

2019
**ENGINE
GUIDE**



INTERNATIONAL + RENEWED



RENEWED™

HIGH-QUALITY RE-ENGINEERED PARTS ARE READY TO REAWAKEN UPTIME AND AVAILABLE RIGHT NOW.



When you replace a part, you want the highest quality, most reliable part available. But new can mean costly. And a rebuilt or will-fit part won't always do. The solution: RENEWED™ products. RENEWED engines, drivetrains and components cost significantly less than new and offer greater reliability than rebuilt. What's more, RENEWED products are backed with a limited warranty covering parts and labor when installed by a contracted International service center.

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FUEL INJECTORS

DIFFERENTIALS

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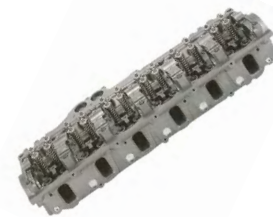
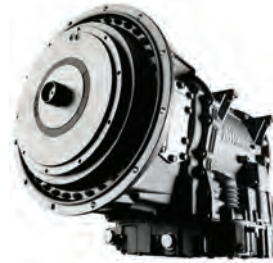
STEERING GEARS

EMISSIONS COMPONENTS

TRANSMISSIONS

ENGINE OVERHAUL KITS

TURBOCHARGERS



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RENEWED™ ENGINE WARRANTY COVERAGE

- ❖ All RENEWED replacement trimmed engines carry a 24-month parts / unlimited mileage nationwide limited warranty.
 - Fuel pumps, fuel injectors, turbocharger, high pressure fuel pump, sensors, electrical harnesses, glow plugs, and block heaters are covered for 12 months.
 - Labor is covered 100% when the part is installed by an International® service location or an authorized fleet customer with an approved in-house warranty agreement.

- ❖ All RENEWED short block and long block partial engine assemblies carry a 12-month parts / unlimited mileage nationwide limited warranty.
 - Labor is covered 100% when the part is installed by an International service location or an authorized fleet customer with an approved in-house warranty agreement.

- ❖ Claims for RENEWED engine parts whether sold over the counter or installed by an International dealer are handled the same way: the dealer is required to contact the RENEWED supplier to gain claim authorization prior to repair. A claim tracking number will be issued, and a repair plan agreed upon to include any agreed upon parts and labor coverage.

*** For Warranty Concerns:**

- Call SRC at 1-800-327-2253 (provide serial # for I6 and Big Bore Engines).
- Call CAT at 317-346-3300 (provide serial # for V6 and V8 Engines).

Big Bore 11L, 13L, 15L, A26 (2007-2018)

Introduction

This chapter answers most questions about International Big Bore replacement parts and engines for model year 2007-2018 International® Big Bore series diesel engines. To assist with your selection, we included on this page instructions of how to find the answer you need.

Has the engine been confirmed to be a model year 2007-2018 International® Big Bore?

-Engine serial numbers 4000000 and above are model year 2007-2018. (Located on the left hand side of the crankcase, just above the high pressure fuel pump.)

Properly identifying replacement part numbers begins with identifying the engine serial number from either the engine serial number or vehicle lineset ticket.

Engine Serial Number Locations:

- Stamped on a crankcase pad on the left side of the crankcase above the high pressure fuel pump.
- On the engine emission label on the valve cover.
- On the vehicle lineset ticket.

Bill of Material

Component	Long Block 11L, 13L 2007-2009	Long Block 11L, 13L 2010-2012	Long Block 15L 2012	Long Block 13L 2013-2014	Long Block 13L 2015-2016	Long Block 12.4L A26 2017-2018
A/C Compressor				X	X	X
Air Compressor						X
Block Off						
Air Duct				X		
Air Intake Duct					X	
Camshaft	X	X	X	X	X	X
Cold Start Supply		X		X	X	
Compression Brake		X		X	X	X
Connecting Rod	X	X	X	X	X	X
Coolant Outlet		X		X	X	
Crankcase	X	X	X	X	X	X
Crankcase Cover			X			
Crankshaft	X	X	X	X	X	X
Cylinder Head	X	X	X	X	X	X
EGR System						X
Electrical Engine Control						X
Electrical Harness						X
Engine Mounts	X	X	X	X	X	X
Exhaust Manifold		X		X	X	X
Fan Drive	X	X		X	X	X
Flywheel Housing	X	X	X	X	X	X
Fuel Filter		X		X	X	X
Fuel Pump		X		X	X	X
Idler Gear			X			X
Ignition System with Cold Start						X
Injector Harness				X	X	X
Injectors		X		X	X	X

Big Bore 11L, 13L, 15L, A26 (2007-2018)

Bill of Material (cont'd.)

Component	Long Block 11L, 13L 2007-2009	Long Block 11L, 13L 2010-2012	Long Block 15L 2012	Long Block 13L 2013-2014	Long Block 13L 2015-2016	Long Block 12.4L A26 2017-2018
Lifting Eyes	X	X	X	X	X	X
Oil Cooler		X	X	X	X	X
Oil Filler Pipe						X
Oil Filter		X	X	X	X	
Oil Level Gauge	X	X		X	X	
Oil Pan	X	X	X	X	X	X
Oil Pan Plugs		X		X	X	X
Oil Pump		X	X	X	X	X
Oil Recovery Collector		X		X	X	X
Pistons	X	X	X	X	X	X
Rocker Arms	X	X	X	X	X	X
Secondary Oil Filtration		X		X	X	
Sensors		X		X	X	X
Thermostat		X		X	X	X
Turbocharger		X		X	X	X
Valve Cover	X	X	X	X	X	X
Water Inlet Adapter	X					
Water Pump	X	X		X	X	X

Long Block - 12.4L A26 (Model Years 2017-2018)

Engine Serial Number Range: 4500000-4599999

Qualifying Requirements:

1. Chassis VIN
2. Truck Model- LT, RH, HV, HX
3. Engine Serial Number Range: 4500000-4599999
4. Parts Catalog Figure Number Begins with AB#00000000
5. Engine Displacement: 12.4L
6. Rear Engine PTO - Yes or No
7. Front or Rear Sump Oil Pan
8. Endurant Transmission - Yes or No

Notes:

- Air Compressor, not provided
- APR = Anti-Polish Ring (Insert top of liner) Standard on all models.
- Engine Brake, standard on all models

Part Number	Chassis	Size	PTO	Engine Brake	Oil Pan Sump	Endurant Transmission (if applicable)
2517640C91	LT	12.4L	No	Yes	Rear	
2517641C91	RH	12.4L	No	Yes	Front	
2517644C92	HV	12.4L	No	Yes	Rear	
2517645C91	HX	12.4L	No	Yes	Front	
2517646C91	HX	12.4L	No	Yes	Rear	
2517647C91	LT	12.4L	No	Yes	Rear	2517647C91
2517648C91	RH	12.4L	No	Yes	Front	2517648C91

Long Block - 13L (Model Years 2015-2016)

Engine Serial Number Range: 4400000-4499999

Qualifying Requirements:

1. Chassis VIN
2. Truck Model- ProStar/ TranStar or WorkStar and PayStar
3. Engine Serial Number Range: 4400000-4499999
4. Parts Catalog Figure Number Begins with AB#00000000
5. Engine Displacement: 13L
6. Rear Engine PTO - Yes or No
7. Front or Rear Sump Oil Pan
8. Single Cylinder or Dual Cylinder Air Compressor
9. Engine Brake Yes or No

Note: Air Compressor and Engine Brakes may require exchanging as they are customer specific.

Note: APR = Anti Polish Ring (Inserted top of liner)

RENEWED Part Number	Chassis	Size	PTO	Engine Brake	Oil Pan Sump	OE Part Number
5011157R91	ProStar 122 WB	N13	No	Yes	Rear	2515583C93
5011158R91	TranStar	N13	No	Yes	Front	2515584C92
5011159R91	PayStar	N13	No	Yes	Rear	2515585C92
5011160R91	WorkStar/ LoneStar	N13	No	No	Rear	2515586C92
5011161R91	WorkStar/ LoneStar with PTO	N13	Yes	No	Rear	2515587C91
5011162R91	CAT SS without Engine Brake	N13	No	No	Front/Yellow	2515588C91
5011163R91	CAT SS with PTO	N13	Yes	No	Front/Yellow	2515589C91
5011164R91	ProStar 113 WB	N13	No	Yes	Front	2515590C92

Long Block Plus - 15L (Model Year 2012)

Engine Serial Number Range: 9000000 – Above

Qualifying Requirements:

1. Chassis VIN
2. Truck Model: ProStar or PayStar
3. Transmission: Manual or Automatic
4. Engine Serial Number Range: 9000000 – Above
5. Engine Feature Code: 12BBK
6. Parts Figure Number Beginning with 6150
7. Build Date of Engine: 2010-2012

RENEWED Part Number	Vehicle Model	Transmission	Description	OE Part Number
	2010 ProStar	Manual	Long Block Plus	7093152C91
	2010 PayStar	Manual	Long Block Plus	7093153C91
5010775R91	All Models	All Types	Long Block Plus	

Big Bore 11L, 13L, 15L, A26 (2007-2018)

Service Long Block - 13L (Model Years 2013-2014)

Engine Serial Number Range: 4300000-4399999

Qualifying Requirements:

1. Chassis VIN
2. Truck Model- (LH) ProStar/ TranStar or (SS) WorkStar
3. Engine Serial Number Range: 4300000-4399999
4. Parts Catalog Figure Number Begins with AB#00000000
5. Engine Displacement: 13L
6. Rear Engine PTO - Yes or No
7. Front or Rear Sump Oil Pan
8. Single Cylinder or Dual Cylinder Air Compressor
9. Engine Brake - Yes or No

Note: First Generation = Gear Driven Fan. Second Generation = Belt Driven Fan (Except where noted)

Note: Air Compressor and Engine Brakes may require exchanging as they are customer specific.

Note: APR = Anti Polish Ring (Inserted top of liner)

Application	1st Generation Part Number	2nd Generation Part Number with APR	RENEWED Part Number with APR	Rear PTO	Engine Brake	Oil Pan Sump
ProStar 122 WB	2513099C91	2513099C93	5010919R91	No	Yes	Rear
ProStar 113 WB		2515133C91	5010926R91	No	Yes	Front
PayStar	2513101C91	2513101C92	5010921R91	No	Yes	Rear
TranStar	2513100C91	2513100C92	5010920R91	No	Yes	Front
WorkStar, LoneStar	2513103C91	2513103C92	5010922R91	No	No	Rear
WorkStar, LoneStar	2513105C91	2513105C92	5010924R91	Yes	No	Rear
CAT, SS	2313104C91	2513104C92	5010923R91	No	No	Front
CAT, SS	2513106C91	2513106C92	5010925R91	Yes	No	Front

Big Bore 11L, 13L, 15L, A26 (2007-2018)

Service Long Block - 11L, 13L (Model Years 2010-2012)

Engine Serial Number Range: 4100000-4299999

Qualifying Requirements:

1. Chassis VIN
2. Truck Model- ProStar, TranStar, LoneStar, WorkStar, PayStar
3. Engine Serial Number Range: 4100000-4299999
4. Parts Catalog Figure Number Begins with AB#00000000
5. Engine Displacement: 11L or 13L
6. Rear Engine PTO - Yes or No
7. Front or Rear Sump Oil Pan

Note: First Generation = Gear Driven Fan. Second Generation = Belt Driven Fan (Except where noted)

Note: Air Compressor and Engine Brakes may require exchanging as they are customer specific.

Size	Application	1st Generation Part Number	2nd Generation Part Number	RENEWED Part Number	Rear PTO	Engine Brake	Oil Pan Sump
11L	ProStar, TranStar	3015135C92		5010897R91	No	No	Front
11L	WorkStar, LoneStar	3015137C92		5010899R91	Yes	No	Rear
11L	WorkStar, LoneStar	3015138C92		5010898R91	No	No	Rear
11L	CAT SS	3015603C94		5010995R91	No	Yes	Front
11L	CAT SS	3015604C94		5010996R91	Yes	Yes	Rear
13L	CAT SS	3015606C94		5010997R91	No	Yes	Front
13L	CAT SS	3015607C95		5010998R91	Yes	Yes	Front
13L	ProStar, TranStar 122 WB	3015605C96	2515578C91	5010885R91	No	No	Rear
13L	TranStar 113 WB		2511374C93	5010892R91	No	Yes	Front
13L	PayStar	2513102C91	2513102C92	5010894R91	No	Yes	Rear
13L	WorkStar, LoneStar	3015139C94	3015139C95	5010891R91	No	No	Rear
13L	WorkStar, LoneStar	3015136C94	3015136C95	5010893R91	Yes	No	Rear
13L	ProStar 113 WB		2515579C92	5010896R91	No	Yes	Front

Service Long Block - 11L, 13L (Model Years 2007-2009)

Engine Serial Number Range: 4000000-4099999

Qualifying Requirements:

1. Chassis VIN
2. Truck Model- (LH) ProStar, TranStar or (SS) WorkStar
3. Engine Serial Number Range: 4000000-4099999
4. Parts Catalog Figure Number Begins with AA#00000000
5. Engine Displacement: 11L or 13L
6. Rear Engine PTO - Yes or No

New Part Number	Old Part Number	Rear Engine PTO	Chassis Application	Engine Type	Reman Long Block
5010744R91	3014768C91	No	ProStar, TranStar	11L	5011033R91
5010746R91	3014771C91	No	WorkStar	11L	
5010747R91	3014773C91	Yes	WorkStar	11L	
5010745R91	3014769C91	No	ProStar, TranStar	13L	5010999R91
5010749R91	3014772C91	Yes	SS	13L	5011001R91
5010748R91	3014770C91	No	WorkStar	13L	5011000R91

Big Bore 11L, 13L, 15L, A26 (2007-2018)

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number	Head Gasket Part Numbers
5011251R91	2007-2009	13L	Cylinder Head	4000000-4099999	3006482C98	
5011253R91	2007-2009	11L	Cylinder Head	4000000-4099999	3006483C97	
	2007-2009	13L	Cylinder Head Removal Kit	4000000-4099999	3004733C98	
	2007-2009	11L	Cylinder Head Removal Kit	4000000-4099999	3004732C98	
5010752R92	2010-2012	11L, 13L	Cylinder Head	4100000-4299999	3007648C95	
	2010-2012	13L	Cylinder Head Removal Kit	4100000-4299999	3007651C97	62039010402
	2010-2012	11L	Cylinder Head Removal Kit	4100000-4299999	3004732C98	62039010403
5010752R92	2013-2014	13L	Cylinder Head	4300000-4399999	3007648C95	
	2013-2014	13L	Cylinder Head Removal Kit	4300000-4399999	3007651C97	62039010402
	2013-2014	11L	Cylinder Head Removal Kit	4300000-4399999	3004732C98	62039010403
	2015-2016	13L	Cylinder Head	4400000-4499999	2515592C92	
	2015-2016	13L	Cylinder Head Removal Kit	4400000-4499999	2515548C91	
	2017-2018	12.4L	Cylinder Head	4500000-Above	2517637C91	
5010856R92	2012	15L	Cylinder Head	9000000-Above	3016006C91	
	2012	15L	Cylinder Head Removal Kit	9000000-Above	3016007C92	

Introduction

This chapter answers most questions about RENEWED N9, N10 HT570 replacement parts and engines for model year 2014-2018 International® N9 and N10 with SCR series diesel engines. To assist with your selection we included on this page instructions of how to find the answer you need.



Has the engine been confirmed to be a model year 2014-2018 International® N9 or N10?

Answer found within the lineset feature code:
See the Feature Code Matrix in this chapter

Or with visual inspection:

Engine serial numbers starting with 3540000 and above are model year 2014-2018 N9, N10. (Located on the right hand side of the crankcase, in front of the turbocharger.)

Feature Code Matrix

Note: These trimmed engines are built with a bill of material chosen to reduce part number complexity and increase availability.

Feature Code	HP Rating	Torque Rating	Emission Standard
12NWK	275 HP	860 lb-ft @ 1200 RPM	50 State
12NWC	300 HP	860 lb-ft @ 1200 RPM	50 State
12NWD	315 HP	950 lb-ft @ 1200 RPM	50 State
12NWE	330 HP	950 lb-ft @ 1200 RPM	50 State
12NWG	310 HP	1050 lb-ft @ 1200 RPM	50 State
12NWH	330 HP	1150 lb-ft @ 1200 RPM	50 State
12NWI	350 HP	1150 lb-ft @ 1200 RPM	50 State
12BDD	370 HP	1250 lb-ft @ 1200 RPM	50 State

RENEWED N9, N10 HT570 (2014-2018)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

- 1) Confirm the engine serial number range to be 3540000 or above.
- 2) Confirm the engine build date range to be 5/29/2014 or above.
- 3) Verify the engine utilizes SCR aftertreatment.
- 4) Vehicle Identification Number (VIN).
- 5) Engine Feature Code (12XXX) From VIN Display.
- 6) Confirm which Engine Model: N9 or N10.
- 7) Identify if engine has compression brake. If yes, swap.
- 8) Refer to chart below to choose trimmed engine or long block. Then compare your feature code to the list below to determine which components may need to be exchanged to meet your customers bill of material.

Items to Swap or Replace by Feature Code

- A) Swap oil pan
- B) Swap fuel filter with heater 1891303C93 (644011L001)
- C) Swap flywheel housing if other than SAE#1
- D) Swap oil filter to use 1885920C2 (644013B002)
- E) Oil cooler 7081863C91 (644013C008) AWD
- F) A/C bracket on lifting bracket 1666747C2 (64408F002)
- G) Tubes and hoses (644005C003)
- H) Tubes and hoses (644005C010)

RENEWED Part Number	Engine Feature Code	Swap or Replacements
5011171R91 (12NWC) N9	12NWE	A, B
	12NWD	F, B, G*
	12NWK	A, H
5011173R91 (12NWH) N10	12NWG	A, B, C, D, E
	12NWX	A, G

Bill of Material
N9 Engine

Component	Long Block RENEWED	Trimmed Engine RENEWED
Camshaft	X	X
Connecting Rod	X	X
Crankcase	X	X
Crankcase Cover	X	X
Crankshaft	X	X
Cylinder Head	X	X
Flywheel Housing (SAE#2)	X	X
Idler Gear	X	X
Lifters/Tappets	X	X
Lifting Eyes	X	X
Lube Oil Pan, Front Sump	X	X
Oil Level Gauge	X	X
Oil Pump	X	X
Pistons	X	X
Rear Oil Seal	X	X
Rocker Arm	X	X
Valve Cover	X	X
Air Compressor, Block Off		X
EGR System		X
EGR Tubes		X
Exhaust Manifold		X
Front Engine Mount		X
Fuel Filter		X
High Pressure Fuel System		X
Injector		X
Intake Manifold		X
Oil Cooler		X
Oil Filter		X
Sensors		X
Thermostat		X
Tubes & Hoses		X
Turbo Oil Lines		X
Turbocharger		X
Vibration Damper		X
Water Pump		X

RENEWED N9, N10 HT570 (2014-2018)

Bill of Material (cont'd.)

N10 Engine

Component	Long Block RENEWED	Trimmed Engine RENEWED
Camshaft	X	X
Connecting Rod	X	X
Crankcase	X	X
Crankcase Cover	X	X
Crankshaft	X	X
Cylinder Head	X	X
Flywheel Housing (SAE#1A)	X	X
Idler Gear	X	X
Lifters/Tappets	X	X
Lifting Eyes	X	X
Lube Oil Pan, Rear Sump	X	X
Oil Level Gauge	X	X
Oil Pump	X	X
Pistons	X	X
Rear Oil Seal	X	X
Rocker Arm	X	X
Valve Cover	X	X
Air Compressor, Block Off		X
EGR System		X
EGR Tubes		X
Exhaust Manifold		X
Front Engine Mount		X
Fuel Filter		X
High Pressure Fuel System		X
Injector		X
Intake Manifold		X
Oil Cooler		X
Oil Filter		X
Sensors		X
Thermostat		X
Tubes & Hoses		X
Turbo Oil Lines		X
Turbocharger		X
Vibration Damper		X
Water Pump		X

RENEWED N9, N10 HT570 (2014-2018)

Trimmed Engine

* These 12 codes will be serviced by the referenced part numbers in the section named Items to Swap or Replace by Feature Code.

RENEWED Part Number	Model Year	Engine Type	Engine Feature Code	Oil Pan Sump	Serial Number Range
5011171R91	2014-2018	N9 HT570 (SCR)	12NWC 12NWK* 12NWD* 12NWE*	Front	3540000 and Above
5011173R91	2014-2018	N10 HT570 (SCR)	12NWG* 12NWH 12NWJ* 12BDD	Rear	3540000 and Above

Long Block

* These 12 codes will be serviced by the referenced part numbers in the section named Items to Swap or Replace by Feature Code.

RENEWED Part Number	Model Year	Engine Type	Engine Feature Code	Oil Pan Sump	Serial Number Range
5010977R91	2014-2018	Fits BOTH N9 and N10	ALL Applications	N/A	3540000 and Above

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number
5011150R91	2014-2018	N9 & N10	Cylinder Head	3540000-Above	7098547C91

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 2010-2014 MAXXFORCE DT, 9 & 10 series diesel engines. To assist with your selection we included on this page instructions of how to find the answer you need.

Has the engine been confirmed to be a model year 2010-2014 MAXXFORCE DT, 9 or 10 series inline six cylinder diesel engine?

