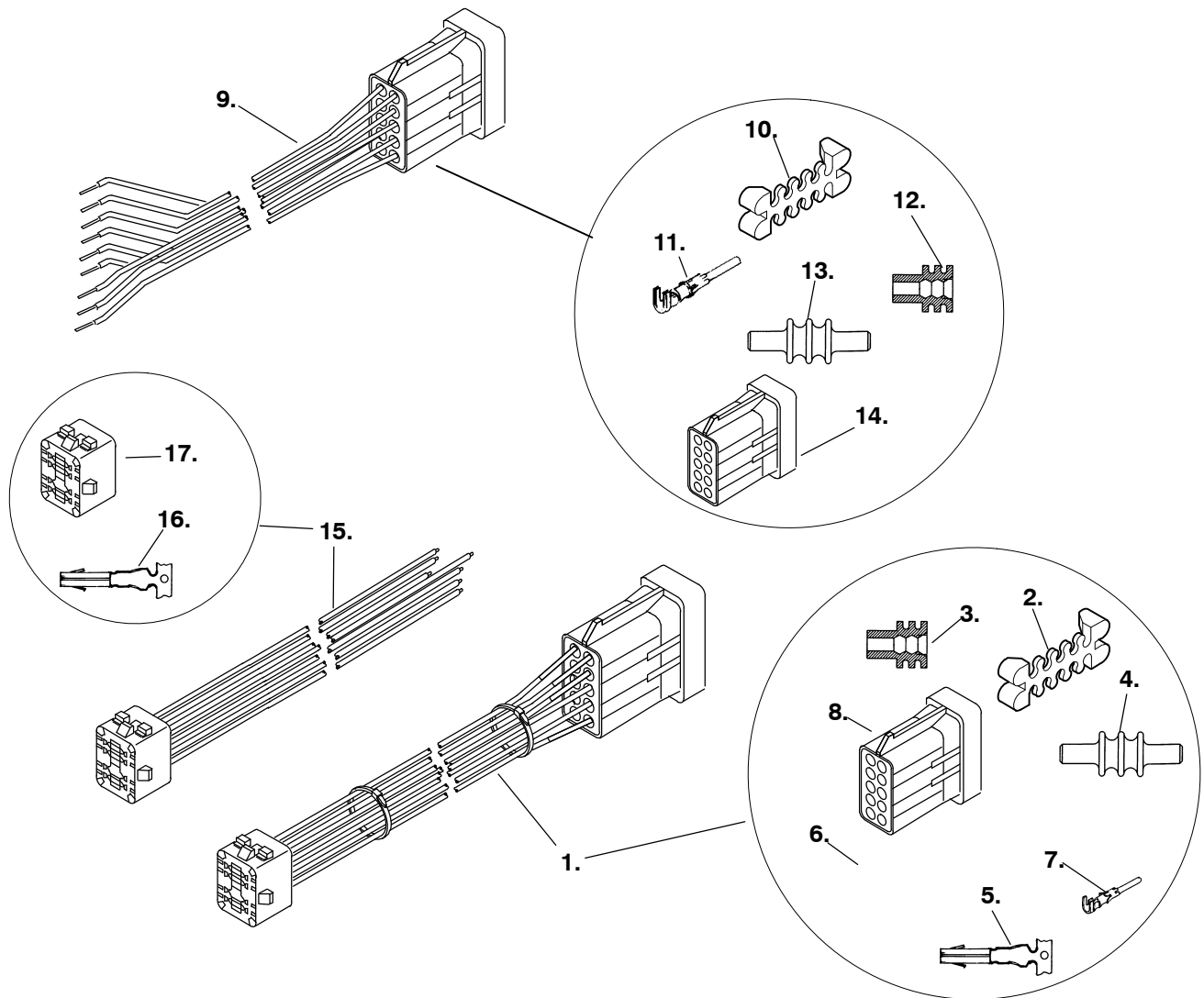
## Remote Panel Harness Location



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.

