PRODUCT BULLETIN

TIMKEN
Where You Turn

SP470200 / SP470201 – December 2009

Subject: Timken Provides OE Solution
Part Number: SP470200 / SP470201

Product:

Timken is now providing two hub unit bearing solutions for the popular ABS applications shown below. As always, Timken provides the highest quality OE solutions to meet your customer's needs. While many customers desire to utilize the SP470201 hub unit without the sensor cable…we will now provide the optional SP470200 hub unit bearing, with the sensor cable. Having both options available gives your customer the ability to provide the best cost alternative to address the specific repair necessary for their vehicle.

PART NO.	APPLICATION	AVAILABLE	DESCRIPTION
SP470200	(SENSOR CABLE ASSEMBLY INCLUDED) 2002-2005 Ford Explorer 4x4 / 4x2 FW 2002-2005 Mercury Mountaineer 4x4, 4x2, AWD 2003-2005 Lincoln Aviator AWD	Dec. 2009	Hub Unit Bearing

PART NO.	APPLICATION	AVAILABLE	DESCRIPTION
SP470201	(SENSOR CABLE ASSEMBLY **NOT** INCLUDED) 2002-2005 Ford Explorer 4x4 / 4x2 FW 2002-2005 Mercury Mountaineer 4x4, 4x2, AWD 2003-2005 Lincoln Aviator AWD	Currently	Hub Unit Bearing

SP470200 (Sensor cable included)

SP470201 (No sensor cable included)

Please contact your Timken sales representative or zone manager if you need more information or have questions.

HUB INFORMATION

HA590028 & HA590029 are currently sold without the cover plates

Ford reviewed the warranty info on this unit and made a decision to remove this inboard cover plate. The units without the cover plate were tested and there were no issues with performance observed. The original units with cover plate had some noise due to contamination between the cover plate and seal. Ford has approval to removal the cover plate.

HA590028

OEM Original With Cover

OEM Approved Without Cover

FORD	FIVE HUNDRED	FRONT WHEEL	2005-07
FORD	FREESTYLE	FRONT WHEEL	2005-07
FORD	TAURUS	FRONT WHEEL	2008-09
FORD	TAURUS X	FRONT WHEEL	2008-09
MERCURY	MONTEGO	FRONT WHEEL	2005-07
MERCURY	SABLE	FRONT WHEEL	2008-09

HA590029

OEM Original With Cover

OEM Approved Without Cover

FORD	FIVE HUNDRED	REAR WHEEL	2005-07
FORD	FREESTYLE	REAR WHEEL	2005-07
FORD	TAURUS	REAR WHEEL	2008
FORD	TAURUS X	REAR WHEEL	2008-09
MERCURY	MONTEGO	REAR WHEEL	2005-07
MERCURY	SABLE	REAR WHEEL	2008-09

TIMKEN - HUB UPDATE

There has been an increase of warranty returns on Timken 513138 due to:

ISSUE 1: Improper Torque: **The majority of units show signs of the improper torque used to set the bearing preload. Per the tag attached to the Timken units, they REQUIRE 180 ft. lbs of torque to properly set unit preload. Note Below: This hub fits many applications with OEM torque specs from 105-185 ft. lbs.**

AXLE NUT MUST BE REPLACED TO MAINTAIN CONSISTANT CLAMP PRESSURE

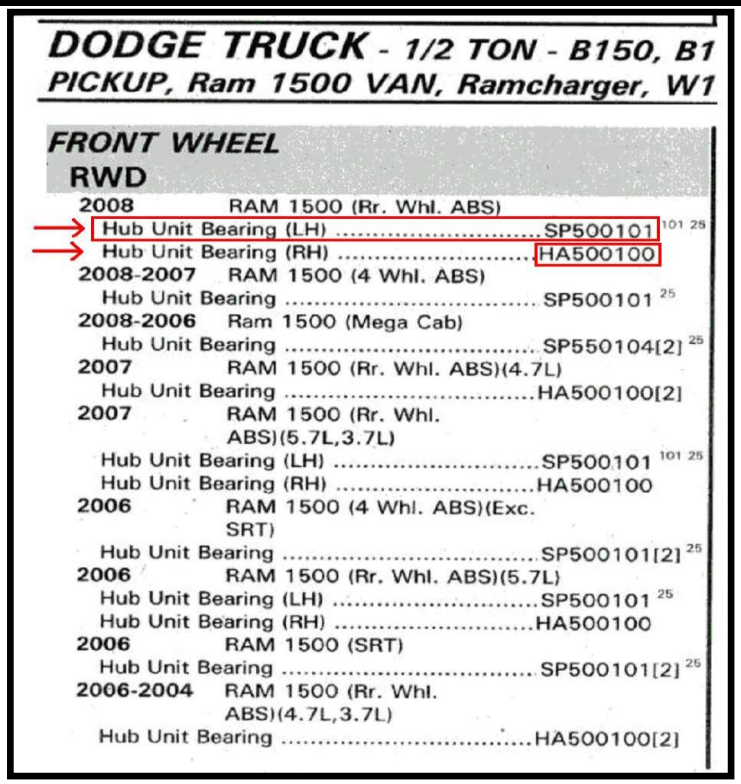
ISSUE 2: Improper Seating Of Axle To Hub: **Sand off the rust and corrosion around the axle seating area with a fine- to medium-grade sandpaper. Take your time when doing this and make sure it's as clean as possible. Make sure the bearing assembly sits snug against axle or clamp pressure will not hold.**

