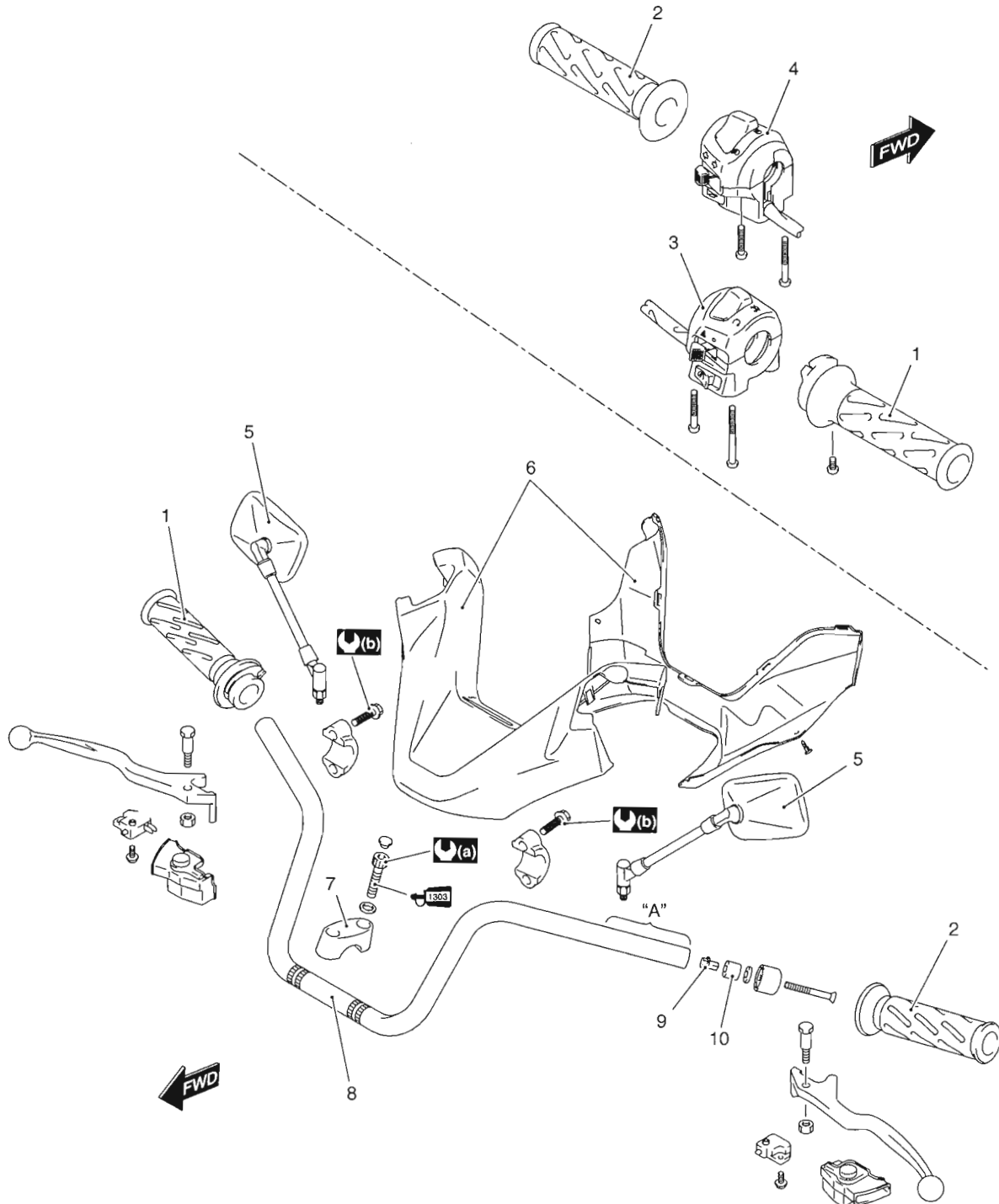


Steering / Handlebar

Repair Instructions

Handlebars Components

B705H26206001



I705H1620033-05

1. Throttle grip	6. Handle cover	"A": Apply handle grip bond.
2. Rubber grip	7. Handlebar holder	1303 : Apply thread lock to thread part.
3. Handlebar switch box (RH)	8. Handlebar	(a) : 23 N·m (2.3 kgf·m, 16.5 lb-ft)
4. Handlebar switch box (LH)	9. Handle expander	(b) : 10 N·m (1.0 kgf·m, 7.0 lb-ft)
5. Rear view mirror	10. Handle balancer expander	

Handlebars Removal and Installation

B705H26206002

Removal

Remove the handlebar cover. Refer to "Handlebar Cover Removal and Installation in Section 9D (Page9D-13)".

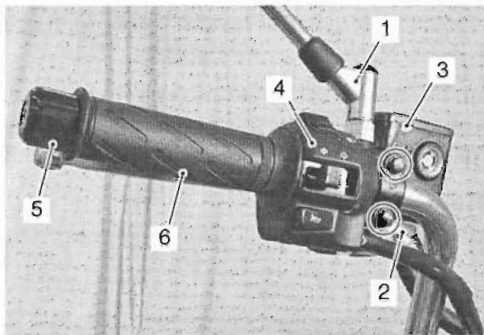
Left side

- 1) Remove the rear view mirror (1).
- 2) Disconnect the rear brake light switch lead wire couplers (2).
- 3) Remove the rear brake master cylinder (3).

