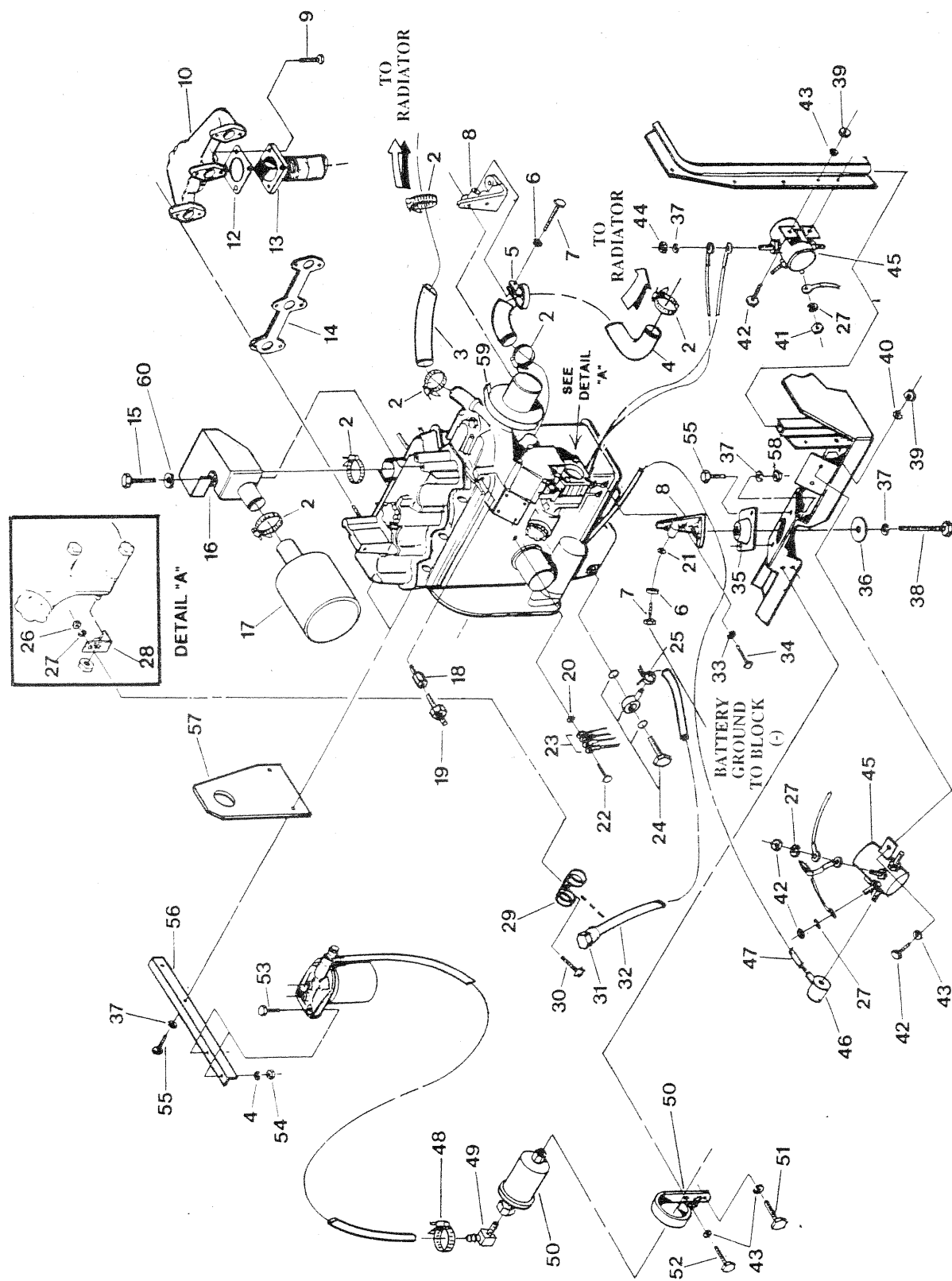


EXPLODED VIEW — ENGINE COMMON PARTS

Drawing No. 81982



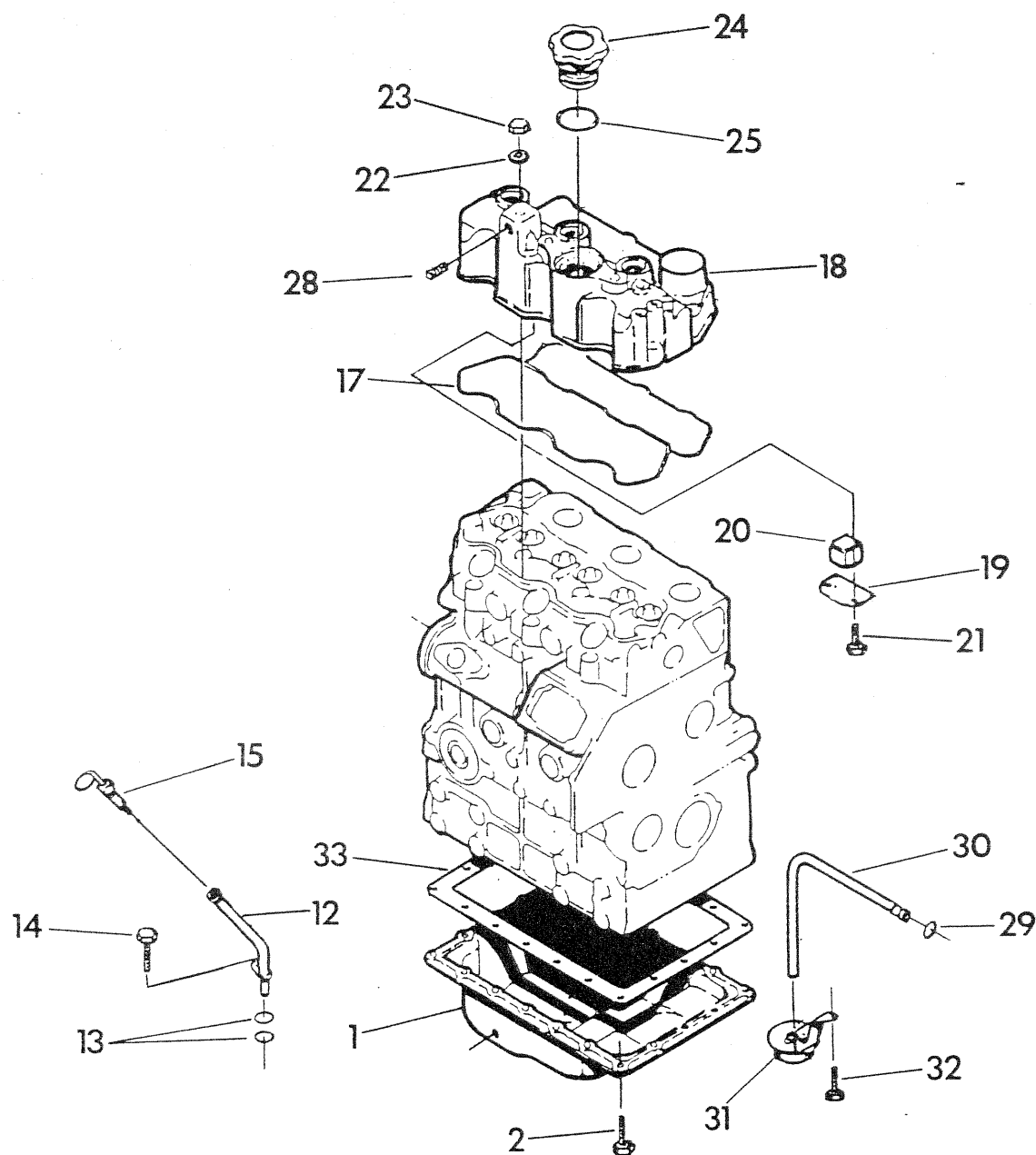
REPAIR PARTS LIST — ENGINE COMMON PARTS

Drawing No. 81982

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	81932	1	1.0 Liter Diesel Engine	31	69811	1	Drain Cap
2	35586	6	1-3/4" Hose Clamp	32	69860-B	1	Oil Drain Hose
3	81946	1	Upper Radiator Hose	33	74018	4	M12 Lock Washer
4	81947	1	Lower Radiator Hose	34	74070	4	M12-1.25 x 40mm Capscrew
5	55934	1	Hose Retainer	35	70936	2	Vibrator Mount
6	22302	4	M10 Lock Washer	36	71956	2	Special Washer
7	51755	2	M10-1.5 x 16mm Capscrew	37	22129	12	M8 Lock Washer
8	72501	2	Engine Support	38	72553	2	M8-1.25 x 60mm Capscrew
9	43107	4	M8-1.25 x 25mm Capscrew	39	49813	4	M6-1.0 Hex Nut
10	81942	1	Exhaust Manifold	40	26850	2	M6 Shakeproof Washer
11	49813	6	M6-1.0 Hex Nut	41	22158	4	No. 10-32 Hex Nut
12	75674	1	Exhaust Outlet Gasket	42	42568	4	M6-1.0 x 20mm Capscrew
13	81975	1	Flex Exhaust Outlet	43	22097	6	M6 Lock Washer
14	357-70939	1	Manifold Gasket	44	24114	4	5/16"-18 Hex Nut
15	42909	1	M8-1.25 x 30mm Capscrew	45	56739	2	12 volts Solenoid
16	81936	1	Air Intake Chamber	46	75763	2	Red Vinyl Boot
17	70941	1	Air Filter	47	77745	2	Starter Cable
18	42574	1	1/8" NPT-1/8-28 Adaptor	48	40173	1	Hose Clamp
19	60108	1	Oil Pressure Switch	49	49340	1	Elbow (barb to thread)
20	26208	1	M8 Shakeproof Washer	50	74024	1	Fuel Pump Assembly
21	25507	1	M10 Washer	51	43146	1	M6-1.0 x 10mm Capscrew
22	42568	1	M8-1.25 x 20mm Capscrew	52	45757	1	M10-1.0 x 25mm Capscrew
23	81951	1	Engine Wire Harness	53	74069	2	M10-1.5 x 40mm Capscrew
24	72573	1	Oil Drain Fitting	54	74009	2	M10-1.5 Hex Nut
25	70928	1	Hose Clamp	55	39253	6	M8-1.25 x 20mm Capscrew
26	51716	1	M5-0.8 Hex Nut	56	72564	1	Fuel Filter Bracket
27	22152	5	M5 Lock Washer	57	71910-A	1	Lifting Bracket
28	81939	1	Oil Drain Bracket	58	45771	4	M8-1.25 Hex Nut
29	65852	1	Oil Drain Hose Clip	59	46233	1	3/8-30-1/8 V-Belt
30	71912	1	M5-0.8 x 8mm Screw	60	50190	1	Special M8 Flat Washer

