Engine Assembly 543 Chart

C1S7G-543-AC

Revision BP

EN00 E 11290169 002 020110

Issue Date: 10 January, 2002

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
980116	AA-A	ALL	INITIAL RELEASE	EN00F10663108056	Y.TANAKA
981026	AB-A	ALL	UPDATED	EN00F10663108085	Y.TANAKA
981202	AB-B	3	CORRECTED TYPOGRAPHICAL ERROR	EN00I10819645029	Y.TANAKA
	AB-B	5	REVISED PISTON CLEARANCE DUE TO ADDITIONAL COATING		
	AB-B	6	ADDED 2ND RING SERVICE PROCEDURE		
	AB-B	10	CORRECTED MODEL NAME		
	AB-B	17	INCREASED MAIN BEARING GRADE NUMBER		
	AB-B	23	CORRECTED MODEL NAME		
	AB-B	24-A	CORRECTED MODEL NAME		
	AB-B	28	ADDED NOTE OF REF DIMENSION		
	AB-B	29-B	REVISED OIL FILL QUANTITIES		
	AB-B	30	ADDED MISSING SHEET		
	AB-B	31	ADDED MISSING SHEET		
	AB-B	32	ADDED MISSING SHEET		
	AB-B		ADDED NOTE OF REF DIMENSION		
	AB-B	33	ADDED MISSING SHEET		
	AB-B	48-A	ADDED NOTE OF REF DIMENSION		
	AB-B	48-B	ADDED NOTE OF REF DIMENSION		
	AB-B	58	ADDED NOTE OF REF DIMENSION		
	AB-B	72-A	ADDED NOTE OF OILING		
	AB-B	72-B	ADDED NOTE OF OILING		
	AB-B	77-A	UPDATED OIL COOLER		
	AB-B	79	CORRECTED NOTE		
981202	AB-B	83	CORRECTED NOTE	EN00I10819645029	Y.TANAKA
990225	AC-C	3	ADDED FACTORY FILL OIL SPEC	EN00I10819645017	Y.TANAKA
	AC-C	5	ADDED (REF) TO DIMENSION		
	AC-C	12	REVISED NOTE		
	AC-C	21-B	ADDED SELECTION OF CONROD BEARING COLOUR		
	AC-C	22	REVISED NOTE		
	AC-C	26	REVISED FASTENING PROCEDURE		
	AC-C	27	CHANGED DOWEL INSERTION HEIGHT		
	AC-C	30-A	UPDATED FASTENER AND REVISED FATENEING PROCEDURE		
	AC-C	30-B	UPDATED FASTENER AND REVISED FATENEING PROCEDURE		
	AC-C	34	ADDED COMBINATION CHART OF I.D. TAB		
	AC-C	36	ADDED NOTICE OF AVDEL PLUG INSERTION		
	AC-C	37	DELETED NOTE		
	AC-C	38	ADDED (REF) TO DIMENSION		
	AC-C	42	REVISED CYL.HEAD BOLD FASTENING PROCEDURE		
	AC-C	44	REVISED NOTE OF CAM CAP BOLT FASTENING PROCEDUR		
	AC-C	45	REVISED CAM CAP BOLT FASTENING PROCEDURE		
	AC-C	50	ADDED PARTS NUMBER OF ENGINE MOUNT STUD		
	AC-C	52-A	DELEDTE NOTE AND REVISED FASTENING PROCEDURE		
	AC-C	52-B	REVISED FASTENING PROCEDURE		
	AC-C	54	ADDED MZADA PARTS NUMBER		
	AC-C	55	ADDED NOTE OF TIMING PIN		
	AC-C	56	ADDED NOTE OF TIMING PIN		
990225	AC-C	57	ADDED MZADA PARTS NUMBER	EN00I10819645017	Y.TANAKA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	D	EN00E10967761000	99-04-28	2001 2.0L-4V NON DI CD132	1	1A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990225	AC-C	58	REVISED NOTE	EN00I10819645017	Y.TANAKA
	AC-C	60-A	ADDED STUD END FASTENER AND REVISED FASTENING PROCEDURE		
	AC-C	60-B	ADDED STUD END FASTENER AND REVISED FASTENING PROCEDURE		
	AC-C	61-A	ADDED MAZDA PARTS NUMBER		
	AC-C	61-B	ADDED MAZDA PARTS NUMBER		
	AC-C	62-B	ADDED MAZDA PARTS NUMBER		
	AC-C	63	CHANGED ASSEMBLY ORDER		
	AC-C	64-A	ADDED MAZDA PARTS NUMBER AND ASSEMBLY ANGLE		
	AC-C	64-B	ADDED MAZDA PARTS NUMBER AND NOTE TO ANGLE		
	AC-C	66-A	CHANGED ASSEMBLY ORDER		
	AC-C	66-B	ADDED SHEET OF EGR BLANKING PLATE ASSEMBLE PROCEDURE		
	AC-C	69-A	REMOVED WATER TEMP SENDER AND ADDED MAZDA PARTS NUMBER		
	AC-C	69-B	REMOVED ENG.COOLING TEMP SENDER AND ADDED MAZDA PARTS NO.		
	AC-C	71-A	ADDED NOTE OF HOSE CLAMP TAB		
	AC-C	71-B	ADDED NOTE OF HOSE CLAMP TAB		
	AC-C	72	CHANGED ASSEMBLY ORDER AND DELETED NOTE		
	AC-C	73-A	ADDED NOTE AND UPDATED PILSE DAMPER LOCATION		
	AC-C	73-B	ADDED NOTE AND UPDATED PILSE DAMPER LOCATION		
	AC-C	74-B	REVISED FASTENER NUMBER		
	AC-C	75	REVISED M8 FASTENER TORQUE		
	AC-C	76-A	CHANGED ASSEMBLY ORDER AND ADDED NOTE		
	AC-C	76-B	CHANGED ASSEMBLY ORDER AND ADDED HOSE CLAMP		
	AC-C	77-A	CHANGED ASSEMBLE PARTS		
	AC-C	77-B	CHANGED ASSEMBLE PARTS AND LOCATION		
	AC-C	78-A	ADDED NOTE		
	AC-C	82-A	CHANGED ASEMBLE PARTES SHAPE		
	AC-C	82-B	CHANGED ASSEMBLE PARTS SHAPE		
	AC-C	84-A	ADDED MAZDA PARTS NUMBER		
	AC-C	84-B	ADDED MAZDA PARTS NUMBER		
	AC-C	83	REVISED NOTE		
	AC-C	85	ADDED MAZDA PARTS NUMBER		
990225	AC-C	88	ADDED SHEET OF IDLER ASSEMBLY PROCEDURE	EN00I10819645017	Y.TANAKA
990428	D	2	ADDED ADAPTATION MATRIX	EN00E10967761000	R.OKITA
	D	7	ADDED NOTE		I.HIROSE
	D	9	REVISED PARTS NO. AND FRONT INDICATE MARK		
	D	10	REVISED FRONT INDICATE MARK OF PISTON		
	D	11-D	ADDED SHEET FOR I5		I.HIROSE
	D	14	CHANGED PIPE ASSEMBLE ANGLE AND SEALANT PART NO.		R.OKITA
	D	15-A	ADDED NOET		I.HIROSE
	D	15-D	ADDED SHEET FOR I5		
	D	16	ADDED NOET		
	D	17	CHANGED TOTAL CLEARANCE RANGE		
	D	18	CHANGED MAIN BEARING COLOUR CODING		
	D	19	ADDED NOTE FOR I5 AND DIMENSION CHANGED		
	D	20	REVICED ASSEMBLY PROCEDURE		
	D	21-A	ADDED NOTE		
990428	D	21-B	ADDED NOTE	EN00E10967761000	I.HIROSE

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	D	EN00E10967761000	99-04-28	2001 2.0L-4V NON DI CD132	1A	1B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990428	D	22	ADDED NOTE FOR I5 AND CHANGED DIMENSION	EN00E10967761000	I.HIROSE
	D	23-D	ADDED SHEET FOR I5		
	D	24	UPDATED DRAWING		
	D	25-A	UPDATED DRAWING		
	D	25-B	REMOVED BAFFLE-CRANKSHAFT WINDAGE OIL		I.HIROSE
	D	26	REVISED NOTE AND ADDED FIGURE		R.OKITA
	D	28	REVISED DRAWING		I.HIROSE
	D	29	REVISED RTV MATERIAL		R.OKITA
	D	29-D	ADDED SHEET FOR I5		
	D	30-D	ADDED SHEET FOR I5		
	D	31-D	ADDED SHEET FOR I5		R.OKITA
	D	32-D	ADDED SHEET FOR I5		I.HIROSE
	D	33	REVISED RTV MATERIAL		R.OKITA
	D	35	ADDED NOTE FOR I5		N.TANAKA
	D	37	ADDED NOTE FOR I5		
	D	38	ADDED NOTE FOR I5		
	D	39	ADDED NOTE FOR I5		
	D	40	ADDED NOTE FOR DI AND I5		
	D	41	ADDED NOTE FOR I5		
	D	42	REVISED NOTE FOR SINGLE WRENCH METHOD		
	D	42-D	ADDED SHEET FOR I5		
	D	43	ADDED NOTE FOR I5		
	D	44	ADDED NOTE FOR I5		
	D	44-C	ADDED SHEET FOR DI		
	D	45	ADDED NOTE FOR DI		
	D	45-D	ADDED SHEET FOR I5		N.TANAKA
	D	49-A	REVISED RTV MATERIAL		R.OKITA
	D	49-B	REVISED RTV MATERIAL		
	D	51	ADDED DRAWING FOR DI		
	D	52-A	REVISED DRAWING		
	D	53-B	REVISED DRAWING		R.OKITA
	D	54	ADDED NOTE		T.KADOWAKI
	D	56-C	ADDED SHEET FOR DI		
	D	58	ADDED NOTE		
	D	58-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	59	REVISED NOTE		R.OKITA
	D	60	REVISED RTV MATERIAL		
	D	61-C	ADDED SHEET FOR DI		
	D	61-D	ADDED SHEET FOR I5		R.OKITA
	D	62-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	64	ADDED MATRIX CHART		T.TANAKA
	D	65-A	CHANGED ASSEMBLE ANGLE		T.KADOWAKI
	D	65-B	CHANGED ASSEMBLE ANGLE		
	D	65-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	66-D	ADDED SHEET FOR I5		N.TANAKA
	D	69-C	ADDED SHEET FOR DI		R.OKITA
990428	D	70-C	ADDED SHEET FOR DI	EN00E10967761000	T.KADOWAKI

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990428	D	71-C	ADDED SHEET FOR DI	EN00E10967761000	R.OKITA
	D	72-C	ADDED SHEET FOR DI		T.TANAKA
	D	73-A	CHANGED ECT LOCATION		T.KADOWAKI
	D	73-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	76-A	REVISED NOTE		R.OKITA
	D	76-B	REVISED NOTE		
	D	76-C	ADDED SHEET FOR DI		
	D	76-D	ADDED SHEET FOR I5		R.OKITA
	D	78-A	ADDED MATRIX FOR DISCRIMINATION AND REVISED NOTE		T.KADOWAKI
	D	78-B	REVISED NOTE		
	D	78-C	ADDED SHEET FOR DI		
	D	79-C	ADDED SHEET FOR DI		
	D	80-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	81-C	ADDED SHEET FOR DI		T.TANAKA
	D	82-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	83-C	ADDED SHEET FOR DI		T.TANAKA
	D	84-C	ADDED SHEET FOR DI		
	D	85-C	ADDED SHEET FOR DI		
	D	85-D	ADDED SHEET FOR I5		
	D	86-D	ADDED SHEET FOR I5		
	D	87-B	ADDED TIGHETNING ORDER		
	D	87-C	ADDED SHEET FOR DI		
	D	87-D	ADDED SHEET FOR I5		
	D	88-A	REVISED NOTE		
	D	88-C	ADDED SHEET FOR DI		
	D	88-D	ADDED SHEET FOR I5		T.TANAKA
	D	89-B	ADDED NOTE		T.TANAKA
	D	89-D	ADDED SHEET FOR I5		T.KADOWAKI
	D	90-C	ADDED SHEET FOR DI		
	D	91-C	ADDED SHEET FOR DI		
	D	92-B	REVISED DRAWING		
	D	92-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	93-A	DRAWING UPDATE		I.HIROSE
	D	93-B	DRAWING UPDATE		
	D	94	CHANGED FASTENER		I.HIROSE
	D	95-A	ADDED NOTE		T.TANAKA
	D	95-B	ADDED NOTE		
	D	95-D	ADDED SHEET FOR I5		
	D	96-B	ADDED SHEET FOR RANGER I4		
	D	96-D	ADDED SHEET FOR I5		T.TANAKA
	D	97-A	REVISED MODEL DESCRIPTION AND NOTE		R.OKITA
	D	99	ADDED NOTE		T.KADOWAKI
	D	100-C	ADDED SHEET FOR DI		
	D	101-C	ADDED SHEET FOR DI		
	D	102-C	ADDED SHEET FOR DI		T.KADOWAKI
	D	103-C	ADDED SHEET FOR DI		R.OKITA
	D	107-B	REVISED NOTE		
990428	D	OTHER	REVISED SHEET NO.	EN00E10967761000	R.OKITA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	D	0	99-04-28	2001 2.0L-4V NON DI CD132	1C	2

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990630	E	42	REVISED TIGHTENING PROCEDURE	EN00E10986253000	Y.TANAKA
		44	ADDED CAMSHAFT THRUST CLEARANCE		
		44-C	ADDED CAMSHAFT THRUST CLEARANCE		
		47	CHANGED FASTENER		
990630	E	48	CHANGED TIGHTENING TORQUE	EN00E10986253000	Y.TANAKA
990806	F	27	ADDED DOWEL ATTACHING INSTRUCTION	EN00E10994808000	I.HIROSE
		32	ADDED DOWEL ATTACHING INSTRUCTION		
990806	F	75	REVISED TIGHTENING TORQUE	EN00E10994808000	I.HIROSE
990901	G	23-A	ADDED THE NUMBER OF REUSE OF BEARING CAP BOLT	EN00E10998905000	I.HIROSE
		23-D	ADDED THE NUMBER OF REUSE OF BEARING CAP BOLT		
		30-E	ADDED SHEET		
990901	G	30-D	CHANGED SHEET NUMBER	EN00E10998905000	I.HIROSE
990906	H	4-A	ADDED NOTE FOR ELECTRIACL CONNECTIONS	EN00E11007392000	T.KADOWAKI
		6	REVISED NOTE		I.HIROSE
		7	REVISED NOTE		
		8	REVISED NOTE		
		9	REVISED NOTE		
		10	ADDED NOTE FOR CYL.BORE LUBRICATING		
		11	REVISED TIGHTENING TORQUE DESCRIPTION		
		12	REVISED TIGHTENING TORQUE DESCRIPTION		I.HIROSE
		14	REVISED NOTE		R.OKITA
		14-D	ADDED SHEET FOR I5		R.OKITA
		15-A	ADDED NOTE FOR BEARING LUBRICATING		I.HIROSE
		15-D	ADDED NOTE FOR BEARING LUBRICATING		
		16	REVISED NOTE		
		17	REVISED NOTE		
		18	REVISED BEARING COLOR		
		19	ADDED NOTE		
		20	REVISED NOTE		
		21-A	REVISED NOTE		
		21-B	REVISED NOTE		
		22	REVISED NOTE		
		23-A	REVISED NOTE		
		23-D	REVISED NOTE		
		24	REVISED TIGHTENING TORQUE DESCRIPTION		
		25-A	REVISED TIGHTENING TORQUE DESCRIPTION		
		25-B	REVISED TIGHTENING TORQUE DESCRIPTION		
		25-E	ADDED SHEET FOR BALANCE SHAFT		
		25-F	ADDED SHEET FOR BALANCE SHAFT		
		25-G	ADDED SHEET FOR BALANCE SHAFT		
		25-H	ADDED SHEET FOR BALANCE SHAFT		I.HIROSE
		26	REVISED NOTE		R.OKITA
		28	ADDED TORQUE STEPS		I.HIROSE
		29	REVISED NOTE AND ADDED RTV MATERIAL		R.OKITA
		29-D	REVISED NOTE AND ADDED RTV MATERIAL		
		30-A	REVISED NOTE		
		30-B	REVISED NOTE		
		30-D	REVISED NOTE		
990906	H	31	DELETED SERVICE INFORMATION	EN00E11007392000	R.OLITA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E117392000	99-09-06	2001 2.0L-4V NON DI CD132	1D	1E

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990906	H	31-D	DELETED SERVICE INFORMATION	EN00E11007392000	R.OKITA
		33	REVISED NOTE AND ADDED RTV MATERIAL		R.OKITA
		35	REVISED TIGHTENING TORQUE DESCRIPTION		N.TANAKA
		37	REVISED TIGHTENING TORQUE DESCRIPTION		
		38	REVISED TIGHTENING TORQUE DESCRIPTION AND REVISED NOTE		
		39	REVISED TIGHTENING TORQUE DESCRIPTION		
		40	REVISED TIGHTENING TORQUE DESCRIPTION		
		44	REVISED NOTE		
		44-C	REVISED NOTE		
		45	REVISED TIGHTENING TORQUE DESCRIPTION		
		45-D	REVISED TIGHTENING TORQUE DESCRIPTION		
		46	REVISED TIGHTENING TORQUE DESCRIPTION		
		47	COORECT PARTS NUMBER		
		48	REVISED TIGHTENING TORQUE DESCRIPTION		N.TANAKA
		49-A	REVISED NOTE, ADDED RTV MATERIAL AND CORRECT DIMENSION		R.OKITA
		49-B	REVISED NOTE, ADDED RTV MATERIAL AND CORRECT DIMENSION		
		49-E	ADDS SHEET FOE 2.3L E/W		
		50	REVISED TIGHTENING TORQUE DESCRIPTION		
		51	REVISED NOTE		
		52-A	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		52-B	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		52-E	MOVED FROM 107-A AND ADDED NOTE		
		53-A	DELETED SERVICE INFORMATION		
		53-B	DELETED SERVICE INFORMATION		R.OKITA
		54	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		T.KADOWAKI
		55	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		I.HIROSE
		56-C	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		T.KADOWAKI
		57	REVISED NOTE		I.HIROSE
		58	CHANGED TIGHTENING TORQUE		T.KADOWAKI
		58-C	CHANGED TIGHTENING TORQUE		
		58-D	ADDED SHEET FOR I5		T.KADOWAKI
		59	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		R.OKITA
		60	REVISED NOTE AND ADDED RTV MATERIAL		
		61-A	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		61-B	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		61-C	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		61-D	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		R.OKITA
		62-A	CHANGED PARTS NUMBER ABD ADDED MATRIX		T.KADOWAKI
		62-B	COMBINED TO 62-A		
		62-C	REVISED TIGHTENING TORQUE DESCRIPTION		
		63-B	CHANGED TIGHTENING TORQUE TORELANCE		
		63-D	ADDED SHEET FOR I5		T.KADOWAKI
		64	REVISED TIGHTENING TORQUE DESCRIPTION		T.TANAKA
		65-A	CHANGED TIGHTENING TORQUE TORELANCE		T.KADOWAKI
		65-B	CHANGED TIGHTENING TORQUE TORELANCE		
		65-C	CHANGED TIGHTENING TORQUE TORELANCE		T.KADOWAKI
		66-A	CHANGED TIGHTENING TORQUE TORELANCE		N.TANAKA
		66-B	CHANGED TIGHTENING TORQUE TORELANCE		
990906	H	66-D	CHANGED TIGHTENING TORQUE TORELANCE	EN00E11007392000	N.TANAKA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	0	99-09-06	2001 2.0L-4V NON DI CD132	1E	1F

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990906	H	67-A	ADDED DRAWING AND CHANGED TIGHTENING TORQUE TORELANCE	EN00E11007392000	T.KADOWAKI
		67-B	ADDED DRAWING AND CHANGED TIGHTENING TORQUE TORELANCE		
		67-D	ADDED SHEET FOR N/S EGR VALVE		T.KADOWAKI
		68	ADDED NOTE AND CHANGED TIGHTENING TORQUE TORELANCE		R.OKITA
		69-C	REVISED NOTE AND ADDED RTV MATERIAL		
		71-A	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		71-B	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		
		71-C	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		R.OKITA
		72-C	REVISED TIGHTENING TORQUE DESCRIPTION		T.KADOWAKI
		73-A	REVISED TIGHTENING TORQUE DESCRIPTION		
		73-B	REVISED TIGHTENING TORQUE DESCRIPTION		
		73-C	REVISED TIGHTENING TORQUE DESCRIPTION		
		73-D	REVISED TIGHTENING TORQUE DESCRIPTION		
		74-D	REVISED TIGHTENING TORQUE DESCRIPTION		T.KADOWAKI
		75	REVISED TIGHTENING TORQUE DESCRIPTION		I.HIROSE
		76-A	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		R.OKITA
		76-B	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		
		76-C	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		
		76-D	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		R.OKITA
		77	REVISED TIGHTENING TORQUE DESCRIPTION		T.TANAKA
		78-A	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		T.GOTO
		78-B	REVISED NOTE AND TIGHTENING TORQUE DESCRIPTION		T.GOTO
		85-A	REVISED TIGHTENING TORQUE DESCRIPTION		T.TANAKA
		85-B	REVISED TIGHTENING TORQUE DESCRIPTION		
		87-B	ADDED NOTE AND REVISED TIGHTENING TORQUE DESCRIPTION		
		88-A	UPDATED DRAWING		T.TANAKA
		89-A	ADDED DRAWING AND CHANGED TIGHTENING TORQUE TORELANCE		T.KADOWAKI
		89-B	ADDED DRAWING AND CHANGED TIGHTENING TORQUE TORELANCE		
		89-D	ADDED DRAWING AND CHANGED TIGHTENING TORQUE TORELANCE		
		89-F	ADDED SHEET FOR SOLENOID VALVA ASSEMBLING		
		89-G	ADDED SHEET FOR SOLENOID VALVA ASSEMBLING		
		90-A	ADDED SHEET FOR E/W ABSOLUTE PRESS SENSOR		
		90-B	ADDED SHEET FOR N/S ABSOLUTE PRESS SENSOR		
		90-C	REVISED TIGHTENING TORQUE DESCRIPTION		
		91-A	ADDED FASTENING SEQUENCE AND MATRIX		
		91-B	ADDED FASTENING SEQUENCE		
		91-C	ADDED FASTENING SEQUENCE		
		92-A	ADDED NOTE		
		92-B	ADDED NOTE		T.KADOWAKI
		93-A	REVISED TIGHTENING TORQUE DESCRIPTION		I.HOROSE
		93-B	REVISED TIGHTENING TORQUE DESCRIPTION		
		94	REVISED TIGHTENING TORQUE DESCRIPTION		I.HOROSE
		95-A	UPDATED DRAWING		T.TANAKA
		95-B	UPDATED DRAWING		
		96-B	REVISED TIGHTENING TORQUE DESCRIPTION		T.TANAKA
		97-A	ADDED DRAING AND REVISED NOTE		R.OKITA
		98-A	ADDED NOTE		T.KADOWAKI
		98-B	ADDED NOTE		
990906	H	99	REVISED NOTE	EN00E11007392000	T.KADOWAKI

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	0	99-09-06	2001 2.0L-4V NON DI CD132	1F	1G

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
990906	H	103-C	ADDED NOTE	EN00E11007392000	R.OKITA
		104-A	ADDED NOTE		
		104-B	DELETED		R.OKITA
		105	CHANGED TIGHTENING TORQUE		N.TANAKA
		106-A	MOVED TO 52-E		R.OKITA
		107-A	ADDED NOTE		
		107-B	ADDED NOTE		
990906	H	OTHER	SHEET NUMBER CHANGE	EN00E11007392000	R.OKITA
991005	J	107-B	SHEET NUMBER CHANGE	EN01E10877065001	R.OKITA
		108	ADDED SHEET FOR HOSE - EVAP		
991005	J	109	ADDED SHEET FOR VACUUM HARNESS	EN01E10877065001	R.OKITA
991213	K	24	CHANGED TIGHTENING PROCEDURE	EN00E11026968000	T.MITSUHARA
991214	L	93-A	CHANGED BOLT TYPE	EN00E11035651 000	T.MITSUHARA
991214	L	93-B	CHANGED BOLT TYPE	EN00E11035651 000	T.MITSUHARA
000126	M	66-B	CHANGED FRONT LIFTING EYE	EN00E11054241 000	N.TANAKA
000126	M	105	CHANGED OIL GALLERY PLUG	EN00E11054241 000	N.TANAKA
000210	N	2	UPDATED	EN00E11030674 000	R.OKITA
		3	UPDATED		R.OKITA
		7	REVISED INCORRECT DRAWING		S.HASETOH
		14	REVISED ANAEROBIC SEALER MATERIAL		R.OKITA
		20	REVISED INDICATION CONROD CRANK END DIAMETER		S.HASETOH
		25-F	REVISED DRAWING		
		25-G	REVISED DRAWING AND BALANCER ROTATION TORQUE		S.HASETOH
		28-A	ADDED SHEET FOR FLEXPLATE		R.OKITA
		28-B	ADDED SHEET FOR DUAL MASS FLYWHEEL		
		29	REVISED RTV SPECIFICATION		R.OKITA
		30-E	REVISED DRAWING		T.MITSUHARA
		33	REVISED RTV SPECIFICATION		R.OKITA
		35	REVISED ANAEROBIC SEALER MATERIAL		N.TANAKA
		46-E	ADDED SHEET FOR VVT/BALANCE SHAFT OIL PUMP CHAIN		
		47-E	ADDED SHEET FOR VVT ACTUATOR AND SPROCKET		
		48-E	ADDED SHEET FOR VVT TIMING CHAIN AND GUIDE		N.TANAKA
		49-A	REVISED RTV SPECIFICATION		R.OKITA
		49-B	REVISED RTV SPECIFICATION		
		49-E	REVISED RTV SPECIFICATION		R.OKITA
		61-E	ADDED SHEET FOR VVT OCV		N.TANAKA
		61-F	ADDED SHEET FOR VVT OCV		
		61-G	ADDED SHEET FOR VVT OIL PIPE		N.TANAKA
		64	ADDED NOTE		T.TANAKA
		67-B	ADDED NOTE		T.TANAKA
		69-C	REVISED RTV SPECIFICATION		R.OKITA
		85-A	ADDED NOTE		T.TANAKA
		85-B	ADDED NOTE		
		87-E	ADDED SHEET FOR GASHOL AND LEADED ENGINE		
		87-F	ADDED SHEET FOR AUDIO GROUND STRAP		
		88-A	REVISED NOTE		
		88-B	MODIFIED DRAWING		T.TANAKA
		90-A	MODIFIED NOTE		K.KADOWAKI
000210	N	90-B	MODIFIED NOTE	EN00E11030674 000	K.KADOWAKI

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	N	EN00 E 11030674 000	00-02-10	2001 2.0L-4V NON DI CD132	1G	1H

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
000210	N	90-C	MODIFIED NOTE	EN00E11030674 000	T.TANAKA
		95-A	REVISED DRAWING		T.TANAKA
		95-B	REVISED DRAWING		T.TANAKA
		107-A	CHANGED FASTENER		R.OKITA
		107-B	CHANGED FASTENER		
		110	ADDED SHEET FOR CLUTCH ASSEMBLY		
000210	N	OTHER	REVISED SHEET NUMBER	EN00E11030674 000	R.OKITA
000331	P	4-A	ADDED NOTE FOR CC, A/AR RANK	EN00E11045491000	R.OKITA
		14	REVISED NOTE FOR SEALANT		R.OKITA
		28	ADDED CC, A RANK MARK		S.HASETO
		30-E	ADDED AR RANK MARK AND NOTE FOR LEGAL CODE		MITSUHARA
		48	ADDED CC, A RANK MARK		N.TANAKA
		48-E	ADDED CC, A RANK MARK		N.TANAKA
		55	ADDED CC, A RANK MARK		S.HASETO
000331	P	59	REVISED NOTE FOR ASSISTANT MATERIAL	EN00E11045491000	R.OKITA
000420	R	9	CHANGED PISTON PIN ASSEMBLE DIMENSION	EN00E11069681001	S.HASETO
		20	CHANGED CONROD BOLT TIGHTENING PROCEDURE		
		22	CHANGED NOTE		
		25-E	CHANGED TO ONE TURLET DESIGN		
		25-F	CHANGED TO ONE TURLET DESIGN		
		25-G	CHANGED TO ONE TURLET DESIGN		
		25-H	CHANGED TO ONE TURLET DESIGN		S.HASETO
		44	CHANGED CAM CAP FASTENER		N.TANAKA
		44-C	CHANGED CAM CAP FASTENER		N.TANAKA
		52-A	CHANGED FASTENER TIGHTENING ORDER FOR SINGLE SPINDLE		R.OKITA
		52-B	CHANGED FASTENER TIGHTENING ORDER FOR SINGLE SPINDLE		R.OKITA
		56-C	ADDED ASSEMBLY PROCEDURE		T.KADOWAKI
		61-C	CHANGED STUD END FASTENER LOCATION		R.OKITA
		62-C	ADDED NOTE		T.KADOWAKI
		65-A	ADDED SIDE VIEW		
		65-B	ADDED SIDE VIEW		
		65-C	ADDED SIDE VIEW		T.KADOWAKI
		69-C	UPDATED DRAWING		R.OKITA
		71-C	UPDATED DRAWING		R.OKITA
		73-C	UPDATED DRAWING		T.KADOWAKI
		74-C	UPDATED DRAWING		T.KADOWAKI
		76-C	UPDATED DRAWING		R.OKITA
		78-A	ADDED CC, A RANK MARK FOR FUEL RAIL TIGHTENING TORQUE		T.GOTO
		78-B	ADDED CC, A RANK MARK FOR FUEL RAIL TIGHTENING TORQUE		T.GOTO
		80-C	ADDED NOTE		T.KADOWAKI
		89-D	REVISED SHEET NUMBER		T.TANAKA
		89-E	ADDED SHEET FOR SOLENOID VALVE FOR VIS INT.MANIFOLD		T.TANAKA
		90-C	UPDATED DRAWING		T.KADOWAKI
		91-A	REVISED PARTS REVISION		
		91-B	REVISED PARTS REVISION		
		91-C	REVISED PARTS REVISION		
		92-C	UPDATED DRAWING		
		98-A	REVISED NOTE		
000420	R	98-B	REVISED NOTE	EN00E11069681001	T.KADOWAKI

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00 E 11069681 001	00-04-20	2001 2.0L-4V NON DI CD132	1H	1J

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
000420	R	100-C	UPDATED DRAWING	EN00E11069681001	T.KADOWAKI
000420	R	103-C	UPDATED DRAWING	EN00E11069681001	R.OKITA
000428	S	99	REVISED SHEET NUMBER	EN00E11081197000	T.KADOWAKI
		99-B	ADDED SHEET FOR MEGA HARNESS		
		100-D	ADDED SHEET FOR MEGA HARNESS		
		100-E	ADDED SHEET FOR MEGA HARNESS		
		100-G	ADDED SHEET FOR MEGA HARNESS		
		100-H	ADDED SHEET FOR MEGA HARNESS		
		100-J	ADDED SHEET FOR MEGA HARNESS		
		100-K	ADDED SHEET FOR MEGA HARNESS		
		100-L	ADDED SHEET FOR MEGA HARNESS		
		100-M	ADDED SHEET FOR MEGA HARNESS		
000428	S	100-N	ADDED SHEET FOR MEGA HARNESS	EN00E11081197000	T.KADOWAKI
000630	T	2	REVISED MATRIX	EN00E11095813000	R.OKITA
		3	REVISED PAGE NUMBER		R.OKITA
		39	REVISED VALVE SPRING DIRECTION AND ADDED NOTE		N.TANAKA
		48-E	ADDED CC, A RANK MARK FOR EXH. CAM PULLEY		N.TANAKA
		59	REVISED NOTE FOR ASSISTANT MATERIAL		R.OKITA
		62-A	CHANGED FASTENING TORQUE FOR SPARK PLUG		T.KADOWAKI
		62-C	REMOVED DUE TO INCORPORATION INTO 62-A		T.KADOWAKI
		64	ADDED MATRIX FOR PCV VALVE CAP COLOR		T.TANAKA
		70-C	REVISED DRAWING TO 1.8L DI CP DESIGN		T.GOTO
		78-C	REVISED DRAWING TO 1.8L DI CP DESIGN		
		79-C	REVISED DRAWING TO 1.8L DI CP DESIGN		
		82-C	REVISED DRAWING TO 1.8L DI CP DESIGN		
		83-C	REVISED SHEET AS REMOVAL PROCEDURE		T.GOTO
		84-C	CHANGED SHEET NUMBER		R.OKITA
		84-D	ADDED AND REVISED SHEET TO 1.8L DI CP DESIGN		T.TANAKA
		87-C	REVISED DRAWING TO 1.8L DI CP DESIGN		
		88-C	REVISED DRAWING TO 1.8L DI CP DESIGN		
		96-B	ADDED FASTENING PROCEDURE FOR SINGLE SPINDLE		T.TANAKA
		110	CHANGED SHEET NUMBER		R.OKITA
000630	T	111	ADDED SHEET FOR ENGINE LABEL ON CAM COVER	EN00E11095813000	R.OKITA
000711	U	2	REVISED MATRIX	EN00E11085584000	R.OKITA
		60	CHANGED SHEET NUMBER		N.TANAKA
		60-C	ADDED SHEET FOR DI CAM CAP RTV		N.TANAKA
		62-A	ADDED SPEC FOR 2.3L E/W		T.KADOWAKI
000711	U	98-B	REVISED NOTE	EN00E11085584000	T.KADOWAKI
000908	V	1-E	REVISED REVISION NOTE OF SHEET 37, 38, 39	EN00E11124480001	R.OKITA
		2	ADDED MATRIX FOR SHEET 12-A		R.OKITA
		8	REVISED NOTE		S.HASETO
		12	CHANGED SHEET NUMBER		T.MITSUHARA
		12-A	ADDED SHEET FOR NON VVT BLOCK (2003MY)		T.MITSUHARA
000908	V	26	ADDED NOTE OF FASTENER TIGHTENING PROCEDURE	EN00E11124480001	N.TANAKA
001001	W	2	DELETED I5 ADAPTATION	EN00E11140144000	R.OKITA
		11-D	DELETED I5 SHEET		
		14-D	ADDED SHEET FOR 2.3L E/W INSTEAD OF I5		R.OKITA
		15-A	CORRECTED PARTS NUMBER		S.HASETO
001001	W	15-D	DELETED I5 SHEET	EN00E11140144000	R.OKITA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	W	EN00E11140144000	00-10-01	2001 2.0L-4V NON DI CD132	1J	1K

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
001001	W	17	CORRECTED NOTE FOR BEARING CLEARANCE CALCULATION	EN00E11140144000	S.HASETO
		20	CORRECTED NOTE FOR BEARING CLEARANCE CALCULATION		
		23-A	CORRECTED MAZDA PARTS NUMBER		S.HASETO
		23-D	DELETED I5 SHEET		R.OKITA
		25-E	UPDATED BALANCE SHAFT ASSEMBLY PROCEDURE		S.HASETO
		25-F	UPDATED BALANCE SHAFT ASSEMBLY PROCEDURE		
		25-G	UPDATED BALANCE SHAFT ASSEMBLY PROCEDURE		
		25-H	UPDATED BALANCE SHAFT ASSEMBLY PROCEDURE		S.HASETO
		29-D	DELETED I5 SHEET		R.OKITA
		30-D	DELETED I5 SHEET		
		32-D	DELETED I5 SHEET		R.OKITA
		39	CORRECTED MAZDA PARTS NUMBER		M.NISHIDA
		42-D	DELETED I5 SHEET		R.OKITA
		45-D	DELETED I5 SHEET		
		58-D	DELETED I5 SHEET		
		61-D	DELETED I5 SHEET		
		63-D	DELETED I5 SHEET		
		66-D	DELETED I5 SHEET		
		71-C	DRAWING UPDATE FOR DI DEGAS PIPE SHAPE CHANGE		R.OKITA
		72-C	DRAWING UPDATE FOR DI EGR VALVE STUD		T.TANAKA
		76-C	DRAWING UPDATE FOR DI DEGAS PIPE SHAPE CHANGE		R.OKITA
		76-D	ADDED SHEET FOR 2.3L E/W INSTEAD OF I5		
		81-C	DELETED DUPLICATE SHEET		
		85-D	DELETED I5 SHEET		
		86-D	DELETED I5 SHEET		
		87-D	DELETED I5 SHEET		
		88-D	DELETED I5 SHEET		
		89-D	DELETED I5 SHEET		
		89-G	DELETED I5 SHEET		R.OKITA
		93-B	CORRECTED MAZDA PARTS NUMBER		S.HASETO
		95-D	DELETED I5 SHEET		R.OKITA
		96-B	ADDED COMMENT FOR EXH.MANI GASKET		T.TANAKA
		96-D	DELETED I5 SHEET		R.OKITA
		101-C	DELETED DUPLICATE SHEET		
		102-C	DELETED DUPLICATE SHEET		
001001	W	103-C	DRAWING UPDATE FOR DI DEGAS PIPE SHAPE CHANGE	EN00E11140144000	R.OKITA
001013	X	1K	CORRCTED SHT. NO. ON REV."W" FROM 15-E/F/G/H TO 25-E/F/G/H	EN00E11099311000	T.TANAKA
		2	MODIFIED ADAPTATION MATRIX		
		4	ADDED NOTE FOR ASSISTANT MATERIAL		
		28-C	ADDED SHEET FOR RANGER PILOT BEARING INSTALLATION		T.TANAKA
		76-A	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		R.OKITA
		76-B	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		
		76-C	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		
		76-D	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		R.OKITA
		88-A	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		T.TANAKA
		88-B	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		
		88-C	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		
		95-A	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION		T.TANAKA
001013	X	95-B	MODIFIED NOTE FOR ASSISTANT MATERIAL SPECIFICATION	EN00E11099311000	N.TANAKA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	X	EN00E11099311000	00-10-13	2001 2.0L-4V NON DI CD132	1K	1L

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
001013	X	Other	CHANGED SHEET NUMBER	EN00E11099311000	N.TANAKA
001103	Y	22	ADDED NOTE FOR PREVENTION OF HAMMERED MARKS/FLAWS ON BS GEAR	EN00E11145063001	S.HASETO
		23-A	ADDED NOTE FOR PREVENTION OF HAMMERED MARKS/FLAWS ON BS GEAR		
		25-E	ADDED NOTE FOR PREVENTION OF HAMMERED MARKS/FLAWS ON BS GEAR		
		25-F	ADDED NOTE FOR PREVENTION OF HAMMERED MARKS/FLAWS ON BS GEAR		
		25-G	ADDED NOTE FOR PREVENTION OF HAMMERED MARKS/FLAWS ON BS GEAR		
001103	Y	25-H	ADDED NOTE FOR PREVENTION OF HAMMERED MARKS/FLAWS ON BS GEAR	EN00E11145063001	S.HASETO
001108	Z	44-C	CHANGE THE SEALER MATERIAL AND THE APPLICATION PASS FOR DI REAR CAM CAP	EN00E11072453000	N.TANAKA
001117	AA	2	REVISED ADAPTATION MATRIX FOR ADDITIONAL SHEET	EN00E11087761000	N.TANAKA
		3	REVISED INDEX FOR ADDITIONAL SHEET		N.TANAKA
		5	REMOVED REF DIMENSION OF BARCODE LOCATION		MITSUHARA
		14	REMOVED "REF" FROM W. BYPATSS PIPE ASSEMBLE ANGLE		Y.HAYAMIZU
		16	REMOVED "REF"FROM BEARING BEAM ALIGNMENT DIMENSION AND REVISED "REF" TO "INFORMATIONONLY" REGARDING CRANKSHAFT AXIAL		MITSUHARA
		23A	REMOVED "REF" FROM BEARING BEAM ALIGNMENT DIMENSION AND REVISED NOTE		MITSUHARA
		30-D	ADDED SHEET FOR OIL PAN ASSEMBLY WITH BALANCE SHAFT		N.TANAKA
		44	CHANGED "REF" TO "INFORMATION ONLY" REGARDING CAM SHAFT THRUST CLEARANCE AND REMOVED I5 DESCRIPTION		
		44-C	CHANGED "REF" TO "INFORMATION ONLY" REGARDING CAM SHAFT THRUST CLEARANCE		
		44-D	ADDED SHEET FOR CAM CAP ASSEMBLE PROCEDURE OF DUAL VVT HEAD		
		44-E	ADDED SHEET FOR CAM CAP ASSEMBLE PROCEDURE OF DUAL VVT HEAD		
		44-F	ADDED SHEET FOR CAM CAP ASSEMBLE PROCEDURE OF DI DUAL VVT HEAD		
		50	CHANGED SHEET NUMBER		
		50-A	ADDED SHEET FOR RTV APPLYING PROCEDURE OF DUAL VVT FRONT COVER HALF MOON SEAL		N.TANAKA
		57	REMOVED "REF" FROM TIMING PIN TOOL DIMENSION AND REVISED "REF" TO "INFORMATIONONLY" REGARDING PISTON TOPPING		S.HASETO
		60	CHANGED SHEET NUMBER		N.TANAKA
		60-A	ADDED SHEET OF RTV APPLYING PROCEDURE FOR DUAL VVT		
		61-D	ADDED SHEET FOR INT.VVT CAM COVER AEEMBLE PROCEDURE		N.TANAKA
		61-G	CHANGED SHEET NUMBER		M.NISHIDA
		61-J	ADDED SHEET FOR DUAL VVT CAM COVER AEEMBLE PROCEDURE		N.TANAKA
		70-C	REVISED NOTE		T.GOTO
		79-C	REVISED NOTE		T.GOTO
		89-G	ADDED SHEET FOR DI SOLENOID VALVE ASSEMBLE PROCEDURE		T.KADOWAKI
		90-C	CHANGED SHEET NUMBER		T.KADOWAKI
		90-D	ADDED SHEET FOR INT.MANI BLIND PLUG ASSY PROCEDURE OF S.A. RANGE		N.TANAKA
		91-A	REVISED NOTE		T.KADOWAKI
001117	AA	95-D	ADDED SHEET FOR 2.3L E/W VACUME HOSE ASSEMBLE PROCEDURE	EN00E11087761000	T.TANAKA
001204	AB	2	REVISED ADAPTATION MATRIX FOR ADDITIONAL SHEET	EN00E11136863000	S.HASETO
		16	REVISED NOTE FOR POSITIONING MAIN BEARING		
		23-A	REVISED SHEET NUMBER		
		23-B	ADDED SHEET FOR POSITIONING MAIN BEARING UPPER		
001204	AB	23-C	ADDED SHEET FOR POSITIONING MAIN BEARING LOWER	EN00E11136863000	S.HASETO
001222	AC	93-A	REVISED FILTER CAP TIGHTENING TORQUE	EN00E11174039000	S.HASETO
010129	AD	78-C	REVISED SHEET NUMBER	EN00E11177532000	T.GOTO
		78-D	ADDED SHEET FOR FUEL RAIL ASSYEMBLY		
		78-E	ADDED SHEET FOR FUEL RAIL ASSYEMBLY		
		95-D	REVISED SHEET NUMBER		
		95-E	ADDED SHEET FOR HOSES-VACUUM		
010129	AD	95-F	ADDED SHEET FOR HOSES-VACUUM	EN00E11177532000	T.GOTO

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AE	EN00E11157486001	01-01-31	2001 2.0L-4V NON DI CD132	1L	1M

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
010131	AE	16	REVISE CLEARANCE VALUE	EN00E11157486001	M.SATOH
		17	REVISE CLEARANCE EQUATION		
		20	REVISE CLEARANCE EQUATION		
010131	AE	57	ADD DIMENSION OF TIMING PIN TOOL	EN00E11157486001	M.SATOH
010209	AF	107-B	CHANGE ASSEMBLY POSITIORAL TOLERANCE OF FAN PULLEY	EN00E11151946000	Y.HAYAMIZU
010228	AG	70-C	CHANGED THE LOW PRESSURE PIPE LOCATION AND LENGTH	EN00E11134807003	T.GOTO
010228	AG	79-C	CHANGED THE FUEL HOSE ROUTING AND THE SHAPE OF FUEL HOSE CLIP	EN00E11134807003	T.GOTO
010328	AH	044-F	CHANGED SHEET NUMBER	EN00E11190272000	M.YAMAYA
		044-G	ADDED SHEET FOR SINGLE VVT ENG VAR TM SOL		N.NISHIDA
		044-H	ADDED SHEET FOR DUAL VVT SOL-ENG VER TM SOL		
		046-E	DELETED SHEET FOR VVT/BALANCE SHAFT OIL PUMP CHAIN		
		047-E	CHANGED ASSEMBLY PROCEDURE		
		047-F	ADDED SHEET FOR DUAL VVT ACTUATOR		
		048-E	CORRECTED MAZDA PART NUMBER		
		048-F	ADDED SHEET FOR DUAL VVT TIMING CHAIN AND GUIDE		M.NISHIDA
		058-D	CHANGED SHEET NUMBER		R.OKITA
		058-E	ADDED SHEET FOR CAMSHAFT POSITION SENSOR		N.TABATA
		061-E	DELETED SHEET FOR VVT OCV		M.NISHIDA
		061-F	DELETED SHEET FOR VVT OCV		
		061-G	DELETED SHEET FOR VVT OIL PIPE		M.NISHIDA
		062-A	ADDED SPEC FOR PZEV		N.TABATA
		073-D	DELETED I5 SHEET		
		073-E	ADDED SHEET FOR IGNITION COIL		
		081-C	ADDED SHEET FOR ENGINE WIRE HARNESS ASSEMBLY PROCEDURE		
		091-A	ADDED SPEC FOR 2.3L EW		
		091-B	ADDED SPEC FOR 2.3L NS		
		092-C	CHANGED SHEET NUMBER		
		092-D	ADDED SHEET FOR KNOCK SENSOR ASSEMBLY PROCEDURE		N.TABATA
		093-A	CHANGED MODEL NAME		Y.YAMAMOTO
010328	AH	101-C	ADDED SHEET FOR ENGINE WIRE HARNESS ASSEMBLY PROCEDURE	EN00E11190272000	N.TABATA
010417	AJ	16	APPLIED ON SIDE FIT SURFACE OF THE MAIN BEARING BEAM	EN00E11131462001	Y.INOUE
010417	AJ	23-A	APPLIED ON SIDE FIT SURFACE OF THE MAIN BEARING BEAM	EN00E11131462001	Y.INOUE
010507	AK	48	CHANGED TIGHTENING TORQUE	EN00E11102086000	M.NISHIDA
		48-E	CHANGED TIGHTENING TORQUE		
010507	AK	48-F	CHANGED TIGHTENING TORQUE	EN00E11102086000	M.NISHIDA
010508	AL	30-E	CHANGE POSITION OF ENGINE TYPE AND ENGINE NO. STAMP	EN00E11204632000	Y.INOUE
010528	AM	89-E	CHANGED SOLENOID FIXING BOLT	EN00E11210521001	F.TANAKA
010608	AN	3	CHANGED INDEX SHEET	EN00E11208966001	C.MORISHIGE
		25-F	ADAPTED 19N(THRUST AT B/L MEASUREMENT)		M.SATOH
		28-C	CHANGED SHEET NUMBER		
		28-D	ADDED SHEET FOR PILOT BEARING ASSEMBLY		
		46	ADDED DIAMOND WASHER ASSEMBLY		
		46-A	ADDED SHEET FOR PILOT BEARING ASSEMBLY		
010608	AN	55	CHANGED TIGHTENING TORQUE	EN00E11208966001	M.SATOH
010622	AP	35	ADD SEALANT FOR CORE PLUG AS OPTION	EN00E11189361000	M.YAMAYA
010626	AR	44-C	CHANGED PART NUMBER AND NAME	EN00E11229554000	N.KOSHIMOTO
010626	AR	44-D	CHANGED PART NUMBER AND NAME	EN00E11229554000	N.KOSHIMOTO

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AR	EN00E11229554000	01-06-26	2001 2.0L-4V NON DI CD132	1M	1N

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
010626	AR	44-E	CHANGED PART NUMBER AND NAME	EN00E11229554000	N.KOSHIMOTO
010626	AR	44-F	CHANGED PART NUMBER AND NAME	EN00E11229554000	N.KOSHIMOTO
010626	AR	48-E	CHANGED TIGHTENING TORQUE (CORRECTED ERROR)	EN00E11229554000	N.KOSHIMOTO
010702	AS	13	CHANGED SPECIFICATION FOR AVDEL PLUG TO BLOCK DEPTH	EN00E11200123000	A.MATSUE
010713	AT	70-C	CHANGED SKETCH AND TIGHTENING TORQUE	EN00E11231785007	T.GOTO
		71-C	ADDED HIGH PRESSURE FUEL PIPE FIXING		
		78-C	CHANGED SKETCH AND TIGHTENING TORQUE OF FUEL RAIL AND PLATE		
		79-C	CHANGED SKETCH		
		82-C	CHANGED SKETCH AND HIGH PRESSURE PIPE FIXING		
010713	AT	83-C	CHANGED SKETCH AND NOTE AND PROCEDURE	EN00E11231785007	T.GOTO
010807	AU	6	CHANGED NOTE ("REF ONLY" TO "INFORMATION")	EN00E11212646000	Y.YAMAMOTO
		14	DELETED NOTE "BREAKAWAY TORQUE"		Y.HAYAMIZU
		14-D	DELETED NOTE "BREAKAWAY TORQUE"		Y.HAYAMIZU
		17	CHANGED NOTE ("REF ONLY" TO "INFORMATION")		Y.YAMAMOTO
		20	CHANGED NOTE ("REFFERENCE" TO "INFORMATION")		Y.YAMAMOTO
		40	ADDED NOTE		M.YAMAYA
		44	CHANGED NOTE FOR HIPOID OIL SPEC		
		44-C	CHANGED NOTE FOR HIPOID OIL SPEC		
		44-D	CHANGED NOTE FOR HIPOID OIL SPEC		
		44-E	CHANGED NOTE FOR HIPOID OIL SPEC		
		44-F	CHANGED NOTE FOR HIPOID OIL SPEC		M.YAMAYA
		65-C	CHANGED SHEET NUMBER		N.TABATA
		65-D	ADDED SHEET FOR KNOCK SENCOR ASSEMBLY PROCEDURE		
		92-D	CHANGED SHEET NUMBER		
		92-E	ADDED SHEET FOR KNOCK SENCOR ASSEMBLY PROCEDURE		
		98-B	CHANGED PART NUMBER		N.TABATA
010807	AU	100-H	CHANGED TIGHTENING TORQUE (CORRECTED ERROR)	EN00E11212646000	C.MORISHIGE
010811	AV	78-E	DELETED SHEET	EN00E11252991000	T.GOTO
		78-F	ADDED SHEET FOR FUEL RAIL ASSEMBLY PROCEDURE		
		95-F	DELETED SHEET		
		95-G	ADDED SHEET FOR VACUUM HOSE ASSEMBLY PROCEDURE		
010811	AV	95-H	ADDED SHEET FOR VACUUM HOSE ASSEMBLY PROCEDURE	EN00E11252991000	T.GOTO
010911	AW	3	CHANGED NOTE	EN00E11114191001	C.MORISHIGE
		3A	ADDED INDEX SHEET		C.MORISHIGE
		47	CHANGED PART NUMBER AND NAME		N.KOSHIMOTO
		47-E	CHANGED PART NUMBER AND NAME		
		47-F	CHANGED PART NUMBER AND NAME		
		48	CHANGED PART NUMBER AND NAME		
		48-E	CHANGED PART NUMBER AND NAME		
010911	AW	48-F	CHANGED PART NUMBER AND NAME	EN00E11114191001	N.KOSHIMOTO
010927	AX	46	CHANGED PART NUMBER AND NAME	EN00E11183682001	N.KOSHIMOTO
		46-A	CHANGED PART NUMBER AND NAME		
		48	CHANGED PART NUMBER AND NAME		
		48-E	CHANGED PART NUMBER AND NAME		
010927	AX	48-F	CHANGED PART NUMBER AND NAME	EN00E11183682001	N.KOSHIMOTO
010929	AY	14	CHANGED NOTE	EN00E11255546001	Y.HAYAMIZU
010929	AY	14-A	ADDED INDEX SHEET FOR BYPASS PIPE PRESS-IN ANGLE.	EN00E11255546001	Y.HAYAMIZU

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
011012	AZ	61-B	CORRECTED SPECIFICATION	EN00E11184847002	K.ISHIDA
		61-C	DELETED SHEET		
		61-E	ADDED SHEET FOR PLASTIC CAM COVER		
011012	AZ	104-B	ADDED SHEET FOR PLASTIC CAM COVER	EN00E11184847002	K.ISHIDA
011017	BA	6	ADDED NOTE	EN00E11255548001	Y.YAMAMOTO
		7	ADDED NOTE & CHANGED FROM CONDUCT TO INFORMATON		
		8	CHANGED FROM REFERENCE TO CONDUCT		
011017	BA	10	ADDED NOTE	EN00E11255548001	Y.YAMAMOTO
011026	BB	103-C	ADDED NOTE	EN00E11273745001	Y.HAYAMIZU
		103-D	ADDED SHEET FOR C214		
011026	BB	103-E	ADDED SHEET FOR J56J AND J48C	EN00E11273745001	Y.HAYAMIZU
011030	BC	39	ADDED TOLERABLE LEAKAGE FOR THE ENGINE OF CD132 AND RANGER	EN00E11185527000	M. YAMAYA
011102	BD	12	CORRECTED PART NUMBER	EN00E11271059000	Y.INOUE
		12-A	CORRECTED PART NUMBER		
		27	CHANGED NOTE		
		32	CORRECTED PART NUMBER		
		75	CORRECTED PART NUMBER		Y.INOUE
		78-B	CHANGED NOTE		I.SHIMIZU
		91-B	CHANGED NOTE		I.SHIMIZU
011102	BD	95-F	ADDED SHEET FOR 04MY P150	EN00E11271059000	F.TANAKA
011105	BE	23-A	CHANGE THE "SNUG" TORQUE ALLOWANCE OF THE CRANK SHAFT BOLT.	EN00E11218821000	Y.INOUE
011108	BF	66-A	ADDED NOTICE OF RECYCLE LIFTING EYE ONLY FOR THE FORD VEHICLE	EN00E11157003000	M. YAMAYA
011109	BG	33	CORRECTED DIMENSION	EN00E11282537000	K.ISHIDA
		34	CHANGED SHEET NUMBER		
		34-A	ADDED SHEET		
		49-A	CORRECTED NOTE		
		49-B	CORRECTED NOTE		
		49-E	CORRECTED NOTE		
		50	CORRECTED PART NUMBER		
		50-A	DELETED SHEET		
		61-B	CORRECTED PART NUMBER		
		97-A	CHANGED SHEET NUMBER		
011109	BG	97-B	ADDED SHEET FOR C1 AND 2.3L EW PFI	EN00E11282537000	K.ISHIDA
011112	BH	110	CHANGED SHEET NUMBER	EN00E11266219000	Y.HAYAMIZU
011112	BH	110-A	ADDED SHEET FOR J16 2.3L	EN00E11266219000	Y.INOUE
011113	BJ	3	CHANGED NOTE	EN00E11284707000	Y.HAYAMIZU
		3-A	CHANGED NOTE		Y.HAYAMIZU
		30-E	ADDED SHEET FOR J56A J56F J16 2.3L		K.ISHIDA
011113	BJ	31	CHANGED SHEET NUMBER	EN00E11284707000	Y.INOUE
011114	BK	71-C	CHANGED NOTE	EN00E11281359001	Y.HAYAMIZU
011115	BL	3	CHANGED NOTE	EN00E11271652000	N.TABATA
		3A	CHANGED NOTE		N.TABATA
		62-A	CHANGED NOTE		N.TABATA
		64	CHANGED NOTE		F.TANAKA
		73-A	DELETE THE ASSEMBLING PROCEDURE OF ECT		N.TABATA
		73-C	CHANGED SHEET NUMBER		N.TABATA
011115	BL	73-D	ADDED SHEET FOR SOLENOID VALVE ASSEMBLY PROCEDURE	EN00E11271652000	N.TABATA

RESTRICTIONS	PART NAME/TITLE REVISION

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2001 2.0L-4V NON DI CD132	1P	1R

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ISSUE DATE	ISS REF	SHT No.	REVISION	WERS RELEASE NO	DRAWN
011115	BL	74-C	CHANGED SHEET NUMBER	EN00E11271652000	N.TABATA
		74-D	ADDED SHEET FOR ETC ASSEMBLY PROCEDURE		N.TABATA
		85-D	ADDED SHEET FOR INTKE MANFOLD ASSEMBLY PROCEDURE		F.TANAKA
		89-D	ADDED SHEET FOR IABV BLANKING AND SOLENOID VALVE ASSEMBLY PROCEDURE		F.TANAKA
		89-G	CHANGED SHEET NUMBER		N.TABATA
		89-H	ADDED SHEET FOR IABV ASSEMBLY PROCEDURE		
		91-A	CHANGED NOTE		
		102-C	ADDED SHEET FOR INJECTOR HARNESS ASSEMBLY PROCEDURE		
011115	BL	102-D	ADDED SHEET FOR INJECTOR HARNESS ASSEMBLY PROCEDURE	EN00E11271652000	N.TABATA
011207	BM	61-F	ADDED SHEET FOR CAM CAVER ASSEMBLY PROCEDURE	EN00E11247483004	K.ISHIDA
011224	BN	44-F	DELETED 2.0L DI SHEET	EN00E11293320000	Y.HAYAMIZU
011224	BN	89-G	DELETED 2.0L DI SHEET	EN00E11293320000	Y.HAYAMIZU
020110	BP	92-E	CHANGED SHEET NUMBER	EN00E11290169002	N.TABATA
020110	BP	92-F	ADDED SHEET FOR 1.8L-DISI KNOCK SENSOR ASSEMBLY PROCEDURE	EN00E11290169002	N.TABATA

Sheet adaptation Matrix X : to be adapted

Sheet No.	1.8L / 2.0L non-DI E/W	2.3L non-DI E/W	1.8L/2.0L DI E/W	2.3L N/S	
4	X	X	X	X	
4-A	X	X	X	X	
5	X	X	X	X	
6	X	X	X	X	
7	X	X	X	X	
8	X	X	X	X	
9	X	X	X	X	
10	X	X	X	X	
11	X	X	X	X	
11-D					
12	X		X	X	
12-A		X			
13	X	X	X	X	
14	X		X	X	
14-D		X			
15-A	X	X	X	X	
15-D					
16	X	X	X	X	
17	X	X	X	X	
18	X	X	X	X	
19	X	X	X	X	
20	X	X	X	X	
21-A	X		X		
21-B		X		X	
22	X	X	X	X	
23-A	X	X	X	X	
23-B	X	X	X	X	
23-C	X	X	X	X	
23-D					
24	X	X	X	X	
25-A	X	X	X		
25-B				X	
25-E		X			
25-F		X			
25-G		X			
25-H		X			
26	X	X	X	X	
27	X	X	X	X	
28	X	X	X	X	
28-A	X	X	X	X	
28-B	X	X	X		
28-C				X	
28-D	X	X	X		
29	X	X	X	X	
29-D					
30-A	X	X	X		
30-B				X	
30-D		X	X		
30-E	X	X	X	X	
31					
31-D					
32	X	X	X	X	
32-D					
33	X	X	X	X	
34	X	X	X	X	
35	X	X	X	X	
36	X	X	X	X	
37	X	X	X	X	
38	X	X	X	X	
39	X	X	X	X	
40	X	X	X	X	
41	X	X	X	X	
42	X	X	X	X	
42-D					
43	**X**	X	X	X	
44	X	X		X	
44-C			X		
44-D		X			
44-E		X		X	
44-F			X		
45	X	X	X	X	
45-D					
46	X	X	X	X	

