

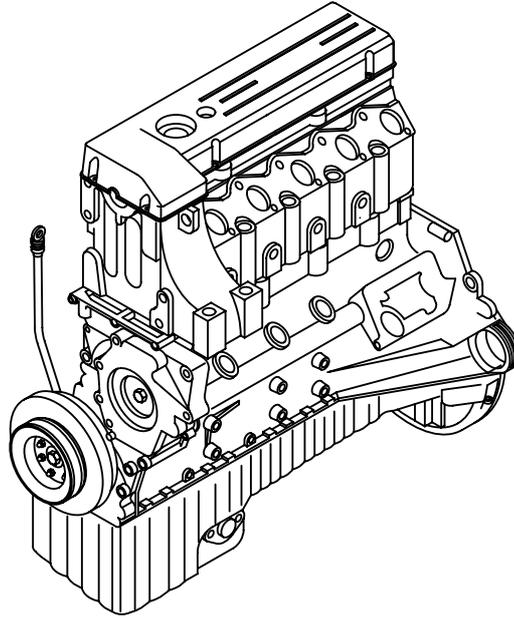
## SECTION 1B1

# DIESEL ENGINE

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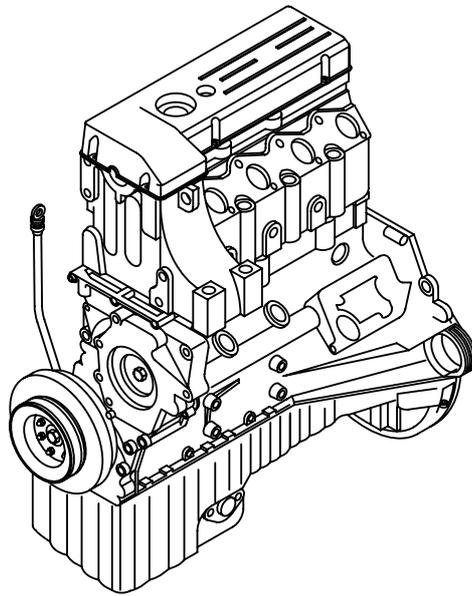
# **1B1-DIESEL ENGINE MECHANICAL**

OM662 NA/LA



— 1,2

OM661 NA/LA

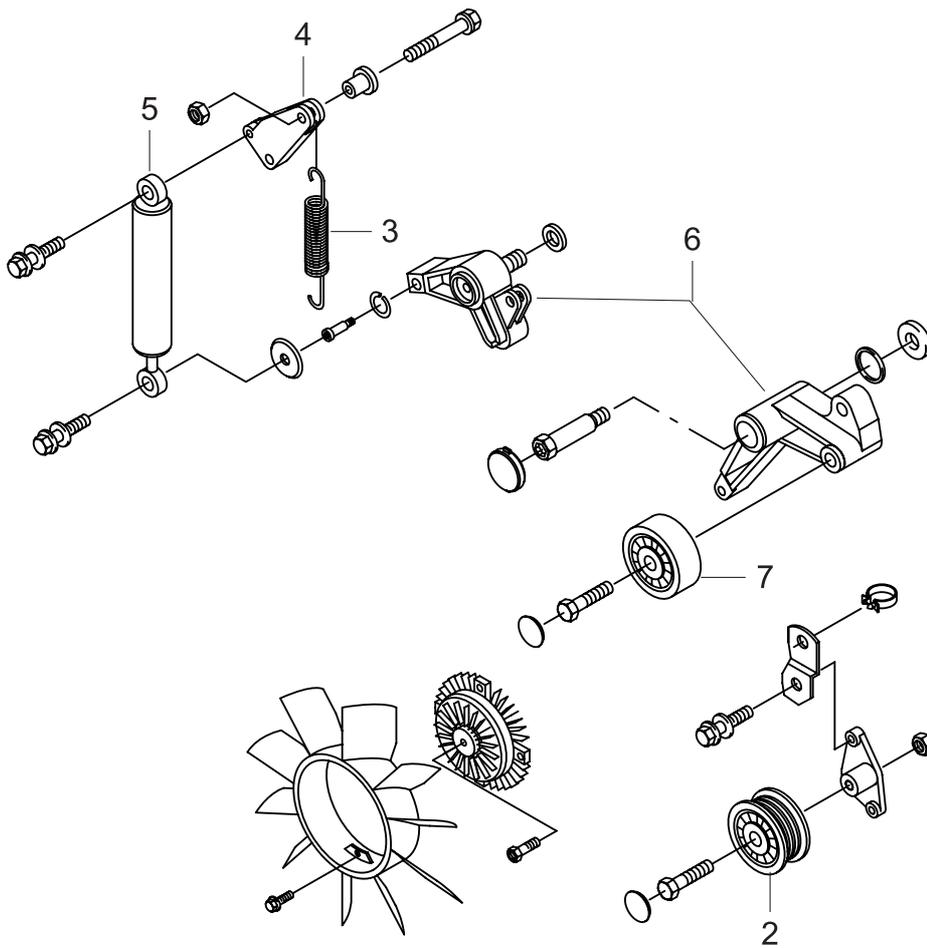
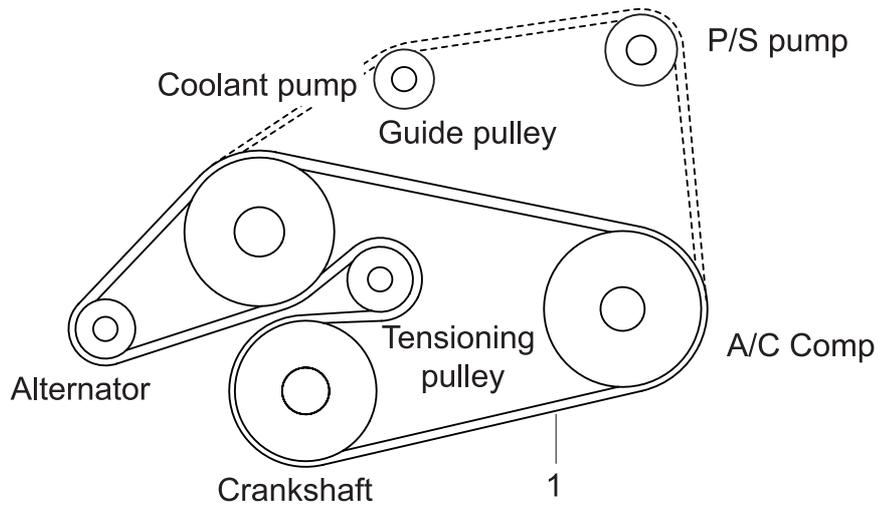


— 1,2

## DIESEL ENGINE MECH. - ENGINE UNIT (111)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	ENGINE ASSEMBLY (M/T) - OVERHAUL	1110100	-	-	23.0	23.0	23.0	23.0
	ENGINE ASSEMBLY (A/T) - OVERHAUL	1110300	-	-	23.7	23.7	23.7	23.7
2	ENGINE ASSEMBLY (M/T) - REPLACE	1110800	-	-	8.3	8.3	8.3	8.3
	ENGINE ASSEMBLY (A/T) - REPLACE	1110900	-	-	9.3	9.3	9.3	9.3

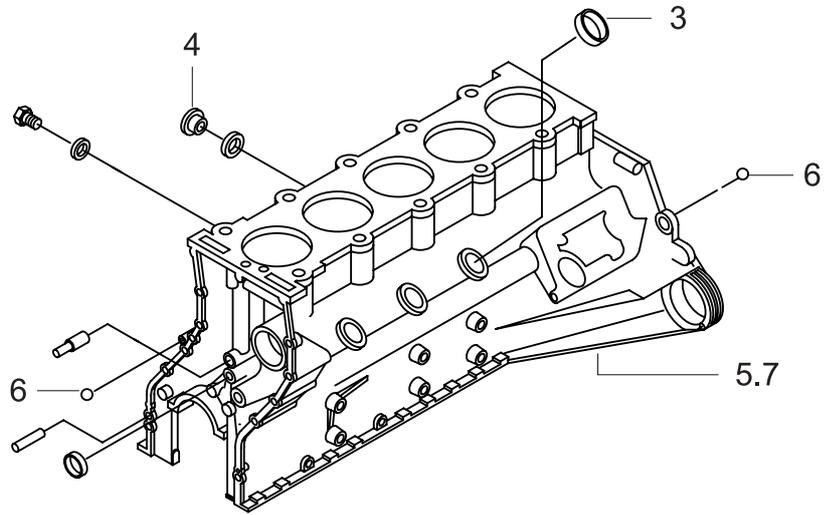
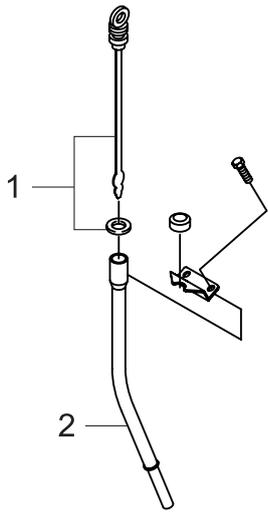
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



## DIESEL ENGINE MECH. - BELT SYSTEM (113)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	BELT, PULLEY - REPLACE	1132210	-	-	0.5	0.5	0.5	0.5
2	PULLEY ASSEMBLY, IDLER - REPLACE	1132500	-	-	0.5	0.5	0.5	0.5
3	SPRING ASSEMBLY, TENSION - REPLACE	1132510	-	-	0.5	0.5	0.5	0.5
4	LEVER ASSEMBLY, SPRING TIGHTENER - REPLACE	1132520	-	-	0.3	0.3	0.3	0.3
5	SHOCK ABSORBER ASSEMBLY - REPLACE	1132530	-	-	0.3	0.3	0.3	0.3
6	LEVER ASSEMBLY, TIGHTENER - REPLACE	1132540	-	-	0.6	0.6	0.6	0.6
7	PULLEY ASSEMBLY, BELT TIGHTENER - REPLACE	1132550	-	-	0.5	0.5	0.5	0.5

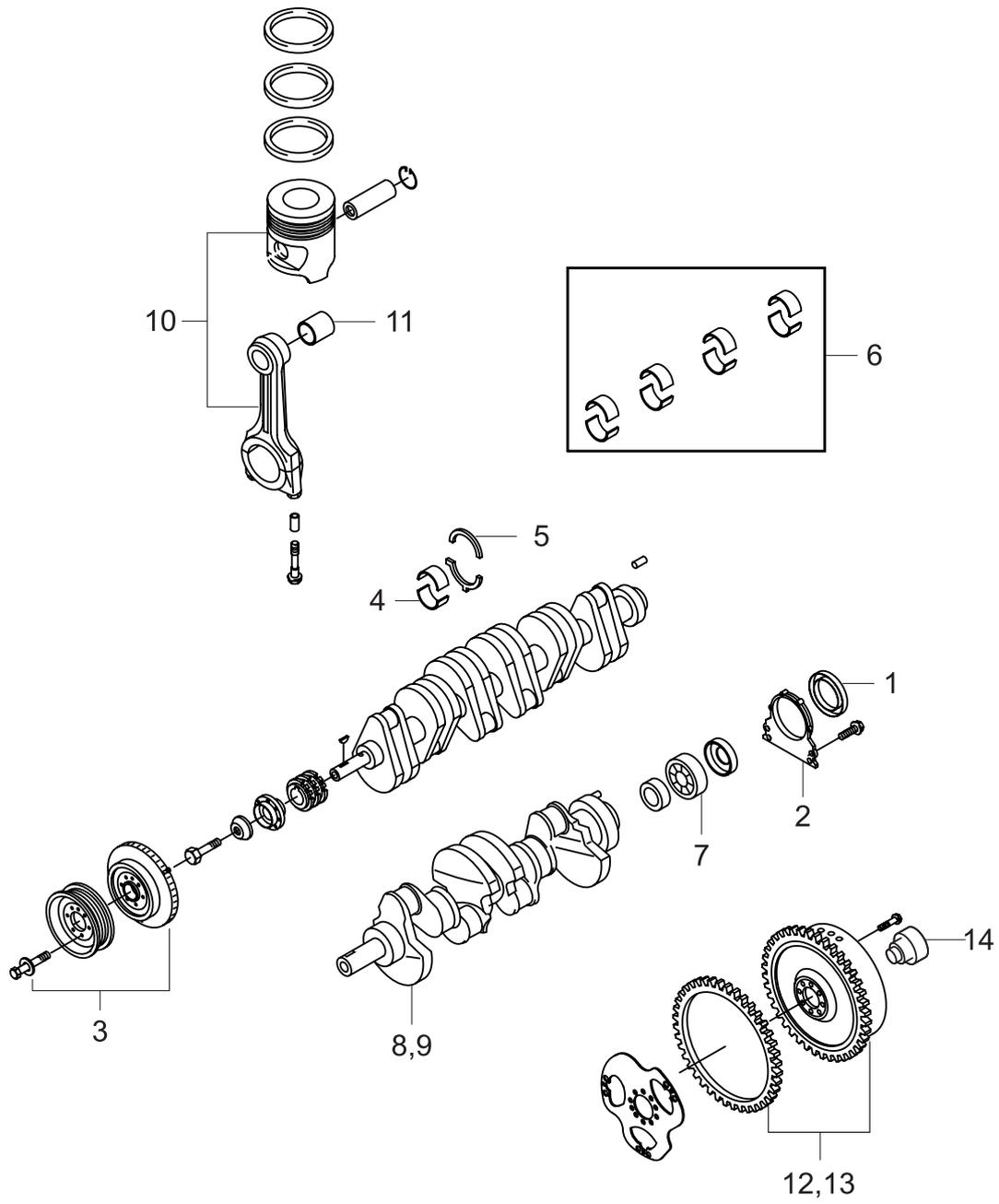
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



## DIESEL ENGINE MECH. - ENGINE BLOCK (121)

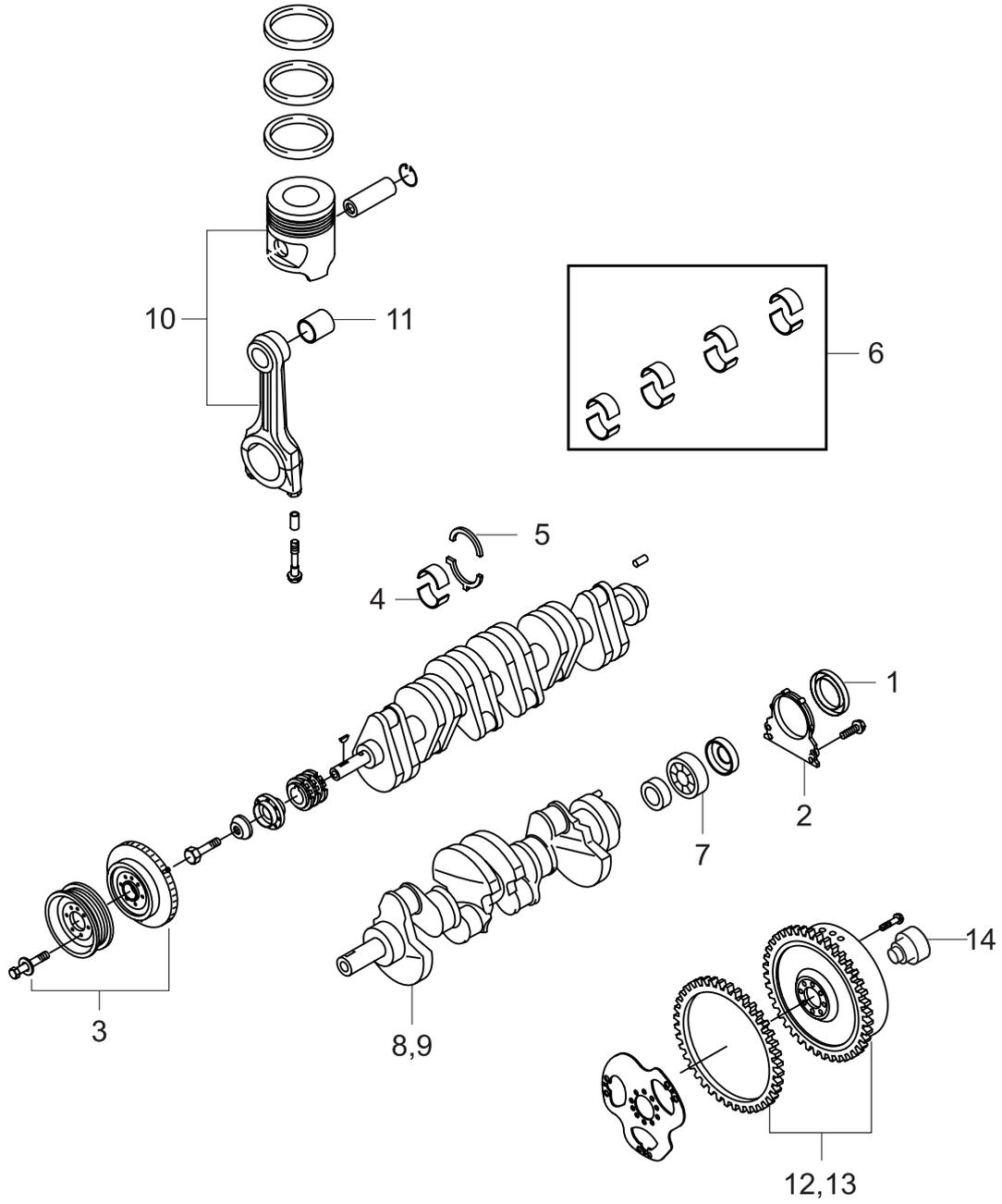
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	OIL LEVEL INDICATOR AND/OR O-RING - REPLACE	1210200	-	-	0.2	0.2	0.2	0.2
2	TUBE, OIL LEVEL INDICATOR - REPLACE	1210300	-	-	0.3	0.3	0.3	0.3
3	PLUG, EXPANSION - REPLACE A - Replace each additional	1210700	-	-	4.1	4.1	4.1	4.1
		121070A	-	-	0.1	0.1	0.1	0.1
4	PLUG, CYLINDER BLOCK DRAIN - REPLACE	1210800	-	-	0.3	0.3	0.3	0.3
5	BLOCK, CYLINDER - REPLACE	1211100	-	-	22.8	23.0	22.8	23.0
6	BALL, PLUG OIL CHANNEL - REPLACE	1211200	-	-	1.0	1.0	1.0	1.0
7	SEMI BLOCK (SHORT BLOCK), CYLINDER - REPLACE	1211110	-	-	18.3	18.5	18.3	18.5

