

ZPP 644 Engine 4.4L Six Cylinder

Zenith Power Products 644 - Engine 4.4L Six Cylinder

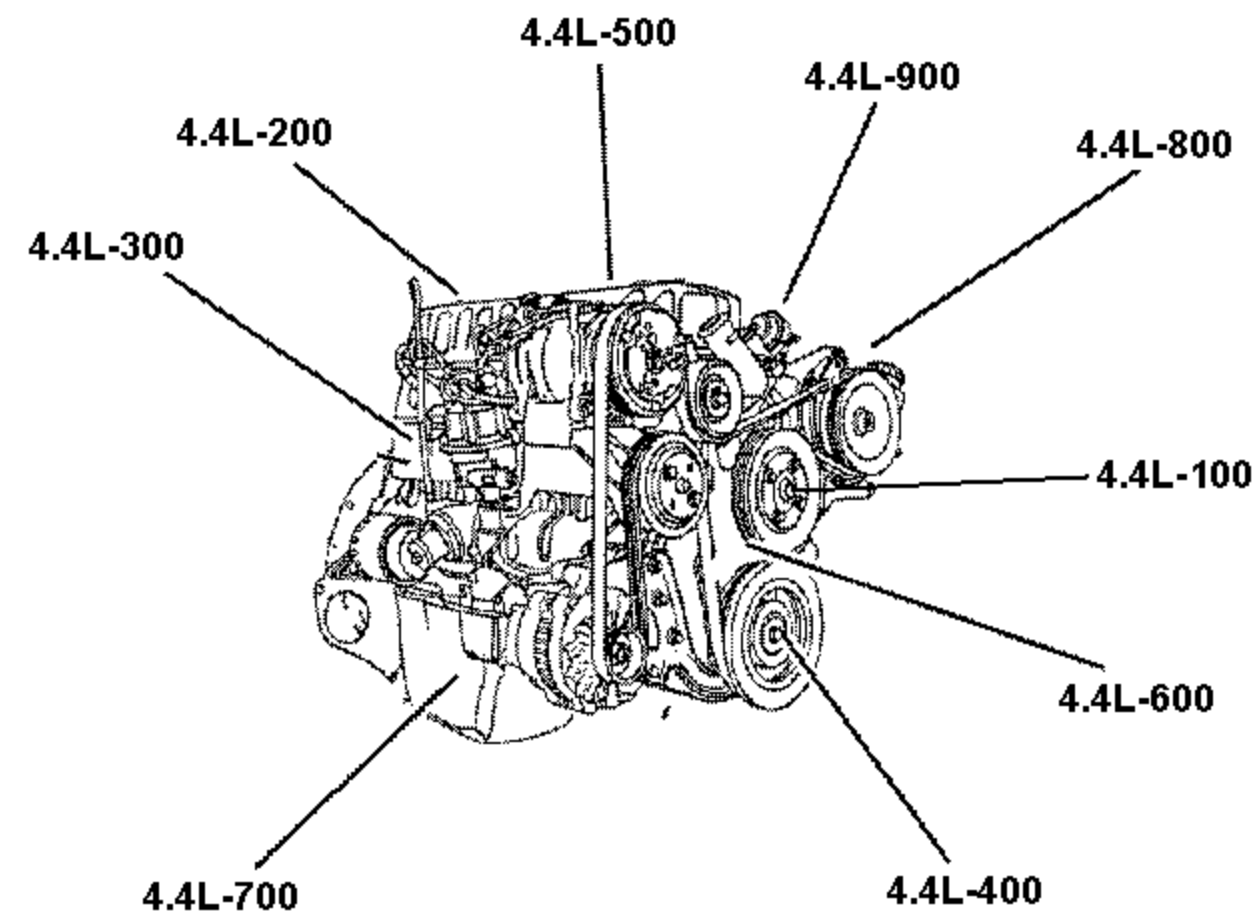


Illustration Title

Group-Fig. No.

Engine Cooling System

Water Pump, Thermostat, Hoses, Fans Fig. 4.4L-110

Cylinder Head

Cylinder Head Fig. 4.4L-210

Cylinder Block

Cylinder Block Fig. 4.4L-310

Engine Rotating Assembly

Pistons, Connecting Rods, and Crank Fig. 4.4L-410

Camshafts & Valves

Camshaft and Valves Fig. 4.4L-510

Timing Chain and Cover

Timing Cover Fig. 4.4L-610

Engine Oiling

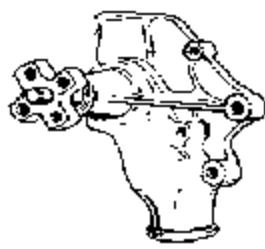
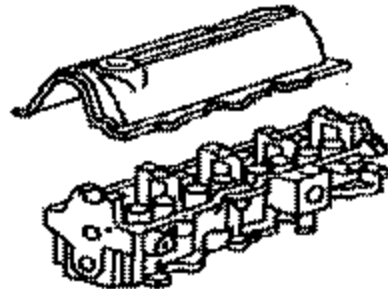
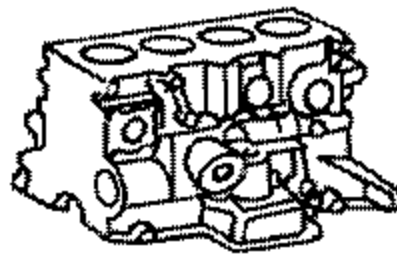
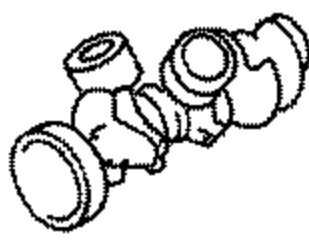
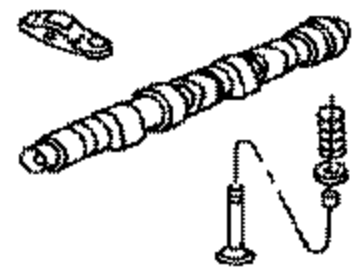
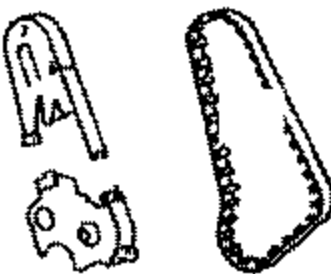