Sheet No.	1.8L / 2.0L non-DI E/W	2.3L non-DI E/W	1.8L/2.0L DI E/W	2.3L N/S	
46-A	X	X	X		
46-E		X			
47	X	X	X	X	
47-E		X			
48	X	X	X	X	
48-E		X			
49-A	X		X		
49-B		X		**X**	
49-E		X			
50	X	X	X		
50-A		X	X		
51	**X**	**X**	**X**	X	
52-A	X	X	X		
52-B				**X**	
52-E	**X**	**X**	**X**		
53-A					
53-B					
54	X	X		X	
55	X	X	X	X	
56-C			X		
57	X	X	X	X	
58	X	X		X	
58-C			X		
58-D					
59	X	X	X	X	
60	X	X	X	X	
60-A		X	X	X	
60-C			X		
61-A	X	X			
61-B				X	
61-C			X		
61-D		X			
61-E		X			
61-F		X			
61-G		X			
61-J		X	X		
62-A	X	X		X	
62-B					
62-C			.		
63-B				X	
63-D					
64	X	X	X	X	
65-A	X	X			
65-B				X	
65-C			X		
66-A	X	X	X		
66-B				X	
66-D					
67-A	X	X			
67-B	X	X		X	
67-D				X	
68	X	X	X	X	
69-C			X		
70-C			X		
71-A	X	X			
71-B				X	
71-C			X		
72-C			X		
73-A	X	X			
73-B				X	
73-C			X		
74-C			X		
75	X	X	X	X	
76-A	X	X			
76-B				X	
76-C			X		
76-D		X			
77	X	X			
78-A	X	X			
78-B				X	
78-C			X		
79-C			X		
80-C			X		

Sheet No.	1.8L / 2.0L non-DI E/W	2.3L non-DI E/W	1.8L/2.0L DI E/W	2.3L N/S	
81-C					
82-C			X		
83-C			X		
84-C			X		
84-D			X		
85-A	X	X			
85-B				X	
85-C			X		
85-D					
86-D					
87-B				X	
87-C			**X**		
87-D					
87-E				X	
87-F				X	
88-A	X	X			
88-B				X	
88-C			X		
88-D					
89-A	X	X			
89-B				X	
89-D					
89-E		X			
89-F				X	
89-G			X		
90-A	X	X			
90-B				X	
90-C			X		
90-D				X	
91-A	X	X			
91-B				X	
91-C			X		
92-A	X	X			
92-B				X	
92-C			X		
93-A	X	X	X		
93-B				X	
94	X	X	X		
95-A	X	X			
95-B				X	
95-D		X			
96-B				X	
96-D					
97-A	X	X	X		
98-A	X	X			
98-B				X	
99	X	X			
99-B				X	
100-C			X		
100-D				X	
100-E				X	
100-F				X	
100-G				X	
100-H				X	
100-J				X	
100-K				X	
100-L				X	
100-M				X	
100-N				X	
101-C					
102-C					
103-C			X		
104-A	X	X	X	X	
104-B					
105	X	X	X	X	
106-A					
107-A	**X**	**X**	**X**		
107-B				X	
108				X	
109				X	
110	X	X	X	X	
111	X	X	X	X	

RESTRICTIONS				PART NAME/TITLE **GENERAL INFORMATION**		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	**AN**	**EN00E11208966001**	**01-06-08**	**2001 2.0L-4V NON DI CD132**	**2**	**3**

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

	PART NAME/TITLE	SHEET NUMBER
A	ABSOLUTE PRESS SENSOR	90A-C
	AIR BYPASS VALVE	89B / 89H
	AIR BYPASS VALVE & SOLENOID VALVE	89A / 89E
	AUDIO GROUND STRAP	87F
B	BACKLASH MEASURING METHOD	25F
	BALANCER AND SELECTED SHIM TO BLOCK	25H
	BALANCER AND SHIM TO BLOCK	25E
	BARCODE	5 / 111
C	CAM SHAFT & CAM CAP	44 / 44C-F
	CAM COVER & GASKET ASSEMBLY	60C / 61A-E / 61J
	CAP-BLIND PLUG	90D
	CHAIN-AUX OIL PUMP/SPROCKET-AUX OIL PUMP DRV	46 / 46A
	CHAIN-TIMING/GUIDE-TIMING CHAIN	48 / 48E-F
	CHT SENSOR	63-B
	CONROD BEARING COLOUR CODING	21A-B
	CONROD BEARING LINERS	19
	CONROD BEARING,CAPS & BOLTS	22
	CONROD WEIGHT TOLERANCE	8
	COOLER ASY-OIL & FASTENER	94
	COVER ASY-CYL FRONT	52A-B
	CRANKCASE VENTILATION	88A-C
	CRANKCASE VENTILATION COVER	64
	CYLINDER HEAD & BOLTS	41
D	DIPSTICK & DIPSTICK TUBE	97A / 97B
	DIS COIL	73A
	DIS COIL & SENSOR-WATER TEMP	73B
	DOWEL ASY-CYLINDER BLOCK	27 / 32
E	EGR BLANKING PLATE	67B / 87E
	EGR OUTLET	87C
	EGR TUBE	77 / 87B
	EGR VALVE	67A / 67D / 72C
	ENGINE NUMBER STAMPING POSITION	31
	ENGINE WIRE HARNESS	80C / 81C / 99 / 100C / 101C / 102C-D
	EXCESS RTV REMOVING	51
	EXHAUST MANIFOLD	96B
F	FLYWHEEL ASY	28
	FILTER ASY-OIL/ADAPTER/OIL PRESSURE SWITCH	93A-B
	FUEL PUMP ASSEMBLY	70C
	FUEL PUMP COVER ASSEMBLY	69C
	FUEL RAIL ASSEMBLY	78A-D / 78F
	FUEL RAIL COVER	84D
	FUEL RETURN HOSE	79C
G	GENERAL INFOMAITION	4 / 4A
	GASKET-CYLINDER HEAD	34
H	HIGH PRESSURE FUEL PIPE	82C
	HIGH PRESSURE FUEL PIPE/MARKET SERVISE	83C
	HOSE ASSY E/G/R COOL OUTLET	103C-E
	HOSE&CLAMP ASSY-WATER BYPASS	76A-D
	HOSE-EVAP	108
	HOSES-VACUUM	95A-B / 95D-H
I	IABV BLANKING PLATE AND SOLENOID VALVE	89-D
	IDLER ASY-ACC DR BELT	52E
	IGNITION COIL	73C / 73E
	INSTALLATION DUAL MASS FLYWHEEL	28B / 110
	INSTALLATION FLEXPLATE(AUTO)	28A
	INTAKE & EXHAUST VALVES	38
	INTAKE MANIFOLD	85A-D
L	LIFTING EYE FRONT & REAR	66A-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

	PART NAME/TITLE	SHEET NUMBER
M	MAIN BEARING & THRUST LINERS	15A
	MAIN BEARING CLEARANCES	17
	MAIN BEARING COLOUR CODING	18
	MAIN BEARING LADDER BEAM & BOLTS	23A
	MAIN BEARING UPPER	23B
	MAIN BEARING LOWER	23C
O	OIL FILLER CAP	104A-B
	OIL PAN & OIL FILL QUANTITIES	30A-D / 30E
P	PILOT BEARING	28C / 28D
	PIPE CONNECTOR-BYPASS	14 / 14A / 14D
	PISTON & CONROD ASSEMBLY	10
	PISTON AND CONROD ASY	9
	PISTON GRADE CHART	6
	PISTON RING	7
	PLUG-AVDEL	36
	PLUG-CYLINDER HEAD	35
	PLATE END	110A
	PLUG-OIL GALLERY	12 / 12A / 13 / 105
	PLUG-TIMING PIN HOLE	75
	PROCEDURE-CAMCAP BOLT	45
	PROCEDURE-CONROD BEARING LINER	20
	PROCEDURE-CYLINDER HEAD BOLTS	42
	PROCEDURE-MAIN BEARING LINER	16
	PULLEY / DAMPER-CRANKSHAFT	55
	PUMP ASY-OIL & GASKET-OIL PUMP TO BLOCK	24
R	REPLACEMENT OF SHIM SELECTION	25G
	REAR OIL SEAL-CRANKSHAFT	26
	RTV SEALER-CAM COVER	60 / 60A
	RTV SEALER-CYL HEAD GASKET	33 / 34A
	RTV SEALER-FRONT COVER	49A / 49B / 49E
	RTV SEALER-OIL PAN	29
S	SCREEN AND COVER ASY-OIL PUMP	25A / 25B
	SENSOR ECT	74C-D
	SENSOR-CAM ANGLE	58C
	SENSOR-CAMSHAFT POSITION	58 / 58E
	SENSOR-CRANKSHAFT POSITION	54 / 56C
	SENSOR-KNOCK	65A-C / 92A-E
	SOL-ENG VAR TM	44-G / 44-H
	SOLENOID VALVE	73D / 89F / 89G
	SPARK PLUG	62-A
	SPARK PLUG LEADS	98A / 98B
	SPROCKET-CAMSHAFT	47 / 47E / 47F
	SPROCKET-CRANKSHAFT & TIMING PLATE	57
	STUD-ENGINE MOUNT	50
	STUDS-EXHAUST MANIFOLD	40
	SUPT-INTK MANF	84C
T	THERMOSTAT	68
	THROTTLE BODY	91A-C
V	VACUUM HARNESS	109
	VALVE ASY-ENG PISTON OIL COOL	11
	VALVE LIFTERS	43
	VALVE SPRINGS & RETAINERS	39
	VALVE STEM OIL SEALS	37
W	WATER PUMP & GASKET	59
	WATER OUTLET CONNECTOR & GASKET	71A-C
	WATER PUMP PULLEY	107A
	WATER PUMP PULLEY & FAN PULLEY	107B
	WIRING ASY	99B / 100D-H / 100J-N

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

HOT TEST SPECIFICATION	**ALL ENGINES TO BE HOT TESTED TO SPECIFICATION S88WF-6L084-AA**
OIL LEAK TEST	**THERE SHALL BE NO VISIBLE OIL LEAKS UNDER STATIC AND OPERATING CONDITIONS.**
TORQUE DEFINITION	**ASSEMBLY TORQUE - THE TORQUE IMPARTED BY A TOOL DURING ASSEMBLY AND MEASURED AT TOOL STALL POINT.** **STABILIZED TORQUE - WILL BE CHECKED AFTER HOT TEST AT THE FIRST ROTARY MOVEMENT OF THE FASTENER IN THE DIRECTION TO INCREASE ITS CLAMPING LOAD.**
TORQUE CHECK	**THE SPECIFIED STABILIZED TORQUE MUST BE ACHIEVED AT THE BUY-OFF STAGE AND MAINTAINED WITHIN THE RANGE SPECIFIED ON ENGINE TEARDOWN**
QUALITY CONTROL	**A PERCENTAGE OF ENGINE MUST BE CHECKED AFTER HOT TEST FOR LEAKAGE AND ASSEMBLY TORQUE.**
TORQUE TO TURN CRANKSHAFT	**AT-6011-(CYLINDER ASSEMBLY) STAGE OF ASSEMBLY, TORQUE MUST NOT EXCEED TBE…Nm. REF ONLY.** **AT-6011-(CYLINDER ASSEMBLY) STAGE OF ASSEMBLY, BUT WITH CYLINDER HEAD FITTED LESS SPARK PLUGS AND CYLINDER HEAD BOLTS TIGHTENED TO SPECIFICATION, TORQUE TO ROTATE CRANKSHAFT MUST NOT EXCEED TBE…Nm. REF ONLY** **CRANKSHAFT TO BE ROTATED AT LEAST ONE COMPLETE REVOLUTION TO OBTAIN MAXIMUM READING.**
RE-USE OF FASTENERS	**FASTENERS WHICH CAN BE RE-USED MUST BE BROUGHT BACK TO ORIGINAL FINISH SPECIFICATION BEFORE RE-ASSEMBLY OR REPLACED BY UNUSED FASTENERS. i.e. LUBRICATED FINISHES MUST BE RE-LUBRICATED AND DRY FINISHES DEGREASED.** **FASTENERS WHICH HAVE STABILIZED AT A HIGHER TORQUE THAN THE MAXIMUM SPECIFIED MUST BE REPLACED,** **ASSOCIATED COMPONENTS MUST BE CHECKED FOR POSSIBLE DAMAGE AND IF NECESSARY BE REPAIRED OR REPLACED BEFORE RE-ASSEMBLY.** **BOLTS WHICH WERE PREPARED AND USED FOR THE CHECK OF ELONGATION, (CENTERING MARKS ON TOP AND BOTTOM SIDE) CAN BE REUSED, IF RE-USAGE OF THE BOLT IS GENERALLY PERMITTED.**
FOREIGN MATTER SPECIFICATION	**FOR THE ACCEPTABLE MAXIMUM AMOUNT OF FOREIGN MATTER REFER TO ENGINEERING SPECIFICATION S72HM-6B616-AA.**
FACTORY FILL OIL SPEC	**WSS-M2C914-A**
HYPOID OIL SPEC	**SQ-M2C9003-AA**
(REF) Dimension	**MANUFACTURING DEPT. SHALL DETERMINE INSPECTION PERIOD AFTER CHECKING PROCESS CAPABILITY.**

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ELECTRICAL CONNECTION **ALL ELECTRICAL CONNECTIONS MUST BE POSITIVELY SECURED,**

[TO ENSURE GOOD CONTACT] BEFORE ENGINE SHIPMENT.

Characteristic ▽ **Critical Characteristics (CC) rank is defined in Ford FAO Product Engineering Procedure FAP03-111.**

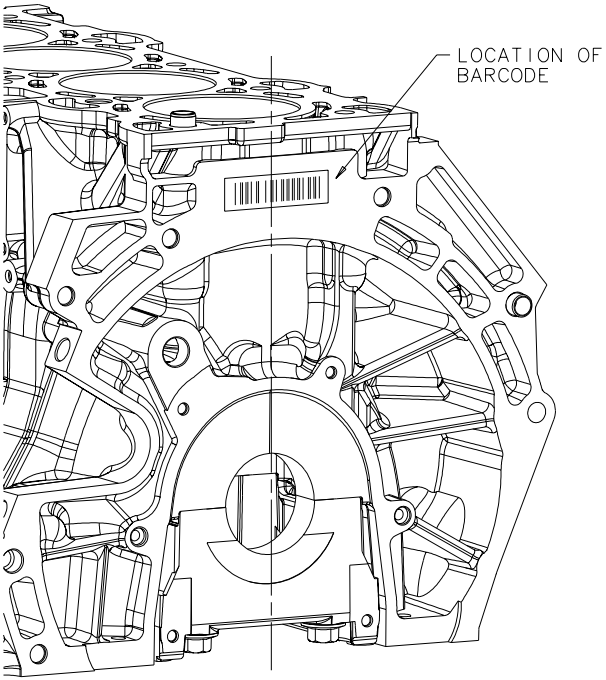
▽A **: A rank is defined in the azda EngineeringStandards in MES-K01-002**

▽AR **: AR rank is defined in the Mazda Engineering Standards in MES-K01-002**

To meet to one of them in the case of ▽ ▽A **parallel marking.**

Assistant material **If another material, which is not shown in each sheet, is used, negotiation with Mazda design engineering and approval from them is required.**

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

INFORMATION

UNIT : mm

	MARK	CYLINDER BORE DIA.	BARE PISTON STANDARD DIA.	CLEARANCE
2.0L / 2.3L	1	ø87.5 +0.01 MAX. 0 MIN	ø87.465 +0.01 MAX. 0 MIN	0.025 ~ 0.045
	2	ø87.5 +0.02 MAX. +0.01 MORE THAN	ø87.475 +0.01 MAX. 0 MORE THAN	0.025 ~ 0.045
	3	ø87.5 +0.03 MAX. +0.02 MORE THAN	ø87.485 +0.01 MAX. 0 MORE THAN	0.025 ~ 0.045

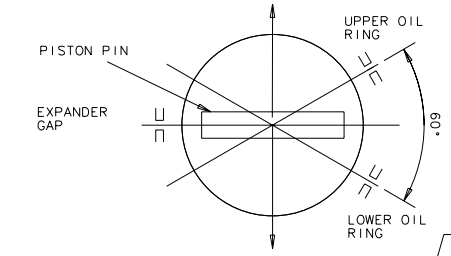
1.8L	1	ø83 +0.01 MAX. 0 MIN	ø82.965 +0.01 MAX. 0 MIN	0.025 ~ 0.045
	2	ø83 +0.02 MAX. +0.01 MORE THAN	ø82.975 +0.01 MAX. 0 MIN	0.025 ~ 0.045
	3	ø83 +0.03 MAX. +0.02 MORE THAN	ø82.985 +0.01 MAX. 0 MIN	0.025 ~ 0.045

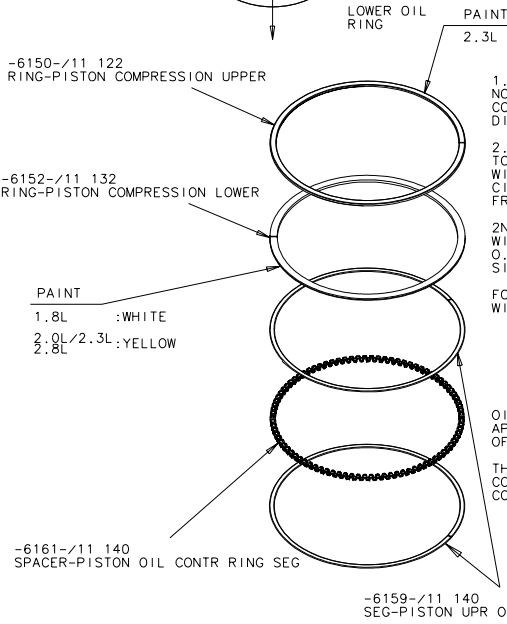
PISTON ADD SKIRT COATING

(THICKNESS 0.008 - 0.016 1.8L/2.0L/2.3L EW
0.008 - 0.020 2.3L NS)

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

INFORMATION
NOTE:PISTON ARE RECEIVED WITH PISTON RINGS PRE-ASSEMBLED.





1.8L/2.0L/2.3L NS;
NON-IDENTIFICATION MARK AT TOP COMPRESSION RING DON'T NEED TO DISCRIMINATE THE UP-SIDE DOWN.

2.3L EW:
TOP COMPRESSION RING TO BE FITTED WITH THE PINK PAINT ON O.D CIRCUMFERENCE PAINTED ON RIGHT SIDE FROM GAP.

2ND COMPRESSION RING TO BE FITTED WITH THE WHITE OR YELLOW PAINT ON O.D CIRCUMFERENCE PAINTED ON RIGHT SIDE FROM GAP

FOR REFERENCE INSTALL THE 2ND RING WITH THE UNDERCUT SIDE DOWNWARD.



OIL RING RAIL GAPS TO BE ASSEMBLY 60° APART FROM EACH OTHER AND A MINIMUM OF 90° FROM THE EXPANDER GAP.

THE POSITION OF UPPER AND LOWER COMPRESSION RING GAPS ARE NOT CONTROLED FOR INSTALLATIO

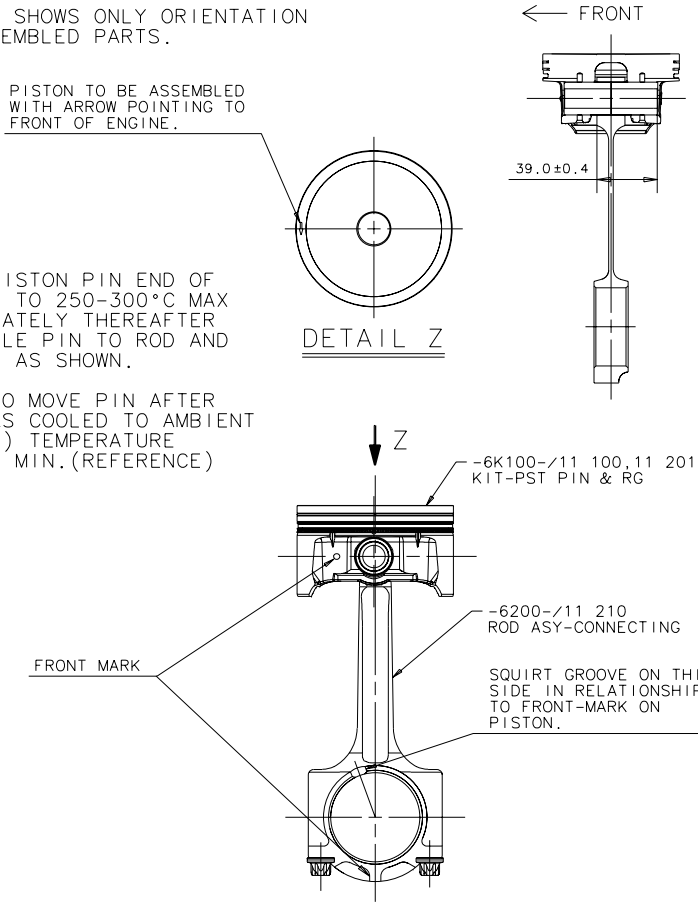
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

	WEIGHT TOLERANCE OF ONE SET
SMALL END	2.0g MAX
BIG END	1.5g MAX

CONNECTING RODS TO BE FITTED TO PISTONS IN SETS OF ONE WEIGHT GRADE.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

SKETCH SHOWS ONLY ORIENTATION OF ASSEMBLED PARTS.

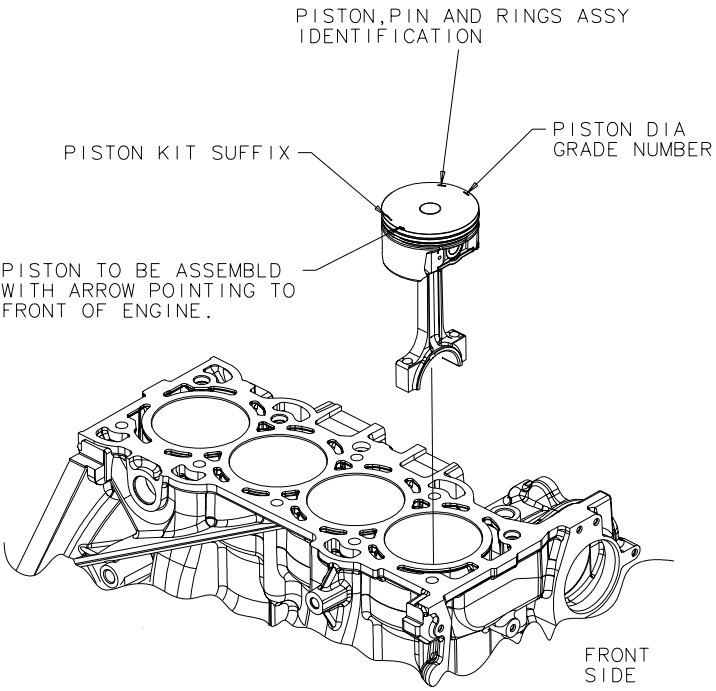


HEAT PISTON PIN END OF CONROD TO 250-300°C MAX IMMEDIATELY THEREAFTER ASSEMBLE PIN TO ROD AND PISTON AS SHOWN.

LOAD TO MOVE PIN AFTER ASY HAS COOLED TO AMBIENT (PLANT) TEMPERATURE 3600 N MIN.(REFERENCE)

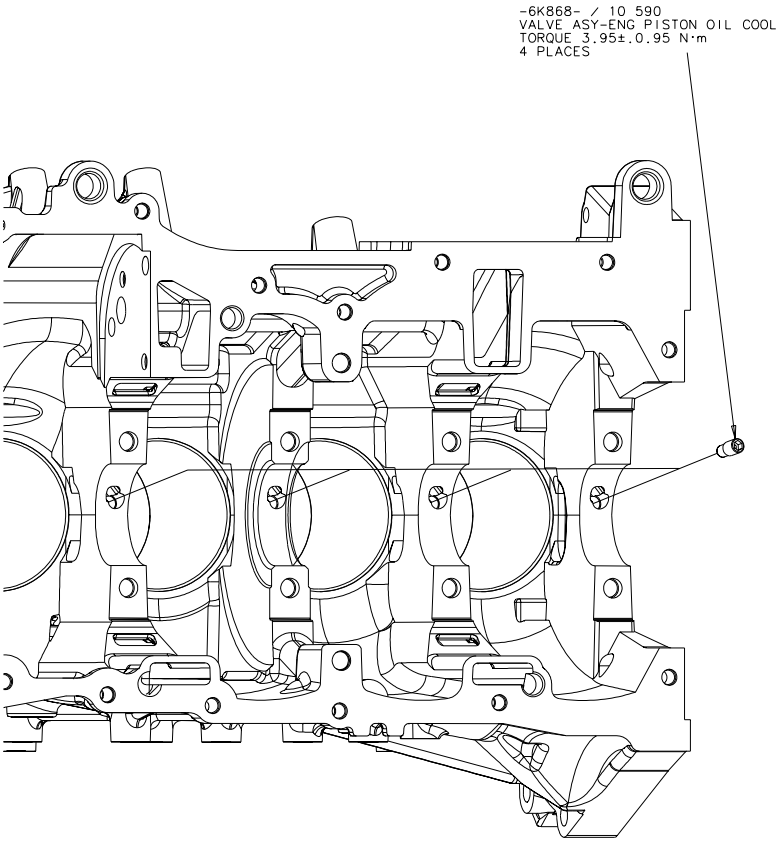
RESTRICTIONS				PART NAME/TITLE: PISTON AND CONROD ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00 E 11069681 001	00-04-20	2001 2.0L-4V NON DI CD132	9	10

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



CYLINDER BORE TO BE LUBRICATED USING FACTORY FILL ENGINE OIL PRIOR TO ASSEMBLING PISTON TO CYLINDER.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

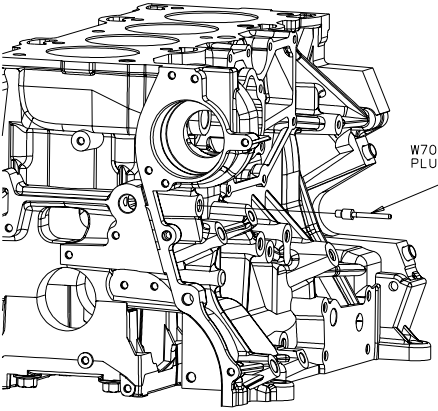


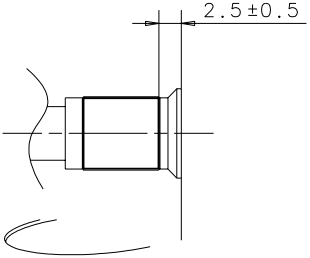
RESTRICTIONS				PART NAME/TITLE **VALVE ASY-ENG PISTON OIL COOL**		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00 E 11007392 000	99-09-06	2001 2.0L-4V NON DI CD132	11	11-D

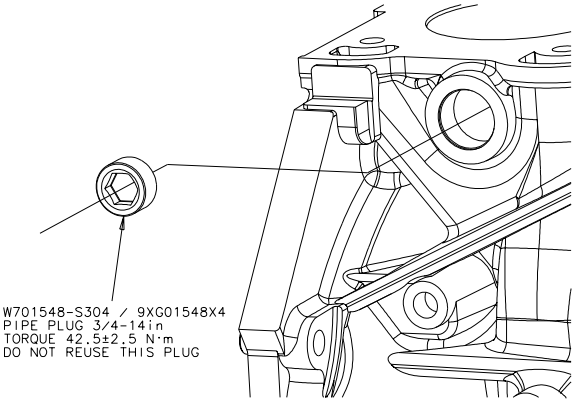
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

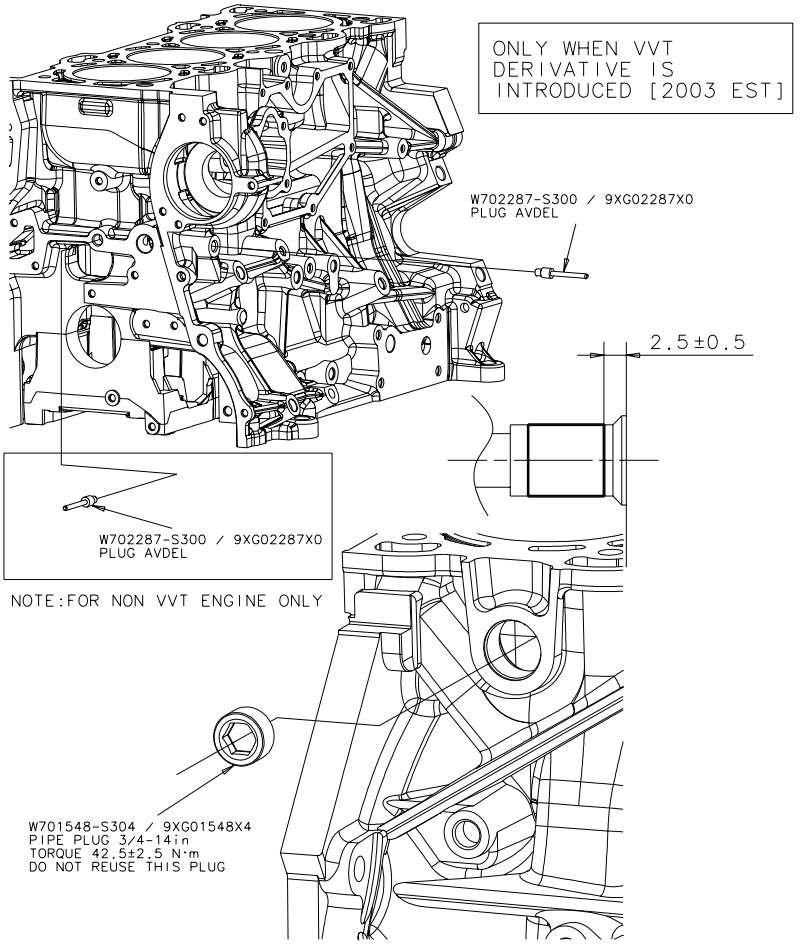






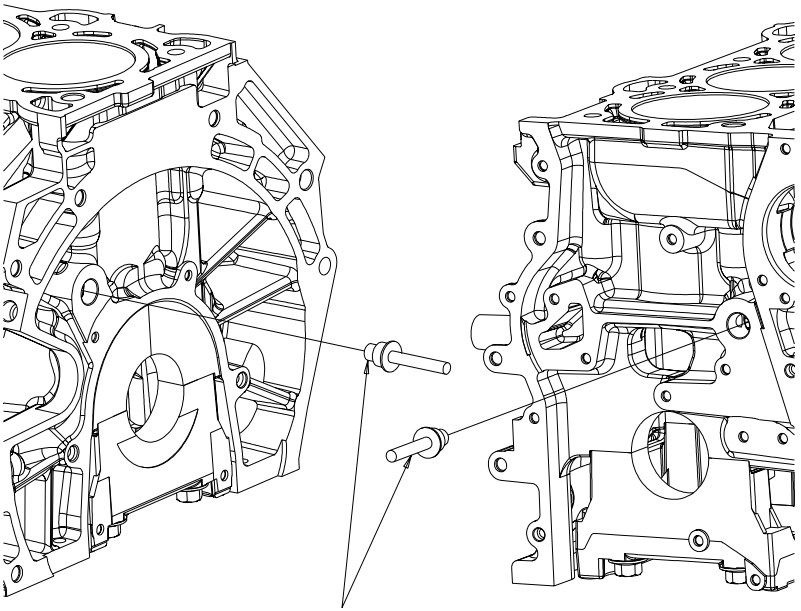
RESTRICTIONS				PART NAME/TITLE **PLUG-OIL GALLERY**		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BD	EN00 E 11271059 000	01-11-02	2001 2.0L-4V NON DI CD132	12	12-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

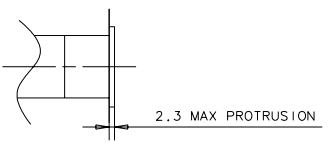


RESTRICTIONS				PART NAME/TITLE PLUG-OIL GALLERY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BD	EN00 E 11271059 000	01-11-02	2001 2.0L-4V NON DI CD132	12-A	13

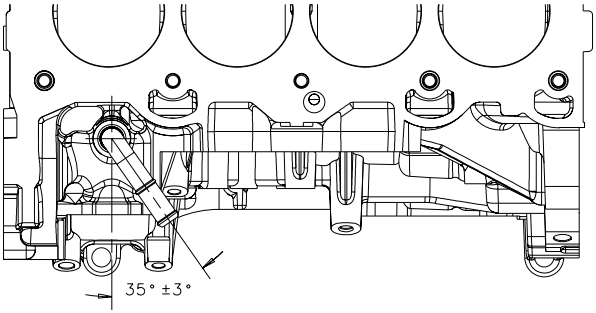
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

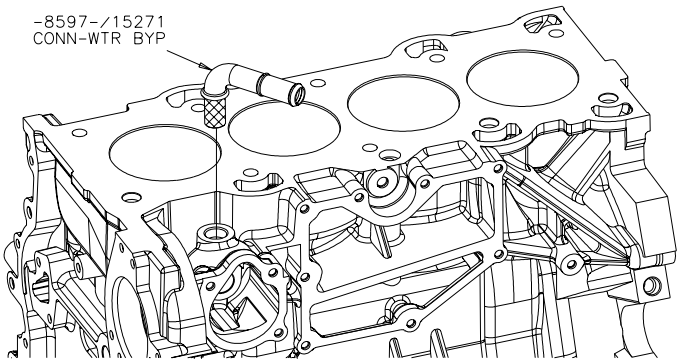


W704456-S1300 / 9XG04456X0
PLUG AVDEL
2 PLACES



ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

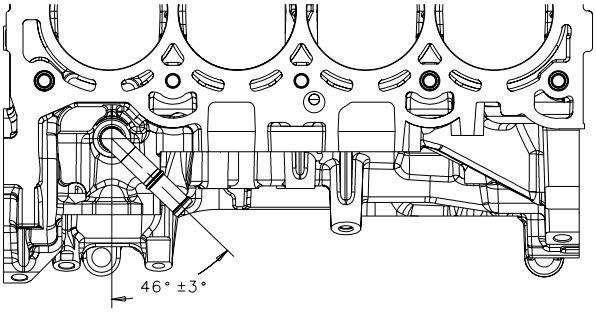


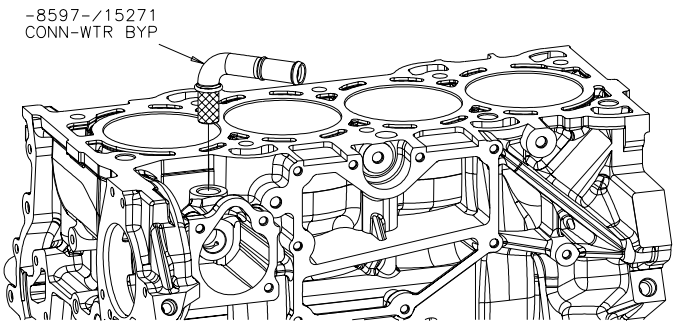


NOTES
1. PRESS IN PIPE TO BLOCK FULLY UNTIL IT MEETS THE PIPE COLLAR.
2. USE THE COLLAR TO PRESS IN THE PIPE. NOT THE PIPE ITSELF.
3. SEALANT[WSK-M2G349-A7(LOCTITE 243) OR WSS-M2G349-A13(LOCTITE 962T) OR "THREE BOND 1386D"] TO BE APPLIED TO THE PIPE IN THE AREA HATCHD.
4. PARTS THAT HAVE BEEN DAMAGED OR HAVE SCRATCHES ON SEALING AREAS MUST NO BE ASSEMBLED.
~~5. (REF)BREAKAWAY TORQUE AFTER ASSEMBLY SHOULD BE GREATER THAN 2 N.m AT ROOM TEMPERATURE.~~

RESTRICTIONS				PART NAME/TITLE: PIPE CONNECTOR-BYPASS	
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET
C1S7G-543-AC	AY	EN00 E 11255546 001	01-09-29	2001 2.0L-4V NON DI CD132	14 14-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

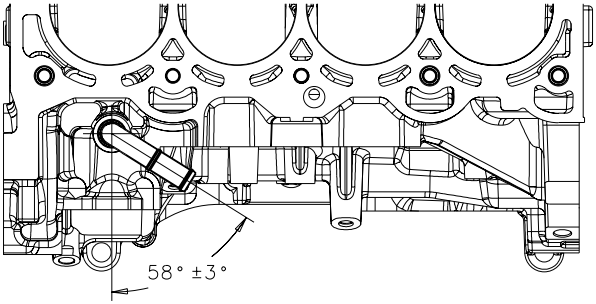


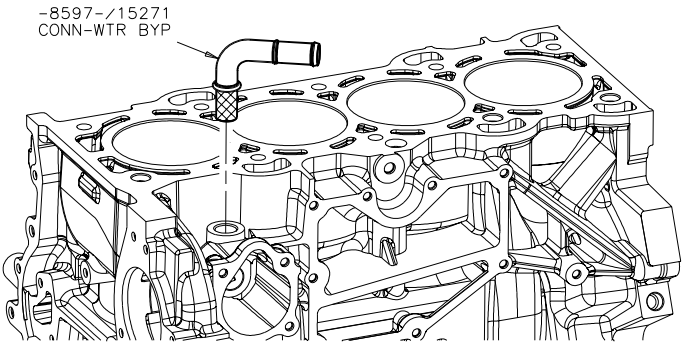


NOTES
1. PRESS IN PIPE TO BLOCK FULLY UNTIL IT MEETS THE PIPE COLLAR.
2. USE THE COLLAR TO PRESS IN THE PIPE. NOT THE PIPE ITSELF.
3. SEALANT[WSK-M2G349-A7(LOCTITE 243) OR WSS-M2G349-A13(LOCTITE 962T) OR "THREE BOND 1386D"] TO BE APPLIED TO THE PIPE IN THE AREA HATCHD.
4. PARTS THAT HAVE BEEN DAMAGED OR HAVE SCRATCHES ON SEALING AREAS MUST NO BE ASSEMBLED.
~~5. (REF)BREAKAWAY TORQUE AFTER ASSEMBLY SHOULD BE GREATER THAN 2 N·m AT ROOM TEMPERATURE.~~

RESTRICTIONS				PART NAME/TITLE: PIPE CONNECTOR-BYPASS	
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET
C1S7G-543-AC	AY	EN00 E 11255546 001	01-09-29	2003 1.8/2.0L C1,2004 RANGER	14-A 14-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

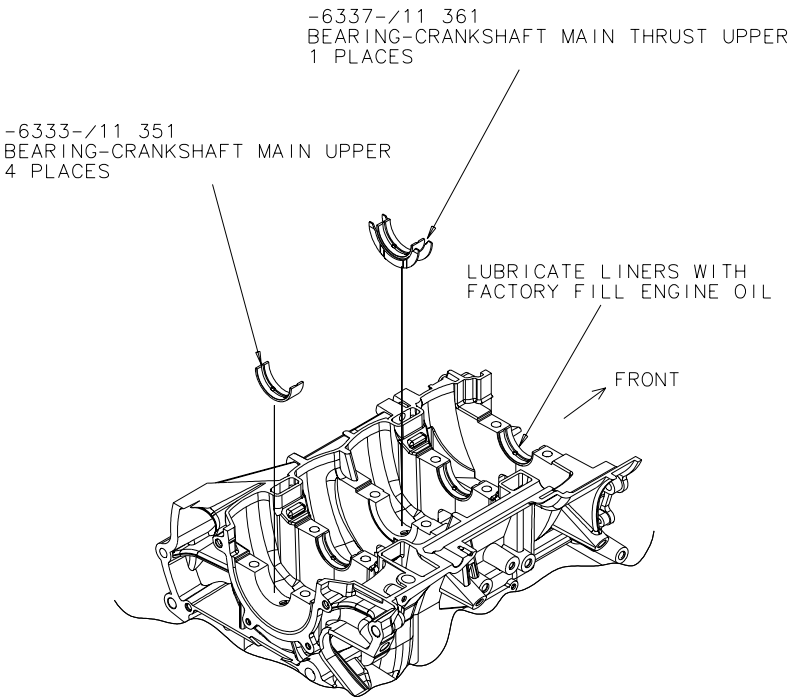




NOTES
1. PRESS IN PIPE TO BLOCK FULLY UNTIL IT MEETS THE PIPE COLLAR.
2. USE THE COLLAR TO PRESS IN THE PIPE. NOT THE PIPE ITSELF.
3. SEALANT[WSK-M2G349-A7(LOCTITE 243) OR WSS-M2G349-A13(LOCTITE 962T) OR "THREE BOND 1386D"] TO BE APPLIED TO THE PIPE IN THE AREA HATCHD.
4. PARTS THAT HAVE BEEN DAMAGED OR HAVE SCRATCHES ON SEALING AREAS MUST NO BE ASSEMBLED.
~~5. (REF)BREAKAWAY TORQUE AFTER ASSEMBLY SHOULD BE GREATER THAN 2 N.m AT ROOM TEMPERATURE.~~

RESTRICTIONS				PART NAME/TITLE PIPE CONNECTOR-BYPASS	
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET
C1S7G-543-AC	AU	EN00E11212646000	01-08-07	2003 2.3L-4V NON-DI	14-D 15-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTE:FOR MAIN BEARING SELECTION AND ASSEMBLY PROCEDURE
SEE SHEET:16 & 17

RESTRICTIONS			PART NAME/TITLE: MAIN BEARING & THRUST LINERS			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	W	EN00 E 11140144 000	00-10-01	2001 2.0L-4V NON DI CD132	15-A	15-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

SELECT UPPER LINERS FOR MAIN BEARING HOUSINGS AND ASSEMBLE, PRESSING LINERS TO DEPTH,POSITIONING LINERS IN RESPECTIVE CYLINDER BLOCK REAR MACHINING FACE. (SEE SHEET 23-B)

SELECT LOWER LINERS FOR MAIN BEARING BEAM AND ASSEMBLE TO BEAM, PRESSING LINERS TO DEPTH,POSITIONING LINERS IN RESPECTIVE BEARING BEAM REAR MACHINING FACE. (SEE SHEET 23-C)

PUT ON THRUST BEARING FOR MAIN BEARING HOUSING.

LUBRICATE BEARINGS IN CYLINDER BLOCK WITH RELEASED FACTORY FILL ENGINE OIL.

INSTALL CRANKSHAFT INTO CYLINDER BLOCK.

LUBRICATE JOURNALS ON CRANKSHAFT WITH RELEASED FACTORY FILL ENGINE OIL.

REFIT MAIN BEARING BEAM TO CYLINDER BLOCK ENSURING THAT THE BEARING BEAM IS IN THE CORRECT ORIENTATION.

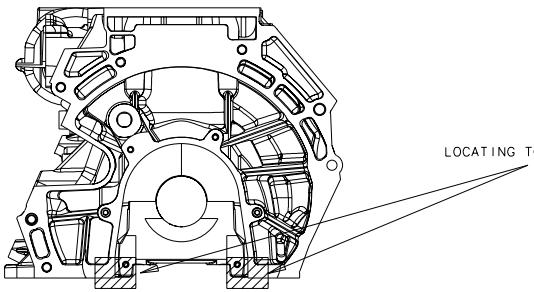
OIL "MOBIL 1409" TO BE APPLIED ON SIDE FIT SURFACE OF THE MAIN BEARING BEAM WHEN THE MAIN BEARING BEAM IS ASSEMBLED.

RUN DOWN TO TORQUE THE 10 MAIN BEARING BOLTS WHILE MAINTAINING AN AXIAL FORCE OF 500N MAX ON BEARING BEAM TOWARDS THE REAR OF THE ENGINE WITH BEARING BEAM LOCATING TOOL. (SEE SHEET 23-A)

QC CHECK : (ONCE PER WEEK).

AXIAL CLEARANCE OF CRANKSHAFT TO BE 0.335±0.115mm.(INFORMATION)

IN CASE OF REUSE THE BEARINGS,BEARING POSITION AND DIRECTION MUST BE SAME AS BEFORE REMOVAL.PART NUMBER MARKING SHOWS BEARING DIRECTION.



ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

MAIN BEARING LINERS ARE GRADED AND ARE TO BE SELECTED TO GIVE A TOTAL CLEARANCE OF 0.019mm TO 0.035mm. CLEARANCE IS CALCULATED AS :
(MAIN BEARING BORE DIA + HOUSING SWELL)
- (UPPER LINER THICKNESS + LOWER LINER THICKNESS + JOURNAL DIAMETER)
BEARING SHELL THICKNESS) - (JOURNAL DIAMETER).

HOUSING SWELL IS DETERMINED TO BE : (INFORMATION)

HOUSING DIAMETER (mm)	SWELL (μm)
X =< 57.018	21 - 28
57.019 >=< 57.021	20 - 27
57.022 >=< 57.025	19 - 26
57.026 >=< 57.028	18 - 25
57.029 >=< 57.032	17 - 25
57.033 >=< 57.036	16 - 23
57.037 >=< 57.039	15 - 22
57.040 <	14 - 21

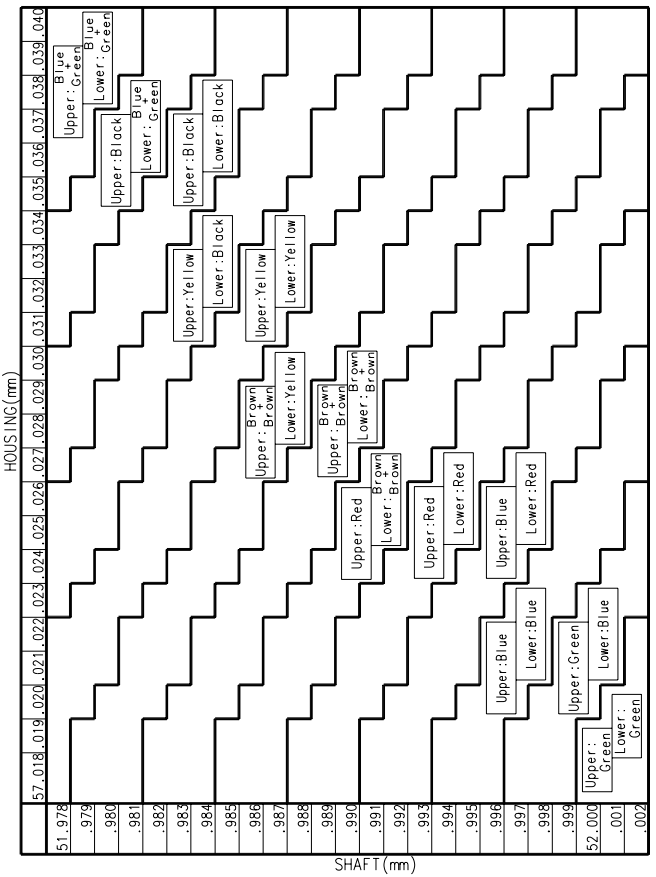
EACH BEARING BORE IN THE CYLINDER BLOCK TO BE MEASURED IN THE MIDDLE OF THE BEARING BORE ON AXIS PARALLEL TO THE TOP DEAD CENTRE POSITION.

EACH CRANKSHAFT MAIN BEARING JOURNAL TO BE MEASURED IN THE CENTRE OF THE JOURNAL ON AN AXIS PARALLEL TO THE TOP DEAD CENTRE POSITION.

LINER THICKNESS TO BE SELECTED FROM THE GRADING TABLE.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

SELECTION OF MAIN BEARING LINERS (NORMALIZED AT 20 deg C)
FOR STANDARD CRANKSHAFTS



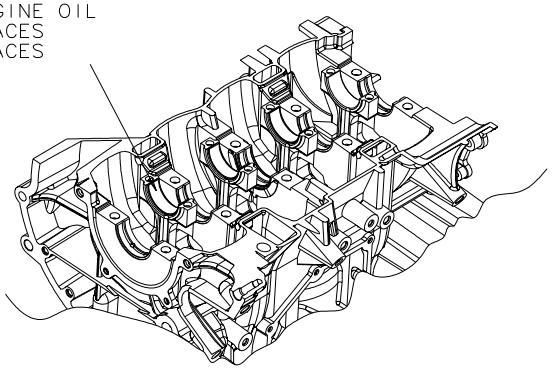
RESTRICTIONS				PART NAME/TITLE: MAIN BEARING COLOUR CODING			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	H	ENOO E 11007392 000	99-09-06	2001 2.0L-4V NON DI CD132	18	19	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

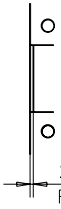
-6211-/11 225
BEARING-CONNECTING ROD
14:4 PLACES
15:5 PLACES



LUBRICATE WITH FACTORY
FILL ENGINE OIL
14:4 PLACES
15:5 PLACES



TOLERANCE OF POSITION
BETWEEN LINER AND ROD.
(ALIGNMENT)



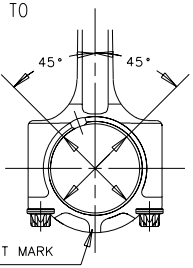
2.5±0.2 (REF)
FROM THE SAME FACE
OF ROD AND CAP.

RESTRICTIONS				PART NAME/TITLE CONROD BEARING LINERS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00 E 11007392 000	99-09-06	2001 2.0L-4V NON DI CD132	19	20

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

BEARING CLEARANCES

CONNECTING ROD/CRANKPIN LINERS ARE GRADED AND ARE TO BE SELECTED TO GIVE A TOTAL CLEARANCE OF 0.026mm TO 0.052mm.
CLEARANCE IS CALCULATED AS:(CONROD BIG END DIA + HOUSING SWELL) - (UPPER LINER THICKNESS + LOWER LINER THICKNESS + PIN DIAMETER)



EACH CONROD BIG END BORE TO BE MEASURED IN THE CENTRE OF THE JOURNAL ON 45° CLOCKWISE OR ANTI-CLOCKWISE FROM THE TOP DEAD CENTRE POSITION.(SEE SKETCH)

EACH CRANKSHAFT PIN BEARING JOURNAL TO BE MEASURED IN CENTRE OF THE JOURNAL ON AN AXIS PARALLEL TO THE TOP DEAD CENTRE POSITION.

LINER THICKNESS TO BE SELECTED FROM THE GRADING TABLE.

ASSEMBLY PROCEDURE
PRODUCTION PROCESS

1.REMOVE CAPS FROM CONNECTING RODS

2.SELECT LINERS AND ASSEMBLE,PRESSING LINERS TO DEPTH,SEE NOTE ON SHEET 19
LINERS IN RESPECTIVE HOUSINGS.

3.LUBRICATE UPPER BEARINGS IN CONNECTING RODS WITH RELEASED FACTORY FILL ENGINE OIL.

4.LUBRICATE JOURNALS ON CRANKSHAFT WITH RELEASED FACTORY FILL ENGINE OIL.

5.FIT CAPS TO CONNECTING RODS ENSURING THAT THE CAPS ARE FITTED TO CORRECTLY MATCH THE ROD JOINT.

6.ENGAGE 8(I4),10(I5) BOLTS IN THREAD.

7.OIL UNDERNEATH BOLT HEAD.(FACTORY FILL ENGINE OIL)

8.TIGHTEN BOLTS TO A SNUG TORQUE 29±3N·m.

9.TIGHTEN BOLTS BY 90°±10°.

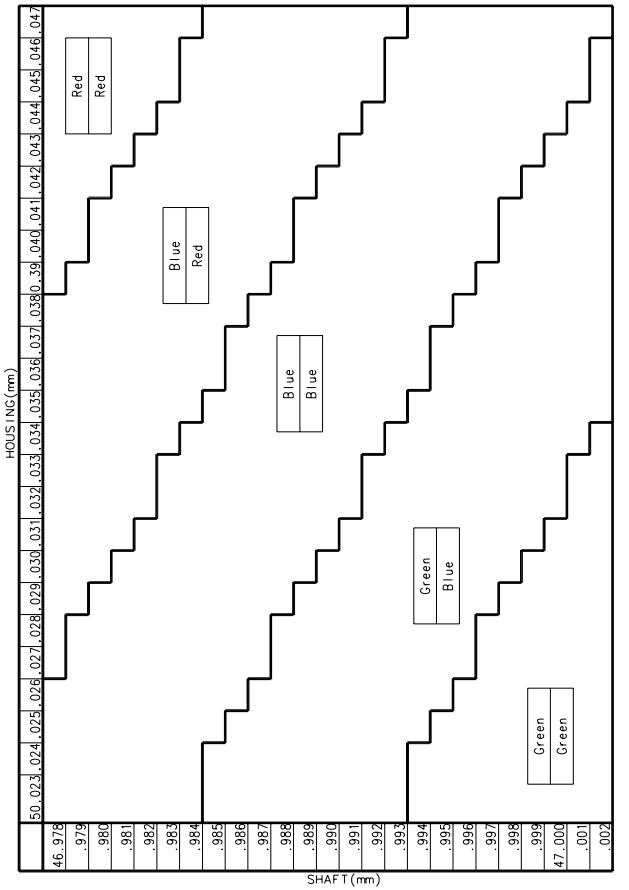
10.DURING THE ABOVE TIGHTENING PROCEDURE,THE TWO BOLTS IN EACH CONNECTING ROD ARE TO BE RUN DOWN SIMULTANEOUSLY.

11.CONROD AXIAL CLEARANCE OF 0.14mm TO 0.36mm.(INFORMATION)

12.IN CASE OF REUSE THE BEARINGS AT SERVICE,BEARING POSITION AND DIRECTION MUST BE SAME AS BEFORE REMOVAL.PART NUMBER MARKING SHOWS BEARING DIRECTION.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

SELECTION OF CONROD BEARING LINERS (NORMALIZED AT 20 deg C)
FOR STANDARD CRANKSHAFTS (1.8L & 2.0L)

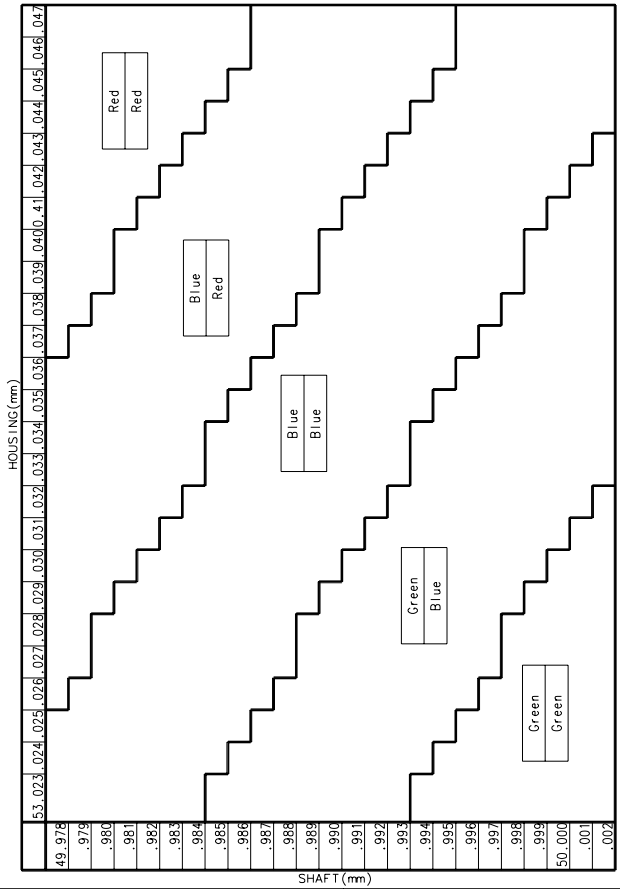


THE POSITION (UPPER OR LOWER) OF CONROD BEARINGS DO NOT CONTROL FOR INSTALLATION.

RESTRICTIONS				PART NAME/TITLE: CONROD BEARING COLOUR CODING			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	H	EN00 E 11007392 000	99-09-06	2001 2.0L-4V NON DI CD132	21-A	21-B	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

SELECTION OF CONROD BEARING LINERS (NORMALIZED AT 20 deg C)
FOR STANDARD CRANKSHAFTS (2.3L)



THE POSITION (UPPER OR LOWER) OF CONROD BEARINGS DO NOT CONTROL FOR INSTALLATION.

RESTRICTIONS				PART NAME/TITLE: CONROD BEARING COLOUR CODING		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00 E 11007392 000	99-09-06	2003 2.8L-4V NON DI RANGER	21-B	22

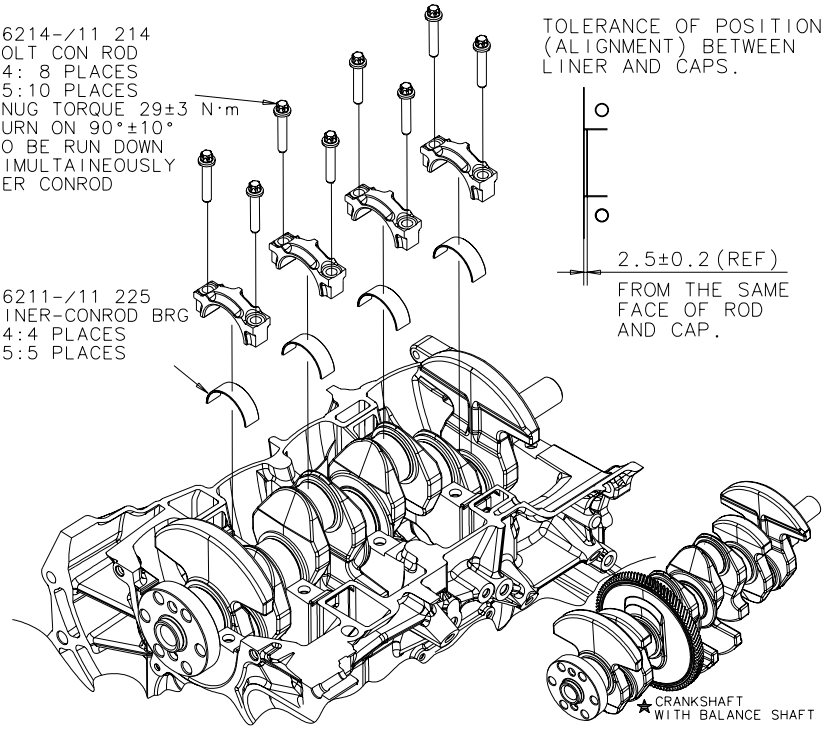
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

-6214-/11 214
BOLT CON ROD
14: 8 PLACES
15:10 PLACES
SNUG TORQUE 29±3 N·m
TURN ON 90°±10°
TO BE RUN DOWN
SIMULTAINEOUSLY
PER CONROD

-6211-/11 225
LINER-CONROD BRG
14:4 PLACES
15:5 PLACES

TOLERANCE OF POSITION
(ALIGNMENT) BETWEEN
LINER AND CAPS.

FROM THE SAME
FACE OF ROD
AND CAP.