⚠ CAUTION

Do not turn the rear brake master cylinder upside down.

- 4) Remove the left handlebar switch box (4).
- 5) Remove the handlebar balancer (5).
- 6) Remove the grip rubber (6).



I705H1620001-01

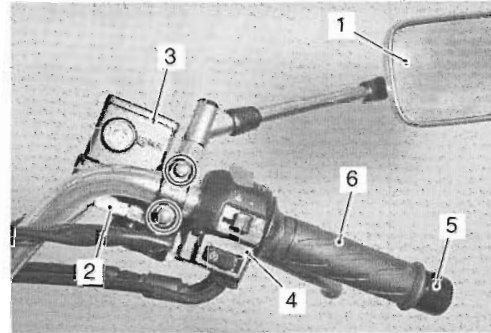
Right side

- 1) Remove the rear view mirror (1).
- 2) Disconnect the front brake light switch lead wire couplers (2).
- 3) Remove the front brake master cylinder (3).

⚠ CAUTION

Do not turn the front brake master cylinder upside down.

- 4) Remove the right handlebar switch box (4).
- 5) Remove the handlebar balancer (5).
- 6) Remove the throttle grip (6).



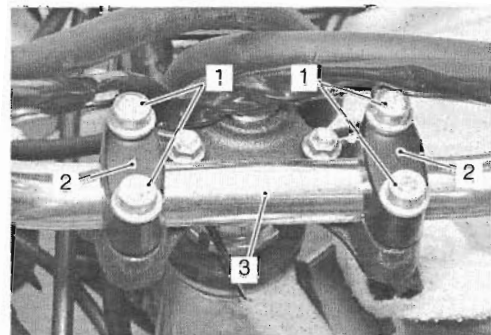
I705H1620002-01

Handlebar holder

- 1) Remove the handlebar clamp bolts (1).
- 2) Remove the handlebar holder (2).
- 3) Remove the handlebars (3).

⚠ CAUTION

Hold the handlebar by the hand to prevent throw or drop out of the steering stem.



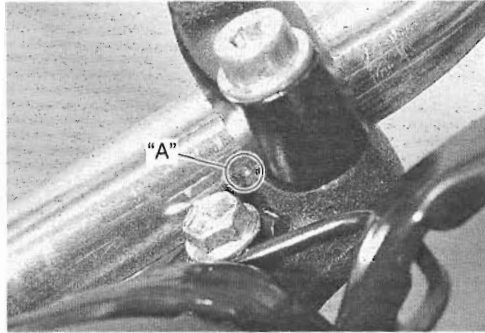
I705H1620003-03

6B-3 Steering / Handlebar:

Installation

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

- Set the handlebars so that its punch mark "A" aligns with the mating surface of the left handlebar holder.



1705H1620004-02

- Apply thread lock to the handlebar clamp bolts.
- Tighten the forward handlebar clamp bolts first temporarily to provide clearance on the rear side and then tighten both the bolts to the specified torque.

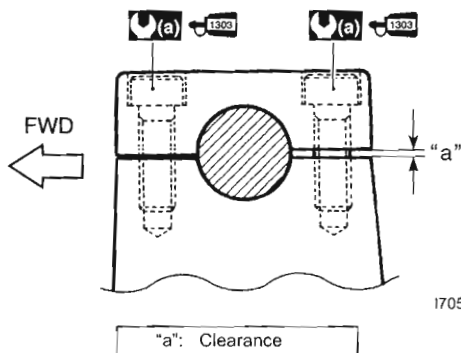
 **Thread lock cement 99000-32030 (Thread Lock Cement Super 1303 or equivalent)**

Tightening torque

Handlebar clamp bolt (a): 23 N·m (2.3 kgf-m, 16.5 lb-ft)

NOTE

First tighten the handlebar clamp bolts (front ones) to the specified torque.

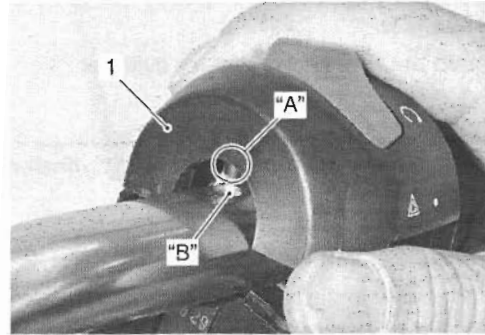


1705H1620005-04

- After installing the steering, the following adjustments are required before driving.
 - Cable routing (Refer to "Throttle Cable Routing Diagram in Section 1D (Page1D-2)".)
 - Throttle cable play (Refer to "Throttle Cable Play Inspection and Adjustment in Section 0B (Page0B-11)".)

Right side

- Install the right handlebar switch box (1) to the handlebars by engaging the stopper "A" with the hole "B" on the handlebars.
- Adjust the throttle cable play. Refer to "Throttle Cable Play Inspection and Adjustment in Section 0B (Page0B-11)".

