



Auxiliary Drive Retrofit (6Cylinder OM642)

Sprinter Sales Engineering & Regional Upfitter Center



Disclaimer

The specifications, descriptions, information, and recommendations contained in this bulletin are believed to be accurate as of August 20, 2013.

Sprinter Sales Engineering reserves the right to modify or append this document without prior notification.

This bulletin is not intended as a work instruction, but as an aid for upfitters to provide technical information necessary to retrofit or modify Mercedes-Benz Sprinters & Freightliner Sprinters (906).

Prior to making any modification to or installing any equipment in or on a Mercedes-Benz Sprinter & Freightliner Sprinter, please check with Sprinter Sales Engineering for additional and updated information, and read the Sprinter Body Builder Information Book Model Series 906.

Sprinter Sales Engineering Contacts:

Walther F Bloch

Department Manager

843-695-5053

walther.bloch@daimler.com

Hotline Engineering Support

Sales Engineering Support

877-367-0024

sprinter.engineering@daimler.com

www.sprinter-engineeringcompliance.com

Auxiliary Drive Retrofit General (N63/ N62)

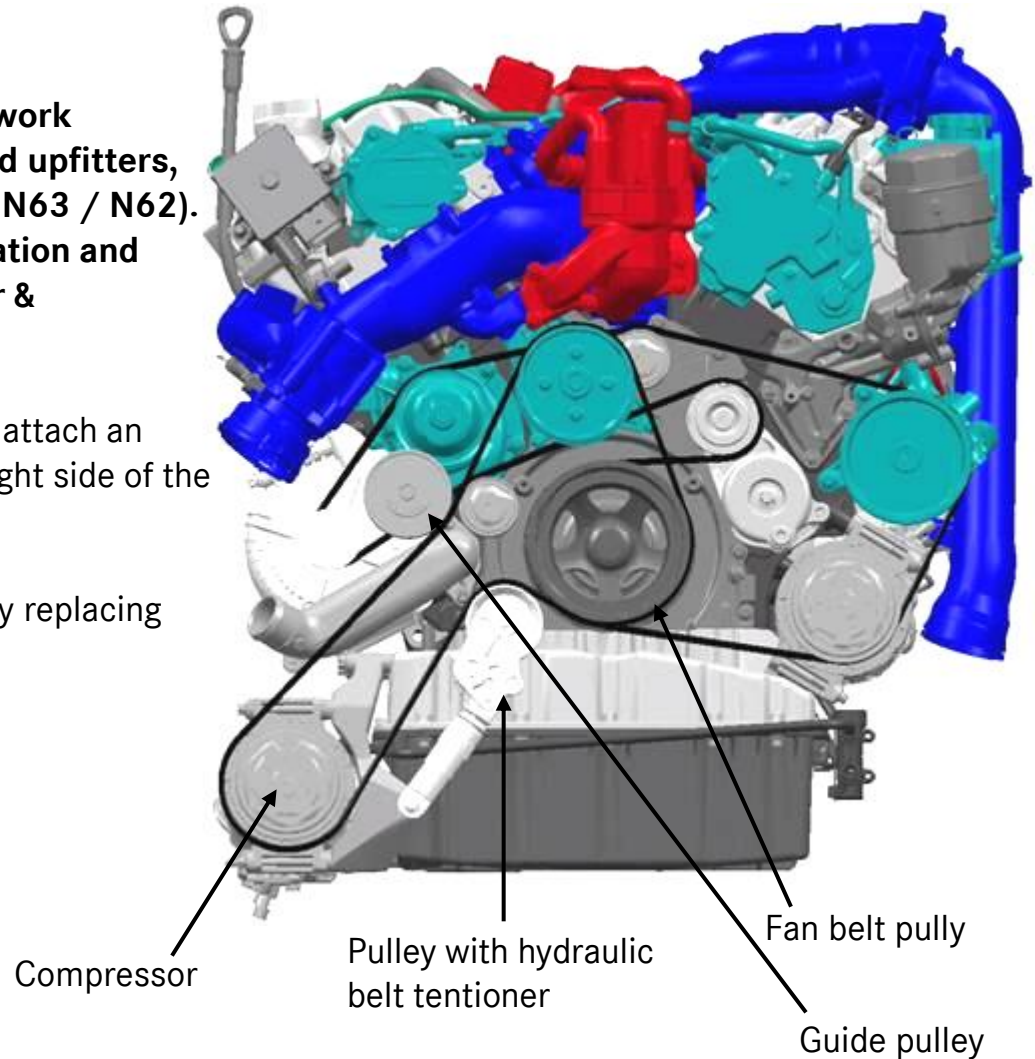
Note:

This guideline is not intended as a complete work instruction but as an aid for body builders and upfitters, that need to retrofit the auxiliary drive (code N63 / N62). It contains part numbers, installation information and torque values for the Mercedes-Benz Sprinter & Freightliner Sprinters.

On Sprinters with Diesel engines it is possible to attach an additional compressor or aux alternator on the right side of the engine next to the oil pan.

An A/C compressor bracket can be retro fitted by replacing the existing casting.

The compressor pulley and the cooling fan are connected with the crank shaft pulley via a serpentine belt.