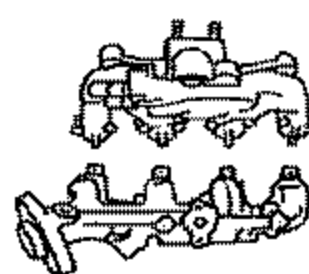
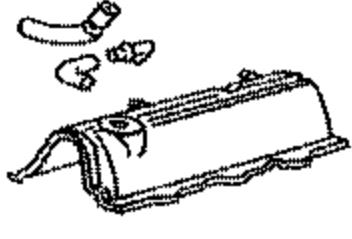
Engine Oiling Fig. 4.4L-710

Manifolds

Manifold, Intake and Exhaust Fig. 4.4L-810

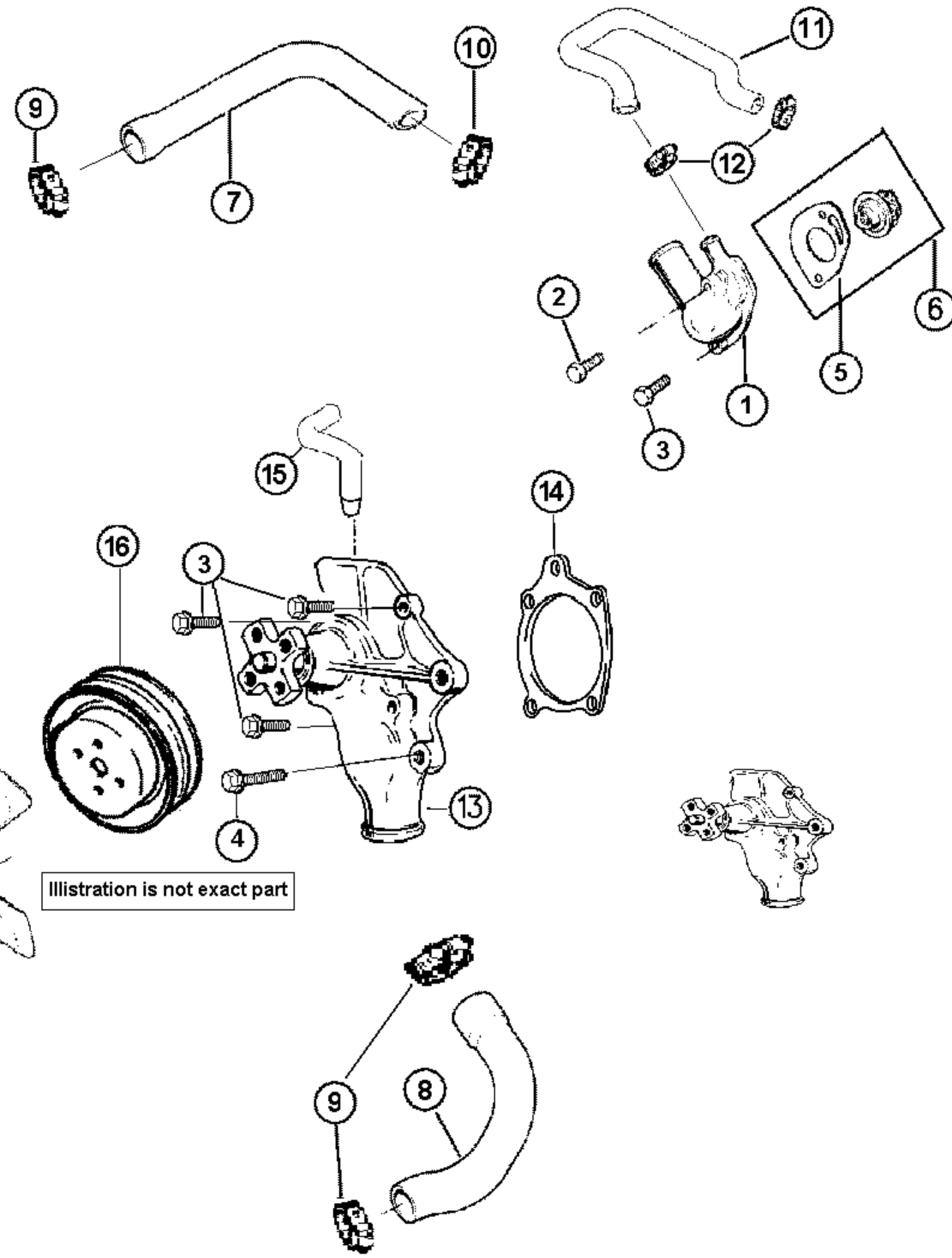
Crankcase Ventilation

Crankcase Ventilation Fig. 4.4L-910

4.4L-100 Cooling System 	4.4L-200 Cylinder Head 	4.4L-300 Cylinder Block 	4.4L-400 Engine Rotating Assembly 	4.4L-500 Camshafts & Valves 
4.4L-600 Timing Chain and Cover 	4.4L-700 Engine Oiling 	4.4L-800 Manifolds 	4.4L-900 Crankcase Ventilation 	