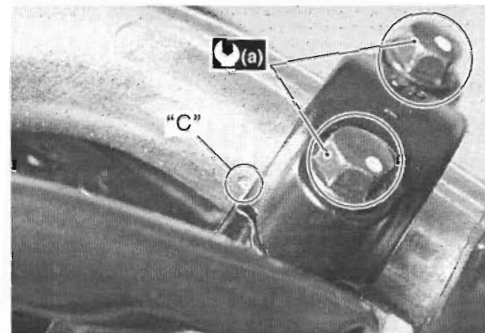


1705H1620006-02

- Install the brake master cylinder onto the handlebars, align the master cylinder holder's mating surface with punch mark "C" on the handlebars.
- Tighten the upper bolt first temporarily to provide clearance on the lower side and then tighten both the bolts to the specified torque.

Tightening torque

Master cylinder bolt (a): 10 N·m (1.0 kgf-m, 7.0 lb-ft)

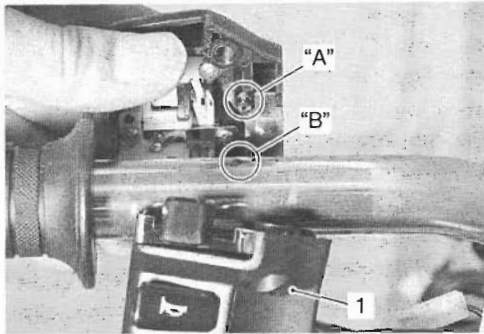


1705H1620007-02

- Connect the front brake light switch lead wire couplers.

Left side

- Install the left handlebar switch box (1) to the handlebars by engaging the stopper "A" with the hole "B" on the handlebars.

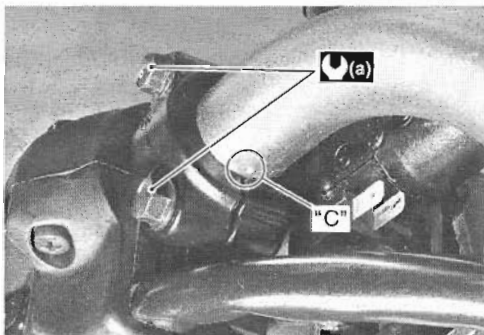


I705H1620008-03

- Install the brake master cylinder onto the handlebars, align the master cylinder holder's mating surface with punch mark "C" on the handlebars.
- Tighten the upper bolt first temporarily to provide clearance on the lower side and then tighten both the bolts to the specified torque.

Tightening torque

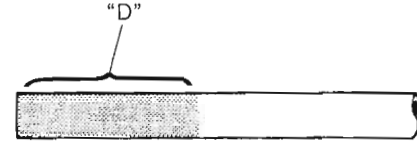
Master cylinder bolt (a): 10 N·m (1.0 kgf-m, 7.0 lb-ft)



I705H1620009-02

- Connect the rear brake light switch lead wire couplers.
- Apply a handle grip bond "D" onto the left handlebar before installing the handlebar grip.

: Handle grip bond (Handle grip bond (commercial available))



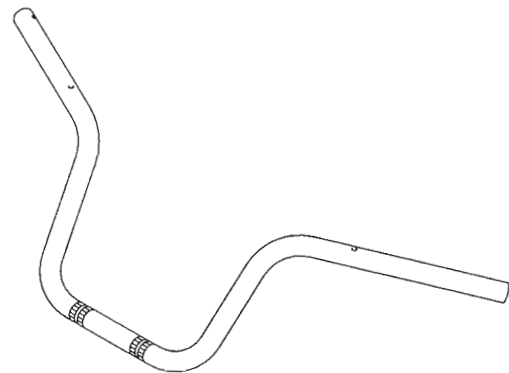
I705H1620031-01

Handlebars Inspection

B705H26206003

Refer to "Handlebars Removal and Installation (Page6B-2)".