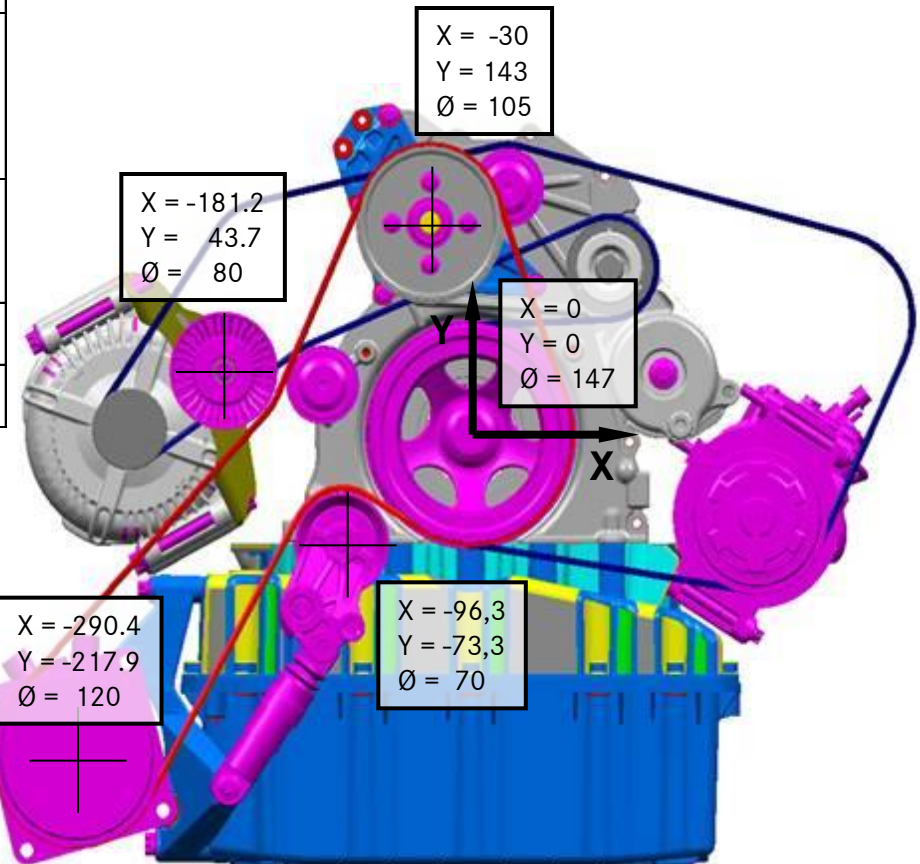


Belt length layout: (Example is a 120mm diameter pulley)

| | |
|--|--|
| Engine center | See picture |
| Pully diameter d(a) | 120 mm (see picture) |
| serpentine belt 21.36 x 1411 | width: 21.36 mm length: 1411 mm rib quantity: 6 PK material: EPDM |
| Compressor casting (part of CODE LBS) | MB part #: A 642 234 04 39) fits refrigeration compressor |
| compressor weight: | Max 6,5 kg [14.33 lbs] |
| input compressor: | Max 8,0 kW |

It is the Upfitters responsibility to choose the correct belt length and to ensure the correct belt layout and belt durability.

Example is a 120mm compressor pulley



Parts List

| Qty | MB# | Description |
|-----|-----------------|---------------------------------|
| 1 | A 906 501 20 82 | hose, cooling fluid |
| 1 | A 000 993 08 02 | stop spring (radiator) |
| 1 | A 906 501 33 82 | hose, cooling fluid |
| 1 | A 642 203 05 40 | bracket (to alternator) |
| 1 | N 910143 006001 | screw MBN 10143-M6x16-8.8 |
| 1 | A 642 200 11 70 | belt tensioner |
| 1 | N 910143 008015 | screw MBN 10143-M8x30-10.9 |
| 1 | N 000912 008210 | screw DIN 912-M8x65-10.9 |
| 1 | A 001 993 46 96 | main serpentine belt 21.36x2045 |
| 4 | N 000000 003609 | screw MBN 10143-M8x95-10.9 |
| 1 | A 642 230 00 42 | pulley, bracket |
| 1 | A 642 200 07 56 | adapter cooling water intake |

Depending on the application one of the following available attachment casting options must be ordered in addition:

For retrofitting CODE N63 refrigeration casting:

| | | |
|---|-----------------|-----------------------------|
| 1 | A 642 234 04 39 | casting (refrigeration) |
| 4 | N 910143 008021 | screw MBN 10143 M8x65 - 8.8 |

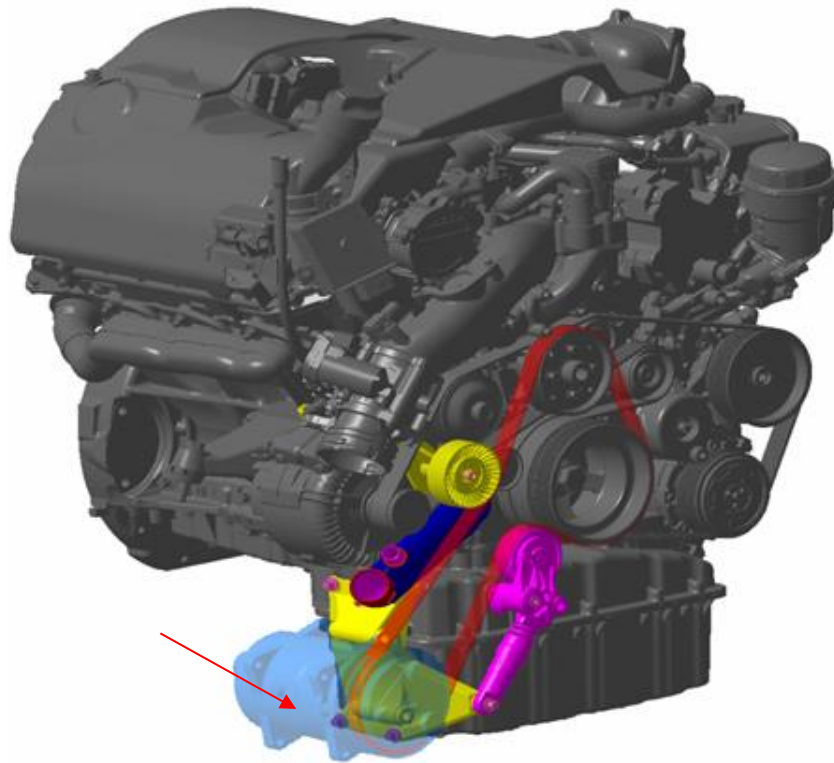
For retrofitting air-conditioning casting with compressor (Denso):