Answer found within the lineset feature code:

See the Feature Code Matrix in this chapter
Or with engine engineering family #: 6440

Or with visual inspection:

Engine serial numbers starting with 3300000-3499999 are model year 2010-2012.

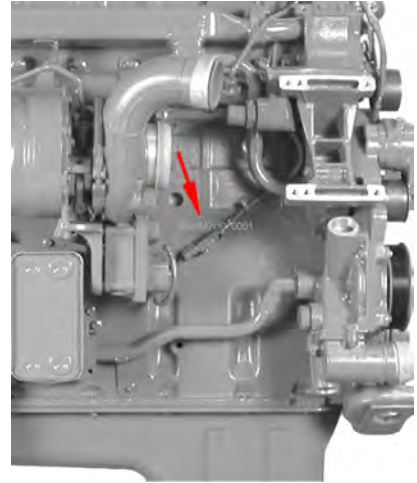
Engine serial numbers starting with 3500000-3539999 are model year 2013-2014 MAXXFORCE DT 9, 10. (Located on the right hand side of the crankcase, in front of the turbocharger.)

Identify if engine has compression brake. If yes, swap.

Emissions label indicating engine family MAXXFORCE DT, 9 or 10 and model year 2010-2017 (located on the valve cover).

These engines also come equipped with:

- Both turbochargers (LP and HP).
- Engine-mounted lube-oil cooler (for non-front steer drive axle).
- SAE #2 Bus flywheel housing.
- Valve cover with baffle to accommodate open crankcase breather. No open breather provided.
- High pressure oil rail without engine brake.
- Forced lubrication rocker arms and tappets.
- Air compressor block off plate.
- Engine valve cover injector harness.
- Sensor harness will not be included.
- Most trimmed engines will come with correct oil pan, swap as necessary.
- Long block DT466 & DT570 series will include front sump oil pan only, exchange if different.
- EGR Cooler inlet and return water hoses may be different, swap as necessary.



RENEWED MAXXFORCE DT 9, 10 (2010-2018)

Feature Code Matrix

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NUK	MAXXFORCE DT	Standard Torque (ST)	215 HP	560 lb-ft @ 1300 RPM	50 State
12NUL	MAXXFORCE DT	Standard Torque (ST)	230 HP	620 lb-ft @ 1300 RPM	50 State
12NUM	MAXXFORCE DT	Standard Torque (ST)	230 HP	660 lb-ft @ 1300 RPM	50 State
12NUN	MAXXFORCE DT	Standard Torque (ST)	245 HP	660 lb-ft @ 1300 RPM	50 State
12NUP	MAXXFORCE DT	Standard Torque (ST)	260 HP	660 lb-ft @ 1300 RPM	50 State
12NUR	MAXXFORCE DT	High Torque (HT)	270 HP	860 lb-ft @ 1300 RPM	50 State
12NUS	MAXXFORCE DT	High Torque (HT)	285 HP	860 lb-ft @ 1300 RPM	50 State
12NUT	MAXXFORCE DT	High Torque (HT)	300 HP	860 lb-ft @ 1300 RPM	50 State
12NUU	MAXXFORCE 9	High Torque (HT)	300 HP	860 lb-ft @ 1200 RPM	50 State
12NUV	MAXXFORCE 9	High Torque (HT)	315 HP	950 lb-ft @ 1200 RPM	50 State
12NUW	MAXXFORCE 9	High Torque (HT)	330 HP	950 lb-ft @ 1200 RPM	50 State
12NUX	MAXXFORCE 10	High Torque (HT)	310 HP	1050 lb-ft @ 1200 RPM	50 State
12NUY	MAXXFORCE 10	High Torque (HT)	330 HP	1150 lb-ft @ 1200 RPM	50 State
12NUZ	MAXXFORCE 10	High Torque (HT)	350 HP	1150 lb-ft @ 1200 RPM	50 State

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Examples:

MAXXFORCE DT, 9 or 10= 466HM2U3300000

Engine Serial Number Codes:

Engine identification code: 466 or 570

Type of code: H= Diesel, turbocharged

End use code: M2= Motor Truck

Country of origin: U= United States

Engine serial number sequence: 3300000-3539999

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine or components. When determining an OBD engine follow the serial number break 3500000 and above. (Do not follow the build date).

Model Year	Engine Serial Number Range	Description
2010-2012	3300000-3499999	Introduced the 2010 MAXXFORCE DT, 9 & 10 I-6 Engines. To meet Federal Emissions, an improved substrate material was incorporated in our aftertreatment.
2013-2014	3500000-3539999	Engines to meet On Board Diagnostic (OBD) Requirements. This applies to MAXXFORCE DT, 9 & 10 I-6 Engines. In 2014, MAXXFORCE DT was discontinued.

RENEWED MAXXFORCE DT 9, 10 (2010-2018)

Bill of Material

Component	Long Block RENEWED	Trimmed Engine RENEWED
Camshaft	X	X
Connecting Rod	X	X
Crankcase	X	X
Crankcase Cover	X	X
Crankshaft	X	X
Cylinder Head	X	X
Flywheel Housing SAE #2	X	X
Idler Gear	X	X
Lifters/Tappets	X	X
Lifting Eyes	X	X
Lube Oil Pan	X	X
Oil Level Guage	X	X
Oil Pump	X	X
Pistons	X	X
Rear Oil Seal	X	X
Rocker Arm	X	X
Valve Cover	X	X
Air Compressor-Block Off		X
EGR System		X
EGR Tubes		X
Exhaust System		X
Front Engine Mount		X
Fuel Filter-No Heater		X
High Pressure Fuel System (Less Engine Brake)		X
Injector		X
Intake Manifold		X
Oil Cooler		X
Oil Filter		X
Sensors		X
Thermostat		X
Tubes and Hoses		X
Turbo Oil Lines		X
Turbocharger		X
Vibration Damper		X
Water Pump		X

RENEWED MAXXFORCE DT 9, 10 (2010-2018)

Trimmed Engine

Select engine by model DT466 or DT570, horsepower range and oil pan sump position.

For 2010-2012 select part number from chart and refer to Bill of Material.

For 2013-2014 identify the engine trim code 12xxx and compare it to the chart of items that will require exchanging with the take-out engine. Trimmed Engine oil pans are correct.

RENEWED Part Number	Model Year	Engine	Engine Serial Number Range	HP Rating	Oil Pan Sump
5010940R91	2010-2012	DT466	3300000-3499999	230 HP or below	Front
5010941R91	2010-2012	DT466	3300000-3499999	245 HP or above	Front
5010942R91	2010-2012	DT466	3300000-3499999	245 HP or above	Rear
5010943R91	2010-2012	DT570, 9, 10	3300000-3499999	300 HP or above	Front
5010944R91	2010-2012	DT570, 9, 10	3300000-3499999	300 HP or above	Rear

Part Number Chart

Engine Serial Numbers: 3500000-3539999

- A) 644005C003 or 644005C004 Tubes and Hoses
- B) 1883022C91 Crankcase Tee Fitting
- C) 644006M001 or 644006M002 Oil Level Gauge
- D) 644008D002/644008D003 VC Plate 3828747C2 Radiator Piping
- E) 644008F002 A/C Bracket 1666747C2
- F) 644009B006 Pressure Sensor 3016259C91
- G) Fuel Filter Assembly with heater
- H) Oil Cooler Module (12NUW)
- I) 644011E004, 1833945C97 and 1875784C93
- J) Flywheel housing (if different)
- K) Oil Pan (swap if necessary)
- L) 644007B002 Vibration Damper (swap over)
- M) 6440013B02 Oil Filter 1885920C2
- N) 6440013C03 Oil Cooler (AWD) 7081863C91

Engine 12 Code	5010940R91	5010941R91	5010942R91	5010943R91	5010944R91
12NUK	A,B,C,D,E,F				
12NUL	A,B,C,D,E,F,G,J				
12NUM	A,B,C,D,F,G,J,K				
12NUN		A,B,C,D,E,F,I			
12NUP		B,C,D,E,F,G,J	B,F,G		
12NUR		A,B,C,D,E,F,G,J			
12NUS			A,B,C,D,F,G,I,J		
12NUT		A,B,C,D,E,F,J,G			
12NUU				A,B,C,D,F,G,J,L	
12NUV				A,B,C,D,E,G,J,L	
12NUW					A,B,C,D,F,I,J,K,M,N
12NUX				A,B,C,D,G,J,L	
12NUY					A,B,C,D,H,I,J,L,N
12NUZ				A,B,C,D,F,J,I,L,K	

RENEWED MAXXFORCE DT 9, 10 (2010-2018)

Long Block

Select engine by model DT466 or DT570, horsepower range and oil pan sump position.

For 2010-2012 select part number from chart and refer to Bill of Material.

For 2013-2014 identify the engine trim code 12xxx and compare it to the chart of items that will require exchanging with the take-out engine. Long Block oil pans are front sump only, exchange as required.

RENEWED Part Number	Model Year	Engine	Description	Engine Serial Number Range	HP Rating	Oil Pan Sump
5010976R91	2010-2014	DT466	Long Block	3300000-3499999	< 230 HP	Front
5010976R91	2010-2014	DT466	Long Block	3300000-3499999	>245 HP	Front
5010976R91	2010-2014	DT466	Long Block	3300000-3499999	> 245 HP	Rear (Swap Pan)
5010977R91	2010-2018	DT570, 9, 10	Long Block	3300000-3499999	300 HP or above	Front
5010977R91	2010-2018	DT570, 9, 10	Long Block	3300000-3499999	300 HP or above	Rear (Swap Pan)

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number
5011150R91	2010-2014	MAXXFORCE DT466, DT570	Cylinder Head	3300000-3539999	7098211C92

RENEWED MAXXFORCE DT466, DT570 (2007-2009)

Introduction

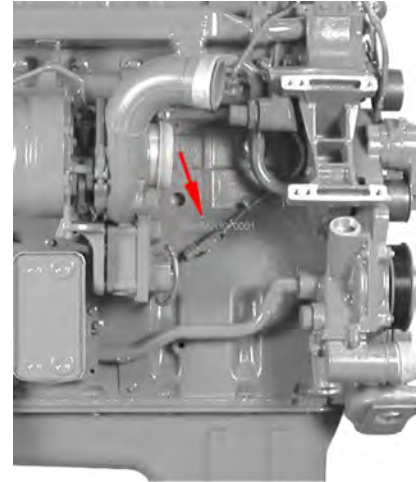
This chapter answers most questions about RENEWED replacement parts and engines for model year 2007-2009 MAXXFORCE DT, 9 & 10 series diesel engines. To assist with your selection we included on this page instructions of how to find the answer you need.

Has the engine been confirmed to be a model year 2007-2009 MAXXFORCE DT, 9 or 10 Series inline six cylinder diesel engine?

Answer found within the lineset feature code:
See the Feature Code Matrix in this chapter
Or with engine engineering family #: 6430

Or with visual inspection:

Engine serial number starting with 3000000-3299999 are model year 2007-2009 MAXXFORCE DT, 9 or 10 assemblies (located on the right hand side of the crankcase in front of the turbocharger).



Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating
12NSK	MAXXFORCE DT	210 HP	560 lb-ft @ 1400 RPM
12NUA	MAXXFORCE DT	210 HP	560 lb-ft @ 1400 RPM
12NSL	MAXXFORCE DT	225 HP	620 lb-ft @ 1400 RPM
12NSM	MAXXFORCE DT	225 HP	560 lb-ft @ 1400 RPM
12NUB	MAXXFORCE DT	225 HP	560 lb-ft @ 1400 RPM
12NUC	MAXXFORCE DT	225 HP	620 lb-ft @ 1400 RPM
12NSV	MAXXFORCE DT	230 HP	620 lb-ft @ 1400 RPM
12NSG	MAXXFORCE DT	245 HP	620 lb-ft @ 1400 RPM
12NSZ	MAXXFORCE DT	255 HP	660 lb-ft @ 1400 RPM
12NTA	MAXXFORCE DT	260 HP	800 lb-ft @ 1400 RPM
12NTB	MAXXFORCE DT	285 HP	800 lb-ft @ 1400 RPM
12NSH	MAXXFORCE DT	300 HP	860 lb-ft @ 1400 RPM
12NTC	MAXXFORCE 9	300 HP	800 lb-ft @ 1200 RPM
12NSJ	MAXXFORCE 9	310 HP	950 lb-ft @ 1200 RPM
12NSX	MAXXFORCE 9	330 HP	950 lb-ft @ 1200 RPM
12NST	MAXXFORCE 10	310 HP	1050 lb-ft @ 1100 RPM
12NSU	MAXXFORCE 10	310 HP	1050 lb-ft @ 1200 RPM
12NSP	MAXXFORCE 10	330 HP	1150 lb-ft @ 1200 RPM
12NSW	MAXXFORCE 10	330 HP	1150 lb-ft @ 1200 RPM
12NSN	MAXXFORCE 10	350 HP	1150 lb-ft @ 1200 RPM
12NSY	MAXXFORCE 10	350 HP	1150 lb-ft @ 1200 RPM

RENEWED MAXXFORCE DT466, DT570 (2007-2009)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Examples:

MAXXFORCE DT, 9 or 10= 466HM2U3300000

Engine Serial Number Codes:

Engine identification code: 466 or 570

Type of code: H= Diesel, turbocharged

End use code: M2= Motor Truck

Country of origin: U= United States

Engine serial number sequence: 3000000-3299999

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine or components. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the Engine Serial Number (ESN) would indicate.

Model Year	Engine Serial Number Range	Description
2007	3000000	Introduced the 2007 MAXXFORCE DT, 9 & 10 I-6 Engines. To meet Federal Regulations, full aftertreatment was incorporated which included DOC and DPF cannisters.
2008.5	3000000	Emission improvement build, please see piston configuration for verification (643004B004). <i>**DT466 ONLY, all engines will have front oil pan sump with ladder.</i>
2009	3299999	No other 2009 MAXXFORCE DT, 9 and 10 Engines were built after this ESN.

Bill of Material

*Note: Engine sensor harness, crankcase breather, and EGR components not supplied (Long Block and Trimmed DT466 only). Engine brake not included.

**Note: This is a special build of the Trimmed DT570 engine, please compare Bill of Material to the OEM lineset ticket to identify proper components. Refer to G-12-10224-A for Bill of Material.

Component	Long Block RENEWED*	Trimmed Engine DT466*	Trimmed Engine DT570**
Camshaft	X	X	X
Connecting Rods	X	X	X
Crankcase	X	X	X
Crankshaft	X	X	X
Cylinder Head Assembly	X	X	X
Front Cover-Front /Rear	X	X	X
Front Seal	X	X	X
Fuel Lift Pump	X	X	X
High Pressure Oil Pump	X	X	X
Idler Gear	X	X	X

RENEWED MAXXFORCE DT466, DT570 (2007-2009)

Bill of Material (cont'd.)

Component	Long Block RENEWED*	Trimmed Engine DT466*	Trimmed Engine DT570**
IPR Valve	X	X	X
Lifters/Tappets	X	X	X
Lifting Eye	X	X	X
Main/Rod Bearings	X	X	X
Oil Pump Assembly	X	X	X
Piston Cooling Tubes	X	X	X
Piston/Rings	X	X	X
Push Rods	X	X	X
Rocker Arm and Shaft Assembly	X	X	X
Timing Components	X	X	X
Valve Cover	X	X	X
Valves	X	X	X
Engine Ladder	AS REQUIRED	AS REQUIRED	AS REQUIRED
Exhaust Manifolds		X	X
Flywheel Housing		X	X
Front Mount		X	X
Fuel Filter Assembly and Lines		X	X
High Pressure Oil Rail with Hose		X	X
Injectors		X	X
Intake Manifold		X	X
Oil Cooler Assembly		X	X
Oil Filter (Non 4x4 Applications)		X	X
Oil Level Gauge Tube-Lower		X	X
Oil Pan and Pick-up Tube (Front)		X	X
Rear Cover		X	X
Rear Seal		X	X
Sensor, Manifold Air Temperature		X	X
Sensor, Cam		X	X
Sensor, Crank		X	X
Sensor, Engine Oil Pressure		X	X
Sensor, Engine Temperature		X	X
Sensor, Injection Control Pressure		X	X
Sensor, Manifold Air Pressure		X	X
Thermostat		X	X
Tubes & Hoses		X	X
Turbo Oil Supply/Drain Tube		X	X
Turbocharger Assembly		X	X
Valve Cover Gasket & UVC Harness		X	X
Vibration Damper		X	X
Water Inlet Elbow		X	X
Water Manifold		X	X
Water Outlet Tube with Thermostat		X	X
Water Pump Assembly with Pulley		X	X
EGR Cooler Low HP			X

RENEWED MAXXFORCE DT466, DT570 (2007-2009)

Trimmed Engine - DT

*For DT 300 HP Application, use 4307107R92 by replacing HPP to 1882259C96.

**Piston 643004B004

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Ladder
4307102R92	2007-2009	DT466	Trimmed Engine	3000000-3299999	210-230HP	With Ladder
4307103R92	2007-2009	DT466	Trimmed Engine	3000000-3299999	245-255HP	With Ladder
4307105R92	2007-2009	DT466	Trimmed Engine	3000000-3299999	210-230HP	Without Ladder
4307106R92	2007-2009	DT466	Trimmed Engine	3000000-3299999	245-255HP	Without Ladder
4307107R92*	2007-2009	DT466	Trimmed Engine	3000000-3299999	260-285HP	Without Ladder
4307111R92**	2008.5	DT466	Trimmed Engine	3000000-3299999	210-230HP	With Ladder

Trimmed Engine - 9 & 10

See G-12-10224-A to compare BOM

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Ladder	Piston Configuration
5010869R93	2007-2009	DT570	Trimmed Engine	3000000-3299999	With Ladder	643004B003

Long Block Engine - DT, 9 & 10

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Ladder
4307101R92	2007-2009	DT466	Long Block	3000000-3299999	210-255HP	With Ladder
4307104R92	2007-2009	DT466	Long Block	3000000-3299999	210-300HP	Without Ladder
4307110R92	2008.5	DT466	Long Block	3000000-3299999	210-230HP	With Ladder
4307112R92	2007-2009	DT570	Long Block	3000000-3299999	300-350HP	With Ladder

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	OEM Part Number
4307377R92	2007-2008	MAXXFORCE DT466, DT570	Cylinder Head	1891092C91
5011150R91	2009	MAXXFORCE DT466, DT570	Cylinder Head	7098211C92

International DT466, DT570, HT570 (2004-2006)

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 2004-2006 DT466, DT570, HT570 series International I-6 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.



Has the engine been confirmed to be a model year 2004-2006 DT466, DT570, HT570 Series International I-6 diesel engine?

Answer found with lineset feature code:

- See the Feature Code Matrix in this chapter

Or with engine engineering family #: 6420

Or with visual inspection:

- Engine serial number starting with 2000000-2999999 are model year 2004-2006 DT466, DT570, HT570 assemblies.
- Engine serial number prefix= 466 (DT466) 570 (DT570)
- Electro-Hydraulic Generation Two (G2) fuel system
- EVRT electronically controlled turbocharger
- Exhaust gas recirculation system (single cooler)
- Pad-mounted accessories vs. bracket mounted

Feature Code Matrix

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NPL	DT466	Standard Torque (ST)	210 HP @ 2600 RPM	520 lb-ft @ 1400 RPM	50 State
12NPM	DT466	Standard Torque (ST)	220 HP @ 2600 RPM	540 lb-ft @ 1400 RPM	50 State
12NPN	DT466	Standard Torque (ST)	225 HP @ 2600 RPM	560 lb-ft @ 1400 RPM	50 State
12NPP	DT466	Standard Torque (ST)	245 HP @ 2600 RPM	620 lb-ft @ 1400 RPM	50 State
12NPR	DT466	High Torque (HT)	225 HP @ 2400 RPM	620 lb-ft @ 1400 RPM	50 State
12NPS	DT466	High Torque (HT)	245 HP @ 2400 RPM	660 lb-ft @ 1400 RPM	50 State
12NPT	DT466	Standard Torque (ST)	255 HP @ 2600 RPM	660 lb-ft @ 1400 RPM	50 State
12NPU	DT466	High Torque (HT)	260 HP @ 2400 RPM	800 lb-ft @ 1400 RPM	50 State
12NPV	DT466	High Torque (HT)	285 HP @ 2400 RPM	800 lb-ft @ 1400 RPM	50 State
12NPX	DT466	High Torque (HT)	300 HP @ 2400 RPM	860 lb-ft @ 1400 RPM	50 State
12NPW	DT570	Standard Torque (ST)	285 HP @ 2200 RPM	800 lb-ft @ 1000 RPM	50 State
12NPZ	DT570	Standard Torque (ST)	310 HP @ 2200 RPM	950 lb-ft @ 1200 RPM	50 State
12NRA	DT570	Standard Torque (ST)	300 HP @ 2200 RPM	950 lb-ft @ 1000/1600 RPM	50 State
12NRB	DT570	Standard Torque (ST)	330 HP @ 2200 RPM	950 lb-ft @ 1200 RPM	50 State
12NRC	HT570	High Torque (HT)	295 HP @ 2100 RPM	950 lb-ft @ 1100 RPM	50 State
12NRD	HT570	High Torque (HT)	295 HP @ 2200 RPM	950 lb-ft @ 1100 RPM	50 State
12NRE	HT570	High Torque (HT)	310 HP @ 2100 RPM	1050 lb-ft @ 1200 RPM	50 State
12NRG	HT570	High Torque (HT)	310 HP @ 2200 RPM	1050 lb-ft @ 1200 RPM	50 State
12NRH	HT570	High Torque (HT)	330 HP @ 2100 RPM	1150 lb-ft @ 1100 RPM	50 State
12NRZ	HT570	High Torque (HT)	340 HP @ 2100 RPM	1150 lb-ft @ 1100 RPM	50 State

International DT466, DT570, HT570 (2004-2006)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations:

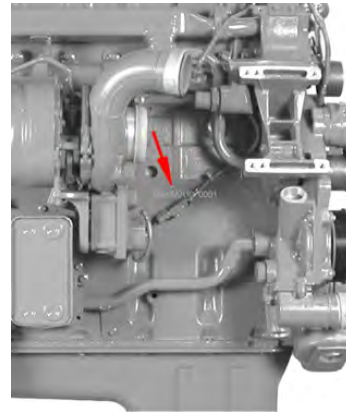
- Stamped on a crankcase pad on the right side of the crankcase below the cylinder head.
- On the engine emission label on the valve cover.
- On the vehicle lineset ticket.