LUBRICATE ALL JOURNALS BEFORE FITTING BIG END LOWER BEARINGS WITH FACTORY FILL ENGINE OIL AND BEFORE FITTING MAIN LADDER. FOR BEARING SELECTION AND ASSEMBLY PROCEDURE SEE SHEET 21

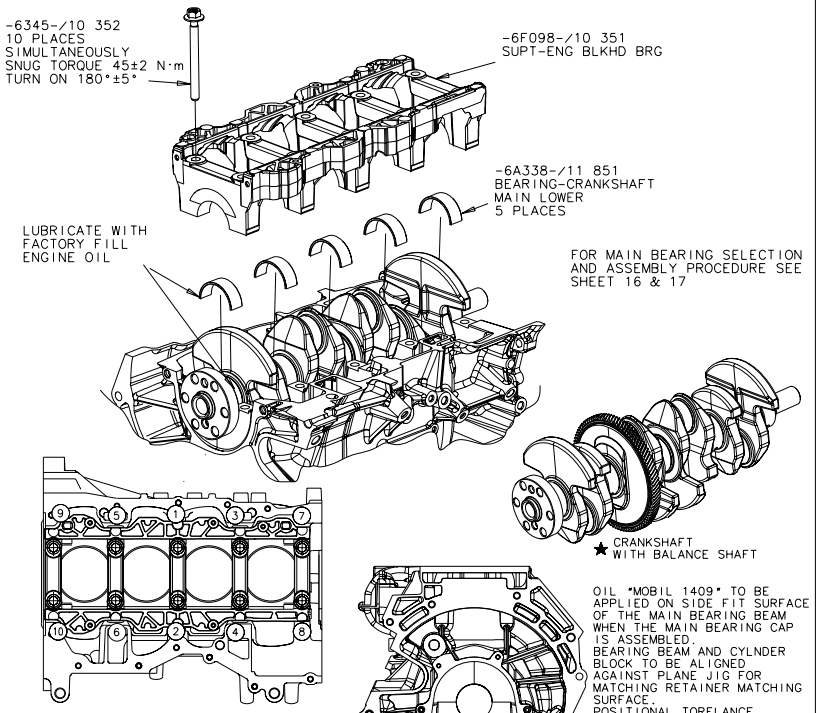
Q.C.CHECK:
DO NOT REUSE CONROD BOLT, IN CASE BOLT LENGTH IS OVER 46 mm. (REF)

★NO HAMMERED MARKS/FLAWS ON GEAR TEETH OF CRANKSHAFT WHICH END UP WITH UNEXPECTED NOISE. (GEAR ACCURACY SPECIFIED ON THE DRAWING TO BE SATISFIED BUT THE GEAR ACCURACY IS NOT REQUIRED TO BE MEASURED IN THE ENGINE PLANT)

★-IT ONLY APPLYS TO BALANCE SHAFT ENGINE.

RESTRICTIONS				PART NAME/TITLE: CONROD BEARING, CAPS & BOLTS			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	Y	EN00 E 11145063 001	00-11-03	2001 2.0L-4V NON DI CD132	22	23-A	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



WHEN THE MAIN BEARING CAP IS ASSEMBLED MANUALLY, TO BE TIGHTEN FOLLOWING PROCEDURE.

(1) ALL BOLT-CRANK SHAFT TO BE TIGHTENED ONLY "SNUG" TORQUE (45±2N·m) ACCORDING TO THE ORDER WHICH IS SHOWN ABOVE DRAWING.
(2) ALL BOLT-CRANK SHAFT TO BE TIGHTENED WITH TIGHTENING ANGLE (90±2.5deg×2times+180±5deg) ACCORDING TO ORDER WHITCH IS SHOWN ABOVE DRAWING.

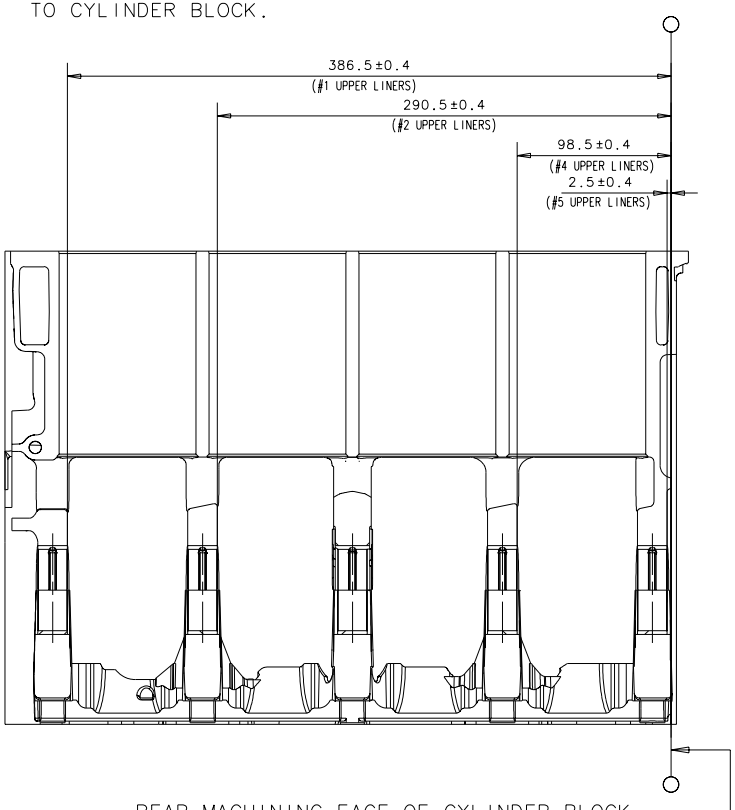
★ NO HAMMERED MARKS/FLAWS ON GEAR TEETH OF CRANKSHAFT WHICH END UP WITH UNEXPECTED NOISE.(GEAR ACCURACY SPECIFIED ON THE DRAWING TO BE SATISFIED BUT THE GEAR ACCURACY IS NOT REQUIRED TO BE MEASURED IN THE ENGINE PLANT)

★ -IT ONLY APPLYS TO BALANCE SHAFT ENGINE.

RESTRICTIONS			PART NAME/TITLE: MAIN BEARING LADDER BEAM & BOLTS				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	BE	EN00 E 11218821 000	01-11-05	2001 2.0L-4V NON DI CD132	23-A	23-B	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

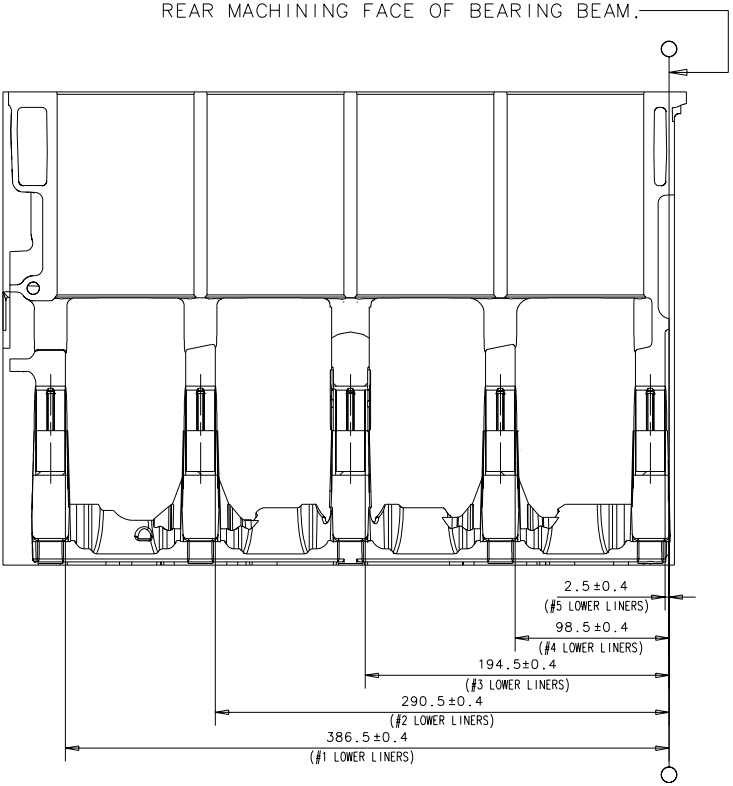
UPPER LINERS FOR MAIN BEARING EXCEPT #3 UPPER LINERS IS POSITIONED SO THAT THE DISTANCES OF LINERS REAR EDGE FROM REAR MACHINING FACE MUST BE KEPT FOLLOWING AFTER BEARING BEAM IS ASSEMBLED TO CYLINDER BLOCK.



RESTRICTIONS				PART NAME/TITLE: MAIN BEARING UPPER		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AB	ENOO E 11136863 000	00-12-04	2001 2.0L-4V NON DI CD132	23-B	23-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

LOWER LINERS FOR MAIN BEARING IS POSITIONED SO THAT THE DISTANCES OF LINERS REAR EDGE FROM REAR MACHINING FACE MUST BE KEPT FOLLOWING AFTER BEARING BEAM IS ASSEMBLED TO CYLINDER BLOCK.

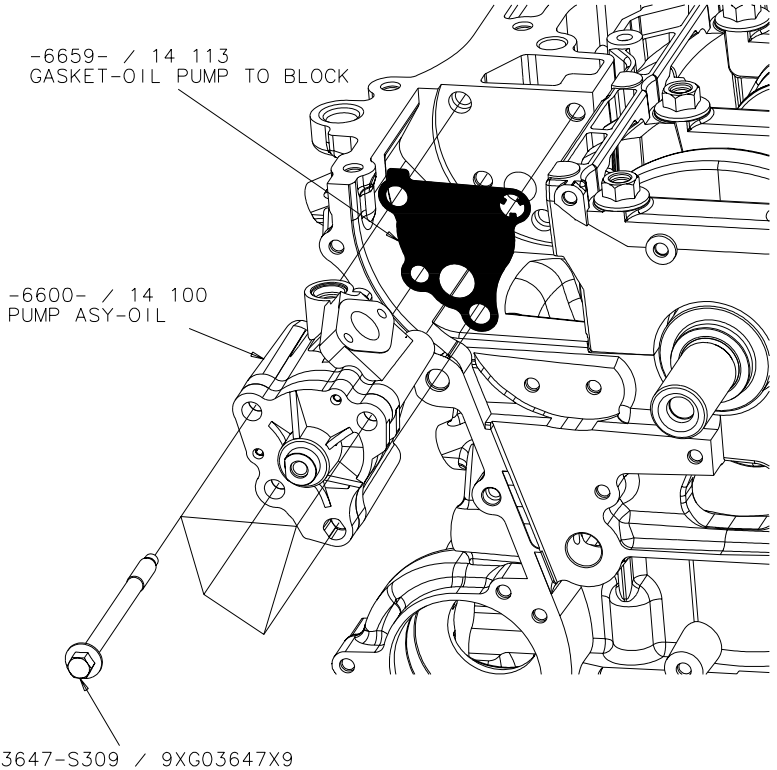


RESTRICTIONS				PART NAME/TITLE: MAIN BEARING LOWER		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AB	ENOO E 11136863 000	00-12-04	2001 2.0L-4V NON DI CD132	23-C	23-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



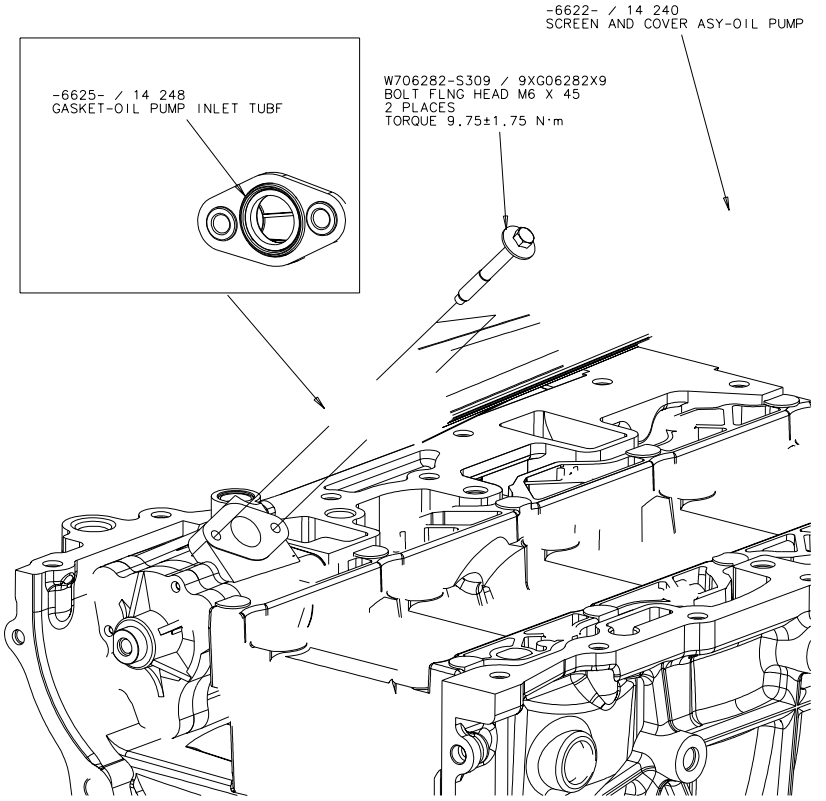
W703647-S309 / 9XG03647X9
FASTNER M8 X 103
4PLACES
BOLT TIGHTENING PROCEDURE :

① TIGHTEN THE BOLTS AT SIMULTANEOUSLY OR CROSSWISE WITH THE PRE-TORQUE OF 10 ± 2 N·m

② TIGHTEN THE BOLTS AT SIMULTANEOUSLY OR CROSSWISE WITH THE TORQUE OF 22.5 ± 2.5 N·m

RESTRICTIONS			PART NAME/TITLE: PUMP ASY-OIL & GASKET-OIL PUMP TO BLOCK			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	K	EN00 E 11026968 000	99-12-13	2001 2.0L-4V NON DI CD132	24	25-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS

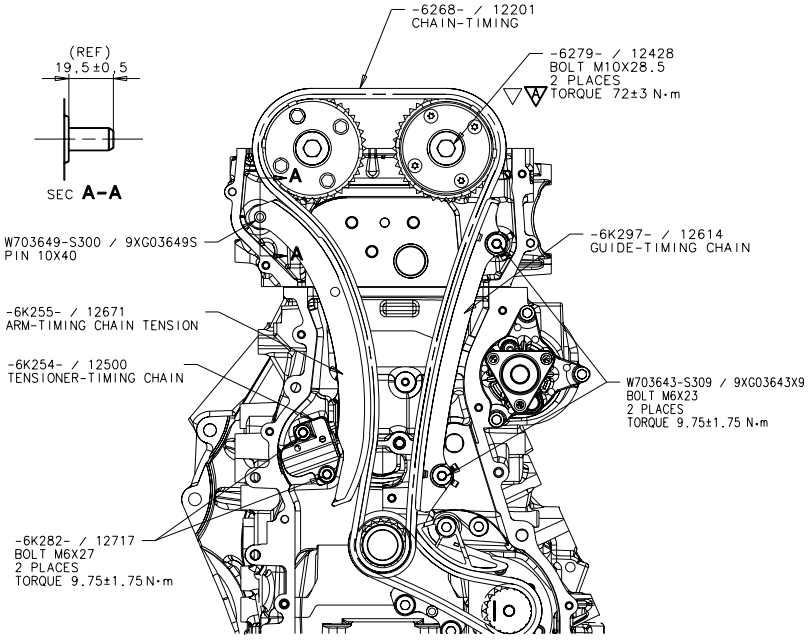
PART NAME/TITLE
SCREEN AND COVER ASY-OIL PUMP

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD
C1S7G-543-AC	H	EN00 E 11007392 000	99-09-06	2001 2.0L-4V NON DI CD132	25-A	25-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

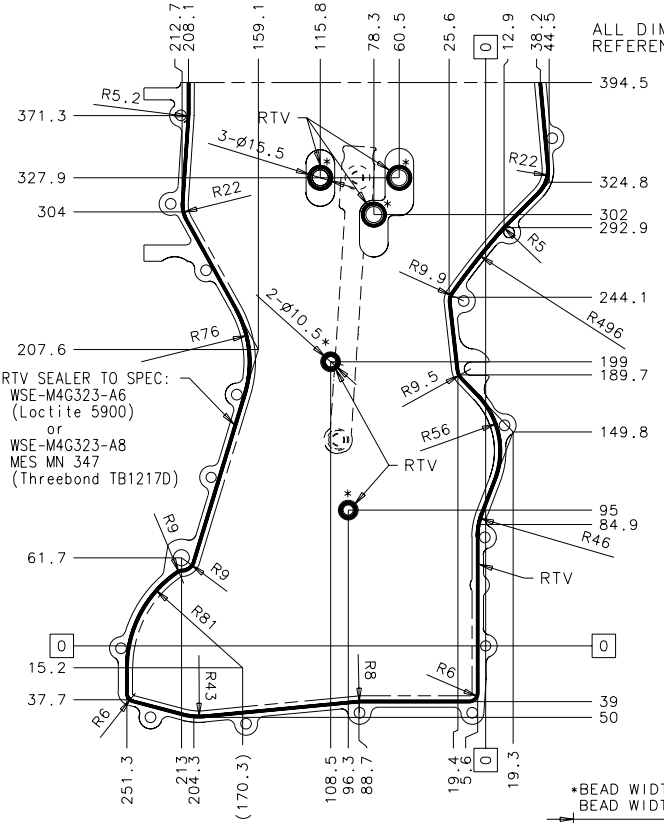
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



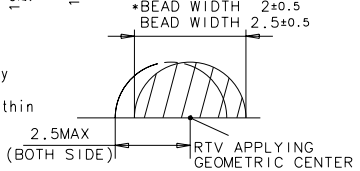
1. ASSEMBLE THE CHAIN OVER "VVT ACTUATOR INT.","VVT ACTUATOR EXH" AND "SPROCKET-CRANKSHAFT" (NO TIMING MARK SPECIFIED).
2. ASSEMBLE THE "GUIDE-TIMING CHAIN" AND FASTEN TIGHTLY.
3. ASSEMBLE THE "ARM-TIMING CHAIN TENSIONER" IN THE PIVOT. ASSEMBLE "TENSIONER-TIMING CHAIN" AND TIGHTEN THE BOLTS.
4. PULL THE PIN OF "TENSIONER-TIMING CHAIN". THE CHAIN IS NOW IN TENSION.
5. ROTATE THE CAMSHAFTS BY HOLDING AT THE FLATS BETWEEN THE LOBES OF CYLINDER #1 AND CYLINDER #2 SO THAT THE SLOTS ON THE BACK END OF THE TWO CAM SHAFTS LINE UP.
6. INSERT SPECIAL TOOL IN THE BACK END SLOTS OF CAMSHAFTS TO SET THEM IN THE RIGHT POSITION.
7. HOLD THE "VVT ACTUATOR" AND TIGHTEN THE VVT SPROCKET BOLTS. CAUTION;DO NOT GIVE ROTATIONAL TORQUE TO THE SPECIAL TOOL THROUGH THE BACK END SLOTS OF CAMSHAFT.

RESTRICTIONS			PART NAME/TITLE CHAIN-TIMING / GUIDE-TIMING CHAIN				
SPECIFICATION NO. C1S7G-543-AC	REV AX	RELEASE NO. EN00E11183682001	DATE 01-09-27	MODEL 2003 2.3L-4V VVT / BS	SHEET 48-F	CONTD. 49-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

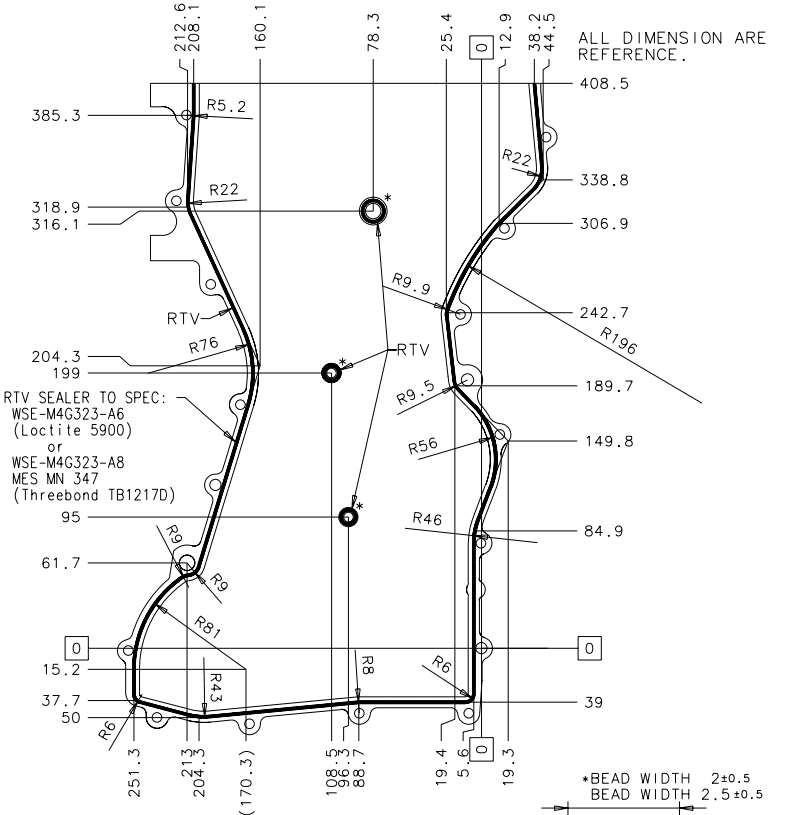


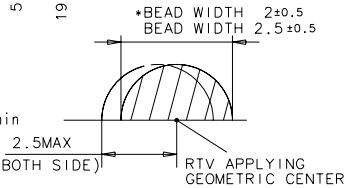
NOTES
1. No sticking of stain, dust, etc is allowed on RTV apply surface of cylinder block.
2. After applying RTV, complete assembling Front cover within 10 min, and then complete tightening all bolts within further 5 min.(within 15 min in total.)



RESTRICTIONS	PART NAME/TITLE: RTV SEALER-FRONT COVER					
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2001 2.0L-4V NON DI CD132	49-A	49-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

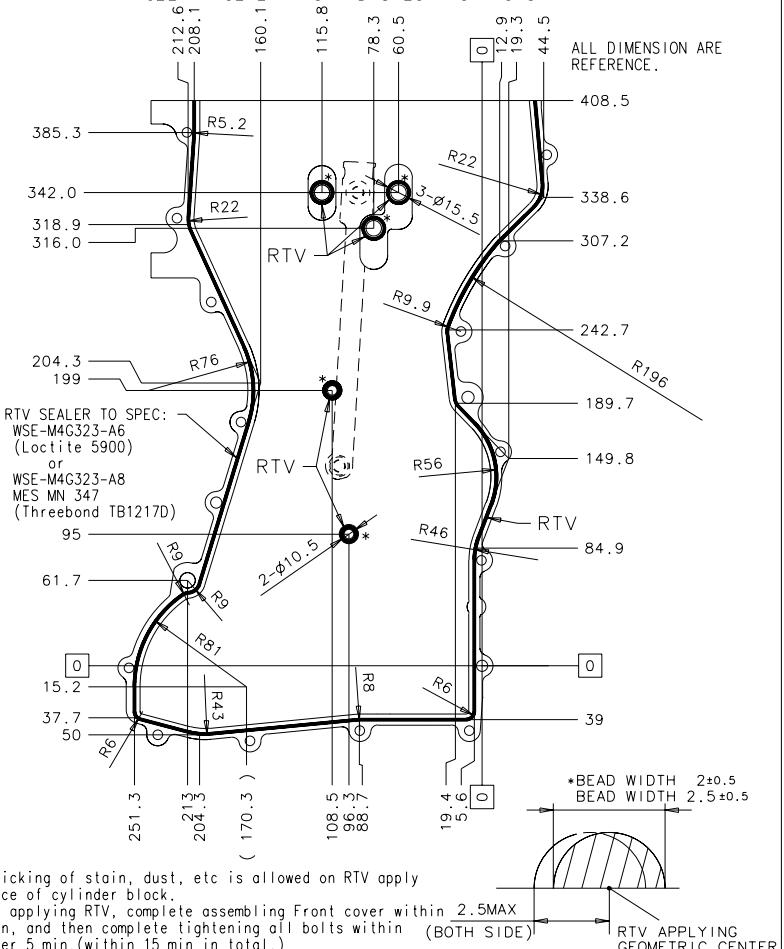




NOTES
1. No sticking of stain, dust, etc is allowed on RTV apply surface of cylinder block.
2. After applying RTV, complete assembling Front cover within 10 min, and then complete tightening all bolts within further 5 min.(within 15 min in total.)

RESTRICTIONS				PART NAME/TITLE: RTV SEALER-FRONT COVER		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2001 2.3L-4V NON DI RANGER	49-B	49-E

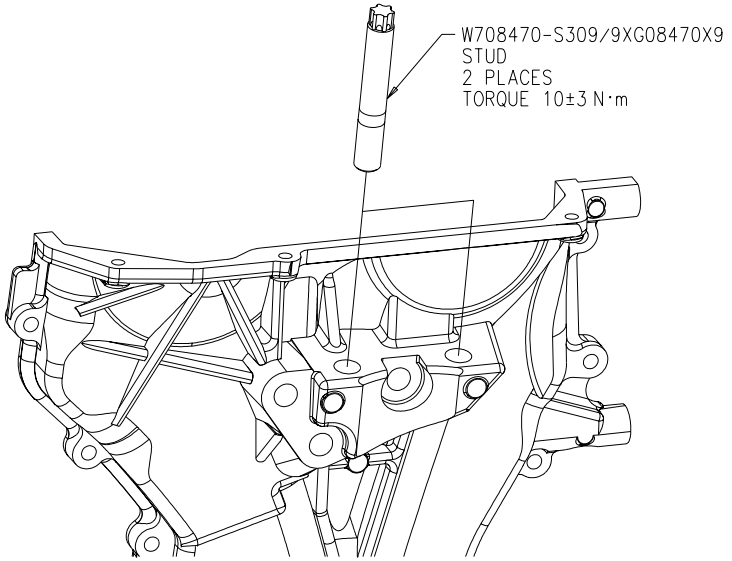
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. No sticking of stain, dust, etc is allowed on RTV apply surface of cylinder block.
2. After applying RTV, complete assembling Front cover within 10 min, and then complete tightening all bolts within further 5 min.(within 15 min in total.)

RESTRICTIONS	PART NAME/TITLE: RTV SEALER-FRONT COVER					
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2002 2.3L-4V NON DI J56J	49-E	50

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

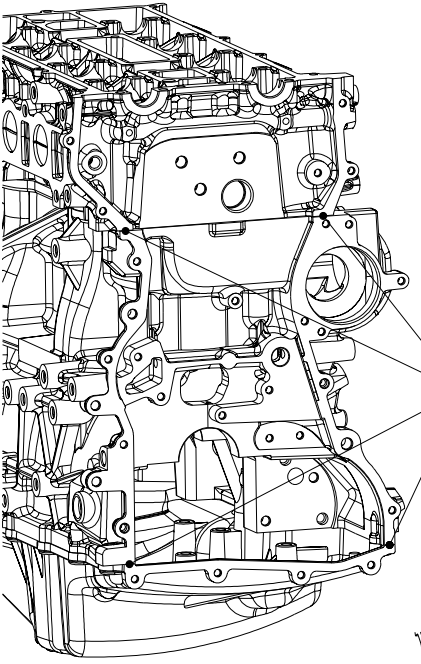


RESTRICTIONS				PART NAME/TITLE STUD-ENGINE MOUNT		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2001 2.0L-4V NON DI CD132	50	50-A

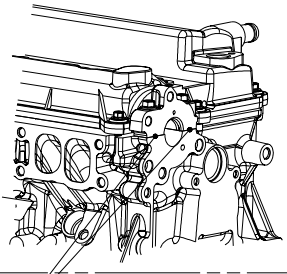
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

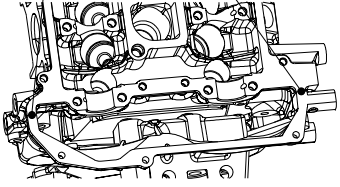
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ADDITIONAL PROCEDURE FOR DI

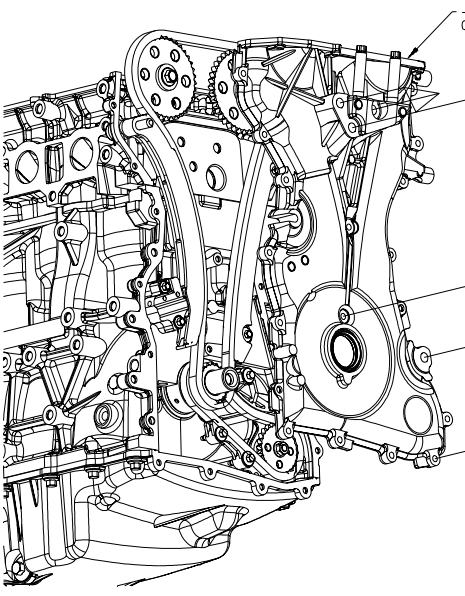


EXPOSED SURFACE ;
ENSURE THAT EXCESS RTV MATERIAL IS REMOVED FROM "T-JOINT" PRIOR TO SEALING THE JOINT LATER IN THE PROCESS.

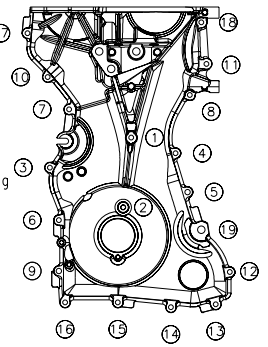


RESTRICTIONS				PART NAME/TITLE EXCESS RTV REMOVING		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	51	52-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



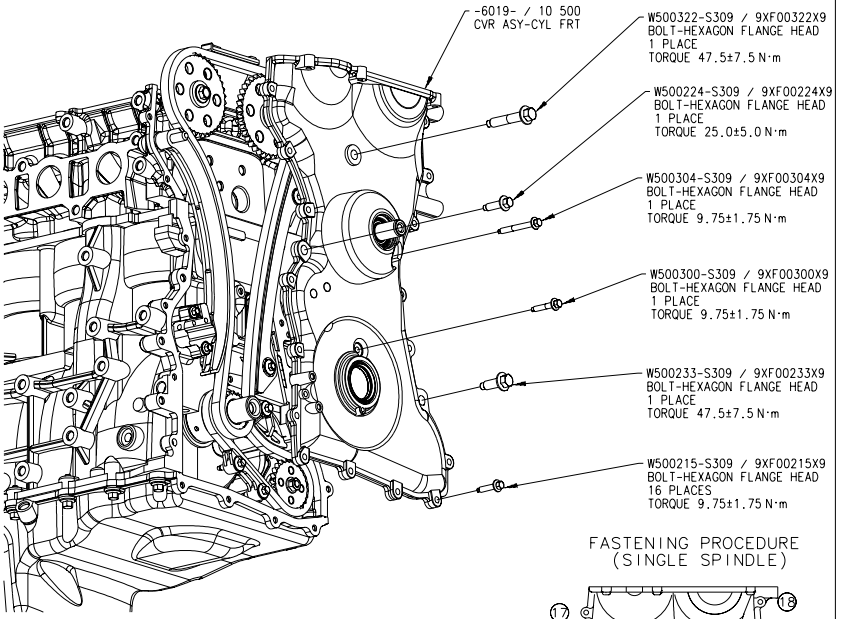
FASTENING PROCEDURE
(SINGLE SPINDLE)



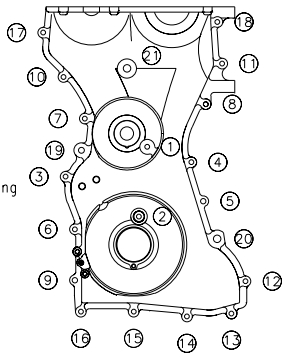
NOTES
1. No sticking of stain, dust, etc is allowed on front cover sealing surface of cylinder block, cylinder head, front cover.
2. If parts have scratch on seal face of front cover assembly. which might give negataive effect on sealability, those have to be replaced with good part.

RESTRICTIONS				PART NAME/TITLE: COVER ASY-CYL FRONT		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2001 2.0L-4V NON DI CD132	52-A	52-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



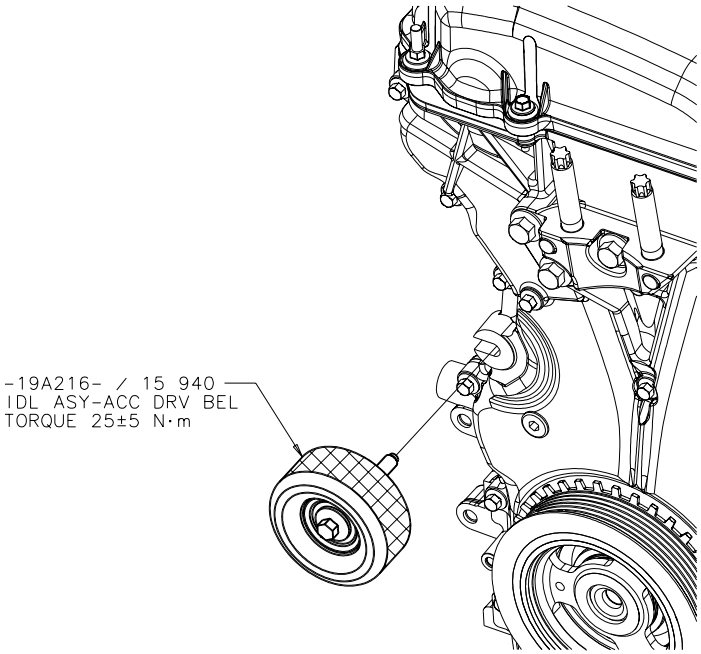
FASTENING PROCEDURE
(SINGLE SPINDLE)



NOTES
1. No sticking of stain, dust, etc is allowed on front cover sealing surface of cylinder block, cylinder head, front cover.
2. If parts have scratch on seal face of front cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

RESTRICTIONS			PART NAME/TITLE: COVER ASY-CYL FRONT				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2001 2.3L-4V NON DI RANGER	52-B	52-E

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. ENSURE THERE IS NOT ANY GREASE, OIL OR FOREIGN MATTER ON THE HATCHED AREA BEFORE SHIPMENT.
2. DAMAGED PULLEY MUST NOT BE ASSEMBLED.
3. THE PULLEY MUST NOT CONTACT ANY OTHER PARTS OF THE ENGINE DURING ROTATION.

RESTRICTIONS				PART NAME/TITLE: IDLER ASY-ACC DR BELT			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	H	EN00E11007392000	'99-09-06	2001 2.0L-4V NON DI CD132	52-E	53-A	

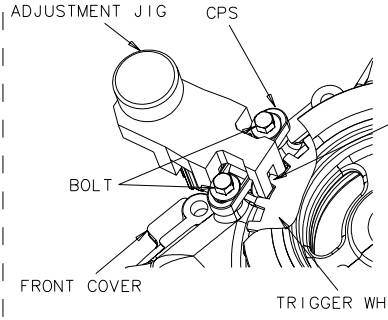
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

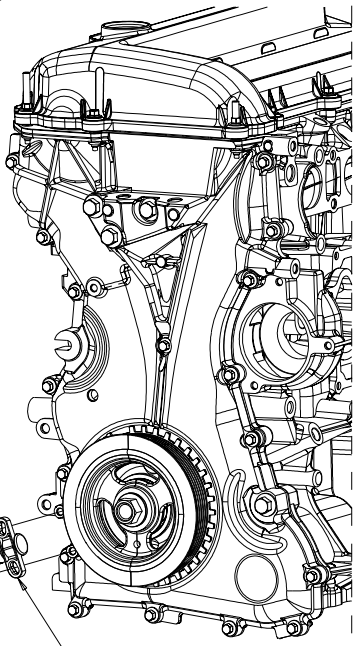
This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS





CPS ASSEMBLY PROCEDURE

1. SET THE CRANK ANGLE SO THAT CYL.#1 IS SET TO THE 'TDC' POSITION.
2. ASSEMBLE CPS INTO ADJUSTMENT JIG.
3. LOCATE JIG WITH CPS TOGETHER OVER TRIGGER WHEEL TOOTH.(AS IN PICTURE)
4. ASSEMBLE 2 BOLTS.(HAND START)
   - KEEPING THE JIG LOCATED ON THE TOOTH.
5. RUN DOWN 2 BOLTS TO FINAL TORQUE
   - KEEPING THE JIG LOCATED ON TOOTH.
6. REMOVE JIG.

W701219-S309 / 9XG01219X9
BOLT FLNG HEAD M6X16
2 PLACES
TORQUE 6.5±1 N·m

-6C315- / 18 221
SENSOR-CRANKSHAFT POSITION(CPS)

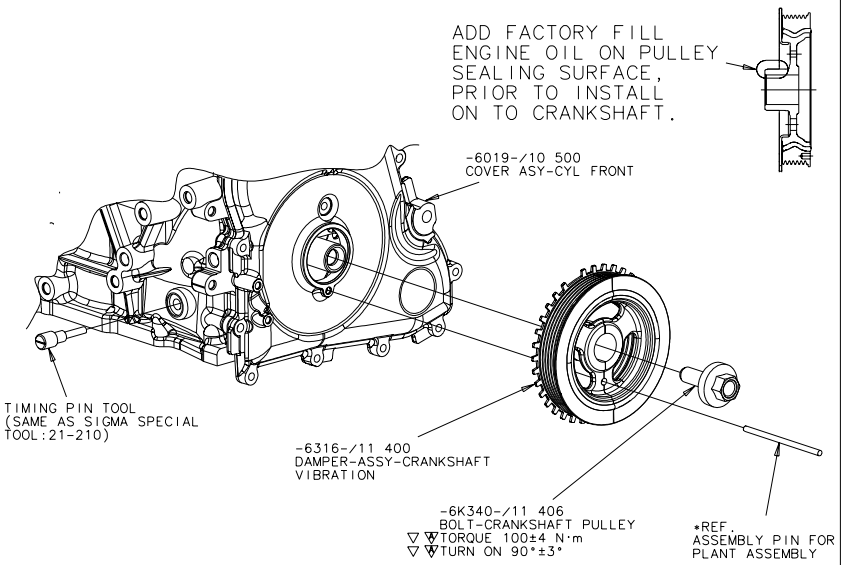
NOTE:

INSTALLATION OF CPS : ORIENTATE THE SENSOR SO THAT THE ELECTRICAL TERMINALS ARE POINTING AT THE REAR.

RESTRICTIONS			PART NAME/TITLE: SENSOR-CRANKSHAFT POSITION			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	54	55

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

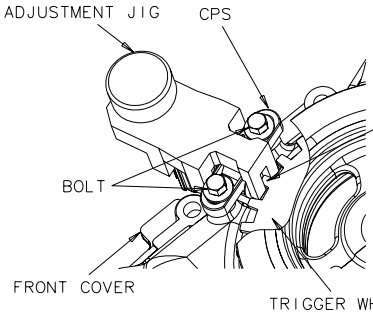
PROCEDURE
- -INSERT T.D.C. PIN INTO BLOCK(TIMING PIN DETAIL;56)
- -TURN CRANKSHAFT TO T.D.C:UNTIL THE CRANKSHAFT LOCATION PAD TOUCHES THE PIN.
- -TURN CRANK DAMPER PULLEY UNTIL ALIGN THE TIMING HOLE BETWEEN DAMPER PULLEY AND FRONT COVER.
- -INSERT ASSEMBLY PIN INTO DAMPER PULLEY LOCATION HOLE.
- -INSERT SPECIAL TOOL IN THE BACK END SLOTS OF CAMSHAFTS TO SET THEN IN THE RIGHT POSITION.
- -THEN CLAMP THE DAMPER PULLEY AND RUNDOWN PULLEY LOCK BOLT TO SPECIFIED TORQUE.
- -REMOVE TIMING PEG AND UN-LOCK CAMSHAFTS,CRANKSHAFT.



NOTE:- DO NOT REUSE DAMPER BOLT.

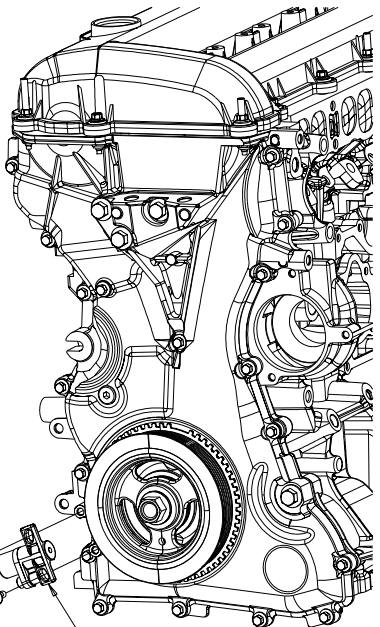
RESTRICTIONS				PART NAME/TITLE: PULLEY/DAMPER-CRANKSHAFT		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AN	EN00 E 11208966 001	01-06-08	2001 2.0L-4V NON DI CD132	55	56-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



CPS ASSEMBLY PROCEDURE

1. SET THE CRANK ANGLE SO THAT CYL.#1 IS SET TO THE 'TDC' POSITION.
2. ASSEMBLE CPS INTO ADJUSTMENT JIG.
3. LOCATE JIG WITH CPS TOGETHER OVER TRIGGER WHEEL TOOTH.(AS IN PICTURE)
4. ASSEMBLE 2 BOLTS.(HAND START)
   - KEEPING THE JIG LOCATED ON THE TOOTH.
5. RUN DOWN 2 BOLTS TO FINAL TORQUE
   - KEEPING THE JIG LOCATED ON TOOTH.
6. REMOVE JIG.



W701219-S309 / 9XG01219X9
BOLT FLNG HEAD M6X16
2 PLACES
TORQUE 6.5±1 N·m

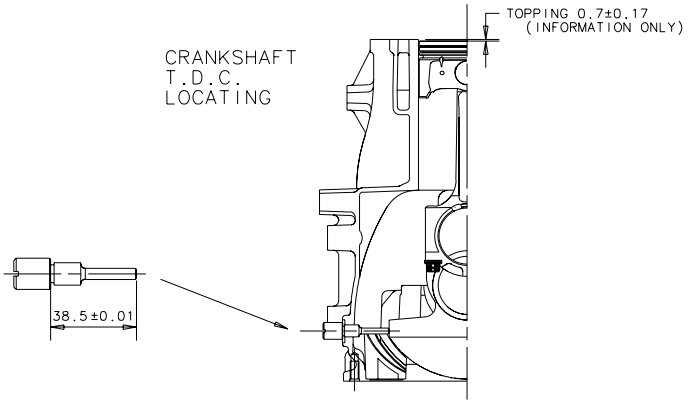
-6C315- / 18 221
SENSOR-CRANKSHAFT POSITION(CPS)

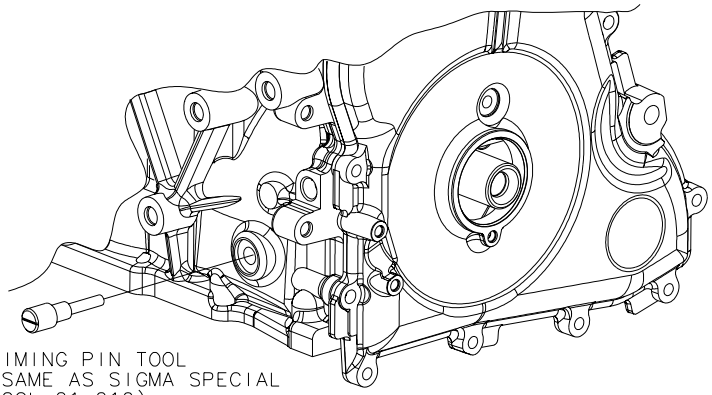
NOTE:

INSTALLATION OF CPS : ORIENTATE THE SENSOR SO THAT THE ELECTRICAL TERMINALS ARE POINTING AT THE REAR.

RESTRICTIONS			PART NAME/TITLE: SENSOR-CRANKSHAFT POSITION				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2002 1.8L-4V DI CD132	56-C	57	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

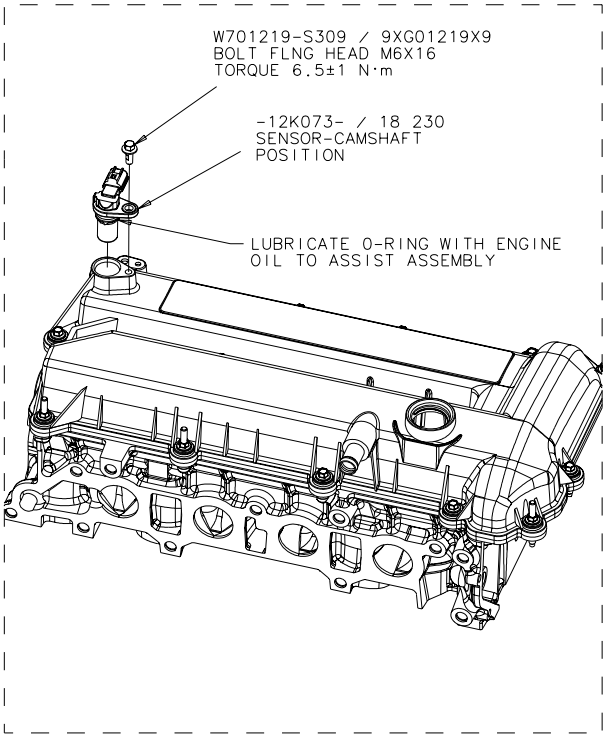




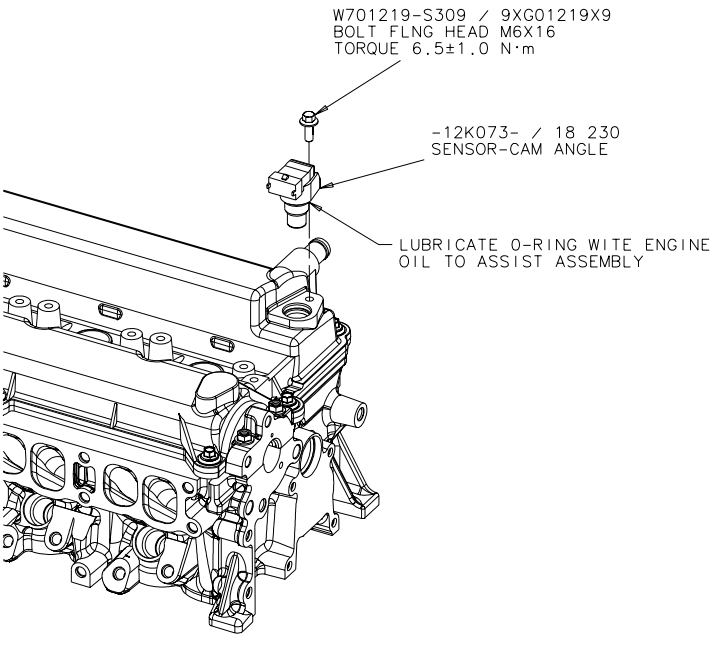
TIMING PIN TOOL
(SAME AS SIGMA SPECIAL
TOOL:21-210)

RESTRICTIONS			PART NAME/TITLE: SPROCKET-CRANKSHAFT & TIMING PLATE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AE	EN00 E 11157486 001	01-01-31	2001 2.0L-4V NON DI CD132	57	58

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

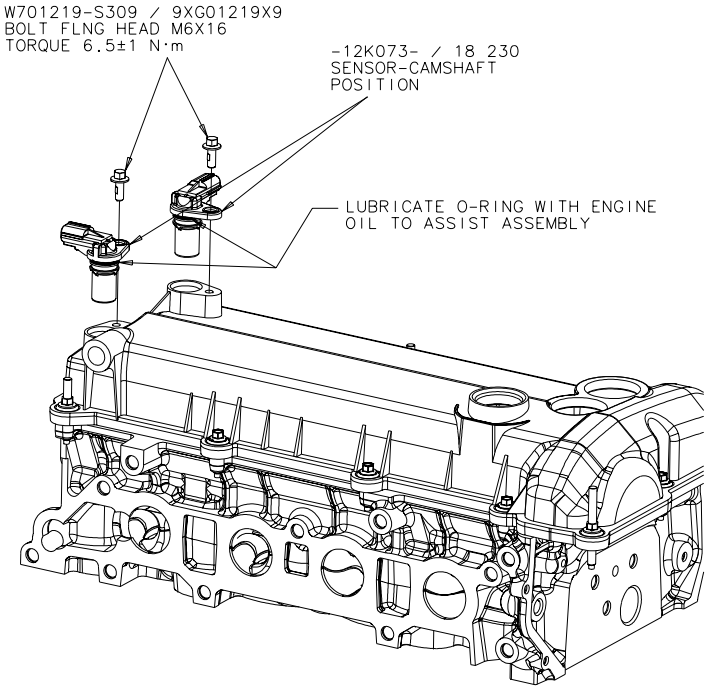


RESTRICTIONS				PART NAME/TITLE SENSOR-CAM ANGLE		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2002 1.8L-4V DI CD132	58-C	58-D

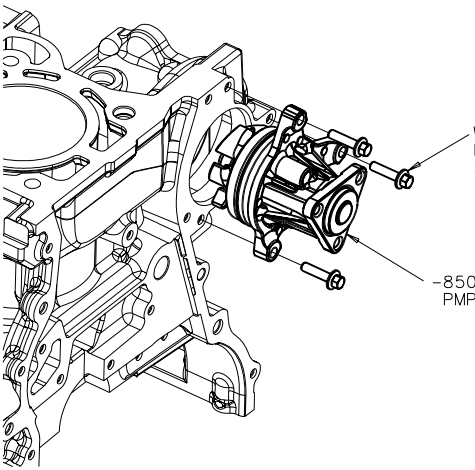
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

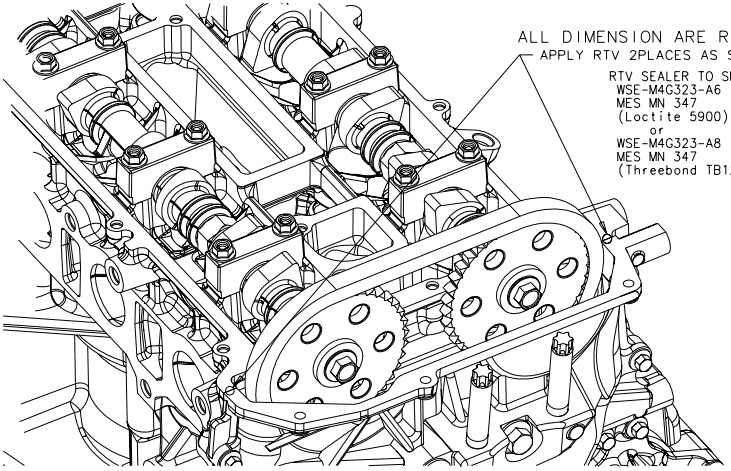


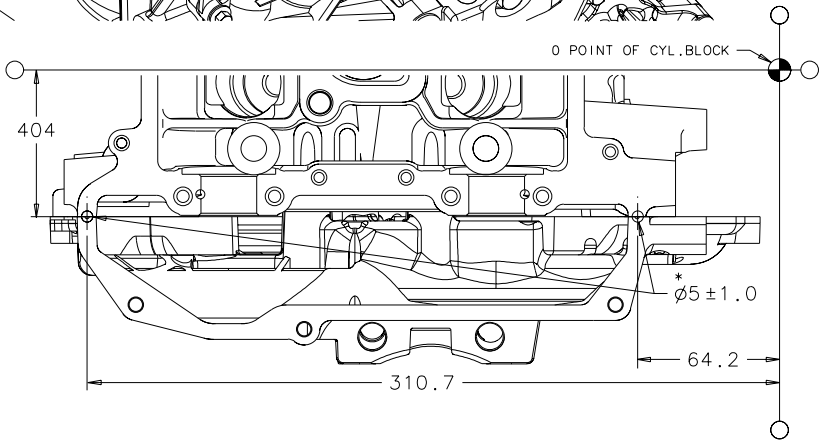
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. COMPATIBLE WITH "SEALUB S-4"-NOK OR "ESE-M99B144-A" "ESE-M99B144-B" -Merpol TO BE APPLIED TO O_RING BEFORE PUMP ASSEMBLY. MINERAL LUBE(ENGINE OIL,A/T FLUID,GASOLINE etc.)MUST NOT BE USED.
2. STAINS,OILS,FOREIGN MATTER etc.MUST NOT BE VISUALLY PRESENT ON SEAL AREAS OF BLOCK AND PUMP.
3. ASSEMBLE THE PUMP TO BLOCK SQUARELY TO AVOID O_RING DISTORTION.
4. THE PUMP O_RING MUST BE FITTED TO PUMP GROOVE BEFORE ASSEMBLY.
5. DO NOT ASSEMBLE PARTS THAT HAVE DAMAGE.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

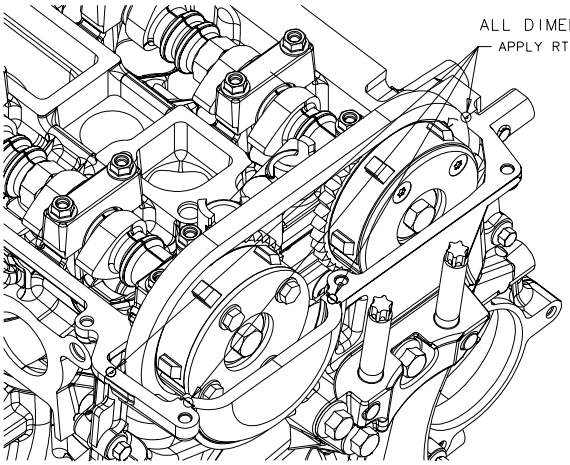


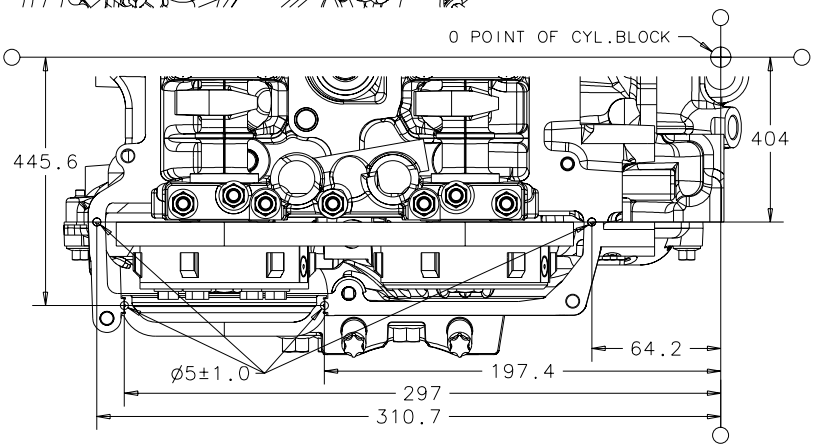


NOTES
1.After applying RTV, complete assembling camshaft cover and cylinder head within 10 min and then complete tightening all bolts within further 5 min.(within 15 min in total.)

RESTRICTIONS				PART NAME/TITLE: RTV SEALER - CAM COVER			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	AA	EN00E11087761000	00-11-17	2001 2.0L-4V NON DI CD132	60	60-A	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

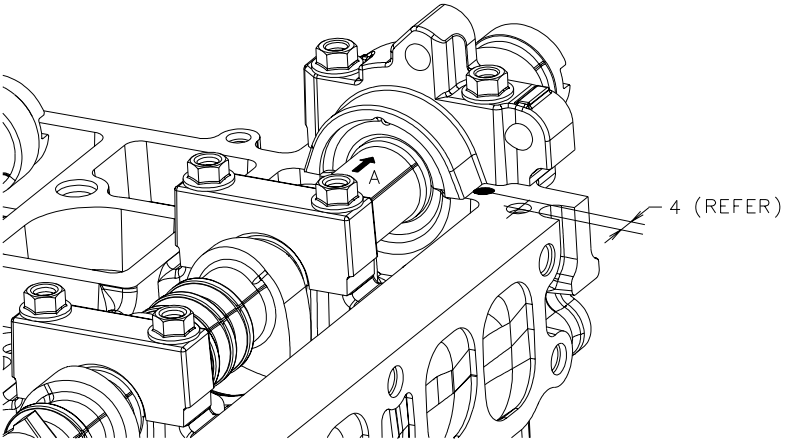


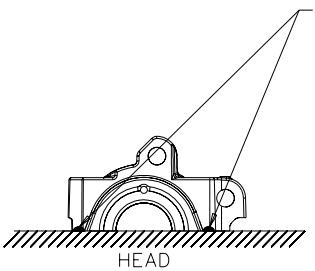


NOTES
1.After applying RTV, complete assembling camshaft cover and cylinder head within 10 min and then complete tightening all bolts within further 5 min.(within 15 min in total.)

RESTRICTIONS				PART NAME/TITLE: RTV SEALER - CAM COVER		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AA	EN00E11087761000	00-11-17	2003 2.3L-4V DUAL-VVT U204	60-A	60-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



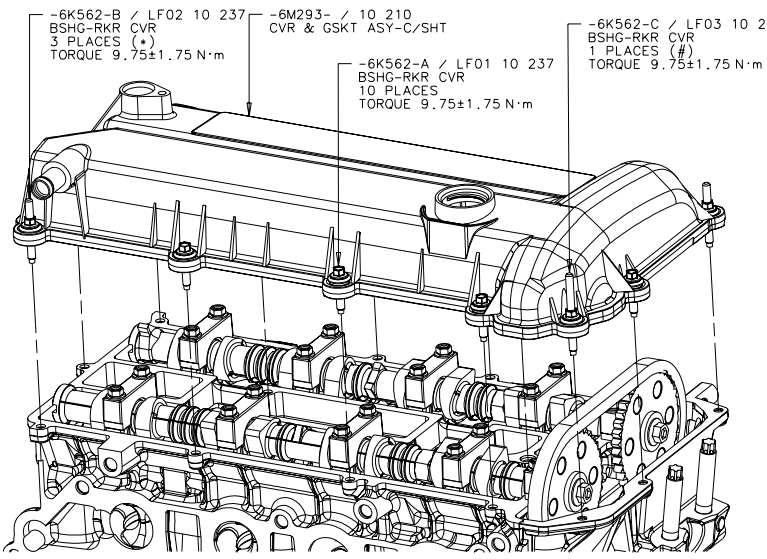


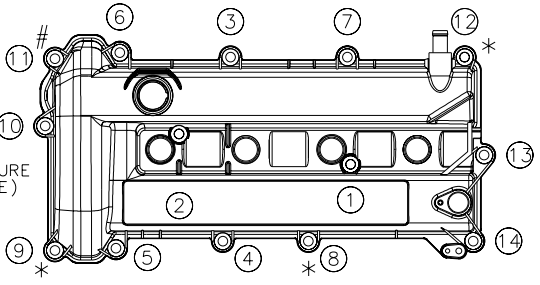
VIEW A

JOINT CLOSURE TIME 10 MINUTES.
FIXING TO BE TORQUED WITHIN A FURTHER
5 MINUTES (within 15 min in total).