COOLING SYSTEM AND RELATED PARTS ZPP 428, 644

Figure 4.4-110

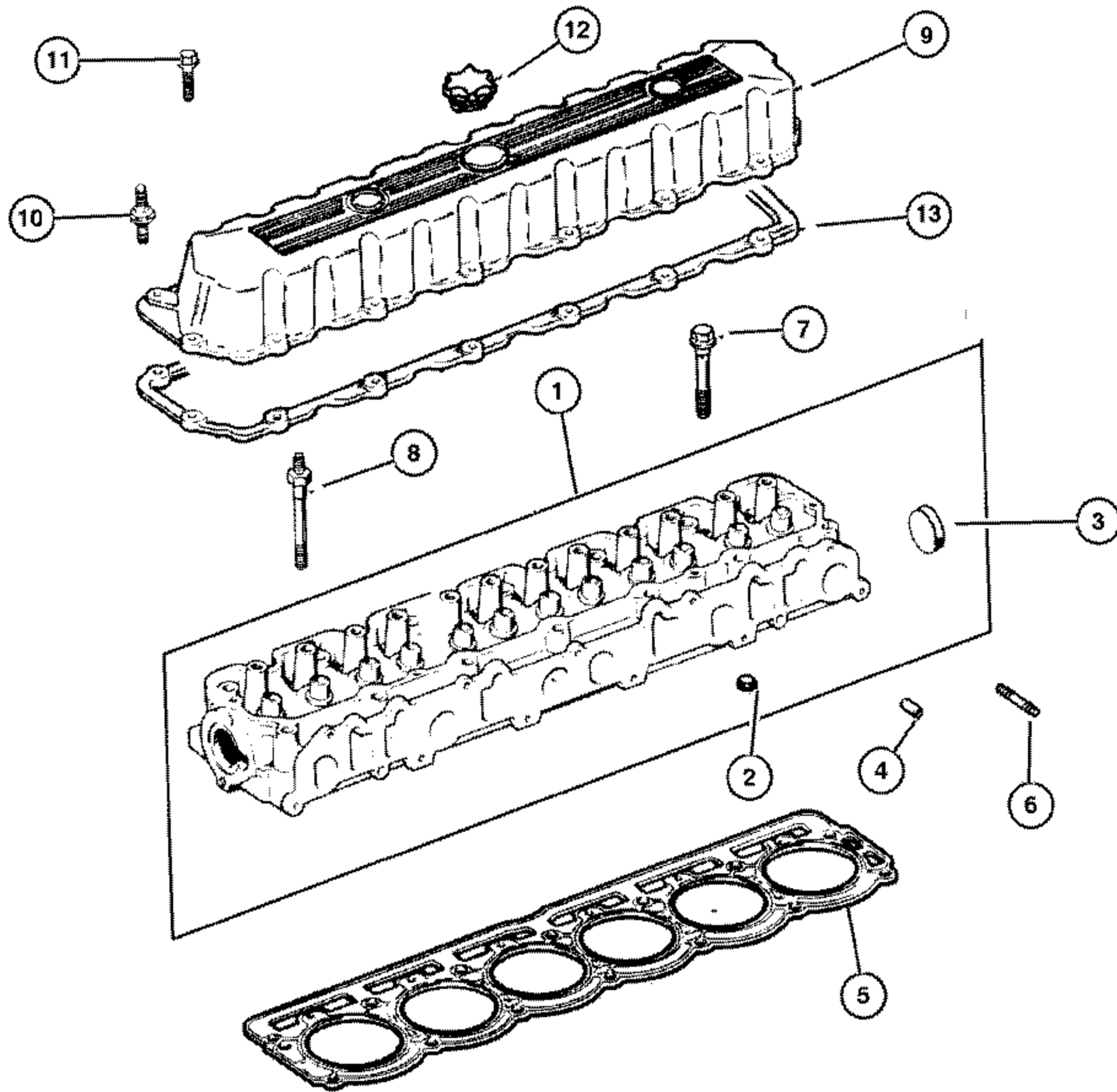


ITEM	PART NUMBER	QTY		DESCRIPTION
1	A1050070AA	1		HOUSING, Thermostat
2	T16S31-36	1		BOLT, HHCSFL 5/16-18 X 2.25
3	T16S31-12	4		BOLT, HHCSFL 5/16-18 X .75
4	ZPP-T16S31-24	1		BOLT, HHCSFL 5/16-18 X 1.50
5	1053020547	1		GASKET, Thermostat housing
6	1052001797	1		THERMOSTAT
7	68900508	1		HOSE, Upper
8	68900507	1		HOSE, Lower
9	ZPP-C956-31	3		CLAMP, Hose #36
10	ZPP-C956-25	1		CLAMP, Hose #24
11	ZPP-99380	1		HOSE, Thermostat to bypass
12	ZPP-C956-31	3		CLAMP, Hose #10
13	1033007033ZP	1		WATER PUMP, Clockwise
(a)	04626054AF	1	Non Illustrated Part	(with P/S option) WATER PUMP, Counter Clockwise
14	1003173204	1		GASKET, Water Pump
15	ZPP-C672-134	1		TUBE, Water Pump Heater Return
16	1053007154ZP	1		PULLEY, Water Pump 5 Groove CW
(a)	53007154	1	Non Illustrated Part	PULLEY, Water Pump Smooth CCW
17	ZPP-C190-328P	1	Non Illustrated Part	FAN, Pusher, 4 Blade 18"
(a)	ZPP-C190-328S	1	Non Illustrated Part	FAN, Puller, 4 Blade 18"
(b)	ZPP-C190-328-8S	1	Non Illustrated Part	FAN, Pusher, 8 Blade 18"
(c)	ZPP-C190-328-8P	1	Non Illustrated Part	FAN, Puller, 8 Blade 18"
(d)	ZPP-C190-352	1	Non Illustrated Part	FAN, Puller, 4 Blade 16" CCW
(e)	ZPP-C190-342S	1	Non Illustrated Part	FAN, Puller, 4 Blade 16" CW
18	ZPP-T2S31-52	4		BOLT, HHCS, 5/16 x 24 x 3.25
19	T41-31	4		LOCKWASHER, 5/16