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



<b>DIESEL ENGINE MECH. - CRANKSHAFT &amp; PISTON (122)</b>								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	SEAL(S), CRANKSHAFT REAR MAIN (A/T) - REPLACE	1220200	-	-	6.2	6.2	6.2	6.2
	SEAL(S), CRANKSHAFT REAR MAIN (M/T) - REPLACE	1220400	-	-	5.4	5.4	5.4	5.4
2	COVER, CRANKSHAFT SEALING (A/T) - REPLACE	1220410	-	-	3.4	3.4	3.4	3.4
	COVER, CRANKSHAFT SEALING (M/T) - REPLACE	1220420	-	-	2.4	2.4	2.4	2.4
3	DAMPER, CRANKSHAFT VIBRATION - REPLACE	1220500	-	-	2.8	2.8	2.8	2.8
4	BEARING, CRANKSHAFT MAIN (ONE) - REPLACE	1220600	-	-	15.5	15.5	15.5	15.5
	A - Replace each additional	122060A	-	-	0.1	0.1	0.1	0.1
5	BEARING, CRANKSHAFT THRUST - REPLACE	1220610	-	-	16.0	16.0	16.0	16.0
6	BEARING, CONNECTING ROD (ONE) - REPLACE	1220800	-	-	16.0	16.0	16.0	16.0
	A - Replace each additional	122080A	-	-	0.1	0.1	0.1	0.1
7	BEARING, GROOVED BALL (M/T) - REPLACE	1220900	-	-	5.4	5.4	5.4	5.4
	BEARING, GROOVED BALL (A/T) - REPLACE	1220910	-	-	5.6	5.6	5.6	5.6
8	CRANKSHAFT (M/T) - REPLACE	1221100	-	-	13.4	13.4	13.4	13.4
	D - Replace one piston ring	122110D	-	-	0.4	0.4	0.4	0.4
	E - Replace all piston rings	122110E	-	-	1.2	1.2	1.2	1.2
	F - Replace one connecting rod	122110F	-	-	0.5	0.5	0.5	0.5
	G - Replace all connecting rods	122110G	-	-	1.6	1.6	1.6	1.6
9	CRANKSHAFT(A/T) - REPLACE	1221200	-	-	15.5	15.5	15.5	15.5
	D - Replace one piston ring	122120D	-	-	0.4	0.4	0.4	0.4
	E - Replace all piston rings	122120E	-	-	1.2	1.2	1.2	1.2
	F - Replace one connecting rod	122120F	-	-	0.5	0.5	0.5	0.5
	G - Replace all connecting rods	122120G	-	-	1.0	1.0	1.0	1.0
10	PISTON, ROD AND/OR RINGS (ONE) - REPLACE	1221500	-	-	16.1	16.1	16.1	16.1
	C - Replace each additional	122150C	-	-	0.1	0.1	0.1	0.1
11	BUSHING, CONNECTING ROD - REPLACE	1221540	-	-	16.1	16.1	16.1	16.1
	A - Replace each additional	122154A	-	-	0.1	0.1	0.1	0.1

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

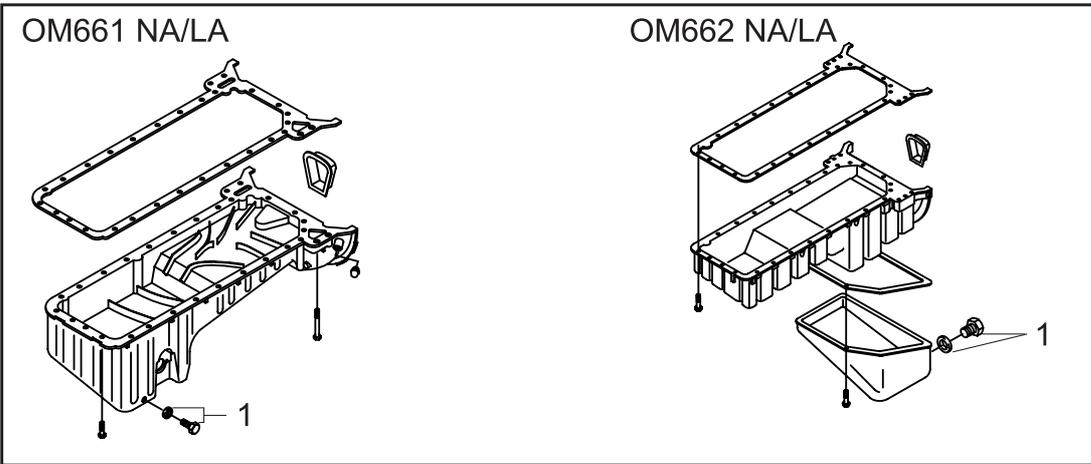
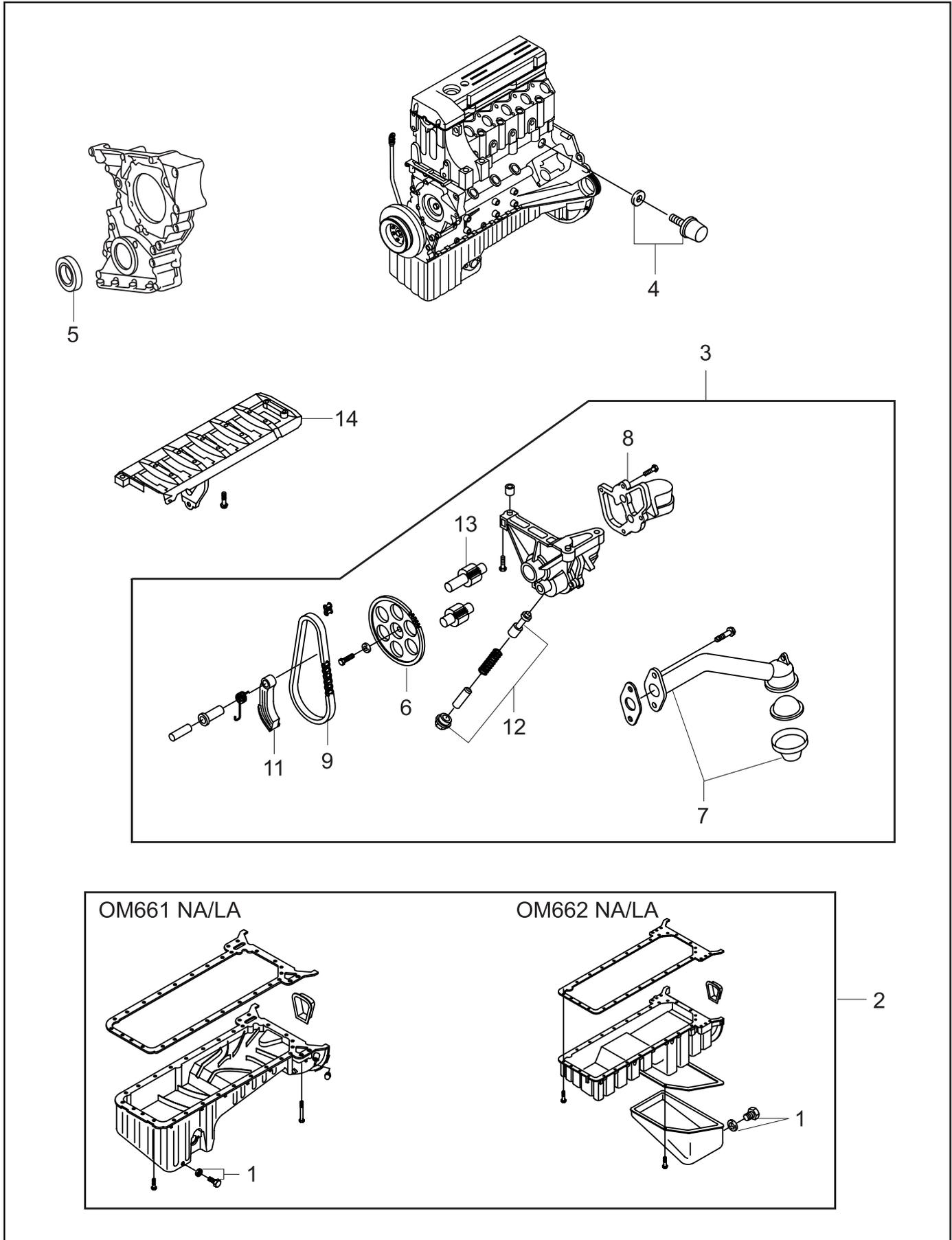


## DIESEL ENGINE MECH. - CRANKSHAFT & PISTON (122)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
12	FLYWHEEL (M/T) - REPLACE A - Flywheel ring gear (M/T)	1221700	-	-	5.4	5.4	5.4	5.4
		122170A	-	-	0.8	0.8	0.8	0.8
13	FLYWHEEL (A/T) - REPLACE A - Flywheel ring gear (AT)	1221900	-	-	6.3	6.3	6.3	6.3
		122190A	-	-	0.8	0.8	0.8	0.8
14	BEARING, PILOT - REPLACE	1222100	-	-	5.4	5.6	5.4	5.6

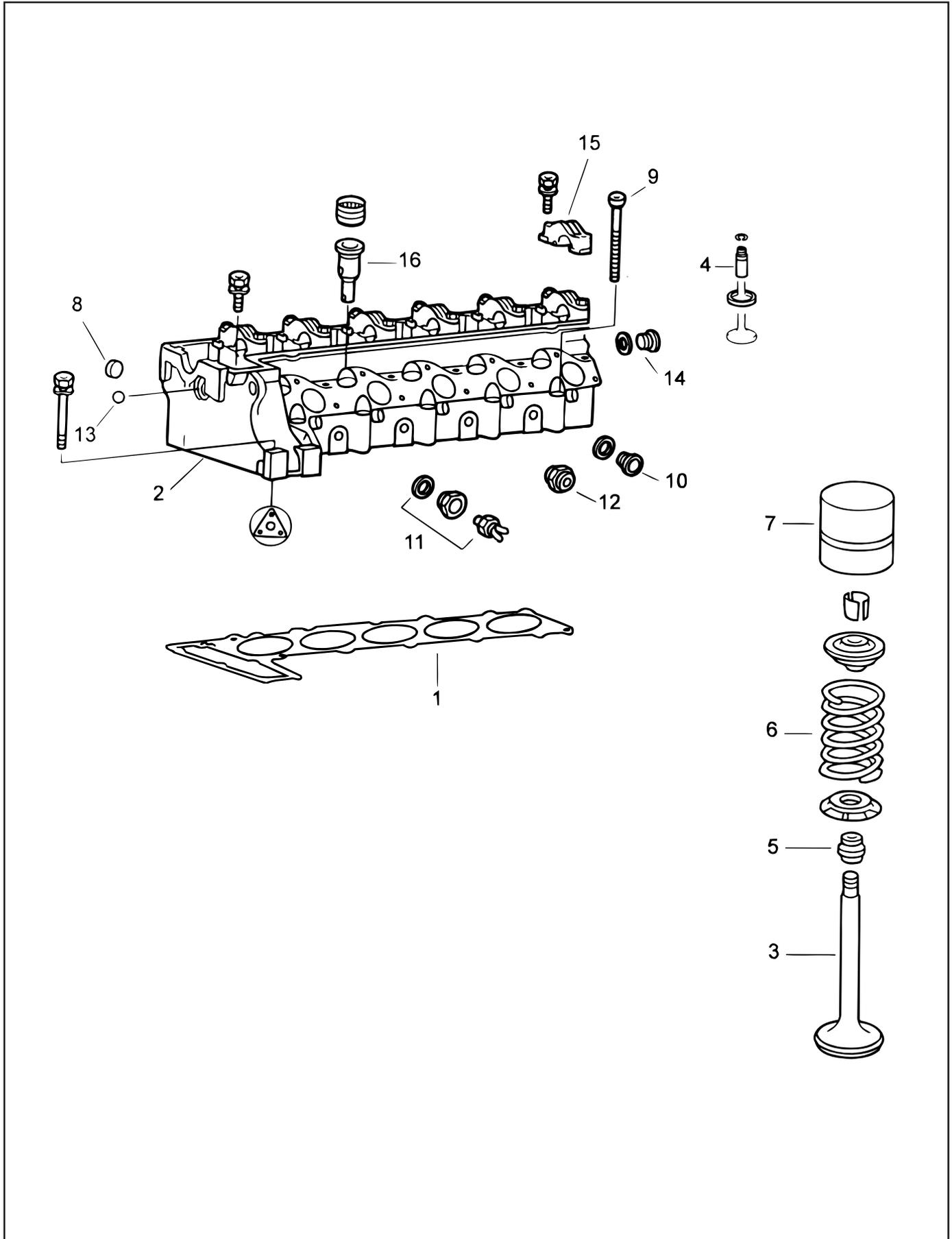
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

123



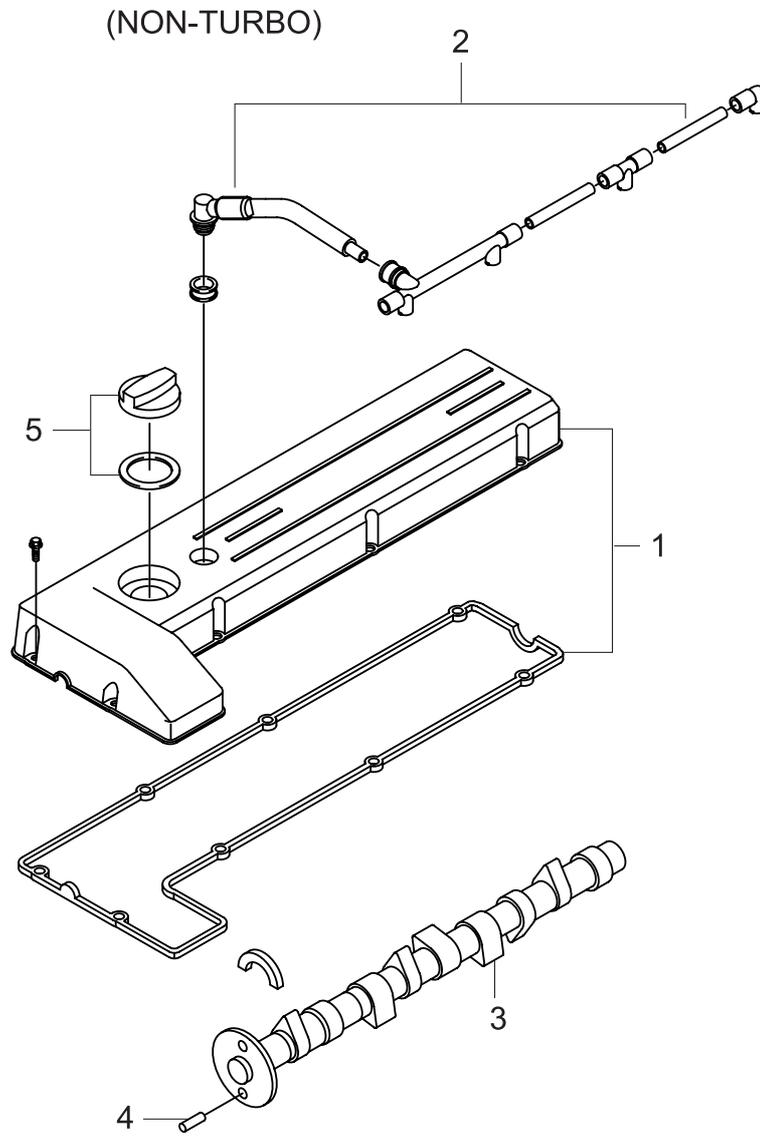
<b>DIESEL ENGINE MECH. - OIL PAN &amp; PUMP (123)</b>								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	PLUG AND/OR GASKET, OIL PAN DRAIN - REPLACE	1231300	-	-	0.6	0.6	0.6	0.6
2	PAN AND/OR GASKET, OIL - REPLACE	1231500	-	-	3.6	3.6	3.6	3.6
	PAN AND/OR GASKET, OIL (A/T) - REPLACE	1231510	-	-	3.6	3.6	3.6	3.6
3	PUMP, ENGINE OIL - REPLACE	1231700	-	-	4.0	4.0	4.0	4.0
	PUMP, ENGINE OIL - OVERHAUL	1231710	-	-	5.7	5.7	5.7	5.7
4	SENSOR, OIL PRESSURE GAUGE - REPLACE	1231900	-	-	0.4	0.4	0.4	0.4
5	OIL SEAL, CRANKSHAFT (FRONT) - REPLACE	1232300	-	-	2.9	2.9	2.9	2.9
6	SPROCKET, OIL PUMP - REPLACE	1232600	-	-	4.2	4.2	4.2	4.2
7	STRAINER ASSEMBLY, OIL - REPLACE	1232610	-	-	4.2	4.2	4.2	4.2
8	COVER, OIL PUMP - REPLACE	1232650	-	-	4.2	4.2	4.2	4.2
9	CHAIN, OIL PUMP ROLLER - REPLACE	1232670	-	-	4.2	4.2	4.2	4.2
10	OIL JET - REPLACE	1232680	-	-	4.0	4.0	4.0	4.0
11	TENSIONER, OIL PUMP ROLLER CHAIN - REPLACE	1232690	-	-	4.2	4.2	4.2	4.2
12	VALVE, OIL PRESSURE RELIEF - REPLACE	1232700	-	-	4.2	4.2	4.2	4.2
13	SHAFT, OIL PUMP DRIVE - REPLACE	1232800	-	-	4.2	4.2	4.2	4.2
14	PLATE, OIL BUFFLE - REPLACE	1234100	-	-	4.4	4.4	4.4	4.4

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



DIESEL ENGINE MECH. - CYLINDER HEAD (131)								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	GASKET, CYLINDER HEAD - REPLACE	1312300	-	-	5.0	5.0	5.0	5.0
2	HEAD, CYLINDER - REPLACE	1312500	-	-	5.0	5.0	5.0	5.0
	HEAD, CYLINDER - OVERHAUL	1312600	-	-	7.6	7.6	7.6	7.6
3	VALVE (ONE CYLINDER) - REPLACE	1312700	-	-	7.6	7.6	7.6	7.6
	C - Valves (each additional)	131270C	-	-	0.1	0.1	0.1	0.1
4	GUIDE, VALVE-REPLACE	1312800	-	-	5.3	5.3	5.3	5.3
	C - Valves (each additional)	131280C	-	-	0.3	0.3	0.3	0.3
5	SEAL, VALVE GUIDE - REPLACE	1312810	-	-	3.0	3.0	3.0	3.0
	A - Replace each additional	131281A	-	-	0.1	0.1	0.1	0.1
6	SPRING CAP AND/OR SEAL, VALVE - REPLACE	1312900	-	-	3.0	3.0	3.0	3.0
7	LIFTER, VALVE - REPLACE	1313600	-	-	2.0	2.0	2.0	2.0
	C - Valves (each additional)	131360A	-	-	0.1	0.1	0.1	0.1
8	PLUG, CYLINDER HEAD CORE HOLE - REPLACE	1313700	-	-	0.2	0.2	0.2	0.2
	A - Replace each additional	131370A	-	-	0.1	0.1	0.1	0.1
9	BOLT, CYLINDER HEAD (ONE) - REPLACE	1313800	-	-	1.0	1.0	1.0	1.0
	A - Replace each additional	131380A	-	-	0.1	0.1	0.1	0.1
10	PLUG, CORE HALL SCREW - REPLACE	1315100	-	-	0.5	0.5	0.5	0.5
11	VALVE, THERMO - REPLACE	1315200	-	-	0.5	0.5	0.5	0.5
12	CONNECTOR - REPLACE	1315240	-	-	0.5	0.5	0.5	0.5
13	BALL, FRONT OIL PASSAGE - REPLACE	1315300	-	-	1.0	1.0	1.0	1.0
14	PLUG, REAR OIL PASSAGE - REPLACE	1315500	-	-	0.3	0.3	0.3	0.3
15	CAP, CAMSHAFT BEARING - REPLACE	1315600	-	-	1.0	1.0	1.0	1.0
16	PRECHAMBER (1EA) - REPLACE	1313700	-	-	0.5	0.5	0.5	0.5
	A - Replace each additional	131370A	-	-	0.3	0.3	0.3	0.3