Engine Serial Number Examples:

- DT466= 466HM2U2023934
- DT570, HT570= 570HM2U2023043

Engine Serial Number Codes:

- Engine identification code: 466= DT466, 570= DT570, HT570
- Type of code: H=Diesel, turbocharged, air cooled and electronically controlled
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States
- Engine serial number sequence: 2000000-2999999



Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate.

Model Year	Engine Serial Number Range	Description
2004	2000000	Introduced the model year 2004 DT466, DT570, HT570 (I-6)
2006	2999999	No other model year 2004 DT466, DT570, HT570 (I-6) built after this ESN model year 2007 MAXXFORCE DT, 9 & 10 engines began on ESN 3000000

Bill of Material

*Note: Engine Sensor Harness Not Supplied

**Note: This is a special build of the Trimmed DT570 engine, please compare Bill of Material to the OEM lineset ticket to identify proper components.

Component	Long Block*	Trimmed Engine DT466*	Trimmed Engine DT570** 2005 5010867R91	Trimmed Engine DT570** 2006 5010868R91
Cam Bearings	X	X	X	X
Camshaft	X	X	X	X
Connecting Rods	X	X	X	X
Crankcase (Cylinder Block)	X	X	X	X
Crankcase (Cylinder Block) Ladder (570 only)	X	X	X	X
Crankshaft	X	X	X	X
Cylinder Head Assembly	X	X	X	X
Front Cover-Front/Rear	X	X	X	X
Front Seal	X	X	X	X
Fuel Lift Pump	X	X	X	X
High Pressure Oil Pump	X	X	X	X
IPR Valve	X	X	X	X
Lifters/Tappets	X	X	X	X
Main/Rod Bearings	X	X	X	X
Oil Pump Assembly	X	X	X	X
Piston Cooling Tubes	X	X	X	X
Pistons/Rings	X	X	X	X
Push Rods	X	X	X	X
Rocker Arm and Shaft Assembly	X	X	X	X
Timing Components	X	X	X	X
Valve Cover	X	X	X	X
Valves	X	X	X	X
Oil Pump	X	X	X	X
Lifting Eyes	X	X	X	X
Exhaust Manifolds		X	X	X
Fuel Filter Assembly and Lines		X	X	X
High Pressure Oil Rail with Hose		X	X	X
Intake Manifold		X	X	X
Oil Cooler Assembly		X	X	X
Oil Filter		X	X	X
Oil Level Gauge Tube-Lower		X	X	X
Oil Pan and Pick-up Tube		X	X	X
Rear Cover		X	X	X
Rear Seal		X	X	X
Sensor, Cam		X	X	X

International DT466, DT570, HT570 (2004-2006)

Bill of Material (cont'd.)

Component	Long Block*	Trimmed Engine DT466*	Trimmed Engine DT570** 2005 5010867R91	Trimmed Engine DT570** 2006 5010868R91
Sensor, Crank		X	X	X
Sensor, Engine Oil Pressure		X	X	X
Sensor, Engine Temperature		X	X	X
Sensor, Injection Control Pressure		X	X	X
Sensor, Manifold Air Pressure		X	X	X
Sensor, Manifold Air Temperature		X	X	X
Turbo Oil Supply/Drain Tube		X	X	X
Turbocharger Assembly		X	X	X
Valve Cover Gasket & UVC Harness		X	X	X
Vibration Damper		X	X	X
Water Inlet Elbow		X	X	X
Water Manifold		X	X	X
Water Outlet Tube with Thermostat		X	X	X
Water Pump Assembly with Pulley		X	X	X
Flywheel Housing		X	X	X
Front Engine Mount		X	X	X
Fuel Injector		X	X	X
High Pressure Oil Rail without Brake		X	X	X
Fuel Filter without Heater		X	X	X
Exhaust Manifold High HP		X	X	X
Air Compressor Block Off		X	X	X
EGR Cooler Tubes			X	X
EGR Cooler 17"			X	X

Trimmed Engine - DT466

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

These Trimmed Engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If any of the below listed components do not match your build, swap them with the takeout engine and return with the core:

- Front sump oil pan
- SAE # 2 flywheel housing
- Thermostat housing with crossover
- High pressure rail without exhaust brake
- Standard oil filter header (Non - 4 x 4 severe service applications)
- Side port water inlet elbow
- Low mount turbocharger
- Exhaust manifold center section (low mount turbo)
- Rear exhaust manifold accommodates the 17"-21" EGR cooler

Notes:

- The EGR cooler, intake horn and EGR valve will also need to be transferred from the take out engine since they are not part of the RENEWED Trimmed Engine bill of material.
- Unattached equipment will require gaskets to be supplied by dealer.
- Optional 04-06 MY I6 RENEWED long block gasket and seal installation Kit: 2596621C91



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Injector Configuration
2596575C92	2006	DT466	Trimmed Engine	2000000-2999999	245(ST)-285(HT)	642011C008
2596574C92	2006	DT466	Trimmed Engine	2000000-2999999	210(ST)-225(HT)	642011C008
2596573C92	2005	DT466	Trimmed Engine	2000000-2999999	245(ST)-285(HT)	642011C005
2596572C92	2005	DT466	Trimmed Engine	2000000-2999999	210(ST)-225(HT)	642011C005
2596571C92	2004	DT466	Trimmed Engine	2000000-2999999	245(ST)-285(HT)	642011C003 642011C005
2596569C92	2004	DT466	Trimmed Engine	2000000-2999999	210(ST)-225(HT)	642011C001

International DT466, DT570, HT570 (2004-2006)

Trimmed Engine - DT570

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

These Trimmed Engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If any of the below listed components do not match your build, swap them with the takeout engine and return with the core:

- Front sump oil pan
- SAE # 2 flywheel housing
- Thermostat housing with crossover
- High pressure rail without exhaust brake
- Standard oil filter header (Non - 4 x 4 severe service applications)
- Side port water inlet elbow
- Low mount turbocharger
- Exhaust manifold center section (Low mount turbo)
- Rear exhaust manifold accommodates the 17"-21" EGR cooler

Notes:

- Unattached equipment will require gaskets to be supplied by dealer.
- Optional 04-06 MY I6 RENEWED long block gasket and seal installation kit: 2596621C91
- Refer to G-12-10224-A to compare BOM

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Injector Configuration
5010868R91	2006	DT570	Trimmed Engine	2000000-2999999	642011C006
5010867R91	2005	DT570	Trimmed Engine	2000000-2999999	642011C002

Long Block - DT466, DT570, HT570

These long block engines are offered with a bill of material chosen to reduce part number complexity and increase availability. See the bill of material chart in this chapter for content list.

Optional 04-06 MY I6 RENEWED long block gasket and seal installation kit: 2596621C91

* For Emergency Vehicles model years 2004-2006 with 300 HP DT466 applications, you must use high pressure pump (part number: 1885000C96, config: 642011E002). The high pressure pump must be exchanged from the takeout engine or replaced with a new part on the provided RENEWED long block.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Piston Configuration
2595806C92	2005-2006	DT466	Long Block	2000000-2999999	210(ST)-285(HT) *	642004B005 642004B006
2595805C92	2004	DT466	Long Block	2000000-2999999	210(ST)-285(HT) *	642004B001 642004B004
2595807C92	2004-2006	DT570/HT570	Long Block	2000000-2999999	285(ST)-340(HT)	642004B003

RENEWED Cylinder Head - DT466, DT570, HT570



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM New Part Number	OEM Cast Part Number
5010606R92	2005-2006	DT466, DT570, HT570	Cylinder Head	2000000-2999999	1835862C97	1839769C6
5010605R92	2004	DT466, DT570, HT570	Cylinder Head	2000000-2999999	1842348C95	1842242C3

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 2000-2003 DT466, DT530, HT530 series International I-6 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.

1) Has the engine been confirmed to be a model year 2000-2003 DT466, DT530, HT530 series International I-6 diesel engine?

Answer found with lineset feature code:

- See the feature code matrix in this chapter

Or with engine engineering family: 6410 (model year 1993-2003 inline six engines use the same engineering family. Will require other validation)

Or with visual inspection:

- Engine serial number starting with 1194039-1999999 are model year 2000-2003 DT466, DT530, HT530 assemblies.
- Engine serial number prefix= 470 (DT466), 531 (DT530/HT530)
- HEUI electro-hydraulic direct injection fuel system
- Diamond Logic control system (ECM 7092638C1- 7092638C1)
- HEUI cylinder head redesign (1827113C2)

2) What is the engine model and torque rating: DT466 (ST), DT466 (HT), DT530 (ST) or HT530 (HT)?

Answer found with lineset feature code:

- See the feature code matrix in this chapter

3) Is the oil pan configuration front sump or rear sump?

*Answer found using Parts Catalog Online engine serial number search
Or with visual inspection*

4) Is the valve cover configuration top inlet or side inlet?

*Answer found using Parts Catalog Online engine serial number search
Or with visual inspection*

Note: Due to the use of AVNT turbo, Trimmed Engine is not available. Engine must be serviced with long block engine 2596695C92.



International DT466, DT530, HT530 (2000-2003)

Feature Code Matrix

***Due to the use of AVNT turbo, Trimmed Engine is not available. Engine must be serviced with long block engine 2596695C92.**

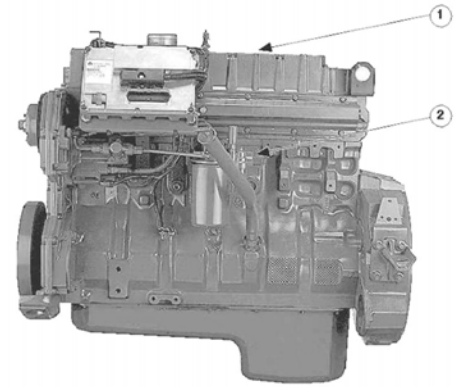
Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NMA	DT466	Standard Torque (ST)	175 HP @ 2300 RPM	460 lb-ft @ 1400 RPM	50 State
12NMB	DT466	Standard Torque (ST)	195 HP @ 2300 RPM	520 lb-ft @ 1400 RPM	50 State
12NMC	DT466	Standard Torque (ST)	215 HP @ 2300 RPM	560 lb-ft @ 1400 RPM	50 State
12NMD	DT466	Standard Torque (ST)	230 HP @ 2300 RPM	620 lb-ft @ 1400 RPM	50 State
12NME	DT466	High Torque (HT)	195 HP @ 2300 RPM	560 lb-ft @ 1400 RPM	50 State
12NMG	DT466	High Torque (HT)	215 HP @ 2300 RPM	620 lb-ft @ 1400 RPM	50 State
12NMH	DT466	High Torque (HT)	230 HP @ 2300 RPM	660 lb-ft @ 1400 RPM	50 State
12NMJ	DT466	High Torque (HT)	250 HP @ 2300 RPM	660 lb-ft @ 1400 RPM	50 State
12NMK	DT466	High Torque (HT)	250 HP @ 2300 RPM	800 lb-ft @ 1400 RPM	50 State
12NNG	DT466	Standard Torque (ST)	215 HP @ 2300 RPM	540 lb-ft @ 1400 RPM	50 State
12NMN	DT530	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1200 RPM	50 State
12NMT	DT530	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1200 RPM	50 State
12NMU	DT530	Standard Torque (ST)	300 HP @ 2000 RPM	860 lb-ft @ 1200 RPM	50 State
12NMW	DT530	Standard Torque (ST)	330 HP @ 2000 RPM	950 lb-ft @ 1200 RPM	50 State
12NMX	DT530	Standard Torque (ST)	275 HP @ 2000 RPM	800 lb-ft @ 1200 RPM	50 State
12NNL	DT530	Standard Torque (ST)	300 HP @ 2000/2200 RPM	1050 lb-ft @ 1200 RPM	50 State
12NNT	DT530	Standard Torque (ST)	275 HP @ 2000/2200 RPM	800 lb-ft @ 1200 RPM	50 State
12NMM	HT530	High Torque (HT)	275 HP @ 2000/2200 RPM	860 lb-ft @ 1200 RPM	50 State
12NMP	HT530	High Torque (HT)	280 HP @ 2000/2200 RPM	950 lb-ft @ 1200 RPM	50 State
12NMR	HT530	High Torque (HT)	300 HP @ 2000/2100 RPM	1050 lb-ft @ 1200 RPM	50 State
12NMS	HT530	High Torque (HT)	300 HP @ 2000/2200 RPM	950 lb-ft @ 1200 RPM	50 State
12NMV	HT530	High Torque (HT)	330 HP @ 2000/2100 RPM	1150 lb-ft @ 1300 RPM	50 State
12NMZ *	HT530	High Torque (HT)	340 HP @ 2000 RPM	1200 lb-ft @ 1300 RPM	50 State
12NNP *	HT530	High Torque (HT)	320 HP @ 2000/2100 RPM	1150 lb-ft @ 1300 RPM	50 State
12NNR *	HT530	High Torque (HT)	300 HP @ 2100 RPM	1050 lb-ft @ 1200 RPM	50 State
12NNS *	HT530	High Torque (HT)	280 HP @ 2200 RPM	950 lb-ft @ 1100 RPM	50 State

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

- Stamped on the left side of engine (2).
- Printed on the valve cover label (1)
- On the vehicle lineset ticket.



Engine Serial Number Examples:

- DT466= 470HM2U1194039
- HT530= 531HM2U1384439

Engine Serial Number Codes:

- Engine identification code: 470= DT466, 531= DT530, HT530
- Type of code: H=Diesel, turbocharged, air cooled and electronically controlled
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States
- Engine serial number sequence: 1194039-1999999

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate. In these cases, it is important to check the on-board technology listed in the update chart to identify the correct engine model.

Model Year	Engine Serial Number Range	Description
2000	1194039	Introduced model year 2000 DT466, DT530, HT530 (I-6) Engines
2000	1246544	Injector improvements implemented: Center O-ring chamfer to eliminate nicked or rolled O-ring during assembly, New center O-ring material more robust (color changed to pink for identification), and Internal O-ring change to reduce occurrence of excessive oil consumption.
2000	1266521	530E Water pump improved with stainless steel seal cartridge and enlarged hub to prevent impeller blade and front cover contact
2000	1267740	DT466E Water pump improved with stainless steel seal cartridge and enlarged hub to prevent impeller blade and front cover contact
2000	1273199	Implemented coated spool IPR valve (can be identified by groove on body)
2000	1273511	Fan drive changes start January 2001: Water relief groove prevents corrosion to housing bore and bearing, retention washer increased in diameter to insure inner race of bearing thrusts against outer race in event of failure, 6 spoke hub for better accessibility during service, and retention lip ensures outer race will thrust against housing in the event of failure
2000	1279169	Turbocharger improvement for 250BHP and above applications. Increase post count from three to four on ported shroud turbochargers
2000		High pressure oil external pump leak improvements implemented: Caused by O-Ring extrusion due to incorrect chamfer on pump castings, corrected with HP pump serial # 0281800B
2002	1390216	Change rear seal carrier gasket material from paper to vmac. Add machined groove in carrier for "push-in place" seal. Reduce pan rail surface on carrier tolerance to .002" from .01"
2003	1999999	No other model year 2000 DT466, DT530, HT530 I-6 engines are built after this ESN model year 2004-2006 DT466, DT570, HT570 engines began on ESN 2000000

International DT466, DT530, HT530 (2000-2003)

Bill of Material

Component	Long Block RENEWED	Trimmed Engine RENEWED
Cam Bearings	X	X
Camshaft	X	X
Connecting Rods	X	X
Crankcase (Cylinder Block)	X	X
Crankshaft	X	X
Cylinder Head Assembly	X	X
Front Cover-Front/Rear	X	X
Front Seal	X	X
High Pressure Oil Pump	X	X
Lifters/Tappets	X	X
Main/Rod Bearings	X	X
Oil Pump Assembly	X	X
Piston Cooling Tubes	X	X
Pistons/Rings	X	X
Push Rods	X	X
Rear Seal	X	X
Rocker Shaft and Arm Assembly	X	X
Timing Components	X	X
Valve Cover-Side Inlet Only	X	X
Valves	X	X
Crankcase Breather Assembly		X
Exhaust Manifolds		X
Flywheel Housing		X
Fuel Filter Assembly		X
Fuel Lift Pump		X
Fuel Lines		X
High Pressure Oil Rail		X
Injectors		X
Intake Manifold		X
IPR Valve		X
Oil Cooler Assembly		X
Oil Filter		X
Oil Level Gauge Tube-Lower		X
Oil Pan and Pick-up Tube		X
Sensor, Cam		X
Sensor, Crank		X
Sensor, Engine Oil Pressure		X
Sensor, Engine Temperature		X
Sensor, Injection Control Pressure		X

Bill of Material (cont'd.)

Component	Long Block RENEWED	Trimmed Engine RENEWED
Turbo Oil Supply/Drain Tube		X
Turbocharger Assembly		X
UVC Harness		X
Valve Cover Gasket		X
Vibration Damper		X
Water Inlet Elbow		X
Water Outlet Tube & Thermostat		X
Water Pump Assembly		X

Trimmed Engine - DT466

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

RENEWED Trimmed Engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If any of the below listed components do not match your build, swap them with the takeout engine and return with the core:

- Side inlet valve cover
- Standard thermostat housing without bypass
- Cab styles:
QSP= Prior to 2002
NGV= 2002 & 2003 (New Generation Vehicle)



RENEWED Part Number	Model Year	Engine Type & Cab Style	Description	Engine Serial Number Range	HP Ratings	Oil Pan Sump & Valve Cover Configuration
2596699C92	2000-2003	DT466 NGV	Trimmed Engine	1194039-1999999	195(ST or HT)	Front & Side Inlet
2596700C92	2000-2003	DT466 NGV	Trimmed Engine	1194039-1999999	215(ST or HT)	Front & Side Inlet
2596702C92	2000-2003	DT466 NGV	Trimmed Engine	1194039-1999999	230(HT)- 250(HT)	Front & Side Inlet
2603448C92	2000-2003	DT466 NGV	Trimmed Engine	1194039-1999999	230(ST)	Front & Side Inlet
2596696C92	2000-2003	DT466 QSP	Trimmed Engine	1194039-1999999	175(ST)	Rear & Top Inlet
2596697C92	2000-2003	DT466 QSP	Trimmed Engine	1194039-1999999	195(ST or HT)	Rear & Top Inlet
2596698C92	2000-2003	DT466 QSP	Trimmed Engine	1194039-1999999	215(ST or HT)	Rear & Top Inlet
2596701C92	2000-2003	DT466 QSP	Trimmed Engine	1194039-1999999	230(HT) 250(HT)	Rear & Top Inlet
2603447C92	2000-2003	DT466 QSP	Trimmed Engine	1194039-1999999	230(ST)	Rear & Top Inlet

International DT466, DT530, HT530 (2000-2003)

Trimmed Engine - DT530, HT530

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

RENEWED Trimmed Engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If any of the below listed components do not match your build, swap them with the takeout engine and return with the core:

- Side inlet valve cover
- Standard thermostat housing without bypass

QSP: Prior to 2002

NGV: 2002-2003



***Due to the use of AVNT turbo, Trimmed Engine is not available.
Engine must be serviced with long block engine 2596695C92.**

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings	Oil Pan Sump & Valve Cover Configuration
2596704C92	2000-2003	DT530, HT530 NGV	Trimmed Engine	1194039-1999999	275(ST or HT)	Front & Side Inlet
2596704C92	2000-2003	HT530 NGV	Trimmed Engine	1194039-1999999	280(HT)	Front & Side Inlet
*	2000-2003	HT530	Trimmed Engine	1194039-1999999	280(HT)-340(HT) AVNT Turbo	Front & Side Inlet
2596706C92	2000-2003	HT530 NGV	Trimmed Engine	1194039-1999999	300(HT)	Front & Side Inlet
2603450C92	2000-2003	DT530 NGV	Trimmed Engine	1194039-1999999	300(ST)	Front & Side Inlet
2596706C92	2000-2003	DT530 NGV	Trimmed Engine	1194039-1999999	330(HT)	Front & Side Inlet
*	2000-2003	HT530 QSP	Trimmed Engine	1194039-1999999	280(HT)-340(HT) AVNT Turbo	Rear & Side Inlet
2596703C92	2000-2003	DT530, HT530 QSP	Trimmed Engine	1194039-1999999	275(ST or HT)	Rear & Top Inlet
2596703C92	2000-2003	HT530 QSP	Trimmed Engine	1194039-1999999	280(HT)	Rear & Top Inlet
2596705C92	2000-2003	HT530 QSP	Trimmed Engine	1194039-1999999	300(HT)	Rear & Top Inlet
2603449C92	2000-2003	DT530 QSP	Trimmed Engine	1194039-1999999	300(ST)	Rear & Top Inlet
2596705C92	2000-2003	HT530 QSP	Trimmed Engine	1194039-1999999	330(HT)	Rear & Top Inlet
2596705C92	2000-2003	DT530 QSP	Trimmed Engine	1194039-1999999	330(ST)	Rear & Top Inlet

International DT466, DT530, HT530 (2000-2003)

Long Block - DT466

RENEWED long block engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If the valve cover inlet does not match your build, swap it with the takeout engine and return with the core. See the bill of material chart for the full content list.