EXPLODED VIEW — ENGINE BLOCK

Drawing No. 82961



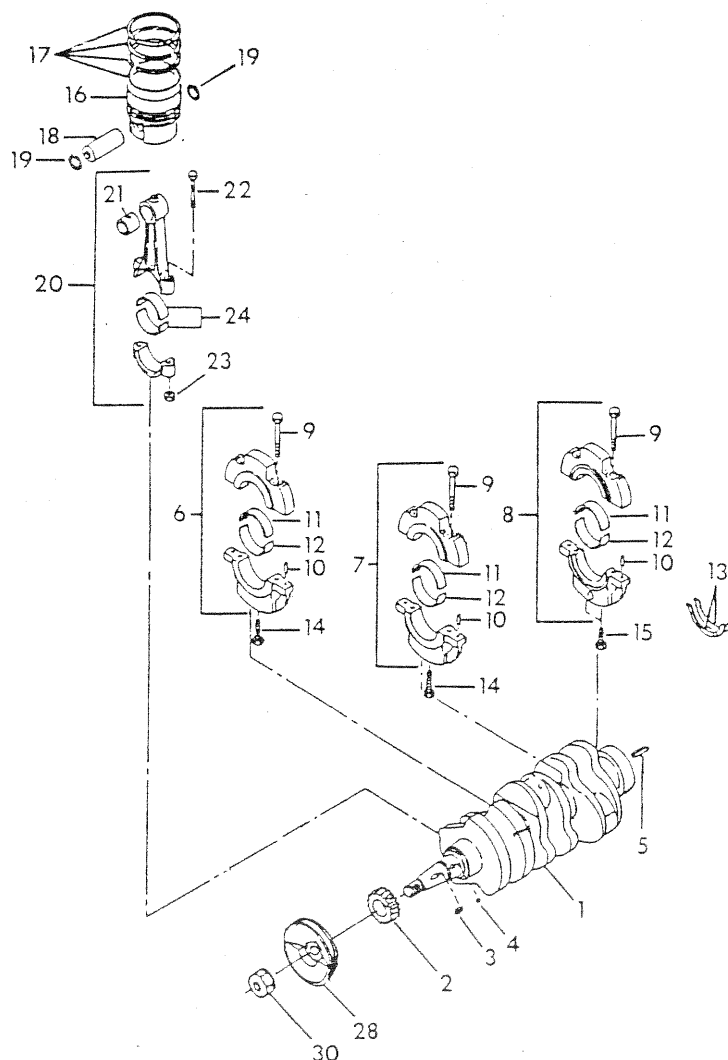
EXPLODED VIEW — ENGINE BLOCK

Drawing No. 82961

ITEM	PART NO.	QTY.	DESCRIPTION
1	139-70939	1	OIL PAN
2	140-70939	20	BOLT
12	143-70939	1	DIPSTICK TUBE
13	144-70939	2	O-RING
14	145-70939	1	BOLT
15	146-70939	1	DIPSTICK
16	182-70939	1	ROCKER COVER GASKET
17	183-70939	1	ROCKER COVER GASKET
18	184-70939	1	ROCKER COVER
19	185-70939	1	OIL STOPPER
20	186-70939	1	SCREEN
21	145-70939	2	BOLT
22	168-70939	1	GASKET
23	187-70939	3	NUT
24	188-70939	1	CAP
25	189-70939	1	O-RING
28	26073-A	1	1/4" PIPE PLUG
29	244-70939	1	O-RING
30	245-70939	1	TUBING
31	246-70939	1	SUCTION FILTER
32	145-70939	2	BOLT
33	122-70939	1	GASKET

EXPLODED VIEW — CRANKSHAFT, PISTON & FLYWHEEL

Drawing No. 75679

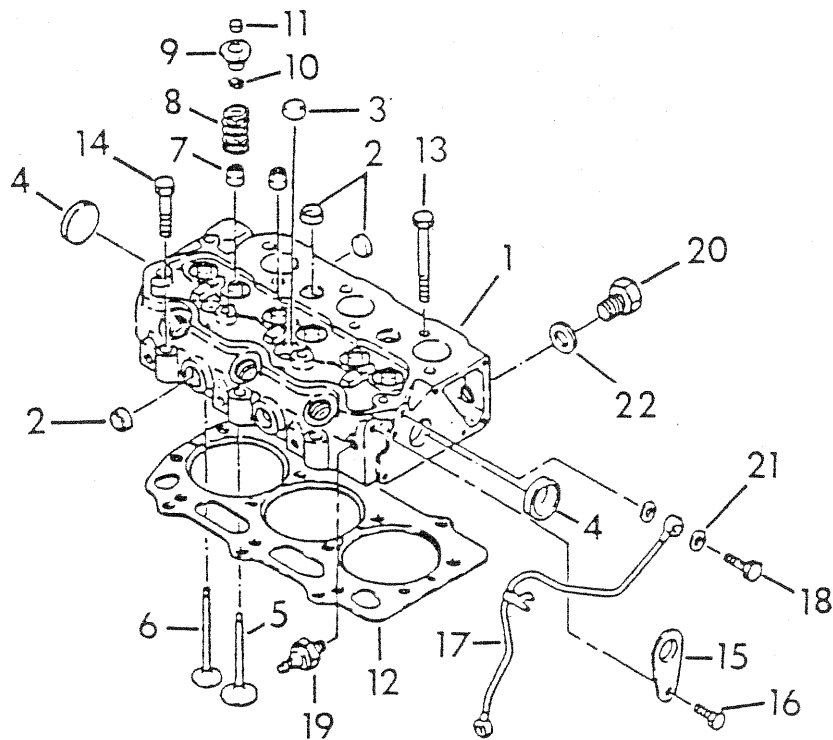


ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	143-70939	1	Crankshaft Assembly	16	214-70939	3	Standard Piston Assembly
2	194-70939	1	Crankshaft Gear		215-70939	AR	Piston Assembly - 0.5mm O.S.
3	195-70939	1	Key		216-70939	AR	Piston Assembly - 1.0mm O.S.
4	196-70939	1	Dowel Pin	17	211-70939	3	Standard Piston Ring Set
5	226-70939	1	Spring Pin		212-70939	AR	Piston Ring Set - 0.5mm O.S.
6	197-70939	1	Bearing Holder		213-70939	AR	Piston Ring Set - 1.0mm O.S.
7	200-70939	1	Bearing Holder	18	217-70939	3	Piston Pin
8	201-70939	1	Bearing Holder	19	218-70939	6	Snap Ring
9	198-70939	6	Bolt	20	219-70939	3	Connection Rod Assembly
10	199-70939	6	Dowel Pin	21	220-70939	3	Bushing
11	202-70939	3	Standard Bearing	22	221-70939	6	Connecting Rod Bolt
	203-70939	AR	0.25mm U.S. Bearing	23	222-70939	6	Nut, Connecting Rod Bolt
	204-70939	AR	0.50mm U.S. Bearing	24	223-70939	6	Standard Bearing
12	205-70939	3	Standard Bearing		224--70939	AR	Bearing — 0.25mm U.S.
	206-70939	AR	0.25mm U.S. Bearing		225-70939	AR	Bearing — 0.50mm U.S.
	207-70939	AR	0.50mm U.S. Bearing	28	230-70939	1	Pulley
13	208-70939	2	Thrust Washer	30	231-70939	1	Nut
14	204-70939	2	Bolt				
15	210-70939	1	Bolt				