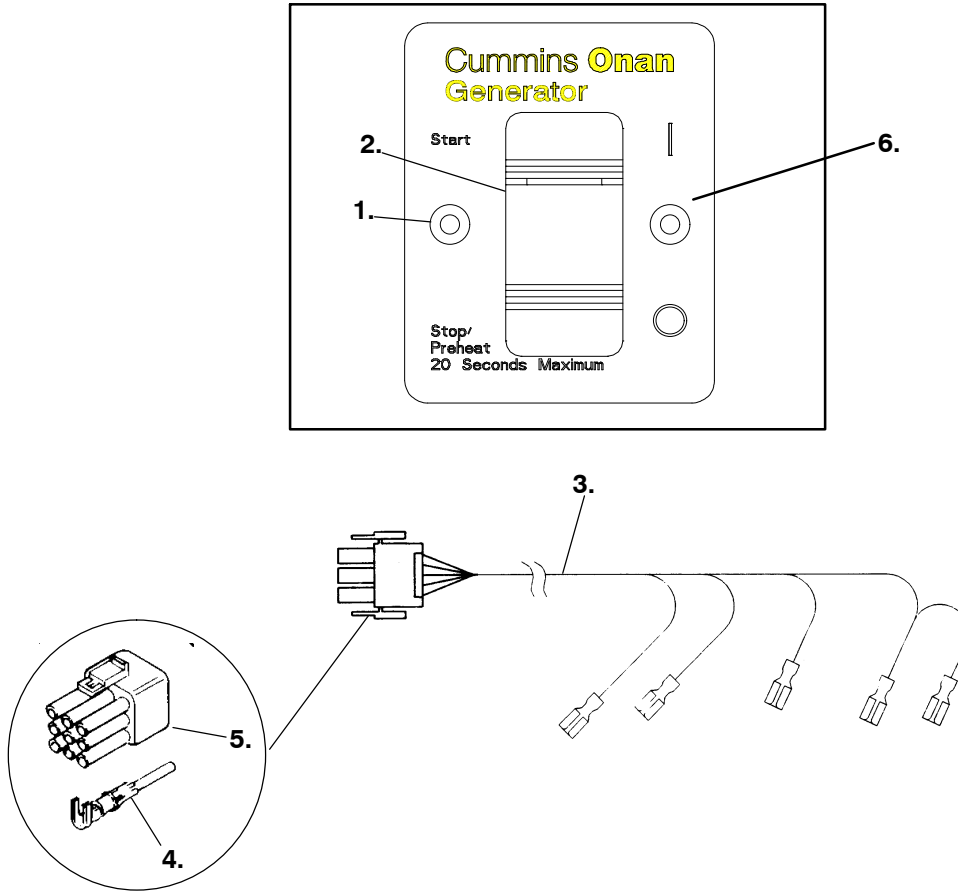
## Harnesses



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 °)				