Note: Long blocks not serviced with oil pan and only serviced with side inlet valve cover, exchange if necessary.

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings
2596692C92	2000-2003	DT466	Long Block	1194039-1999999	175(ST)-215(HT)
2596693C92	2000-2003	DT466	Long Block	1194039-1999999	230(ST)-250(HT)

Long Block - DT530, HT530

RENEWED long block engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If the valve cover inlet does not match your build, swap it with the takeout engine and return with the core. See the bill of material chart for the full content list.

Note: Long blocks not serviced with oil pan and only serviced with side inlet valve cover, exchange if necessary.

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings
2596694C92	2000-2003	DT530 HT530	Long Block	1194039-1999999	275(ST)-280(HT)
2596695C92	2000-2003	DT530 HT530	Long Block	1194039-1999999	300(HT)-340(HT)
2603446C92	2000-2003	DT530	Long Block	1194039-1999999	300(ST)

RENEWED Cylinder Head - DT466, DT530, HT530



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM New Part Number	OEM Cast Part Number
2599992C92	2000-2003	DT466, DT530, HT530	Cylinder Head	1194039-1999999	1830346C96	1827113C2

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 1995-1999 DT466E, I530E series International I-6 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.

1) Has the engine been confirmed to be a model year 1995-1999 DT466E, I530E Series International I-6 diesel engine?

Answer found with lineset feature code:

See the Feature Code Matrix in this chapter

Or with engine engineering family: 6410 (model year 1993-2003 inline six engines use the same engineering family. Will require other validation)

Or with visual inspection:

- Engine serial number starting with 0933834-1194038 are model year 1995-1999 DT466E, I530E assemblies.
- Engine serial number prefix= 469 (DT466E), 530 (I530E)
- HEUI Electro-hydraulic direct injection fuel system
- 3 Box and 1 Box (CEC) electronic control system
- Early production cylinder head (1823914C1-C5)

2) What is the engine model and torque rating: DT466E (ST), DT466E (HT), I530E (ST) or I530E (HT)?

Answer found with lineset feature code:

- See the Feature Code Matrix in this chapter

3) Is the electronic control system 1-Box or 3-Box?

Answer found with lineset feature code:

- 1 Box: with code 12WCD
- 3 Box: without code 12WCD. Follow your injector code.

Or with visual inspection



International DT466E, I530E (1995-1999)

Feature Code Matrix

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NHA	DT466E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	50 State
12NHB	DT466E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	50 State
12NHC	DT466E	Standard Torque (ST)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	50 State
12NHD	DT466E	Standard Torque (ST)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	50 State
12NHE	DT466E	High Torque (HT)	195 HP @ 2300 RPM	520 lb-ft @ 1450 RPM	50 State
12NHG	DT466E	High Torque (HT)	210 HP @ 2300 RPM	605 lb-ft @ 1450 RPM	50 State
12NHH	DT466E	High Torque (HT)	230 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	50 State
12NHJ	DT466E	High Torque (HT)	250 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	50 State
12NJJ	DT466E	High Torque (HT)	195 HP @ 2300 RPM	520 lb-ft @ 1450 RPM	50 State
12NJK	DT466E	High Torque (HT)	210 HP @ 2300 RPM	605 lb-ft @ 1450 RPM	50 State
12N JL	DT466E	High Torque (HT)	230 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	50 State
12NJM	DT466E	High Torque (HT)	250 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	50 State
12NKA	DT466E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	Federal
12NKB	DT466E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	Federal
12NKC	DT466E	Standard Torque (ST)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	Federal
12NKD	DT466E	Standard Torque (ST)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	Federal
12NKE	DT466E	High Torque (HT)	195 HP @ 2300 RPM	520 lb-ft @ 1450 RPM	Federal
12NKG	DT466E	High Torque (HT)	210 HP @ 2300 RPM	605 lb-ft @ 1450 RPM	Federal
12NKH	DT466E	High Torque (HT)	230 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	Federal
12NKJ	DT466E	High Torque (HT)	250 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	Federal
12NLA	DT466E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	California
12NLB	DT466E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	California
12NLC	DT466E	Standard Torque (ST)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	California
12NLD	DT466E	Standard Torque (ST)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	California
12NLE	DT466E	High Torque (HT)	195 HP @ 2300 RPM	520 lb-ft @ 1450 RPM	California
12NLG	DT466E	High Torque (HT)	210 HP @ 2300 RPM	605 lb-ft @ 1450 RPM	California
12NLH	DT466E	High Torque (HT)	230 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	California
12NLJ	DT466E	High Torque (HT)	250 HP @ 2300 RPM	660 lb-ft @ 1450 RPM	California
12NGT	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State
12NGZ	I530E	High Torque (HT)	300 HP @ 2000 RPM	1050 lb-ft @ 1300 RPM	Federal
12N HK	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	50 State
12NHL	I530E	Standard Torque (ST)	250 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	50 State
12NHM	I530E	High Torque (HT)	275 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State
12NHN	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	50 State
12NHP	I530E	High Torque (HT)	300 HP @ 2000 RPM	1050 lb-ft @ 1300 RPM	50 State
12NHR	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State
12NJD	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	50 State
12NJG	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	50 State
12NJH	I530E	Standard Torque (ST)	320 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State
12NKL	I530E	Standard Torque (ST)	250 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	Federal
12NKM	I530E	High Torque (HT)	275 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	Federal
12NKN	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	Federal
12NKP	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	Federal
12NKR	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	Federal

Feature Code Matrix (cont'd.)

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NKS	I530E	High Torque (HT)	300 HP @ 2000 RPM	1050 lb-ft @ 1300 RPM	Federal
12NKT	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	Federal
12NKU	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	Federal
12NKV	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	Federal
12NKX	I530E	Standard Torque (ST)	320 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	Federal
12NLL	I530E	Standard Torque (ST)	250 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	California
12NLM	I530E	High Torque (HT)	275 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	California
12NLN	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	California
12NLP	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	California
12NLR	I530E	Standard Torque (ST)	275 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	California
12NLS	I530E	High Torque (HT)	300 HP @ 2000 RPM	1050 lb-ft @ 1300 RPM	California
12NLT	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	California
12NLU	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	California
12NLV	I530E	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	California
12NLX	I530E	Standard Torque (ST)	320 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	California
12NLZ	I530E	High Torque (HT)	300 HP @ 2000 RPM	1050 lb-ft @ 1300 RPM	California

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

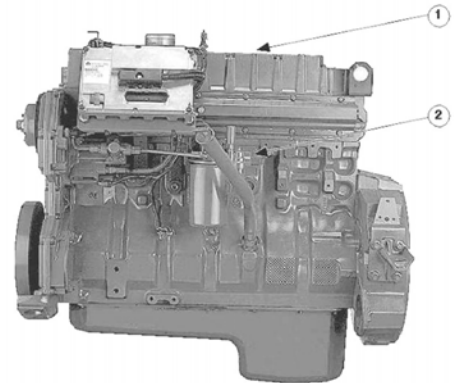
- Stamped on the left side of engine (2).
- Printed on the valve cover label (1)
- On the vehicle lineset ticket.

Engine Serial Number Examples:

- DT466E= 469HM2U0933834
- I530E= 530HM2U1124929

Engine Serial Number Codes:

- Engine identification code: 469= DT466E, 530= I530E
- Type of code: H=Diesel, turbocharged, air cooled and electronically controlled
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States
- Engine serial number sequence: 0933834-1194038



International DT466E, I530E (1995-1999)

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate. In these cases, it is important to check the on-board technology listed in the update chart to identify the correct engine model.

Model Year	Beginning Serial Number	Description
1995	0933834	Introduced DT466E, I530E 3-Box electronic control system engine in International 05/01/95
1998	1075288	Introduced DT466E, I530E 1-Box electronic control system engine
1999	1194038	Last model year 1995-1999 DT466E, I530E engine produced model year 2000-2003 DT466E, I530E engine began on ESN 1194039

Bill of Material

Component	Long Block RENEWED	Trimmed Engine RENEWED
Cam Bearings	X	X
Camshaft	X	X
Connecting Rods	X	X
Crankcase (Cylinder Block)	X	X
Crankshaft	X	X
Cylinder Head Assembly	X	X
Front Cover-Front/Rear	X	X
Front Seal	X	X
High Pressure Oil Pump	X	X
Lifters/Tappets	X	X
Main/Rod Bearings	X	X
Oil Pump Assembly	X	X
Piston Cooling Tubes	X	X
Pistons/Rings	X	X
Push Rods	X	X
Rear Seal	X	X
Rocker Shaft and Arm Assembly	X	X
Timing Components	X	X
Valve Cover	X	X
Valves	X	X
Crankcase Breather Assembly		X
Exhaust Manifolds		X
Fuel Filter Assembly		X
Fuel Lift Pump		X
Fuel Lines		X
High Pressure Oil Rail		X
Injectors		X
Intake Manifold		X
IPR Valve		X
Oil Cooler Assembly		X

Bill of Material (cont'd.)

Component	Long Block RENEWED	Trimmed Engine RENEWED
Oil Filter		X
Oil Level Gauge Tube-Lower		X
Oil Pan and Pick-up Tube		X
Flywheel Housing		X
Sensor, Cam		X
Sensor, Crank		X
Sensor, Engine Oil Pressure		X
Sensor, Engine Temperature		X
Sensor, Injection Control Pressure		X
Turbo Oil Supply/Drain Tube		X
Turbocharger Assembly		X
UVC Harness		X
Valve Cover Gasket		X
Vibration Damper		X
Water Inlet Elbow		X
Water Outlet Tube & Thermostat		X
Water Pump Assembly		X

Trimmed Engine - DT466E

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

RENEWED Trimmed Engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If any of the below listed components do not match your build, swap them with the takeout engine and return with the core:

- Rear sump oil pan
- Racor type fuel filtration system
- SAE #2 flywheel housing

* If the Trimmed Engine offering is unavailable you must order a long block.

** Must verify injector codes, possible field upgrade may apply. Follow your injector code.

*** Must verify engine control system box.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings	Engine Control System	Injector Code
2596943C92	1999	DT466E	Trimmed Engine	1134351-1194038	175(ST)-195(HT)	1-Box	BI
2596945C92	1999	DT466E	Trimmed Engine	1134351-1194038	210(ST or HT)	1-Box	BI
2596948C92	1999	DT466E	Trimmed Engine	1134351-1194038	230(ST)-250(HT)	1-Box	BI
2596942C92	1998 **	DT466E	Trimmed Engine	1085713-1134350	175(ST)-195(HT)	1-Box	BE
2596944C92	1998 **	DT466E	Trimmed Engine	1085713-1134350	210(ST or HT)	1-Box	BE
2596947C92	1998 **	DT466E	Trimmed Engine	1085713-1134350	230(HT)-250(HT)	1-Box	BJ

International DT466E, I530E (1995-1999)

Trimmed Engine - DT466E (cont'd.)

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings	Engine Control System	Injector Code
2596950C92	1998 **	DT466E	Trimmed Engine	1085713-1134350	230(ST)	1-Box	BE
2596941C92	1996-1997	DT466E	Trimmed Engine	1028711-1085712	175(ST)-195(HT)	3-Box	BB
*	1996-1997	DT466E	Trimmed Engine	1028711-1085712	210(ST or HT)	3-Box	BE
2596946C92	1996-1997	DT466E	Trimmed Engine	1028711-1085712	230(HT)-250(HT)	1-Box ***	BA
2596946C92	1996-1997	DT466E	Trimmed Engine	1028711-1085712	230(HT)-250(HT)	3-Box	BA
2596949C92	1996-1997	DT466E	Trimmed Engine	1028711-1085712	230(ST)	3-Box	BE
*	1995	DT466E	Trimmed Engine	0933834-1028710	195(HT)	3-Box	BC
*	1995	DT466E	Trimmed Engine	0933834-1028710	210(ST or HT)	3-Box	BC

Trimmed Engine - I530E

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

RENEWED Trimmed Engines are offered with a bill of material chosen to reduce part number complexity and increase availability.

All engines are built to a common configuration. If any of the below listed components do not match your build, swap them with the takeout engine and return with the core:

- Rear sump oil pan
- Racor type fuel filtration system
- SAE #2 flywheel housing

* If the Trimmed Engine offering is unavailable you must order a long block.

** Must verify injector codes, possible field upgrades may apply



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings	Engine Control System	Injector Code
*	1999	I530E	Trimmed Engine	1134351-1194038	300(HT)	1-Box	BJ
2601567C92	1999	I530E	Trimmed Engine	1134351-1194038	250(ST)-275(ST)	1-Box	BJ
2596951C92	1998 **	I530E	Trimmed Engine	1085713-1134350	250(ST)-275(ST)	1-Box	BF
*	1998 **	I530E	Trimmed Engine	1085713-1134350	300(HT)	1-Box	BF
*	1998 **	I530E	Trimmed Engine	1085713-1134350	300(ST)	1-Box	BF
2596952C92	1996-1997	I530E	Trimmed Engine	0933834-1085712	300(ST or HT)	3-Box	BD

Long Block - DT466E

RENEWED long block engines are offered with a bill of material chosen to reduce part number complexity and increase availability. See the bill of material chart in this chapter for content list.

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings	Engine Control System
2596936C92	1999	DT466E	Long Block	1134351-1194038	175(ST)-210(HT)	1-Box
2596938C92	1999	DT466E	Long Block	1134351-1194038	230(ST)-250(HT)	1-Box
2596935C92	1998	DT466E	Long Block	1085713-1134350	175(ST)-230(ST)	1-Box
2596937C92	1998	DT466E	Long Block	1085713-1134350	230(HT)-250(HT)	1-Box
2596937C92	1995-1997	DT466E	Long Block	0933834-1085712	175(ST)-250(HT)	3-Box

Long Block - I530E

RENEWED long block engines are offered with a bill of material chosen to reduce part number complexity and increase availability. See the bill of material chart in this chapter for content list.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Ratings	Engine Control System
2596939C92	1998-1999	I530E	Long Block	1085713-1194038	250(ST)-275(HT)	1-Box
2596940C92	1998-1999	I530E	Long Block	1085713-1194038	300(ST or HT)	1-Box
2596939C92	1996-1997	I530E	Long Block	0933834-1085712	275(ST)	3-Box
2596940C92	1996-1997	I530E	Long Block	0933834-1085712	300(ST or HT)	3-Box

International DT466E, I530E (1995-1999)

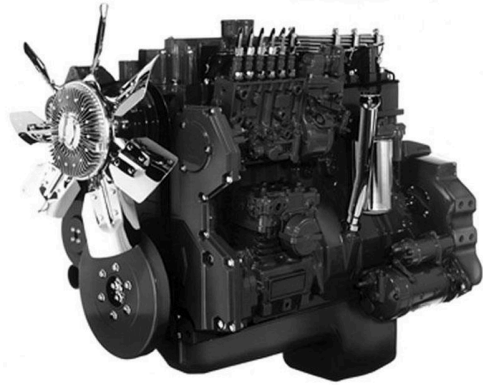
RENEWED Cylinder Head - DT466E, I530E



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Engine Control System	OEM Cast Part Number
2599990C92	1995-1999	DT466, I530E	Head, Cylinder	0933834-1194038	1-Box/ 3-Box	1823914C1 1823914C2 1823914C3 1823914C4 1823914C5

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 1994-1997 DT408, DT466P, I530P PLN (Pump-Line-Nozzle) series International I-6 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.



1) Has the engine been confirmed to be a model year 1994-1997 DT408, DT466P, I530P PLN (Pump-Line-Nozzle) series International I-6 diesel engine?

Answer found with lineset feature code:

-See the Feature Code Matrix in this chapter

Or with engine engineering family: 6410 (model year 1993-2003 inline six engines use the same engineering family. Will require other validation)

Or with visual inspection:

- Engine serial number starting with 0850654-0933833 are model year 1994-1997 DT408, DT466P, I530P assemblies.
- Engine serial number prefix= 408 (DT408), 469 (DT466P), 530 (I530P)
- Pump-line-nozzle (PLN) type direct injection system
- Turbocharged and air-to-air cooled
- Cast aluminum valve cover
- Serpentine belt, auto-tensioner, gear driven accessories

2) What is the engine model and torque rating: DT408, DT466P or I530P and standard torque (ST) or high torque (HT)?

Answer found with lineset feature code:

- See the Feature Code Matrix in this chapter

Feature Code Matrix

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NEA	DT408	Standard Torque (ST)	175 HP @ 2600 RPM	430 lb-ft @ 1800 RPM	50 State
12NEB	DT408	Standard Torque (ST)	190 HP @ 2600 RPM	485 lb-ft @ 1800 RPM	50 State
12NEC	DT408	Standard Torque (ST)	210 HP @ 2600 RPM	520 lb-ft @ 1800 RPM	50 State
12NED	DT408	Standard Torque (ST)	230 HP @ 2600 RPM	605 lb-ft @ 1800 RPM	50 State
12NEE	DT466P	High Torque (HT)	195 HP @ 2400 RPM	520 lb-ft @ 1600 RPM	50 State
12NEG	DT466P	High Torque (HT)	210 HP @ 2400 RPM	605 lb-ft @ 1600 RPM	50 State
12NEH	DT466P	High Torque (HT)	230 HP @ 2400 RPM	660 lb-ft @ 1600 RPM	50 State
12NEJ	DT466P	Standard Torque (ST)	250 HP @ 2400 RPM	660 lb-ft @ 1600 RPM	50 State
12NEK	DT466P	Standard Torque (ST)	275 HP @ 2400 RPM	800 lb-ft @ 1600 RPM	50 State
12NGA	DT466P	Standard Torque (ST)	175 HP @ 2400 RPM	430 lb-ft @ 1700 RPM	50 State
12NGB	DT466P	Standard Torque (ST)	190 HP @ 2400 RPM	485 lb-ft @ 1700 RPM	50 State
12NGC	DT466P	Standard Torque (ST)	210 HP @ 2400 RPM	605 lb-ft @ 1700 RPM	50 State
12NGD	DT466P	Standard Torque (ST)	230 HP @ 2400 RPM	660 lb-ft @ 1700 RPM	50 State
12NGE	DT466P	High Torque (HT)	195 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	50 State
12NGG	DT466P	High Torque (HT)	210 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	50 State

International DT408, DT466P, I530P (1994-1997)

Feature Code Matrix (cont'd.)

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NGH	DT466P	High Torque (HT)	230 HP @ 2300 RPM	660 lb-ft @ 1500 RPM	50 State
12NGJ	DT466P	High Torque (HT)	250 HP @ 2300 RPM	660 lb-ft @ 1500 RPM	50 State
12NEL	I530P	Standard Torque (ST)	250 HP @ 2200 RPM	800 lb-ft @ 1300 RPM	50 State
12NEM	I530P	High Torque (HT)	275 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State
12NEN	I530P	Standard Torque (ST)	275 HP @ 2200 RPM	860 lb-ft @ 1300 RPM	50 State
12NEP	I530P	High Torque (HT)	300 HP @ 2000 RPM	1050 lb-ft @ 1300 RPM	50 State
12NER	I530P	Standard Torque (ST)	300 HP @ 2200 RPM	950 lb-ft @ 1300 RPM	50 State
12NGL	I530P	Standard Torque (ST)	250 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	50 State
12NGM	I530P	High Torque (HT)	275 HP @ 2000 RPM	860 lb-ft @ 1300 RPM	50 State
12NGN	I530P	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State
12NGP	I530P	Standard Torque (ST)	275 HP @ 2000 RPM	800 lb-ft @ 1300 RPM	50 State
12NGS	I530P	Standard Torque (ST)	300 HP @ 2000 RPM	950 lb-ft @ 1300 RPM	50 State

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

- Stamped on the left side of engine.
- On the vehicle lineset ticket.

Engine Serial Number Examples:

- DT408= 408GM2U#####
- DT466P= 469GM2U0933833
- I530P= 530GM2U#####

Engine Serial Number Codes:

- Engine identification code: 408 = DT408, 469=DT466P, 530=I530P
- Type of code: G=Diesel, turbocharged, air cooled and mechanical fuel injection system
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States
- Engine serial number sequence: 0850654-0933833

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate. In these cases, it is important to check the on-board technology listed in the update chart to identify the correct engine model.