Make	Model	Year	App	OEM Torque
CHRYSLER	Cirrus, Sebring	2006-2001	Sebring (Convertible)(Sedan)	01-02 (110); 03-06 (150)
CHRYSLER	Cirrus, Sebring	2000-1996	Sebring (Convertible)	96-99 (180); 2000 (105)
CHRYSLER	Cirrus, Sebring	2000-1995	Cirrus	95-00 (185)
DODGE	Stratus	2006-2001	Stratus (Sedan)	01-02 (110); 03-06 (150)
DODGE	Stratus	2000-1995		95-99 (180); 2000 (105)
PLYMOUTH	Breeze	2000-1996		96-99 (180); 2000 (105)

HUB INFORMATION

Dodge requires a hub assembly with an ABS Sensor on the RAM 1500 with Rear Wheel ABS (Left Front Hub Assembly)

2006-2008 Dodge Pick Up Trucks -Rear ABS or 4 Wheel ABS



DODGE TRUCK - 1/2 TON - B150, B1
PICKUP, Ram 1500 VAN, Ramcharger, W1

FRONT WHEEL
RWD

2008 RAM 1500 (Rr. Whl. ABS)
Hub Unit Bearing (LH) ..... SP500101 [101] [25]
Hub Unit Bearing (RH) HA500100
2008-2007 RAM 1500 (4 Whl. ABS)
Hub Unit Bearing ..... SP500101 [25]
2008-2006 Ram 1500 (Mega Cab)
Hub Unit Bearing ..... SP550104[2] [25]
2007 RAM 1500 (Rr. Whl. ABS)(4.7L)
Hub Unit Bearing ..... HA500100[2]
2007 RAM 1500 (Rr. Whl. ABS)(5.7L,3.7L)
Hub Unit Bearing (LH) ..... SP500101 [101] [25]
Hub Unit Bearing (RH) HA500100
2006 RAM 1500 (4 Whl. ABS)(Exc. SRT)
Hub Unit Bearing ..... SP500101[2] [25]
2006 RAM 1500 (Rr. Whl. ABS)(5.7L)
Hub Unit Bearing (LH) ..... SP500101 [25]
Hub Unit Bearing (RH) HA500100
2006 RAM 1500 (SRT)
Hub Unit Bearing ..... SP500101[2] [25]
2006-2004 RAM 1500 (Rr. Whl. ABS)(4.7L,3.7L)
Hub Unit Bearing ..... HA500100[2]

WITH 4 WHEEL ABS

Uses The Same Hub On Both Sides Of Truck.

WITH REAR ABS

The Front Left Hub Needs An ABS sensor. It Is Used For A Speed Sensor On This Truck.

Make	Model	Year	App	Loc
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2008-2007	RAM 1500 (4 Whl. ABS)	
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2006-2006	RAM 1500 (4 Whl. ABS)(Exc. SRT)	
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2006-2006	RAM 1500 (SRT)	
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2008-2007	RAM 1500 Ser. (4 Whl. ABS)	
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2008-2008	**RAM 1500 (Rr. Whl. ABS)**	**(LH)**
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2007-2007	**RAM 1500 (Rr. Whl. ABS)(5.7L,3.7L)**	**(LH)**
DODGE TRUCK - 1/2 TON	Ram 1500 PICKUP	2006-2006	**RAM 1500 (Rr. Whl. ABS)(5.7L)**	**(LH)**

TIMKEN - HUB UPDATE

Timken sells sensor wires separately for Chevrolet Colorado & GMC Canyon trucks due to the changes by General Motors in their sensor wires. The sensor wire are available separately for each application as listed below.

