SERVICE BULLETIN

MITSUBISHI MOTORS

GLOBAL AFTER SALES OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : INFORMATION	ISSUE NO. : MSB-13EXL33-001	DATE : 2013-02-14
SUBJECT : REMOVAL AND INSTALLATION OF UPPER ARM ASSEMBLY		<Destination/Model> (AS PER ATTACHED) <M/Y> 06-13
GROUP : FRONT SUSPENTION		AS PER ATTACHED

1. Description:

See the attached document for the information about the change of mention in the applicable service manual.

2. Applicable manual:

See the attached document

3. Details:

See the attached document

For overseas market

Destination	Applicable manual	Pub. No.	Applicable title (INFO ID)	Content
EUR/RUSSIA	2007 PAJERO/MONTERO Workshop Manual	CBKE07E2-CD(Eng) CBKS07E2-CD(Spa) CBKF07E2-CD(Fre) CBKG07E2-CD(Ger) RUSSIA:N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M13302000043ENG0000010002)after	Attached sheet 3
	2008 PAJERO/MONTERO Workshop Manual	CBKE08E1-CD(Eng) CBKS08E1-CD(Spa) CBKF08E1-CD(Fre) CBKG08E1-CD(Ger) RUSSIA:N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-19101-01) after	
	2009 PAJERO/MONTERO Workshop Manual	CBKE09E1-CD(Eng) CBKS09E1-CD(Spa) CBKF09E1-CD(Fre) CBKG09E1-CD(Ger) RUSSIA:N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-28700-01) after	
	2009.5 PAJERO/MONTERO Workshop Manual	CBKE09E2-CD(Eng) CBKS09E2-CD(Spa) CBKF09E2-CD(Fre) CBKG09E2-CD(Ger) CBKI09E2-CD(Ita) RUSSIA/N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-34000-01) after	
	2010 PAJERO/MONTERO Workshop Manual	CBKE10E1-CD(Eng) CBKS10E1-CD(Spa) CBKF10E1-CD(Fre) CBKG10E1-CD(Ger) CBKI10E1-CD(Ita) RUSSIA:N/A		
	2011 PAJERO/MONTERO Workshop Manual	CBKE11E1-CD(Eng) CBKS11E1-CD(Spa) CBKF11E1-CD(Fre) CBKG11E1-CD(Ger) CBKI11E1-CD(Ita) RUSSIA:N/A		
	2012 PAJERO/MONTERO Workshop Manual	CBKE12E1-CD(Eng) CBKS12E1-CD(Spa) CBKF12E1-CD(Fre) CBKG12E1-CD(Ger) CBKI12E1-CD(Ita) RUSSIA:N/A		別紙 1 (2/3)
EUR/RUSSIA	2013 PAJERO/MONTERO Workshop Manual	CBKE13E1-CD(Eng) CBKS13E1-CD(Spa) CBKF13E1-CD(Fre) CBKG13E1-CD(Ger) CBKI13E1-CD(Ita) RUSSIA:N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-34000-01) after	Attached sheet 3
EXP/GCC	2007 PAJERO/MONTERO Workshop Manual	PWJE0605R(Eng) PWJS0606R(Spa) KOREA/INDIA/ /BRAZIL/SOUTHAFRICA/ARGETINA/ HONG KONG:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-19100-01) after	
EXP/GCC	2008 PAJERO/MONTERO Workshop Manual	PWJE0709R(Eng) PWJS0710R(Spa) MEXICO/TAIWAN/ SINGAPORE/CHILE: DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-19101-01) after	
CHINA	2008 PAJERO Workshop Manual	DRAFT		
EXP/GCC	2009 PAJERO/MONTERO Workshop Manual	PWJE0812R(Eng) PWJS0813R(Spa)	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-27600-01) after	
	2010 PAJERO/MONTERO	PWJE0908R(Eng) PWJS0909R(Spa)		

Destination	Applicable manual	Pub. No.	Applicable title (INFO ID)	Content
	Workshop Manual			
MMAL/NZ	2007 PAJERO Workshop Manual	MR936084 NZ:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-22100-01) after	
	2008 PAJERO Workshop Manual	MR936455 NZ:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-22101-01) after	
	2009 PAJERO Workshop Manual	MR936637 NZ:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-29800-01) after	
	2010 PAJERO Workshop Manual	MR936976 NZ:DRAFT		
EUR	2007 L200 Workshop Manual	CCRE07E1-CD(Eng) CCRS07E2-CD(Spa) CCRF07E2-CD(Fre) CCRG07E2-CD(Ger)	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-12400-01) after	Attached sheet 14
	2007.5 L200 Workshop Manual	CCRE07E2-CD(Eng) CCRS07E2-CD(Spa) CCRF07E2-CD(Fre) CCRG07E2-CD(Ger)	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-12401-01) after	
EU/ RUSSIA	2009 L200 Workshop Manual	CCRE09E1-CD(Eng) CCRS09E1-CD(Spa) CCRF09E1-CD(Fre) CCRG09E1-CD(Ger) CCRI09E1-CD(Ita) RUSSIA:N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-31700-01) after	
	2010 L200 Workshop Manual	CCRE10E1-CD(Eng) CCRS10E1-CD(Spa) CCRF10E1-CD(Fre) CCRG10E1-CD(Ger) CCRI10E1-CD(Ita) RUSSIA:N/A	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-36200-01) after	Attached sheet 15
	2011 L200 Workshop Manual	CCRE11E1-CD(Eng) CCRS11E1-CD(Spa) CCRF11E1-CD(Fre) CCRG11E1-CD(Ger) CCRI11E1-CD(Ita) RUSSIA:N/A		
	2012 L200 Workshop Manual	CCRE12E1-CD (Eng) CCRS12E1-CD (Spa) CCRF12E1-CD (Fra) CCRG12E1-CD (Ger) CCRI12E1-CD (Ita) RUSSIA:N/A		
	2013 L200 Workshop Manual	CCRE13E1-CD (Eng) CCRS13E1-CD (Spa) CCRF13E1-CD (Fra) CCRG13E1-CD (Ger) CCRI13E1-CD (Ita) RUSSIA:N/A		
EXP/GCC	2007 L200 Workshop Manual	PWTE0603R-1(Eng) PWTS0604R-1(Spa)	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD-2500DOHC, 4WD> (M332-00-430-21000-01) after	Attached [illegible] 別紙 1 (3/3)
EXP/GCC	2008 L200 Workshop Manual	PWTE0703R(Eng) PWTS0704R(Spa)	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-21001-01) after	Attached sheet 10
EXP/GCC/ MEXICO	2009 L200 Workshop Manual	PWTE0806R(Eng) PWTS0807R(Spa) MEXICO:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-21002-01)	Attached sheet 4
			UPPER ARM ASSEMBLY REMOVAL AND	Attached

Destination	Applicable manual	Pub. No.	Applicable title (INFO ID)	Content
			INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-21002-01)after	sheet 5, 10
	2010 L200 Workshop Manual	PWTE0903R(Eng) PWTS0904R(Spa) MEXICO:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-21002-01)after	Attached sheet 10
	2011 L200 Workshop Manual	PWTE1002R(Eng) PWTS1003R(Spa) MEXICO:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-21002-01)after	Attached sheet 10
THAI	2006 TRITON Workshop Manual	DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <4WD> (M332-00-430-11300-01)after	Attached sheet 11
	2008 TRITON Workshop Manual	DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-24300-01)after	Attached sheet 12
	2009 TRITON Workshop Manual	DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-33900-01)after	
	2010 TRITON Workshop Manual	DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> (M332-00-430-33901-01)after	
MMAL	2007 TRITON Workshop Manual	MR936105	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-15700-01)afer	Attached sheet 13
	2007.5 TRITON Workshop Manual	MR936245		
MMAL/NZ	2008 TRITON Workshop Manual	MR936232 NZ:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-15702-01)afer	
	2009 TRITON Workshop Manual	MR936476 NZ:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-15701-01)afer	
	2010 TRITON Workshop Manual	MR936949 NZ:DRAFT		
EXP/GCC/ RUSSIA/ THAI/ MMAL/NZ	2009 PAJERO SPORT Workshop Manual	PWJE0808R-2(Eng) PWJS0809R-2(Spa) THAI:DRAFT MMAL/NZ:DRAFT BRAZIL/SOUTH AFRICA/ARGENTINA /MEXICO:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-30601-01)after	Attached sheet 16
	2010 PAJERO SPORT Workshop Manual	PWJE0910R(Eng) PWJS0911R(Spa) THAI:DRAFT MMAL:MR936972 NZ:DRAFT BRAZIL/SOUTH AFRICA/ARGENTINA /MEXICO:DRAFT		
	2011 PAJERO SPORT Workshop Manual	PWJE1004R(Eng) PWJS1005R(Spa) THAI:DRAFT MMAL:AU900055 NZ:DRAFT BRAZIL/SOUTH AFRICA/ARGENTINA /MEXICO:DRAFT	UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-30601-01)	Attached sheet 6
			UPPER ARM ASSEMBLY REMOVAL AND INSTALLATION (M332-00-430-30601-01)after	Attached sheet 7, 16

<Added>

Attached sheet 3 (1/2)

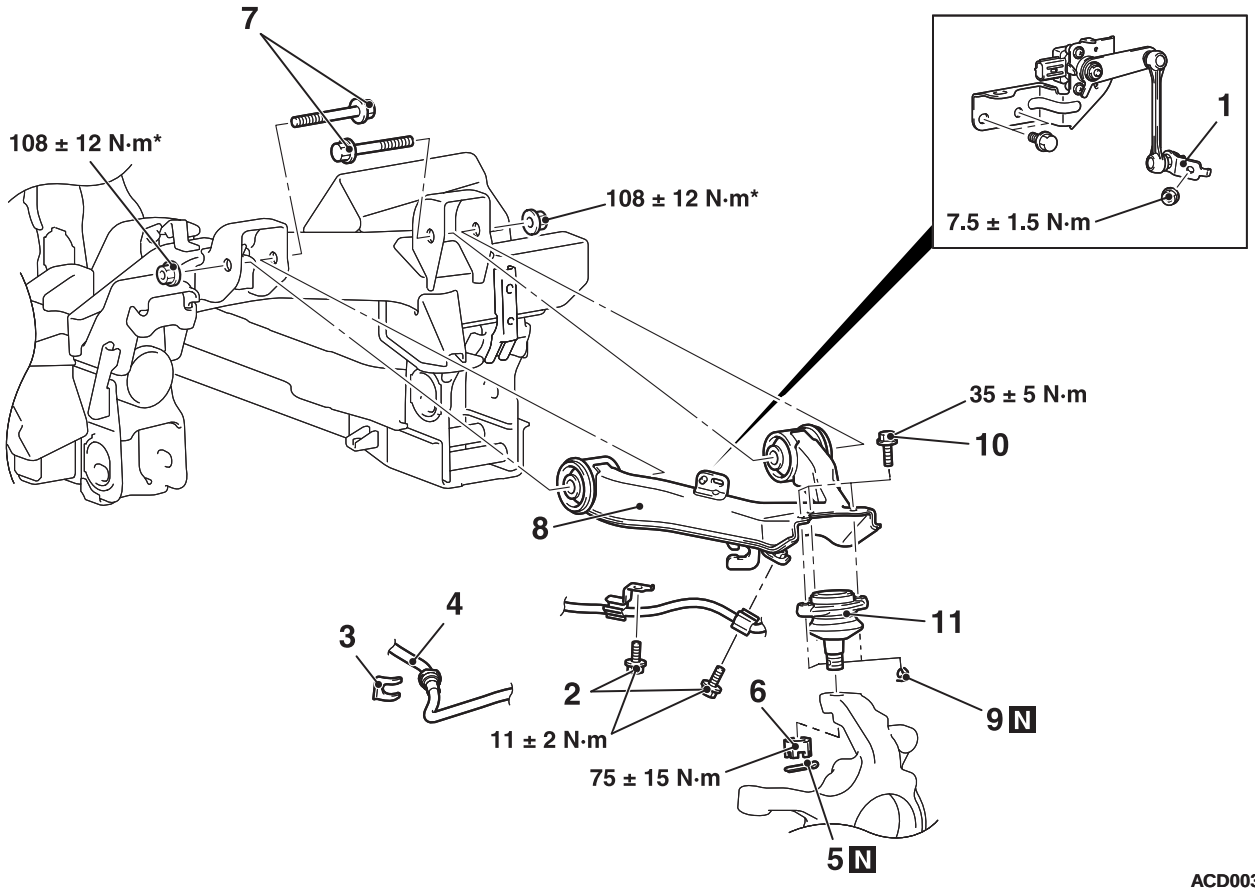
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION < Vehicle with stopper ring)

⚠ CAUTION

- **As for vehicles with headlamp auto levelling system, disconnect the height sensor from the lower arm before operation to prevent damages to the height sensor (Refer to GROUP 54A – Height Sensor). <Vehicles with headlamp automatic levelling system>**
- ***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**
- **When the suspension is adjusted or replaced, the calibration of steering wheel sensor must be performed (Refer to GROUP 35C– On-vehicle Service– Steering Wheel Sensor Initialisation).**

Post-installation Operation
- Check the Dust Cover for Cracks or Damage by Pushing it with Your Finger.
- Wheel Alignment Check and Adjustment (Refer to).
- Check the Beam Direction of the Headlamp (Refer to 54A – Headlamp Aiming).



