



USM-EXHCV-26/08
FORD CARGO
PRODUCT IMPROVEMENTS
&
SERVICE ACTIONS AND
RECOMMENDATIONS

Updated
31/08/2008

SPRING BRAKE CHAMBER QUALITY PROBLEMS



Part No:

93CT-2025-DB Front Axle

3C46-2025-BA Rear Axle

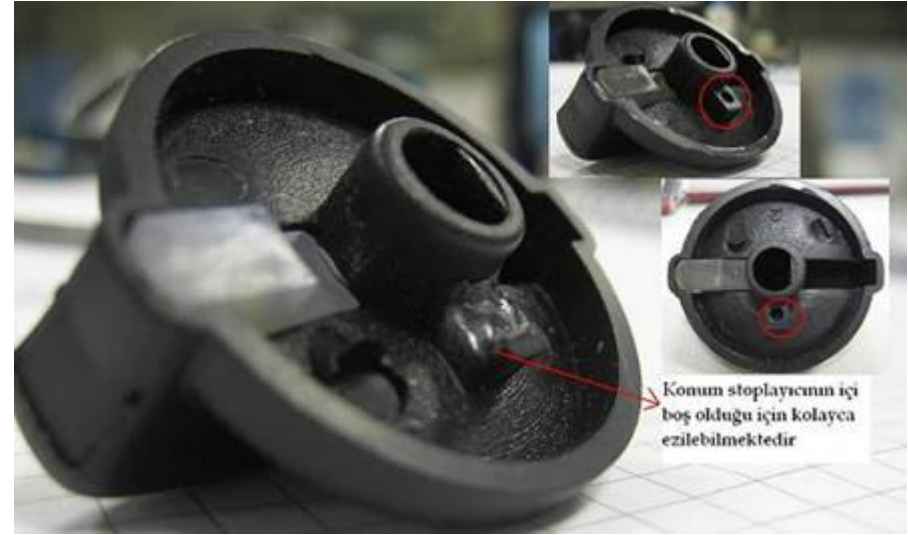
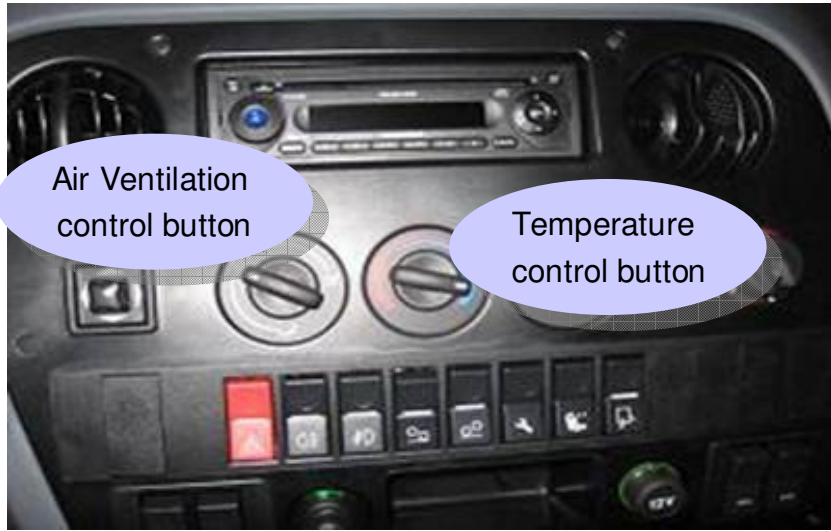
Problem: Spring Brake Chamber Air Leaks

- Air leaks from service clamp
- Loose seal of bottom cap
- Air leaks from O-ring of upper cap

Action: Supplier quality improvements

Implementation date: October 2006

HEATER CONTROL BUTTON



Problem: Tooth Grazing of Heater Control Button

Actions:

- Heater wire angle changed. Button operation effort decreased, starting with the vin : 64940

Improved part : **Heater Control Panel 3C46-18549-AD** Implementation date: **September 2007**

- Heater control button ring fitting and claw length increased. Button grazing torque increased to 5.5 Nm.

Starting with the vin 65400

Improved part : **Control Button (SP) 7C46-18519-AA** Impl. date: **September 2007**

TAG AXLE LIFTING PISTON FAILURES

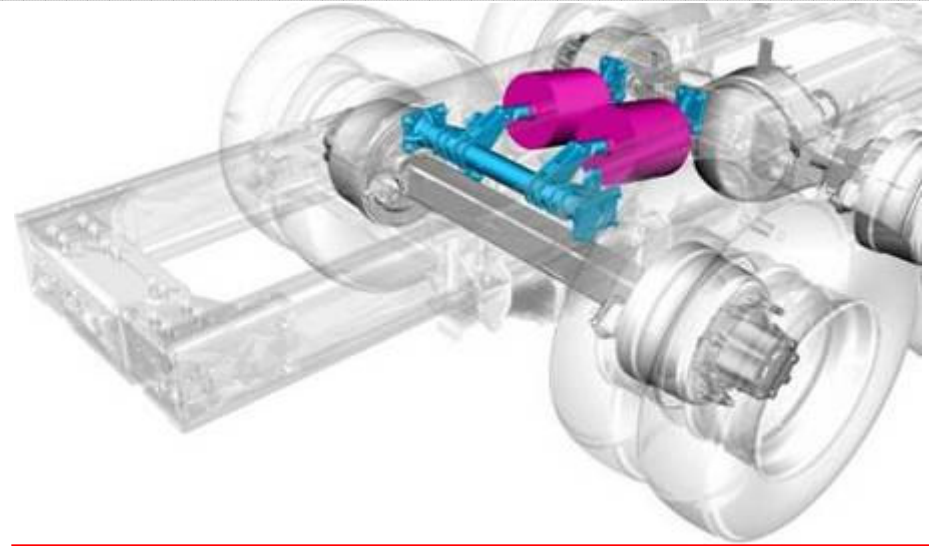
Problem : Supplier quality problems.

Root Cause : Part has been manufactured by two different suppliers.

Action : Problem part and manufacturer has been removed from production.

Impl. Date: **September 2007**

Starting with the vin : **64923**

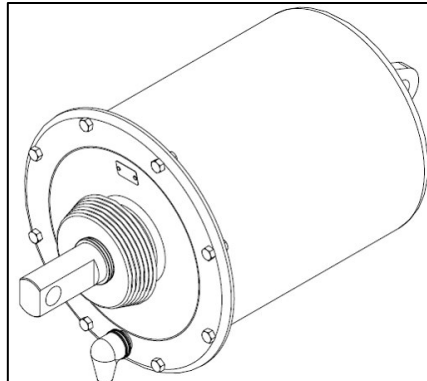
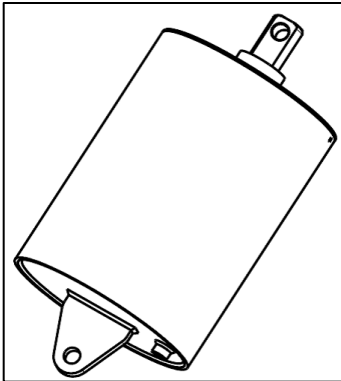


For 240 – 300 PS vehicles:

Part No: 6C46-4K273-AA

Problem part

Problem-free part

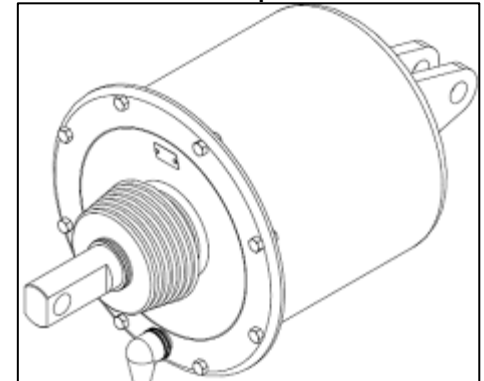
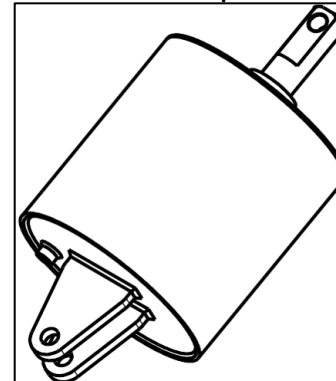


For 350 PS vehicles:

Part No: 7C46-4K273-AB

Problem part

Problem-free part



OIL LEAKS ON WHEEL HUB SEALS



Problem : Oil leaks on wheel hubs

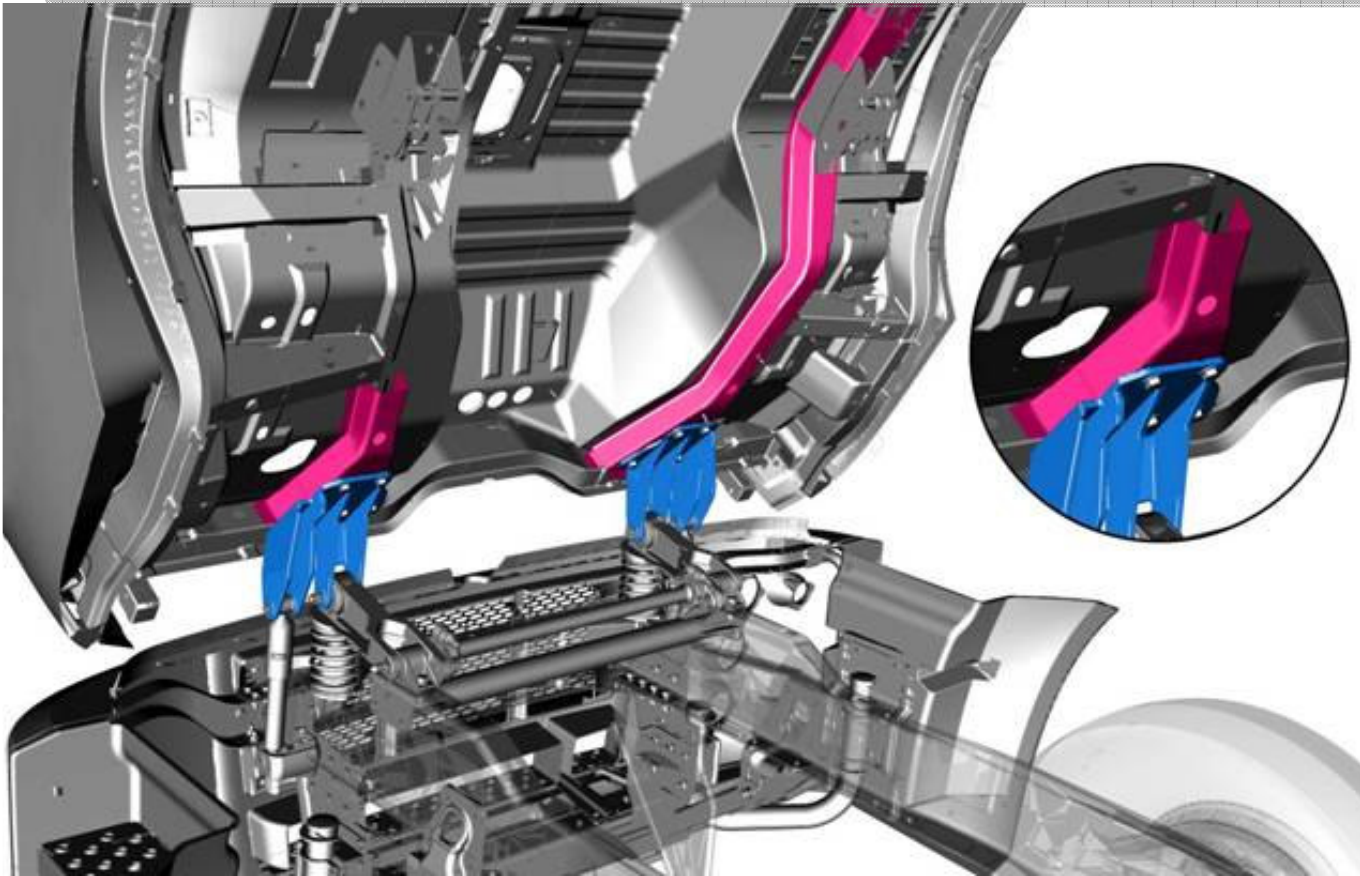
Root Cause : Quality problems

Action : Viton brand oil seals, that are resistant to heat and differential oil, have been released except front wheels.

Starting with the vin: 69658 Implementation date: **April 08**

Part Name	Old Part No.	New Part No.
Oil Seal– Tractor & add. Axle	3C46 1175 BA	8C46 1175 BA
Gasket	3C46 1175 AA	8C46 1175 AA
Axle Seal	92CT 4M245 AA	8C46 4245 AA

BREAKAGE OF CROSS BRACKET UNDER CAP



Problem : Cross bracket breakage under the cabin

Action : Internal areas of cab cross bracket reinforced and durability 500% improved.

Impl. Date: **October 2007**

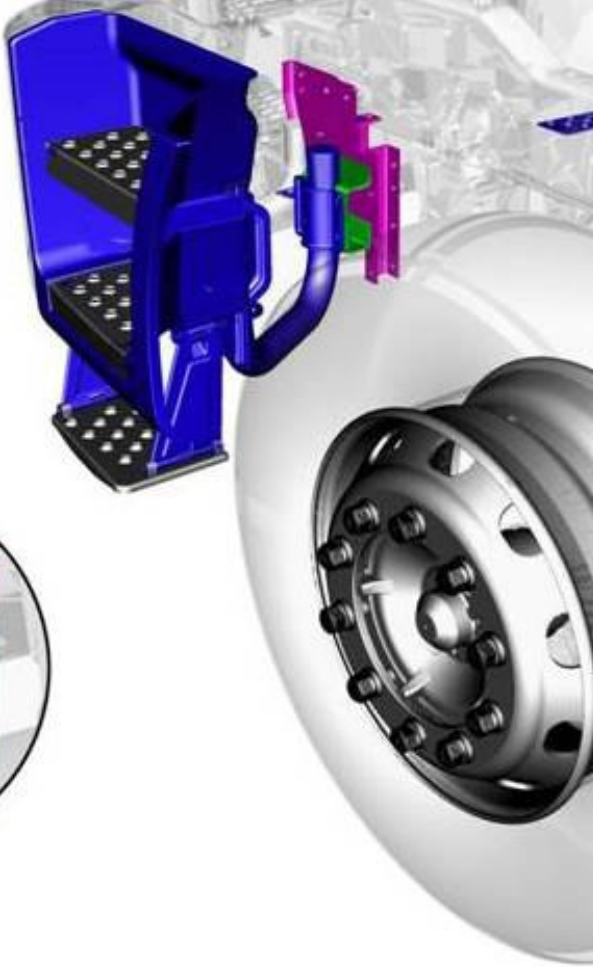
Vin: **65400**

External reinforcement bracket released for after sales :

7C46-E00284-AA / BA

TSB-TRHCV-09/2007 has been announced for service actions.

STEP BREAKAGE



Problem : Breakage of side steps because of excessive vibration and hardware quality problems.

Actions : Welding connections implemented for the bolt ruptured areas.

Rod connection between left and right step assemblies canceled.

Spring application has been implemented for the bottom step to prevent excessive vibration.

Impl.date: **November 2007**

Vin: **66490**

TSB-TRHCV-10/2007 has been announced for service actions.

DOOR LOCK FAILURES

Problem : Malfunction of door locking mechanism

After locking, one or both doors can be unlocked by remote control.

