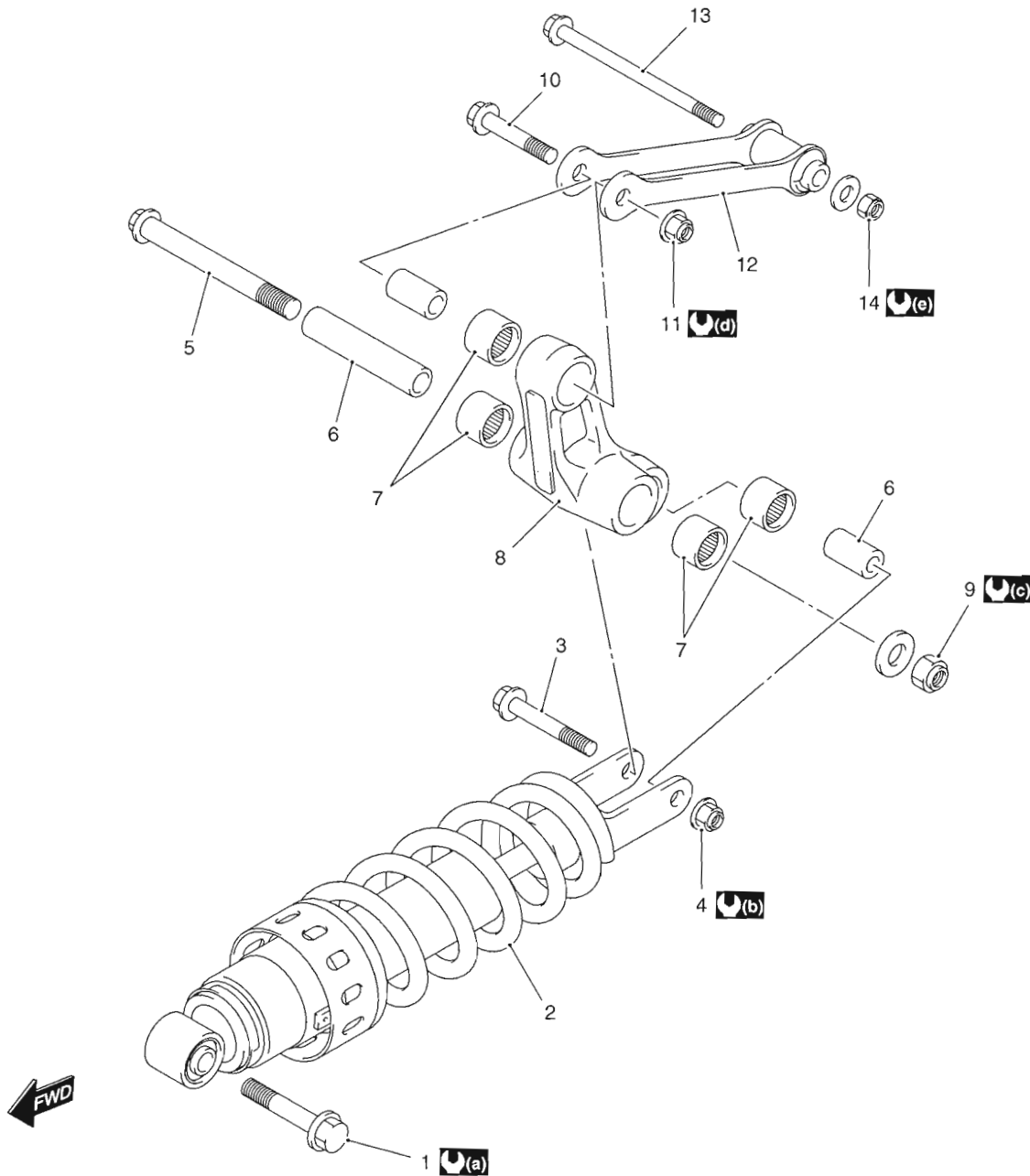


Rear Suspension

Repair Instructions

Rear Suspension Components

B705H22306001

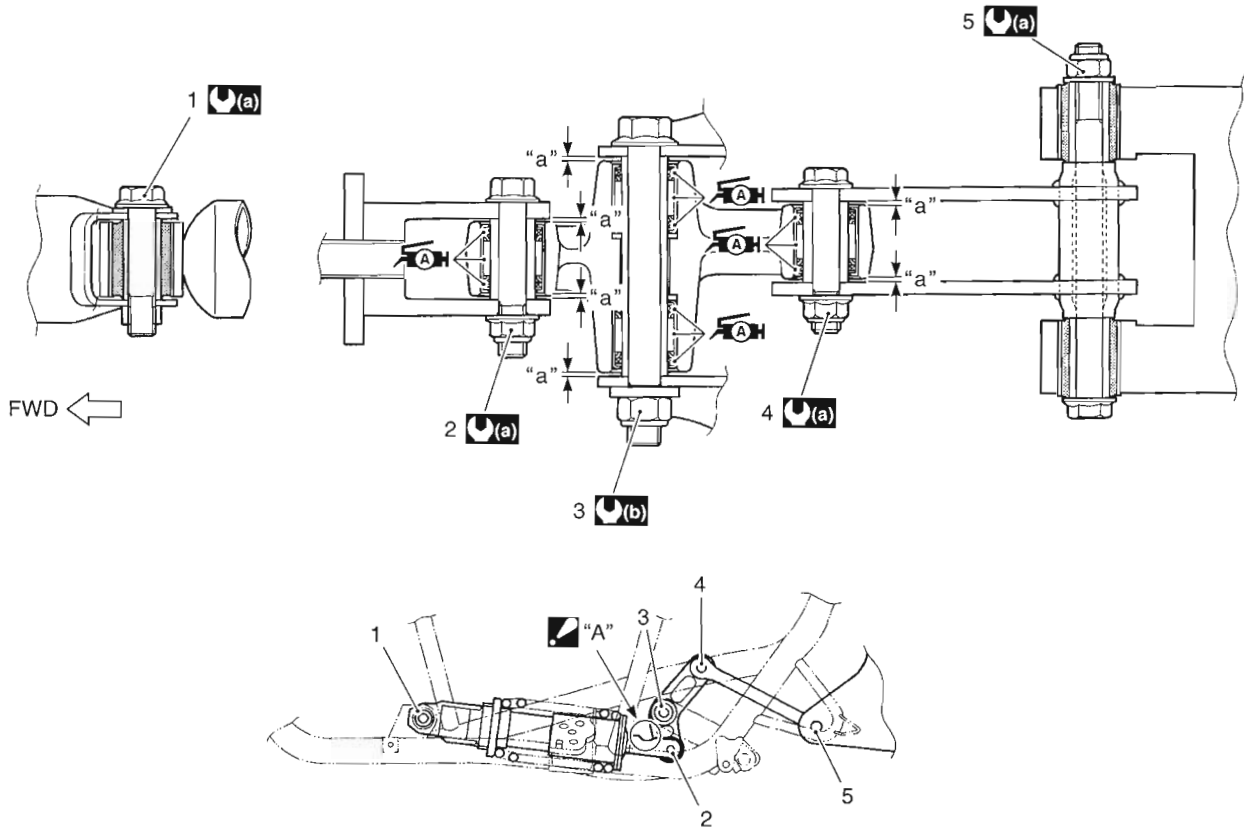


I705H1230034-01

1. Rear shock absorber bolt	8. Cushion lever	: 50 N·m (5.0 kgf-m, 36.0 lb-ft)
2. Rear shock absorber	9. Cushion lever nut	: 50 N·m (5.0 kgf-m, 36.0 lb-ft)
3. Cushion lever bolt	10. Cushion lever rod bolt	: 80 N·m (8.0 kgf-m, 58.0 lb-ft)
4. Cushion lever nut	11. Cushion lever rod nut	: 50 N·m (5.0 kgf-m, 36.0 lb-ft)
5. Cushion lever bolt	12. Cushion lever rod	: 50 N·m (5.0 kgf-m, 36.0 lb-ft)
6. Spacer	13. Cushion lever rod bolt	
7. Bearing	14. Cushion lever rod nut	