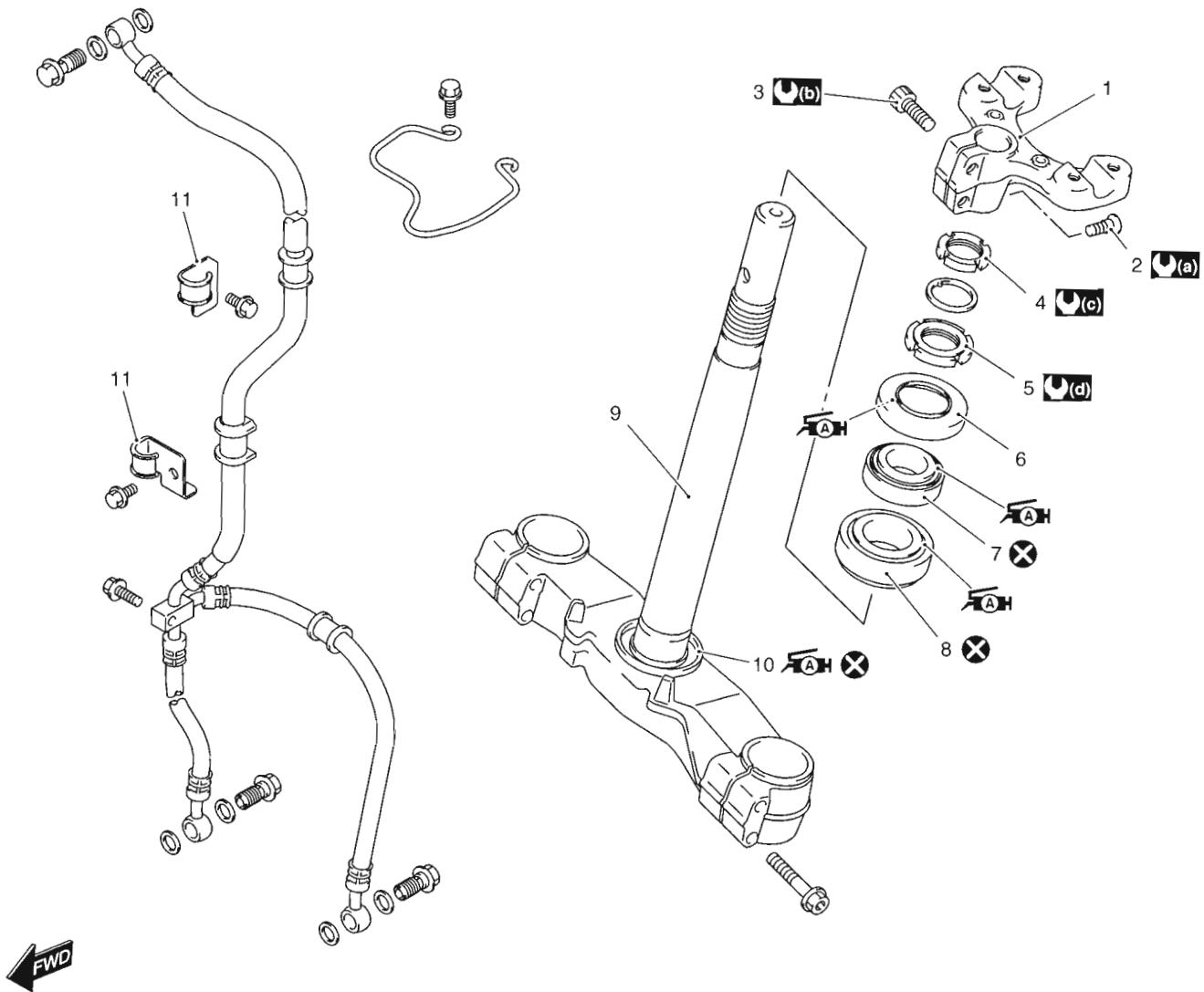
Inspect the handlebars for distortion and damage. If any defect are found, replace the handlebars with a new one.



I705H1620034-01

Steering Components

B705H26206004



I705H1620035-06

1. Handlebar holder	7. Upper bearing	: 55 N-m (5.5 kgf-m, 40.0 lb-ft)
2. Handlebar holder set bolt	8. Lower bearing	: 30 N-m (3.0 kgf-m, 21.5 lb-ft)
3. Handlebar holder clamp bolt	9. Steering stem	: 30 N-m (3.0 kgf-m, 21.5 lb-ft)
4. Steering stem lock nut	10. Lower inner race	: Apply grease.
5. Steering stem nut	11. Front brake hose clamp	: Do not reuse.
6. Dust seal	: 23 N-m (2.3 kgf-m, 16.5 lb-ft)	

Steering Removal and Installation

B705H26206005

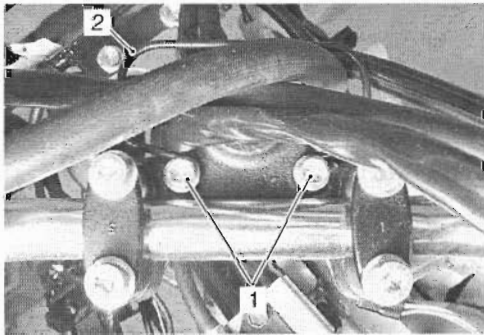
Removal

- 1) Support the motorcycle with a jack or wooden block.
- 2) Remove the front box. Refer to "Front Box Removal and Installation in Section 9D (Page9D-18)".
- 3) Remove the front forks. Refer to "Front Fork Removal and Installation in Section 2B (Page2B-2)".

NOTE

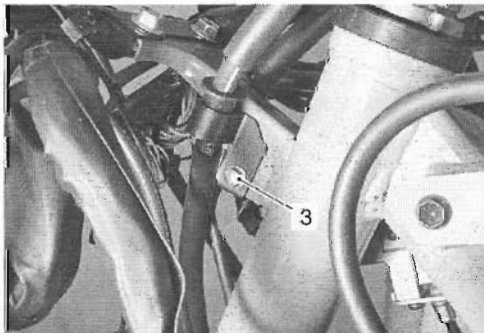
The front fork removal is not necessary unless the steering stem replacement or front fork disassembly work is required. Refer to "Front Fork Removal and Installation in Section 2B (Page2B-2)".

- 4) Remove the front brake hose clamp bolts (1) and remove the cable guide (2).



I705H1620011-01

- 5) Remove the front brake hose clamp (3).

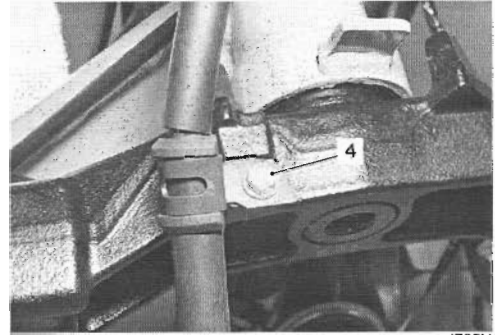


I705H1620012-01

- 6) Remove the front brake hose clamp (4) from the steering stem.

