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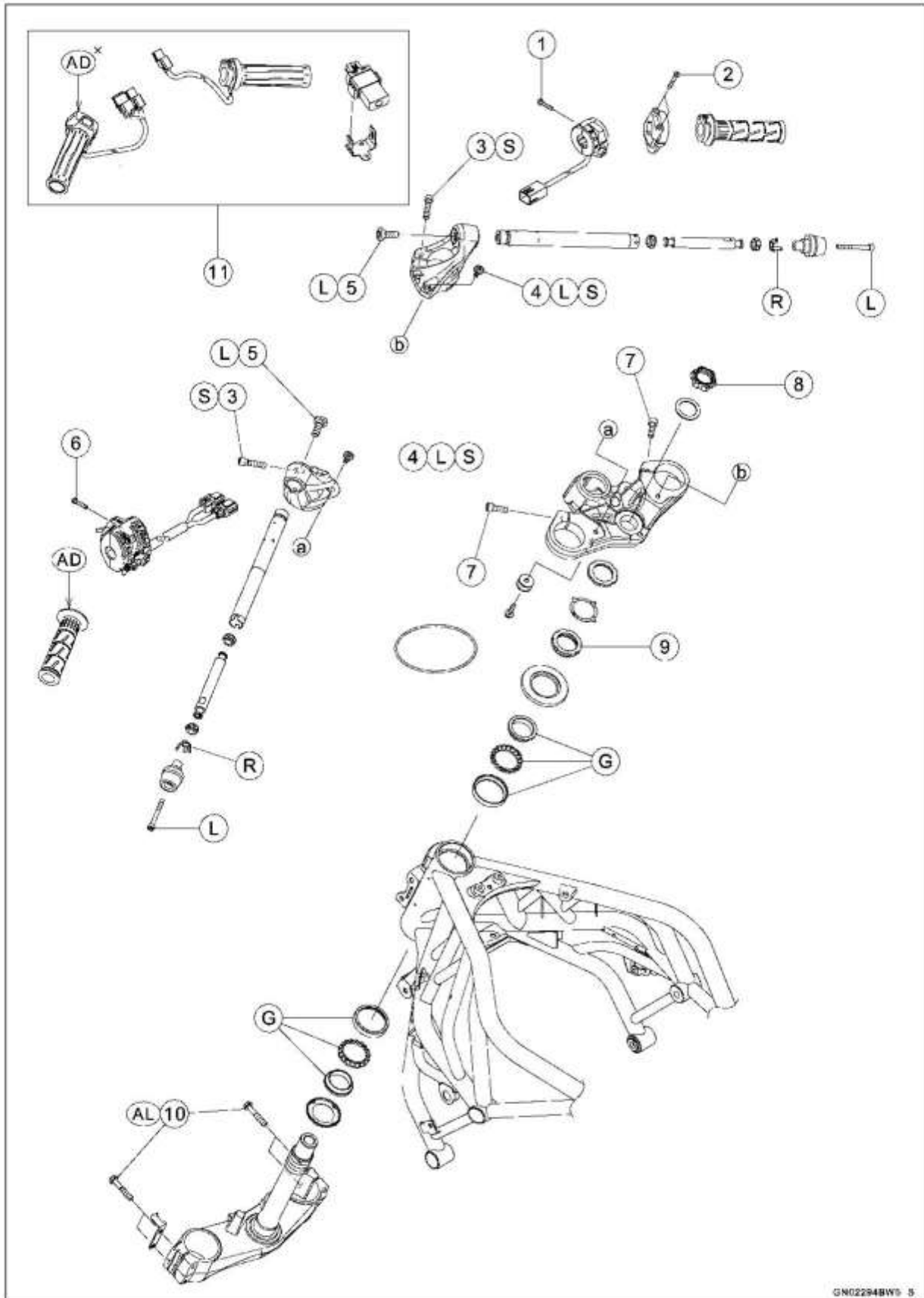
# Steering

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# 14-2 STEERING

## Exploded View



**Exploded View**

No.	Fastener	Torque			Remarks
		N·m	kgf·m	ft·lb	
1	Right Switch Housing Bolts	0.90	0.09	8 in·lb	
2	Throttle Case Bolts	3.5	0.36	31 in·lb	
3	Handlebar Holder Clamp Bolts	25	2.5	18	S
4	Handlebar Holder Positioning Bolts	10	1.0	89 in·lb	L, S
5	Handlebar Mounting Bolts	40	4.1	30	L
6	Left Switch Housing Bolts	3.5	0.36	31 in·lb	
7	Upper Front Fork Clamp Bolts	20	2.0	15	
8	Steering Stem Head Nut	80	8.2	59	
9	Steering Stem Nut	20	2.0	15	
10	Lower Front Fork Clamp Bolts	23	2.3	17	AL

11. other than AU, PH and TH Models

AD: Apply adhesive.

