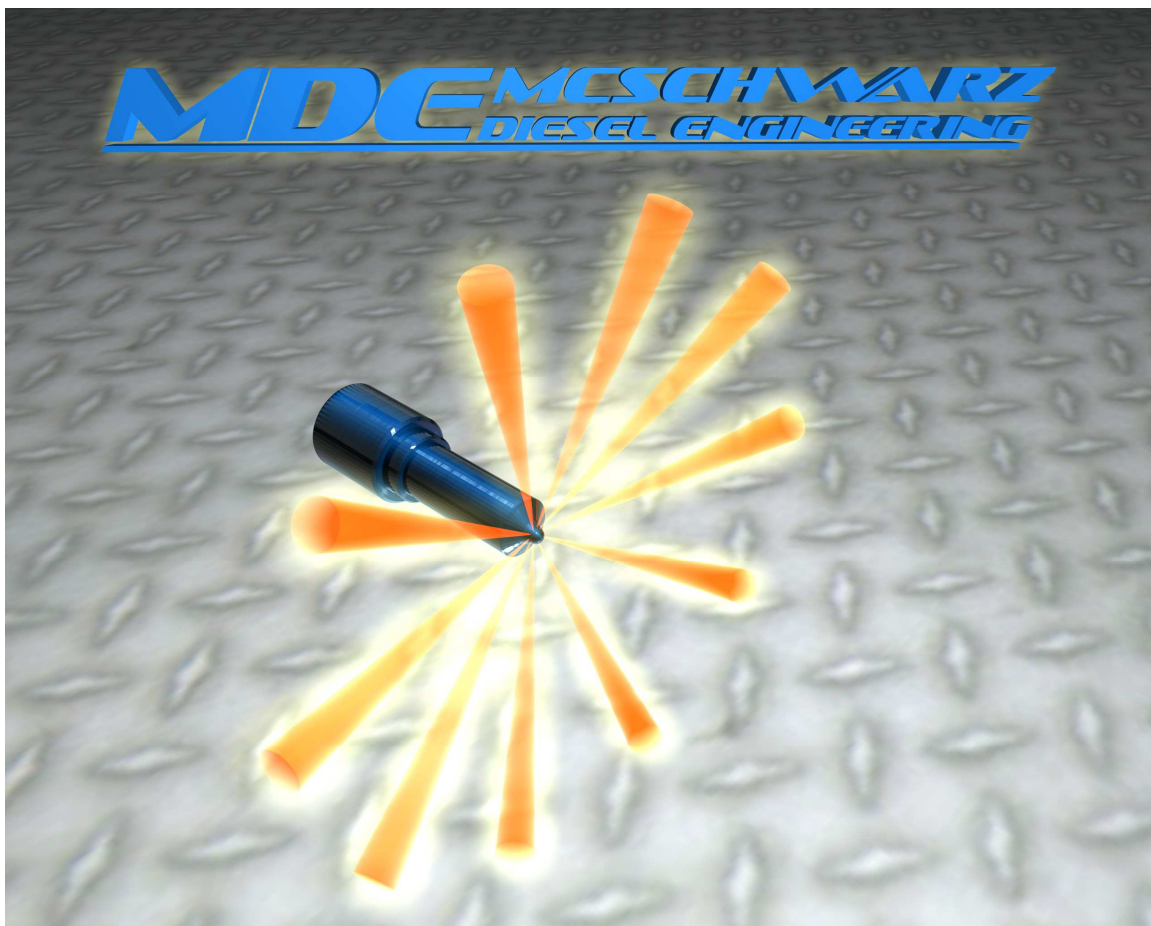




MANUAL
INJECTOR NOZZLE REPLACEMENT FOR
DURAMAX LLY 04.5-05





Disclaimer of Liability

Warranty from MDE's side is for parts only. All parts which are not functional get replaced. The warranty excludes all labor and other parts which get damaged by using MDE's products.

There are performance products which increase horsepower above and beyond factory specifications. As a result, more horsepower creates more stress on the drive train components, which could result in drive train failure. These products are intended for off-road use only. Use at your own risk.

This agreement sets forth the terms and conditions for the use of these products. The installation of these products indicate that the Buyer has read and understands this agreement and accepts the terms and conditions.

MDE, its distributors, employees, and dealers (the "Seller") shall not be responsible for the product's proper use and service. The buyer hereby waives all liability claims.