Rear Suspension Assembly Construction

B705H22306002



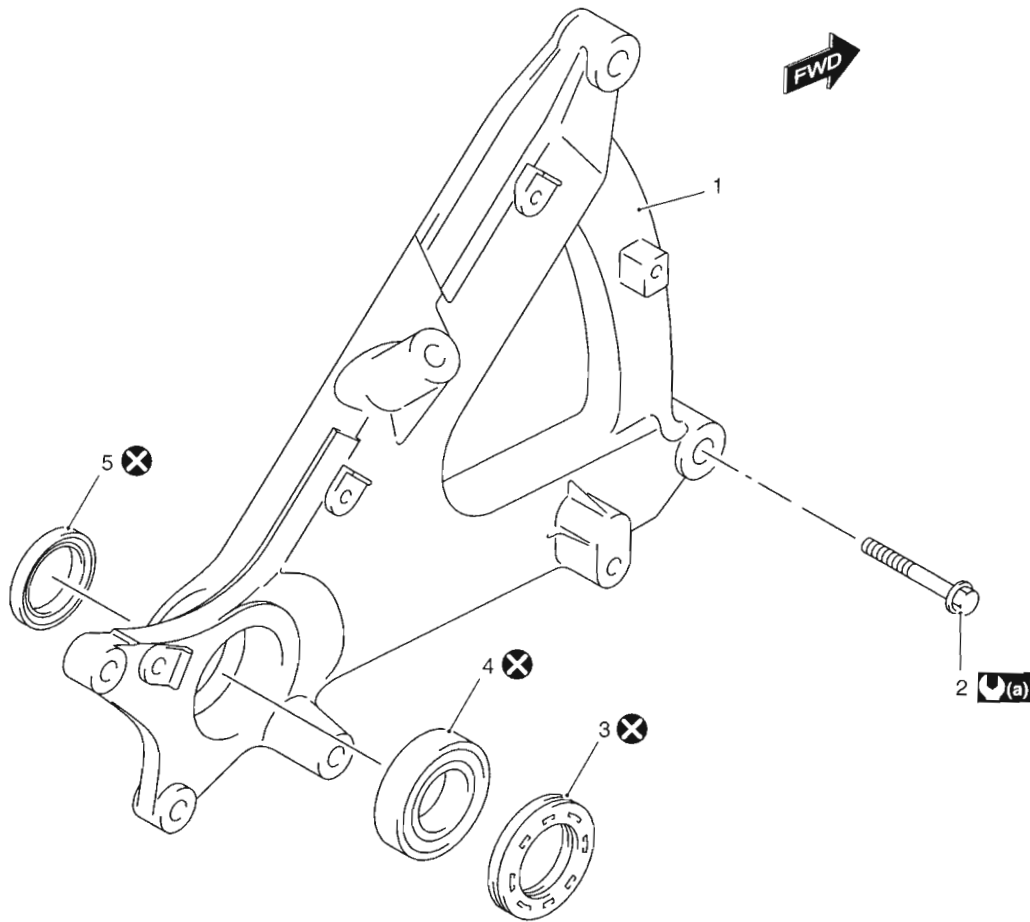
I705H1230041-04

1. Rear shock absorber mounting bolt	5. Cushion rod mounting nut	(b) : 80 N-m (8.0 kgf-m, 58.0 lb-ft)
2. Cushion lever nut	"A": Assemble the rear shock absorber with dent side up.	: Apply grease.
3. Cushion lever mounting nut	"a": 1 mm (0.04 in)	
4. Cushion rod nut	(a) : 50 N-m (5.0 kgf-m, 36.0 lb-ft)	

2C-3 Rear Suspension:

Rear Swingarm Components

B705H22306003



I705H1230035-01

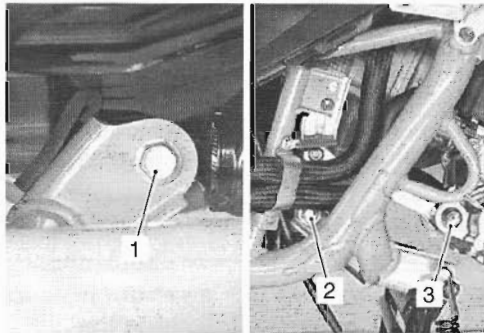
1. Rear swingarm	3. Dust seal	5. Dust seal	⊗ : Do not reuse.
2. Rear swingarm mounting bolt	4. Bearing	⌚(a) : 50 N·m (5.0 kgf·m, 36.0 lb-ft)	

Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation

B705H22306004

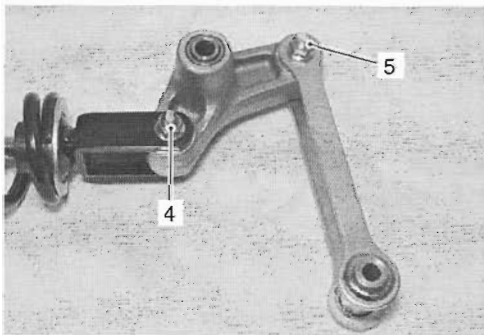
Removal

- 1) Place the motorcycle on the center stand and support the motorcycle with a jack to be no load for the rear shock absorber.
- 2) Remove the right and left footboards. Refer to "Footboard Removal and Installation in Section 9D (Page9D-21)".
- 3) Disconnect the clamps.
- 4) Remove the rear shock absorber bolt (1), cushion lever mounting nut (2) and rear cushion rod nut (3).



I705H1230001-03

- 5) Remove the rear shock absorber assembly.
- 6) Remove the cushion lever nuts (4) and cushion rod nut (5) to remove the rear suspension linkage.



I705H1230003-03

Installation

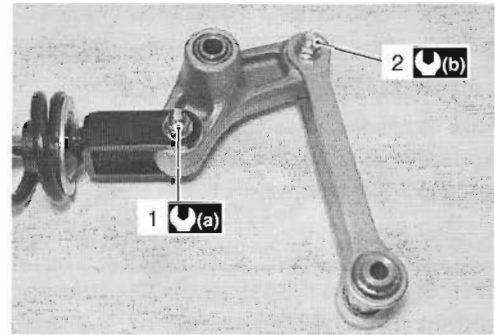
Install the rear shock absorber assembly in the reverse order of removal. Pay attention to the following points:

- Tighten the cushion lever nuts (1) and cushion rod nut (2) to the specified torque.

Tightening torque

Cushion lever nut (a): 50 N·m (5.0 kgf-m, 36.0 lb-ft)

Cushion rod nut (b): 50 N·m (5.0 kgf-m, 36.0 lb-ft)



I705H1230002-02

- Install the rear shock absorber assembly and tighten the rear shock absorber bolt (3), rear cushion rod nut (4) and cushion lever mounting nut (5) to the specified torque.

Tightening torque

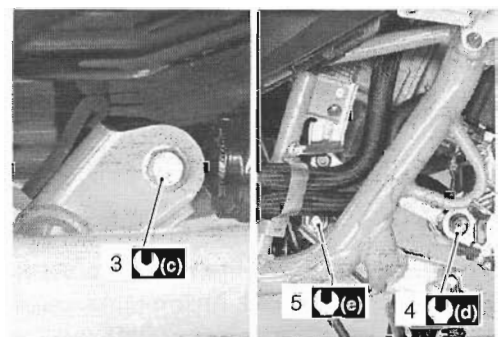
Rear shock absorber bolt (c): 50 N·m (5.0 kgf-m, 36.0 lb-ft)

Rear cushion rod nut (d): 50 N·m (5.0 kgf-m, 36.0 lb-ft)

Cushion lever mounting nut (e): 80 N·m (8.0 kgf-m, 58.0 lb-ft)

NOTE

Pass the cushion lever mounting bolt after all other bolts have been inserted.



I705H1230004-02

2C-5 Rear Suspension:

Rear Suspension Inspection

B705H22306005

Refer to "Rear Suspension Inspection in Section 0B (Page0B-16)".

Rear Shock Absorber Inspection

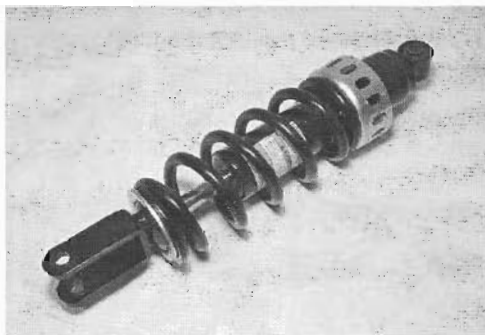
B705H22306006

Inspect the rear shock absorber in the following procedures:

- 1) Remove the rear shock absorber. Refer to "Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation (Page2C-4)".
- 2) Inspect the rear shock absorber for oil leakage.
- 3) Inspect the bushing for play and damage.
- 4) Inspect the rear shock absorber spring for crack or other damage. If any defects are found, replace the shock absorber with a new one.

⚠ CAUTION

Do not attempt to disassemble the rear shock absorber. It is unserviceable.



I705H1230005-01



I705H1230006-01

- 5) Install the rear shock absorber. Refer to "Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation (Page2C-4)".

Rear Shock Absorber Gas Pressure Release

B705H22306007

Refer to "Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation (Page2C-4)".

⚠ WARNING

The rear shock absorber unit contains high-pressure nitrogen gas. Mishandling can cause explosion.

- Keep away from fire and heat. High gas pressure caused by heat can cause an explosion.
- Release gas pressure before disposing.

Gas Pressure Release

Make sure to observe the following precautions.

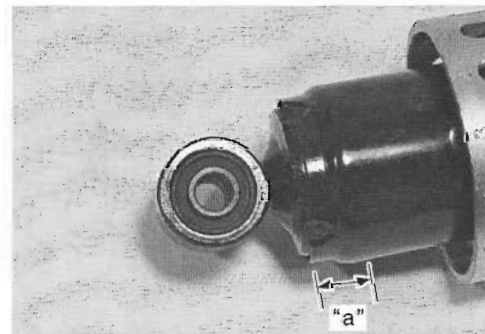
⚠ WARNING

- Never apply heat or disassemble the damper unit since it can explode or oil can splash hazardously.
- When discarding the rear shock absorber, be sure to release gas pressure from the rear shock absorber following the procedures.

- 1) Mark the drill hole at position "a" shown in the illustration, with a center punch.