AD\*: Apply adhesive (Threebond: TB1530C).

AL: Tighten the two clamp bolts alternately two times to ensure even tightening torque.

G: Apply grease.

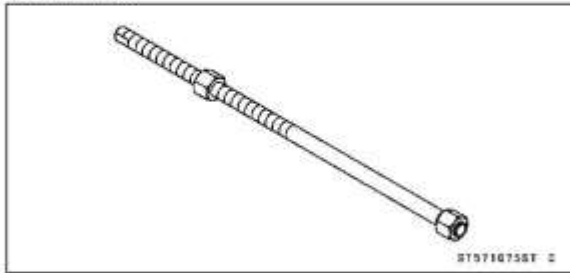
L: Apply a non-permanent locking agent.

R: Replacement Parts

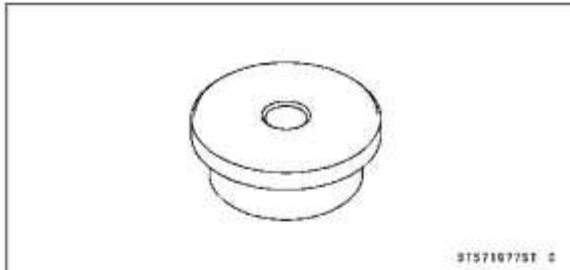
## 14-4 STEERING

### Special Tools

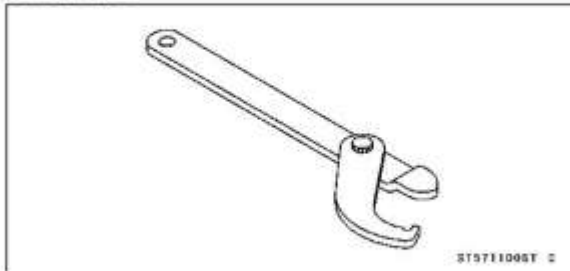
**Head Pipe Outer Race Press Shaft:**  
57001-1075



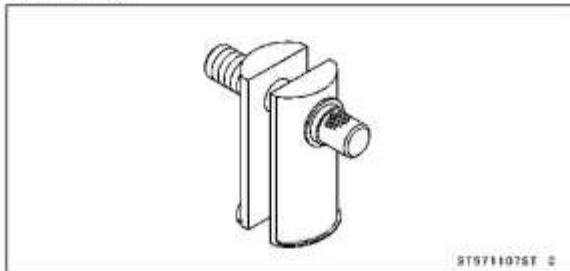
**Head Pipe Outer Race Driver,  $\phi$ 54.5:**  
57001-1077



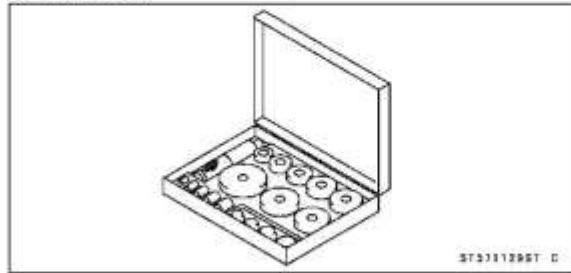
**Steering Stem Nut Wrench:**  
57001-1100



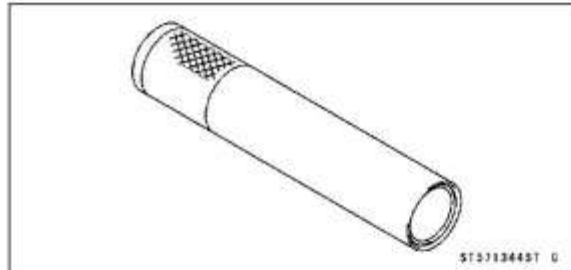
**Head Pipe Outer Race Remover ID > 37 mm:**  
57001-1107



**Bearing Driver Set:**  
57001-1129



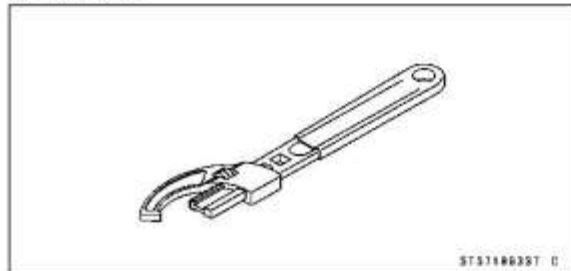
**Steering Stem Bearing Driver,  $\phi$ 42.5:**  
57001-1344



**Steering Stem Bearing Driver Adapter,  $\phi$ 41.5:**  
57001-1345



**Adjustable Hook Wrench:**  
57001-1863



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## Steering

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### ***Steering Inspection***

- Refer to the Steering Play Inspection (see Steering Play Inspection(2-62)).

