Rev – (11-18-25)
2026 National Vintage Formula Ford Association (NVFFA)
Rules & Regulations

These regulations are designed to maintain the integrity and spirit of Vintage Formula Ford racing. All participants are expected to adhere strictly to the rules outlined to ensure fair competition and preserve the historical character of the class. Updates to these rules will be communicated as necessary, reflecting the evolving needs and availability of original equipment parts.

Engine: 1600cc OHV cross flow Ford pushrod engine.

Formula Ford is a restricted class using the standard Ford Motor Company 1600 cross flow pushrod engine. The engine must remain as delivered from FoMoCo with the exception of the allowable modifications, changes, or additions as stated herein. There are no exceptions. IF IN DOUBT, DON'T.

As additional OEM parts (particularly engine parts) become obsolete there will be a need to update these rules to allow suitable replacement parts. However, no new part, change, or modification is permitted, beyond those allowed in these rules, until it has been reviewed, approved, and published into these rules.

1. Kent Engine

a. General

1. Components shall not be interchanged between the Kent and Cortina versions of the engine unless specifically authorized.

2. The engine shall not be altered, modified, or changed in any respect unless specifically authorized herein. When a system is specified to be "unrestricted" the restrictions of this paragraph do not apply.

3. The gasket face of the cylinder head and engine block may be resurfaced provided the maximum compression ratio is not exceeded.

4. Valve guides are unrestricted provided the position of the valve is not changed. Standard Ford replacement valves, with oversize stems, may be used as normal repair/maintenance procedures. The specifications, in 1.f (valves) are mandatory. It is permitted to re-cut or replace valve seats. Valve seat angles in the head are unrestricted.

5. Exhaust emission control, air pumps, and associated lines and nozzles shall be completely removed. When these air nozzles are removed from a cylinder head, the holes shall be completely plugged.

6. Balancing of all moving parts of the engine is permitted. The pistons, rods, crankshaft, and flywheel may be lightened to their stated minimum weights. It is permitted to polish parts of the engine providing the contour of the part is not altered and can be recognized as the original part. REM polishing is allowed. Cryogenic treatment of parts is allowed. Pistons may be balanced to the minimum weight by removing weight from the pin boss, the underside of the piston crown, or the bottom edge of the skirt. "Gas porting", re-profiling, or any other modification to the piston, other than expressly permitted herein, is prohibited. Addition of coatings (Anti friction, Thermal, etc) to internal engine parts is prohibited unless the part is listed as unrestricted herein. Knife-edging the crankshaft throws is not permitted.

7. Compression Ratio

Maximum compression ratio: 9.3 to 1

The following specifications are allowable limitations used in determining compression ratio:

A. Maximum bore size: 3.200"

B. Minimum cylinder volume at Top Dead Center: 42.0cc

C. Maximum valve protrusion from head surface: 0.040"

D. Only approved head gaskets may be used (see 1.c.4.)

The following methodology and values shall be utilized to determine compression ratio (CR)

CR = (Swept Volume + Unswept Volume) / Unswept Volume

Swept Volume (cc) = (3.1416/4) * (measured bore dia } * (measured bore dia) * (measured stroke) * 16.387

Unswept Volume = top of piston to top of block + top of ring to top of piston + head gasket - valve/plug protrusion in head

Top of piston to top of block (@TDC) = measured value by fluid cc'ing. (42.0cc minimum)

Top of ring to top of piston = fixed value 1.33cc (regardless of piston machining)

Head gasket (cc) = (3.1416/4) * (measured diameter) * (measured diameter) * (measured compressed thickness) * 16.387

Valve/plug protrusion = fixed value (0.4cc) regardless of actual valve configuration.

b. Block

1. Use of Ford engine block P/N 711M-6015B-A (uprated) is required. Alternatives listed below are allowed.

2. Bore may be enlarged for clearance between cylinder and piston.

3. Cylinder sleeves may be fitted. The top surface of the block may be milled or surface ground to obtain the maximum compression ratio specified above. Any steel center main bearing cap may be used. The oil pump mounting face on the block may be machined for the purpose of fitting an oil pump.

