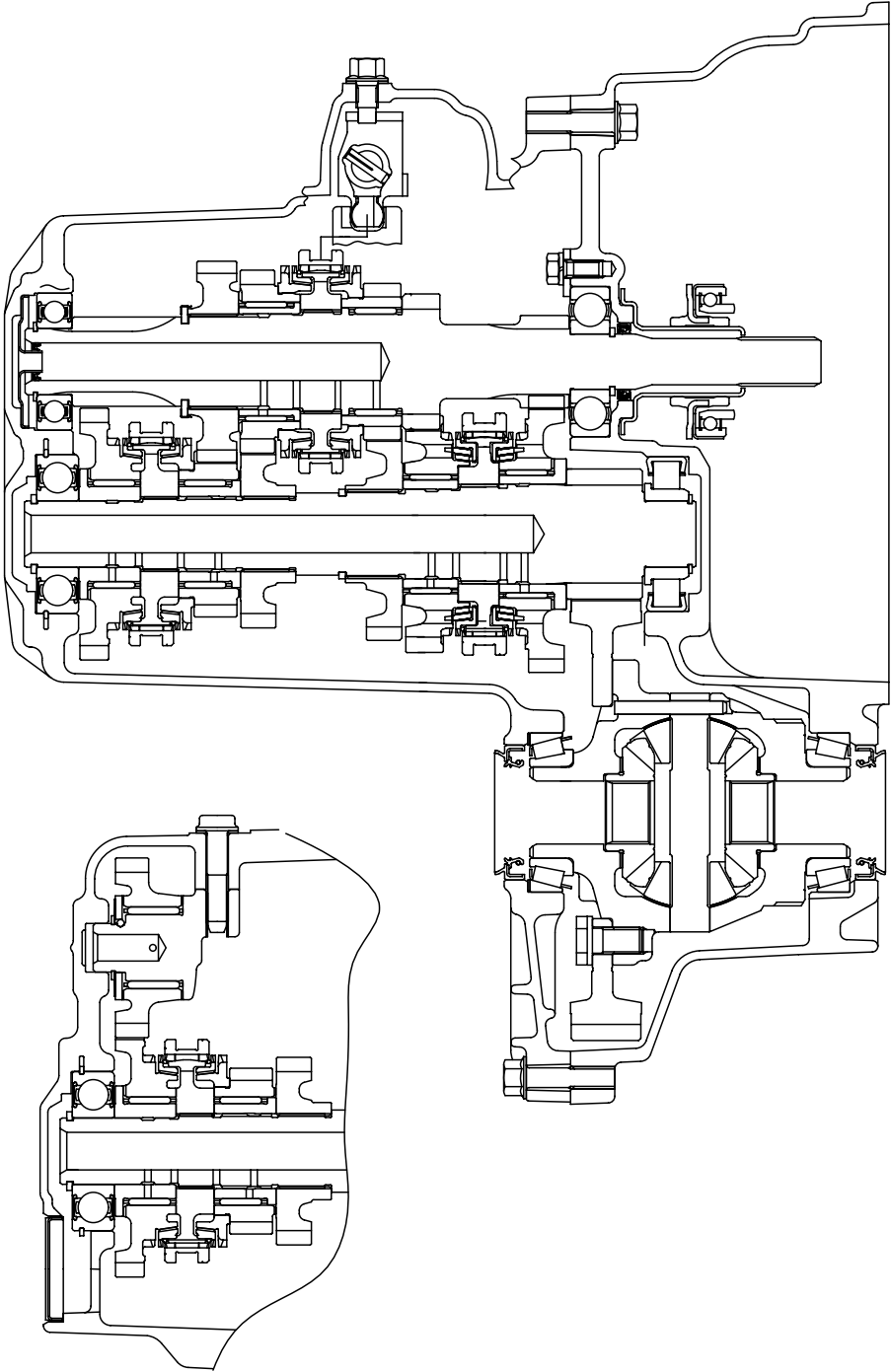


GENERAL DESCRIPTION

M1222000100283

SECTIONAL VIEW

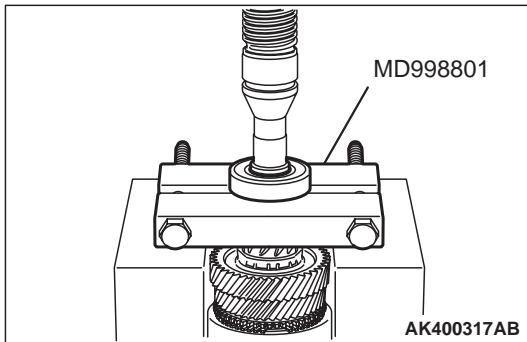


AK302357

DISASSEMBLY SERVICE POINTS

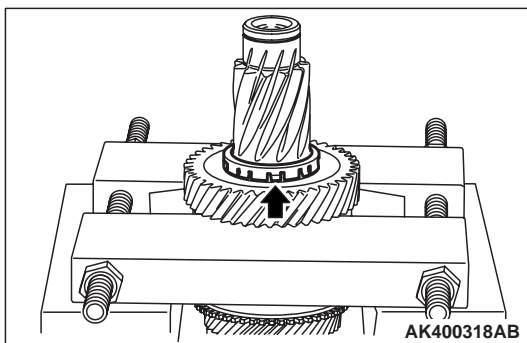
<<A>> BALL BEARING REMOVAL

1. Using special tool MD998801, support the ball bearing, and then set them on the press.
2. Push down on the input shaft with the press and remove the ball bearing.