| | | |
|---|-----------------|------------------------------------|
| 1 | A 642 234 03 39 | casting A/C (Denso) |
| 4 | N 910143 008021 | screw MBN 10143 M8x65 - 8.8 |
| 1 | A 001 230 71 11 | compressor (Denso) |
| 1 | A 001 993 37 96 | serpentine belt (21.36mm x 1411mm) |
| 3 | N 910143 008011 | screw M8 x 90 - 8.8 |

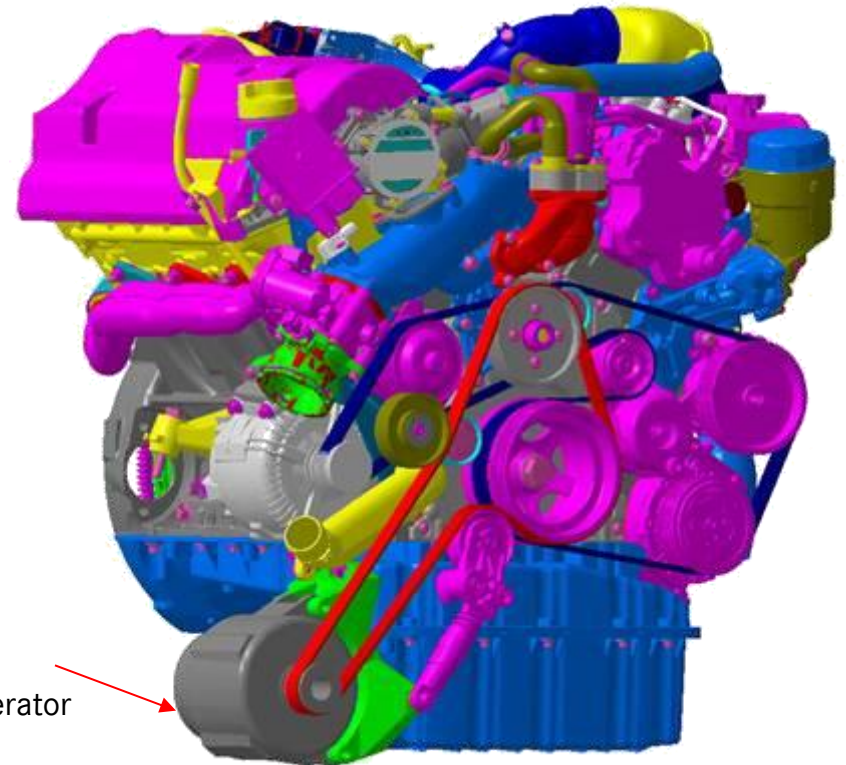
For retrofitting CODE N62 alternator casting:

| | | |
|---|-----------------|-----------------------------|
| 1 | A 642 150 00 65 | casting (alternator) |
| 4 | N 910143 008007 | screw MBN 10143 M8x50 - 8.8 |

Aux Drive on Engine OM642



CODE N63



Aux
generator

CODE N62

Alternator, A/C compressor or refrigeration compressor are customer supplied.

Overview

Available castings:

A/C casting DENSO (OEM spare part)
MB# A 642 234 03 39

Refrigeration casting SANDEN (included in CODE N63)
MB# A642 234 04 39

Aux alternator casting
(included in CODE N62)
MB# A 642 150 00 65

For A/C and refrigeration casting use screws:

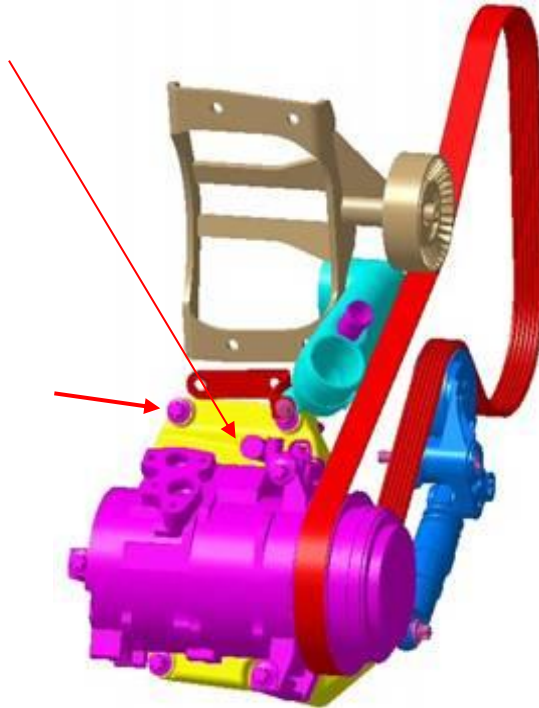
4x MB# N 910143 008021

Screw M8x65 - 8.8
20 Nm +/- 1,6 Nm
[14.75 lb-ft +/- 1.2lb-ft]

For generator casting use:

4x MB# N 910143 008007

Screw M8x50 - 8.8
20 Nm +/- 1,6 Nm
[14.75 lb-ft +/- 1.2lb-ft]