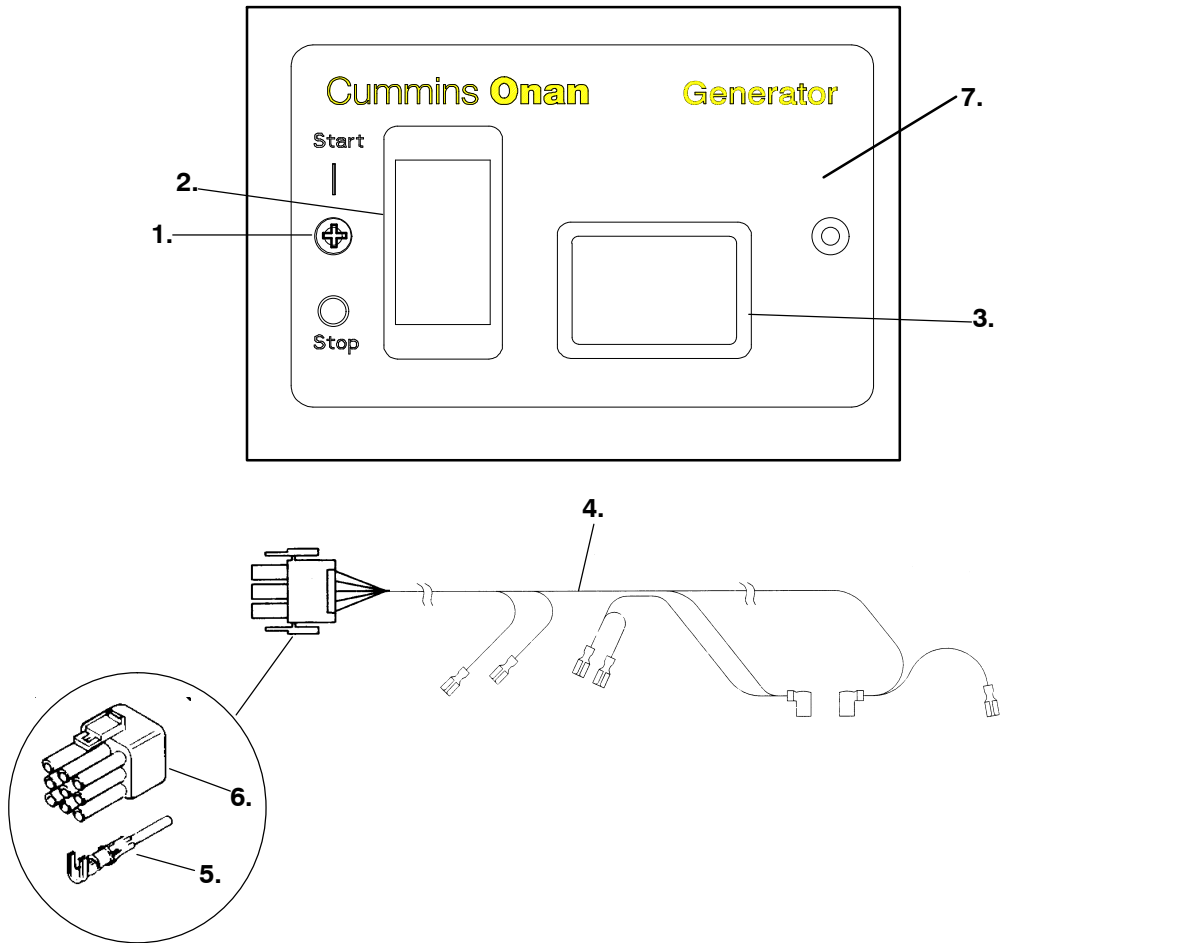


## Remote Switch Panel



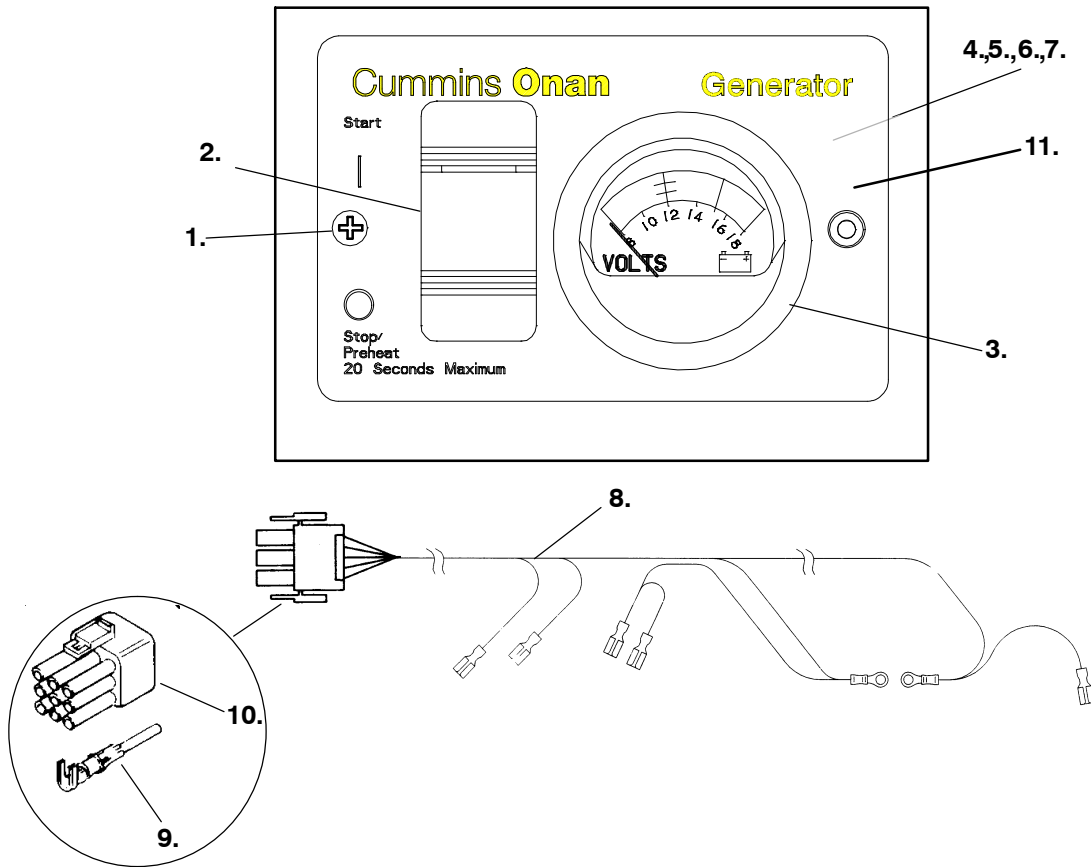
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4939	1	Kit, Switch Only Remote Panel	4.	323-1199	4	Pin, Contact
1.	815-0910	2	Screw, Wood Mounting (#6 x 1)	5.	323-1291	1	Plug (9 Pin)
2.	308-1062	1	Switch, Rocker	6.	319-6987-02	1	Panel Assy, Printed
3.	338-3511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

