

SANDUS AUTOMOTIVE PARTS CO.,LTD

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Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
CATERPILLAR										
3304	8N3102	3	120.65	73.50	129.79	43.20	95.23	224-3015	W	2ALFIN
3306B	1290338	3	120.50	73.90	130.00					
D330C	8N3182		120.65	73.90	115.05	38.10	94.80	8N3182-6		
3116	238-2716-01/238-2716-02		105.00							
3114/3116	107-7563		105.00							
C7	238-2720-002		110.00							
C9	197-9297-00		112.00							
D3204	2W4831		114.15							ALFIN
3208	7C1146		114.30							
	7E4729		114.18							ALFIN
3208	9L7737		114.13							
3204	6N4221		114.30							
D330	3S4028		114.30							
C120L	9N5250	3	120.50	73.90	115.00					
3306、3306T	8N3183	3	120.47	73.84	115.06	38.12	95.22	224-3217	W	2ALFIN
D330C, 3304, 3306	8N3184		120.65							
3406B3406DITA	9Y4004	3	137.00	88.09	121.50	50.81	112.37	224-3244	W	2ALFIN
	7N3511		137.00							

2305	221-2305		137.00							
D342	7N1366		146.05							
D342	4M9111		146.05							
320B	S6K		102.00	57.70	98.00	38.00	84.30	985 / 10201		
3304	1W6757		120.65			38.13	95.00			2 ALFIN
D330	2M5558		114.14	95.90	139.50	38.13	95.00	PF2M5558		
3208	2W4831-2		114.30	58.93	93.23	38.10	81.40			
D330	8H2000		114.13	95.20	155.50	46.00	95.00	PF8H2000		
D3412	9Y7212	3	137.16	88.00	137.22	50.80	112.40	9Y7212	W	2ALFIN
3406E	130-0241		137.16							
C16	284-6039		139.60							
3406	1W9372 8N1608		137.16							
3408	160-1131		137.16							
C15	132-6663		137.10							
D343	9N2874	3	137.16							
D3304	165-4262		120.50	73.90	129.80	43.20	95.40	FP1654262		
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
CUMMINS										
6BTAA5.9	3926631	3	102.00	71.60	105.50	40.00	83.00	6631	ST	ALFIN
6D102		3	102.00			40.00	83.00			
	8673-10	3	102.00			40.00	83.00			
6BT	3908815	3	102.00							
6BT5.9	3928673	3	102.00	71.60	105.50	40.00	76.00	8673	ST	ALFIN
4BT/BTA, 6BT/BTA 6BTA5.9	3907163, 3907156	3	102.00	71.50	105.00	40.00	76.00	71637156	W	ALFIN
6BT	3913789	3	95.00	51.20	94.20	30.00	74.00			ALFIN

ISF2.8	4995266	3	94.00			34.50	73.30			
ISF3.8	5258754	3	102.00			40.00	83.20			
ISB5.9	165114	3	103.00			40.00	83.00			
	4089184	3	103.00			40.00	83.00			
ISDE	5255257	3	107.00			40.00	90.75			
SBE4860	4934860	3	107.00			40.00	90.75			
	4955520	3	107.00			40.00	90.75			
	3045663	3	92.00	33.50	73.30					
6CT	3919565	3	114.00			45.00	91.00			2 ALFIN
B160	A3907163	3	101.90	71.50	105.50					
C230	3923537	3	114.00	78.80	120.30					ANODIZING
B180	A3907156	3	101.90	71.50	105.50					
B210	3926631	3	101.90	71.60	105.50					
C240	3919565	3	114.00	78.80	120.30	45.00	91.00			
C260	3925878	3	114.00	79.00	120.50					ANODIZING
C300	3917707	3	114.00	79.00	120.50					ANODIZING
6CTAA300	3917707	3	114.00	79.00	120.50	45.00	91.00	3917707	W	2ALFIN
6CT210HP	3919564	3	114.00	79.00	120.50	45.00	91.00	3919564	W	2ALFIN
6CT240HP	3919565	3	114.00	79.00	120.50	45.00	91.00		W	2ALFIN
6CT260HP	3925878	3	114.00	79.00	120.50	45.00	91.00	3925878	ST	2ALFIN
6CT230HP	3923537	3	114.00	79.00	120.50	45.00	91.00	3923537	W	2ALFIN
	3919247	3	114.00			45.00	91.00			
6CT8.3	3923163	3	114.00	79.00		45.00	91.00	3923163	W	ALFIN
6LN	5302254	3	114.00			45.00	91.45			
ISLE375		3	114.00			45.00	91.45			
	3929161	3	114.00			45.00	91.45			
	3923164	3	114.00			45.00	91.50			

LSL375-B	4987914-A	3	114.00			45.00	91.00			
		3	115.00			45.00	91.00			
9883111		3	122.00			45.00	100.00			
M11	4059902/4070653	3	125.00							
	3076811	3	139.00			50.77	120.20			
3095738	3095738	3	139.45			50.77	120.20			
N14	3087634	3	139.70	102.45	146.85	63.54				
NT855	3051554	3	139.70			50.80	120.00			
NT855	3048808	3	139.50			50.72	120.20			
NT855	3017348	3	139.70			50.80	120.00			
NT855	3017349	3	139.70			50.80	120.00			
K19	3096681		158.75			60.96	132.50			
K19	3096685		158.75			60.96	132.50			
	3017348	4	140			77	120.2			
	3017349	4	140			77	120.2			
NT855	3051556	3	139.70			50.80	120.00			
NT855	3051555	3	139.70	102.36	159.76	50.78	120.00	224-2339		ALFIN
NTA855	3048808	3	139.70	102.40	159.80	50.80	120.00			ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
ISUZU										
4FE1	8-94619-747-1	3	76.3	45	80	25	63			
4LB1	8-97176-888-0	3	77.4	35.5	70	21	60			
C221	5-12111-065-0	3	83	48.5	95.5	25	72.5			
4JH1	8-97305-585-3	3	95.4	49.9	88.9	31	76			
4HJ1	8-97941-839-4	3	95.4	50	89	31	76			
4JG1	8-94391-604-0	3	95.4	49.4	89.4	34	78			

4BC2	8-94169-765-0	3	102	59	98.2	35	85			
4BA1	5-12111-055-1	3	98	62.6	112.3	33	85			
4HE1	8-94391-696-0	3	110	66.2	110	40	87			
10PD	1-12111-804-0	3	119	67.6	106.6	43	80			
10PD-1	1-12111-806-0	3	119	67.6	106.6	43	80			
10PC	1-12111-549-3	3	119	67.7	106.6	43	80			
6SA1	1-12111-514-1		115							
6SA1	1-12111-826-0		115							
6SA1	1-12111-424-1		115							
6SA1	1-12111-217-1		115							
6SA1T	1-12111-459-1		115							
6SA1T	1-12111-828-0		115							
6SD1	1-12111-569-0		120							
6SD1	1-12111-591-0		120							
6SD1	1-12111-710-0		120							
6SD1-C	1-12111-591-0	3	120	75	117	43	89.5			
DH100	9-12111-742-0		120							
DH100	1-12111-862-0		120							
6SD1-2	1-12111-555-1	3	120	75	117	43	89.5			
6SD1TC	1-12111-712-2		120							
6SD1TC	1-12111-838-0		120							
6SD1TC	1-12111-555-1		120							
6SD1TC	1-12111-842-0		120							
6SD1	1-12111-620-1	3	120	75	117	43	89.5			
6SD1TC	1-12111-913-0	4	120	75	127.5	43	89.5			
6SD1-T	1-12111-651-1	4	120	75	127.5	43	89.5			