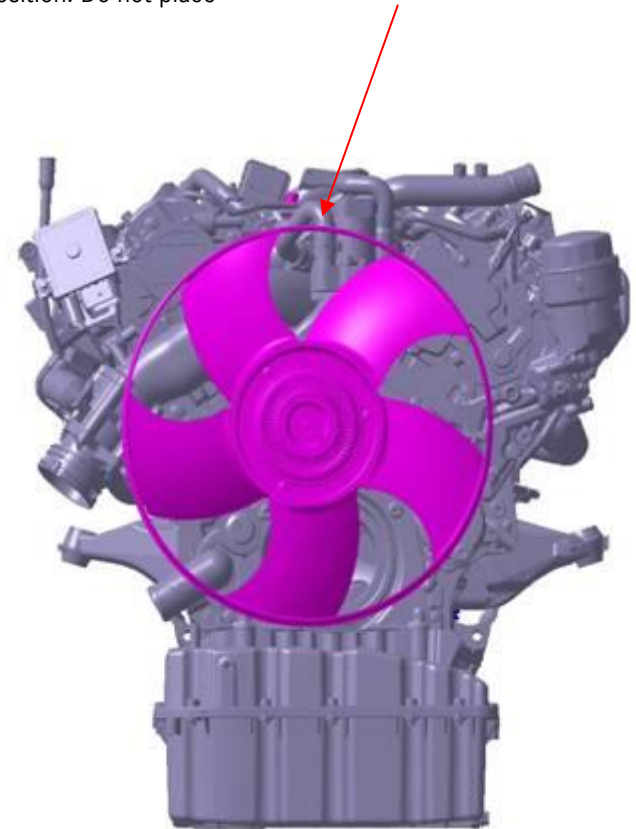


Remarks:

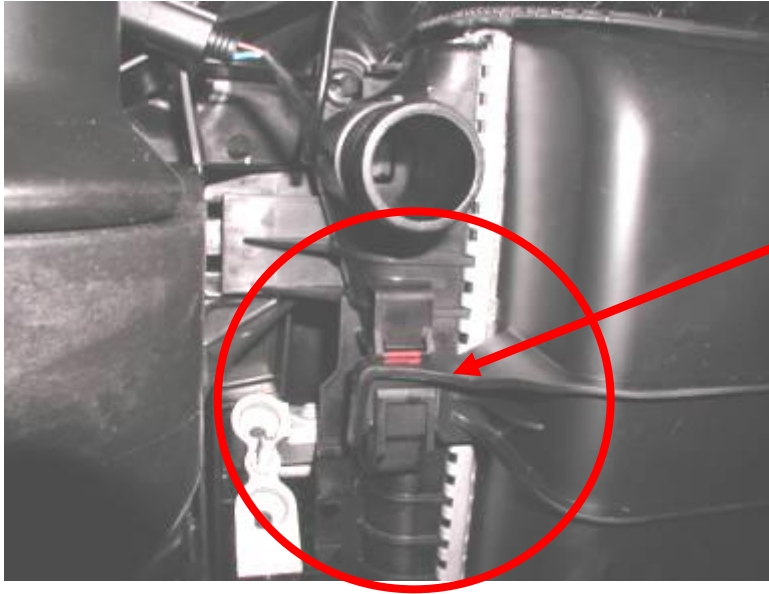
Using special tool (counter holder) 8930, remove radiator fan.
Always store the viscous fan clutch in the upright position. Do not place down flat.

MB# A 000 200 73 23

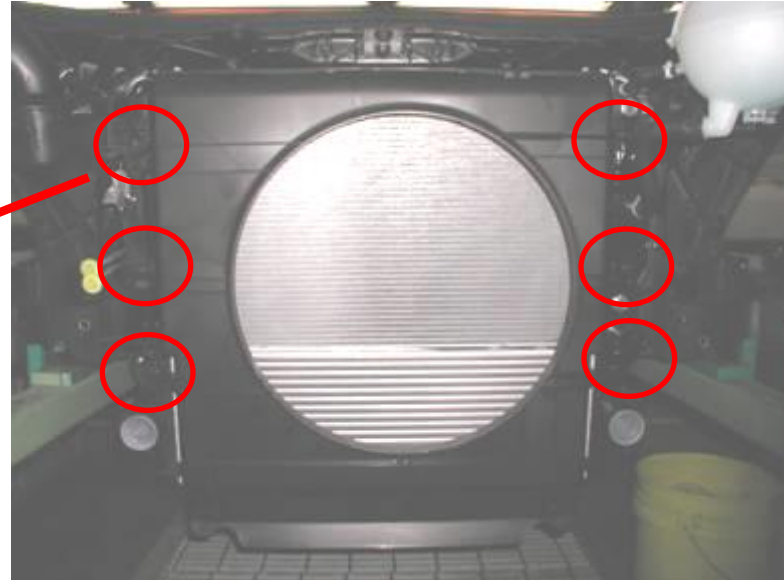
Cooling fan
22 Nm +/- 3 Nm
[16.25 lb-ft +/- 2.2lb-ft]



Fan Shroud



top tab (rear view)



cooling unit (rear view)

To remove fan shroud MB# A9065050155, release lateral clips from the top 2 tabs very careful. The bottom 4 clips rest in a groove. Pull gently fan shroud upward.

To reassemble ensure that all 6 tabs fit correctly.

Do not install shroud with broken or missing tabs.