## Remote Switch/Hourmeter Panel



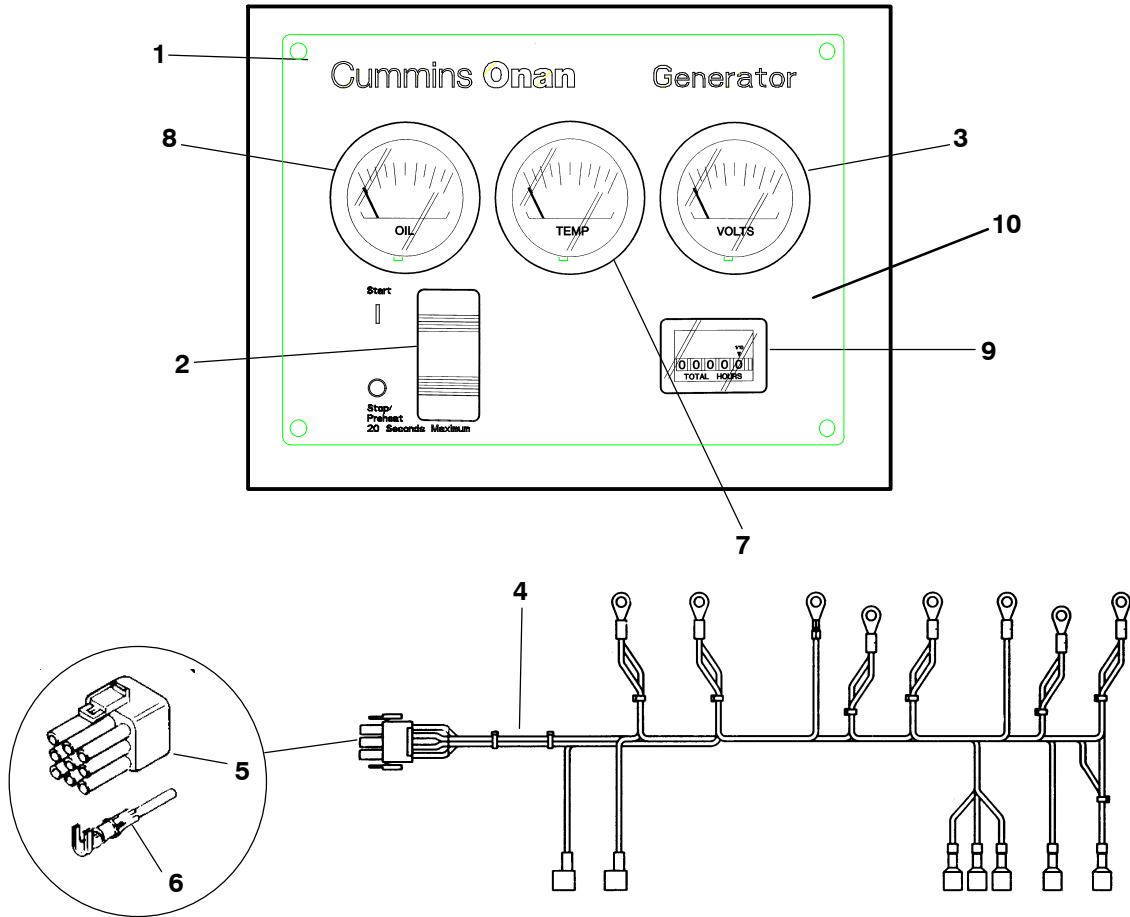
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4940	1	Kit, Switch/Hourmeter Remote Panel	4.	338-3467	1	Obsolete Harness, Remote Panel (Includes Pins and Plug)
1.	815-0910	2	Screw, Wood Mounting (#6 x 1)	5.	323-1199	5	Pin, Contact
2.	308-1062	1	Switch, Rocker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