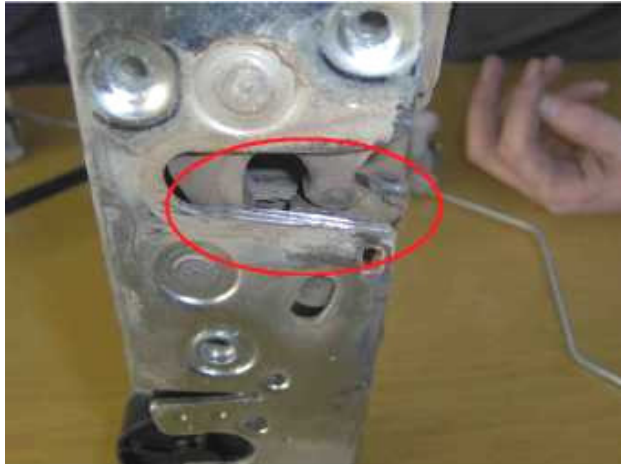
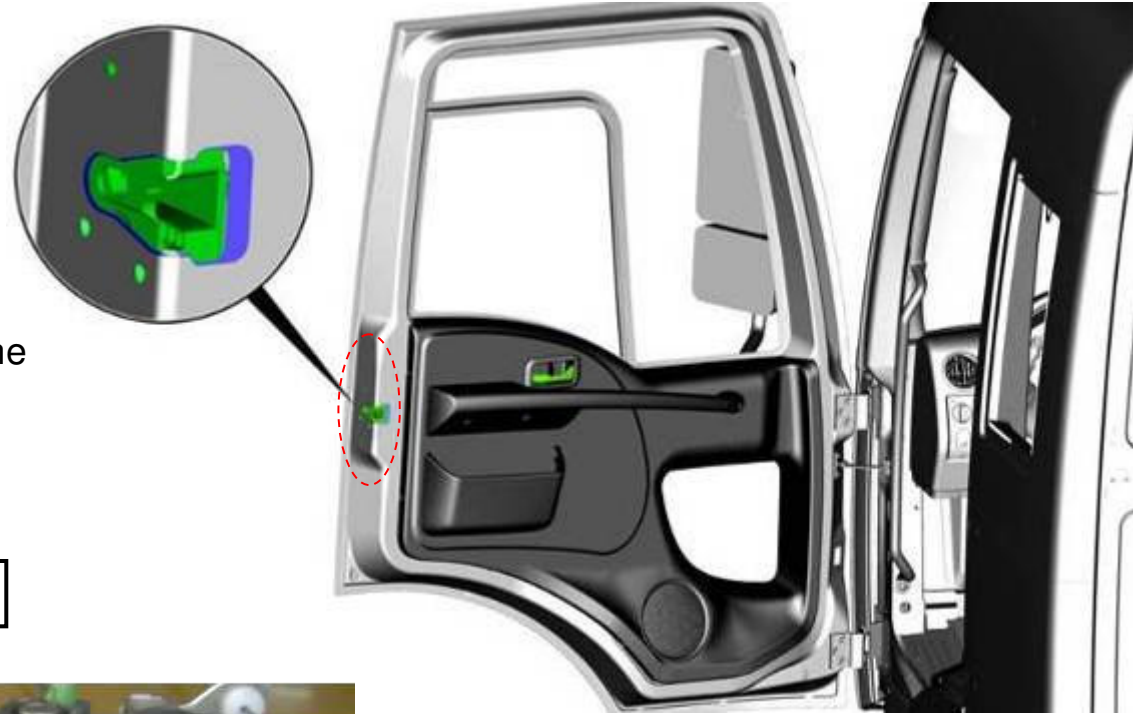
Action : Revisions applied to minimize the gaps on latch location.

Inner door handle bezel has been revised to decrease the operation efforts.

Impl. date: **July 2007**

Vin: **64229**

TSB-TRHCV-03/2007 announced for service actions



BREAKAGE OF REAR FENDER(CAP) AND ITS BRACKET

Problem : Breakage and cracking problem of rear fender and its bracket because of excessive vibration.

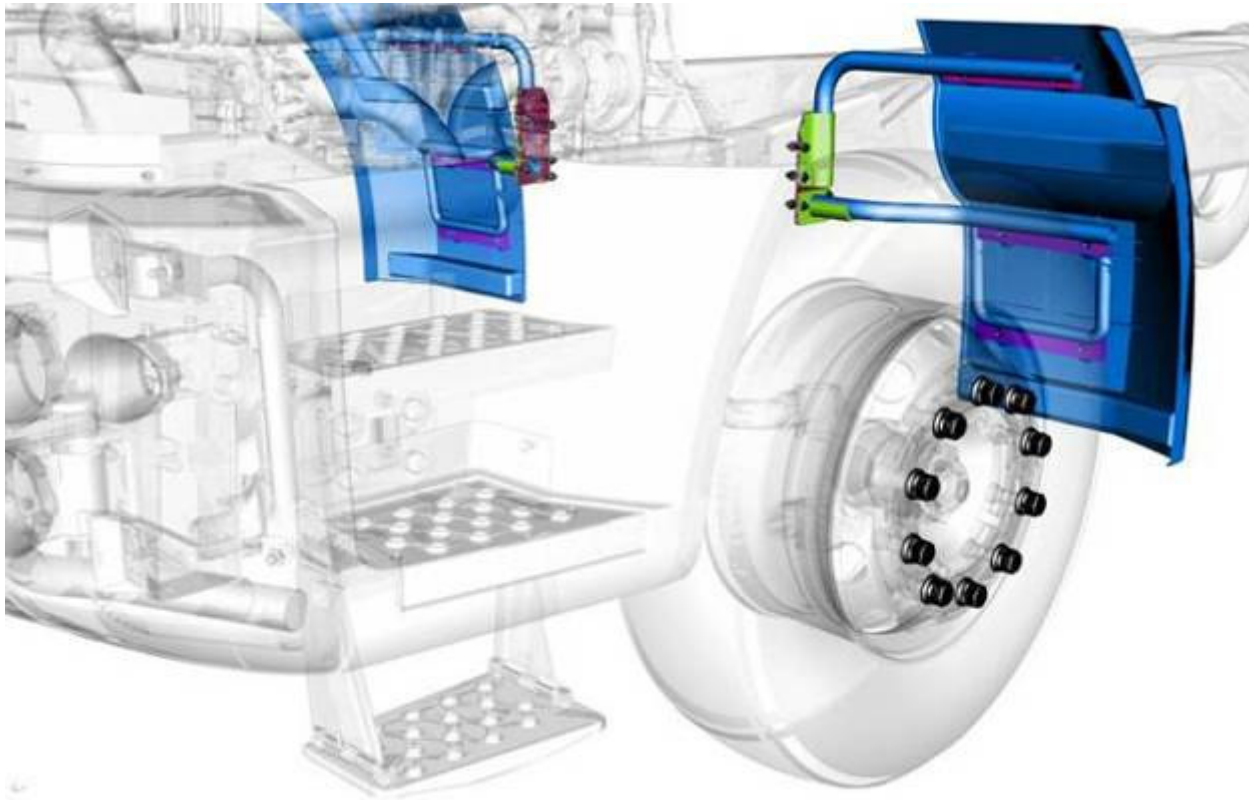
Action : 1) Rubber added to fender material and flexibility and endurance of the part increased breaking and cracking problem from attachment points eliminated.

Imp. date: **September 2006**

Vin: **58190**

2) Reinforcements added behind the body attachment brackets and welding process optimized.

Imp. date: **May 2007** Starting with the vin:**63312**



Improved part:

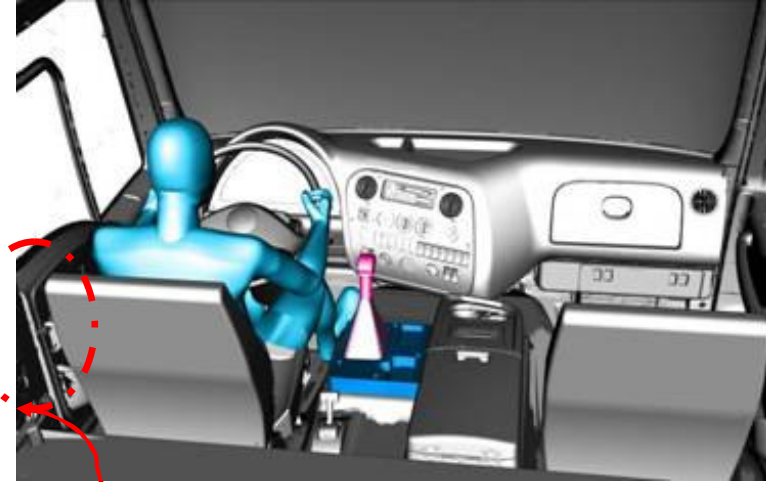
3C46-16K039/40-BC

DUST INGRESS INTO CABIN

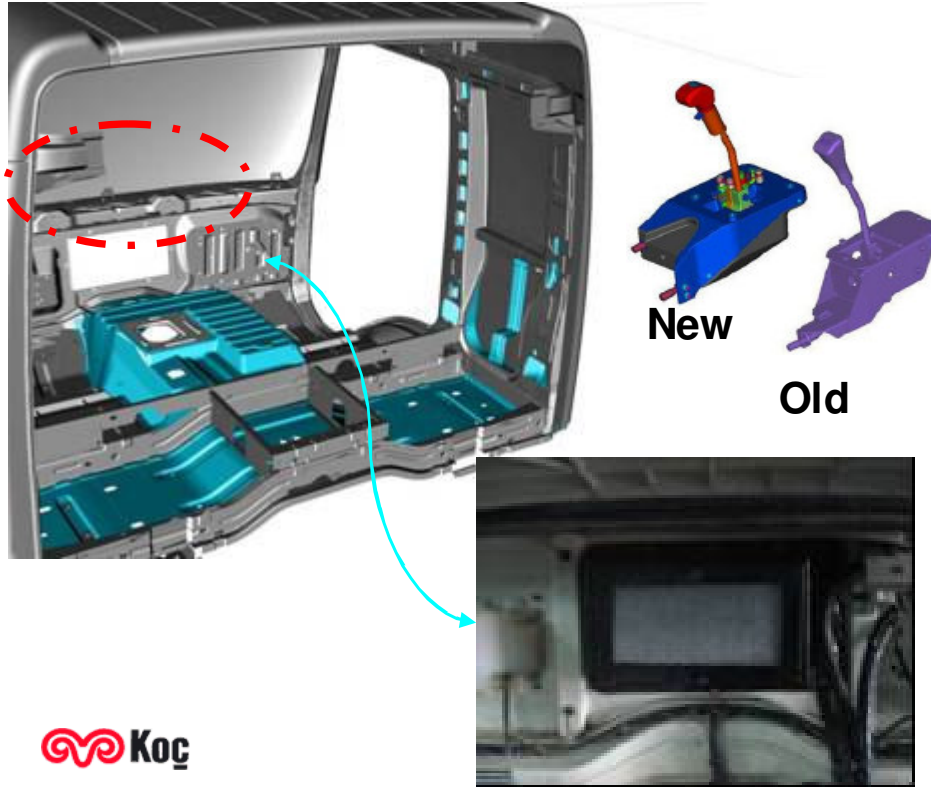
Problem: Dust ingress into driver's cabin

Actions : Pad installation on WEBASTO discharge point of damp trucks
Impl. Date: **May 2007** Vin no: **63330**

Gearshift area insulation provided by new gearshift lever.
Imp. Date: **December 2007** Vin no: **67586**



In order to prevent the dust ingress from the shifting mechanism, gear lever gaiter improved for the vehicles manufactured before the vin **67586**



Holes on the cabin are closed by suitable plugs.

TSB-TRHCV-02/2008 released for service actions.

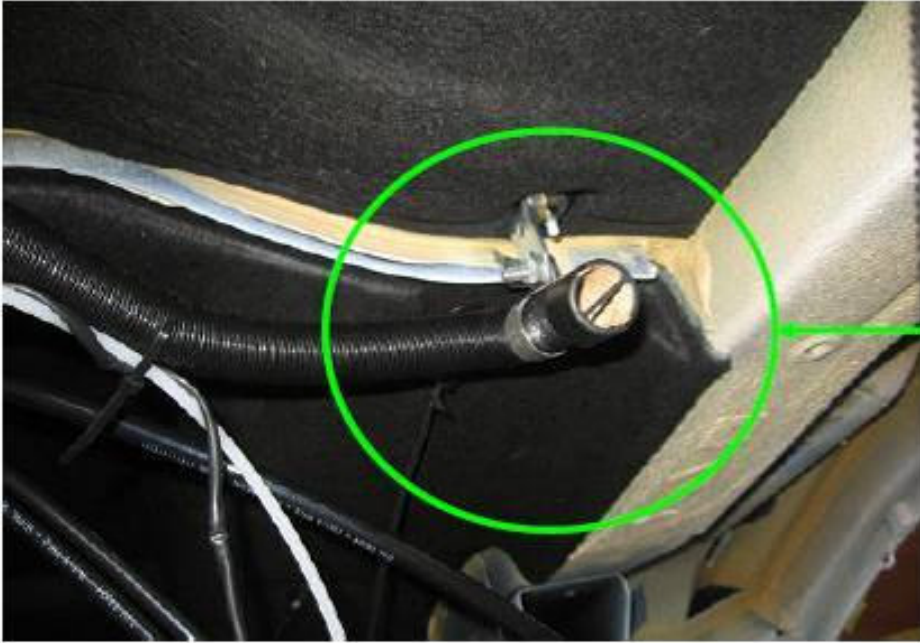
INSIDE CABIN HEATER – EBERSPACHER PROBLEM

Problem : Dust ingress into Eberspacher Cabin Heater motor on 7,3lt Cargo 240&300 PS vehicles

Root Cause: Incorrect part installation

Action : Clean air intake pipe of the heater, re-assembled to opposite position to driving direction to eliminate the problem

Vin no: 66667



OPPOSITE TO DRIVING DIRECTION

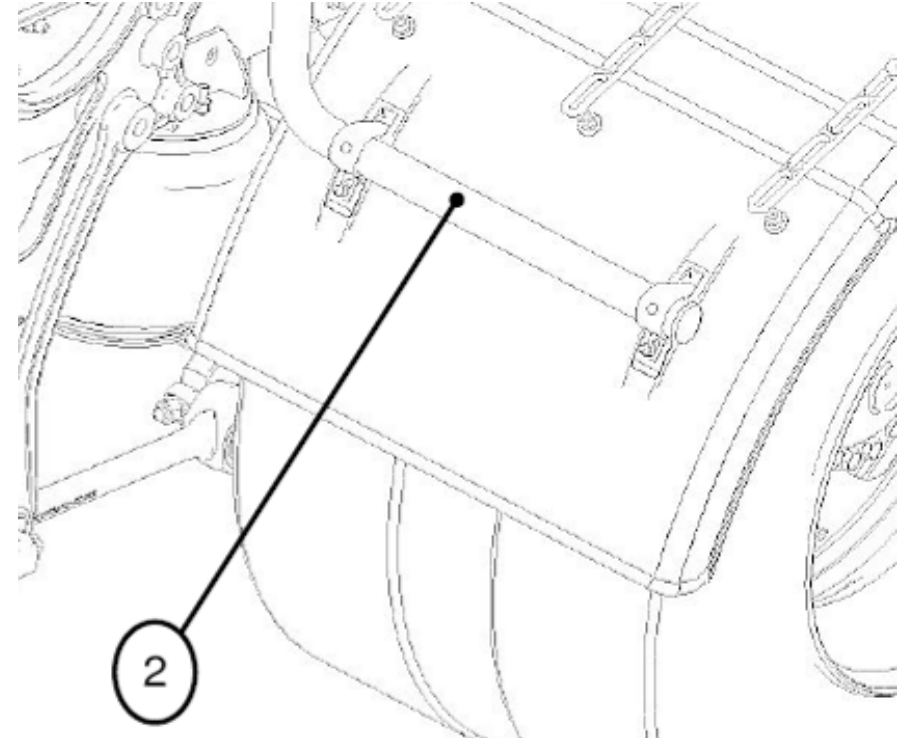
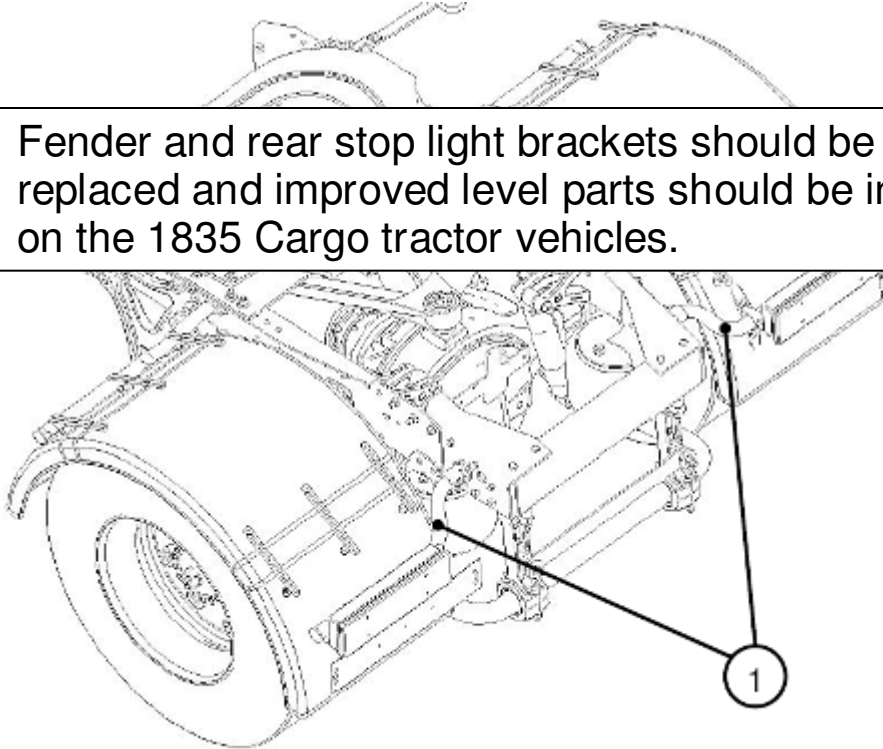
Clean air intake pipe routed opposite to the driving direction.

TSB-EXHCV-07/2008 released for service application.

REAR FENDER AND STOP LIGHT BRACKET REPLACEMENT ON CARGO 1835 (KAM)

RECALL BULLETIN 2008_22 has been announced for Bulgaria, Croatia and Ukraine.