Pulley Bracket to Alternator Mounting

**Remove:
Sprinter OEM alternator**

4x MB# N 000000 003609

Screw: M8 X95 - 8.8
20 Nm +/- 1,6 Nm
[14.75 lb-ft +/- 1.2lb-ft]

**Adapter coolant intake
MB# A 642 200 07 56**

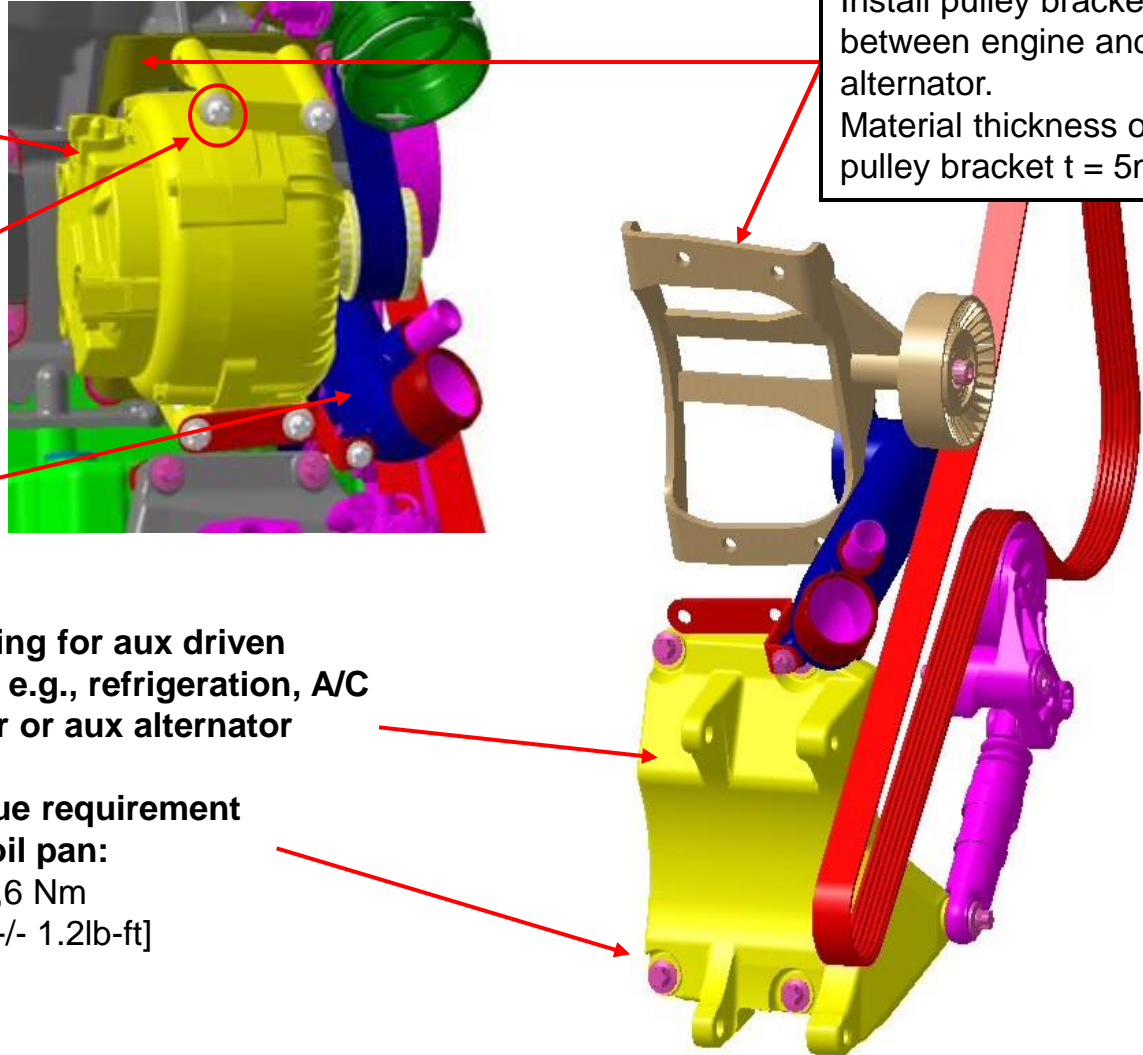
**Mount casting for aux driven
component e.g., refrigeration, A/C
compressor or aux alternator**

**Screw torque requirement
casting to oil pan:
20 Nm +/- 1,6 Nm
[14.75 lb-ft +/- 1.2lb-ft]**

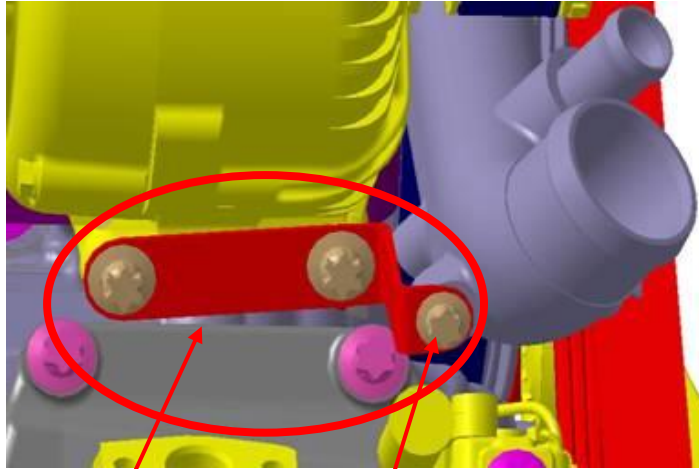
A 642 230 00 42

Install pulley bracket
between engine and
alternator.

