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Continental

Service Manual

F170, F199, F209, F218

Series

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CON-S-F170+

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MANUAL PREVIEW



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Instruction Book
of

**The RED SEAL
CONTINENTAL ENGINES
and POWER UNITS**

MODELS

F170 Industrial

F6170 Automotive

PF170 Power Unit

Bore 3"

Stroke 4"

Displacement 170 cu. in.

S.A.E. Rating 21.6 H.P.

F199 Industrial

F6199 Automotive

PF199 Power Unit

Bore 3-1/4"

Stroke 4"

Displacement 199 cu. in.

S.A.E. Rating 25.4 H.P.

F209 Industrial

F6209 Automotive

PF209 Power Unit

Bore 3-3/16"

Stroke 4-3/8"

Displacement 209.5 cu. in.

S.A.E. Rating 24.4 H.P.

F218 Industrial

F6218 Automotive

PF218 Power Unit

Bore 3-1/4"

Stroke 4-3/8"

Displacement 218 cu. in.

S.A.E. Rating 25.4 H.P.

Effective May 1, 1939

CONTINENTAL MOTORS CORPORATION

Offices and Factories: Detroit and Muskegon

Largest Exclusive Motor Manufacturers in the World

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GENERAL INDEX

Accessory Manufacturers	19
Carburetion	8
Cooling	8
Diagnosis of Engine Trouble	9
Distributor	8
Foreword	5
General Description and Repair Instructions	11
1. Cylinder Head	11
2. Tappets	11
3. Valves	11
4. Valve Timing	12
5. Connecting Rod Bearings	12
6. Main Bearings	13
7. Crankshaft	13
8. Piston Rings	13
9. Piston Pin	14
10. Piston	14
11. Front End Drive	14
12. Camshaft and Bearings	15
13. Flywheel	15
14. Lubrication	6, 7, 15 and 16
15. Gaskets	16
16. Connecting Rods	16
17. Water Pump	16
Governor	9
Operating Details	5
Parts List	20
Precautions	10
Return of Material	18
Warranty	17
Where to Order Parts	19

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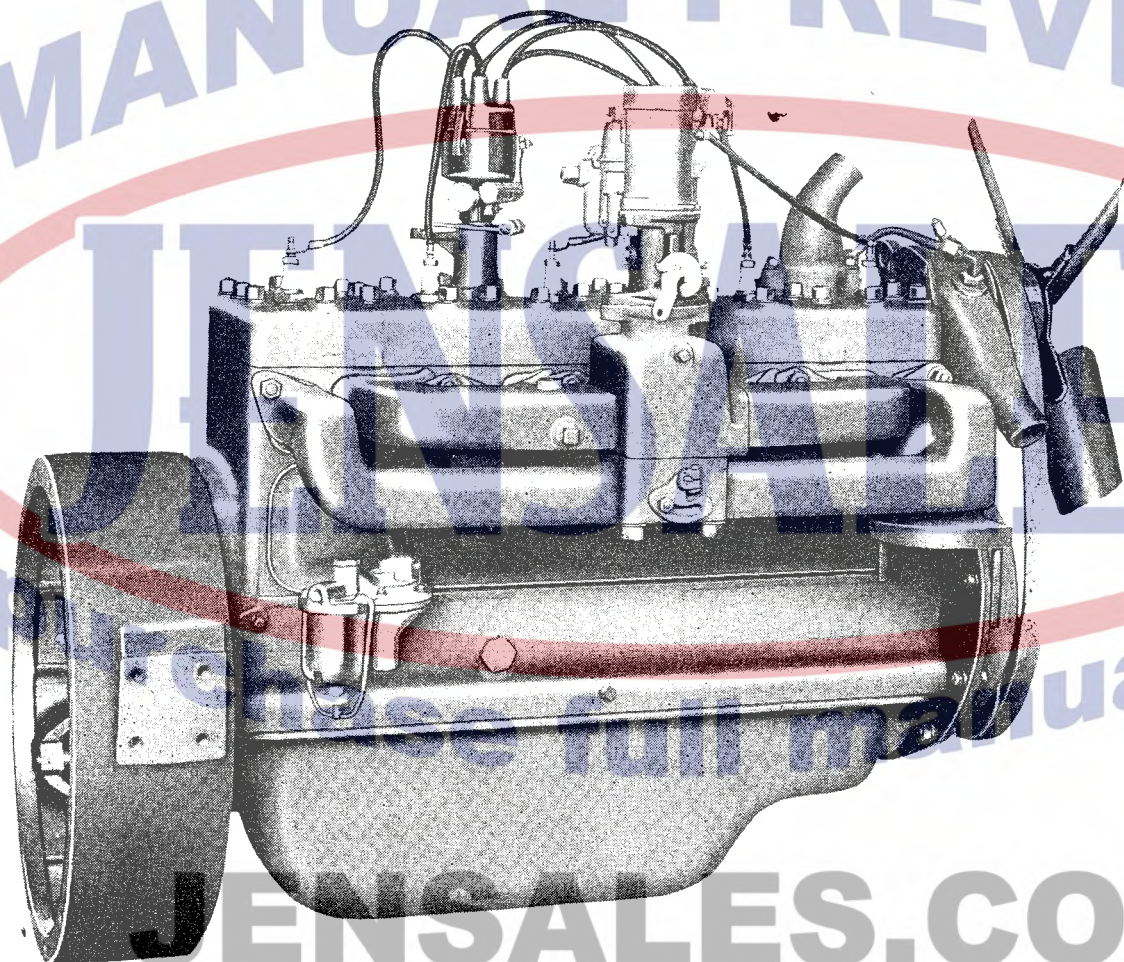
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Left Hand View Industrial Engines F170, F199, F209, F218
Power Units PF170, PF199, PF209, PF218