Fender and rear stop light brackets should be replaced and improved level parts should be installed on the 1835 Cargo tractor vehicles.



Old Parts : 7C46-16312-JA
7C46-16312-KA

BRACKET – REAR LAMP INSTALLATION RH Quantity : 1
BRACKET – REAR LAMP INSTALLATION LH Quantity : 1

Parts to be used : 8C46-16K312-DA
8C46-16K312-EA

REINFORCEMENT - REAR FENDER RH
REINFORCEMENT - REAR FENDER LH

Quantity: 1
Quantity: 1

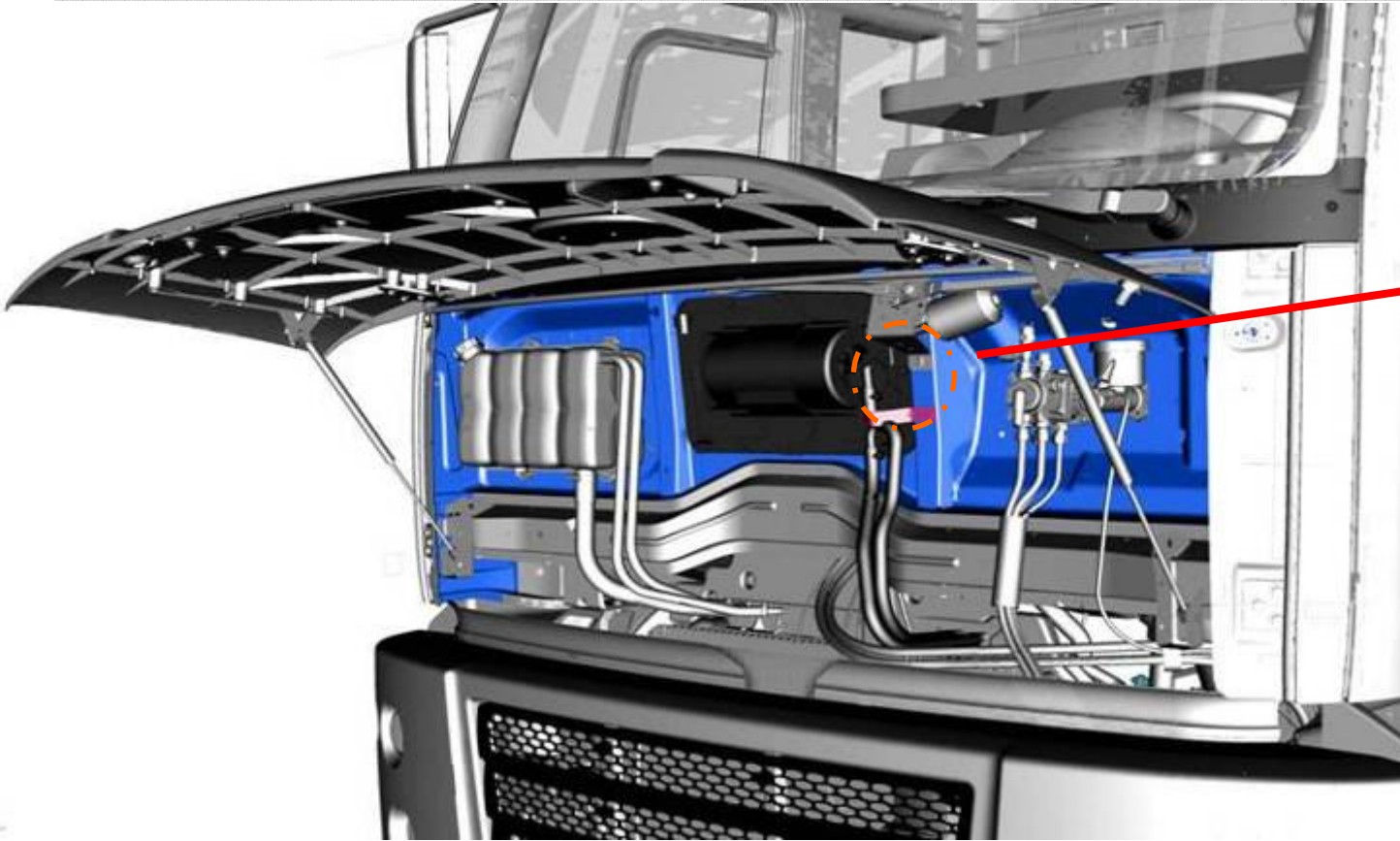


DIGITAL TACHOGRAPH

By the new design of tachograph rail and bezel, necessity of removing roof trim, has been eliminated.

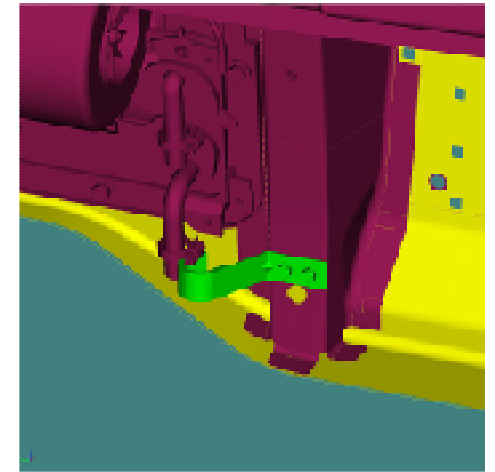


HEATER TAP PROBLEMS



Problem : Heater tap gets broken

Action : Bracket added to hose connection in order to eliminate the vibration



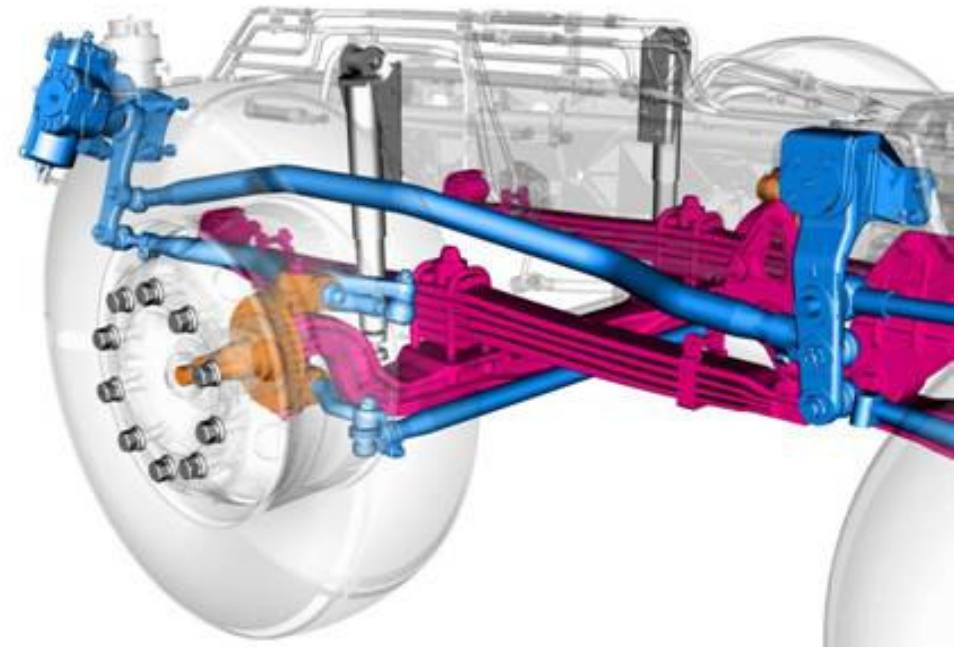
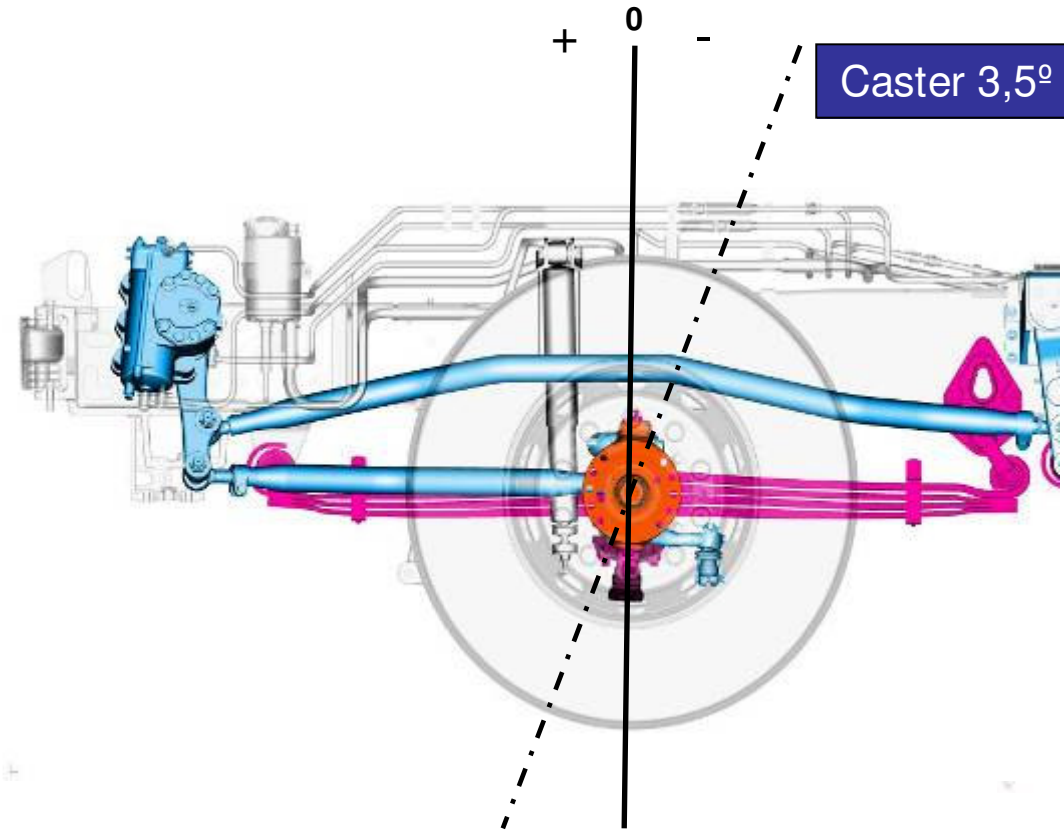
Vin : 68703

TSB-EXHCV-08/2008 has been released

Impl. Date : 13/02/2008



STABILITY and HANDLING PERFORMANCE



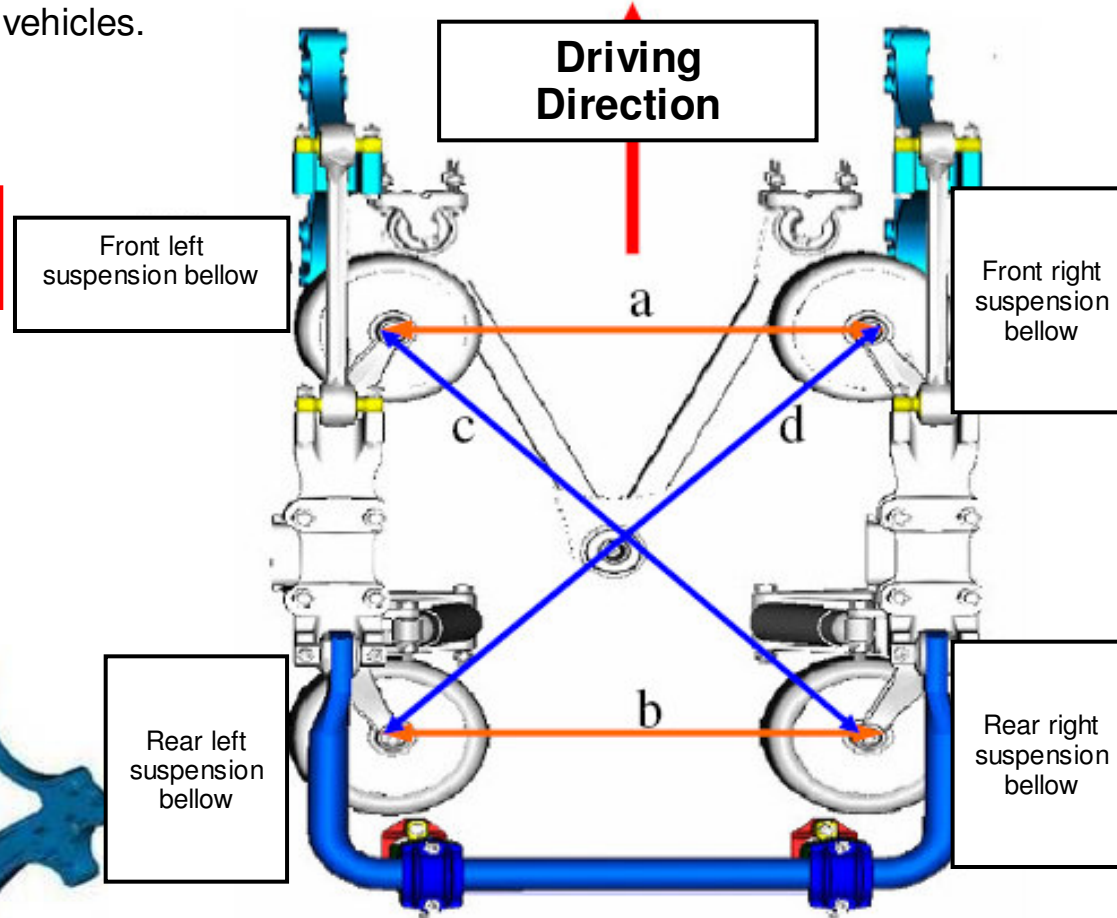
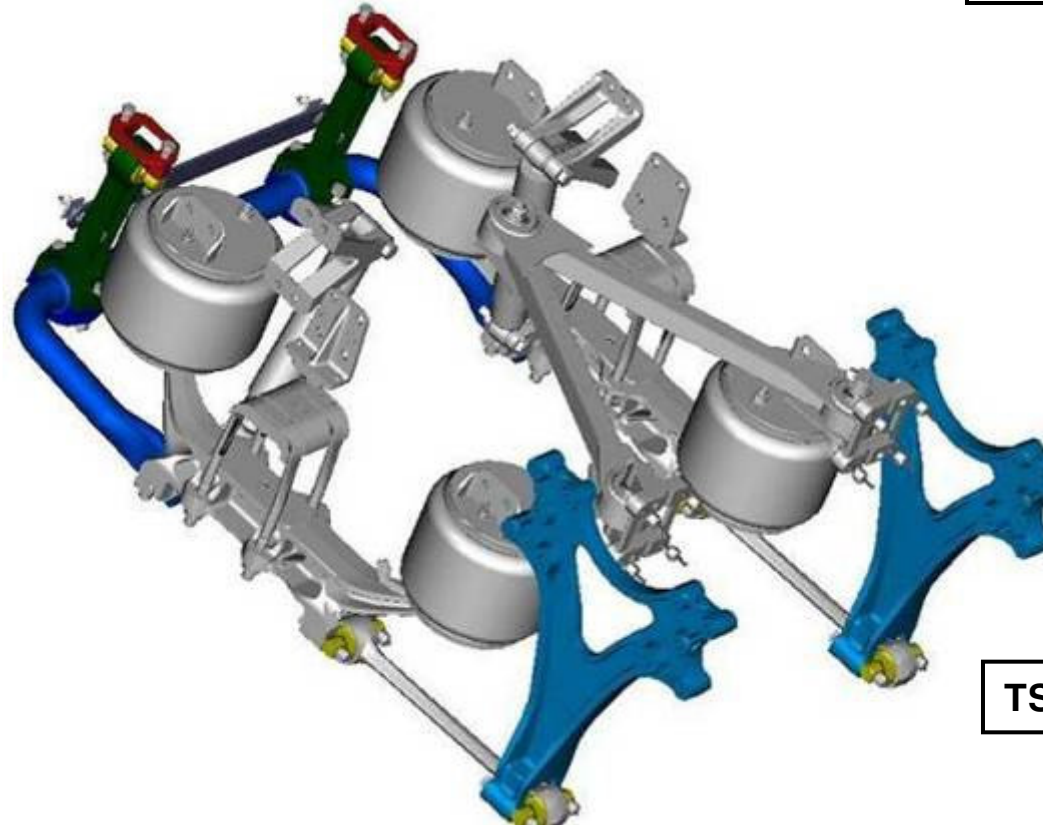
Vehicle handling performance has been improved starting from the vin **62101**

Impl. Date: **June 2007**

RIGHT / LEFT TRACTION ON 18XX VEHICLES

Air suspension bellows should be checked on complaint vehicles.
Improvement started with the vin **68487**

**Values for a and b should be 766-768 mm;
and for c and d should be 1126-1128 mm**



TSB-EXHCV-03/2008 has been released for service actions.