### ***Steering Adjustment***

- Refer to the Steering Play Adjustment (see Steering Play Adjustment(2-62)).

## 14-6 STEERING

### Steering Stem

#### Stem, Stem Bearing Removal

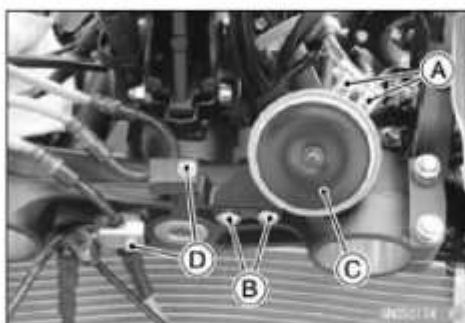
- Loosen the steering stem head nut [A].



- Remove:
  - Upper Fairing (see Upper Fairing Removal(15-18))
  - Handlebars (see Handlebar Removal(14-11))
  - Front Forks (see Front Fork Removal (Each Fork Leg)(13-9))
  - Steering Stem Head Nut [A] and Washer
- Take the steering stem head [B] off the steering stem.



- Disconnect the horn lead connectors [A].
- Remove:
  - Bolts [B]
  - Horn [C]
  - Brake Pipe Fitting Bolts [D]



- Straighten the claws [A] of the claw washer.
- Remove the steering stem locknut [B].
  - Special Tool - Steering Stem Nut Wrench: 57001-1100 or Adjustable Hook Wrench: 57001-1863**
- Remove the claw washer.



- While pushing up the stem base, remove the steering stem nut [A] and stem cap [B].
  - Special Tool - Steering Stem Nut Wrench [C]: 57001-1100**



## Steering Stem

○ You may remove the steering stem nut using the adjustable hook wrench [A].

**Special Tool - Adjustable Hook Wrench: 57001-1863**

- Remove:
  - Steering Stem
  - Upper Ball Bearing Inner Race
  - Ball Bearing



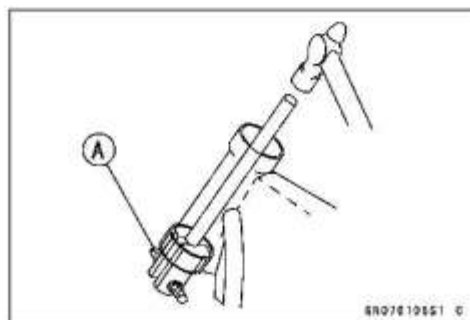
- Drive out the bearing outer races from the head pipe.
 

**Special Tool - Head Pipe Outer Race Remover ID > 37 mm [A]: 57001-1107**

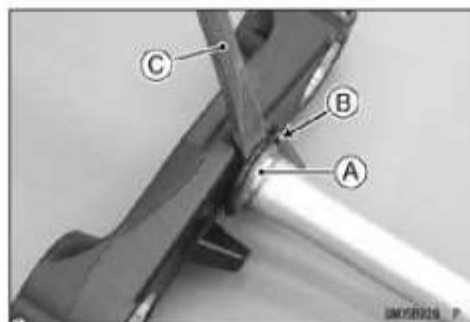
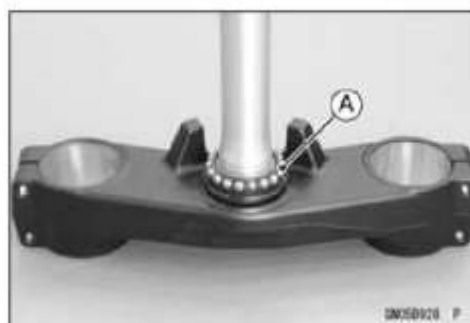
### NOTE

○ If either steering stem bearing is damaged, it is recommended that both the upper and lower bearings (including outer races) should be replaced with new ones.

- Remove the lower ball bearing [A] from the steering stem.



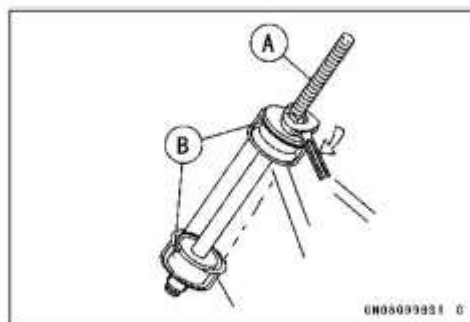
- Remove the lower bearing inner race [A] and grease seal [B] with a suitable commercially available chisel [C].



### Stem, Stem Bearing Installation

- Replace the bearing outer races with new ones.
- Drive them into the head pipe at the same time.
 

**Special Tools - Head Pipe Outer Race Press Shaft [A]: 57001-1075**  
**Head Pipe Outer Race Driver,  $\phi 54.5$  [B]: 57001-1077**  
**or Bearing Driver Set: 57001-1129**
- Apply grease to the outer races.