## Remote Switch/Voltmeter Panel



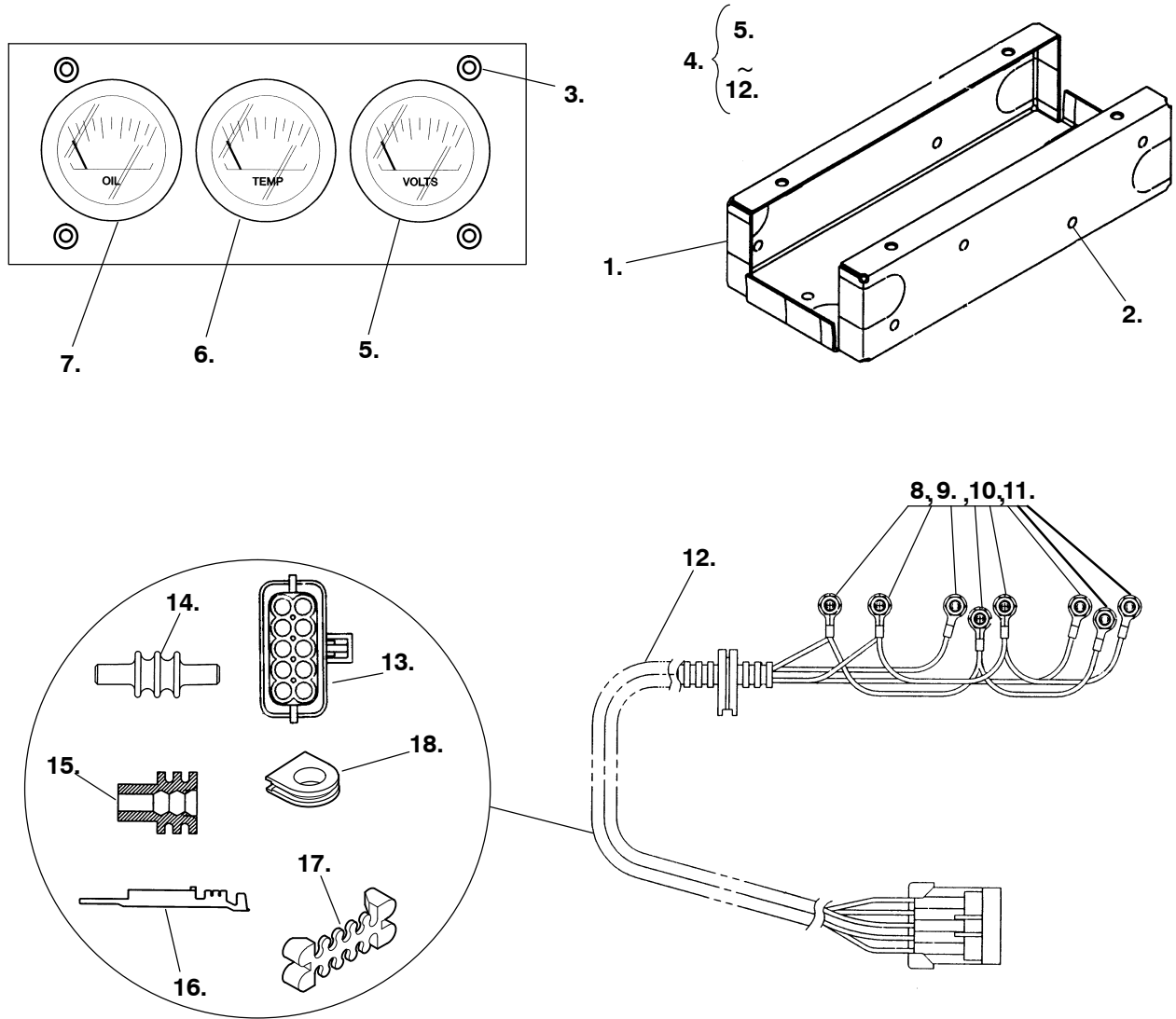
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4941	1	Kit, Switch/Voltmeter	7.	850-0030	2	Washer, Lock
1.	815-0910	2	Screw, Wood Mounting (#6 x 1)	8.	338-3508	1	Harness, Remote Panel (Includes Pins and Plug)
2.	308-1062	1	Switch, Rocker	9.	323-1199	5	Pin, Contact
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