IMPROVEMENTS ON BRAKING PERFORMANCE

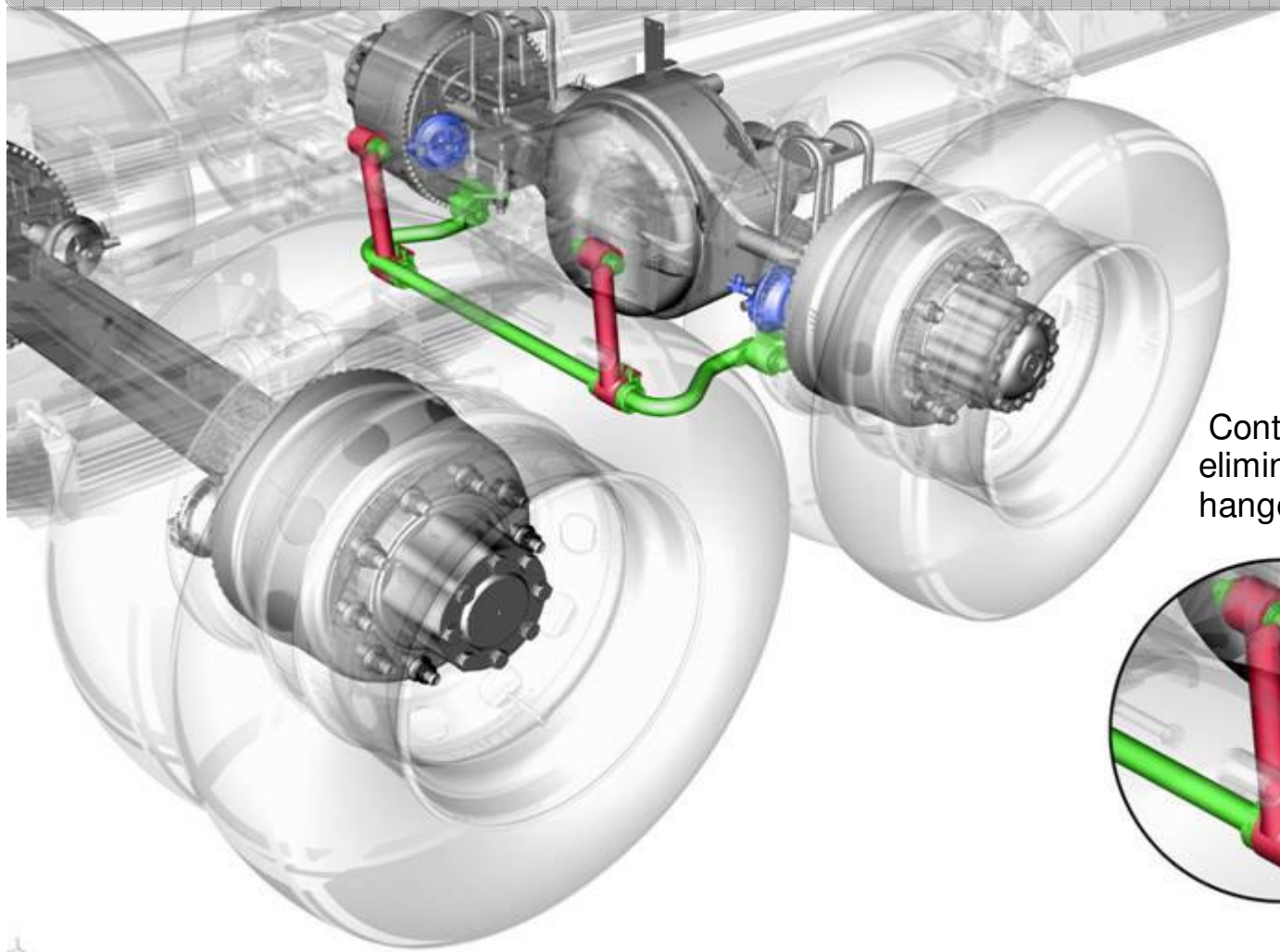


410mm brake pads and 10,5 bar of braking pressure has been implemented as of **October 2007** and **vin 66014**

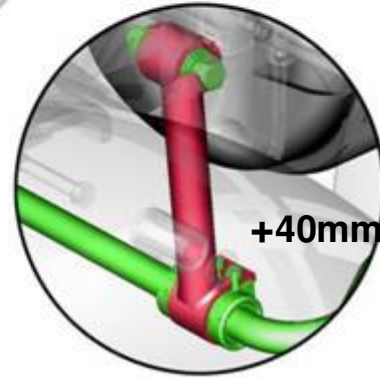
New brake system has been implemented into production by the **Vin: 66014 on 3230S**, **Vin: 66189 on 1830** and **Vin:66028 for the all 300ps** vehicles

Braking pressure increased to **9,8 bar on 3430D** vehicles.

BREAKAGE OF BRAKE BELLOW ON TRAILING AXLE



Contact with the bellow has been eliminated by elongating the anti-roll bar hanger arm 40mm.



New part number on 7,3lt: 7C46-5C486-AA

Impl. Date: **October 2007** Vin: **66102**

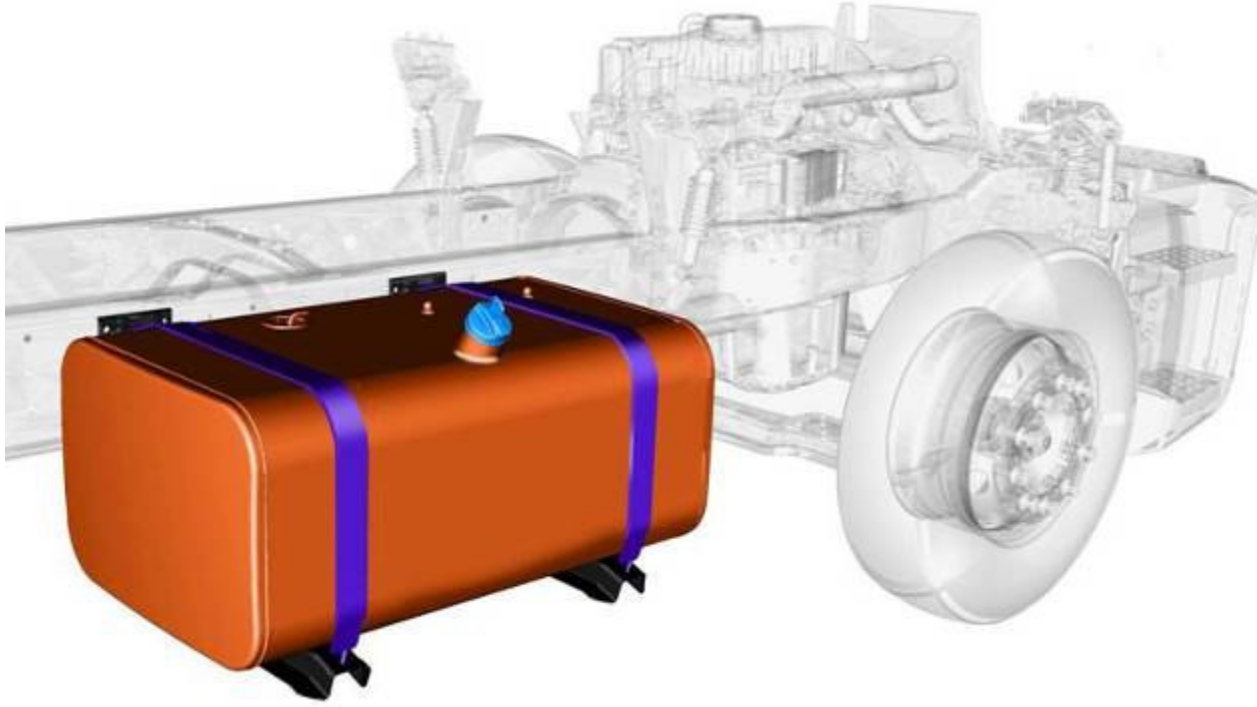


LEAKS ON FUEL TANK AND STRAP PROBLEMS

Strap torque increased to 46 Nm from 23 Nm and strap lengths adjusted.

Ventilated cap implemented instead of non-ventilated (ventilation was made by the filter).

Fuel leaks on the side welding areas stopped by the convex cap fuel tank.



520lt

Impl. Date : **December 2007**

Vin: **66908**

315lt square shaped

Impl. date: **January 2008**

Vin: **67280**

HANDBRAKE SENSOR QUALITY PROBLEMS

Root Cause:

Supplier quality problems. Incorrect adjustment of sensor pressure values

Temporary Action:

From 20.12.2005 on 100% controlled brake sensors have been into production.

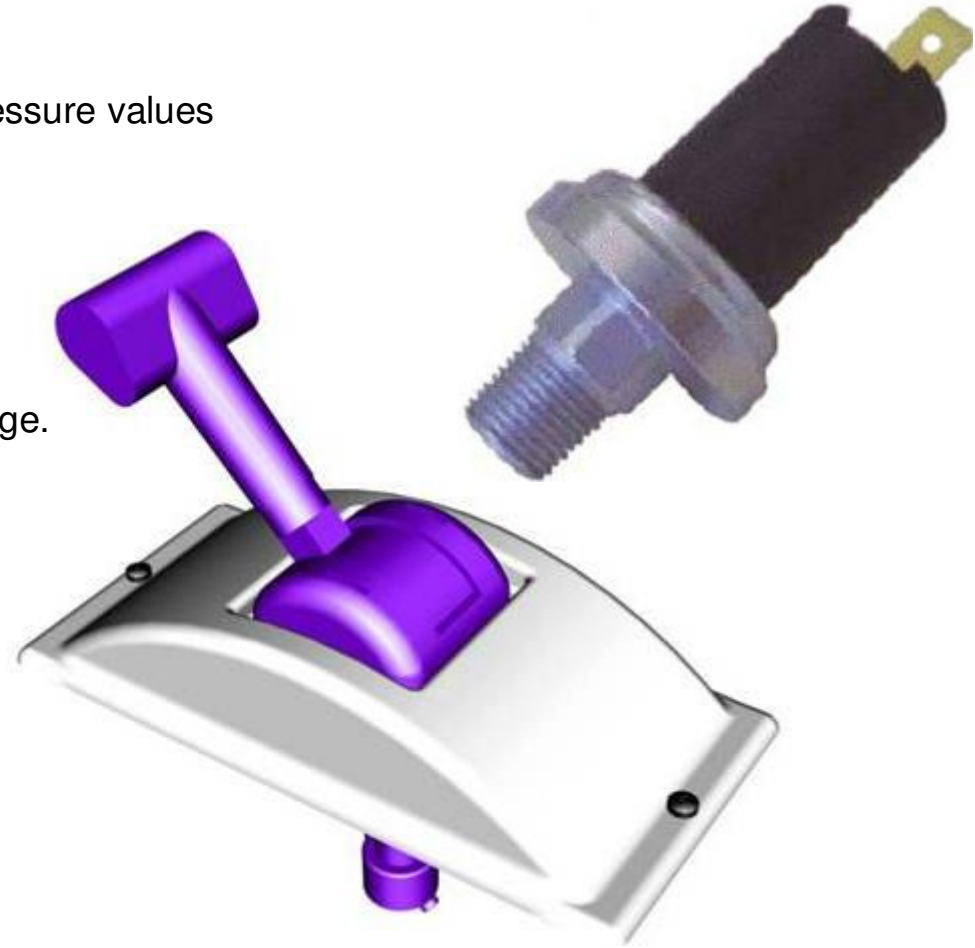
Permanent Action:

New brake sensor have been released by the supplier change.

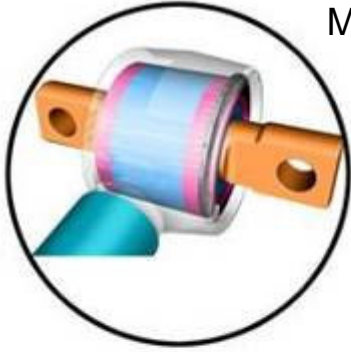
New part no. **7C46-2937-AB**

Impl. Date : **January 2008**

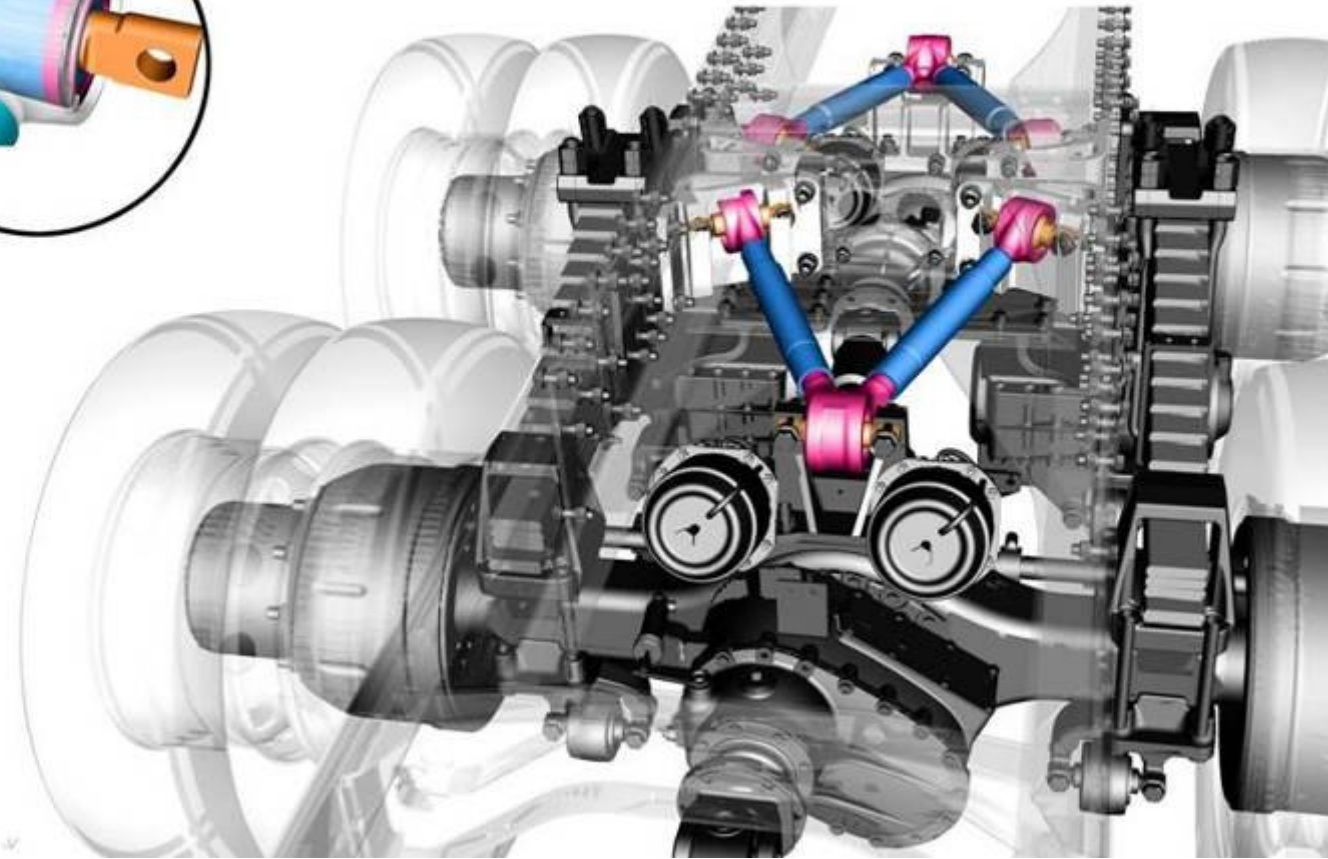
Vin : **68431**



6x4 V-ARM BOLT PROBLEMS



M24 bolts with loctite application implemented. V arm joint angle has been revised



Impl. Date : **September 2007**
Vin : **64901**

CHASSIS BREAKS ON 6X4 DAMPER VEHICLES

Tension decreased by reinforcement applications on turbocharger area and end locations of the cap.

Upfit area

With sleeper cab : V7C46-5E156/7-BA Inner Reinforcement

Without sleeper cab : 7C46-5E156/7-BA Inner Reinforcement

WARNING: Incorrect bodybuilder constructions and excessive load should be beware of.

