303-01C Engine - 5.0L Ti-VCT V8 (308kW/418PS) 2015 Mustang Removal and Installation Procedure revision date: 02/10/2015 **Valve Cover RH Special Tool(s) / General Equipment** 205-142 (T80T-4000-J) Installer, Differential Bearing Cone 205-153 (T80T-4000-W) Handle E133913 303-1247 VCT Spark Plug Tube Seal Remover and Installer TKIT-2006UF-FLM TKIT-2006UF-ROW E175042 Plastic Scraper **Materials Specification** Name Motorcraft® Silicone Gasket Remover ZC-30-A Motorcraft® Metal Surface Prep Wipes ZC-31-B Motorcraft® Silicone Gasket and Sealant WSE-M4G323-A4 TA-30 Motorcraft® Metal Brake Parts Cleaner PM-4-A, PM-4-B Removal 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. 1. Disconnect the battery ground and positive cables. Refer to: <u>Battery Disconnect and Connect</u> (414-01 Battery, Mounting and Cables, General Procedures). • If equipped with a strut tower cross brace, detach the wiring harness retainer. 2. • Remove the nuts and the strut tower cross brace. 3. NOTE: The engine appearance cover rubber grommets may remain on the cover. If so, remove the grommets from the cover and install them on the intake manifold before installing the cover. Remove the engine appearance cover. Remove the nuts and the strut tower cross brace. 4. Remove the following items: 1. Refer to: Cowl Panel Grille (501-02 Front End Body Panels, Removal and Installation). 2. Refer to: Battery Tray (414-01 Battery, Mounting and Cables, Removal and Installation). 5. Remove the fasteners and the cowl extension. 6. Remove the fasteners and the battery heat shield. RED BY FO E183864 7. Remove the RH ignition coils. Refer to: Ignition Coil-On-Plug (303-07C Engine Ignition - 5.0L Ti-VCT V8 (308kW/418PS), Removal and Installation). 8. • Disconnect the VCT variable force solenoid electrical connectors. • Detach the wiring harness retainers. E184683 9. Loosen the bolts and remove the valve cover. 10. NOTE: Clean the valve cover gasket groove with soap and water or a suitable solvent. Remove and discard the gasket. E184826 11. Inspect the VCT variable force solenoid seals. Remove any damaged seals using the special tools. Use Special Service Tool: 205-153 (T80T-4000-W) Handle., 205-142 (T80T-4000-J) Installer, Differential Bearing Cone. 205-142 E184765 12. Inspect the spark plug seals. Remove any damaged seals using the special tools. Use Special Service Tool: 205-153 (T80T-4000-W) Handle., 303-1247 VCT Spark Plug Tube Seal Remover and Installer. E184767 13. NOTICE: Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of old sealant. Clean the valve cover mating surface of the cylinder head and engine front cover. Refer to: RTV Sealing Surface Cleaning and Preparation (303-00 Engine System - General Information, General Procedures). Use the General Equipment: Plastic Scraper Material: Motorcraft® Silicone Gasket Remover / ZC-30-A Material: Motorcraft® Metal Surface Prep Wipes / ZC-31-B Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B Installation 1. NOTE: Installation of new seals is only required if damaged seals were removed. Using the special tools, install new spark plug tube seals. Use Special Service Tool: 205-153 (T80T-4000-W) Handle., 303-1247 VCT Spark Plug Tube Seal Remover and Installer. 205-153 E184768 2. NOTE: Installation of new seals is only required if damaged seals were removed. Using the special tools, install new VCT variable force solenoid seals. Use Special Service Tool: 205-153 (T80T-4000-W) Handle., 205-142 (T80T-4000-J) Installer, Differential Bearing Cone. 205-153 E184766 3. Install a new gasket. E184827 4. NOTICE: If the valve cover is not installed and the fasteners tightened within 5 minutes, the sealant must be removed and the sealing area cleaned. Apply an 8 mm (0.31 in) bead of silicone gasket and sealant to the engine front cover-to-cylinder head joints. Material: Motorcraft® Silicone Gasket and Sealant / TA-30 (WSE-M4G323-A4) 5. Install the valve cover and tighten the bolts. Torque: 89 lb.in (10 Nm) • Attach the wiring harness retainers. 6. • Connect the VCT variable force solenoid electrical connectors. E184683 7. Install the RH ignition coils. Refer to: Ignition Coil-On-Plug (303-07C Engine Ignition - 5.0L Ti-VCT V8 (308kW/418PS), Removal and Installation). 8. Install the battery heat shield and fasteners. Torque: 80 lb.in (9 Nm) RED BY FO 9. Install the cowl extension and fasteners. Torque: 26 lb.ft (35 Nm) 10. Install the following items: 1. Refer to: <u>Battery Tray</u> (414-01 Battery, Mounting and Cables, Removal and Installation). 2. Refer to: Cowl Panel Grille (501-02 Front End Body Panels, Removal and Installation). 11. NOTE: The engine appearance cover rubber grommets may remain on the cover. If so, remove the grommets from the cover and install them on the intake manifold before installing the cover. Install the engine appearance cover. • If equipped, install the strut tower cross brace and nuts. 12. Torque: 41 lb.ft (55 Nm) • Attach the wiring harness retainer. 13. Connect the battery ground and positive cables. Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables, General Procedures).

Workshop Manual