Model Year	Beginning Serial Number	Description
1993	0850654	First introduced in 09/27/93
1994	0864414	New cylinder head, pistons, and injectors beginning 01/01/94
1994.5	0888341	Introduce high torque, new ratings and fuel injection pumps beginning 06/01/94
1995	0908390	New ratings for the I530P
1995	0915840	Two piece piston for the I530P
1995	0925681	New .375 valve stems
1996	1028712	1996 injectors began
1998	N/A	New complete Trimmed Engines not produced after 01/01/98

Bill of Material

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Cam Bearings	X	X	X
Camshaft	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Front Cover	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X
Oil Pump Assembly	X	X	X
Piston Cooling Tubes	X	X	X
Pistons/Rings	X	X	X
Timing Components	X	X	X
Cylinder Head Assembly		X	X
Front Seal		X	X
Oil Cooler Assembly		X	X
Oil Filter/Oil Filter Header		X	X
Oil Pan and Pick-up Tube		X	X
Crankcase Breather Assembly		X	X
Push Rods		X	X
Rear Seal/Rear Seal Carrier		X	X
Rocker Shaft and Bracket Assembly		X	X
Valve Covers/Intake Manifold		X	X
Valves		X	X
Vibration Damper		X	X
Water Filter Header		X	X
Water Pump Assembly		X	X

International DT408, DT466P, I530P (1994-1997)

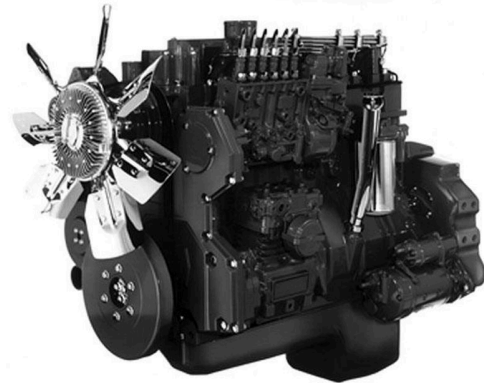
Bill of Material (cont'd.)

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Water Pump Pulley		X	X
Fuel Filter Assembly			X
Fuel Lift Pump			X
Thermostat and Water Outlet			X
Turbo Piping			X
Turbocharger Assembly			X
Exhaust Manifold			X
Fuel Injection Pump			X
Fuel Lines			X
Injector Nozzles			X
Rear Cover (Flywheel Housing)			X

Trimmed Engine - DT466P

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

Note: At this time, if a customer has a DT408 unit, it can be upgraded to a DT466P.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Feature Code
94P4175SR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	175(ST)	12NGA
94P4190SR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	190(ST)	12NGB
94P4210SR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	210(ST)	12NGC
94P4230SR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	230(ST)	12NGD
94P4250SR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	250(ST)	12NEJ
94P4275SR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	275(ST)	12NEK
94P4195HR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	195(HT)	12NEE 12NGE
94P4210HR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	210(HT)	12NEG 12NGG
94P4230HR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	230(HT)	12NEH 12NGH
94P4250HR1	1994-1997	DT466P	Trimmed Engine	0850654-0933833	250(HT)	12NGJ

International DT408, DT466P, I530P (1994-1997)

Trimmed Engine - I530P

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Feature Code
94P5300SR1	1994-1997	I530P	Trimmed Engine	0850654-0933833	300(ST)	12NER 12NGN 12NGS
94P5275HR1	1994-1997	I530P	Trimmed Engine	0850654-0933833	275(HT)	12NGM
94P5300HR1	1994-1997	I530P	Trimmed Engine	0850654-0933833	300(HT)	12NEP

Long Block - I530P

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating
1822452RX92	1994-1997	I530P	Long Block	0850654-0933833	275(ST or HT)
1824734RX92	1994-1997	I530P	Long Block	0850654-0933833	300(ST or HT)

Long Block - DT466P

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating
1823916RX92	1994-1997	DT466P	Long Block	0850654-0933833	175(ST)-230(ST) HP Includes Low HP (HT)
1822451RX92	1994-1997	DT466P	Long Block	0850654-0933833	250(ST) & 275(ST)
1823963RX92	1994-1997	DT466P	Long Block	0850654-0933833	230(HT) & 250(HT)

Short Block - DT466P

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating
1823915RX92	1994-1997	DT466P	Short Block	0850654-0933833	175(ST) -230(ST) HP Includes Low HP (HT)
1822448RX92	1994-1997	DT466P	Short Block	0850654-0933833	250(ST) & 275(ST)
1823962RX92	1994-1997	DT466P	Short Block	0850654-0933833	230(HT) & 250(HT)

Short Block - I530P

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating
1822450RX92	1994-1997	I530P	Short Block	0850654-0933833	275(ST or HT)

International DT408, DT466P, I530P (1994-1997)

RENEWED Cylinder Head - DT466P, I530P

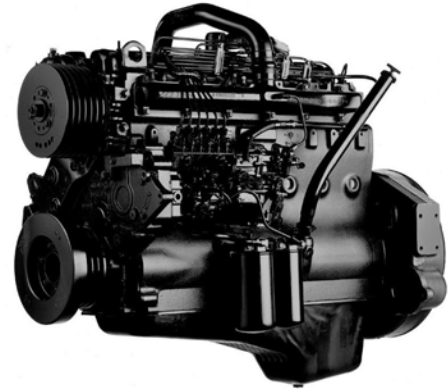
* Note: This head has larger valve stems. It may be used to replace the earlier model year 1994 head with 5/16" valve stems if all 12 rocker arms are changed. The new 3/8" rocker arm is 1823924C93.

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM New Part Number	OEM Cast Part Number
2586558C91	1995-1997	DT466P, I530P	Head, Cylinder (3/8" Valve Stems) *	0956464-0933833	1824639C93	1824641C1

International DT, DTA466A, B, C Series (1975-1993)

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 1975-1993 DT, DTA466A, B and C Series International I-6 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.



Questions to consider and how to find the answers:

1) Has the engine been confirmed to be a model year 1975-1993 DT, DTA466A, B and C Series International I-6 diesel engine?

Answer found with lineset feature code:

See the Feature Code Matrix in this chapter

Or with visual inspection:

- Engine serial number starting with 075000-669279 are model year 1975-1993 DT, DTA466A, B, C assemblies.
- Engine serial number prefix = 466 (A block), 467 (B block), 468 (C block)
- Nozzle type direct injection system
- Turbocharged (air-to-air cooled option)
- Stamped steel valve cover
- V-belt drive, belt driven accessories

2) What is the engine emissions standard: Federal, California or 50 State?

Answer found with lineset feature code:

-See the Feature Code Matrix in this chapter.

Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating	Emission Standard
12088	DT, DTA466A, B & C	215 HP @ 2400 RPM	541 lb-ft @ 1600 RPM	Federal
12089	DT, DTA466A, B & C	215 HP @ 2400 RPM	541 lb-ft @ 1600 RPM	California
12327	DT, DTA466A, B & C	180 HP @ 2400 RPM	465 lb-ft @ 1600 RPM	California
12482	DT, DTA466A, B & C	210 HP @ 2600 RPM	513 lb-ft @ 1800 RPM	Federal
12499	DT, DTA466A, B & C	210 HP @ 2600 RPM	513 lb-ft @ 1800 RPM	California
12513	DT, DTA466A, B & C	180 HP @ 2400 RPM	465 lb-ft @ 1600 RPM	Federal
12514	DT, DTA466A, B & C	195 HP @ 2600 RPM	520 lb-ft @ 1600 RPM	Federal
12563	DT, DTA466A, B & C	165 HP @ 2400 RPM	465 lb-ft @ 1600 RPM	California
12564	DT, DTA466A, B & C	165 HP @ 2400 RPM	465 lb-ft @ 1600 RPM	Federal
12NAN	DT, DTA466A, B & C	185 HP @ 2600 RPM	456 lb-ft @ 1800 RPM	Federal
12NAR	DT, DTA466A, B & C	245 HP @ 2400 RPM	616 lb-ft @ 1600 RPM	Federal
12NAS	DT, DTA466A, B & C	185 HP @ 2600 RPM	456 lb-ft @ 1800 RPM	50 State
12NAT	DT, DTA466A, B & C	210 HP @ 2400 RPM	556 lb-ft @ 1600 RPM	California
12NAU	DT, DTA466A, B & C	240 HP @ 2400 RPM	646 lb-ft @ 1600 RPM	California
12NAV	DT, DTA466A, B & C	210 HP @ 2600 RPM	513 lb-ft @ 1800 RPM	50 State
12NBA	DT, DTA466A, B & C	220 HP @ 2400 RPM	590 lb-ft @ 1600 RPM	50 State
12NBB	DT, DTA466A, B & C	245 HP @ 2400 RPM	635 lb-ft @ 1600 RPM	50 State
12NBC	DT, DTA466A, B & C	270 HP @ 2400 RPM	740 lb-ft @ 1600 RPM	50 State
12NCK	DT, DTA466A, B & C	195 HP @ 2400 RPM	520 lb-ft @ 1600 RPM	Federal

International DT, DTA466A, B, C Series (1975-1993)

Feature Code Matrix (cont'd.)

Feature Code	Engine Type	HP Rating	Torque Rating	Emission Standard
12NCL	DT, DTA466A, B & C	195 HP @ 2400 RPM	520 lb-ft @ 1600 RPM	50 State
12NCM	DT, DTA466A, B & C	210 HP @ 2400 RPM	570 lb-ft @ 1600 RPM	Federal
12NCN	DT, DTA466A, B & C	210 HP @ 2400 RPM	570 lb-ft @ 1600 RPM	50 State
12NCP	DT, DTA466A, B & C	220 HP @ 2400 RPM	600 lb-ft @ 1600 RPM	Federal
12NCR	DT, DTA466A, B & C	220 HP @ 2400 RPM	600 lb-ft @ 1600 RPM	California
12NCS	DT, DTA466A, B & C	230 HP @ 2400 RPM	650 lb-ft @ 1600 RPM	Federal
12NCT	DT, DTA466A, B & C	230 HP @ 2400 RPM	650 lb-ft @ 1600 RPM	50 State
12NCU	DT, DTA466A, B & C	250 HP @ 2400 RPM	700 lb-ft @ 1600 RPM	Federal
12NCW	DT, DTA466A, B & C	250 HP @ 2400 RPM	700 lb-ft @ 1600 RPM	California
12NCX	DT, DTA466A, B & C	270 HP @ 2400 RPM	800 lb-ft @ 1600 RPM	Federal
12NCY	DT, DTA466A, B & C	270 HP @ 2400 RPM	800 lb-ft @ 1600 RPM	California
12NCZ	DT, DTA466A, B & C	250 HP @ 2400 RPM	650 lb-ft @ 1600 RPM	Federal
12NDA	DT, DTA466A, B & C	250 HP @ 2400 RPM	650 lb-ft @ 1600 RPM	50 State
12NDJ	DT, DTA466A, B & C	195 HP @ 2400 RPM	520 lb-ft @ 1600 RPM	50 State
12NDK	DT, DTA466A, B & C	210 HP @ 2400 RPM	570 lb-ft @ 1600 RPM	50 State

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

- Stamped on the center top left side of the engine crankcase.
- On the vehicle lineset ticket.

Engine Serial Number Examples:

- DT466A= 466TM2U0075000
- DT466B= 467TM2U0400000
- DT466C= 468GM2U0532983

Engine Serial Number Codes:

- Engine identification code: 466= DT/DTA466A, 467=DT466/DTA466B, 468= DT/DTA466C
- Type of code: T=Diesel; turbocharged and mechanical fuel injection system, G=Diesel; turbocharged; air cooled and mechanical fuel injection system
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States
- Engine serial number sequence: 075000-669279

International DT, DTA466A, B, C Series (1975-1993)

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases engine serial numbers close to a model update may have previous technology different than what the ESN would indicate.

Model Year	Beginning Serial Number	Description
1975	n/a	"A" series introduced
1978	075000	"B" series introduced
1983	400001	"C" series introduced
1985	446516	Wide bearings began
1986	447617	Charge air cooling
1988	532981	Gear drive P/S, Roller cam
1989	567492	New front cover
1990	594840	Plasma piston rings in high HP applications
1991	618496	Narrow piston ring
1992	642460	Screw on fan drive
1993	669279	9/9/1993 Last DT466 "First Generation" produced

Bill of Material

Component	Basic Long Block RENEWED	Premium Long Block RENEWED	Running Engine RENEWED
Cam Bearings	X	X	X
Camshaft	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Cylinder Head Assembly	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X
Oil Pressure Regulator Valve	X	X	X
Piston Cooling Tubes	X	X	X
Pistons/rings	X	X	X
Push Rods	X	X	X
Timing Components	X	X	X
Valves	X	X	X
Front Cover		X	X
Front Seal		X	X

International DT, DTA466A, B, C Series (1975-1993)

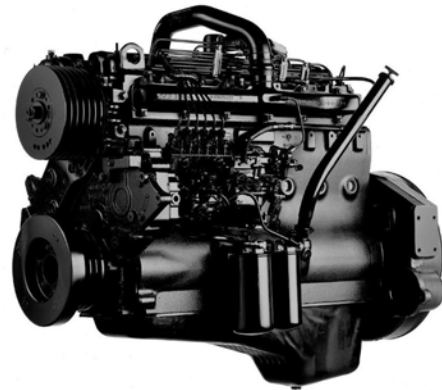
Bill of Material (cont'd.)

Component	Basic Long Block RENEWED	Premium Long Block RENEWED	Running Engine RENEWED
Injector Nozzles (Except 735420C94)		X	X
Oil Cooler Assembly		X	X
Oil Filter		X	X
Oil Pan and Pick-up Tube		X	X
Oil Pump Assembly		X	X
Rear Seal		X	X
Rocker Shaft and Bracket Assembly		X	X
Thermostat and Water Outlet		X	X
Valve Cover Gaskets		X	X
Valve Covers		X	X
Water Pump Assembly		X	X
Crankcase Breather Assembly			X
Crankshaft Pulley			X
Exhaust Manifold			X
Fuel Filter Assembly			X
Fuel Lift Pump			X
Fuel Lines			X
Injection Pump			X
Intake Manifold			X
Rear Cover (Flywheel Housing)			X
Turbocharger Assembly			X
Vibration Damper			X
Water Filter			X
Water Pump Pulley			X

Trimmed Engine

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Emissions	Crankcase Part Number
91P4195AR4	1991-1993	DT, DTA466C	Trimmed Engine	618496-669279	195	50 State	1802330C2 1810739C1 1810739C1
91P4210AR4	1991-1993	DT, DTA466C	Trimmed Engine	618496-669279	210	50 State	1802330C2 1810739C1 1814042C1

International DT, DTA466A, B, C Series (1975-1993)

Trimmed Engine (cont'd.)

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Emissions	Crankcase Part Number
91P4210FR4	1991-1993	DT, DTA466C	Trimmed Engine	618496-669279	210	Federal	1802330C2 1810739C1 1814042C1
91P4230AR4	1991-1993	DT, DTA466C	Trimmed Engine	618496-669279	230	50 State	1802330C2 1810739C1 1814042C1
91P4250AR4	1991-1993	DT, DTA466C	Trimmed Engine	618496-669279	250	50 State	1802330C2 1810739C1 1814042C1
91P4270FR4	1991-1993	DT, DTA466C	Trimmed Engine	618496-669279	270	Federal	1802330C2 1810739C1 1814042C1
90P4185AR4	1990	DT, DTA466C	Trimmed Engine	594840-618495	185	50 State	1802330C2 1810739C1 1814042C1
90P4210AR4	1990	DT, DTA466C	Trimmed Engine	594840-618495	210	50 State	1802330C2 1810739C1 1814042C1
90P4220AR4	1990	DT, DTA466C	Trimmed Engine	594840-618495	220	50 State	1802330C2 1810739C1 1814042C1
90P4245AR4	1990	DT, DTA466C	Trimmed Engine	594840-618495	245	50 State	1802330C2 1810739C1 1814042C1
90P4270AR4	1990	DT, DTA466C	Trimmed Engine	594840-618495	270	50 State	1802330C2 1810739C1 1814042C1
90P4270CR4	1990	DT, DTA466C	Trimmed Engine	594840-618495	270	California	1802330C2 1810739C1 1814042C1
89P4210FR4	1989	DT, DTA466C	Trimmed Engine	567492-594839	210	Federal	1802330C2 1810739C1 1814042C1
89P4215FR4	1989	DT, DTA466C	Trimmed Engine	567492-594839	215	Federal	1802330C2 1810739C1 1814042C1
89P4230FR4	1989	DT, DTA466C	Trimmed Engine	567492-594839	230	Federal	1802330C2 1810739C1 1814042C1
89P4240CR4	1989	DT, DTA466C	Trimmed Engine	567492-594839	240	California	1802330C2 1810739C1 1814042C1
89P4245FR4	1989	DT, DTA466C	Trimmed Engine	567492-594839	245	Federal	1802330C2 1810739C1 1814042C1
88P4210CR4	1988	DT, DTA466C	Trimmed Engine	532984-567491	210	California	1802330C2 1810739C1 1814042C1
88P4210FR4	1988	DT, DTA466C	Trimmed Engine	532984-567491	210	Federal	1802330C2 1810739C1 1814042C1

International DT, DTA466A, B, C Series (1975-1993)

Trimmed Engine (cont'd.)

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Emissions	Crankcase Part Number
88P4215FR4	1988	DT, DTA466C	Trimmed Engine	532984-567491	215	Federal	1802330C2 1810739C1 1814042C1
88P4240CR4	1988	DT, DTA466C	Trimmed Engine	532984-567491	240	California	1802330C2 1810739C1 1814042C1
88P4245FR4	1988	DT, DTA466C	Trimmed Engine	532984-567491	245	Federal	1802330C2 1810739C1 1814042C1
87P4195FR4	1987	DT, DTA466C (S-Line)	Trimmed Engine	400001-532983	195	Federal	1802330C2 1810739C1 1814042C1
87P4240FR4	1987	DT, DTA466C (S-Line)	Trimmed Engine	400001-532983	240	Federal	1802330C2 1810739C1 1814042C1
735323C94	1985-1987	DT, DTA466C (Cargostar)	Trimmed Engine	400001-532985	210	California	1802330C2 1810739C1 1814042C1
735320C94	1983-1987	DT, DTA466C (S-Line)	Trimmed Engine	400001-532983	210	Federal	1802330C2 1810739C1 1814042C1
735301C94	1978-1983	DT466B (Cargostar)(Fleetstar)	Trimmed Engine	075000-400000	210	Federal	1802330C1 675500C4
735299C94	1978-1983	DT466B(S-Line)	Trimmed Engine	075000-400000	210	Federal	1802330C1 675500C4
735302C94	1978-1983	DT466B (Cargostar)	Trimmed Engine	075000-400000	210	California	1802330C1 675500C4
77P4210LR2	1975-1977	DT466A (Cargostar) (Fleetstar) (PayStar) (High fan)	Trimmed Engine	075000 & below	210	Federal	675500C3 675500C2 675500C1 687264C1

International DT, DTA466A, B, C Series (1975-1993)

Premium Long Block

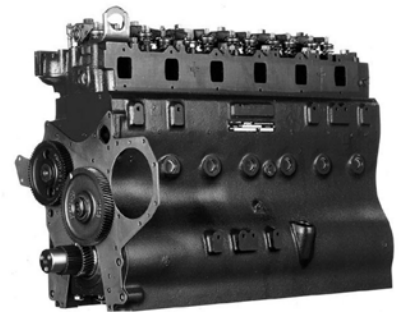
Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Crankcase Part Number
735420C94	1989-1993	DT, DTA466C	Premium Long Block	567492-669279	195-270	1802330C2 1810739C1 1814042C1
735412C94	1988	DT, DTA466C	Premium Long Block	532984-567491	210-245	1802330C2 1810739C1 1814042C1
735394C94	1983-1987	DT, DTA466C (S-Line)	Premium Long Block	400001-532983	195-240	1802330C2 1810739C1 1814042C1
735538C94	1983-1987	DT, DTA466C (Cargostar)	Premium Long Block	400001-532983	195-240	1802330C2 1810739C1 1814042C1
735391C94	1978-1983	DT466B (S-Line)	Premium Long Block	075000-400000	210	1802330C1 675500C4

Basic Long Block

Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Crankcase Part Number
735395C94	1983-1987	DT, DTA466C	Basic Long Block	400001-532983	1802330C2 1810739C1 1814042C1
735392C94	1978-1983	DT466B	Basic Long Block	075000-400000	1802330C1 675500C4

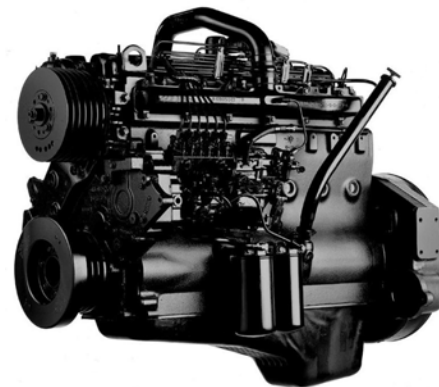
International DT, DTA466A, B, C Series (1975-1993)

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM Cast Part Number
735427C91	1988-1993	DT, DTA466C	Cylinder Head	532981-669279	688833C2
749854C92	1978-1988	DT, DTA466B & C (Later B & Early C)	Cylinder Head	075000-532980	688833C1
749635C92	1975-1978	DT, DTA466A & B (Early B)	Cylinder Head	074999 & below	680426C2

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 1987-1993 DT, DTA360 series International I-6 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.



1) Has the engine been confirmed to be a model year 1987-1993 DT, DTA360 Series International I-6 diesel engine?

Answer found with lineset feature code:
See the Feature Code Matrix in this chapter

Or with engine engineering family: 6300

Or with visual inspection:

- Engine serial number starting with 030001-141590 are model year 1987-1993 DT, DTA360 assemblies.
- Engine serial number prefix = 362
- Nozzle type direct injection system
- Turbocharged (air-to-air cooled option)
- Stamped steel valve cover
- V-belt drive, belt driven accessories

2) What is the engine emissions standard: Federal, California or 50 State?

