

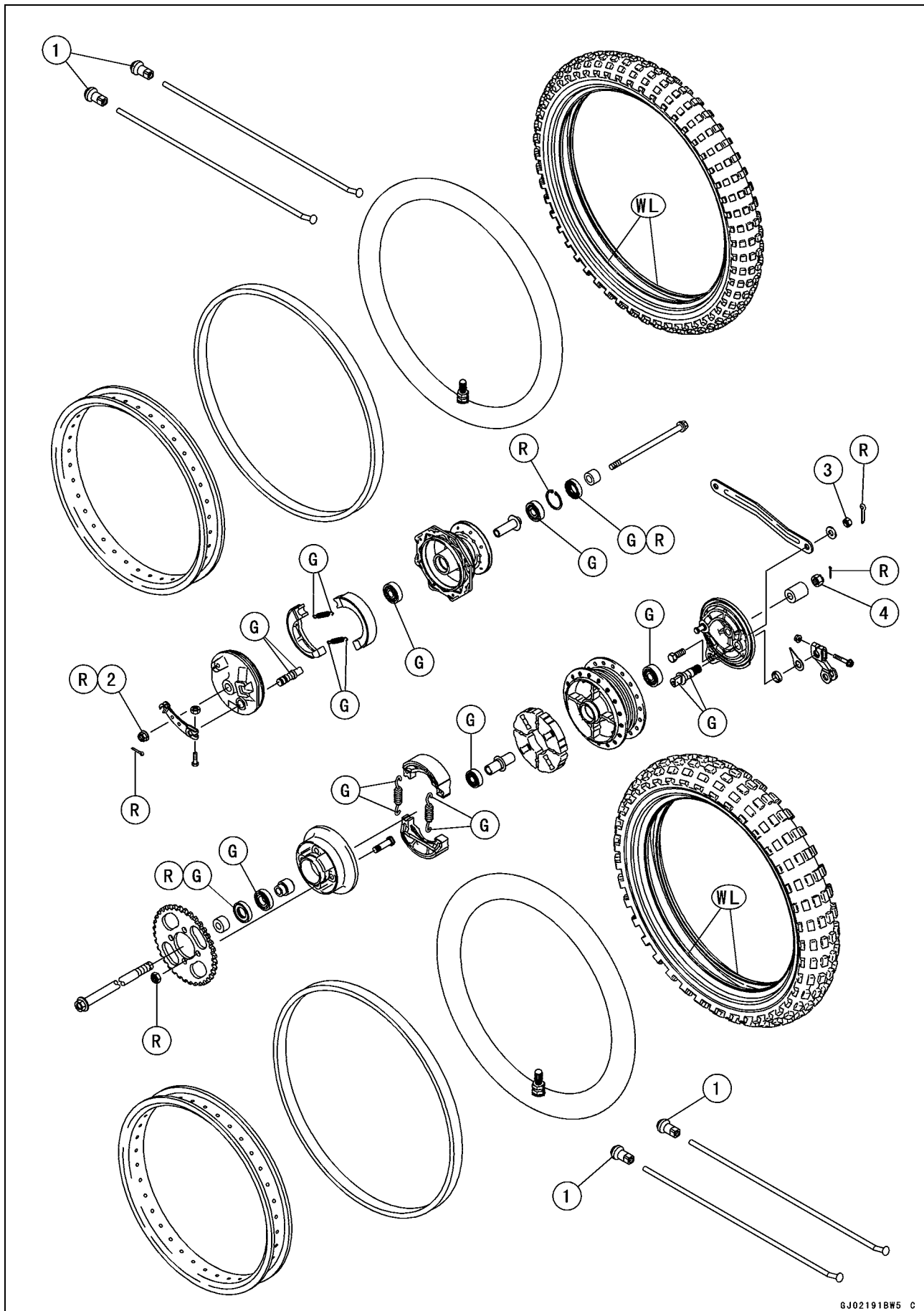
# Wheels/Tires

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# 9-2 WHEELS/TIRES

## Exploded View



**Exploded View**

<b>No.</b>	<b>Fastener</b>	<b>Torque</b>			<b>Remarks</b>
		<b>N·m</b>	<b>kgf·m</b>	<b>ft·lb</b>	
1	Spoke Nipples	4.0	0.41	35 in·lb	
2	Front Axle Nut	44	4.5	32	R
3	Torque Link Nuts	25	2.5	18	
4	Rear Axle Nut	64	6.5	47	

G: Apply grease.