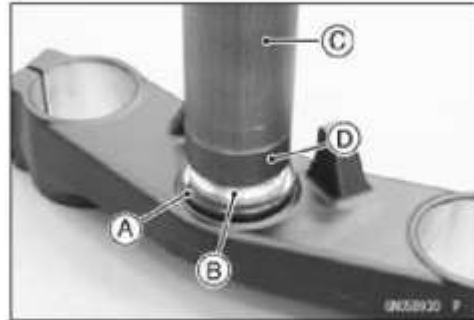


## 14-8 STEERING

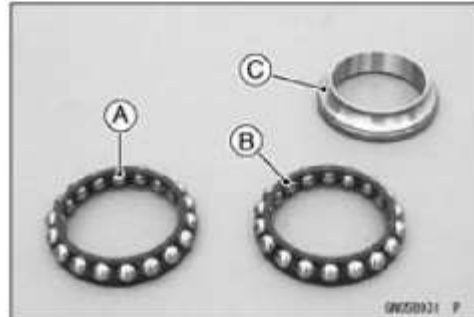
### Steering Stem

- Replace the bearing inner races and grease seals with new ones.
- Install the lower grease seal [A] on the steering stem, and press the lower ball bearing inner race [B] applied the grease onto the stem.

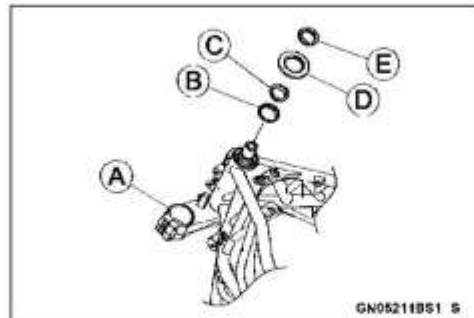
**Special Tools - Steering Stem Bearing Driver,  $\phi 42.5$  [C]: 57001-1344**  
**Steering Stem Bearing Driver Adapter,  $\phi 41.5$  [D]: 57001-1345**



- Apply grease to the lower ball bearing [A], and install it onto the steering stem.
- The lower and upper ball bearings are identical.
- Apply grease to the upper ball bearing [B] and inner race [C].



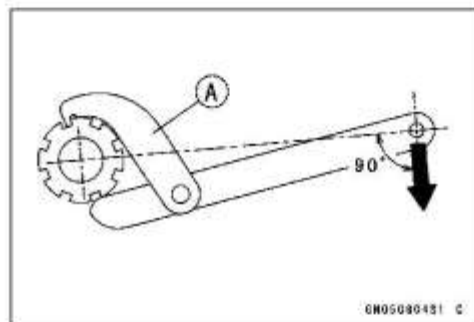
- Install:
  - Steering Stem [A]
  - Upper Ball Bearing [B]
  - Inner Race [C]
  - Stem Cap [D]
  - Steering Stem Nut [E]



- Settle the bearings in place as follows.
- Tighten the steering stem nut with **65 N·m (6.6 kgf·m, 48 ft·lb)** of torque first, and loosen it a fraction of a turn until it turns lightly. Afterward tighten it again with specified torque using a steering stem nut wrench [A].
- Check that there is no play and the steering stem turns smoothly without rattles. If not, the steering stem bearings may be damaged.

**Special Tool - Steering Stem Nut Wrench: 57001-1100 or Adjustable Hook Wrench: 57001-1863**

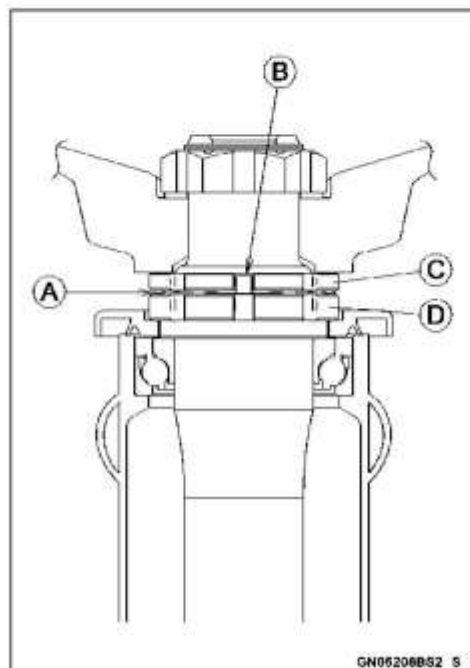
**Torque - Steering Stem Nut: 20 N·m (2.0 kgf·m, 15 ft·lb)**





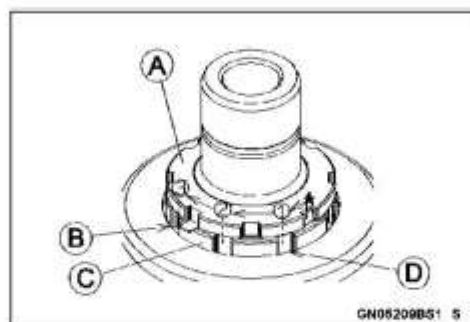
## Steering Stem

- Install the claw washer [A] so that its bent claws [B] faces upward, and engage the bent claws with the grooves of steering stem locknut [C].
- Hand tighten the steering stem locknut until it contacts against the claw washer.
- Check if the grooves of the steering stem locknut aligns with the grooves of the steering stem nut [D].