U.S. — UNDERSIZE
O.S. — OVERSIZE

EXPLODED VIEW — CYLINDER HEAD

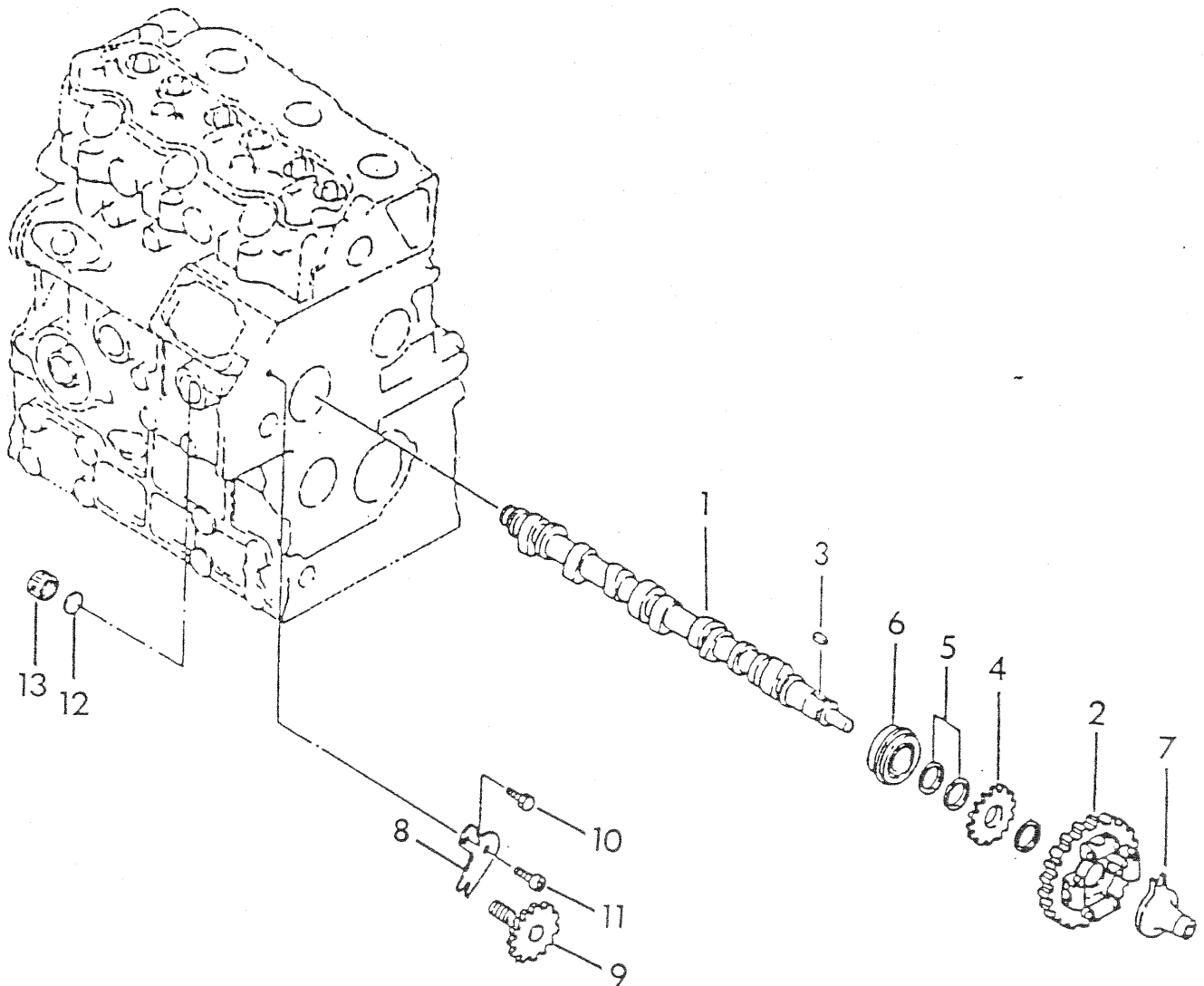
Drawing No. 75678



ITEM	PART NO.	QTY.	DESCRIPTION
1	147-70939	1	Cylinder Head Assembly
2	148-70939	6	Expansion Plug
3	447-70939	3	Expansion Plug
4	149-70939	2	Expansion Plug
5	150-70939	3	Intake Valve
6	151-70939	3	Exhaust Valve
7	152-70939	3	Valve Guide Seal (Exhaust)
	153-70939	3	Valve Guide Seal (Intake)
8	154-70939	6	Spring
9	155-70939	6	Retainer
10	156-70939	12	Key
11	157-70939	6	Cap
12	158-70939	1	Cylinder Head Gasket, 1.2mm thick
	159-70939	1	Cylinder Head Gasket, 1.3mm thick
13	160-70939	11	Bolt
14	161-70939	3	Bolt
15	162-70939	2	Lifting Eye
16	163-70939	2	Bolt
17	164-70939	1	Tubing
18	165-70939	2	Bolt
19	60108	1	Oil Switch
20	167-70939	1	Thermo-Switch
21	168-70939	4	Gasket
22	169-70939	1	Washer

EXPLODED VIEW — CAM SHAFT

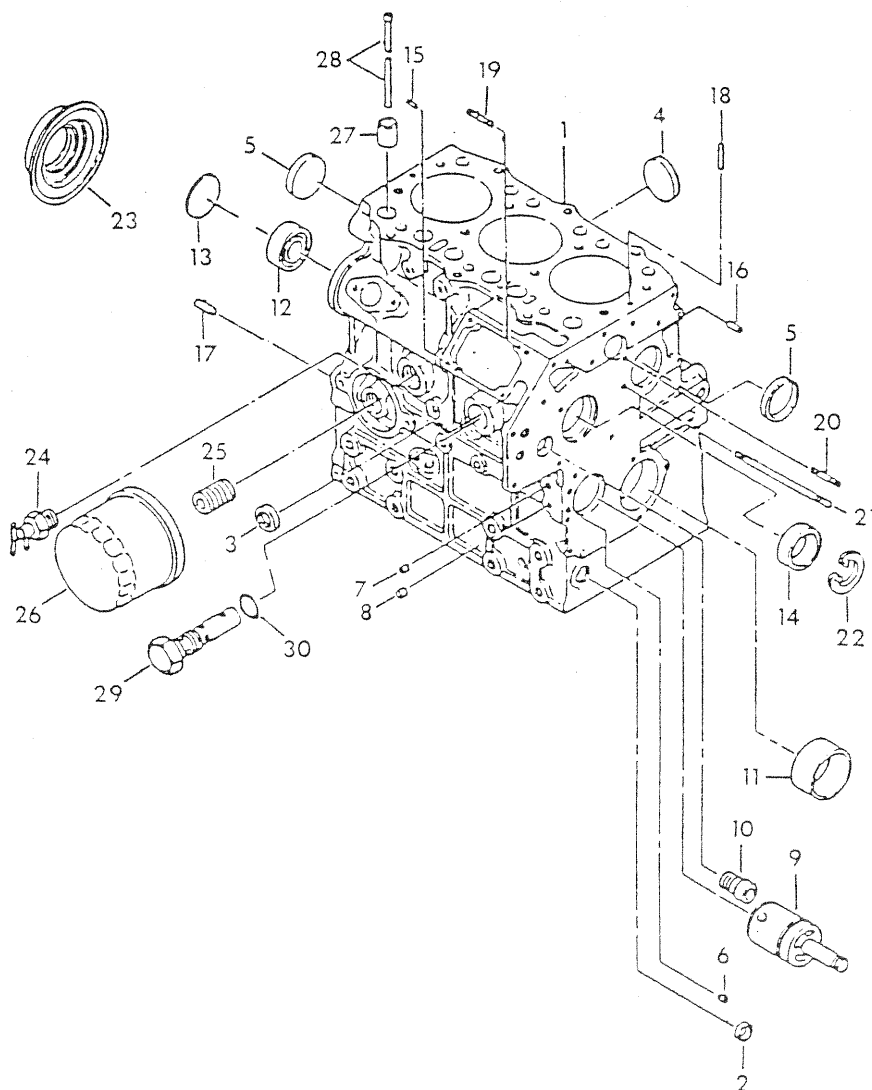
Drawing No. 75677



ITEM	PART NO.	QTY.	DESCRIPTION
1	232-70939	1	Camshaft Assembly
2	233-70939	1	Camshaft Gear
3	195-70939	1	Key
4	234-70939	1	Gear
5	235-70939	3	Spacer
6	236-70939	1	Ball Bearing
7	237-70939	1	Slider
8	238-70939	1	Plate
9	239-70939	1	Tachometer Shaft
10	240-70939	1	Bolt
11	241-70939	1	Bolt
12	242-70939	1	Gasket
13	243-70939	1	Nut