Length "a"

15 mm

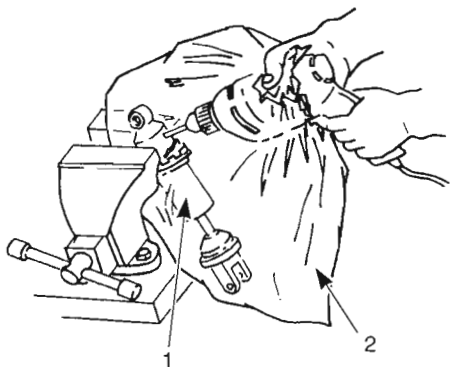


I705H1230007-02

- 2) Wrap rear shock absorber (1) with a vinyl bag (2) and fix it on a vise as shown.
- 3) Drill a 2 – 3 mm (0.08 – 0.12 in) hole at the marked drill center using a drilling machine and let out gas while taking care not to get the vinyl bag entangled with the drill bit.

⚠ WARNING

- Be sure to wear protective glasses since drilling chips and oil may fly off with blowing gas when the drill bit has penetrated through the body.
- Make sure to drill at the specified position. Otherwise, pressurized oil may spout out forcefully.



I649G1230009-02

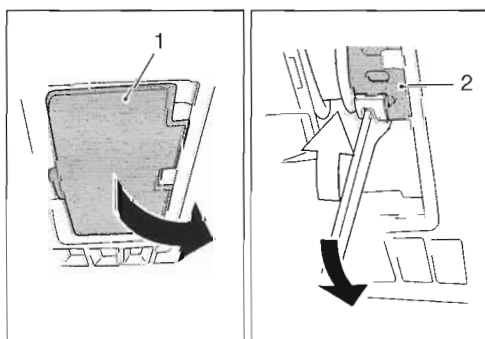
Rear Suspension Adjustment

B705H22306008

After installing the rear suspension, adjust the spring pre-load as follows.

Spring Pre-load Adjustment

- 1) Keep the motorcycle upright with the center stand.
- 2) Remove the adjuster cover.
- 3) Turn the spring tension ring to the desired position.



I705H1230036-01

1. Cover

2. Adjuster

⚠ CAUTION

Position "1" provides the softest spring tension and position "7" provides the stiffest.

STD position

Position "3"

Rear Swingarm Removal and Installation

B705H22306009

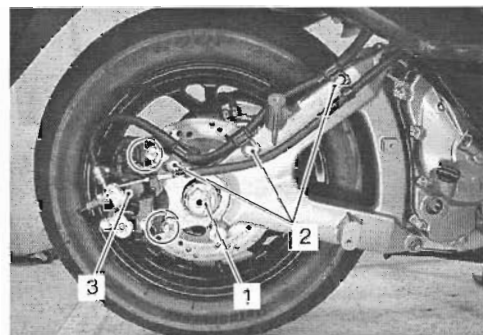
Removal

- 1) Raise the rear wheel resting center-stand and using jack.

⚠ CAUTION

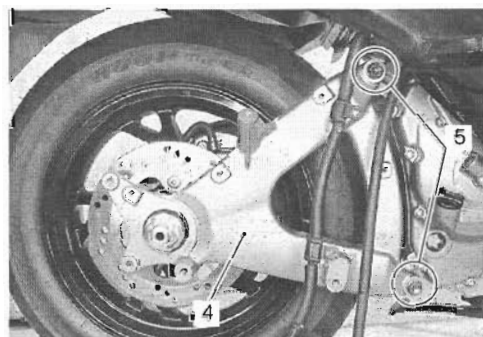
Fix the frame to be stabilized.

- 2) Remove the muffler. Refer to "Exhaust Pipe / Muffler Removal and Installation in Section 1K (Page1K-2)".
- 3) Loosen the rear axle nut (1) while depressing the rear brake pedal.
- 4) Remove the rear brake hose clamps (2) and rear brake caliper (3).



I705H1230023-04

- 5) Remove the rear swingarm (4) by removing the rear swingarm mounting bolts (5) and rear axle nut.



I705H1230024-03

⚠ CAUTION

Do not operating the rear brake lever and brake-lock lever with the rear brake caliper removed.

- 6) Remove the collar from the swingarm.

2C-7 Rear Suspension:

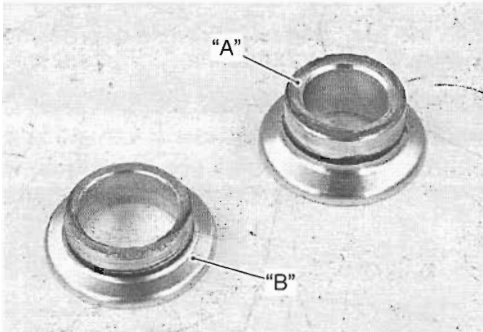
Installation

Install the rear swingarm in the reverse order of removal. Pay attention to the following points:

- Install the collar to swingarm.

⚠ CAUTION

When installing the swingarm to the frame, pay attention to the difference of the collar.



I705H1230033-02

"A": Rear axle nut side

"B": Wheel side

- After install the rear swingarm temporarily, tighten the rear brake caliper bolts (1) to the specified torque.

Tightening torque

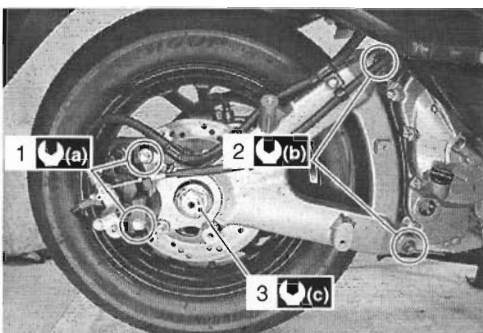
Rear brake caliper bolt (a): 23 N·m (2.3 kgf-m, 16.5 lb-ft)

- Tighten the rear swingarm bolts (2), rear axle nut (3) to the specified torque.

Tightening torque

Rear swingarm bolt (b): 50 N·m (5.0 kgf-m, 36.0 lb-ft)

Rear axle nut (c): 120 N·m (12.0 kgf-m, 87.0 lb-ft)



I705H1230025-01

- Tighten the exhaust pipe joint bolt and muffler mounting bolt. to the specified torque.

⚠ CAUTION

Replace the exhaust pipe connector with a new one.

