



Engine Start-up Instructions for [REDACTED]

An engine is only as good as it is treated. The first thirty minutes is the most critical time for your rebuilt engine. It is the make-or-break period. Take care in this process to ensure your engine will have a long and productive life. **Read all instructions before doing anything.** Failure to follow these instructions will void your warranty.

Before Startup

Fuel and Cooling Systems

- It is important to use fresh gas. Old gas can get on the valve stems and cause them to hang open where the piston can bend them with disastrous results. *Note: Fuel tanks that have varnished fuel in them need to be cleaned and lines need to be flushed.*
- Check the cooling system and confirm it is filled with coolant and has a new thermostat.

Oil System/Lubrication

- Fill the engine with the recommended break-in oil. The initial break-in oil required for your engine is BR40 (7½ qt in new). Failure to use this oil as specified will void your warranty. (See the Post Startup and Maintenance Section for the oil to use after break-in.) *Note: Thicker oils are not necessary because we run tighter clearances.*
- Install a manual oil gauge and put a rag around the joint in case of leakage.
- Remove spark plugs, disable the ignition, and loosen the oil filter.
- Turn the engine over with the starter until oil comes out of the oil filter. Watch for gas leaks and over-flooding carburetors. *Note: There must be no possible source of gas dilution in the oil.*
- After the air has been bled from the oil system, tighten the oil filter, and insert the spark plugs.



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Initial Startup and Timing

Initial Start

- Start the engine.
- Look for any gasoline, coolant, and oil leaks.
- Pay careful attention to the oil pressure.

Timing and Adjustment

- While it is warming up, make the necessary carburetor and timing adjustments. *Note: It is important the fuel mixture and timing are adjusted correctly. Too much advance will kill the engine through detonation.*
- Check the advance with a timing light to ensure your timing is spot on.
- If the engine has a steel shim head gasket, run the engine long enough to open the thermostat. Ensure it is not getting too hot then shut off the engine, relieve the pressure on the cooling system, and retorque the cylinder head.
- Your engine has a Composite head gasket.

Post Startup and Maintenance

- Change out the initial break-in oil after 300-400 miles. We then recommend using 10 w 40 conventional.
- Change oil every 3,000 miles thereafter.
- After 10,000 miles you can change to synthetic if you wish, stay with your current oil or switch to (cold) SAE 30, SAE 40 (warm).



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Webster DCOE Carburetor Info

Here are all the components that are in the carburetors
at the completion of our rebuild on 11/20/24.

Idle Jet	65F8
Starter Jet Air Corrector	150
Starter Jet	85F9
Intake & Discharge Valve	50
Float	Nitryl
Float Level	12mm minimum 20mm maximum
Air Corrector Jet	190
Emulsion Tube	F2
Main Jet	150
Pump Jet	40
Choke Tube	38
Venturi	35

Note: I'm not sure I would use the vacuum advance on the distributor as the vacuum source being off a single port might be too erratic to be helpful.--Joe



Engine Build Sheet

Date started: _____

Date completed: 11/20/24

Customer: [REDACTED] Jaguar model/year: XKSS

Engine No. 7B56268-9 Cylinder Head No. KJ 10680-8 Matching? Y/N

Cylinder Head

Sides resurfaced: 5 Pressure tested: Y

Valve seats replaced: N Recut: 12 Multi-angle cut on seats: Yes

Valve guides replaced: Yes Intake size: std Exhaust size: std Within spec.

Casting repairs: Nothing unusual

Cam journals reamed: Yes

Valves: New Size: std

Springs: New

Bearings: New

Valve seals: Intake

Tappet guides: N Tappet guide hold down kit: Y

Tappets: Reconditioned

Valve adjustment shims: New/Reconditioned

Cams: customer supplied (Ford Street) Valve lash adjusted to: Intake .008, Exhaust .010

Cam timing: Intake std Exhaust std

Engine Lower End

Casting repairs: Nothing unusual

Machine work to block: Top decked Yes, Bored std, Sleeved Yes, Other _____

Pistons: Ratio 9.0:1 Size std Brand _____

Piston rings: Brand Marine, Ring gap Gapless 2nd

Crank size: Main journals .020 under Connecting rod journals .020 under End clearance .006

Oil clearance: Main journals .0025-.003 Connecting rod journals .0015-.002

Crank balanced: Yes Rear seal conversion: Yes

Rods: Big end Reconditioned, Small end Rebalanced, Match weighed Yes

Timing Chains: New Guides: New Tensioner: New

Head gasket: Composite Re-torque needed: No

Ignition: 123 Spark plugs: Autolite 65

Oil pump: New Oil weight: 10W40

Flywheel: Resurfaced, balanced

Engine Build Sheet

Test Run Notes

Tested engine with - 8 quarts 13R40

- 50/50 conventional green antifreeze

- 15° timing @ idle

- late model XJ6 oil filter head & filter

- 91 octane gas fed by electric fuel pump

- Blue Bosch coil with 123 dist. high suppression wires, Autolite 66 plugs

- Wasp starter with spacer

- Flywheel with clutch attached

- Idler pulley attached on front to turn water pump, single V belt

- vacuum ports plugged

Started & made adjustments to carburetors & timing. 45-

50 psi oil pressure at idle, 70-80 under load. Started & ran in several cycles to start run-in, break-in procedure.

No visible leaks or vibrations. Revs good, won't sync. carbs at this point.

Notes

- Dipstick mark is slightly too low by about 1 quart

- Carbs will need to be synchronized & tuned for elevation & application, tested in car under load

- Intake vacuum signal may not work with power brakes without vacuum tank. vac. advance may not work with distributor.

- this brand new oil filter on now. should be good for 3000-4000 miles during break-in. (may be about 1 qt. low now)

Compression test warm was 180, 170 cold the next day across all cylinders.