EXPLODED VIEW — CYLINDER BLOCK

Drawing No. 75676

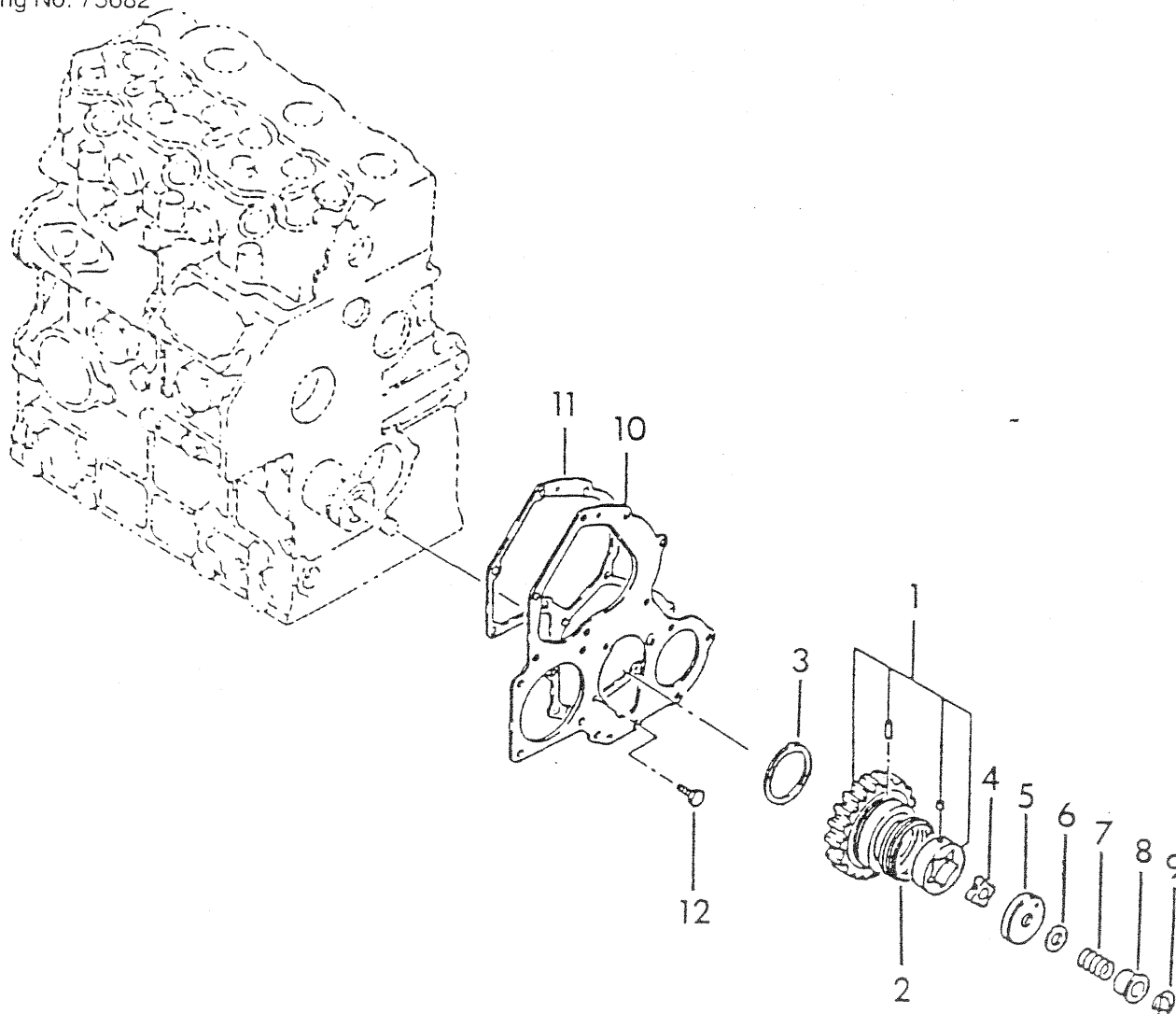


ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	100-70939	1	Complete Cylinder Block	17	117-70939	2	Dowel Pin
2	447-70939	1	Expansion Plug	18	118-70939	2	Spring Pin
3	101-70939	1	Expansion Plug	19	119-70939	2	Stud
4	102-70939	2	Expansion Plug	20	120-70939	1	Stud
5	103-70939	2	Expansion Plug	21	121-70939	1	Stud
6	104-70939	1	Expansion Plug	22	131-70939	1	Snap Ring
7	105-70939	4	Plug	23	123-70939	1	Oil Seal
8	106-70939	4	Plug	24	124-70939	1	Drain Cock
9	107-70939	1	Idle Gear Shaft	25	125-70939	1	Connector
10	108-70939	1	Bushing	26	126-70939	1	Oil Filter
11	109-70939	1	Bushing — Standard	27	127-70939	6	Tappet
	110-70939	1	0.25mm U.S. Bushing	28	128-70939	6	Push Rod
	111-70939	1	0.50mm U.S. Bushing	29	129-70939	1	Relief Valve
12	112-70939	1	Ball Bearing	30	130-70939	1	O-ring
13	113-70939	1	Expansion Plug				
14	114-70939	1	Ball Bearing				
15	115-70939	2	Dowel Pin				
16	116-70939	2	Dowel Pin				

mm = millimeter
U.S. = Undersize

EXPLODED VIEW — OIL PUMP COMPONENTS

Drawing No. 75682

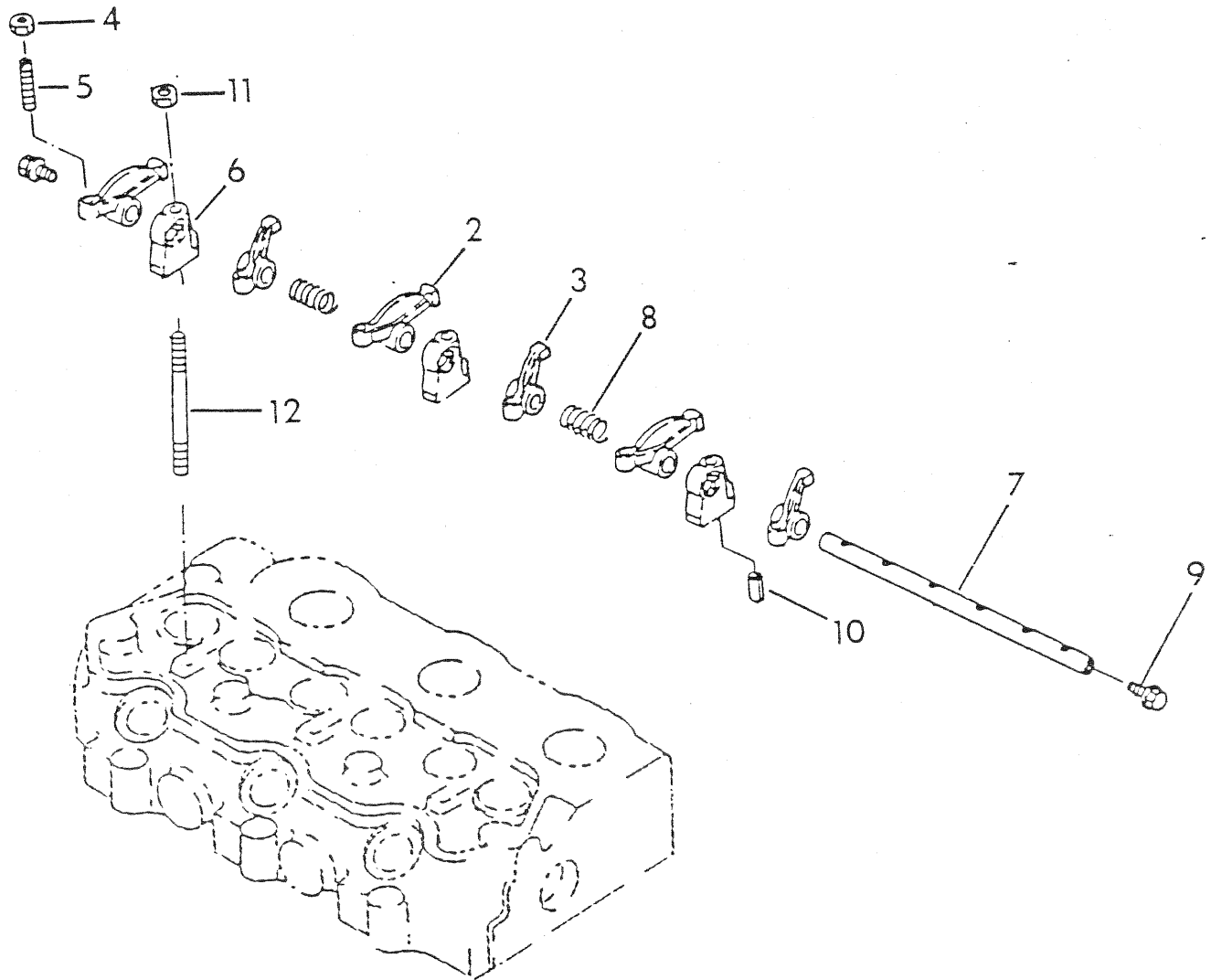


ITEM	PART NO.	QTY.	DESCRIPTION
1	250-70939	1	Idler Gear Assembly
2	252-70939	1	Spring
3	251-70939	1	Thrust Washer
4	253-70939	1	Rotor
5	254-70939	1	Oil Pump Cover
6	255-70939	AR	0.1mm Shim
	531-70939	AR	0.15mm Shim
	532-70939	AR	0.2mm Shim
	258-70939	AR	0.50mm Shim
7	259-70939	1	Spring
8	260-70939	1	Collar
9	261-70939	1	Snap Ring
10	262-70939	1	Front Plate
11	263-70939	1	Gasket
12	264-70939	3	Bolt