The Buyer hereby acknowledges no reliance on the Seller's skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof, and the Buyer hereby waives all remedies or liabilities expressed or implied, arising by law or otherwise (including without any obligation of the Seller with respect to fitness, merchantability and consequential damages), or whether or not occasioned by the Seller's negligence.

The Seller disclaims any warranty and expressly disclaims any liability for personal injury or damages. The Buyer acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the Buyer agrees to indemnify the Seller and to hold the Seller harmless from any claim related to the item of equipment purchased. Under no circumstances will the Seller be liable for any damages or expenses by reason of use or sale of any such equipment.

The Seller assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt contact the manufacturer.

The Buyer is solely responsible for all warranty issues from the manufacturer.

Limitation of Warranty

The Seller gives Limited Warranty as to description, quality, merchantability, and fitness for a particular purpose, productiveness, or any other matter of Seller's product sold herewith. The Seller shall not be responsible for the products' proper use and service and the Buyer hereby waives all rights other than those expressly written herein. This warranty shall not be extended, altered or varied except by a written instrument signed by Seller and Buyer.

The warranty is limited to one (1) year from the date of sale and limited solely to the parts contained within the products kit. All products that are in question of warranty must be returned prepaid to the Seller and must be accompanied by a dated proof-of-purchase receipt. All warranty claims are subject to approval by Seller.

Under no circumstances will the Seller be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of all products or any other contingent expenses.

Under no circumstances will the Seller be liable for any damage or expenses incurred by reason of the use or sale of any such equipment.

In the event that the buyer does not agree with this agreement, the buyer may promptly return this product in a new and unused condition, in its original packaging, with a dated proof-of-purchase to the place of purchase within ten (10) days from date of purchase for a full refund.

The installation of these products indicates that the buyer has read and understands this agreement and accepts its terms and conditions.

Read this first before replacing nozzles



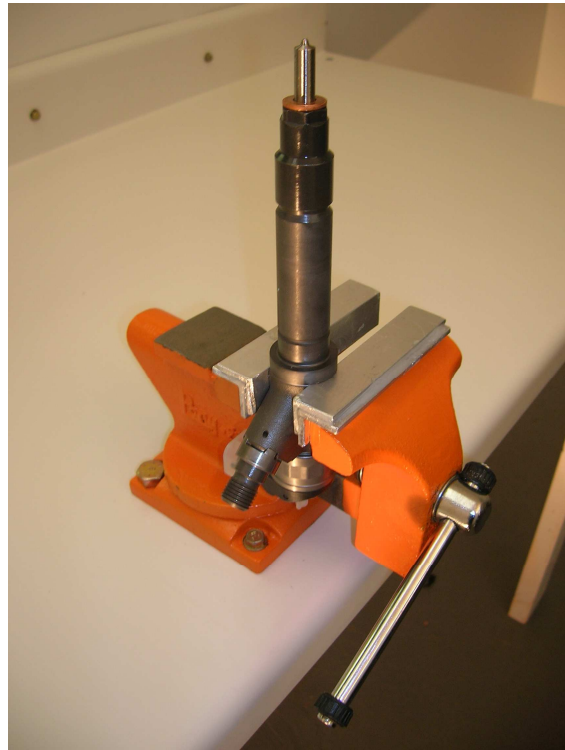
Used tools:

- Tweezers
- Torque wrench
- Deep Socket Hex 15mm
- Break Cleaner
- Grease (like Vaseline)
- CLEAN SURROUNDING

Suggested modifications on engine:

- Map modifications on ECU provided by:
REDLINE DIESEL
PERFORMANCE LLC
- Fuel filter with 5 micron filter

Clamp Injector in vise securely. You may customize your vise clamps. Clean all surroundings with the break cleaner





Untie injector nut with deep socket Hex
15 mm

Untie nut slowly, clean all carbon of
nozzle.





Push nozzle down and untie nut completely. If necessary clean rest of carbon with break cleaner.