6SD1	1-12111-011-0	4	120	75	127.5	48	99			
10PE1	1-12111-926-0	4	127	67.68	106.55	43	80			
10PE1	1-12111-813-0	4	127	67.68	106.55	43	80			
E120T	1-12111-817-0		135							
E120T	1-12111-525-0		135							
E120	1-12111-523-0	4	135	89	150.2	50	105			
6RB1	1-12111-873-0		135							
6RB1	1-12111-245-0 1-12111-437-0	3	135	82.2	143.1	50	105			
6RB1T	1-12111-632-0 1-12111-821-0 1-12111-516-0	3	135	82.2	137.2	52	105			
C190-3	5-12111-225-0	3	86.00	51.60	96.50	27.00	68.00		vortex	ALFIN
C190 Z2000	5-12111-226-0	3	86.00							
C190-4	5-12111-203-0	4	86.00	51.50	95.50	27.00	72.00		vortex	
C240(turbo)	5-12111-225-0	3	86.00	51.50	84.50	27.00	68.50		vortex	ALFIN
C240(3G)	8-94326-225-0	3	86.00	51.50	84.50	27.00	68.50		vortex	ALFIN
C240		3	86.00	51.50	84.50	27.00	68.50		vortex	
C223	5-12111-212-0	3	88.00	47.50	82.50	27.00	68.20		vortex	ALFIN
4JA1	8-94369-281-0 8-97089-892-0 8-94176-601-0	3	93.00	47.80	87.80	31.00	76.50		squareness	ALFIN steel- strut
4JA1		3	93.00	47.80	87.80	31.00	76.50		squareness	
4JA1		3	93.00	47.80	87.80	31.00	76.50		squareness	
4JB1	8-97176-606-0	3	93.00	51.80	91.80	31.00	76.00		squareness	
4JB1	8-97176-606-0	3	93.00	51.80	91.80	31.00	76.00		squareness	ALFIN steel- strut
4JB1		3	93.00	51.80	91.80	31.00	76.00		ST	

4JB1 NEW	221-0	3	93.00	51.90	91.80	34.00	78.50		ST	ALFIN steel- strut
4JA1	8-94369-281-0	3	93.00	47.80	87.80	31.00	76.00		squareness	ALFIN
4JB1		3	93.00	51.80	91.80	31.00	76.00		squareness	ALFIN steel- strut
D500	9-12411-814-0		98.00							
DA120	9-12111-196-0		100.00							
DA120	1-12111-126-0		100.00							
DA120	1-12111-864-0		100.00							
DA120	9-12111-376-0		100.00							
DA120	9-12111-321-0		100.00							
D640	9-12111-321-0		102.00							
D640T	1-12111-858-0		102.00							
D640T	1-12111-122-1		102.00							
D640T	9-12111-740-0		102.00							
D640T	9-12111-902-1		102.00							
4BC2		3	102.00	58.80	98.00	35.00	85.00		squareness	
4BC2		3	102.00	58.80	98.00	35.00	85.00		squareness	ALFIN steel- strut
6BD1	1-12111-321-0	3	102.00	58.70	104.00	35.00	87.50		squareness	
6BB1	5-12111-013-0		102.00							
6BB1	1-12111-745-0		102.00							
6BB1	5-12111-743-0		102.00							
6BB1	1-12111-634-0		102.00							
6BD1	5-12111-068-0		102.00							
6BD1	5-12111-068-2		102.00							
6BD1	5-12111-753-0		102.00							

6BD1	1-12111-609-0		102.00							
6BG1T	1-12111-435-0		105.00			35.00	87.50			ALFIN
6BG1	1-12111-377-4		105.00			35.00	87.50			ALFIN
6BG1	1-12111-781-0		105.00			35.00	87.50			ALFIN
6BG1T	1-12111-528-0		105.00			35.00	87.50			ALFIN
6BG1T-3G	1-12111-626-0		105.00			35.00	87.50			ALFIN
6BG1T-4G	1-12111-575-0		105.00			35.00	87.50			ALFIN
6HE1T	5-12111-597-0		110.00			40.00	87.00			ALFIN
6HE1	5-12111-286-3		110.00			40.00	87.00			ALFIN
4HF1	8-97095-655-0		112.00			36.00	79.00			ALFIN
4HF1	8-97119-325-0		112.00							
4HF1	8-97063-867-0		112.00							
4HF1	8-97095-654-0		112.00							
4HF1	8-97095-585-1		112.00							
4HF1 NEW	5-87813-391-0		112.00							
4HF1	8-97095-655-5		112.00			36.00	79.00			ALFIN
4HG1	8-97219-032-0		115.00							
6HH1	8-94391-950-0		115.00							
6HH1T	8-94391-598-0		115.00							
6HH1	8-94391-599-0		115.00			36.00	79.00			ALFIN
E120	1-12111-816-0		135.00			50.00	106.00			ALFIN
E120	1-12111-818-0		135.00							
E120	1-12111-523-0		135.00							
6RB1	5-12111-240-1		135.00			50.00	106.00			ALFIN
6BD1		3	102.00	58.70	104.00	35.00	87.50		squareness	ALFIN
4BD1	5-12111-211-1 8-94452-912-0	3	102.00	58.90	98.20	35.00	87.50		squareness	ALFIN

4BG1		3	105.00	55.20	94.50	35.00	87.50		ST	ALFIN steel- strut graphite
4BE1(LATE)	8-94438-989-1 8-94478-116-0	3	105.00	56.40	95.50	35.00	87.50		squareness	ALFIN steel- strut
4HF1	8-97095-585-1 8-97176-657-1	4	111.90	60.80	94.50	36.00	79.00		ST	ALFIN steel- strut
4HG1	5-12111-032-0	4	115.00	60.80	104.50	36.00	79.00		ST	ALFIN steel- strut
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
MITSUBISHI										
4A2C		3	65.50	24.50	55.00	16.00	53.00			
4G17	MD173577	3	72.20	29.00	58.50	18.00	56.00			
4G15 NEW		3	75.50	28.60	49.60	18.00	56.00			
4G15	MD320435	3	75.50	29.00	58.00	18.00	56.00			
4G18		3	76.00	26.50	52.50	18.00	58.00			
4G32	MD008850	3	76.90	33.60	70.50	19.00	64.00			
4G92S	MD191343	3	81.00	30.00	61.40	19.00	58.00			
4G67DH	MD169148	3	81.50	35.10	68.70	21.00	66.00			
4G61H	MD129952	3	82.30	32.50	67.80	21.00	66.00			
4G63DH	MD129942	3	85.00	35.00	67.00	21.00	66.00			
4G63S	MD188100	3	85.00	35.00	67.00	22.00	62.00			
4G32, 4G32B	MD009521, MD009321	3	76.90	33.50	70.50	19.00	63.00			
4G63B-11	MD100372	3	85.00	35.30	72.50	21.00	72.00			
4G63 L300	MD040821	3	85.00	34.80	71.80	21.00	72.00			
4G63K	MD188289	3	85.00	35.00	67.40	22.00	62.00			
4G64	ME105377	3	86.50	35.00	71.60	21.00	72.00			
4G54C	MD080394	3	91.10	35.30	77.00	22.00	75.00			

TRITON 2500	MD377881 MD377897	3	91.10	48.70	78.70	29.00	75.00			
TRITON 2500	MD377884 MD377890	3	91.10	48.70	78.70	29.00	75.00			
6G72	MD197814L MD197808R	3	91.10	32.20	66.20	22.00	64.00			
4G54	MD029261	3	91.10	35.30	77.30	22.00	79.00			
S4S	32A17-00100	3	94.00	55.10	90.10	30.00	76.50			
S4E	34417-04100	3	94.00	51.50	90.00	28.00	77.00			
S4E	34417-20101	3	94.00	51.50	98.50	28.00	77.00			
S4E-2	34417-05400	3	98.00	51.50	90.00	28.00	77.00			
S4E-2	34417-10201	3	98.00	51.50	98.50	28.00	77.00			
4M4AT	1110A857 1110A418	3	98.50	47.00	87.00	32.00	80.00			
6D31T	ME012858	3	100.00	60.70	110.70	34.00	84.00			
S6KT	34317-10201	3	102.00	57.80	97.80	34.00	84.00			
S6KT	34317-08100	3	102.00	57.80	97.80	34.00	84.00			
S6KT	34317-07100	3	102.00	57.80	97.80	34.00	84.00			
4D32	ME013313	3	104.00	60.70	110.70	34.00	84.00			
4D32	ME018274	3	104.00	60.70	110.70	34.00	84.00			
6D40	ME120684 ME120533	4	135.00	82.50	157.50	55.00	109.00			
8DC-10	ME091049	4	138.00	88.10	153.10	50.00	112.00			
8DC-11	ME091050	4	142.00	88.10	153.10	50.00	112.00			
8M20	ME161112	4	146.00	82.70	147.90	50.00	112.00			
4D55	MD304835	3	91.10	48.70	88.70	29.00	74.00			
4D56	MD103318	3	91.10	48.50	88.50	29.00	74.00			