R: Replacement Parts

WL: Apply soap and water solution, or rubber lubricant.

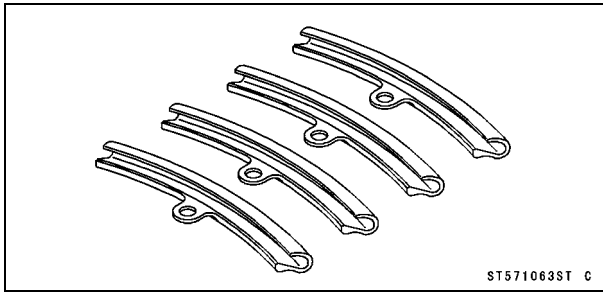
## 9-4 WHEELS/TIRES

### Specifications

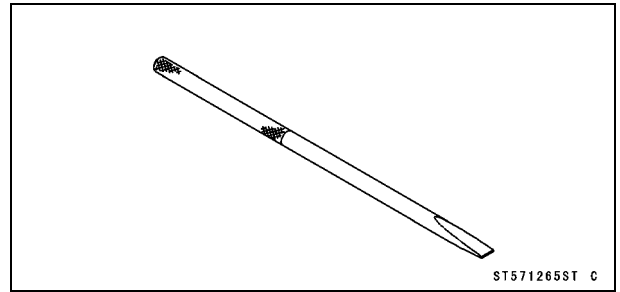
Item	Standard	Service Limit
<b>Wheels (Rims)</b>		
Rim Size:		
Front	14 × 1.40	---
Rear	12 × 1.60	---
Rim Runout:		
Axial	TIR 0.8 mm (0.031 in.) or less	TIR 2.0 mm (0.08 in.)
Radial	TIR 1.2 mm (0.047 in.) or less	TIR 2.0 mm (0.08 in.)
Front Axle Runout/100 mm (3.94 in.)	TIR 0.1 mm (0.004 in.) or less	TIR 0.2 mm (0.008 in.)
Rear Axle Runout/110 mm (4.33 in.)	TIR 0.1 mm (0.004 in.) or less	TIR 0.2 mm (0.008 in.)
<b>Tires</b>		
Air Pressure (when cold):		
Front and Rear	100 kPa (1.0 kgf/cm <sup>2</sup> , 14 psi)	---
Standard Tire:		
Front:		
Size	2.50-14 4P.R.	---
Make	IRC	---
Type	GS-45F	---
Rear:		
Size	3.00-12 4P.R.	---
Make	IRC	---
Type	GS-45F	---

Special Tools

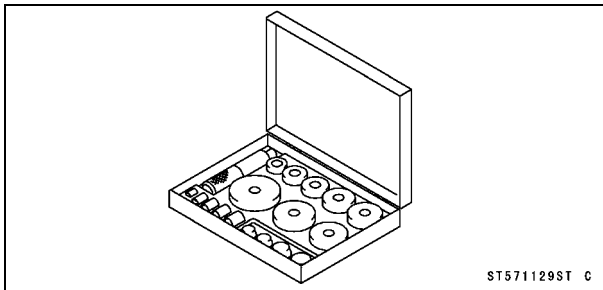
Rim Protector:  
57001-1063



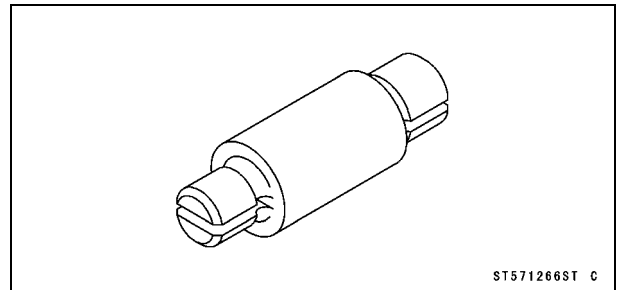
Bearing Remover Shaft,  $\phi 9$ :  
57001-1265