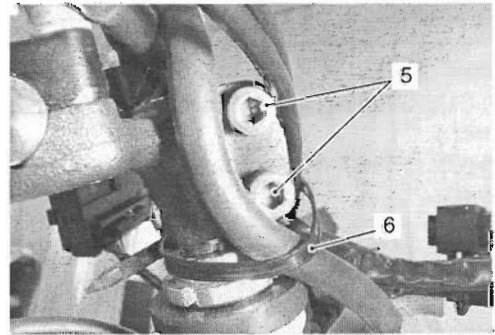
⚠ CAUTION

- Take care not to make air come in to the front brake system.
- Be careful not to drop the front brake caliper components.



I705H1620013-01

- 7) Loosen the handlebar holder clamp bolts (5) and remove the clamp (6).

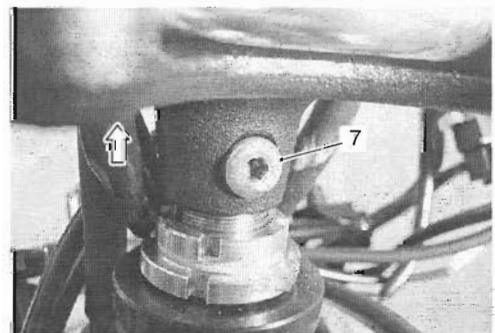


I705H1620014-01

- 8) Remove the handlebar holder set bolt (7).
- 9) Remove the handlebar holder with handlebars.

⚠ CAUTION

This operation must be performed without causing undue stress to the brake hoses, lead wires and throttle cables.



I705H1620015-01

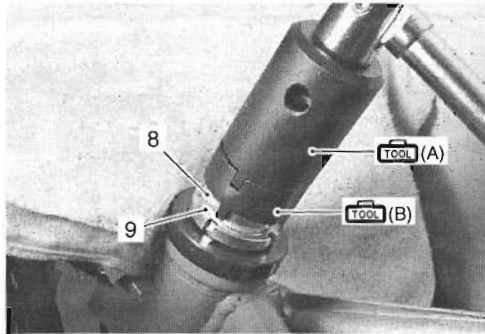
6B-7 Steering / Handlebar:

- 10) Remove the lock-nut (8) and washer (9) using the special tools.

Special tool

TOOL (A): 09940-14911 (Steering stem nut wrench)

TOOL (B): 09940-11420 (Steering stem nut socket)



I705H1620016-01

- 11) Remove the steering stem nut (10) using the special tools and remove the steering stem.

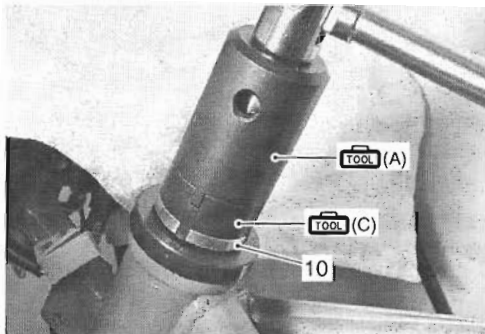
NOTE

Hold the steering stem by hand to prevent it from falling.

Special tool

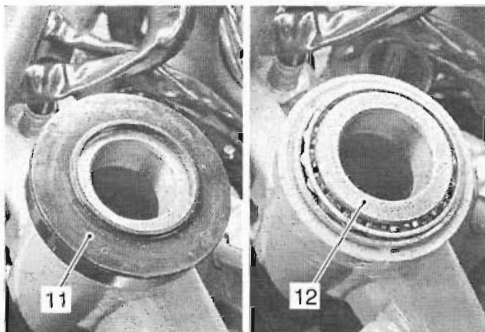
TOOL (A): 09940-14911 (Steering stem nut wrench)

TOOL (C): 09940-11430 (Steering stem nut socket)



I705H1620017-03

- 12) Remove the dust seal (11) and upper bearing (12).



I705H1620018-02

Installation

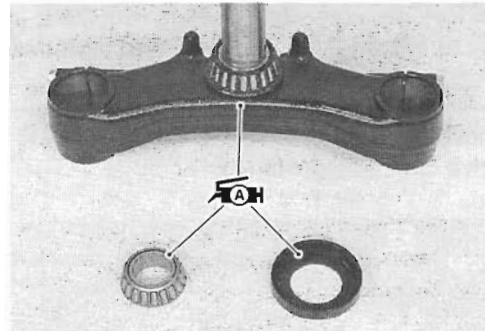
Install the steering in the reverse order of removal. Pay attention to the following points:

- Clean the steering related parts before installing.

Bearing

- Apply grease to the bearings, races and dust seals before remounting the steering stem.

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



I705H1620019-04

Steering stem nut / washer / lock-nut

- Tighten the steering stem nut (1) to the specified torque using the special tools.