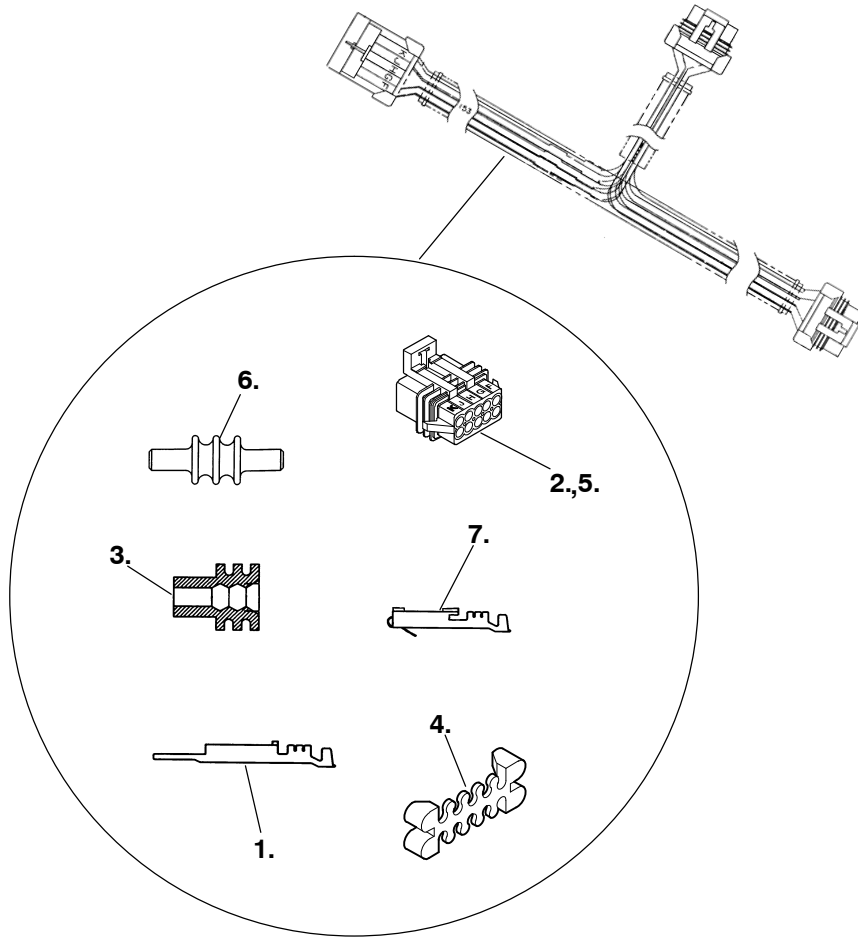
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-4966	1	**Kit, DC Gauge Panel
1.	319-3110-03	1	Box, Gauge
2.	821-0005	2	Screw, Lock Head (10-32 x .50)
3.	821-0004	4	Screw, Lock Head (10-32 x .31)
4.	300-4954	1	Panel Assy, Remote (Includes the following)
5.	302-1641	1	Meter, Voltage
6.	193-0351	1	Gauge,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

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Harness) (Includes Parts Marked *)
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.