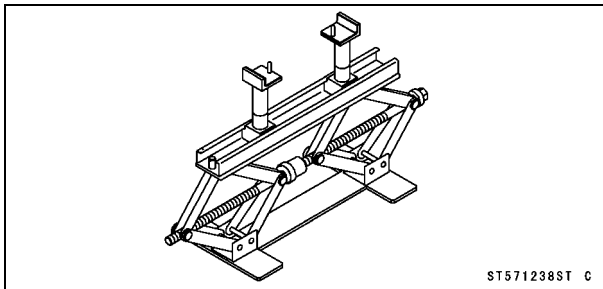
Bearing Driver Set:  
57001-1129



Bearing Remover Head,  $\phi 10 \times \phi 12$ :  
57001-1266



Jack:  
57001-1238

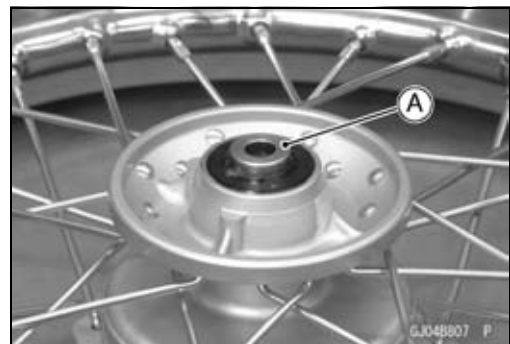
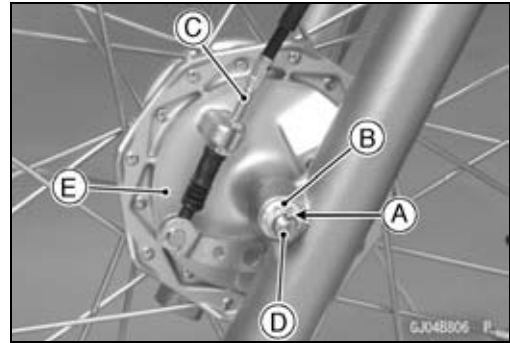


## 9-6 WHEELS/TIRES

### Wheels (Rims)

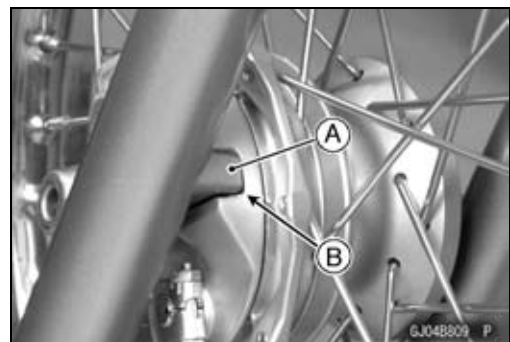
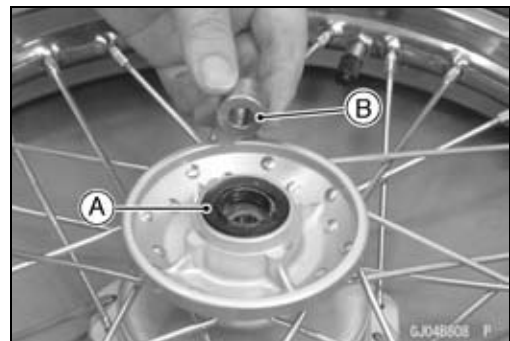
#### **Front Wheel Removal**

- Stabilize the motorcycle with the jack.
  - **Special Tool - Jack: 57001-1238**
- Apply the rear brake so that the rear wheel does not turn.
- Remove:
  - Cotter Pin [A]
  - Front Axle Nut [B]
- Raise the front wheel off the ground with the jack.
- Remove:
  - Front Brake Cable [C] (see Brake Cable Removal in the Brakes chapter)
  - Front Axle [D]
  - Front Wheel
  - Front Brake Panel [E]
- Remove the collar [A] on the right side of the hub.