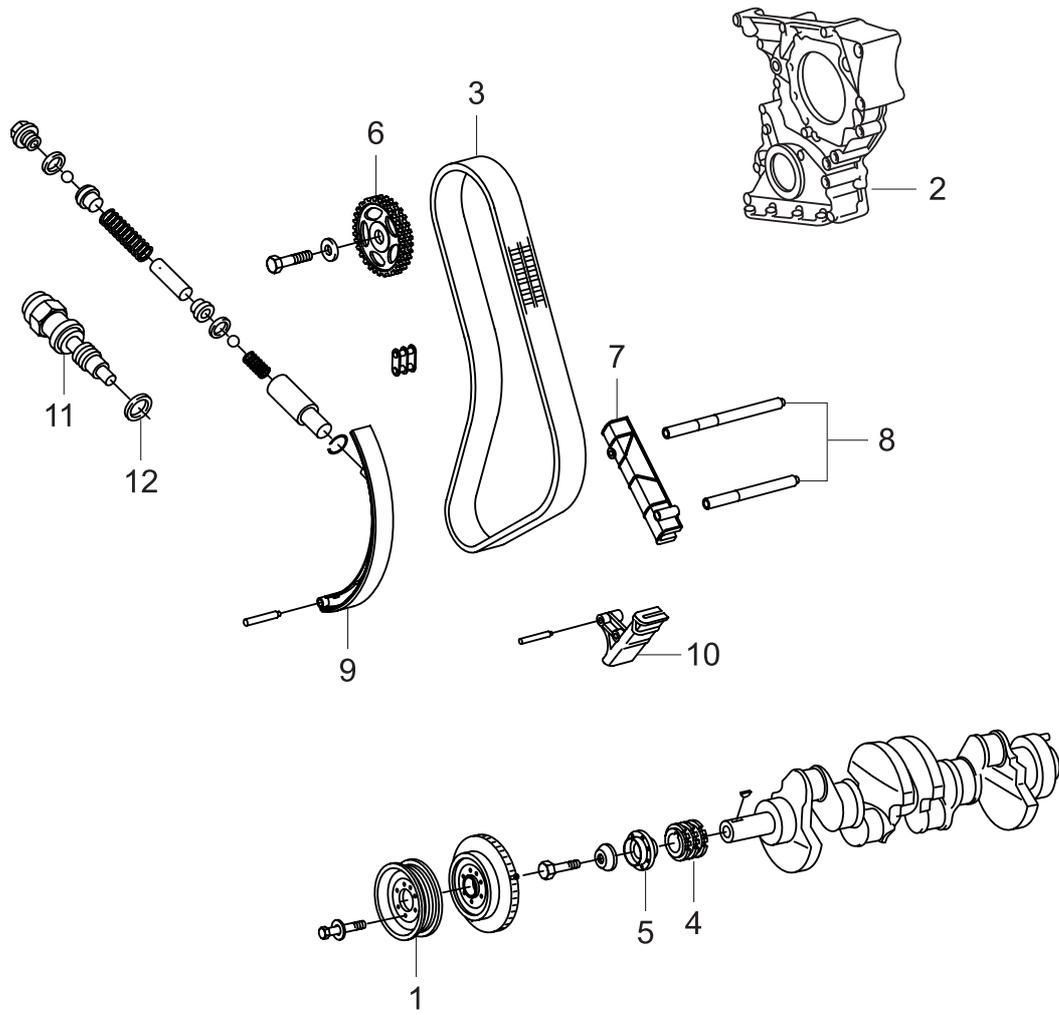
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



## DIESEL ENGINE MECH. - CAM SUPPORT & SHAFT (132)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	COVER, CYLINDER HEAD - REPLACE	1322110	-	-	0.5	0.5	0.5	0.5
2	PIPE&HOSE, CYLINDER HEAD COVER BREATHER-REPLACE	1322200	-	-	0.5	0.5	0.5	0.5
3	CAMSHAFT - REPLACE	1322300	-	-	1.8	1.8	1.8	1.8
4	PIN, CAMSHAFT - REPLACE	1322610	-	-	0.7	0.7	0.7	0.7
5	CAP AND/OR GASKET, OIL FILLER - REPLACE	1322700	-	-	0.2	0.2	0.2	0.2

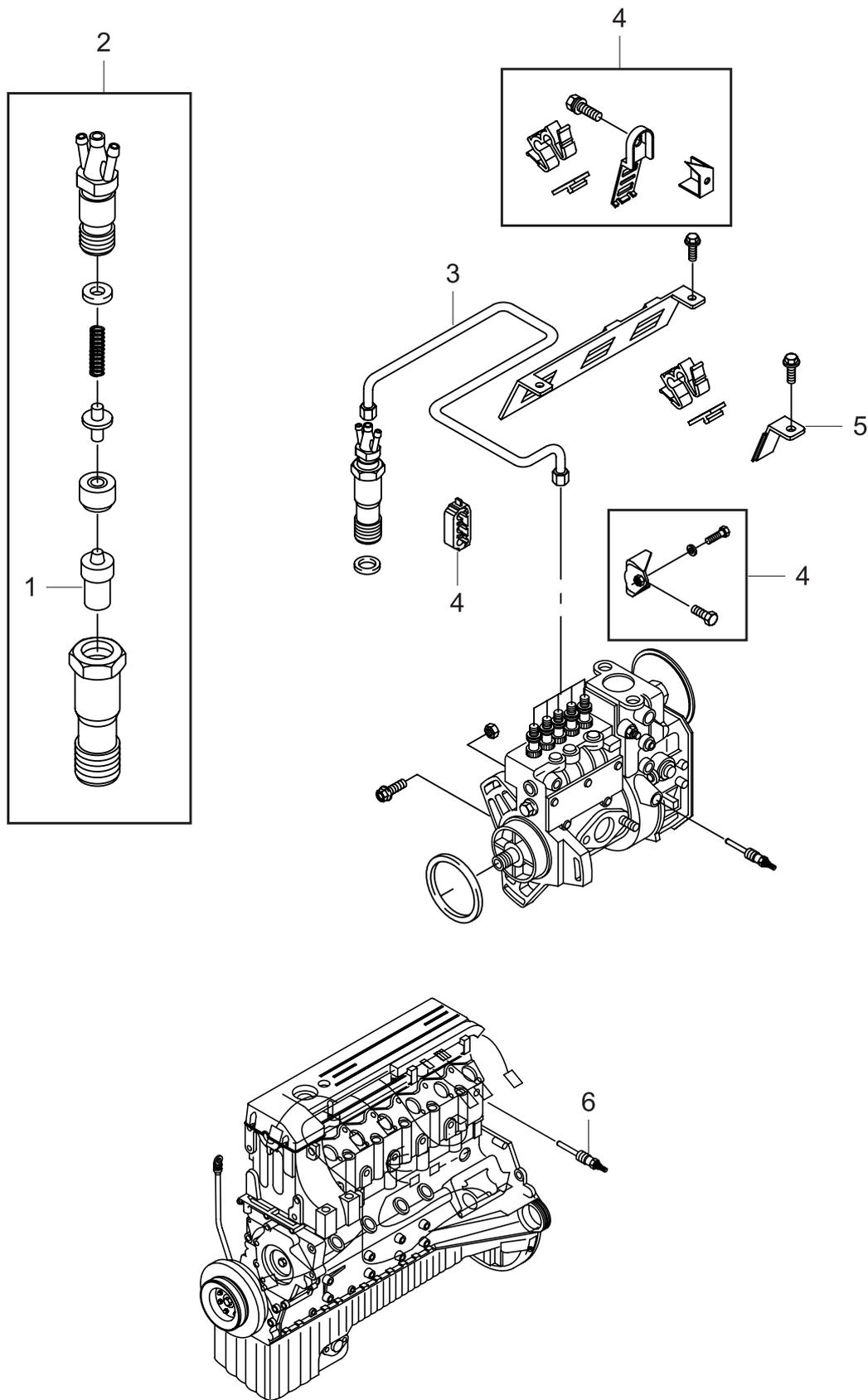
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



**DIESEL ENGINE MECH. - TIMING COVER & CHAIN DRIVE (133)**

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	PULLEY, CRANKSHAFT - REPLACE	1332100	-	-	0.9	0.9	0.9	0.9
2	COVER AND/OR GASKET, TIMING - REPLACE	1332200	-	-	13.2	13.2	13.2	13.2
3	BELT OR CHAIN, TIMING - REPLACE	1332500	-	-	5.2	5.2	5.2	5.2
4	SPROCKET, CRANKSHAFT TIMING - REPLACE	1333100	-	-	13.5	13.7	13.5	13.7
5	HUB OR VIBRATION DAMPER - REPLACE	1333140	-	-	3.4	3.4	3.4	3.4
6	SPROCKET, CAMSHAFT TIMING - REPLACE	1333300	-	-	1.0	1.0	1.0	1.0
7	RAIL, CYLINDER HEAD SLIDING - REPLACE	1336100	-	-	1.0	1.0	1.0	1.0
8	PIN, SLIDING RAIL - REPLACE	1336200	-	-	1.0	1.0	1.0	1.0
9	RAIL, CLAMPING SLIDING - REPLACE	1336500	-	-	1.0	1.0	1.0	1.0
10	RAIL, SLIDING - REPLACE	1336700	-	-	5.2	5.2	5.2	5.2
11	CHAIN TIGHTENER - REPLACE	1337300	-	-	0.5	0.5	0.5	0.5
12	WASHER, CHAIN TIGHTENER - REPLACE	1337500	-	-	0.5	0.5	0.5	0.5

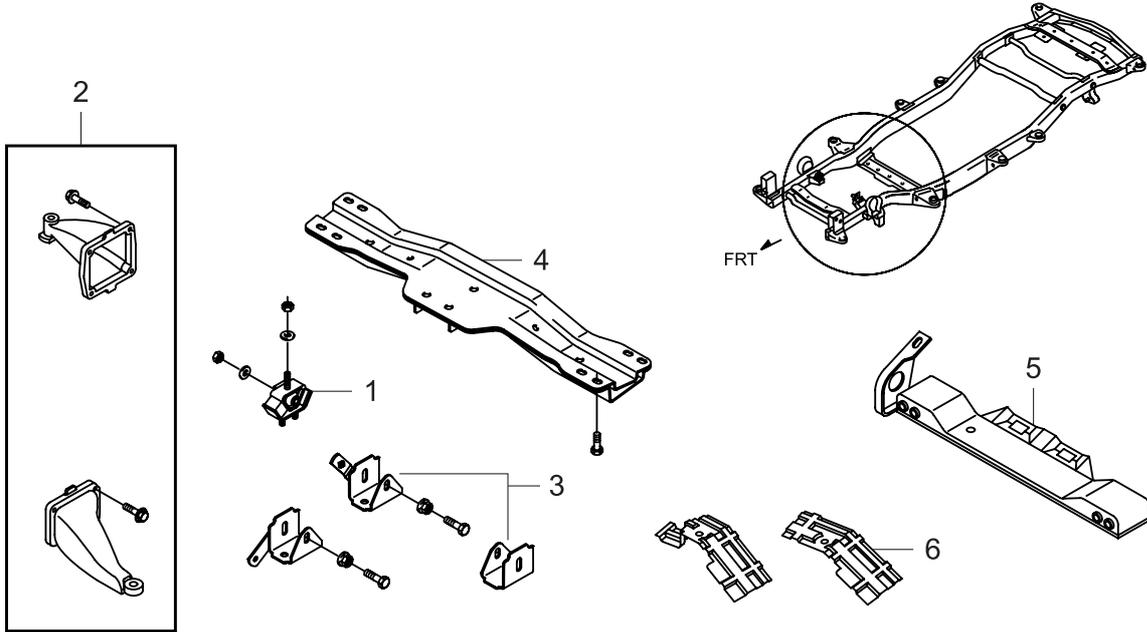
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



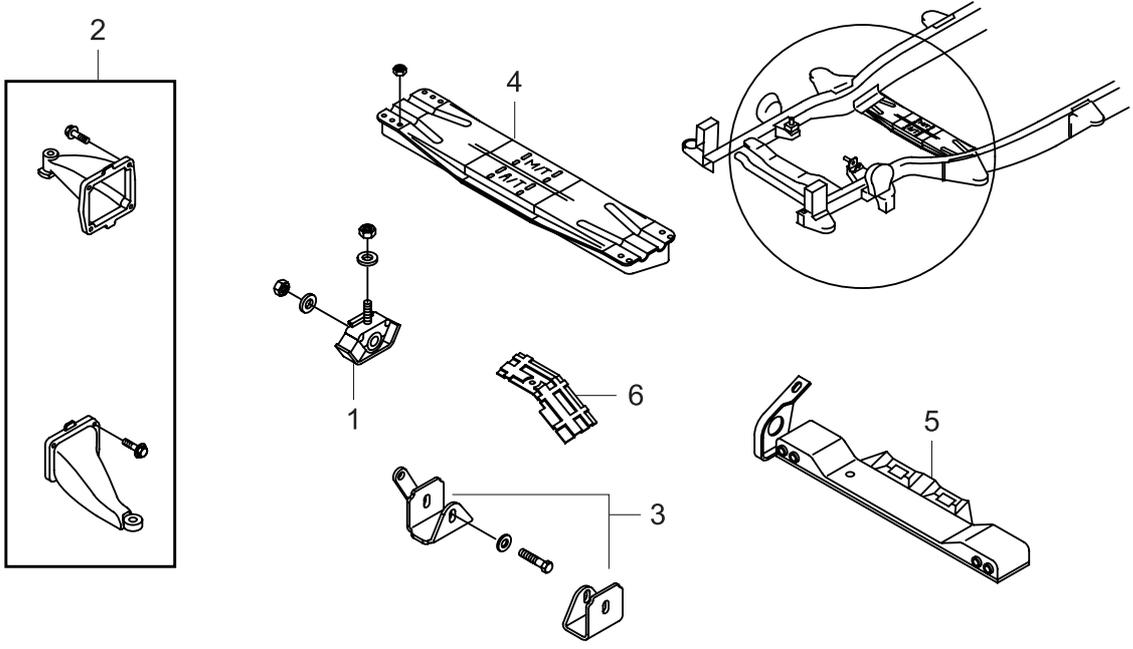
<b>DIESEL ENGINE MECH. - INJECEION PIPE (136)</b>								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	<b>NOZZLE - REPLACE</b>	1365100	-	-	0.2	0.2	0.2	0.2
	A - Replace each additional	136510A	-	-	0.2	0.2	0.2	0.2
	<b>NOZZLE - OVERHAUL</b>	1365200	-	-	0.4	0.4	0.4	0.4
2	<b>HOLDER ASSY, NOZZLE - REPLACE</b>	1365300	-	-	0.2	0.2	0.2	0.2
	A - Replace each additional	136530A	-	-	0.2	0.2	0.2	0.2
3	<b>PIPE, INJECTION - REPLACE</b>	1365400	-	-	0.3	0.3	0.3	0.3
	A - Replace each additional	136540A	-	-	0.3	0.3	0.3	0.3
4	<b>BRACKET, INJECTION PIPE - REPLACE</b>	1365500	-	-	0.3	0.3	0.3	0.3
	A - Replace each additional	136550A	-	-	0.1	0.1	0.1	0.1
5	<b>CLIP, INJECTION PIPE BRACKET - REPLACE</b>	1365600	-	-	0.3	0.3	0.3	0.3
6	<b>PLUG, PRE - HEATING - REPLACE</b>	1365800	-	-	1.0	1.0	1.0	1.0
	A - Replace each additional	136580A	-	-	0.1	0.1	0.1	0.1

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

MU/RX



KO

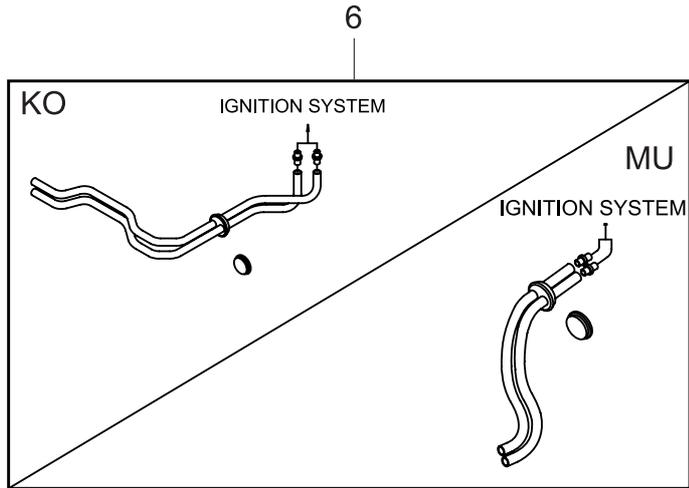
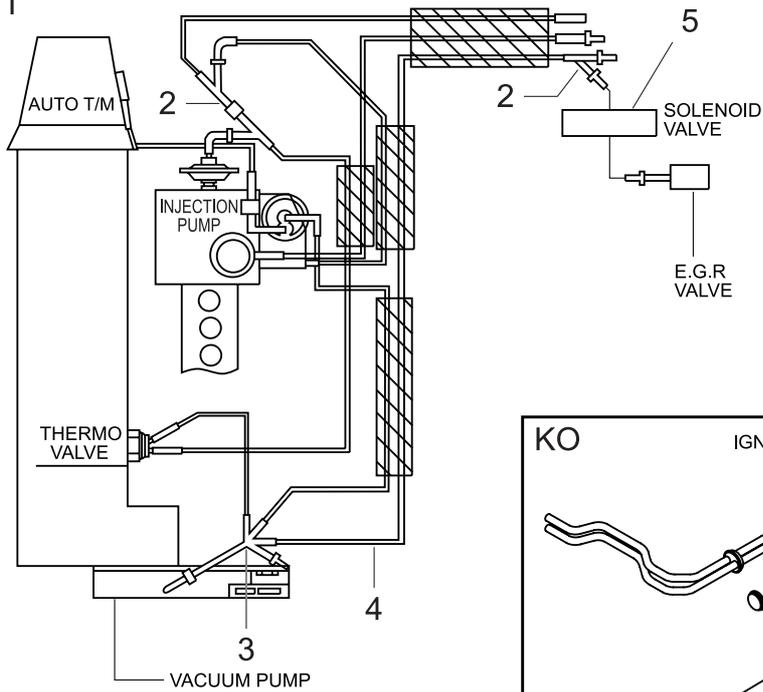


