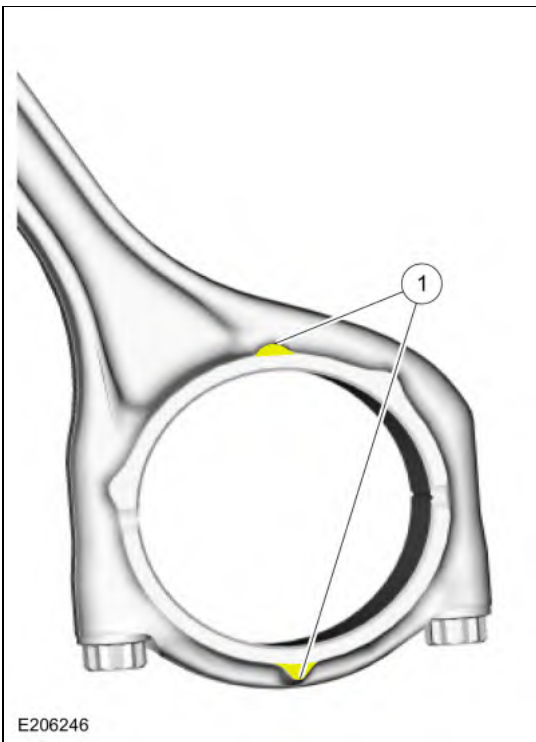
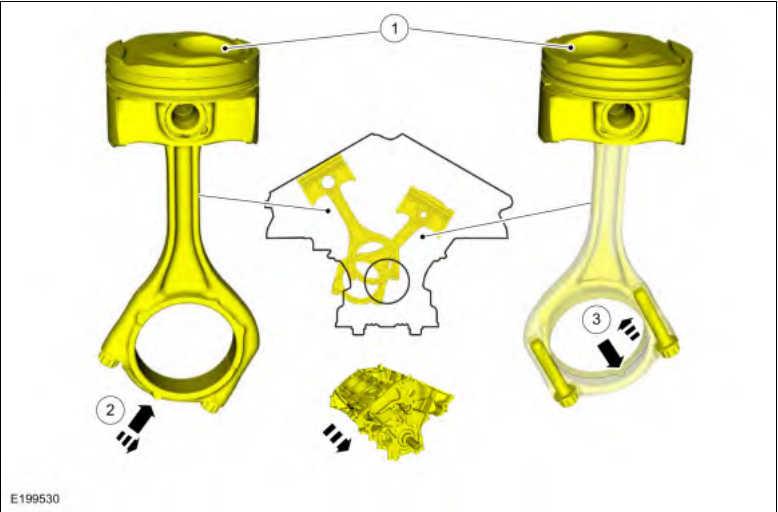


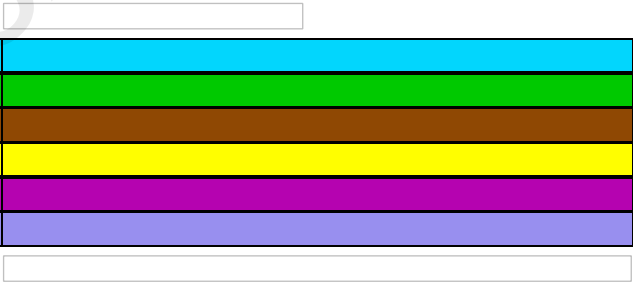
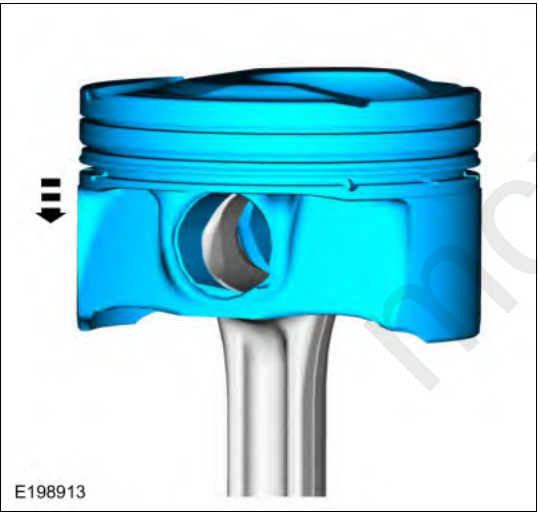


2.