4D56 NEW	MD304847	3	91.10	48.80	78.80	32.00	75.00			
4D55	MD050021	3	91.10	48.50	88.50	29.00	74.00			
4D55 NEW	MD304835	3	91.10	48.70	88.70	29.00	74.00			ALFIN
4D56 NEW	MD304847	3	91.10	48.80	78.80	32.00	75.00			
4DR5 J24, 6DR5	31617-00106	4	92.00	52.50	99.50	28.00	77.00			
4M40	ME201781	3	95.00	51.60	91.60	30.00	78.00			ALFIN
4M40T	ME200689	3	95.00	51.60	91.70	30.00	78.00			
4M41T		3	98.50	47.00	87.00	32.00	79.00			
4D31	ME012131	3	100.00	60.70	110.50	34.00	84.00	ME012145		ALFIN
S6KT	34317-10200	3	102.00	57.70	97.60	34.00	84.00			
S6KT	34317-21100	3	102.00							
4D32	ME012174	3	104.00	60.80	110.80	34.00	84.00			
4D31	ME012858		100.00			34.00	84.00			ALFIN
4D31	ME012145		100.00			34.00	84.00			ALFIN
4D31	ME012131		100.00			34.00	84.00			ALFIN
4D31	ME012160		100.00			34.00	84.00			ALFIN
6D31T	ME012858		100.00			34.00	84.00			ALFIN
6D32T	ME018274		104.00			34.00	84.00			ALFIN
6D34	ME220454		104.00			36.00	88.00			ALFIN
4D34	ME012928	3	104.00	62.10	112.10	34.00	84.00			
4D33	ME013312	3	108.00	62.20	112.20	34.00	84.00			
4D33	ME016895		108.00			34.00	84.00			ALFIN
6HE1	1-12111-837-0	3	110.00	66.00	100.00	36.00	97.00			
4D35	ME012905 ME014898 ME014593	3	110.00	59.70	109.70	36.00	88.50			
6D16	ME041102, ME072000	3	118.00	71.00	116.30	38.00	92.00			ALFIN

6D14	ME072022		110.00			38.00	90.00			ALFIN
6D14T	ME072047		110.00			38.00	90.00			ALFIN
6D14T	ME032742		110.00							
6D14	ME032626		110.00							
6D14	ME032487		110.00							
6D14-1A	ME032216		110.00			38.00	90.00			ALFIN
6D14-1A	ME032062		110.00			38.00	90.00			ALFIN
6D14-1A	ME033908		110.00			38.00	90.00			ALFIN
6D15	ME032480		113.00							
6D15-3AT	ME072321		113.00							
6D15	ME032593		113.00			38.00	90.00			ALFIN
6D15T	ME033934		113.00			38.00	90.00			ALFIN
6D15	ME032485		113.00			38.00	90.00			ALFIN
6D15T	ME032870		113.00			38.00	90.00			ALFIN
6D16	ME072062		118.00			38.00	92.80			ALFIN
6D16	ME072570		118.00							
6D16	ME072062A		118.00			38.00	92.80			ALFIN
6D16T	ME133271		118.00							
6D16T	ME072065		118.00			38.00	92.00			ALFIN
6D16 NEW	ME070262		118.00			38.00	92.80			ALFIN
6D17	ME072394		118.00							
6D17	ME072576		118.00							
6D17T	ME072546		118.00							
6D17TB	ME072548		118.00							
8DC11	ME091050		142.00			50.00	112.00			ALFIN
6D22T	ME052540	3	130.00	83.10	158.20	50.00	105.00			ALFIN
6D22	ME052447	3	130.00	82.90	158.00	50.00	105.00			ALFIN

8DC91	ME 062336	4	135.00	88.00	153.00	50.00	112.00		ST	ALFIN
8DC92A	ME 091419	4	135.00	88.00	153.00	50.00	112.00		ST	ALFIN
6D22T	ME 052115ME 052811	3	129.90	93.10	158.30	50.00	105.20		W	ALFIN
4D36		3	110.00	57.90	110.00	36.00	88.00		W	ALFIN steel- strut
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
IVECO										
	97301429	3	94.34			32	71.8			
	500331118	3	94.34			32	71.8			
	5801388900	3	94.34			36	76.1			
8210.42K	719483	3	137			55	115			
	137	3	138.00	92.00	157.70	50.00	117.00		W	ALFIN inner cooling
	137	4	137.00	92.00	162.00	50.00	117.00		W	ALFIN inner cooling
	120		120.00	84.70	134.50	48.00	95.60		W	
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
PERKINS										
	U5LP009	3	101.00	69.85	120.70	34.93	84.00			
	408108	5	91.48	57.10	108.00	31.75	75.00	81512		
	531102	5	98.48	69.90	120.70	34.93	84.00			
	31354356	5	98.48	70.20	121.00	34.93	84.00	MT265		
	9135J142	3	100.00	70.30	108.20	39.70	78.00	A350769/70		
	68322	5	91.48	61.91	109.54	31.75	75.00	G8102		
	68331	4	101.00	70.00	120.70	34.93	84.00			
A4.248	92144800	4	101.70	70.00	121.00	34.93	84.00	G8103		

	89207	4	101.05	69.90	127.00	34.93	84.00	31354092 FHF		
	68301	4	98.48	70.30	121.00	34.93	84.00			
	23199909	3	100.00	69.95	108.00	38.10	82.50			
	315404LKKF	4	100.90	70.10	120.95	34.93	84.00	89207		
	350245	5	91.49	61.90	109.50	31.75	75.00			
A4.236		5	98.48	69.70	120.40	34.93	84.00			
	U5LP0240S	4	91.48	61.83	109.30	31.75	75.00			
A4.236	93592600	3	98.48	70.25	121.10	34.93	84.10			
	31354356	5	98.48	70.80	121.40	34.93	84.00			
	68332	5	91.61	61.90	109.50	31.75	75.00			
	89207	5	100.88	70.30	121.10	34.93	84.00			
	68301	5	98.48	70.10	121.00	34.93	84.00			
	86740	5	98.48	70.50	121.30	34.93	84.00			
	U5LL0015	3	100.00	69.90	108.10	34.93	84.00			
	601015	3	98.48	69.90	107.90	38.10	82.50			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
JOHN DEERE										
	RE57731		116.75		124.90	47.60	90.60	RE57731		
	RE57512		116.75		124.90	47.60	90.60	RE57512		
	RE70688		116.75		124.90	47.60	90.60	RE70688		
	RE70689		115.75	66.50	111.50	47.60	91.00	RE70689		
	RE19282		106.40		112.00	34.93	84.10	RE19282		
	RE48368 (NRE48469)		106.50		112.00	41.27	84.10	RE48368		
	NRE53265	3	101.92	57.35	104.40	30.17	85.30		W	ALFIN

	NAR77762	3	101.92	66.30	110.60	34.93	84.30		W	ALFIN
	NRE19282	3	106.39	66.26	112.00	34.93	84.40		W	ALFIN
	NAR96389	3	106.37	71.70	124.60	41.29	84.30		W	ALFIN
	NRE48469	3	106.37	71.65	120.00	41.29	84.30		W	ALFIN
	NRE515372	3	106.37	71.70	100.60	34.93	72.00		tube sinking	ALFIN
	NRE509540	3	106.37	71.70	104.70	41.29	72.00		W	ALFIN
	NRE505101	3	106.37	71.70	100.60	34.93	72.00		W	ALFIN
	NRE40566	3	107.80	70.10	124.60	38.11	85.30		W	ALFIN
	NRE41869	3	107.82	70.10	124.60	38.11	85.30		W	ALFIN
	NRE40563	3	107.82	69.90	124.60	38.11	85.30		W	ALFIN
	NAR58704	3	107.82	69.85	124.40	41.29	88.20		W	2ALFIN
	NAR93627	3	115.73	70.40	124.80	47.63	90.70		W	2ALFIN
	NAR98838	3	115.73	70.40	124.90	47.63	90.70		W	2ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
KOMATSU										
S4D102	6732-81-8100	3	101.95	57.70	97.80	34.00	84.30		W	ALFIN
4D92	6140-31-2113	3	92.00							
4D92	6140-31-2010	3	92.00	59.10	99.10	32.00	74.00			
4D94 NEW	6142-32-2120	3	94.00	55.50	98.50	32.00	70.00			
4D94	6142-32-2110	3	94.00	55.30	99.30	32.00	74.00			
6D95-6	6207-31-2180	3	95.00	51.10	94.10	30.00	74.00			
4D95	6204-31-2111	3	95.00	51.00	94.00	30.00	74.00			
4D95	6204-31-2112 6204-31-2121	3	95.00	51.20	94.20	30.00	74.00			
4D95	E2141	3	95.00	51.20	84.50	30.00	74.00			
4D95	E2170	3	95.00	51.20	84.20	30.00	74.00			