ACD00335AB

Removal steps
1. Front height sensor and upper arm connection nut <Vehicles with headlamp automatic levelling system>
2. Front wheel speed sensor clamp mounting bolt
3. Clip
4. Brake hose

<<A>>

>> A <<

Removal steps (Continued)
5. Split pin
6. Upper arm ball joint and knuckle connection nut
7. Upper arm mounting bolt
8. Upper arm assembly
9. Stopper ring

Removal steps (Continued)

10. Upper arm and upper arm ball joint connection bolt

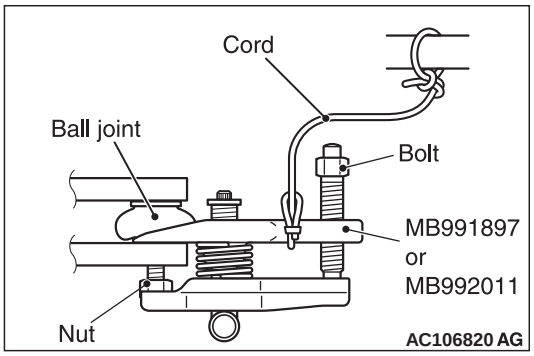
<<A>> 11. Upper arm ball joint assembly

REMOVAL SERVICE POINT

<<A>> UPPER ARM BALL JOINT ASSEMBLY REMOVAL

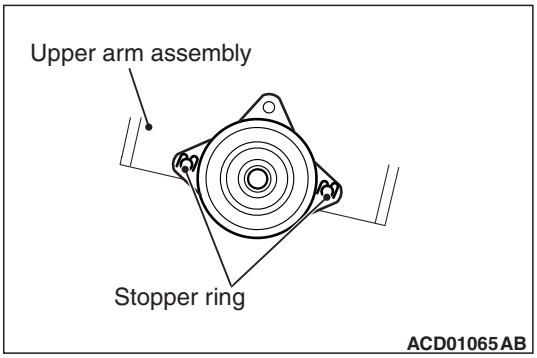
⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use the special tool to avoid possible damage to ball joint threads.**
- **Hang the special tool with a cord to prevent it from falling.**



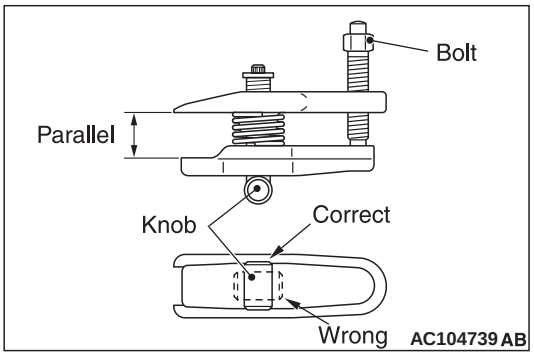
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

1. Install special tool ball joint remover (MB991897 or MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.

3. Tighten the bolt with a wrench to disconnect the ball joint.

Vehicle for BRAZIL-KD (without stopper ring)

Attached sheet 4 (1/2)

UPPER ARM ASSEMBLY

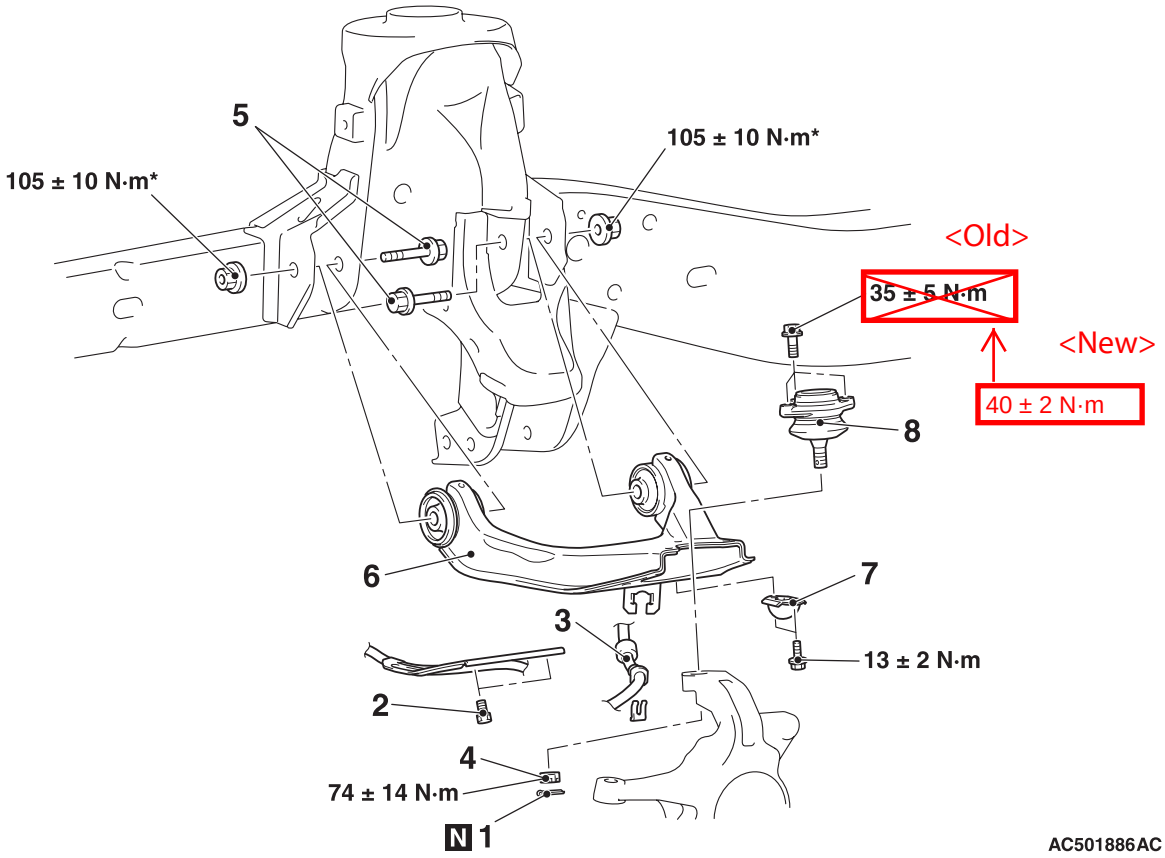
REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD>

M1332004300210

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AC

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

<Added>

>>B<<

>>A<<

Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Upper arm ball joint assembly

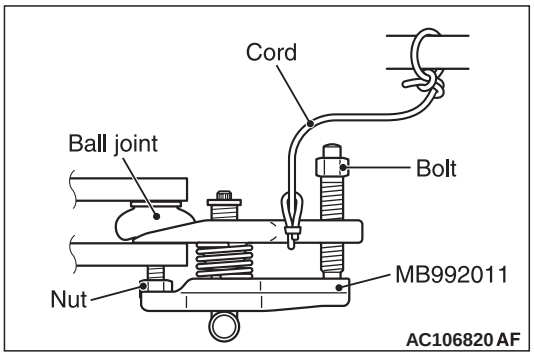
Attached sheet 4 (2/2)

REMOVAL SERVICE POINTS

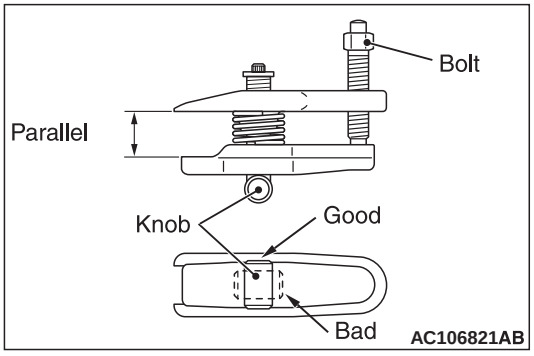
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

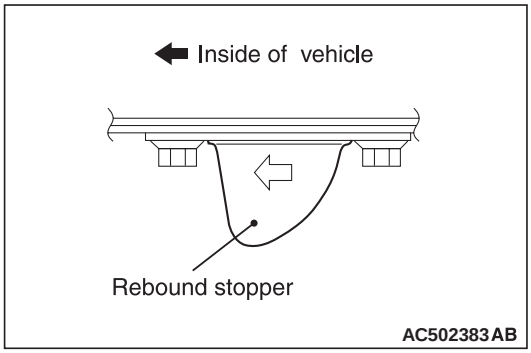
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

INSTALLATION SERVICE POINT

>>A<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

<Added>

>>B<< UPPER ARM ASSEMBLY INSTALLATION

When the arm assembly is replaced, upper arm ball joint assembly bolt loosen 30 °, and re-tightening torque.

<Added>

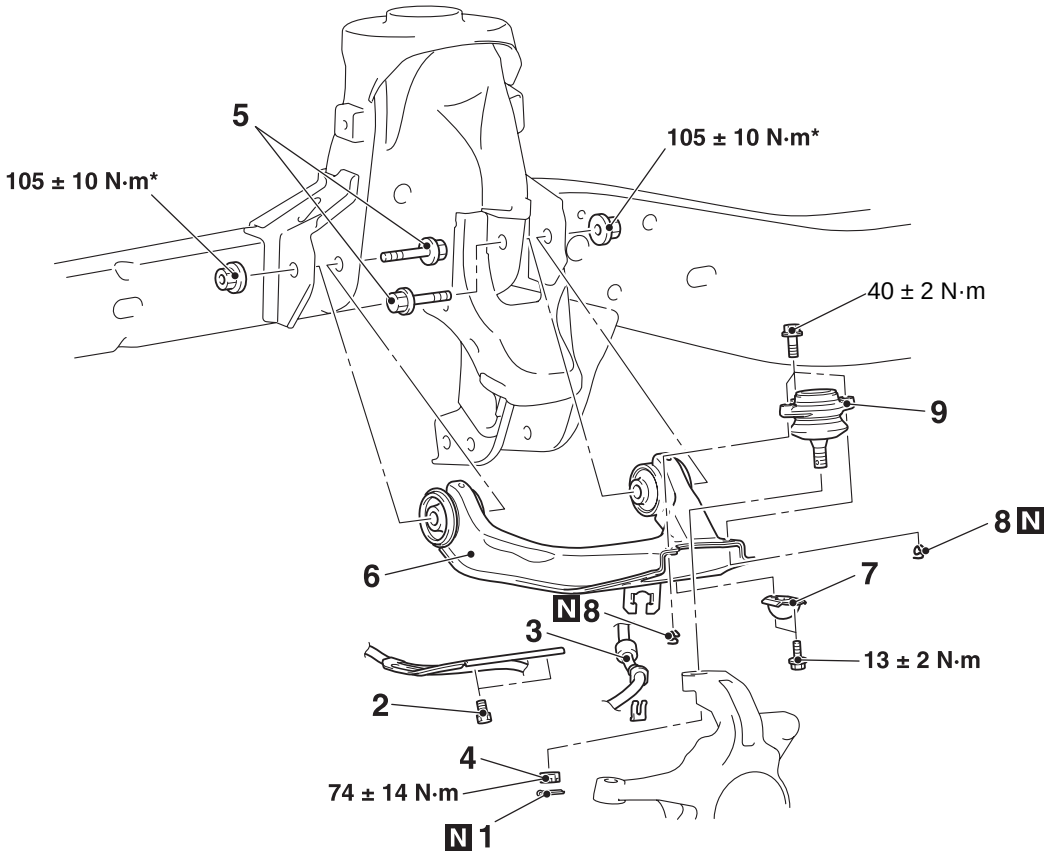
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> <Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