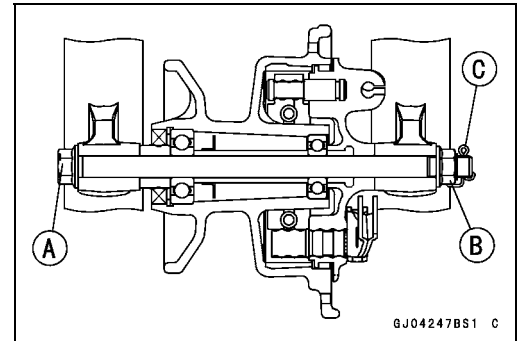
#### **Front Wheel Installation**

- Apply high-temperature grease to the oil seal [A].
- Install the collar [B] on the right side of the hub.
- Install the front brake panel.
- Fit the tongue [A] on the fork leg into the groove [B] on the front brake panel.



## Wheels (Rims)

- Replace the axle nut [B] with a new one.
- Insert the axle [A] from right side, and tighten the axle nut.  
**Torque - Front Axle Nut: 44 N·m (4.5 kgf·m, 32 ft·lb)**
- Insert a new cotter pin [C] to the front axle, and bend it to both sides.

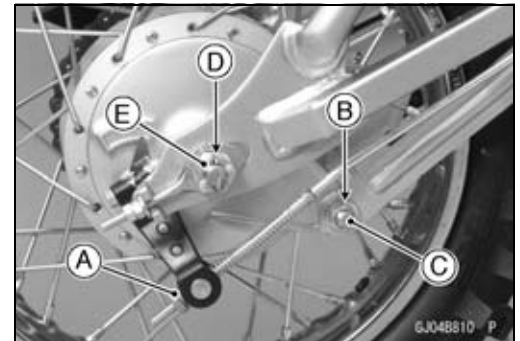


- Install the front brake cable and adjust the brake lever free play (see Brake Lever Free Play Adjustment in the Periodic Maintenance chapter).
- Remove the jack.

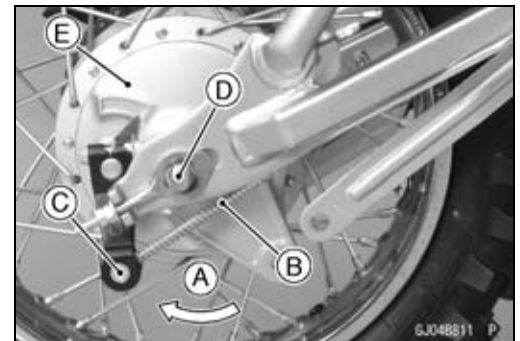
### Rear Wheel Removal

- Raise the rear wheel off the ground with the jack.  
**Special Tool - Jack: 57001-1238**

- Remove:
  - Adjusting Nut [A]
  - Cotter Pin [B]
  - Rear Torque Link Nut [C], Washer and Bolt
  - Cotter Pin [D]
  - Rear Axle Nut [E]



- To remove the brake rod end from the brake cam lever, first turn the brake panel clockwise [A] as far as it will go, then depress the brake pedal lightly, the brake rod [B] will be separated from the brake cam lever joint [C].
- Remove the rear axle [D].
- Disengage the drive chain from the rear sprocket.
- Hang the chain on the swingarm.
- Remove:
  - Rear Wheel
  - Rear Brake Panel [E]



- Remove the collar [A] on the left side of the hub.

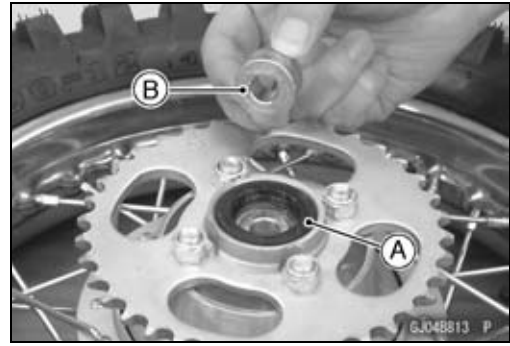


## 9-8 WHEELS/TIRES

### Wheels (Rims)

#### Rear Wheel Installation

- Apply high-temperature grease to the oil seal [A].
- Install the collar [B] on the left side of the hub.
- Install the rear brake panel.
- Engage the drive chain with the rear sprocket, and set the rear wheel to the motorcycle.
- Insert the axle from the left side.
- Turn the brake panel clockwise until the brake cam lever joint goes beyond the brake rod end then insert the brake rod end into the joint hole.