6D95L-1	6204-31-2121	3	95.00	51.20	94.20	30.00	74.00			
4D95K	6202-32-2120	3	95.00	51.10	94.10	30.00	74.00			
4D95	6202-33-2150	3	95.00	61.20	104.30	30.00	74.00			
4D95L-1	6202-33-2160	3	95.00	61.30	104.30	30.00	74.00			
4D95	6202-33-2130	3	95.00	61.00	104.00	30.00	74.00			
4D95L	6202-32-2140	3	95.00	61.00	104.00	30.00	74.00			
S6D102-6	6735-31-2110	3	102.00	71.50	105.40	40.00	83.00			
S6D102-7	6738-31-2110	3	102.00	71.50	105.20	40.00	83.00			
4D105-1	6130-31-2111	3	105.00	74.00	120.00	38.00	88.00			
4D105-3C	6130-32-2110	3	105.00	69.00	107.50	38.00	88.00			
4D105	6136-31-2112	3	105.00	69.00	107.50	40.00	86.00			
S6D105	6136-32-2110	3	105.00	69.20	107.70	40.00	84.00			
S6D105, SA6D105	6137-32-2110 6137-32-2010	3	105.00	69.20	107.70	40.00	86.00			
S6D108	6222-31-2110	3	108.00	66.70	113.80	45.00	85.00			
S6D108	6222-33-2110	3	108.00	66.70	113.80	45.00	85.00			
S6D110	6138-32-2120	3	110.00	69.20	116.20	40.00	90.00			
SA6D110	6138-31-2010	3	110.00	69.00	116.00	40.00	90.00			
4D120	6110-33-2132	3	120.00	90.00	135.00	44.00	102.00			
S6D125	6150-31-2112	3	125.00	80.20	131.20	48.00	104.00			
S6D125	6151-31-2171	3	125.00	80.20	131.20	48.00	104.00			
S6D125	6151-31-2511	3	125.00	80.30	117.30	48.00	99.00			
S6D125	6152-32-2510	3	125.00	80.30	117.30	48.00	99.00			
NH220	6620-31-2110	4	130.18	101.50	158.60	50.80	110.00			
4D95-1	6204-31-2121		95.00			30.00	74.00			
6D95	6207-31-2110		95.00			30.00	74.00			ALFIN
S6D95	6207-31-2141		95.00			30.00	74.00			ALFIN

S6D102	6735-31-2140		102.00			40.00	83.00			ALFIN
6D102	6735-31-8673		102.00			40.00	83.00			ALFIN
S6D105	6137-32-2110		105.00			40.00	85.00			ALFIN
S6D108	6222-31-2116		108.00			45.00	85.50			ALFIN
S4D120	6110-33-2132		120.00							
6D125	6150-3112		125.00			48.00	104.00			ALFIN
S6D125	6151-31-2171		125.00			48.00	104.00			ALFIN
S6D155	6127-31-2140	3	155.00	102.50	167.50	60.00	130.00			ALFIN
S6D155	6128-31-2140	3	155.00	105.00	170.00	60.00	130.00			ALFIN
6D95	6202-32-2130	3	94.92	51.20	94.20	30.00	74.30		W	Aflinsteel-strut
4D95	6020-32-2110 60196041 62.7-31-2141	3	94.93	50.95	94.00	30.00	74.00		W	steel-strut
S6D125	60199012 6150-31-2112	3	124.78	80.05	131.00	48.00	104.40		W	Aflin
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
MAN										
MAN125 TUBBG		3	124.85	89.70	142.00	46.00	105.50	ARM		ALFIN
MAN125		3	124.87	89.80	142.00	46.00		192824		ALFIN
MAN 128	SP0.14		128.00			46.00	105.20			
MAN 128	SP0.14		128.00			46.00	105.20			
MAN128	SP0.16		128.00			46.00	105.20			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
RENAULT										
	340	3	134.90	90.20	170.20	55.00	112.00		ZT	

S9205		3	69.00	31.70	50.90	17.50	54.00			
CLIO, KANGOO 1.0 8V		3	69.00	32.10	58.00	17.50	54.00			
KM702		3	79.50	29.25	56.30	19.00	62.00			
KM702		3	79.50	29.25	56.30	19.00	62.00			
K4M		3	79.51	31.70	55.00	20.00	62.00			
	120	4	119.90	90.00	147.00	45.00	100.50			
		4	110.00	79.00	125.00	38.00	91.50			
DCI11	550547/5010222091	3	123.00			50.00				
		4	110.00	79.00	125.00	38.00	91.50			ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
VOLKSWAGEN										
Passat B5 1.8	058107099K		81.00	32.50	52.50	20.00				
PassatT B5	06B107103R		81.00	31.70	53.50	19.00				
Jetta 1.6L	06A107099AD		81.00	32.70	53.70	20.00				
Jetta King	06A107099/FVW		81.00	33.15	54.00	20.00				
	06A107103A/SVW		81.00	33.15	54.00	20.00				
Jetta 1.6L	06A107103YA		81.00	37.90	66.80	20.00				
Santana 1.8L	06A107103YA/FVW		81.00	32.20	62.50	20.00				
Jetta 1.6L	06A107099AD		81.00	32.70	53.70	20.00				
Santana 1.6L	026107103AE		81.00	32.80	53.80	20.00				
Santana 3000	06b107103BM		81.00	33.20	54.20	19.00				
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
TOYOTA										
1E	13101-10033	3	70.50	28.00	56.00	18.00	59.00			
2E	13101-11050	3	73.00	30.00	58.00	18.00	60.00			

3E	13101-11081	3	73.00	29.50	62.00	18.00	60.00			
5EFE	13101-11160	3	74.00	30.00	58.00	18.00	53.00			
4E	13101-11101	3	74.00	30.20	558.00	18.00	59.00			
1N/1C	13101-55020	3	74.00	38.50	67.85	23.50	58.00			
1NZ-FE	13101-21030	3	75.00	30.00	49.00	18.00	53.00			
3K, 4K	13101-24011	3	75.00	36.00	75.00	18.00	61.00			
3A	13101-15020	3	77.50	31.00	61.00	18.00	61.00			
5AF	13101-15040	3	78.70	30.60	59.70	18.00	61.00			
4AF	13101-16090	3	81.00	30.50	61.00	18.00	61.00			
3ZZ	13101-0D070	3	79.00							
1ZZFF	13101-22100	3	79.00	32.10	51.60	20.01	50.00			
5K	13101-13030	3	80.50	36.00	69.00	18.00	61.00			
12R	13101-31020	3	80.50							
7K	13101-06030	3	80.50	33.80	59.00	20.00	56.00			
7K-II	13101-13070	3	80.50	33.70	58.70	20.00	56.00			
4AG	13101-16201	3	81.00	30.50	55.50	20.00	56.00			
4AE	13101-16090	3	81.00	30.50	61.00	18.00	61.00			
4S-FE	13101-74173 13101-74160	3	82.50	35.00	68.00	22.00	66.00			
4S-FE	13101-74071	3	82.50	35.20	70.30	20.00	66.00			
2CF	13101-64170	3	83.00	47.00	76.70	24.00	61.00			
2CT	13101-64220 13101-64181	3	86.00	47.00	77.00	27.00	61.00			
3C	13101-64151	3	86.00	42.50	72.50	27.00	61.00			ALFIN
3VZ	13101-62040	3	87.50	34.00	62.20	22.00	62.00			
2C	13101-64090	3	86.00	47.00	77.00	27.00	58.00			
2CT NEW	13101-64070	3	86.00	47.00	77.00	27.00	61.00			