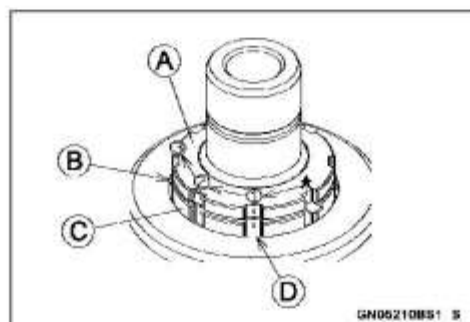
### In case of the claws positioned between the grooves:

- Tighten the steering stem locknut [A] until the straight claws aligned with 3rd groove [B] of the steering stem nut [C].
- Count the number of groove from the **first** aligned groove [D] as shown.
- Bend the two straight claws downward into the groove of the steering stem nut.



### In case of the claws aligned with the grooves:

- Tighten the steering stem locknut [A] until the straight claws aligned with 3rd groove [B] of the steering stem nut [C].
- Count the number of groove from the **next** aligned groove [D] as shown.
- Bend the two straight claws downward into the groove of the steering stem nut.



## 14-10 STEERING

### Steering Stem

- Install the stem head.
- Install the washer, and temporary tighten the stem head nut.
- Apply a non-permanent locking agent to the thread of the horn mounting bolts.
- Install the horn and tighten the bolts.
- Install the front forks (see Front Fork Installation (Each Fork Leg)(13-11)).

#### NOTE

- Tighten the upper front fork clamp bolts first, next the stem head nut, last the lower front fork clamp bolts.
- Tighten the two lower front fork clamp bolts alternately two times to ensure even tightening torque.

- Tighten:

**Torque - Upper Front Fork Clamp Bolts:** 20 N·m (2.0 kgf·m, 15 ft·lb)

**Steering Stem Head Nut:** 80 N·m (8.2 kgf·m, 59 ft·lb)

**Lower Front Fork Clamp Bolts:** 23 N·m (2.3 kgf·m, 17 ft·lb)

#### WARNING

If the handlebars do not turn to the steering stop, they may cause an accident resulting in injury or death. Be sure the cables, harnesses and hoses are routed properly and do not interfere with handlebar movement (see Cable, Wire, and Hose Routing section (18-2)).

- Install the removed parts.

#### **Steering Stem Bearing Lubrication**

- Refer to the Steering Stem Bearing Lubrication (see Steering Stem Bearing Lubrication(2-64)).

#### **Steering Stem Warp Inspection**

- Whenever the steering stem is removed, or if the steering can not be adjusted for smooth action, check the steering stem for straightness.
- ★ If the steering stem [A] is bent, replace the steering stem.

#### **Stem Cap Deterioration, Damage Inspection**

- ★ Replace the stem cap if its oil seal [A] shows damage.



## Handlebars

### Handlebar Removal

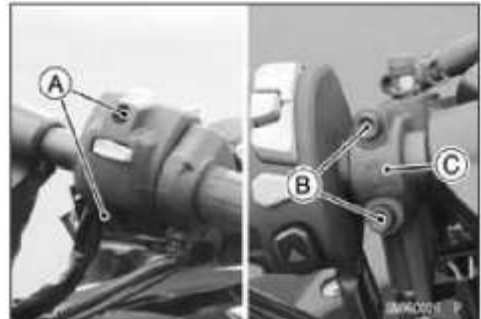
#### Left Handlebar

- For the grip heater equipped models, disconnect the grip heater connector (see [Grip Heater Removal\(16-67\)](#)).