Tightening torque

Exhaust pipe connecting bolt: 23 N·m (2.3 kgf-m, 16.5 lb-ft)

Muffler mounting bolt: 23 N·m (2.3 kgf-m, 16.5 lb-ft)

⚠ WARNING

After remounting the rear wheel, pump the rear brake lever several times to check for proper brake operation.

Rear Swingarm Related Parts Inspection

B705H22306010

Refer to "Rear Swingarm Removal and Installation (Page2C-6)".

Inspect the following parts.

Rear Swingarm

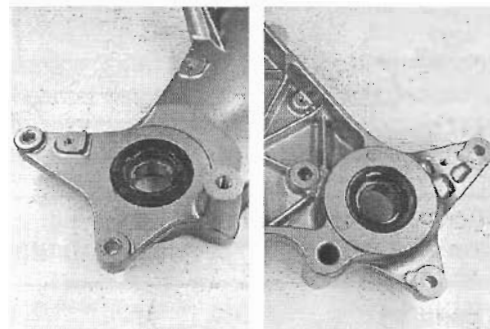
Inspect the rear swingarm for crack or other damage. If any defects are found, replace the swingarm with a new one.



I705H1230026-01

Dust Seal

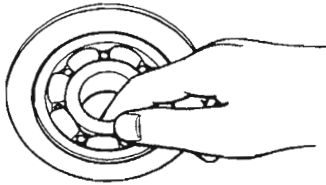
Inspect dust seal lip for wear or damage. If any defects are found, replace the dust seal with a new one.



I705H1230027-01

Bearing

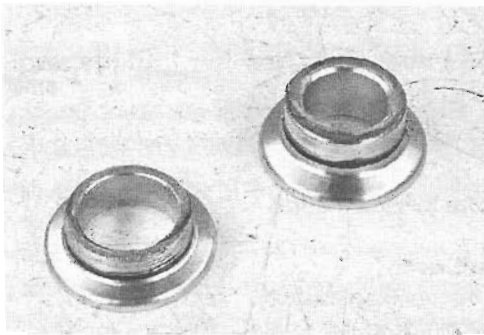
Inspect the play of the bearings by finger while they are in the rear swingarm. Rotate the inner race by finger to inspect for abnormal noise and smooth rotation. Replace the bearing in the following procedures if there is anything unusual. Refer to "Rear Swingarm Dust Seal / Bearing Removal and Installation (Page2C-8)".



I649G1240015-01

Collar

Inspect the collar for wear or damage. If any defects are found, replace it with a new one.



I705H1230028-01

Rear Swingarm Dust Seal / Bearing Removal and Installation

B705H22306011

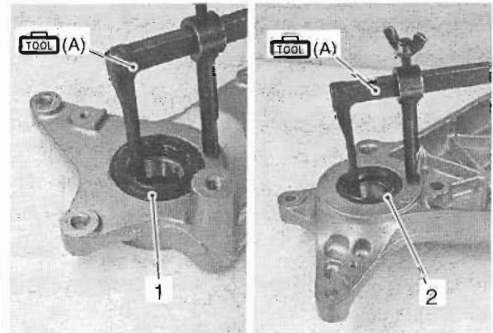
Refer to "Rear Suspension Assembly Construction (Page2C-2)".

Removal

- 1) Remove the rear swingarm. Refer to "Rear Swingarm Removal and Installation (Page2C-6)".
- 2) Remove the dust seals (1) and (2) using the special tool.

Special tool

TOOL (A): 09913-50121 (Oil seal remover)

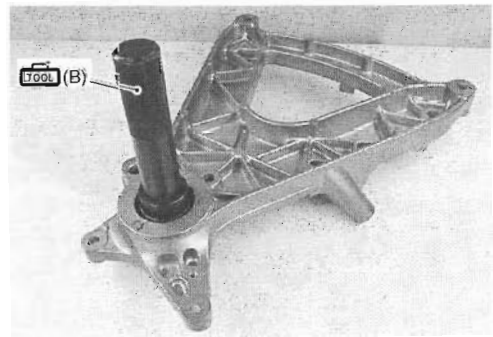


I705H1230029-02

- 3) Remove the bearing using the special tool.

Special tool

TOOL (B): 09913-70210 (Bearing installer set)



I705H1230030-02

2C-9 Rear Suspension:


Installation

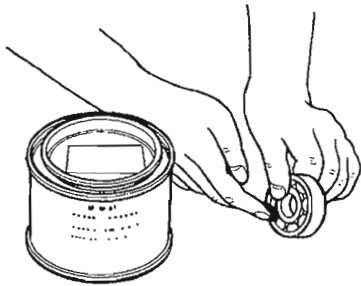
Install the dust seal and bearing in the reverse order of removal. Pay attention to the following points:

⚠ CAUTION

The removed dust seal and bearings must be replaced with the new ones.

- Apply grease to the bearing.

 : Grease 99000-25010 (SUZUKI SUPER GREASE A or equivalent)

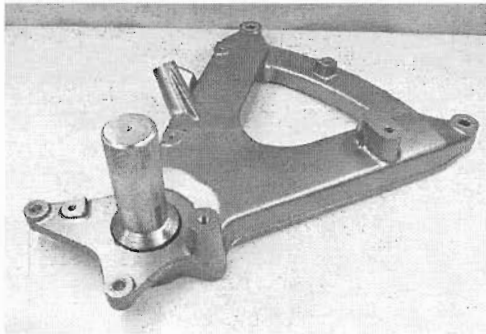


1649G1240019-01

- Install the bearing to the rear swingarm using an appropriate tool.

⚠ CAUTION


When installing the bearing, stamped mark on the bearing must face outside.




1705H1230031-01

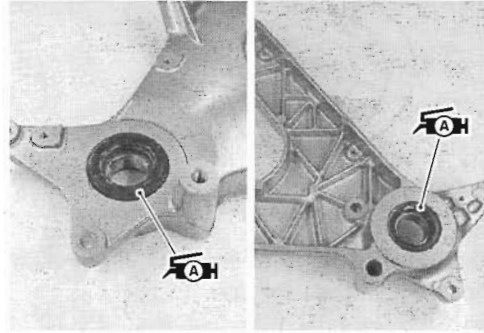
- Install the oil seal using the special tool.

Special tool

 : 09913-70210 (Bearing installer set)

- Apply grease to the oil seal lip.