AR — AS REQUIRED

EXPLODED VIEW — ROCKER ARM ASSEMBLY

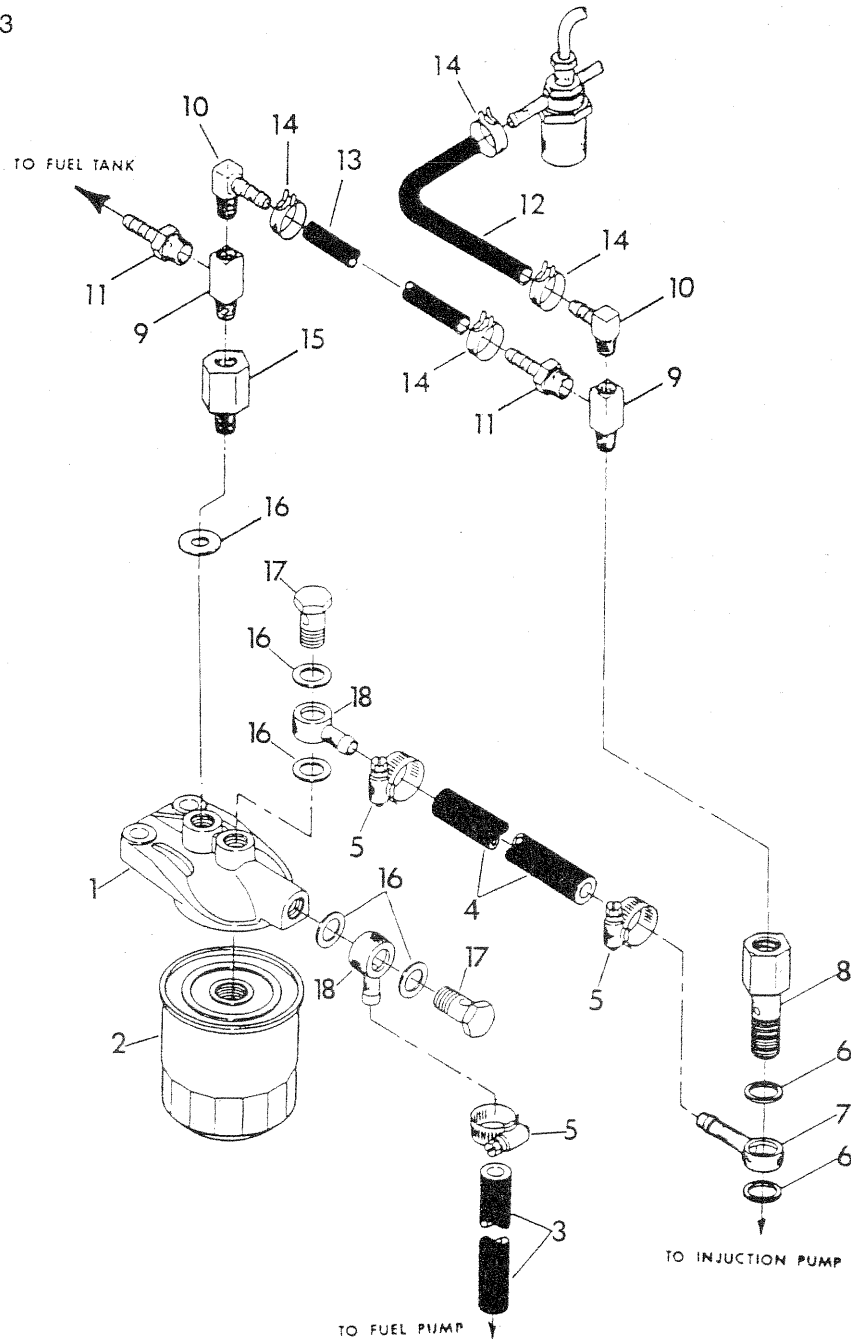
Drawing No. 75683



ITEM	PART NO.	QTY.	DESCRIPTION
1	170-70939	1	Rocker Arm Assembly
2	171-70939	3	Intake Rocker Arm
3	172-70939	3	Exhaust Rocker Arm
4	174-70939	6	Nut
5	173-70939	6	Stud
6	175-70939	3	Rocker Arm Bracket
7	176-70939	1	Rocker Arm Shaft
8	177-70939	2	Spring
9	178-70939	2	Screw
10	179-70939	1	Spring Pin
11	180-70939	3	Nut
12	181-70939	3	Stud

EXPLODED VIEW — FUEL SUPPLY

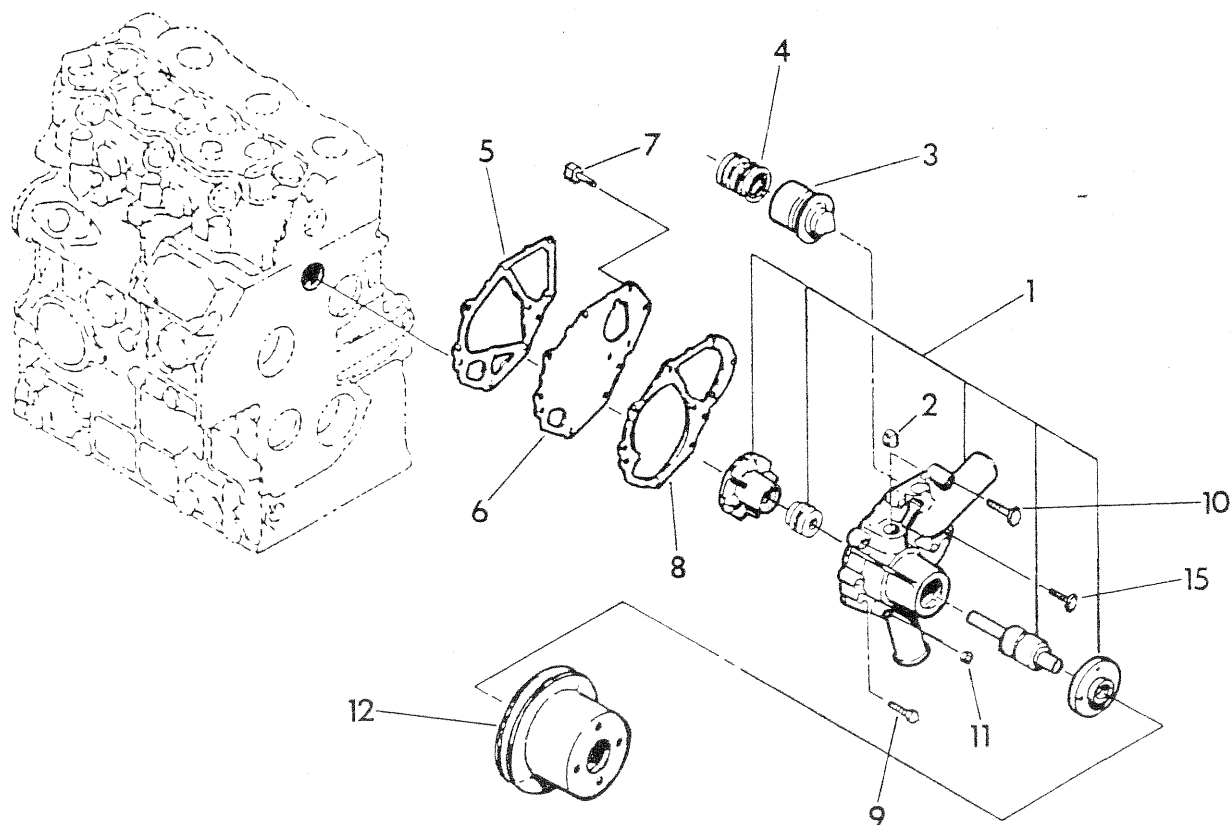
Drawing No. 75693



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	661-70939	1	Fuel Filter Support	11	30096	2	1/8" NPT x 3/16" Barbed
2	69858	1	Fuel Filter	12	68736	1	Straight Fitting
3	47290	1	3/8" dia. x 12-1/2" Hose	13	68736	1	3/16" dia. x 1/2" Hose
4	52221	1	5/16" dia. x 6-1/2" Hose	14	74823	4	3/16" dia. x 7-3/4" Hose
5	40173	4	No. 5.5 Hose Clamp	15	74819	1	Clamp
6	378-70939	2	Gasket	16	651-70939	5	Fuel Bleed Fitting
7	379-70939	1	Banjo Fitting	17	662-70939	2	Fuel Bleed Gasket
8	74808	1	Fuel Bleed Fitting	18	663-70939	2	Hollow Bolt
9	52233	2	1/8" NPT Tee (brass)				Banjo Type Fitting
10	39450	2	1/8" NPT x 3/16" 90-degree Barbed Fitting				

EXPLODED VIEW — WATER PUMP

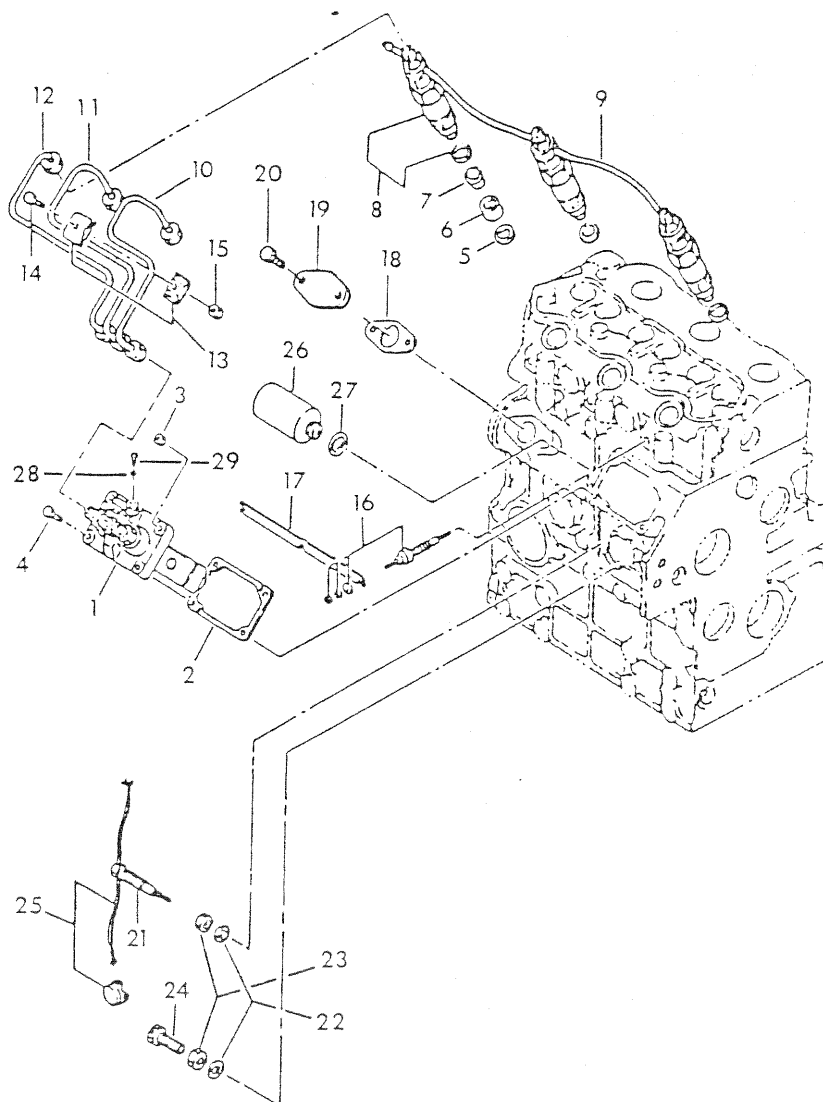
Drawing No. 82962



ITEM	PART NO.	QTY.	DESCRIPTION
1	265-70939	1	Water Pump Assembly
2	266-70939	1	Plug
3	267-70939	1	Thermostat
4	268-70939	1	Spring
5	269-70939	3	Gasket
6	270-70939	1	Set Plate
7	271-70939	1	Bolt
8	272-70939	1	Gasket
9	273-70939	1	Bolt
10	274-70939	1	Bolt
11	275-70939	1	Nut
12	247-70939	1	Pulley
15	284-70939	1	Bolt