#### NOTICE

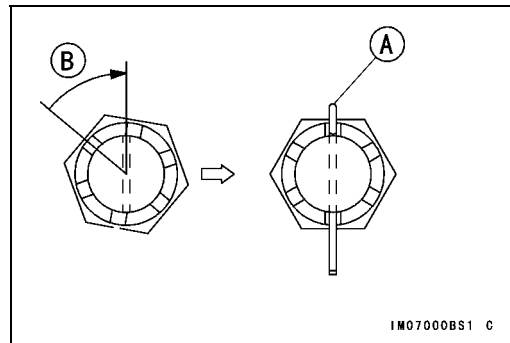
**Do not insert the brake rod into the cam lever joint by depressing the brake pedal deeply, this will extend the brake spring beyond its allowable spring extension.**

- Tighten:  
Torque - Rear Axle Nut: 64 N·m (6.5 kgf·m, 47 ft·lb)  
Torque Link Nut: 25 N·m (2.5 kgf·m, 18 ft·lb)

- Insert a new cotter pin [A].

#### NOTE

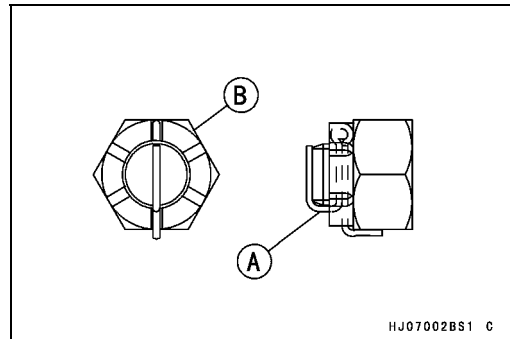
- When inserting the cotter pin, if the slots in the nut do not align with the cotter pin hole in the axle, tighten the nut clockwise [B] up to next alignment.
- It should be within 30 degrees.
- Loosen once and tighten again when the slot goes past the nearest hole.



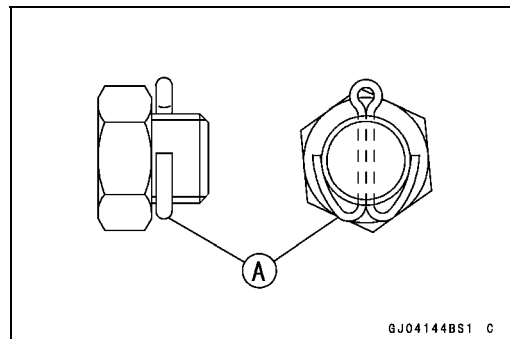
- Bend the cotter pin [A] over the nut [B].

#### ⚠ WARNING

**A loose axle nut can lead to an accident resulting in serious injury or death. Tighten the axle nut to the proper torque and install a new cotter pin.**



- Insert the cotter pin [A] into the torque link bolt hole and spread its ends.
- Adjust:  
Drive Chain Slack (see Drive Chain Slack Adjustment in the Periodic Maintenance chapter)  
Brake Pedal Free Play (see Brake Pedal Free Play Adjustment in the Periodic Maintenance chapter)
- Remove the jack.





## Wheels (Rims)

### Wheels Inspection

- Raise the front/rear wheel off the ground with the jack.
  - Special Tool - Jack: 57001-1238
- Spin the wheel lightly, and check for roughness or binding.
  - ★ If the roughness or binding is found, replace the hub bearings.
- Visually inspect the front and rear axles for damage.
  - ★ If the axle is damaged or bent, replace it.

### Spoke Tightness Inspection

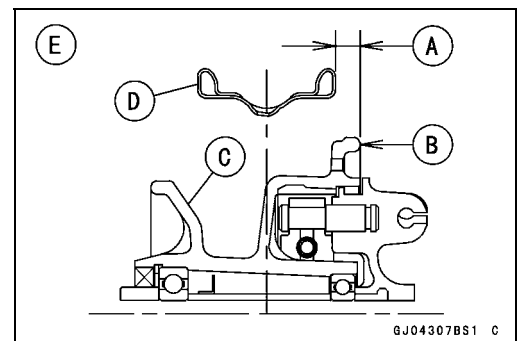
- Refer to the Spoke Tightness Inspection in the Periodic Maintenance chapter.