>>C<<

>>B<<

>>A<<

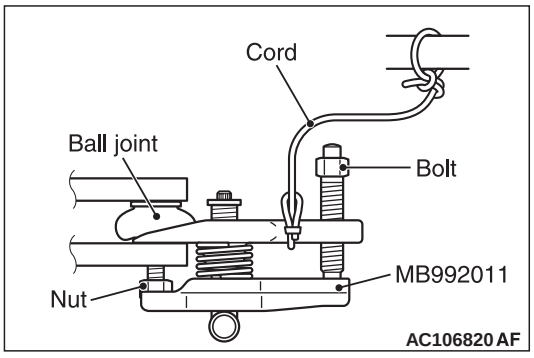
Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

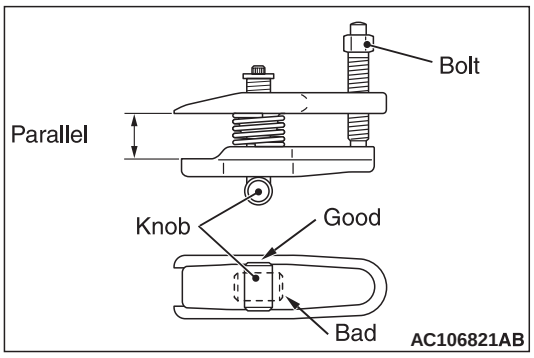
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

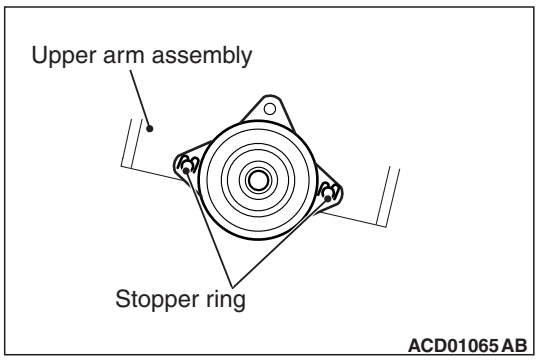
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

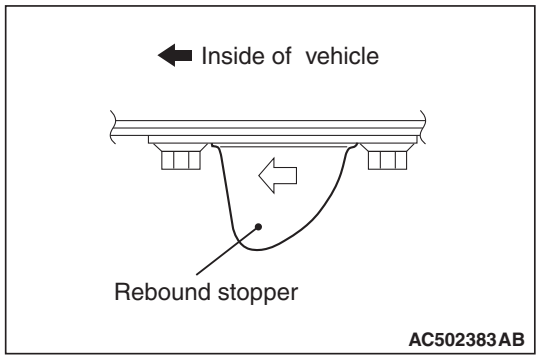
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

>>C<< UPPER ARM ASSEMBLY INSTALLATION

When the arm assembly is replaced, upper arm ball joint assembly bolt loosen 30 °, and re-tightening torque.

UPPER ARM ASSEMBLY

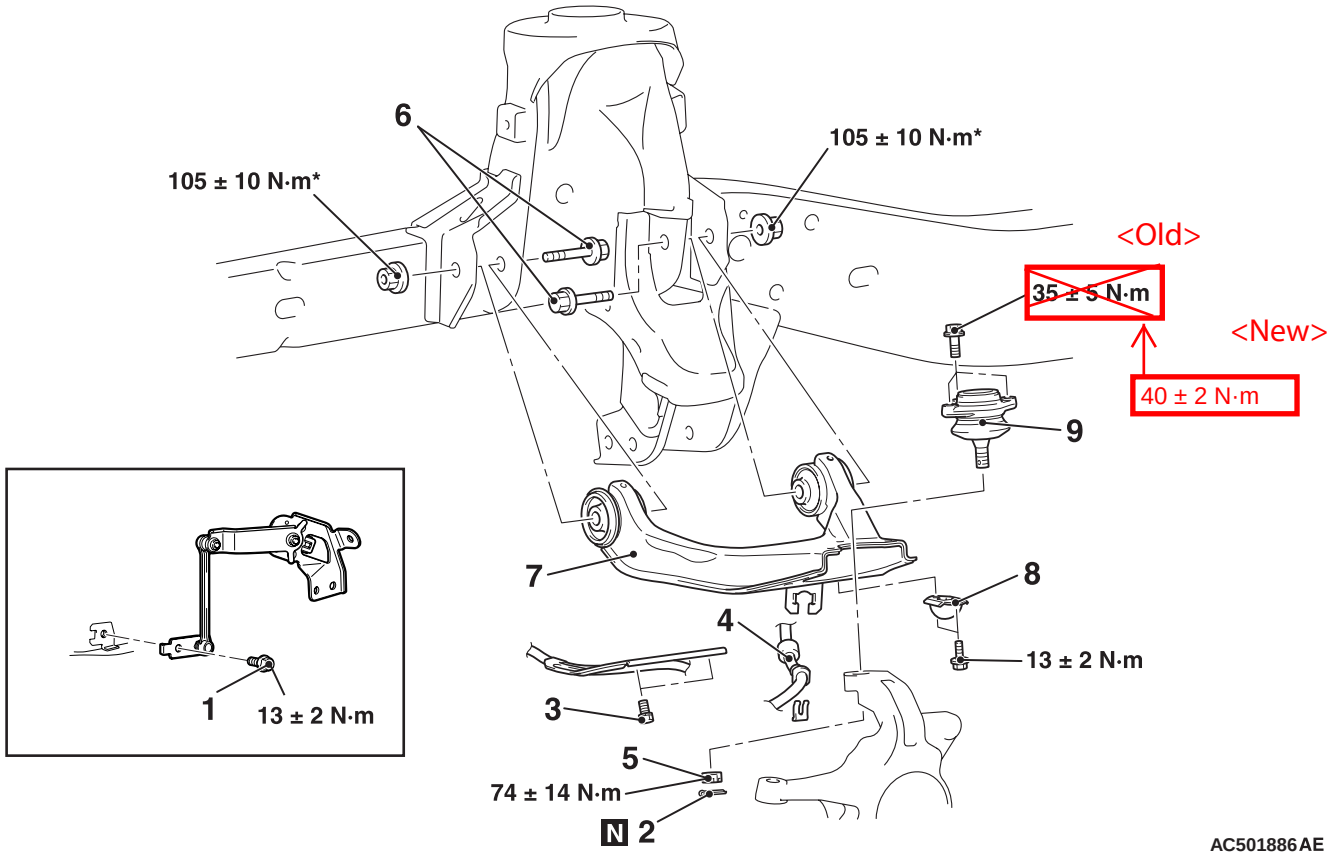
REMOVAL AND INSTALLATION

M1332004300306

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the Dust Cover for Cracks or Damage by pushing it with Your Finger.
- Front Wheel Alignment Check and Adjustment (Refer to).
- Check the Beam Direction of the Headlamp (Low beam) (Refer to 54A – Headlamp Aiming) <Vehicles with headlamp automatic levelling system>.



AC501886AE

Removal steps
1. Front height sensor and upper arm assembly connecting bolt <Vehicles with headlamp automatic levelling system> <<A>> <<B>> <Added> >>B<< >>A<<
2. Split pin
3. Front wheel speed sensor bracket mounting bolt
4. Brake hose

Removal steps (Continued)
5. Upper arm ball joint and knuckle connection
6. Upper arm assembly and front frame connection
7. Upper arm assembly
8. Rebound stopper
9. Upper arm ball joint assembly

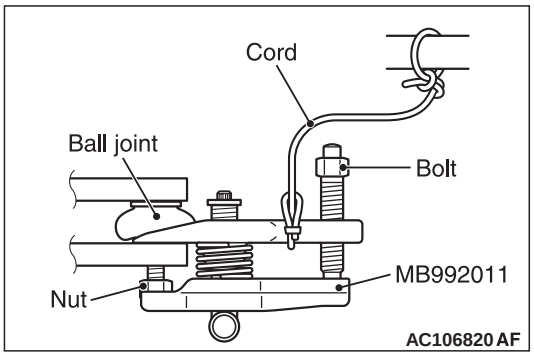
Attached sheet 6 (2/2)

REMOVAL SERVICE POINTS

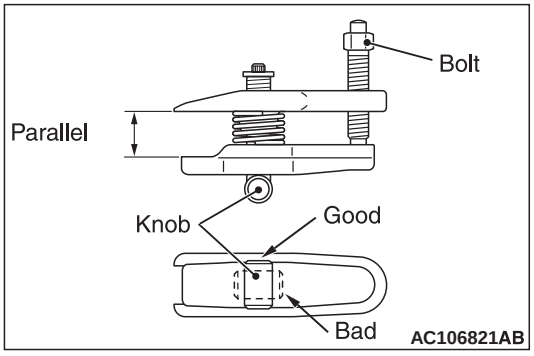
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

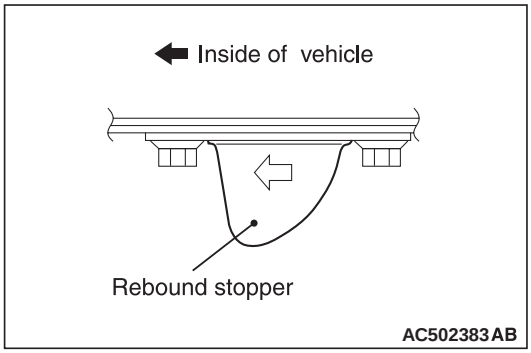
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

INSTALLATION SERVICE POINT

>>A<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

<Added>

>>B<< UPPER ARM ASSEMBLY INSTALLATION

When the arm assembly is replaced, upper arm ball joint assembly bolt loosen 30 °, and re-tightening torque.

<Added>

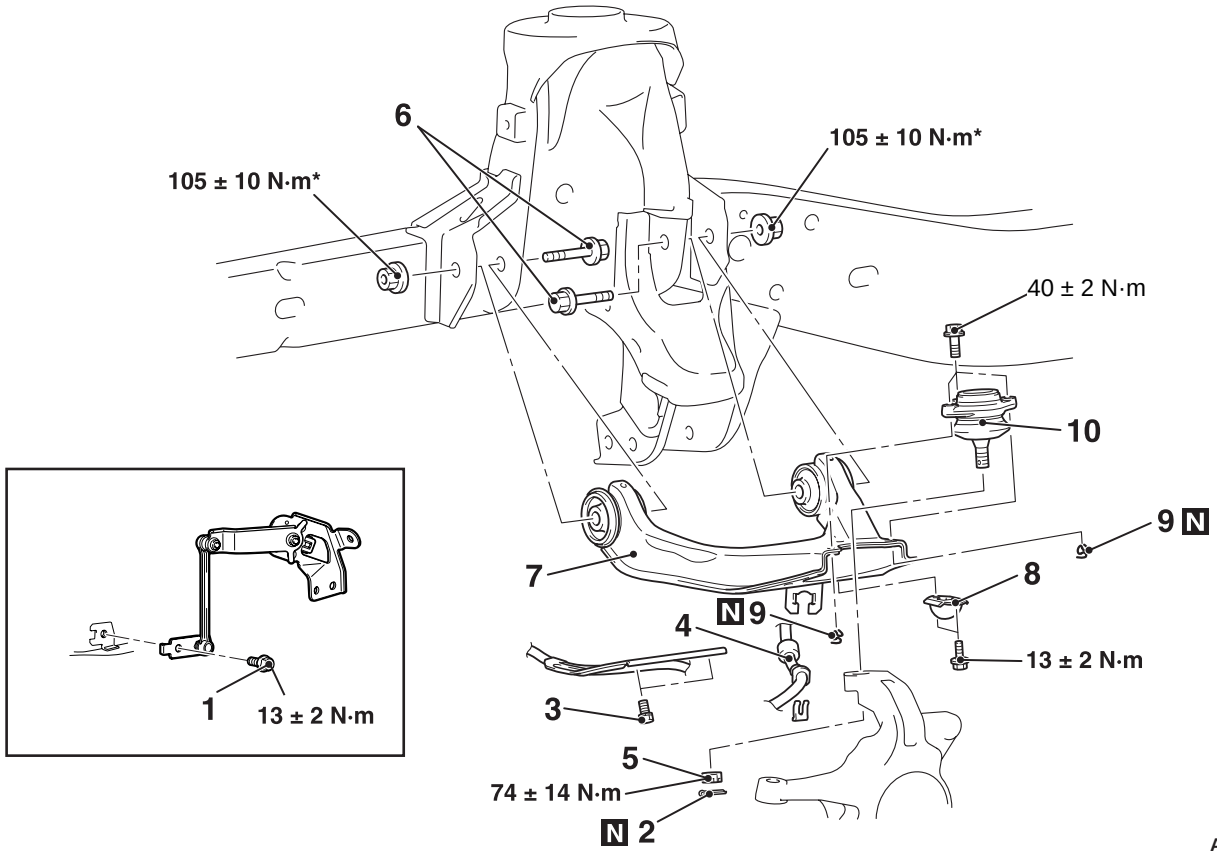
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION <Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the Dust Cover for Cracks or Damage by pushing it with Your Finger.
- Front Wheel Alignment Check and Adjustment (Refer to).
- Check the Beam Direction of the Headlamp (Low beam) (Refer to 54A – Headlamp Aiming) <Vehicles with head-lamp automatic levelling system>.