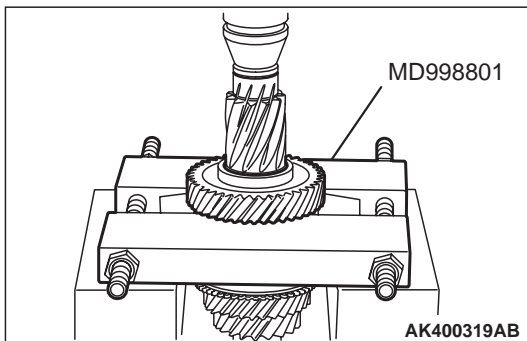
<> THRUST PLATE STOPPER REMOVAL

Using a screwdriver, pry up at the position shown in the illustration and remove the thrust plate stopper.



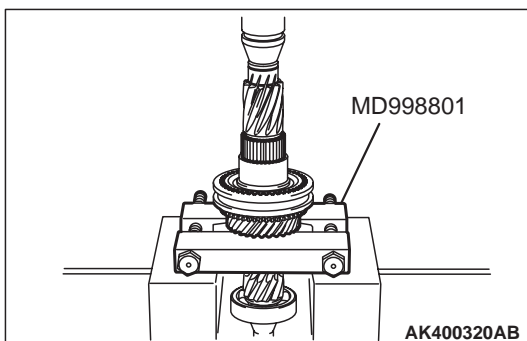
<<C>> 5TH SPEED GEAR REMOVAL

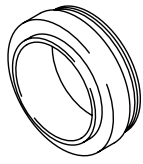
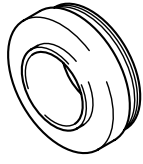
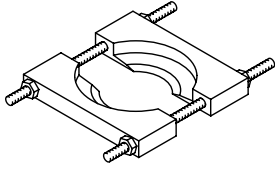
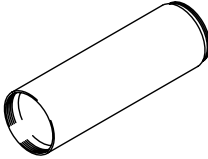
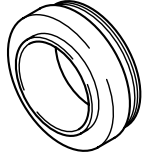
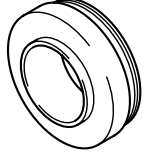
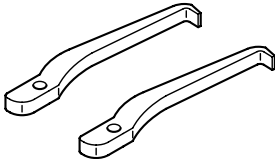
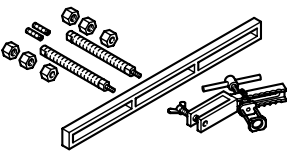
1. Using special tool MD998801, support the 5th speed gear, and then set them on the press.
2. Push down on the input shaft with the press and remove the 5th speed gear.