4. The 1600 Fiesta block is permitted as a replacement part. Ford P/N 681-F6015D-A)

5. The Ford Racing block, part number M-6010-16K, is permitted as a replacement part.

6. Block may be clearanced for fitting an alternate crankshaft allowed by these rules.

c. Cylinder Head

1. Use of the Ford 1600 cast iron cylinder head (casting 2737E) is required. Alternatives listed below are allowed.

2. Ports may be reshaped by the removal of metal as long as the port diameter at the manifold face of the head does not exceed the following dimensions: Inlet: 1.50” Exhaust: 1.20”

3. The use of the Pierce aluminum cylinder head, or Ivey Engines P/N 1.6XFCH aluminum cylinder head is permitted.

4. The following head gaskets are allowed:

A. Ford Part # 931M6051AA

B. Payen Part # AH-750

C. Felpro Part # 8360PT-1

D. Victor-Reinz 61-24405-20

d. Inlet Manifold

1. Use of Ford intake manifold P/N 711F-9424-HB/HC (uprated) is required

2. The ports may be reshaped by the removal of metal as long as the following dimensions are maintained: Maximum dimension at head face: 1.340”

3. Carburetor Flange- Maximum dimensions at carburetor flange: see Figure 1.

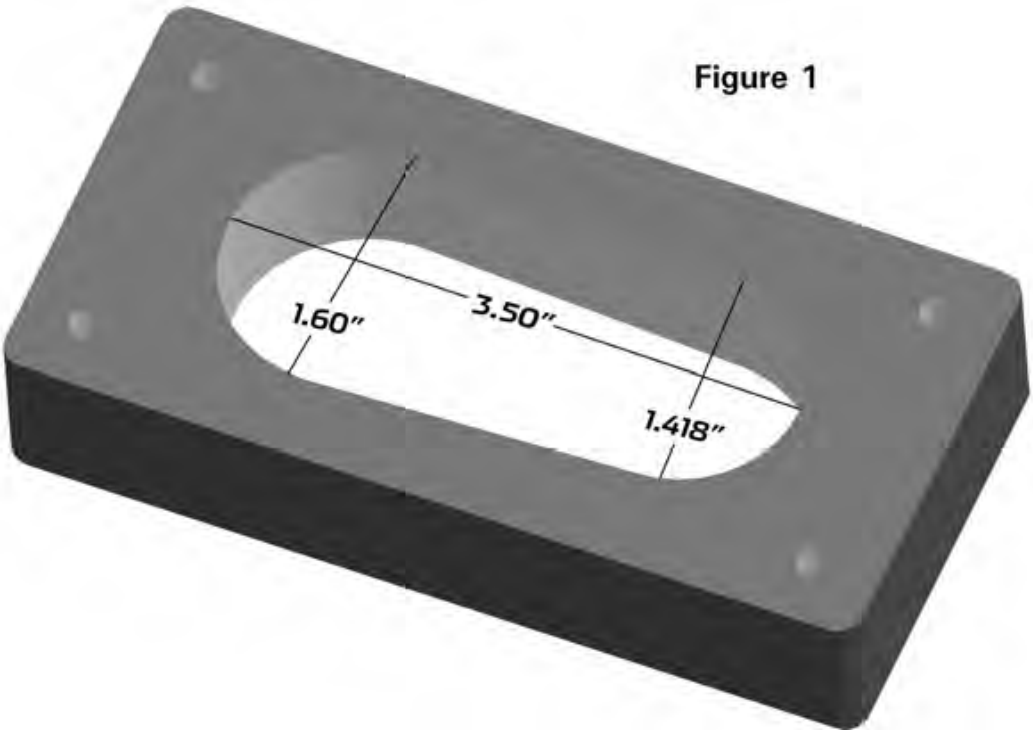

Figure 1

4. The carburetor face of the inlet manifold may be machined to the horizontal to compensate for fore/aft tilt of the carburetor.

5. Epoxy exposed in the manifold used to make repairs is acceptable, providing the total area is less than 0.75 square inches.

6. The water passages in the inlet manifold may be plugged. Holes in the inlet manifold resulting from the removal of emission/vacuum lines shall be plugged.

7. Ford gasket for inlet manifold to cylinder head is required. Use of an alternative gasket not exceeding 0.050 ” compressed thickness is allowed.

e. Pistons

1. Use of Ford cast pistons (casting 711M-6110) are required. Alternatives listed below are allowed.

2. Standard or 0.005” oversize pistons shall be used.

3. Standard size AE pistons P/N 18649, casting P/N 18684, standard size CP piston, part # 81-2 FF1600, or CP oversize piston, part # 81-2- FF1600+5 as supplied by Ivey Engines may be used. CP pistons supplied after 1/1/2010 must bear the Ivey logo.