Answer found with lineset feature code:
- See the Feature Code Matrix in this chapter

Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating	Emission Standard
12062	DT, DTA360	165 HP @ 2700 RPM	390 lb-ft @ 1700 RPM	Federal
12063	DT, DTA360	180 HP @ 2700 RPM	400 lb-ft @ 1700 RPM	Federal
12NAJ	DT, DTA360	175 HP @ 2700 RPM	414 lb-ft @ 1700 RPM	California
12NAK	DT, DTA360	170 HP @ 2700 RPM	390 lb-ft @ 1700 RPM	Federal
12NCA	DT, DTA360	170 HP @ 2700 RPM	400 lb-ft @ 1700 RPM	50 State
12NCB	DT, DTA360	185 HP @ 2700 RPM	435 lb-ft @ 1700 RPM	50 State
12NCC	DT, DTA360	170 HP @ 2700 RPM	400 lb-ft @ 1700 RPM	Federal
12NCD	DT, DTA360	170 HP @ 2700 RPM	400 lb-ft @ 1700 RPM	California
12NCE	DT, DTA360	185 HP @ 2700 RPM	445 lb-ft @ 1700 RPM	Federal
12NCG	DT, DTA360	185 HP @ 2700 RPM	445 lb-ft @ 1700 RPM	California
12NCH	DT, DTA360	185 HP @ 2700 RPM	485 lb-ft @ 1700 RPM	Federal
12NCJ	DT, DTA360	185 HP @ 2700 RPM	485 lb-ft @ 1700 RPM	California
12NDB	DT, DTA360	190 HP @ 2700 RPM	457 lb-ft @ 1700 RPM	Federal
12NDC	DT, DTA360	190 HP @ 2700 RPM	457 lb-ft @ 1700 RPM	California
12NDD	DT, DTA360	190 HP @ 2700 RPM	485 lb-ft @ 1700 RPM	Federal
12NDE	DT, DTA360	190 HP @ 2700 RPM	485 lb-ft @ 1700 RPM	California
12NDG	DT, DTA360	170 HP @ 2700 RPM	400 lb-ft @ 1700 RPM	Federal
12NDH	DT, DTA360	170 HP @ 2700 RPM	400 lb-ft @ 1700 RPM	California

International DT, DTA360 Series (1987-1993)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

- Stamped on the center top left side of the engine crankcase.
- On the vehicle lineset ticket.

Engine Serial Number Examples:

- DT360 = 362GM2U0141590

Engine Serial Number Codes:

- Engine identification code: 362 = DT, DTA360
- Type of code: T = Diesel: turbocharged and mechanical fuel injection system, M = Diesel,: turbocharged: air cooled and mechanical fuel injection system
- End use code: M2 = Truck, A2 = Stripped and service
- Country of origin: U=United States
- Engine serial number sequence: 030001-141590

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate.

Model Year	Beginning Serial Number	Description
1987	030001	First year in production
1988	039375	Three piece exhaust manifold
1989	054459	Front cover, engine mounting
1990	072707	New camshaft
1991	090976	Narrow plasma coated piston rings
1992	112787	Water pump with screw on fan drive
1993	141590	Final production 9/9/93

International DT, DTA360 Series (1987-1993)

Bill of Material

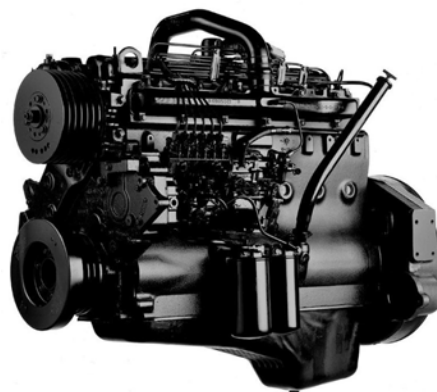
Component	Basic Long Block RENEWED	Premium Long Block RENEWED	Trimmed Engine RENEWED
Cam Bearings	X	X	X
Camshaft	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Cylinder Head Assembly	X	X	X
Front Seal	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X
Oil Pressure Regulator Valve	X	X	X
Piston Cooling Tubes	X	X	X
Pistons/Rings	X	X	X
Push Rods	X	X	X
Rear Seal	X	X	X
Timing Components	X	X	X
Valves	X	X	X
Front Cover		X	X
Injector Nozzles (Except 735410C94)		X	X
Oil Cooler Assembly		X	X
Oil Filter		X	X
Oil Pan and Pick-up Tube		X	X
Oil Pump Assembly		X	X
Rocker Shaft and Bracket Assembly		X	X
Thermostat and Water Outlet		X	X
Valve Cover Gaskets		X	X
Valve Covers		X	X
Water Pump Assembly		X	X
Crankcase Breather Assembly			X
Crankshaft Pulley			X
Exhaust Manifold			X
Fuel Filter Assembly			X
Fuel Lift Pump			X
Fuel Lines			X
Injection Pump			X
Intake Manifold			X
Rear Cover (Flywheel Housing)			X
Turbocharger Assembly			X
Vibration Damper			X
Water Filter			X
Water Pump Pulley			X

International DT, DTA360 Series (1987-1993)

Trimmed Engine

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	HP Rating	Emissions	Crankcase Part Number
91P3190CR4	1991-1993	DT, DTA360	Trimmed Engine	090976-141590	190	California	1809929C3
91P3190FR4	1991-1993	DT, DTA360	Trimmed Engine	090976-141590	190	Federal	1809929C3
91P3170FR4	1991	DT, DTA360	Trimmed Engine	090976-141590	170	Federal	1809929C3
90P3170AR4	1990	DT, DTA360	Trimmed Engine	072707-090975	170	50 State	1809929C3
90P3185AR4	1990	DT, DTA360	Trimmed Engine	072707-090975	185	50 State	1809929C3
89P3170FR4	1989	DT, DTA360	Trimmed Engine	054459-072706	170	Federal	1809929C3
89P3180FR4	1989	DT, DTA360	Trimmed Engine	054459-072706	180	Federal	1809929C3
88P3170FR4	1988	DT, DTA360	Trimmed Engine	039375-054458	170	Federal	1809929C3
88P3180FR4	1988	DT, DTA360	Trimmed Engine	039375-054458	180	Federal	1809929C3

Premium Long Block

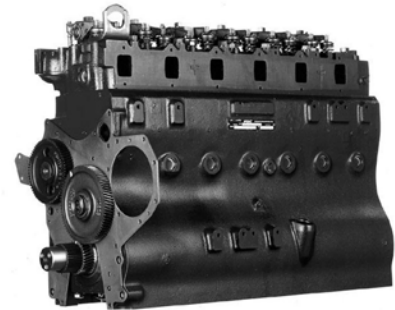
Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Crankcase Part Number
735410C94	1989-1993	DT, DTA360	Premium Long Block	054459-141590	1809929C3
735402C94	1987	DT, DTA360	Premium Long Block	030001-039374	1809929C3

Basic Long Block

Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Crankcase Part Number
ZGA735411	1989-1993	DT, DTA360	Basic Long Block	054459-141590	1809929C3
ZGA735405	1988	DT, DTA360	Basic Long Block	039375-054458	1809929C3
ZGA735403	1987	DT, DTA360	Basic Long Block	030001-039374	1809929C3

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM New Part Number	OEM Cast Part Number
735364C91	1988-1993	DT, DTA360	Cylinder Head	039375-141590	1815408C92	1810075C2

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 2010-2014 MAXXFORCE 7 series 6.5L diesel engines. To assist with your selection we included on this page instructions of how to find the answer you need.

Has the engine been confirmed to be a model year 2010-2014 MAXXFORCE 7 series V-8 diesel engine?

Answer found within the lineset feature code:

See the Feature Code Matrix in this chapter

Or with engine engineering family #:8840

Or with visual inspection:

- Engine serial number starting with 5300002-above are model year 2010-2014 MAXXFORCE 7 assemblies.
- Engine serial number prefix= 6.5 (Located on a machined surface at the left rear corner of the crankcase just below the cylinder head).
- Emissions label indicating displacement (6.5L) and emission year 2010 (located near the front of the right valve cover).

These engines also come equipped with:

- High Pressure Common Rail Fuel System
- Rear Gear Train
- Includes Both Turbochargers (Low Pressure and High Pressure)
- Cooled Exhaust Gas Recirculation
- Four Valves Per Cylinder
- Engine Mounted Primary and Secondary Fuel Filters

Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating
12NUG	MAXXFORCE 7 6.5L	220 HP @ 2800 RPM	560 lb-ft @ 1400 RPM
12NUH	MAXXFORCE 7 6.5L	240 HP @ 2800 RPM	620 lb-ft @ 1400 RPM
12NUJ	MAXXFORCE 7 6.5L	260 HP @ 2800 RPM	660 lb-ft @ 1600 RPM
12NVE	MAXXFORCE 7 6.5L	300 HP @ 2800 RPM	660 lb-ft @ 1600 RPM

RENEWED MAXXFORCE 7, 6.5L (2010-2014)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket. Serial Number location is at the rear of the engine just below left head.

Engine Serial Number Examples:

MAXXFORCE 7 (6.5)= 6.5HM2Y5300002

Engine Serial Number Codes:

Engine identification code: 6.5

Type of code: H= Diesel, turbocharged

End use code: M2= Motor Truck

Engine assembly plant: Y= USA Huntsville

Engine serial number sequence: 5300002-above

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine or components. In some limited cases, engine serial numbers close to a model break may have previous technology different than what the Engine Serial Number (ESN) would indicate.

Model Year	Beginning Serial Number	Ending Serial Number	Description
2010-2014	5300002 and above	Production ended 2014	MAXXFORCE 7 Engine

Bill of Material

* Short Block will include a kit with all required parts and gaskets to assemble to a Trimmed Engine. Common assembly parts shown in the BOM are noted with a "KIT".

Component	DuraStar Trimmed	TerraStar Trimmed	DuraStar Long Block	TerraStar Long Block	DuraStar Short Block	TerraStar Short Block
Cam Follower	X	X	X	X	X	X
Camshaft	X	X	X	X	X	X
Connecting Rod	X	X	X	X	X	X
Coolant Heater	X	X	X	X		
Crankcase	X	X	X	X	X	X
Crankcase Cover	X	X	X	X	X	X
Crankshaft	X	X	X	X	X	X
Cylinder Head	X	X	X	X		
EGR Tubes	X					
Electrical Harness, UVC & HPF Pump	X	X	X	X		
Exhaust Manifold	X	X				
Filters, Fuel, Primary & Secondary	X	X	X	X	KIT	KIT
Flywheel Housing	X	X	X	X	X	X

RENEWED MAXXFORCE 7, 6.5L (2010-2014)

Bill of Material (cont'd.)

* Short Block will include a kit with all required parts and gaskets to assemble to a Trimmed Engine. Common assembly parts shown in the BOM are noted with a "KIT".

Component	DuraStar Trimmed	TerraStar Trimmed	DuraStar Long Block	TerraStar Long Block	DuraStar Short Block	TerraStar Short Block
Head Gasket & Bolts	X	X	X	X	KIT	KIT
High Pressure Fuel Pump	X	X	X	X		
Injector, Fuel (with Tube)	X	X	X	X	KIT	KIT
Intake Manifold	X	X	X	X		
Lifting Eyes	X	X	X	X		
Oil Cooler	X	X	X	X	X	X
Oil Filter	X	X	X	X	KIT	KIT
Oil Level Gauge						
Oil Pan	X	X	X	X	X	X
Oil Pump	X	X	X	X	X	X
Pistons	X	X	X	X	X	X
Rocker Arm	X	X	X	X	KIT	KIT
Rod, Push	X	X	X	X	KIT	KIT
Seals, Crankshaft	X	X	X	X	X	X
Sensor, Including EGT-850C	X	X				
Sensor, Mounting O-Rings	X	X	X	X	KIT	KIT
Sensors (Except EGT-850C)			X	X		
Thermostat	X	X	X	X	X	X
Tubes & Hoses	X	X	X	X		
Turbo Air Inlet						
Turbo Exhaust Outlet (without TMV)	X	X				
Turbo Oil Lines	X	X				
Turbo Piping & Supports	X	X				
Turbocharger	X	X				
Valve Cover	X	X	X	X		
Vibration Damper	X	X	X	X		
Water Pump	X	X	X	X		

RENEWED MAXXFORCE 7, 6.5L (2010-2014)

Bill of Material - Short Block Kit

Part Number	Description	Qty	SB DuraStar	SB TerraStar
1872266C1	Seal, O-Ring	1	K	K
1899577C92	Harness, Assembly UVC R	1	K	K
7080246C91	Harness, Assembly HP Pump	1	K	K
1834005C1	Sensor, O-Ring	1	K	K
1836505C1	Sensor, O-Ring	1	K	K
1837889C1	Sensor, O-Ring	1	K	K
1837799C1	Sensor, O-Ring	1	K	K
1837802C1	Sensor, O-Ring	1	K	K
1837801C1	Sensor, O-Ring	1	K	K
1873373C1	O-Ring, size 905 (EMD1444)	1	K	K
1854229C1	Gasket, Rail Pres Sensor	1	K	K
1885681C2	Sensor, INTK MAT *1881015C92	1	K	K
1885682C1	O-Ring, 22X93 ID	1	K	K
1883111C92	Injector Assembly, Fuel	8	K	K
1886547C1	Tube Assembly, Fuel Rail to Injector	8	K	K
1831887C1	Gasket, Pump Cover	1	K	K
1872510C3	Clamp, Closed 1/4	2	K	K
1880775C1	Gasket, Lower HP Pump Cover	1	K	K
1883147C1	Tube Assembly, R Fuel HP	1	K	K
1883148C1	Tube Assembly, L Fuel HP	1	K	K
1874426C1	Gasket, O-Ring Heater Plug	2	K	K
1884090C1	Filter Assembly, Primary	1	K	K
1884091C1	O-Ring, Fuel Primary Element	1	K	K
1884206C1	O-Ring, Fuel Cap Primary	1	K	K
1884297C1	Element Assembly, Fuel Secondary	1	K	K
1886561C91	Hose Assembly, Injector Return	1	K	K
1878036C1	Washer, Bonded Seal (EMD10157)	4	K	K
1886691C92	Hose Assembly, Pump to Cooler	1	K	K
1894137C1	Washer, M12 Bonded Seal	1	K	K
1894223C1	Fuel Filter	1	K	K
1847610C1	O-Ring, #209 (EMD1484)	1	K	K
1893553C2	Oil Filter Assembly	1	K	K
7080040C1	Gasket, Turbo Oil Drain	1	K	K
1841625C1	O-Ring, size 220 (EMD1444)	3	K	K
1877823C1	Single Port Gasket	4	K	K
1877824C1	Dual Port Gasket	2	K	K
1886507C1	Tube Assembly, Boost to Solenoid	1	K	K
1886508C2	Tube Assembly, Relief to Duct	1	K	K
1841574C2	Nut, FLG M10X125 Spiralock Threaded	4	K	K
1881990C1	Seal, LP Turbo	1	K	K
1890998C1	Seal, O-Ring *1889587C92	1	K	K
7079583C1	Hose, Wastegate	1	K	K
7080102C1	Bolt, HEX FLG M10X55MM with Loctite	2	K	K
1841574C2	Nut, FLG M10X125 Spiralock Threaded	3	K	K

RENEWED MAXXFORCE 7, 6.5L (2010-2014)

Bill of Material - Short Block Kit (cont'd.)

Part Number	Description	Qty	SB DuraStar	SB TerraStar
1848431C2	Bolt, M10X30 HF High Temp	3	K	K
1871252C2	Bolt, HEX FLG HD-M8X27	6	K	K
1875808C1	Gasket, Exhaust	2	K	K
1878460C1	Gasket, Turbo Inlet	2	K	K
1883660C1	Gasket, V-Band	2	K	K
1886338C92	Tube Assembly, Turbo Oil Supply	1	K	K
7080336C1	Seal, O-Ring (EMD10409)	3	K	K
1841557C1	O-Ring, (EMD1444)	1	K	K
1886985C1	Tube Assembly, Jet Pump	1	K	K
1883165C1	O-Ring, (EMD1484)	1	K	K
1883165C1	O-Ring, (EMD1484)	2	K	K
1883165C1	O-Ring, (EMD1484)	2	K	K
1830941C1	O-Ring, (EMD1484)	1	K	K
7076703C1	Hose, Air Cooler	1	K	K
1873916C2	Rod, Push Assembly	16	K	K
1844447C1	O-Ring	2	K	K
1880499C92	Support, Assembly W/ Rocker Arm	2	K	K
1836747C1	O-Ring, size 240 (EMD1484)	1	K	K
1848525C1	O-Ring, (EMD1484)	1	K	K
1836078C1	O-Ring, #912 (EMD1484)	1	K	K
1835992C2	Bolt, M12X125X59MM	4	K	K
1872657C2	Bolt, Cylinder Head	20	K	K
1887470C1	Gasket, Cylinder Head	2	K	K
1846983C1	Bushing, Dowel Sleeve	2	K	K
1854329C1	Pin, Slotted Spring Dowel	2	K	K
1855137C1	Seal, Fuel Supply Line	1	K	K
1880818C1	Gasket, Valve Cover Base	1	K	K
1854329C1	Pin, Slotted Spring Dowel	2	K	K
1855137C1	Seal, Fuel Supply Line	1	K	K
1880818C1	Gasket, Valve Cover Base	1	K	K
1848530C1	Gasket, Valve Cover	1	K	K
1819717C1	O-Ring, #215 (EMD1444)	1	K	K
1899576C92	Harness Assembly UVCL L	1	K	K

RENEWED MAXXFORCE 7, 6.5L (2010-2014)

Trimmed Engine

*Note: DuraStar has a front sump oil pan (figure number 884006L001). TerraStar has a rear sump oil pan (figure number 884006L003). For other applications, follow oil pan sump location.

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010795R91	2010-2014	MAXXFORCE 7	DuraStar	5300002 and Above
5010809R91	2010-2014	MAXXFORCE 7	TerraStar	5300002 and Above

Long Block

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010797R91	2010-2014	MAXXFORCE 7	DuraStar	5300002 and Above
5010810R91	2010-2014	MAXXFORCE 7	TerraStar	5300002 and Above

Short Block

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010816R91	2010-2014	MAXXFORCE 7	DuraStar	5300002 and Above
5010817R91	2010-2014	MAXXFORCE 7	TerraStar	5300002 and Above

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number
5010878R91	2010-2014	MAXXFORCE 7	Cylinder Head	5300002-Above	1899235C92

RENEWED MAXXFORCE 7, 6.4L (2007-2009)



Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 2007-2009 MAXXFORCE 7 series 6.4L diesel engines. To assist with your selection we included on this page instructions of how to find the answer you need.

Has the engine been confirmed to be a model year 2007-2009 MAXXFORCE 7 series V-8 diesel engine?

Answer found within the lineset feature code:

- See the Feature Code Matrix in this chapter
- Or with engine engineering family #: 8830

Or with visual inspection:

- Engine serial number starting with 0434544-5300001 are model year 2007-2009 MAXXFORCE 7 assemblies.
- Engine serial number prefix = 6.4 (Located on a machined surface at the left rear corner of the crankcase just below the cylinder head).
- Emissions label indicating displacement (6.4L) and emission year 2007 (located near the front of the right valve cover).

These Engines also come equipped with:

- High Pressure Common Rail Fuel System
- Rear Gear Train
- One Variable Geometry Turbocharger
- Cooled Exhaust Gas Recirculation
- Four Valves Per Cylinder
- Engine Mounted Primary and Secondary Fuel Filters

Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating
12NUG	MAXXFORCE 7 6.4L	220 HP @ 2800 RPM	560 lb-ft @ 1400 RPM
12NUH	MAXXFORCE 7 6.4L	240 HP @ 2800 RPM	620 lb-ft @ 1400 RPM
12NUJ	MAXXFORCE 7 6.4L	260 HP @ 2800 RPM	660 lb-ft @ 1600 RPM
12NVE	MAXXFORCE 7 6.4L	300 HP @ 2800 RPM	660 lb-ft @ 1600 RPM
12NTG	MAXXFORCE 7 6.4L	215 HP @ 2600 RPM	560 lb-ft @ 1400 RPM
12NTH	MAXXFORCE 7 6.4L	230 HP @ 2800 RPM	560 lb-ft @ 1400 RPM

RENEWED MAXXFORCE 7, 6.4L (2007-2009)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Examples:

MAXXFORCE 7 (6.4)= 6.4HM2Y0342752

Engine Serial Number Codes:

Engine identification code: 6.4

Type of code: H= Diesel, turbocharged

End use code: M2= Motor Truck

Engine assembly plant: Y= USA Huntsville

Engine serial number sequence: 0434544-5300001

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine or components. In some limited cases, engine serial numbers close to a model break may have previous technology different than what the Engine Serial Number (ESN) would indicate. Two major differences over the prior platform was the change from a HEUI controlled fuel injector to a common rail electronically controlled fuel injector and the addition of exhaust after treatment which included the Diesel Oxidation Catalyst (DOC) and Diesel Particulate Filter (DPF).

