

ENGINE TECH TIPS

ENGINE J05D-TA TORQUE & MEASUREMENTS		Kg/cm	Ft/lb		
CAMSHAFT IDLE GEAR BOLT		1100	80		
CAMSHAFT SUB IDLE GEAR BOLT		1100	80		
CAMSHAFT GEAR HOLDING BOLT		600+ 90°	43 + 90°		
CAMSHAFT GEAR HOLDING BOLT LENGTH				51mm	2.008 in
CAMSHAFT BEARING CAP BOLT		290	21		
ROCKER ARM ADJUSTING NUT		250	18		
ROCKER ARM SUPPORT HOLDING BOLT		290	21		
INJECTORS INSIDE FUEL RETURN LINE BOLT		125	9		
INJECTOR FUEL SUPPLY PIPE NUT		400-499	29-36		
INJECTOR HOLDING BRACKET BOLT		250	18		
HEAD BOLTS					
	STEP 1-HEAD BOLTS (M12) 1 TO 18	600	43 + 90°		
	STEP 2-BOLTS 1, 2, 7, 8, 9, 10, 15, 16, 17	90°	90°		
	STEP 3-BOLTS #4,5,12,13	135°	135°		
	STEP 4-BOLTS #3,6,11,14,18	180°	180°		
	STEP 5-BOLTS (M10) #19, 20, 21	600	43		
VALVE CLEARANCE INTAKE				0.30 mm	0.012 in
VALVE CLEARANCE EXHAUST				0.45 mm	0.018 in
VALVE COVER BOLTS		290	21		
MAIN IDLE GEAR		1750	127		
IDLE GEAR		1100	80		
REAR END PLATE HOLDING BOLTS		560	41		
OIL PUMP BOLTS		291	21		
FLYWHEEL HOLDING BOLTS		1900	137		
M8 BOLT		290	21		
M10 BOLT		560	40.5		
M16 BOLT		1800	130		
CRANKSHAFT FRONT PULLEY BOLTS		1100	80		
PISTON COOLING JET		220	15.5		
CONNECTING ROD NUT		700+90°+45°	51+90°+45°		
CONNECTING ROD BOLT LENGTH				82.5 mm	3.248 in
MAIN BEARING CAP BOLT		700	51+90°+45°		
MAIN BEARING CAP BOLT LENGTH				108 mm	4.252 in
OIL PICK UP PIPE BOLT		291	21		
OIL PAN BOLTS		300	21		
OIL COOLER BOLT		290	21		
INTAKE MANIFOLD BOLTS		290	21		
EXHAUST MANIFOLD NUT		540	39		
TURBOCHARGER NUT (TO EXHAUST MANIFOLD)		570	41		
SUPPLY PUMP COMMON RAIL FUEL SUPPLY PIPE		500-599	37-43		
SUPPLY PUMP BEARING HOUSING COUPLING FLANGE NUT		650	47		
SUPPLY PUMP BEARING HOUSING HOLDING BOLT		290	21		
SUPPLY PUMP HOLDING BOLT		290	21		
EGR COOLER BOLT		560	40		
COMMON RAIL PRESSURE SENSOR		1000	72		
COMMON RAIL PRESSURE LIMITER		1750	126		
COMMON RAIL HOLDING BOLT		290	21		
COMMON RAIL FEED PIPE NUTS		450	32		
COMMON RAIL FLOW DAMPER		1305	94		

NOTE: All Bolts are torqued with oil on the threads

ENGINE TECH TIPS

ENGINE J08E-TA/TB TORQUE & MEASUREMENTS		Kg / cm	Ft / lb		
CAMSHAFT IDLE GEAR BOLT		1100	80		
CAMSHAFT SUB IDLE GEAR BOLT		1100	80		
CAMSHAFT GEAR HOLDING BOLT		600+ 90°	43+ 90°		
CAMSHAFT GEAR HOLDING BOLT LENGTH				51mm	2.008 in
CAMSHAFT BEARING CAP BOLT		320	23		
CAMSHAFT HOUSING BOLTS		230	16		
CAMSHAFT HOUSING PLUG (TORX BOLT)		60	4.4		
ROCKER ARM SUPPORT BOLTS		600	43		
HEAD BOLTS		600+90°+90°	43+90°+90°		
CYLINDER HEAD BOLTS LENGTH				126.5 mm	4.980 in
HEAD BOLTS CAMSHAFT HOUSING		600	43		
INJECTOR HOLDING BRACKET BOLT		250	18		
INJECTORS INNER FUEL RETURN LINE BOLT		148	10.7		
INJECTOR FUEL SUPPLY PIPE NUT		400-499	29-36		
VALVE CLEARANCE INTAKE				0.30 mm	0.012 in
VALVE CLEARANCE EXHAUST				0.45 mm	0.018 in
VALVE COVER BOLTS		250	18		
REAR END PLATE HOLDING BOLTS		560	41		
OIL PUMP BOLTS		291	21		
MAIN IDLE GEAR		1750	127		
SUB IDLE GEAR		1100	80		
FLYWHEEL HOLDING BOLTS		1900	137		
FLYWHEEL HOUSING HOLDING BOLTS					
M8 BOLT		290	21		
M10 BOLT		560	40.5		
M16 BOLT		1800	130		
PISTON COOLING JET		220	15.5		
CONNECTING ROD NUT		700+90°+45°	51+90°+45°		
CONNECTING ROD BOLT LENGTH				82.5 mm	3.248 in
MAIN BEARING CAP BOLT		700	51+90°+45°		
MAIN BEARING CAP BOLT LENGTH				108 mm	4.252 in
OIL PICK UP PIPE BOLT		291	21		
OIL PAN BOLTS		300	21		
OIL COOLER BOLT		290	21		
EXHAUST MANIFOLD NUT		540	39		
TURBOCHARGER NUT (TO EXHAUST MANIFOLD)		570	41		
INTAKE MANIFOLD BOLTS		600	43		
INTAKE PIPE BOLT & NUT		290	21		
AIR COMPRESSOR CRANKSHAFT LOCK NUT		3600	260		
SUPPLY PUMP COMMON RAIL FUEL SUPPLY PIPE		500-599	37-43		
SUPPLY PUMP BEARING HOUSING COUPLING FLANGE NUT		656	47		
SUPPLY PUMP BEARING HOUSING HOLDING BOLT		290	21		
SUPPLY PUMP HOLDING BOLT		290	21		
COMMON RAIL PRESSURE SENSOR		1000	72		
COMMON RAIL FLOW DAMPER		1305	94		
COMMON RAIL PRESSURE LIMITER		1750	126		
COMMON RAIL ASSAY HOLDING BOLT		290	21		
COMMON RAIL FEED PIPE NUTS		450	32		
EGR COOLER BOLT		560	40		
ENGINE COMPRESSION		STD	LIMIT	Difference between each cylinder	
	psi	425-455	341	43	
ENGINE OIL PRESSURE		STD	LIMIT LESS THAN		
	psi	7.11-71.10	7.11		