 : Grease 99000-25010 (SUZUKI SUPER GREASE A or equivalent)



1705H1230037-01

Cushion Lever and Cushion Rod Inspection

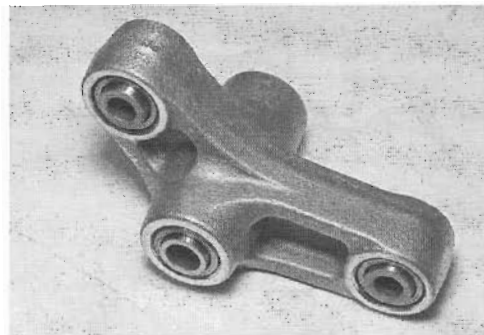
B705H22306012

Refer to "Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation (Page2C-4)".

Inspect the following parts.

Cushion Lever

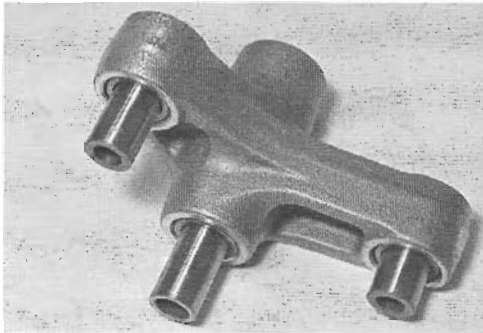
Inspect the cushion lever for crack or other damage. If any defects are found, replace the cushion lever with a new one.



1705H1230008-01

Spacer

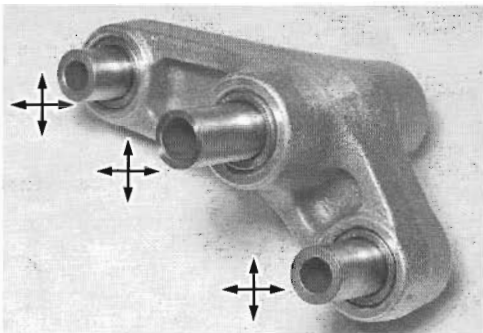
- 1) Remove the spacers from the cushion lever.
- 2) Inspect the spacers for any flaws or other damage. If any defects are found, replace the spacers with the new ones.



I705H1230009-01

Cushion Lever Bearing

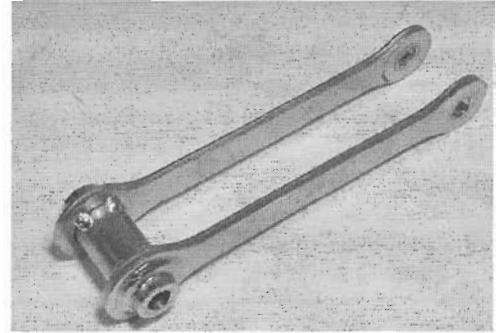
- 1) Insert the spacers into bearings.
- 2) Check the play by moving the spacers up and down. If excessive play is noted, replace the bearing with a new one. Refer to "Cushion Lever Bearing Removal and Installation (Page2C-10)".



I705H1230010-01

Cushion Rod

Inspect the cushion rod for damage and bend. If any defects are found, replace the cushion rod with a new one.



I705H1230011-01


Cushion Lever Bearing Removal and Installation


B705H22306013

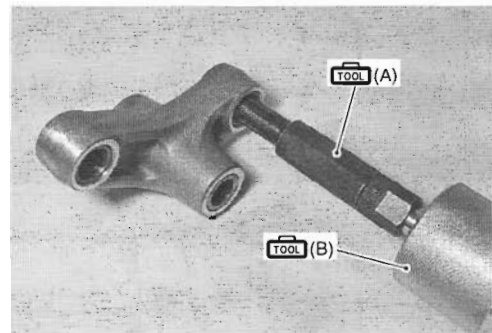
Removal

- 1) Remove the cushion lever. Refer to "Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation (Page2C-4)".
- 2) Remove the cushion lever bearings using the special tools.

Special tool

 (A): 09923-73210 (Bearing remover)

 (B): 09930-30104 (Sliding shaft)



I705H1230012-01

2C-11 Rear Suspension:

Installation

Install the cushion lever bearing in the reverse order of removal. Pay attention to the following points:

⚠ CAUTION


The removed bearings must be replaced with the new ones.

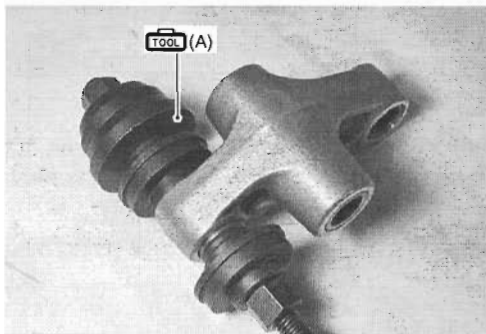
- Press the bearings into the cushion lever using the special tool.

NOTE

When installing the bearing, stamped mark on the bearing must face outside.


Special tool

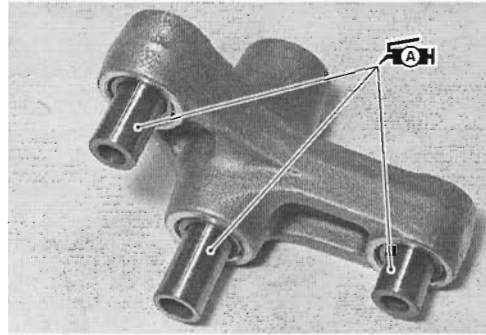
 (A): 09941-34513 (Steering race installer)



I705H1230013-01

- Apply grease to the bearings.