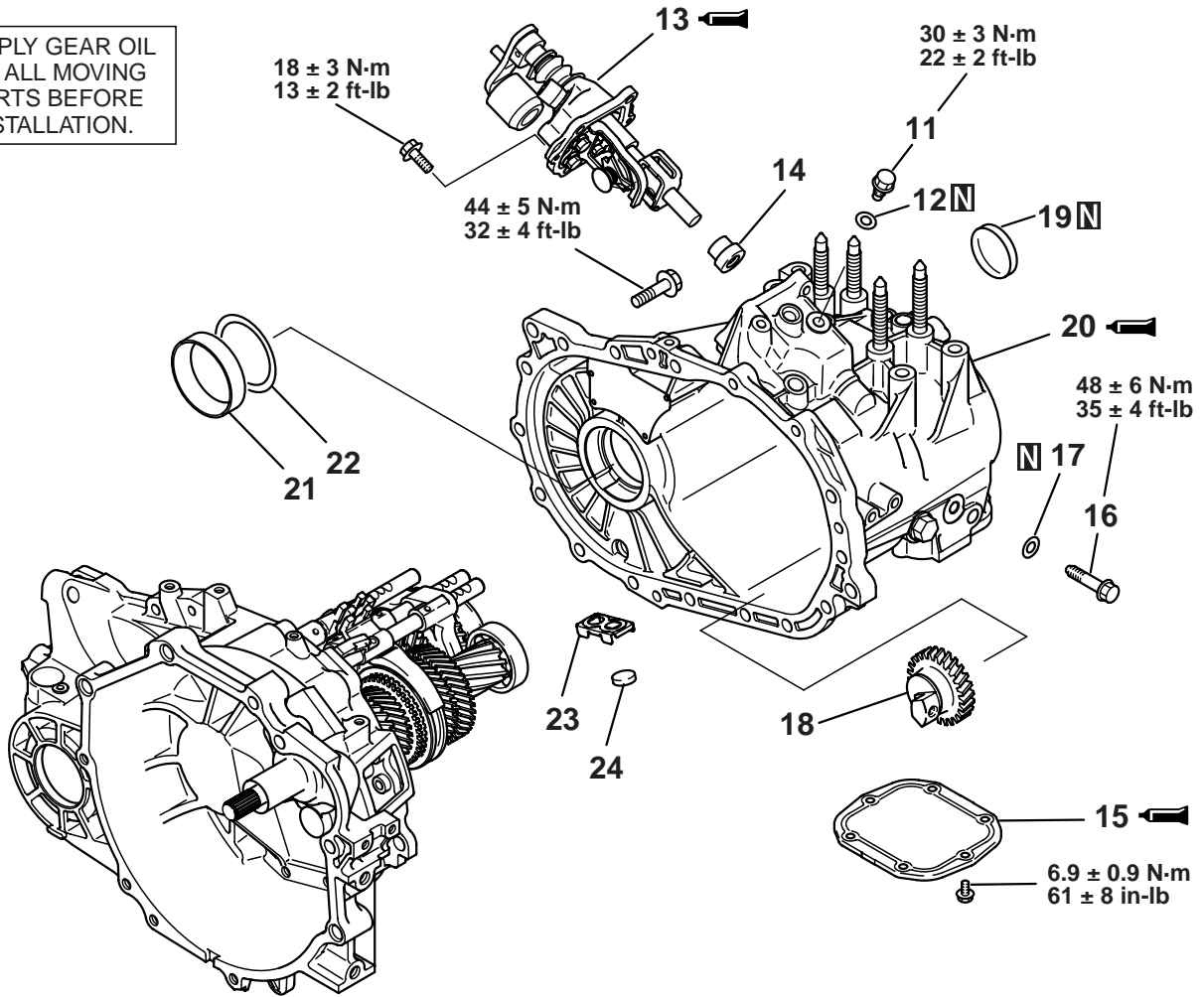
<<D>> 4TH SPEED GEAR SLEEVE REMOVAL

1. Using special tool MD998801, support the 3rd speed gear, and then set them on the press.
2. Push down on the input shaft with the press and remove the 4th speed gear sleeve.



TOOL	TOOL NUMBER AND NAME	SUPERSESION	APPLICATION
	MD998824 Installer adapter (50)	MD998824-01	Installation of 4th speed gear sleeve and 5th speed gear
	MD998818 Installer adapter (38)	MD998818 or General service tool	Installation of input shaft rear bearing, roller bearing inner race, reverse gear sleeve and output shaft rear ball bearing
	MD998917 Bearing remover	General service tool	Installation and removal of gears, bearing and sleeves
	MD998814 Installer-200	MIT304180-A	Use with Installer cap and Installer adapter
	MD998822 Installer adapter (46)	MD998822-01	Installation of 2nd speed gear sleeve and 3rd speed gear
	MD998819 Installer adapter (40)	General service tool	Installation of 5th-reverse speed synchronizer hub, differential case bearing, 4th speed gear and 5th speed gear sleeve
	MD999566 Claw	General service tool	Removal of taper roller bearing outer race
	MD998772 Valve spring compressor	General service tool	Removal of output shaft front roller bearing outer race

APPLY GEAR OIL TO ALL MOVING PARTS BEFORE INSTALLATION.



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DISASSEMBLY STEPS

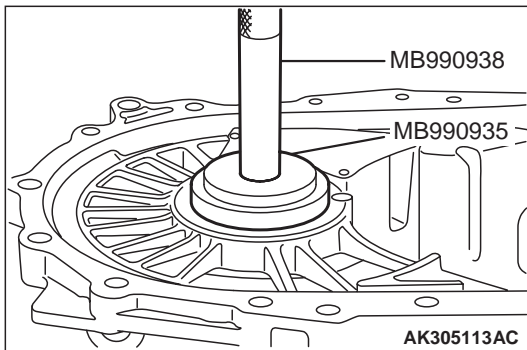
- 11. INTERLOCK PLATE BOLT
- 12. GASKET
- >>H<< 13. CONTROL HOUSING
- 14. NEUTRAL RETURN SPRING
- >>G<< 15. UNDER COVER
- 16. REVERSE IDLER GEAR SHAFT BOLT
- 17. GASKET

DISASSEMBLY STEPS

- <<A>> >>F<< 18. REVERSE IDLER GEAR ASSEMBLY
- <> >>E<< 19. SEALING CAP
- >>D<< 20. TRANSAXLE CASE
- >>D<< 21. OUTER RACE
- 22. SPACER
- 23. MAGNET HOLDER
- 24. MAGNET

>>D<< SPACER AND OUTER RACE INSTALLATION

1. Install the spacer selected in the section "ADJUSTMENT BEFORE ASSEMBLY."
2. Using special tools MB990935 and MB990938, press the outer race into the transaxle case.



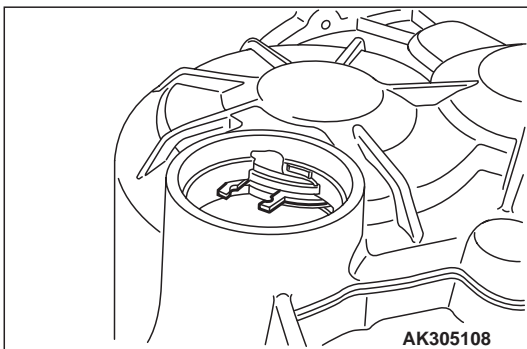
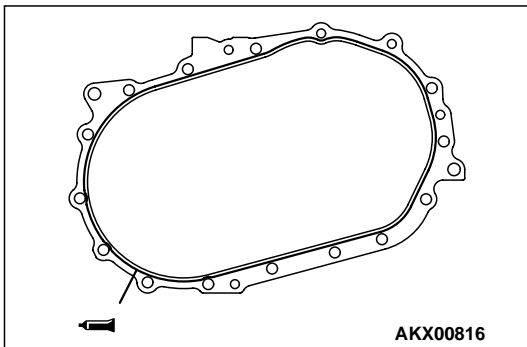
>>E<< TRANSAXLE CASE INSTALLATION

CAUTION

Squeeze sealant evenly onto the transaxle housing. Do not leave gaps or excess amounts, otherwise oil leaks are likely.

1. Apply a 1.5 mm (0.06 inch) diameter bead of sealant (Mitsubishi Part number MD997740 or equivalent) as illustrated onto the transaxle case.

NOTE: Be sure to install the transaxle case onto the transaxle housing while the sealant is still wet (within 15 minutes).