CHEVROLET/GMC - Lt Truck Colorado/Canyon FRONT WHEEL - 4WD 2008-2004			
Hub Unit Bearing	**Replaces LH & RH.**	**HA590304**	**Does Not Come w/ Sensor Cable.**
Sensor Kit	**(RH)**	**SK590053**	
Sensor Kit	**(LH)**	**SK590061**	
Hub Unit Bearing	(RH)	HA590023	
Hub Unit Bearing	(LH)	HA590060	

SP590304

SP590023 & SP590060

CHEVROLET/GMC - Lt Truck Colorado/Canyon FRONT WHEEL - RWD 2008-2004 - (Z71 Pkg.)			
Hub Unit Bearing	**Replaces LH & RH.**	**HA590300**	**Does Not Come w/ Sensor Cable.**
Sensor Kit	**(RH)**	**SK590053**	
Sensor Kit	**(LH)**	**SK590061**	
Hub Unit Bearing	(RH)	HA590053	
Hub Unit Bearing	(LH)	HA590061	

CHEVROLET/GMC - Lt Truck Colorado/Canyon FRONT WHEEL - RWD 2008-2004 - (Z85 Pkg.)			
Hub Unit Bearing	**Replaces LH & RH.**	**HA590300**	**Does Not Come w/ Sensor Cable.**
Sensor Kit	**(RH)**	**SK590062**	
Sensor Kit	**(LH)**	**SK590058**	
Hub Unit Bearing	(RH)	HA590062	
Hub Unit Bearing	(LH)	HA590058	

CHEVROLET/GMC - Lt Truck Colorado/Canyon FRONT WHEEL - RWD 2008-2004 - (ZQ8 Pkg.)			
Hub Unit Bearing	**Replaces LH & RH.**	**HA590300**	**Does Not Come w/ Sensor Cable.**
Sensor Kit	**(RH)**	**SK590059**	
Sensor Kit	**(LH)**	**SK590054**	
Hub Unit Bearing	(RH)	HA590059	
Hub Unit Bearing	(LH)	HA590054	

SP590300

SP590053, 054, 058, 059, 061 & 62

NOTE: 2009 OEM APPLICATIONS HAVE ABS SENSOR ATTACHED TO STEERING KNUCKLE NOT HUB

HUB INFORMATION

Late model GM Trucks have a new round ABS (GMT900) connector.
This connector can be found on the Timken # SP500301.
Earlier GM models come with oval connector found on Timken # SP500300.

SP500300

Sensor Opening: Oval

GMT800 Connector

GMT800 Sensor Head

CADILLAC - SUV, Truck	Escalade, Escalade ESV, Escalade EXT	FRONT WHEEL	2006-2002	
CHEVROLET/GMC TRUCK - 1/2 TON	Avalanche	FRONT WHEEL	2006-2002	
CHEVROLET/GMC TRUCK - 1/2 TON	Silverado/Sierra, Suburban, Tahoe/Yukon	FRONT WHEEL	2006-1999	(4-Wheel ABS)
CHEVROLET/GMC TRUCK - 1/2 TON	G10/G15, Express/Savana, P10/15	FRONT WHEEL	2009-2003	

SP500301

Sensor Opening: Round

GMT900 Connector

GMT900 Sensor Head

CADILLAC - SUV, Truck	Escalade, Escalade ESV, Escalade EXT	FRONT WHEEL	2009-2007	
CHEVROLET/GMC TRUCK - 1/2 TON	Avalanche	FRONT WHEEL	2009-2007	
CHEVROLET/GMC TRUCK - 1/2 TON	Silverado/Sierra, Suburban, Tahoe/Yukon	FRONT WHEEL	2009-2007	Classic Style

HUB INFORMATION

It has come to our attention that GM *"MAY"* have made a mid-model year change to bearing assemblies for SOME 2007 applications listed below. Both hubs look exactly a like EXCEPT the earlier verison has larger size ABS Sensor Wire and White Boot coming off sensor connection.

SP580310

WHITE BOOT COVERING COMING OFF THE SENSOR

LARGER DIAMETER ABS SENSOR WIRE

CHEVROLET/GMC TRUCK - 3/4 & 1 TON	Silverado/Sierra, Suburban, Tahoe/Yukon **HD**	FRONT WHEEL	2007-2001
CHEVROLET/GMC TRUCK - 1/2 TON HD	Silverado/Sierra **HD**	FRONT WHEEL	2007-2001

SP580312

SMALLER DIAMETER ABS SENSOR WIRE

NO ADDITIONAL COVERING COMING OFF THE SENSOR

CHEVROLET/GMC TRUCK - 3/4 TON	Silverado/Sierra, Suburban, Tahoe/Yukon **HD**	FRONT WHEEL	2008-2010

HUB INFORMATION

Drivetrain - ABS Lamp ON/DTC's Set/Grinding Noise

TSB: 04-001/07

2004-2005 MAZDA3 - ABS WARNING LIGHT ON WITH DTC C1141, C1142, C1233, OR C1234/GRINDING NOISE FROM FRONT WHEELS

APPLICABLE MODEL(S)/VINS
2004 - 2005 Mazda3 vehicles with VINS lower than JM1 BK**** ** 271699 (produced before January 1, 2005)

