

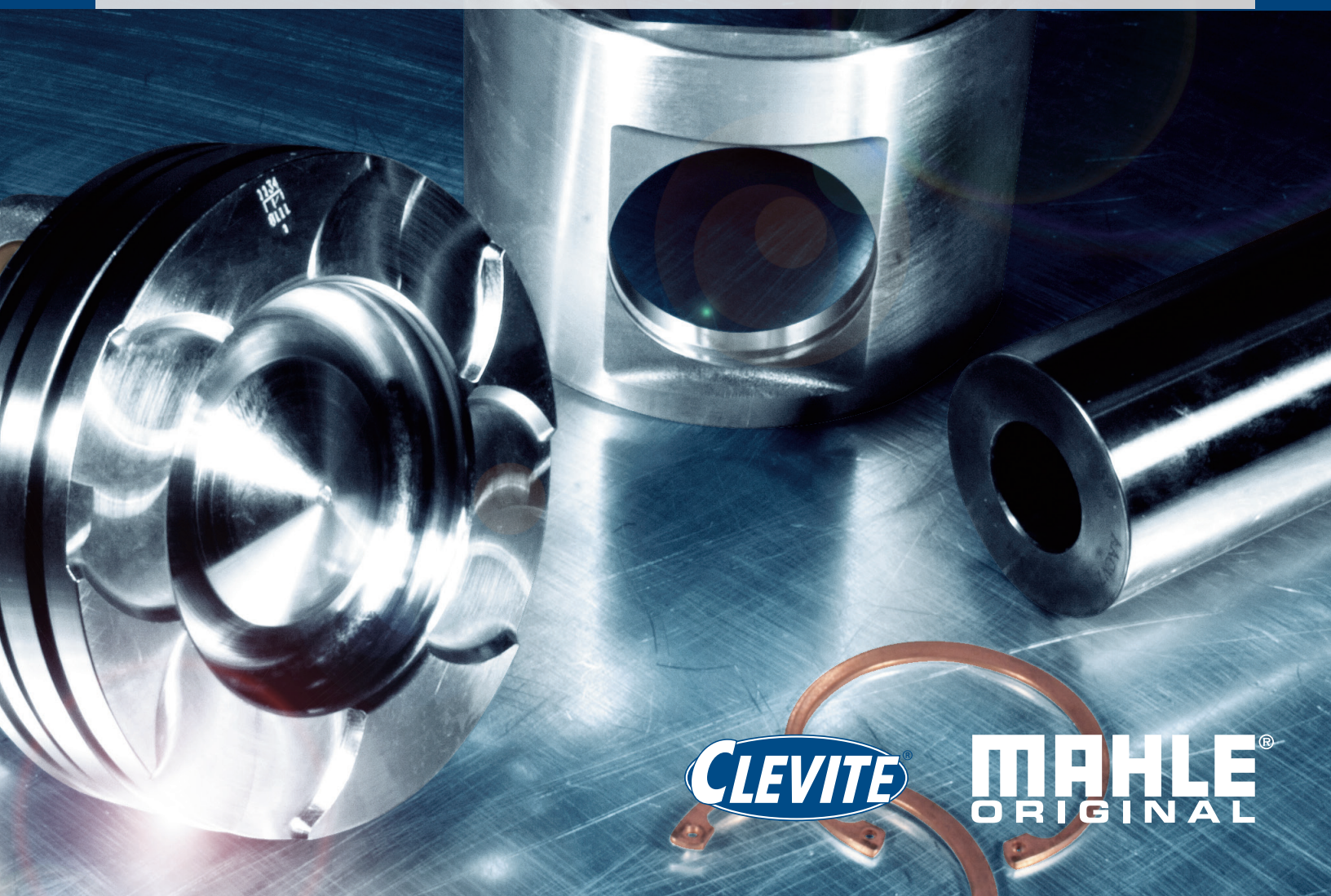
**MAHLE**

*Driven by performance*

# GREAT PARTS FOR GREAT ENGINES REPLACEMENT PARTS FOR CUMMINS N14

HEAVY DUTY REPLACEMENT PARTS

AFTERMARKET



**CLEVITE**<sup>®</sup>

**MAHLE**<sup>®</sup>  
ORIGINAL

# GREAT PARTS FOR GREAT ENGINES!

The Cummins N14 5.500" bore is the last iteration of the 855 cubic inch engine that was the mainstay of the heavy duty diesel industry for over 40 years. Many of the basic features of the N14 even date back further to the 743 cubic inch models.