Removal steps
1. Front height sensor and upper arm assembly connecting bolt <Vehicles with headlamp automatic levelling system>
2. Split pin
3. Front wheel speed sensor bracket mounting bolt
4. Brake hose

<<A>>

<<B>>

>>C<<

>>B<<

>>A<<

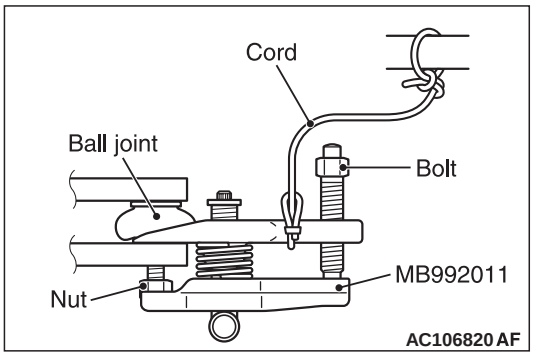
Removal steps (Continued)
5. Upper arm ball joint and knuckle connection
6. Upper arm assembly and front frame connection
7. Upper arm assembly
8. Rebound stopper
9. Stopper ring
10. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

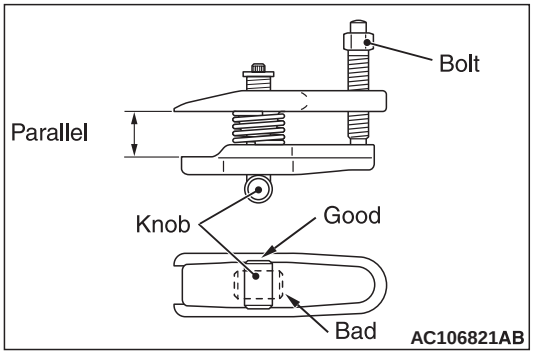
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

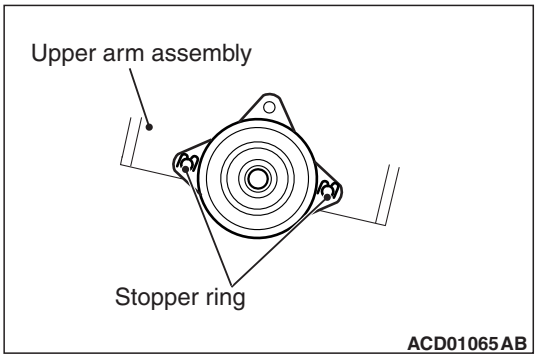
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

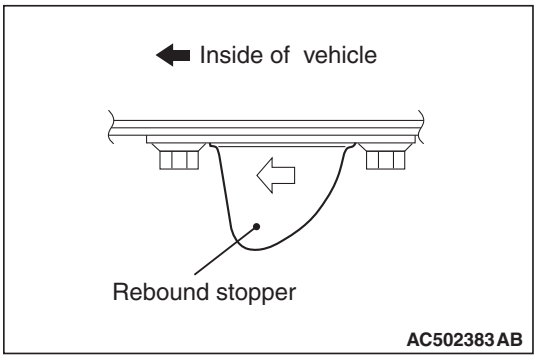
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

>>C<< UPPER ARM ASSEMBLY INSTALLATION

When the arm assembly is replaced, upper arm ball joint assembly bolt loosen 30 °, and re-tightening torque.

<追加>

別紙 8 (1/2)

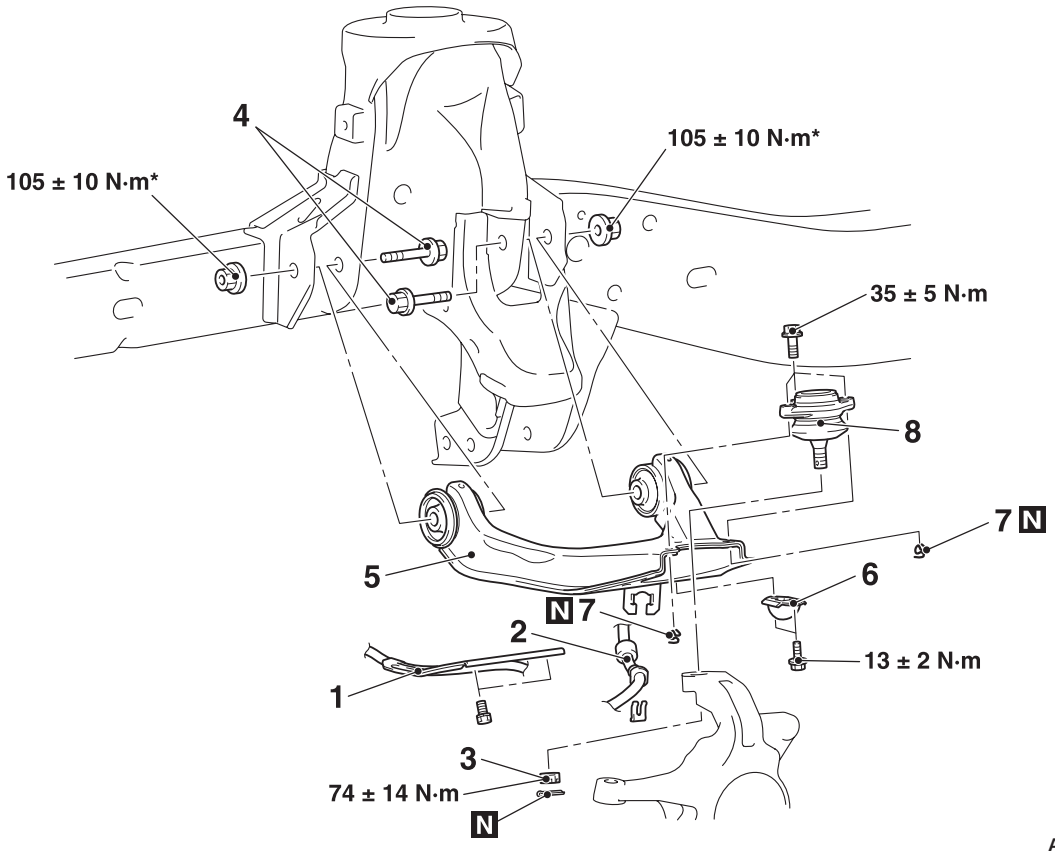
UPPER ARM ASSEMBLY

取外し・取付け　＜ストッパーリング付車＞

⚠ CAUTION

***: 仮締め後に車両を空車状態で接地させて本締めを行う部品を示す。**

取付け後の作業
- ダストカバーを指で押して、亀裂又は損傷がないか点検する。
- ホイールアライメントの点検・調整（ 参照。）



AC501886AH

取外し手順

1. フロント車輪速センサーブラケット取付けボルト <ABS 装着車 >
2. ブレーキホース

<<A>> 3. アッパーアームボールジョイントとナックルの結合

<<B>> 4. アッパーアーム ASSY とフロントフレームの結合

取外し手順 (Continued)

5. アッパーアーム ASSY

>>B<< 6. リバウンドストッパー

>>A<< 7. ストッパーリング

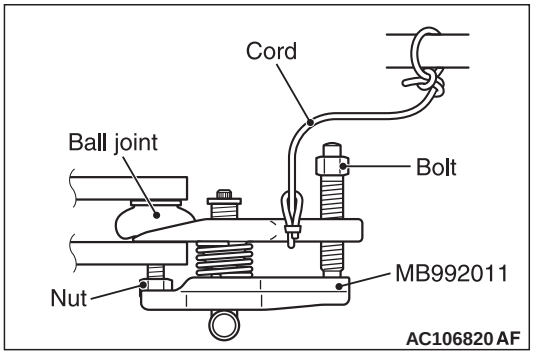
8. アッパーアームボールジョイント ASSY

取外しの要点

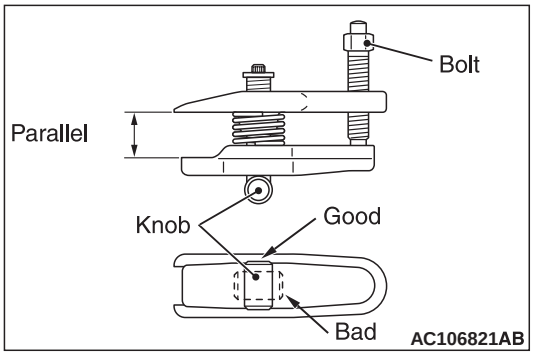
<<A>> アッパーアームボールジョイントとナックルの切離し

⚠ CAUTION

- **ナットをボールジョイントから取外さないこと。ナットを緩め、ボールジョイントのネジ部の損傷を防ぐため特殊工具を使用する。**
- **脱落防止のため、特殊工具はコードで吊下げる。**
- **ボールジョイントが外れる際とても危険なので、ロワーアームをジャッキ等で上げて、リバウンドストッパーの反力をなくして作業すること。**



1. 特殊工具ボールジョイントリムーバー (MB992011) を図示のように取付ける。



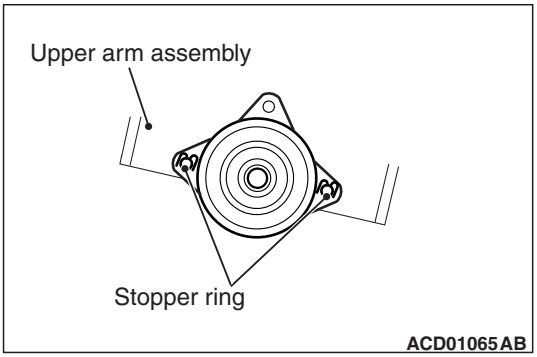
2. 特殊工具のジョーが平行になるようボルトとノブを必要なだけ回し、ボルトを手で締付けて、差込み部が平行であることを確認する。
   NOTE: ジョーを平行に調整する時は、ノブが図示の位置にあることを確認する。
3. レンチでボルトを締付け、ボールジョイントを切離す。

<<B>> アッパーアーム ASSY とフロントフレーム結合部の切離し

取付けボルトとナットをショックアブソーバー ASSY から取外し、作業スペースを確保する。

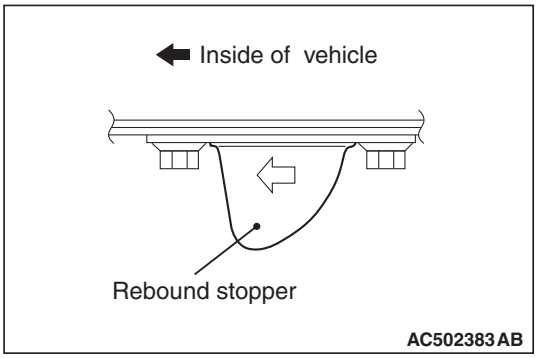
取付けの要点

>> A << ストッパーリングの取付け



図示位置のようにストッパーリングを取付ける。

>> B << リバウンドストッパーの取付け



リバウンドストッパーの矢印が車両内側になるように取付ける。

Attached sheet 9 (1/2)