 : Grease 99000-25010 (SUZUKI SUPER GREASE A or equivalent)

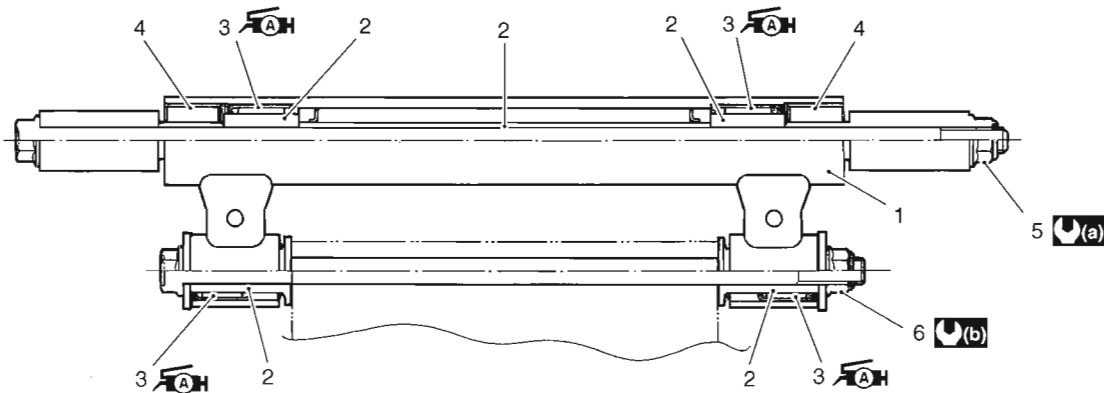


I705H1230014-01




- Install the cushion lever. Refer to "Rear Shock Absorber and Rear Shock Absorber Assembly Removal and Installation (Page2C-4)".

Crankcase Bracket Construction

B705H22306014



I705H1230042-01

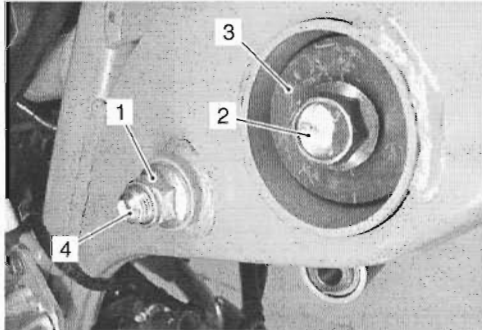
1. Crankcase bracket	4. Bushing	 : 85 N·m (8.5 kgf·m, 61.5 lb·ft)
2. Spacer	5. Crankcase bracket nut	 : 93 N·m (9.3 kgf·m, 67.0 lb·ft)
3. Bearing	6. Engine mounting nut	 : Apply grease.

Crankcase Bracket Removal and Installation

B705H22306015

Removal

- 1) Remove the engine.
Refer to "Engine Assembly Removal and Installation in Section 1D (Page1D-6)".
- 2) Remove the crankcase bracket nut (1) and rubber damper bolts (2) (L & R).
- 3) Remove the rubber dampers (3) (L & R).
- 4) Pull out the crankcase bracket bolt (4) and remove the crankcase bracket.



I705H1230015-04

Installation

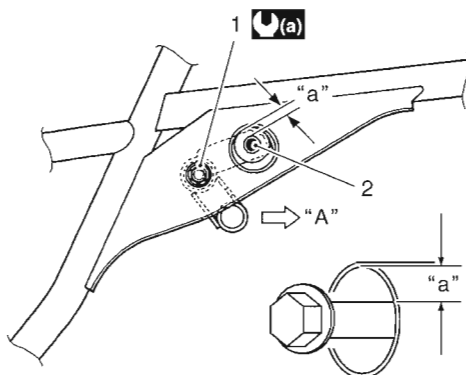
- 1) Install the crankcase bracket with the bolt and tighten the crankcase bracket nut (1) temporarily.
- 2) Install the rubber damper bolts (2) temporarily without installing the rubber dampers.
- 3) Move the crankcase bracket backwards "A" to provide the clearance "a" as shown in the figure.

Clearance "a"
14 mm (0.55 in)

- 4) With the crankcase bracket held immovable, tighten the crankcase bracket nut (1) to the specified torque.

Tightening torque

Crankcase bracket nut (a): 85 N·m (8.5 kgf-m, 61.5 lb-ft)

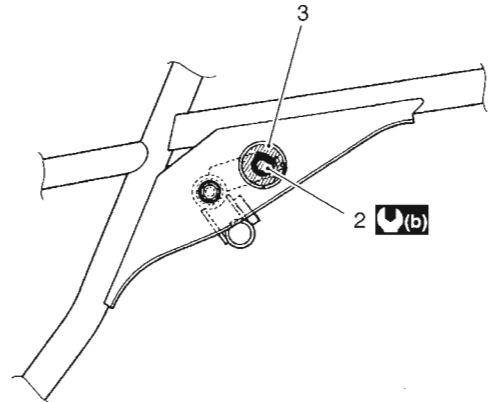


I705H1230039-04

- 5) Remove the rubber damper bolts (2) (L & R) after tightening the crankcase bracket nut (1).
- 6) Install the rubber dampers (3) (L & R) and tighten the rubber damper bolts (2) (L & R) to the specified torque.

Tightening torque

Rubber damper bolt (b): 85 N·m (8.5 kgf-m, 61.5 lb-ft)



I705H1230040-03

- 7) Install the engine.
Refer to "Engine Assembly Removal and Installation in Section 1D (Page1D-6)".

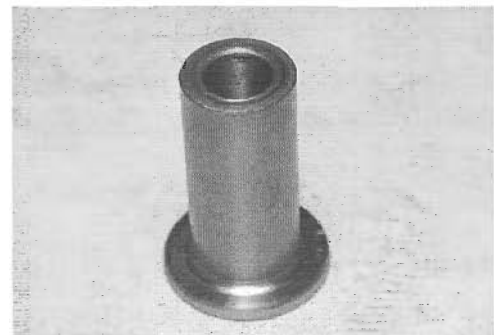
Crankcase Bracket Related Parts Inspection

B705H22306016

Refer to "Crankcase Bracket Removal and Installation (Page2C-12)".

Spacer

- 1) Remove the spacers from the crankcase bracket.
- 2) Inspect the spacers for any flaws or other damage. If any defects are found, replace the spacers with the new ones.