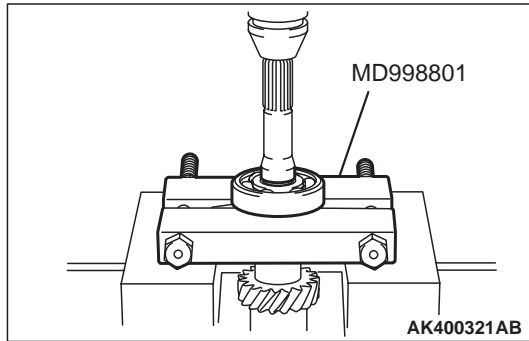


2. Align the transaxle case and expand the snap ring. After the case is on far enough for the snap ring to ride on the bearing, release the snap ring. Push down on the transaxle case, twisting it from side to side until the case contacts the housing.
3. Tighten the transaxle case mounting bolts to the specified torque.

Tightening torque: 44 ± 5 N·m (32 ± 4 ft-lb)

4. Place the transaxle upside down and let the snap ring fit in the groove by the output shaft's own weight.

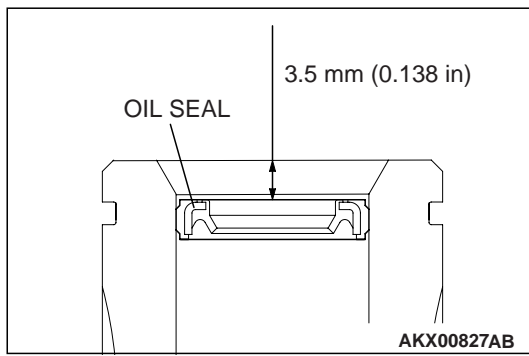
NOTE: After installation, keep the sealed area away from oil for approximately one hour.

**<<E>> BALL BEARING REMOVAL**

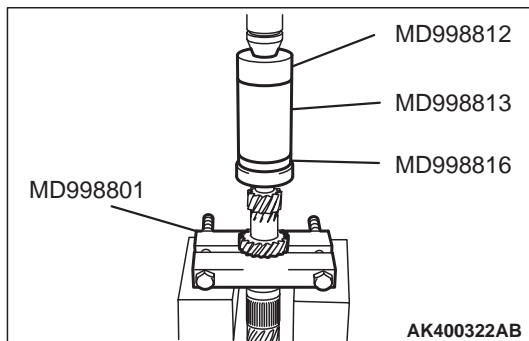
1. Using special tool MD998801, support the ball bearing, and then set them on the press.
2. Push down on the input shaft with the press and remove the ball bearing.

ASSEMBLY SERVICE POINTS**>>A<< OIL SEAL INSTALLATION**

Install the oil seal into the end of the input shaft as shown.

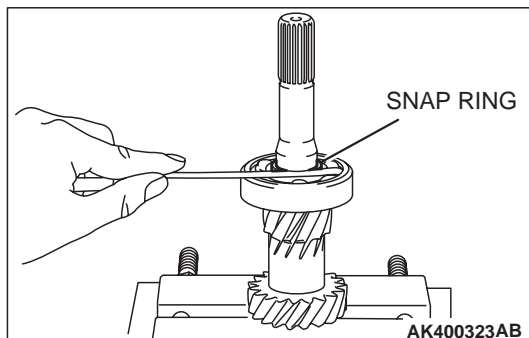
**>>B<< BALL BEARING INSTALLATION**

1. Using special tool MD998801, support the 2nd speed gear portion of the input shaft, and then set them on the press.
2. Using special tools MD998812, MD998813 and MD998816, press install the bearing with the press.

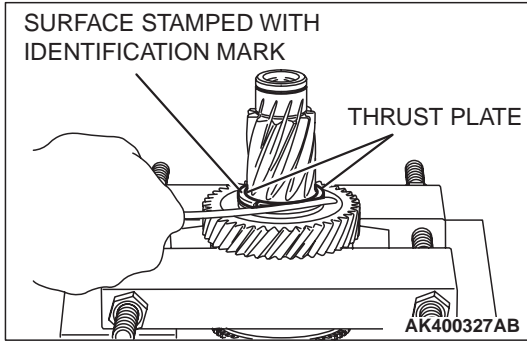
**>>C<< SNAP RING INSTALLATION**

1. Install the thickest snap ring that can be fitted in the snap ring groove of input shaft.
2. Make sure that the ball bearing end play meets the standard value.

Standard value: 0 –0.12 mm (0 –0.0047 inch)



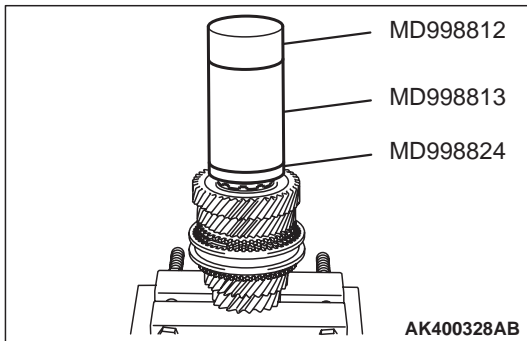
>>J<< THRUST PLATE INSTALLATION



1. Install the thickest thrust plates that can be fitted in the groove of the input shaft. Install the thrust plate so the surface stamped with the identification mark is facing up.
2. Make sure that the 5th speed gear end play meets the standard value.