Model Year	Beginning Serial Number	Ending Serial Number	Description
2007-2009	0434544	5300001	MAXXFORCE 7 Engine

Bill of Material

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Camshaft	X	X	X
Camshaft Bearings	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X
Piston Cooling Tubes	X	X	X
Piston/Rings	X	X	X
Timing Components	X	X	X
Cylinder Head Assembly		X	X
Engine Heater		X	X
Exhaust Manifolds		X	X
Front Cover		X	X
Front Seal		X	X
Glow Plugs		X	X
High Pressure Oil Pump		X	X
Injection Pressure Regulator Valve		X	X

RENEWED MAXXFORCE 7, 6.4L (2007-2009)

Bill of Material (cont'd.)

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Injectors		X	X
Intake Manifold		X	X
Oil Cooler Assembly		X	X
Oil Filter & Base		X	X
Oil Pan		X	X
Oil Pump Assembly		X	X
Push Rods		X	X
Rear Cover		X	X
Rear Seal		X	X
Rocker Arm Carrier		X	X
Sensor, Camshaft Position		X	X
Sensor, Crankshaft Position		X	X
Sensor, Exhaust Back Pressure		X	X
Sensor, Injection Control Pressure		X	X
Sensor, Oil Pressure		X	X
Sensor, Oil Temperature		X	X
Sensor, Water Temperature		X	X
Valve Covers		X	X
Valves		X	X
Vibration Damper		X	X
Water Outlet & Thermostat		X	X
Water Pump Assembly		X	X
Crankcase Ventilation			X
Turbo Air Inlet			X
Turbo Piping			X
Turbocharger Assembly with Base			X

Trimmed Engine

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
4307322R91	2007-2009	MAXXFORCE 7	Trimmed Engine	434544-5300001

Long Block

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
4307321R91	2007-2009	MAXXFORCE 7	Long Block	434544-5300001

Short Block

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010627R91	2007-2009	MAXXFORCE 7	Short Block	434544-5300001

RENEWED MAXXFORCE 7, 6.4L (2007-2009)

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number
4307320R91	2007-2009	MAXXFORCE 7	Cylinder Head	0434544-5300001	1881863C94

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model years 2005-2006 and 2007-2009 MAXXFORCE 5 and 4.5L series diesel engines. To assist with your selection we included on this page instructions of how to find the answer you need.

1) Has the engine been confirmed to be a model year 2005-2006 4.5L series engine? ESN: 0518487 or below

Answer found within the lineset feature code:

- See the Feature Code Matrix in this chapter
- Or with engine engineering family #:6820 for CF/LCF and WorkHorse Vehicles

Or with visual inspection:

- Engine serial number starting with 0518488-above are model year 2005-2009 MAXXFORCE 5 assemblies.
- Engine serial number prefix= 4.5 (Located on a machined surface at the left rear corner of the crankcase just below the cylinder head).
- Emissions label indicating displacement (4.5L) and emission year xxxx (located near the front of the right valve cover).

2) Has the engine been confirmed to be a model year 2007-2009 MAXXFORCE 5 series engine? ESN: 0518488 and above

Answer found within the lineset feature code:

- See the Feature Code Matrix in this chapter section
- Or with engine engineering family #:6830 for CF/LCF and WorkHorse Vehicles

Or with visual inspection:

- Engine serial number prefix= 4.6 (Located on a machined surface at the left rear corner of the crankcase just below the cylinder head).
- Emissions label indicating displacement (4.6L) and emission year xxxx (located near the front of the right valve cover).

Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating
12NRN	VT 275 4.5L	200 HP @ 2700 RPM	440 lb-ft @ 1800 RPM

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket. Serial Number location is at the rear of the engine just below left head.

Engine Serial Number Examples:

MAXXFORCE 5 4.6= 4.6HM2Y0518347

Engine Serial Number Codes:

Engine identification code: 4.6

Type of code: H= Diesel, turbocharged

End use code: M2= Motor Truck

Engine assembly plant: Y= USA Huntsville

Engine serial number sequence: 0518488-above

RENEWED MAXXFORCE 5, 4.5L (2005-2009)

Bill of Material

Component	Trimmed
Camshaft	X
Cam Followers	X
Connecting Rods	X
Pistons	X
Water Pump	X
Coolant Heater	X
Crankcase	X
Crankcase Covers	X
Lube Oil Pan	X
Crankshaft	X
Balancer	X
Cylinder Head	X
Rocker Arms	X
Valve Cover	X
Lifting Eyes	X
Sensors	X
Glow Plugs	X
High Pressure Fuel System	X
Fuel Filter	X
Oil Cooler	X
Intake Manifold	X
Exhaust Manifold	X
Turbocharger	X
Turbo Air Inlet	X
Turbo Piping and Support	X
Turbo Oil Line	X
EGR System	X

RENEWED MAXXFORCE 5, 4.5L (2005-2009)

Trimmed Engine

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
4307217R91	2005-2006	4.5L	LCF/CF Chassis	0518487 and below
4307219R91	2007-2009	MAXXFORCE 5	LCF/CF Chassis	0518488 and above
4307220R91	2007-2009	MAXXFORCE 5	WorkHorse Chassis	0518488 and above

RENEWED Cylinder Head

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number
5010881R92	2005-2009	4.5L/4.6L	Cylinder Head	0135617-Above	1872840C95

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 2002-2006 VT365 series International V-8 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.



Has the engine been confirmed to be a model year 2002-2006 VT365 series International V-8 diesel engine?

Answer found with lineset feature code:

- See the Feature Code Matrix in this chapter

Or with engine engineering family #: 8810

Or with visual inspection:

- Engine serial number starting with 0000986-0299093 are model year 2002-2006 VT365 assemblies.
- Engine serial number prefix = 6.0
- Electro-Hydraulic Generation Two (G2) fuel system
- EVRT® electronically controlled turbocharger
- Exhaust gas recirculation system (single cooler)
- Pad-mounted accessories vs. bracket mounted

Feature Code Matrix

Feature Code	Engine Type	HP Rating	Torque Rating	Emission Standard
12NPB	VT365 6.0L	175 HP @ 2600 RPM	460 lb-ft @ 1400 RPM	50 State
12NPC	VT365 6.0L	195 HP @ 2600 RPM	520 lb-ft @ 1400 RPM	50 State
12NPD	VT365 6.0L	215 HP @ 2600 RPM	540 lb-ft @ 1400 RPM	50 State
12NPE	VT365 6.0L	230 HP @ 2600 RPM	620 lb-ft @ 1400 RPM	50 State
12NRP	VT365 6.0L	175 HP @ 2600 RPM	460 lb-ft @ 1400 RPM	50 State
12NRR	VT365 6.0L	200 HP @ 2600 RPM	520 lb-ft @ 1400 RPM	50 State
12NRS	VT365 6.0L	215 HP @ 2600 RPM	540 lb-ft @ 1400 RPM	50 State
12NRT	VT365 6.0L	230 HP @ 2600 RPM	620 lb-ft @ 1400 RPM	50 State
12NRU	VT365 6.0L	200 HP @ 2600 RPM	520 lb-ft @ 1400 RPM	50 State
12NTJ	VT365 6.0L	230 HP @ 2600 RPM	540 lb-ft @ 1400 RPM	50 State
12NTL	VT365 6.0L	210 HP @ 2300 RPM	520 lb-ft @ 1400 RPM	50 State

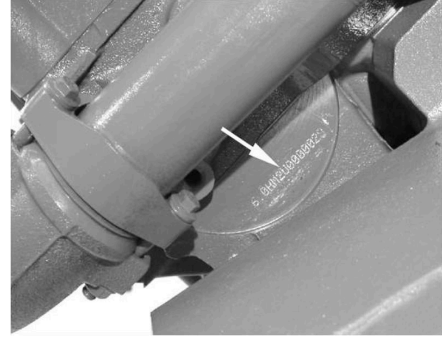
International VT365 6.0L (2002-2006)

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

- Stamped on the crankcase pad on the rear left side of the crankcase below the cylinder head
- On an identification sticker on the valve cover
- On the vehicle lineset ticket.



Engine Serial Number Examples:

- VT365 = 6.0HM2Y0000500

Engine Serial Number Codes:

- Engine identification code: 6.0
- Type of code: H=Diesel, turbocharged, air cooled and electronically controlled
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States
- Engine assembly plant= USA Huntsville
- Engine serial number sequence:0000986-0307060

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate. In these cases, it is important to check the on-board technology listed in the update chart to identify the correct engine model.

Model Year	Beginning Serial Number	Description
2002.5	0000986	Introduced in International in 2002 model year
2003	0006737	Model year 2003 engine introduced 09/12/02
2004	0112360	Model year 2004 engine introduced 01/21/04
2005	0187024	Model year 2005 engine introduced 12/20/04
2006	0299093	Model year 2006 engine introduced

Bill of Material

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Camshaft	X	X	X
Camshaft Bearings	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X

Bill of Material (cont'd.)

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Piston Cooling Tubes	X	X	X
Pistons/Rings	X	X	X
Timing Components	X	X	X
Cylinder Head Assembly		X	X
Engine Heater		X	X
Front Cover		X	X
Front Seal		X	X
High Pressure Oil Pump		X	X
Glow Plugs		X	X
Valve Covers		X	X
Injection Pressure Regulator Valve		X	X
Injectors		X	X
Oil Cooler Assembly		X	X
Oil Pan		X	X
Oil Pump Assembly		X	X
Push Rods		X	X
Rear Cover		X	X
Rear Seal		X	X
Rocker Arm Carrier		X	X
Sensor, Camshaft Position		X	X
Sensor, Crankshaft Position		X	X
Sensor, Exhaust Back Pressure		X	X
Sensor, Oil Pressure		X	X
Sensor, Injection Control Pressure		X	X
Sensor, Oil Temperature		X	X
Sensor, Water Temperature		X	X
Valves		X	X
Vibration Damper		X	X
Water Pump Assembly		X	X
EGR Cooler			X
EGR Valve			X
Fuel Filter Assembly			X
Exhaust Manifolds			X
Fuel Lines			X
Intake Manifold			X
Oil Filter & Base			X
Turbo Air Inlet			X
Turbocharger Assembly with Base			X
Turbo Piping			X
Water Outlet & Thermostat			X

International VT365 6.0L (2002-2006)

Trimmed Engine

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

* ICP sensor is located in engine valley

** ICP sensor is located in right valve cover



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010228R92	2004-2006 **	VT365	Trimmed Engine	0112360-Above
5010155R92	2002-2003 *	VT365	Trimmed Engine	0000986-0112359

Long Block

* ICP sensor is located in engine valley

** ICP sensor is located in right valve cover



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010226R92	2004-2006 **	VT365	Long Block	0112360-Above
5010151R92	2002-2003 *	VT365	Long Block	0000986-0112359

Short Block

Note: Model year 2002-2005 short blocks are not available, use long block to ensure correct cylinder head match.



Part Number	Model Year	Engine Type	Description	Engine Serial Number Range
5010236R91	2006	VT365	Short Block	0299093 & above

RENEWED Cylinder Head



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number	OEM Part Number
4307317R91	2006	VT365	Cylinder Head	0299093 & Above	1832716C95
1872648C95	2002-2005	VT365	Cylinder Head	0000986-0299092	1843087C94

Introduction

This chapter answers most questions about RENEWED replacement parts and engines for model year 1994-2003 T444E series International V-8 diesel engines. To assist with your selection we included on this page instruction of how to find the answers you need.



1) Has the engine been confirmed to be a model year 1994-2003 T444E series International V-8 diesel engine?

Answer found with lineset feature code:

- See the Feature Code Matrix in this chapter

Or with engine engineering family: 8410

Or with visual inspection:

- Engine serial number starting with 0000500-1419278 are model year 1994-2003 T444E assemblies.
- Engine serial number prefix = 7.4
- HEUI Electro-Hydraulic direct injection fuel system
- Turbocharged and air-to-air cooled
- 3 Box or 1 Box Diamond Logic control system
- Serpentine belt, auto-tensioner, gear driven accessories

2) What is the engine torque rating: standard torque (ST) or high torque (HT)?

Answer found with lineset feature code:

- See the Feature Code Matrix in this chapter

Or with injector code:

- ST: AA, AB, AD
- HT: AC

3) Are the injectors standard, split-shot or high output?

Answer found using engine serial number search:

- Standard: with injector 1822801C99
- Split-shot: with injector 1824583C98 or 1831487C93
- High output: with injector 1831487C93

Or with injector code

- Standard: with code AA
- Split-shot: with code AB or AD
- High output: with code AC

4) Does the turbo have an exhaust back pressure device (EBPD)?

Answer found with lineset feature code:

- Yes: with code 12VVP
- No: without code 12VVP

5) Is the electronic control system 1-Box or 3-Box?

Answer found with lineset feature code:

- 1 Box: with code 12WCD
- 3 Box: without code 12WCD

International T444E 7.3L DIT (1994-2003)

Feature Code Matrix

Feature Code	Engine Type	Torque Application	HP Rating	Torque Rating	Emission Standard
12NDX	T444E	Standard Torque (ST)	210 HP @ 2400 RPM	485 lb-ft @ 1500 RPM	Federal
12NDY	T444E	High Torque (HT)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	Federal
12NDZ	T444E	High Torque (HT)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	Federal
12NHS	T444E	Standard Torque (ST)	210 HP @ 2400 RPM	485 lb-ft @ 1500 RPM	California
12NHT	T444E	High Torque (HT)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	California
12NHU	T444E	High Torque (HT)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	California
12NHW	T444E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	Federal
12NHX	T444E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	Federal
12NHZ	T444E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	California
12NJA	T444E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	California
12NJP	T444E	High Torque (HT)	250 HP @ 2300 RPM	650 lb-ft @ 1500 RPM	Federal
12NJR	T444E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	Federal
12NJS	T444E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	Federal
12NJT	T444E	Standard Torque (ST)	210 HP @ 2400 RPM	485 lb-ft @ 1500 RPM	Federal
12NJU	T444E	High Torque (HT)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	Federal
12NJV	T444E	High Torque (HT)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	Federal
12NJV	T444E	High Torque (HT)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	Federal
12NJW	T444E	High Torque (HT)	250 HP @ 2300 RPM	650 lb-ft @ 1500 RPM	California
12NJX	T444E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	California
12NJY	T444E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	California
12NJZ	T444E	Standard Torque (ST)	210 HP @ 2400 RPM	485 lb-ft @ 1500 RPM	California
12NKK	T444E	Standard Torque (ST)	190 HP @ 2300 RPM	485 lb-ft @ 1500 RPM	Low Emission Vehicle
12NKW	T444E	High Torque (HT)	210 HP @ 2300 RPM	520 lb-ft @ 1500 RPM	California
12NKY	T444E	High Torque (HT)	230 HP @ 2300 RPM	605 lb-ft @ 1500 RPM	California
12NKZ	T444E	High Torque (HT)	250 HP @ 2300 RPM	650 lb-ft @ 1500 RPM	California
12NLK	T444E	Standard Torque (ST)	175 HP @ 2300 RPM	430 lb-ft @ 1500 RPM	Low Emission Vehicle
12NNA	T444E	Standard Torque (ST)	175 HP @ 2000 RPM	460 lb-ft @ 1400 RPM	50 State
12NNB	T444E	Standard Torque (ST)	195 HP @ 2300 RPM	520 lb-ft @ 1400 RPM	50 State
12NNC	T444E	Standard Torque (ST)	210 HP @ 2500 RPM	560 lb-ft @ 1400 RPM	50 State
12NND	T444E	High Torque (HT)	215 HP @ 2400 RPM	560 lb-ft @ 1400 RPM	50 State
12NNE	T444E	High Torque (HT)	230 HP @ 2600 RPM	620 lb-ft @ 1400 RPM	50 State
12NNH	T444E	Standard Torque (ST)	175 HP @ 2000 RPM	460 lb-ft @ 1400 RPM	Low Emission Vehicle
12NNJ	T444E	Standard Torque (ST)	195 HP @ 2300 RPM	520 lb-ft @ 1400 RPM	Low Emission Vehicle
12NNK	T444E	Standard Torque (ST)	210 HP @ 2500 RPM	560 lb-ft @ 1400 RPM	Low Emission Vehicle

Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations

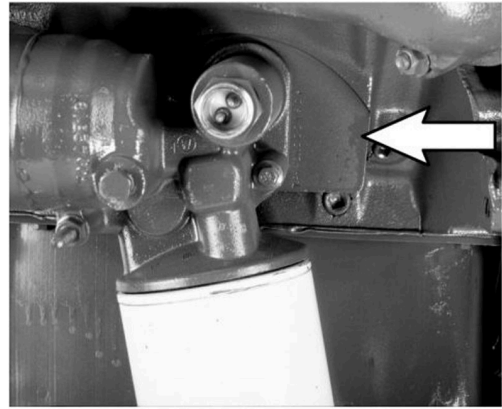
- Stamped on the crankcase pad on the lower rear left side of the engine.
- On the vehicle lineset ticket.

Engine Serial Number Examples:

- U.S.A Origin = 7.4HM2U1419278
- Brazil Origin = 7.4HM2N5111779

Engine Serial Number Codes:

- Engine identification code: 7.4
- Type of code: H=Diesel, turbocharged, air cooled and electronically controlled
- End use code: M2=Truck, A2=Stripped and service
- Country of origin: U=United States , N=Brazil (IESA)
- Engine serial number sequence: 0000500-1419278



Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate. In these cases, it is important to check the on-board technology listed in the update chart to identify the correct engine model. For example, ESN 0460196 may have standard injectors rather than split-shot injectors. For this limited case, identifying the injector by part number will determine the correct engine model. A list of injector part numbers is available on 08-10, and are categorized by torque rating and injector code.

Model Year	Beginning Serial Number	Description
1994	0000500	Introduced in International with aluminum water pump left inlet
1994.5	0058559	Cast iron water pump right inlet, turbocharger
1995	0192398	High pressure pump with edge filter and drain check valve, new cylinder heads
1995.5	0216543	High pressure pump, new pistons and rings, front cover and reservoir
1996.5	0375549	New front cover, oil pan and pickup, pistons and rings, gold contact sensors
1996.5	0400797	New camshaft timing
1997	0460195	New split-shot injectors, new ECM's and 250HP
1997.5	0634234	Introduces Consolidated Engine Controller (CEC) on International applications
1998	0661895	New pistons and rings, turbos, wiring Harness, HP hydraulic hoses, HP hydraulic pump
1999	0843990	New intake cover, fuel filter bracket, fuel pump hoses, turbocharger, air pipes
2000.5	1419278	New turbocharger, high pressure oil hoses, CAC manifold, wiring Harness, introduced coolant conditioner options

International T444E 7.3L DIT (1994-2003)

Bill of Material

Component	Short Block RENEWED	Long Block RENEWED	Trimmed Engine RENEWED
Cam Bearings	X	X	X
Camshaft	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X
Piston Cooling Tubes	X	X	X
Pistons/Rings	X	X	X
Rear Cover	X	X	X
Rear Seal	X	X	X
Timing Components	X	X	X
Cylinder Head Assembly		X	X
Front Cover		X	X
Front Seal		X	X
Glow Plugs		X	X
High Pressure Oil Pump		X	X
Injectors		X	X
Oil Cooler Assembly		X	X
Oil Filter		X	X
Oil Pan and Pick-up Tube		X	X
Oil Pump Assembly		X	X
Push Rods		X	X
Rocker Arms		X	X
Sensor, Cam		X	X
Sensor, EVP		X	X
Sensor, ICP		X	X
Sensor, Oil Temp		X	X
Valve Cover Gaskets		X	X
Valve Covers		X	X
Valves		X	X
Vibration Damper		X	X
Accy. Bracket			X
Block Heater			X
Fuel Filter Assembly			X
Fuel Lift Pump			X
Sensor, IPR			X
Sensor, Water Temp			X
Turbo Base			X
Turbocharger Assembly			X
Water Outlet			X
Water Pump Assembly			X
Intake Manifold			X

International T444E 7.3L DIT (1994-2003)

Trimmed Engine

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Torque & Injector Rating	EBPD	Engine Control System
2587972C91	2000.5-2003	T444E	Trimmed Engine	1419278-5999999	ST (Split-Shot AD)	No	1 Box
2587971C91	2000.5-2003	T444E	Trimmed Engine	1419278-5999999	ST (Split-Shot AD)	Yes	1 Box
2587973C91	2000.5-2003	T444E	Trimmed Engine	1419278-5999999	HT (Split-Shot AD)	No	1 Box
2509018C91	1999-2000.5	T444E	Trimmed Engine	0843990-1419277	ST (Split-Shot AD)	No	1 Box
2509019C91	1999-2000.5	T444E	Trimmed Engine	0843990-1419277	ST (Split-Shot AD)	Yes	1 Box
2509020C91	1999-2000.5	T444E	Trimmed Engine	0843990-1419277	HT (Split-Shot AD)	No	1 Box
2507182C91	1998-1999	T444E	Trimmed Engine	0661895-0843989	ST (Split-Shot AB)	No	1 Box
2507183C91	1998-1999	T444E	Trimmed Engine	0661895-0843989	ST (Split-Shot AB)	Yes	1 Box
2507184C91	1998-1999	T444E	Trimmed Engine	0661895-0843989	HT (High Output AC)	No	1 Box
2502496C91	1997-1998	T444E	Trimmed Engine	0460195-0661893	ST (Split-Shot AB)	No	1 Box
2502497C91	1997-1998	T444E	Trimmed Engine	0460195-0661893	ST (Split-Shot AB)	Yes	1 Box
2508349C91	1997-1998	T444E	Trimmed Engine	0460195-0661893	HT (High Output AC)	No	1 Box
2501675C91	1994-1997	T444E	Trimmed Engine	0000500-0460195	ST (Standard AA)	No	3 Box
2501674C91	1994-1997	T444E	Trimmed Engine	0000500-0460195	ST (Standard AA)	Yes	3 Box
2585447C91	1994-1997	T444E	Trimmed Engine	0000500-0460195	HT (High Output AC)	No	3 Box

International T444E 7.3L DIT (1994-2003)

Long Block



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Injector Code
2587974C91	2000.5-2003	T444E	Long Block	1419278-5999999	AD
2509021C91	1999-2000.5	T444E	Long Block	0843990-1419277	AD
2507181C91	1998-1999	T444E	Long Block	0661895-0843989	AB
2505535C91	1997-1998	T444E	Long Block	0460195-0661893	AB
2501676C91	1994-1997	T444E	Long Block	0000500-0460195	AA

RENEWED Cylinder Header



OEM New Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM Cast Part Number
2501678C91	1995.5-2003	T444E	Cylinder Head (10-bolt intake cover)	0174667-5999999	1825113C1
2501677C91	1994-1995.5	T444E	Cylinder Head (8-bolt intake cover)	0000500-0174666	1818303C2

Introduction

This chapter answers most questions about engines for model year 2003-2010 Ford 6.0L series Ford engines. It delivers simplified part number identification including a Ford service part number.