The N14 was most frequently found in the trucking industry, but the engine was later adapted for use in Mining, Agriculture, Marine and Power Generation. The multiple adaptations of the engine made it popular worldwide and the N14 was both produced and used throughout the world.

In 2000, after Cummins introduced the ISX engine, the N14 was discontinued. This leaves the heavy duty aftermarket with the task of providing replacement engine parts for the N14 engine. MAHLE Aftermarket is fully equipped with individual parts and complete engine kits to meet the demand.

## MEETING NEW CHALLENGES

As horsepower and more stringent emission requirements increased over the years, the aluminum piston design could no longer withstand the accompanying heat and pressures produced. MAHLE created the FERROTHERM™ piston to meet these added challenges.

## TWO UNEQUAL PARTNERS – ONE SUCCESSFUL COOPERATION

How do you combine two materials as different as steel and aluminum into one functional unit? Combustion and ignition pressures have their effect on the steel head – and the resulting force is directly transmitted from the head via the piston pin to the connecting rod. A gap is left between the upper steel section and the aluminum skirt. This spatial separation acts as thermal decoupling. The temperatures at the skirt are significantly lower compared to a piston made entirely from aluminum. Thanks to the low temperature level at the piston skirt and the decoupling of the power transmission, the skirt design could be optimized in respect of its guiding task. This can be noticed in the smooth running engine despite harsh diesel combustion – at higher power output and more torque.

A design that is based on clear task sharing: the aluminum skirt only takes care of guiding the piston in the cylinder bore, while the piston head does the hard work and the sealing. The forged steel of the piston head permits significantly higher operating temperatures and significantly higher surface pressures between boss and piston pin. Also, the wear resistance and service life of the ring grooves benefit from the high strength of the forged steel.

## TOP LAND CLEARANCE

An additional important advantage of steel is its significantly lower thermal expansion coefficient. This allows smaller clearances between piston and cylinder at the top land, offering improved sealing and reduced blow-by. The small top land clearance also has a positive effect on exhaust emission values – smaller clearance means less clearance volume and therefore optimal and clean combustion.

## THE CLEVITE DIFFERENCE

The Clevite piston for the N14 is application engineered specifically for the N14 by utilizing:

**Weight control:** Crowns and skirts are held to exacting weight tolerances insuring a smooth and balanced engine

**Profiled Pin Bores:** Clevite pistons are made with a profiled pin bore design, providing both the pin and crown with increased longevity

**Durability and High Pressure:** The piston crown is designed to withstand operating pressures in excess of 2150 Psi or nearly 15 Mpa

**Strict Quality Control:** State of the art CNC machines and intense quality control insures that the customer always receives a precision part from MAHLE

*N14® is a registered trademark of Cummins Inc. These trademarks and the Cummins part references are used only for reference to the parts they replace. These products are not made or authorized by Cummins Inc.*

# ENGINE KIT CHART

## CUMMINS N14 INFRAME AND OVERHAUL KITS

Clevite replacement kits for the Cummins N14 are listed below. For each kit number, follow the column down to see which parts are contained in the particular kit.