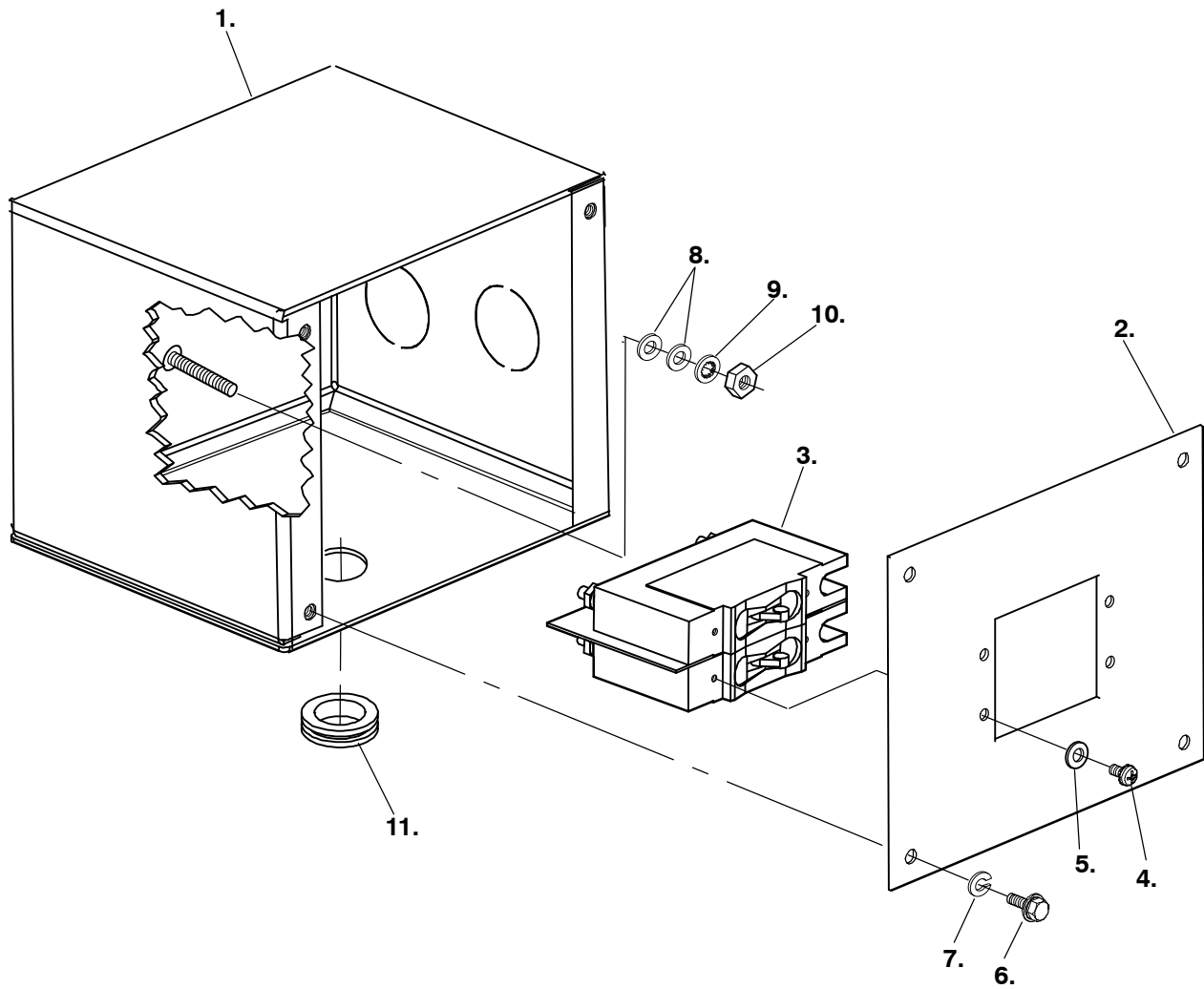
\* - Parts Included in Remote Panel Harness.