Material thickness of
pulley bracket $t = 5\text{mm}$



Bracket Alternator / Hydraulic Dampener

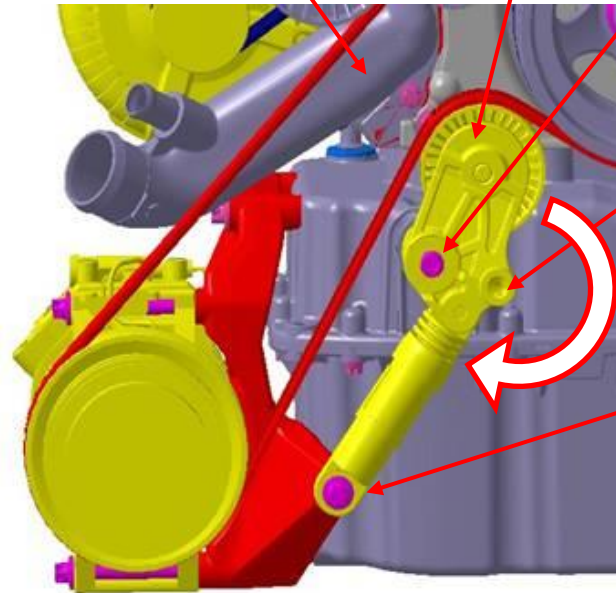


1x A 642 203 05 40
Bracket

1x N 910143 006001
Screw M 6X16 - 8.8
8,4 Nm +/- 0,65 Nm
[6.2 lb-ft +/- 0.5 lb-ft]

Adapter coolant intake
1x A 642 200 07 56
Reuse existing 2x screws

1x A 642 200 11 70
Belt tensioner



1x N 000912 008210
Screw M8x65 - 10.9
27,5 Nm +/- 2,2 Nm
[20.3 lb-ft +/- 1.6 lb-ft]

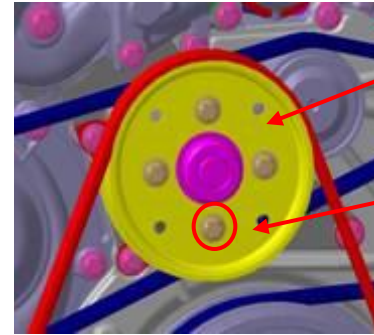
Use Torx head T55
to install
serpentine
belt (see arrow)

1x N 910143 008015
Screw M8 x30 - 10.9
29,5 Nm +/- 2,3 Nm
21.75 lb-ft +/- 1.7lb-ft]

Serpentine Belt Routing

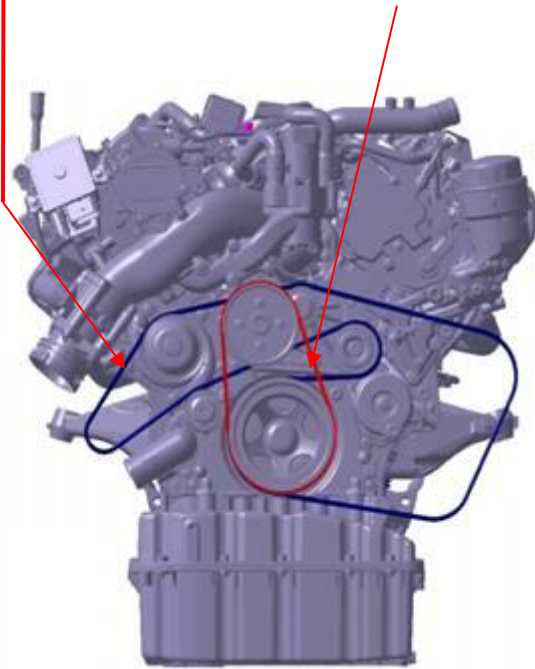
Factory supplied main serpentine belt
MB# A 642 997 02 92 (2035 mm)

Factory supplied serpentine belt, remove only when installing
compressor/generator.
(crank pulley to fan)
MB# A 001 993 38 96 (21.36 x 691 mm)



Pulley

4x Screw M6x10 - 8.8
10 Nm +/- 1 Nm
[7.4 lb-ft +/- 0.7 lb-ft]



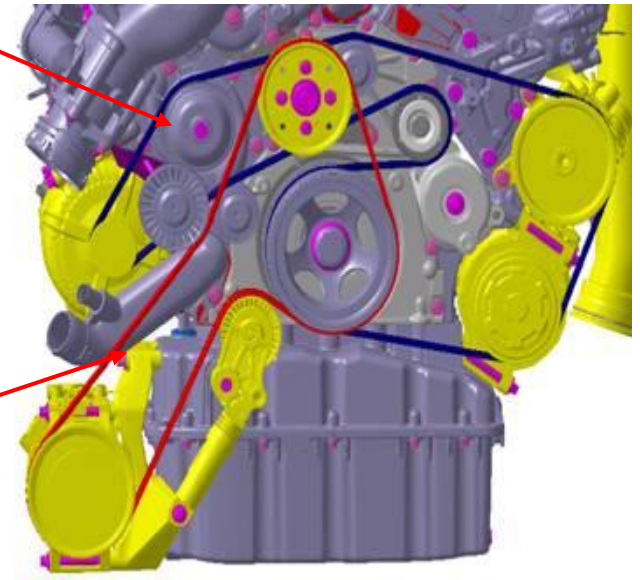
Factory original

Main serpentine belt **must be replaced** with
longer belt **MB# A 001 993 46 96**
(21.36mm x 2045 mm)

**Alternator, A/C compressor or
refrigeration compressor are not
included in the option code. Customer
needs to procure the aforementioned
components.**