### Rim Runout Inspection

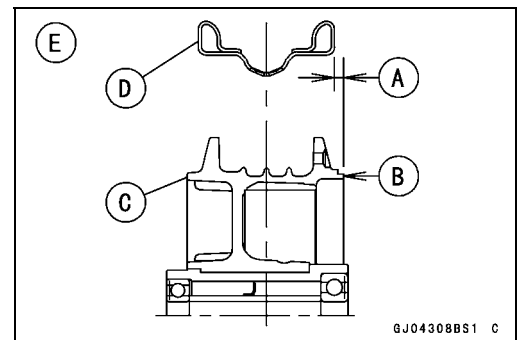
- Refer to the Rim Runout Inspection in the Periodic Maintenance chapter.

### Rim Installation Position

- When installing the rim, set the rim following position.
  - The distance [A] from the left end [B] of the front hub [C] to left end of the front rim [D] should be as follows.
    - View from Front [E]
    - Distance: 9.0 ±0.5 mm (0.35 ±0.020 in.)



- The distance [A] from the right end [B] of the rear hub [C] to right end of the rear rim [D] should be as follows.
  - View from Rear [E]
  - Distance: 4.0 ±0.5 mm (0.16 ±0.020 in.)



- Check the rim runout (see Rim Runout Inspection in the Periodic Maintenance chapter).

## 9-10 WHEELS/TIRES

### Wheels (Rims)

#### ***Axle Inspection***

- Visually inspect the front and rear axle for damages.
- ★ If the axle is damaged or bent, replace it.
- Place the front axle in V blocks that are 100 mm (3.94 in.) (Rear Axle: 110 mm (4.33 in.)) [A] apart, and set a dial gauge [B] on the axle at a point halfway between the blocks. Turn [C] the axle to measure the runout. The difference between the highest and lowest dial readings is the amount of runout.
- ★ If the runout exceeds the service limit, replace the axle.

**Front Axle Runout: 100 mm (3.94 in.)**

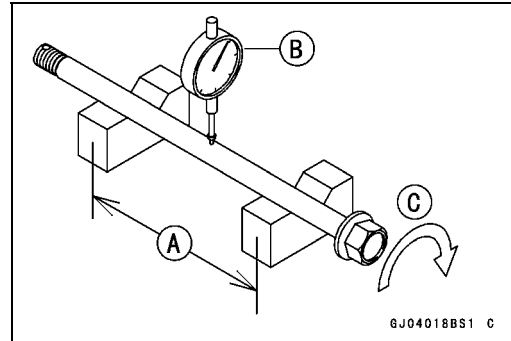
**Standard: 0.1 mm (0.004 in.) or less**

**Service Limit: 0.2 mm (0.008 in.)**

**Rear Axle Runout: 110 mm (3.94 in.)**

**Standard: 0.1 mm (0.004 in.) or less**

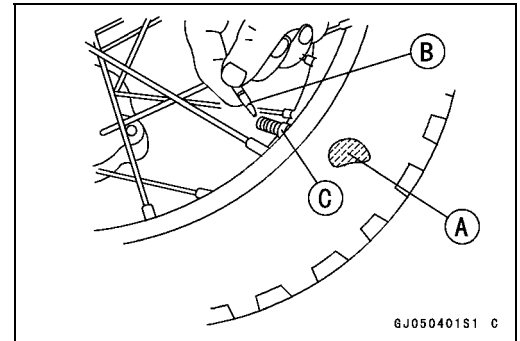
**Service Limit: 0.2 mm (0.008 in.)**



Tires

**Tire Removal**

- Remove the wheel (see Front/Rear Wheel Removal).
- To maintain wheel balance, mark [A] the valve stem position on the tire with chalk so that the tire can be reinstalled in the same position.
- Take out the valve core [B] to let out the air.
- Remove the valve stem nut [C].
- When handling the rim, be careful not to damage the rim flanges.



- Lubricate the tire beads and rim flanges on both sides with a soap and water solution or rubber lubricant. This helps the tire beads slip off the rim flanges.