RESTRICTIONS				PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	U	EN00E11085584000	00-07-11	2002 2.0L-4V DI CD132	60-C	61-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



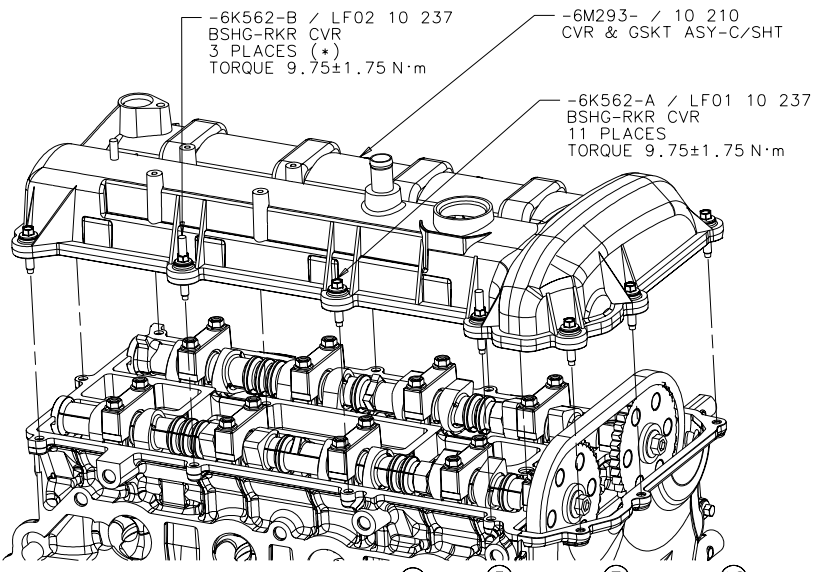


FASTENING PROCEDURE
(SINGLE SPINDLE)

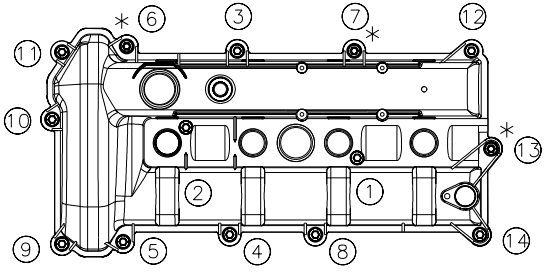
NOTES
1. No sticking of stain, dust, etc is allowed on camshaft cover sealing surface of cylinder head and camshaft cover.
2. If parts have scratch on seal face of camshaft cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

RESTRICTIONS			PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	61-A	61-B	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



FASTENING PROCEDURE
(SINGLE SPINDLE)



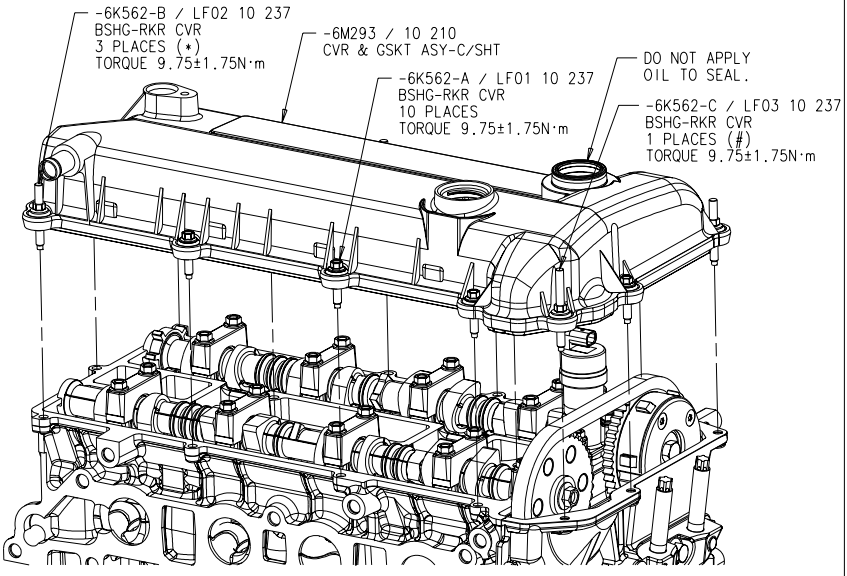
NOTES
1. No sticking of stain, dust, etc is allowed on camshaft cover sealing surface of cylinder head and camshaft cover.
2. If parts have scratch on seal face of camshaft cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

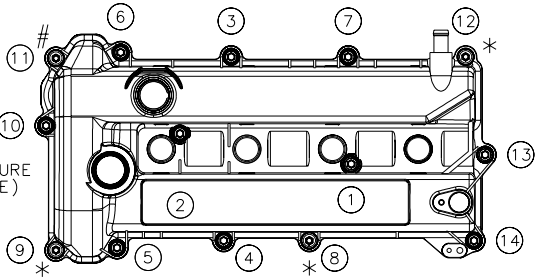
RESTRICTIONS			PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2001 2.3L-4V NON DI RANGER	61-B	61-C	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



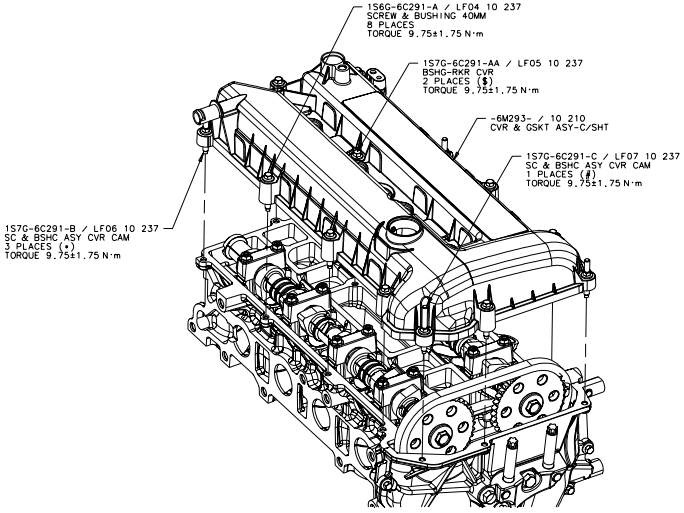


FASTENING PROCEDURE
(SINGLE SPINDLE)

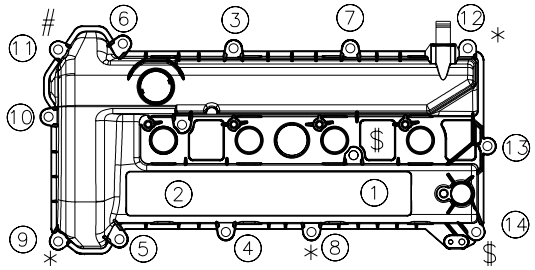
NOTES
1. No sticking of stain, dust, etc is allowed on camshaft cover sealing surface of cylinder head and camshaft cover.
2. If parts have scratch on seal face of camshaft cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

RESTRICTIONS				PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AA	EN00E11087761000	00-11-17	2003 2.3L-4V INT-VVT J56	61-D	61-E

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



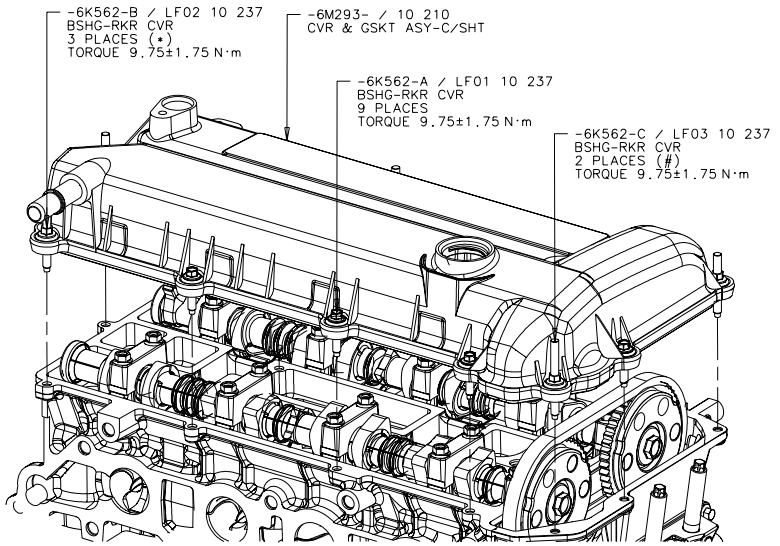
FASTENING PROCEDURE
(SINGLE SPINDLE)

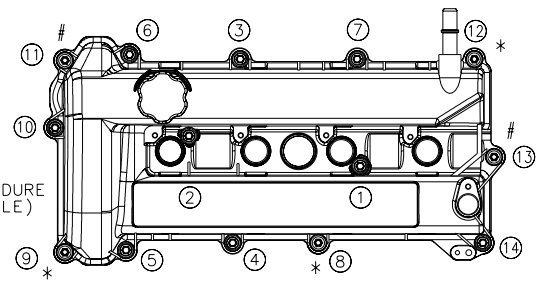


NOTES
1. No sticking of stain, dust, etc is allowed on camshaft cover sealing surface of cylinder head and camshaft cover.
2. If parts have scratch on seal face of camshaft cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

RESTRICTIONS				PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AZ	EN00E11184847002	01-10-12	2001 2.0L-4V NON DI CD132	61-E	61-F

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS





FASTENING PROCEDURE
(SINGLE SPINDLE)

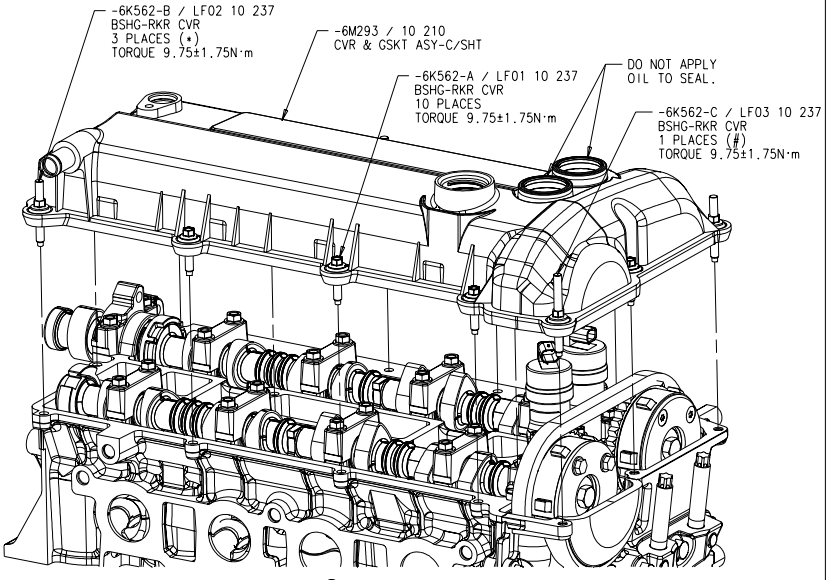
NOTES
1.No sticking of stain, dust, etc is allowed on camshaft cover sealing surface of cylinder head and camshaft cover.
2.If parts have scratch on seal face of camshaft cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

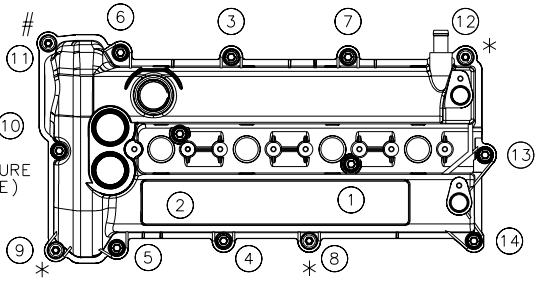
RESTRICTIONS				PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BM	EN00E11247483004	01-12-07	2003 2.3L-4V NON DI C170	61-F	61-G

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS





FASTENING PROCEDURE
(SINGLE SPINDLE)

NOTES
1. No sticking of stain, dust, etc is allowed on camshaft cover sealing surface of cylinder head and camshaft cover.
2. If parts have scratch on seal face of camshaft cover assembly, which might give negataive effect on sealability, those have to be replaced with good part.

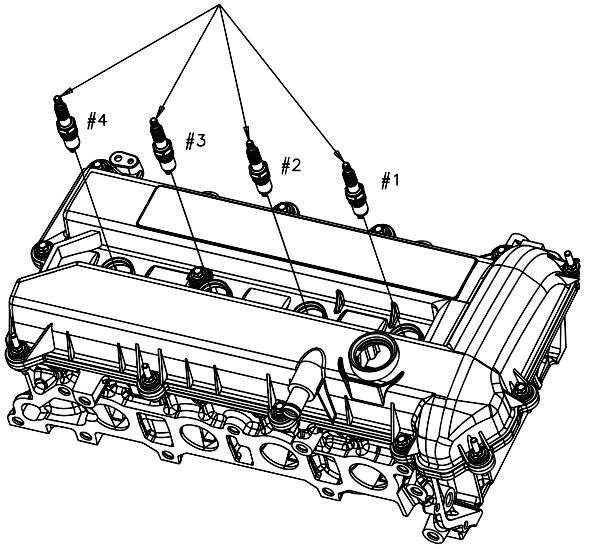
RESTRICTIONS				PART NAME/TITLE: CAM COVER & GASKET ASSEMBLY			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	AA	EN00E11087761000	00-11-17	2003 2.3L-4V DUAL-VVT U204	61-J	62-A	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

(*) EXCEPT J56A/F/J,J16L,C1

ENG.	PLUG TYPE	ID. COLOR	QUANTITY
1.8/2.0L EW (*)	PTR6F-13	GREEN	4
2.3L NS	PTR5F-11	WHITE	4
2.3L EW (*)	PTR6F-11	YELLOW	4
1.8L DI EW	HGR 7 HQPEO	BLUE	4
PZEV,J56A/F/J,J16L,C1	ITR 6F-13	PINK	4

-12405- / 18 110
SPARK PLUG
TORQUE 12±2 N·m



RESTRICTIONS			PART NAME/TITLE SPARK PLUG			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2001 2.0L-4V NON DI	62-A	62-B

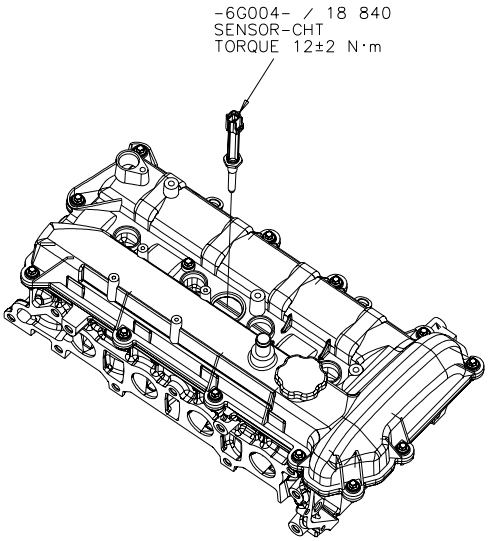
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

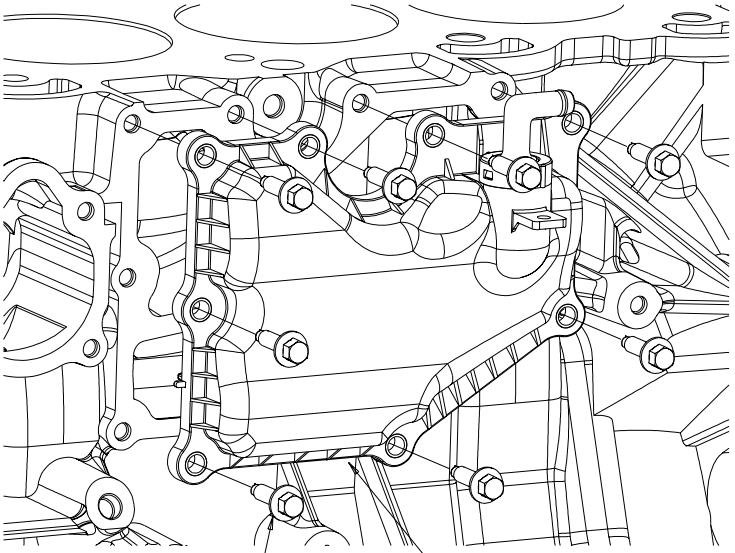
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



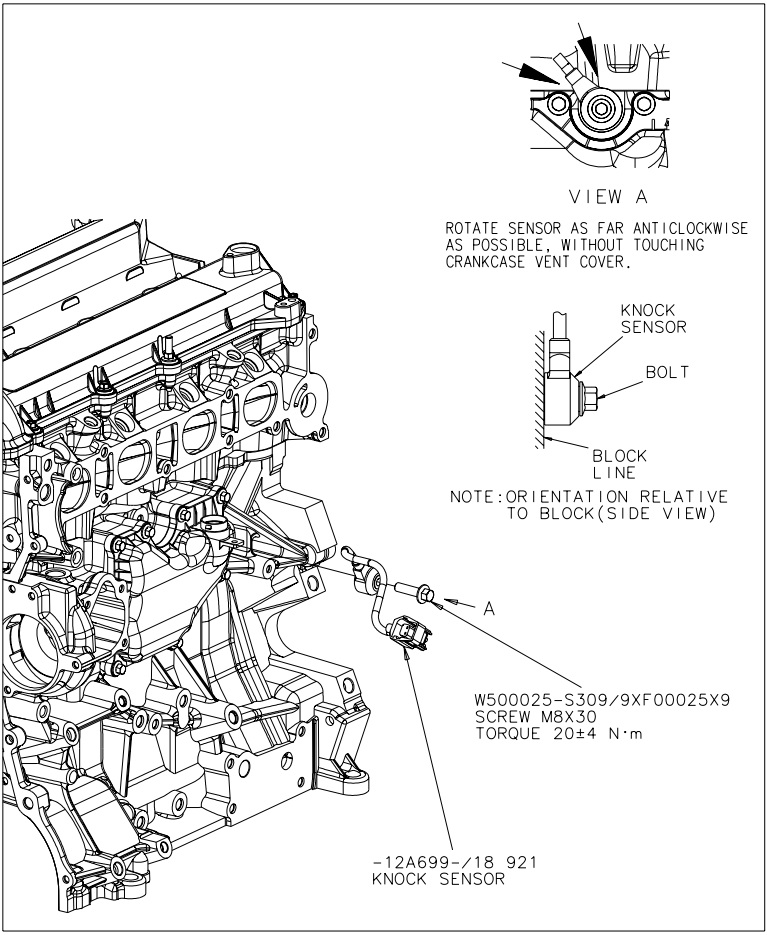
W500214/9XF00214
BOLT M6
8 PLACES
TORQUE 9.75±1.75 N·m

-6A785-/13 570
CRANKCASE VENTILATION COVER ASY

NOTES
1. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR FOREIGN MATTER WHICH WILLAFFECT SEALABILITY.(INCLUDING CYLINDER BLOCK)
2. THE GASKET MUST BE FITTED TO SEAL GOOVE BEFORE ASSEMBLY.
3. DO NOT ASSEMBLE PARTS THAT HAVE DAMAGE.

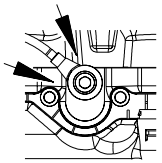
RESTRICTIONS			PART NAME/TITLE: CRANKCASE VENTILATION COVER				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	BL	EN00E11271652000	01-11-15	2001 2.0L-4V NON DI CD132	64	65-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



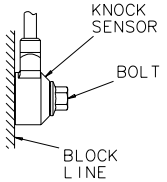
RESTRICTIONS				PART NAME/TITLE: SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2001 2.0L-4V NON DI CD132	65-A	65-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

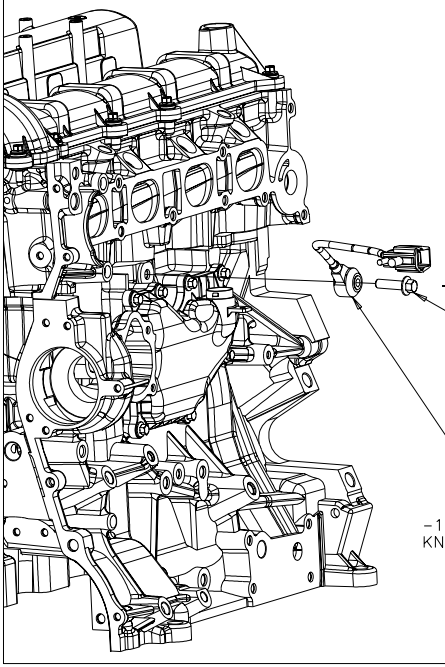


VIEW A

ROTATE SENSOR AS FAR ANTICLOCKWISE AS POSSIBLE, WITHOUT TOUCHING CRANKCASE VENT COVER.

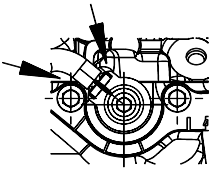


NOTE: ORIENTATION RELATIVE TO BLOCK (SIDE VIEW)



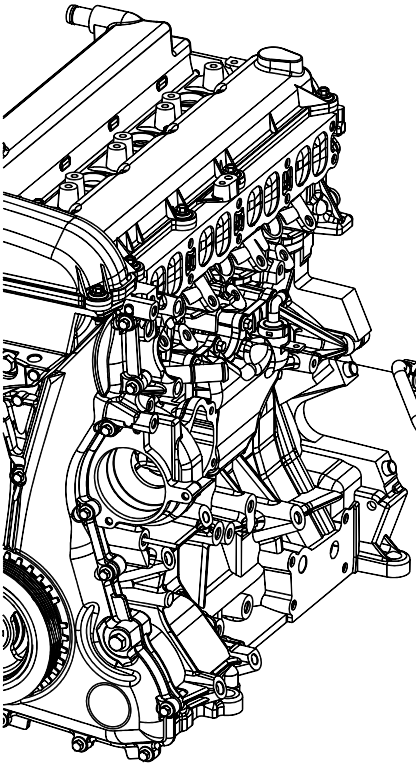
RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2001 2.3L-4V NON DI RANGER	65-B	65-C

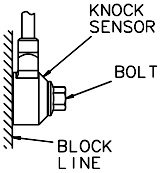
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



VIEW A

ROTATE SENSOR AS FAR ANTICLOCKWISE AS POSSIBLE, WITHOUT TOUCHING CRANKCASE VENT COVER.





NOTE:ORIENTATION RELATIVE TO BLOCK(SIDE VIEW)

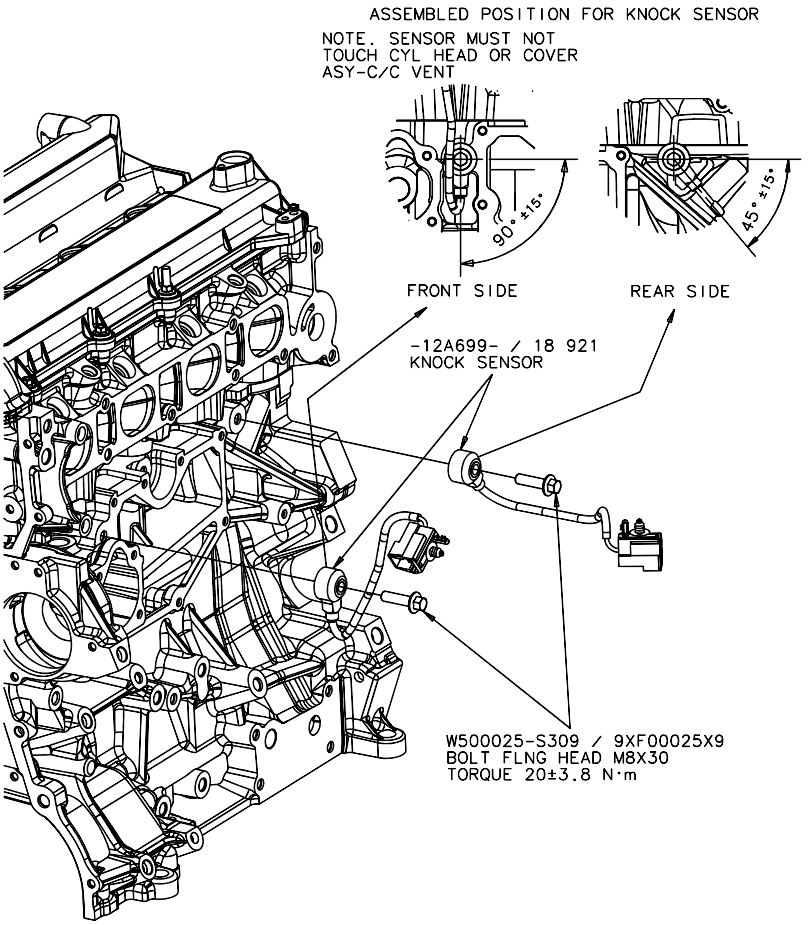
W500025-S309/9XF00025X9
SCREW M8X30
TORQUE 20±4 N·m

A

-12A699- / 18 921
KNOCK SENSOR

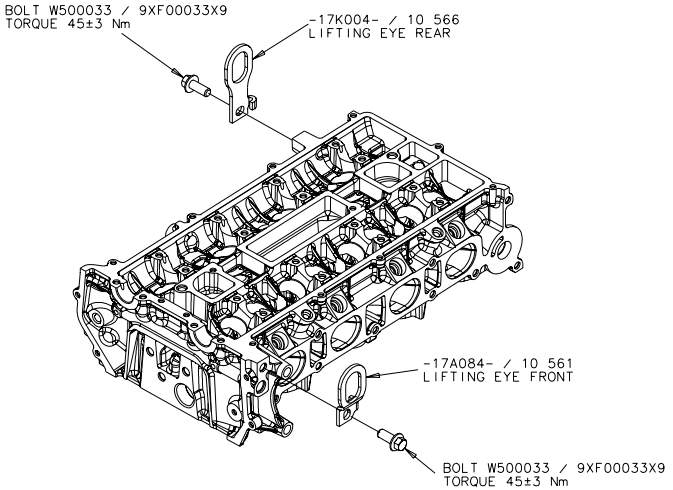
RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK			
SPECIFICATION NO. C1S7G-543-AC	REV AU	RELEASE NO. EN00E11212646000	DATE 01-08-07	MODEL 2002 1.8L-4V DI CD132	SHEET 65-C	CONTD. 65-D	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



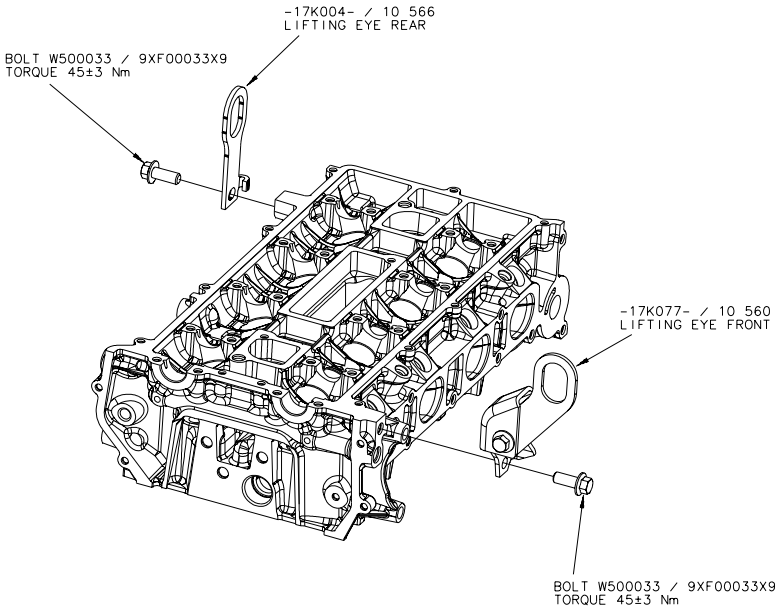
RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AU	EN00E11212646000	01-08-07	2003 2.3L-4V NON DI C1	65-D	66-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



THE LIFTING EYE ARE RECYCLED PARTS ONE TO FIVE TIMES,
AND THEY ARE APPLICABLE FOR THE FORD VEHICLE ONLY.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

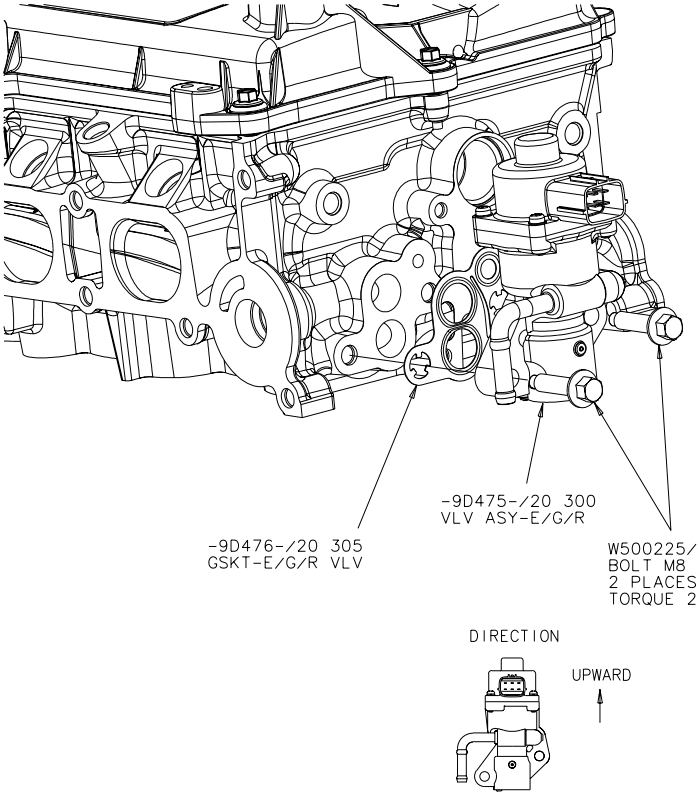


RESTRICTIONS			PART NAME/TITLE LIFTING EYE FRONT & REAR			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	M	EN00E11054241000	'00-01-26	2001 2.3L-4V NON DI RANGER	66-B	66-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

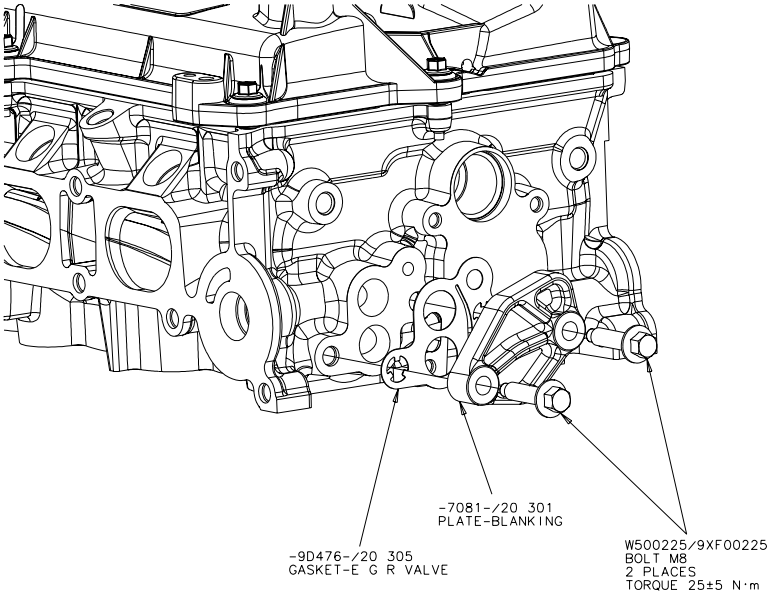
This page is intentionally Blank

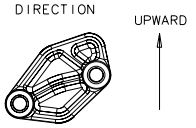
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE: EGR VALVE		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	67-A	67-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

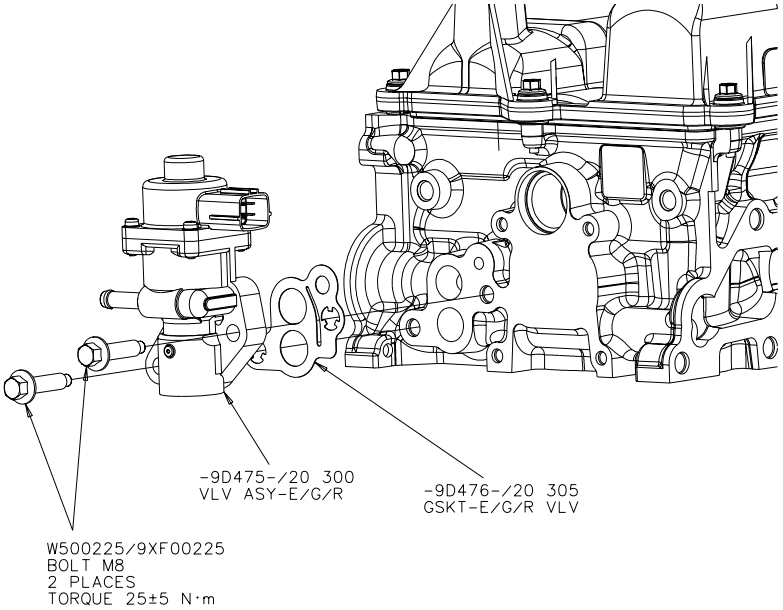


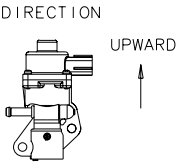


FOR GASHOL/LEADED,ONLY

RESTRICTIONS			PART NAME/TITLE: EGR BLANKING PLATE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.0L-4V NON DI CD132		67-B	67-D

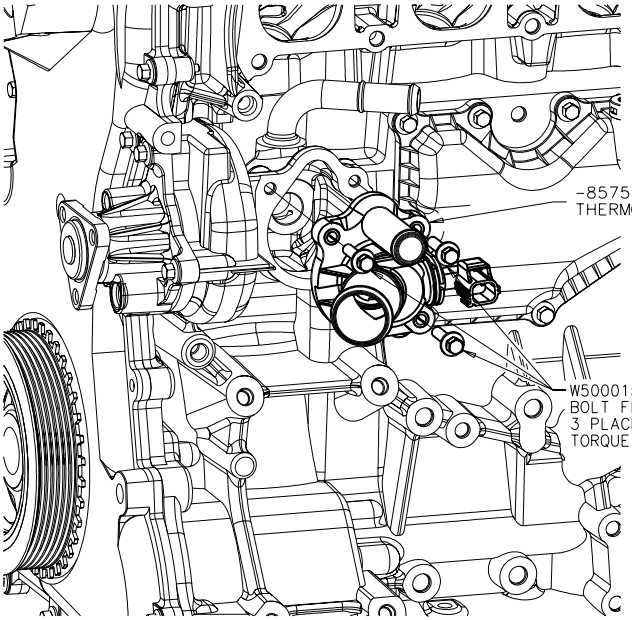
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS





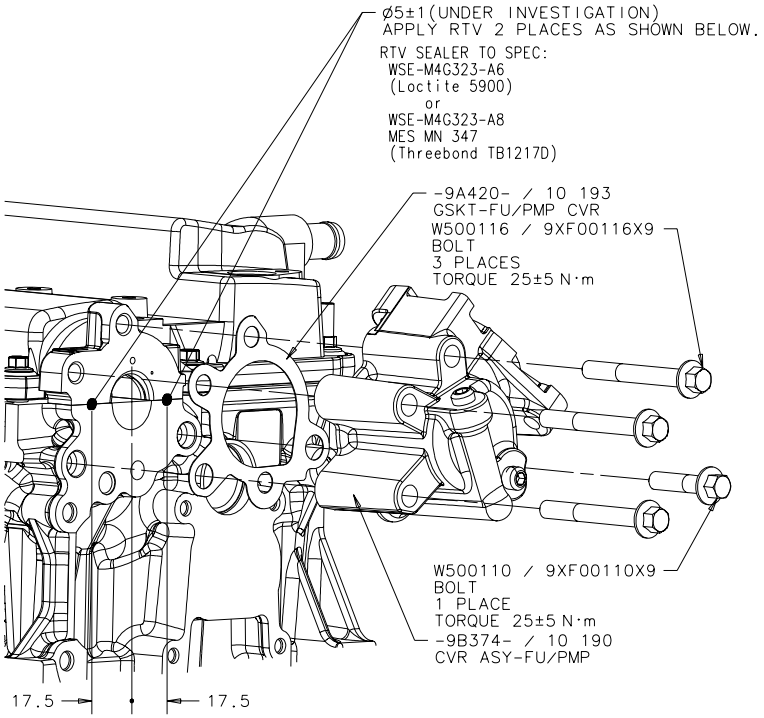
RESTRICTIONS				PART NAME/TITLE EGR VALVE		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.3L-4V NON DI RANGER	67-D	68

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. DO NOT ASSEMBLE PARTS WHERE THERE IS GREASE/OIL/FOREIGN MATTER ON THE SEAL SURFACES OF THERMOSTAT OR BLOCK.
2. A THERMOSTAT THAT HAS BEEN DROPPED OR MIS HANDLED MUST NOT BE ASSEMBLED IRRESPECTIVE OF ITS VISUAL APPEARANCE.
3. THE O_RING MUST BE CORRECTLY SEALED IN THE THERMOSTAT BEFORE ASSEMBLY.

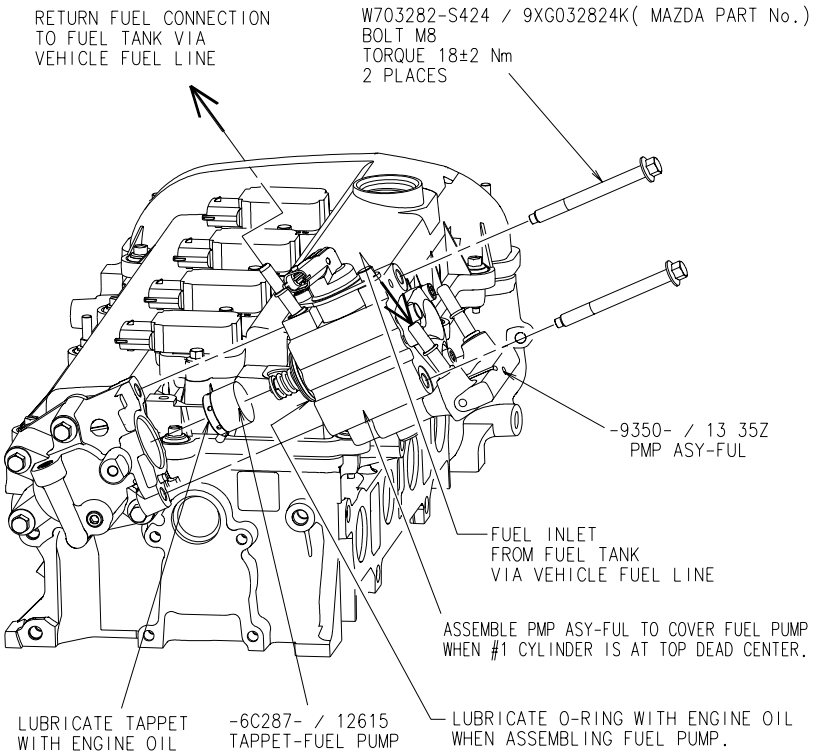
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. No sticking of stain, dust, etc is allowed on fuel pump cover sealing surface of cylinder head and fuel pump cover.
2. If part have scratch on seal face of fuel pump cover, which might give negative effect on sealability, those have to be replaced with good parts.
3. After applying RTV, complete assembling fuel pump cover within 10 min, and then complete tightening all bolts within further 5 min.(within 15 min in total.)

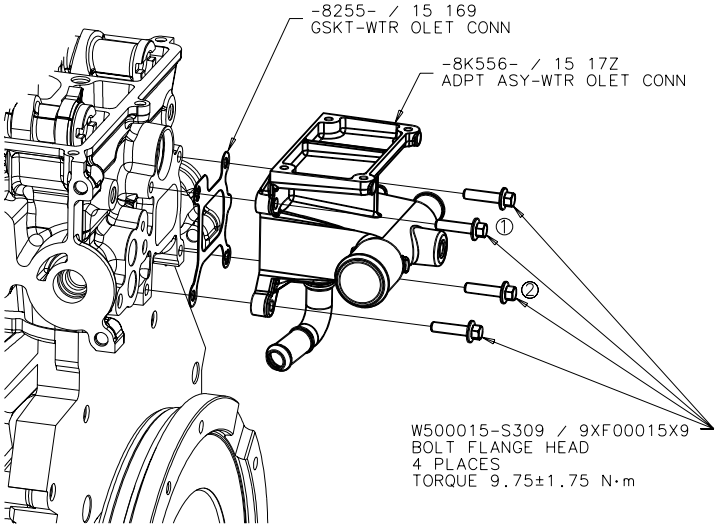
RESTRICTIONS			PART NAME/TITLE: FUEL PUMP COVER ASSEMBLY			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2002 1.8L-4V DI CD132	69-C	70-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE: FUEL PUMP ASSEMBLY			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	AT	EN00 E 11231785 007	'01-07-13	2001 1.8L-4V DI CD132	70-C	71-A	

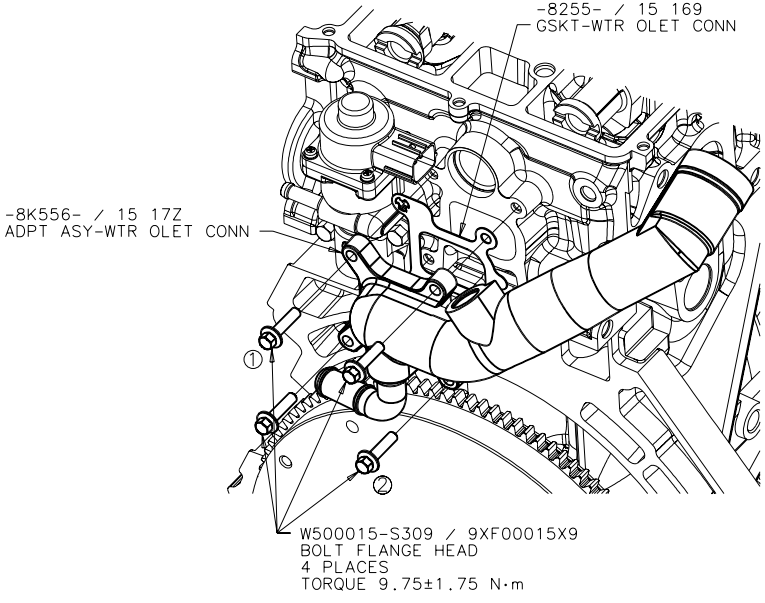
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. BOLTS ① AND ② WILL HELP TO RETAIN THE GASKET TO WATER OUTLET DURING ASSEMBLY.
2. ENSURE GASKET TAB IS AT EXHAUST SIDE.(SEE SKETCH)
3. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR GLEASE/OIL/FOREIGN MATTER WHICH WILL AFFECT SEALABILITY.(INCLUDING CYLINDER HEAD)

RESTRICTIONS			PART NAME/TITLE: WATER OUTLET CONNECTOR & GASKET				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	H	EN00E11007392000	'99-09-06	2001 2.0L-4V NON DI CD132	71-A	71-B	

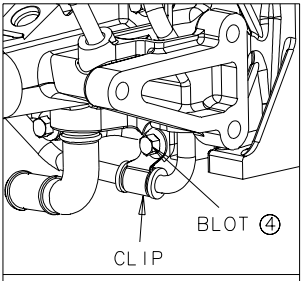
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



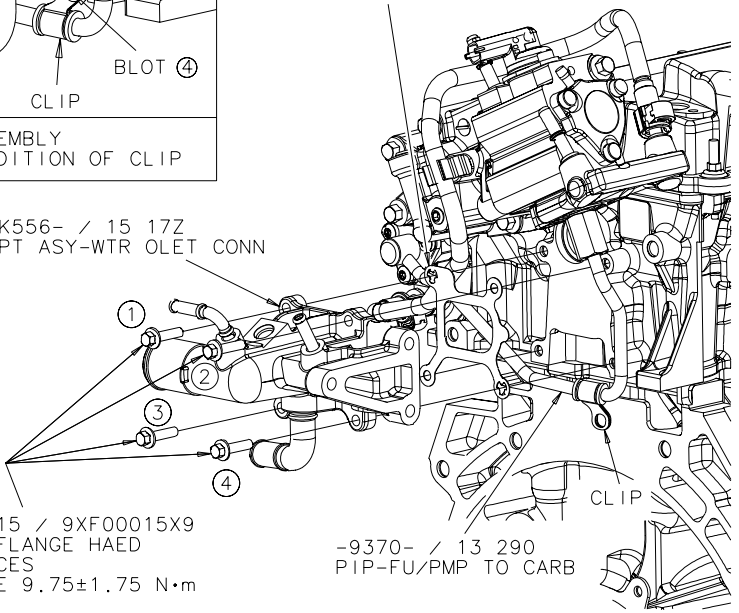
NOTES
1. BOLTS ① AND ② WILL HELP TO RETAIN THE GASKET TO WATER OUTLET DURING ASSEMBLY.
2. ENSURE GASKET TAB IS AT EXHAUST SIDE.(SEE SKETCH)
3. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR GLEASE/OIL/FOREIGN MATTER WHICH WILL AFFECT SEALABILITY.(INCLUDING CYLINDER HEAD)

RESTRICTIONS				PART NAME/TITLE: WATER OUTLET CONNECTOR & GASKET		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	'99-09-06	2001 2.3L-4V NON DI RANGER	71-B	71-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ASSEMBLY
CONDITION OF CLIP

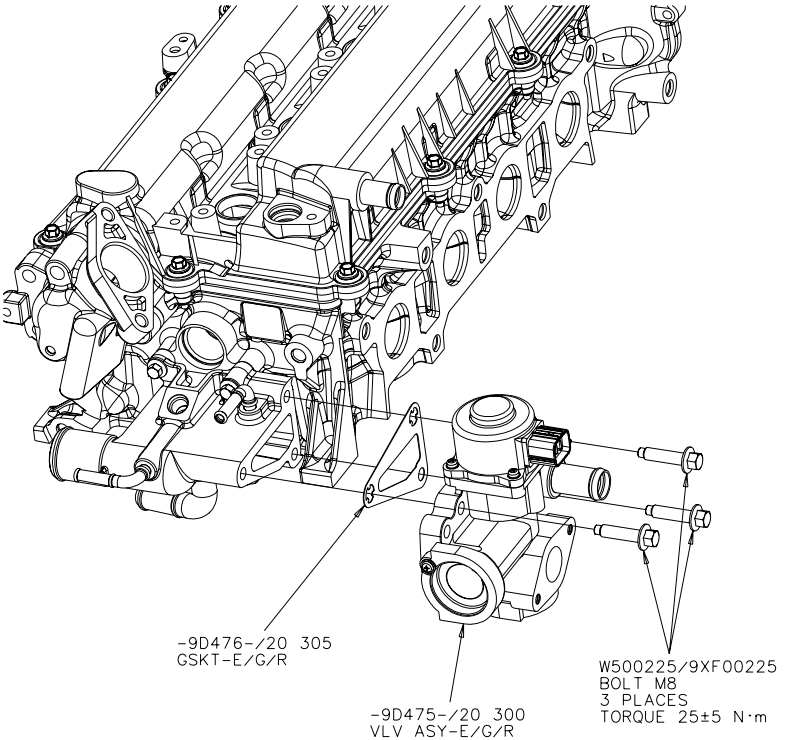


NOTES
1. INSERT BOLT ① & ② TO WATER OUTLET AND GASKET AND ASSEMBLE TO CYLINDER HEAD.
   BOLT ② IS TO RETAIN GASKET.
2. AFTER ASSEMBLING BOLT ③, ROTATE FUEL PIPE CLIP TO MEET BOLT BEARING SURFACE OF WATER OUTLET, AND ASSEMBLY BOLT ④.
3. ENSURE GASKET TAB IS AT EXHAUST SIDE.(SEE SKETCH)
4. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR GLEASE/OIL/FOREIGN MATTER WHICH WILL AFFECT SEALABILITY.(INCLUDING CYLINDER HEAD)

RESTRICTIONS	PART NAME/TITLE: WATER OUTLET CONNECTOR & GASKET

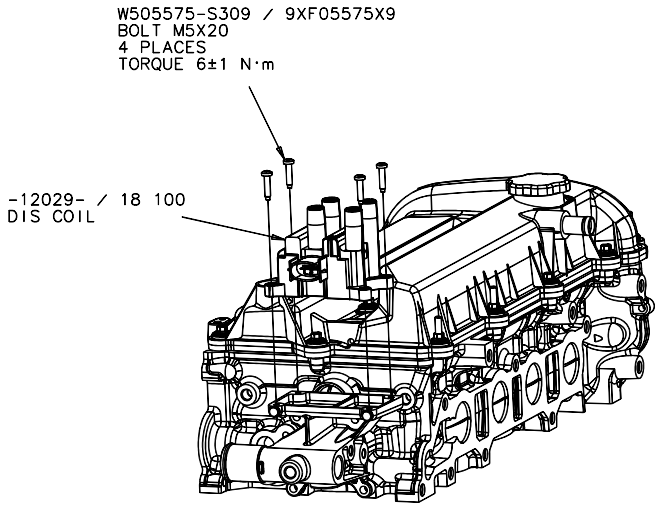
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AT	EN00 E 11231785 007	'01-07-13	2002 1.8L-4V DI CD132	71-C	72-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE EGR VALVE			
SPECIFICATION NO. C1S7G-543-AC	REV W	RELEASE NO. EN00E11140144000	DATE 00-10-01	MODEL 2002 1.8L-4V DI CD132	SHEET 72-C	CONTD. 73-A	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

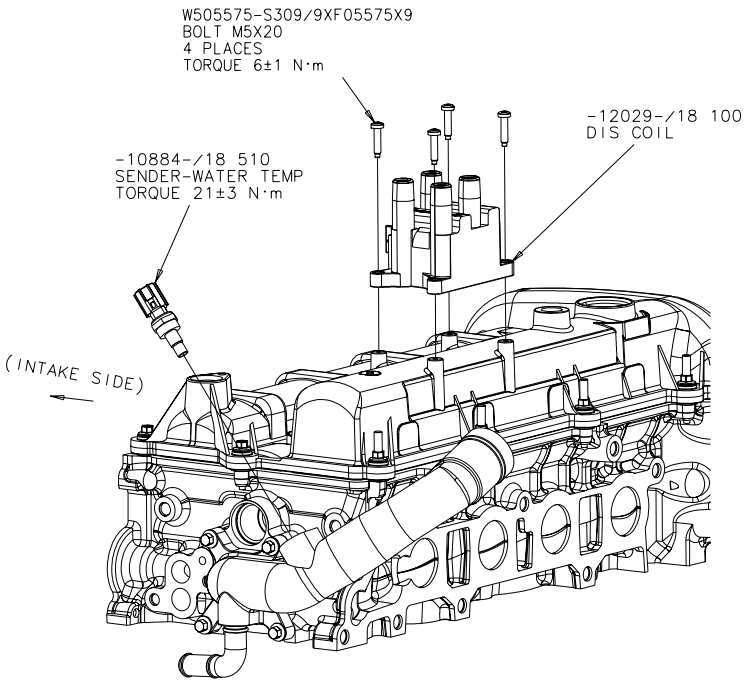


NOTE:

INSTALLATION OF DIS COIL : ORIENTATE THE DIS COIL SO THAT THE ELECTRICAL TERMINALS ARE POINTING AT THE REAR.

RESTRICTIONS			PART NAME/TITLE DIS COIL			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2001 2.0L-4V NON DI	73-A	73-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

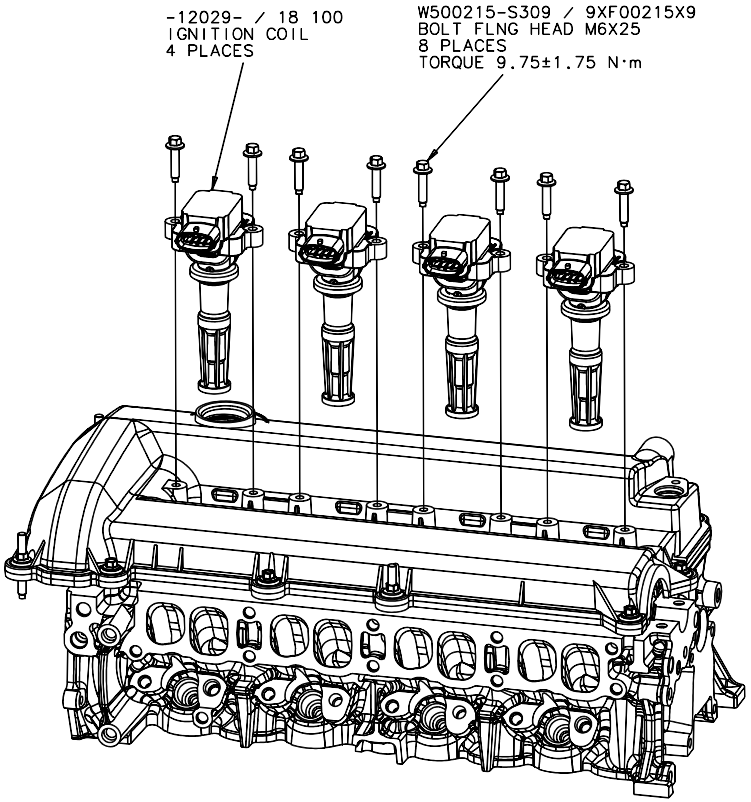


NOTE:

INSTALLATION OF DIS COIL : ORIENTATE THE DIS COIL SO THAT THE ELECTRICAL TERMINALS ARE POINTING AT THE INTAKE.