Service action for the vehicles manufactured before improvements

TSB-EXHCV-06/2008

Turbocharger area

W Sleeper Cab: V7C46-5A153/4-AA Outer Reinforcement

W/o sleeper Cab: V7C46-5A153/4-AA Outer Reinforcement

FordTrucks

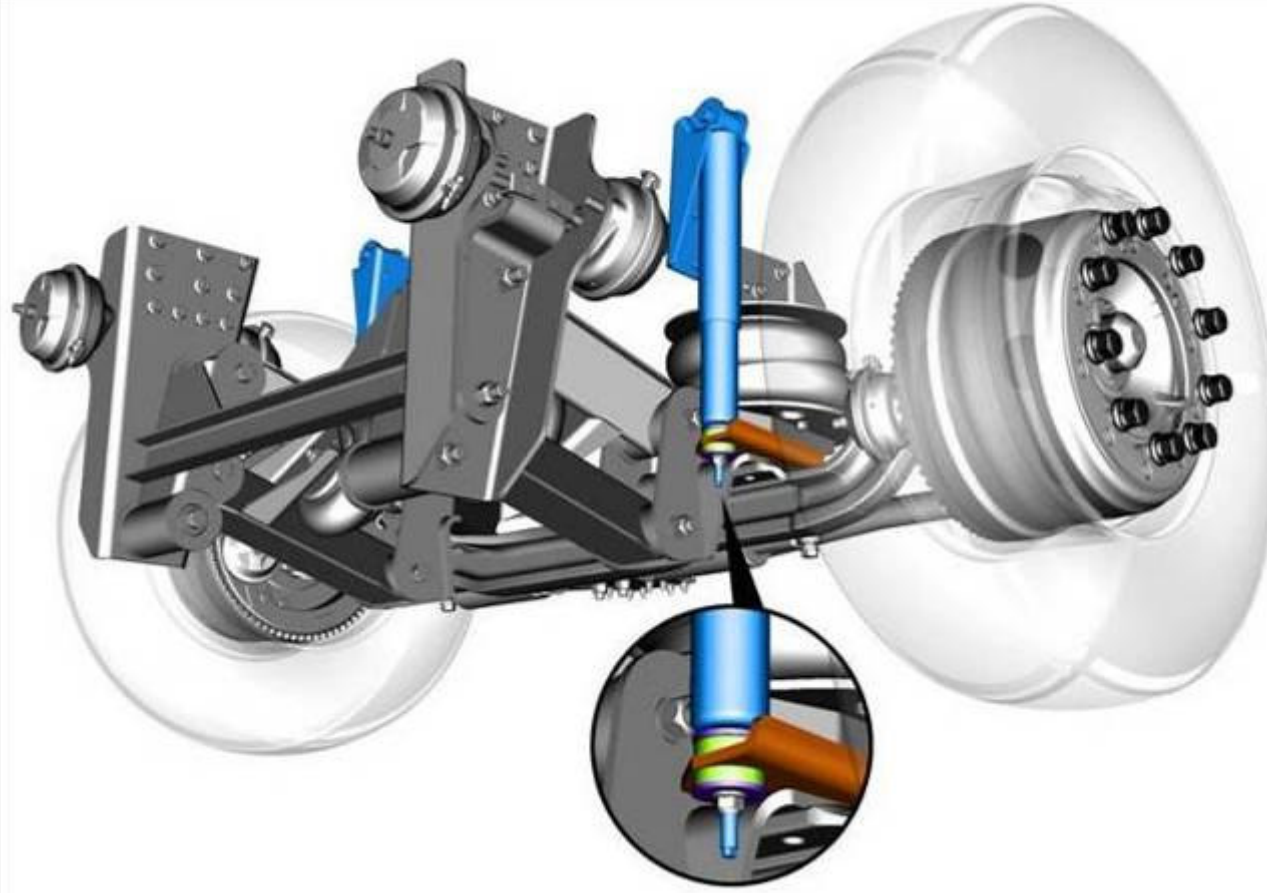


Impl. Date: **January 2008**

Vin : **68060**



S/S SHOCK ABSORBER LOWER BUSH FALL



Improved Part No.

744B-18198-AA

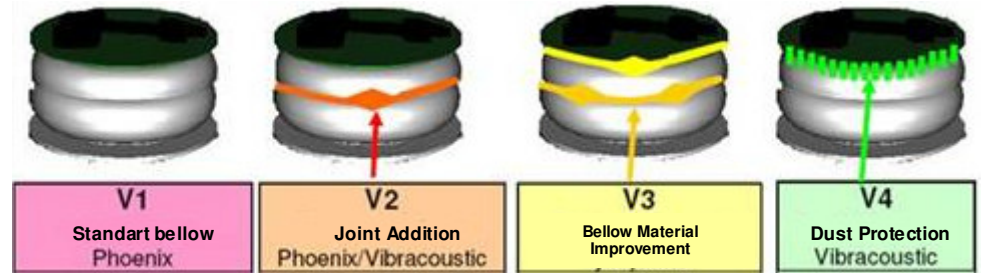
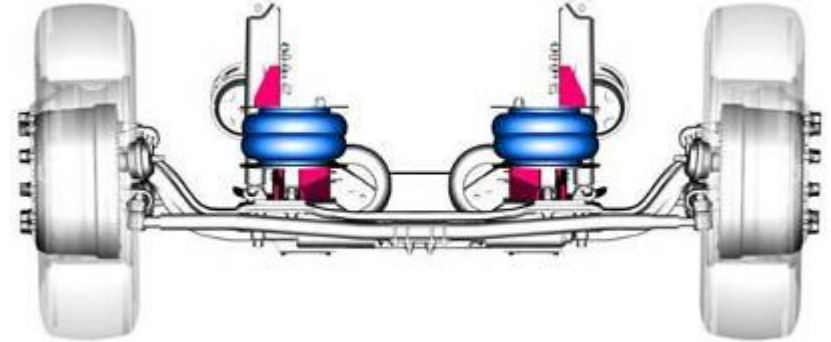
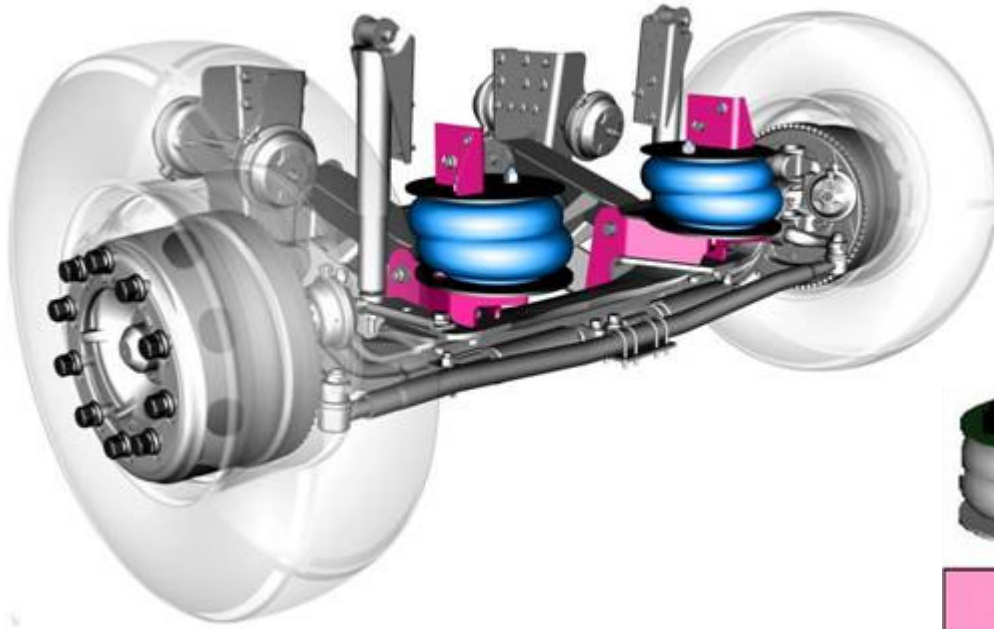
7C46-18A065-AA

Impl. Date : **November 2007**

Vin : **66693**

Shock absorber lower attachments problems solved by the material improvements of washer and rubber.

S/S HENDRICKSON BELLOW PROBLEMS



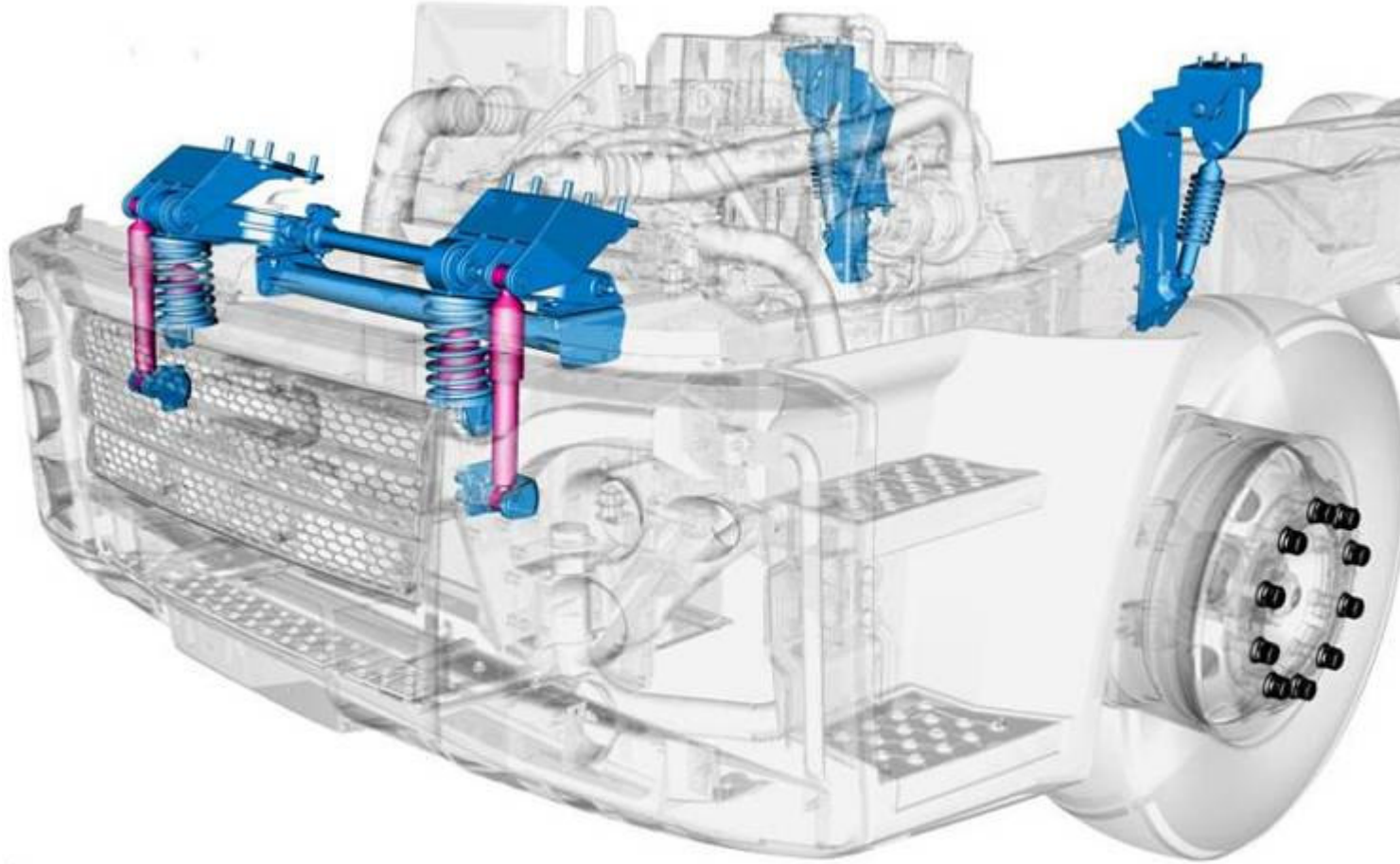
- Joint added to bellows.
- Composition of material improved
- Dust protection added to bellows

Implementation of new type Hendrickson bellows

Part No: HS 507906 P

FRONT SUSPENSION IMPROVEMENT OF CABINET

Necessary improvements for the cabinet shock absorbers implemented on construction vehicles. New level parts are in production for export vehicles.

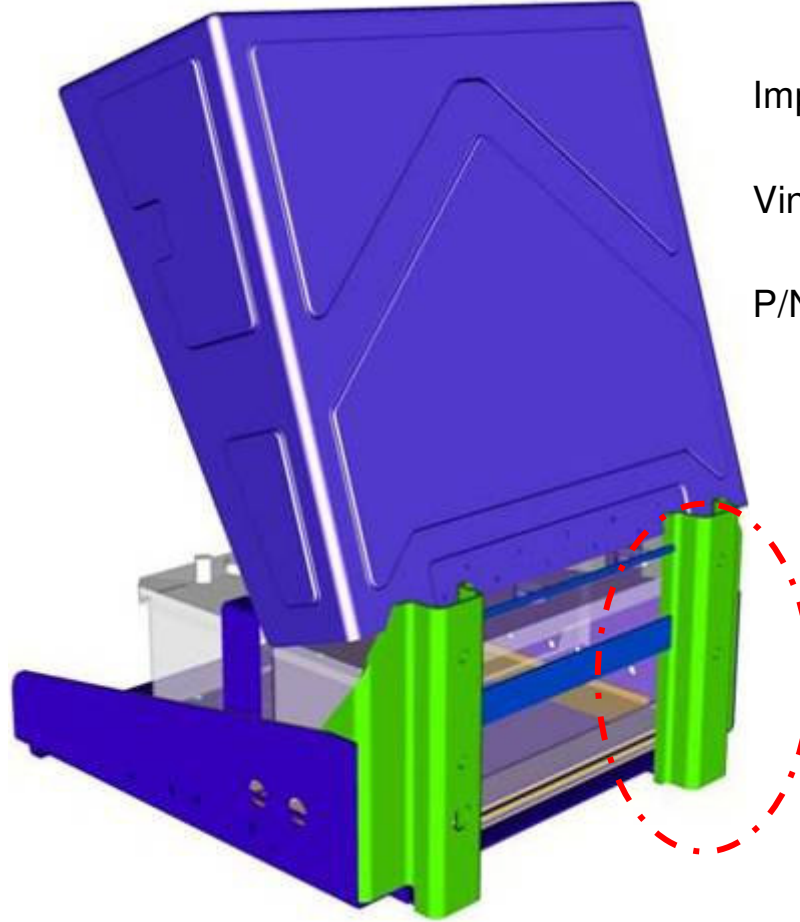
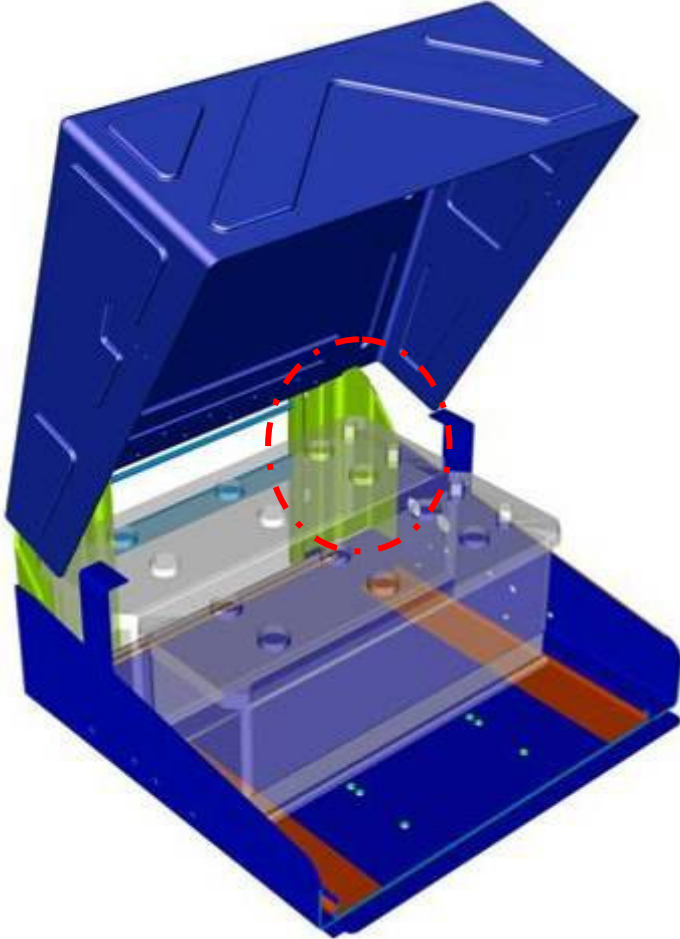