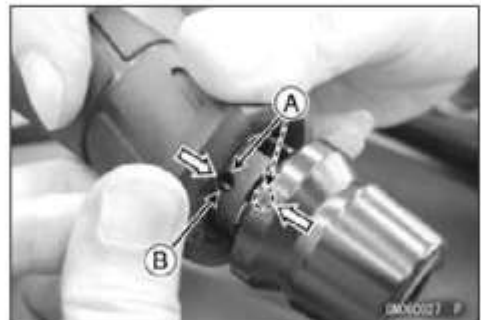
- Remove:  
Rubber Band [A]



- Remove:  
Switch Housing Bolts [A]  
Clutch Lever Clamp Bolts [B]  
Clutch Lever Clamp [C]

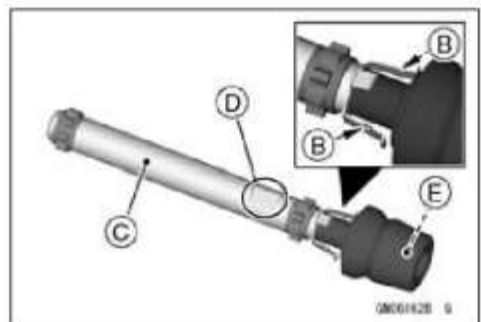


- ★ If necessary to remove the handlebar weight and/or the grip, follow the procedures below.
- Peel back the grip end so that the holes [A] on the handlebar can be seen.
- While pushing in the locking tabs [B], pull the handlebar weight assembly [C] out of the handlebar.
- Remove:  
Left Handlebar Grip
- Holding the flat surface [D] of the handlebar weight assembly with a suitable tool, remove the handlebar weight bolt [E].

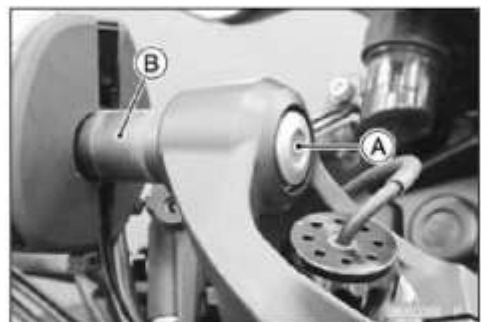


### NOTICE

Handlebar weight locking tabs may be damaged if the handlebar weight bolt is removed from the handlebar before removing the weight assembly.



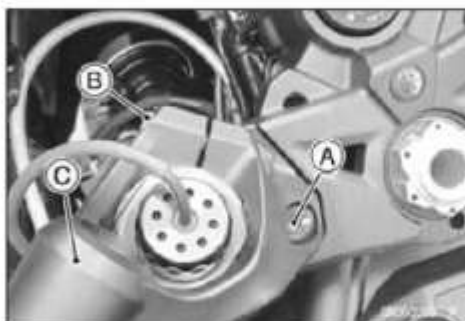
- Remove:  
Handlebar Bolt [A]  
Left Handlebar [B]



## 14-12 STEERING

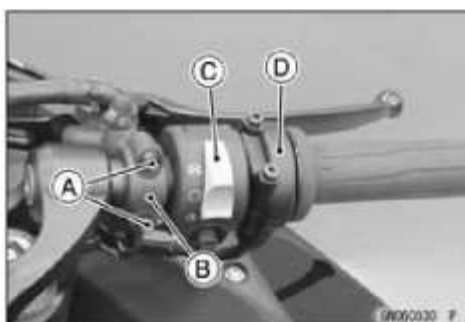
### Handlebars

- Disconnect the solenoid coil lead connector (see Front Fork Removal (Each Fork Leg)(13-9)).
- Remove:
  - Handlebar Holder Positioning Bolt [A]
  - Handlebar Holder Clamp Bolt [B]
  - Handlebar Holder [C]

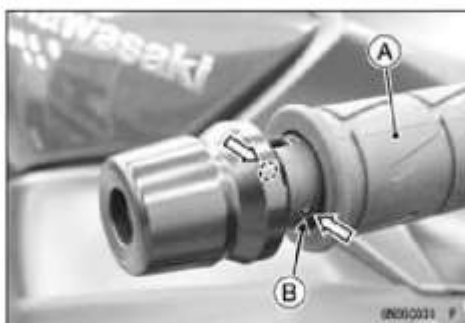


#### Right Handlebar

- For the grip heater equipped models, disconnect the grip heater connector (see Grip Heater Removal(16-67)).
- Remove:
  - Front Master Cylinder Clamp Bolts [A]
  - Front Master Cylinder Clamp [B]
  - Right Switch Housing [C]
  - Throttle Case [D]

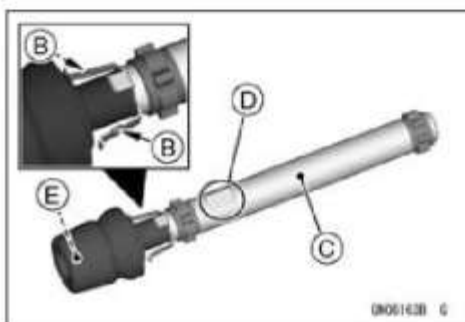


- ★ If necessary to remove the handlebar weight, follow the procedures below.
- Slide the throttle grip [A] inward.
- While pushing in the locking tabs [B], pull the handlebar weight assembly [C] out of the handlebar.
- Holding the flat surface [D] of the handlebar weight assembly with a suitable tool, remove the handlebar weight bolt [E].