**DIESEL ENGINE MECH. - ENGINE & TRANSAXLE MOUNT (138)**

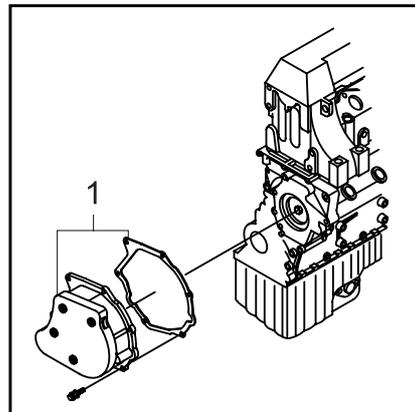
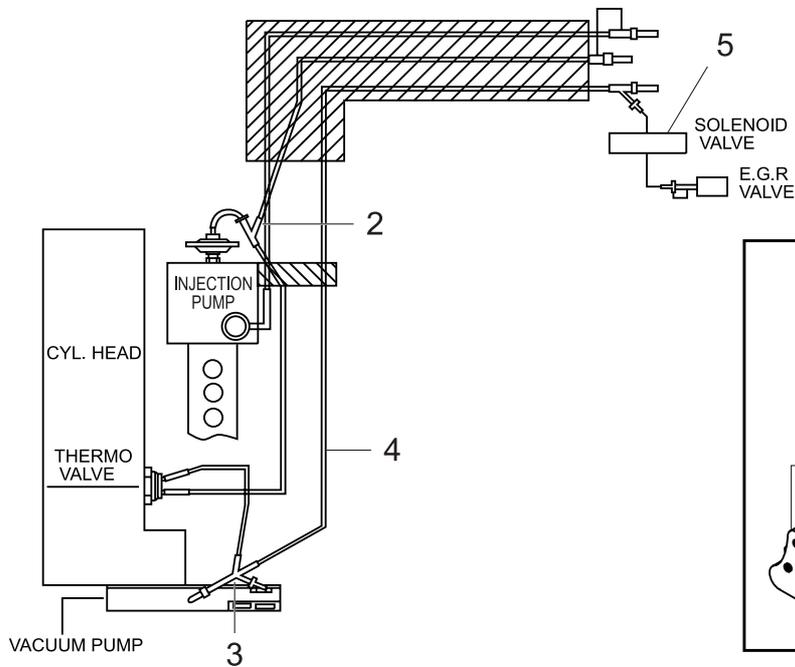
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	MOUNT, ENGINE (FRONT) - REPLACE Both	1380200	-	-	0.5	0.5	0.5	0.5
		1380210	-	-	1.0	1.0	1.0	1.0
2	BRACKET, ENGINE MOUNT (FRONT) - REPLACE Both	1380400	-	-	0.8	0.8	0.8	0.8
		1380410	-	-	1.2	1.2	1.2	1.2
3	STOPPER, ENGINE MOUNTING - REPLACE	1380420	-	-	0.5	0.5	0.5	0.5
4	CROSS MEMBER, REAR ENGINE MOUNTING-REPLACE	1380440	-	-	0.6	0.6	0.6	0.6
5	CROSS MEMBER, FRONT AXLE MOUNTING - REPLACE	1380600	-	-	0.5	0.5	0.5	0.5
6	INSULATOR, HEAT SHIELD - REPLACE	1384500	-	-	0.3	0.3	0.3	0.3

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

A/T



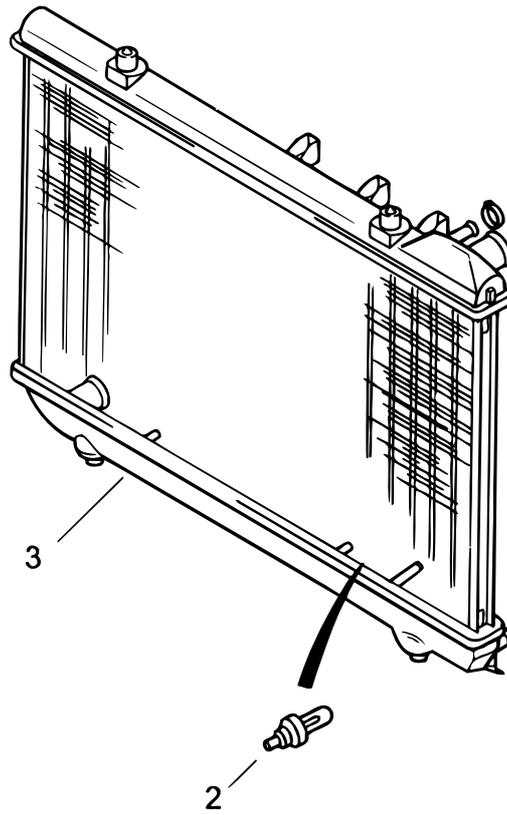
M/T



DIESEL ENGINE MECH. - VACUUM SYSTEM (139)								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	VACUUM PUMP ASSEMBLY AND/OR GASKET - REPLACE	1390100	-	-	1.0	1.0	1.0	1.0
2	BRANCH OF FITTING (3 - WAY) - REPLACE	1390300	-	-	0.3	0.3	0.3	0.3
3	BRANCH OF FITTING (4 - WAY) - REPLACE	1390500	-	-	0.3	0.3	0.3	0.3
4	PIPE, VACUUM PBC - REPLACE	1390900	-	-	0.3	0.3	0.3	0.3
5	SOLENOID (1EA) - REPLACE A - Replace each additional	1391100	-	-	0.2	0.2	0.2	0.2
		139110A	-	-	0.1	0.1	0.1	0.1
6	VACUUM HOSE, FUEL CUT - REPLACE	1391200	-	-	0.5	0.5	0.5	0.5

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

# **1D1 - ENGINE COOLING**

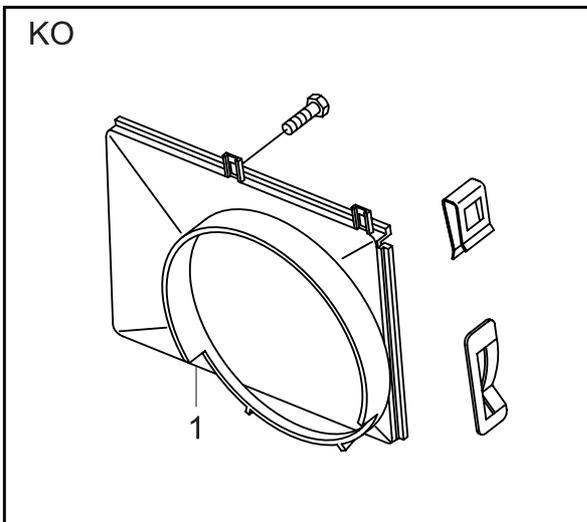
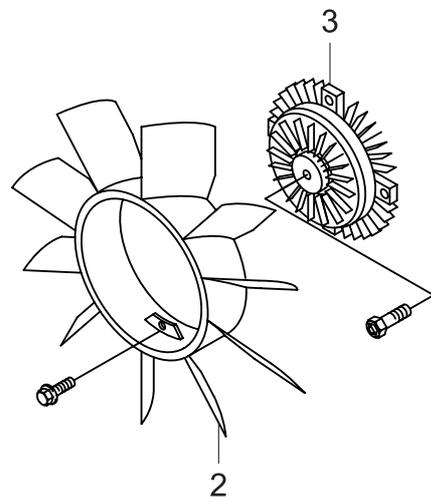
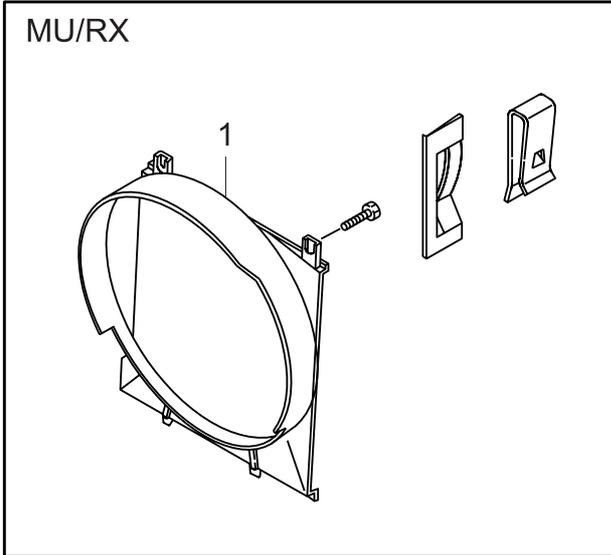


## ENGINE COOLING - RADIATOR (141)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	COOLANT - REPLACE	1410100	-	-	0.5	0.5	0.5	0.5
2	COCK OR PLUG, RADIATOR DRAIN - REPLACE	1410300	-	-	1.0	1.0	1.0	1.0
3	RADIATOR ASSEMBLY - REPLACE	1410500	-	-	1.6	1.6	1.6	1.6
4	COOLING SYSTEM - FLUSH	1411700	-	-	0.6	0.6	0.6	0.6

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

# 143

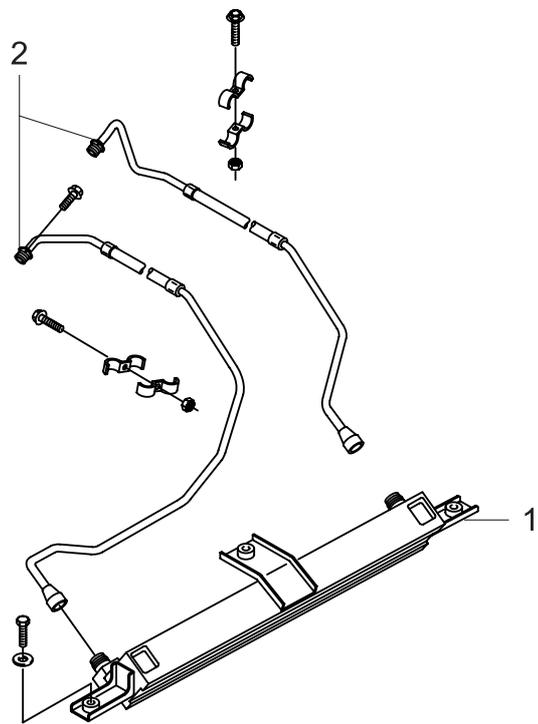
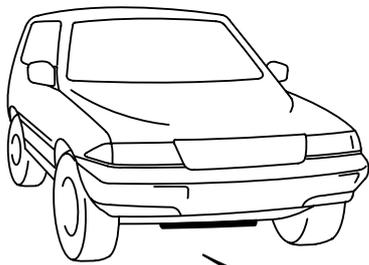


## ENGINE COOLING - COOLING FAN (143)

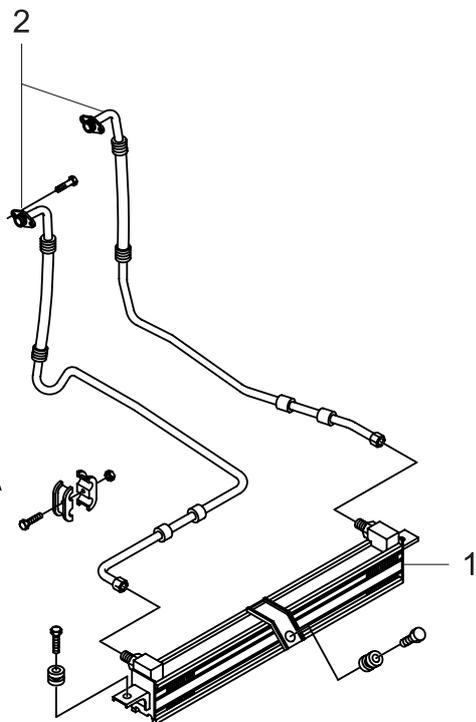
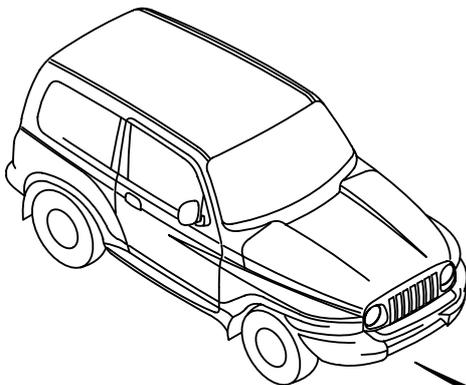
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	SHROUD, RADIATOR FAN - REPLACE	1430700	-	-	0.5	0.5	0.5	0.5
2	BLADE, FAN - REPLACE	1431600	-	-	0.7	0.7	0.7	0.7
3	CLUTCH, FAN - REPLACE	1431700	-	-	0.7	0.7	0.7	0.7

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

MU/RX



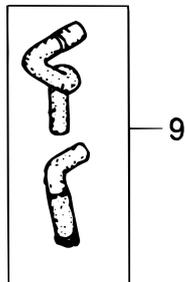
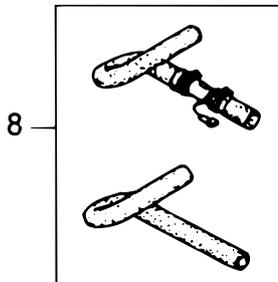
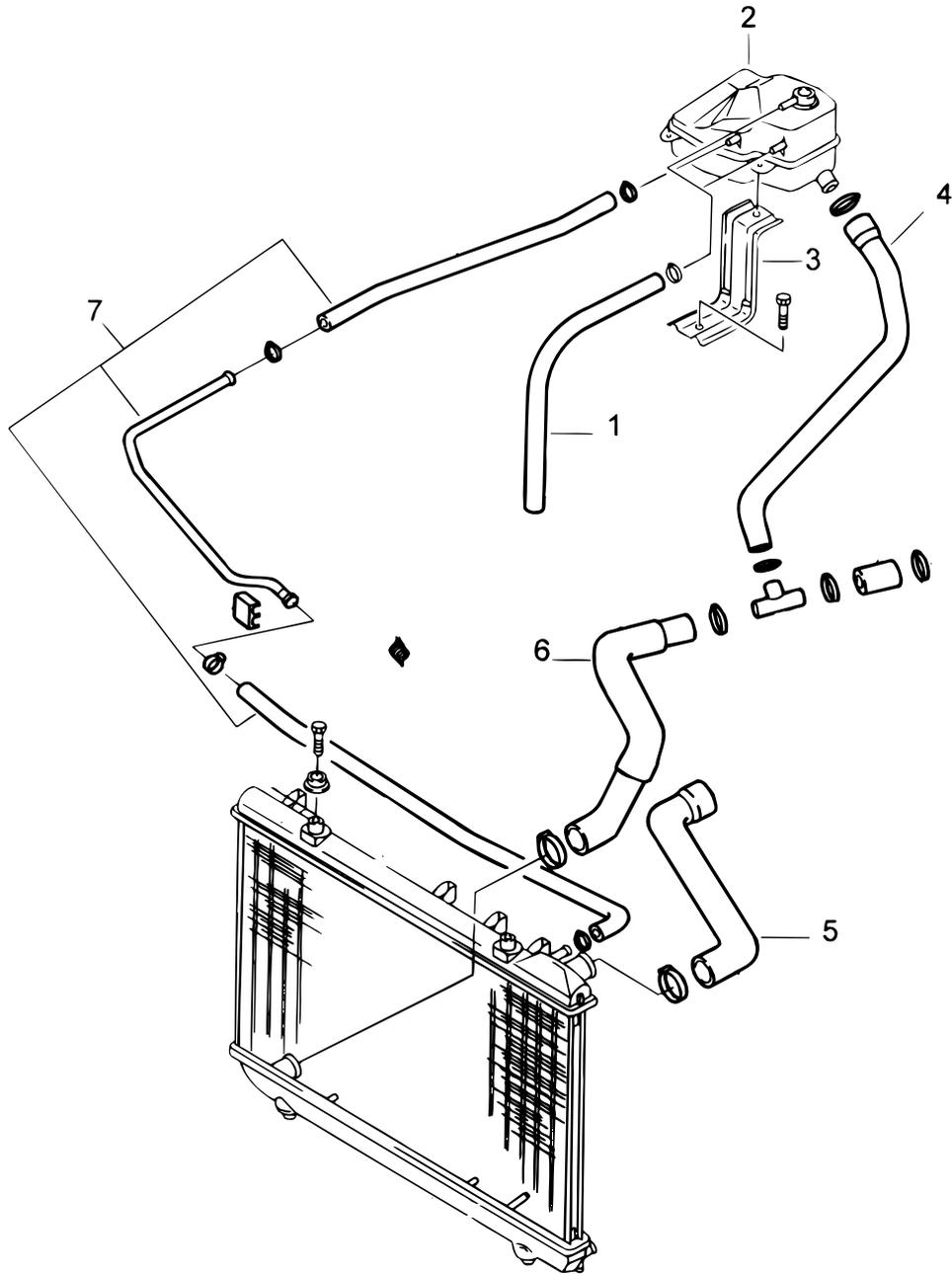
KO