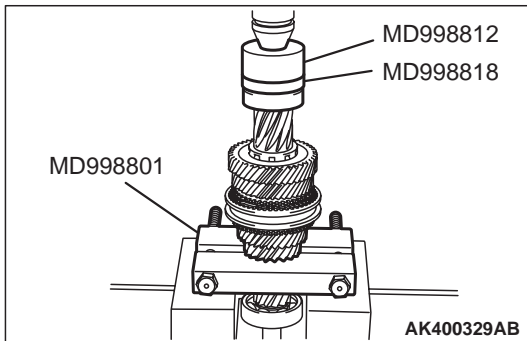
Standard value: 0 –0.09 mm (0 –0.0035 inch)

>>K<< THRUST PLATE STOPPER INSTALLATION



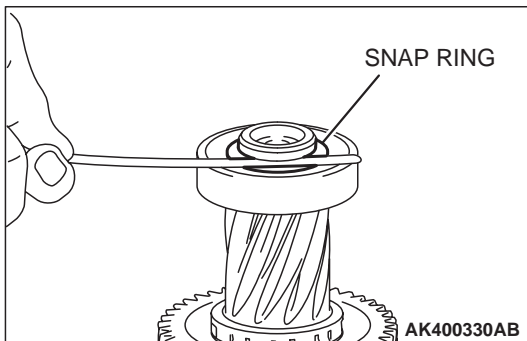
- Install the thrust plate stopper by pressing special tools MD998812, MD998813 and MD998824 by hand. Make sure that it is not tilted.

>>L<< BALL BEARING INSTALLATION



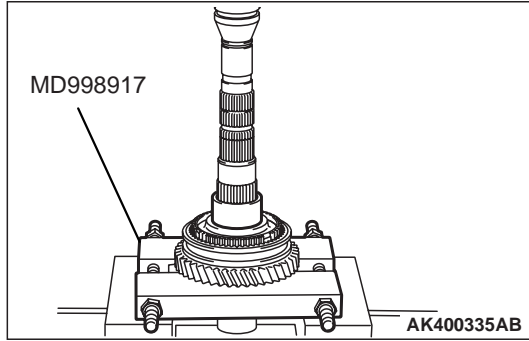
1. Using special tool MD998801, support the 2nd speed gear portion of the input shaft, and then set them on the press.
2. Using special tools MD998812 and MD998818, install the ball bearing onto the input shaft with the press.

>>M<< SNAP RING INSTALLATION

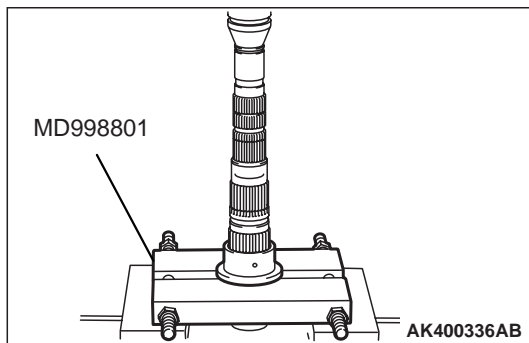


1. Install the thickest snap ring that can be fitted in the groove of the input shaft.
2. Make sure that the ball bearing end play meets the standard value.

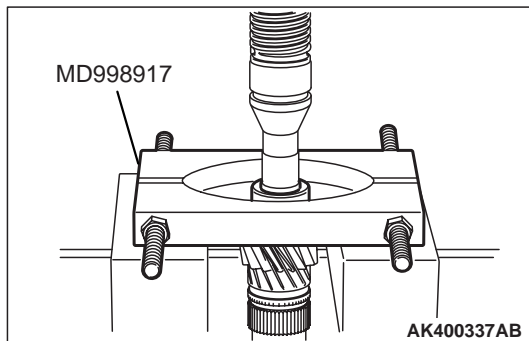
Standard value: 0 –0.12 mm (0 –0.0047 inch)

**<<E>> 2ND SPEED GEAR SLEEVE REMOVAL**

1. Using special tool MD998917, support the 1st speed gear, and then set them on the press.
2. Push down on the output shaft with the press and remove the 2nd speed gear sleeve.

**<<F>> 1ST SPEED GEAR SLEEVE REMOVAL**

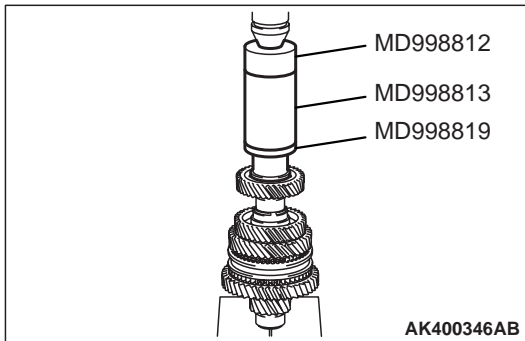
1. Using special tool MD998801, support the 1st speed gear sleeve, and then set them on the press.
2. Push down on the output shaft with the press and remove the 1st speed gear sleeve.

**<<G>> ROLLER BEARING INNER RACE REMOVAL**

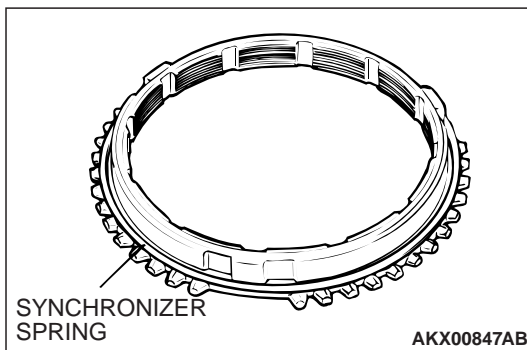
1. Using special tool MD998917, support the roller bearing inner race, and then set them on the press.
2. Push down on the output shaft with the press and remove the roller bearing inner race.

**>>K<< 5TH SPEED GEAR SLEEVE
INSTALLATION**

Using special tools MD998812, MD998813 and MD998819, install the 5th speed gear sleeve onto the output shaft with the press.