* Part Has Multiple Applications- May Not Be Shown In Illustration

Cylinder Head 644
Figure 4.4L-210

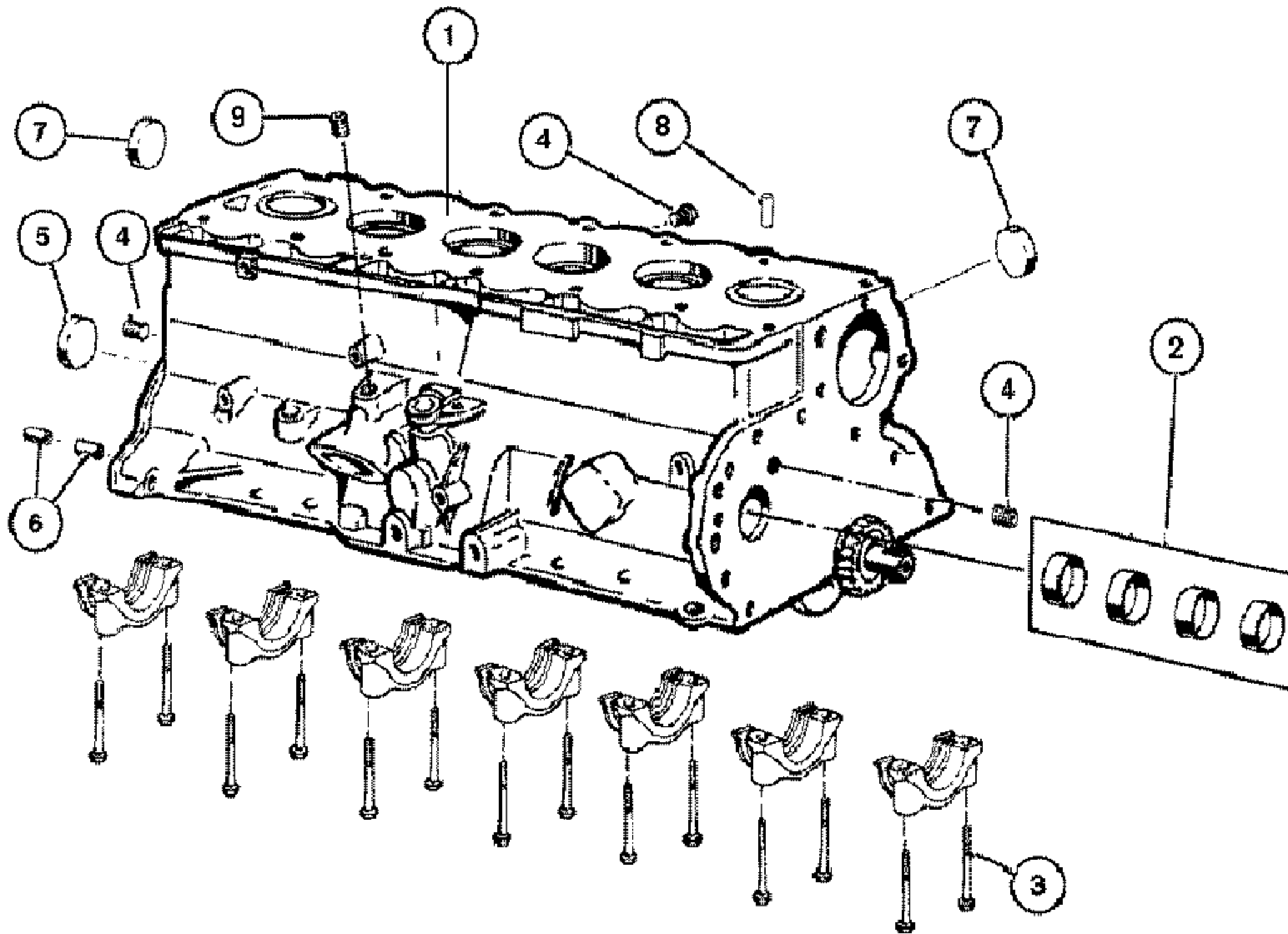
ITEM	PART NUMBER	QTY	DESCRIPTION
1	ZPP644N 1003 610AA	1	HEAD, Cylinder (Bare)
2	ZPP-T91-10	1	PLUG, Pipe 1/8 NPT
3	ZPP-C672-09	1	PLUG, Expansion 2.00" x .375"
4	1003172318	2	DOWEL, Cylinder Head To Intake
5	1053020754AB	1	GASKET, Cylinder Head
6	A1060030AA	2	STUD, .375-16/.375-24x1.75, Head To Manifold Outer
7	14007308	7	BOLT, Cylinder Head
8	10J4007310	7	STUD, Double Ended, .50-13/.437-14x6.00
9	ZPP644N 1014 610AA	1	COVER, Cylinder Head Valve
10	ZPP-T92-25-36	4	STUD, .250-20x2.25
11	ZPP-T16S25-16	11	BOLT, Hex Flange Head, .250-20x1.00
12	ZPP-C972-1-28	1	CAP, Oil Filler
13	ZPP-C672-21	1	GASKET, Valve Cover



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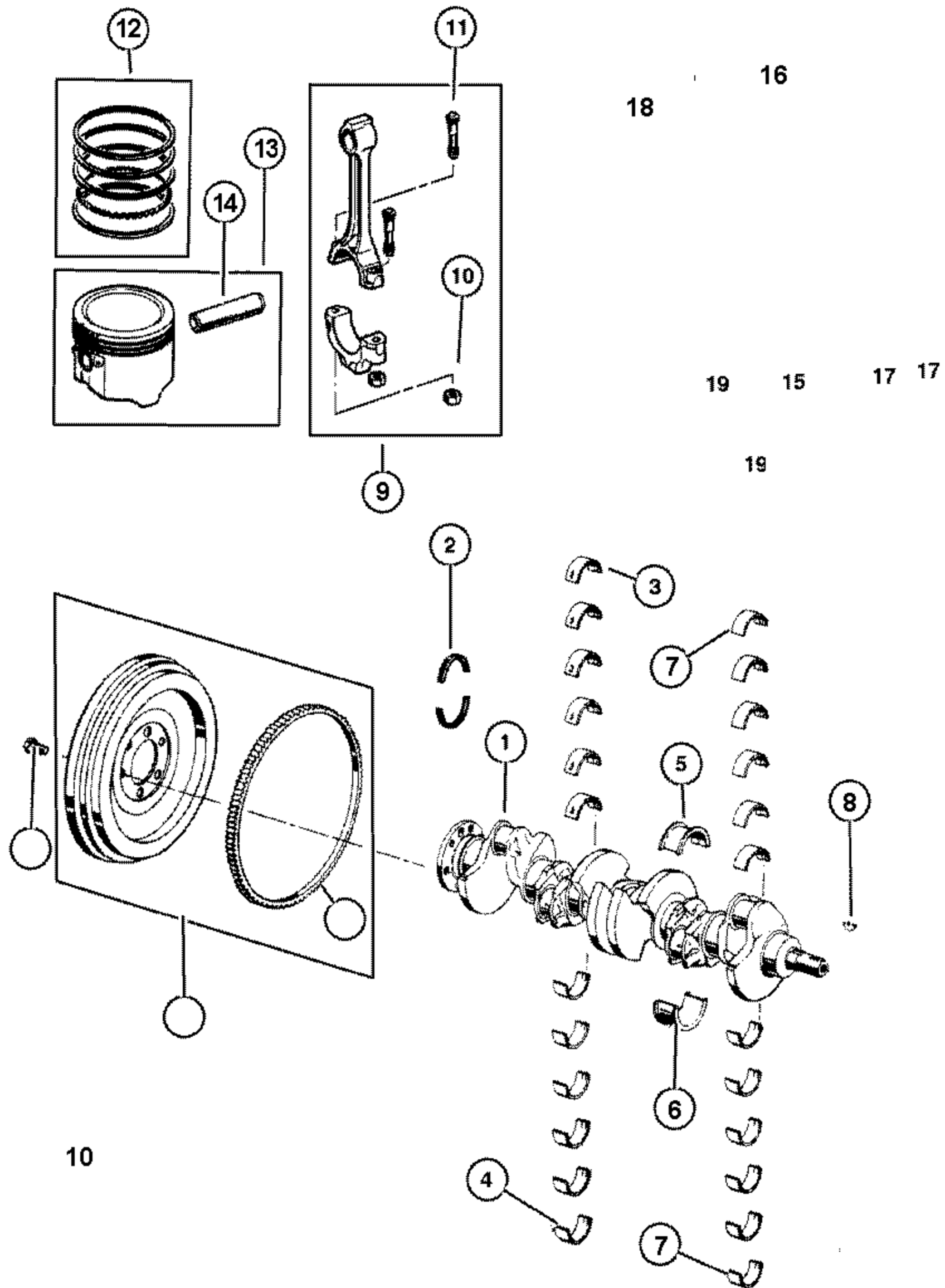
July 24, 2014