## ENGINE COOLING - OIL COOLER (144)

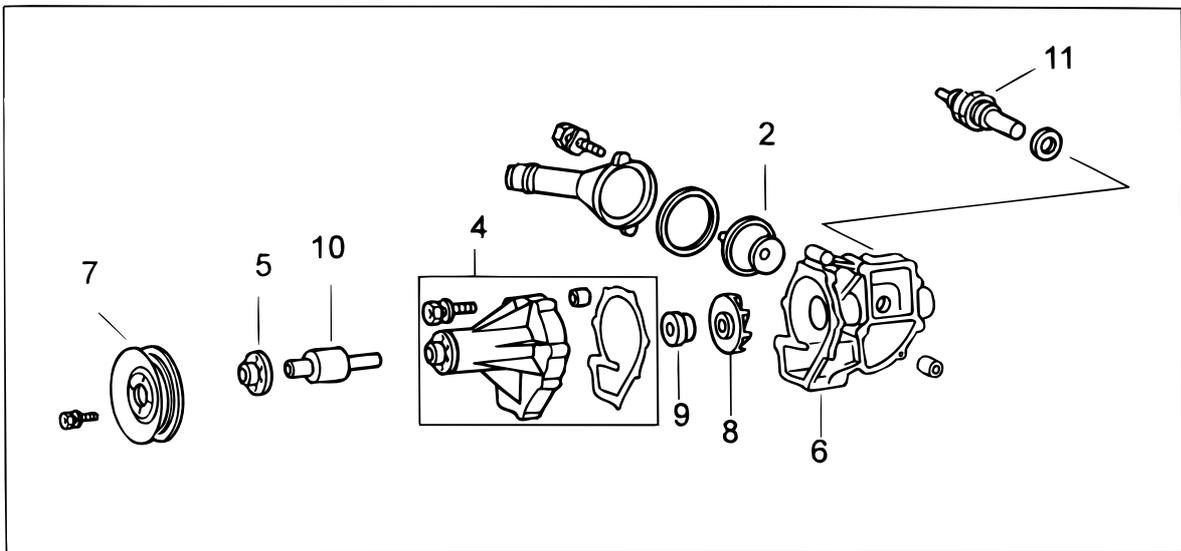
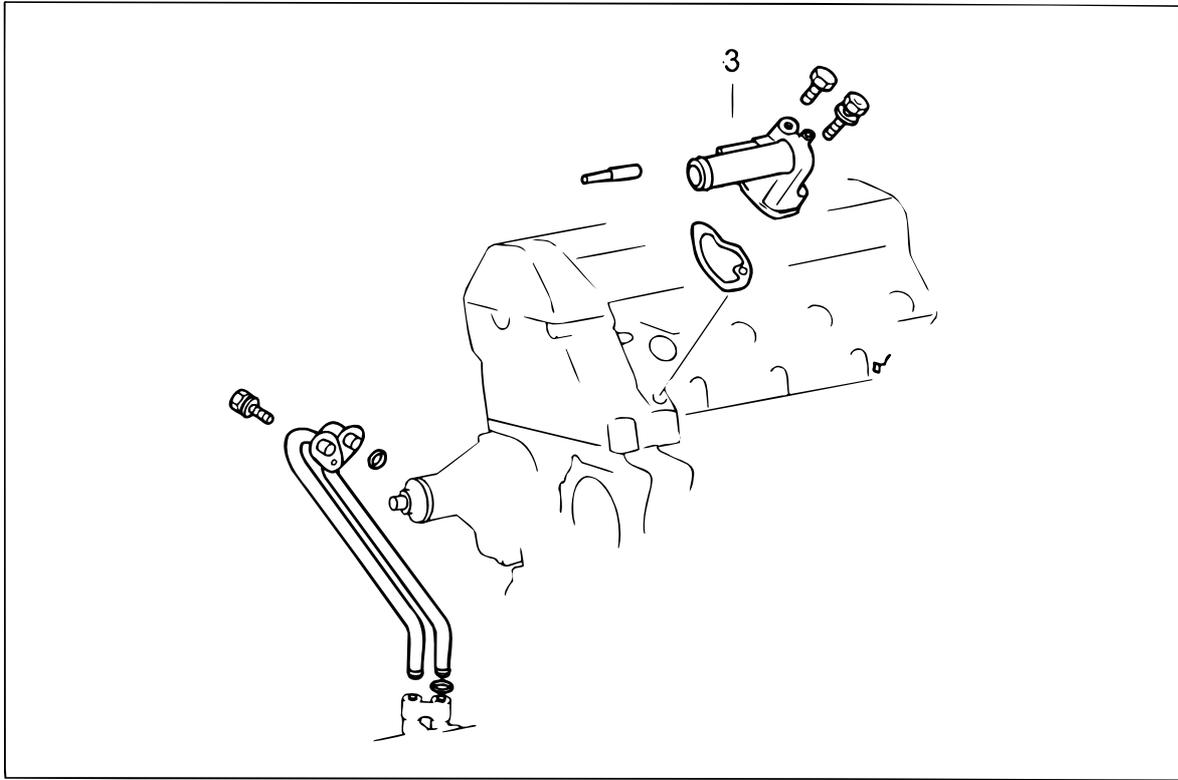
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	COOLER ASSEMBLY, OIL - REPLACE	1440500	-	-	0.7	0.7	0.7	0.7
2	PIPE, OIL COOLER - REPLACE	1441100	-	-	0.8	0.8	0.8	0.8
		Both 1441110	-	-	1.2	1.2	1.2	1.2

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



ENGINE COOLING - RADIATOR HOSE & PIPE (145)								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	HOSE, OVERFLOW - REPLACE	1450300	-	-	0.3	0.3	0.3	0.3
2	RESERVOIR, RADIATOR COOLANT - REPLACE	1450400	-	-	0.3	0.3	0.3	0.3
3	BRACKET, RADIATOR COOLANT, RESERVOIR - REPLACE	1450410	-	-	0.5	0.5	0.5	0.5
4	HOSE, MAKE UP - REPLACE	1450600	-	-	0.3	0.3	0.3	0.3
5	HOSE, UPPER ENGINE COOLANT - REPLACE	1450700	-	-	0.5	0.5	0.5	0.5
6	HOSE, LOWER ENGINE COOLANT - REPLACE	1450800	-	-	0.5	0.5	0.5	0.5
7	HOSE AND/OR TUBE, DEAERATION - REPLACE A - Replace each additional	1450810	-	-	0.3	0.3	0.3	0.3
		145140A	-	-	0.1	0.1	0.1	0.1
8	HOSE, INLET HEATER - REPLACE	1453100	-	-	1.0	1.0	1.0	1.0
9	HOSE, OUTLET HEATER - REPLACE	1453200	-	-	1.0	1.0	1.0	1.0

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

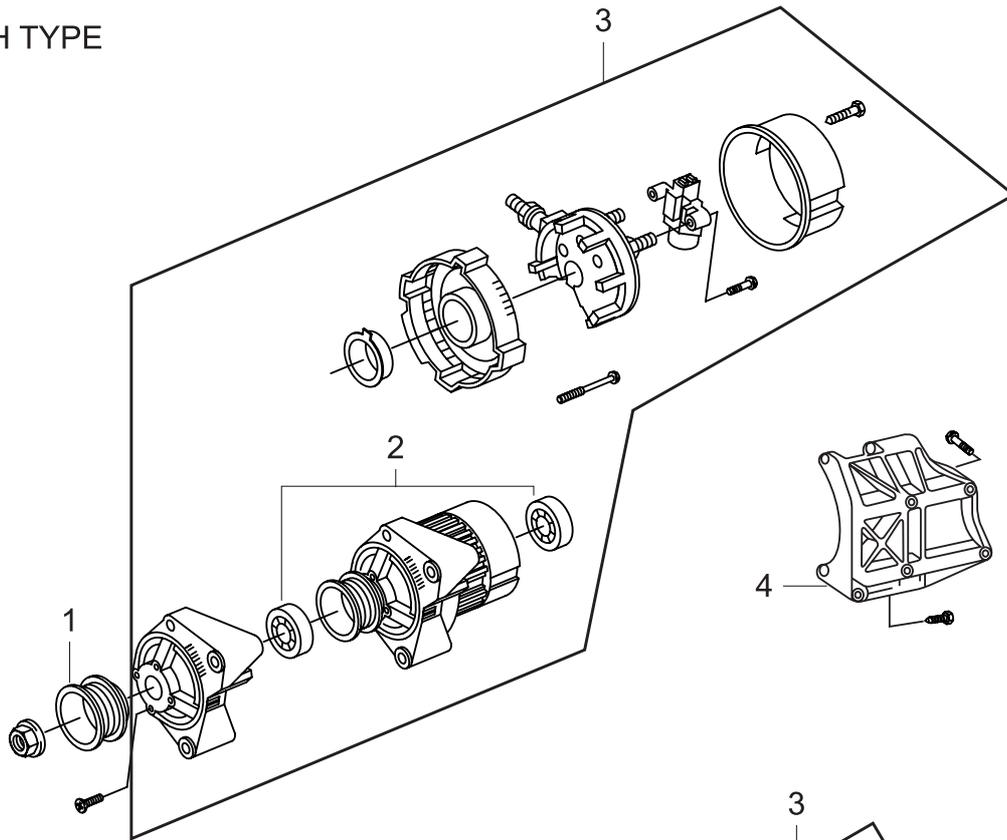


<b>ENGINE COOLING - THERMOSTAT &amp; WATER PUMP (148)</b>								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	THERMO VALVE - REPLACE	1480100	-	-	0.5	0.5	0.5	0.5
2	THERMOSTAT AND/OR GASKET DIESEL - REPLACE	1480400	-	-	1.0	1.0	1.0	1.0
3	PORT AND/OR GASKET, COOLANT OUTLET - REPLACE	1480600	-	-	1.0	1.0	1.0	1.0
4	WATER PUMP AND/OR GASKET - REPLACE	1481200	-	-	2.2	2.2	2.2	2.2
5	FLANGE, WATER PUMP - REPLACE	1481250	-	-	0.5	0.5	0.5	0.5
6	HOUSING, WATER PUMP - REPLACE	1481260	-	-	2.2	2.2	2.2	2.2
7	PULLEY, WATER PUMP - REPLACE	1481270	-	-	0.3	0.3	0.3	0.3
8	IMPELLER, WATER PUMP - REPLACE	1481280	-	-	3.2	3.2	3.2	3.2
9	SEAL, WATER PUMP MECHANICAL - REPLACE	1481700	-	-	2.2	2.2	2.2	2.2
10	BEARING, WATER PUMP - REPLACE	1481800	-	-	0.5	0.5	0.5	0.5
11	SENSOR, WATER PUMP TEMPERATURE - REPLACE	1482200	-	-	0.3	0.3	0.3	0.3

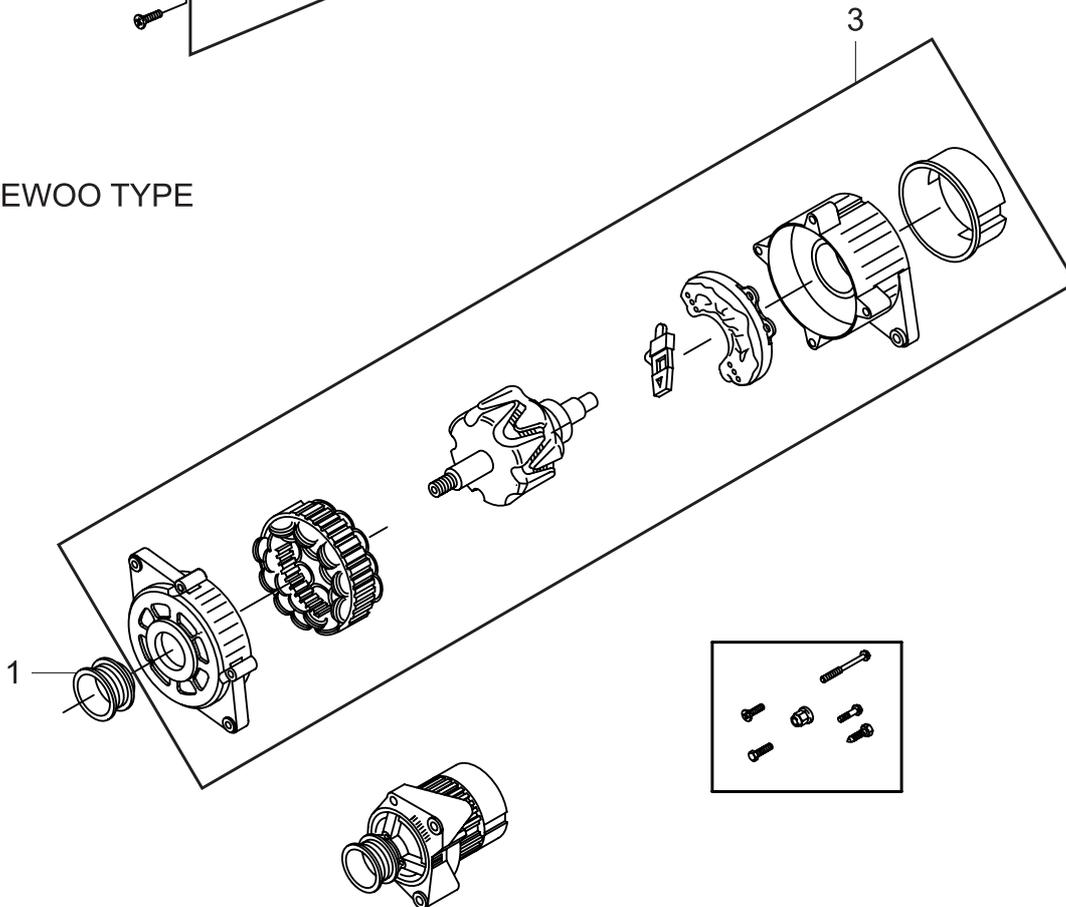
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

# **1E1 - ENGINE ELECTRICAL**

BOSCH TYPE



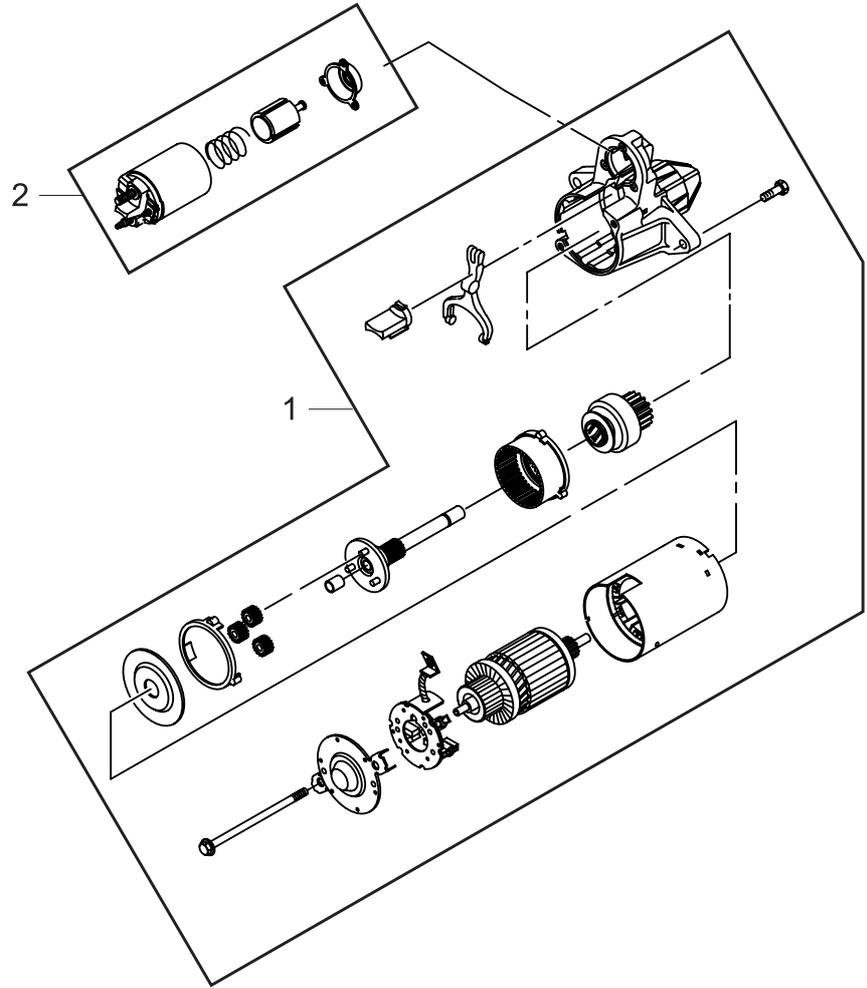
DAEWOO TYPE



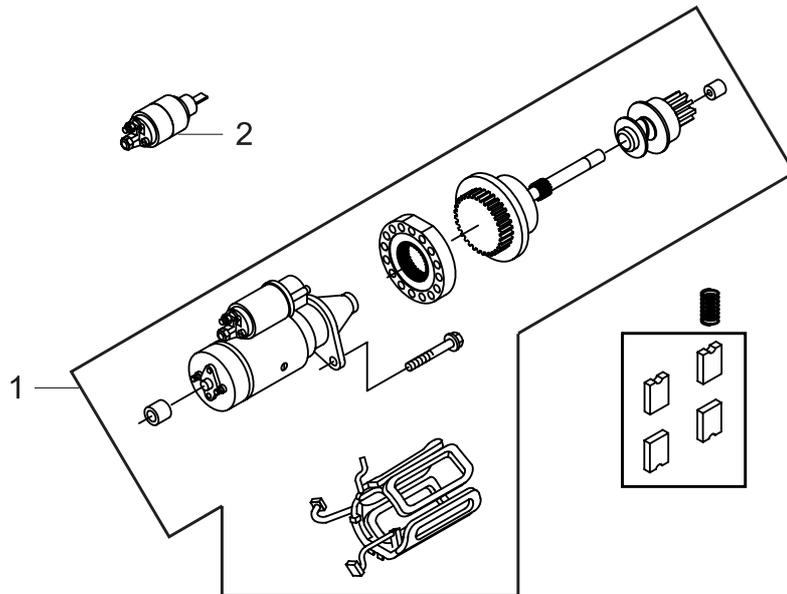
ENGINE ELECTRICAL - ALTERNATOR UNIT (154)								
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	PULLEY AND/OR FAN, ALTERNATOR - REPLACE	1540100	-	-	0.5	0.5	0.5	0.5
2	BEARING, ALTERNATOR-REPLACE  Front Rear	1540300	-	-	1.3	1.3	1.3	1.3
		1540500	-	-	1.3	1.3	1.3	1.3
3	ALTERNATOR ASSEMBLY - REPLACE	1541700	-	-	0.8	0.8	0.8	0.8
	ALTERNATOR ASSEMBLY - OVERHAUL	1541900	-	-	1.5	1.5	1.5	1.5
4	BRACKET, ALTERNATOR MOUNTING - REPLACE	1544100	-	-	1.2	1.2	1.2	1.2