**NOTICE**

**Never lubricate with engine oil or petroleum distillates because they will deteriorate the tire.**

- Break the beads away from both sides of the rim with a suitable bead breaker.
- Step on the side of the tire opposite air valve, and pry the tire off the rim with the tire iron [A] protecting the rim with rim protectors [B].

**Special Tool - Rim Protector: 57001-1063**

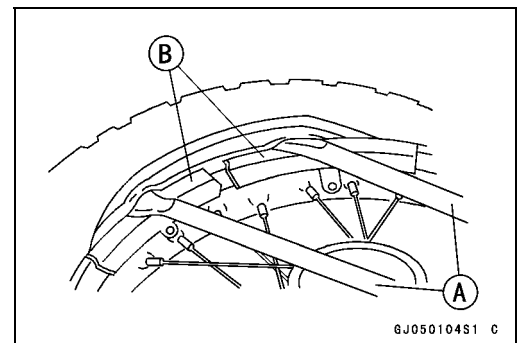
**NOTICE**

**Take care not to insert the tire irons so deeply that the tube gets damaged.**

- Remove the tube when one side of the tire is pried off.
- Pry the tire off the rim.
- Remove the rim protector.

**Tire Installation**

- Inspect the rim and the tire before installing the tire, and replace them if necessary.
- Apply a soap and water solution or rubber lubricant to both the tire bead and the rim flange.



## 9-12 WHEELS/TIRES

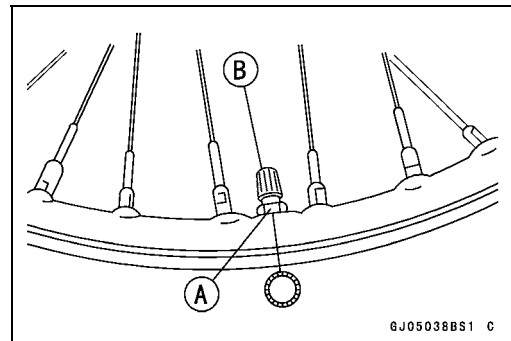
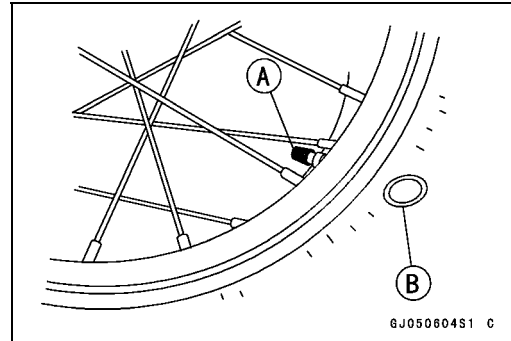
### Tires

- Position the tire on the rim so that the air valve [A] is at the tire balance mark [B] (the chalk mark made during removal, or the paint mark on a new tire).
- Insert the valve stem into the rim, and screw the nut on loosely.
- Fit the rim protectors and use suitable tire irons to install the tire bead.

#### NOTE

○ *To prevent rim damage, be sure to place the rim protectors at any place the tire irons are applied.*

- Replace the tire back on the rim from the opposite side of the valve.
- Insert the tire irons so deeply that the tube is not damaged.
- Similarly, slip the tire bead back over the rim on the other side.
- Check that the tube is not pinched between the tire and rim.
- Tighten the valve stem nut [A], and put on the valve cap [B].
- Check and adjust the air pressure after installing.



#### ***Air Pressure Inspection/Adjustment***

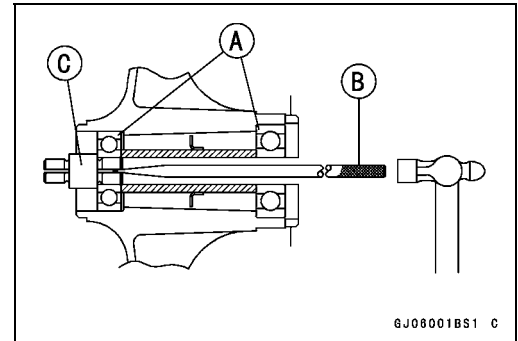
- Refer to the Air Pressure Inspection in the Periodic Maintenance chapter.

## Hub Bearings

### Hub Bearing Removal

- Remove the wheel (see Front/Rear Wheel Removal).
- To remove the grease seals, pry out the grease seal using a screwdriver.
- Using the bearing remover shaft and bearing remover head, remove the hub bearings [A].