<Added>

UPPER ARM ASSEMBLY

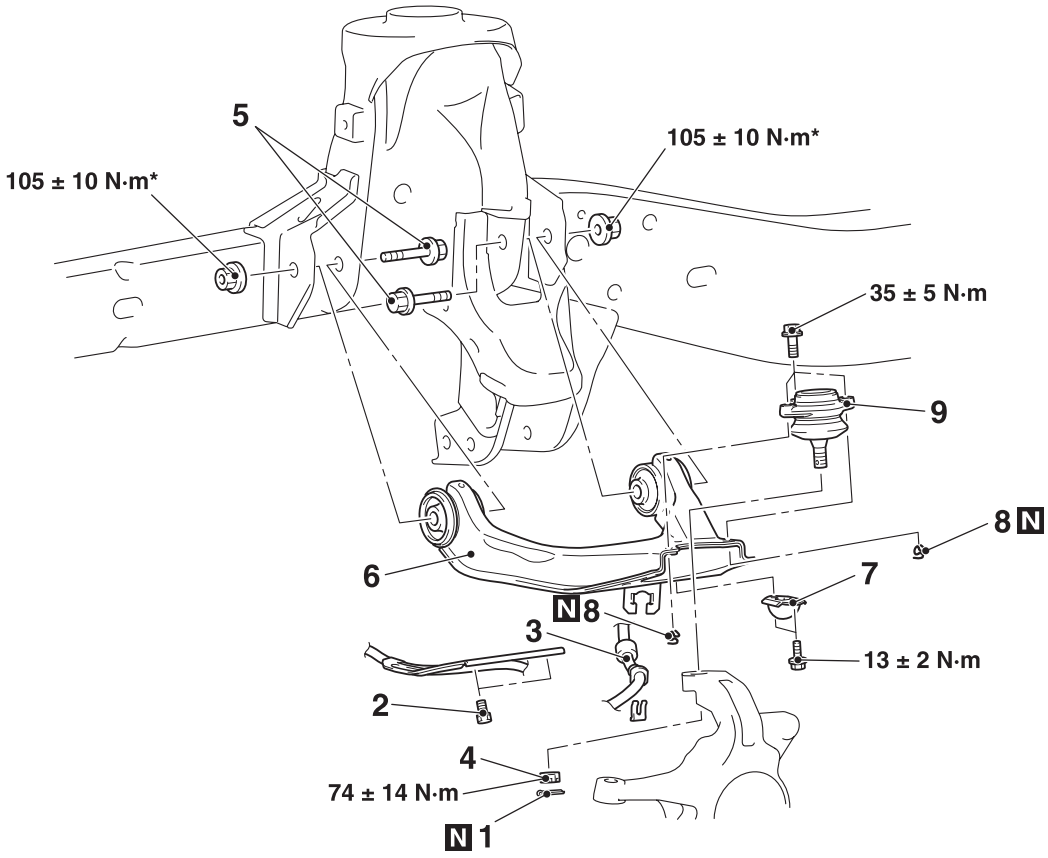
REMOVAL AND INSTALLATION <2WD -2500 DOHC, 4WD>

< Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

>>B<<

>>A<<

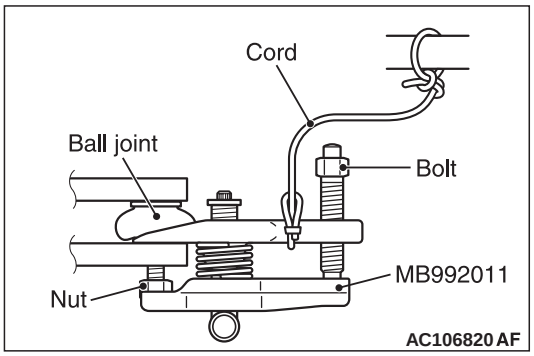
Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

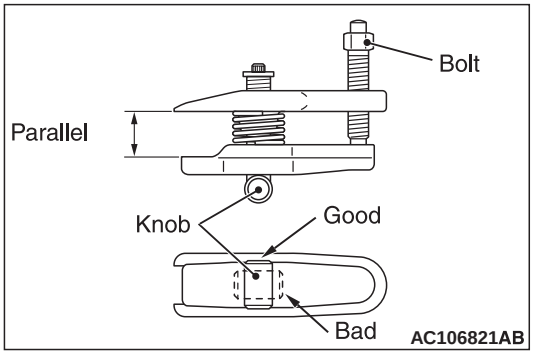
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

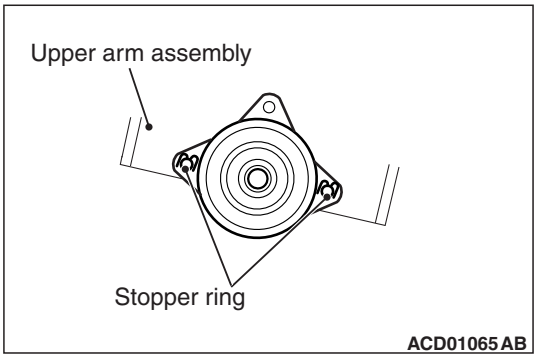
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

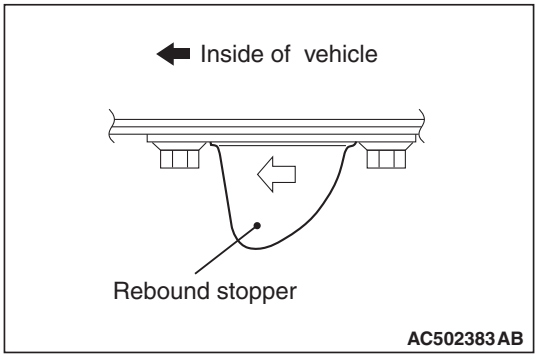
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

Attached sheet 10 (1/2)

<Added>

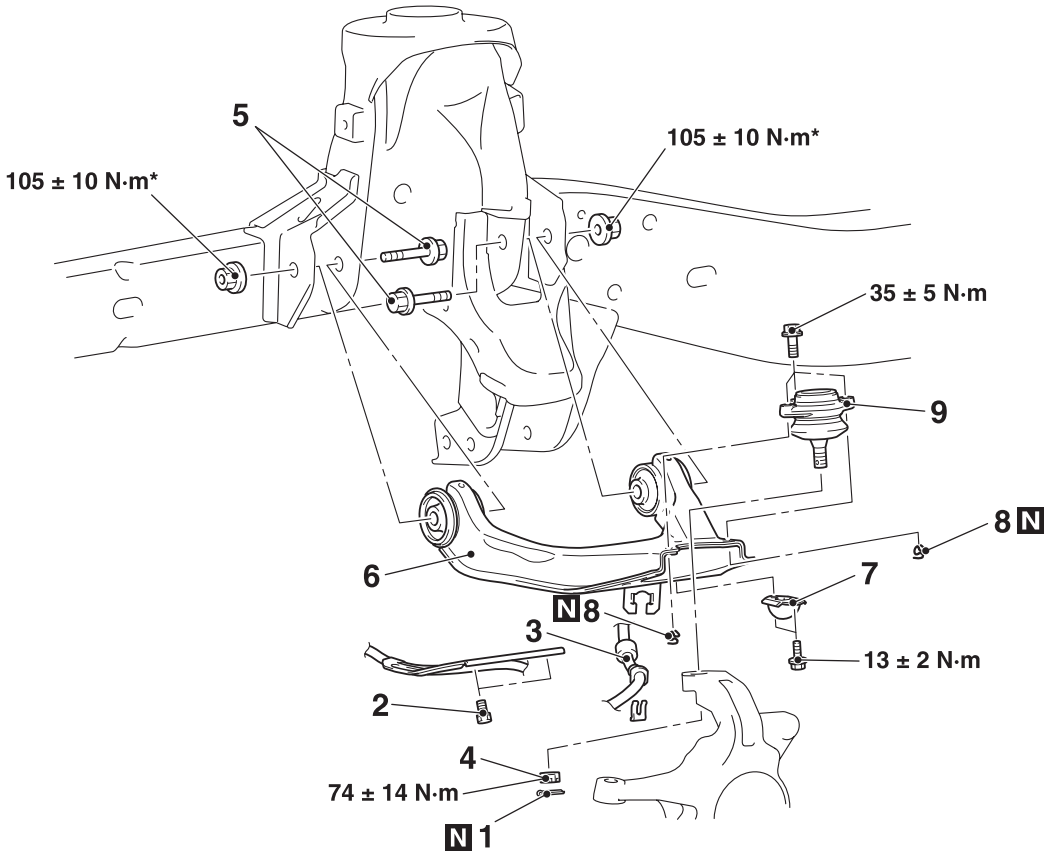
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> < Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

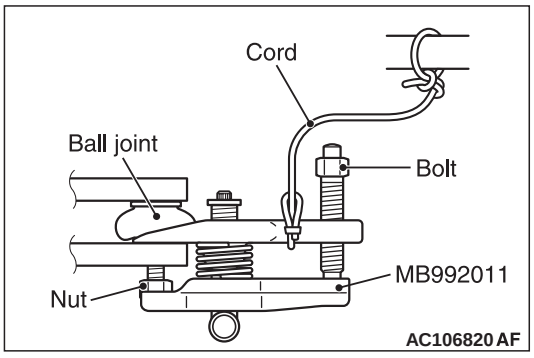
>>B<<
>>A<<

REMOVAL SERVICE POINTS

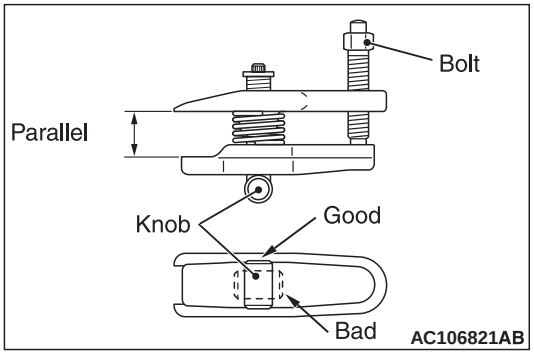
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

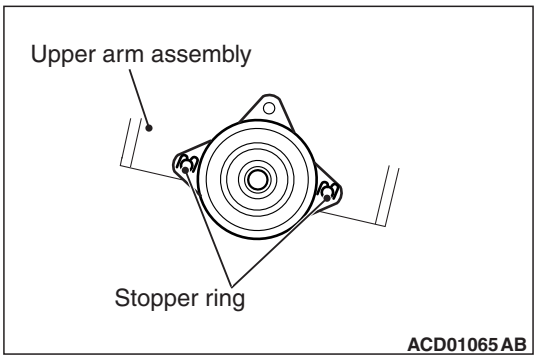
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

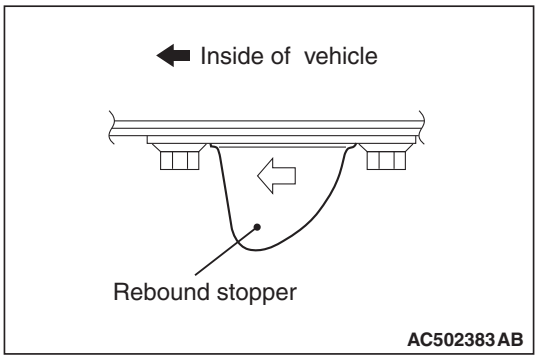
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

<Added>

Attached sheet 11 (1/2)