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

DAEWOO TYPE



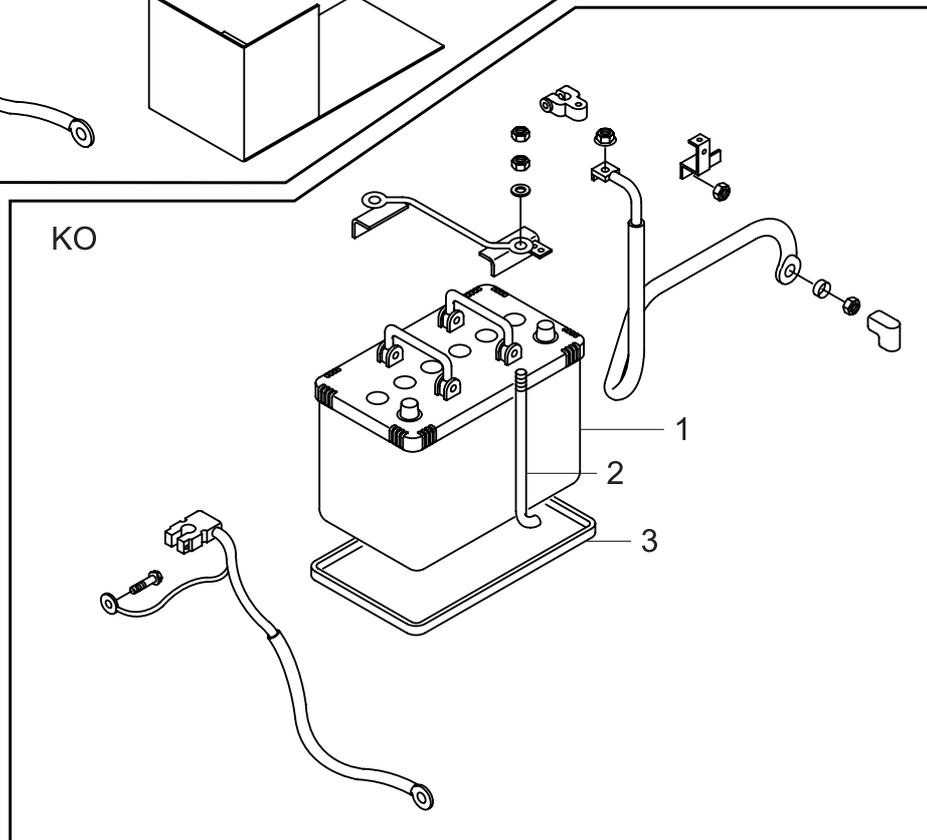
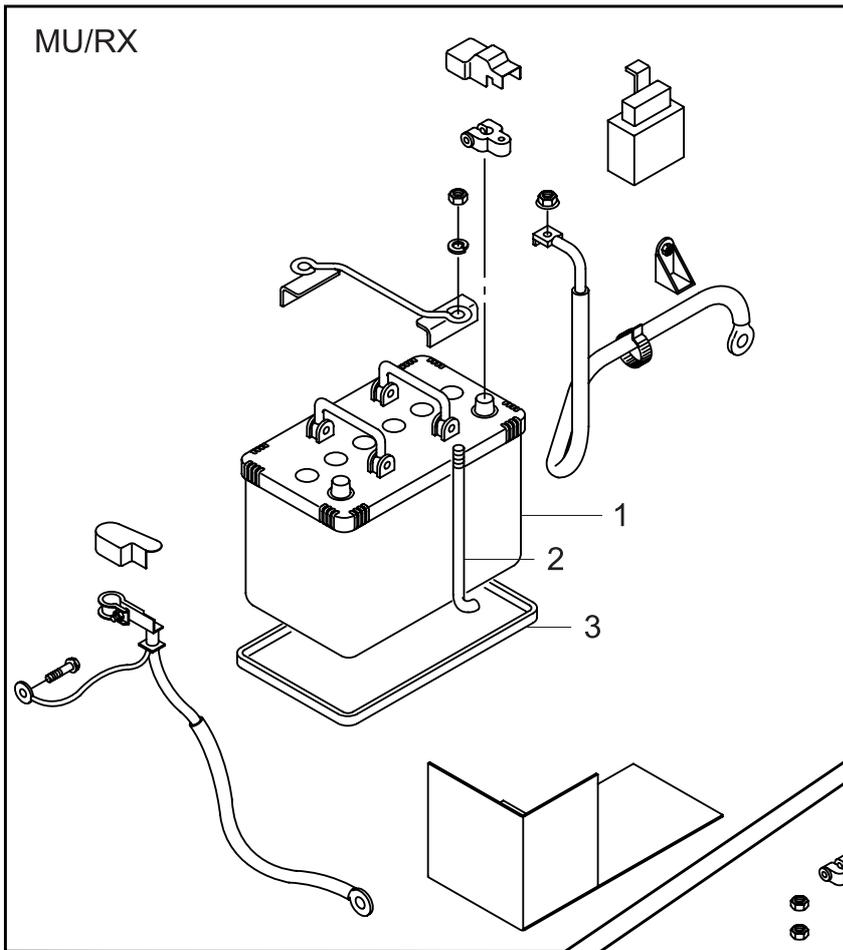
BOSCH TYPE



## ENGINE ELECTRICAL - STARTER (156)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	MOTOR ASSEMBLY, STARTER DIESEL - REPLACE	1561000	-	-	0.5	0.5	0.5	0.5
2	SWITCH, STARTER MOTOR MAGNETIC - REPLACE	1562700	-	-	0.7	0.7	0.7	0.7

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

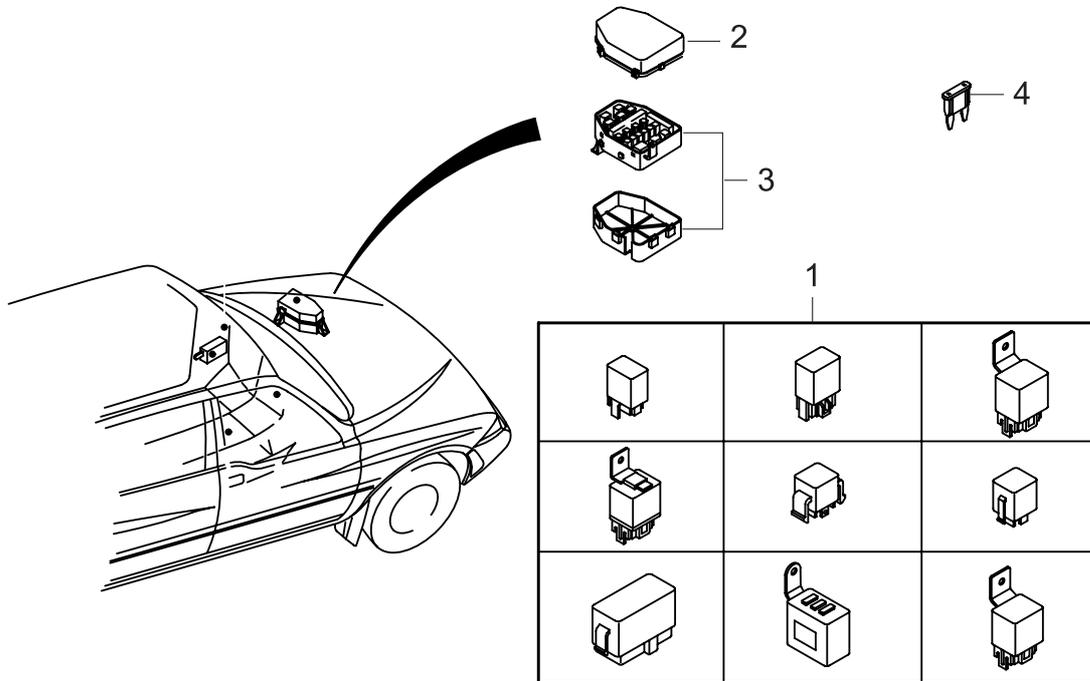


## ENGINE ELECTRICAL - BATTERY (157)

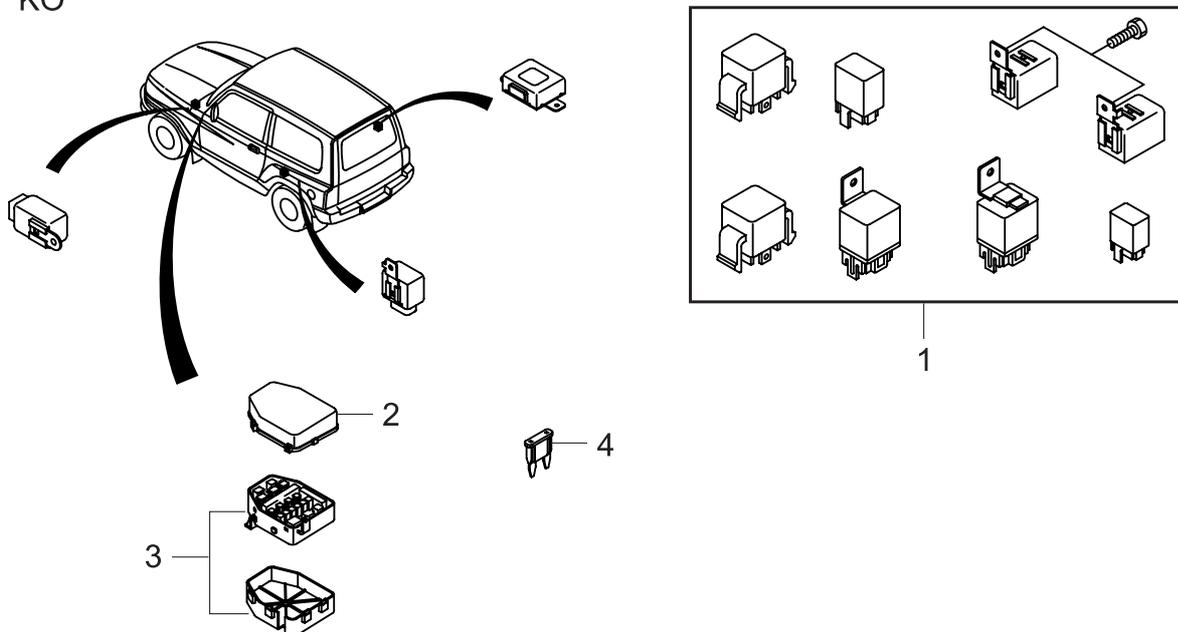
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	BATTERY - REPLACE	1570300	-	-	0.2	0.2	0.2	0.2
2	RETAINER AND/OR BOLTS, BATTERY - REPLACE	1570500	-	-	0.2	0.2	0.2	0.2
3	CARRIER, BATTERY - REPLACE	1571100	-	-	0.3	0.3	0.3	0.3

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

MU/RX



KO



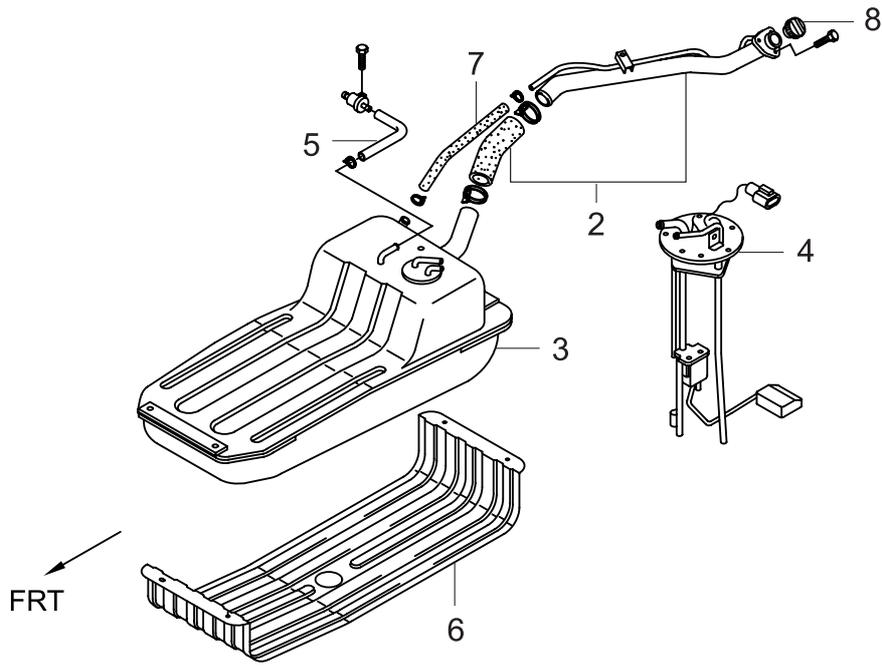
## ENGINE ELECTRICAL - FUSE & RELAY (158)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	<b>RELAY - REPLACE</b>							
	Fog Lamp	1580200	-	-	0.2	0.2	0.2	0.2
	Enable (ABS)	1580500	-	-	0.2	0.2	0.2	0.2
	Window Wiper Motor	1580900	-	-	0.2	0.2	0.2	0.2
	Head Lamp	1581100	-	-	0.2	0.2	0.2	0.2
	Other Relays	1581500	-	-	0.2	0.2	0.2	0.2
	Turn Signal	1582100	-	-	0.2	0.2	0.2	0.2
Preheating Time	1582200	-	-	0.3	0.3	0.3	0.3	
2	<b>COVER, FUSE BOX - REPLACE</b>	1582300	-	-	0.2	0.2	0.2	0.2
3	<b>BOX, REALY &amp; FUSE - REPLACE</b>	1582700	-	-	0.6	0.6	0.6	0.6
4	<b>FUSE - REPLACE</b>	1583700	-	-	0.2	0.2	0.2	0.2

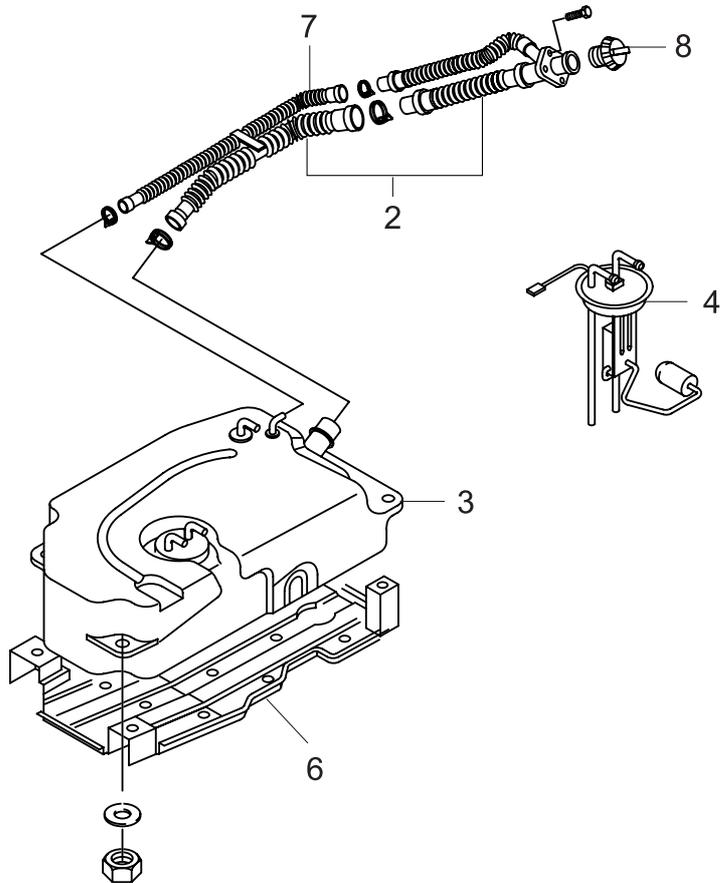
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

# **1F1 - ENGINE CONTROLS**

MU/RX



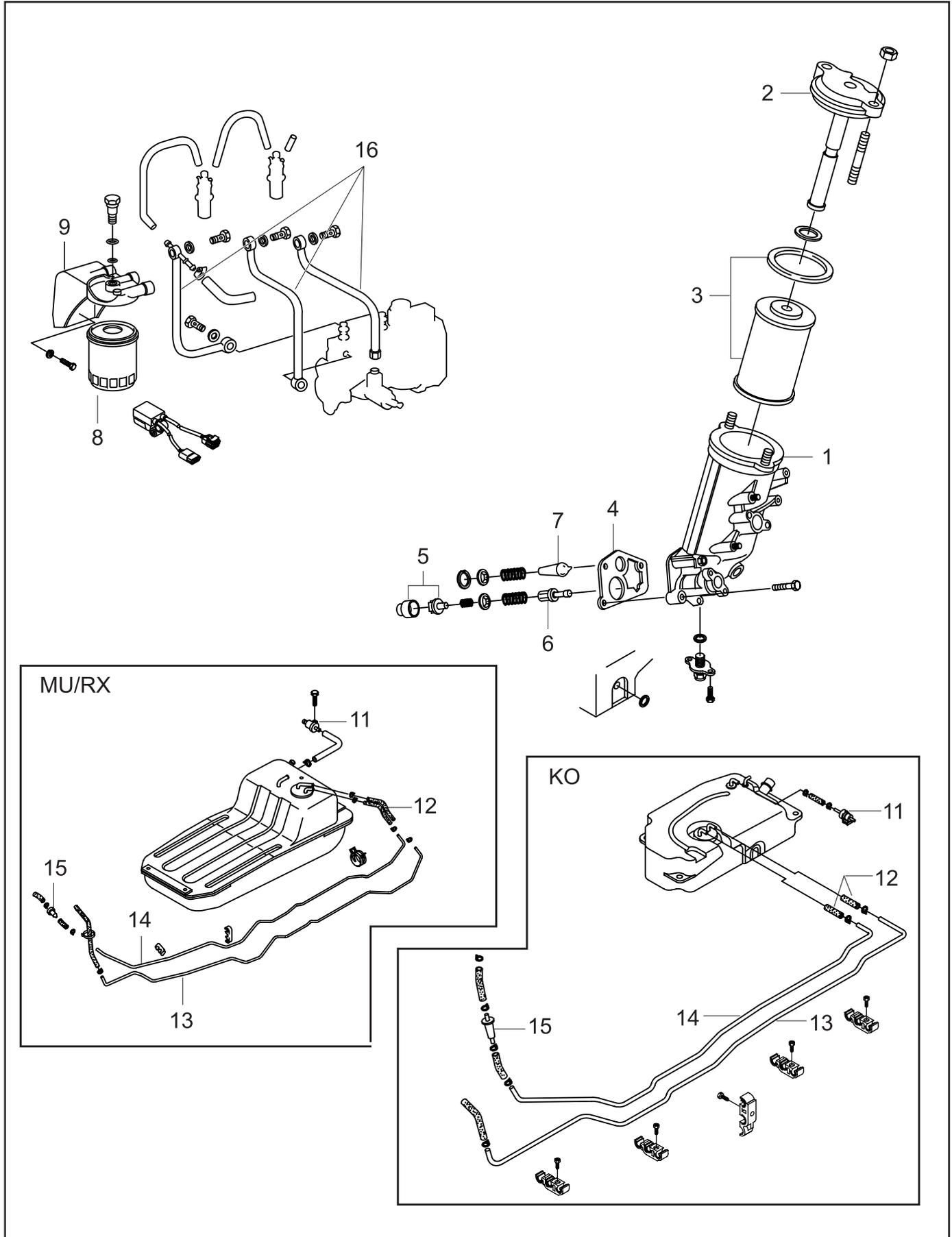
KO



## ENGINE CONTROLS - FUEL TANK (171)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	AIR BLEEDING, FUEL	1710400	-	-	0.5	0.5	0.5	0.5
2	NECK, FUEL TANK FILLER - REPLACE	1710500	-	-	0.7	0.7	0.7	0.7
3	TANK, FUEL - REPLACE	1710900	-	-	1.3	1.3	1.3	1.3
4	UNIT, FUEL SENDER - REPLACE	1711700	-	-	1.4	1.4	0.5	0.5
5	HOSE, AIR BLEEDER - REPLACE	1712000	-	-	0.7	0.7	0.7	0.7
6	PROTECTOR, FUEL TANK - REPLACE	1712200	-	-	0.3	0.3	0.3	0.3
7	HOSE, AIR VENT - REPLACE	1713500	-	-	0.7	0.7	0.7	0.7
8	OAP, FUEL TANK - REPLACE	1713600	-	-	0.2	0.2	0.2	0.2