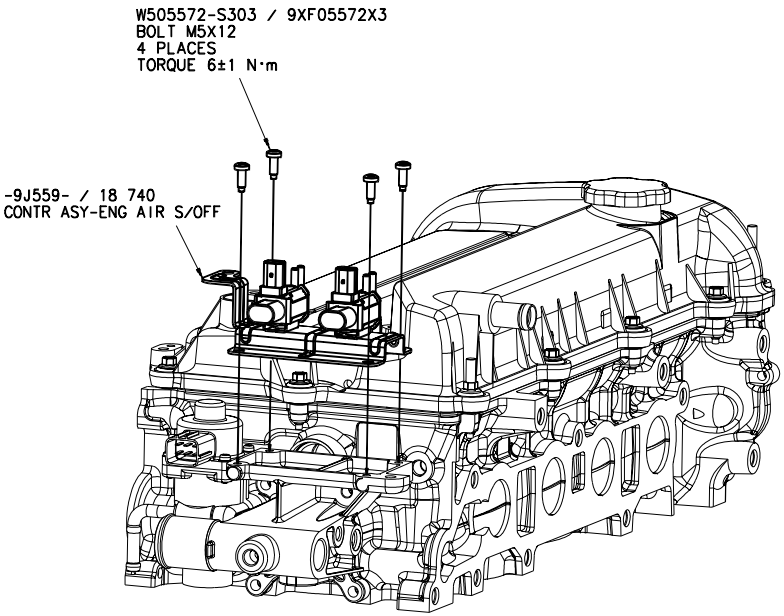
RESTRICTIONS				PART NAME/TITLE: DIS COIL & SENDER-WATER TEMP		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-06-06	2001 2.3L-4V NON DI RANGER	73-B	73-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

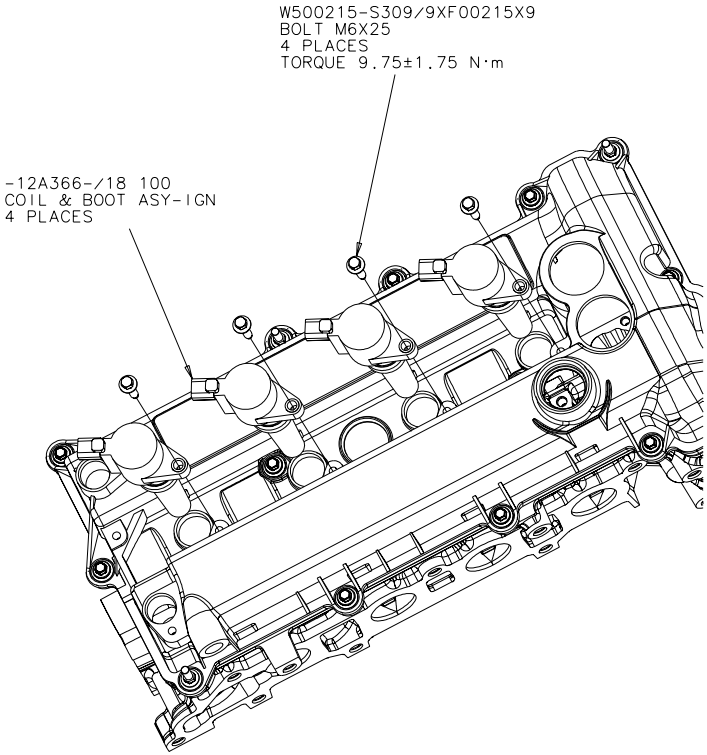


RESTRICTIONS				PART NAME/TITLE: IGNITION COIL			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2002 1.8L-4V DI CD132	73-C	73-D	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

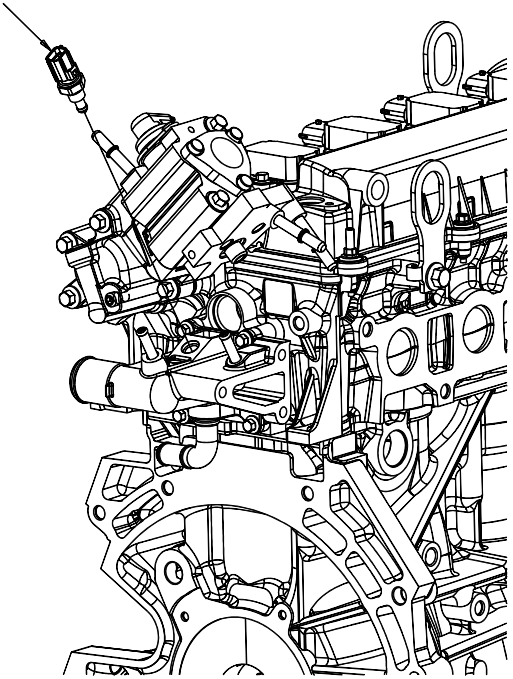


ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



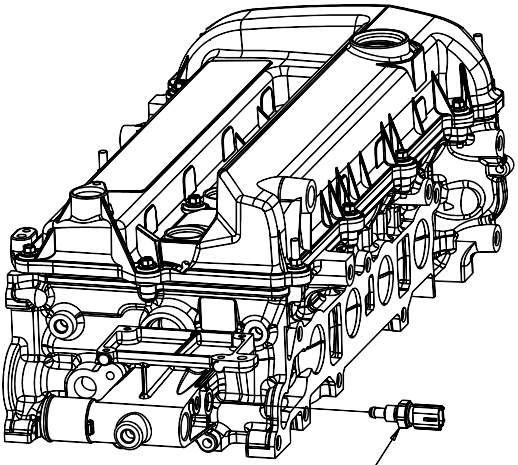
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

-12A648- / 18 840
SENSOR ENGINE COOLING TEMP
TORQUE 12±2 N·m



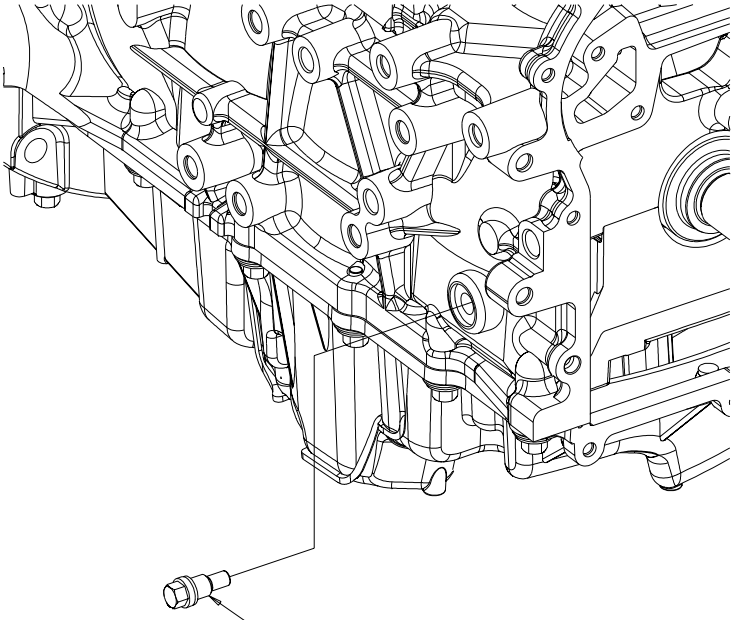
RESTRICTIONS				PART NAME/TITLE SENSOR ECT			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2002 1.8L-4V DI CD132	74-C	74-D	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



-12A648- / 18 840
SENSOR ENGINE COOLING TEMP
TORQUE 12±2 N·m

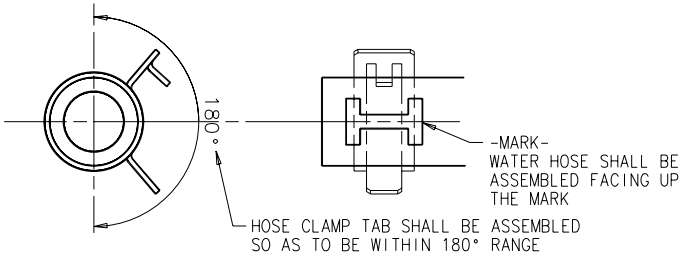
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

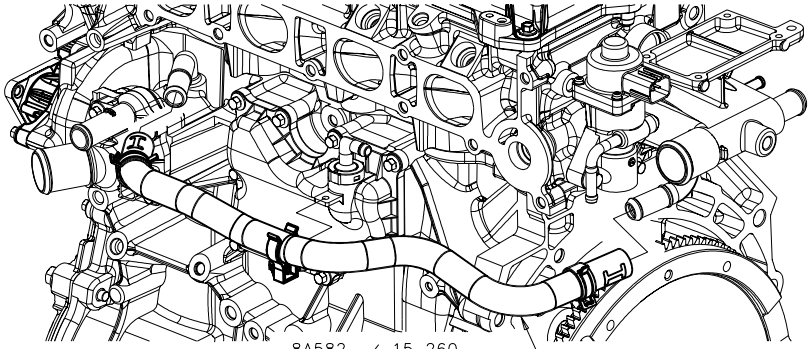


W700115-S309 / 9XG00115X9
PLUG AND WASHER ASY
TORQUE 20±2 N·m
TIMING PIN HOLE
FIT PLUG AFTER COMPLETING
CRANKSHAFT TIMING PROCEDURE

RESTRICTIONS				PART NAME/TITLE **PLUG-TIMING PIN HOLE**		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BD	EN00 E 11271059 000	01-11-02	2001 2.0L-4V NON DI CD132	75	76-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

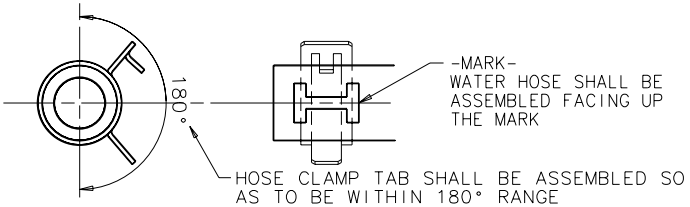


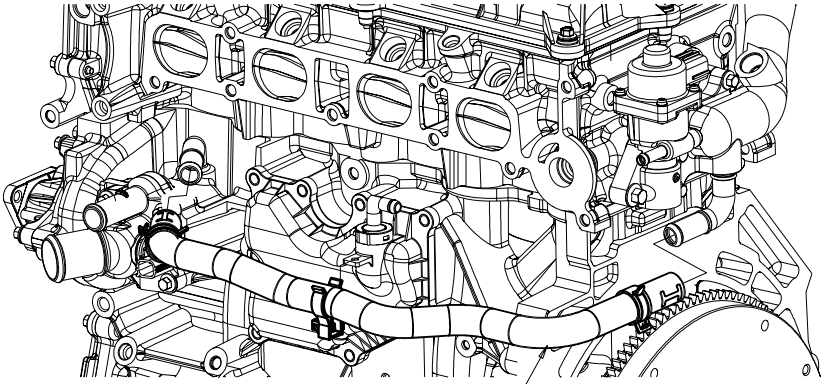


NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A" "ESE-M99B144-B"-Merpol CAN BE USED. ANY OTHER MATERIAL GREASE,OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET.(SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

RESTRICTIONS				PART NAME/TITLE: HOSE&CLAMP ASSY-WATER BYPASS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	X	EN00E11099311000	00-10-13	2001 2.0L-4V NON DI CD132	76-A	76-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

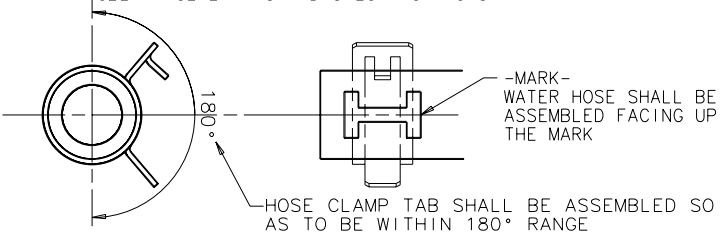


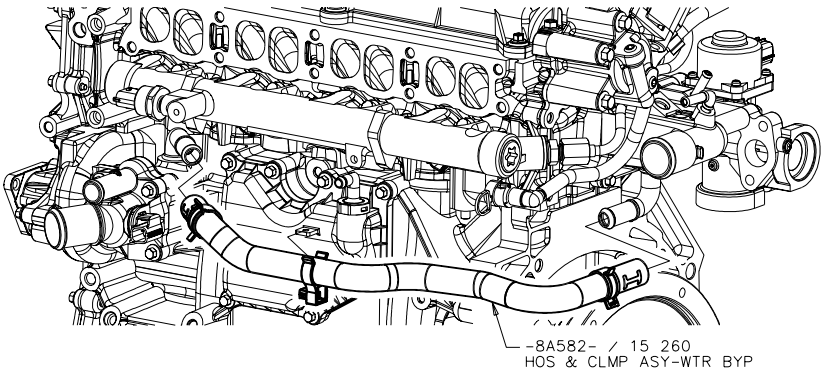


NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A" "ESE-M99B144-B"-Merpol CAN BE USED. ANY OTHER MATERIAL GREASE,OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET.(SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

RESTRICTIONS			PART NAME/TITLE: HOSE&CLAMP ASSY-WATER BYPASS				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	X	EN00E11099311000	00-10-13	2001 2.3L-4V NON DI RANGER	76-B	76-C	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

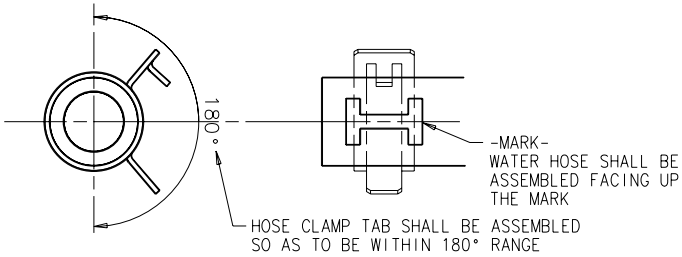


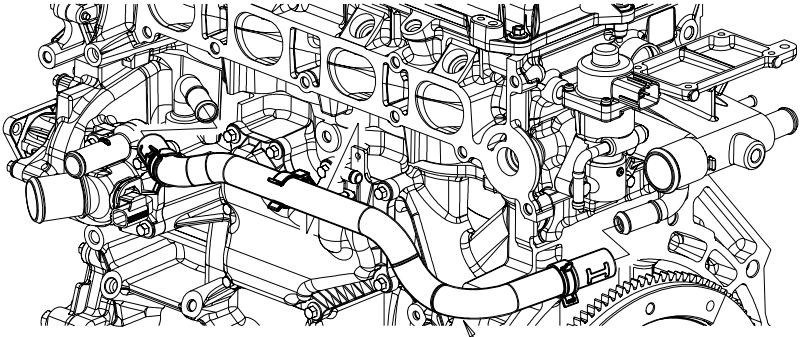


NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A" "ESE-M99B144-B"-Merpol CAN BE USED. ANY OTHER MATERIAL GREASE,OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET.(SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

RESTRICTIONS				PART NAME/TITLE: HOSE&CLAMP ASSY-WATER BYPASS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	X	EN00E11099311000	00-10-13	2002 1.8L-4V DI CD132	76-C	76-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

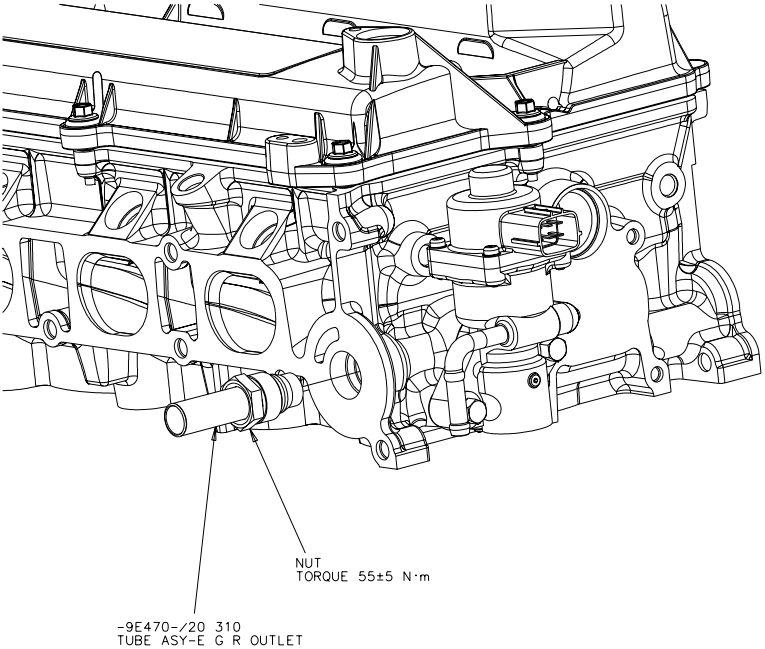




NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A" "ESE-M99B144-B"-Merpol CAN BE USED. ANY OTHER MATERIAL GREASE,OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET.(SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

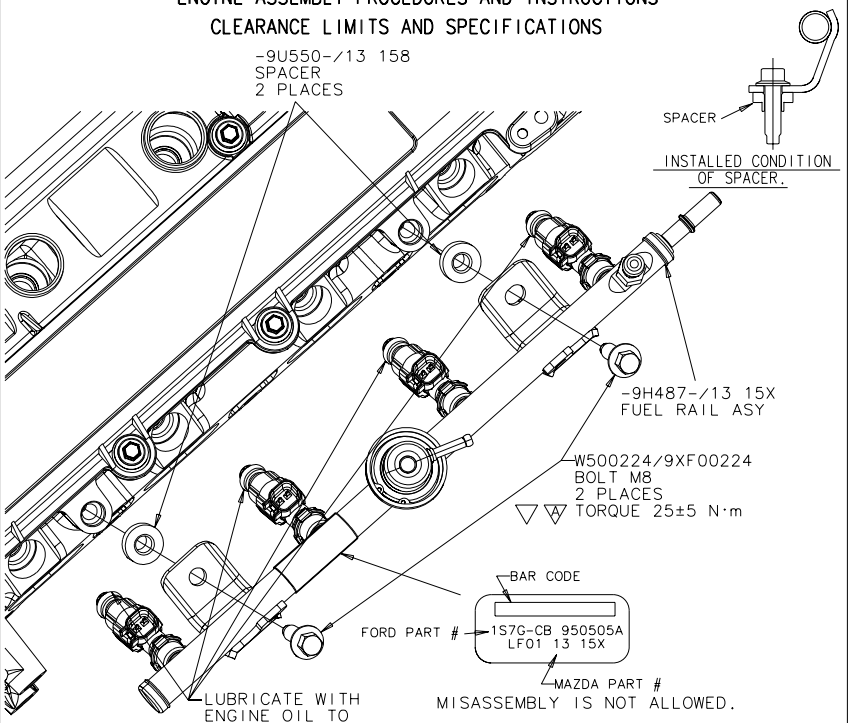
RESTRICTIONS				PART NAME/TITLE: HOSE&CLAMP ASSY-WATER BYPASS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	X	EN00E11099311000	00-10-13	2003 2.3L-4V NON-DI J56J	76-D	77

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS			PART NAME/TITLE: EGR TUBE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	77	78-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



MISASSEMBLY IS NOT ALLOWED.

BAR COED IS AVAILABLE FOR CHECKING CORRECT FUEL RAIL TO CORRECT ENGINE.

PROCEDURE
1. INSERT THE SPACERS INTO CYLINDER HEAD.
2. INSTALL THE FCA UNTIL THE BRACKETS CONTACT TO THE SPACERS.
3. ENGAGE THE BOLTS IN THREAD.
4. TIGHTEN BOLTS TO SPECIFIED TORQUE.

ENGINE	FORD PART #	MAZDA PART #
1.8L	1S7G-D*	L801 13 15X
2.0L	1S7G-C*	LF01 13 15X
2.3LE/W	2L8G-A*	L305 13 15X

*:REVISION NUMBER

ENGINE	INJECTOR COLOR
1.8L NON-DI	LIGHT GRAY
2.0L NON-DI	BLACK
2.3L NON-DIE/W	BLACK

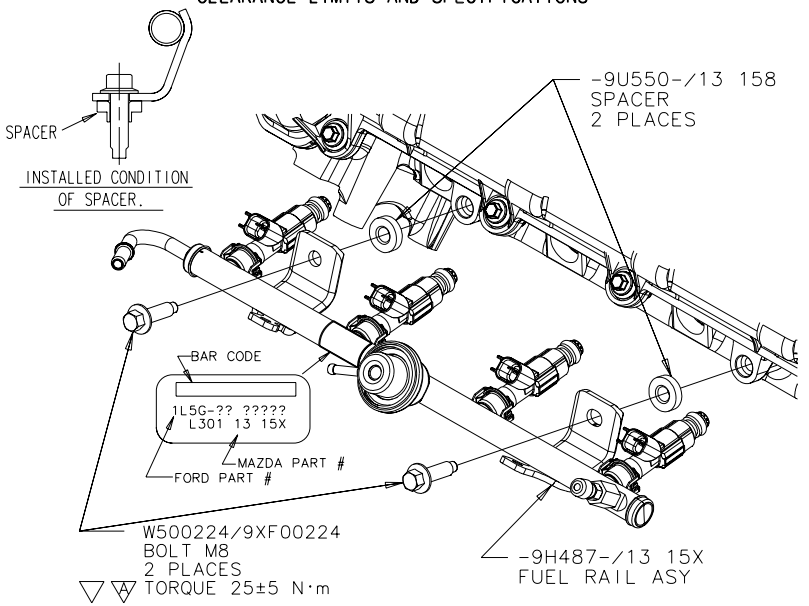
NOTE: INTAKE MANIFOLD OMMITTED FOR CLARITY.

RESTRICTIONS

PART NAME/TITLE
FUEL RAIL ASSEMBLY

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2001 2.0L-4V NON DI CD132	78-A	78-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



PROCEDURE
1. INSERT THE SPACERS INTO CYLINDER HEAD.
2. INSTALL THE FCA UNTIL THE BRACKETS CONTACT TO THE SPACERS.
3. ENGAGE THE BOLTS IN THREAD.
4. TIGHTEN BOLTS TO SPECIFIED TORQUE.

MISASSEMBLY IS NOT ALLOWED.

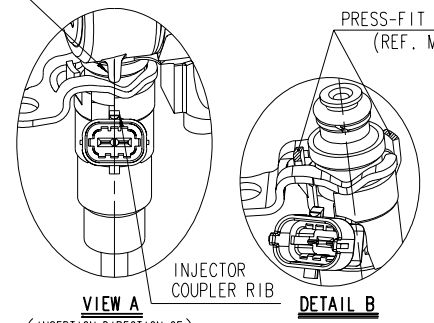
BAR CODE IS AVAILABLE FOR CHECKING CORRECT FUEL RAIL TO CORRECT ENGINE.

ENGINE	FORD PART #	MAZDA PART #	INJECTOR COLOR
2.3L NS	1L5G-D*	L301 13 15X	LIGHT GRAY
2.3L NS GASOHOL/LEADED	1L5G-E*	L303 13 15X	LIGHT GRAY
2.3L NS	4L5G-A*	L356 13 15X	———

*: REVISION NUMBER

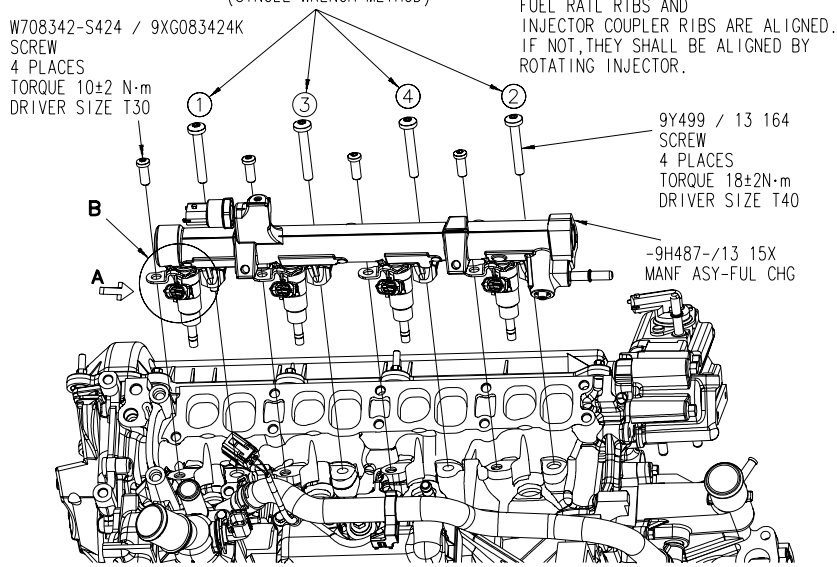
RESTRICTIONS			PART NAME/TITLE: FUEL RAIL ASSYEMBLY			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BD	EN00 E 11271059 000	01-11-02	2001 2.3L-4V NON DI RANGER	78-B	78-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



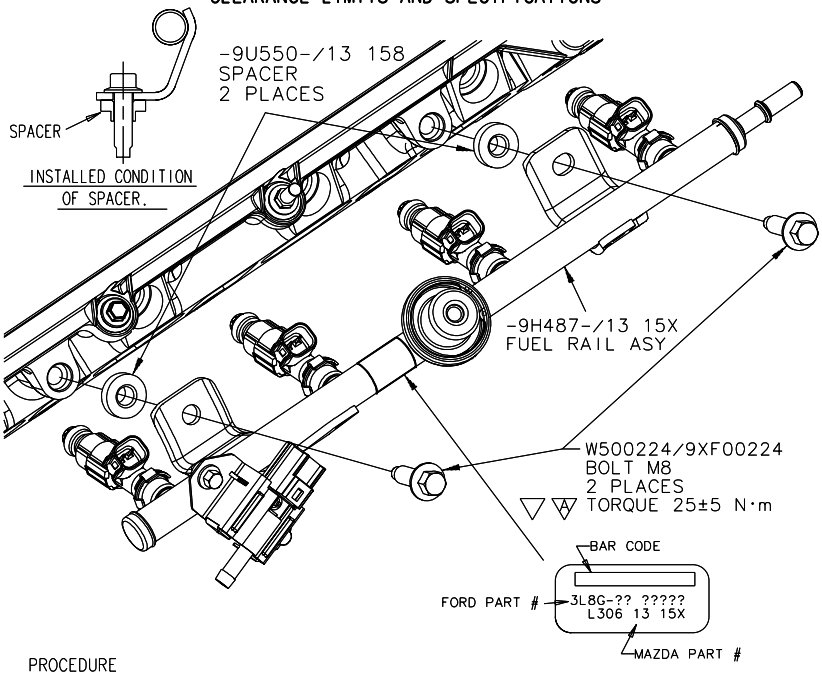
NOTE

1. BEFORE ASSEMBLING MANF ASY-FUL CHG TO CYLINDER HEAD MAKE SURE THAT FUEL RAIL RIB AND INJECTOR COUPLER RIB ARE ALIGNED. (REFER VIEW A)
2. PRESS FIT MANF ASY-FUL CHG TO PRESS-FIT CONTACTS SPECIFIED IN DETAIL B.
3. TIGHTEN FUEL RAIL FIXING BOLTS AFTER PRESS-FITTING MANF ASY-FUL CHG.
4. TIGHTEN STOPPER PLATE BOLTS AFTER TIGHTENING FUEL RAIL BOLTS. BEFORE AND AFTER TIGHTENING STOPPER PLATE BOLTS,CHECK IF FUEL RAIL RIBS AND INJECTOR COUPLER RIBS ARE ALIGNED. IF NOT,THEY SHALL BE ALIGNED BY ROTATING INJECTOR.



RESTRICTIONS				PART NAME/TITLE: FUEL RAIL ASSEMBLY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AT	EN00 E 11231785 007	'01-07-13	2001 1.8L-4V DI CD132	78-C	78-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



PROCEDURE
1. INSERT THE SPACERS INTO CYLINDER HEAD.
2. INSTALL THE FCA UNTIL THE BRACKETS CONTACT TO THE SPACERS.
3. ENGAGE THE BOLTS IN THREAD.
4. TIGHTEN BOLTS TO SPECIFIED TORQUE.

MISASSEMBLY IS NOT ALLOWED.

BAR COED IS AVAILABLE FOR CHECKING CORRECT FUEL RAIL TO CORRECT ENGINE.

ENGINE	FORD PART #	MAZDA PART #
2.3L E/W	3L8G-A*	L306 13 15X

*:REVISION NUMBER

NOTE: INTAKE MANIFOLD OMMITTED FOR CLARITY.

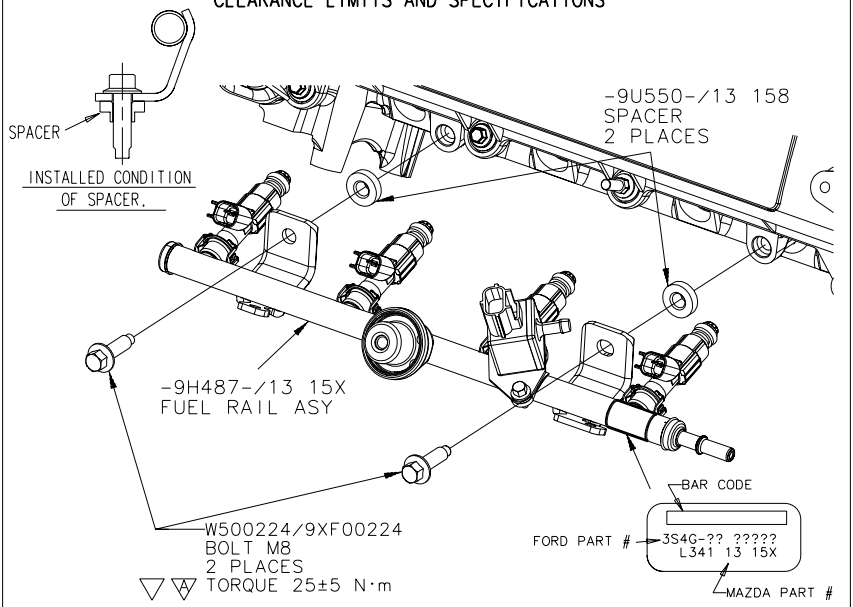
ENGINE	INJECTOR COLOR
2.3L NON-DIE/W	NECTARINE

RESTRICTIONS				PART NAME/TITLE: FUEL RAIL ASSYEMBLY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AD	EN00 E 11177532 000	010129	2003 2.3L-4V NON DI U204	78-D	78-E

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



PROCEDURE
1. INSERT THE SPACERS INTO CYLINDER HEAD.
2. INSTALL THE FCA UNTIL THE BRACKETS CONTACT TO THE SPACERS.
3. ENGAGE THE BOLTS IN THREAD.
4. TIGHTEN BOLTS TO SPECIFIED TORQUE.

MISASSEMBLY IS NOT ALLOWED.

BAR COED IS AVAILABLE FOR CHECKING CORRECT FUEL RAIL TO CORRECT ENGINE.

ENGINE	FORD PART #	MAZDA PART #
2.3LE/W	3S4G-A*	L341 13 15X

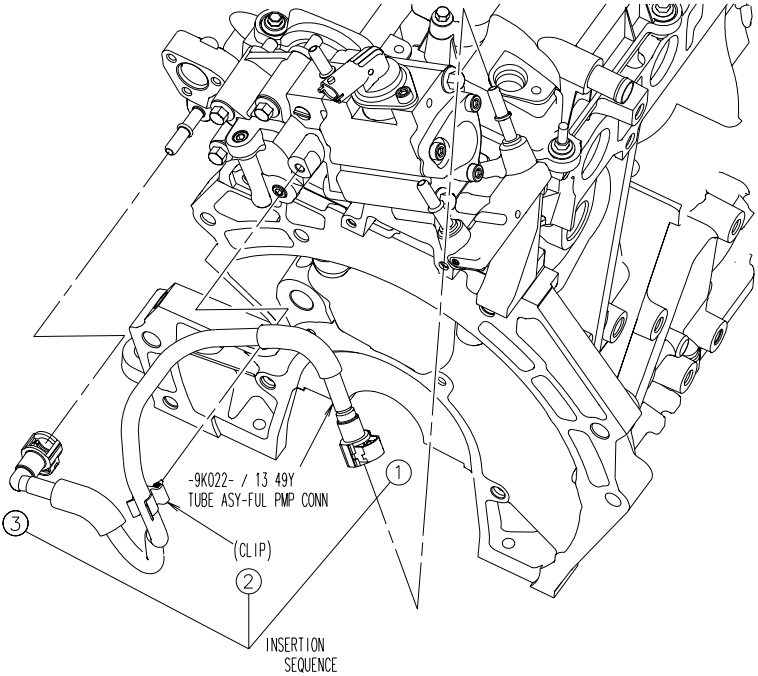
*:REVISION NUMBER

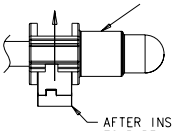
NOTE: INTAKE MANIFOLD OMMITTED FOR CLARITY.

ENGINE	INJECTOR COLOR
2.3L NON-DIE/W	FIRE RED

RESTRICTIONS			PART NAME/TITLE: FUEL RAIL ASSEMBLY			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C3S4G-543-AC	AV	EN00 E 11252991 000	01-08-11	2003 2.3L-4V NON DI C170	78-F	79-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS





TUB ASY FUL PMP CONN PROCEDURE

DETAIL-A

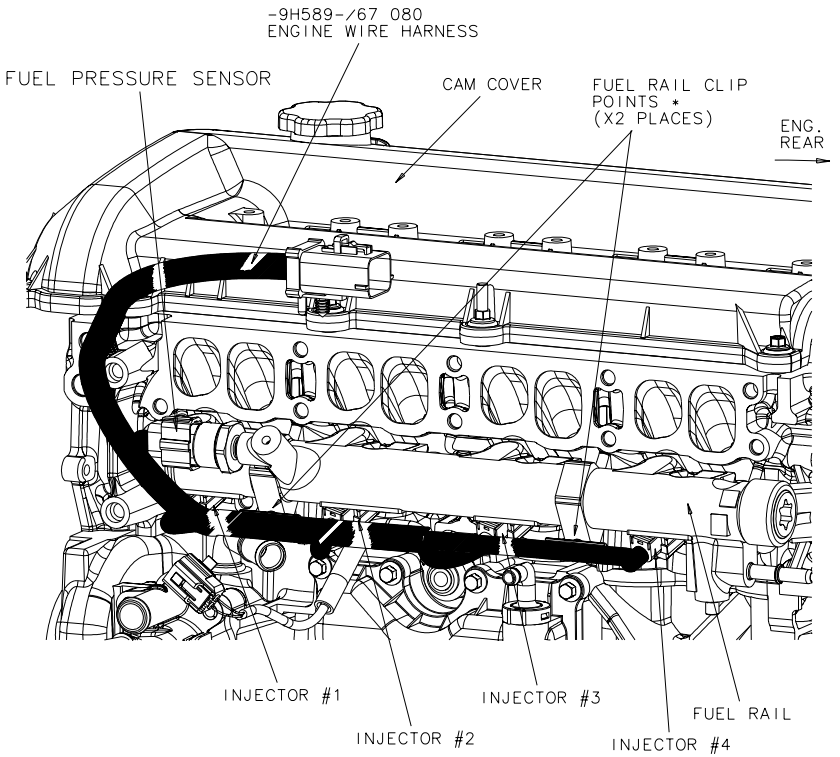
ASSEMBLY PROCEDURE
(1) INSERT QUICK CONNECTOR TO FUEL PIPE TO THE END.
(2) PUSH UPWARD THE LOCKING FEATURE (RED PART) TO LOCK ON THE PIPE AS SHOWN IN DETAIL-A.
(3) AFTER THE LOCKING FEATURE OF QUICK CONNECTOR IS LOCKED, SLIDE QUICK CONNECTORS BACK AND FORTH IN PIPE AXIAL DIRECTION ONE TIME, AND MAKE SURE THEY DO NOT COME OFF.

REMOVAL PROCEDURE
(1) PINCH THE RETAINING TABS ON THE LOCKING FEATURE AND SIMULTANEOUSLY PUSH DOWN.
(2) PULL THE QUICK CONNECTOR.

RESTRICTIONS	PART NAME/TITLE: FUEL RETURN HOSE

SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AT	EN00 E 11231785 007	'01-07-13	2001 1.8L-4V DI CD132	79-C	80-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

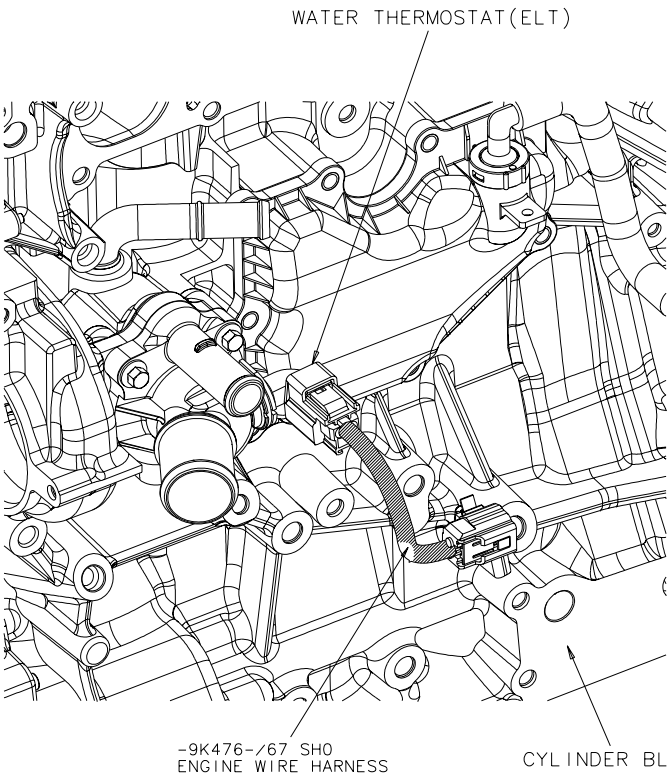


ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.
1. CLIP HARNESS TO FUEL RAIL. (2 PLACES)
2. CONNECT INJECTOR #1-#4. (4 PLACES)
3. CONNECT FUEL PRESSURE SENSOR.

(NOTE1) ALL 2 CLIPS (*) ARE HARNESS-INTEGRATED PLASTIC RETAINERS.
(NOTE2) THE ELECTRICAL CONNECTORS SHOULD BE INSERTED STRAIGHT AND CONFIRMED WHETHER THEY ARE IN THEIR "LOCKED" POSITION.

RESTRICTIONS			PART NAME/TITLE: ENGINE WIRE HARNESS				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2002 1.8L-4V DI CD132	80-C	81-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

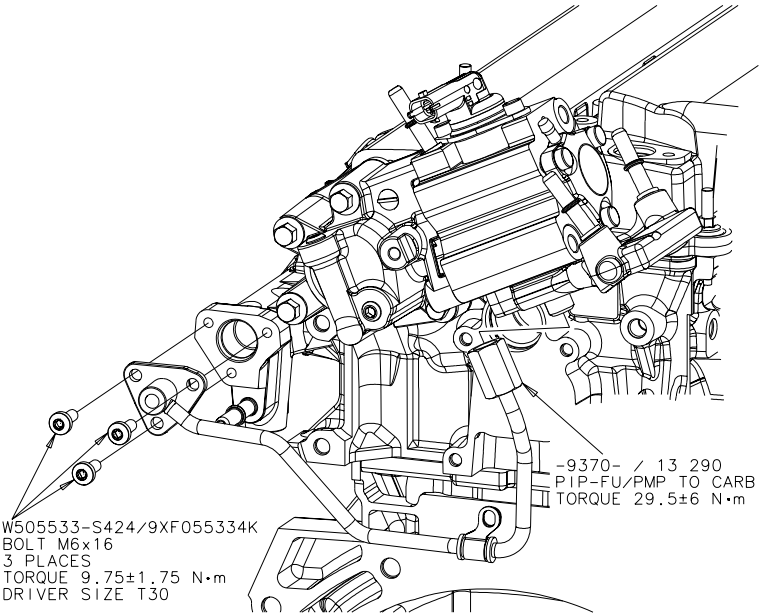


ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.
1. CONNECT THERMOSTAT(ELT)

(NOTE1) THE ELECTRICAL CONNECTOR SHOULD BE INSERTED STRAIGHT AND CONFIRMED WHETHER IT IS IN ITS "LOCKED" POSITION.

RESTRICTIONS				PART NAME/TITLE: ENGINE WIRE HARNESS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AH	EN00E11190272000	01-03-28	2003 2.3L-4V NONDI	81-C	82-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

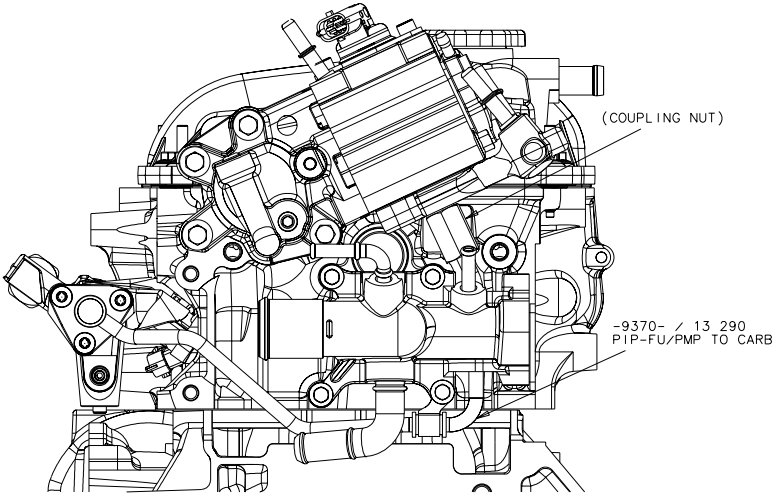


ASSEMBLY PROCEDURE

(1) LUBRICATE O-RING WITH ENGINE OIL ON
FUEL RAIL SIDE OF THE PIP-FU/PMP TO CARB.
(2) ASSEMBLE THE CONNECTION OF
FUEL RAIL SIDE SQUARELY TO AVOID O-RING DISTORTION.
(3) LIGHTLY TIGHTEN THE THREE FIXING BOLTS ON FUEL RAIL SIDE.
(4) LIGHTLY TIGHTEN THE COUPLING NUT ON
FUEL PUMPSIDE OF THE PIP-FU/PMP TO CARB.
(5) TIGHTEN THE COUPLING NUT ON FUEL PUMP SIDE OF
THE PIP-FU/PMP TO CARB WITH SPECIFIED TORQUE.
(6) TIGHEN THE THREE FIXING BOLTS ON
FUEL RAIL SIDE WITH SPECIFIED TORQUE.

RESTRICTIONS			PART NAME/TITLE: HIGH PRESSURE FUEL PIPE				
SPECIFICATION NO.	REV.	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C1S7G-543-AC	AT	EN00 E 11231785 007	'01-07-13	2001 1.8L-4V DI CD132		82-C	83-C

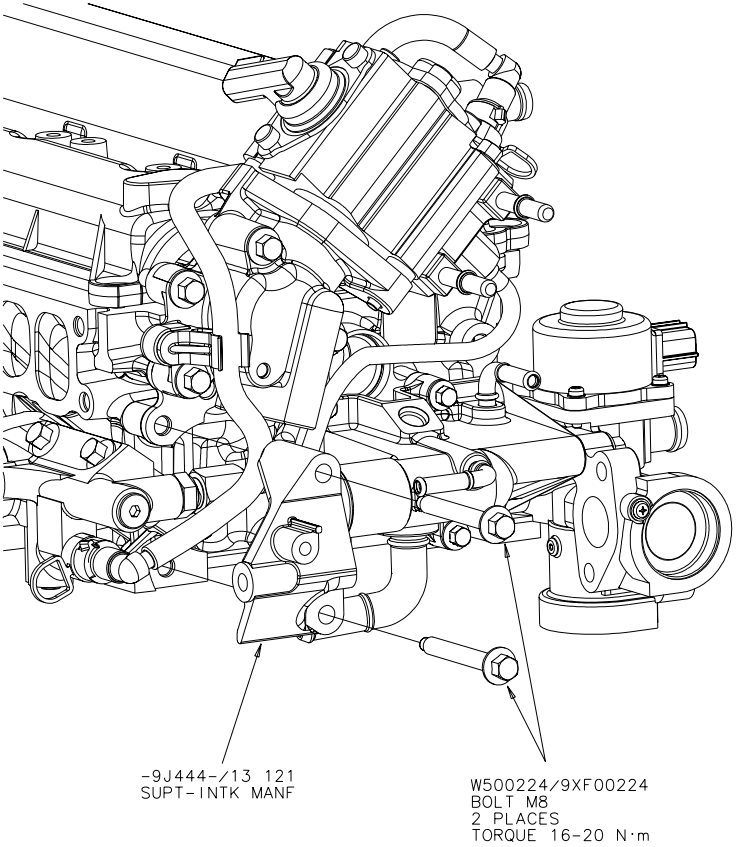
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



< NOTE >
BECAUSE SOME AMOUNT OF PRESSURE REMAINS IN FUEL PATH, USE ABSORBABLE PAPER TO PREVENT FUEL FROM SPLASHING WHEN TO REMOVE CONNECTORS FROM FUEL PIPE ENDS.
DO NOT RE-USE PAPER.

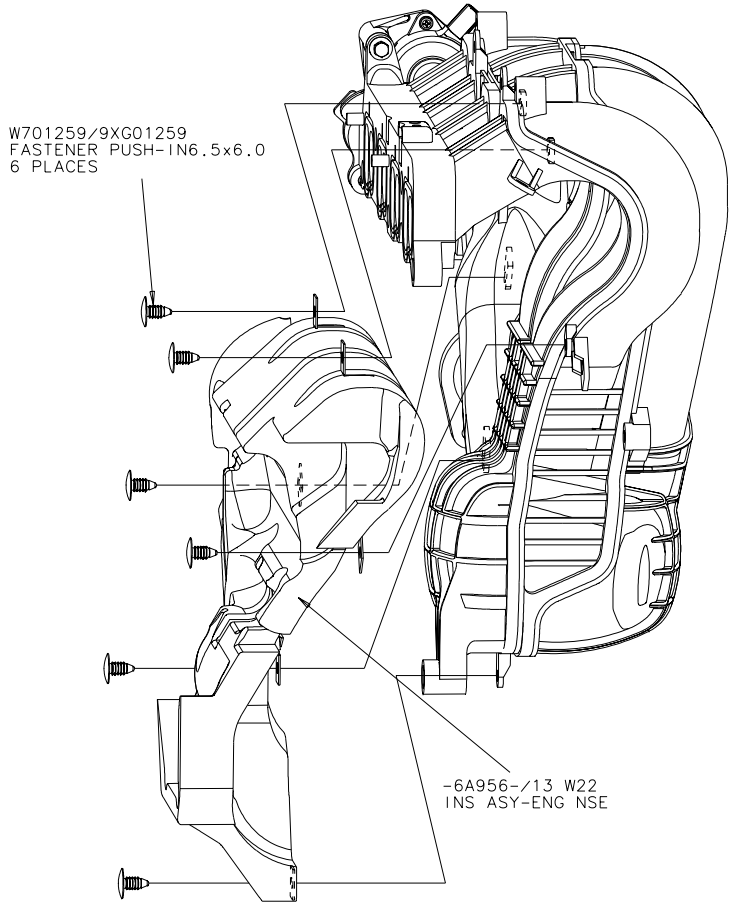
REMOVAL PROCEDURE
(1) LOOSEN THE COUPLING NUT(WRENCH SIZE:19mm) ON FUEL PUMP SIDE OF THE PIP-FU/PMP TO CARB.
(2) LOOSEN THE THREE FIXING BOLTS ON FUEL RAIL SIDE.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



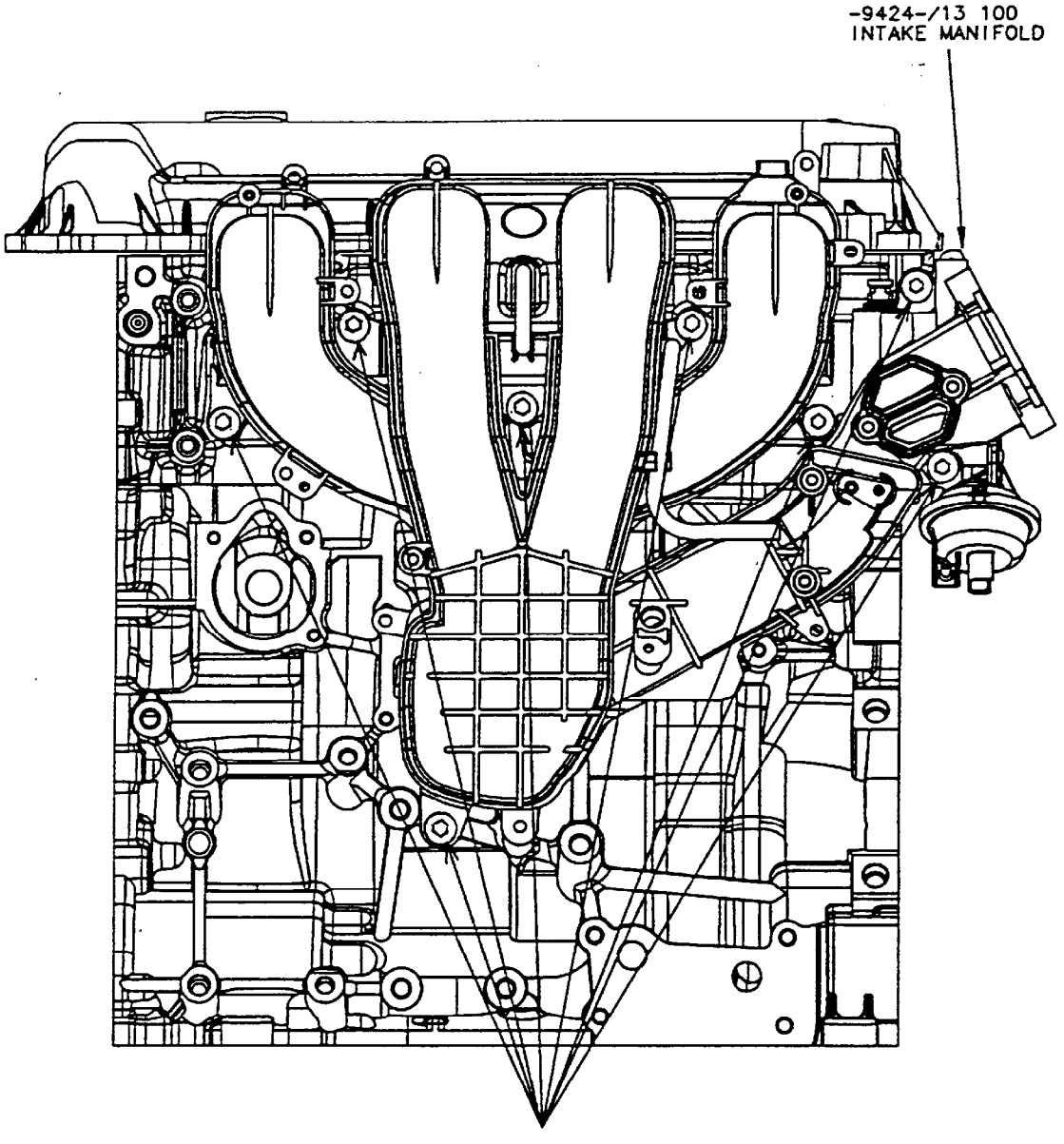
RESTRICTIONS			PART NAME/TITLE: SUPT-INTK MANF				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
CIS7G-543-AC	T	EN00E11095813000	00-06-30	2002 1.8L-4V DI CD132		84-C	84-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE FUEL RAIL COVER		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	T	EN00E11095813000	00-06-30	2002 1.8L-4V DI CD132	84-D	85-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

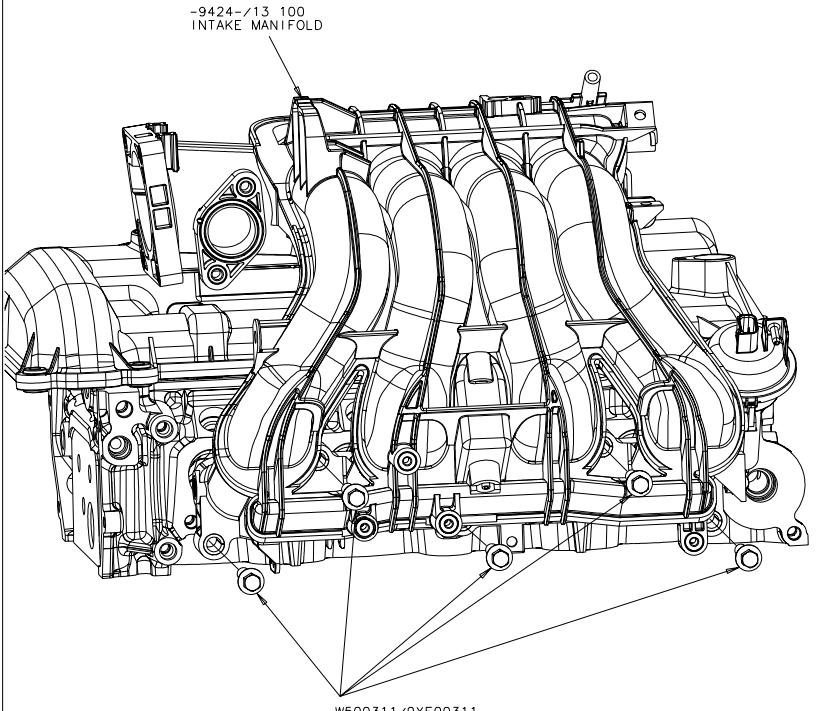


W500311/9XF00311
BOLT M8
8 PLACES
TORQUE 18±2 N·m

NOTES
1. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR FOREIGN MATTER WHICH WILL AFFECT SEALABILITY. (INCLUDING CYLINDER HEAD)
2. THE GASKET MUST BE FITTED TO SEAL GOOVE BEFORE ASSEMBLY.
3. DO NOT ASSEMBLE PARTS THAT HAVE DAMAGE.

RESTRICTIONS	PART NAME/TITLE: INTAKE MANIFOLD					
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.0L-4V NON DI CD132	85-A	85-B

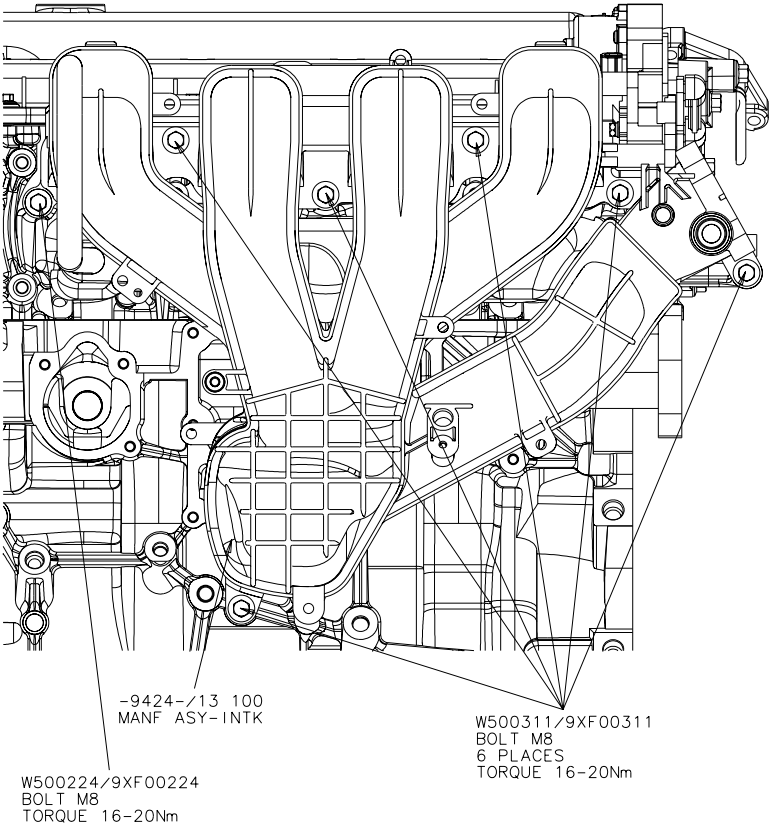
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR FOREIGN MATTER WHICH WILL AFFECT SEALABILITY. (INCLUDING CYLINDER BLOCK)
2. THE GASKET MUST BE FITTED TO SEAL GOOVE BEFORE ASSEMBLY.
3. DO NOT ASSEMBLE PARTS THAT HAVE DAMAGE.

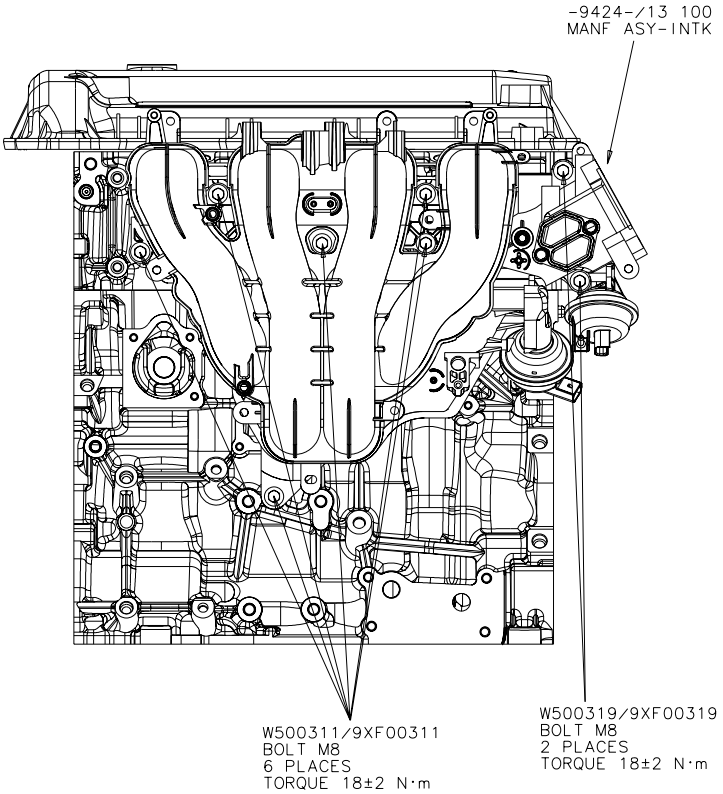
RESTRICTIONS			PART NAME/TITLE: INTAKE MANIFOLD				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
CIS7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.3L-4V NON DI RANGER		85-B	85-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE: INTK MANF		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	D	EN00F10933475002	99-03-31	2002 1.8L-4V DI CD132	85-C	85-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



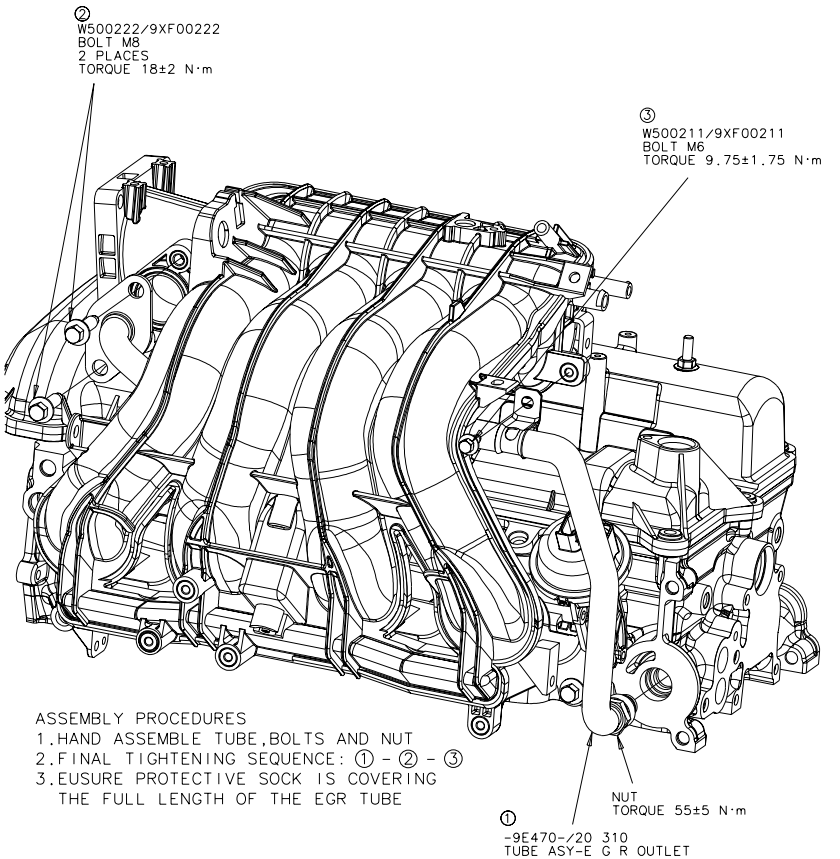
NOTES
1. DO NOT ASSEMBLE PARTS WHERE THERE ARE SCRATCHES OR FOREIGN MATTER WHICH WILL AFFECT SEALABILITY.(INCLUDING CYLINDER HEAD)
2. THE GUSKET MUST BE FITTED TO SEAL GROOVE BEFORE ASSENBLY.
3. DO NOT ASSENBLE PARTS THAT HAVE DAMAGE.