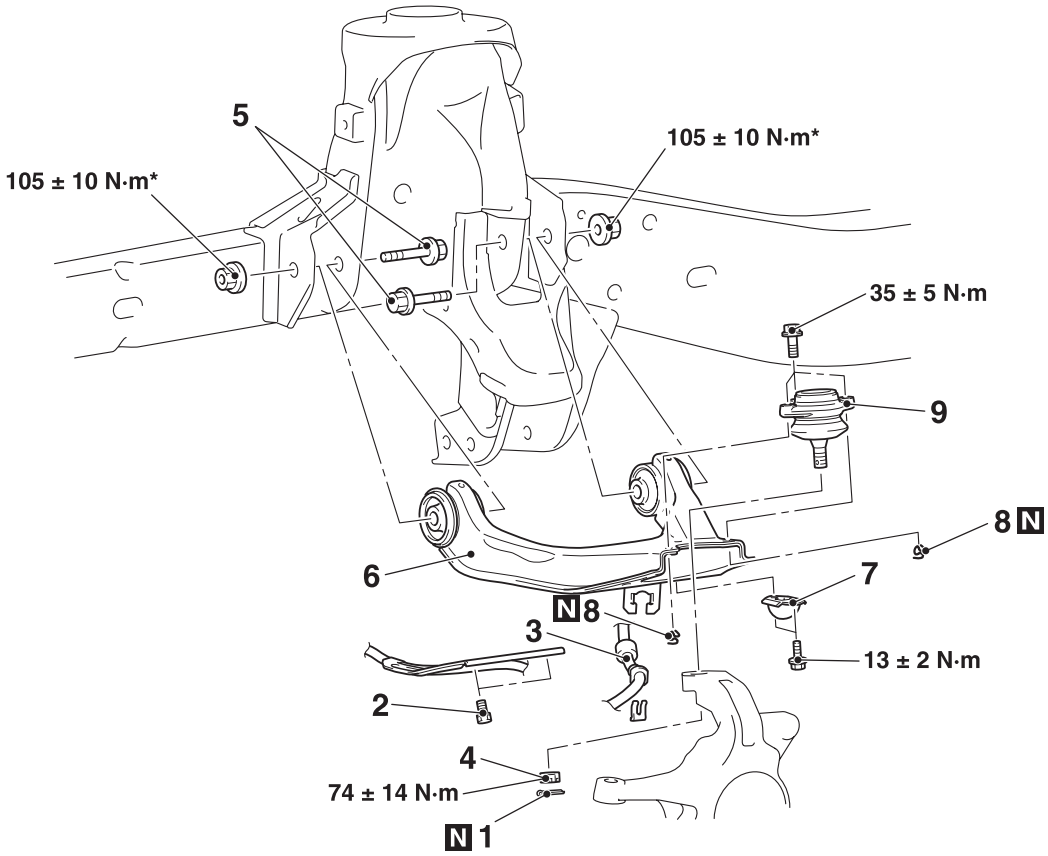
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION <4WD>
< Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

>>B<<

>>A<<

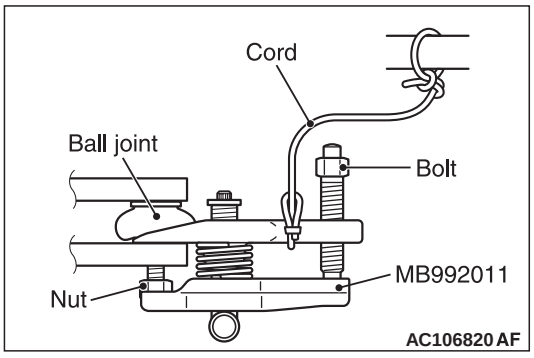
Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

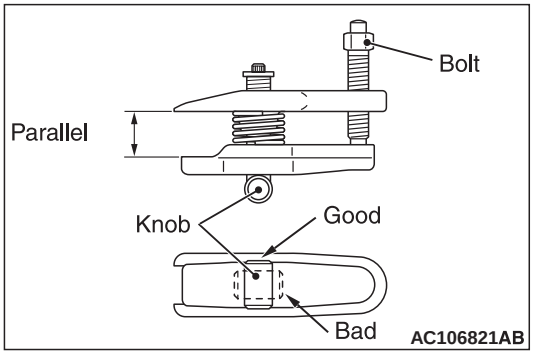
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

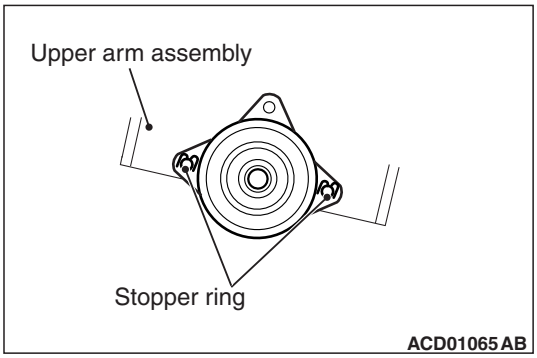
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

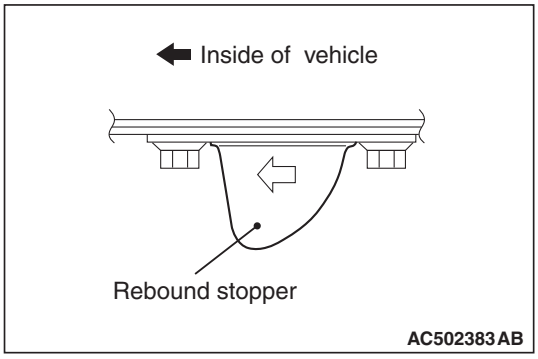
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

Attached sheet 12 (1/2)

<Added>

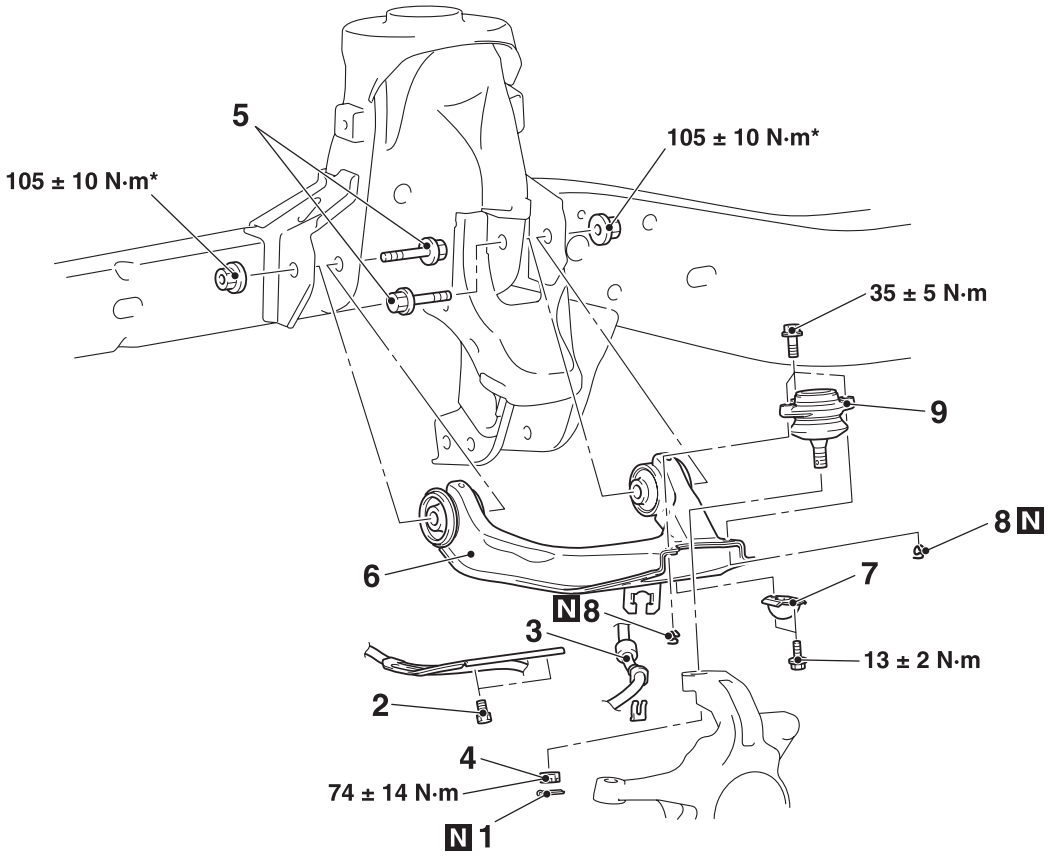
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION <2WD (HIGH RIDER), 4WD> < Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

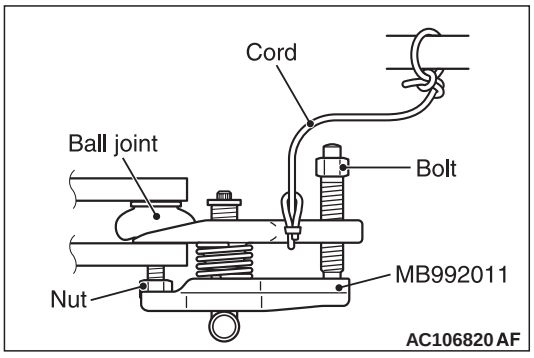
>>B<<
>>A<<

REMOVAL SERVICE POINTS

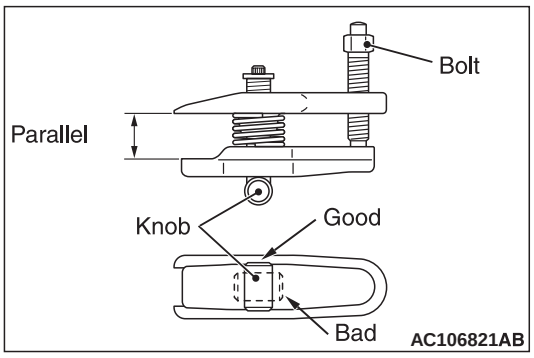
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

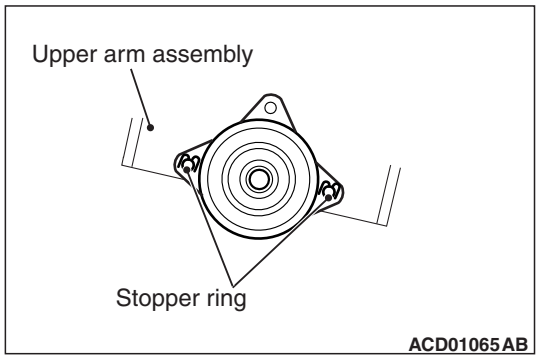
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

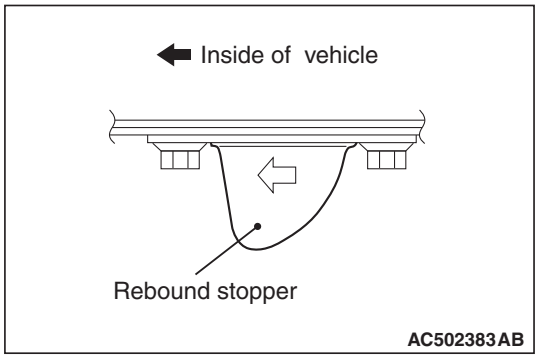
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

Attached sheet 13 (1/2)