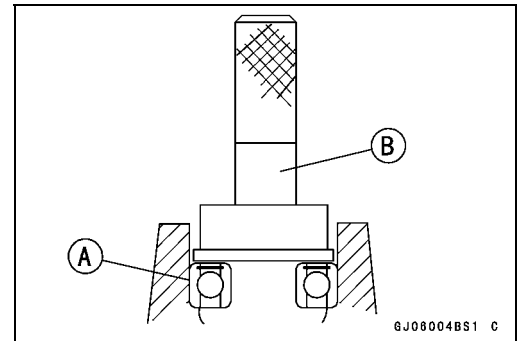
**Special Tools - Bearing Remover Shaft,  $\phi 9$ : 57001-1265 [B]  
 Bearing Remover Head,  $\phi 10 \times \phi 12$ : 57001-1266 [C]**



### Hub Bearing Installation

- Before installing the hub bearings, blow any dirt or foreign particles out the hub with compressed air to prevent contamination of the bearings.
- Replace the bearings with new ones.
- Install the bearings [A] using the bearing driver set [B] so that the marked or shield sides face out.
- Press in the bearings until they bottom out.

**Special Tool - Bearing Driver Set: 57001-1129**

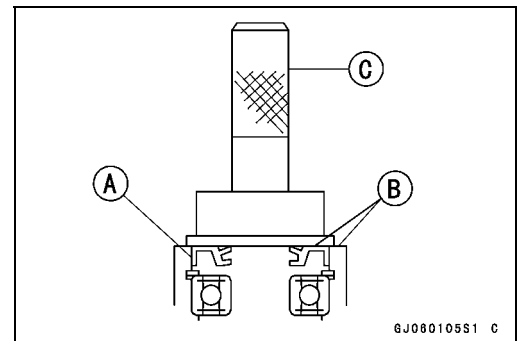


### NOTE

○ For correct tire alignment, the right bearing must be installed first rather than left bearing in both front and rear hubs.

- Replace the grease seal [A] with new ones.
- Apply high-temperature grease to the grease seal lips.
- Press in the grease seal so that the seal surface is flush [B] with the end of the hole using the bearing driver set [C].

**Special Tool - Bearing Driver Set: 57001-1129**



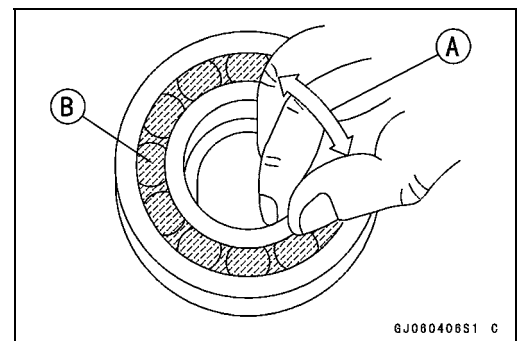
### Bearing Inspection

Since the hub bearings are made to extremely close tolerances, the clearance cannot normally be measured.

### NOTICE

**Do not remove any bearings for inspection. If any bearings are removed, they will need to be replaced with new ones.**

- Turn each bearing in the hub back and forth [A] while checking for plays, roughness, or binding. If bearing play, roughness, or binding is found, replace the bearing.
- Examine the bearing seal [B] for damage or leakage.
- ★ If the seal is damaged or is leaking, replace the bearing.



## 9-14 WHEELS/TIRES

### Hub Bearings

#### ***Bearing Lubrication***

- Remove the hub bearings on the front and rear wheel hubs.
- Wash the bearings with a high flash-point solvent, dry them (do not spin them while they are dry), and oil them.
- Spin each bearings by hand to check its condition.
- ★ If it is noisy, does not spin smoothly, or has any rough spots, it must be replaced.
- If the same bearing is to be used again, re-wash it with a high flash-point solvent, and dry it.
- Pack each bearings with good quality bearing grease [A] before installation. Turn each bearing around by hand a few times to make sure the grease is distributed uniformly inside the bearing, and wipe the old grease out of the bearing housings on the wheel hub before bearing installation.
- Install the bearings.