		ARTICULATED STEEL																										
		INFRAME KITS			OVERHAUL KITS																							
Qty	Part #	459-5441	459-5442	459-5443	459-1467	459-1468	459-1469	459-1470	459-1471	459-1472	459-1473	459-1474	459-1475	459-1476	459-1477	459-1478	459-1479	459-1480	459-1481	459-1482	459-1483	459-1484	459-1485	459-1486	459-1487	459-1488	459-1489	459-1490
6	226-2039			•																	•	•	•	•	•	•	•	•
6	226-2040		•										•	•	•	•	•	•	•	•								
6	226-2041	•			•	•	•	•	•	•	•	•																
1	MS-1687P*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
6	CB-1616P*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1	EK3539	•	•	•																								
1	HS5858AH						•	•						•	•								•	•				
1	HS54123				•	•							•	•							•	•						
3	HS54123-1								•	•							•	•							•	•		
3	HS54123-4										•	•							•	•						•	•	
1	CS54123-1					•		•	•		•		•			•	•		•			•		•		•	•	
1	CS54123-2				•		•			•		•	•					•		•	•		•		•	•	•	

\* Undersize substitutions available

		ALUMINUM ANODIZED							
		INFRAME KITS				OVERHAUL KITS			
Qty	Part #	459-5187	549-5188	459-5381	459-5396	459-1187	459-1188	459-1381	459-1396
6	226-1903	•				•			
6	226-1908			•				•	
6	226-1911		•				•		
6	226-1912				•				•
1	MS-1687P*	•	•	•	•	•	•	•	•
6	CB-1616P*	•	•	•	•	•	•	•	•
1	HS5858AH	•		•		•		•	
1	HS54123		•		•		•		•
1	CS54123-1					•		•	
1	CS54123-2					•			•
1	OS32201	•	•	•	•				

\* Undersize substitutions available

**MAHLE AFTERMARKET OFFERS FLEXIBILITY...**

*Don't need the entire assembly? With MAHLE Aftermarket, you can purchase the crown, skirt, pin and locks separately to meet your specific needs!*

# ENGINE KITS

## SLEEVE ASSEMBLIES

	Sleeve	Piston	Piston Crown	Piston Skirt	Wrist Pin	Lock Ring	Ring Set	Liner	O-Ring Kit
Clevite	226-2039	224-3775**	224-3771X	224-3774X	223-1960	223-5540	S41887	226-4414	223-7077
OE	3803742	3803741	3087634	N/A	3064304	3064305	4089489	3055099	AR51477
Clevite	226-2040	224-3776**	224-3772X	224-3774X	223-1960	223-5540	S41887	226-4414	223-7077
OE	3803740	3803739	3087635	N/A	3064304	3064305	4089489	3055099	AR51477
Clevite	226-2041	224-3777**	224-3773X	224-3774X	223-1960	223-5540	S41887	226-4414	223-7077
OE	3804636	3804630	3865113	N/A	3064304	3064305	4089489	3055099	AR51477

\*\* Includes pin

PART #	DESCRIPTION	NOTES
459-1187	Overhaul Kit	Aluminum, Anodized, with 226-1903
459-1188	Overhaul Kit	Aluminum, Anodized, with 226-1911
459-1381	Overhaul Kit	Aluminum, Anodized, with 226-1908 20/40
459-1396	Overhaul Kit	Aluminum, Anodized, with 226-1912 20/40
459-1467	Overhaul Kit	Articulated Steel, with 226-2041
459-1468	Overhaul Kit	Articulated Steel, with 226-2041
459-1469	Overhaul Kit	Articulated Steel, with 226-2041
459-1470	Overhaul Kit	Articulated Steel, with 226-2041
459-1471	Overhaul Kit	Articulated Steel, with 226-2041
459-1472	Overhaul Kit	Articulated Steel, with 226-2041
459-1473	Overhaul Kit	Articulated Steel, with 226-2041
459-1474	Overhaul Kit	Articulated Steel, with 226-2041
459-1475	Overhaul Kit	Articulated Steel, with 226-2040
459-1476	Overhaul Kit	Articulated Steel, with 226-2040
459-1477	Overhaul Kit	Articulated Steel, with 226-2040
459-1478	Overhaul Kit	Articulated Steel, with 226-2040
459-1479	Overhaul Kit	Articulated Steel, with 226-2040
459-1480	Overhaul Kit	Articulated Steel, with 226-2040
459-1481	Overhaul Kit	Articulated Steel, with 226-2040
459-1482	Overhaul Kit	Articulated Steel, with 226-2040
459-1483	Overhaul Kit	Articulated Steel, with 226-2039
459-1484	Overhaul Kit	Articulated Steel, with 226-2039
459-1485	Overhaul Kit	Articulated Steel, with 226-2039
459-1486	Overhaul Kit	Articulated Steel, with 226-2039
459-1487	Overhaul Kit	Articulated Steel, with 226-2039
459-1488	Overhaul Kit	Articulated Steel, with 226-2039
459-1489	Overhaul Kit	Articulated Steel, with 226-2039
459-1490	Overhaul Kit	Articulated Steel, with 226-2039
459-5187	Inframe Kit	Aluminum, Anodized, with 226-1903
459-5188	Inframe Kit	Aluminum, Anodized, with 226-1911
459-5381	Inframe Kit	Aluminum, Anodized, with 226-1908 20/40
459-5396	Inframe Kit	Aluminum, Anodized, with 226-1912 20/40
459-5441	Inframe Kit	Articulated Steel, with 226-2041
459-5442	Inframe Kit	Articulated Steel, with 226-2040
459-5443	Inframe Kit	Articulated Steel, with 226-2039