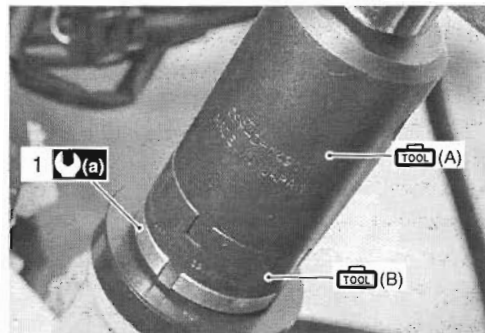
Special tool

TOOL (A): 09940-14911 (Steering stem nut wrench)

TOOL (B): 09940-11430 (Steering stem nut socket)

Tightening torque

Steering stem nut (a): 30 N·m (3.0 kgf·m, 21.5 lb-ft)

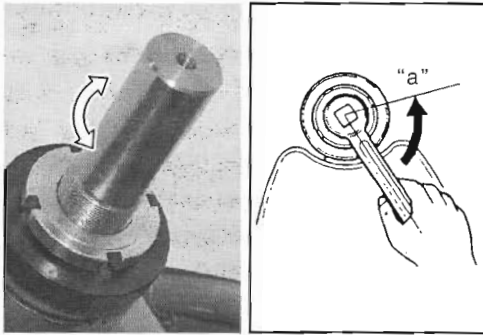


I705H1620020-02

- Turn the steering stem right and left 5 – 6 times to break-in the bearing.
- Loosen the steering stem nut 1/4 – 1/2 turn "a".
- In this condition, check that the steering stem can turn smoothly with no rattle and stiffness. If there is a rattle or heavy movement, adjust the tightness by the stem nut.

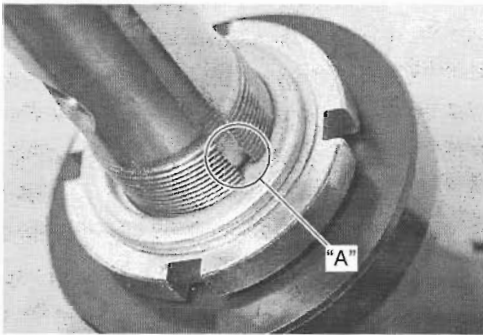
NOTE

This adjustment will vary from motorcycle to motorcycle.



I705H1620021-02

- Install the washer with its tab "A" engaged with the steering stem groove.



I705H1620022-02

- Tighten the lock-nut (2) to the specified torque using the special tools.

NOTE

Tightening the lock-nut can affect the steering stem nut adjustment. Therefore after tightening the lock-nut, check the steering movement again and adjust if necessary.

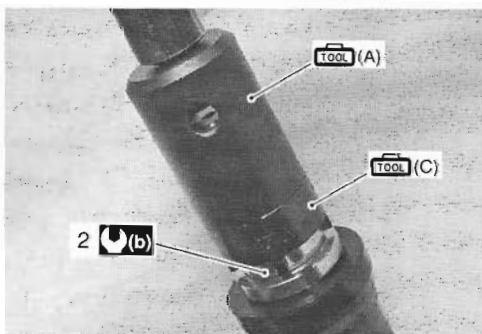
Special tool

TOOL (A): 09940-14911 (Steering stem nut wrench)

TOOL (C): 09940-11420 (Steering stem nut socket)

Tightening torque

Lock-nut (b): 30 N·m (3.0 kgf-m, 21.5 lb-ft)



I705H1620023-03

Handlebar holder

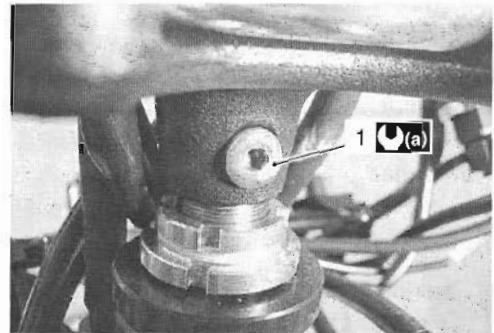
- Install the handlebar holder with the handlebars and tighten the handlebar holder set bolt (1) to the specified torque.

CAUTION

This operation must be performed without causing undue stress to the brake hoses, lead wires and throttle cables.

Tightening torque

Handlebar holder set bolt (a): 23 N·m (2.3 kgf-m, 16.5 lb-ft)

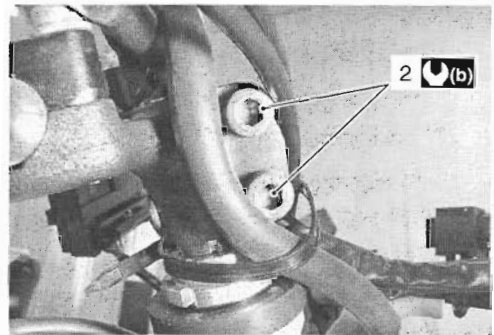


I705H1620024-01

- Install the clamp and tighten the handlebar holder clamp bolts (2) to the specified torque.

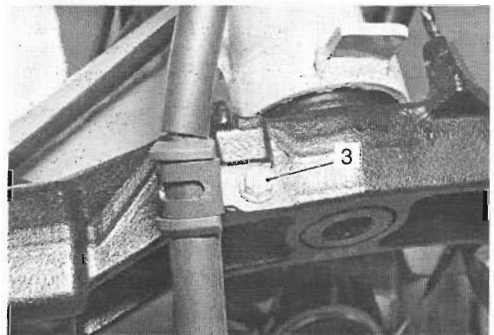
Tightening torque

Handlebar holder clamp bolt (b): 55 N·m (5.5 kgf-m, 40.0 lb-ft)



I705H1620025-01

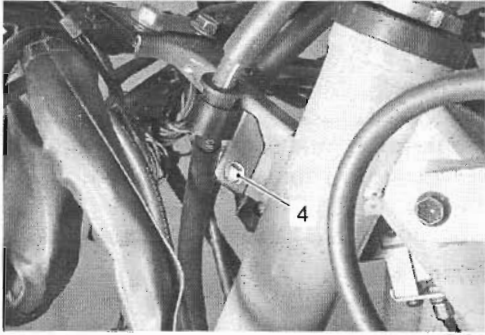
- Install the front brake hose clamp (3) to the steering stem.