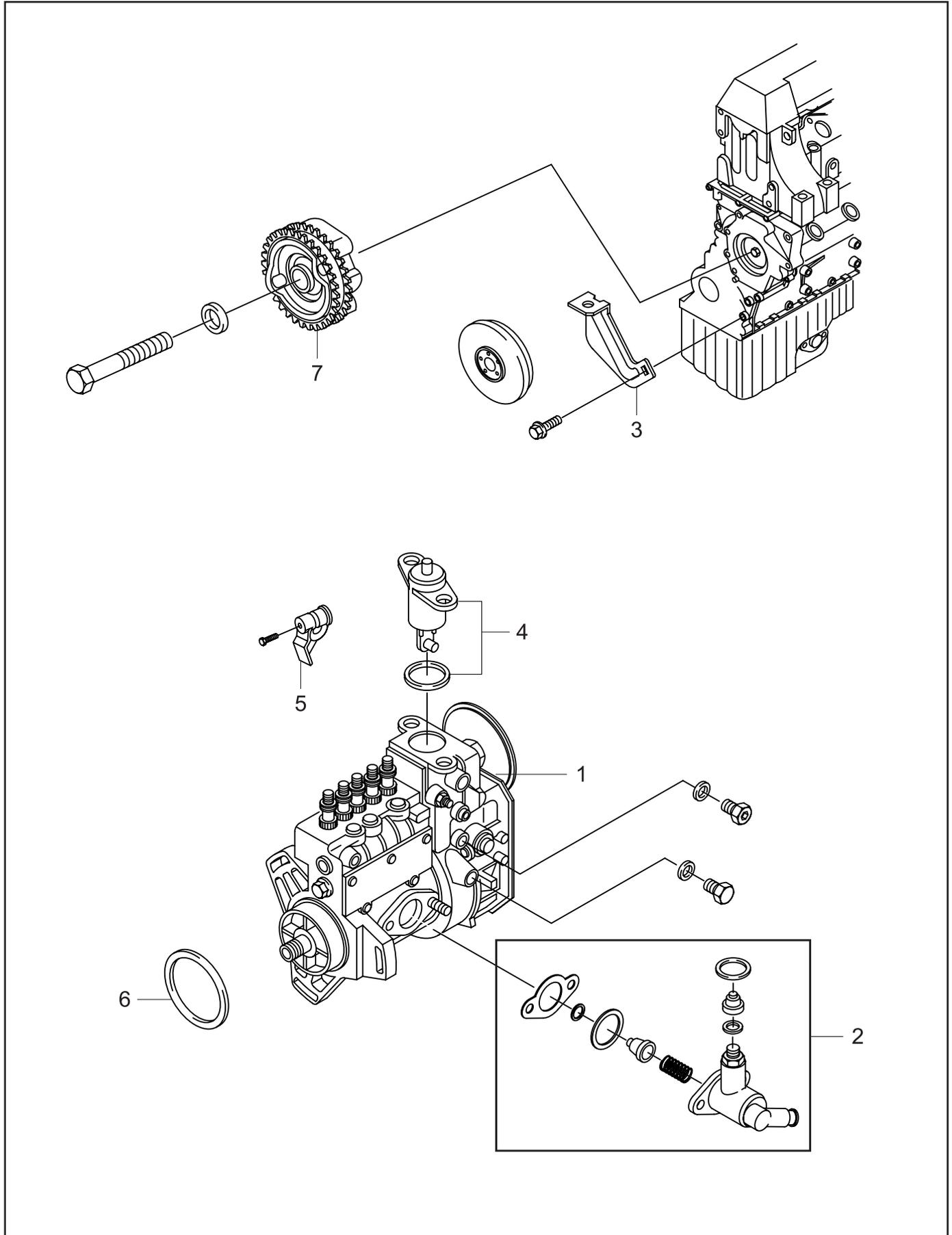
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



## ENGINE CONTROLS - FUEL LINE (172)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	HOUSING, OIL FILTER - REPLACE	1720200	-	-	1.5	1.5	1.5	1.5
2	COVER, OIL FILTER HOUSING - REPLACE	1720230	-	-	0.2	0.2	0.2	0.2
3	FILTER AND/OR O-RING, OIL - REPLACE	1720240	-	-	0.4	0.4	0.4	0.4
4	GASKET, OIL FILTER HOUSING - REPLACE	1720250	-	-	0.5	0.5	0.5	0.5
5	SEAT, OIL FILTER VALVE - REPLACE	1720270	-	-	1.7	1.7	1.7	1.7
6	THERMOSTAT, OIL FILTER - REPLACE	1720280	-	-	2.0	2.0	2.0	2.0
7	BYPASS VALVE - REPLACE	1720290	-	-	2.0	2.0	2.0	2.0
8	FILTER, FUEL ELEMENT - REPLACE	1720300	-	-	0.2	0.2	0.2	0.2
9	BRACKET, FUEL FILTER - REPLACE	1720310	-	-	0.7	0.7	0.7	0.7
10	TUBE AND/OR HOSE ASSEMBLY, FUEL - REPLACE A - Replace each additional	1720320	-	-	0.3	0.3	0.3	0.3
		172032A	-	-	0.1	0.1	0.1	0.1
11	VALVE, 2WAY CHECK - REPLACE	1720330	-	-	0.5	0.5	0.5	0.5
12	HOSE, FUEL RETURN OR SUPPLY - REPLACE	1720340	-	-	0.3	0.3	0.3	0.3
13	PIPE, FUEL RETURN - REPLACE	1720700	-	-	0.7	0.7	0.7	0.7
14	PIPE, FUEL SUPPLY - REPLACE	1720760	-	-	0.7	0.7	0.7	0.7
15	FILTER, PRE - REPLACE	1722810	-	-	0.2	0.2	0.2	0.2
16	ANOTHER, HOSE, FUEL - REPLACE	1720870	-	-	0.3	0.3	0.3	0.3

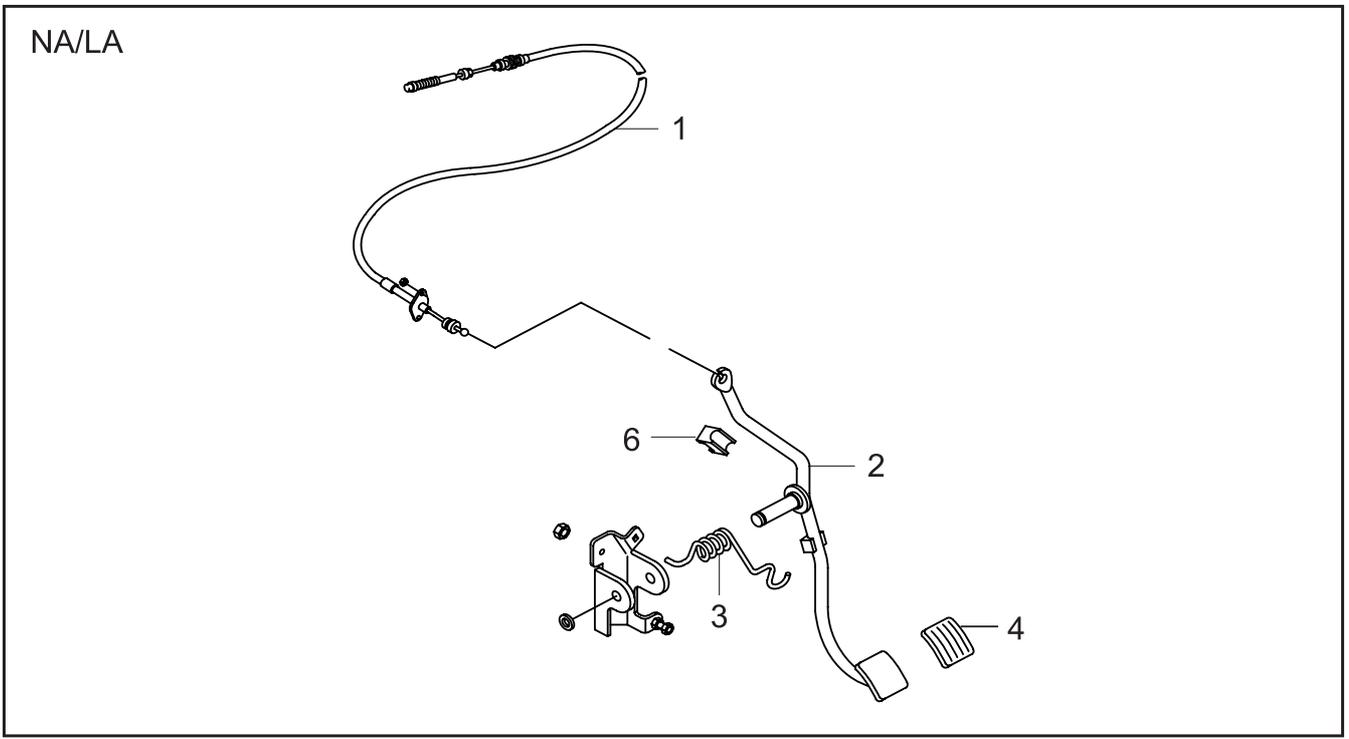
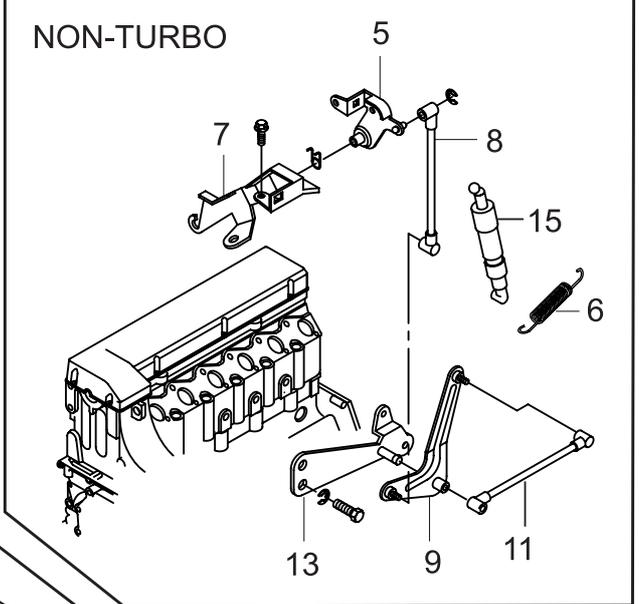
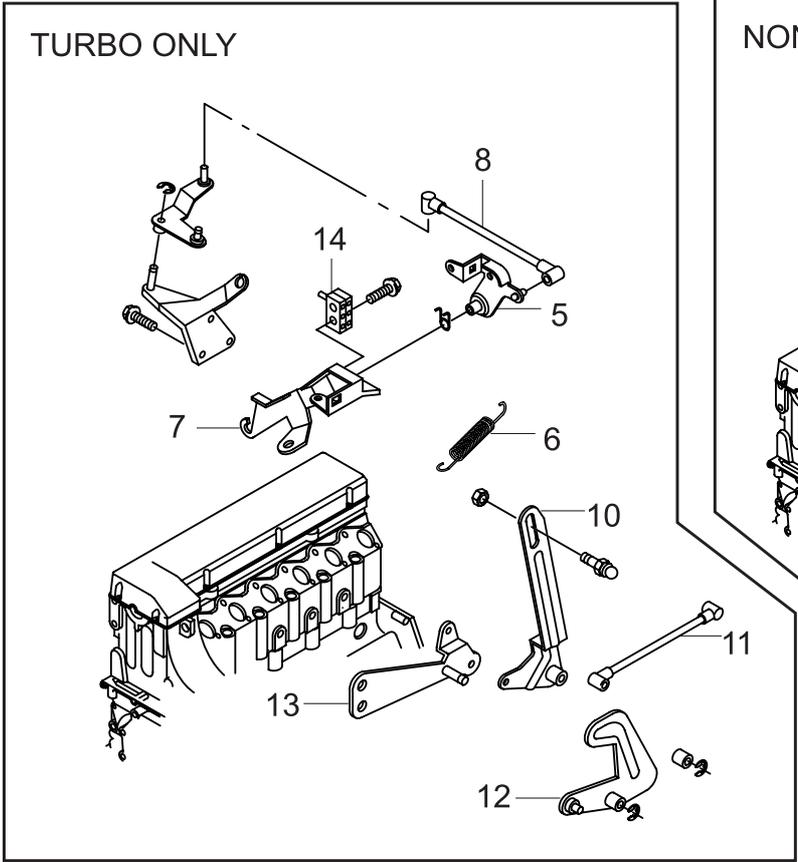
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



## ENGINE CONTROLS - INJECTION PUMP (174)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	INJECTION PUMP ASSEMBLY - REPLACE	1740100	-	-	3.8	3.8	3.8	3.8
	INJECTION PUMP ASSEMBLY - OVERHAUL	1740200	-	-	10.7	10.7	10.7	10.7
2	PUMP, FUEL FEED - REPLACE	1742400	-	-	1.0	1.0	1.0	1.0
	PUMP, FUEL FEED - OVERHAUL	1742500	-	-	1.2	1.2	1.2	1.2
3	TDC SENSOR BRACKET - REPLACE	1742800	-	-	0.7	0.7	0.7	0.7
4	UNIT AND/OR O-RING, ENGINE STOP - REPLACE	1743100	-	-	0.7	0.7	0.7	0.7
5	CAM, INJECTION - REPLACE	1743200	-	-	0.7	0.7	0.7	0.7
6	SEAL, INJECTION PUMP - REPLACE	1743300	-	-	3.8	3.8	3.8	3.8
7	TIMER ASSEMBLY, INJECTION - REPLACE	1743400	-	-	2.0	2.0	2.0	2.0

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

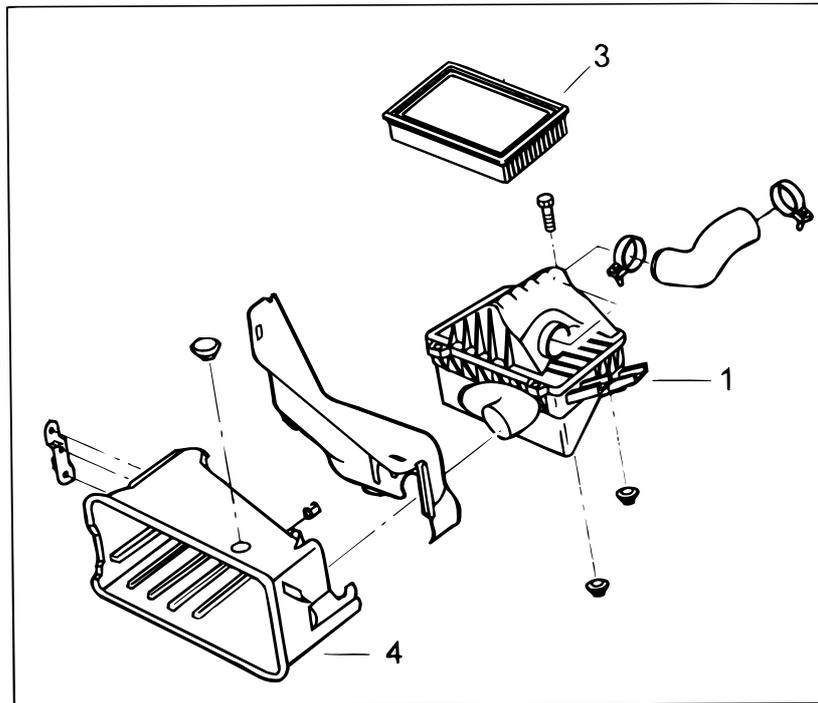
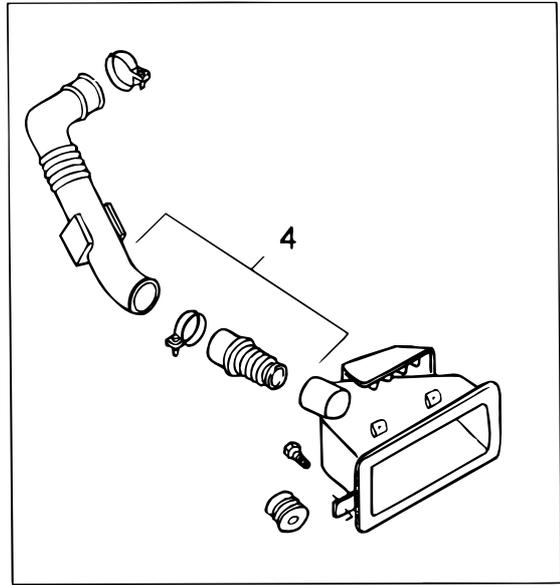
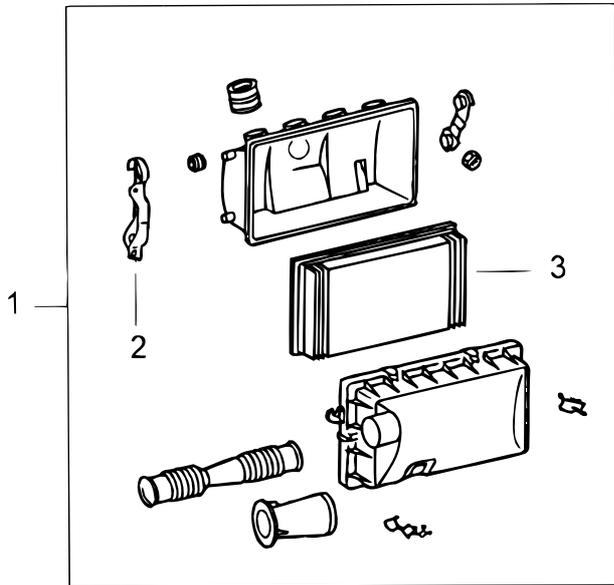


## ENGINE CONTROLS - ACCELERATOR CONTROL (182)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	CABLE, ACCELERATOR CONTROL - REPLACE	1820300	-	-	0.4	0.4	0.4	0.4
2	PEDAL, ACCELERATOR - REPLACE	1820500	-	-	0.4	0.4	0.4	0.4
3	SPRING, THROTTLE RETURN - REPLACE	1820700	-	-	0.2	0.2	0.2	0.2
4	PAD, ACCELERATOR PEDAL - REPLACE	1821100	-	-	0.2	0.2	0.2	0.2
5	LEVER, ACCELERATOR CONTROL - REPLACE	1822310	-	-	0.4	0.4	0.4	0.4
6	SPRING, ACCELERATOR CONTROL - REPLACE	1822330	-	-	0.4	0.4	0.4	0.4
7	BRACKET, ACCELERATOR CONTROL LEVER BEARING - REPLACE	1822340	-	-	0.4	0.4	0.4	0.4
8	ROD, CONNECTING - REPLACE	1822350	-	-	0.2	0.2	0.2	0.2
9	LEVER, ANGULAR - REPLACE	1822370	-	-	0.5	0.5	0.5	0.5
10	LEVER, REVERSING - REPLACE	1822380	-	-	0.5	0.5	0.5	0.5
11	ROD, ANGULAR PUMP LEVER - REPLACE	1822390	-	-	0.2	0.2	0.2	0.2
12	LEVER, SLOTTED GATE - REPLACE	1822400	-	-	0.3	0.3	0.3	0.3
13	BRACKET, ANGULAR LEVER BEARING - REPLACE	1822410	-	-	0.5	0.5	0.5	0.5
14	SWITCH, MIRO - REPLACE	1822500	-	-	0.5	0.5	0.5	0.5
15	DEMPER, ACCELERATOR - REPLACE	1822600	-	-	0.3	0.3	0.3	0.3