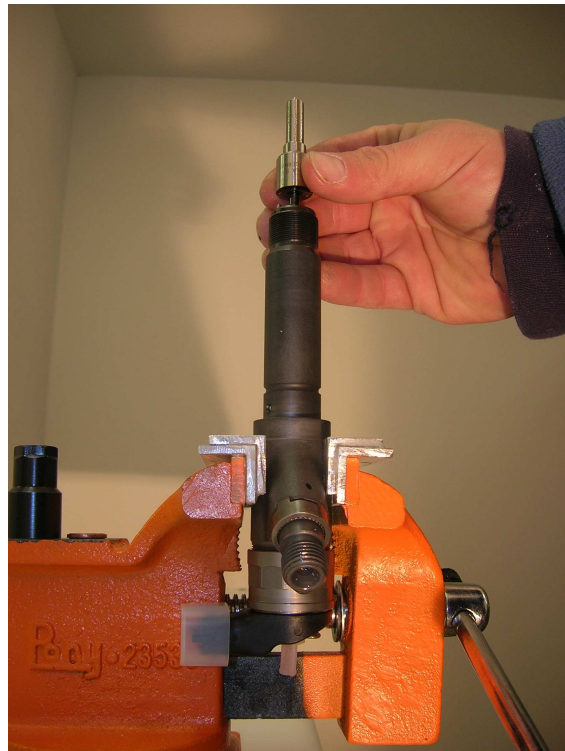
Clean rest of carbon and other chances of contaminations:

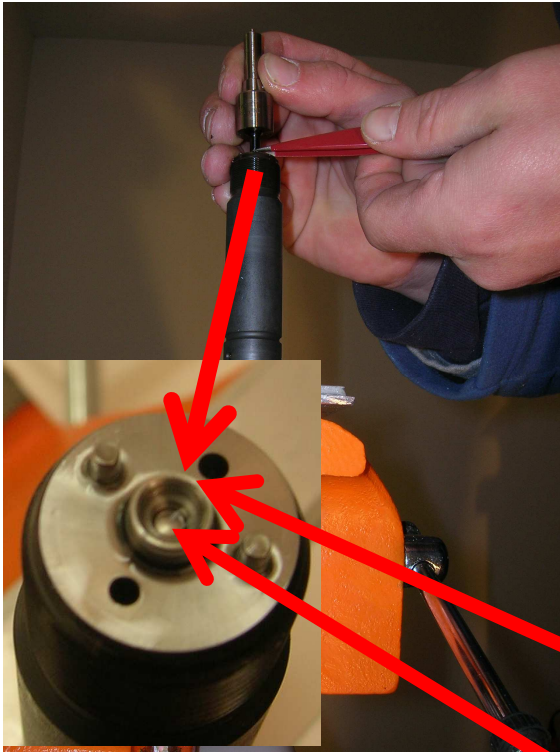




Lift nut carefully and let nozzle there.

Lift nozzle approx ¼ inch





Take the tweezers and hold injector sleeve in place, remove nozzle and needle together from the injector body. Sometimes happens that sleeve and distance bla get loose

If sleeve and distance bla fall of, clean it with break cleaner and place it back like picture above.





Open package of aftermarket nozzle.

Disassemble nozzle and needle.

NEEDLE AND NOZZLE ARE NOT INTERCHANGABLE!!!

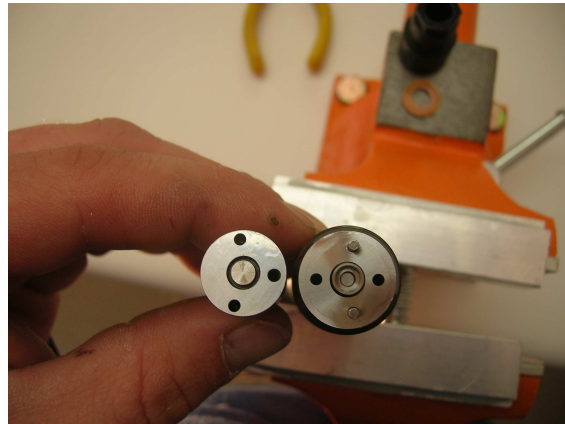
Change Nozzle one at the time, never a few together!!





Clean nozzle body first with brake cleaner, if you have an ultrasonic cleaner (jewelry cleaner) by hand → much better and lay nozzle body by side where it doesn't get contaminated with dirt or particles.
Clean needle as second and assemble back into nozzle.

Place nozzle back on injector body, line up the position pins (pins are 1mm eccentrically)



Just like this





Grease the threats of injector body and nut with Vaseline, push nozzle down like by disassemble and hand tie nut (still push nozzle down, needle is preloaded of injector spring)

Tie nut with 55 lbs-foot and you are done!

Have fun!