Cylinder Block 644
Figure 4.4L-310



ITEM	PART NUMBER	QTY		DESCRIPTION
1	53010453AB	1		BLOCK, Engine (Bare)
2	ZPP-672-25	1		BEARING PACKAGE, Camshaft, Standard Size
3	14006948	14		Bolt, Main .500-13
4	ZPP-T91-12	3		PLUG, Oil Gallery .375 NPT
5	10J3105394	1		PLUG, Camshaft 2.125x.375
6	14005148	2		DOWEL, Backend
7	ZPP-C672-09	6		PLUG, Expansion
8	ZPP-C672-37	2		DOWEL, .312 x .500
9	ZPP-T299-4	1		BUSHING, Reducing, 3/8 NPT to 1/8 NPT
*10	T169-10	1	Non Illustrated Part	ELBOW, 45 Degree 1/8 NPT
*11	C782-20	1	Non Illustrated Part	SWITCH, Oil Pressure, NC

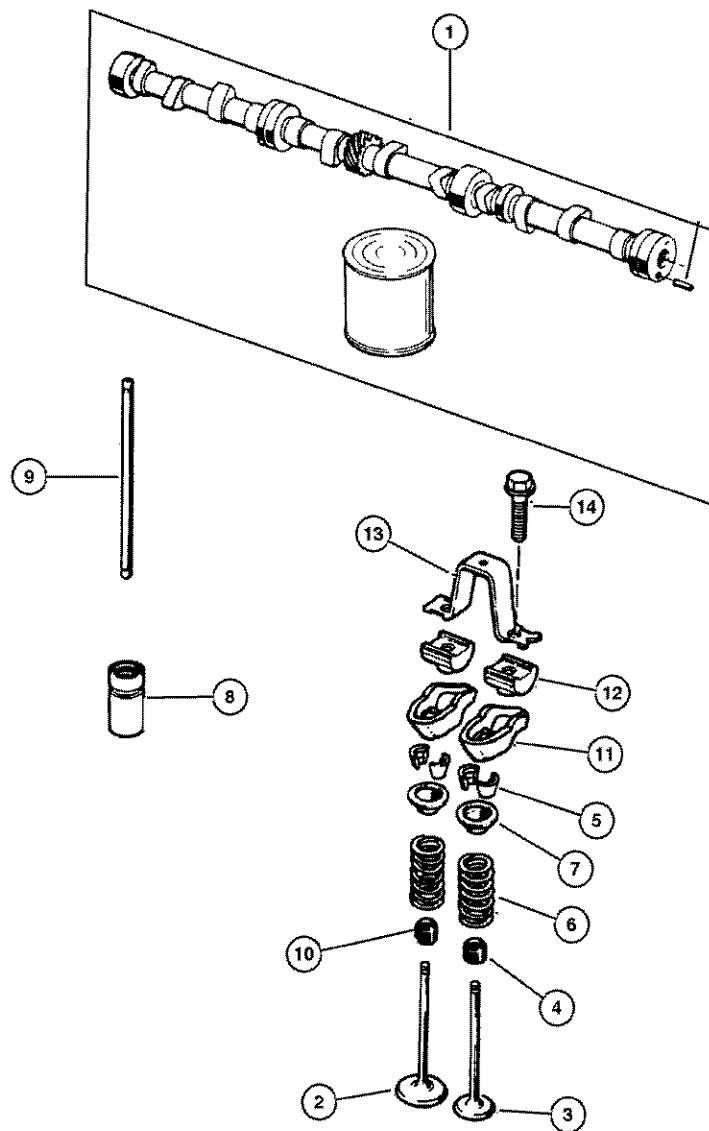
644 Engine Rotating Assembly
Figure 4.4L-410



ITEM	PART NUMBER	QTY	DESCRIPTION
1	ZPP644N 1005 621AA	1	CRANKSHAFT, 644
2	ZPP-672-41	1	SEAL, Rear Main Standard Size
3	14006948	14	Bolt, Main .500-13
4	ZPP-T91-12	3	PLUG, Oil Gallery .375 NPT
5	10J3105394	1	PLUG, Camshaft 2.125x.375
6	14005148	2	DOWEL, Backend
7	ZPP-C672-09	6	PLUG, Expansion
8	ZPP-C672-37	2	DOWEL, .312 x .500
9	ZPP-T299-4	1	BUSHING, Reducing, 3/8 NPT to 1/8 NPT
-	T169-10	1	ELBOW, 45 Degree 1/8 NPT
-	C782-20	1	SWITCH, Oil Pressure, NC