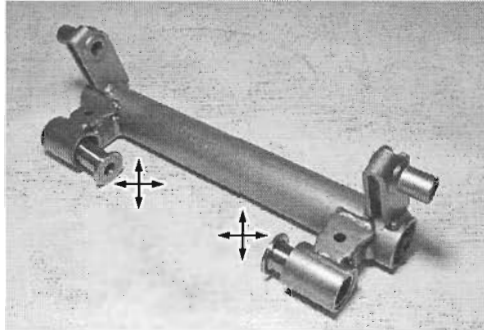


I705H1230018-01

2C-13 Rear Suspension:

Bearing

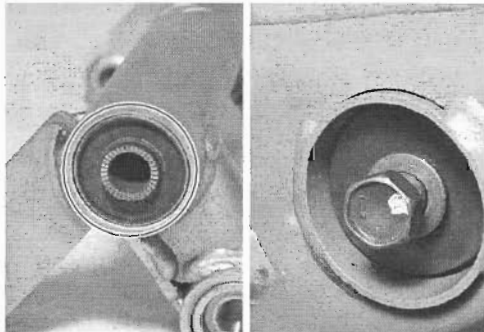
- 1) Insert the spacers into the bearings.
- 2) Check the play by moving the spacers up and down. If excessive play is noted, replace the bearing with a new one. Refer to "Crankcase Bracket Bearing Removal and Installation (Page2C-13)".



I705H1230019-01

Rubber Parts

Inspect the rubber damper and bushing for crack or other damage. If any defects are found, replace them with the new ones.



I705H1230020-01

Crankcase Bracket Bearing Removal and Installation

B705H22306017

Removal

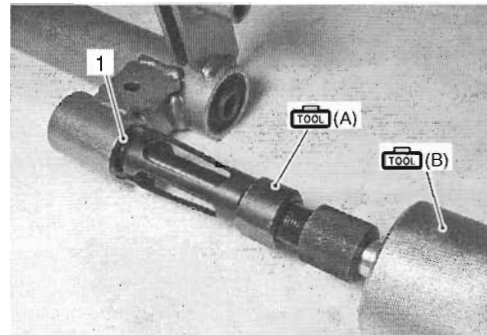
- 1) Remove the crankcase bracket. Refer to "Crankcase Bracket Removal and Installation (Page2C-12)".

- 2) Remove the bearing (1) using the special tools.

Special tool

TOOL (A): 09923-74511 (Bearing puller)

TOOL (B): 09930-30104 (Sliding shaft)



I705H1230021-01

Installation

⚠ CAUTION

The removed bearings must be replaced with the new ones.

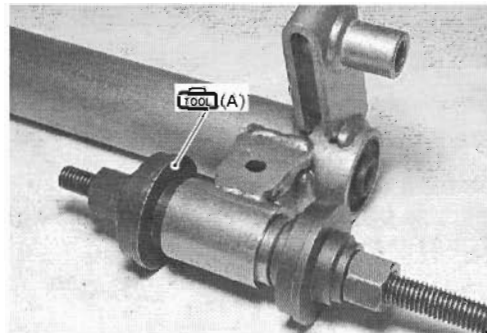
- 1) Install the bearing using the special tool.

Special tool

TOOL (A): 09924-84521 (Bearing installer set)

NOTE

When installing the bearing, stamped mark on the bearing must face outside.



I705H1230022-03

- 2) Install the crankcase bracket. Refer to "Crankcase Bracket Removal and Installation (Page2C-12)".

Specifications

Service Data

B705H22307001

Suspension

Unit: mm (in)

Item	Standard	Item
Rear wheel travel	100 (3.94)	—
Rear shock absorber spring adjuster	3rd position	—

Tightening Torque Specifications

B705H22307002

Fastening part	Tightening torque			Note
	N·m	kgf·m	lb·ft	
Cushion lever nut	50	5.0	36.0	☞ (Page2C-4)
Cushion rod nut	50	5.0	36.0	☞ (Page2C-4)
Rear shock absorber bolt	50	5.0	36.0	☞ (Page2C-4)
Rear cushion rod nut	50	5.0	36.0	☞ (Page2C-4)
Cushion lever mounting nut	80	8.0	58.0	☞ (Page2C-4)
Rear brake caliper bolt	23	2.3	16.5	☞ (Page2C-7)
Rear swingarm bolt	50	5.0	36.0	☞ (Page2C-7)
Rear axle nut	120	12.0	87.0	☞ (Page2C-7)
Exhaust pipe connecting bolt	23	2.3	16.5	☞ (Page2C-7)
Muffler mounting bolt	23	2.3	16.5	☞ (Page2C-7)
Crankcase bracket nut	85	8.5	61.5	☞ (Page2C-12)
Rubber damper bolt	85	8.5	61.5	☞ (Page2C-12)

NOTE

The specified tightening torque is also described in the following.

“Rear Suspension Components (Page2C-1)”

“Rear Suspension Assembly Construction (Page2C-2)”

“Rear Swingarm Components (Page2C-3)”

“Crankcase Bracket Construction (Page2C-11)”

Reference:

For the tightening torque of fastener not specified in this section, refer to “Tightening Torque Specifications in Section 0C (Page0C-7)”.

Special Tools and Equipment

Recommended Service Material

B705H22308001

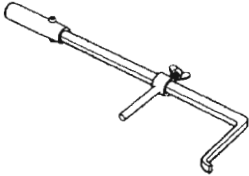

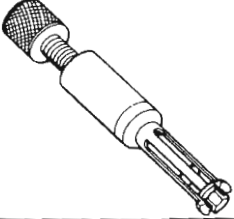

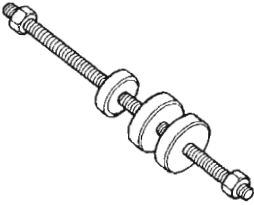
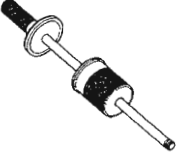
Material	SUZUKI recommended product or Specification		Note
Grease	SUZUKI SUPER GREASE A or equivalent	P/No.: 99000-25010	☞(Page2C-9) / ☞(Page2C-9) / ☞(Page2C-11)

NOTE

Required service material is also described in the following.
 "Rear Suspension Assembly Construction (Page2C-2)"
 "Crankcase Bracket Construction (Page2C-11)"

Special Tool

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09913-50121 Oil seal remover ☞(Page2C-8)		09913-70210 Bearing installer set ☞(Page2C-8) / ☞(Page2C-9)	
09923-73210 Bearing remover ☞(Page2C-10)		09923-74511 Bearing puller ☞(Page2C-13)	
09924-84521 Bearing installer set ☞(Page2C-13)		09930-30104 Rotor remover slide shaft ☞(Page2C-10) / ☞(Page2C-13)	
09941-34513 Steering race installer ☞(Page2C-11)	