I705H1620026-01

6B-9 Steering / Handlebar:

- Install the front brake hose clamp (4).



I705H1620027-01

⚠ CAUTION

Take care not to make air come in to the front brake system.

- Perform the steering inspection after assembly has been completed.

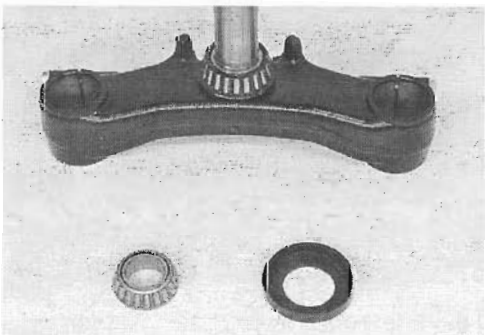
Steering Related Parts Inspection

B705H26206006

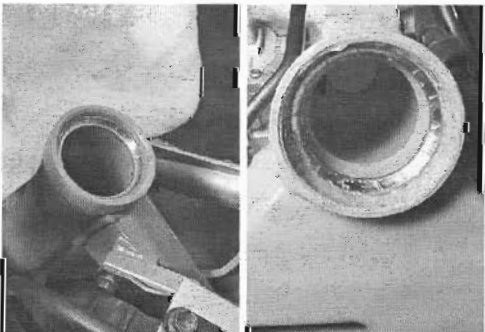
Refer to "Steering Removal and Installation (Page6B-6)". Inspect the removed parts for the following abnormalities.

- Distortion of the steering stem
- Bearing wear or damage
- Abnormal bearing noise
- Race wear or damage

If any abnormal points are found, replace defective parts with the new ones.



I705H1620028-02



I705H1620029-01

Steering System Inspection

B705H26206007

Refer to "Steering System Inspection in Section 0B (Page0B-15)".

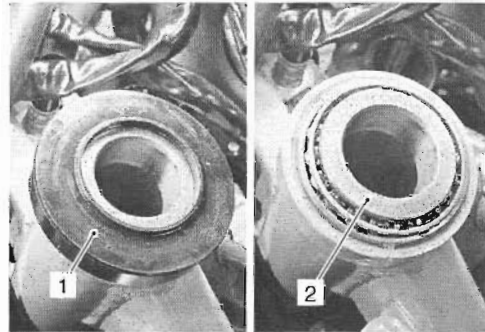
Steering Stem Bearing Removal and Installation

B705H26206008

Refer to "Steering Components (Page6B-5)".

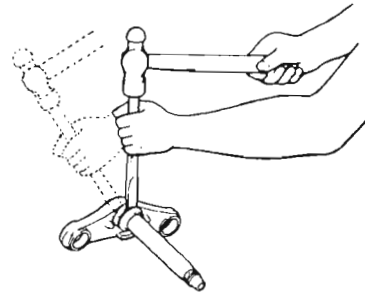
Removal

- 1) Remove the steering stem. Refer to "Steering Removal and Installation (Page6B-6)".
- 2) Remove the dust seal (1) and steering stem upper bearing (2).



I705H1620030-02

- 3) Remove the steering stem lower bearing and inner race using a chisel.



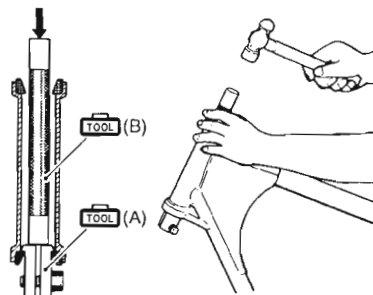
I649G1620033-01

- 4) Remove the steering stem upper and lower bearing races using the special tools.

Special tool

TOOL (A): 09941-54911 (Bearing outer race remover)

TOOL (B): 09941-74911 (Steering bearing installer)



I649G1620034-02

Installation

Install the steering stem bearings in the reverse order of removal. Pay attention to the following points:


⚠ CAUTION

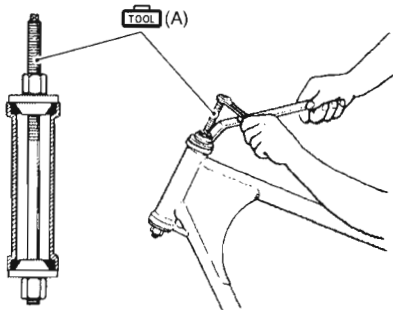
The removed bearings and races should be replaced with the new ones.

Outer race

- Press in the upper and lower outer races using the special tool.

Special tool

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



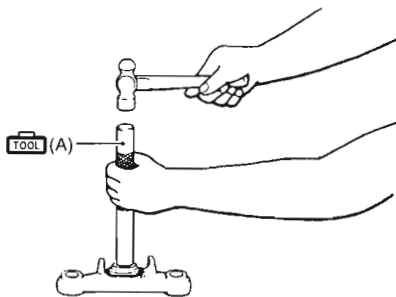
I649G1620035-02

Inner race

- Press in the lower inner race and bearing using the special tool.