**>>L<< SYNCHRONIZER SPRING INSTALLATION**

Install the synchronizer spring onto the synchronizer ring as shown.

**>>M<< SYNCHRONIZER RING INSTALLATION****⚠ CAUTION**

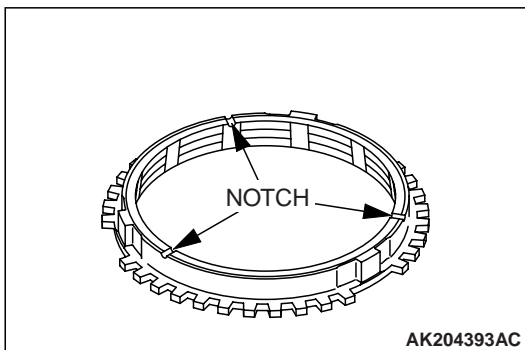
There is a 5th speed synchronizer ring and a reverse synchronizer ring. Be careful not to confuse the two when installing, as a mistake will affect the shift feeling.

1. Check for the presence of identification notches on the synchronizer ring.

No notches: 5th speed synchronizer ring

Three notches: Reverse synchronizer ring

2. Install the synchronizer ring so that it fits completely over the machined cone of the gear.

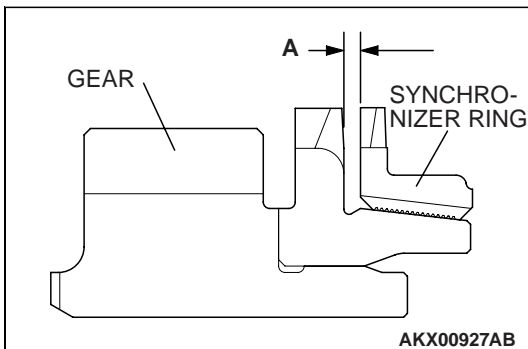
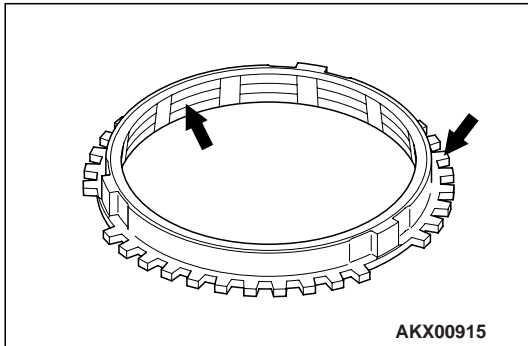


NEEDLE ROLLER BEARING

1. Combine the needle roller bearing with the bearing sleeve and gear, and check that it rotates smoothly without noise or play.
2. Check the needle roller bearing cage for deformation.

SYNCHRONIZER RING

1. Check if the clutch gear teeth are damaged or broken.
2. Check internal surface for damage, wear and broken threads.



3. Force the synchronizer ring toward the clutch gear and check clearance "A." If "A" is less than the limit, replace the synchronizer ring.

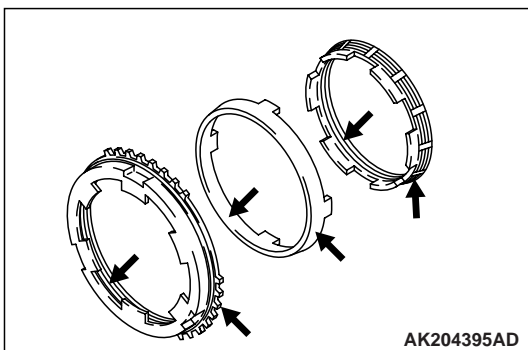
Minimum limit: 0.5 mm (0.020 inch)

OUTER SYNCHRONIZER RING/INNER SYNCHRONIZER RING/SYNCHRONIZER CONE

CAUTION

When replacing, replace the outer ring, inner ring and cone as a set.

1. Check that the clutch gear tooth surfaces and cone surfaces are not damaged or broken.

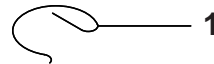
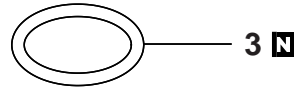
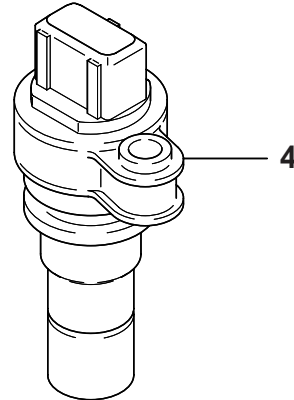
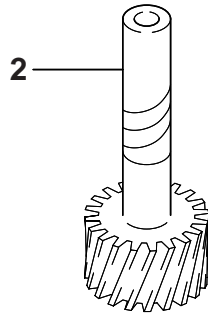


VEHICLE SPEED SENSOR

DISASSEMBLY AND ASSEMBLY

M1222007000027

 APPLY GEAR OIL TO ALL MOVING PARTS BEFORE INSTALLATION.