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

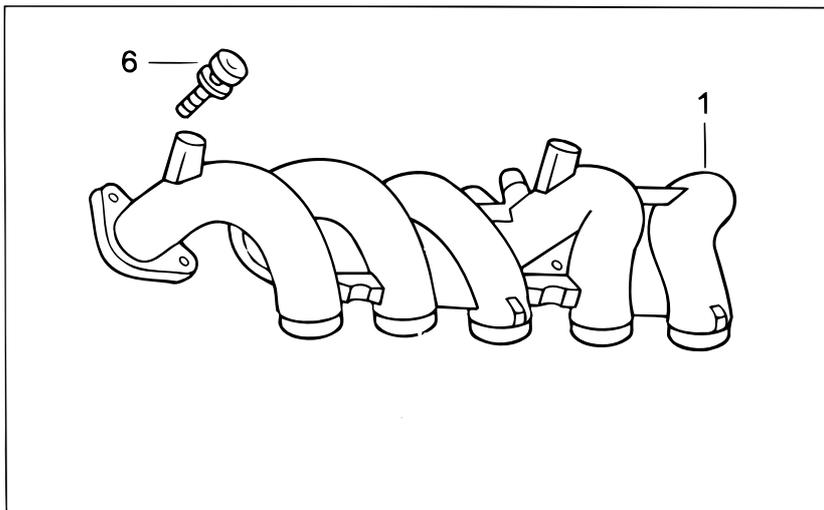
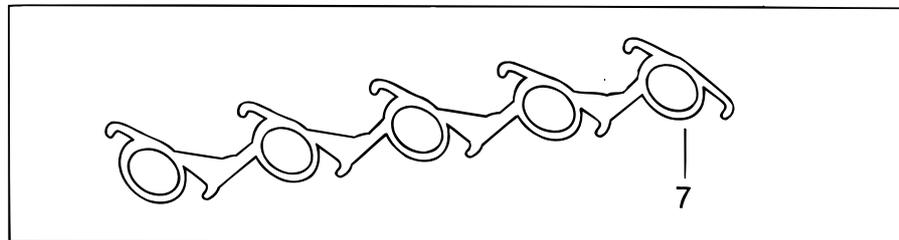
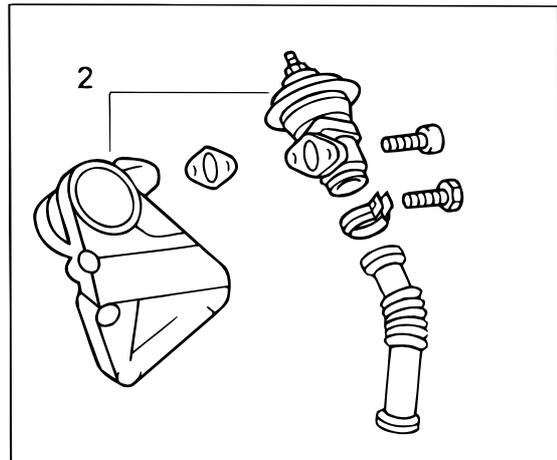
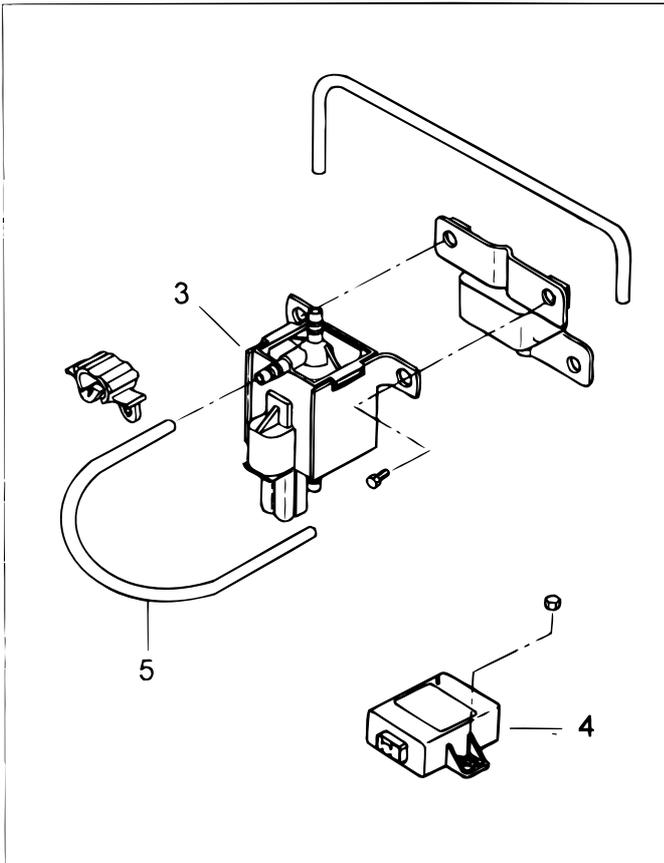
# **1G1 - ENGINE INTAKE & EXHAUST**



## ENGINE INTAKE & EXHAUST - AIR INTAKE SYSTEM (191)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	AIR CLEANER - REPLACE	1910300	-	-	0.5	0.5	0.5	0.5
2	BRACKET, AIR CLEANER HOUSING MOUNTING - REPLACE	1910350	-	-	0.7	0.7	0.7	0.7
3	FILTER, AIR CLEANER - REPLACE	1910500	-	-	0.2	0.2	0.2	0.2
4	DUCT AND/OR HOSE, OUTSIDE AIR - REPLACE	1910700	-	-	0.3	0.3	0.3	0.3

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



## ENGINE INTAKE & EXHAUST - INTAKE MANIFOLD (193)

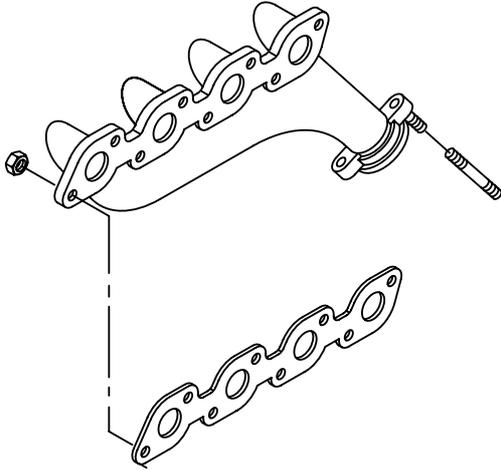
NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	MANIFOLD, INTAKE DIESEL - REPLACE	1930250	-	-	1.2	1.2	1.2	1.2
2	VALVE AND/OR GASKET, EGR - REPLACE	1930700	-	-	0.7	0.7	0.7	0.7
3	ELECTRIC SWITCH VALVE - REPLACE	1930710	-	-	0.5	0.5	0.5	0.5
4	UNIT, EGR CONTROL - REPLACE	1930720	-	-	0.5	0.5	0.5	0.5
5	HOSE, EGR VACUUM OUTLET - REPLACE	1930730	-	-	0.5	0.5	0.5	0.5
6	SCREW, INTAKE MANIFOLD MOUNTING - REPLACE A - Replace each additional	1932110	-	-	0.3	0.3	0.3	0.3
		1932120	-	-	0.1	0.1	0.1	0.1
7	GASKET, INTAKE MANIFOLD - REPLACE	1933100	-	-	1.2	1.2	1.2	1.2

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON

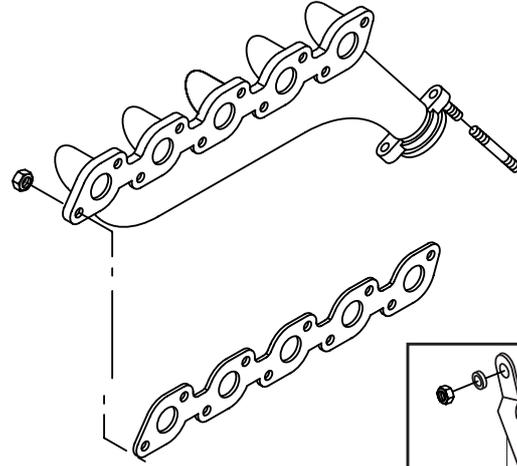
(NON-TURBO)

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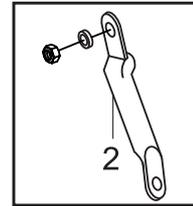
OM661NA



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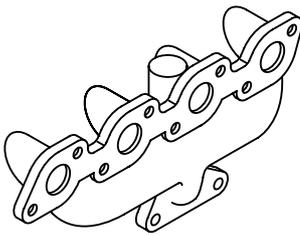
MU ONLY



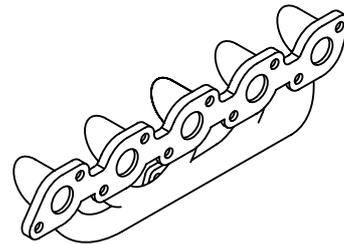
(TURBO ONLY)

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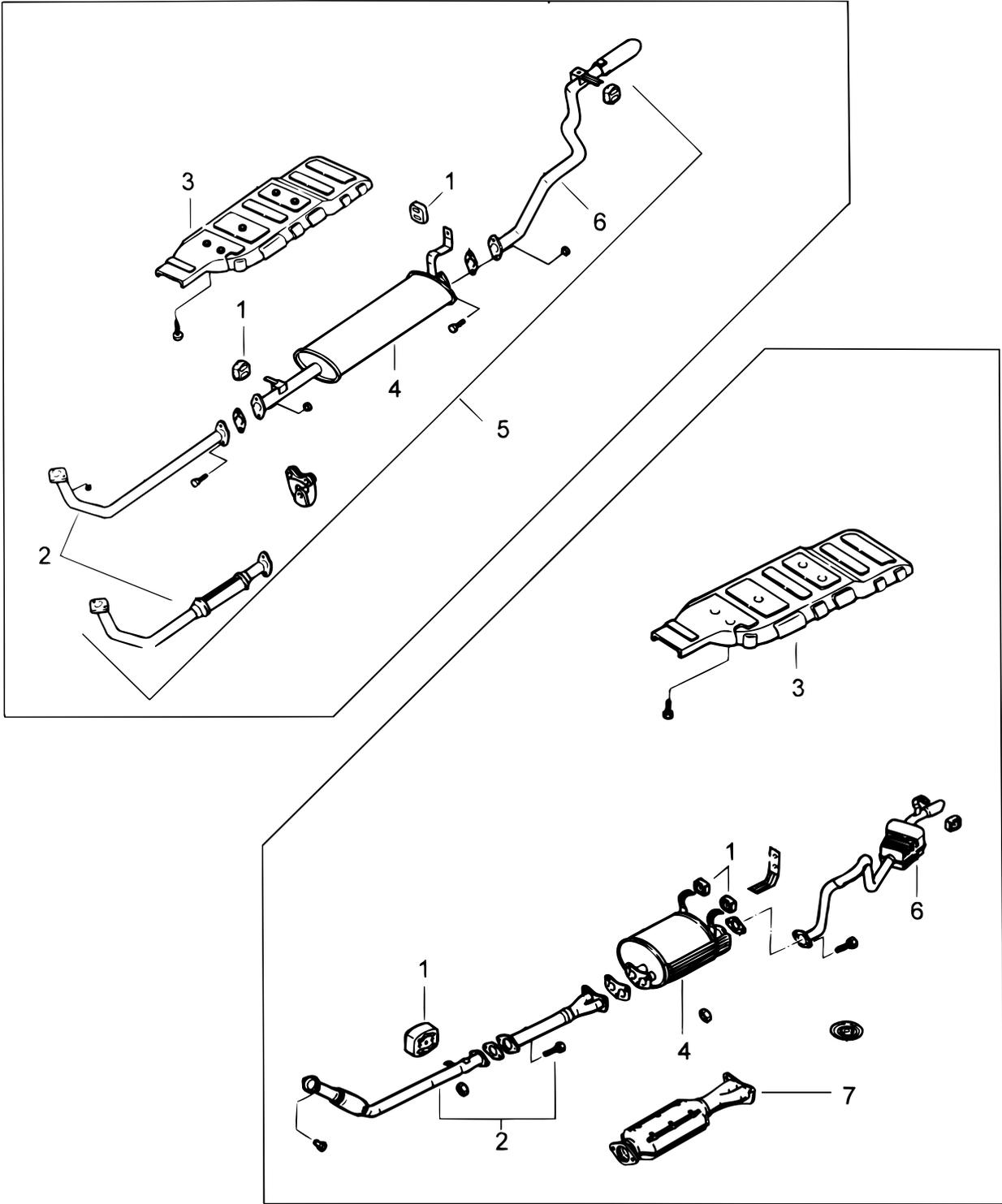
OM662LA



## ENGINE INTAKE & EXHAUST - EXHAUST MANIFOLD (194)

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	MANIFOLD AND/OR GASKET, EXHAUST - REPLACE	1940400	-	-	1.0	1.0	1.0	1.0

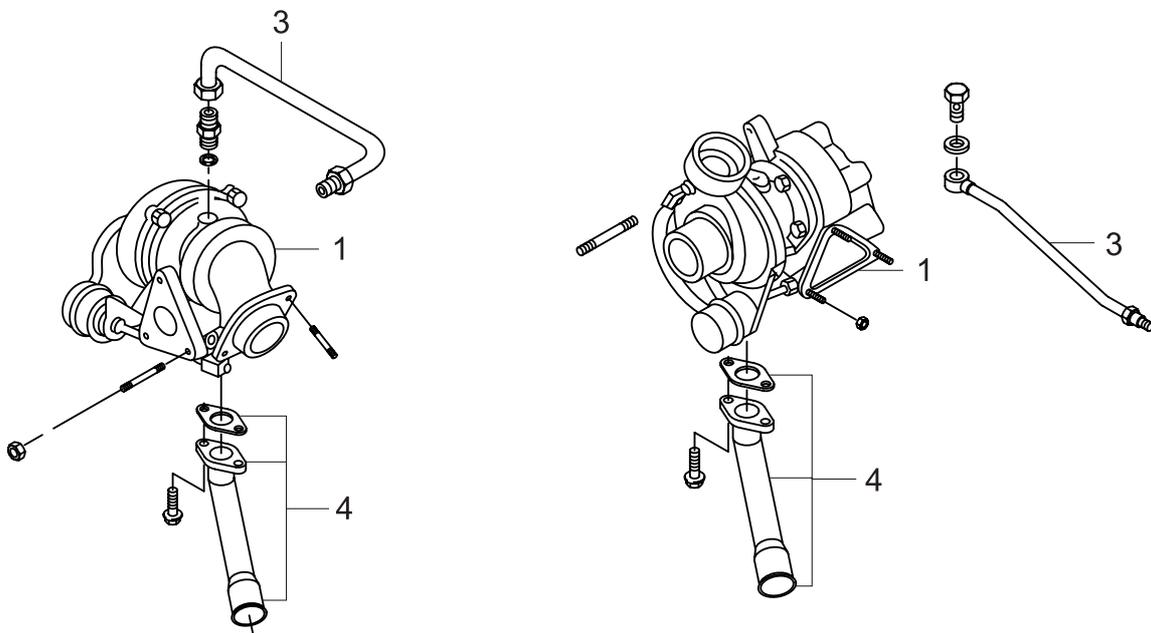
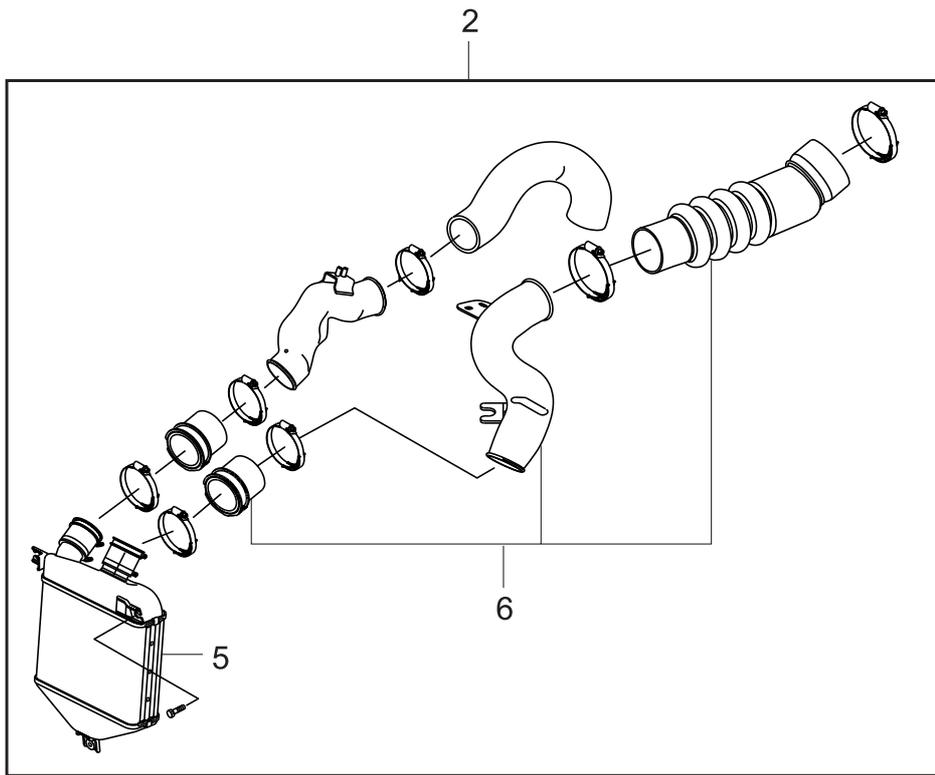
CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



**ENGINE INTAKE & EXHAUST - EXHAUST PIPE LINE (196)**

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	HANGER AND/OR CLAMP, EXHAUST SYSTEM-REPLACE	1960300	-	-	0.5	0.5	0.5	0.5
2	PIPE, FRONT EXHAUST - REPLACE	1960900	-	-	0.5	0.5	0.5	0.5
3	HEAT SHIELD, CENTER MUFFLER - REPLACE	1961420	-	-	0.5	0.5	0.5	0.5
4	MUFFLER - REPLACE	1962100	-	-	0.5	0.5	0.5	0.5
5	EXHAUST SYSTEM (COMPLETE) - REPLACE	1962500	-	-	1.2	1.2	1.2	1.2
6	PIPE, TAIL - REPLACE	1962600	-	-	0.5	0.5	0.5	0.5
7	CONVERTER - REPLACE	1961500	-	-	0.5	0.5	0.5	0.5

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON



**ENGINE INTAKE & EXHAUST - TURBO CHARGER ASSEMBLY (197)**

NO.	OPERATION DESCRIPTION	OPERATION CODE	CM		MU/KO		RX	
			-	-	661 NA,LA	662 NA,LA	661 NA,LA	662 NA,LA
1	TURBO CHARGER ASSEMBLY - REPLACE	1970100	-	-	1.5	1.5	1.5	1.5
2	INTERCOOLER ASSEMBLY - REPLACE	1970500	-	-	1.4	1.4	1.4	1.4
3	TUBE-OIL SUPPLY - REPLACE	1970110	-	-	0.4	0.4	0.4	0.4
4	TUSE-OIL RETURN - REPLACE	1970120	-	-	0.5	0.5	0.5	0.5
5	INTERCOOLER - TURBO	1970510	-	-	0.8	0.8	0.8	0.8
6	HOSE AND DUCT - REPLACE	each 1970520	-	-	0.2	0.2	0.2	0.2

CM : CHAIRMAN, MU : MUSSO, KO : KORANDO, RX : REXTON