See page 4 for more detailed kit information.

# CYLINDER COMPONENTS

PART #	DESCRIPTION	NOTES	OE REFERENCE
223-1960	Piston Pin		3064304
223-5540	Lock Rings		3064305
223-7077	O-Ring Kit		AR51477
224-3284	Piston	With Pin & Locks	3081269WP/3803758WP
224-3290	Piston	With Pin & Locks	3081268WP/3803754WP
224-3771X	Piston Crown	Articulated Steel	3087634
224-3772X	Piston Crown	Articulated Steel	3087635
224-3773X	Piston Crown	Articulated Steel	3865113
224-3774X	Skirt	Skirt Only	3087635
224-3775	Piston Assembly	Articulated Steel. Crown, Skirt, Pin and Locks	3803741
224-3776	Piston Assembly	Articulated Steel. Crown, Skirt, Pin and Locks	3803739
224-3777	Piston Assembly	Articulated Steel. Crown, Skirt, Pin and Locks	3804630
226-1903	Cylinder Kit	Aluminum, Anodized Dual Ni-Resist	3803759
226-1908	Cylinder Kit	3081269 (Piston) + 3065405 (Liner) + 4089489 (Rings)	3803759(20/40)
226-1911	Cylinder Kit	Anodized	3803755
226-1912	Cylinder Kit	3081268(Piston) + 3065405 (Liner) + 4089489 (Rings)	3803755(20/40)
226-2039	Cylinder Kit	Articulated, High Compression	3803742
226-2040	Cylinder Kit	Articulated, Low Compression	3803740
226-2041	Cylinder Kit	Articulated	3804636
226-4414	Cylinder Liner	Standard, with Seals	3055099/3801826
226-4477	Cylinder Liner	20/10, with Seals	3046325/3801387
226-4486	Cylinder Liner	20/40, with Seals	3065405/3803219
S41887	Single Ring Set		4089489

# BEARINGS

PART #	DESCRIPTION	NOTES	OE REFERENCE
CB-1616P	Con. Rod Bearing Set		3055145
CB-1616P-10	Con. Rod Bearing Set		3055146
CB-1616P-20	Con. Rod Bearing Set		3055147
MS-1687P	Main Bearing Set	Includes Main Bolt Locks	3801260
MS-1687P-10	Main Bearing Set	Includes Main Bolt Locks	3801261
MS-1687P-20	Main Bearing Set	Includes Main Bolt Locks	3801262
MS-1687P-30	Main Bearing Set	Includes Main Bolt Locks	3801263
SH-1529S	Camshaft Bearing Set		3801106
TW-369S	Thrust Washer Sets		3067568
TW-369S+10	Thrust Washer Sets		3067568(.010")
TW-369S+5	Thrust Washer Sets		3067568(.005")