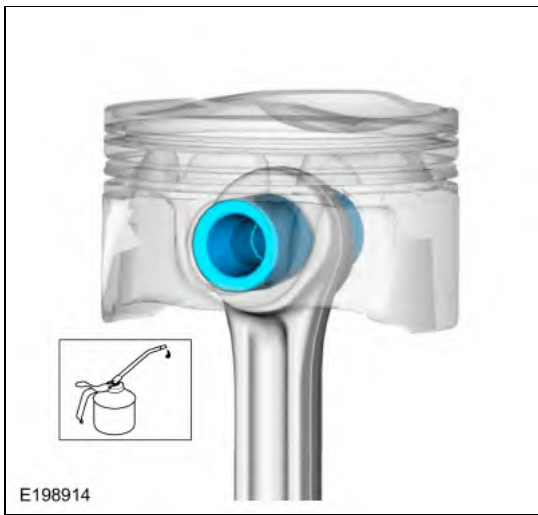
1. For assembly purposes the bowl on the dome of the piston should be facing toward the intake of the engine.
2. On the RH bank the bump on the connecting rod and cap should face the front of the engine.
3. On the LH bank the bump on the connecting rod and cap should face the rear of the engine.



3. Position the piston on the connecting rod.



4. Lubricate and install the piston pin.
Material: Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil / XO-5W30-QSP (WSS-M2C946-A)



5. **NOTE:** The piston pin retainer gap orientation must be toward the top of the piston.

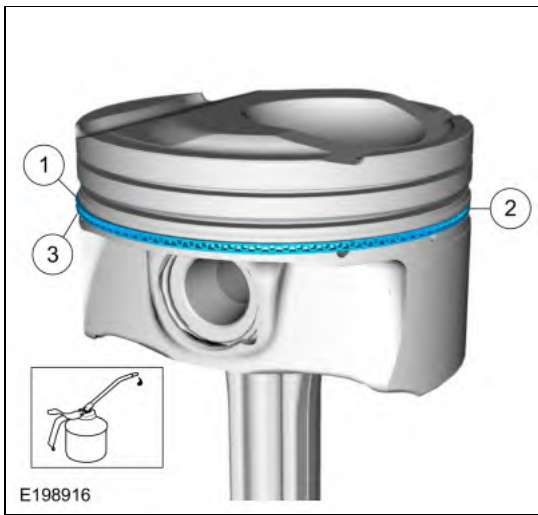
Install the piston pin retainers.



6. Lubricate and install the oil control rings.

1. Upper oil control ring.
2. Oil control expander ring.
3. Lower oil control ring.

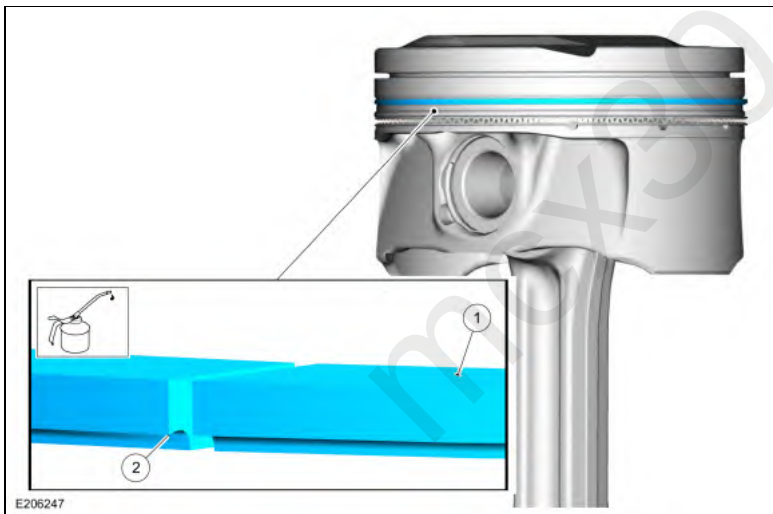
Material: Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil / XO-5W30-QSP (WSS-M2C946-A)