2CD	13101-64141	3	86.00	47.00	77.00	27.00	58.00			ALFIN
2CT	13101-64220 13101-64181	3	86.00	47.00	77.00	27.00	61.00			
R2	RF01-23-200	3	86.00	47.30	86.30	25.00	67.00			
5S	13101-74130	3	87.00	32.45	62.95	22.00	66.00			
5R	13101-44011	3	88.00	39.00	85.00	22.00	75.00			
2J	13101-48015	3	88.00							
2J	13101-48014	3	88.00							
LN40 NEW	13101-54020	3	90.00	52.00	99.00	27.00	74.00			
12HT	13101-68020	3	91.00	56.40	91.50	32.00	77.00			
2H	13101-68010	3	91.00	52.20	102.20	29.00	74.00			
2L	13101-54060	3	92.00	79.20	86.20	27.00	74.00			
2L-N	13101-54070	3	92.00	44.00	80.20	27.00	70.00			
2LTA	13101-54090	3	92.00	44.40	80.30	29.00	74.00			
22RE	13101-35030	3	92.00	35.00	64.00	22.00	70.00			
22R	13101-35020	3	92.00	39.00	92.50	22.00	75.00			
2L II	13101-54090	3	92.00	44.40	80.30	27.00	70.00			
2KD	13101-30031	3	92.00	54.10	82.20	34.00	65.00			
2LT-NEW	13101-54140	3	92.00	44.00	80.20	27.00	70.00			
2LT	13101-54080	3	92.00	49.20	86.30	29.00	74.00			
1HD-T	13101-17020	3	94.00	49.70	81.00	33.00	73.00			
2F	13101-61010	3	94.00	47.60	95.80	25.15	72.00			
1HZ	13101-17010	3	94.00	43.60	80.60	29.00	65.00			ALFIN
11B	13101-56040	3	95.00	55.50	90.50	32.00	72.00			ALFIN
B-3G	13101-56021	3	95.00	52.20	101.30	29.00	79.00			
2RZE	13101-75020	3	95.00	35.50	67.60	24.00	70.00			
1KZ-TE	13101-67020	3	96.00	45.70	80.70	34.00	73.00			

1Z	13101-78300	3	96.00							
1KZ	13101-67030	3	96.00							
1KD FTV	13101-30060	3	96.00							
3L	13101-54100	3	96.00							
3L	13101-54170 13101-54101	3	96.00	42.50	80.50	29.00	74.00			
5L	13101-54120	3	99.50	42.30	80.30	29.00	74.00			
14B	13101-58040	3	102.00	52.00	87.00	32.00	72.00			ALFIN
13B	13101-58020	3	102.00	63.50	104.50	34.00	84.00			
3B	13101-78020	3	102.00	52.20	101.20	32.00	84.00			
14BT	13101-58060	3	102.00	59.80	94.80	34.00	79.00			ALFIN
14B	13101-58040	3	102.00							
15B	13101-58080	3	108.00	59.60	94.60	34.00	73.00			
8A	13101-14050	3	78.70	34.70	63.70	20.00				
4Y	13101-73030	3	91.00	35.00	65.00	22.00	66.00			
3Y	13101-73010	3	86.00	35.00	70.00	22.00	66.00			
2Y	13101-72010	3	86.00	35.00	70.00	22.00	66.00			
1RZ	13101-75010	3	86.00	35.50	67.50	24.00	61.00			
1RZ	13101-75030	3	86.00	35.50	67.50	24.00	61.00			
4S	13101-74071	3	82.50	35.40	70.40	20.00	66.00			
3S	13101-74040	3	86.00	35.30	68.30	20.00	66.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
HYUNDAI										
Sonata 2.0L G4GF	23410-23710		82.00	31.30	57.80	20.00				
Elantra	23410-23610		82.00	32.90	59.40	20.00				
Elantra	23410-23513		77.50	32.70	60.70	20.00				

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1.0L FIESTA		3	68.7	28.9	52.9	29	52			
FIESTA 1.0L HCS		3	68.7	29.3	53.9	20	57			
1.8L 8V ZETEC, ROCAM		3	68.7	29	52.9	18	57			
1.0L 8V FLEX, ZETEC		3	68.7	29	54.5	18	51			
FIESTA, ZETEC 1.4L 8V		3	76	28.3	50.8	19	58			
ZETEC, ESCORT 1.8L 16V		3	80.61	33.2	57.2	20.64	63.5			
ROCAM 1.6L 8V, ESCORT		3	82.08	24.8	50.2	18	53.5			
ROCAM, COURIER 1.6L 8V		3	82.08	25	49	18	61.5			
ZETEC 2.0L 16V, MONDEO		3	84.8	329	56.9	20.64	62			
RANGER 2.5L 8V		3	96	30.8	63.1	23.18	66			
6600	87295262	3	111.76	70.7	129.5	38.1	89			
480N, 4013, 4017		3	100.00	65.20	108.60	38.00	85.00			
EDG	82854129	4	106.60	70.05	129.00	38.10	89.00			
	37554703	4	115.578	68.05	127.00	38.10	89.00			
	87295261	4	115.578	68.05	127.00	38.10	89.00			
EF2506E	793F-6110-AAA	4	111.76	70.75	129.50	38.10	89.00			
B 034EG	82955409	3	111.76	70.33	129.50	41.25	89.00			
B 4531CG	82955398	3	111.76	67.83	127.00	41.25	89.00			
B 402CG	87800246	4	111.76	68.05	127.00	38.10	89.00			
B LZF	82955418	4	111.76	70.55	129.50	38.10	89.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
HINO										
DM100	13216-1120		90							
DM100	13216-1120A		90							
DM100	3352-1961-00		90							
DQ100	13216-1130		92							

EC100	13216-1140		97							
EC100	13216-1140C		97							
EC100	2380-1940-01		97							
W04D	13101-78020	3	104.00	60.50	106.00	35.00	85.00	13216-1460		
W04D	13211-1801		104.00							
W04D	13216-1460		104.00							
W04D	13216-1460E		104.00							
W06E	13216-1720 13211-2070	3	104.00	60.20	106.20	35.00	85.00			
W04E NEW	13216-2220	3	104.00	60.30	106.00					TIN
EH100	13216-1010		105.00							
EH100	2382-1961-00		105.00							
EH300	13216-1160		108.00							
EH500	13216-1340		108.00							
H07CT	13211-2740		110.00			39.00	90.00			ALFIN
H07CT	13211-2760		110.00			39.00	90.00			ALFIN
H07C NEW	13216-1771		110.00							
H07C NEW	13216-1851		110.00							
H07C	13216-1500		110.00							
H07C	13216-2062		110.00							
H07CTB	13211-2152	4	110.00	69.50	121.50	39.00	90.00			
H07D NEW	13216-2260		110.00							
H07D	13216-1980		110.00							
H07C	13216-1851		110.00							
EH700T	13211-1740		110.00			39.00	90.00			ALFIN

EH700	13216-1181	4	110.00	69.50	121.50	39.00	90.00			
Ho7D	13211-2370 13216-2260	3	110.00	100.00	110.00	37.00	84.50			
EP100	13216-1450	4	120.00	85.50	144.50	47.00	99.00			ALFIN
EF750	13221-1150		137.00			50.00	110.00			ALFIN
EK110	13216-1220A		137.00			50.00	110.00			ALFIN
EK200	13211-1900		137.00			50.00	110.00			ALFIN
F17C	13226-1800C		139.00			50.00	110.00			ALFIN
EF550	13211-1140	4	135.00	90.30	145.30	50.00	110.00			ALFIN
Ho6CT	13216-1750	4	108.00	69.50	121.50	39.00	90.00			ALFIN
Ho6CT	13216-1540		108.00							
Ho6CT	13216-1540B		108.00							
Ho6CT	13216-1810		108.00							
Ho6CT	13216-1810A		108.00							
Ho7CT	13211-3190	4	110.00	69.50	121.50	39.00	90.00			
EH700	13211-1471		110.00							
EH700	13216-1180		110.00							
EH700	13216-1181		110.00							
EH700 NEW	13216-1890		110.00							
EH700T	13216-1380		110.00							
Jo5C	13216-2631		114.00							
Jo5CT	13306-1080		114.00							
Jo8C	13216-2631		114.00							
Jo8C	13306-1060		114.00			37.00	84.50			ALFIN
Jo8CT	13306-1070		114.00							
Jo8E	S130A-E0100	3	112.00	57.00	100.00	37.00	84.50			

Jo8C	13216-2613	3	114.00	57.00	100.00	37.00	84.50			
Jo8C	13216-3211	3	114.00	57.00	100.00	37.00	84.50			
Jo8CT/Jo5CT	S130A-E0080 S130A-E0020 13306-1080 13306-1013 13306-1200	3	114.00	57.00	100.00	37.00	84.50			
Jo8CT/Jo5CT	S130A-E0030 S130A-E0020 13306-1012	3	114.00	57.00	100.00	37.00	84.50			
So5C/PS140	13216-2983	3	114.00	60.50	103.50	37.00	84.50			
EL100	13216-1272		116.00							
EP100	13216-1420		120.00							
EP100T	13216-1450C		120.00							
P09C	13211-2460	4	120.00	85.60	144.60	47.00	99.00			
P11C	13211-2700	4	122.00	63.70	96.70	47.00	89.00			
P11C	13211-2723	4	122.00			47.00	89.00			
P11C	13211-0230	4	122.00			47.00	89.00			
P11C	13211-0180	4	122.00			47.00	89.00			
EM100	13216-1370 132111-1700	4	124.00	80.40	139.40	42.00	98.00			
M10CT	13216-2070		127.00							
M10C	13216-2411 13211-2320	4	127.00	85.50	144.50	47.00	99.00			
EF350	13215-1330L		132.00							
EF350	13215-1080R		132.00							