4. Alternate piston identified as follows is allowed:
P/N AE-M717D, casting number 711 M 6110.
AE Hepolite P/N 20552, Casting # 20548A.

Note: Mahle pistons are not allowed.

5. Dimensions and Weights
Maximum diameter:
Standard: 3.187”
0.005” o/s: 3.192”
Depth of bowl: 0.470” (minimum)
Maximum diameter of bowl: 2.44” AE Hepolite, 2.50” CP Piston
Centerline of wrist pin to crown: 1.702” (minimum)
Overall height: 3.30” AE Hepolite, 2.80” CP Piston
Minimum weight 515 grams (w/ clips, pins and rings)
Weight of pin: 115 +/- 2 grams
Ring Groove Widths: Top Groove:0.064”,2nd Groove:0.0795”, Oil Groove:0.159”

6. Piston rings are unrestricted provided that:
   A. One oil control and two compression rings are used.
   B. No modification is made to the piston for the installation of rings
   C. Pocketing of the piston valve reliefs is allowed up to a maximum of 0.050” to achieve legal compression ratio.
   D. Piston top rim may be machined to reduce bowl depth (0.470" minimum) as required to achieve legal compression ratio. Acceptable to break sharp edges of machined area (0.015 x 45 deg max)
   E. Removal of material from the piston bowl area is not allowed.

7. Wrist Pins are unrestricted provided that:
   A. Weight is 115 +/- 2 grams.
   B. No modification is made to the piston for the installation of the wrist pins.

f. Valves
1. Use of Ford intake and exhaust cylinder head valves P/N DORY-6507A or 2737E-6507-G (Intake) and DORY-6505-D (exhaust) are required. Alternatives listed below that are of the same material, profile, and finish, remaining essentially identical to the original Ford valves are allowed.

2. Dimensions
Distance apart at centers: Iron head 1.540” +/-0.020”, Alloy head 1.570” +/-0.020”
Max. diameter: Inlet: 1.560”, Exhaust: 1.340”
Overall length: Inlet: 4.367” +/-0.020”, Exhaust: 4.355” +/-0.020”

3. Reshaping of the valves is specifically prohibited. Grinding or lapping valve face is allowed, provided 45 degree face angle and all profile details remain unchanged. Back cutting of valve is specifically prohibited.

4. Alternate valve AE p/n V34524 (intake), V34525 (exhaust), as well as Ford reproduction valves p/n 13248 (intake), 13249 (exhaust) as supplied by Ivey Engines are permitted. Valves must bear P/N or OEM logo

g. Camshaft
1. Use of Ford camshaft P/N 701M-6250-BA is required. Alternatives below are allowed.
2. Regrinding camshaft lobes is permitted, providing they are ground to meet FORD and SCCA profile.
3. Camshaft Lobe Centers: 109° +/- 2°

Lift at top of pushrod:
Inlet: 0.231” +/-0.002” Maximum
Exhaust: 0.232” +/-0.002” Maximum

Lift at spring cap: (Valve Lift) (Zero tappet setting)
Inlet: 0.356” Maximum
Exhaust: 0.358” Maximum

4. Recontouring of the valve stem contact pad of the rocker arm is permitted, provided the maximum lift at the spring cap is not exceeded

5. Offset camshaft/sprocket dowels are permitted.

6. Camshaft profile and lobe centers shall be checked using the official procedure published by NVFFA and SCCA.

7. A camshaft that is a replica of the original camshaft and of the same material may be used.

h. Valve Springs
Valve springs and valve spring shims are unrestricted, except that:

1. Springs and shims shall be made of steel.

2. No more than one spring shall be used per valve.

3. Conically wound springs are not allowed.

4. The standard spring cap and retainers shall be used.

i. Pushrods
Minimum stem diameter: 0.25”
Overall length: 7.64” Minimum
Minimum weight: 50 grams

j. Connecting Rods
Any ferrous connecting rod may be used provided it meets a minimum weight of 630 grams and has a center to center length of 4.925 +/- 0.020 inches. (Oversize / offset small end bushing may be utilized to adjust rod length within tolerance stated above) (Note: Weights include cap, bolts, and small end bush, but not big end bearing shells).

k. Crankshaft
An alternate cast steel crankshaft meeting original Ford Kent and SCCA dimensions and weight is permitted.