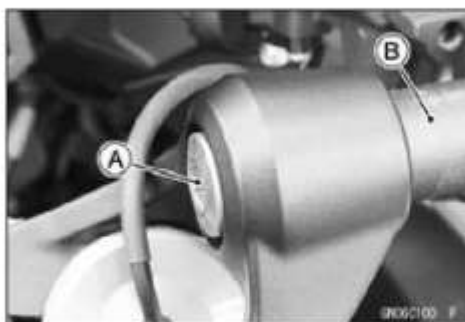


#### **NOTICE**

**Handlebar weight locking tabs may be damaged if the handlebar weight bolt is removed from the handlebar before removing the weight assembly.**



- ★ If necessary to remove the handlebar from the holder, follow the procedures below.
- Remove:
  - Handlebar Bolt [A]
  - Right Handlebar [B]
  - Throttle Grip



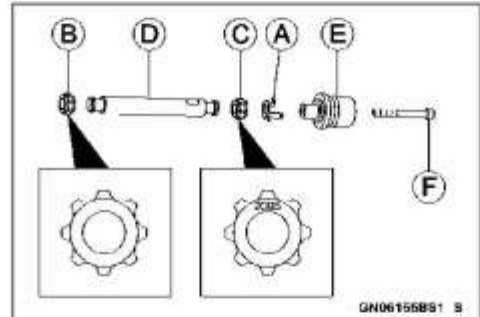
## Handlebars

- Disconnect the front fork stroke sensor lead connector (see Front Fork Removal (Each Fork Leg)(13-9)).
- Remove:
  - Handlebar Holder Positioning Bolt [A]
  - Handlebar Holder Clamp Bolt [B]
  - Handlebar Holder [C]

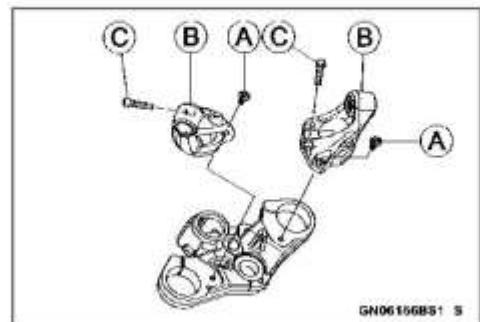


### Handlebar Installation

- ★ If necessary to assemble the handlebar weight, follow the procedures below.
- Replace the clamp [A] with a new one.
- Replace the dampers if they are damaged.
- Assemble:
  - Inside Damper [B] (without Marking)
  - Outside Damper [C] (with Marking)
  - Inside Handlebar Weight [D]
  - Outside Handlebar Weight [E]
- Apply a non-permanent locking agent to the bolt [F], and tighten the bolt.



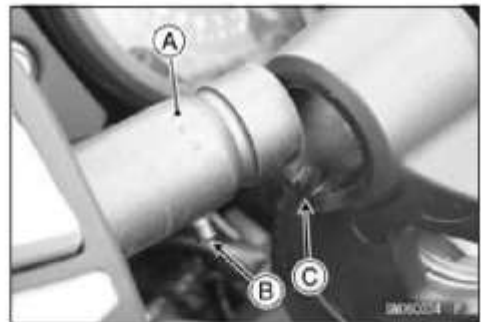
- Apply a non-permanent locking agent to the handlebar holder positioning bolts [A].
- Install:
  - Handlebar Holders [B]
- Tighten the handlebar holder positioning bolts first temporarily, and then tighten the handlebar holder clamp bolts [C] temporarily.
- Tighten the bolts in the above sequence.



- Torque - Handlebar Holder Positioning Bolts: 10 N·m (1.0 kgf·m, 89 in·lb)**
- Handlebar Holder Clamp Bolts: 25 N·m (2.5 kgf·m, 18 ft·lb)**

- Apply a non-permanent locking agent to the handlebar mounting bolt.
- Install the handlebar [A] to the handlebar holder.
- For the left side, insert the left switch housing to the handlebar first.
- Fit the projection [B] and the groove [C].
- Tighten:

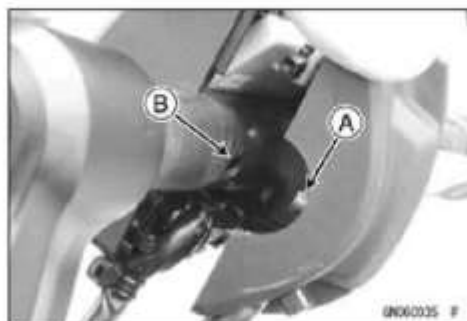
- Torque - Handlebar Mounting Bolts: 40 N·m (4.1 kgf·m, 30 in·lb)**