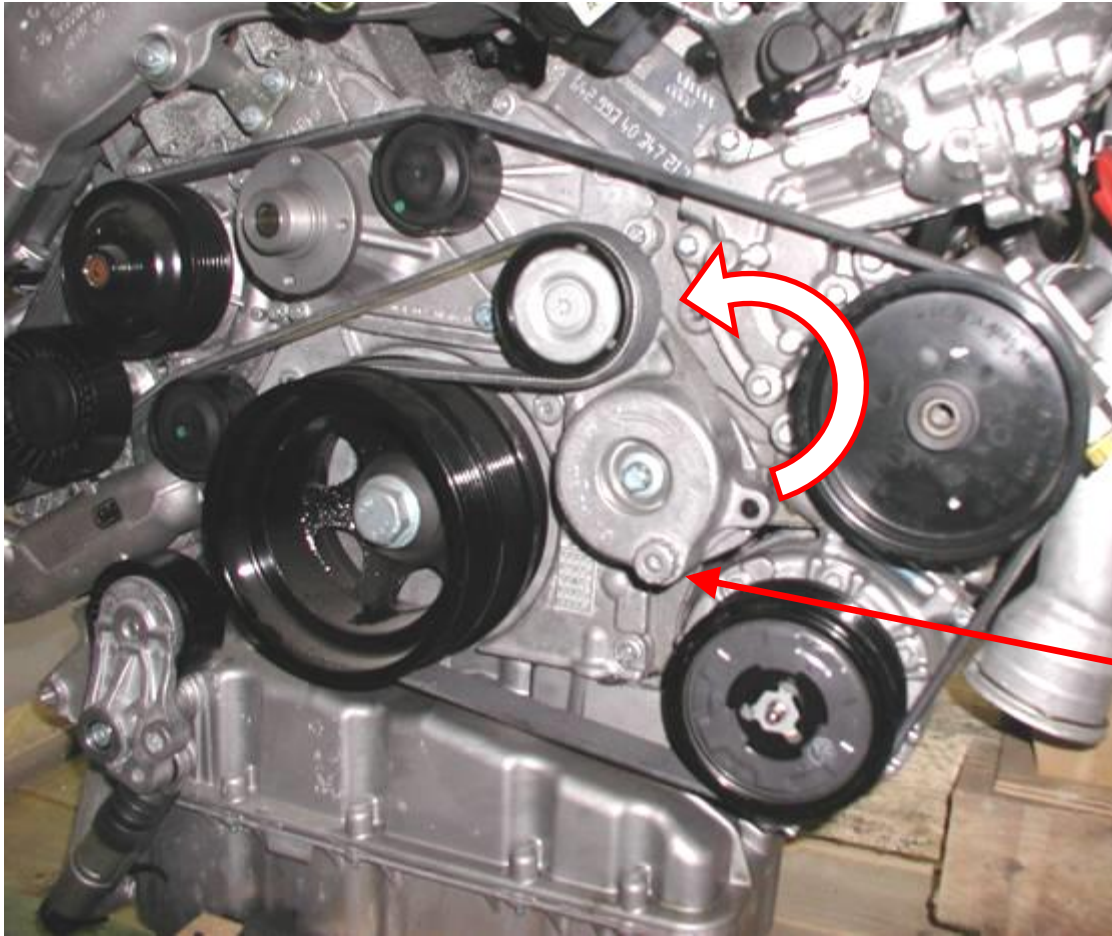
Available serpentine belt for option (N63)
MB# A 001 993 37 96 (21.36 x 1411 mm)

Available serpentine belt for option (N62)
MB# A 011 997 58 92 (21.36 x 1330 mm)



After conversion

Main Serpentine Belt



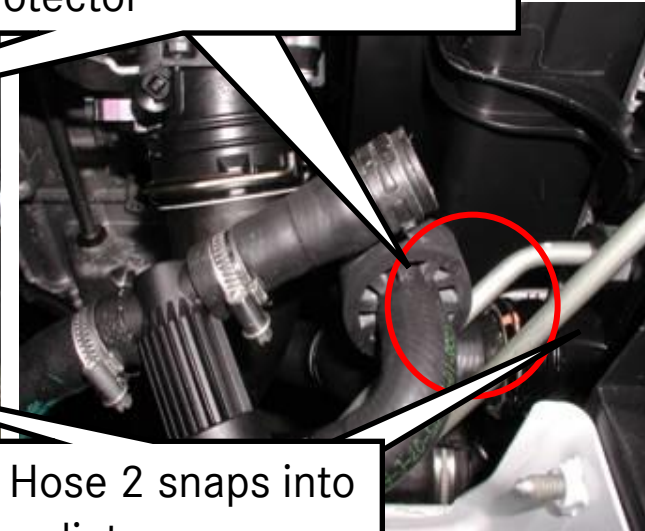
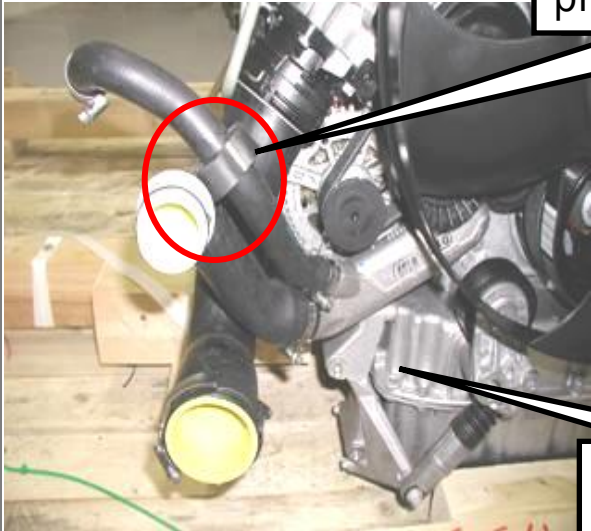
Front belt removed for visual purposes.