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Camshaft and Valves 4.0 (ERH)
Figure 4.0L-510



ITEM	PART NUMBER	QTY	LINE	SERIES	BODY	ENGINE	TRANS	TRIM	DESCRIPTION
NOTE: ER0=All 4.0L Engines									
1	53010 448AA	1				ER0			CAMSHAFT
2	53010 512AA	6				ER0			VALVE, Intake, Standard
3	53010 513AA	6				ER0			VALVE, Exhaust, Standard
4	5300 9886	6				ER0			SEAL, Valve Guide, Standard, Intake
5	53010 515AA	24				ER0			LOCK, Valve Spring Retainer
6	5301 0388	12				ER0			SPRING, Valve
7	53010 514AA	12				ER0			RETAINER, Valve Spring
8	4740 269	12				ER0			TAPPET, Valve
9	3300 2986	12				ER0			PUSH ROD, Valve
10	5300 9887	6				ER0			SEAL, Valve Guide, Standard, Exhaust
11	J324 2393	12				ER0			ROCKER ARM, Valve
12	J323 5090	12				ER0			PIVOT, Rocker Arm
13	J323 6513	6				ER0			BRIDGE, Rocker Arm
14	J942 5708	12				ER0			BOLT, Hex Flange Head, .312-18x1.25

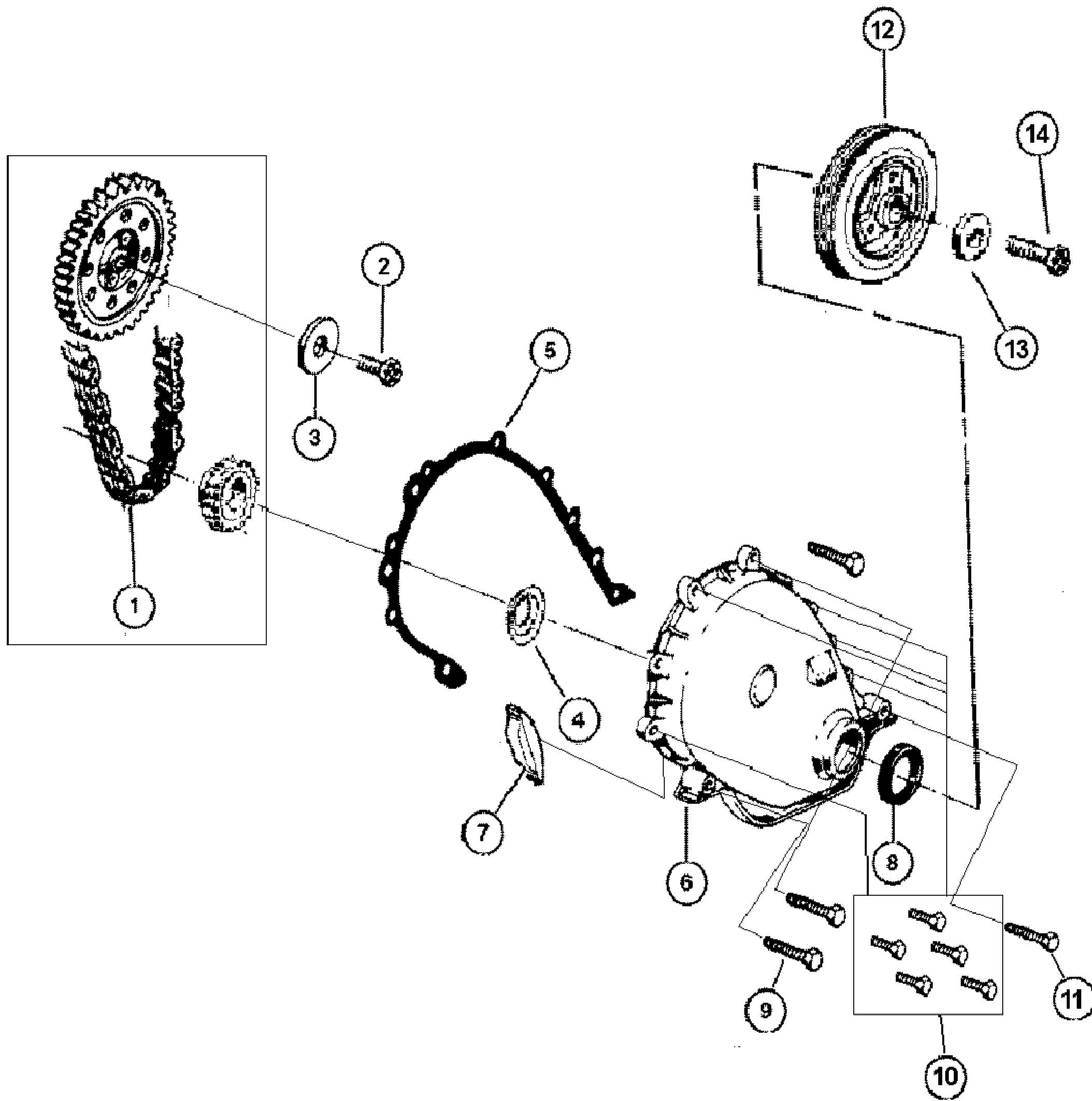
JEEP CHEROKEE (XJ)			
SERIES	LINE	BODY	ENGINE
P = Limited	J = LHD (4WD)	74=4 Dr. (101.4 WB)	ENC, EN0 = 2.5L 4 Cyl Turbo
S = Limited	U = RHD (4WD)	72=2 Dr. (101.4 WB)	ERH, ER0 = 4.0L Power Tech
H = Sport	T = LHD (2WD)		
L = SE	B = RHD (2WD)		

TRANSMISSION
DDD = 5 Speed Manual
DGS = 4 Speed Auto AISIN
DG0 = All Automatic Trans
DBB = All Manual Trans