Weight: 24 lbs. 8 oz. Minimum

Max Stroke (at piston): 3.056” +/- 0.004”

Crankshaft pulley: unrestricted

The crankshaft from the Cortina engine may be used.

The crankshaft from the Fiesta engine may be used.

The crankshaft may be shot peened.

Note: Minimal localized clearancing of block for crankshaft clearance is permitted.

l. Flywheel
1. Use of Ford 1600 flywheel is required. Alternatives listed below are allowed.

2. Weight with ring gear: 15.5 lbs minimum.

3. The flywheel may be machined to reduce weight to the above minimum weight. Flywheel locating dowels are permitted.

4. Weight may be added to the flywheel, providing it is added ONLY to the existing clutch bolt holes, i.e., single cap screws or set screws. No continuous material shall be used.

5. An alternate flywheel, part # JAE1600 is also allowed at the above weight of 15.5 lbs.

m. Carburetor
Weber 32/36 DGV or Holley 5200

Venturi diameter: Primary: 26mm

Secondary: 27mm

It is permitted to:
1. Fit any jets (including accelerator pump discharge nozzle) as long as no modifications to the carburetor body are required.

2. Modify or substitute the external throttle linkage.

3. Fit internal and/or external surge pipes.

4. Remove the air cleaner

5. Fit velocity stacks

6. Remove the choke butterflies and linkage.

7. Use of an alternate carburetor to intake manifold gasket/spacer provided the total thickness does not exceed 0.250" and doesn't exceed the manifold opening dimensions.

8. Modify the carburetor housing for the installation of throttle shaft bearings provided the modification serves no other purpose

n. Fuel Pump
Unrestricted

o. Exhaust Manifold
Unrestricted

p. Lubrication System
Lubrication system is unrestricted; any oil pump and oil sump permitted; dry sump is permitted. Localized machining of the cylinder block is permitted to allow fitting of the oil pump. Dry sump system is permitted. Belt driven dry sump oil pumps are not permitted

Note: See your club's specific rules for exceptions on modern cars

q. Cooling System
Cooling system is unrestricted. Any radiator, fan, water pump and drive belt permitted. Pump/fan/generator drive belt: Unrestricted Remote mounted water pumps (electrical or belt driven) are not permitted.

Note: See your club's specific rules for exceptions on modern cars

r. Electrical Equipment
Distributor: Distributors are unrestricted provided the original drive, location, and housing type are retained. Electronic trigger devices may be used with any distributor (in lieu of mechanical points). The distributor is defined as the component that triggers the LT current and distributes the HT current. The ignition timing may only be varied by vacuum and/or mechanical means. It is prohibited to use any other method or component to trigger, distribute, or time the ignition (e.g. Multi spark, spark amplifiers, crank triggers, capacitive discharge systems are prohibited). The vacuum advance mechanism may be removed, and the distributor advance plate may be secured by soldering or welding or by suitable fasteners. The advance curve and advance springs are unrestricted.
Generators/ Alternators: not required. All other electrical components are unrestricted.

s. Miscellaneous
1. The timing chain/sprocket cover may be altered or replaced.

2. The use of the following non-standard replacement parts is permitted provided their use does not result in any unauthorized modification of any other component:
   A. Fasteners - nuts, bolts, screws, studs, etc. Intake manifold fasteners may be of either a socket head or hex head configuration and must be 5/16" diameter.
   B. Gaskets, except head gasket, carburetor to inlet manifold gasket and inlet manifold to cylinder head gaskets as specified in these rules.
   C. Washers.
   D. Seals.
   E. Connecting rod, crankshaft, and camshaft bearings of the same size and type as original. Normal oversize/undersize bearings are permitted. This does not allow reducing the bearing surface area by reducing the width of standard bearings.
   F. Spark plugs – restricted to the standard ¾" reach spark plugs. (14mm thread, 0.80" max reach)
   G. Rocker pedestals that are of the same material and dimensionally identical (i.e., shaft location, offset, etc.) to the original components may be used.

3. Mechanical tachometer drive is permitted.

4. The crankcase breather may be altered or removed.

5. The standard rocker cover may be altered to provide for crankcase ventilation, and the filler cap may be altered or replaced. Valve or rocker covers may be substituted, provided that the replacement cover affords no additional function than that of the original stock cover.

6. The crankshaft and main bearing caps may be treated with salt-bath nitriding covered under SAE specification AMS 2755A (tuftriding, etc.)