RESTRICTIONS			PART NAME/TITLE: INTAKE MANIFOLD				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
CIS7G-543-AC	BL	EN00E11271652000	01-11-15	2002 2.3L-4V NON DI		85-D	86-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

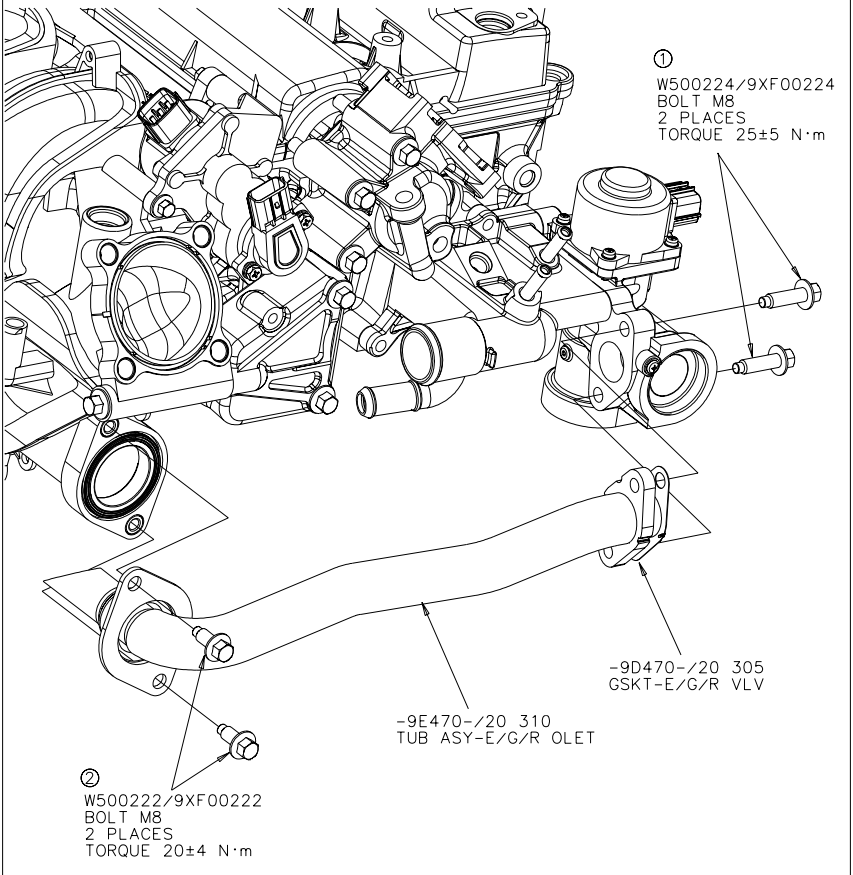
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ASSEMBLY PROCEDURES
1. HAND ASSEMBLE TUBE, BOLTS AND NUT
2. FINAL TIGHTENING SEQUENCE: ① - ② - ③
3. EUSURE PROTECTIVE SOCK IS COVERING THE FULL LENGTH OF THE EGR TUBE

RESTRICTIONS			PART NAME/TITLE: EGR TUBE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.3L-4V NON DI RANGER		87-B	87-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



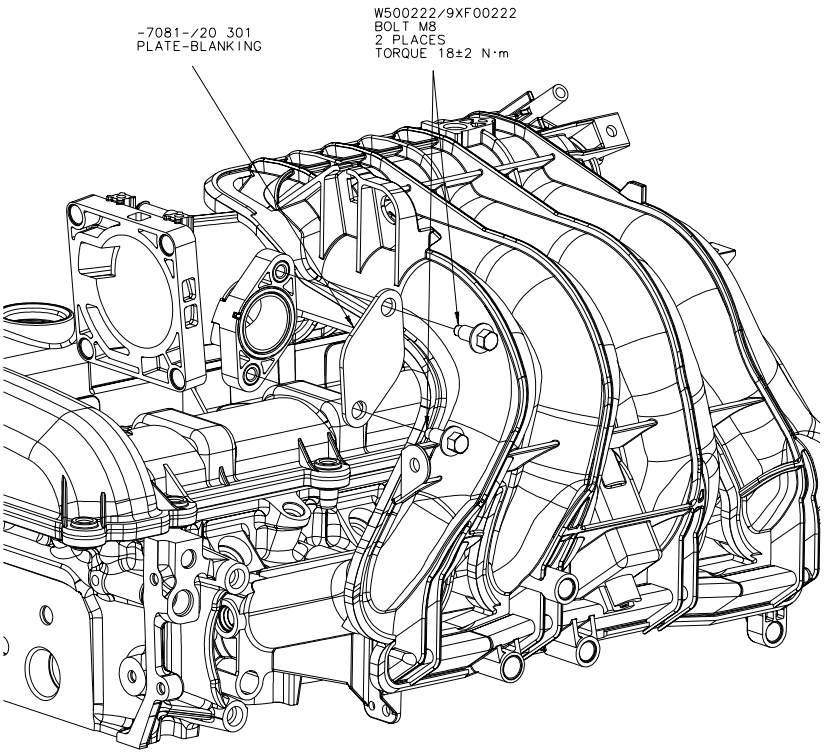
TIGHTENING ORDER: ① - ②

RESTRICTIONS			PART NAME/TITLE: EGR OUTLET				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C1S7G-543-AC	T	EN00E11095813000	00-06-30	2002 1.8L-4V DI CD132		87C	87D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

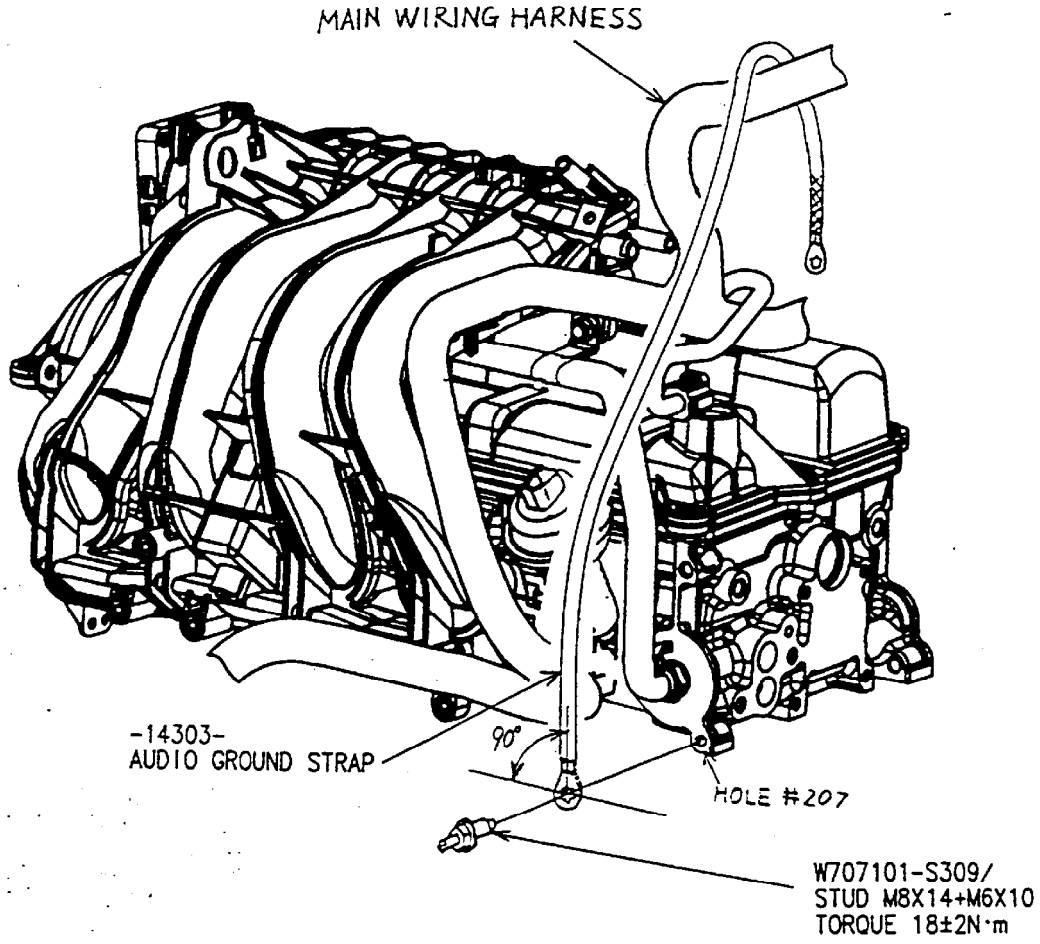
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



FOR GASHOL/LEADED,ONLY

RESTRICTIONS			PART NAME/TITLE: EGR BLANKING PLATE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.3L-4V NON DI RANGER	87-E	87-F	

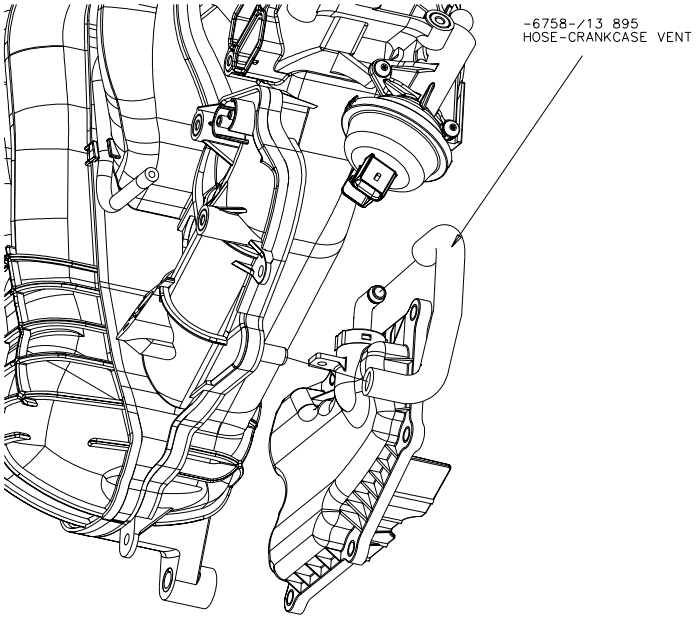
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. ASSEMBLE THE LARGE EYELET END UNDER THE STUD TO CYLINDER HEAD HOLE 207 WITH EYELET POINTING VERTICAL.
2. THE VEHICLE SIDE EYELET SHOULD BE LOOPED OVER THE MAIN WIRING HARNESS. (SEE SKETCH)

RESTRICTIONS				PART NAME/TITLE: AUDIO GROUND STRAP		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.3L-4V NON DI RANGER	87-F	88-A

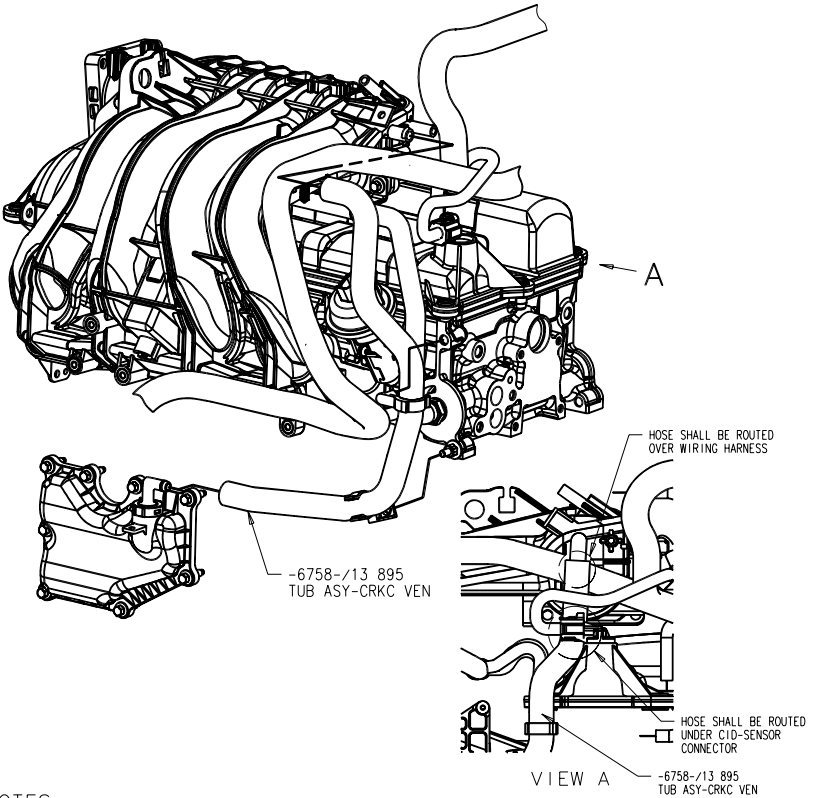
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. HOSE SHALL BE INSERTED TO FULL DEPTH.
2. HOSE CAN BE ASSEMBLED TO EITHER END.
3. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A" "ESE-M99B144-B"-Merpol CAN BE USED.

RESTRICTIONS			PART NAME/TITLE: CRANKCASE VENTILATION				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
CIS7G-543-AC	X	EN00E11099311000	00-10-13	2001 2.0L-4V NON DI CD132	88-A	88-B	

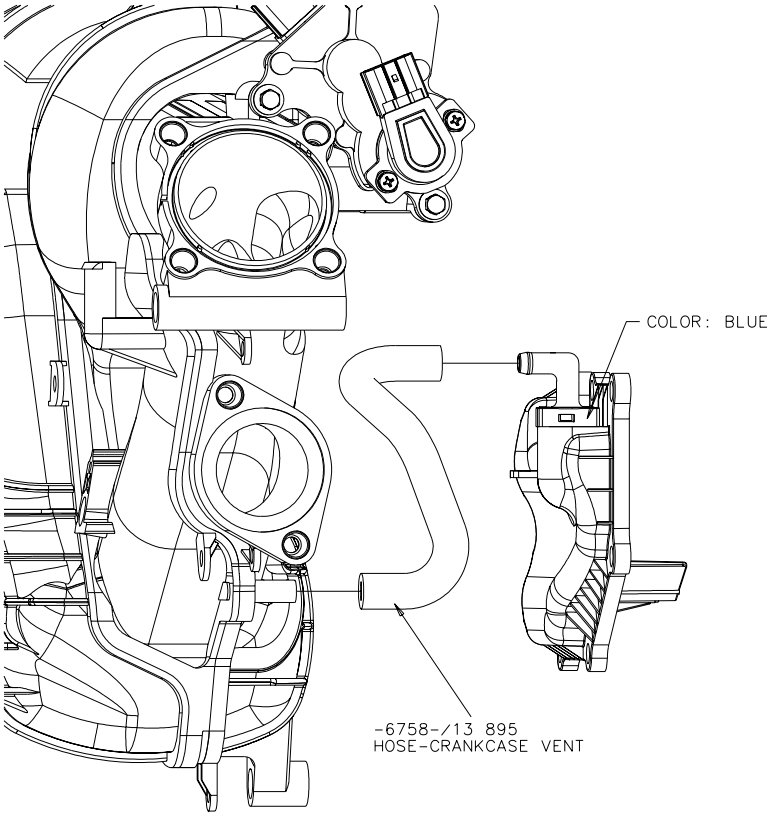
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. HOSE SHALL BE INSERTED INTO NIPPLE TO FULL DEPTH.
2. CLIP SHALL BE INSERTED INTO THREAD TO FULL DEPTH.
3. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A" "ESE-M99B144-B"-Merpol CAN BE USED.

RESTRICTIONS			PART NAME/TITLE: CRANKCASE VENTILATION			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	X	ENOOE11099311000	00-10-13	2001 2.3L-4V NON DI RANGER	88-B	88-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



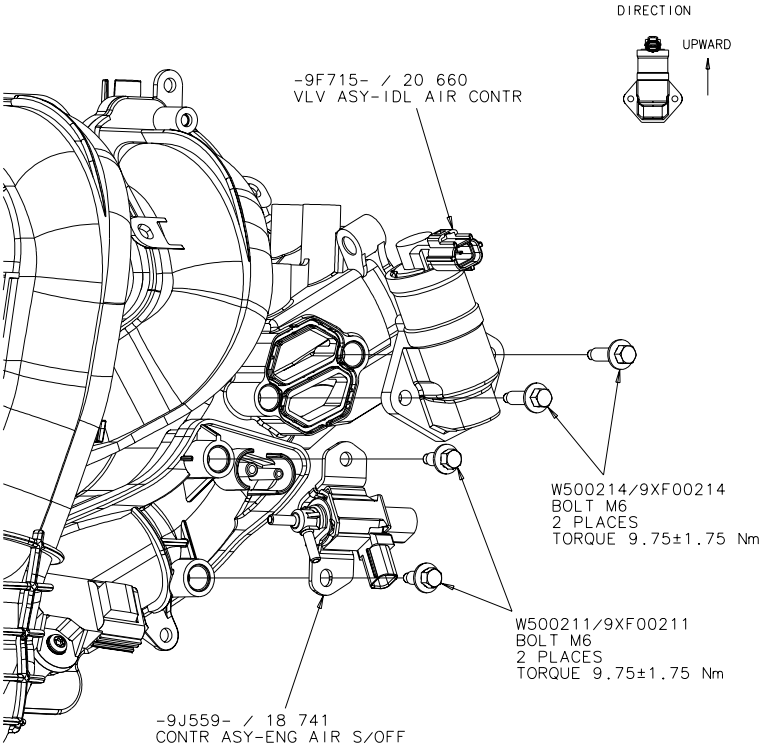
NOTES
1.HOSE SHALL BE INSERTED TO FULL DEPTH.
2.HOSE CAN BE ASSEMBLED TO EITHER END.
3. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION OR "ESE-M99B144-A""ESE-M99B144-B"-Merpol CAN BE USED.

RESTRICTIONS			PART NAME/TITLE: CRANKCASE VENTILATION			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	X	EN00E11099311000	00-10-13	2002 1.8L-4V DI CD132	88-C	88-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

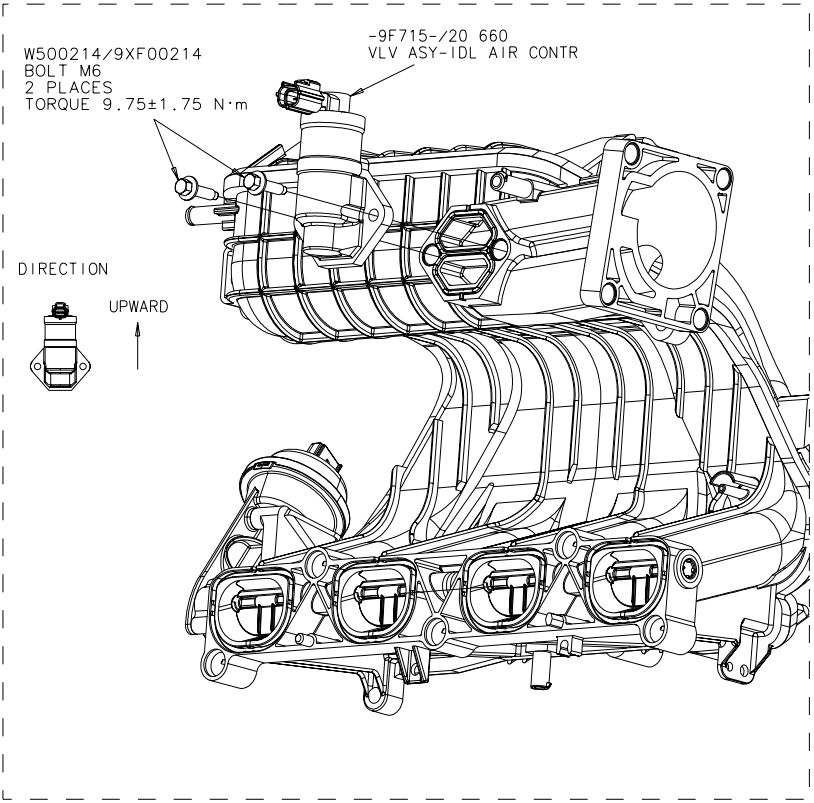
This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



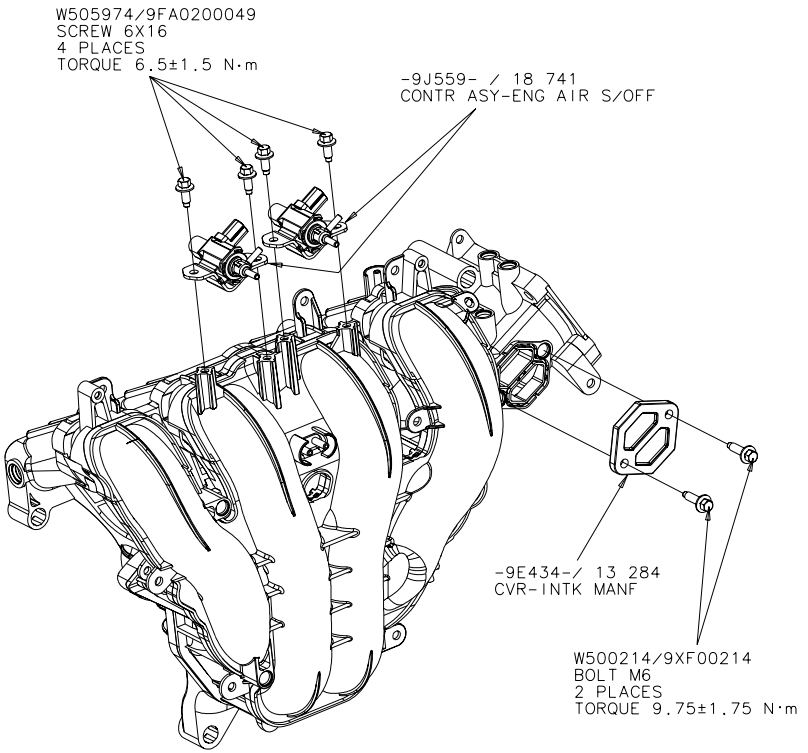
RESTRICTIONS			PART NAME/TITLE: AIR BYPASS VALVE & SOLENOID VALVE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	89-A	89-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



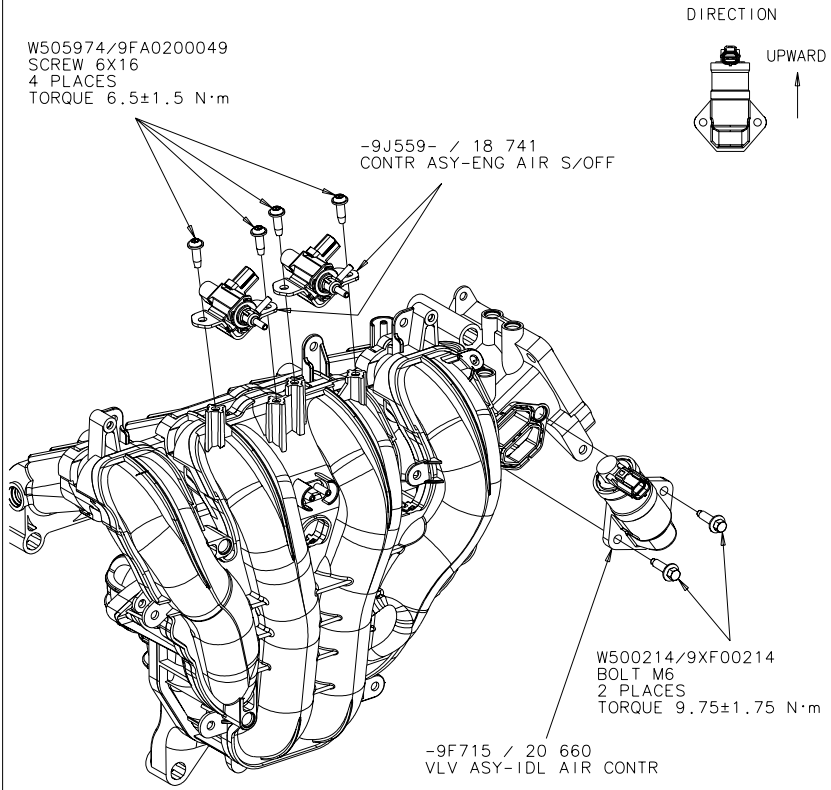
RESTRICTIONS				PART NAME/TITLE: AIR BYPASS VALVE		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.3L-4V NON DI RANGER	89-B	89-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



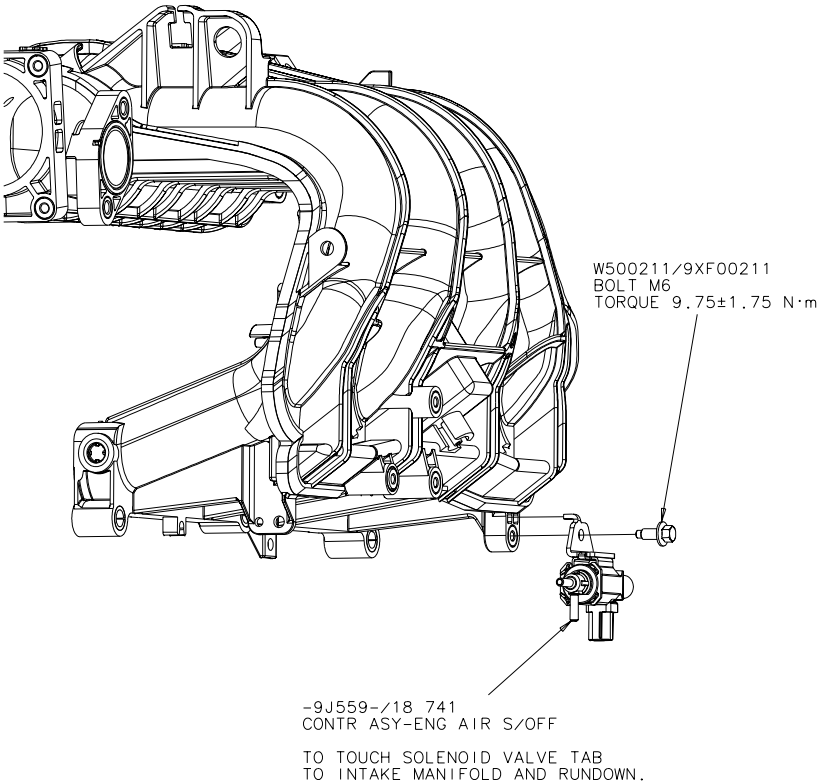
RESTRICTIONS			PART NAME/TITLE: IABV BLANKING PLATE AND SOLENOID VALVE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
CIS7G-543-AC	BL	EN00E11271652000	01-11-15	2002 2.3L-4V NON DI	89-D	89-E	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS			PART NAME/TITLE: AIR BYPASS VALVE & SOLENOID VALVE				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C1S7G-543-AC	AM	EN00E11210521001	01-05-28	2003 2.3L-4V NON-DI J71		89-E	89-F

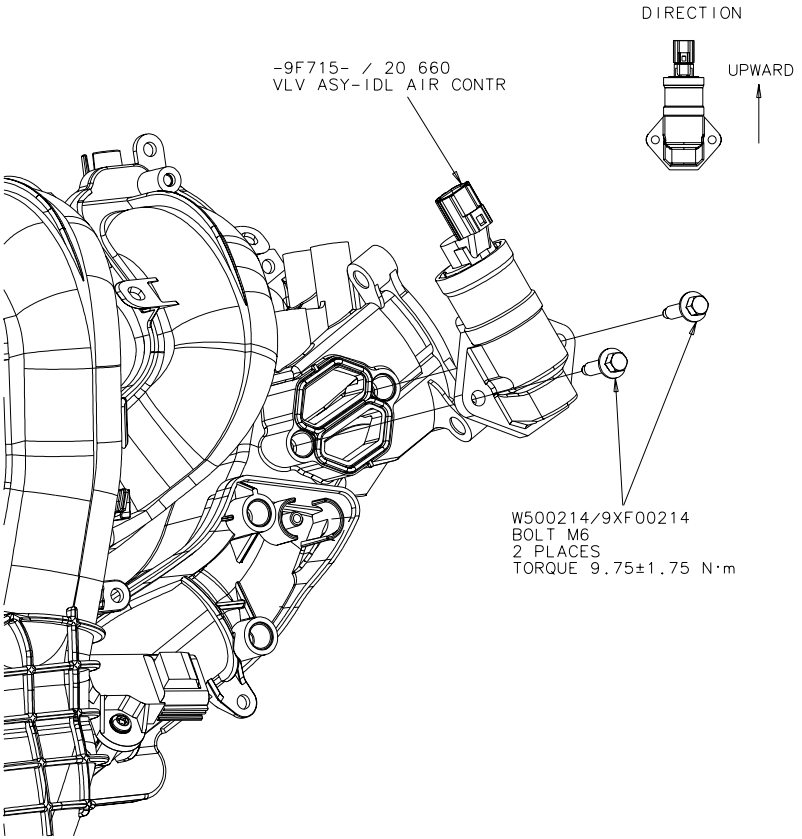
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

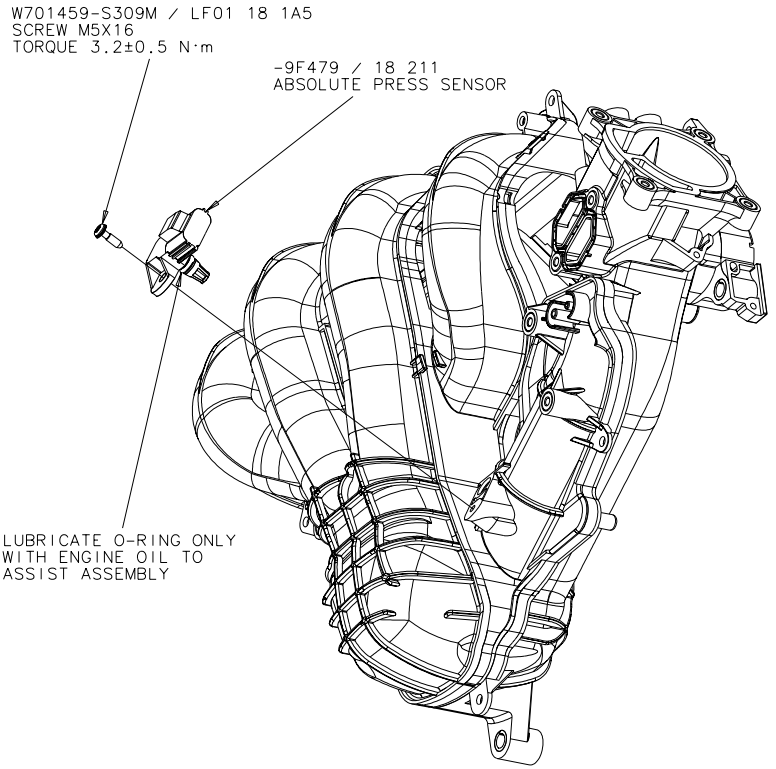
This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



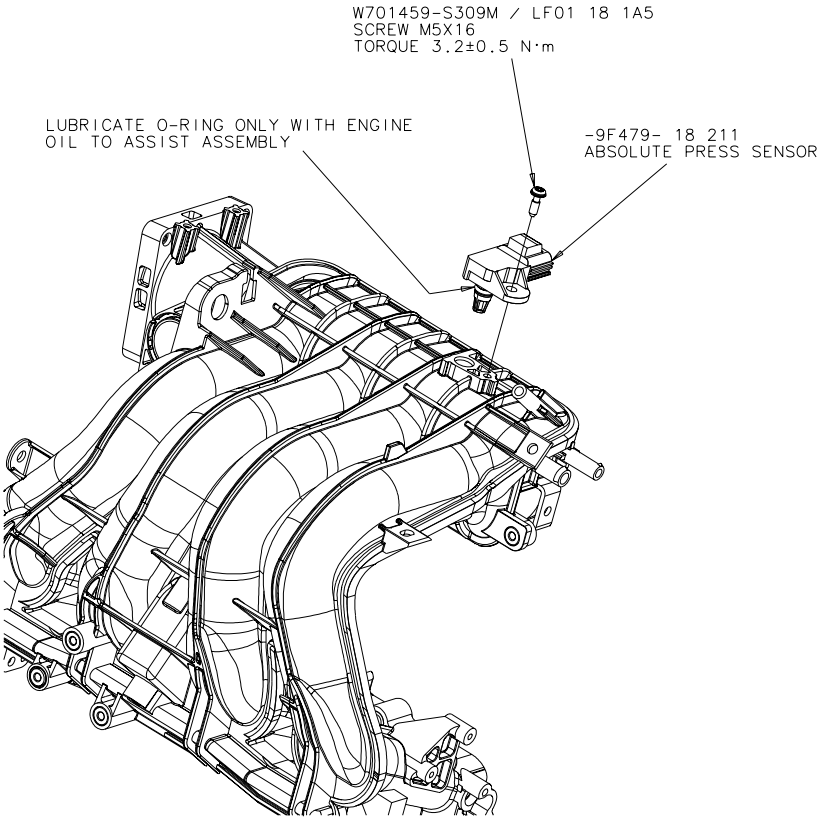
RESTRICTIONS				PART NAME/TITLE: AIR BYPASS VALVE		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2003 2.0L-4V NON DI BV226	89-H	90-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



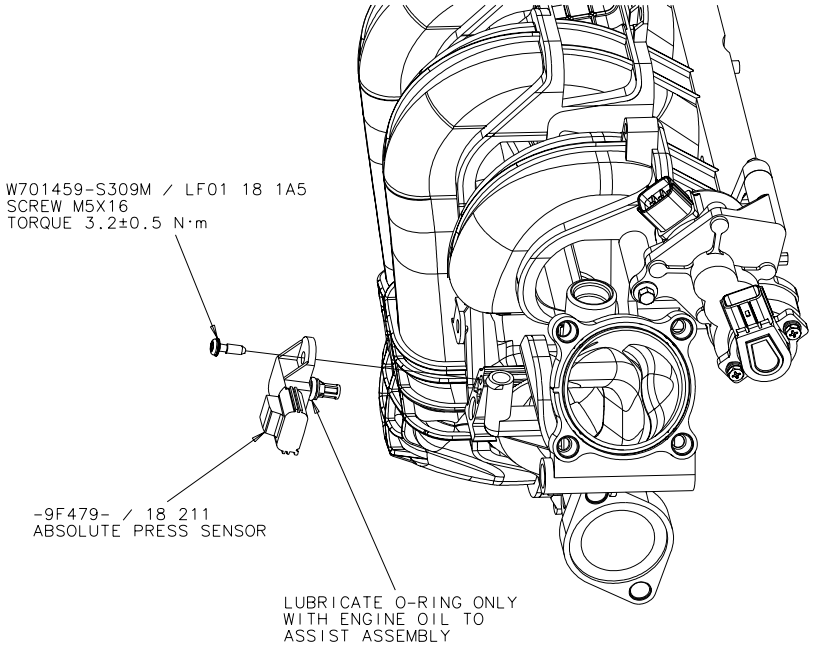
RESTRICTIONS			PART NAME/TITLE: ABSOLUTE PRESS SENSOR				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.0L-4V NON DI CD132	90-A	90-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



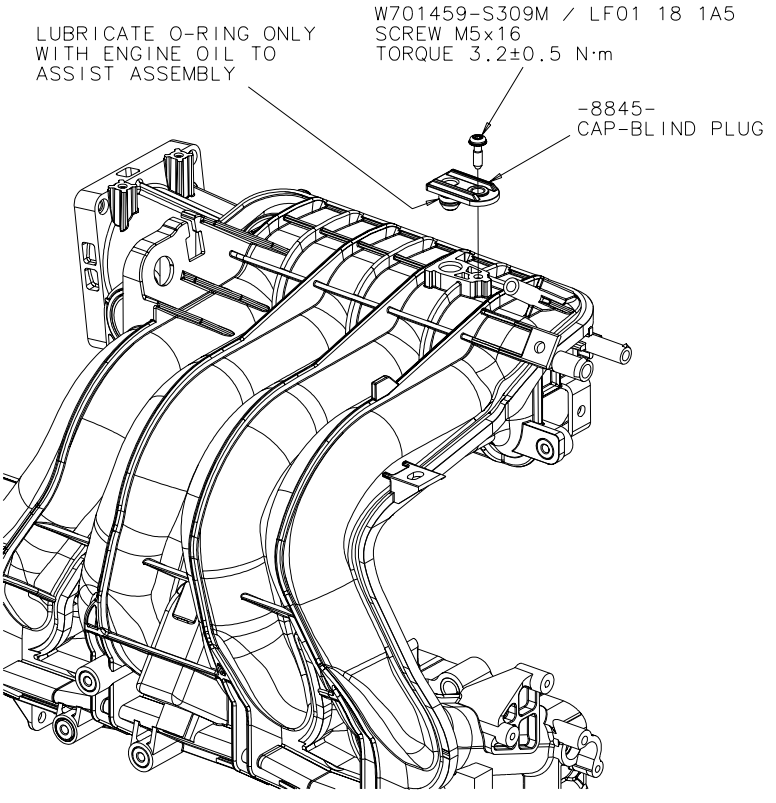
RESTRICTIONS				PART NAME/TITLE: ABSOLUTE PRESS SENSOR		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.3L-4V NON DI RANGER	90-B	90-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE: ABSOLUTE PRESS SENSOR		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AA	EN00E11087761000	00-11-17	2002 1.8L-4V DI CD132	90-C	90-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



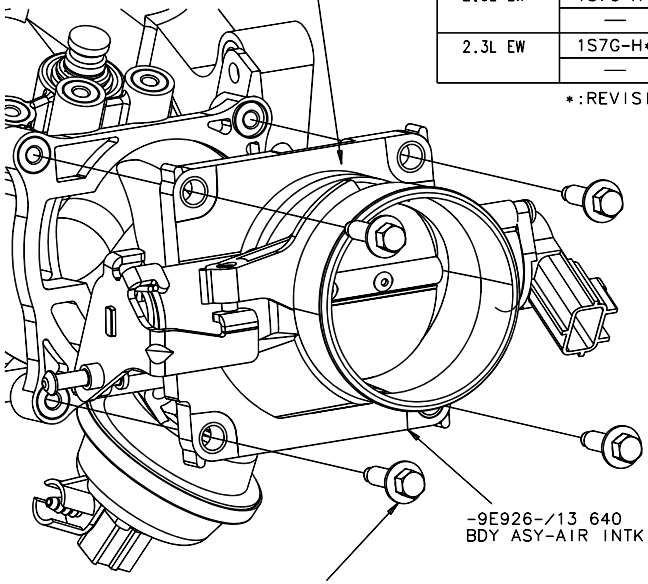
RESTRICTIONS			PART NAME/TITLE: CAP-BLIND PLUG				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
CIS7G-543-AC	AA	EN00E11087761000	00-11-17	2001 2.3L-4V NON DI S.A. RANGER		90-D	91-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ENG.	FORD PART NO.	MAZDA PART NO.
1.8L EW	1S7G-J*	L801 13 640*
	—	L813 13 640*
2.0L EW	1S7G-H*	LF01 13 640*
	—	LF17 13 640*
2.3L EW	1S7G-H*	LF01 13 640*
	—	LF17 13 640*

*:REVISION NO.

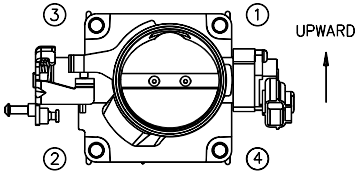
BAR CODE IS AVAILABLE TO ENSURE THAT MIS-ASSEMBLY DOES NOT HAPPEN.



-9E926-/13 640
BDY ASY-AIR INTK CHG THROT

W500214/9XF00214
BOLT M6
4 PLACES
TORQUE 9.75±1.75 N·m

FASTENING SEQUENCE(SINGLE SPINDLE)



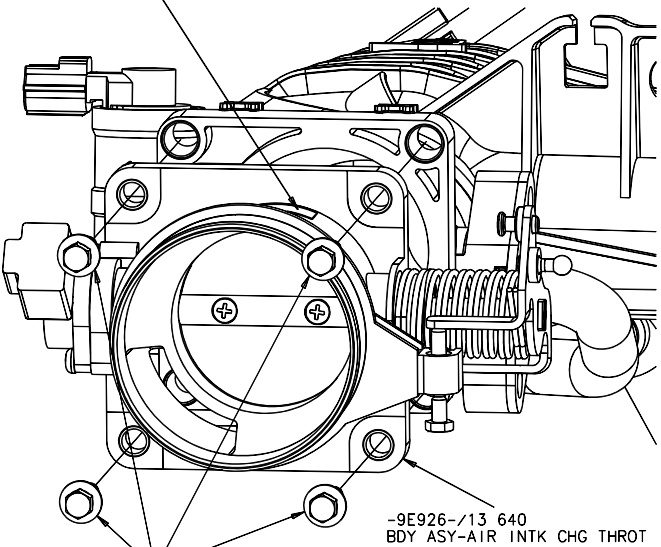
RESTRICTIONS				PART NAME/TITLE THROTTLE BODY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2001 2.0L-4V NON DI	91-A	91-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ENG.	FORD PART NO.	MAZDA PART NO.
2.3L NS	1L5G-B*	L301 13 640*
	4L5G-A*	L356 13 640*

*:REVISION NO.

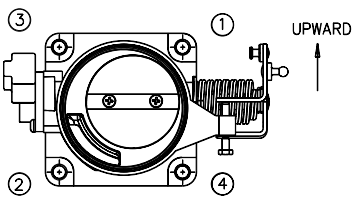
BAR CODE IS AVAILABLE TO ENSURE THAT MIS-ASSEMBLY DOES NOT HAPPEN.



-9E926-/13 640
BDY ASY-AIR INTK CHG THROT

W500214/9XF00214
BOLT M6
4 PLACES
TORQUE 9.75±1.75 N·m

FASTENING SEQUENCE(SINGLE SPINDLE)

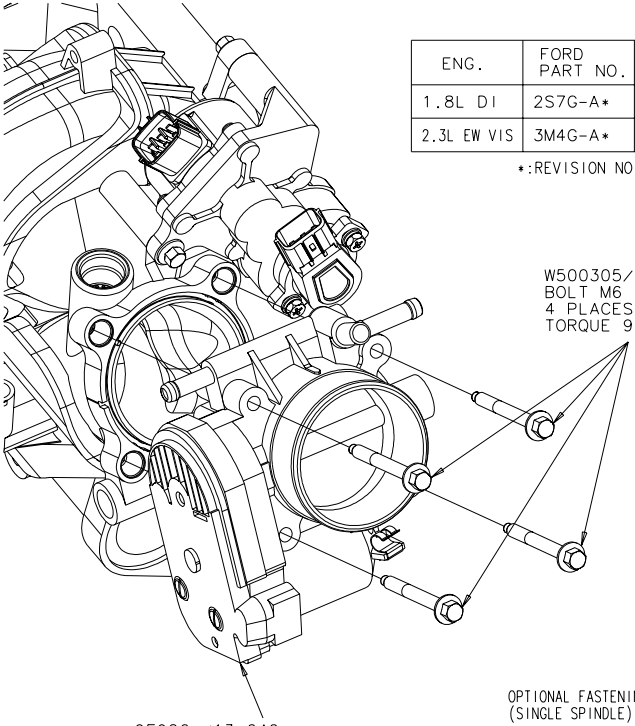


RESTRICTIONS				PART NAME/TITLE THROTTLE BODY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BD	EN00E11271059000	01-11-02	2001 2.3L-4V NON DI RANGER	91-B	91-C

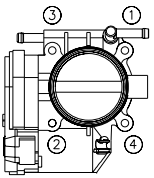
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

ENG.	FORD PART NO.	MAZDA PART NO.
1.8L DI	2S7G-A*	L807 13 640
2.3L EW VIS	3M4G-A*	L309 13 640

*:REVISION NO.

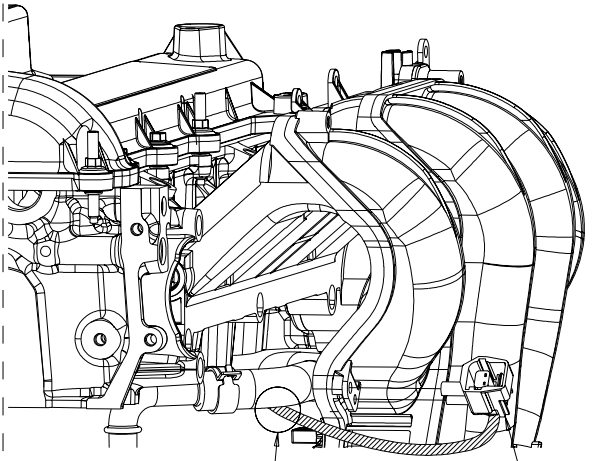


OPTIONAL FASTENING SEQUENCE
(SINGLE SPINDLE)



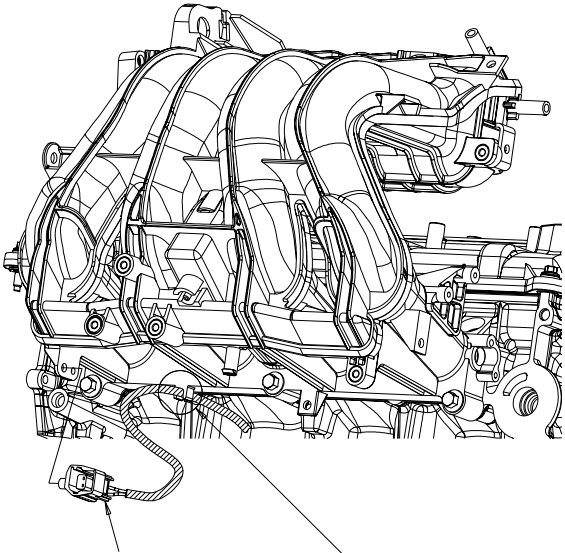
RESTRICTIONS				PART NAME/TITLE: THROTTLE BODY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2002 1.8L-4V DI CD132	91-C	92-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	92-A	92-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



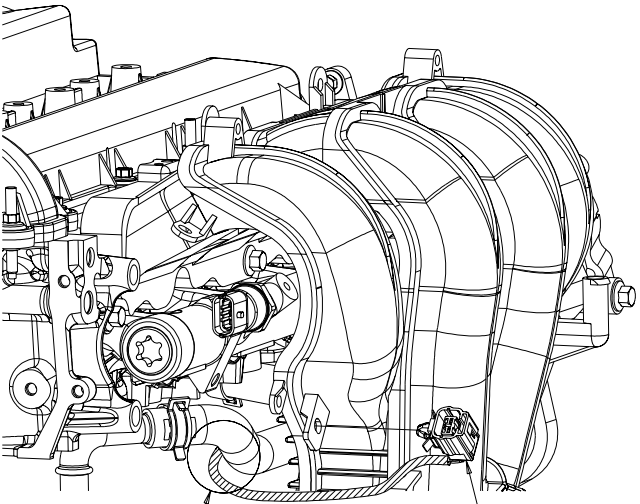
① INSTALL CONNECTOR ON TO THE INTAKE MANIFOLD BOSS

② SET THE SENSOR LEAD IN THE CLIP MOUNTED ON INTAKE MANIFOLD.

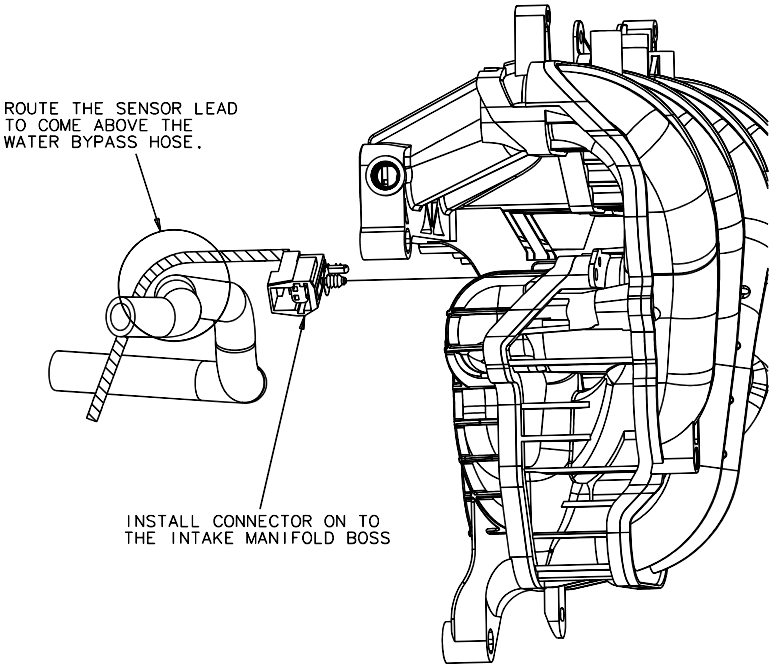
WORK SEQUENCE : ①,②

RESTRICTIONS				PART NAME/TITLE SENSOR KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.3L-4V NON DI RANGER	92-B	92-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

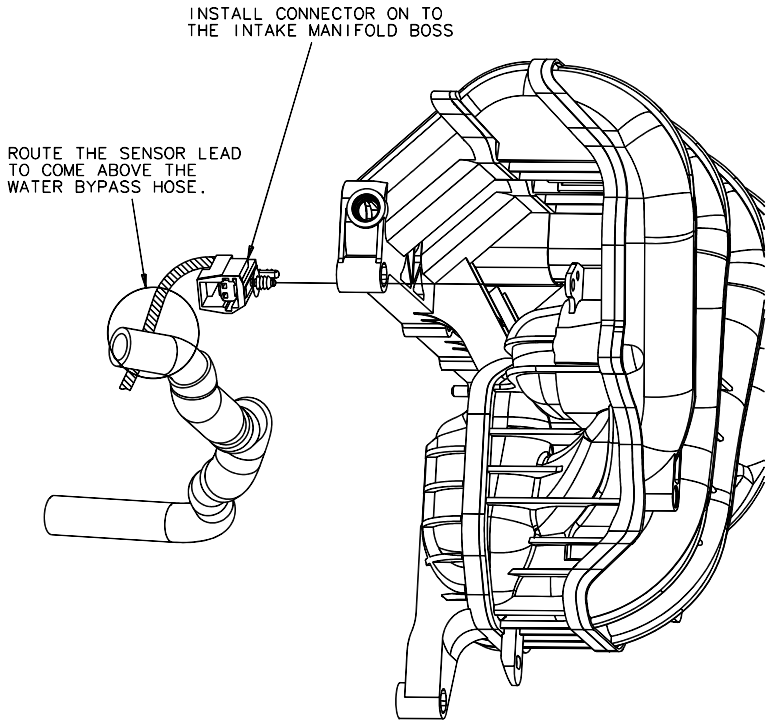


ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



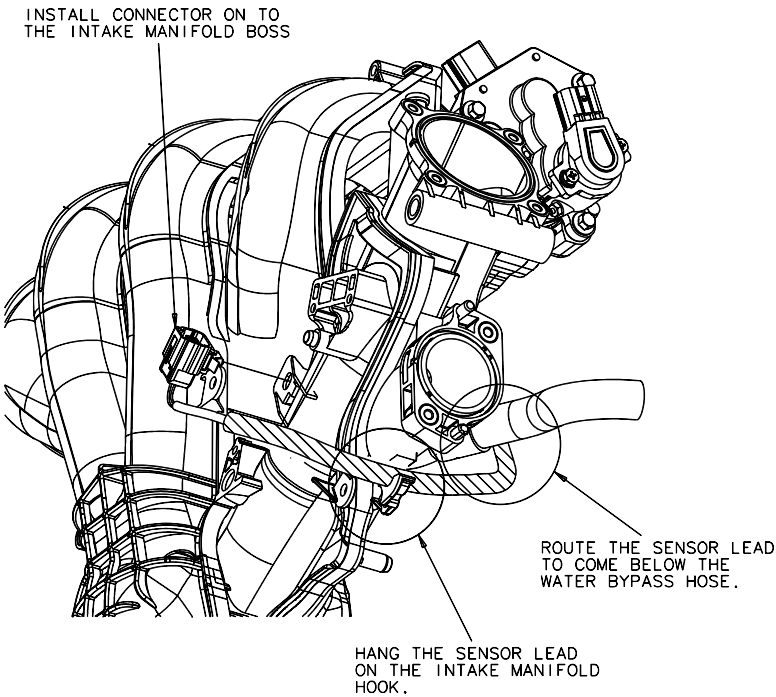
RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AU	EN00E11212464000	01-08-07	2003 2.3L-4V NON DI	92-D	92-E

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



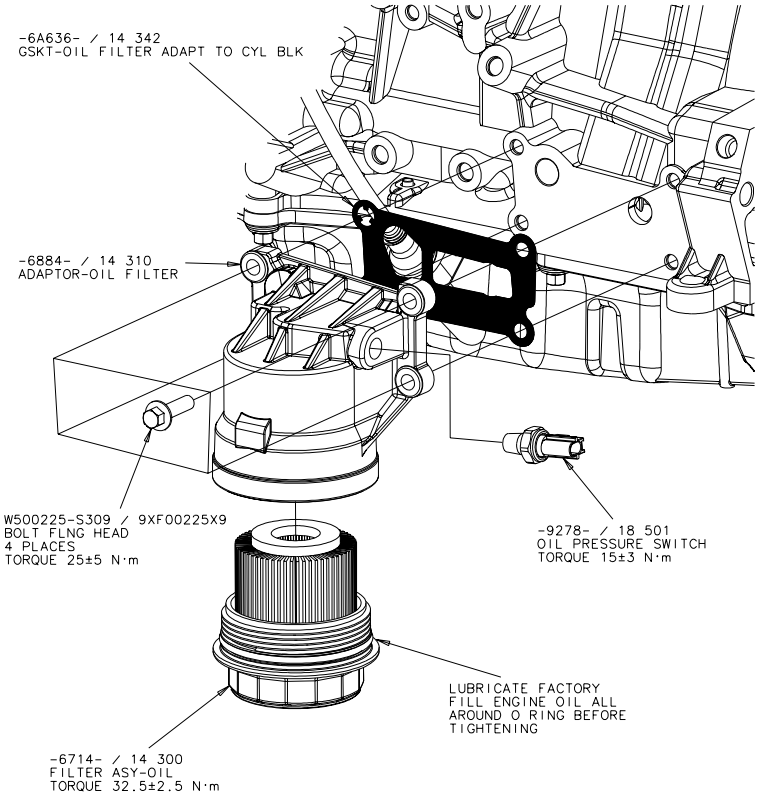
RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BP	EN00E11290169002	02-01-10	2003 2.3L-4V NON DI C1	92-E	92-F

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



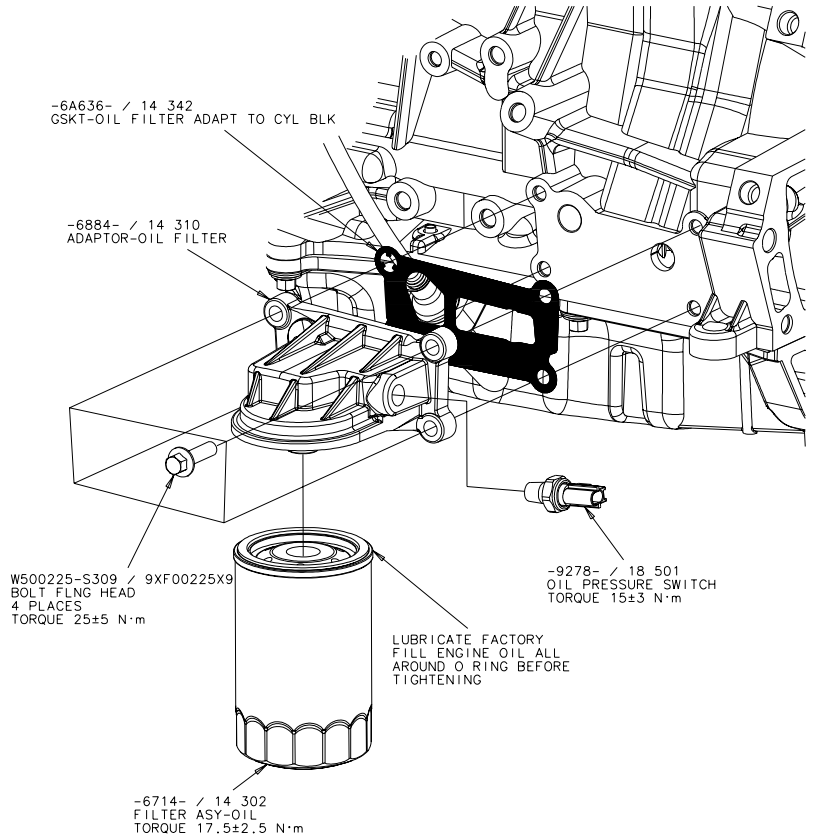
RESTRICTIONS				PART NAME/TITLE SENSOR-KNOCK		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BP	EN00E11290169002	02-01-10	2002 1.8L-4V DI	92-F	93-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



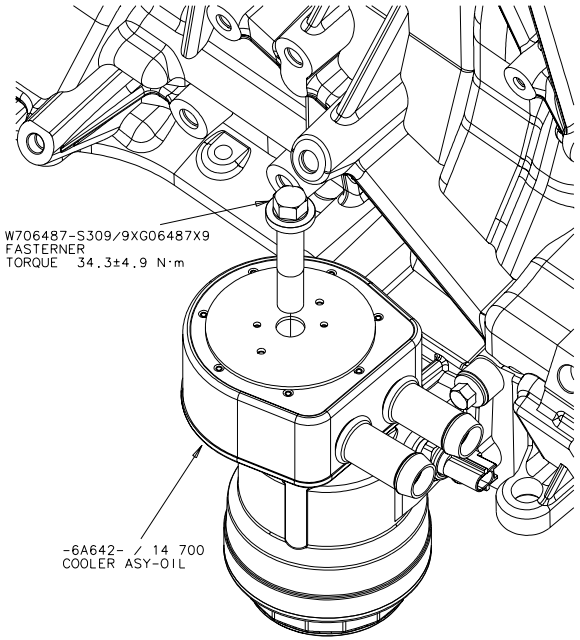
RESTRICTIONS				PART NAME/TITLE **FILTER ASY-OIL / ADAPTOR / OIL PRESSURE SWITCH**		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AH	EN00 E 11190272 000	00-03-28	2001 2.0L-4V NON DI CD132	93-A	93-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



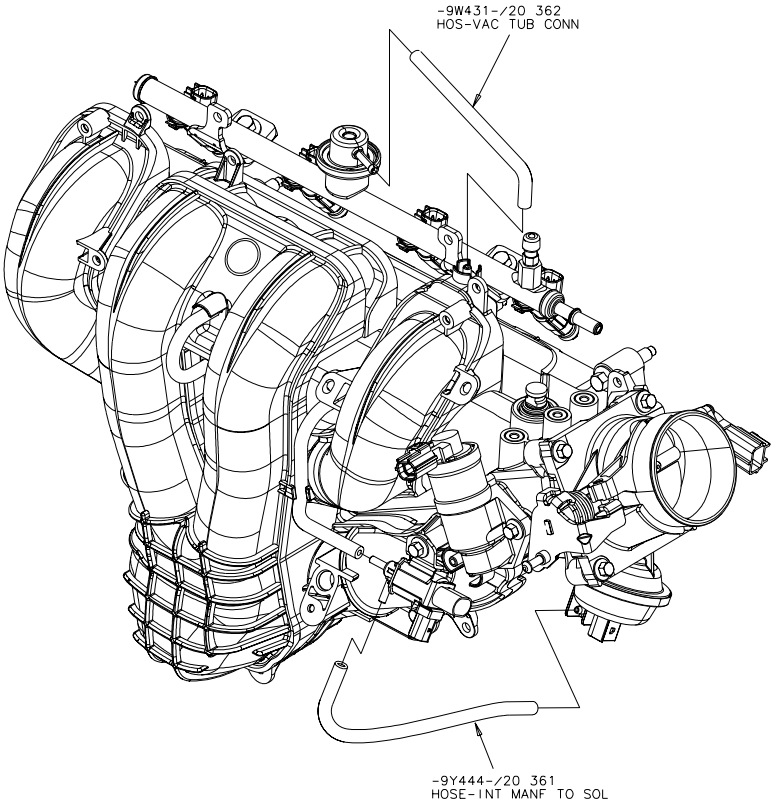
RESTRICTIONS				PART NAME/TITLE FILTER ASY-OIL / ADAPTOR / OIL PRESSURE SWITCH		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	W	EN00 E 11140144 000	00-10-01	2001 2.3L-4V NON DI RANGER	93-B	94

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE **COOLER ASY-OIL & FASTENER**		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00 E 11007392 000	99-09-06	2001 2.0L-4V NON DI CD132	94	95-A

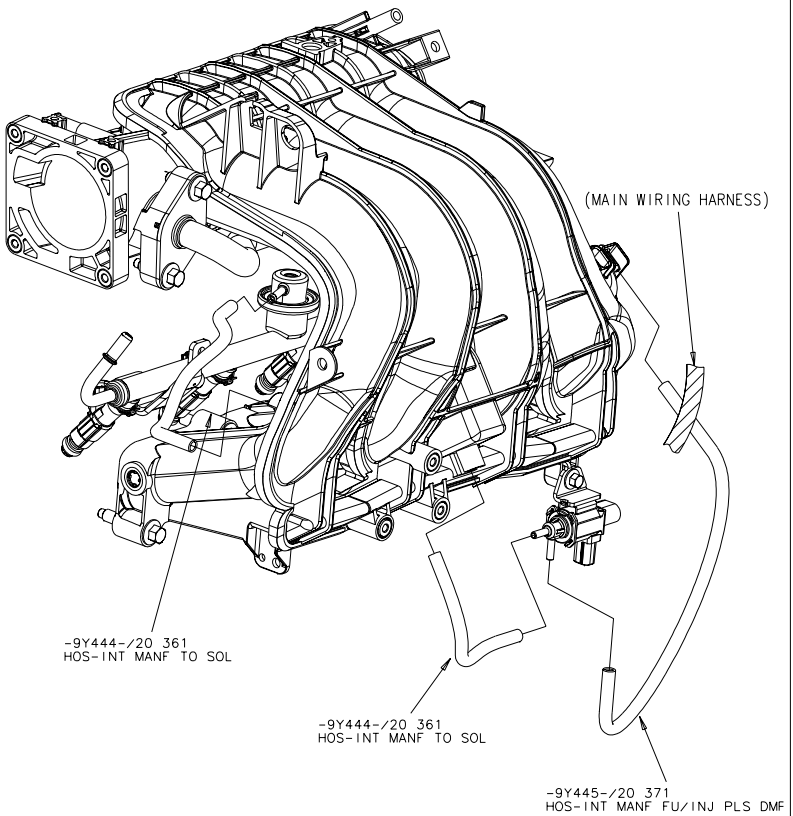
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. HOSE SHALL BE INSERTED TO FULL DEPTH.
2. INSERT ASSISTANT(MERPOL:ESE-M99B144-A & ESE-M99B144-B) CAN BE USED FOR INSERTING HOSE

RESTRICTIONS			PART NAME/TITLE: HOSES-VACUUM				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
CIS7G-543-AC	X	EN00E11099311000	00-10-13	2001 2.0L-4V NON DI CD132		95-A	95-B

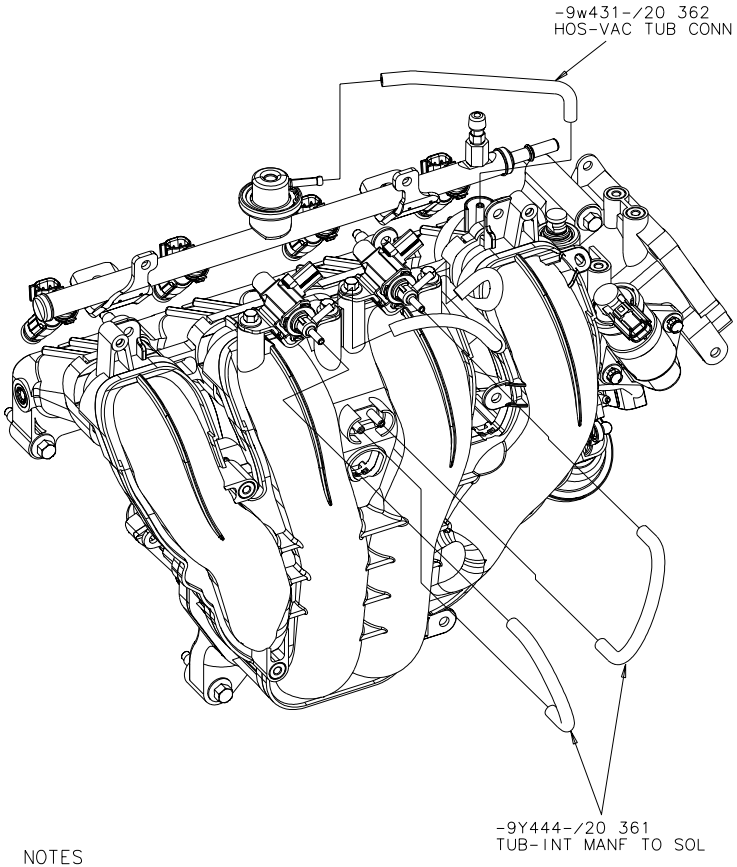
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. HOSE SHALL BE INSERTED TO FULL DEPTH.
2. INSERT ASSISTANT(MERPOL:ESE-M99B144-A & ESE-M99B144-B) CAN BE USED FOR INSERTING HOSE

RESTRICTIONS			PART NAME/TITLE: HOSES-VACUUM				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
CIS7G-543-AC	X	EN00E11099311000	00-10-13	2001 2.3L-4V NON DI RANGER		95-B	95-D

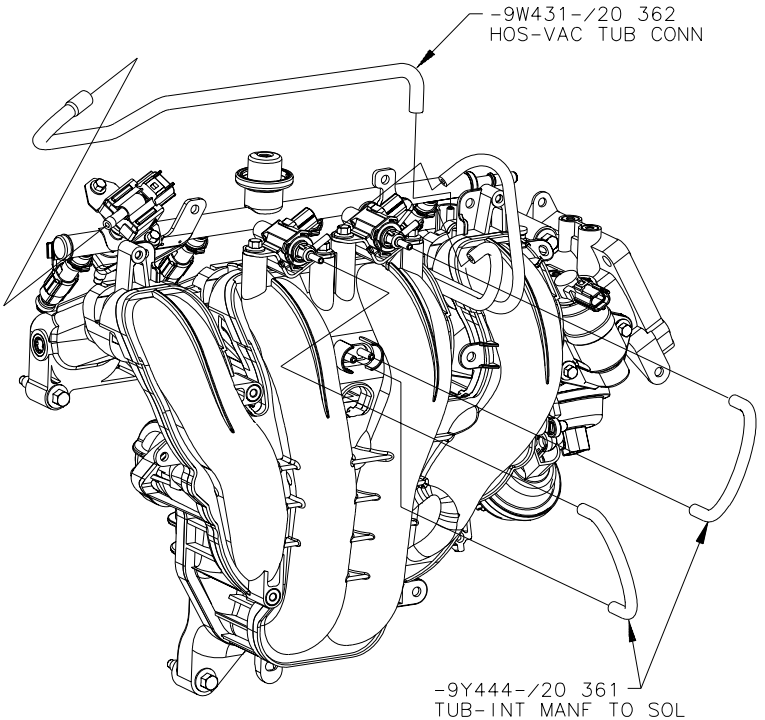
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. HOSE SHALL BE INSERTED TO FULL DEPTH.
2. INSERT ASSISTANT(MERPOL:ESE-M99B144-A & ESE-M99B144-B) CAN BE USED FOR INSERTING HOSE

RESTRICTIONS			PART NAME/TITLE: HOSES-VACUUM				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	AD	EN00 E 11177532 000	01-01-29	2003 2.3L-4V NON DI J56	95-D	95-E

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

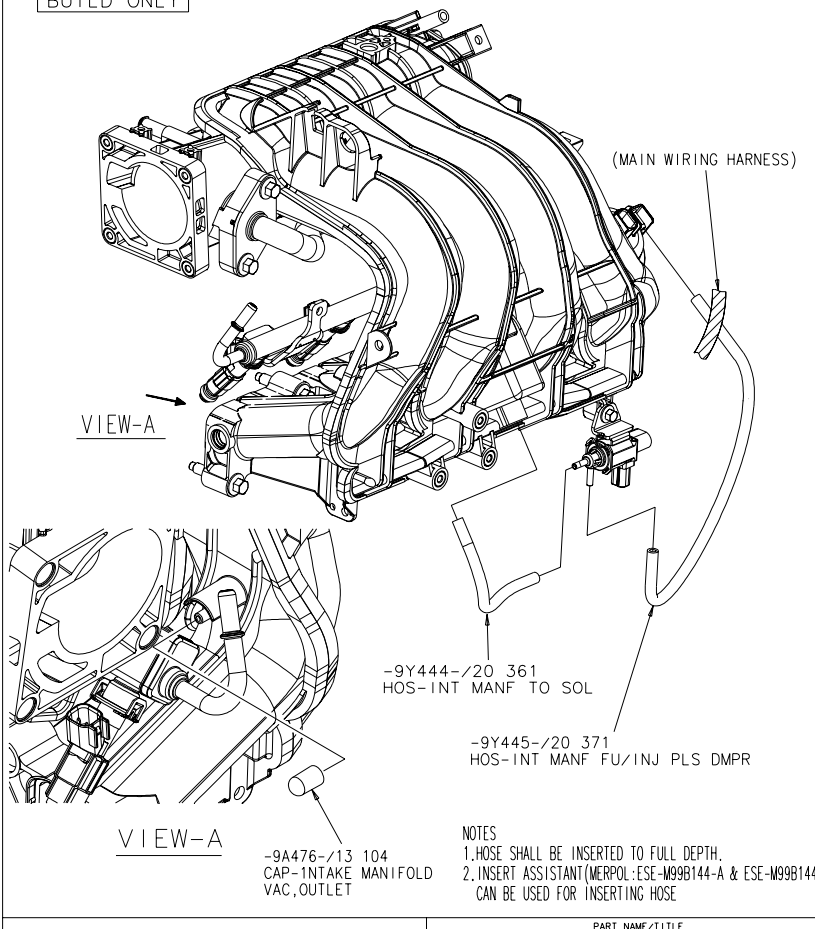


NOTES
1. HOSE SHALL BE INSERTED TO FULL DEPTH.
2. INSERT(MERPOL:ESE-M99B144-A&ESE-M99B144-B) CAN BE USED FOR INSERTING HOSE. IF ANOTHER MATERIAL IS URED,NEGOTIATION WITH MAZDA DESIGN ENGINEERING AND APPROVAL FROM THEM IS REQUIRED.