Impl. Date : **April 2008**

Vin : **70461**

Improved part :
7C47-5K407-AA

BATTERY TRAY BREAKS



Impl. Date: **April 2008**

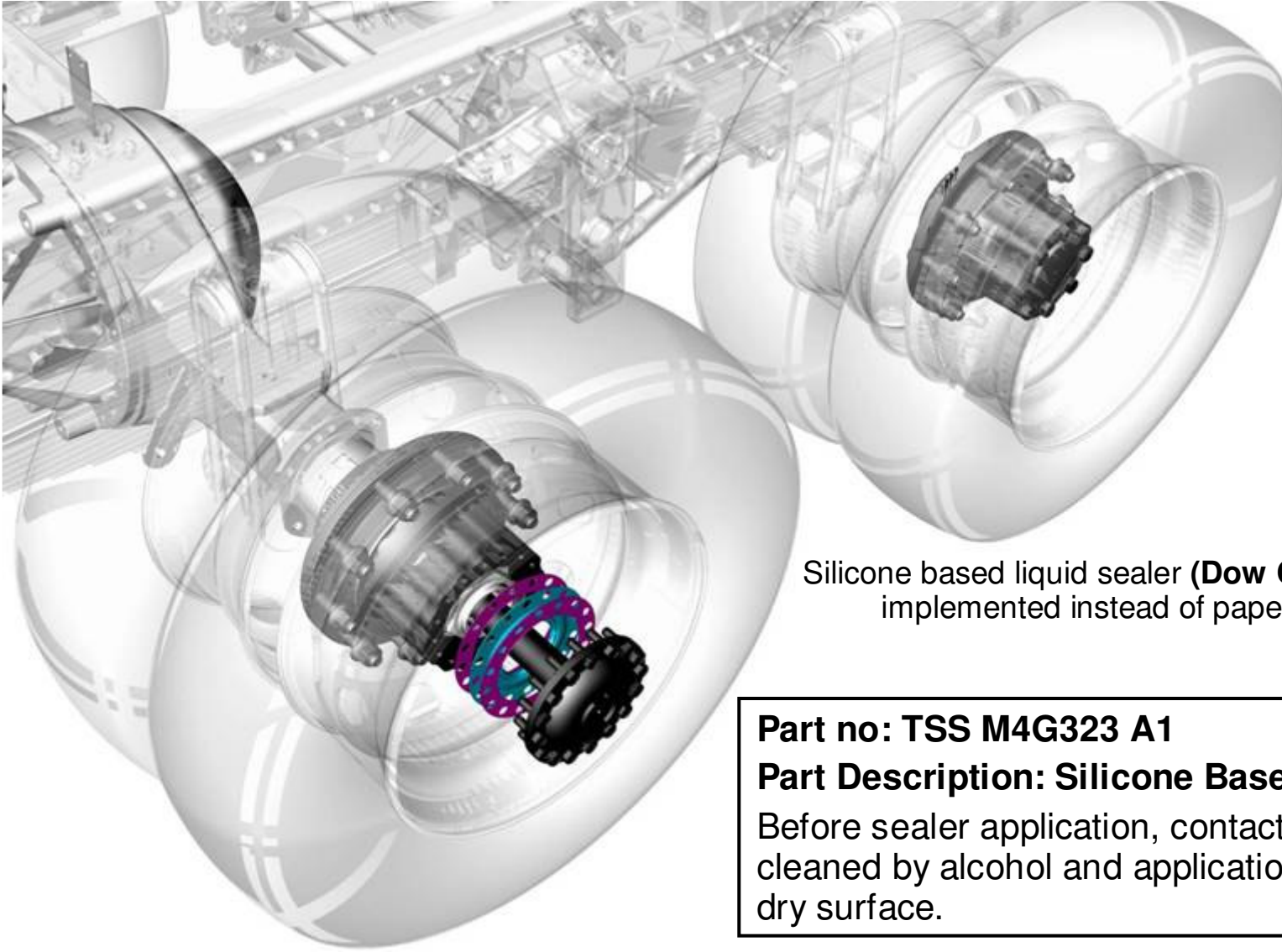
Vin :**70116**

P/N :**4C46-10732-AD**

Unique breakage or cracks on 180 Ah battery case brackets.

Thickness of battery connection arms and reinforcements have been increased.

REAR AXLE OIL LEAKS ON SEALERS



Impl. Date: **September 2007**

Vin: **65456**

Part no: **TSS-M4G323-A1**

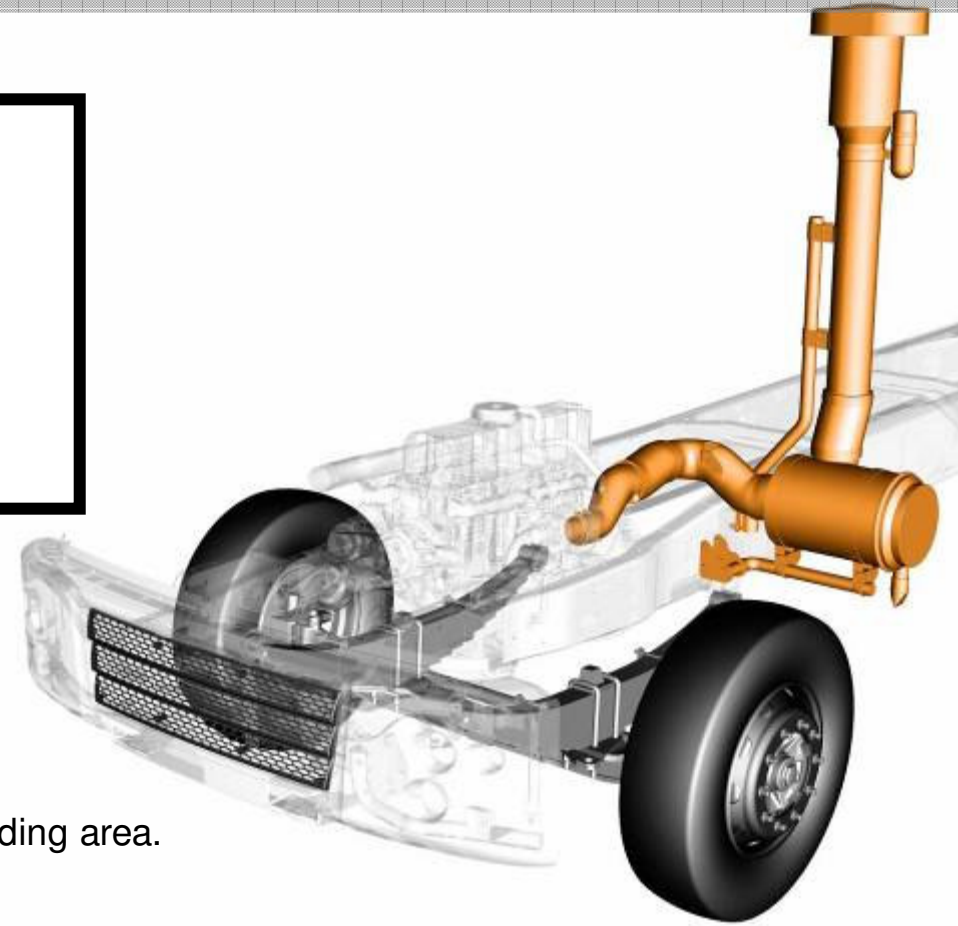
Silicone based liquid sealer (**Dow Corning 7091 Black**) application implemented instead of paper gaskets.

Part no: TSS M4G323 A1

Part Description: Silicone Based Sealer

Before sealer application, contact surface should be cleaned by alcohol and application should be performed on dry surface.

BREAKAGES OF AIR CHIMNEY BRACKET w DAMPER



Reinforcement added into the pipe for the engagements on welding area.

Impl. Date: **October 2007**

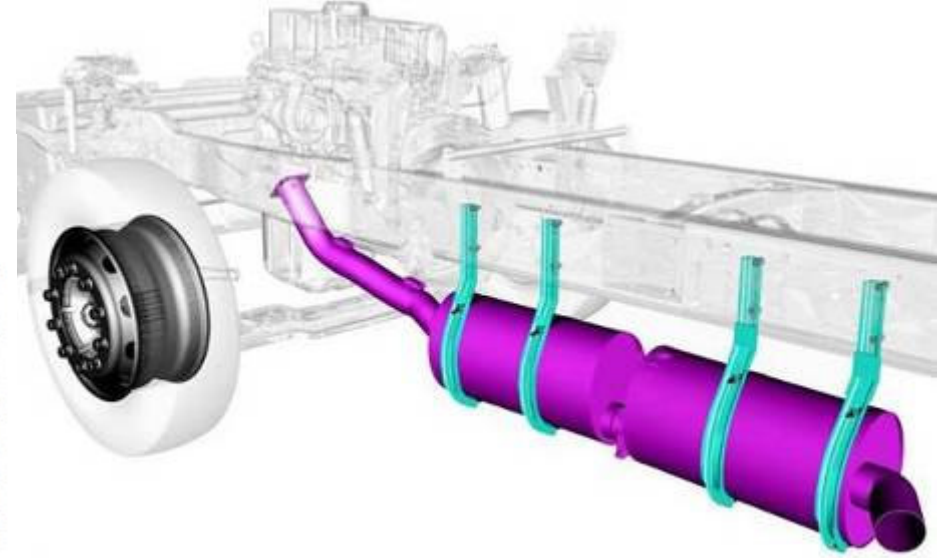
Vin: **66256**

P/N: **3C46-9B604-BC**



EXHAUST BRACKET BREKAGE ON EURO3

KAM_2008-10 announced for the vehicles manufactured before the improvement



Due to the breakage problem of the muffler support brackets on EURO 3 vehicles, quantity of brackets have been increased to 4 from 3 units and the existing brackets have been revised.

- Deburring operation canceled on the bracket. 4th bracket added to all vehicles starting with the vin: **65164** except 1830. Impl. Date: **17.09.2007**
- Material change done on improved brackets and yield strength increased starting from the Vin : **66463**; Impl. Date: **1.11.2007**
- 4th bracket implemented on 1830 vehicles. Vin: **68595** Impl. Date: **08/02/2008**

DUSTING BY FAN

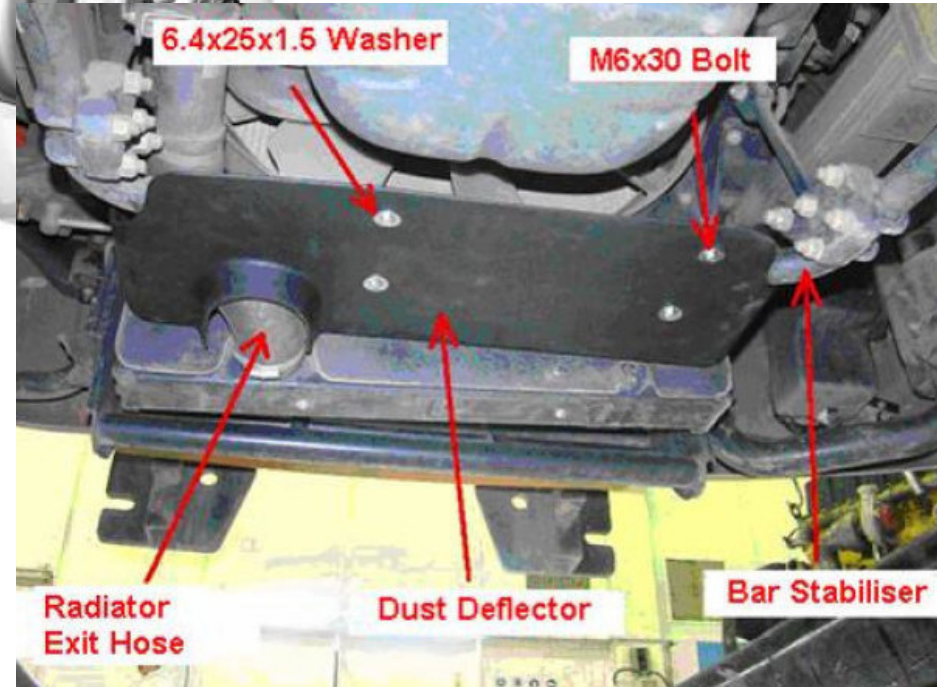
Implemented on 9lt & 7.3lt vehicles.

Vin: **68303**

Deflector application for the fan

Part no: **7C46-8148-BA/CA**

TSB-EXHCV-04/2008 announced for service actions.



GEARSHIFT PROBLEMS

7C46-7K427-BA

7C46-7K427-AA



Old level on 7,3lt



New level on 9lt

- New patented gearshift mechanism and system cap implemented to prevent the external affects.

Impl.Date: **December 2007**

Vin: **67587**

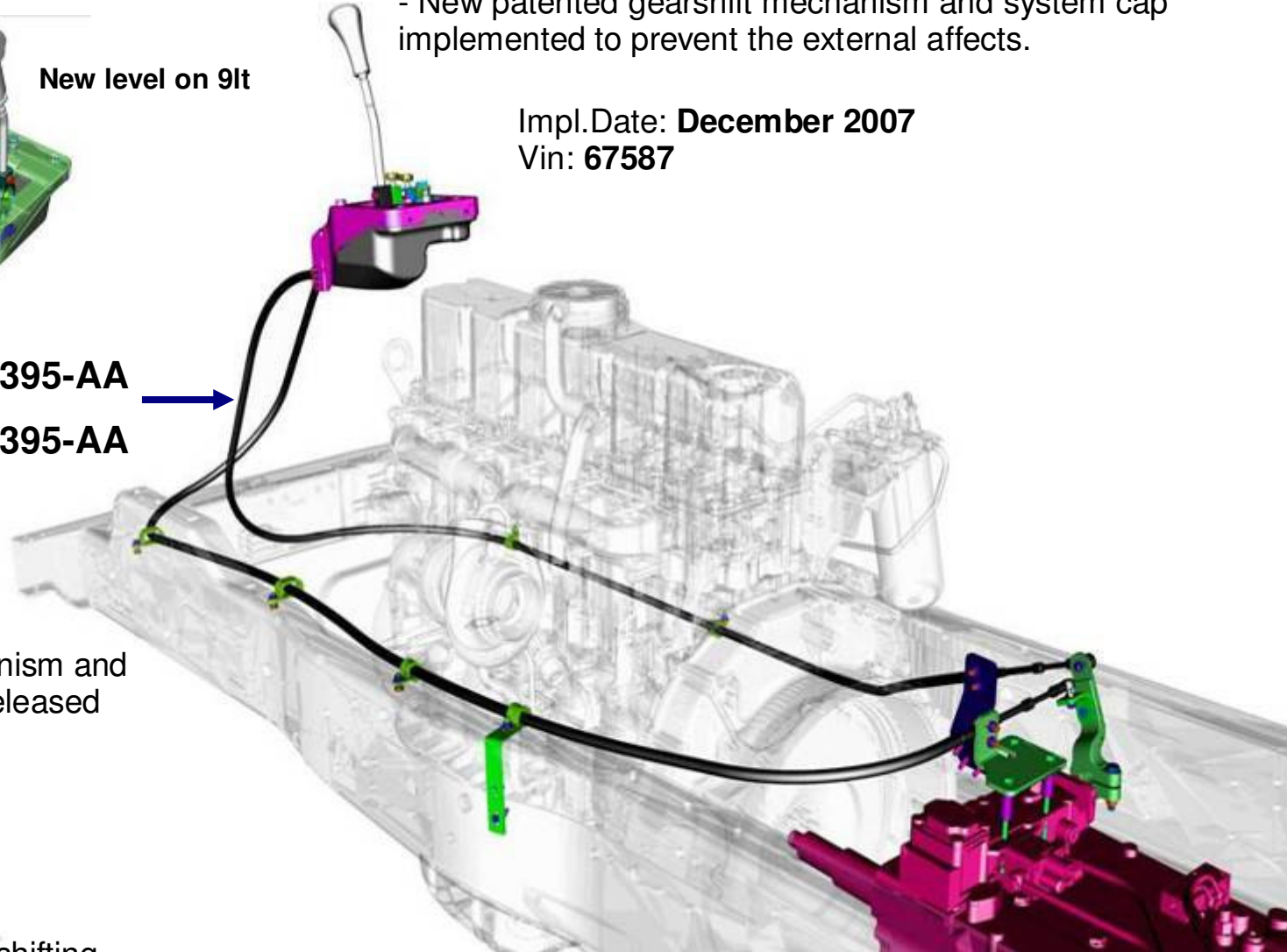
Gearshift cable P/N: 1C44-7E395-AA

Gearshift cable P/N :4C46-7E395-AA

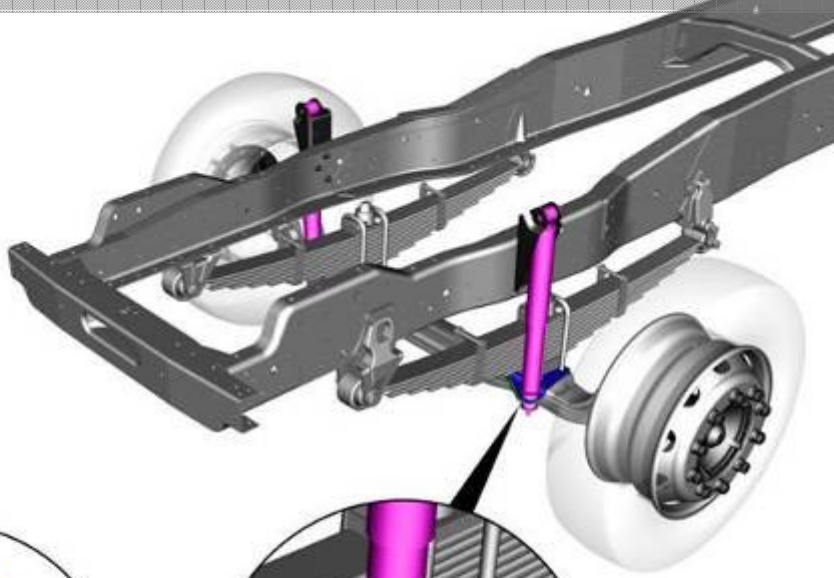
- Plastic cap for gearshifting mechanism and insulation covers for cables ends released as service actions.

