

Unit Injector Copper Sleeves and Combustion Washers

M-237-001

(September 2008)

Valid for

Mack CXU,CHU,GU,MRU,LEU models built with MP7 and MP8 US07 emissions

Case description

On MACK MP engines, the original unit injector combustion seal consisted of an integral raised bead in the bottom of the copper sleeve. Effective with US07 emission-compliant MP7 and MP8 engines, the original “raised-bead” design was replaced in production by a copper sleeve (part number 20981856) having a flat bottom (no raised bead) and a separate combustion sealing washer. The “flat-bottom” copper sleeve can easily be identified by two grooves around the upper circumference of the sleeve as shown in the following illustration. The earlier copper sleeves having the integral raised bead can be identified by a single groove, or no groove at all around the upper circumference of the sleeve (refer to the illustration below).

Original and Current Design Copper Sleeves	
<p>1. Pure Copper Sleeve (part number 3183368), Raised Bead, No Groove on Top, US04 MP7, Sealing Washer NOT Used.</p>	<p>3. Alloyed Copper Sleeve (part number 20981856), Current Production, "Flat Bottom" Design, Two Grooves on Top, US07 MP7 and MP8, Sealing Washer Used.</p>
<p>2. Alloyed Copper Sleeve (part number 20750913), Raised Bead, One Groove on Top, Initial Production US07 MP7 and MP8, Sealing Washer Not Used.</p>	<p>4. Combustion Sealing Washer</p>

Note: A revised combustion sealing washer (part number 21261987) having a thin black rubber coating for better sealing capability, was implemented into production on MP7 and MP8 engines beginning mid-August 2008, replacing the previous production washer. This revised washer, which is also available through the MACK Parts System as the service replacement washer, supersedes the original part number 21014323 replacement washer. DO NOT attempt to remove the rubber coating from the washer, as the sealing capabilities will be compromised.

Note: The current copper sleeve (part number 20981856) and current combustion sealing washer (part number 21261987) are available in a copper sleeve kit (kit part number 85116162). This kit supersedes the previous kit (part number 85111855) which included the original service replacement washer (part number 21014323).

Note: Never use two sealing washers on a single unit injector.

All US04 emission-compliant MP7 engines used the original design copper sleeves (integral raised bead). Service replacement cylinder heads supplied through the MACK Parts System, however, (except for a small number of very early heads) include the flat-bottom design copper sleeves. When replacing a cylinder head on a US04 MP7 engine, sealing washers (part number 21261987) are required.

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Technical Service

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