EXPLODED VIEW — INJECTOR PUMP

Drawing No. 75686



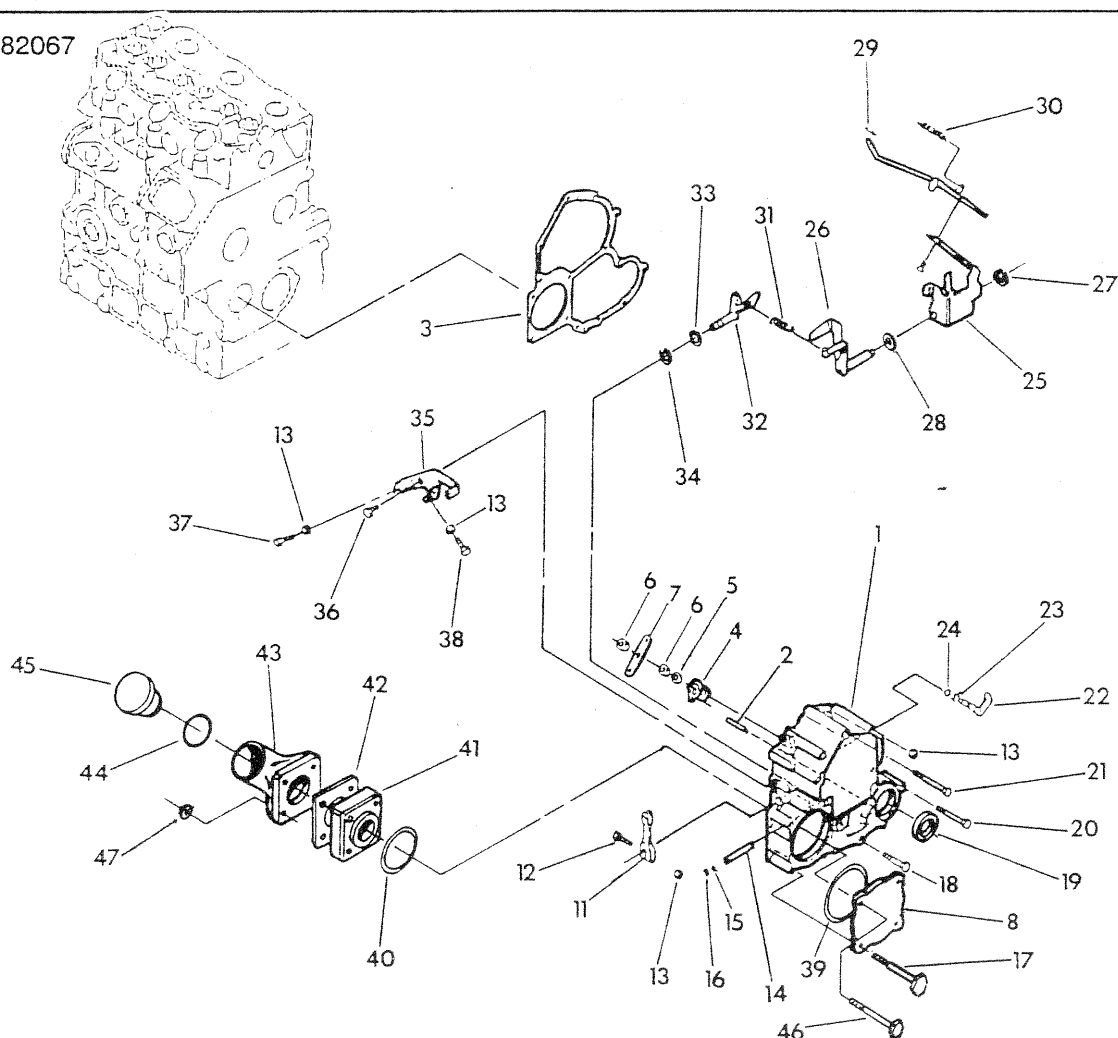
ITEM	PART NO.	QTY.	DESCRIPTION
1	316-70939	1	Injector Pump Assembly
2	317-70939	AR	0.2mm Shim
	318-70939	AR	0.3mm Shim
	319-70939	AR	0.5mm Shim
	320-70939	AR	1.0mm Shim
3	298-70939	2	Nut
4	321-70939	2	Bolt
5	322-70939	3	Gasket
6	323-70939	3	Insert
7	324-70939	3	Cap
8	325-70939	3	Injector
9	326-70939	1	Tubing
10	327-70939	1	Tubing
11	328-70939	1	Tubing
12	329-70939	1	Tubing
13	330-70939	1	Clamp
14	331-70939	1	Bolt

ITEM	PART NO.	QTY.	DESCRIPTION
15	298-70939	1	Nut
16	332-70939	3	Glow Plug
17	333-70939	1	Connector
18	334-70939	1	Gasket
19	335-70939	1	Cover
20	264-70939	2	Bolt
21	336-70939	1	Sensor
22	337-70939	2	Washer
23	338-70939	2	Nut
24	339-70939	1	Bolt
25	240-70939	1	Lock Wire
26	341-70939	1	Solenoid
27	342-70939	1	Washer
28	343-70939	1	Washer
29	344-70939	1	Screw

AR — AS REQUIRED

EXPLODED VIEW — TIMING GEAR HOUSING AND GOVERNOR

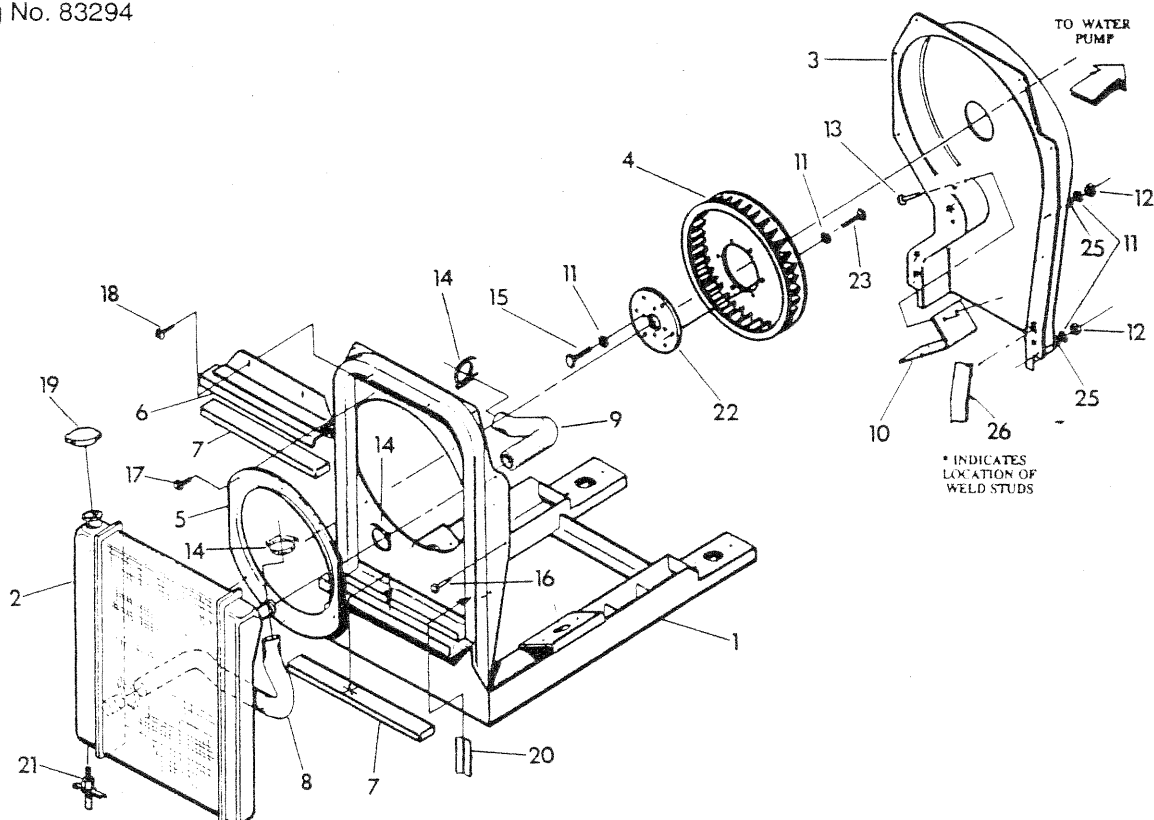
Drawing No. 82067



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	285-70939	1	Timing Gear Housing	25	289-70939	1	Governor Lever Assembly
2	286-70939	1	Spring Pin	26	290-70939	1	Tension Lever
3	287-70939	1	Gasket	27	291-70939	1	Snap Ring
4	307-70939	1	Spring	28	136-70939	1	Washer
5	308-70939	1	Washer	29	292-70939	1	Cotter Pin
6	309-70939	2	Nut	30	313-70939	1	Spring
7	310-70939	1	Stop Lever	31	293-70939	1	Spring
8	314-70939	2	Cover	32	294-70939	1	Arm
9	315-70939	1	Gasket	33	295-70939	1	O-Ring
10	180-70939	4	Nut	34	291-70939	1	Snap Ring
11	296-70939	1	Governor Lever	35	302-70939	1	Bracket
12	297-70939	1	Bolt	36	271-70939	3	Bolt
13	298-70939	4	Nut	37	303-70939	2	Bolt
14	299-70939	1	Shaft	38	71944	1	Screw
15	300-70939	1	O-Ring	39	660-70939	1	O-Ring
16	301-70939	1	Snap Ring	40	534-70939	1	O-Ring
17	540-70939	3	Bolt	41	535-70939	1	Spacer
18	282-70939	5	Bolt	42	536-70939	1	Gasket
19	288-70939	1	Oil Seal	43	537-70939	1	Holder
20	274-70939	4	Bolt	44	539-70939	1	O-Ring
21	311-70939	5	Bolt	45	188-70939	1	Cap
22	304-70939	1	Arm	46	541-70939	1	Bolt
23	305-70939	1	Snap Ring	47	538-70939	3	Nut
24	306-70939	1	O-Ring				