AKX00804AB

DISASSEMBLY STEPS

1. E-CLIP
2. SPEEDOMETER DRIVEN GEAR

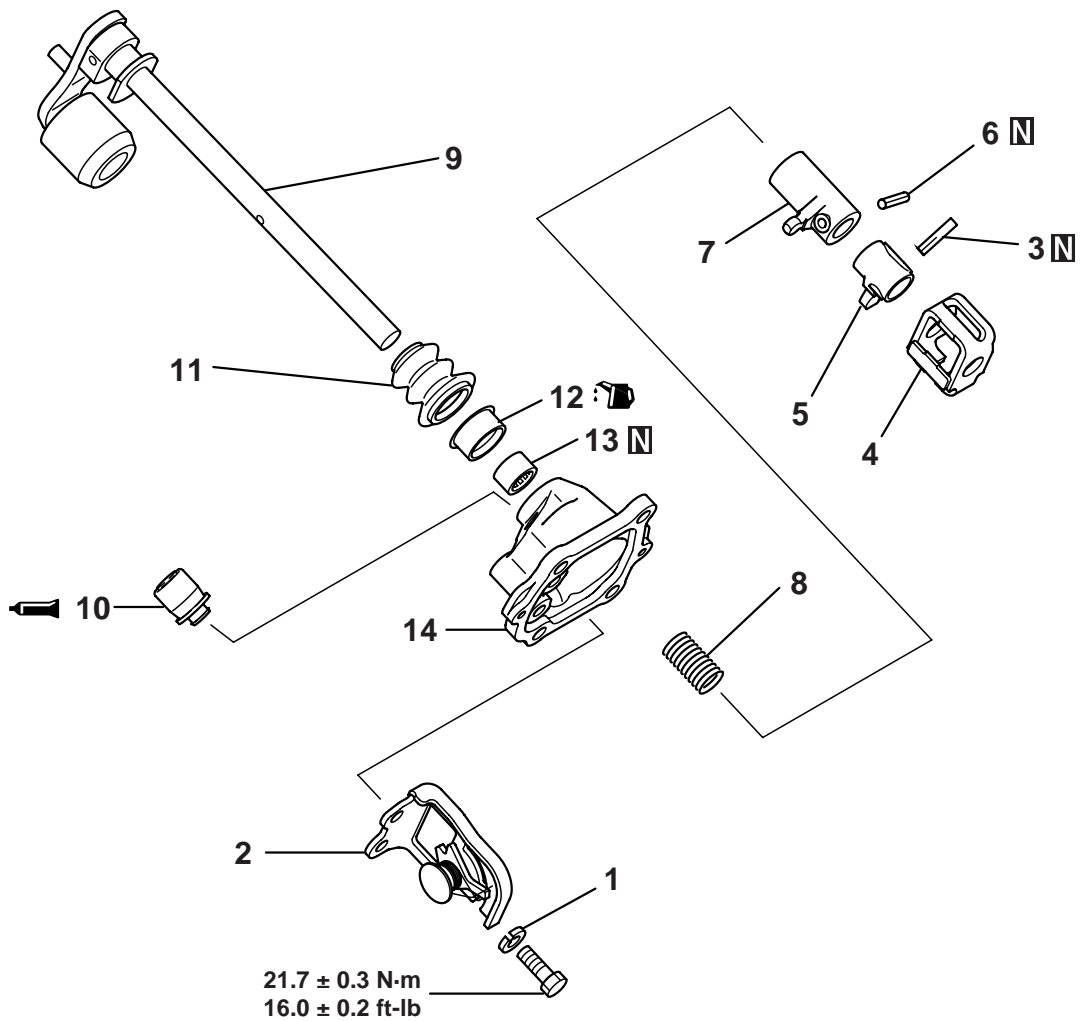
DISASSEMBLY STEPS

3. O-RING
4. SLEEVE

CONTROL HOUSING

DISASSEMBLY AND ASSEMBLY

M1222013100249



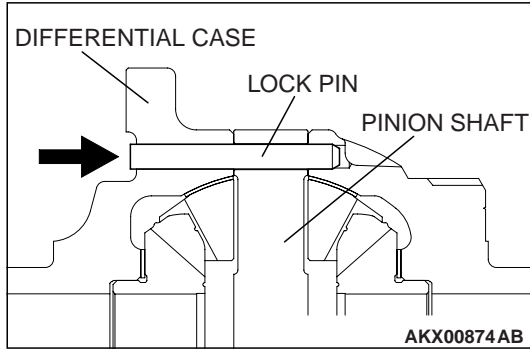
AK403240AB

DISASSEMBLY STEPS

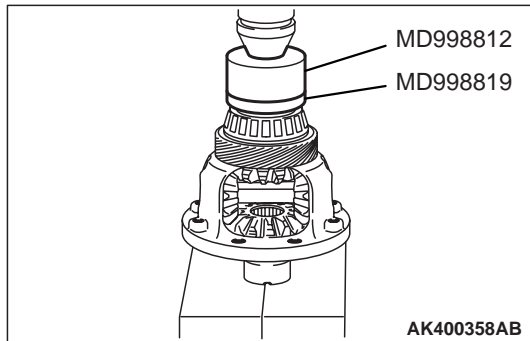
- 1. SPRING WASHER
- 2. STOPPER BRACKET
- <<A>> >>E<< 3. LOCK PIN
- 4. INTERLOCK PLATE
- 5. CONTROL FINGER
- >>D<< 6. SPRING PIN
- 7. STOPPER BODY

DISASSEMBLY STEPS

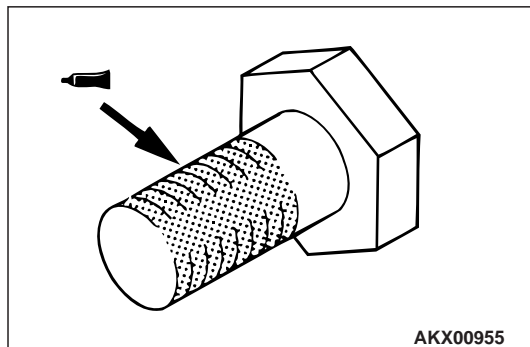
- 8. SPRING
- 9. CONTROL SHAFT
- >>C<< 10. AIR BREATHER
- >>B<< 11. CONTROL SHAFT BOOT
- >>A<< 12. OIL SEAL
- 13. NEEDLE BEARING
- 14. CONTROL HOUSING