EF550	13216-1560L		135.00							
EF550	13216-1140R		135.00							
K13C 12V	13216-2140	4	135.00	90.30	145.30	50.00	110.00			
K13C 24V	13211-3260	4	135.00	90.30	145.30	50.00	110.00			
K13D	13216-2100 13211-2470 13216-2170	4	137.00	90.30	144.30	50.00	110.00			
EF750	13226-1170R		137.00							
EF750	13216-1860L 13226-1170R	4	137.00	90.30	144.30	50.00	110.00			
EK100	13216-1224 13211-1036	4	137.00	90.30	145.40	50.00	110.00			
EK200	13216-1530	4	137.00	90.30	145.30	50.00	110.00			
F17DL	13216-2050L 13216-2431L	4	137.00	90.30	144.30	50.00	110.00			
F17DR	13226-1200R	4	137.00	90.30	144.30	50.00	110.00			
F17C	13216-1910L 13226-1180R	4	139.00	90.30	144.30	50.00	110.00			
F17E	13216-2110L 13226-1210R	4	139.00	90.30	144.30	50.00	110.00			
V22C	13216-1842L 13226-1162R	4	139.00	90.30	144.30	50.00	110.00			
V25C/F20C-E	13226-1331R 13216-2671L	4	146.00	84.30	138.30	50.00	110.00			
F20C	13216-1220L 13226-1220R	4	146.00	84.30	138.30	50.00	110.00			

F20C-D	13211-2502L 13226-1242R	4	146.00	843.00	138.30	50.00	110.00			
V25C/F20C-E	13221-1283R	4	146.00	84.30	138.30	50.00	110.00			
V26C	13221-0962R 13216-2661L	4	150.00	84.30	138.30	50.00	110.00			
Jo8C/A	13301-1013	3	114.00	57.00	100.00	37 / 41	84.00			ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
DAIHATSU										
CD S70	13101-87709	3	70.00	28.00	64.30	18.00	60.00			
CB/C G11	13101-87713 13101-87719 13101-87729	3	76.00	28.50	60.50	18.00	60.00			
ED	13101-87246	3	66.60	28.50	56.50	18.00	51.00			
XENIA	13101-BZ090-011	3	72.00	28.60	50.60	18.00	53.00			
XENIA	13101-87Z11 13101-97Z01	3	72.00	28.60	50.60	18.00	53.00			
K3-DE	13101-BZ180-001	3	72.00	28.00	45.50	18.00	53.00			
S75	13101-87702	3	76.00	28.50	60.50	18.00	61.00			
S89	13101-87107 13101-87105	3	76.00	30.30	62.90	19.00	58.00			
376	13101-87708	3	76.00	28.50	60.60	18.00	60.00			
VEROZA	13103-87Z16-001	3	76.00	30.30	61.50	19.00	58.00			
S89-11	13101-87Z14 13103-87Z14	3	76.00	30.30	68.80	19.00	58.00			
5R	13101-44015	3	88.00	39.00	85.00	22.00	75.00			
DL28	13211-87324	3	92.00	50.50	95.00	28.00	75.00			

F20	13101-31022	3	80.50	39.00	80.00	20.00	66.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
DAEWOO										
TICO	12111-A78B00	3	68.50	25.00	55.00	16.00	53.00			
DB58	65.02501-0561	3	102.00	58.80	98.00	36.00	87.00			
D1146	65.02501-0172	3	111.00	72.80	121.30	42.00	95.00			
D2366T	65.02501-0031	3	123.00	81.50	136.00	45.00	102.00			
D2366-2	65.02501-0032	3	123.00	81.50	136.00	45.00	104.00			
4PNP 1013, 1014		3	76.50	28.50	48.50	18.00				
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
NISSAN										
A20		3	76.00	30.40	58.00	22.00	48.00			
A15A	12010-H9704	3	76.00	30.00	65.00	19.00	63.00			
A15	12010-H9800	3	76.00	30.00	65.00	19.00	63.00			
VQ20	12011-31U60	3	76.00	30.00	58.50	22.00	48.00			
J15 L20A	12010-Y7002	3	78.00							
J15	12010-E3002	3	78.00							
Z16	12010-W7111	3	83.00							
CA18	12010-01F00	3	83.00	30.00	65.00	20.00	61.00			
CA20	12011-D1800	3	84.50	30.00	57.50	20.00	61.00			
LD20	12010-W71020	3	85.00							
LD20	12010-G5562	3	85.00							
NA20	12010-85G00	3	86.00	38.50	70.00	21.00	64.00			
SR20	12010-03J64	3	86.00	32.00	63.00	22.00	60.00			

V6900		3	78.00	30.50	67.30	20.00	57.00			
Z20	12010-N8711 12010-N8520	3	85.00	32.00	67.00	21.00	72.00			
NA20S	12010-85G02	3	86.00	38.50	79.00	21.00	64.00			
VG30	12010-21P61	3	87.00	31.90	67.00	21.00	64.00			
H20	12101-74001	3	87.20	41.00	84.00	22.00	73.00			
EB70A/D40	12010-EB70A	3	89.00	48.80	79.80	28.00	61.00			
D22/YD25	A2010-VK50A	3	89.00	48.80	73.80	28.00	71.00			
K21	12010-FU422 91H20-00670	3	89.00	32.50	58.20	20.00	57.00			
K25	12010-FU522	3	89.00	32.50	58.20	20.00	57.00			
H25	12010-60K00	3	92.00	36.20	71.20	21.00	72.00			
ZD30 T/B	12010-VD112 12010-VK600	3	96.00	50.10	74.10	33.00	78.00			
ZD30T	12010-VK610	3	96.00	50.10	74.10	33.00	78.00			
BD30T	12010-69T05	3	96.00	53.00	89.50	30.00	80.00			
VG30	12010-V7101	3	87.00	32.00	67.00	21.00	64.00			
VG30ET, PQ13	12101-V7161	3	87.00	32.00	67.00	21.00	64.00			
Z24	12010-83W01	3	89.00	34.00	70.50	21.00	66.00			
SD23	12101-T6202 12101-T6212 12101-09W01	3	89.00	48.00	90.00	26.00	74.00			ALFIN
SD25	12019-L2002 12010-T7210	3	89.00	48.00	90.00	26.00	74.00			
BD25, BD1	12010-87G01/87G11	3	93.00	53.00	90.00	30.00	80.00			
TD25	12010-44G02 12010-44G12	3	93.00	50.30	87.00	28.00	80.00			ALFIN
TD27	12010-43G02		96.00			28.00	80.00			ALFIN
TD27	12011-43G01		96.00							

TD27	12011-6T001		96.00							
TD27	12011-31N03		96.00							
TD27	12010-43G12		96.00							
TD27	12010-10T05		96.00							
TD27	12010-6T000		96.00							
VQ30DE	A2010-38V10	3	93.00	30.40	58.00	22.00	58.00			
TD27, TD42	12010-10T12 12010-10T02 12010-44G12	3	96.00	50.00	87.20	28.00	80.00			ALFIN
BD30	12010-54T01 12010-54T00	3	96.00	53.00	89.50	30.00	80.00			
FD6	12011-Z5516 12011-Z5600	3	100.00	65.50	109.50	34.00	85.00			ALFIN
QD32	12010-2S600		99.20			33.00	78.00			ALFIN
ED33	12011-J6500		100.00							
ED33	12001-36500		100.00							
ED33	12010-T9010		100.00							
ED33	12010-T9020		100.00							
FD6	12010-Z5505		100.00							
FD6	12011-Z5505		100.00							
FD6	12011-Z5576		100.00							
FD6T	12011-Z5600		100.00							
FD6T	12010-Z5509		100.00							
FD6T	12011-Z5502		100.00							
FD6T	12011-Z5572		100.00							
FD6T	12011-Z5509	4	100.00	65.50	109.50	34.00	84.00			ALFIN
FE6	12011-Z5614		108.00							