EXPLODED VIEW — RADIATOR

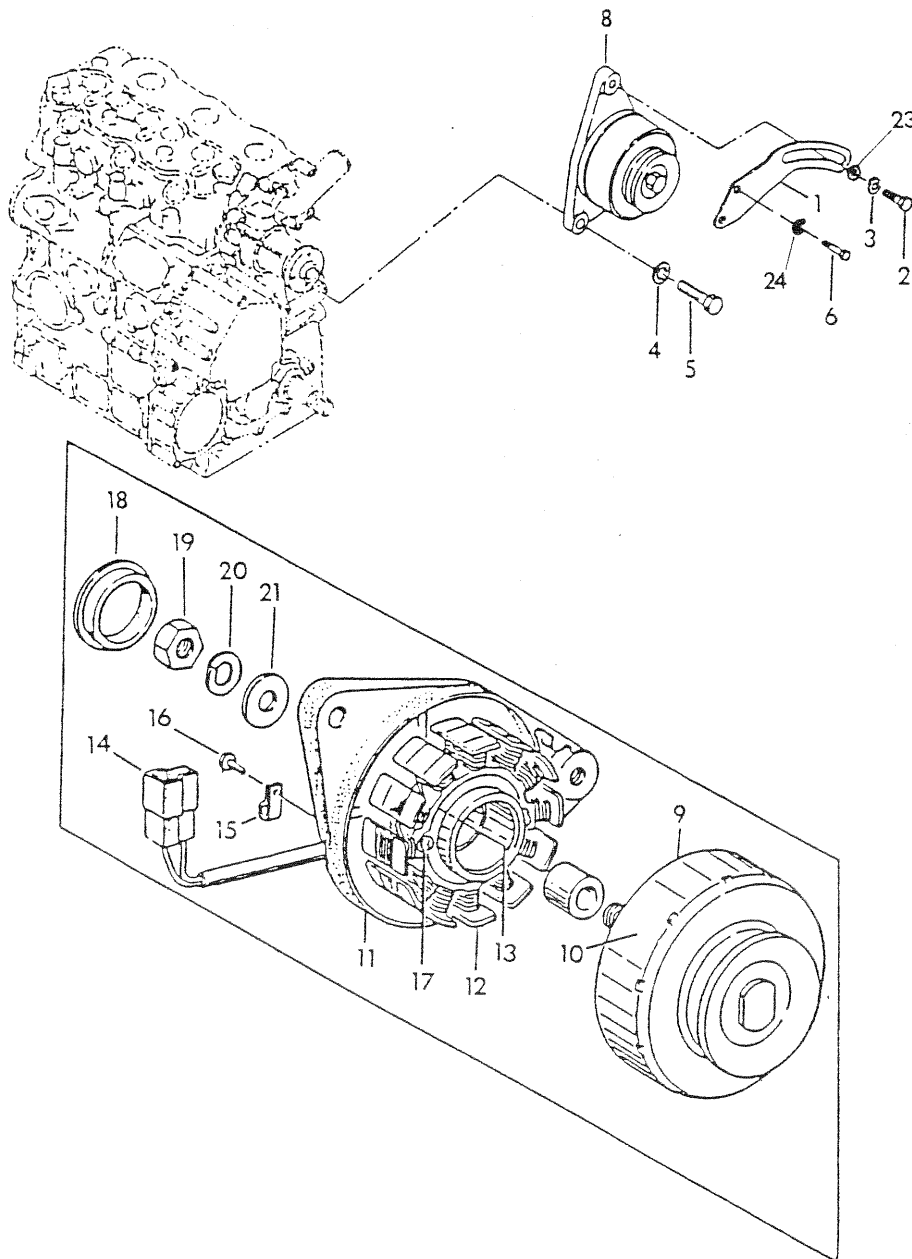
Drawing No. 83294



ITEM	PART NO.	QTY.	DESCRIPTION
1	83098	1	ASSEMBLY, BASE
2	83057	1	RADIATOR, CROSS FLOW
3	80245	1	BLOWER HOUSING
4	81905	1	FAN, ENGINE
5	82603	1	RING, FAN INLET
6	83058	1	BRACKET, RADIATOR MOUNTING
7	81977-A	2	FOAM PAD
8	81947	1	HOSE, LOWER RADIATOR
9	81946	1	HOSE, UPPER RADIATOR
10	82605	1	PLATE, BLOWER HOUSING
11	22097	15	LOCK WASHER — M6
12	49813	11	NUT, HEX — M6-1.0
13	66831	2	RIVET, POP
14	35586	4	CLAMP (WORM TYPE)
15	45757	4	CAPSCREW, HEX HEAD — M6-1.0 x 25mm
16	42568	7	CAPSCREW, HEX HEAD — M6-1.0 x 20mm
17	56892	6	CRIMPTITE, No. 10-32 x 3/8"
18	58442	2	CRIMPTITE, 1/4"-20 x 1/2"
19	46627	1	CAP, RADIATOR
20	52250	5 ft.	FOAM PAD — 3/4" x 1" WIDE
21	50832	1	DRAIN COCK — V8 NPT
22	81976	1	HUB, FAN
23	51787	6	CAPSCREW, HEX HEAD — M4-0.7 x 16mm
24	22152	6	LOCK WASHER — M4
25	22473	11	FLAT WASHER — M6
26	29451	5 ft.	FOAM TAPE — 1/8" x 1/2"

EXPLODED VIEW — D-C ALTERNATOR

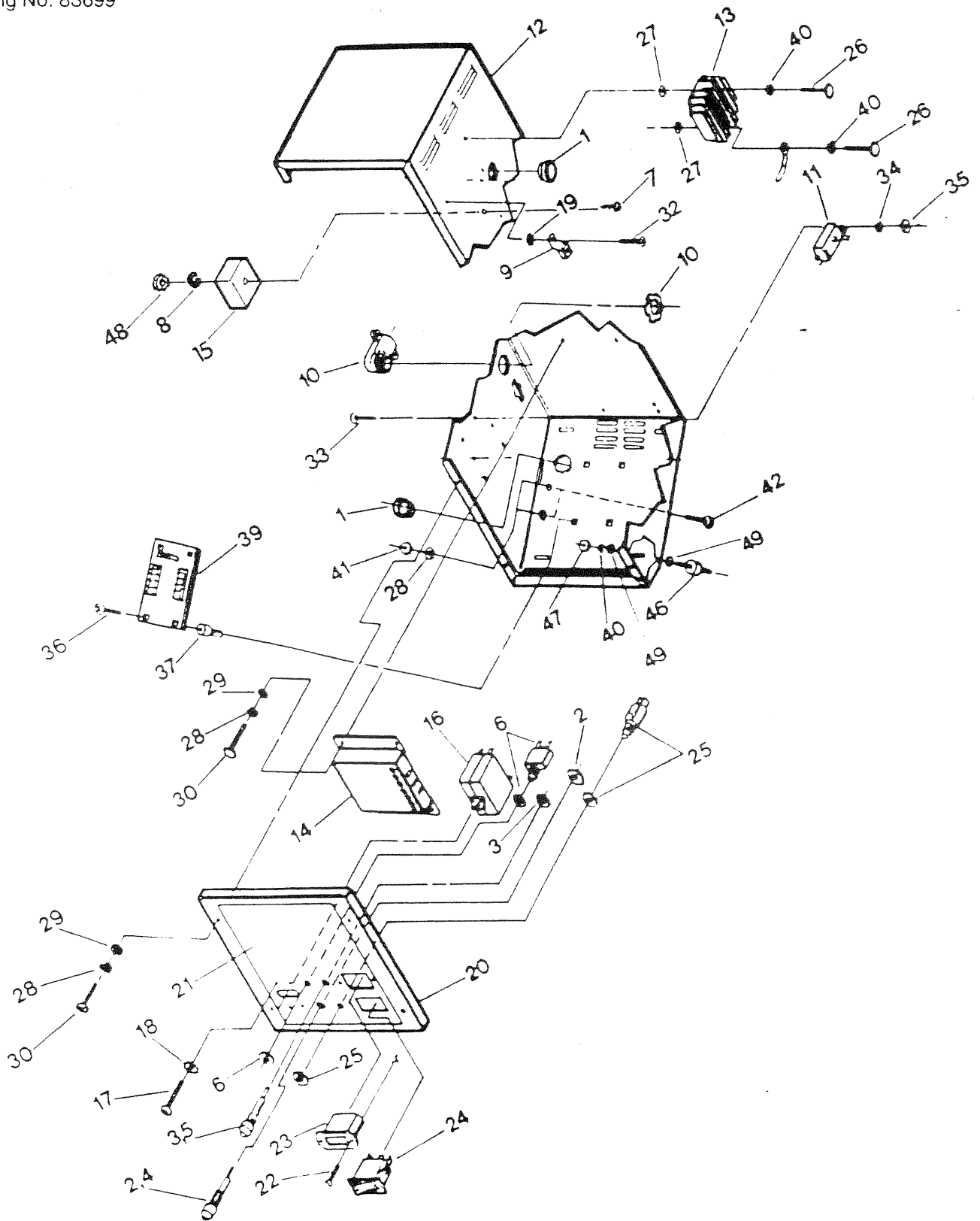
Drawing No. 75685



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	77909	1	Adjusting Plate	13	349-70939	1	Bearing
2	74829	1	M8-1.25 x 30mm Bolt	14	352-70939	1	Coupler
3	72545	1	Lock Washer	15	353-70939	1	Clamp
4	74007	1	M10 Flat Washer	16	354-70939	1	Screw
5	74069	1	M10-1.5 x 40mm Capscrew	17	355-70939	2	Screw
6	51753	2	M6-1.0 x 40mm Bolt	18	350-70939	1	Cap
8	277-70939	1	Alternator Assembly	19	351-70939	1	Nut
9	345-70939	1	Flywheel	20	137-70939	1	Lock Washer
10	349-70939	1	Bearing	21	280-70939	1	Washer
11	346-70939	1	Plate Assembly	22	356-70939	1	Collar
12	348-70939	1	Stator	23	74827	1	M8 Flat Washer
				24	70005	2	M6 Lock Washer