A question to consider and how to find the answer:

Has the engine been confirmed to be a model year 2003-2010 F-250, F-550 or E-Series van?

Answer found with lineset feature code.

The engine serial number can be found on the emission label valve cover or stamped on the crankcase at the left rear of the engine, just below the cylinder head.

Engine ID tag found on Engine ECM tag (example 3G-041-CC).

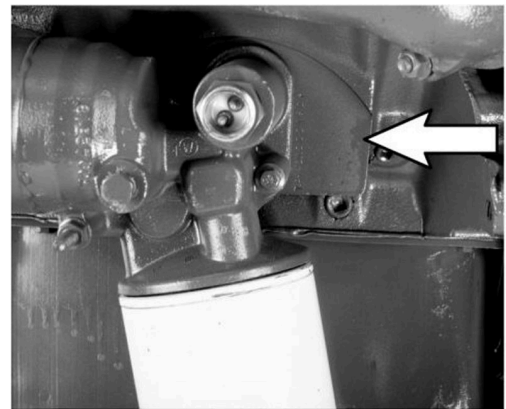


Serial Number Identification

Properly identifying replacement part numbers begins with identifying the Engine ID Tag Number (Calibration Tag) located on the top of the Fuel Injector Control Module (FICM).

-This Engine ID Tag Number will cross to an active International service number included in our cross reference guide.

The core criteria and warranty coverage will be handled the same as the Trimmed RENEWED VT365 engine assemblies. Slight differences are found in the BOM content and will be reflected in the core criteria.



Ford 6.0L (Model Years 2003-2010)

Bill of Material

Component	6.0L Ford
Cam Bearings	X
Camshaft	X
CDR Valve/Breather	X
Connecting Rods	X
Crankshaft	X
Cylinder Block	X
Cylinder Head Assembly	X
EGR Cooler	X
EGR Valve	X
Engine Heater	X
EVRT Control Valve	X
Exhaust Manifold	X
Front Cover	X
Front Seal	X
Fuel Filter Assembly	X
Fuel Filter Bracket	X
Fuel Injectors	X
Fuel Lift Pump	X
Fuel Lines	X
Glow Plugs	X
High Pressure Oil Pump	X
Injector Pressure Regulator Valve	X
Intake Manifold	X
Lifters	X
Main/Rod Bearings	X
Oil Cooler Assembly	X
Oil Filter and Base	X
Oil Pan and Pick-up Tube	X
Oil Pump Assembly	X
Piston Cooling Tubes	X
Pistons/Rings	X
Push Rods	X
Rear Cover	X
Rear Seal	X
Rocker Arm Carrier	X
Sensor, Camshaft Positioning	X
Sensor, Crankshaft Position	X
Sensor, Engine Oil Pressure	X
Sensor, Engine Oil Temperature	X
Sensor, Exhaust Back Pressure	X
Sensor, Injection Control Pressure	X
Sensor, Manifold Air Temperature	X
Sensor, Water Temperature	X

Bill of Material (cont'd.)

Component	6.0L Ford
Timing Components	X
Turbo Air Inlet	X
Turbo Piping	X
Turbocharger Assembly with Base	X
Valves	X
Vibration Damper	X
Water Outlet and Thermostat	X
Water Pump Assembly	X

Trimmed Engine - F-250, F-550

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.

RENEWED Part Number	Model Year	Vehicle	Description	Engine Serial Number Range	ECM ID Number	Transmission Type
4307347R91	2003-2004	F-250, F-550	Trimmed Engine	6000000-6155636	3G-041-CC-CE DG-041-BA-BC DG-041-BE WG-041-DF	Manual
4307346R91	2003-2004	F-250, F-550	Trimmed Engine	6000000-6155636	DG-042-AC DG-042-AG DG-044-AA-4C DG-044-AE WG-042-EE-EG	Automatic
4307348R91	2004	F-250, F-550	Trimmed Engine	6155637-6344942	4G-041-EB XG-041-BB	Manual
4307345R91	2004	F-250, F-550	Trimmed Engine	6155637-6344942 or 131587-181447	EG-042-CB EG-044-DB XG-042-AC XG-042-XB	Automatic
4307349R91	2005	F-250, F-550	Trimmed Engine	6344943-6429301	FG-042-DB FG-044-AC YG-042-EB	Automatic
4307350R91	2006	F-250, F-550	Trimmed Engine	6560521-6723721 or 213261-299092	5G-041-GC 6G-041-AA 6G-041-AB 6G-041-BA 6G-041-BB YG-041-FC	Manual
4307339R91	2006	F-250, F-550	Trimmed Engine	6560521-6723721 or 213261-299092	6G-042-CA 6G-042-CB 6G-042-DA 6G-042-DB FG-042-RB FG-042-RC FG-044-TC YG-042-SC	Automatic

Ford 6.0L (Model Years 2003-2010)

Trimmed Engine - F-250, F-550 (cont'd.)

RENEWED Part Number	Model Year	Vehicle	Description	Engine Serial Number Range	ECM ID Number	Transmission Type
4307351R91	2006-2007	F-250, F-550	Trimmed Engine	6723722-Above or 299093-Above	6G-041-AC 6G-041-BC	Manual
4307341R91	2006-2007	F-250, F-550	Trimmed Engine	6723722-Above or 299093-Above	6G-042-CC 6G-042-DC	Automatic

Trimmed Engine - E-Series

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

Casting numbers for components such as the engine crankcase can be inspected to ensure that the core returned is the same as purchased. See the core acceptance manual for inspection criteria.

RENEWED Part Number	Model Year	Vehicle	Description	Engine Serial Number	ECM ID Number
4307344R91	2004	E-Series	Trimmed Engine	Prior to 149760	EG-046-AC XG-046-AC
4307342R91	2005	E-Series	Trimmed Engine	149761-178947	YG-046-AA
4307340R91	2005-2006	E-Series	Trimmed Engine	178948-299092	6G-046-AA 6G-046-BA FG-046-BB YG-046-CB
4307343R91	2006-2010	E-Series	Trimmed Engine	299093 & Above	6G-046-AC 6G-046-AD 6G-046-BC 8G-046-AA 8G-046-AB 8G-046-BA 8G-046-BB 9G-046-AB 9G-046-AC 9G-046-BB 9G-046-BC

Introduction

This chapter answers most questions about International RENEWED replacement parts and engines for Model Year 1994-2003 Powerstroke 7.3L DIT Series Ford V-8 diesel engines. It delivers simplified part number identification including a Ford service part number cross reference.



Serial Number Identification

Properly identifying replacement part numbers begins with the engine serial number or Vehicle Lineset Ticket.

Engine Serial Number Locations:

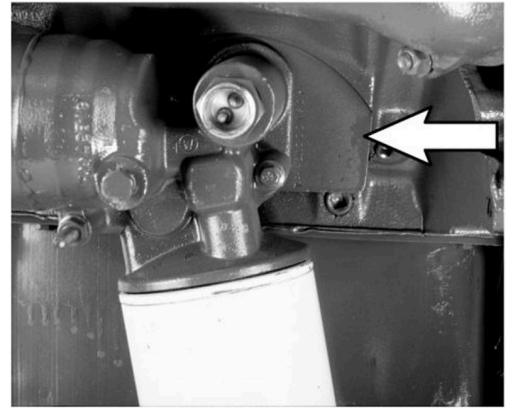
- Stamped on the crankcase pad on the lower rear left side of the engine.
- On the vehicle lineset ticket

Engine Serial Number Examples:

- U.S.A Origin = 7.4HM2U1419278
- Brazil Origin = 7.4HM2N5111779

Engine Serial Number Codes:

- Engine identification code: 7.4
- Type of Code: H=Diesel, turbocharged, air cooled and electronically controlled
- End Use Code: M2=Truck, A2=Stripped and service
- Country of Origin: U=U.S.A. , N=Brazil (IESA)
- Engine serial number sequence: XXXXXXXX (Seven digit)



Ford Powerstroke 7.3L DIT (1994-2003)

Engine Application Chart

Below is a chart highlighting identifiable engine updates to assist in selecting the correct replacement engine and parts. In some limited cases, engine serial numbers close to a model update may have previous technology different than what the ESN would indicate. In these cases, it is important to check the on-board technology listed in the update chart to identify the correct engine model. For example, ESN 0460196 may have standard injectors rather than split-shot injectors. For this limited case, identifying the injector by part number will determine the correct engine model.

Model Year	Beginning Serial Number	Description
1994	0000500	Introduced in Ford E and F Series Applications
1995	0174666	New cylinder heads
1998	0661474	Split-shot injectors introduced
2000.5	1425747	New connecting rod

Bill of Material

Component	Short Block RENEWED	Long Block RENEWED	Running Engine RENEWED
Cam Bearings	X	X	X
Camshaft	X	X	X
Connecting Rods	X	X	X
Crankcase (Cylinder Block)	X	X	X
Crankshaft	X	X	X
Lifters/Tappets	X	X	X
Main/Rod Bearings	X	X	X
Piston Cooling Tubes	X	X	X
Pistons/Rings	X	X	X
Rear Cover	X	X	X
Rear Seal	X	X	X
Timing Components	X	X	X
Cylinder Head Assembly		X	X
Front Cover		X	X
Front Seal		X	X
Glow Plugs		X	X
High Pressure Oil Pump		X	X
Injectors		X	X
Intake Manifold		X	X
Oil Cooler Assembly		X	X
Oil Filter		X	X
Oil Pan and Pick-up Tube		X	X
Oil Pump Assembly		X	X
Push Rods		X	X
Rocker Arms		X	X

Bill of Material (cont'd.)

Component	Short Block RENEWED	Long Block RENEWED	Running Engine RENEWED
Sensor, Cam		X	X
Sensor, EVP		X	X
Sensor, ICP		X	X
Sensor, Oil Temp		X	X
Valve Cover Gaskets		X	X
Valve Covers		X	X
Valves		X	X
Vibration Damper		X	X
Accy. Bracket			X
Block Heater			X
Fuel Filter Assembly			X
Fuel Lift Pump			X
Sensor, IPR			X
Sensor, Water Temp			X
Turbo Base			X
Turbo Charger Assembly			X
Water Outlet			X
Water Pump Assembly			X

Trimmed Engine - F-250, F-550

The chart below notes the serial number ranges which are an approximation and need to be verified per each case. The actual engine serial number should be validated for ordering accuracy.

Note: EBPD = Exhaust Back Pressure Device



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	EBPD	Emissions	Ford Service Part Number
2589426C91	1999.5-2003	7.3L DIT F-250, F-550	Trimmed Engine	0896813-1419348	No	50 State	XC3Z-6007-BARM
2589425C91	1999.5-2003	7.3L DIT F-250, F-550	Trimmed Engine	0896813-2030402	Yes	50 State	XC3Z-6007-CARM
2589424C91	1998.5-1999.5	7.3L DIT F-250, F-550	Trimmed Engine	0661976-0896812	No	50 State	5C3Z-6V007-CRM
2589423C91	1998.5-1999.5	7.3L DIT F-250, F-550	Trimmed Engine	0661976-0896812	Yes	50 State	5C3Z-6V007-BRM
2504313C91	1997-1998.5	7.3L DIT F-250, F-550	Trimmed Engine	0375549-0661973	Trimmed Engine	California	F7TZ-6V007-AARM
2504314C91	1997-1998.5	7.3L DIT F-250, F-550	Trimmed Engine	0375549-0661973	Trimmed Engine	Federal	F7TZ-6V007-BARM
2501672C91	1996	7.3L DIT F-250, F-550	Trimmed Engine	0201681-0375548	Trimmed Engine	California	F6TZ-6V007-AARM

Ford Powerstroke 7.3L DIT (1994-2003)

Trimmed Engine - F-250, F-550 (cont'd.)

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	EBPD	Emissions	Ford Service Part Number
2501673C91	1996	7.3L DIT F-250, F-550	Trimmed Engine	0201681-0375548	Trimmed Engine	Federal	F6TZ-6V007-BARM
2501686C91	1995	7.3L DIT F-250, F-550	Trimmed Engine	0035652-0201680	Trimmed Engine	50 State	F5TZ-6V007-AARM
2501685C91	1994	7.3L DIT F-250, F-550	Trimmed Engine	0000501-0035651	Trimmed Engine	50 State	F4TZ-6V007-FARM

Trimmed Engine - E Series

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Emissions	Ford Service Part Number
2589427C91	1999.5-2003	7.3L DIT E Series	Trimmed Engine	0896812 & above	50 State	XC2Z-6007-AARM
2589422C91	1998.5-1999.5	7.3L DIT E Series	Trimmed Engine	0661976-0896811	50 State	5C3Z-6V007-ARM
2504312C91	1997-1998.5	7.3L DIT E Series	Trimmed Engine	0375549 0661973	50 State	F7UZ-6V007-AARM
2501683C91	1996	7.3L DIT E Series	Trimmed Engine	0201681-0375548	California	F6UZ-6V007-BARM
2501684C91	1996	7.3L DIT E Series	Trimmed Engine	0201681-0375548	Federal	F6UZ-6V007-AARM
2501682C91	1995	7.3L DIT E Series	Trimmed Engine	0000501-0201680	50 State	F5UZ-6V007-AARM

Trimmed Engine - F-650, F-750

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Emissions	Ford Service Part Number
2589428C91	1999.5-2003	7.3L DIT F-650, F-750	Trimmed Engine	1026248 & above	50 State	1C3Z-6007-HARM

Ford Powerstroke 7.3L DIT (1994-2003)

Long Block - F-250, F-550



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Emissions	Ford Service Part Number
2589419C91	1999.5-2003	7.3L DIT F-250, F-550	Long Block	0896813-2030402	50 State	XC3Z-6006-AARM
2589417C91	1998.5-1999.5	7.3L DIT F-250, F-550	Long Block	0661976-0896812	50 State	5C3Z-6V006-CRM
2504318C91	1997-1998.5	7.3L DIT F-250, F-550	Long Block	0375549-0661973	California	F7TZ-6V006-CARM
2504316C91	1997-1998.5	7.3L DIT F-250, F-550	Long Block	0375549-0661973	Federal	F7TZ-6V006-BARM
2501671C91	1996	7.3L DIT F-250, F-550	Long Block	0201681-0375548	50 State	F6TZ-6V006-BARM
2501669C91	1994-1995	7.3L DIT F-250, F-550	Long Block	0000501-0201680	50 State	F4TZ-6V006-BARM

Ford Powerstroke 7.3L DIT (1994-2003)

Long Block - E Series

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Ford Service Part Number
2589420C91	1999.5-2003	7.3L DIT E Series	Long Block	0896812 & above	XC2Z-6006-AARM
2589418C91	1998.5-1999.5	7.3L DIT E Series	Long Block	0661974-0896811	5C3Z-6V006-DRM
2504317C91	1997-1998.5	7.3L DIT E Series	Long Block	0375548-0661973	F7UZ-6V006-AARM
2501667C91	1996	7.3L DIT E Series	Long Block	0201681-0375548	F6UZ-6V006-BARM
2501670C91	1995	7.3L DIT E Series	Long Block	0035651-0201680	F5TZ-6V006-AARM

Long Block - F-650, F-750

RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	Ford Service Part Number
2589421C91	1999.5-2003	7.3L DIT F-650, F-750	Long Block	1026248 & above	1C3Z-6006-DARM

RENEWED Cylinder Head



RENEWED Part Number	Model Year	Engine Type	Description	Engine Serial Number Range	OEM Cast Part Number	Ford Service Part Number
2501678C91	1995.5-2003	7.3L DIT E & F Series	Head, Cylinder (10-bolt intake cover)	0174667-2030402	1825113C1	F5TZ-6V049-AARM
2501677C91	1994-1995.5	7.3L DIT E & F Series	Head, Cylinder (8-bolt intake cover)	0000501-0174666	1818303C2	F4TZ-6V049-BARM

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1822451RX92	8-5	2507182C91	15-5
1822452RX92	8-5	2507183C91	15-5
1823915RX92	8-5	2507184C91	15-5
1823916RX92	8-5	2508349C91	15-5
1823962RX92	8-5	2509018C91	15-5
1823963RX92	8-5	2509019C91	15-5
1824734RX92	8-5	2509020C91	15-5
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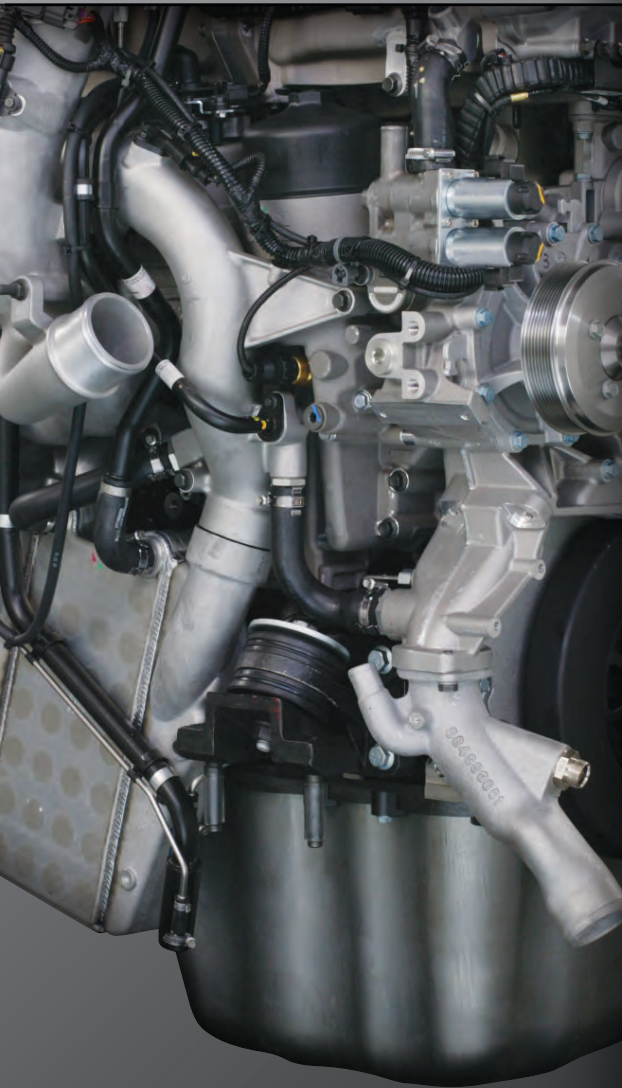
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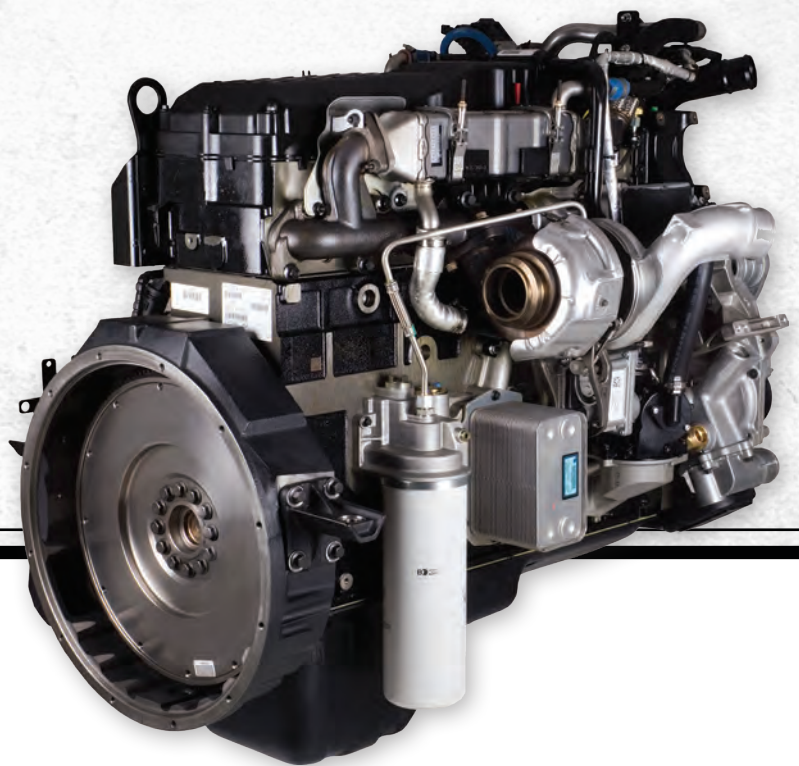
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