FE6	12011-Z5618		108.00							
FE6	12011-Z5615		108.00							
FE6T	12011-Z5668		108.00							
FE6T	12011-Z5968		108.00							
FE6T	12011-Z5801		108.00							
FE6T	12011-Z5507		108.00							
FE6T	12011-Z5801		108.00							
FE6T-205	12011-Z5615		108.00			36.00	90.00			ALFIN
FE6T-215	12011-Z5868		108.00			36.00	90.00			ALFIN
FD46T		3	108.00	59.20	87.10	36.00	93.00			ALFIN
FE6A	12011-Z5968	3	108.00	65.50	103.50	36.00	90.00			ALFIN
FE6T	12010-96507	3	108.00	65.50	103.70	36.00	94.00			ALFIN
FE6AT	12013-Z5507	3	108.00	65.50	103.50	36.00	94.00			ALFIN
ND6	12011-95000		110.00							
ND6T	12011-95004		110.00							
NE6	12011-95073		110.00			36.00	94.50			ALFIN
NE6T	12011-95074G		110.00			36.00	94.50			ALFIN
PD6T	12011-96005		125.00			46.00	108.00			ALFIN
PD6T	12011-96009		125.00			46.00	108.00			ALFIN
PD6	12011-96000		125.00			46.00	108.00			ALFIN
PD6T	12011-96005		125.00							
PD6T NEW	12011-96009		125.00							
PD6	12011-96007		125.00			46.00	108.00			ALFIN
PE6	12011-96516		133.00							
PE6	12011-96508		133.00							
PE6T	12011-96564		133.00							
PE6T	12011-96509		133.00							

PE6TB CW430	12011-96600		133.00							
PE6T	12011-96504		133.00							
PE6T	12011-96576		133.00							
PE6T	12011-96578		133.00			46.00	116.00			ALFIN
PE6T	12011-96917		133.00			46.00	116.00			ALFIN
PE6	12011-96518		133.00			46.00	116.00			
PE6-T	12011-96548	3	133.00	82.00	132.00	46.00	116.00			ALFIN
RE8	12011-97107	3	135.00	78.50	137.00	46.00	116.00			ALFIN
RF8	12011-97165R 12011-97161L	3	138.00	78.60	137.00	46.00	116.00			ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
MAZDA										
323	B6Y0-11-SAOA	3	78	32.5	63	20	61			
B6	B6Z2-11-SAO		78							
E1600 NA1600	H602-23-200		78							
B6	B6Y2-11-SBX		78							
MA/929	8682-23-200	3	80	36.3	73.3	20	65			
F6	F605-23-200		81							
F6	F601-23-000		81							
E2000 VA	0553-23-200	3	82.00	45.00	83.50	22.00	71.00			
VA2000	0164-99-111		82.00							
VA	0553-23-750T	3	82.00	45.00	83.50	22.00	72.00			
BP	BPY0-11-SAO		83.00							
FS	FSY1-11-SBO		83.00							
KLV6	KLY-11-SAO		84.50							
E1800	F2Y4-11-SAO	3	86.00	34.00	71.00	24.00	61.00			

B200	FE01-23-200	3	86.00	33.80	70.80	22.00	67.00			
F2, B2200	F2Y2-11-SAO	3	86.00	36.50	71.50	22.00	66.00			
FE	FE01-23-200	3	86.00	34.00	71.00	22.00	66.00			
F8	F801-23-200	3	86.00	34.00	71.00	22.00	66.00			
R2	RF01-23-200	3	86.00	47.30	86.30	25.00	67.00			
WL5 B2500	WLY5-11-SAOB	3	93.00	47.90	87.40	32.00	70.00			
	JEY6-11-SAOB JE		90.00							
E2500	S501-99-111		88.90							
E2200 S2	1486-23-200A		88.90							
E2500-3G, S5	S501-23-200	3	88.90	60.40	103.30	28.00	73.00			
XB E2700	0528-23-200		92.00							
WL8	WLY8-11-SAOB WLY1-11-SAOA	3	93.00	47.80	87.40	32.00	70.00			
WL9	W9Y1-11-SAOB	3	93.00	47.80	87.40	32.00	70.00			
HA	1363-23-200		95.00							
SF T3000	SE01-23-200A	3	95.00	53.50	100.50	30.00	79.00			
ZY	VS01-11-102D VSY1-11-SAOC	3	98.00	48.40	90.40	30.00	79.00			
SL	SL07-23-200	3	100.00							
T3500	SL07-23-200A	3	100.00	58.00	105.00	34.00	82.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
DOOSAN										
DB58TI		3	102.00	58.80	98.00					TIN
DB58TIS		3	102.00	58.80	98.00					TIN / ALFIN

D1146NA	DPN02501-0785	3	110.80	73.00	121.50					GRAPHITE / ALFIN
DE12TIS	DPN02501-0773B	3	123.00	81.50	136.00					GRAPHITE / ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
MERCEDES-BENZ										
OM352A	0045000		97.00			36.00	82.50			ALFIN
OM352	0044510		97.00			36.00	82.50			ALFIN
OM366	0028000		97.50			36.00	82.50			ALFIN
OM352C			97.00			36.00	82.50			
OM352N			97.00			36.00	82.50			
OM364T			97.50			36.00	82.50			
OM364N			97.50			36.00	82.50			
OM407T			125.00			46.00	105.70			
OM471			132.00			58.00	88.00			
OM447N			128.00			46.00	99.00			
OM924	87-146400-00		106.00			42.00	80.00			
OM360	0051000		115.00			42.00	98.00			ALFIN
OM401A	0034500		125.00			46.00	97.00			ALFIN
OM401LA	0036200		125.00			46.00	102.00			ALFIN
OM422	0036610		128.00			46.00	99.00			ALFIN
OM355	0035400		128.00			48.00	108.00			ALFIN
OM457	0052500		128.00			52.00	103.00			ALFIN
OM441A	0037600		128.00			46.00	105.00			ALFIN
OM457	0052500		128.00			52.00	103.00			ALFIN
OM441	0037800		130.00			46.00	99.00			ALFIN
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			

DEUTZ										
KHD912	P465120	4	100.00	71.90	122.40	35.00	80.00			
KHD913	P465135	4	102.00	69.10	122.30	35.00	80.00			
KHD413	P465165	3	125.00	87.40	138.65	45.00	102.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
FIAT										
1.0L FIRE 8V HP FLEX		3	70.00	33.10	55.60	18.00	53.00			
1.0L 8V FIRUNO PALIO SIENA		3	70.00	33.00	53.10	18.00	53.00			
1.0L 1L6V, PALIO, SIENA		3	70.00	33.00	53.20	18.00	53.00			
1.3L 16V. DOBLO, PALIO		3	70.80	28.00	48.00	18.00	49.00			
1.3L 8V FLEX, PALIO		3	70.80	28.00	48.00	18.00	49.00			
1.3 8V PALIO, SIENA		3	70.80	28.00	48.00	18.00	49.00			
1.4L 8V FLEX, PALIO, SIENA		3	72.00	26.00	46.10	18.00	49.00			
1.8L 16V, MAREA, BRAVA		3	82.00	36.10	60.00	20.00	52.00			
2.4L HLX, MAREA,		3	83.00	32.40	56.50	20.00	53.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
HONDA										
FIT		3	73.00	26.00	47.00	18.00	54.00			
D17Z2/Z3	13101-PSL-00	3	75.00	27.00	46.50	19.00	56.00			
ACCORD CD5	13101-PIE-00	3	85.00	30.50	65.00	22.00	57.00			
ACCORD CB3	13101-PT1-00	3	85.00	30.50	65.00	22.00	57.00			
F22 B4		3	85.00	30.50	65.00	22.00	57.00			
ODYSSEY		3	86.00	29.20	54.00	22.00	54.50			
2.4L		3	87.00	28.50	56.50	22.00	52.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process