<Added>

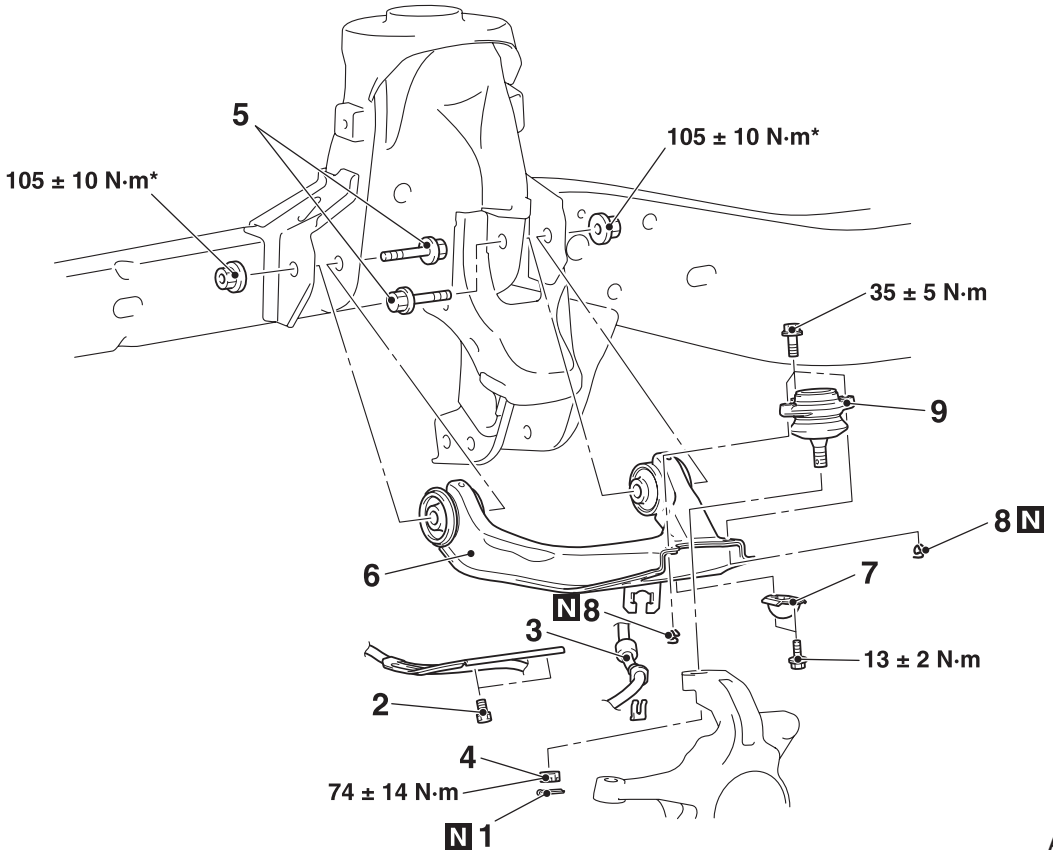
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION < Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

>>B<<

>>A<<

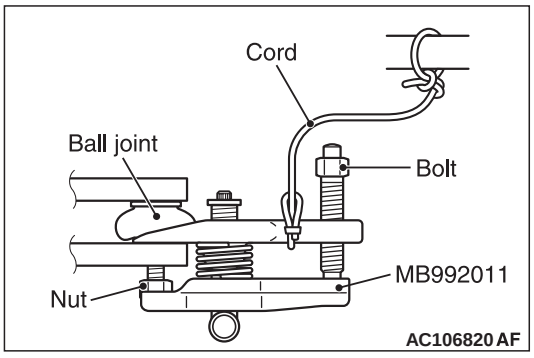
Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

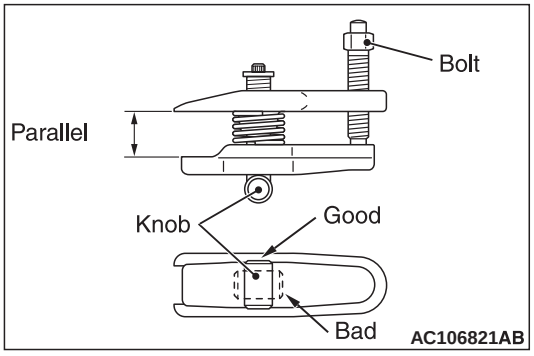
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

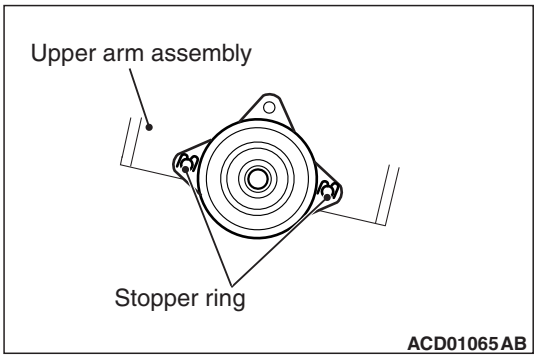
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

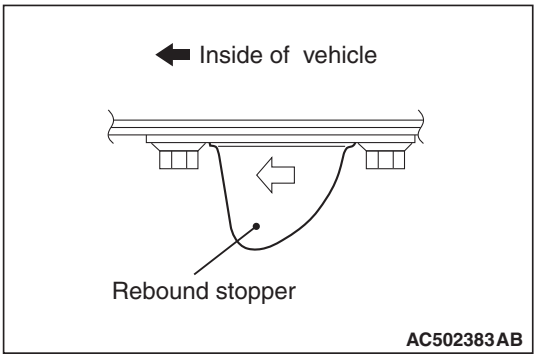
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

Attached sheet 14 (1/2)

<Added>

UPPER ARM ASSEMBLY

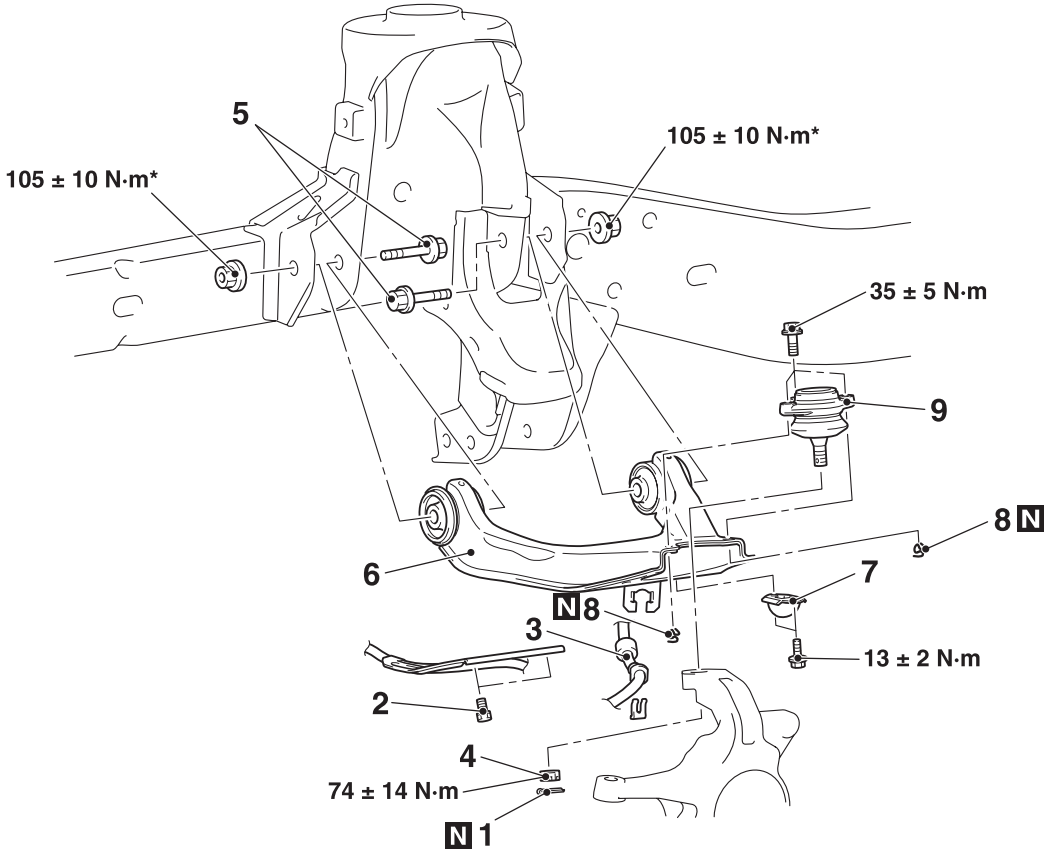
REMOVAL AND INSTALLATION

< Vehicle with stopper ring>

⚠ CAUTION

- ***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**
- **When the suspension is adjusted or replaced, the calibration of steering wheel sensor must be performed. (Refer to GROUP 35C, On-vehicle Service). <Vehicles with ASTC>**

Post-installation Operation
- Check the Dust Cover for Cracks or Damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS or ASTC>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

>>B<<

>>A<<

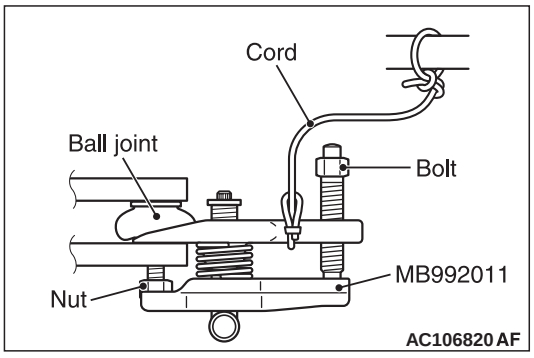
Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

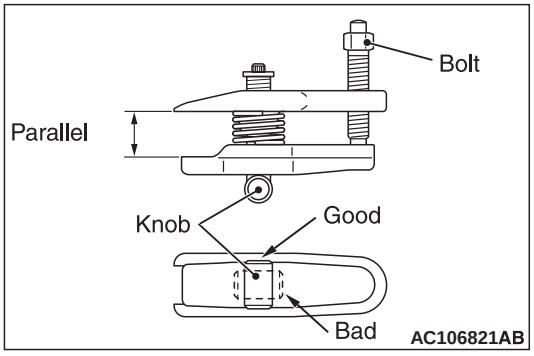
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

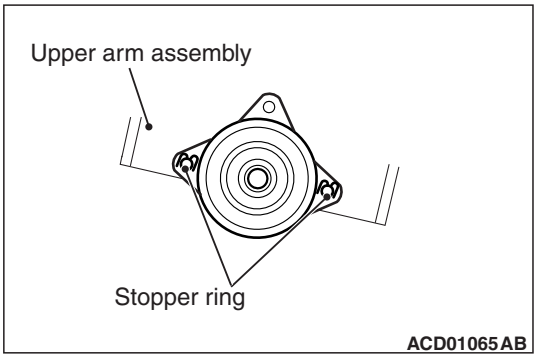
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

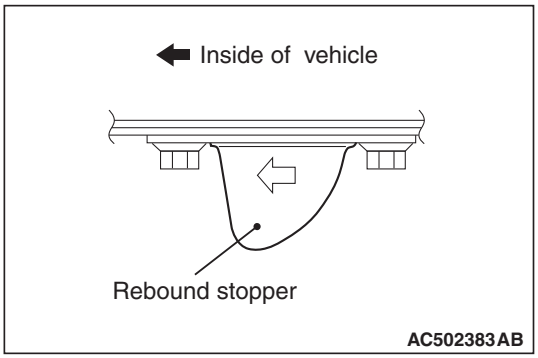
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

Attached sheet 15 (1/2)

<Added>

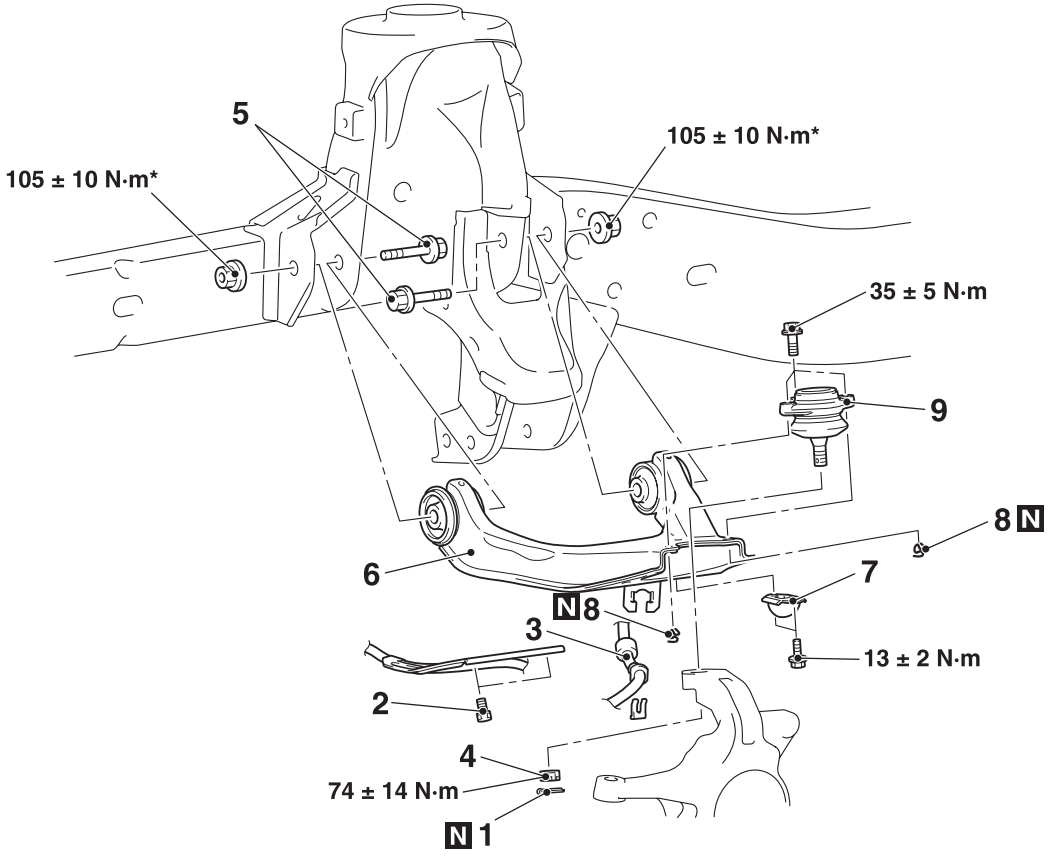
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION <2WD (High rider), 4WD> < Vehicle with stopper ring>

⚠ CAUTION

- ***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**
- **When the suspension is adjusted or replaced, the calibration of steering wheel sensor must be performed. (Refer to GROUP 35C, On-vehicle Service). <Vehicles with ASTC>**

Post-installation Operation
- Check the Dust Cover for Cracks or Damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to).