# GASKETS

PART #	DESCRIPTION	NOTES	OE REFERENCE
46773	Seal, Crankshaft Rear	Viton, Fluroelastomer	141744
48068	Seal, Crankshaft Rear	Teflon	30067637
48164	Seal, Timing Cover		3020183
54123	Gasket, Cylinder Head	Celastic, Solid Edge Molded	4058790
67658	Seal, Accessory Drive		3800616
B45894	Valve Stem Seal		3064281
CS54123-1	Gasket Set, Lower	For Small Accessory Drive Shaft	4025069
CS54123-2	Gasket Set, Lower	For Large Accessory Drive Shaft	4025068
EK3539	Gasket Set, Inframe Overhaul	With Injector O-Rings	4089369 / 4089370 / 4089371 / 4089372 + 3349820
GS27680	Gasket, Cam Follower Housing	.007" Cam Follower	33074401
GS30376	Gasket, Turbocharger	10 Pack	3069177
GS33538	Injector O-Ring Set	Electronic, 3070136(1) Red, 3070137(1) White, 3070138(1) Blue	3070136(1) + 3070137(1) + 3070138(1)
HS54123	Cylinder Head Set	Celect Plus, Celastic, Engine Set	4089371
HS54123-1	Cylinder Head Set	STC, Celastic, For One Head Only	4089369
HS54123-2	Cylinder Head Set	Celect Plus, Celastic, For One Head Only	4089370
HS54123-3	Cylinder Head Set	Celect	3804724
HS54123-4	Cylinder Head Set	Celect, Celastic, For One Head Only	4089372
HS54123-5	Cylinder Head Set	Celect, Celastic, Engine Set	4024955
HS54123-6	Cylinder Head Set		4024954
HS5858AH	Cylinder Head Set	Early	4089368
JV1689	Seal Set, Crankshaft Rear		3006737(1) + 3067616(1)
MS12242X	Gasket Set, Intake & Exhaust Manifold		3008591(1) + 3020943(6) + 3012972(1)
OS21996	Gasket Set, Oil Pan	One-piece Pan Gasket, Premium MP-15 Material, Pink	3032861
OS32201	Gasket Set, Oil Pan	Puzzle Gasket	3349820
VS50320	Gasket Set, Valve Cover		4058981
VS50321	Gasket Set, Valve Cover		3066311
VS50579	Gasket Set, Jacobs Brake		4920093

# ANCILLARY

PART #	DESCRIPTION	NOTES	OE REFERENCE
211-4282	Valve, Exhaust	Valve Only, Order Locks Separately	3166410/3800891
211-4283	Valve, Intake	Valve Only, Order Locks Separately	3068519/3803360
211-4284	Valve, Intake	Valve Only, Order Locks Separately	3084045/3803854
211-4285	Valve, Exhaust	Valve Only, Order Locks Separately	3070473/3803427
211-4286	Valve, Exhaust	Valve Only, Order Locks Separately	3069672/3803726
217-4092	Valve Guide		3064312
218-8010	Insert, Valve Seat	Exhaust	3054600
223-3601	Cylinder Block Repair Bushing	OD 6.755, Height .751", Counterbore ID 6.567" Counterbore Depth .338", Pilot ID 6.294	3822959
223-8012	Cylinder Block Shims	.020"	3065406(6)
223-8133	Cylinder Block Repair Bushing	OD 6.755, Height .751", Counterbore ID 6.545" Counterbore Depth .338", Pilot ID 6.273., Semi -finished ID	202227
223-8147	Cylinder Block Repair Bushing		3822959
247-5178	Crankshaft	Without Gear	3064291

# TURBOCHARGERS

PART #	OE REFERENCE
286 TC 24555 000	3804800 / 3803583 / 3538395 / 3531725
286 TC 24556 000	3803584 / 3804801 / 3538396 / 3531728
286 TC 24557 000	3803553 / 3804502 / 3804308 / 3803585 / 3531733 / 3536095 / 3537074 / 3536811 / 3592512 / 3592678

# FILTERS

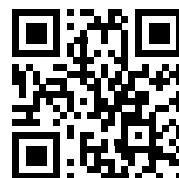
PART #	DESCRIPTION	OE REFERENCE
OC482	Oil filter	3401544

# MAHLE

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