RESTRICTIONS			PART NAME/TITLE HOSES-VACUUM			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	AD	EN00 E 11177532 000	010129	2003 2.3L-V4 NON DI U204	95-E	95-F

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

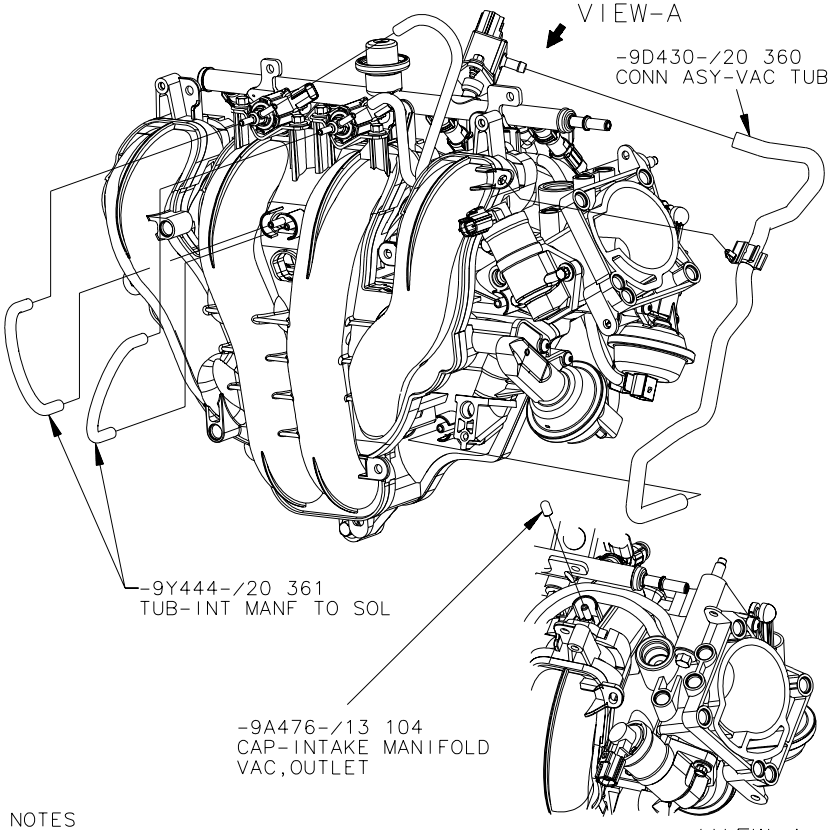
FOR CP
BUILD ONLY



NOTES
1.HOSE SHALL BE INSERTED TO FULL DEPTH.
2.INSERT ASSISTANT(MERPOL:ESE-M99B144-A & ESE-M99B144-B)
CAN BE USED FOR INSERTING HOSE

RESTRICTIONS				PART NAME/TITLE HOSES-VACUUM			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C1S7G-543-AC	BD	EN00 E 11271059 000	01-11-02	2004 2.3L-4V NON DI P150		95-F	95-G

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

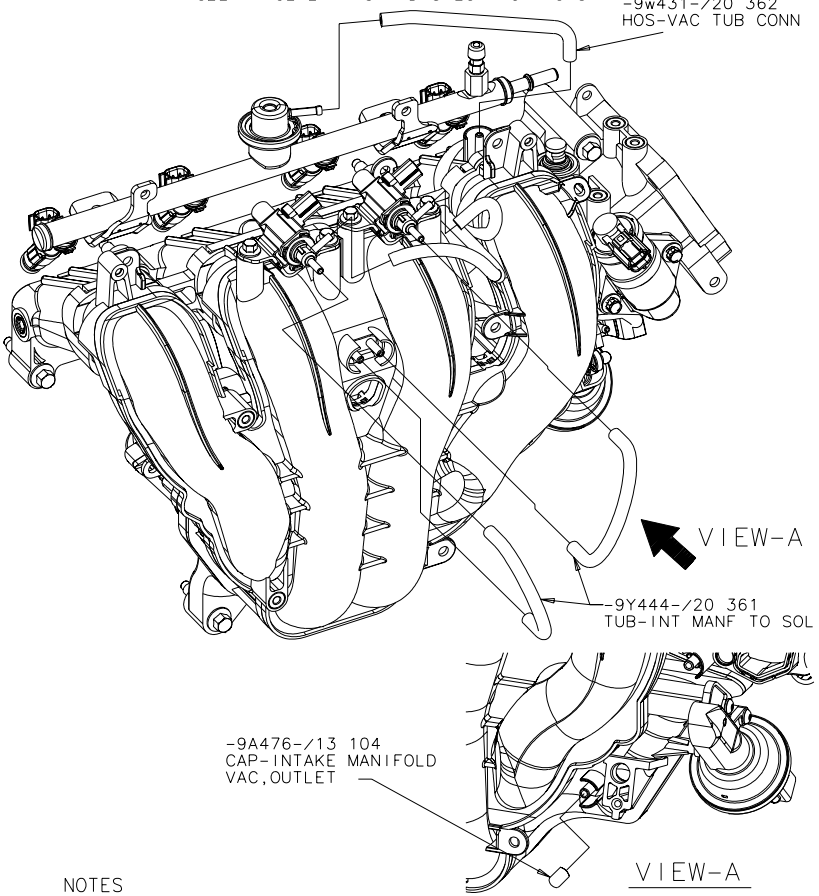


VIEW-A

NOTES
1. HOSE SHALL BE INSERTED TO FULL DEPTH.
2. INSERT(MERPOL:ESE-M99B144-A&ESE-M99B144-B) CAN BE USED FOR INSERTING HOSE. IF ANOTHER MATERIAL IS URED,NEGOTIATION WITH MAZDA DESIGN ENGINEERING AND APPROVAL FROM THEM IS REQUIRED.

RESTRICTIONS			PART NAME/TITLE HOSES-VACUUM				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL		SHEET	CONTD.
C3S4G-543-AC	AV	EN00 E 11252991 000	01-08-11	2003 2.3L-4V NON DI C170		95-G	95-H

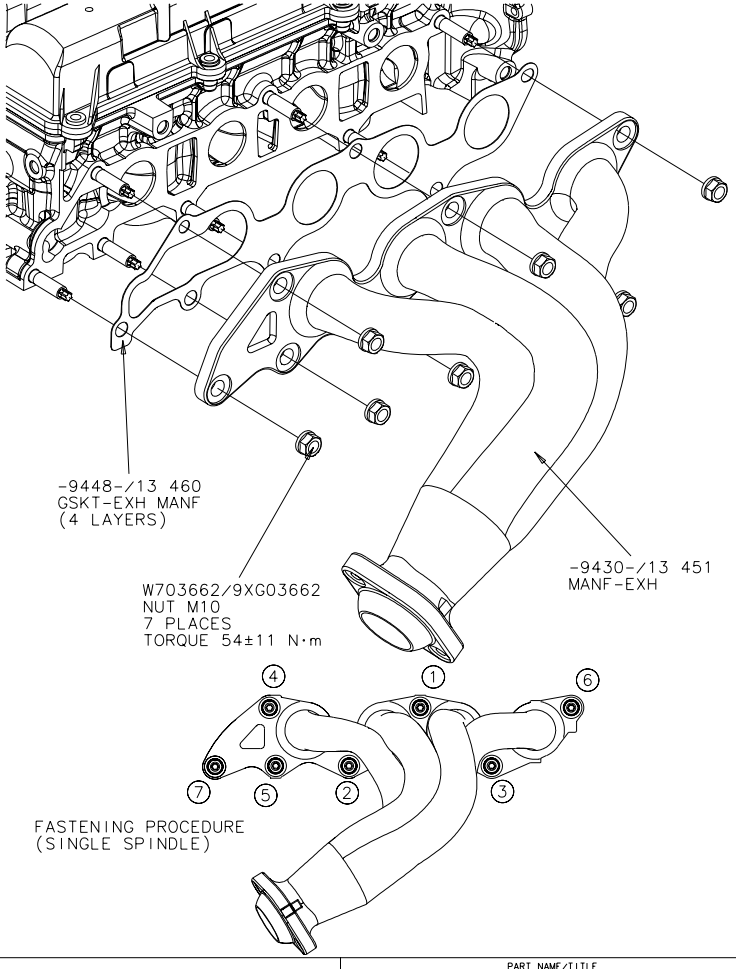
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. HOSE AND CAP SHALL BE INSERTED TO FULL DEPTH.
2. INSERT ASSISTANT(MERPOL:ESE-M99B144-A & ESE-M99B144-B) CAN BE USED FOR INSERTING HOSE AND CAP.

RESTRICTIONS			PART NAME/TITLE: HOSES-VACUUM			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
CIS7G-543-AC	AV	EN00 E 11252991 000	01-08-11	2003 2.3L-4V NON DI J56	95-H	96-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

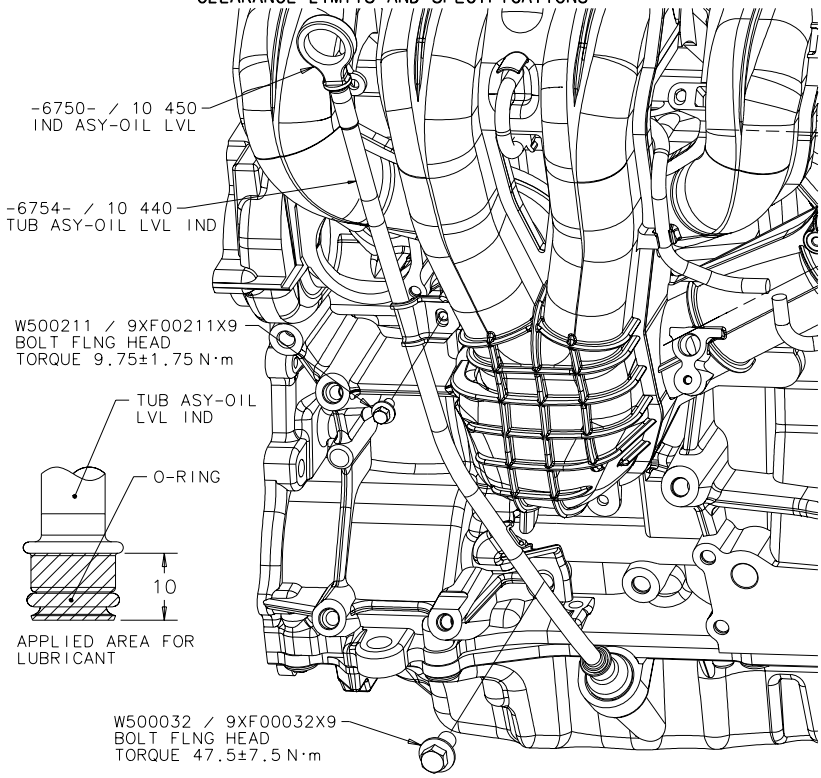


RESTRICTIONS				PART NAME/TITLE: EXHAUST MANIFOLD		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	W	EN00E11140144000	00-10-01	2001 2.3L-4V NON DI RANGER	96-B	96-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

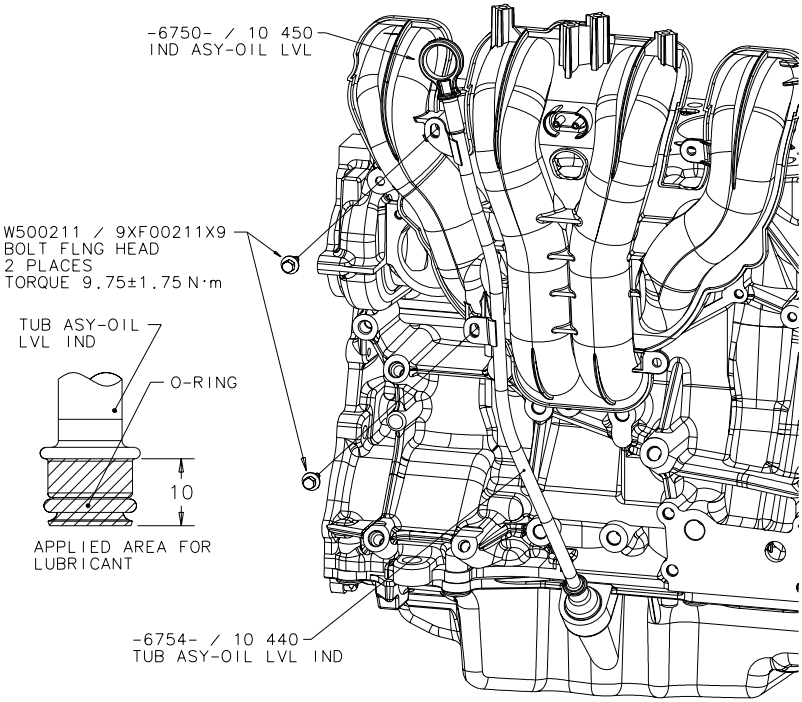
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. No sticking of stain, dust, etc is allowed on O-ring sealing surface of oil pan guide hole and oil level indicat tube.
2. During oil level indicat tube, ensure O-ring is correctly mounted on groove.(Oil level indicat tube side)
3. Attach oil level indicat tube exactly perpendiculant to guide hole to prevent O-ring from peeling and cutting.
4. If part have scratch on oil level indicat tube O-ring which might give negative effect on sealability,those have to be replaced with good part.
5. If required apply engine oil in case of utilizing O-ring inserting assistant.
   Do not ever apply water-lube such as 10% alform dilution water,soapy water etc.
6. If required lubricant shall be applied in area from pipe end till 10mm away from pipe end for all-around, and should not be dropped. (No lubrcant to be visible after asembly.)

RESTRICTIONS				PART NAME/TITLE DIPSTICK & DIPSTICK TUBE		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2001 2.0L-4V NON DI CD132	97-A	97-B

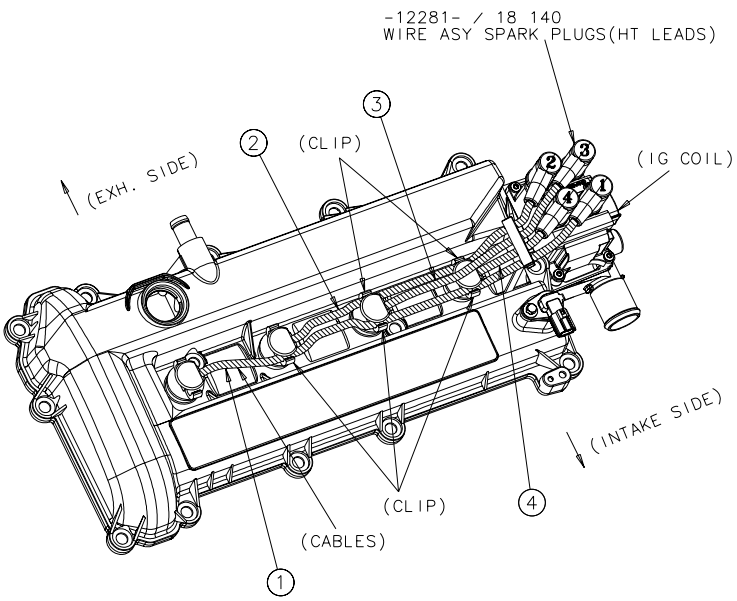
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. No sticking of stain, dust, etc is allowed on O-ring sealing surface of oil pan guide hole and oil level indicat tube.
2. During oil level indicat tube, ensure O-ring is correctly mounted on groove.(Oil level indicat tube side)
3. Attach oil level indicat tube exactly perpendiculant to guide hole to prevent O-ring from peeling and cutting.
4. If part have scratch on oil level indicat tube O-ring which might give negative effect on sealability,those have to be replaced with good part.
5. If required apply engine oil in case of utilizing O-ring inserting assistant.
   Do not ever apply water-lube such as 10% alform dilution water,soapy water etc.
6. If required lubricant shall be applied in area from pipe end till 10mm away from pipe end for all-around, and should not be dropped. (No lubrcant to be visible after asembly.)

RESTRICTIONS			PART NAME/TITLE: DIPSTICK & DIPSTICK TUBE			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BG	EN00E11282537000	01-11-09	2001 2.3L-4V NON DI	97-B	98-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES:

INSTALL EACH HT LEAD CONNECTOR STRAIGHT ON TO THE APPROPRIATE IG COIL TERMINAL.
DO NOT APPLY ANY DYNAMIC FORCE ON TO ANY PORTION OF THE HT LEAD. (E.G. DO NOT STRIKE USING HAMMERS)

INSTALLATION SEQUENCE : INSTALL CABLES IN SEQUENCE FROM EXHAUST SIDE TO INTAKE SIDE. (IN THE ORDER OF #2,#3,#4,#1)

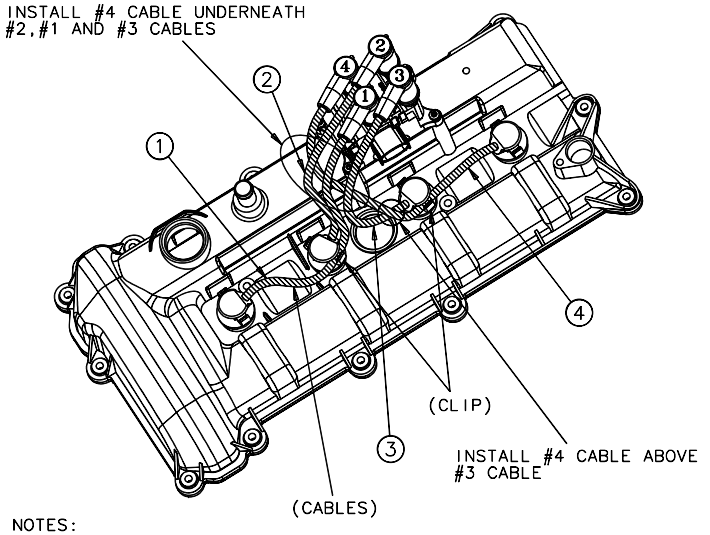
CLIP OF CABLES : SET THE CABLES(#1,#2) IN THE APPROPRIATE CLIPS MOUNTED ON THE PLUG CAPS.

FIRING ORDER : #1,#3,#4,#2

RESTRICTIONS				PART NAME/TITLE SPARK PLUG LEADS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2001 2.0L-4V NON DI CD132	98-A	98-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

-12281- /18 140
WIRE ASY-SPARK PLUGS(HT LEADS)



NOTES:

REMOVE THE RUBBER BAND ATTACHED TO THE HT-LEADS BEFORE INSTALLING.

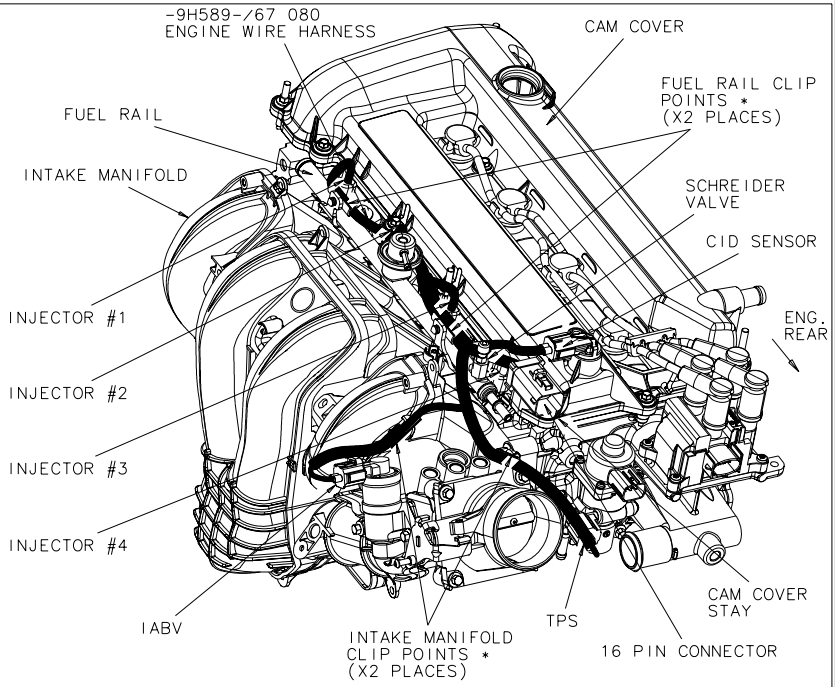
INSTALL EACH HT LEAD CONNECTOR STRAIGHT ON TO THE APPROPRIATE IG COIL TERMINAL.
DO NOT APPLY ANY DYNAMIC FORCE ON TO ANY PORTION OF THE HT LEAD. (E.G. DO NOT STRIKE USING HAMMERS)

INSTALLATION SEQUENCE : INSTALL THE 4 CABLES IN THE FOLLOWING SEQUENCE.
#3 → #4 → #2 → #1

CLIP OF CABLES : SET #1 AND #4 CABLES IN THE APPROPRIATE CLIPS MOUNTED ON THE PLUG CAPS.

FIRING ORDER : #1,#3,#4,#2

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



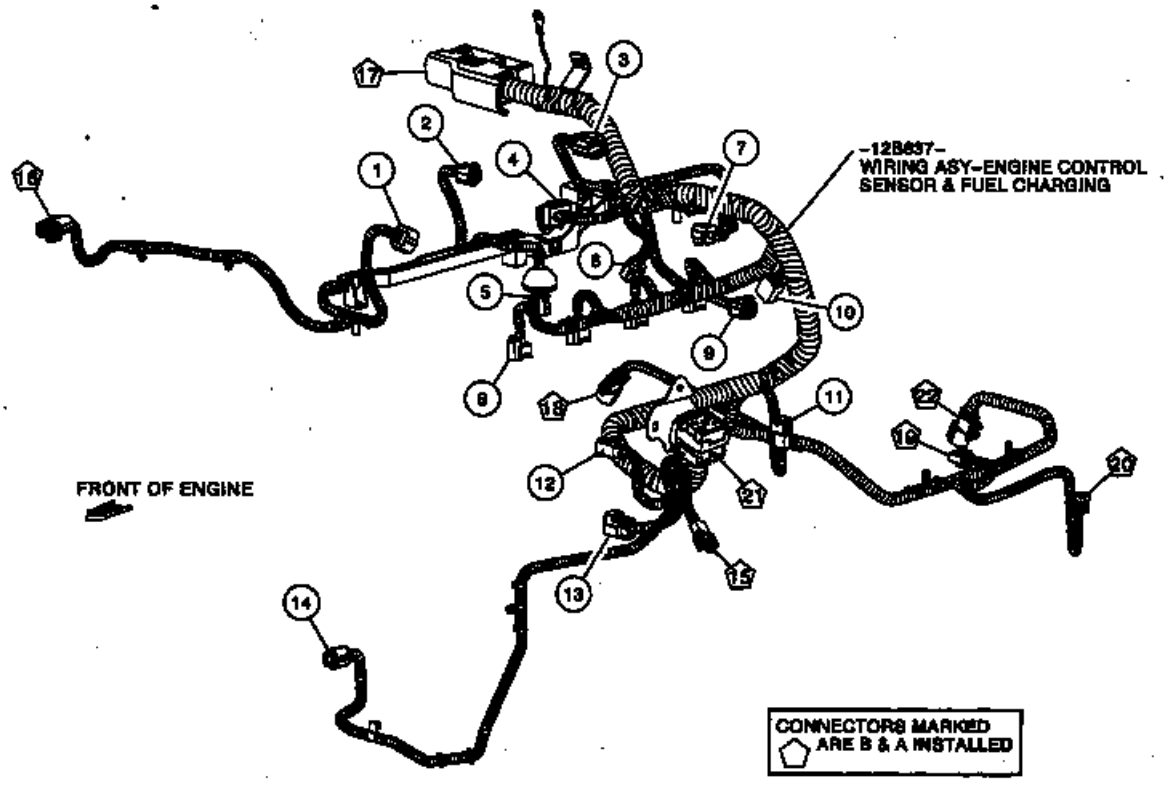
ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.

1. PLACE HARNESS ALONG THE FUEL RAIL, CLOSE TO THE CAM COVER WITH 16 PIN CONNECTOR BEING NEAR THE CID SENSOR.
2. CLIP HARNESS TO FUEL RAIL FROM CAM COVER SIDE. (2 PLACES)
3. CONNECT INJECTOR #1-#4. (4 PLACES)
4. CONNECT CID SENSOR.
5. CLIP 16 PIN CONNECTOR ON TO CAM COVER STAY.
6. ROUTE WIRES FOR TPS & IABV TO THE INTAKE MANIFOLD SIDE OF SCHREIDER VALVE.
7. CONNECT IABV.
8. CONNECT TPS.
9. CLIP HARNESS TO INTAKE MANIFOLD FROM ENG. REAR SIDE. (2 PLACES)

(NOTE1) ALL 4 CLIPS (*) ARE HARNESS-INTEGRATED PLASTIC RETAINERS.
(NOTE2) THE ELECTRICAL CONNECTORS SHOULD BE INSERTED STRAIGHT AND CONFIRMED WHETHER THEY ARE IN THEIR "LOCKED" POSITION.

RESTRICTIONS				PART NAME/TITLE: ENGINE WIRE HARNESS		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.0L-4V NON DI CD132	99	99-B

-12B637- WIRING ASY
ENGINE CONTROL SENSORS & FUEL CHARGING

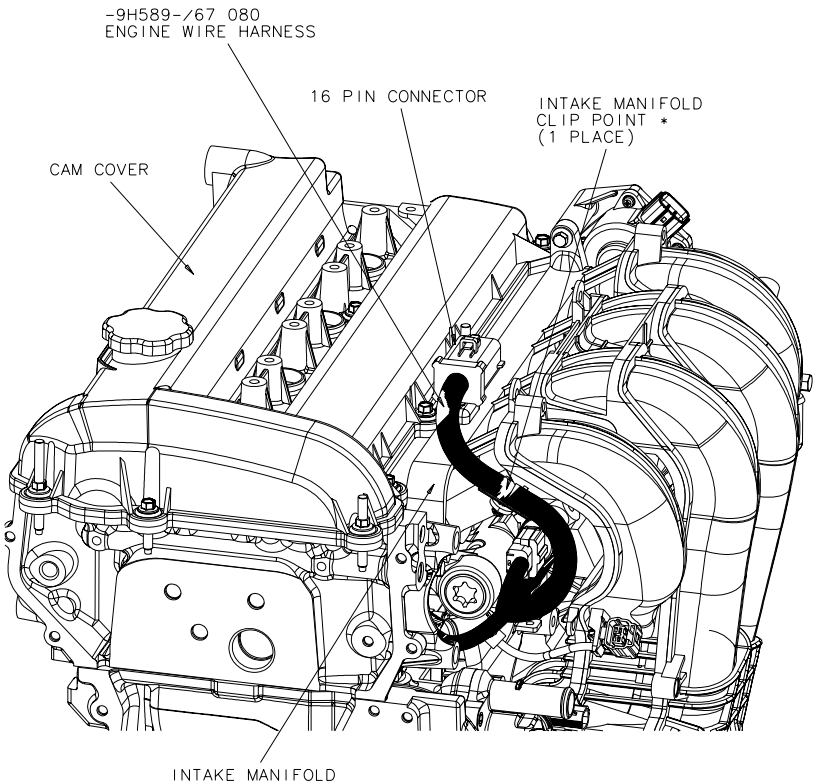


1. TO THROTTLE POSITION SENSOR
2. TO IDLE AIR CONTROL VALVE SOLENOID
3. TO TEMPERATURE MANIFOLD ABSOLUTE PRESSURE SENSOR
4. TO IGNITION TRANSFORMER
5. TO CYLINDER HEAD TEMPERATURE SENSOR
6. TO ENGINE TEMPERATURE SENSOR (WATER TEMP)
7. TO CYLINDER ID SENSOR
8. TO INJECTOR VALVE SOLENOID (4)
9. TO ELECTRONIC EXHAUST GAS RECIRCULATION STEPPER MOTOR
10. TO SWIRL CONTROL VALVE MONITOR
11. TO SWIRL CONTROL VALVE SOLENOID
12. TO KNOCK SENSOR
13. TO ELECTRONIC THERMOSTAT HEATER
14. TO CRANKSHAFT POSITION SENSOR
15. TO POWER STEERING PRESSURE SWITCH
16. TO MASS AIR FLOW SENSOR
17. TO POWER CONTROL MODULE
18. TO HEGO SENSOR
19. TO TRANSMISSION SWITCH
20. TO OUTPUT SHAFT SPEED SENSOR
21. TO -14290-
22. TO CMS SENSOR

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONFIG.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	99-B	100-C

SCALE = .2

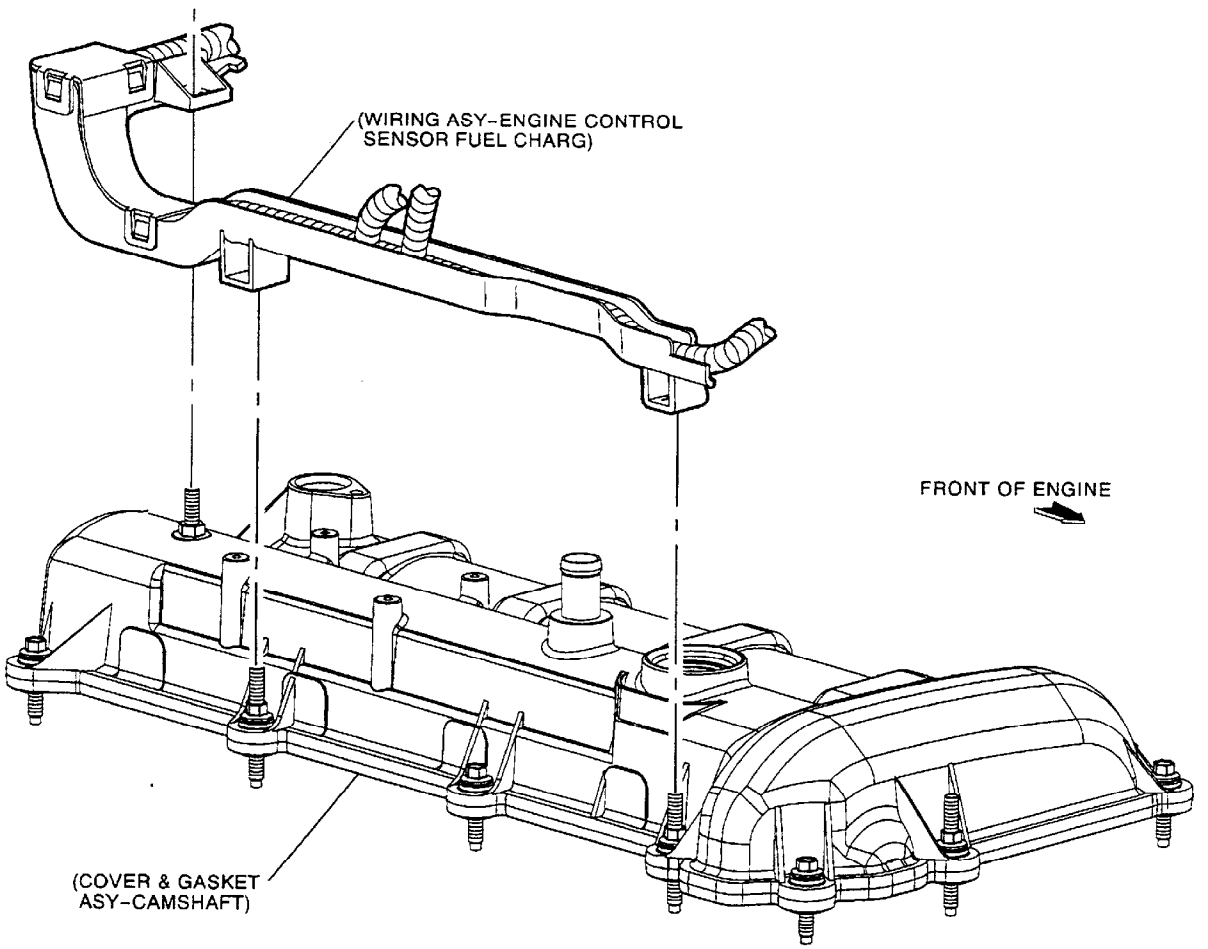
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.
1. CLIP HARNESS TO INTAKE MANIFOLD. (1 PLACE)
2. CLIP 16 PIN CONNECTOR ON TO INTAKE MANIFOLD.
(NOTE1) 1 CLIP (*) IS HARNESS-INTEGRATED PLASTIC RETAINERS.

RESTRICTIONS			PART NAME/TITLE ENGINE WIRE HARNESS			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	R	EN00E11069681001	00-04-20	2002 1.8L-4V DI CD132	100-C	100-D

WIRING HARNESS ASY CONNECTIONS

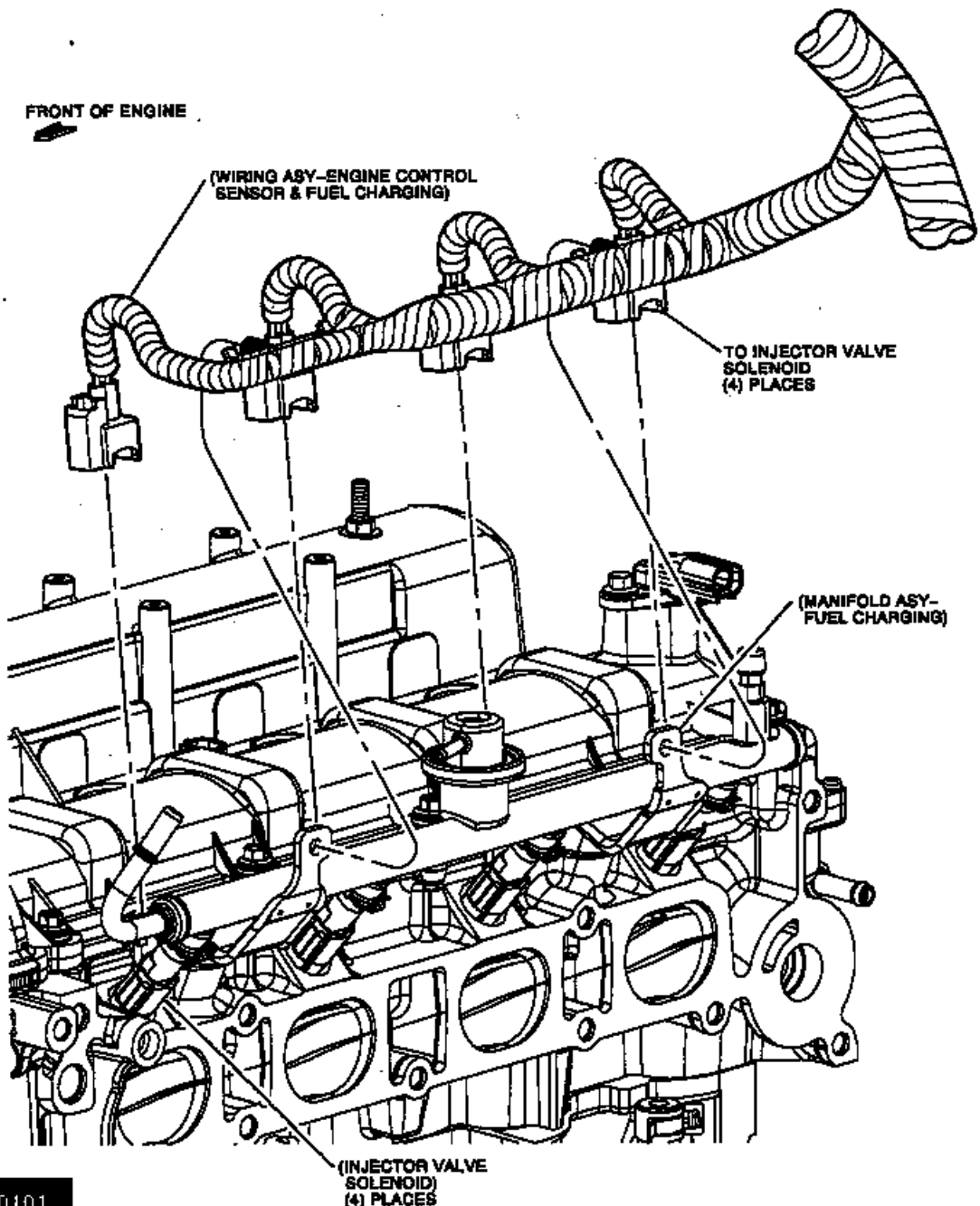


180101

RESTRICTIONS				PART NAME/TITLE WIRING ASY		
SPECIFICATION NO. C1S7G-543-AC	REV S	RELEASE NO. EN00E11081197000	DATE 00-04-28	MODEL 2001 2.3L-4V NON DI RANGER	SHEET 100-D	CONTD. 100-E

SCALE = .5

WIRING HARNESS ASY CONNECTIONS

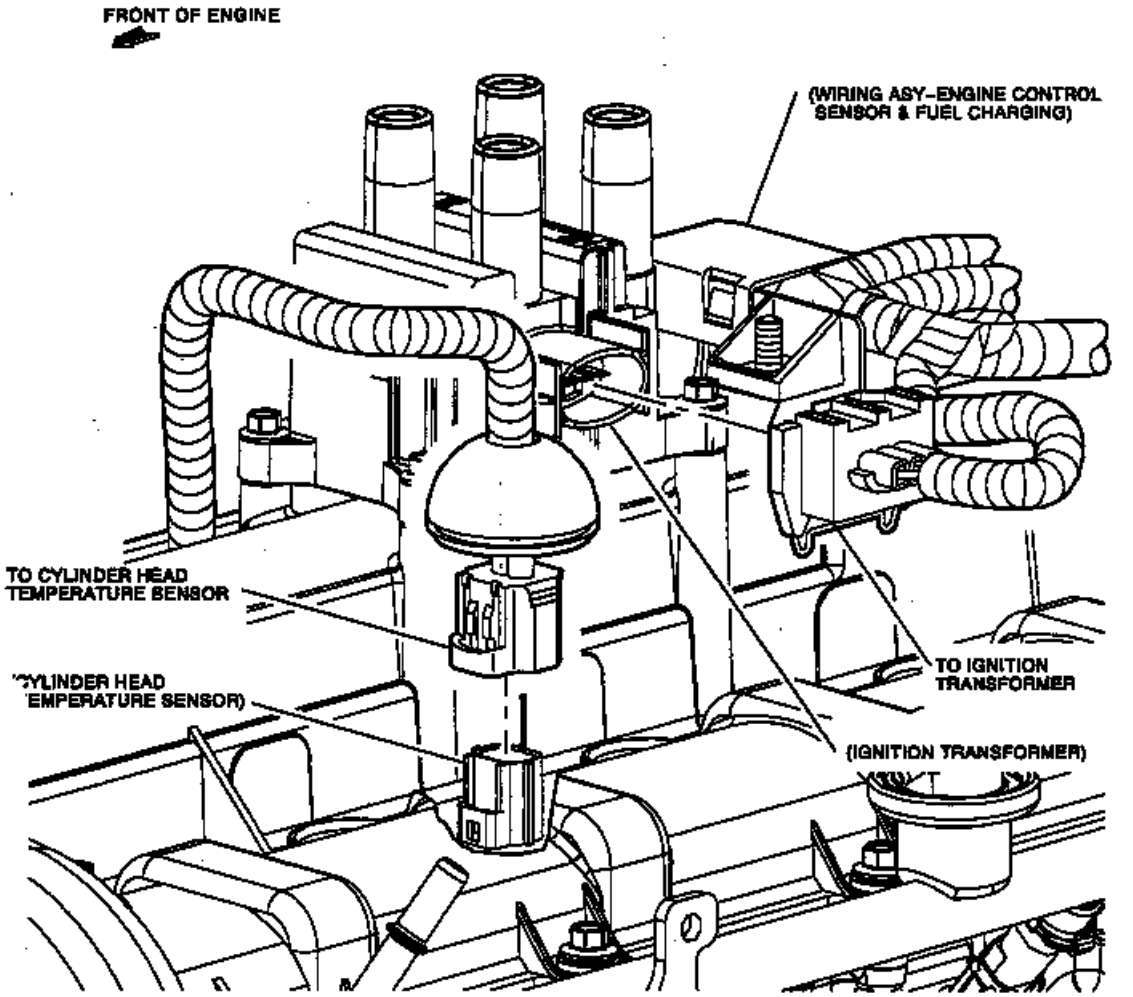


180101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON D1 RANGER	100-E	100-F

SCALE = .66

WIRING HARNESS ASY CONNECTIONS

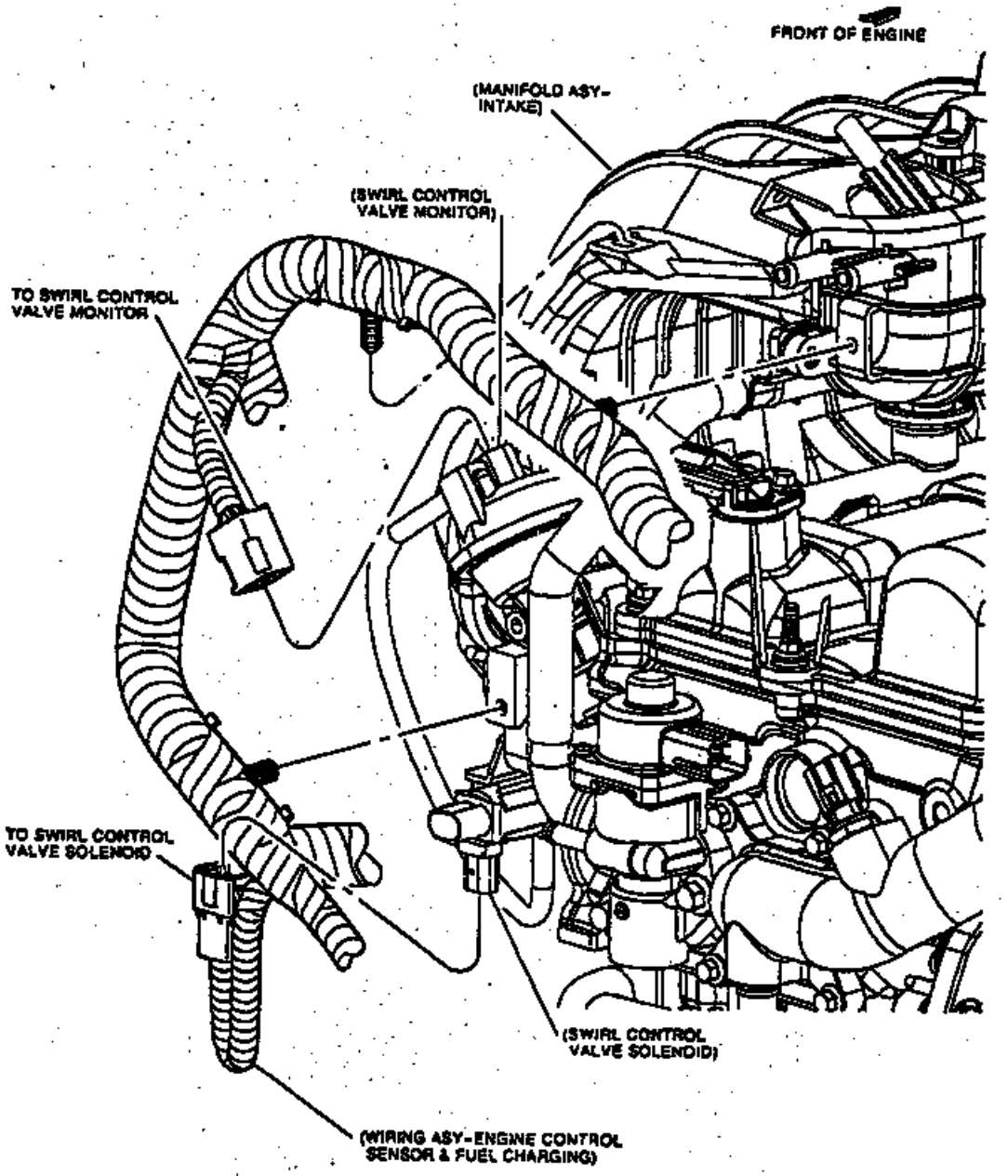


180101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE TO	DATE	MODEL	SHEET	CONTD
C187G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	100-F	100-G

SCALE = 1

WIRING HARNESS ASY CONNECTIONS

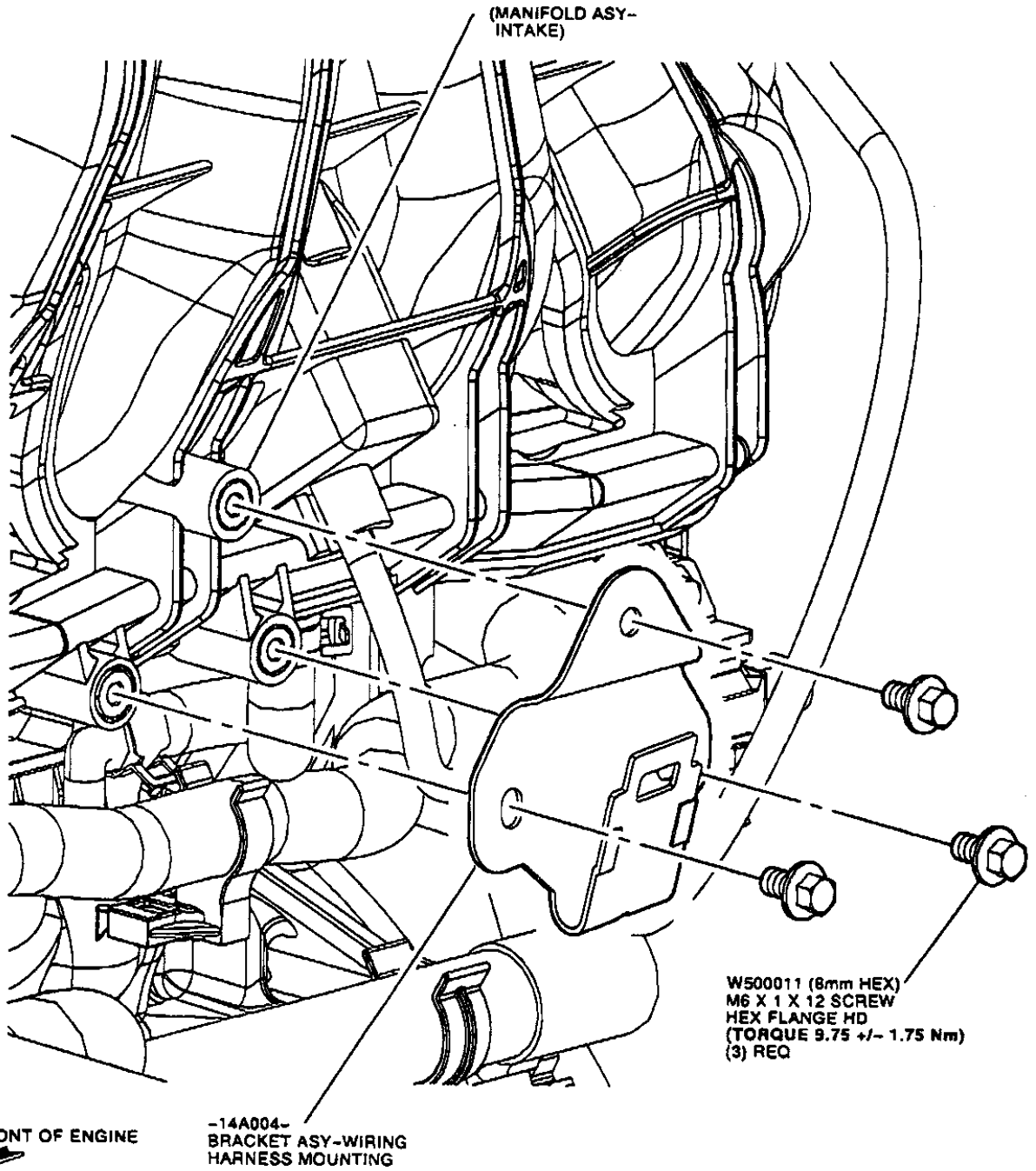


150101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	100-G	100-H

SCALE = .5

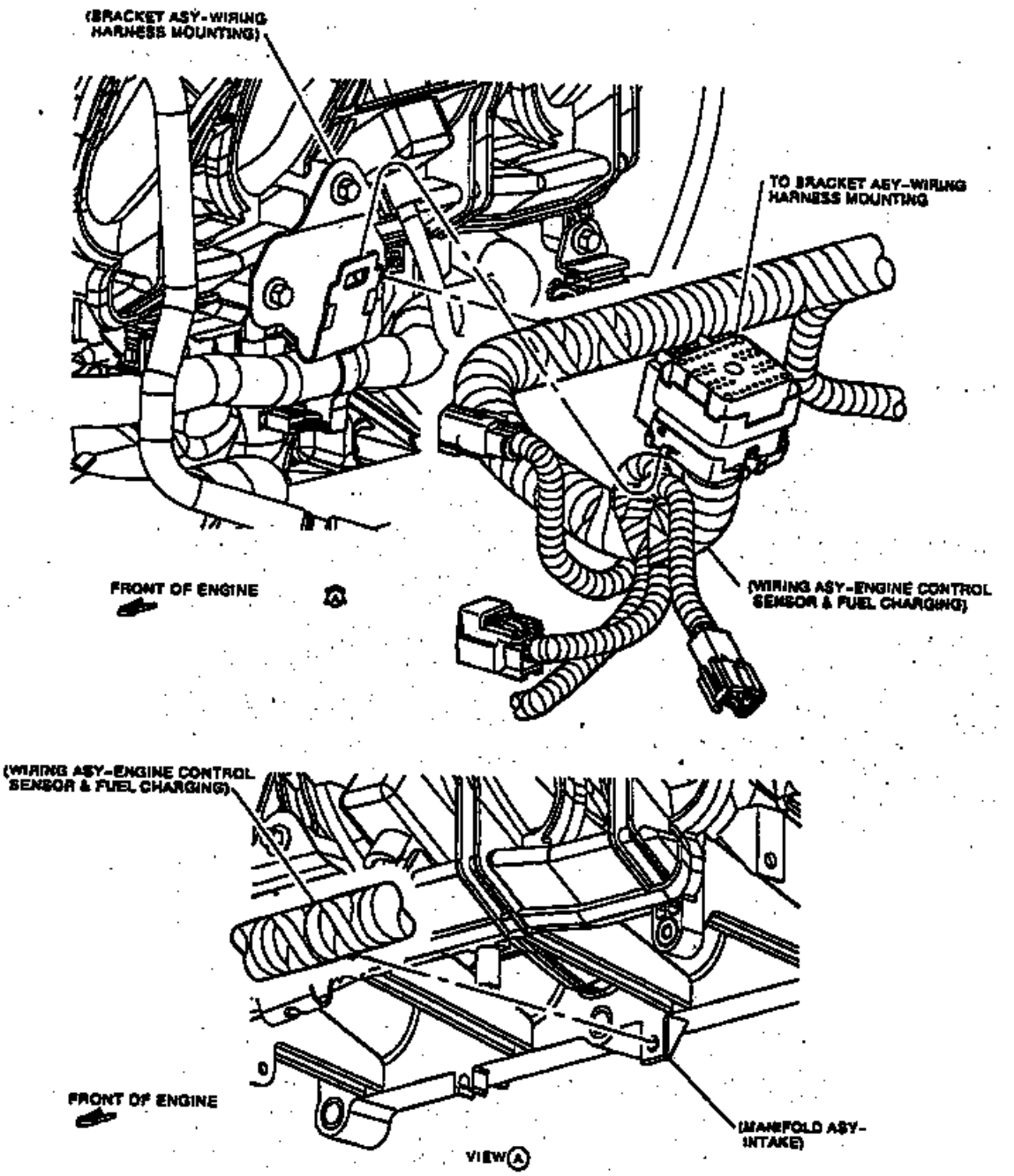
WIRING HARNESS MOUNTING BRACKET ASY



180107

RESTRICTIONS				PART NAME/TITLE WIRING ASY		
SPECIFICATION NO. C1S7G-543-AC	REV AU	RELEASE NO. EN00E11212646000	DATE 01-08-07	MODEL 2001 2.3L-4V NON D1 RANGER	SHEET 100-H	CONT'D. 100-J