7. Any oil or lubricants may be used.

8. Water pump, fan, and generator/alternator pulley(s) are unrestricted.

9. Exhaust Outlets

Exhaust outlets on cars registered after January 1, 1986 shall not extend more than 60 cm (23.60") behind the centerline of the rear axle and shall be positioned between 10 cm (3.9") and 60 cm (23.6) from the ground, measured to the bottom of the exhaust pipe.

Exhaust Outlets: Cars registered prior to January 1, 1986.

A. It is recommended that all exhaust outlets be no longer than 60cm (23.60”) behind the centerline of the rear axle and positioned between 30cm (11.8”) and 60cm (23.6”) from the ground.

B. For cars unable to comply with the above rule (A.), they shall have a support bracket that attaches within six (6) inches of the outlet end, and the support bracket shall extend no more than thirty (30) degrees from vertical to the rear. Beginning January 1, 1986, it is mandatory for all Formula F cars.

t. Clutch

The use of any single plate clutch is permitted provided no modification is made to the flywheel other than changing the points of attachment of the clutch to the flywheel, and provided that it shall have an operable clutch system. Carbon Fiber clutches are not permitted.

2. Cortina Engine
All of D.1. applies to the Cortina engine except as specified in this section. Components shall not be interchanged between the Kent and Cortina versions of the engine unless specifically authorized.

a. Compression Ratio
Maximum compression ratio: 10.0 to 1. The following specifications are used in determining compression ratio:

1.64cc - top ring to top of piston

5.60cc - head gasket.

Minimum unswept volume per cylinder:
44.4cc (original engine with standard pistons)

45.1cc (original engine with .030" o/s pistons)

b. Block
Use of Ford engine block (Cortina) is required. The 1600 Pinto block, P/N DIFZ-6010-C, may be used as a replacement for the Cortina block; Standard Pinto tappets, P/N DORY 6500A and DIFZ 6500A may also be used when this block is used as a Cortina replacement.

c. Cylinder head
Ports may be reshaped by the removal of metal as long as the port diameter at the manifold face of the head does not exceed the following dimensions:
Inlet: 1.50" Exhaust: 1.16"
Combustion chamber:
Minimum depth 0.115"
Maximum length: 3.15"
Minimum volume per cylinder: 7.8cc
Reshaping is prohibited.
Ford Pinto cylinder head P/N DORY 6049B is permitted

d. Inlet Manifold Use of Ford inlet manifold 681-6015D-A, 691F-9425-AA, 691F-9425-AB, 2737E-8425-B, 701F-9425-EA (Cortina) is required.

The ports may be reshaped by the removal of metal as long as the following dimensions are maintained:
Maximum Size at head face:
Cyl. 1 & 4: 1.48" x 1.28"
Cyl. 2 & 3: 1.25"
Maximum size at carburetor flange: 3.060" x 1.389"
Maximum width: 3.80"
Primary choke end radius: 0.709"
Secondary choke end radius: 0.787"

e. Pistons
Standard, 0.015, 0.020, 0.030 inch oversize pistons may be used.

Piston Maximum diameter:
Standard: 3.189”
0.015” o/s: 3.204”
0.020” o/s: 3.209”
0.030” o/s: 3.219”
Depth of bowl: 0.500” +/-0.005”
Minimum volume of bowl: 31.5cc
Maximum diameter of bowl: 2.28”
Centerline of wrist pin to crown: 1.737” +/- 0.002”
Overall height: 3.30”
Minimum weight
w/rings & pin: 485 grams
Weight of pin: 115 +/- 2 grams
Wrist Pins are unrestricted provided that:
No modification is made to the piston for the installation of the wrist pins

f. Valves
Distance apart at centers: 1.540” +/-0.020”
Max. diameter:
Inlet: 1.502”
Exhaust: 1.252”
Overall length:
Inlet: 4.280” +/-0.006”
Exhaust: 4.260” +/-0.006”

g. Crankshaft
Weight: 23 lbs. 8 oz. minimum

The crankshaft from the Kent engine may be used.

h. Carburetor
Weber 32 DFM or DFD, 32/36 DGV, or Holley 5200

Venturi Diameter: Primary: 26mm

Secondary: 27mm

i. Clutch
The use of any single plate clutch is permitted provided no modification is made to the flywheel other than changing the points of attachment of the clutch to the flywheel, and provided that it shall have an operable clutch system. Carbon Fiber clutches are not permitted.