7. Lubricate and install the lower compression ring.

1. The lettering on the ring should point up toward the top of the piston.
2. The hook feature will point down toward the bottom of piston.

Material: Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil / XO-5W30-QSP (WSS-M2C946-A)



8. Lubricate and install the upper compression ring.

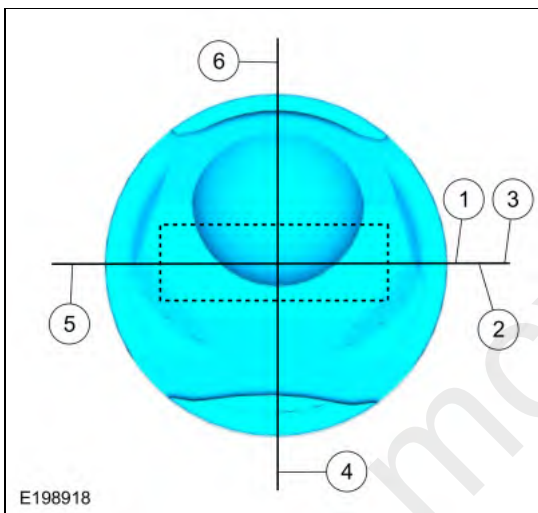
1. The lettering on the ring should point up toward the top of the piston.

Material: Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil / XO-5W30-QSP (WSS-M2C946-A)



9. Position the piston ring gaps.

1. Center line of the piston parallel to the wrist pin bore.
2. Oil control expander ring gap.
3. Upper compression ring gap.
4. Lower oil control ring gap.
5. Lower compression ring gap.
6. Upper oil control ring gap.

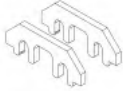


Assembly

mcx30.com

Engine

Special Tool(s) / General Equipment

 E133913	205-153 (T80T-4000-W) Handle
	303-1246 Engine Spreader Bar TKIT-2006UF-FLM TKIT-2006UF-ROW
 E175042	303-1247 VCT Spark Plug Tube Seal Remover and Installer TKIT-2006UF-FLM TKIT-2006UF-ROW
 E216421	303-1248 Camshaft holding tools TKIT-2006UF-FLM TKIT-2006UF-ROW
 E274084	303-1250 Seal Installer, Rear Main TKIT-2006UFFLM
 E216458	303-1531 Installer, Front Crank Seal and Damper
 E188624	303-1633 Remover, Roller Rocker Follower TKIT-2014D-ROW3 TKIT-2014D-FL_ROW
 E188625	303-1634 Lift Eyes (2) TKIT-2014D-ROW3 TKIT-2014D-FL_ROW
 E222985	303-335 (T88T-6701-A) Installer, Front Cover Oil Seal TKIT-1988-FLM TKIT-1988-F
Floor Crane	
Mounting Stand	
Hose Clamp Remover/Installer	
Flat-Bladed Screwdriver	
Piston Ring Compressor	
Vise	
Vise Jaw Protectors	

Materials

Name	Specification
Motorcraft® High Performance Engine RTV Silicone TA-357	WSE-M4G323-A6
Flange Sealant CU7Z-19B508-A	WSS-M2G348-A11

NOTICE: During engine repair procedures, cleanliness is extremely important. Any foreign material, including any material created while cleaning gasket surfaces, that enters the oil passages, coolant passages or the oil pan, can cause engine failure.