# Remote DC Gauge Panel Harness



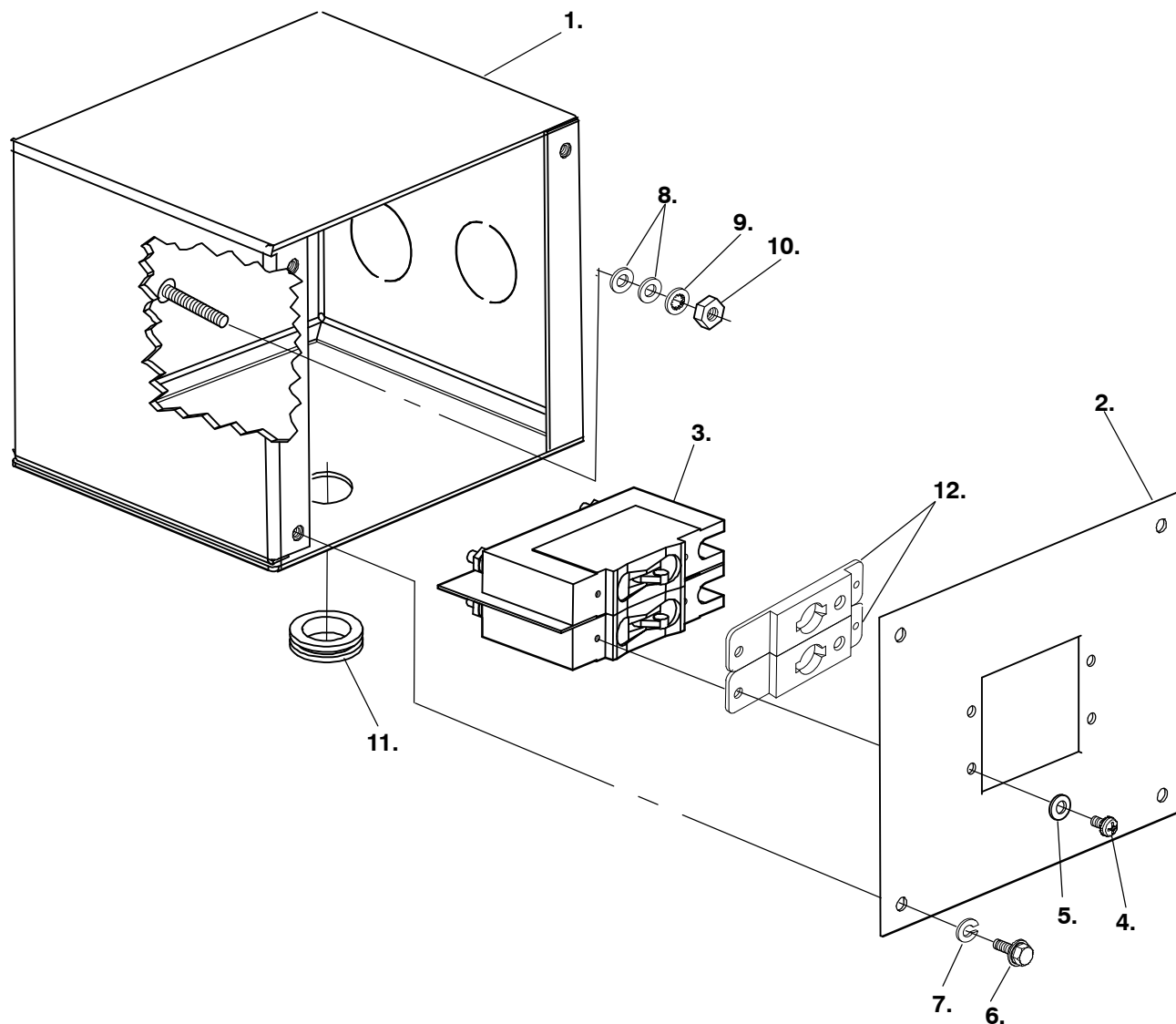
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	338-3526	1	Harness, Remote DC Gauge Panel Junction (Reaches from Remote DC Gauge Panel to DC Control Box and Extension Harness)				(P3)
				3.	323-1708	24	Seal, Cable
				4.	323-1719	3	Housing, Lock
				5.	323-1711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

## 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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