Part no: **7C46-7Z289-BA**

- Optimised new cable bracket and engagements implemented to help shifting.



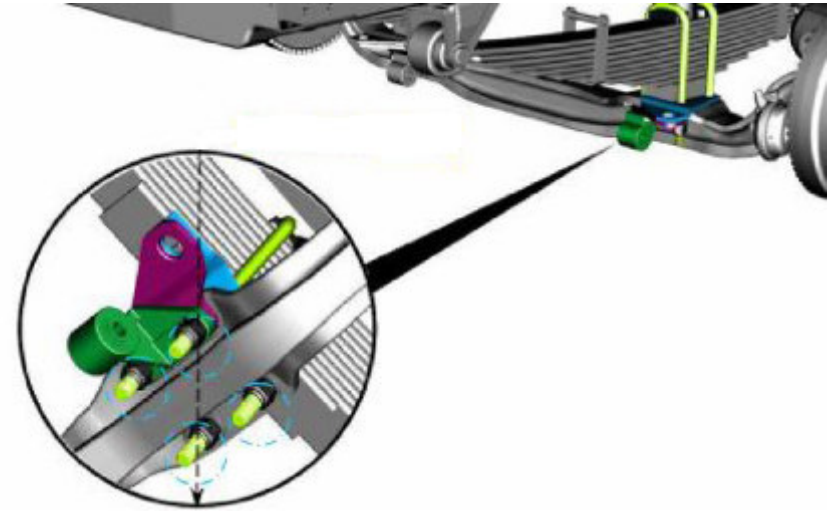
BREAKAGES on 6x4 FRONT SHOCK ABSORBER ATTACHMENT BRACKET



In order to prevent the shock absorber attachment bracket breakages on 6x4 vehicles, reinforcement bracket has been released.

Impl. Date: **September 2007**

Vin: **60526**

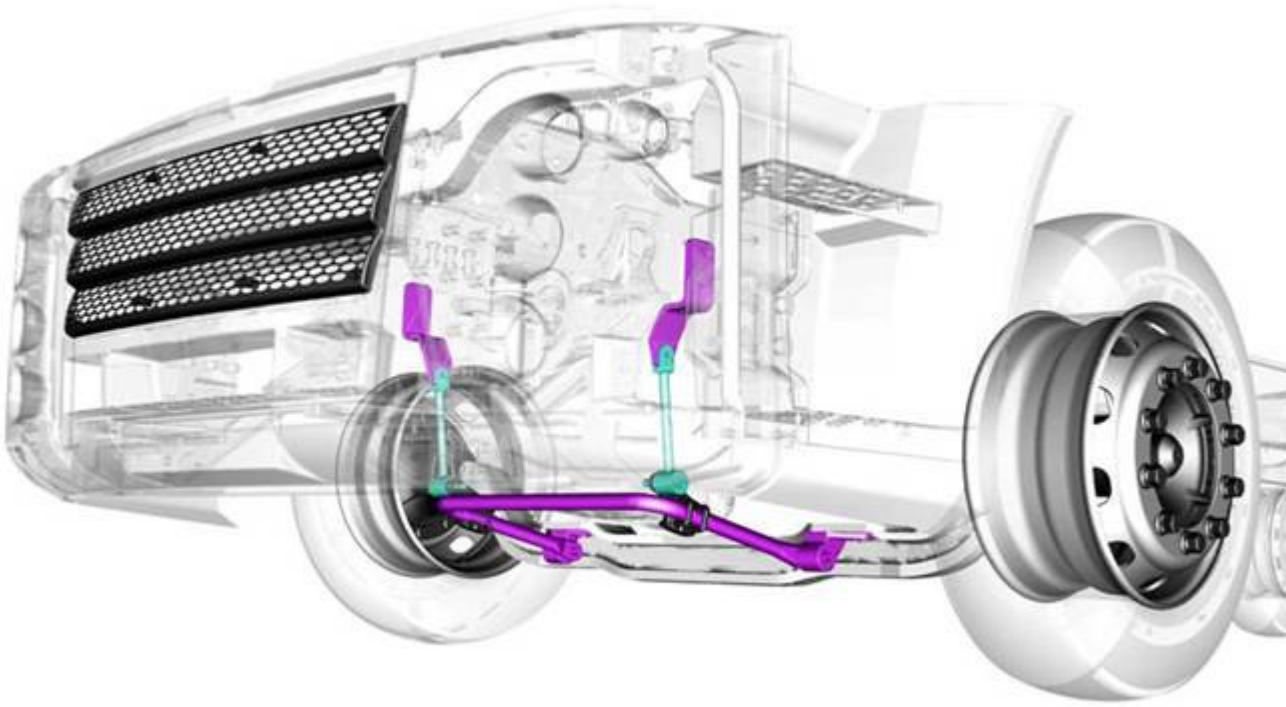


Not Reinforced part no.: **92CT-18126-DA/CA**

Reinforced P/N: **6C46-18126-AA/BA**

TSB-EXHCV-05/08 announced for the vehicles manufactured before the improvement.

FRONT ANTI-ROLL BAR ASY PROBLEMS



Impl. Date: **September 2007**

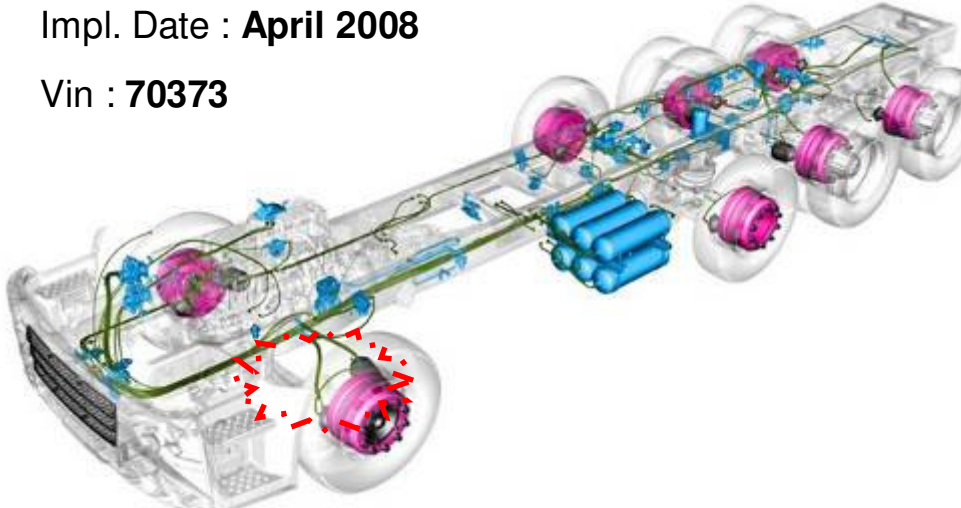
Vin: **65556**

P/N : **5C46 – 5489 – AB** has been released for front anti-roll bar breakage problem

BRAKE HOSE BREAKAGES

Impl. Date : **April 2008**

Vin : **70373**



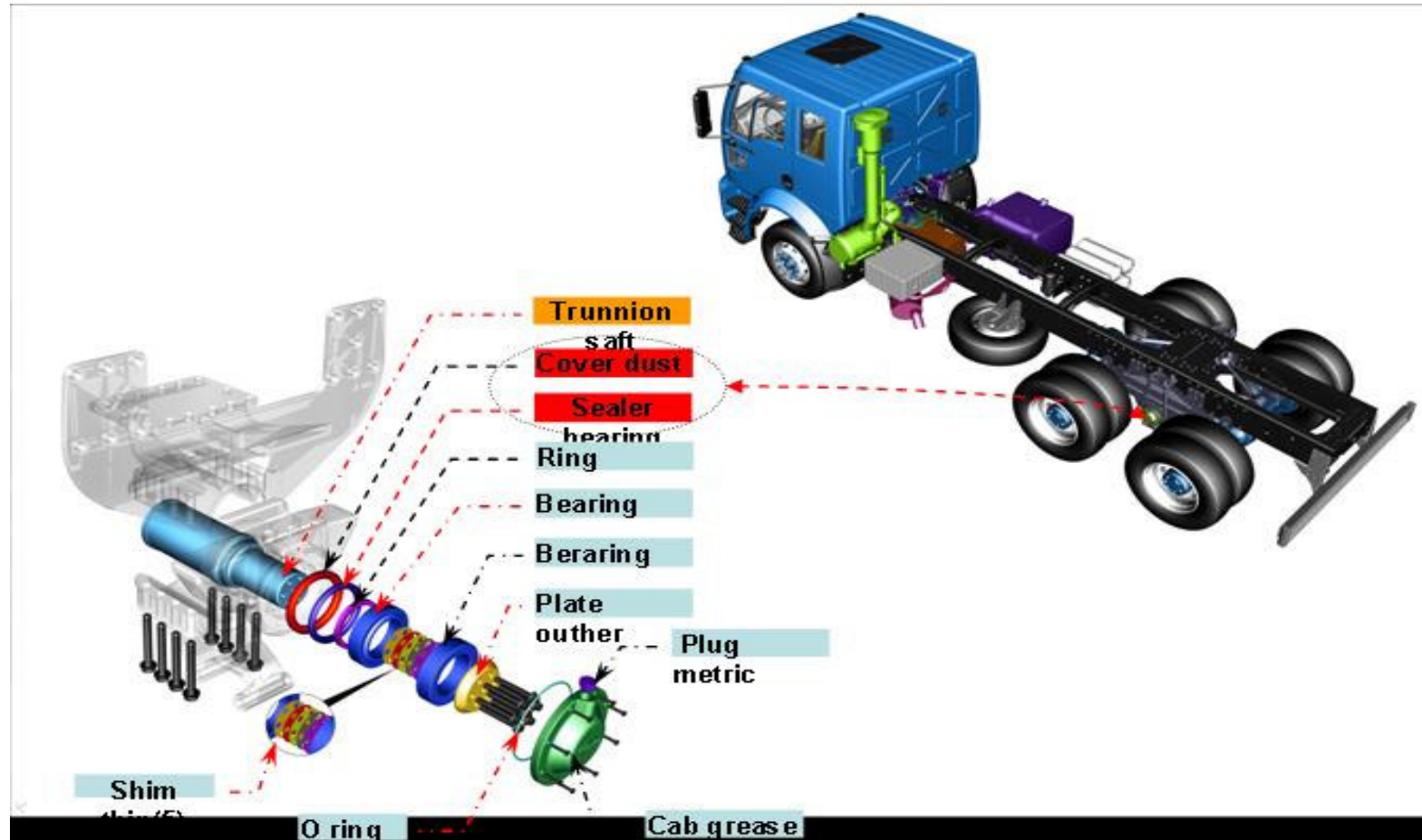
Durability improved against cold weather conditions and new level brake hoses implemented to production.

Vehicle Type	Part Description	Location	Old Part Number	New Part Number	Quantity
4x2 (tractor)	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 AB	8C46 2078 AA	2
	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 BB	8C46 2078 AA	2
	REAR WHEEL BRAKE HOSE ASY	Trailing Axle	5C46 2282 AB	8C46 2282 AA	1
	REAR WHEEL BRAKE HOSE ASY	Trailing Axle	7C46 2282 AA	8C46 2282 BA	1
4x2	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 AB	8C46 2078 AA	2
	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 BB	8C46 2078 AA	2
	REAR WHEEL BRAKE HOSE ASY	Trailing Axle	5C46 2282 AB	8C46 2282 AA	3
6x2, 6X4	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 AB	8C46 2078 AA	2
	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 BB	8C46 2078 AA	2
	REAR WHEEL BRAKE HOSE ASY	Trailing & Additional Axle	5C46 2282 AB	8C46 2282 AA	5
8x2C	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 AB	8C46 2078 AA	2
	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 BB	8C46 2078 AA	2
	SECOND FRONT AXLE BRAKE HOSE ASY	Second Axle	5C46 2078 CB	8C46 2078 CA	2
	REAR WHEEL BRAKE HOSE ASY	Trailing & Additional Axle	5C46 2282 AB	8C46 2282 AA	5
8x2S	FRONT WHEEL BRAKE HOSE ASY	Front & Self Axle	5C46 2078 AB	8C46 2078 AA	4
	FRONT WHEEL BRAKE HOSE ASY	Front Axle	5C46 2078 BB	8C46 2078 AA	2
	REAR WHEEL BRAKE HOSE ASY	Trailing Axle	5C46 2282 AB	8C46 2282 AA	1
	REAR WHEEL BRAKE HOSE ASY	Additional Axle	7C46 2282 BB	8C46 2282 CA	2
	REAR WHEEL BRAKE HOSE ASY	Trailing Axle	7C46 2282 CA	8C46 2282 DA	2

Recall “Kam2008_02 BRAKE HOSES REPLACEMENT ON CARGO COLD PACK VEHICLES” has been announced only for Russian, Ukrainian and Kazakhstan markets.



TRUNNION AXLE OIL LEAKS



Sealer assembling process revised

Vin: 60928

Oil tapping level decreased to %80

Vin: 61036

Outer sealer canceled

Vin: 61439



Differential oil usage recommended.

GEARSHIFT MECHANISM JOINT PROBLEMS

Joint breaks of gearshift mechanism; problem can be fixed by replacing a joint instead of complete assembly .

Part no: **7C46 - 7R361 - AA**

Vin: **67586**

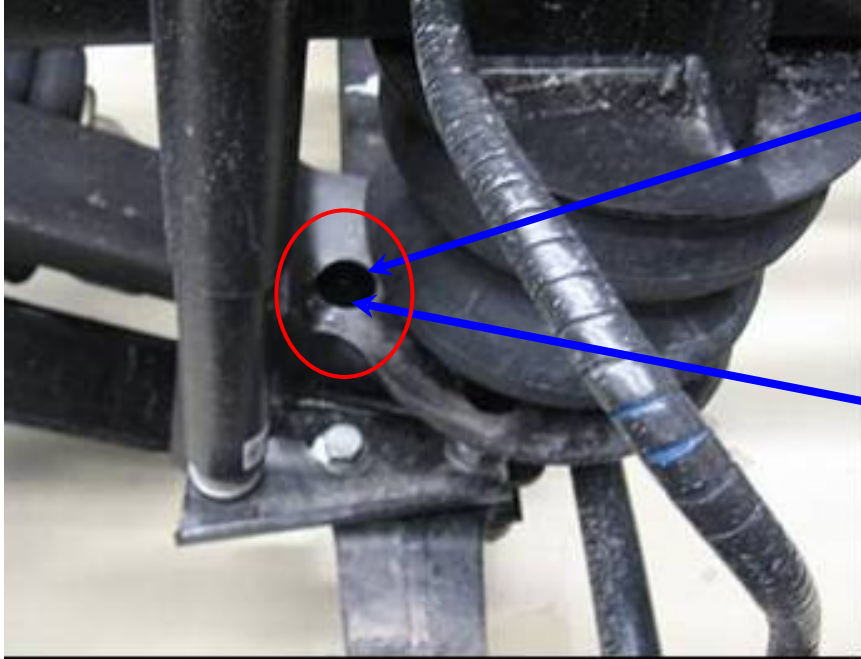


TSB-TRHCV-04/2008 announced for service actions.

32XX S-AXLE BELLOW PUNCTURES

Gromet application implemented on 3230S vehicles, to prevent the Hendrickson axle lifting bellow punctures by touching to assembly hole on the bellow plate on S-axle .