WIRING HARNESS ASY CONNECTIONS

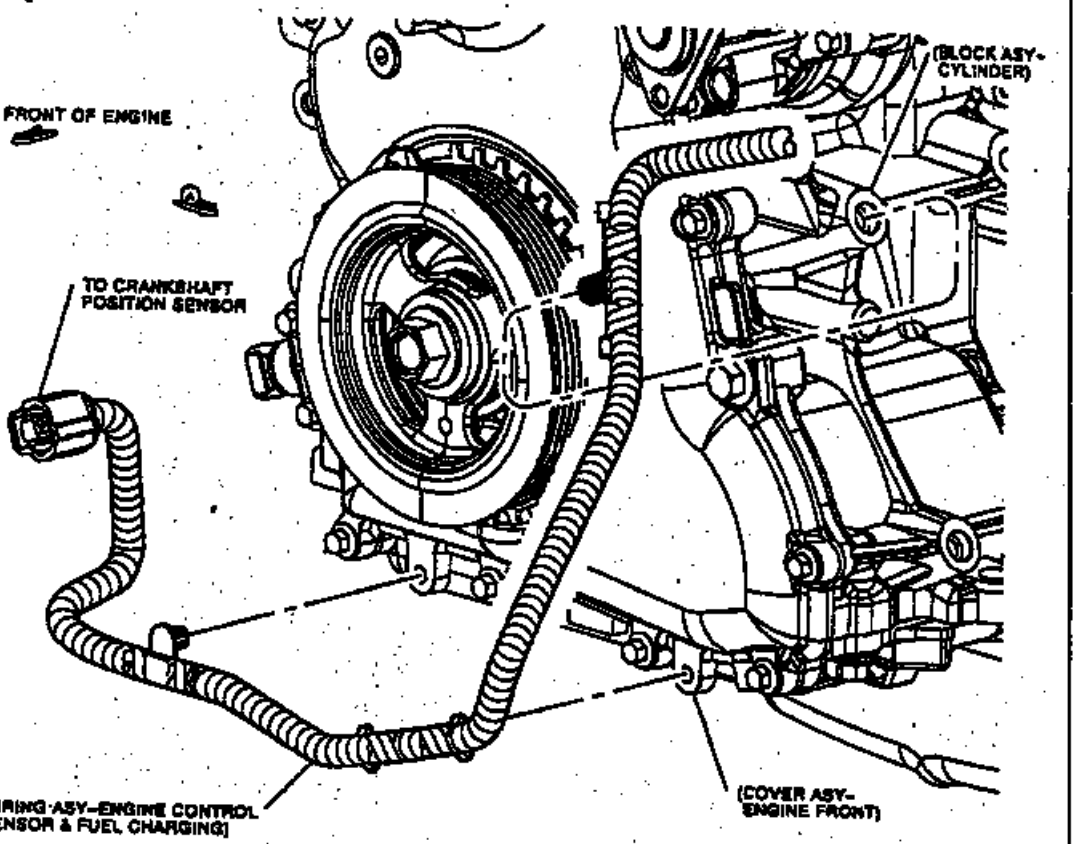


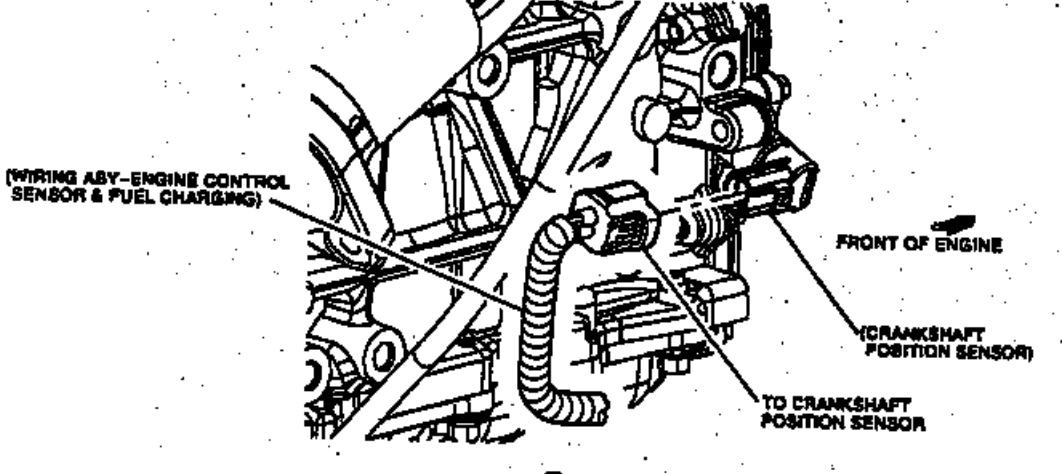
130101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	ENOGE110811970000	00-04-28	2001 2.3L-4V NON DI RANGER	100-J	100-K

SCALE = .6

WIRING HARNESS ASY CONNECTIONS





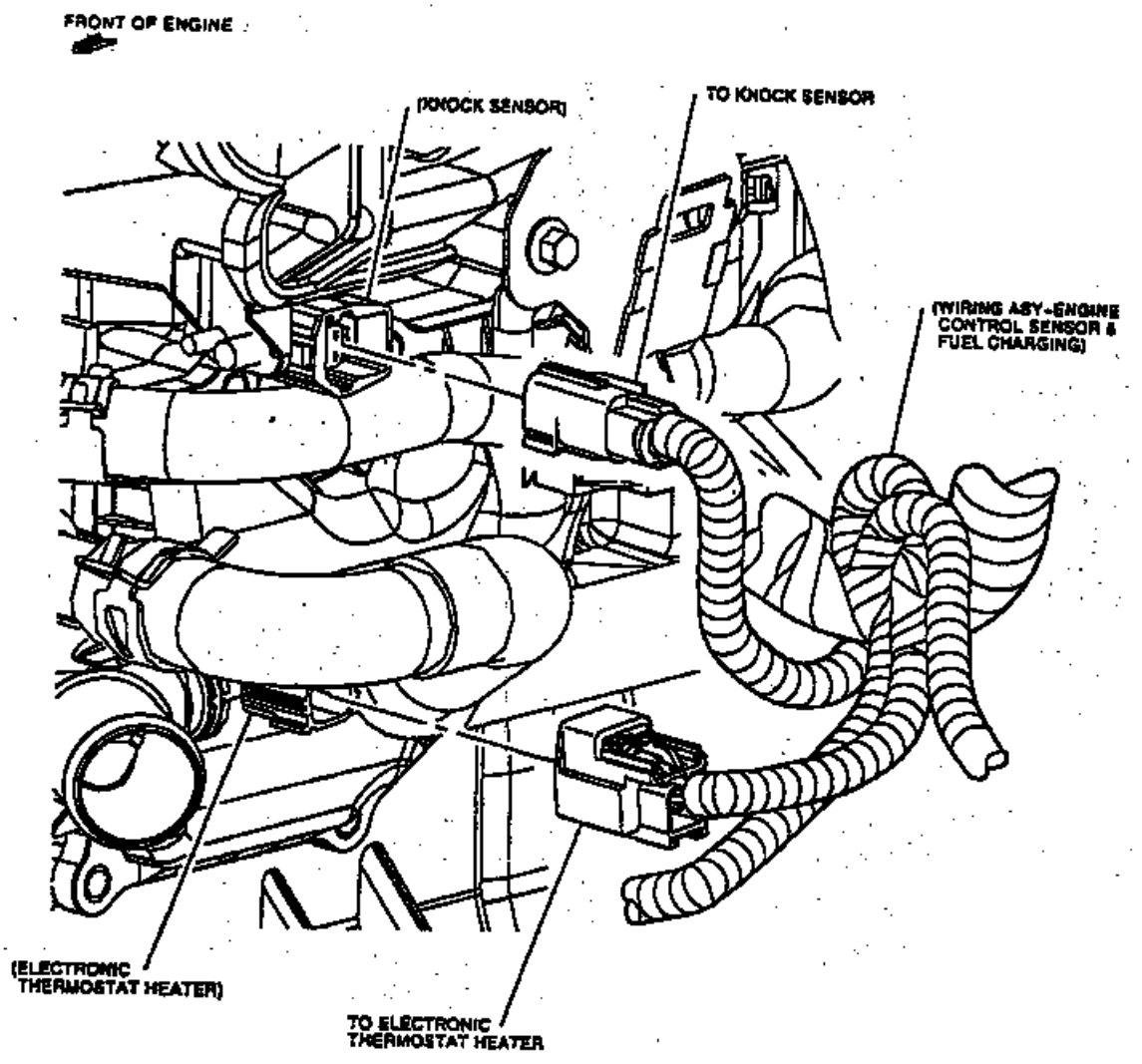
VIEW A

160101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	100-K	100-L

SCALE = .5

WIRING HARNESS ASY CONNECTIONS

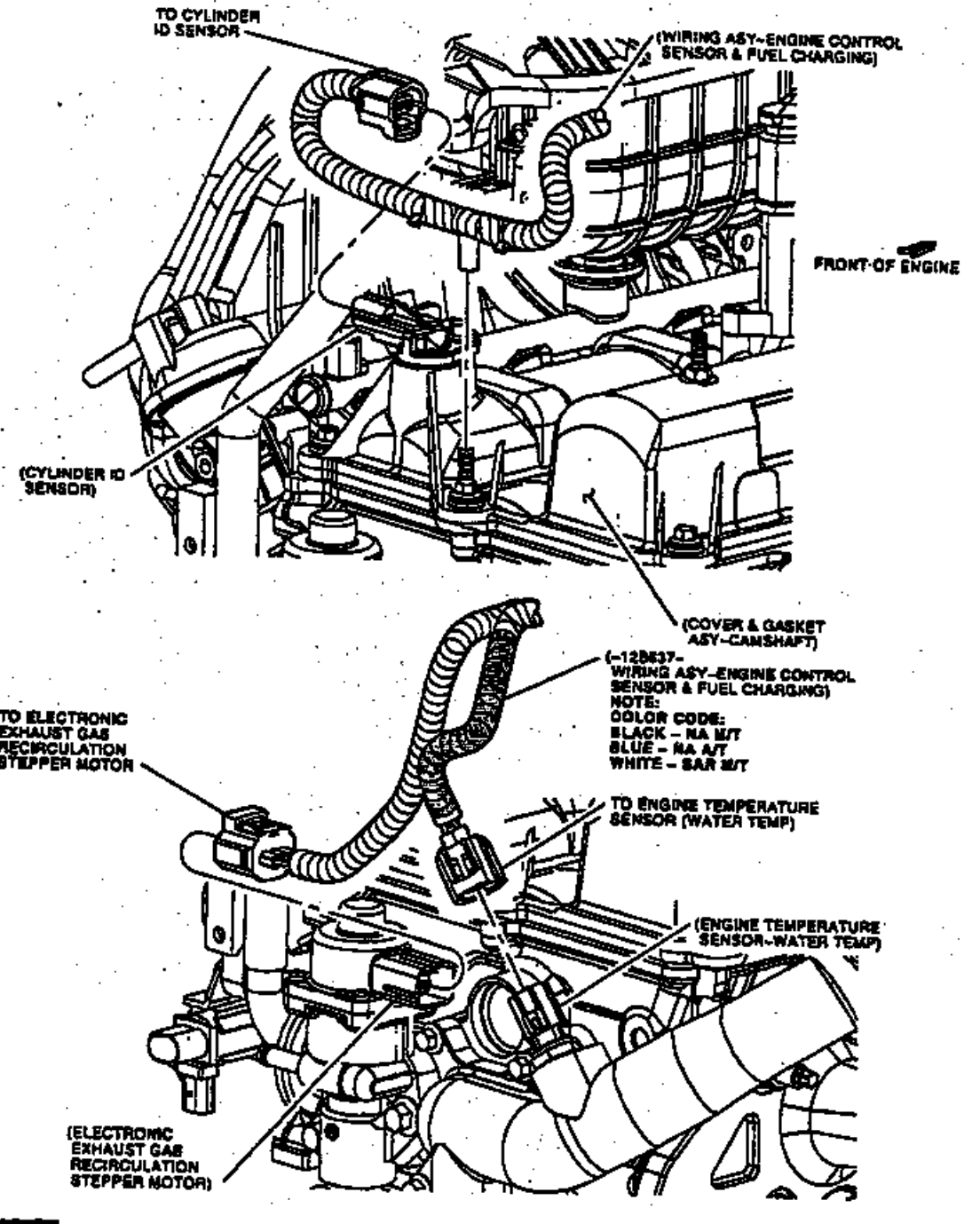


150101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C157G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	100-L	100-M

SCALE = .5

WIRING HARNESS ASY CONNECTIONS

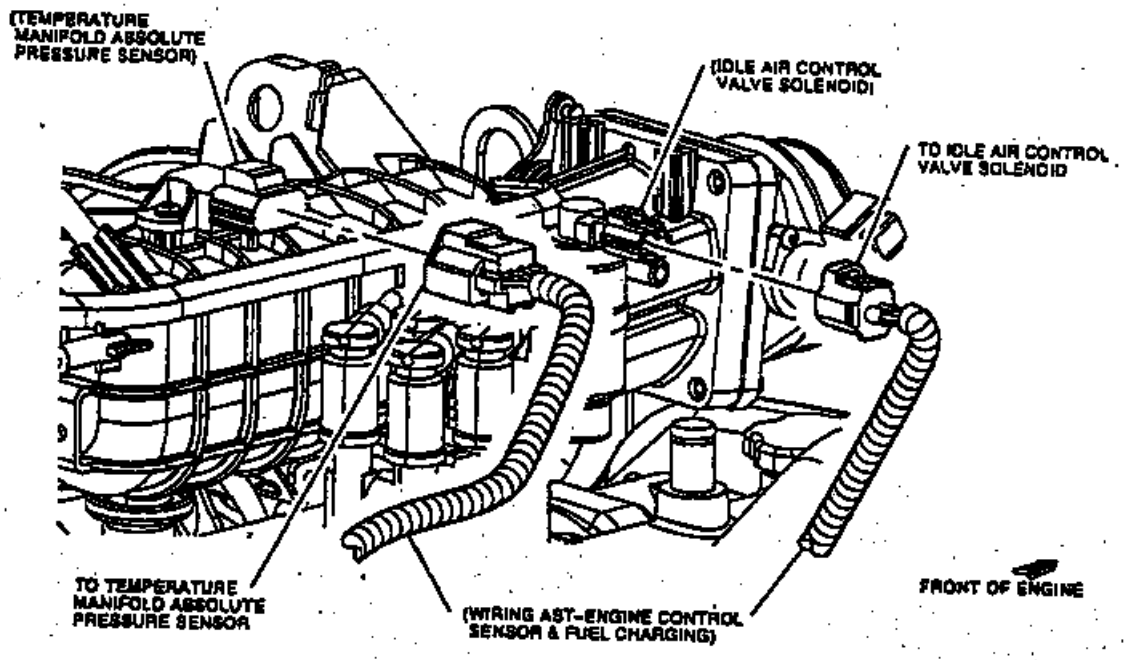


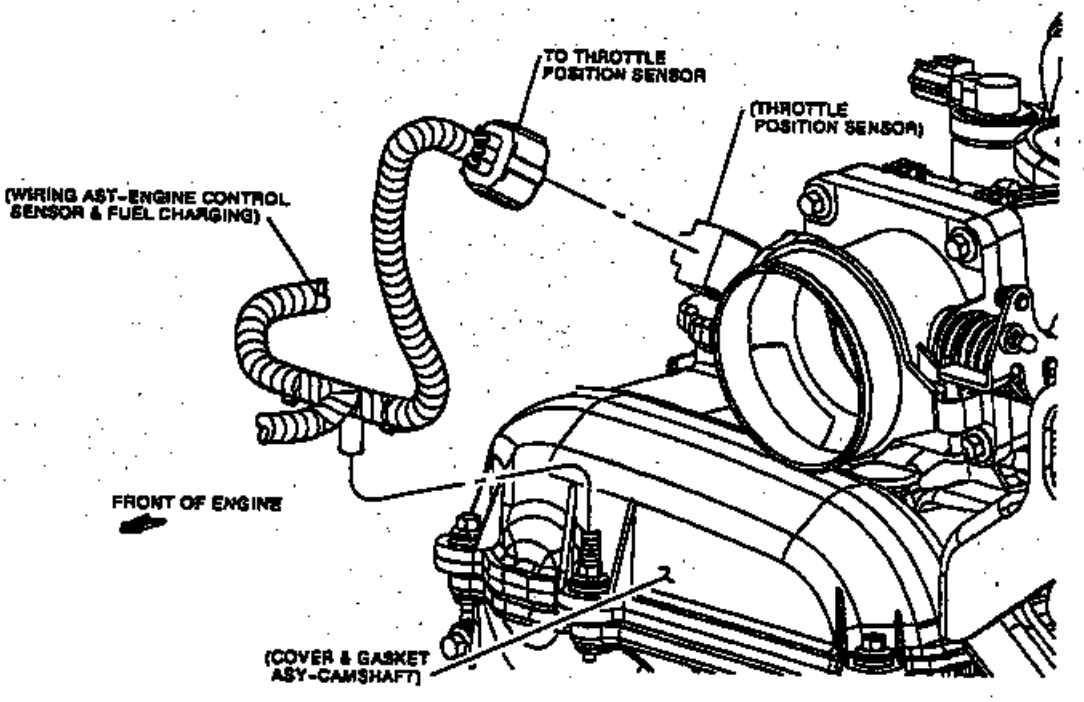
120101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	100-M	100-N

SCALE = .5

WIRING HARNESS ASY CONNECTIONS



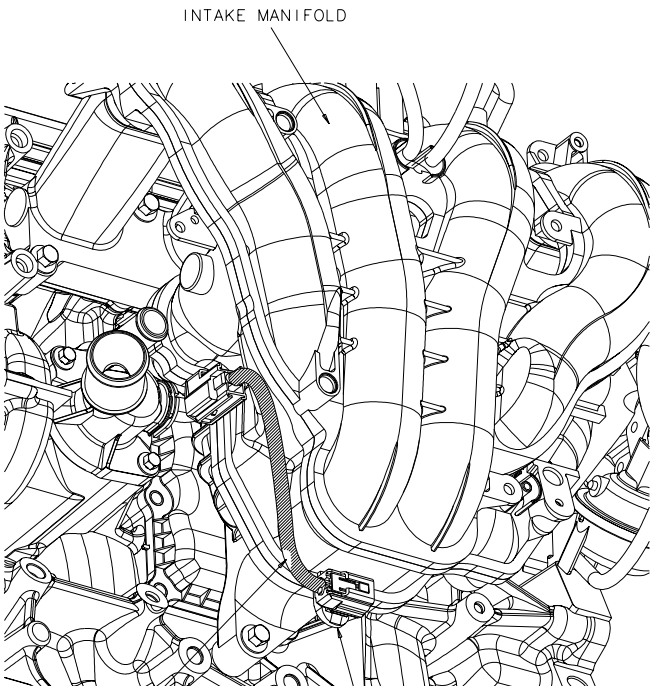


IS0101

RESTRICTIONS				PART NAME/TITLE: WIRING ASY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	S	EN00E11081197000	00-04-28	2001 2.3L-4V NON DI RANGER	100-N	101-C

SCALE = .5

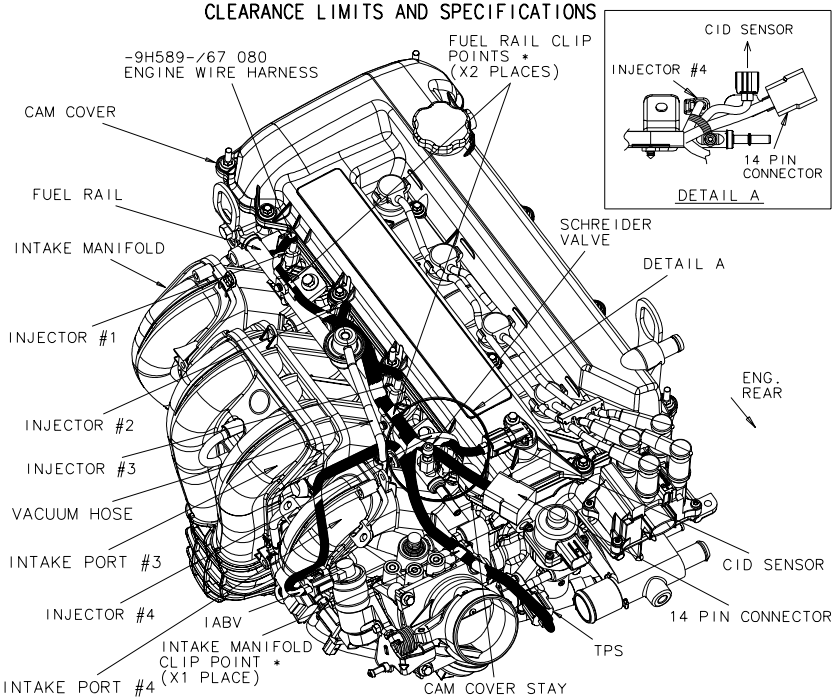
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.
1. CLIP HARNESS TO INTAKE MANIFOLD. (1 PLACE)
(NOTE1) 1 CLIP (*) IS HARNESS-INTEGRATED PLASTIC RETAINERS.

RESTRICTIONS			PART NAME/TITLE: ENGINE WIRE HARNESS			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AH	EN00E11190272000	01-03-28	2003 2.3L-4V NONDI	101-C	102-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

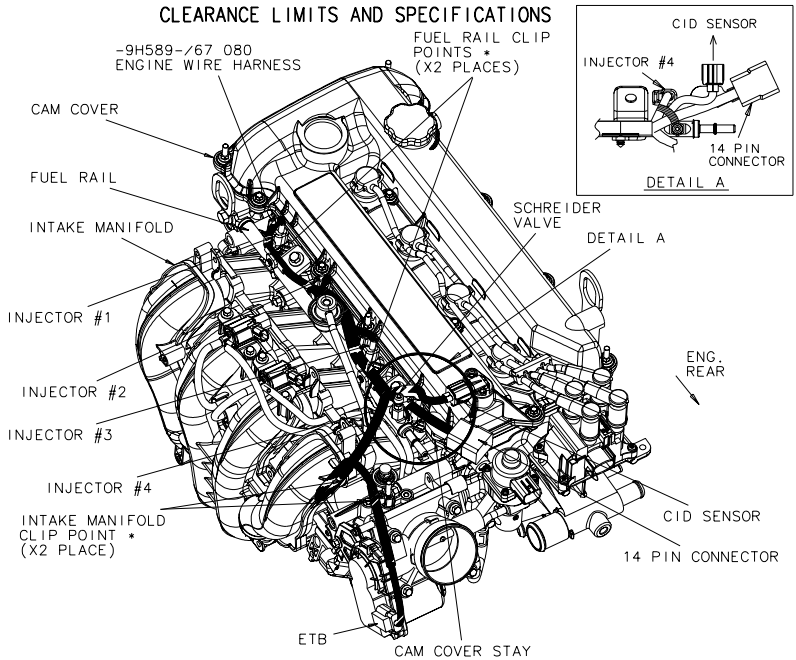


ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.
1. PLACE HARNESS ALONG THE FUEL RAIL, CLOSE TO THE CAM COVER WITH 14 PIN CONNECTOR BEING NEAR THE CID SENSOR.
2. CLIP HARNESS TO FUEL RAIL FROM CAM COVER SIDE. (2 PLACES)
3. CONNECT INJECTOR #1-#4. (4 PLACES)
4. CID SENSOR TAKE FROM BETWEEN INJECTOR #4 AND 14 PIN CONNECTOR.(SEE DETAIL A)
5. CONNECT CID SENSOR.
6. CLIP 14 PIN CONNECTOR ON TO CAM COVER STAY.
7. ROUTE WIRES FOR TPS & IABV TO THE INTAKE MANIFOLD SIDE OF SCHREIDER VALVE.
8. ROUTE WIRE FOR IABV UNDER THE VACUUM HOSE.
9. ROUTE WIRE FOR IABV BETWEEN INTAKE PORT #3 AND INTAKE PORT #4.
10. CONNECT IABV.
11. CONNECT TPS.
12. CLIP HARNESS TO INTAKE MANIFOLD FROM ENG. REAR SIDE. (1 PLACE)

(NOTE1) ALL 3 CLIPS (*) ARE HARNESS-INTEGRATED PLASTIC RETAINERS.
(NOTE2) THE ELECTRICAL CONNECTORS SHOULD BE INSERTED STRAIGHT AND CONFIRMED WHETHER THEY ARE IN THEIR "LOCKED" POSITION.

RESTRICTIONS			PART NAME/TITLE: ENGINE WIRE HARNESS			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2002 2.0L-4V NON DI J56	102-C	102-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

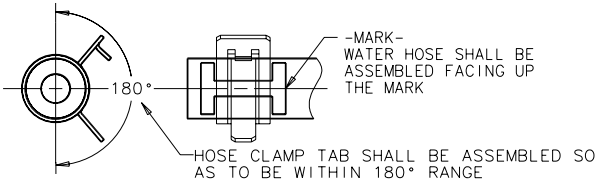


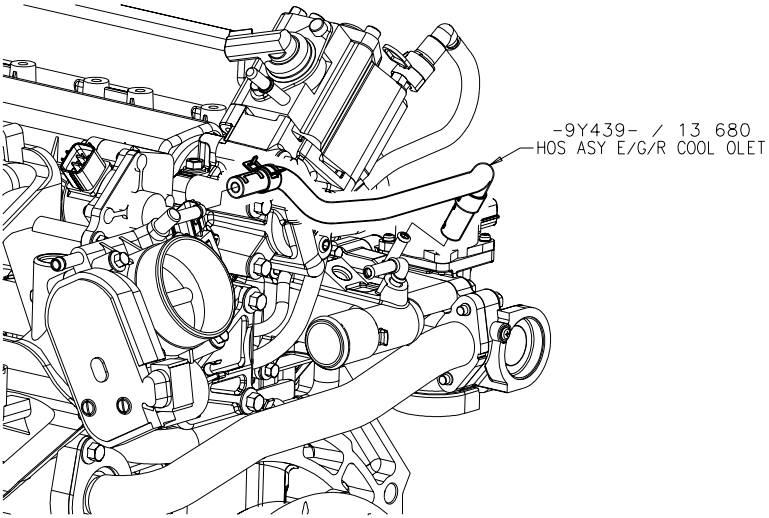
ASSEMBLE THE ENGINE WIRE HARNESS IN THE FOLLOWING SEQUENCE.
1. PLACE HARNESS ALONG THE FUEL RAIL, CLOSE TO THE CAM COVER WITH 14 PIN CONNECTOR BEING NEAR THE CID SENSOR.
2. CLIP HARNESS TO FUEL RAIL FROM CAM COVER SIDE. (2 PLACES)
3. CONNECT INJECTOR #1-#4. (4 PLACES)
4. CID SENSOR TAKE FROM BETWEEN INJECTOR #4 AND 14 PIN CONNECTOR.(SEE DETAIL A)
5. CONNECT CID SENSOR.
6. CLIP 14 PIN CONNECTOR ON TO CAM COVER STAY.
7. CONNECT ETB.
8. CLIP HARNESS TO INTAKE MANIFOLD FROM ENG. REAR SIDE. (2 PLACE)

(NOTE1) ALL 4 CLIPS (*) ARE HARNESS-INTEGRATED PLASTIC RETAINERS.
(NOTE2) THE ELECTRICAL CONNECTORS SHOULD BE INSERTED STRAIGHT AND CONFIRMED WHETHER THEY ARE IN THEIR "LOCKED" POSITION.

RESTRICTIONS			PART NAME/TITLE ENGINE WIRE HARNESS			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BL	EN00E11271652000	01-11-15	2002 2.3L-4V NON DI J56	102-D	103-C

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

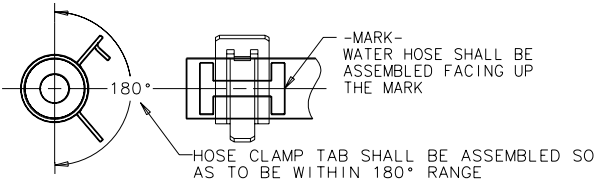


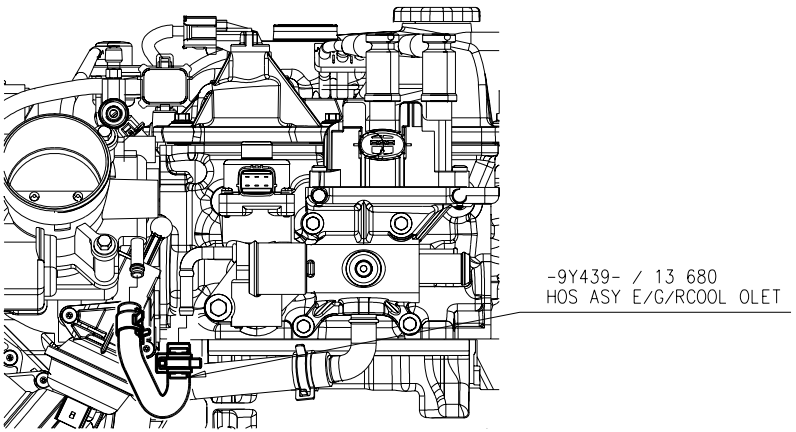


NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION ( ) CAN BE USED.
   ANY OTHER MATERIAL GREASE, OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET. (SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

RESTRICTIONS			PART NAME/TITLE: HOSE ASSY E/G/R COOL OUTLET			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BB	EN00E11273745001	'01-10-26	2002 1.8L-4V DI CD132	103-C	103-D

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

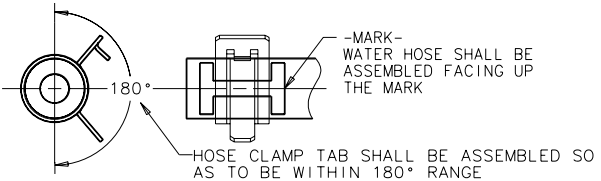


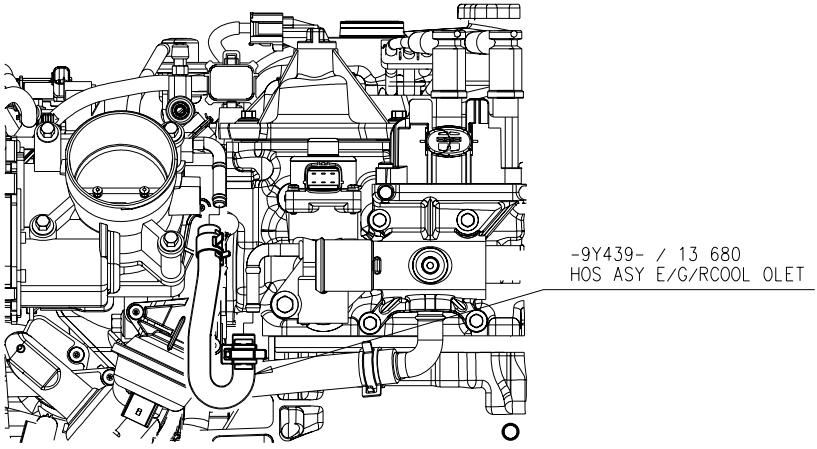


NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION ( ) CAN BE USED.
   ANY OTHER MATERIAL GREASE,OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET.(SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

RESTRICTIONS			PART NAME/TITLE: HOSE ASSY E/G/R COOL OUTLET				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	BB	EN00E11273745001	'01-10-26	2003 2.3L-4V NON DI J56J	103-D	103-E	

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

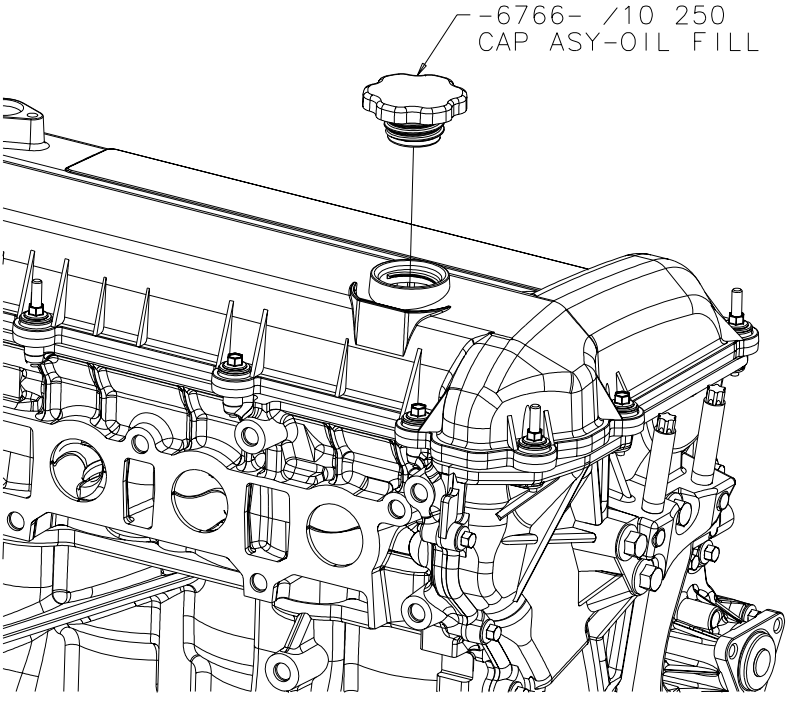




NOTES
1. TO ASSIST ASSEMBLY OF HOSE CONNECTIONS 10% ALFORM DILUTION ( ) CAN BE USED.
   ANY OTHER MATERIAL GREASE,OIL etc. MUST NOT BE USED.
2. THE CONNECTIONS SHOULD BE ASSEMBLED TO THE PHYSICAL STOP ON THERMOSTAT AND WATER OUTLET.(SEE SKETCH)
3. CONNECTION MARKINGS ARE VERTICAL THERMOSTAT AND HORIZONTAL FOR WATER OUTLET.
4. HOSE CLIPS MUST BE WITHIN THESE MARKINGS.

RESTRICTIONS			PART NAME/TITLE: HOSE ASSY E/G/R COOL OUTLET			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BB	EN00E11273745001	'01-10-26	2004 1.8L-4V NON DI C214	103-E	104-A

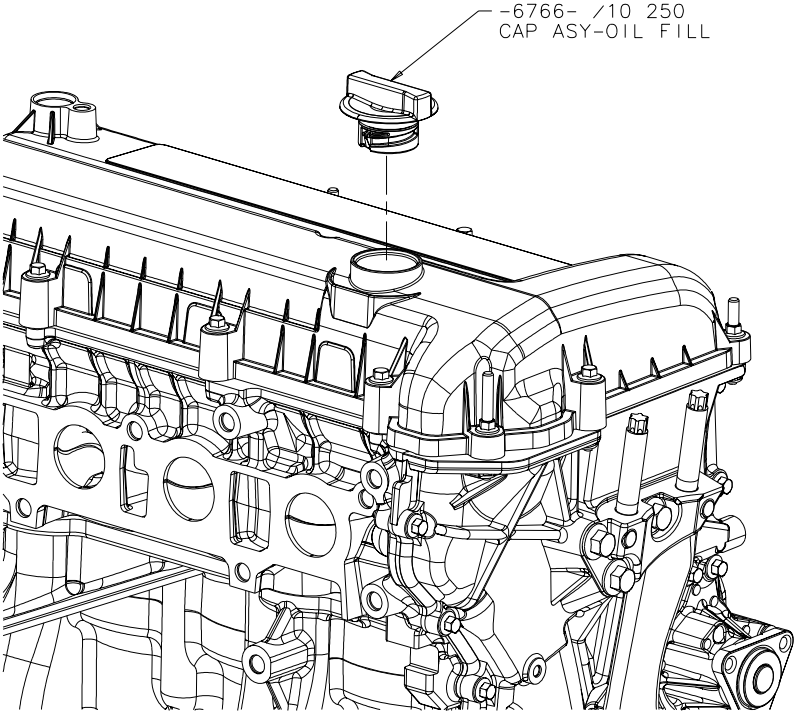
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1.No sticking of stain, dust, etc is allowed on oil filler cap sealing surface of cam cover and oil filler cap.
2.Firmly tighten oil filler cap until torque limiter works.

RESTRICTIONS				PART NAME/TITLE OIL FILLER CAP		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	H	EN00E11007392000	99-09-06	2001 2.0L-4V NON DI CD132	104-A	104-B

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

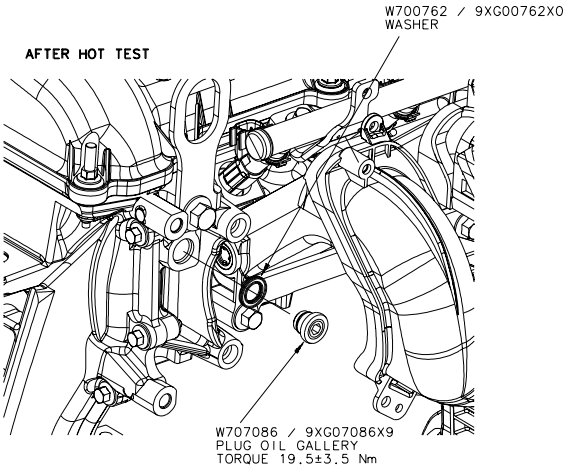


NOTES
1.No sticking of stain, dust, etc is allowed on oil filler cap sealing surface of cam cover and oil filler cap.
2.Firmly tighten oil filler cap until oil filler cap can not turn.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

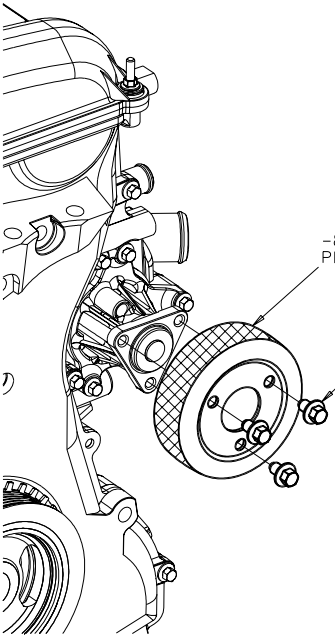


RESTRICTIONS				PART NAME/TITLE PLUG-OIL GALLERY		
SPECIFICATION NO. C1S7G-543-AC	REV M	RELEASE NO. EN00E11054241000	DATE '00-01-26	MODEL 2001 2.0L-4V NON DI CD132	SHEET 105	CONTD. 106-A

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

This page is intentionally Blank

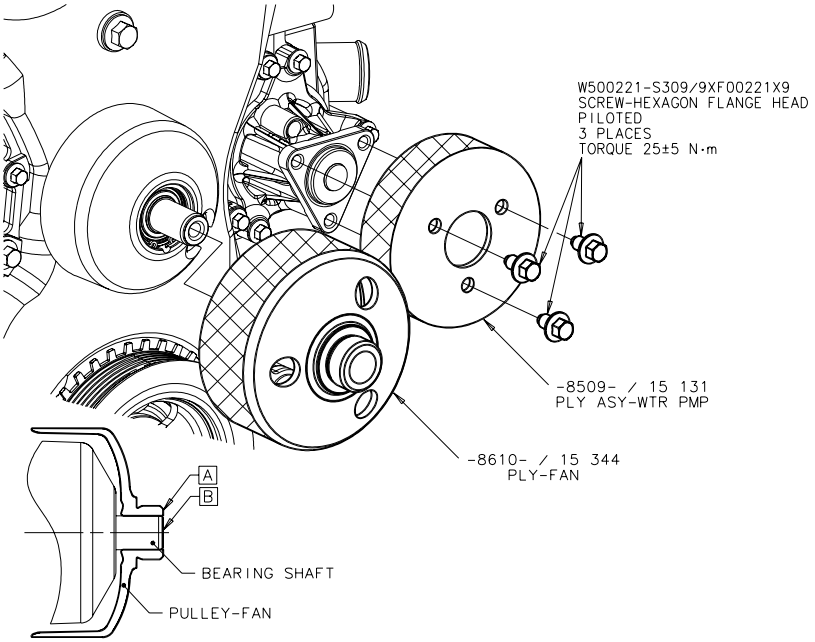
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



NOTES
1. ENSURE THERE IS NOT ANY GREASE,OIL OR FOREIGN MATTER ON THE HATCHED AREA BEFORE SHIPMENT.
2. DAMAGED PULLEY MUST NOT BE ASSEMBLED.
3. THE PULLEY MUST NOT CONTACT ANY OTHER PARTS OF THE ENGINE DURING ROTATION.

RESTRICTIONS				PART NAME/TITLE: WATER PUMP PULLEY		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	N	EN00E11030674000	00-02-10	2001 2.0L-4V NON DI CD132	107-A	107-B

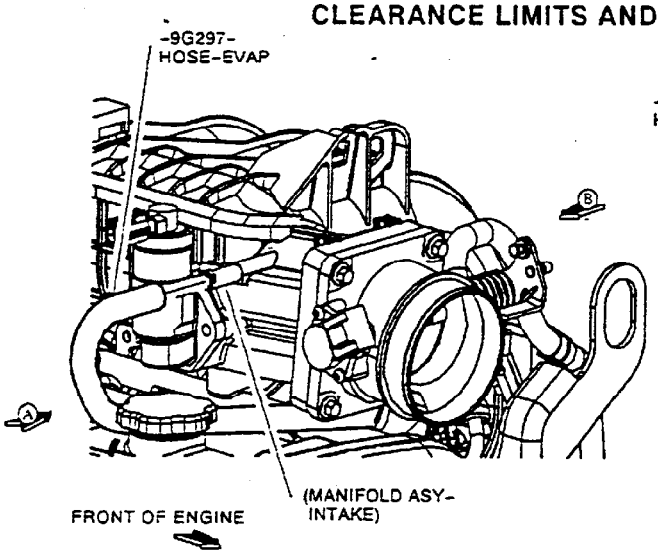
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS

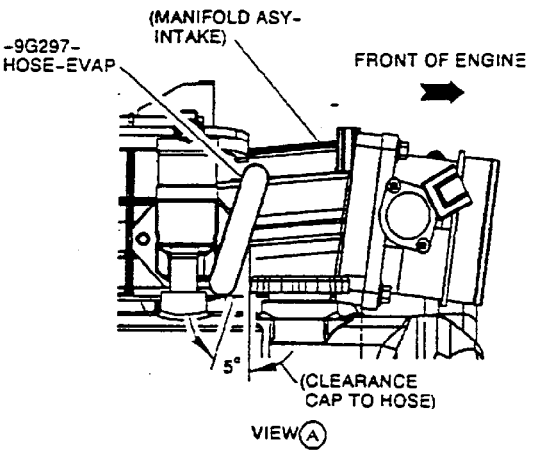


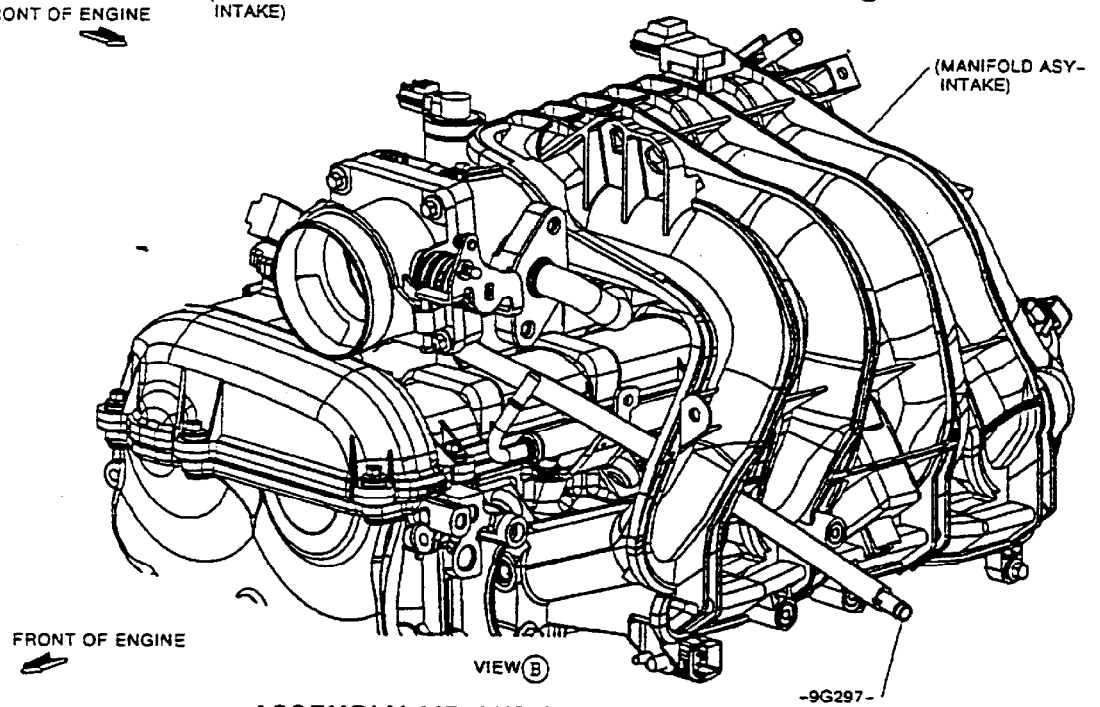
NOTES
1. FAN PULLEY TO BE PRESSED-IN INTO BEARING SHAFT PULLEY [A] AND [B] SHALL BE FLUSH(±0.2mm)
2. ENSURE THERE IS NOT ANY GREASE,OIL OR FOREIGN MATTER ON THE HATCHED AREA BEFORE SHIPMENT.
3. DAMAGED PULLEY MUST NOT BE ASSEMBLED.
4. THE PULLEY MUST NOT CONTACT ANY OTHER PARTS OF THE ENGINE DURING ROTATION.

RESTRICTIONS			PART NAME/TITLE: WATER PUMP PULLEY & FAN PULLEY				
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	AF	EN00E11151946000	01-02-09	2001 2.3L-4V NON DI RANGER	107-B	108

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS







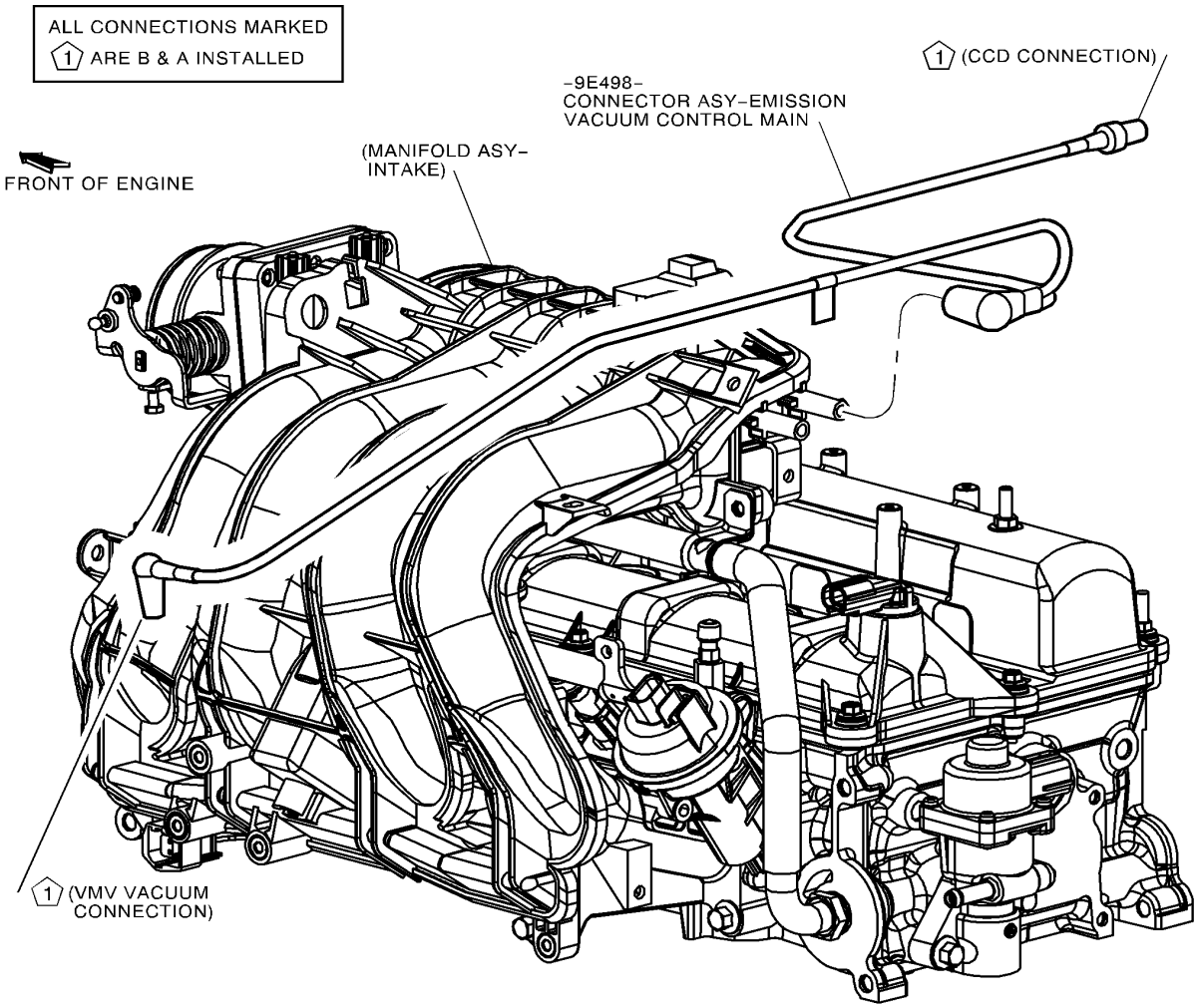
ASSEMBLY AID AND ENGAGEMENT SPECIFICATIONS FOR VACUUM SYSTEM COMPONENTS

ESE-M99B144-B SURFACTANT (MERPOL) MAY BE USED TO FACILITATE ASSEMBLY OF ALL VACUUM CONNECTOR ASY COMPONENTS.

ALTERNATELY, WATER MAY BE USED BY TOUCHING COMPONENTS TO A WET SPONGE. WATER LEVEL NOT TO EXCEED 50% OF SPONGE THICKNESS.

UNLESS OTHERWISE SPECIFIED, ALL VACUUM TUBING CONNECTIONS, CONNECTOR BLOCKS AND CAPS MUST BE BOTTOMED OR WITHIN 2.5 MAX OF BEING BOTTOMED ON THE COMPONENT NIPPLE.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



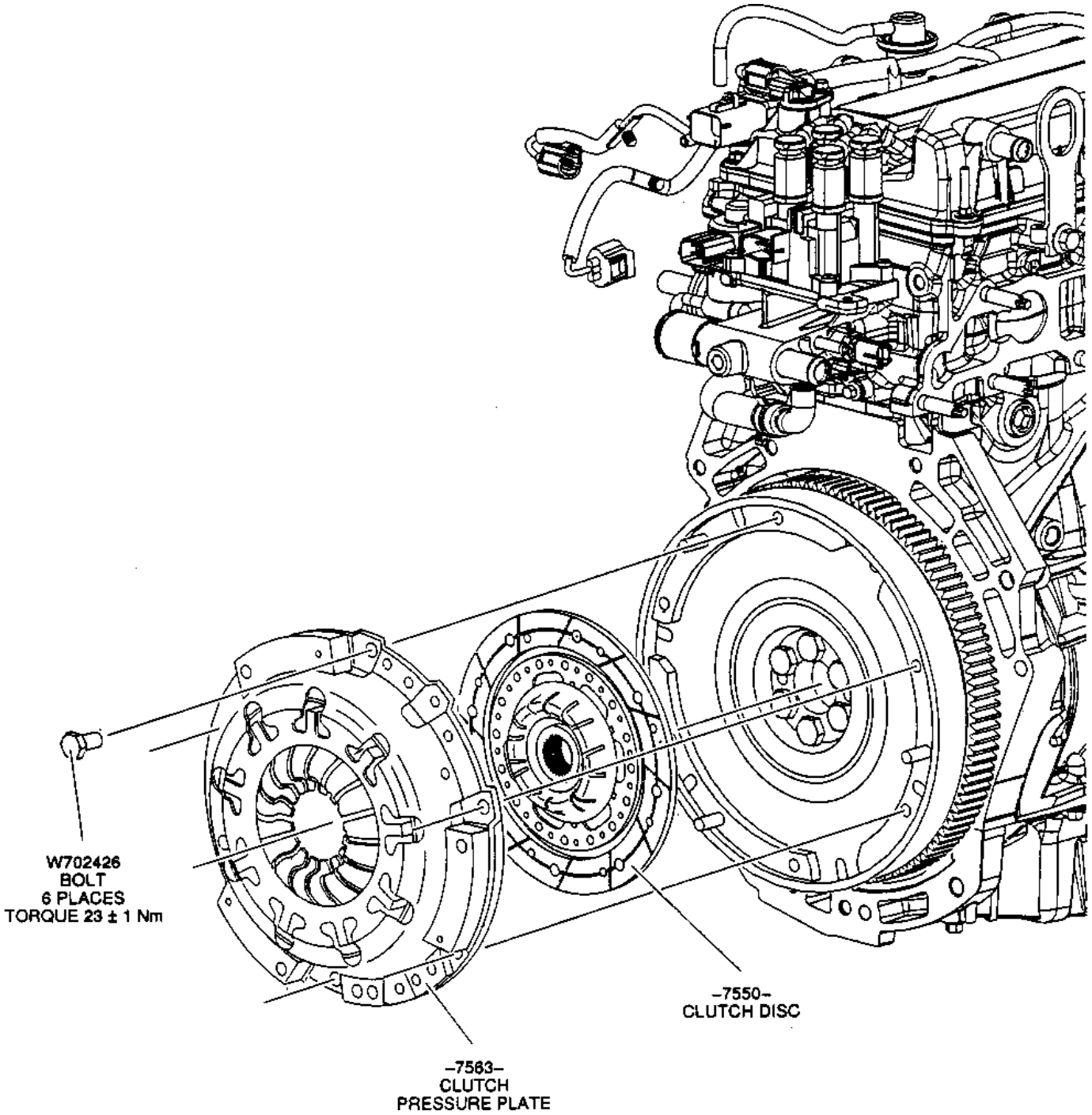
ASSEMBLY AID AND ENGAGEMENT SPECIFICATIONS FOR VACUUM SYSTEM COMPONENTS

ESE-M99B144-B SURFACTANT (MERPOL) MAY BE USED TO FACILITATE ASSEMBLY OF ALL VACUUM CONNECTOR ASY COMPONENTS.

ALTERNATELY, WATER MAY BE USED BY TOUCHING COMPONENTS TO A WET SPONGE. WATER LEVEL NOT TO EXCEED **50%** OF SPONGE THICKNESS.

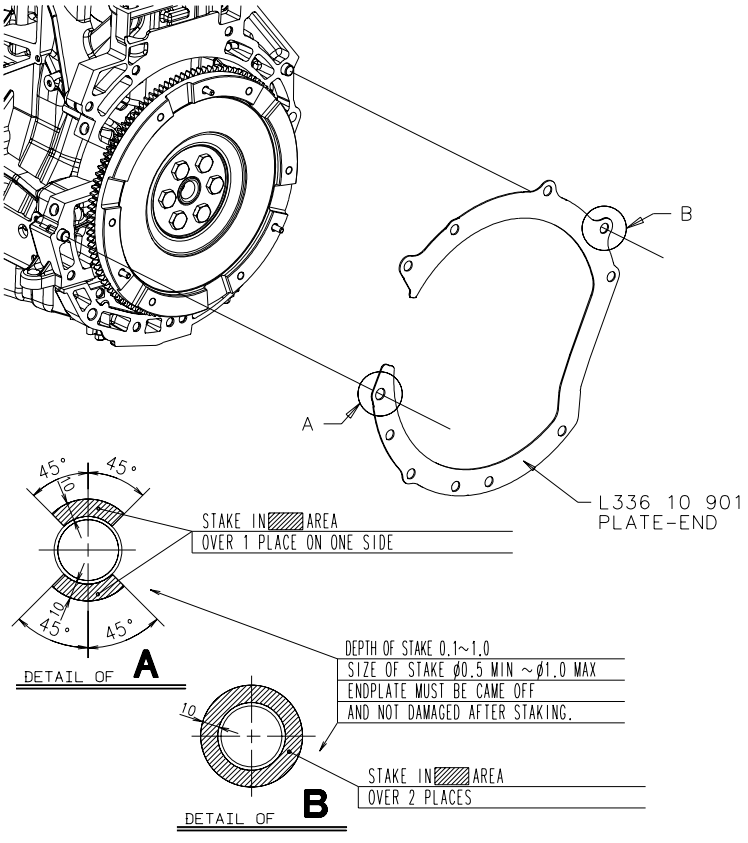
UNLESS OTHERWISE SPECIFIED, ALL VACUUM TUBING CONNECTIONS, CONNECTOR BLOCKS AND CAPS MUST BE BOTTOMED OR WITHIN 2.5 MAX OF BEING BOTTOMED ON THE COMPONENT NIPPLE.

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



RESTRICTIONS				PART NAME/TITLE INSTALLATION DUAL MASS FLYWHEEL		
SPECIFICATION NO. C1S7G-543-AC	REV BH	RELEASE NO. EN00 E11266219 000	DATE 01-11-12	MODEL 2001 2.0L-4V NON DI CD132	SHEET 110	CONTD. 110-A

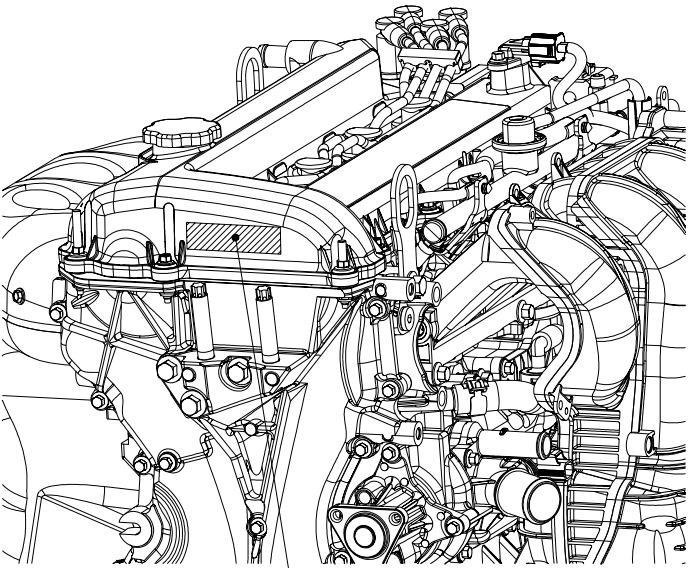
ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



UNIQUE TO MAZDA ONLY.

RESTRICTIONS				PART NAME/TITLE PLATE END		
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.
C1S7G-543-AC	BH	EN00 E 11266219 000	01-11-12	2002 2.3L-4V NON DI J16	110-A	111

ENGINE ASSEMBLY PROCEDURES AND INSTRUCTIONS
CLEARANCE LIMITS AND SPECIFICATIONS



Eng.Size/Prefix/Suffix:Eng.Parts No.

Buyoff Date Code

1.8 1A-139-AA

C 24/05/2000

H **019**

E

P 000507

Barcode

1051900180711

Engine Derivative Number

CHEP 5/19 2000 18:07:11

UNIQUE ENGINE NUMBER

REFFER TO CAM COVER DRAWING
FOR LOCATION DIMENSIONS.

Sequence Number

RESTRICTIONS				PART NAME/TITLE BARCODE			
SPECIFICATION NO.	REV	RELEASE NO.	DATE	MODEL	SHEET	CONTD.	
C1S7G-543-AC	T	EN00E11095813000	00-06-30	2001 2.0L-4V NON DI CD132	111	END	