Special tool


 (A): 09941-74911 (Steering bearing installer)

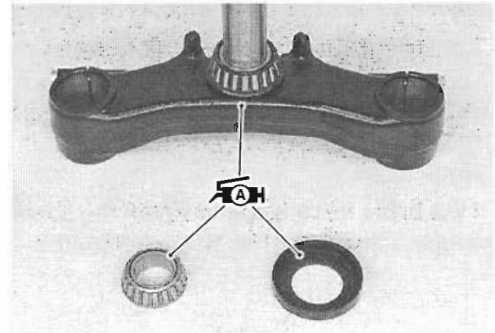


I649G1620036-02

Bearing

- Apply grease to the bearings, races and dust seals before remounting the steering stem.

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



I705H1620019-04

- Install the steering. Refer to "Steering Removal and Installation (Page 6B-6)".

Steering Tension Adjustment

B705H26206009


Check the steering movement in the following procedures:

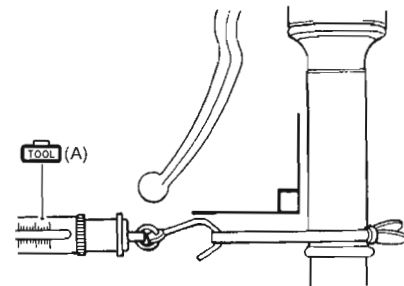
- By supporting the motorcycle with a jack, lift the front wheel unit is off the floor 20 – 30 mm (0.8 – 1.2 in).
- Check to make sure that the cables and wire harnesses are properly routed.
- With the front wheel in the straight ahead state, hitch the spring scale (special tool) on one handlebar grip end as shown in the figure and read the graduation when the handlebar starts moving.

Initial force

200 – 500 g

Special tool

 (A): 09940-92720 (Spring scale)



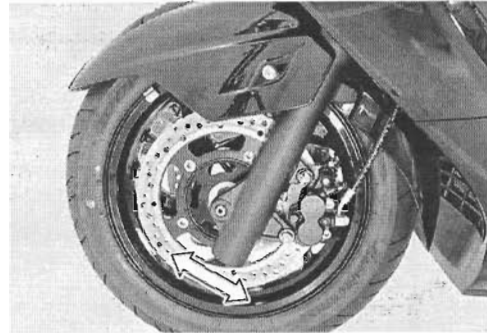
I649G1620040-01

6B-11 Steering / Handlebar:

- 4) Do the same on the other grip end.
- 5) If the initial force read on the scale when the handlebar starts turning is either too heavy or too light, adjust it till it satisfies the specification.
 - a) First, loosen the front fork clamp bolts, lock-nut and steering stem nut, and then adjust the steering stem nut by loosening or tightening it.
 - b) Tighten the steering stem nut, lock-nut and front fork clamp bolts to the specified torque and recheck the initial force with the spring scale according to the previously described procedures.
 - c) If the initial force is found within the specified range, adjustment has been completed.

NOTE

Hold the front fork legs, move them back and forth and make sure that the steering is not loose.



I705H1620032-01

Specifications

Tightening Torque Specifications

B705H26207001

Fastening part	Tightening torque			Note
	N·m	kgf·m	lb·ft	
Handlebar clamp bolt	23	2.3	16.5	☞ (Page6B-3)
Master cylinder bolt	10	1.0	7.0	☞ (Page6B-3) / ☞ (Page6B-4)
Steering stem nut	30	3.0	21.5	☞ (Page6B-7)
Lock-nut	30	3.0	21.5	☞ (Page6B-8)
Handlebar holder set bolt	23	2.3	16.5	☞ (Page6B-8)
Handlebar holder clamp bolt	55	5.5	40.0	☞ (Page6B-8)

NOTE

The specified tightening torque is also described in the following.

“Handlebars Components (Page6B-1)”

“Steering Components (Page6B-5)”

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

B705H26208001

Material	SUZUKI recommended product or Specification		Note
Grease	SUZUKI SUPER GREASE A or equivalent	P/No.: 99000-25010	(Page6B-7) / (Page6B-10)
Handle grip bond	Handle grip bond (commercial available)	—	(Page6B-4)
Thread lock cement	Thread Lock Cement Super 1303 or equivalent	P/No.: 99000-32030	(Page6B-3)

NOTE

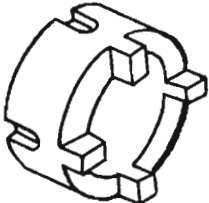
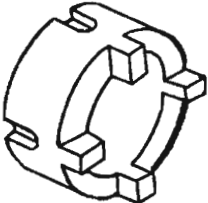
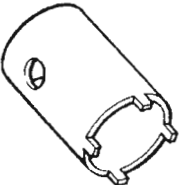


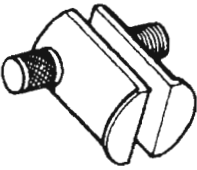
Required service material is also described in the following.

“Handlebars Components (Page6B-1)”

“Steering Components (Page6B-5)”

Special Tool

B705H26208002

09940-11420 Steering stem nut socket (Page6B-7) / (Page6B-8)		09940-11430 Steering stem nut socket (Page6B-7) / (Page6B-7)	
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