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Coding Information

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Title: Rebuilding Cylinder Heads on Certain 11/13L, N13, and A26 Big Bore Engines

Applies To: All 2010 Model MaxxForce 11/13L engines, All N13, All A26 engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

10/17/2023 - Added additional specifications for all products
08/30/2023 - Added specs link for MF 11/13, and N13 cylinder heads
03/15/2023 - Added A26 cylinder head specifications link
02/16/2023 - Initial Article Release

DESCRIPTION

Navistar has recently made individual cylinder head components for the 2010 and newer 11/13L, N13, and A26 engines available for service. This adds the option for repairing a cylinder head vs replacing one if the failure mode applies, or the customer requests it.

This article is not intended to give instructions on how to rebuild the cylinder head, but will provide some parts reference information as well as some general guidelines to follow when you are considering having one rebuilt. It is always recommended to use a local qualified machine shop service to perform these repairs.

SERVICE PARTS INFORMATION

Below are the valve train component part numbers used in these cylinder heads. Many parts are common between each engine family and the quantities shown are for a complete cylinder head.
Kits are being created and will announce them here once they become available.

| Part Description | Part Number | Quantity Required | Usage |
|-----------------------|-------------|-------------------|-------------------------|
| Valve, Intake | 7099354C1 | 12 | All A26 |
| Valve, Exhaust* | 7099793C1 | 12 | All A26 |
| Seat, Intake Insert* | 7099800C1 | 12 | All A26 |
| Seat, Exhaust Insert* | 7099796C1 | 12 | All A26 |
| Valve, Intake | 3005137C1 | 12 | All N13, 2010 MF 11/13L |

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|--------------------------------|-------------|----|-------------------------|
| Valve, Exhaust | 3005138C1 | 12 | All N13, 2010 MF 11/13L |
| Seat, Intake Insert | 3007586C1 | 12 | All N13, 2010 MF 11/13L |
| Seat, Exhaust Insert | 3007830C1 | 12 | All N13, 2010 MF 11/13L |
| Guide, Valve | 3015736C1 | 24 | All |
| Seal, Valve Guide | 3015752C1 | 24 | All |
| Spring, Valve | 3006643C1 | 24 | All |
| Retainer, Valve Spring | 62041030108 | 24 | All |
| Retainer, Valve Spring Keepers | 62041040034 | 48 | All |

* Improved material design

REPAIR STEP(S)

WARNING! To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.

WARNING! To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

WARNING! To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

WARNING! To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

WARNING! To prevent property damage, personal injury, and / or death, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

CYLINDER HEAD INSPECTION

1. With the cylinder head removed from the engine, a general casting inspection needs to be made to determine if the cylinder head can be salvaged. Consider the reason why the cylinder head is being removed and make sure no obvious casting damage is present
2. Inspect to make sure all of the camshaft caps are present, installed, and are not damaged
3. Clean the carbon from the bottom deck surface
4. Inspect for impact damage from any foreign debris that may have entered a cylinder from another failure (dropped valve, injector tip, foreign object entering the intake system, etc.). If casting damage is seen from impact damage, replace the cylinder head

5. Inspect for visible casting cracks between any of the intake or exhaust valves
- A26 Heads - NO visible cracks are allowed anywhere. If crack(s) are visible **replace the cylinder head**
 - MF11/13, N13 - Some cracks are allowed in these castings in certain locations. See [IK1201115](#) for guidelines on cylinder head crack inspection
6. **IMPORTANT:** If a condition exists that suggest the cylinder head might need to be resurfaced, **replace the cylinder head**

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| CAUTION: |
| Cylinder heads CANNOT be resurfaced on any of the engines referenced in this article. Resurfacing the cylinder head may cause catastrophic engine damage due to the overhead cam design |

7. If the inspection criteria listed above is acceptable, then the necessary valve train component repairs can be performed

CYLINDER HEAD AND VALVE SPECIFICATIONS FOR ALL 2010 AND NEWER MF 11/13, AND N13 ENGINES

Certain specifications may be requested by the servicing machine shop to complete the repair. Follow the link [HERE](#) for all available specifications.

CYLINDER HEAD AND VALVE SPECIFICATIONS FOR ALL A26 ENGINES

Certain specifications may be requested by the servicing machine shop to complete the repair. Follow the link [HERE](#) for all available specifications.


REBUILDING RECOMMENDATIONS FOR 2017 A26A CYLINDER HEADS

There were some changes made in the exhaust valve and seat material used in the 2021 A26B cylinder heads. All 2021 A26B heads are built with the valve and seats listed above which are more robust against higher temperatures.

- For the 2017 A26A original cylinder heads, if one exhaust valve has failed it is recommended to replace all 12 exhaust valves and seats (inserts) with the part numbers listed above

OTHER RESOURCES

[Master Service Information Site](#)

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