EXPLODED VIEW — CONTROL BOX

Drawing No. 83699



REPAIR PARTS LIST — CONTROL BOX

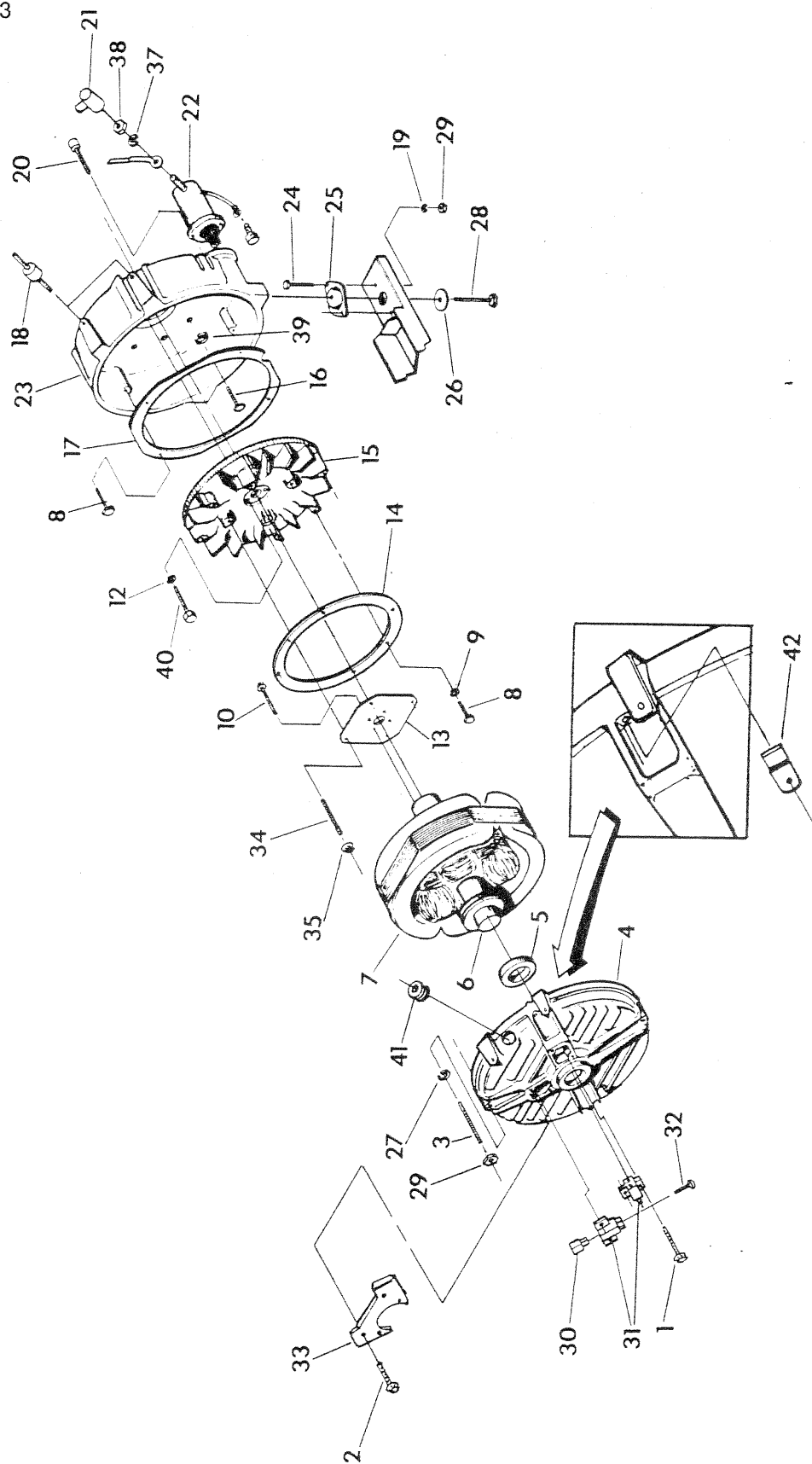
Drawing No. 83699

ITEM	PART NO.	QTY.	DESCRIPTION
1	23484-F	2	SB-1000-12 Snap Bushing
2	32300	1	30-amp AGC Fuse Holder
3	81904	1	14-amp SFE Fues Holder
4	22668	1	30-amp AGC Fuse
5	55927	1	14-amp SFE Fuse
6	75207-B	1	10-amp DC Circuit Breaker
7	22220	1	No. 6 x 7/8" long Round Head Machine Screw
8	22155	1	No. 6 Lock Washer
9	25433	1	No. 6-No. 14 AWG Solderless Lug
10	39271	1	3/4" Greenlee, 90-degree Conduit Clamp
11	48512	1	5-amp Circuit Breaker
12	81903	1	Control Box
13	71938-A	1	DC Regulator
14	67680	1	AC Regulator Assembly
15	83635	1	AC Transformer
16	74969	1	35-amp Circuit Breaker
17	36900	4	No. 6-32 x 1/4" Phillips Pan Head Machine Screw
18	22155	4	No. 6 Lock Washer
19	23762	1	No. 10 External Lock Washer
20	81902	1	Control Panel
21	81884-D	1	Control Panel Decal
22	74076	2	M3-0.5 x 10mm Pan Head Machine Screw
23	77604	1	Hour Meter
24	75208	1	Start/Stop Switch
25	55920	1	Preheat Switch
26	42568	2	M6-1.0 x 20mm Hex Head Capscrew
27	26850	2	M6 External Lock Washer
28	22152	10	M5 Lock Washer
29	23897	8	M5 Flat Washer
30	45770	8	M5-0.8 x 10mm Hex Head Capscrew
31	*77744	1	Customer Leads
32	74041	1	M5-0.8 x 20mm Phillips Pan Head Machine Screw
33	51718	2	M4-0.7 x 10mm Pan Head Machine Screw
34	43184	2	M4 Lock Washer
35	51715	2	M4-0.7 Hex Nut
36	80882	4	No. 6 x 5/8" Self-tapping Screw
37	72566	4	Spacer Nut
39	70325	1	Engine Controller Assembly
40	22097	6	M6 Lock Washer
41	51716	2	M5 Hex Nut
42	55440	2	M5-0.8 x 25mm Hex Head Capscrew
44	*82617	1	Panel Wire Harness
45	*81951	1	Engine Wire Harness
46	82737	4	Vibration Dampener
47	49813	4	M6-1.0 Nut
48	22188	1	No. 6 Hex Nut
49	22473	8	M6 Flat Washer

* NOT SHOWN

EXPLODED VIEW — GENERATOR

Drawing No. 81983



REPAIR PARTS LIST — GENERATOR

Drawing No. 81983

ITEM	PART NO.	QTY.	DESCRIPTION
1	24488	4	No. 8 x 5/8" Taptite Screw
2	24911	4	No. 8 x 3/8" Taptite Screw
3	BN45761	4	M8-1.25 x 160mm Stud
4	81931	1	15" RV Rear Bearing Carrier
5	47248	1	45M Ball Bearing
6	81956	1	15" RV, 2.5L ASM Rotor
7	81955	1	15" RV, 2.5L ASM Stator
8	45770	10	M5-0.8 x 10mm Hex Head Capscrew
9	22152	6	No. 10 Lock Washer
10	81974	4	M8 x 20mm Hex Flange Bolt
11	74066	4	M10-1.25 x 30mm Hex Screw
12	22302	4	M10 Lock Washer
13	81952	1	15" RV, 15M Flex Plate
14	81900	1	Ring Fan
15	81192	1	15" ISM Flywheel Mach.
16	42911	4	M10-1.5 x 30mm Hex Head Capscrew
17	81901	1	Air Ring Baffle
18	82737	4	Vibration Mount
19	22145	4	5/16-M8 Flat Washer
20	59450	2	5/16-18 x 1-1/4" Hex Head Capscrew
21	75763	1	Battery Cable Boot
22	70954	1	Starter Motor
23	81929	1	15", ISM 1L Engine Adaptor
24	39253	4	M8-1.25 x 20mm Hex Head Capscrew
25	70936	2	Vibration Isolator
26	71956	2	5/16-M8 Flat Washer
27	22129	8	5/16-M8 Lock Washer
28	72553	2	M8-1.25 x 60mm Hex Head Screw
29	45771	8	M8-1.25 Hex Nut
30	A-24044-A	4	Brush
31	23877-D	2	Brush Holder
32	25105	4	No. 6-32 x 1/4" SIMS
33	82626	1	Brush Cover
34	BM45761	4	M8-1.25 x 30mm Stud
35	52858	4	M8-1.25 Hex Nut Flange
36	81991	1	Red Wire Assembly
37	22097	1	1/4" Lock Washer
38	22127	1	1/4-20 Hex Nut
39	22237	4	M10 Lock Washer
40	42909	2	M8-1.25 x 30mm Hex Head Capscrew
41	29107	1	Rubber Grommet
42	25155	1	Clamp