AC501886AF

Removal steps
1. Split pin
2. Front wheel speed sensor bracket mounting bolt <Vehicles with ABS or ASTC>
3. Brake hose
4. Upper arm ball joint and knuckle connection

<<A>>

<<B>>

>>B<<

>>A<<

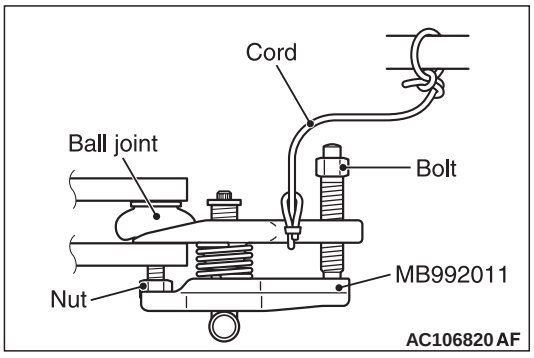
Removal steps (Continued)
5. Upper arm assembly and front frame connection
6. Upper arm assembly
7. Rebound stopper
8. Stopper ring
9. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

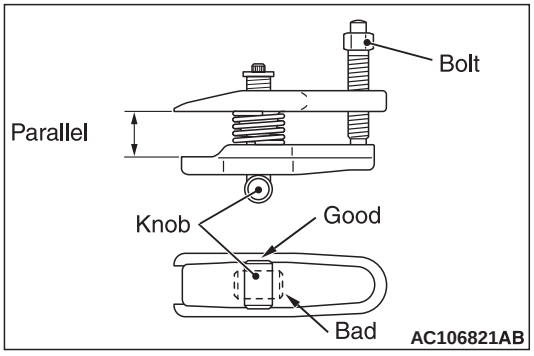
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

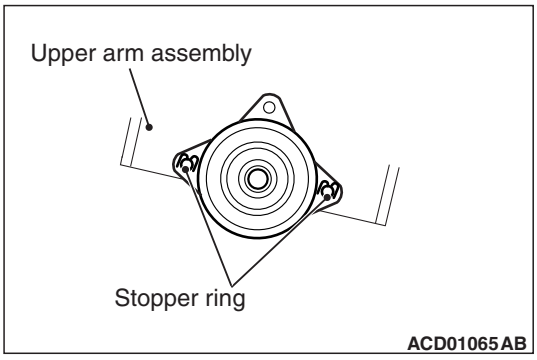
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

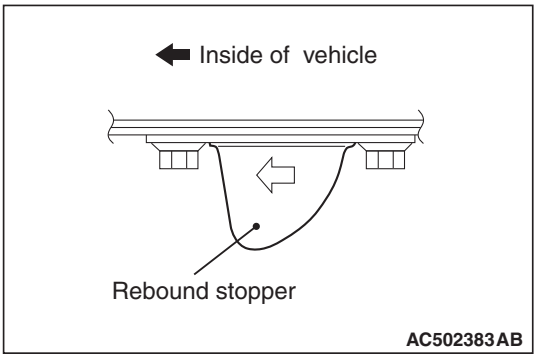
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.

Attached sheet 16 (1/2)

<Added>

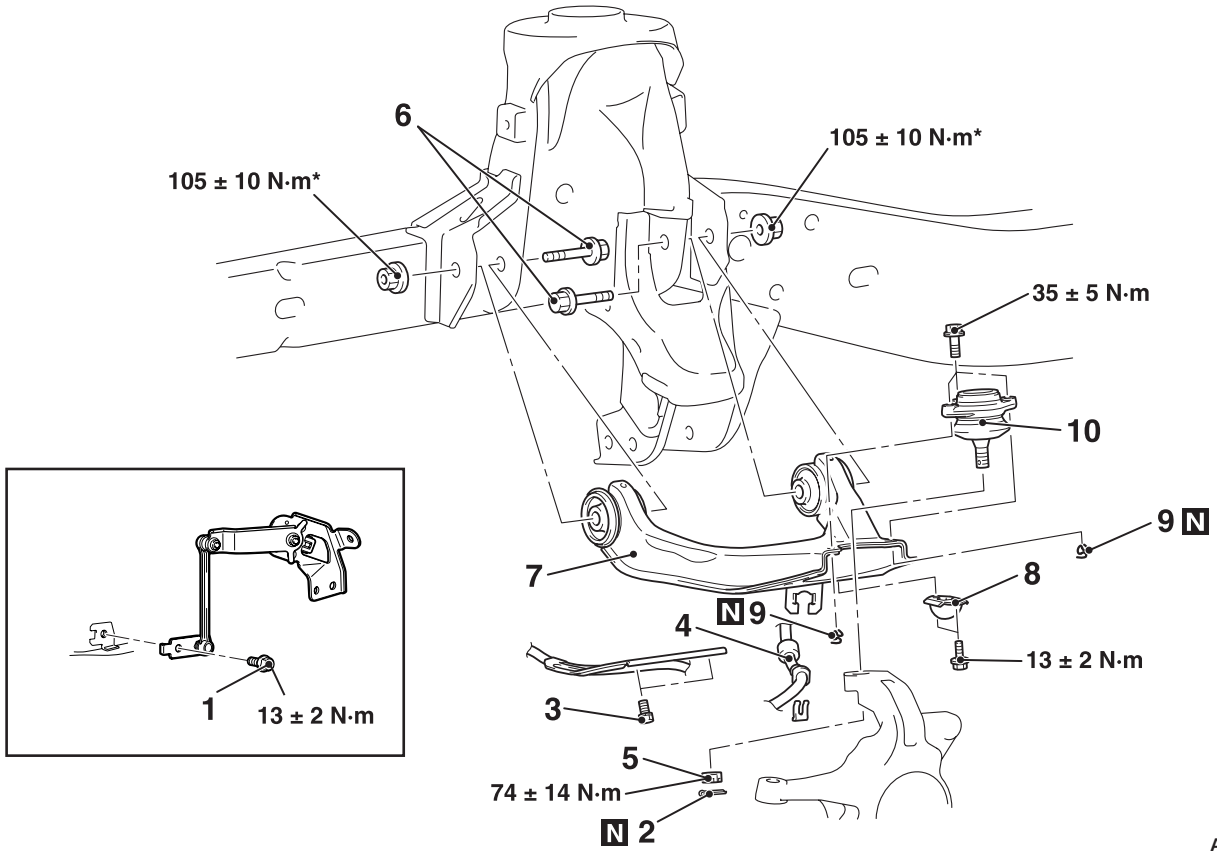
UPPER ARM ASSEMBLY

REMOVAL AND INSTALLATION < Vehicle with stopper ring>

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the earth in an unladen condition.**

Post-installation Operation
- Check the Dust Cover for Cracks or Damage by pushing it with Your Finger.
- Front Wheel Alignment Check and Adjustment (Refer to).
- Check the Beam Direction of the Headlamp (Low beam) (Refer to 54A – Headlamp Aiming) <Vehicles with head-lamp automatic levelling system>.



AC501886AI

Removal steps
1. Front height sensor and upper arm assembly connecting bolt <Vehicles with headlamp automatic levelling system> <<A>> <<B>>
2. Split pin
3. Front wheel speed sensor bracket mounting bolt >>B<<
4. Brake hose >>A<<

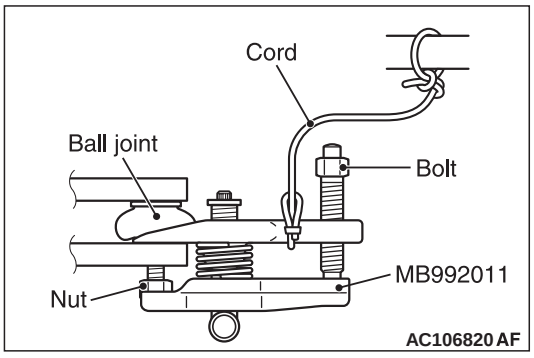
Removal steps (Continued)
5. Upper arm ball joint and knuckle connection
6. Upper arm assembly and front frame connection
7. Upper arm assembly
8. Rebound stopper
9. Stopper ring
10. Upper arm ball joint assembly

REMOVAL SERVICE POINTS

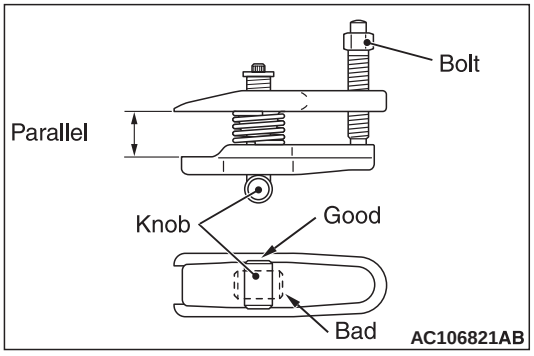
<<A>> UPPER ARM BALL JOINT AND KNUCKLE CONNECTION REMOVAL

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool to avoid possible damage to ball joint threads.**
- **Hang special tool with a cord to prevent it from falling.**
- **Because it is very dangerous when the ball joint comes off, raise the lower arm using a jack or similar device, making sure that the rebound stopper is free from any reaction force.**



1. Install special tool ball joint remover (MB992011) as shown in the figure.



2. Turn the bolt and knob as necessary to make the jaws of special tool parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

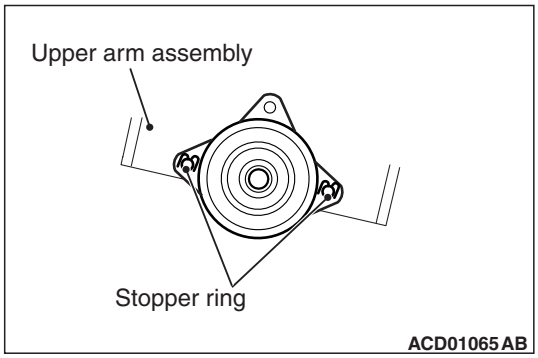
   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.
3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION REMOVAL

Remove the mounting bolts and nuts from the shock absorber assembly, and secure a working space.

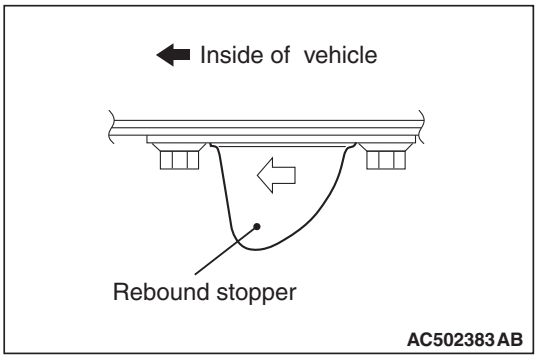
INSTALLATION SERVICE POINT

>>A<< STOPPER RING INSTALLATION



Install stopper ring as shown in the figure.

>>B<< REBOUND STOPPER INSTALLATION



Install the rebound stopper with its arrow mark pointing toward inside the vehicle.