AR = Use as required - = Non illustrated part # = New this model year

December 7, 2002

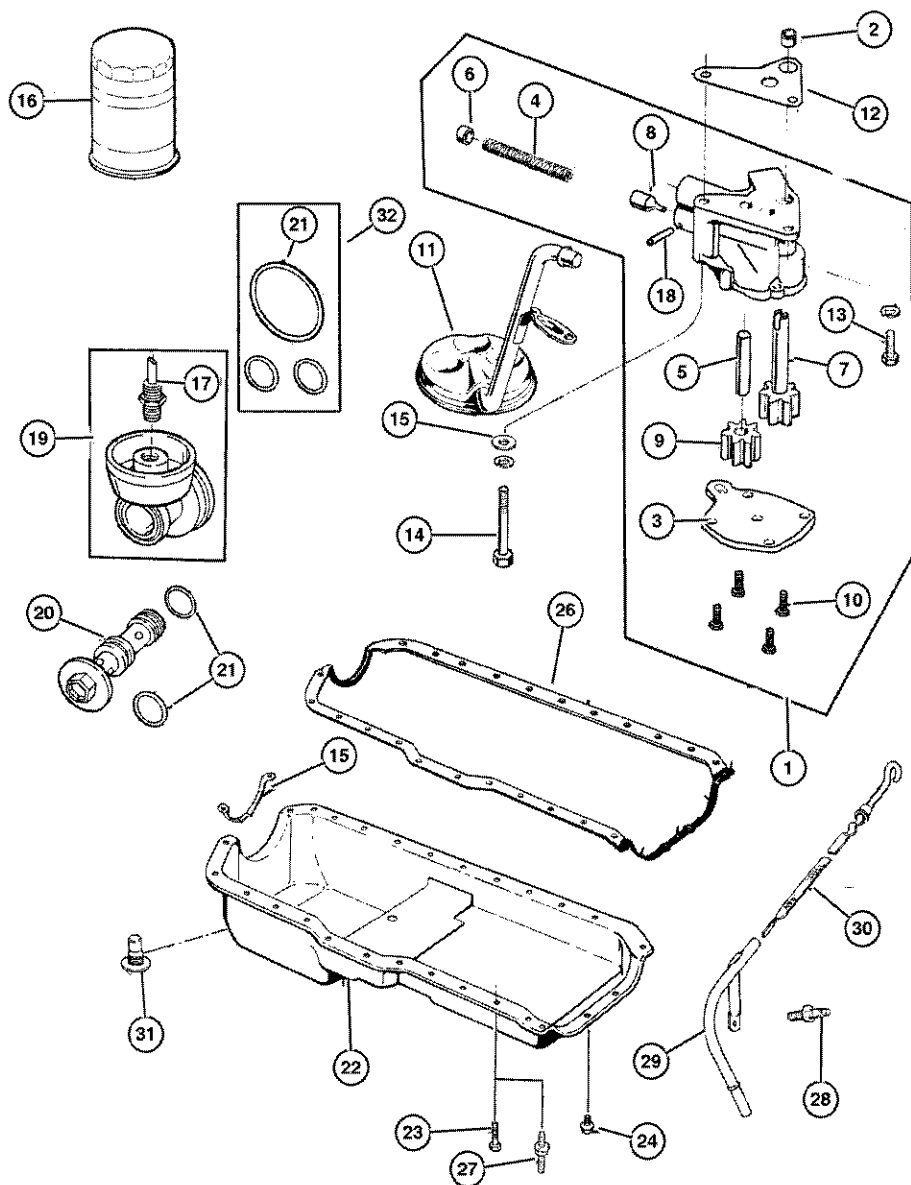
Timing Cover and Chain
Figure 4.4L-610



ITEM	PART NUMBER	QTY	DESCRIPTION
1	ZPP-C282-470	1	TIMING KIT, P644
2	ZPP-C672-138	1	BOLT, Grade 8, HHCS 7/16 x 14 x 1.25
3	ZPP-C672-139	1	WASHER, Cupped 7/16
4	1003173076	1	OIL SLINGER, Crankshaft
5	1053020487	1	GASKET, Timing Cover
6	1053020221	1	TIMING COVER
7	1033003446	1	BUMPER, Timing Chain
8	ZPP-C672-78	1	SEAL, Front Cover
9	ZPP-T16S31-24	2	BOLT, HHCSFL 5/16 x 18 x 1.50
10	ZPP-T16S25-12	5	BOLT, HHCSFL 1/4 x 20 x .75
11	ZPP-T16S25-20	1	BOLT, HHCSFL 1/4 x 20 x 1.25
12	33002920AB	1	DAMPER, Vibration
13	1006035210	1	WASHER, Vibration Damper
14	1000182776	1	BOLT, Vibration Damper

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**Engine Oiling 4.0 (ERH)
Figure 4.0L-710**



ITEM	PART NUMBER	QTY	LINE	SERIES	BODY	ENGINE	TRANS	TRIM	DESCRIPTION
NOTE: ER0=All 4.0L Engines									
1	J324 1399	1				ER0			PUMP, Engine Oil
2	J400 5149	1				ER0			DOWEL, Oil Pump
3	J324 1733	1				ER0			COVER, Engine Oil Pump
4	J323 9668	1				ER0			SPRING, Oil Pressure Relief Valve
5	J317 1956	1				ER0			SHAFT, Oil Pump
6	J317 1958	1				ER0			RETAINER, Oil Release Valve
7	J317 2334	1				ER0			GEAR, Oil Pump
8	J318 8661	1				ER0			PLUNGER, Oil Pressure Relief Valve
9	J319 6843	1				ER0			GEAR, Oil Pump Driven
10	J941 6852	4				ER0			SCREW, Hex Flange Head, .25-20x.50
11	3300 2696	1				ER0			TUBE, Oil Pump Inlet
12	J317 2332	1				ER0			GASKET, Oil Pump
13	6022 235	1				ER0			BOLT AND WASHER, Hex Head, .312-18x1.00
14	0154 593	1				ER0			SCREW, Hex Head Coned, .312-18x2.625
15	53010 511AA	1				ER0			SUPPORT, Engine Oil Pan
16	5281 090	1				ER0			FILTER, Engine Oil
17	5300 7563	1				ER0			CONNECTOR, Oil Filter
18	J027 1448	1				ER0			PIN, Roll, 5/32" x 1.00"
19	5302 0080	1				ER0			ADAPTER, Oil Filter
20	5302 0237	1				ER0			BOLT, Oil Filter Adapter
21	3300 2972	1				ER0			O RING, Oil Filter Adapter
22	53020 833AB	1				ER0			PAN, Engine Oil
23	6034 732	14				ER0			SCREW AND WASHER, Hex Head, .25-20x.545
24	6034 483	3				ER0			SCREW, Hex Head Coned, .312-18x.875
25	6034 733	1				ER0			STUD, .312-18/ .250-20x1.680
26	53007 568AC	1				ER0			GASKET, Oil Pan
27	6034 734	10				ER0			BOLT, Double Stud Hex, .250-20x1.437 & .250-20 x.700
28	6035 664	1				ER0			STUD, .312-18x1.560
29	5302 0782	1				ER0			TUBE, Oil Filter
30	5301 0445	1				ER0			INDICATOR, Engine Oil Level
31	6035 417	1				ER0			PLUG, Oil Drain
32	4720 363	1				ER0			SEAL PACKAGE, Oil Filter Adapter
33	5083 881AA	1				ER0			DRIVE, OIL PUMP