Part no: **95CT -14612 - BA**



95CT 14612 BA GROMET

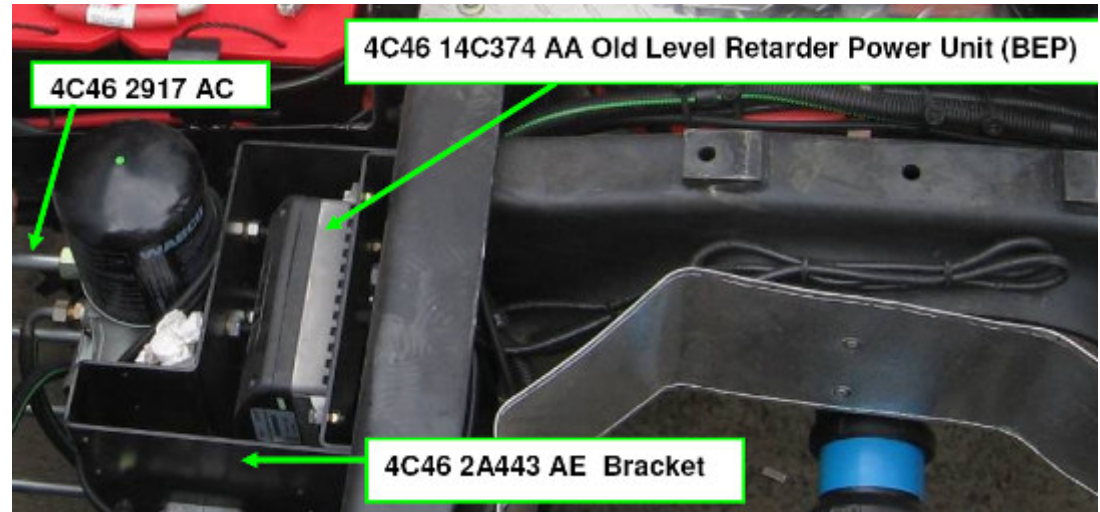
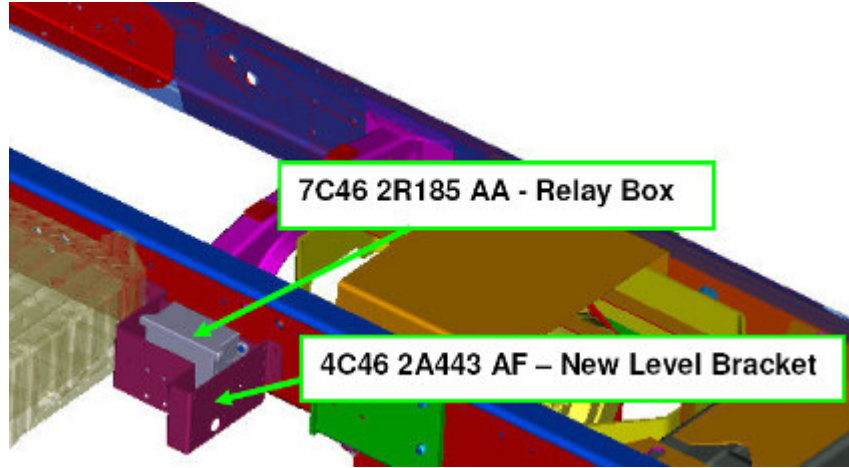
**HENDRICKSON BELLOW PLATE
ASSEMBLING HOLE**

TSB-TRHCV-15/2008 announced for service actions

RETARDER RELAY BOX REPLACEMENT

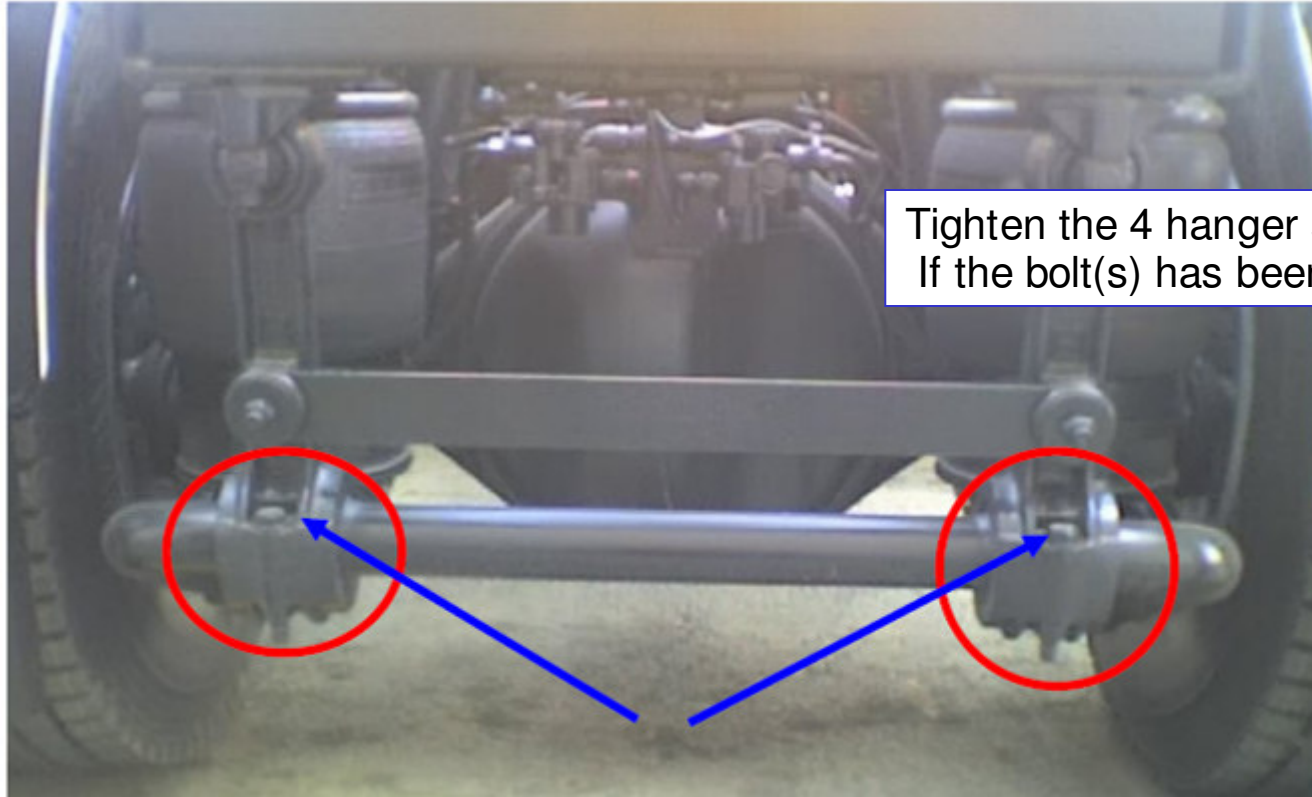
In case of a problem on **3C46 14C374 AA Retarder Relay Box** service instructions in the **TSB-TRHCV-17/2008** should be performed and new level retarder power box should be assembled with the below parts.

New Relay Power Box Part no: **7C46 2R185 AA**



TSB-EXHCV-17/2008 announced for service actions.

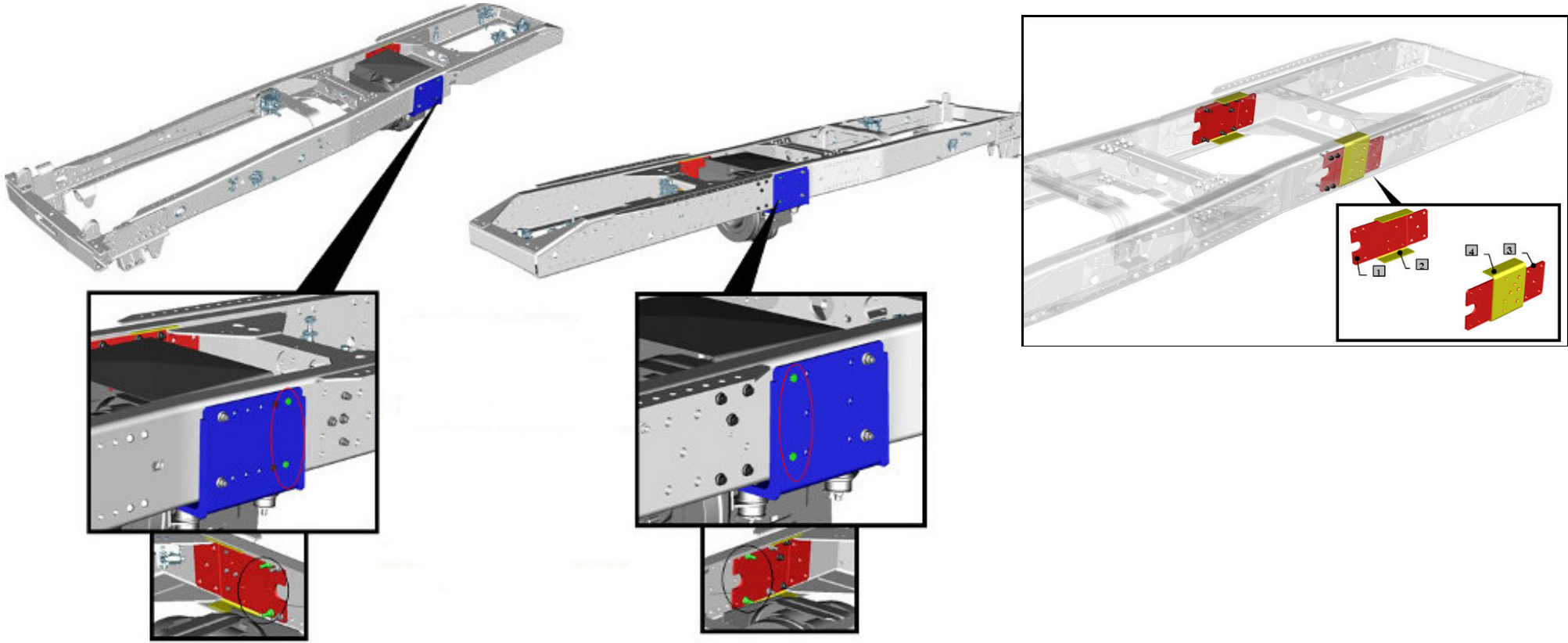
Controlling Anti-Roll Bar Hanger Bolt Torque on 1830&1835



Tighten the 4 hanger screws by 260 Nm shown below.
If the bolt(s) has been damaged, then replace.

Recall “KAM2008_16 Torque Check of ARB Hanger Bolts on 1830&1835” has been announced only for Croatia and Ukraine markets.

Chassis Strengthening of 1835T by Reinforcements



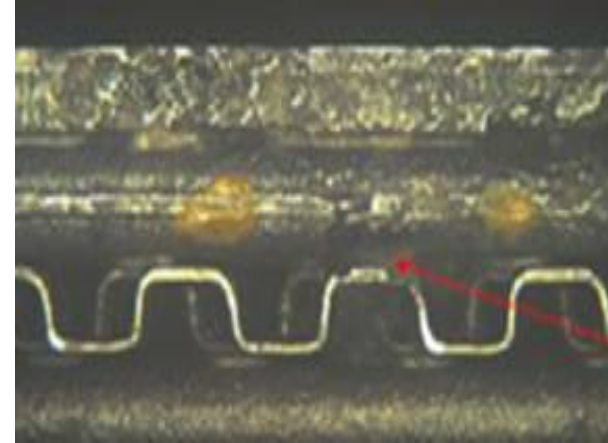
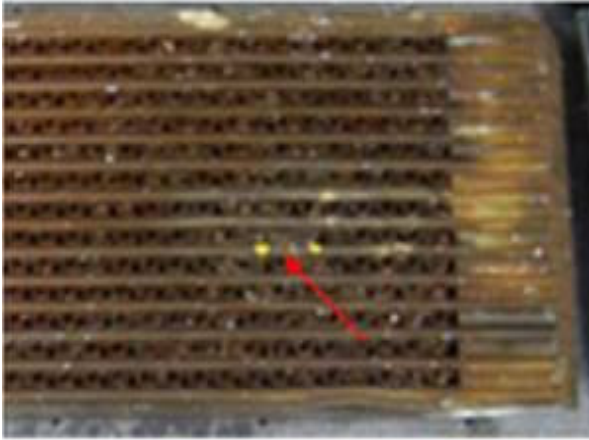
Recall “KAM2008_21Chassis Strengthening of 1835T by Reinforcements” has been announced for Croatia, Ukraine and Bulgaria markets only for affected vehicles.

ENGINE

ASM-TRHCV-23/2007

has been released for the most frequent engine failures.

OIL COOLER FAILURES



Perforation in oil cooler, oil-water mixture , root cause and repair actions:

No usage of Cooling liquid / no usage of recommended coolant liquid :

Coolant liquid (anti-freezer) should be absolutely put into coolant water.

Wear in water carriers by the particles inside:

Water filter - previously being replaced in every 100.000 km, should be replaced firstly in 2.periodical maintenance and then in every following 100.000 km with 986T 8T502 A1B.



STARTER MOTOR FAILURES



Starter motor failures:

- Puncture and oil leaks on plastik protective cover.
- Deformation of spring and ball bearings in clutch.
- Burning of the coil wraparound.

To decrease the starter motor failures and prolong battery life:

- Before starting the engine, handpump of fuel filter located on the chassis should be operated by customer until feeling the opposite fuel pressure.
- Users should be warned to prevent from longer ignition period. Refer to Users Manual.

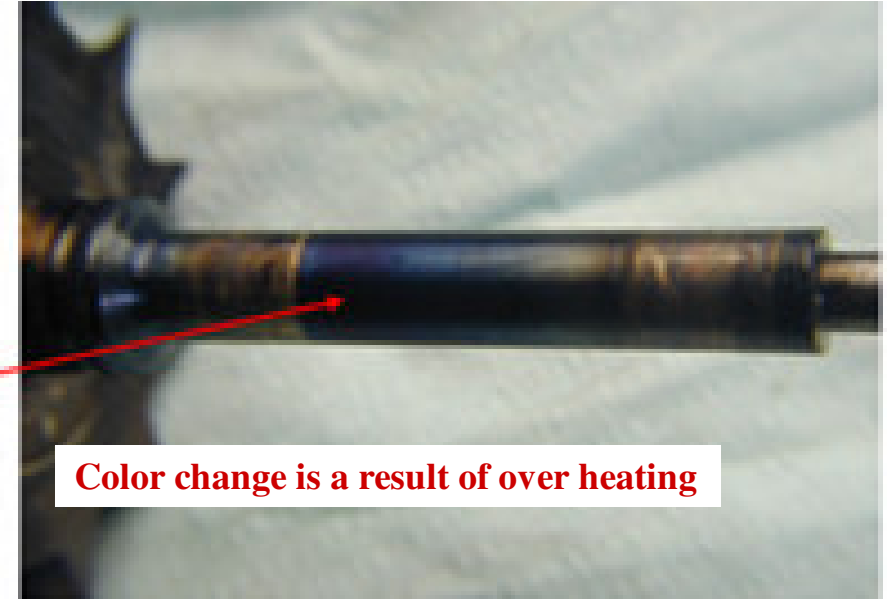
TURBOCHARGER FAILURES



Turboshaft bearing and turbowing damages:

- Piece from air filter ruptured by the turbocharger because of dirty and choked filter.
- Over-heating on turboshaft – to stop the engine on high rpms.
- Irregular oil replacement intervals.

TURBOCHARGER FAILURES



Air filters should be replaced in regular intervals

Oil should be changed in regular intervals.

As described in User's Manual, engine should be operated in idle speed to keep the lubrication of turboshaft bearing and turbo speed should be reduced before stopping the engine in turbocharged engine vehicles,

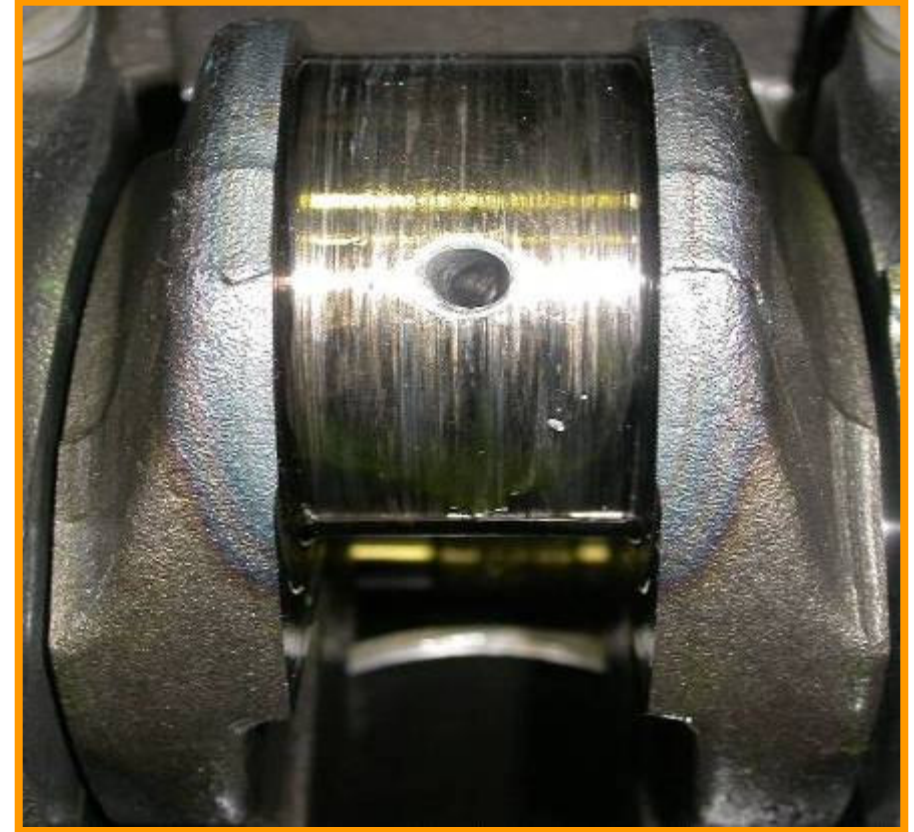
After a long period loaded operation, engine should be run at idle for a short time.

PISTON BEARING FAILURES

Root causes of connecting rod bearing failures:

Overspeed: Should be checked by EDS and the failure ECU code.

Irregular Maintenances : Oil and filter replacement intervals should be checked if performed in required intervals.



THANK YOU...