

## Race Engine Technical Specifications

### Technical Data for the Formula Ford 1600 Engine

FF1600 Race Engine Specifications	
Main Bearing Clearance	0.002"
Con Rod Bearing Clearance	0.0018" – 0.002"
Camshaft Bearing Clearance	0.002"
Piston to Cylinder Wall Clearance	0.003"
Top Ring End Gap	0.013" – 0.015"
Second Ring End Gap	0.010" – 0.012"
Crankshaft End Float	0.005" – 0.010"
Camshaft End Float	0.003" – 0.0065"
Intake Valve Stem Clearance	0.0015" – 0.002"
Exhaust Valve Stem Clearance	0.002" – 0.0025"
Intake Valve Lash (hot)	0.010"
Exhaust Valve Lash (hot)	0.018"
Max. Intake Valve Lift @ 0° clearance	0.356"
Max. Exhaust Valve Lift @ 0° clearance	0.358"
Firing Order	1 - 2 - 4 - 3
Spark Plug Gap	0.025"
Ignition Timing	38° – 40° BTDC
Points Gap, Bosch	0.020" – 0.022"
Points Gap, Autolite	0.024" – 0.025"
Dwell, Bosch	49°
Dwell, Autolite	42°
Float Level, Brass (to bottom of float)	39mm / 1.535"
Float Level, Plastic (to bottom of float)	33mm / 1.299"

FF1600 Race Engine Torque Specifications (lb-ft)		
Main Cap Bolts	7/16-14	70
Rod Bolts (Ford)	3/8-24	35
Rod Bolts (competition)	3/8-24	40 – 45
Camshaft Thrust Plate Bolts	1/4-20	3.5
Camshaft Sprocket Bolts	5/16-18	15
Timing Chain Tensioner Bolts	1/4-20	7
Rear Cover Bolts	1/4-20	7
Front Cover Bolts	1/4-20	7
Water Pump Bolts	1/4-20	7
	5/16-18	15
Front Pulley Bolt	7/16-20	28
Crank Scraper Bolt	5/16-18	12
Oil Sump Bolts	1/4-20	7
Oil Pump Mount Bolts	5/16-18	15
Oil Pump Cover Bolts	1/4-20	7
Fuel Pump Mount Bolts	5/16-18	15
Flywheel Bolts (with Red Loctite®)	3/8-24	55
Clutch Cover Bolts	5/16-18	15
Cylinder Head Bolts	7/16-14	70
Rocker Shaft Bolts (Grade 8)	3/8-16	35 – 40
Rocker Arm Adjuster (minimum torque required to turn)		20
Valve Cover Bolts	1/4-20	5
Water Outlet Neck Bolts	5/16-18	15
Intake Manifold Bolts	5/16-18	18
	5/16-24	15
Exhaust Manifold Bolts	5/16-18	15
Carb to Manifold Nuts	5/16-24	15
Spark Plugs	14x1.25mm	25
Side Engine Mount Bolts	5/16-24	15

#### Valve Adjusting Sequence

Valve Order:	1 EX	2 IN	3 IN	4 EX	5 EX	6 IN	7 IN	8 EX
When this valve is depressed:	1 EX	6 IN	4 EX	2 IN	8 EX	3 IN	5 EX	7 IN
Adjust this valve:	8 EX	3 IN	5 EX	7 IN	1 EX	6 IN	4 EX	2 IN

### Technical Data for the Ford 2.0L SOHC Engine

Ford 2.0L Race Engine Clearances	
Main Bearings	0.002"
Con Rod Bearings	0.0015" – 0.002"
Camshaft Bearings	0.0018" – 0.0026"
Piston to Cylinder Wall	0.005"
Top Ring End Gap	0.015"
Crankshaft End Float	0.0032" – 0.011"
Camshaft End Float	0.0016" – 0.0047"
Wrist Pin	0.0007" – 0.00153"
Intake Valve Stem	0.002"
Exhaust Valve Stem	0.0025"
Intake Valve Lash	0.010" Cold
Exhaust Valve Lash	0.012" Cold

Ford 2.0L Race Engine Torque Specs (lb-ft)			
Main Cap Bolts	75	Oil Pan Bolts	8
Rod Cap Nuts	35	Head Bolts	85
Front Cover Bolts	13	Rocker Cover Bolts	5
Crankshaft Pulley Bolt	28	Water Outlet Neck Bolts	15
Camshaft Pulley Bolt	35	Intake Manifold Bolts	15
Jackshaft Pulley Bolt	35	Exhaust Manifold Bolts	15
Flywheel Bolts	50	Carb to Manifold Nuts	15
Pressure Plate Bolts	15	Spark Plugs	20