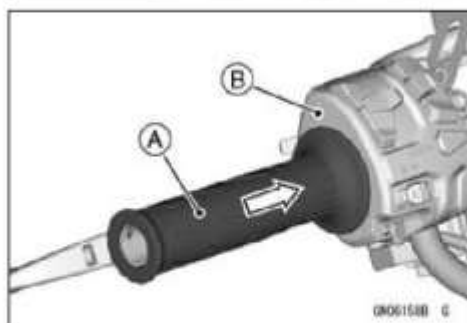
## 14-14 STEERING

### Handlebars

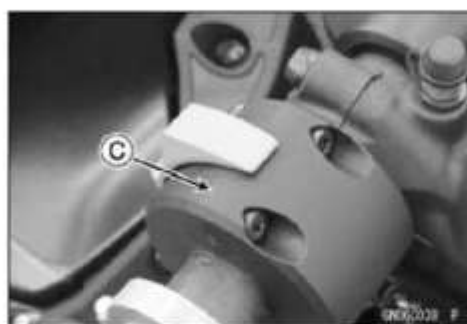
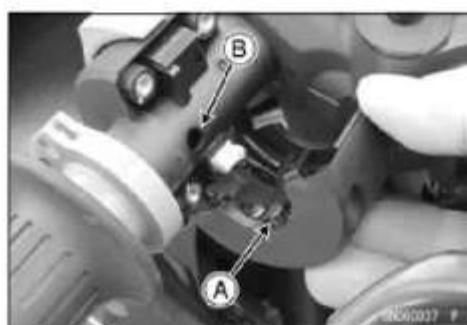
- Install the left switch housing.
- Fit the projection [A] into the hole [B] on the handlebar.
- Tighten:
  - Torque - Left Switch Housing Bolts: 3.5 N·m (0.36 kgf·m, 31 in·lb)**
- Tighten the upper bolt first to bring the upper mating face [C] into contact closely.
- After tightening, the lower mating surface does not contact closely.



- ★ (Grip Heater Equipped Model) If necessary to install the left handlebar grip, refer to the Grip Heater Installation (see Grip Heater Installation(16-68)).
- ★ (Grip Heater Unequipped Model) If necessary to install the left handlebar grip, follow the procedures below.
- Apply adhesive to the inside of the left handlebar grip [A].
- Insert the left handlebar grip until it contacts to the left switch housing [B].
- Wipe off the excessive adhesive.

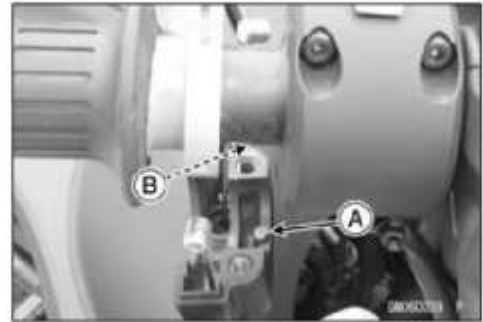


- Install the right switch housing.
- Fit the projection [A] into the hole [B] on the handlebar.
- Tighten:
  - Torque - Right Switch Housing Bolts: 0.90 N·m (0.09 kgf·m, 8 in·lb)**
- Tighten the upper bolt first to bring the upper mating face [C] into contact closely.
- After tightening, the lower mating surface does not contact closely.

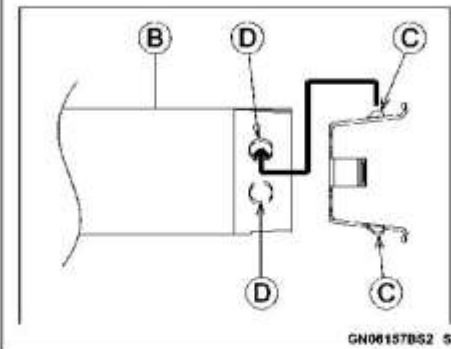
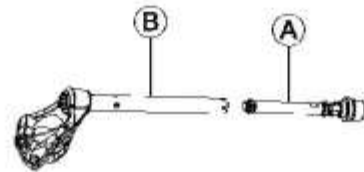


## Handlebars

- Install the throttle cable tips to the throttle grip.
- Install the throttle case.
- Fit the projection [A] into a hole [B] in the handlebar.
- Tighten:
  - Torque - Throttle Case Bolts: 3.5 N·m (0.36 kgf·m, 31 in·lb)**



- ★ If necessary to install the handlebar weight assembly, follow the procedures below.
- Insert the handlebar weight assembly [A] into the handlebar [B].
- Fit the locking tabs [C] and the holes [D] until they clicks.



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- Install the removed parts.
- Run the leads, wire harness and hoses are routed correctly (see Cable, Wire, and Hose Routing section (18-2)).
- Adjust :
  - Throttle Grip Free Play (see Throttle Control System Inspection(2-18))
- ★ If handlebars movement changes the idle speed, the throttle cables may be improperly adjusted or incorrectly routed.