Do not remove the small front belt if no aux generator or compressor is fitted. Belt is difficult to reinstall.

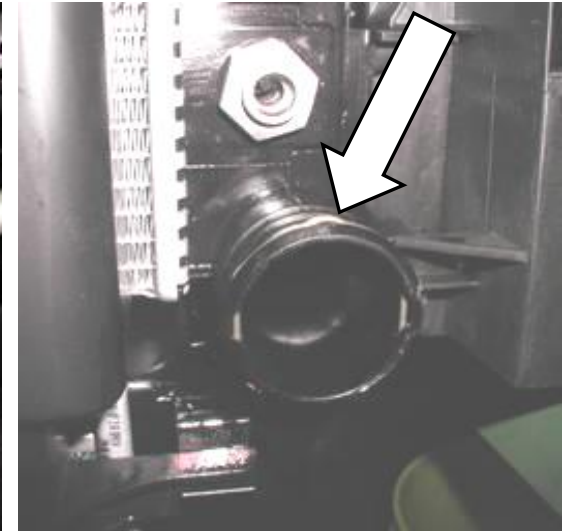
**Belt tensioner:
Use 17mm 12 point socket or Torx equivalent to install serpentine belt 68012426AA.**

Cooling Hoses

Hose 1 w/anti chafing protector



Hose 2 snaps into radiator



Install cooling hose 1
MB# A9065013382 pointing backwards and using 2 hose clamps and re - installing an anti chafing protector.
Install hose 2 MB# A 906 501 20 82 pointing straight forward.

Protector on hose 1 right must be installed over metal pipe to prevent chafing.
Connect hose 2 directly to the radiator ensuring that the clip connector is engaged. Ensure that clip A 000 993 08 02 fits tightly and is secured. Ensure proper hose 2 seating.

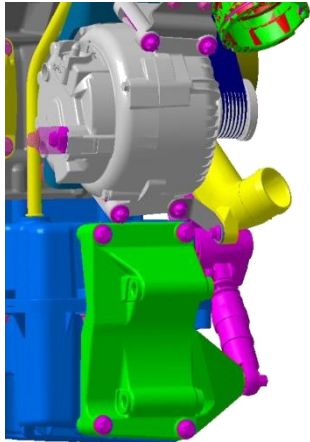
Install:

Ensure that clip A 000 993 08 02 is securely engaged

Uninstall:

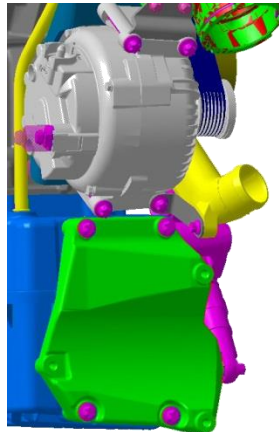
Pull clip A 000 993 08 02 upwards to remove lower cooling hole

Retrofitting to A/C Casting



Refrigeration casting
CODE N63 (Sanden)
MB# A 642 234 04 39

Fits Sanden SD7H13 compressor
(aftermarket sales)



A/C (air conditioning) casting Denso
only available as OEM spare part
MB# A 642 234 03 39

Fits Denso A/C Compressor
MB# A 001 993 37 96

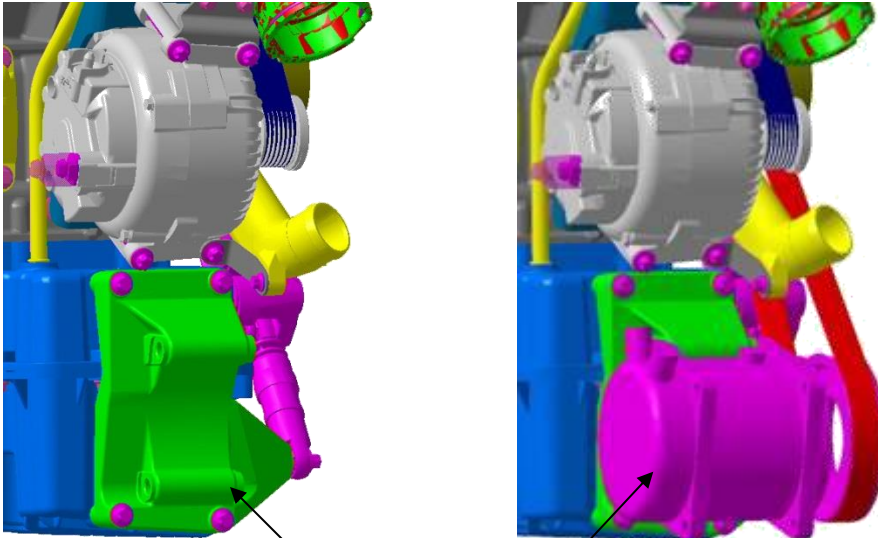


Note:
Option N63 includes a
refrigeration
compressor support casting.

For aux A/C compressor
applications a different support
casting is required. Replace
support casting with part number
A 642 234 03 39

Replace existing belt
MB# A 001 993 38 96
21.36x690mm
with a 6 ribbed serpentine belt
MB# A 001 993 37 96
21.36x1411mm

Sanden Compressor layout Option N63



Refrigeration Compressor
(Sanden SD 7H13 aftermarket sales)
and compressor casting

Replace existing MB# A 001 993 38 96
(21.36x690mm) with a 6 ribbed
serpentine belt,
MB# A 001 993 37 96 (21.36x1411mm)