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Right Hand View Automotive Engines

F6170, F6199, F6209, F6218

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Service Manual

WATER PUMP

Engines of this series are equipped with water pumps having either a low pressure gun fitting or hand operated grease cup. Lubricate the bearings of the water pump at the end of each 50-hour operating period with a suitable high temperature sodium soap grease.

GOVERNOR

Governor is Mechanical Type, automatically lubricated from engine oil reservoir. It requires no other attention than to keep the Control Rod clean and the daily application of a few drops of oil to the joints.

DISTRIBUTOR

Fill oiler or grease cup on side of Distributor when necessary and lubricate distributor drive shaft at Zerk Fitting every 50-hour operating period.

CONTROL ROD JOINTS

Make daily application of a few drops of engine lubricating oil to the throttle and choke control rod joints, carburetor levers, and all points where friction will occur.

CARBURETION

Carburetor adjustment is predetermined and made at factory. No readjustment is necessary except for extreme deviations from normal operating conditions. See separate instruction in booklet on Carburetor.

COOLING

If the water is permitted to drain or evaporate down to an insufficient amount, serious over-heating will take place. Moderately soft water is most desirable; if not obtainable we recommend that the system be drained every two weeks and flushed with clear running water. Under extreme conditions it is well to add a pound of soda ash, the addition of this tending to soften the water and delay, if not prevent entirely, the formation of lime and other coatings on the inside of the Water Jacket and Radiator Core.

Never use kerosene for cooling purposes in place of water, as its vapor is highly inflammable, increasing the fire risk to a prohibitive extent.

In cold weather Radiator should be kept partially covered and the following amount of alcohol used at the corresponding temperatures:

Freezing Temperature	Denatured Alcohol Percentage by Volume	Water Percentage by Volume
30° above zero	5%	95%
20° above zero	15%	85%
10° above zero	25%	75%
Zero	30%	70%
10° below zero	35%	65%
20° below zero	40%	60%
35° below zero	50%	50%

MAGNETO

See separate instruction booklet on Magneto.

POWER TAKE-OFF

When Power Take-Off is used it should be lubricated through the Zerk Fitting provided for that purpose following the instructions on the plate attached to the unit.

Where clutch is used follow the direction on manufacturer's plate attached to unit. Where, in isolated cases, this plate is omitted, the following should be observed:

IMPORTANT: If clutch does not pull, heats, or operating lever jumps out, the clutch must be adjusted.

ADJUSTMENT: Remove hand hole plate, turn clutch until adjusting lock pin can be reached. Pull adjusting pin out and turn adjusting yoke to right or clockwise, until operating lever requires a distinct pressure to engage. A new clutch requires several adjustments until friction discs are worn in.

LUBRICATION: Lubricate clutch throw-out collar and ball bearings once a day before starting.

DIAGNOSIS OF ENGINE TROUBLES

Continental Engines are exceptionally free from trouble and will continue so if given ordinary care and attention.

Should difficulties be experienced, however, they may be remedied by going over the engine in accordance with the following outline:

Engine Fails to Start

1. No Gasoline in Tank.
2. Carburetor Feed Valve below Tank is closed.
3. Ignition Switch is off.
4. If engine is cold, continued cranking with full use of Choker may flood the Cylinders, preventing a ready start.
5. Water in gasoline freezes up the Line in cold weather.
 - (a) Wrap line with cloth or waste soaked in hot water.NOTE: DO NOT use an open flame for thawing out this Line.
6. Air leak in Intake Manifold.
 - (a) Test for leak with oil or by wrapping a cloth soaked in fuel around the joints. Repair leaks and renew gaskets.
7. Spark Plug Gap improperly adjusted.
 - (a) Adjust using Magneto Breaker Gauge or to a space of about .025 inches: approximately the thickness of a worn dime.