Engine Model	OEM	No.ring	dia.	comp height	length	Dia	length	Alternative No.	Pattern	Process
KIA										
B6D	OK2YO-11-SBX	3	78.00	31.40	63.50	19.98	61.00			
CARNIVAL NEW	23411-3Y-3007	3	78.40	27.70	50.70	18.00	53.00			
K2400 SF	K768-11-102	3	92.00	50.60	94.50	28.00	75.00			
K2700 SS	K480-11-102	3	92.00	60.30	103.30	31.75	75.00			
K2700 JS	K6Z1-11-SAO	3	94.50	50.00	81.70	30.00	76.00			
CARNIVAL II, K2900 / J3	OK5Z1-11-SAO	3	97.10	52.00	84.00	32.00	78.00			
K3000 JT3.0	K7Z1-11-SAO	3	98.00	45.50	76.10	30.00	78.00			
K3600 SH	K4Y1-11-SAO	3	100.00	56.20	102.00	34.00	82.00			
K3600 /T3500T	SL07-23-200	3	100.00	58.00	105.00	34.00	82.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
KUBOTA										
ET80, KND80	14911-2111	4	84.00	43.00	77.00	25.00	70.00			
ET95	14921-2111	4	86.00	47.00	88.00	27.00	72.00			
ET110	14931-2111	4	92.00	47.00	88.00	27.00	72.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
LADA										
	2108-1004018	3	76.00	38.00	66.00	21.00	61.00			
	2101-1004015	3	76.00	38.00	77.00	22.00	67.00			
	21011-1004015	3	79.00	38.00	76.70	22.00	72.00			
	2105-1004018	3	79.00	38.00	78.00	22.00	67.00			
	21011-1004018	3	79.00	38.00	77.00	22.00	67.00			
	21083-1004018	3	82.00	38.00	66.00	22.00	67.00			
	21213-1004018	3	82.00	38.00	66.00	22.00	67.00			

	2112-1004018	3	82.00	38.30	65.00	22.00	60.50			
	21083-1004015	3	82.00	37.80	66.00	22.00	61.00			
	2110-1004015	3	82.40	38.00	66.00	22.00	61.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
OPEL										
CORSA 1.0L EFI		3	71.10	37.30	58.40	18.00	50.00			
CORSA 1.0 MPFI		3	71.10	37.30	58.40	18.00	50.00			
CLETA 1.0, CORSA 1.0,		3	71.10	38.00	62.00	18.00	54.00			
CORSA 1.0L 16V		3	71.10	37.30	59.90	18.00	50.00			
CLETA, PRISMA 1.4		3	77.60	32.00	52.50	18.00	55.00			
CORSA NOVO 1.4 FLEX		3	77.60	32.00	52.50	18.00	55.00			
CORSA 1.6 8V		3	79.00	28.00	48.00	18.00	55.00			
CORSA 1.6 8V		3	79.00	28.00	48.00	18.00	55.00			
CORSA 1.6 16V		3	79.00	28.00	48.60	18.00	55.00			
CORSA/MERIVA 1.8		3	80.50	24.10	44.70	18.00	57.00			
MERIVA 1.8 16V		3	80.50	24.10	44.70	18.00	57.00			
ASTRA 2.0		3	86.00	30.60	54.00	21.00	63.00			
VECTRA 2.0		3	86.00	30.40	55.40	21.00	61.80			
ASTRA, VECTRA 2.0		3	86.00	30.40	55.40	21.00	61.80			
OMEGA 2.0		3	86.00	30.40	55.40	21.00	61.50			
OMEGA 2.0		3	86.00	30.40	55.40	21.00	61.50			
S10, OMEGA 2.2		3	86.00	30.00	55.00	21.00	61.50			
VECTRA 2.2		3	86.00	30.40	55.40	21.00	61.80			
S10 BLAZER2.4		3	87.50	27.30	50.30	21.00	63.00			
S10 BLAZER 2.4		3	87.50	27.30	50.30	21.00	61.50			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			

SUZUKI										
F5A		3	62.00	23.50	48.00	15.00	47.00			
F5A	12111-78110	3	62.00	27.50	57.50	16.00	50.00			
F8A		3	62.00	25.00	55.50	16.00	50.00			
ST90	12110-78110	3	62.00	27.50	57.50	16.00	50.00			
F6A	12111-86050	3	62.00	25.50	52.50	16.00	50.00			
465	12111-75107	3	65.50	24.50	55.00	16.00	53.50			
ST100	12111-75102	3	65.50	24.50	55.00	16.00	54.00			
F10A	12111-75014	3	65.50	24.60	55.00	16.00	54.00			
368	12111-78400	3	65.50	25.00	55.00	16.00	53.50			
SS80	12111-78400	3	68.50							
SA310	12100-82820--0A0	3	74.00							
SA310	12111-82010	3	74.00							
G13A	12111-83000	3	74.00							
SJ413	12111-63B50	3	74.00							
SJ413	12111063B00	3	74.00							
472		3	72.00	28.00	54.50	17.00	60.00			
APV	12111-61J50	3	75.00	28.30	55.40	19.00	62.00			
G16A	12111-60A02	3	75.00	28.30	58.30	19.00	68.00			
VITARA	12111-60A02-0AD	3	75.00	28.30	58.30	19.00	61.50			
476Q		3	76.00	26.00	47.00	18.00	60.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
VOLGA										
	53-1004015-226B	3	92.00	50.70	91.40	25.00	67.50			
	406-1004015	3	92.00	37.90	69.40	22.00	64.50			
	53-1004015-22AP	3	92.50	50.90	92.00	25.00	67.00			

	421-1004015M	3	100.00	43.50	80.50	25.00	67.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
YANMAR										
YR124BK	H4Y68002	3	68.00	37.50	65.50	21.00	57.00			
YRB21BK	H4Y72010	3	72.00	37.20	69.00	20.00	57.00			
YRB78BK	H4Y75010	3	75.00	41.80	72.30	23.00	63.00			
YR167BK	H4Y75030	3	75.00	37.20	69.20	20.00	57.00			
YR229BK	H4Y82010	3	82.00	49.10	86.60	26.00	66.00			
3D84	129105-22080	3	84.00	50.20	86.60	26.00	66.00			
STNE84		3	84.00	50.20	86.60	26.00	66.00			
3D84	129367-22020	3	84.00	42.00	84.00	26.00	66.00			
STNA84		3	84.00	47.20	84.00	26.00	70.00			
3D84Y	129002-22081	3	84.00	47.20	84.00	26.00	70.00			
		3	88.00	47.20	84.00	26.00	70.00			
		3	88.00	47.20	84.00	26.00	70.00			
4DNE94		3	94.00	54.80	98.80	30.00	72.00			
4DNV94		3	94.00	59.70	103.70	30.00	72.00			
4D94E		3	94.00	60.00	104.00	30.00	74.00			
4D94E		3	94.00	55.40	99.40	30.00	72.00			
		3	98.00	54.80	98.80	30.00	72.00			
4DNV98		3	98.00	55.00	99.00	30.00	72.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
CHEVROLET										
3EA. YSE. F6B. 10.L		3	68.50	25.25	52.30	17.00	53.00			
C14ES		3	77.60	32.05	52.50	18.00	55.00			

1.6L CORSA		3	79.00	28.00	48.40	18.00	55.00			
122 CID 2.0L		3	86.00	30.40	55.40	21.00	61.50			
2.2 ITS		3	86.00	26.75	48.90	20.00	62.00			
189 CID 3.1L		3	89.00	37.10	57.90	23.00	65.00			
134 CID 2.2L		3	89.00	29.75	50.60	20.33	67.00			
MOT. 3.1 L		3	89.00	37.80	59.90	23.00	57.00			
146 CID 2.4L		3	90.00	29.70	51.60	22.00	61.50			
350 CID 5.7L		3	101.60	39.20	81.05	23.55	76.00			
Engine Model	OEM	Piston				pin		Alternative No.	Pattern	Process
		No.ring	dia.	comp height	length	Dia	length			
CHRYSLER										
167 CID EER 2.7L		3	86.00	31.20	53.20	22.00	60.00			
4G64 2.4L		3	86.50	35.50	72.10	21.00	72.00			
4G64 2.4L		3	86.50	35.00	67.00	22.00	62.00			
153J 2.5L		3	87.50	34.00	56.10	22.88	63.50			
135 CID 2.2L		3	87.50	40.45	71.25	22.88	70.00			
153K 2.5L		3	87.50	34.50	56.00	22.88	61.50			
148 CID 2.4L		3	87.50	30.65	55.20	22.00	72.00			
144 CID 2.4LT		3	88.00	27.50	51.47	21.00	59.00			
112/173	14020518 14079778		90.00	40.20	77.10	23.00	70.20			
6G72		3	91.10	31.60	67.80	22.00	64.00			
201 CID 3.3L		3	93.00	31.75	53.70	22.88	67.50			
230 CID 3.8L		3	96.00	34.97	57.00	22.88	67.50			
230 CID 3.8L		3	96.00	32.55	54.30	22.88	67.50			
215 CID 3.5L		3	96.00	38.30	63.10	24.00	61.00			
242 CID 4.0L		3	98.40	40.42	70.30	23.65	68.50			
5.7L VIN D		3	99.50	31.00	54.90	24.00	70.00			

[illegible]