DESCRIPTION
Some vehicles may experience the following symptom(s) due to the wheel hub being out of position:

1. For some vehicles with ABS, the ABS warning light illuminates with one or more of the following DTC's stored:
   ^ C1141 - LF ABS sensor rotor
   ^ C1142 - RF ABS sensor rotor
   ^ C1233 - LF ABS wheel-speed sensor/ABS sensor rotor
   ^ C1234 - RF ABS wheel-speed sensor/ABS sensor rotor
2. For vehicles with and without ABS, a continuous grinding noise can be heard from the front brake disc making contact with the caliper support. The noise can be heard without depressing the brake pedal.

   The problem is the press fit between the wheel hub and steering knuckle is not strong enough, and with continued impact from the road, the wheel hub shifts in the steering knuckle. For ABS equipped vehicles, the movement creates an excessive gap between the ABS wheel-speed sensor on the knuckle and sensor rotor in the wheel bearing, resulting in the ABS warning light coming on. For ABS and non-ABS vehicles, continued movement will lead to the front brake disc making contact with the caliper support, creating a continuous grinding noise.

   Customers having this concern should have their vehicle repaired using the following repair procedure.

HA590072
Without ABS

HA590097
With ABS

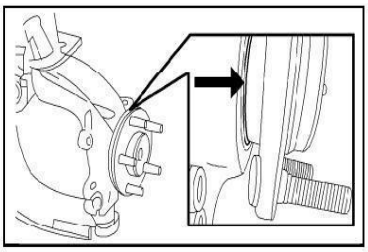
Drivetrain - ABS Lamp ON/DTC's Set/Grinding Noise

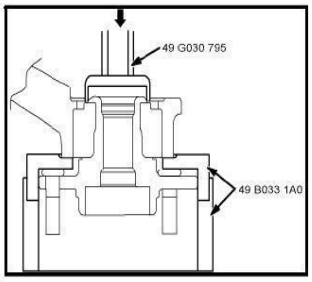
REPAIR PROCEDURE

NOTE: To perform the procedure, one of the following anaerobic adhesives (source locally) will be required:

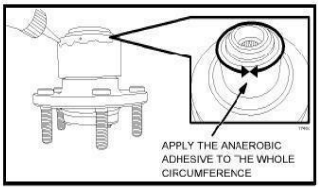
- Permatex Bearing Mount for Close Fits 60950 (green)
- Permatex Bearing Mount for Relaxed Fits 68050 (green)

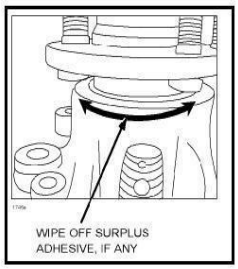
1. Verify complaint and identify if concern is present on one or both of the front wheels.
   NOTE: For each wheel that exhibits the concern, perform steps 2 - 14.
2. Remove the front wheel.
3. Unbolt the caliper housing with the caliper assembly still attached and secure the assembly so that it does not hang by the hose.
4. Remove the brake disc.
5. Visually inspect the front wheel bearing and identify if it is properly seated in the front steering knuckle. If the hub is fully seated, refer to Workshop Manual to diagnose the concern, otherwise continue with this Service Bulletin.
   NOTE: The hub should be nearly flush, but slightly raised from the knuckle (less than 1 mm).





6. Remove the steering knuckle assembly from vehicle as outlined in the WSM section 03-11 WHEEL HUB, STEERING KNUCKLE REMOVAL/INSTALLATION.
7. Remove the hub bearing assembly from the steering knuckle using a press and the SST's.
8. Obtain a new replacement wheel bearing assembly.
9. Clean the press fit mating surfaces on the wheel bearing assembly and steering knuckle.





10. Apply the approved anaerobic adhesive to a new wheel hub component on the area that first makes contact with the knuckle during the press.
    NOTE: Be sure to apply to the adhesive around the whole circumference.
11. Install the new hub bearing assembly using a press and the SSTs.

CAUTION: To prevent damaged to the wheel hub component when pressing it down, install the SST to the bearing outer race firmly.

12. Wipe off surplus adhesive, if any.
13. Reinstall the steering knuckle to the vehicle.
14. When installing the lockbolt:
    a. Install a new lockbolt and tighten it.
       Tightening Torque: 31.5 - 38.5 N.m (3.22-3.92 kgf.m, 23.3-28.3 ft.lb)
    b. Mark the lockbolt at one point and tighten it further until the marking has moved 85-95 degrees.