**>>B<< LOCK PIN INSTALLATION**

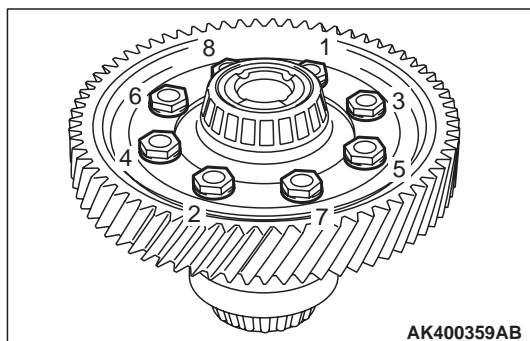
Install the lock pin so that it will be oriented in the direction shown.

**>>C<< TAPER ROLLER BEARING INSTALLATION**

Using special tools MD998812 and MD998819, install the taper roller bearing with the press.

**>>D<< DIFFERENTIAL DRIVE GEAR INSTALLATION**

1. Apply sealant (3M™AAD Part Number 8730 or 8731 or equivalent) to the entire threaded portion of the bolt.



2. Tighten to the specified torque in the illustrated sequence.

Tightening torque: 132 ± 5 N·m (97 ± 4 ft-lb)

SERVICE SPECIFICATIONS

M1222000300276

ITEM	STANDARD VALUE	LIMIT
Input shaft front bearing end play mm (in)	0 – 0.12 (0 – 0.0047)	–
Input shaft rear bearing end play mm (in)	0 – 0.12 (0 – 0.0047)	–
Input shaft 5th speed gear end play mm (in)	0 – 0.09 (0 – 0.0035)	–
Output shaft roller bearing inner race end play mm (in)	0 – 0.12 (0 – 0.0047)	–
Output shaft 3rd speed gear end play mm (in)	0 – 0.09 (0 – 0.0035)	–
Output shaft ball bearing end play mm (in)	0 – 0.09 (0 – 0.0035)	–
Backlash between differential side gear and pinion mm (in)	0 – 0.150 (0 – 0.0059)	–
Differential case preload mm (in)	0.05 – 0.11 (0.0020 – 0.0043)	–
Synchronizer ring back surface to gear clearance mm (in)	–	0.5 (0.020)

SEALANTS AND ADHESIVES

M1222000500292

ITEM	SPECIFIED SEALANT
Clutch housing-transaxle case mating surface	Mitsubishi Part number MD997740 or equivalent
Control housing-transaxle case mating surface	
Under cover-transaxle case mating surface	
Air breather	3M™AAD Part No.8001 or equivalent
Differential drive gear bolt	3M™AAD Part No.8730 or 8731 or equivalent

LUBRICANTS

M1222000400239

TRANSAXLE

ITEM	SPECIFIED SEALANT
Driveshaft oil seal lip gear oil	Hypoid gear oil SAE 75W-90 or 75W-85W conforming to API classification GL-4
Input shaft oil seal lip gear oil	
Control shaft oil seal lip gear oil	
Select lever shoe	Mitsubishi Part number 0101011 or equivalent

SNAP RINGS, SPACERS AND THRUST PLATE FOR ADJUSTMENT

M1222012000272

Snap ring

(For adjustment of input shaft front bearing end play)

THICKNESS mm (in)	IDENTIFICATION SYMBOL	THICKNESS mm (in)	IDENTIFICATION SYMBOL
2.24 (0.0882)	None	2.38 (0.0937)	Brown
2.31 (0.0909)	Blue		

Snap ring

(For adjustment of input shaft rear bearing end play)

(For adjustment of output shaft front bearing end play)

THICKNESS mm (in)	IDENTIFICATION SYMBOL	THICKNESS mm (in)	IDENTIFICATION SYMBOL
1.43 (0.0563)	Green (2)	1.59 (0.0626)	Yellow (2)
1.51 (0.0594)	White (2)		

Thrust plate

(For adjustment of input shaft 5th speed gear end play)

THICKNESS mm (in)	IDENTIFICATION SYMBOL	THICKNESS mm (in)	IDENTIFICATION SYMBOL
2.82 (0.1110)	0	2.98 (0.1173)	6
2.86 (0.1126)	2	3.02 (0.1189)	7
2.90 (0.1142)	3	3.06 (0.1205)	8
2.94 (0.1157)	5	3.10 (0.1220)	9

Snap ring

(For adjustment of output shaft 3rd speed gear end play)

THICKNESS mm (in)	IDENTIFICATION SYMBOL	THICKNESS mm (in)	IDENTIFICATION SYMBOL
2.81 (0.1106)	Green	2.97 (0.1169)	Orange
2.85 (0.1122)	White	3.01 (0.1185)	Red
2.89 (0.1138)	Yellow	3.05 (0.1201)	Pink
2.93 (0.1154)	Black	3.09 (0.1217)	Blue

Snap ring

(For adjustment of output shaft rear bearing end play)

THICKNESS mm (in)	IDENTIFICATION SYMBOL	THICKNESS mm (in)	IDENTIFICATION SYMBOL
2.31 (0.0909)	Black (2)	2.55 (0.1004)	Yellow
2.35 (0.0925)	None	2.59 (0.1020)	Black
2.39 (0.0941)	Blue	2.63 (0.1035)	Orange
2.43 (0.0957)	Brown	2.67 (0.1051)	Blue
2.47 (0.0972)	Green	2.71 (0.1067)	Brown
2.51 (0.0988)	White		