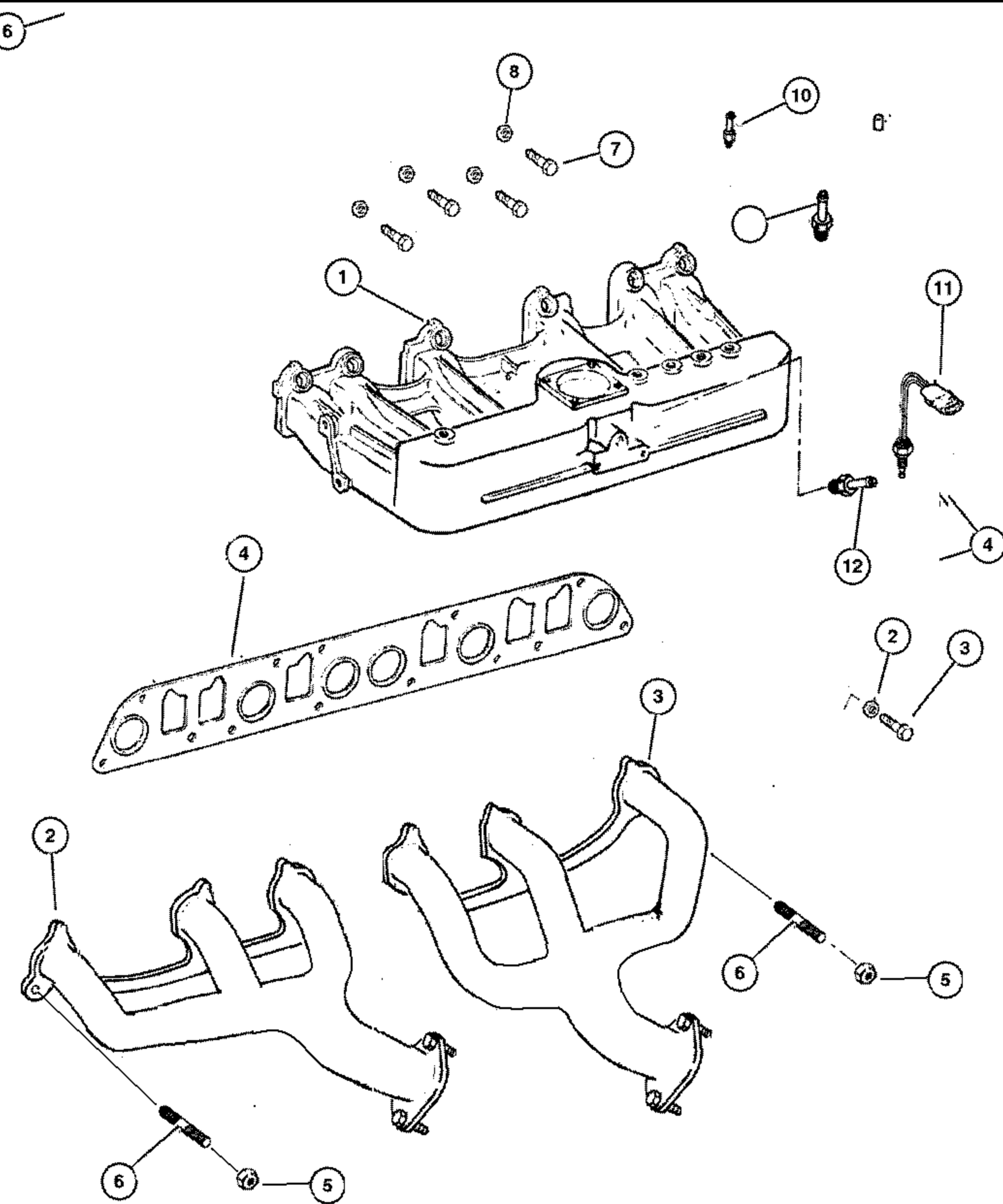
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December 7, 2002

Manifold, Intake and Exhaust 644
Figure 4.4L - 810



ITEM	PART NUMBER	QTY	DESCRIPTION
1	ZPP644P 1008 611AA	1	MANIFOLD, Intake
2	53013477AA	1	MANIFOLD, Front Exhaust
3	53013478AA	1	MANIFOLD, Rear Exhaust
4	04854038	1	GASKET, Manifold to Cylinder Head
5	A1060030AA	2	STUD, .375-16/.375-24x1.75, Head To Manifold Outer
6	06034984	2	NUT, Exhaust Manifold 3.75 x 24 Lock
7	ZPP-T12S38-20	9	HHCS 3/8 X16 X 1.25
8	1033004255	11	WASHER, Manifold Clamp
9	ZPP644N 1014 610AA	1	
10	ZPP-T92-25-36	4	
11	ZPP-T16S25-16	11	
12	ZPP-C972-1-28	1	
13	ZPP-C672-21	1	